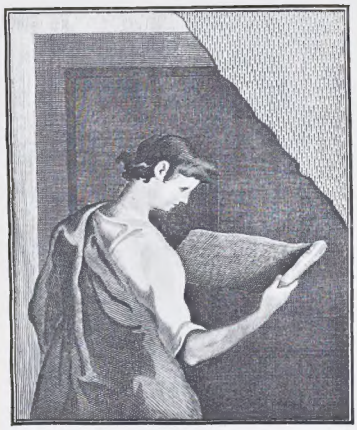
The Builder



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AN

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FOR THE

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GEORGE GODWIN, F.R.S., F.S.A.

Honorary Member of various Societies; Author of "History in Ruins," "Town Swamps and Social Bridges," "Another Blow for Life," &c.

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A Competitive Examination will, accordingly, be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which candidates will be admitted to the Examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter. (Signed) T. G. BABING.

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THE SCHOOL WILL OPEN IN THE FIRST WEEK IN FEBRUARY, 1863.

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PRESIDENT—Sydney Smirke, Esq. R.A.

TREASURER—William Tite, Esq. F.R.S. M.P.

TRUSTEES.

Philip Hardwick, Esq. R.A. | Charles R. Cockerell, Esq. R.A.
Geo. Gilbert Scott, Esq. R.A.

The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place.

J. TURNER, Hon. Secretary, 15, Wilton-street.

BUILDERS' BALL will take place at WILLIS'S ROOMS, St. James's, FEBRUARY 12th, 1863.

JOSEPH BIRD, Hon. Sec.

10, Hanover Cottages, Regent's Park

WATER COLOUR PAINTERS' LANCASHIRE RELIEF FUND.—The EXHIBITION IS NOW OPEN (by the kind permission of Messrs. Day & Son), at the German Gallery, No. 168, New Bond-street, from TEN in the till NINE p.m. Admission, 1s. Catalogue, 6d.

JAMES FAHEY, Hon. Sec.

Rooms & Stores for the allotment, may be obtained at the Gallery, of the Committee, or at the Committee Room, 5, Waterloo-place, where prospectuses and all other information may be had.

GALLERIES of the ARCHITECTURAL UNION COMPANY (Limited), 9, Conduit-street, Regent-street, NOW OPEN, FREE, from ELEVEN till FOUR, daily. The Autumn Exhibition of Building Materials, Patents, and Inventions, will CLOSE, FEBRUARY 28, and must then be cleared for the Architectural Exhibition.

JAMES ELMESTON, Hon. Sec.

PRACTICAL INSTRUCTION in ARCHITECTURAL, MECHANICAL, ORNAMENTAL, and PERSPECTIVE DRAWING; also TAKING OUT QUANTITIES and MEASURING from PLANS and the BUILDING. Day classes, SEVEN till TEN—Apply to Mr T. HILLS, Architect, at the Offices, 7, Old street, City road.

NOTICE.—Mr. T. J. HILLS's Drawing Classes for the sons and Assistants of Architects, Engineers, and Builders, will RE-OPEN on MONDAY, the 5th of JANUARY, 1863.—Prospectuses at the Offices, 7, Old street, E.C.

SOCIETY for the ENCOURAGEMENT of the FINE ARTS, 9, CONDUIT STREET, W. The Opening CONVERSAZIONE of the Fifth Session of this Society will take place at the ROOMS of the ARUNDEL SOCIETY, 24, Old Bond-street, on THURSDAY, JANUARY 8th, at EIGHT o'clock. Musical arrangements by Mr. JOHN THOMAS, Mr. FREDERICK and Mr. ALFRED GILBERT. Members entitled to introduce a friend. The Programme of Conversations and Lectures for the first three months of the Session will be issued to all Members on WEDNESDAY last. Annual subscription, One Guinea. Entrance Fee, One Guinea. By order

HENRY OTTLEY, Hon. Secretary.

COMPETITIONS.

TO ARCHITECTS.—WESLEYAN CHAPEL, VESTRIES, and SCHOOL-ROOMS, King-street, Falmouth.—The Committee appointed to carry out the ERECTION of a NEW WESLEYAN CHAPEL and SCHOOL-ROOMS, in King-street, Plymouth, invite architects to send designs, with plans, specification, and estimate, on or before MARCH 2nd, 1863, to Mr. JOHN HILL Wesleyan, Falmouth. The designs which obtain premium to be the property of the committee, who are not to be bound to employ any of the competitors to carry out the works. In the event of the successful competitor being employed, the premium will merge into the commission. Two premiums will be given, one of £5, and the other of £2. A ground plan and all necessary particulars for the guidance of architects, may be obtained on application to the Rev. J. LOUTIT, 3, Stoke-street, Plymouth.

PUBLIC HALL.—To ARCHITECTS.—The Provisional Committee of the Tunbridge Wells Public Hall Company (Limited), not having succeeded in obtaining plans strictly in accordance with their requirements, are desirous of again receiving PLANS, Elevations, Sections, Specifications, and Estimates, for the ERECTION of a PUBLIC HALL (Corn Exchange premises, and 300 feet frontage to a public road, and 300 feet in depth; the cost not to exceed £5000, including heating, lighting, ventilating, internal fittings, and decorations. Twenty Pounds will be given for the set of plans, &c. adopted, provided the architect is not employed, and Ten Pounds to the next approved set. All plans, &c. are to be sent in scale, and other matters, to the Secretary by the last day in JANUARY, 1863. Further particulars may be obtained of the Hon. Secretary, Mr. JOHN COLBRAN, Tunbridge Wells

December 23rd, 1862.

CONTRACTS.

CITY of LONDON, BARBERS' HALL.—Important SITE for WAREHOUSES, or MANUFACTURING PREMISES, in the immediate vicinity of Wood-street, Cheapside.—The Committee of the Worshipful Company of Barbers, will next at their Hall, on THURSDAY, the 29th day of JANUARY, 1863, to receive TENDERS, for letting on a building lease, for sixty-three years, the extensive PREMISES, known as Barbers' Hall, situate in Monkwell-street, Wood street, comprising three houses, fronting thereto, the passage leading thereto, and the greater portion of the Company's Hall, together with the kitchen, scullery, and outbuildings, having a frontage towards Monkwell-street of about 85 feet by an average depth of about 110 feet, and an extreme depth of about 125 feet.—Full particulars, with a plan of the property, elevation, and section of street front, also conditions of letting, may be obtained, on application to the Clerk of the Company; to Mr. CHARLES JOHNSHOPPEE, the Company's Surveyor, No. 61, Doughty-street, W.C.; or to the Beadle at the Hall.—By order,

HENLEY GROSE SMITH, Clerk.

4, Warnford-court, Throgmorton-street, E.C.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of a LAUNDRY, near the Hospital at Albany Barracks, Parkhurst, Isle of Wight.

Parties desirous to tender for this work must leave their names at this office on or before the 13th JANUARY, 1863, and pay the sum of half a guinea for the Bills of Quantity, which will be forwarded to them as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Albany Barracks, Isle of Wight, January 1, 1863.

ALTERATIONS at the COUNTY PRISONS, MAIDSTONE.—Persons willing to CONTRACT with the Justices of the county of Kent for carrying out works to be done in making ALTERATIONS to the COUNTY PRISONS at Maidstone, may see the plans and specification at the Office of the County Surveyor, Maidstone, any day except SUNDAY between the hours of TEN and FIVE. The work is to be tendered for in the three following Contracts:—

CONTRACT No. 1.—All pulling down, and all Bricklayers', Masons', Carpenters', Joiners', and Ironmongers' work, including a quantity of Inch Slab Slate Partitions.

CONTRACT No. 2.—All Smith and Founder's Work.

CONTRACT No. 3.—All Plumber, Glazier, and Painter's Work.

Forms of Tender are to be obtained at the County Surveyor's Office, where filled Tenders, endorsed, "Tender for Work at the County Prisons, Maidstone," are to be delivered by FOUR o'clock p.m. on MONDAY, the 12th of JANUARY, 1863, addressed to the Tender to be sent to the Office at the Castle, Maidstone, at HALF-PAST TWELVE o'clock on TUESDAY, the 13th JANUARY, 1863. Neither the lowest nor any other Tender will be accepted unless approved of in all particulars. Security will be required for the performance of the several contracts.

H. A. WILDES, Clerk of the Peace.

Maidstone, December 17, 1862.

METROPOLITAN BOARD of WORKS.

TO BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give notice, that they will meet at the Office of the Board, Spring gardens, S.W. on FRIDAY, the 9th day of JANUARY instant, at TWELVE o'clock at noon precisely, at which time proposals will be opened from persons who may be willing to CONTRACT for the CONSTRUCTION of a BRICK SEWER 3,230 feet in length, extending with other Works in connection therewith, from Hackney-road, Dalston, in the parish of Hackney, in the county of Middlesex. Plans, sections, and a specification, together with the form of Tender, may be inspected, and other particulars obtained on application to Mr. W. HAZALGETTE, Engineer of the Board, at the Office, Spring gardens, between the hours of NINE a.m. and FOUR p.m.; or on SATURDAY, between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 15th day of JANUARY. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at the Office before FOUR o'clock on the last-mentioned day, and no Tender will be received after that hour. The parties tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the works.

JOHN POLLARD, Clerk of the Board.

Spring Gardens, S.W. 1st January, 1863.

SEWERAGE WORKS at HAMPSTEAD.

The Vestry of the Parish of Saint John, Hampstead, in the county of Middlesex, hereby give Notice that they will be ready at the Vestry, to be held at the Board Room at Hampstead Workhouse, on FRIDAY, the 9th day of JANUARY next, at half past SEVEN o'clock in the evening, precisely, to receive Sealed Tenders from parties who may be willing to CONTRACT for CONSTRUCTING a BRICK SEWER 2,200 feet in length, or thereabouts, with other WORKS in connection therewith, commencing at a Culvert under the Hampstead Junction Railway, at West End Lane, Hampstead, and ending on land, and for the maintenance of such Works in complete repair for twelve calendar months after completion. Plans, Sections, and a Specification of the Works, may be inspected, and a form of Tender may be had on application at the Surveyor's Office, New End, Hampstead, between the hours of TEN a.m. and FOUR p.m. Sealed Tenders (in the printed form only) addressed to the Vestry Clerk must be delivered at the Vestry Offices on or before FRIDAY, the 9th day of JANUARY next, not later than SEVEN o'clock p.m. of that day, after which hour no Tender will be received. The attendance at the Vestry of the party tendering or of some competent person on his behalf will be required. The Vestry do not bind themselves to accept the lowest or any Tender, and the party whose Tender may be accepted will be required to provide two approved Sureties to be bound with the Contractor in a Bond and several Bond in £1000 for the due performance of the Contract

THOMAS TOLLER, Vestry Clerk.

Vestry Offices, Hampstead Workhouse,
December 29, 1862.

TO EXCAVATORS, BUILDERS, and OTHERS.—The Strood Local Board of Health are willing to receive TENDERS from competent parties for the CONSTRUCTION of a SEWER and other Works at Kingsdown Farm, near to Strood. Drawings and a specification of the said Works may be seen, at the Offices of the undersigned on and after SATURDAY, the 27th instant, where a meeting of the general drawing and schedule of quantities of works to be executed may be obtained on payment of the sum of 10s.; but it is to be understood that the Local Board will not be responsible for the correctness of the quantities so supplied, which must be verified by the parties tendering. Sealed Tenders, marked on the outside "Tender for Sewer at Kingsdown Farm," addressed to the undersigned, must be delivered at or sent to before ELEVEN a.m. on TUESDAY, the 6th JANUARY, 1863. The Local Board do not bind themselves to accept the lowest or any Tender.

EDWIN WITCHELL, Clerk to the Local Board.

Strood, December 14, 1862.

[For remainder of Contracts see next Page.

CONTRACTS.

TO PAINTERS.—SIX EIGHT-ROOMED HOUSES TENDERS required, Labour and Materials.—Apply on Mr RAMSAY'S Tub, Islington, Kent-town.

TO DUSTMEN, SCAVENGERS, and OTHERS.—Notice is hereby given, that the Crown Estate Paving Commissioners will be prepared to receive TENDERS from persons willing to CONTRACT for the REMOVAL of DUST, DIRT, ASHES, and RUBBISH from the several houses and premises within the district under their jurisdiction, for the period of ONE YEAR, from the 25th day of JANUARY 1863. Printed particulars and forms of Tender can be obtained, and applications made here, where Tenders must be delivered, and addressed to "The Crown Estate Paving Commissioners," and endorsed "Tender for Dust," on or before THREE o'clock on WEDNESDAY, the 28th day of JANUARY, 1863.

FRANCIS ADAMS, Clerk to the Commissioners.
No 1, Whitehall place, December 20, 1862.

TO CLOCKMAKERS. — LIVERPOOL CEMETERY, ANFIELD PARK, WALTON.—The Burial Board for the Parish of Liverpool are prepared to receive TENDERS for MAKING and FIXING a TURRET CLOCK and BELLS, at the above-named cemetery. The specification and form of Tender can be seen at the Office of the Board, 12, Dale-street, sealed Tenders, endorsed "Tender for Clock," addressed to the Chairman of the Executive Committee, to be sent in to the Office by the 15th JANUARY, 1863. The Board do not bind themselves to accept the lowest or any of the Tenders.—By order,

LUCY & LITTLER, Architects } to the Board.
GEO. TURNEY, Clerk

12, Clayton-square, Liverpool, December 22, 1862

SOUTH-EASTERN RAILWAY. To BRICKMAKERS, CONTRACTORS, and OTHERS.—The Directors of the South-Eastern Railway Company are prepared to CONTRACT with Responsible Parties for making 20 MILLIONS of BRICKS, on their line of railway, at River Head, near Seven Oaks, Kent (specification, plan, &c., may be had), the bricks are to be made, with any other information, may be had on application at the Engineer's Office, London Bridge, on and after THURSDAY next, the 1st JANUARY, 1863. By order,

S. SMILES, Secretary.

London Bridge Station, December 26th, 1862

TO BUILDERS.—Parties desirous of TENDERING for all or any portion of the WORK required in the ERECTION of the NEW BRUNSWICK CHAPEL, North-street, Bury, Lancashire, can see the plans and specifications, and obtain quantities at my office as under, on and after THURSDAY, the 8th of JANUARY, 1863. Sealed Tenders, endorsed "Tender," to be sent in to SAMUEL SMITH, Esq., Treasurer, King-street, Bury, on or before the 24th day of JANUARY 1863. The Trustees do not bind themselves to accept the lowest or any Tender.

JOS. CHATTWOOD, Architect, &c

6, Tentergate, Bury, Jan. 1, 1863.

TO BUILDERS.—TENDERS are required for the ERECTION of OFFICE and BOARD ROOM with residence attached; also FOUR SHOPS adjoining, on a plot of ground at the corner of Eleanor-road and Powis-street, Woolwich. The plans and specification may be seen at the offices of Messrs CHURCH & RICKWOOD, Architects, Wilmot-street, Woolwich, on and after MONDAY next, the 5th instant, where all further information may be obtained. The lowest or any Tender will not necessarily be accepted.

Woolwich, 1st January 1863

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, AGRICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Cathedral, Rough, Rolled, and Enamelled Plate, Photographic, and every description of Glass.

Estimates and Price-lists forwarded free on receipt of business card addressed to

R. MITTAM & CO

30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and 1, George yard, Cheapside, Soho, W.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at the above-named Warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars

THE PATENT CRYSTAL WINDOW SASH, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, square and form cases, &c. &c., combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Apparatus with slate or metal bottoms of various sizes, with or without front rails, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of fluted, rough cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

PATENT and BRITISH PLATE GLASS. JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of part plans furnish estimates for any description of Glass required, Patent Plate, Sheet, Crown, and Ornamental. Window Glass Warehouse, 58, Berners-square, London.

WINDOW GLASS! WINDOW GLASS! Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental, Rough, Rolled, and Patent Plate. Sashes Glazed for the Trade. Specials. Prices given for Contracts and large quantities. Plate-glass Warehouse, at

GRIFFS CITY GLASS WAREHOUSE,
47, Chiswell-street, opposite Whitbread's Brewery, E.C.

PAINTED and STAINED GLASS WINDOWS.—LAVERS & BARRAUD, Endell-street, Bloomsbury, London; and No. 3, Oxford-street, Manchester. Prize Medallists, Class 34 A, 1862

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

SHOWELL'S
PATENT WATERPROOF GLASS ROOFS,
Address 17, PRINCESS STREET, MANCHESTER.

PATENT WATERPROOF PAPER, for damp walls, lining to fix, and coarse for retaining roof, packing, &c. &c. Price, from 4d. per square foot upwards. Paper, &c. waterproofed to order, by the PATENT WATERPROOFING COMPANY, Thurlow Bridge Works, East Peckham, S.E.

DISPUTED LIFE POLICIES. — For REPORTS of DISPUTED LIFE ASSURANCE CASES (in full and English) in the COURT of QUEEN'S BENCH, see the *Times* of the 19th, 16th, 17th, and 18th inst.

"The only mode by which security can be obtained must be in Assurance Offices holding themselves precluded from raising any objections."—*Times*

THE INDISPUTABLE LIFE ASSURANCE COMPANY is the ONLY COMPANY who issue Policies which preclude the Company from raising any future question.

Edinburgh: 14, Queen street. ALEX. ROBERTSON, Manager.
London: 54 Chancery lane. JAMES BENNETT, secretary.

THE LIVERPOOL and LONDON FIRE and LIFE INSURANCE COMPANY.
Invested Funds, 1,500,000*l.*

SIR JOHN MUSGROVE, Bart., Chairman.
FREDERICK HARRISON, Esq. and WM SCHOLEFIELD, Esq. M.P., Deputy Chairmen.

John Adlam, esq.	William Macgeorghan, esq.
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Henry V. East, esq.	William Nicol, esq. M.P.
Edward Higgins, esq.	Bruce A. Pouit, esq.
John Lavie, esq.	Secretary to the Company.

In 1857, the duty on Fire Insurances in Great Britain paid to Government by this Company was 32,839*l.*, and in 1861, it was 61,859*l.*; being an increase in five years of 29,020*l.*

In 1859, the Fire Premiums were 403,774*l.*; in 1861 they were 504,194*l.*, being an increase in one year of 99,420*l.* The Losses paid amount to 2,500,000*l.*; and all claims are settled with liberality and promptitude.

All Fire Policies falling due at Christmas should be renewed on or before the 9th of January.

JOHN ATKINS, Resident Secretary.

THE COMMERCIAL BENEFIT BUILDING SOCIETY,
established on the principles of the "New London Building Society," which has been so successful and profitable to the shareholders.

Fixed to close in Ten years.

Capital limited to 500,000*l.* in 25,000 shares, payable by monthly instalments of 5*s.* each during five years.

Every assistance will be rendered to the shareholders to enable them to become the owners of Land or House Property, at a moderate rate of interest.

Money will be ready to be advanced at the first meeting, which will be held at Exeter Hall, Strand, on TUESDAY EVENING, the 13th of JANUARY, 1863, from Seven to Nine o'clock precisely, to issue shares.

TRUSTEES

The Rev. Francis Wills, Arlington street, Piccadilly.
Frederick Dalton, esq., Douglas street, Mecklenburgh-square
CHAIRMAN
Robert Joseph MacAndrew, esq., M.D., Lincoln's Inn fields.
TREASURER.
William Henry Hubbard, esq., Great Ormond-street, Queen square.
SOLICITOR.
Henry Fryer, esq., 1 and 2, Gray's inn place, Gray's inn.
SURVEYORS.
Messrs. Laws & Dennison, 12, Doughty street, Mecklenburgh square.
BANKERS.
The London and Westminster Bank

Applications for prospectuses and shares to be made to Messrs KENYON & COMPANY, 1, Adelaide place, King William-street, City; or to HENRY FRYER, Esq., Nos. 1 and 2, Gray's-inn place, Gray's inn.

ACCIDENTS
By ROAD, RIVER, or RAILWAY;
Accidents in the Field, the Streets, or at Home,
May be PROVIDED AGAINST by taking a POLICY of the RAILWAY PASSENGERS ASSURANCE COMPANY,
64, CORNHILL, LONDON.
£1,040 have been already PAID as COMPENSATION for Accidents of all kinds.
In Seventy-five Fatal Cases, and 6,886 Cases of Personal Injury Returned Out of Fifty-three Thousand Journeys Booked at the Railway Stations of the Company, in the
HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
WILLIAM J. VIAN, Secretary.
Railway Passengers' Assurance Company, empowered by Special Act of Parliament, 1849

SURVEYING, LEVELLING, and CIVIL ENGINEERING PRACTICAL FIELD INSTRUCTION given. Surveying, Levelling, Civil Engineering, &c.

Every Application applies at the Establishment of Messrs RYDE, SMITH, & LEWIS, Civil and Mining Surveyors, &c., for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras. 24, Guilford-street, Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons. Assistants, Clerks of Works, &c. &c. Lessons daily at Messrs RYDE, SMITH, & LEWIS, Architects, Civil Engineers, &c. Evening DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing, Perspective, Isometrical, and Geometrical Drawing, Mapping, Tracing, and Working Drawings. Preparing Specifications, Tenders, and Quantities, Estimating, Builders' Work, &c. Terms: Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawing Boards, Rulers, &c. &c. For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-street, Russell-sq.

TO ARCHITECTS AND SURVEYORS.

GUYER & COMPANY, Lithographers and Printers, Grocers' Hall Court, Poultry, E.C. beg to call attention to the resources of their Establishment as above, for LITHOGRAPHING and COPYING BILLS of QUANTITIES, specifications, Bill Drawings, &c. &c. Having for the last ten years given their almost exclusive attention to the description of work, and having a numerous staff of first class hands constantly engaged in the premises, they are enabled to guarantee superiority of style, correctness, and expedition. Specimens and List of Charges, post free.

N.B. Any number of copies of quantities or specifications lithographed in a few hours, and if the drafts from the country be received by the morning's post, the copies required can be returned the same evening.

POLYTECHNIC CHRISTMAS HOLIDAYS.—The Second season of the Polytechnic Optical Entertainments will commence with "Harlequin and Cinderella; or, The Little Glass Slipper." The story will be orally and musically told by George Buckland, Esq. and the optical resources of the Institution will be used to give effect to the Fairy transformations. New Philosophical Entertainment, by Professor J. H. Pepper, entitled "A Strange Lecture," in which the "Photodrome," by Mr. Rose, of Glasgow, and an illustration of Mr Charles Dickens's "Haunted Man," being an optical illusion devised by Mr Dirks), will be introduced. Ventriloquism by Mr Devin. Mr Matti (was a new repertory of comic entertainments. Mr Jona's Lectures. The Great Xmas Tree. Second Juvenile day, and gratuitous distribution of Ornaments, Toys, &c. on Thursday morning and evening, the 8th January.



SOLID PARQUET FLOORS. ARROWSMITH'S PATENTED, From 1s. per foot, in various woods, inch thick, grooved, cramped, and keyed together, not veneered

For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

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COOMBS & McCALL, Dover Iron Works, Staple street, Long lane, Borough, S.E. (late H. G. COOMBS, 15, Church street, and 56, Great Guildford street, Borough, S.E. inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.

GENERAL IRON FOUNDERS, MERCHANTS, and PATTERN MAKERS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,

And every description of Ironwork, wrought or cast, for Builders or other Purposes, estimates, Cash and executed. Designs furnished.

ROBERT MACLAREN & CO. EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

IRON CASTINGS, WROUGHT and CAST IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY

SAVING IN GAS
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient Instrument for insuring Wholesome and uniform Lighting, equalizing the pressure, and preventing any irregularity in the height of the flame

D. HULETT & CO. 65, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres &c. &c.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, Three Doors from Oxford-street.

For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and Use by Gentlemen, at wholesale prices. In connection with the Old Established, No. 18, Blandford street, Manchester-square, running out of Baker-street, Portman-square, London, W.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 63, Charles street, City-road, E.C. near the Canal Bridge.

E. GOLLOP, SOLE PROPRIETOR.

A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Loose Joints, Gate Hinges, Rising Hinges, Rising Joints, Loose Pin Hinges, Self-raising Spring Hinges, Double-acting Spring Hinges, Rising and Self-rising Door Back Springs, &c.

Price List and Drawings on application as above.

ROOFING METAL (WETTERSTEDT'S PATENT),
In sheets 2ft. and 1 ft. per square foot, 5 feet long by 3 feet wide.
The most durable and economical metal for roofing.
Does not rust or decay under the action of the atmosphere or acids.
For prices, particulars, &c. apply to the Manufacturer,
W. W. & R. JOHNSON & SONS,
WHITELEAD WORKS, LIMEHOUSE, LONDON, E.

WANTED to PURCHASE, a second-hand DEAL and TIMBER FRAME.—Apply, C. STEEL, Steam-Mills, Reading

SAWING BENCH for SALE, Cheap. Planed Top adjusting Frame, stands on fluted columns; also a HAND MORTISING MACHINE.—Apply to C. WORSAM, Kingsland-road Basin, London

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862

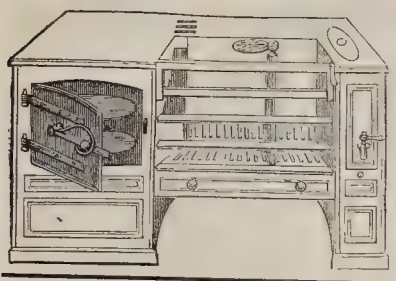
By Her Majesty's Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FFLT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronised by
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And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland, at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best, most compact article for roofing; also used for under slates at the Royal Agricultural Society's House in Hanover square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its use and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully requested to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and in lengths best suited to their needs. The original works where the above roofing is made for F. McNEILL & CO'S Manufactory, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT, to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER, upwards of three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, about One Million Feet. A Liberal Discount allowed to the Trade.



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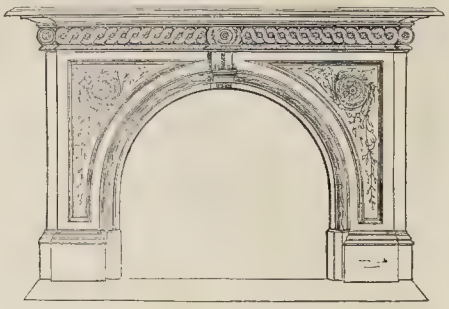
THE RICHEST ASSORTMENT OF CHIMNEY-PIECES

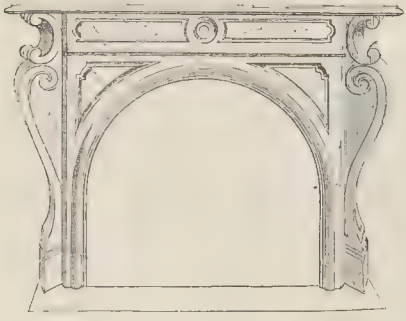
IS AT

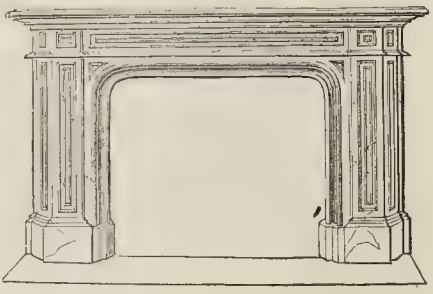
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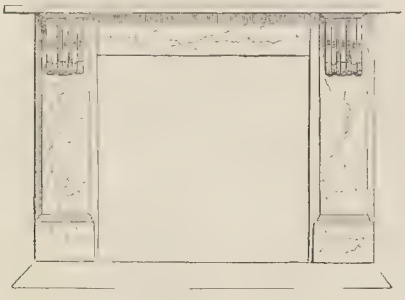
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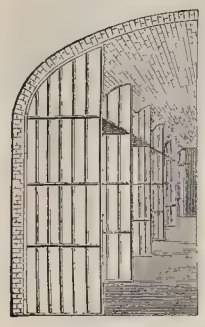
MAY BE HAD GRATIS, AND FREE BY POST.

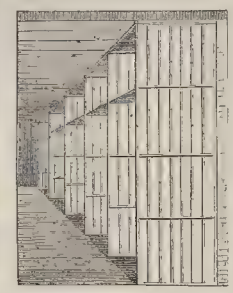
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ESTABLISHED 1820.

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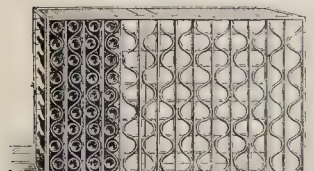
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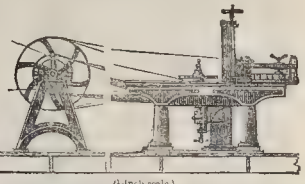
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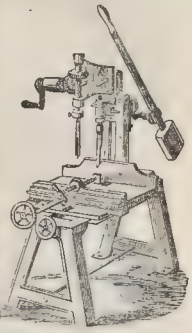


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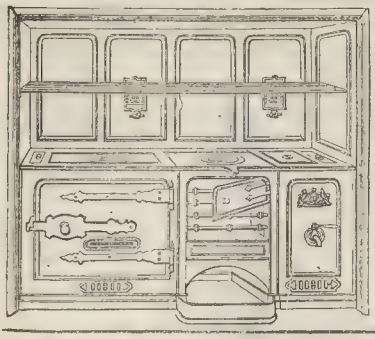
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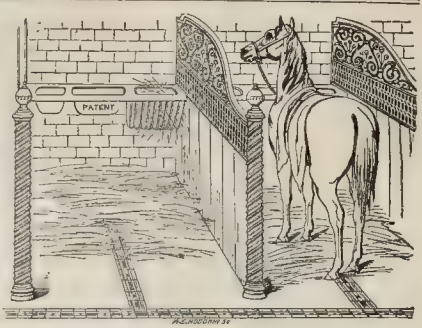
Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham street London, E.C.



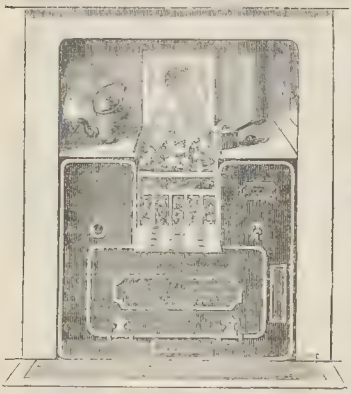
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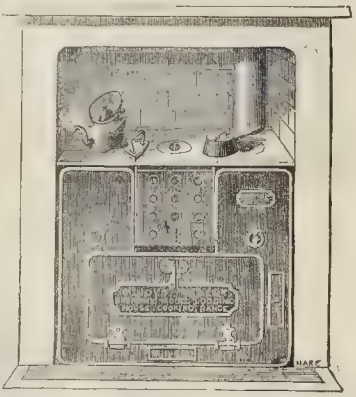


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These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 11 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of THE MANUFACTURER,



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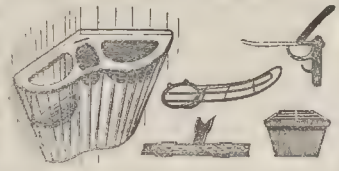


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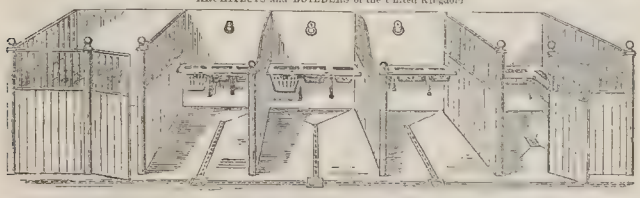
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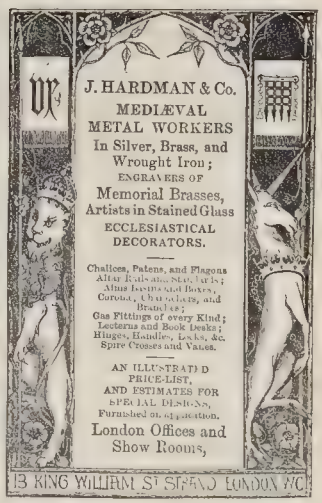
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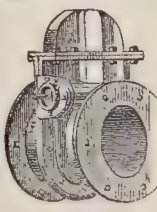
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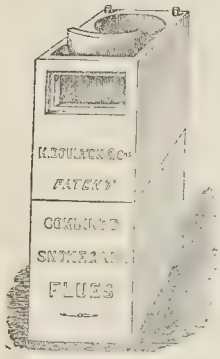
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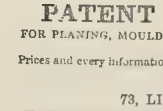
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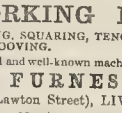
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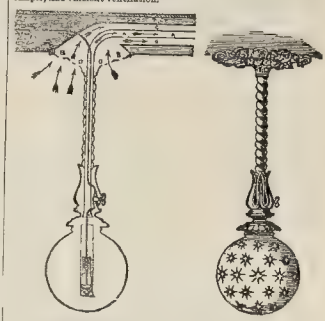
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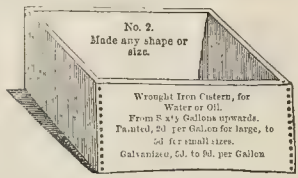
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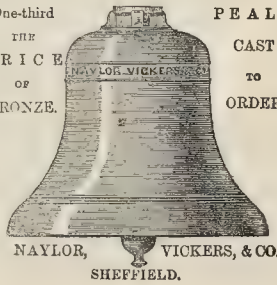


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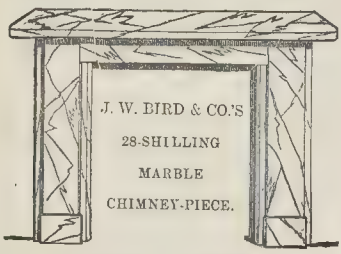
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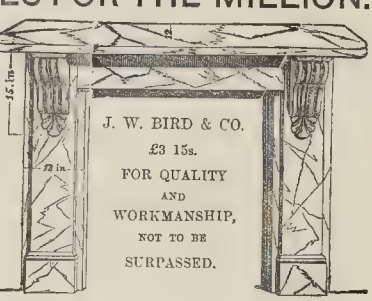
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The Mausoleum at Halicarnassus Restored.

HE notion of perpetuating the memory of the great, when living, by the scale or splendour of the sepulchral receptacle, when dead, has prevailed amongst all nations from the earliest ages. Public gratitude and private affection have ever prompted this natural mode of expressing respect for the memory of national benefactors or cherished relatives; and from the gigantic pyramids of Egyptian dynasties, to the rudest gravestone of the village churchyard,

"Where heaves the turf in many a mouldering heap,"

the custom testifies to the universal sentiment.

Where more ennobling reasons, however, are wanting, pride of wealth or pedigree affords a powerful motive, and the costliness of the tomb is too often with the world an apology for the obscurity of the dust it covers. But in no instance on record has its splendour conferred so enduring a vitality upon the name of its occupant as in that erected by the second Artemisia, Queen of Caria, to the memory of her husband. But for this the name of Mausolus would have received no more than a passing record, as that of the dynast of a petty state of Asia Minor; whereas now it is for ever associated with all that is solemn, vast, and impressive in the architecture of the tomb. Lucian fully appreciates the cause of the celebrity of Mausolus, when, in one of his humorous Νεκρικοὶ Διάλογοι, or "Dialogues of the Dead," the shade of Mausolus is made to found his chief claim to memory upon having a prodigious monument raised over him at Halicarnassus, which had not its equal in the whole world. But it was not its size alone that ranked it among the seven wonders of the world, but principally the beauty of its form and excellence of its sculptured enrichments, being decorated, as the shade continues to say, with figures of men and horses, of the most admirable art, and wrought in the finest marble. Pliny, too, who alone furnishes anything like a description of it, though by no means a clear one, ascribes its chief merits to the sculptures of Scopas, Bryaxis, Timotheus, and Leochares; and Vitruvius reiterates the story, only substituting Praxiteles for Timotheus. "The Pyramids of Egypt and Walls of Babylon," says Mr. Fergusson, in his work now before us,* "were wonders only because of their mass or their durability. The palace of Cyrus or the Hanging Gardens of Babylon may have been rich in colour and barbaric splendour, but we know enough of Assyrian and of Persian art to feel convinced that the taste in which they were designed must at least have been very questionable. The Colossus at Rhodes and the statue of Jupiter at Elis, whatever their merits,—and of one, at least, of them we can believe anything,—did not belong to architectural art. The Temple of Ephesus may have been beautiful in itself, but it became a wonder only from its size, as the largest of Greek temples. But the Mausoleum, which covered not more than one-sixth or one-seventh of its area, could have been remarkable only because it was beautiful, or in consequence of the elaboration and taste displayed in its ornamentation."

Of all the themes that have engaged the attention and exercised the ingenuity of scientific men, none has elicited a greater variety of opinions than the restoration of this renowned masterpiece of antiquity from the scant description and conflicting dimensions of Pliny. How could a building only 63 feet in length, and shorter in width, have a circumference of 411 feet? How could a pteron, 37½ feet in height, and a pyramid above it, also 37½ feet in height, make up a total of 140 feet? Well might the speculations of architects have produced results so widely differing. Yet had not this description been extant, anything like a correct restoration would have been an impossibility, as neither the character of the design nor the magnitude of the work could have been inferred from the existing remains. The only other definite statement that has come down to us is that of Hyginus, a grammarian of the first century, and to which Mr. Falkener first called attention. Hyginus speaks of it as "*altum pedes* 80, *circuitus pedes* 1340." Vitruvius describes its locality, but neither form nor size, and simply refers to a work upon it by the architects Satyrus and Paytheus, doubtless then extant, but now lost. Pausanias and Lucian vaguely speak of its splendour; and Martial, more vaguely still, hints at some peculiarity in its form or construction, by an allusion to its "hanging in empty air."

All other notices, from Strabo to the Byzantine writers, are but incidental, but at the close of the twelfth century we find it still standing, and seemingly in good condition, as Eustathius then says of it, θαῦμα καὶ ἦν καὶ ἔστι "it was and is a wonder." Such are the aids given us by ancient writers.

But though all notice of the monument here ceases, we have reason to believe that it retained much of its pristine glory to a later period. For the rest, we know that it shared at length the destruction that fell upon the cities and monuments of Asia Minor; that in 1402 the Knights of St. John took possession of the town, then called Mesy, now Budrum, and supplied themselves with stone and lime from the tomb for the fortress which they constructed on the rocky peninsula in the harbour; that on the visit of Cepio, in 1472, remains of the monument were shown him, amid the ruins of the city; that in 1522 the remains were again employed for the repairs of the fortress; that from the time of Thévenot certain sculptured slabs, supposed to have belonged to the Mausoleum, are described by travellers as inserted in the castle walls; and that, finally, in 1846, Lord Stratford de Redcliffe obtained permission to remove them, and presented them to the British Museum, where they now are. The fixing on the site of the Mausoleum was the next step: to Professor Donaldson belongs the honour of indicating it, and to Mr. Newton that of determining it.

"What the squaring of the circle is to the young mathematician," says the author, "or the perpetual motion to the young mechanician, the Mausoleum of Halicarnassus was to the young architect; and, with the data at his disposal, the problem seemed as insoluble as the other two." Plans of all forms, square and round, oblong and polygonal, were projected to meet the circumstances, but had only one thing in common,—"they were all wrong; some more, some less so, but none seizing what now turn out to be the main features of the design."

So things might have remained had not the sovereign remedy that found a name for

"The nameless column with a buried base"

on the Roman Forum, supplied an aid to the finding a shape for the marble enigma at Halicarnassus. The story has lost its novelty, but not its interest; the problem is probably not yet solved, perhaps may never be, unless, indeed, the MS. of Satyrus and Phytheus should come to light.

The first result of the possession of these marbles was the publication of a memoir by Mr. Newton, in conjunction with Mr. Cockerell, in the "Classical Museum," in 1847, in which he endeavoured to determine what has since proved to be the true site of the building. Passing by the speculations which the herd of commentators upon Pliny and Vitruvius have indulged in, he pauses upon the chief features of the restorations of such higher authorities as Caylus, Choiseul Gouffier, Quatremère de Quincy, and Leake, all more or less objectionable, but all of which, nevertheless, were based on the "inartificial scheme" of placing the thirty-six columns round a solid structure in a single row,—since found to be correct. Incorporated with the memoir were the remarks and the restoration of Mr. Cockerell, the best that had hitherto appeared, and which may be considered the type of what has followed. It consisted of a cella, with eight columns on the flanks, and six on the fronts, the flanks being doubled; or, in technical language, was peripteral, dipteral, pycnostyle in the flanks, systyle in the fronts. Not to be outdone in ingenuity, however, M. Texier afterwards propounded a circular plan upon an African model, and Mr. Fergusson an octagon upon an Indian type.

Mr. Watkiss Lloyd next suggested certain improvements upon Mr. Cockerell's design. Objecting to the length of the cella, he remedied it by continuing the dipteral arrangement all round; but to do so had to take a column from each flank,

* "The Mausoleum at Halicarnassus Restored in conformity with the recently-discovered Remains." By James Fergusson, F.R.I.B.A. London: Murray.

leaving an odd number. For elevation he took away the attic and gave its height to the podium, the proper place, as he thought, for the sculptures of Leochares and his companions, but of which Gerhard, of the *Archæologische Zeitung*, considered those of Budrum had never formed part, their beauty not being above mediocrity, and their dimensions not compatible with such a situation.

The next restoration worthy of note was that of Mr. Falkener, published in the "Museum of Classical Antiquity," who unhesitatingly adopted the general features of Mr. Cockerell's suggestion and Mr. Lloyd's amendment. Accepting the Budrum slabs as belonging to the frieze, he, *ex pede Herculem*, entered into minute calculations of the probable heights of the various members of the order from the mean of ancient Ionic examples, and by the same method arrived at the intercolumniation. But the main feature of his restoration consisted in a novel interpretation of Pliny's *circuitus*. Arguing from analogy, he rejected the notion of the 411 feet applying to the circuit either of tomb or enclosure, but applied it to the *latus longius* of the *peribolus*, and, by allowing 259 feet to the *latus brevius*, obtained the *circuitus pedes* 1340 of Hyginus.

And now that great event occurred in the history of this long argument which was to consign to oblivion many an old theory, level to the ground many an absurd fabric, and supply a foundation to work upon more substantial than the slipshod description of the most versatile, most uncritical, and most credulous of compilers. The spade had achieved what the pen had failed to effect; the objections of Spratt and Ross had vanished like mists before the sun, and the standard of Newton was erected in the centre of the "*platea ampla longitudine facta, in qua media mausoleum egregiis operibus factum est.*"

It was upon the 1st of January, 1857, that the first spadeful was upturned on the true site of the Mausoleum, and the first restoration that marked the new era was that of Lieutenant Smith, the officer commanding the engineers attached to the expedition. An authority in art, at the close of 1858, thus records his opinion of it:—"The utter overthrow and the dispersion of the materials of the tomb have indeed rendered it impossible for us to discover beyond dispute what the design originally was. But the fragments are so numerous and so characteristic, the accounts handed down to us from antiquity are so clear, and the analogy of other sepulchral monuments of the same date leaves so little room for doubt of the correctness of Messrs. Newton and Smith's suppositions, that it may fairly be said that these gentlemen have set at rest satisfactorily and for ever the discussion as to the general outline of the building, as they have unquestionably done as to its position."

The details, however, of the restoration were not to be permitted to slumber so easily. The restoration by Mr. Pullan, founded upon that of Lieut. Smith, and incorporated in Mr. Newton's work (reviewed in our pages in March last), and indorsed by the latter, has found a formidable opponent in Mr. Fergusson.

The main points in Mr. Pullan's argument are: that the quadrangular cutting on the site of the Mausoleum contained the foundations of the tomb itself, as described by Pliny; and that his *totus circuitus* of 411 feet refers to an area contained within the larger circumference of the quadrangle; that the fragments of wheel and portions of horses belong to the group of the quadriga; that the steps found on the north side of the *peribolus* are parts of those of the pyramid. Making Pliny's dimensions the basis for the whole, he adopts the generally received form of a pteron or peristyle standing on a podium, supporting a pyramid crowned by a quadriga; and divides the total height of 140 feet by giving 37 feet 6 inches to the pteron, 37 feet 6 inches to the pyramid and quadriga, and the remaining 65 feet to the podium. In support of his theory, in the passage "*supra pteron pyramis altitudine inferiorem æquavit*," he changes *altitudine* into *altitudinem* by the addition of a letter, and thus creates the substantive wanting. This is certainly dealing with the *letter* if not the spirit. Logically, "*pyramidem*" may be inferred; but practically, *partem;* and if so, must it of necessity refer to the pteron, because the only part previously mentioned? We think not. By this means Mr. Pullan's podium becomes enormously disproportioned to the peristyle. With regard to plan, he constructs a building of which the platform at the top of the pyramid is 25 feet 6 inches by 20 feet 5 inches, the *cella* 63 feet by 62 feet, surrounded by a peristyle 100 feet long from centre to centre of columns, from east to west, and 80 feet from north to south, the *pteroma* being double the width at the fronts to what it is at the flanks. The *podium* he makes 119 feet by 88 feet 6 inches at the die, thus projecting almost four times as much beyond the pedestal at the fronts as at the flanks; the most disagreeable feature of all.

Exact information being wanting with regard to the lower part, he commences with the top. How the size of the platform, the height and spread of the pyramid, the height of the order, position of the columns, dimensions of the cella and peristyle, position of the lions, size of the podium, internal arrangement of the tomb, domical structure of the roof, and all the other points of the restoration were arrived at, are detailed by Mr. Pullan in the sixth chapter of the book, and in Mr. Newton's summary in its favour in the seventh.

Mr. Fergusson's first objections were expressed in our pages at the close of 1859, in anticipation of Mr. Newton's book, but were then confined to a new interpretation of the words "*in metæ cacumen se contrahens*," by supposing the pyramid to have been curvilinear instead of straight, a doubt of the similarity of width of the treads having given rise to it. After an answer from Mr. Pullan, also in our pages, and a rejoinder from Mr. Fergusson, the matter dropped. Mr. Pullan's restoration was published, and Mr. Fergusson's dissent assumed a fuller embodiment. In his preface he disclaims for his essay all pretensions to being a full account of the Mausoleum. Like David, he meets his Goliath with but a sling and a stone, opposing a thin quarto volume to the ponderous folio of his antagonist. All he has attempted in the present instance is to recapitulate and explain the various data which have recently been brought to light, and to show in what manner they may be employed, so as to perfect the solution of the riddle which has so long perplexed the student of classical architecture.

The first impression from Mr. Fergusson's design is that one condition at least has been attained—beauty; the first from Mr. Pullan's is that that condition is entirely wanting. The first feelings of pleasure or disappointment over, the uncomfortable conviction grows upon us that the exuberant invention in the one and the total want of it in the other, have equally missed the mark, and left the problem unsolved. With all this is a feeling of congratulation that in many essential points they accord with each other; and that in spite of difference of opinions, they are both much nearer the mark than their predecessors. Facts are incontrovertible, and the following results of the excavation must form a groundwork for all in future to build upon, viz.: the area laid bare of 127 feet by 108 feet, paved with blocks of green stone, and sufficiently corresponding with Pliny's dimensions of the pteron; the portion of chariot-wheel and horses, that may presume a height of 13 feet or 14 feet for the group; the general form of the pyramid from the indisputable evidence of its steps; the restoration of the entire order, and the coincidence of the height of the same with the 27 cubits of Pliny; the peripteral arrangement of the thirty-six columns, eleven to each flank, nine to each front; the application of the 63 feet to the longer side of the cella, that of the 411 feet to the circuit of the whole structure, and that of the 1,340 feet of Hyginus to the circuit of the peribolus, the existence of which is also ascertained; lastly, the identity of the slabs from the castle with others found *in situ*. These leading data govern both restorations, but with what different results!

To the three materials existing for a restoration, *Scripta*, *Reliquiæ*, and *Exempla*, Mr. Fergusson adds *Rationes*, or the system of definite proportions in Greek architecture, a system first propounded by Cesare Cesariano, in his version of Vitruvius, in 1521, in which he showed how a system of triangles explained the dimensions and peculiarities of design of Milan Cathedral. This system, and others founded on it, have been applied to numerous other Gothic cathedrals, with more or less success.

"It has, however," says the author, "long been suspected that the Greeks proceeded on a totally different principle; but materials did not exist for a satisfactory elucidation of the question till Mr. Penrose published his exquisite survey of the Parthenon and other buildings at Athens made for the Society of Dilettanti, and Mr. Cockerell the result of his explorations at Bassæ and Egina. In the first-named work, its author pointed out with sufficient clearness some of the principal ratios of that celebrated building, which his survey enabled him to verify, and for others he supplied dimensions which, for completeness and accuracy, left nothing to be desired. With these new materials, Mr. Watkiss Lloyd undertook the investigation, and by a long and careful series of comparisons he has proved that the time-honoured doctrine of the Vitruvian school—that the lowest diameter of a column was the modulus of every other part of a building—had no place in Greek art; on the contrary, that every part of a Greek building was proportioned to those parts in juxtaposition or analogy to it, in some such ratio as 3 to 4, 4 to 5, 5 to 6, and so on,—not by accident, but by careful study; and the whole design was evolved from a nexus of proportions as ingenious in themselves as they were harmonious in their result."

All this, however, has been set forth in our pages: and the application of this system to the present subject we have not space to expatiate upon; but the author has gone into it with great minuteness, and it is well worth a careful study. The result is interesting, but the coupled columns at the angles will prove an objection to many nevertheless.

A chapter on Greek measures introduces another point which the author considers of great importance; and the difference between the Greek and English foot, though minute, is of moment in the calculation. The dimensions of Pliny are, of course, in the former; those quoted in the excavations in the latter. The length of the Greek foot is best calculated from the Roman, and the latter was ·972 English; therefore, as the ratio between the Greek foot and the Roman was as 25 to 24, we find that 101·25 English feet are equal to 100 Greek feet. This being almost identical with the mean between two slightly different results obtained by Mr. Penrose in his measurements of the upper step of the Parthenon and the Naos, the author uses it throughout the work. As regards what he considers one of the most important elements for the restoration, namely, the steps of the pyramid, the utmost minuteness is of consequence, and considering it a most wonderful coincidence that Mr. Pullan's wider step of 21 inches, and his narrower one of 17 inches, English, should come out without fractions either way, after minute personal measurements at the Museum, he adopts the latter dimension as correct, but uses the former as a dimension of 21 inches Greek, or 21·2625 English inches. After this arguing upon the probability of the Babylonian cubit—acknowledged of 21 inches—being used in Caria, he urges, upon the strength of the widest step being the modulus for the whole building, the convenience of considering the measure of 21 inches as equal to 1 Babylonian or Halicarnassian cubit, and calling it so accordingly.

Next in importance to the steps of the pyramid are the fragments of the cymatium. Several of these were found, averaging 21 inches in length, and each having a lion's head, or the mark of one, to cover the joint, and each head therefore 3 feet 6 inches from centre to centre. The closeness of these heads suggests the notion of every other column

only having one over its centre, thus making the intercolumniation 8 feet 9 inches. But, besides being unexampled and complicated, the author cannot make it suit any arrangement of his pyramid steps. Assuming eleven intercolumniations by seven for the sides of the pteron, we obtain 96 feet 3 inches by 61 feet 3 inches from centre to centre of angle columns, to which, supposing the sides of the pyramid to be in the ratio of 4 to 5, we cannot fit it. Assuming, on the contrary, ten intercolumniations by eight, we should obtain 87 feet 6 inches by 70 feet; and adding 2 feet 9 inches each way—the projection of the first step of the pyramid beyond the centre of the angle column—we should have for its base 93 feet by 75 feet 6 inches; therefore, with the evidence before us, neither of these suggestions seems tenable. Advancing 1 cubit beyond this we come to 6 cubits, or 10 feet 6 inches Greek from centre to centre of every column, and the lions' heads then range symmetrically one over each, and two between each pair.

The addition of a plain piece of cymatium between every two of the stones actually found would have reduced the excessive number of heads to the ordinary, and fixed the intercolumniation at 10 feet 6 inches absolutely; for a stone found with a lion's head upon it 1 cubit from the angle creates a difficulty, as it does not fit with the arrangement. But no such plain pieces were found. The principle of definite proportions, however, again comes to the rescue:—

"As we have just found that six pyramid steps, or 6 cubits, are equal to one intercolumniation, so six intercolumniations, or 36 cubits, is exactly 63 Greek feet,—the '*sexagenos ternos pedes*,' which Pliny ascribes to the cella or tomb; it is further proved that this was not accidental, by our finding that twice the length of the cella, or 126 Greek feet, or 72 cubits, is or ought to be the total length of the building, measured on its lowest step. This, as before mentioned, Mr. Newton quotes, in round numbers, as 127 feet English; but as neither he nor any of those with him had any idea that any peculiar value was attached to this dimension, they measured carelessly and quoted loosely. My own conviction is that it certainly was 127 feet 6½ inches English, which would be the exact equivalent of 126 Greek feet. At all events, I feel perfectly certain that the best mode of ascertaining the pyramid step would be to divide this dimension, whatever it is, by 72."

With regard to the pteron, the evidence demands the allotment of eleven columns to the flanks, and nine to the fronts, as adopted by Lieut. Smith and Mr. Pullan. But, ten intercolumniations of 10 feet 6 inches give 105 feet; which, with 2 feet 9 inches at each end for the projection of the first step of the pyramid beyond the centres of the columns, makes 110 feet 6 inches,—a dimension to which it is almost impossible to extend the pyramid; and, moreover, with a cella only 63 feet long, leaves 21 feet at each end, from centres of columns to cella to be roofed over, a difficulty which the Greeks could scarcely have surmounted. After trying several expedients, Mr. Fergusson solves the question by coupling the angle columns, or giving them half an intercolumniation, or 5 feet 3 inches from centre to centre.

On the subject of the *lacunaria* we can say but few words. Of the transverse beam between the architrave and the cella only one fragment was discovered, 4 feet 6 inches in length. A lacunar stone was also found, 6 feet 2⅝ inches long, 2 feet 8¾ wide, and 10 inches thick. The details of this stone prove the length of one side of a panel to be 4⅜ feet, and as the space between Mr. Pullan's transverse beams of the flanks is 7 feet 10 inches, it must have been a shorter side, and the *lacunaria*, therefore, oblong, and running lengthways with the *cella*. Now the length of this stone being 6 feet 2⅝ inches, the space between the centre of the columns and the architrave of the *cella* on the flanks may be taken as 8 feet 6 inches; and the width of the peristyle, from centre to centre of columns, being 80 feet, allowing 6 inches for the pilaster on each side, the width of the *cella* would be 80 feet short 18, or 62 feet. The length of the *cella* being 63 feet, it is virtually but not actually square, and the "*brevius a frontibus*" just observed by a foot. To meet the wide span of 17 feet at the fronts, he concludes that the transverse beams and *lacunaria* were supported by main beams of large dimension, level with the architraves.

Such is Mr. Pullan's scheme. By Mr. Fergusson's arrangement the span at front and rear is 2 feet 8 inches less, therefore these main beams are not required. As to the lacunar stone, he finds no difficulty in finding a place for it, and lays small stress on its evidence. He obtains four large square panels at the angles, but on the other hand has long ones in the fronts, and short ones in the flanks, whilst Mr. Pullan's are the same size throughout.

But to attempt to explain the various calculations by which the author obtains his conclusions would be to re-write his essay, as it is a book of figures with but little narrative; and as his object has been to render his arguments as concise as possible, to condense them further cannot make them clearer, but may mar their meaning. We have given the gist of one or two of them as specimens of his masterly grasp of his subject, and for the rest must content ourselves with their results. The general idea of the pyramid pretty well coincides both in Mr Pullan's and the author's restorations. The former obtains a platform 25 feet 6 inches by 20 feet 5 inches, and a lower step 105 feet 5 inches by 85 feet 5 inches English; the latter a platform 20 feet by 16 feet, and a lower step 100 feet by 80 feet Greek. The former places the two narrow steps at the top, the latter at the bottom, and doubles the height of the lowest one to raise them above the cymatium, with which addition the pyramid is 1 foot higher than Mr. Pullan's. Upon this platform Mr. Pullan at once places his chariot group, without the presence of an intervening pedestal, in spite of want of precedent, poverty of the conception, and impossibility of seeing more than a portion of the crowning feature of the structure. Mr. Fergusson, on the contrary, with the Lion Tomb at Caidus before his eyes, elevates his group upon a pedestal of such area as shall just contain it and no more. Of the beautiful effect produced by this interpretation of the *metæ cacumen* there cannot be two opinions, but its influence in the division of Pliny's 140 feet extends to the whole design. Mr. Pullan makes the pyramid, *with the addition of the quadriga*, equal to the pteron, but has to give 65 feet to the basement. Mr. Fergusson makes the pyramid, *with the addition of the pedestal*, equal to the pteron, and the pyramid pedestal and quadriga equal to the basement, which thus becomes only 51 feet high, and thus meets two readings of Pliny at once. But so singularly do his dimensions dovetail, that after making the entablature of the basement a proportionate height, he was surprised to find he had again obtained the height of the pteron (37 feet 6 inches) for the remainder. If this solution of Pliny's meaning can be reconciled with the evidences that we possess, and the author believes that it can, the huge basement that so sorely tries our faith assumes proportions far more consistent with probability; but for the matter of its arrangement, the most we can say is, that in the absence of all proof as to what it was, he has given a charming notion as to what it might have been.

This is undoubtedly the part most open to criticism, as he had but little to guide him beyond his imagination, which, fortunately, is a fertile one; but the tombs of Mylasa and Xanthus seem to point to another treatment. The story told by Guichard, in his work on the Sepulchral Rites of the Ancients, of the descent of the Knights of St. John into the tomb, in 1522, and the architectural wonders they saw there, has given the clue, in Mr. Fergusson's mind, to the mystery. Considering the monument altogether exceptional, he makes the building as ornate within as without, and in place of the two circular vaulted chambers, without light, air, and ornament, with which Mr. Pullan occupies his pteron and his podium, presents us with two spacious quadrangular halls of equal size, lit by openings, and with trabiated ceilings supported by columns. The walls of the cella are pierced by four windows at each side, and a door at one end leading on to the pteroma. As regards the basement, the side walls of the lower chamber, which carry those of the cella, assume the form of massive piers with alternate openings, which admit a subdued light borrowed from the external wall which supports the peristyle, and which is likewise formed of corresponding piers and openings,—a peristele (from *στήλη*, a stele) beneath a peristyle (from *στυλος*, a column),—the space beneath the *pteromata* forming a corridor encircling the lower hall. For the actual tomb of the monarch, the excavated stairs and the big stone at the west end may indicate the whereabouts.

The sculptures found, besides those of the chariot group and the three friezes, consisted of a fragment of a colossal equestrian figure, fragments of several statues larger than life, fragments of some twenty lions, and some portions of square tablets. For the chariot group, he thinks it a question if, instead of standing parallel with the pedestal, it may not have faced the south side—the principal approach. The friezes he allots, one to the order, one to the basement, the third—the chariot race—to the cella. The statues he places on the peristele—one to each opening. The lions, standing, are placed on pedestals, which form part of a continuous broken stylobate round the podium, seven on each flank, — five to the west front, two to the east. That they played an essential part in the design is evident from their number. Here, then, they do so; in Mr. Pullan's design they do not. In addition to these twenty-one, the author adds two of larger size, couchant, on each side of the portal, and four more on pedestals at the angles of the roof. On the eight larger pedestals at the angles of the building he proposes to place prancing Amazons, but suggests for the four facing the main approach the restitution of the celebrated Monte Cavallo groups, which *possibly* formed part of the statues of which Cicero accused Verres of robbing Halicarnassus.

In concluding, we cannot divest ourselves of the conviction, that though the distance from the truth is greatly lessened, the goal is not yet attained. We should, nevertheless, be loath to place the solution of the problem amongst those things that Time has fatally obscured:—"*Res vetustate nimiâ obscuras.*"

NEW MATERIALS FOR THE LIFE OF THOMAS BANKS, R.A.

WHEN my father entered into an engagement with the late Mr. Murray, of Albemarle-street, to write the well-known "Lives" which bear his name, he sought assistance at all hands. Lavinia, the only child of Banks, the sculptor, became one of his correspondents. She was the widow of the Rev. Edward Forster, and was, as her letters evince, a clever woman:—

To Allan Cunningham, esq.

"Paris, February 12th, 1830.

SIR,—I hasten to acknowledge having been favoured with your letter of the 6th instant, but am as yet unprepared to give a satisfactory reply either to the first or the second part of it. I am fully aware of my obligations to Mr. Chantrey for having so long given house-room to the models, &c., belonging to me, which Mr. Rossi entrusted to his care, and which it never was my intention should have encumbered his premises so long; but various circumstances have hitherto prevented me from taking any measures towards their removal, and I am now perplexed to know what to do with them, or where to remove them. I doubt not that many may now be injured, and possibly of but little value. I have been searching among my mother's papers for a list of them, which I doubt not Mr. Rossi transmitted to her at the time of their removal, but without success; and I am sorry to say her memory is now so defective as not to be able to assist mine at all as to the individual contents of the hampers, &c. The moulds, as nearly as I can recollect, were pre-

served as being those of busts of Horne Tooke and Warren Hastings, which it was thought might be of some value in future; but those, of course, I cannot have a wish to retain, as being much too cumbrous for any one not having extensive premises. I should be sorry to part with any of my father's models; but I regret to add that I cannot at this moment fix on any friend whom I could trouble to look over, and select and pack them. All the terra-cottas were models made by my father in Italy, and are valuable to me. I feel much indebted to Mr. Chantrey for his kind offer of assisting in the selection of such as appear to possess the most merit. Some of them I have an affection for, as being associated with recollections of my early childhood; and I still hope to meet with a list of the whole, so as to designate those I should grieve to have disposed of.

I will write by this courier to my friend Mr. Philip Hardwick, of Russell-square, and consult him on the subject: perhaps he can suggest some means of *housing* them, until I can visit England myself, a measure I have wished to put in practice ever since the death of my husband; but the increasing infirmities of my poor aged mother render it impossible that I should leave her, even for a day. I cannot, therefore, absent myself for any time, however urgent the cause of it might be.

On the *second* subject in your letter, I shall have much pleasure in communicating to you whatever I can; and will endeavour to collect my thoughts on it, and give you what information I can glean. The little sketch in *The Gentleman's Magazine* was drawn up by me, but I cannot recollect exactly in what year, and I have no copy of it. My poor mother's memory is now so impaired, that I find I cannot rely on any information from her, and I am almost ashamed to confess that, from my having lived so long out of England, many recollections are obliterated, which a continued intercourse with the friends of my youth would naturally have kept up, had I remained among them.

Yet I love to dwell on everything connected with the memory of a father whom I had so much reason to be proud of, and to be affectionately attached to, and I shall perform the little task you have assigned me with real pleasure, though not, I fear, with sufficient ability to prove of much service to you.

We have not any letters of his, or of any correspondents. I will look if there be not a few scattered observations on the Antique, written during his residence at Rome. I can, if you wish it, transmit to you some passages from my *deeply-lamented friend* Sir Thomas Lawrence's letters to me, expressive of his veneration for my father's talents, which may be interesting in such a work as yours.

There is a bust of my father, I should think, among the models at Mr. Chantrey's. There is also a very good picture of him by Northcote, which I think Mr. Hardwick can give you information of,* for I do not at present know in whose possession it is. Mr. Dance made a drawing of him which was etched (engraved) in his collection of Portraits, and I have a slight chalk profile of him, done a few months before his death by Flaxman, when we were passing an evening at his house. This is the most valuable of all in point of likeness, but how could you have it? I am, &c., LAVINIA FORSTER."

Flaxman sat to Banks; the head was engraved for my father's Life of Flaxman:—

To Allan Cunningham, esq.

"I will endeavour to send you, in the course of the week, the drawing of my father by Flaxman, which I think so infinitely preferable to any other resemblance of him, that I should wish it to be engraved, rather than that in the possession of Miss Flaxman, which I recollect was done some years previous to mine, and which my mother reminds me, by an extraordinary return of memory, was drawn one evening at my house in North Audley-street. I will send it by the conveyance you point out."

To the same.

"I send you my father's portrait by Flaxman, in which the only defect is want of height in the forehead, and consequently of capaciousness in the upper part of the head; if that could be added in the engraving, it would be perfect.

You will also find the catalogue of his works, and the list of the different articles you received from Mr. Rossi in 1822.

I inclose a list of the articles I am most desirous to retain. Others will probably be selected by Lord and Lady Nugent, and by Mr. Hardwick.

I have no letters whatever, nor do I believe my father was ever in habits of correspondence with Flaxman; he admired him greatly, and thought most highly of his genius, but used to say, all his pleasure in his society was destroyed when Mrs. Flaxman was present, for she was affected and pedantic."

What follows relates to the original model of the *Boothby* Monument, now in the Soane Museum:—

"Mrs. Forster presents her compliments to Mr. Allan Cunningham. She has heard from Lady Nugent respecting the removal of some of the models Mr. Chantrey has been so good as to take charge of for her; and has decided on requesting Mr. Soane to accept that of Sir Brook Boothby's daughter, and writes to Mr. Hardwick to this effect by to-day's courier."

The following letter, full of interest, explains itself:—

To the same.

"Paris, March 1, 1830.

"Sir,—In compliance with your request I have endeavoured to recollect various little incidents that may tend to illustrate my father's habits and occupations, but fear you will find them very imperfect, and probably too much mingled with *self* to be made use of without considerable pruning; but I have noted them down as they have occurred to me, and I regret that I have not now any one at hand to assist me in retracing some of the early events of my life, which might have been interesting as connected with my revered parent. My mother's memory is now so lost that I cannot rely on anything she relates unless I also have a recollection of the circumstance. Not having either any memorandum of the little biographical sketch which appeared in the *Gentleman's Magazine*, I cannot now retrace the order or the number of his public works, which I believe are therein enumerated. To that, of course, you will refer for principal facts, and I will do my best in giving you some further information, relying on your indulgence for the style as well as desultory manner in which it will be given. I never knew the name of my grandmother before marriage, nor does my mother recollect it. She resided at Hampton Court with her second son, Mark Banks, who was an architect and had a house there, in consequence of his situation in the Board of Works. The youngest son, Charles, studied sculpture, and was instructed principally by my father; but he died young, and was not, I believe, very industrious, therefore nothing remains of his talents in his profession.

My mother's maiden name was Wootton; her father died when she was a child, and her mother was left with two unmarried daughters, having a small landed property in that part of the then *vicinity* of London, known by the name of May Fair. Two or three years after their marriage my father and mother went to Rome, he being sent thither as a student at the expense of the Royal Academy; and finding his residence there pleasant, he continued four years longer than the time usually allowed by that institution, remaining in all seven years. On his return to England he took a house in Newman-street, in which he continued to reside until his death; but finding his talents not sufficiently appreciated during the first few years after his return from Italy, he determined on making trial of Russia; and took with him a beautiful statue of "Cupid tormenting a Butterfly," for which the design had been made in Rome. This he disposed of to the Empress Catherine II., who had it placed in her summer palace at Czarsiozelo. He also executed for her a bas-relief, emblematic of "The Armed Neutrality;" but finding his health much impaired by the climate, and preferring his native country, he unexpectedly returned, just as my mother was preparing to join him at St. Petersburg, with me. It was after his second return to England that he modelled the colossal statue of "Achilles mourning the Loss of Briseis, which now graces the hall of the British Gallery in Pall-mall, and was presented to that institution by my mother after my father's death. One instance of his fortitude and strength of mind under misfortune may be adduced from his patient resignation on the apparent destruction of his hopes of distinguishing himself in the eyes of a British public, in the demolition of that figure. It had been the laborious occupation and incessant study of nearly twelve months, to complete the model; and when cast in plaster it was conveyed to Somerset House for the purpose of being exhibited in the exhibition of the Royal Academy, but on its way thither the sledge or carriage on which it was conveyed met with some accident, and the figure was shattered into a thousand fragments. He returned at his usual hour to dine with his family, bereft of every hope that this statue, on which his expectations of future celebrity had been fondly built, could ever be restored to its original form; he did not impart his vexation to any one; he returned to the Academy to endeavour to assemble the scattered pieces, and by unremitting labour succeeded in getting them together; nor was it until his hopes revived of recovering its pristine appearance that he informed his wife of the accident that had occurred. The statue was to have been executed in marble for Colonel Johnes, and placed in the hall of his princely house at Hafod, in Wales; but subsequent circumstances prevented the completion of that order, although a block of marble of suitable dimensions had been procured from Carrara expressly for its execution. Other works, however, were undertaken and completed for that distinguished amateur, some of which were unfortunately consumed when that noble mansion was destroyed by fire. One of these was a group of 'Thetis dipping Achilles in the River Styx,' placed over a magnificent vase in the conservatory, the heads being portraits of Mrs. and Miss Johnes. The owner of this beautiful place was very partial to my father, and loved the simplicity of his character. For several successive years he was a visitor at Hafod during part of the summer, and there revelled in undisturbed enjoyment of the sublime scenes with which that picturesque spot abounds.

When in Rome, he executed a basso-relievo for the late Marquis of Buckingham, representing 'Caractacus pleading for his Liberty before the Emperor Claudius.' It is placed in the entrance-hall at Stowe, in Buckinghamshire (the terra-cotta model is at Mr. Howard's, in Newman-street). The exquisite design for a monument to the memory of the daughter of Sir Brook Boothby, which was erected in the church of Ashbourne, in Derbyshire, excited a very marked sensation at the time it was exhibited at Somerset House. The marble figure was placed in the centre of the council-room, and attracted a crowd of admiring spectators. When her Majesty Queen Charlotte, attended by the princesses her daughters, visited the exhibition, as it was customary for the Royal Family to do previous to its being opened to the public, they were particularly interested by this lovely little composition, stood over it for a considerable time in silence, and were affected even to tears. While the work was in hand, Sir Brook used to come almost daily to watch its progress, and often wept as he stood beside my father while he was employed on it; for it was one of his productions on which he bestowed much of his own labour, finishing almost every part of it in the most careful manner with his own hands. Mr. Chantrey borrowed of my mother the drawings and original designs for this composition, when about to execute his monument to the memory of two children, placed in Litchfield Cathedral.

My father's greatest delight and solace, after his own laborious studies were over, was to promote the improvement of me, his only child; and even during that part of the day when his presence was required in his study, he would devote a great portion of the morning to sitting by my side, while I was practising my piano; for I was sadly idle, and little deserving of such incessant attention and pains. He was passionately fond of music, and desirous that I should excel in that accomplishment, for which not only did he sacrifice his own time, but was unsparing in every expense which could tend to advance me in it. You will find among the models in Mr. Chantrey's possession a little figure of an angel in the act of adoration, which he designed for the top of my harp, and carved it in wood himself, that it might be, as it was, quite perfect. Nothing could exceed its beauty when just finished in the wood; but the sharpness of its execution was much impaired by the gilding. The harp was worn out and destroyed, but I have this precious remain in my possession, having had it displaced from the instrument of which it was so original and tasteful an ornament.

In drawing, too, my father omitted nothing that his own superior judgment could suggest; and, that I might not learn it superficially, he would make me sit by him in his study to draw from plaster, and thus be under his immediate eye. This circumstance ought, perhaps, to have enabled me to give a more accurate account of his manner of working than, I fear, can be of any use to you; but I did not then appreciate either my own advantages or the merits of such a father. In composing the subjects he had to execute for commissions, he appeared to have more facility in expressing his ideas

* Will Mr. Hardwick give the readers of the *Builder* "information" of this picture?

in clay than on paper; for there are not, in proportion to the works he executed, many drawings of his extant; his habit having been, most frequently, to model his sketches, and then repeat them on a larger and more finished scale two or three times, until he made the finished one from which the marble was to be worked. He always retouched the marble himself, putting the last touch to the flesh particularly, and leaving it with the roughness created by rather a large file, which he thought approached nearer to the grain of the skin in nature than when too smoothly wrought up. I have known him occasionally devote a long Sunday morning, when he could be quiet and undisturbed, to working on the marble; and always at the hour the workmen were absent he employed himself in putting the master-touches to the works in hand. He objected to the perfect whiteness of the marble in its natural state, and often employed a slight tint of coffee to stain it and give a softness to the lights and shades. This I remember more particularly his using to the Cupid that he took with him to Russia, and in an exquisite kneeling figure which was executed for a monument to Miss Rowley, and sent to Ireland.

Of his most intimate friends among artists, and those in whose society he chiefly took delight, was Hoppner, for whose rising talent when a young man he ever expressed the highest admiration, and for whose success when [1795] a candidate for the R.A. he was particularly anxious. He continued most warmly attached to him until his death.

Cosway he was in the habit of passing his evenings with frequently, and enjoying with him the inspection of his valuable portfolios of ancient drawings. His friendship with him had commenced almost immediately on his return from Italy, in consequence of the intimacy subsisting between our family and that of Miss Hadfield, who afterwards married Mr. Cosway. My father and mother became acquainted with her at a very early period of her life, at Florence, and being attracted by her talents and superior accomplishments, invited her to pass some time with them at Rome, from whence she, with her mother and sisters, accompanied us to England.

Fuseli was on terms of most intimate friendship with my father, and often passed hours with him of a morning in his study, to watch him while modelling. Although their style of composition was so widely different, they entertained a mutual admiration for each other's talents, and during his last illness, Mr. Fuseli would often come and sit with him to talk on subjects of art, and while away some of the tedious hours of suffering which my poor father had to endure; for he had placed himself in the hands of an ignorant empyric, whose violent measures certainly hastened his end, and caused him the greatest torture. He and Fuseli, when young and fellow students in Rome, used to be very fond of comparing figures from five points placed at random, and I have several of their sketches made in that way. It is probable that one of these first suggested to him the idea of The Fallen Titan, which he afterwards executed in marble, as his *deposit*, on being elected Academician, for I have some of these very early sketches, done while he was in Italy; and probably he had not till then had an opportunity of executing the subject, which had for so many years dwelt on his mind. I perfectly remember, on the occasion of that statue being worked, his saying in conversation, that he conceived the subject to exist in the block of marble, *à priori*, and that it was called forth by the sculptor's hand.

My father was also in habits of great intimacy with Horne Tooke for many years, and was an almost weekly visitor at his hospitable board, going on a Saturday evening, and passing Sunday at Wimbledon, when he used to meet many of his own opinions in politics, which at one period engaged his attention almost exclusively, and even endangered his liberty. I remember at the time of the arrest of Tooke, Hardy, &c., on a charge of high treason, an officer coming to my father with an order from the Secretary of State, for him to accompany him to his office. I chanced to be in an adjoining room, and the door not being closed, heard what passed. My father only requested to be allowed to go into his study to give some directions to his workmen, and was then ready to attend his summons. He said nothing to any one of his family of the object that called him from home, fearful of exciting my mother's apprehensions, and thinking that any intelligence on the subject would be best imparted by himself. I bore in silent anxiety the suspense of some hours, but to my inexpressible joy I heard his well-known knock at the door, towards dinner-time, and ran to greet his return, which was rendered doubly happy to us all from his having been instantly and honourably acquitted of any treasonable designs. In his visits to Wimbledon, he used to take long and solitary walks to some favourite spot of picturesque beauty. Ever alive to the attractions of nature, he preferred seeking her charms undisturbed by any companion, and would wander alone for many hours in the morning, enjoying in the evening the intellectual feast that awaited him, in the society of his host. Horne Tooke loved his frank simplicity of character, nor was his admiration unreturned. One of the first busts my father ever modelled was that of his illustrious friend. I think Sir Francis Burdett possesses it in marble. Another bust which he may be said to have studied *con amore*, was that of Warren Hastings, for whose character he entertained the highest veneration. I have often heard him express his admiration of the fine expression of his features, and more particularly of the uncommonly grand form of his forehead, which, with that of Horne Tooke's, he considered the finest he had seen in modern heads.

He was remarkably taciturn and spoke but little, yet that little was ever to the purpose. He was always encouraging to a young artist, and I have never known him reject the performance of any beginner, however poorly he might think of it; but have wondered at his patience in continuing to correct drawings that were brought for his inspection, when there appeared so little hope of improvement. He would often say, 'This and better will do, but this and worse will never do;' and he always recommended industry and persevering application, without which no great end could be attained. He was a most minute observer of nature, and I have often seen him stop in his walk to remark an attitude, or group of figures, that caught his notice; and he would trace its form in air with his finger, as if drawing on paper. He would in the same manner observe folds of drapery, and no doubt note them in his mind, to be referred to when occasion might require.

During the latter years of his life, he spent much time, and was at considerable expense in forming a collection of drawings and engravings by the old masters, and attended all the sales of such objects with great assiduity. His collection, which is a very valuable one, is in my possession, and constituted his principal occupation and delight after I married and removed to a home of my own, which deprived him of his accustomed and favourite evening's amusement in music. The late lamented president [Lawrence] was aware of the value of this collection, and was very desirous of obtaining tracings from some of the finest drawings, but as I could not meet with any artist to make the tracings he required in Paris, I sent him at various times parcels of drawings for his inspection, all of which were scrupulously returned, with the exception of a few by Albert Durer, which, at my request, he selected to keep. In return for this, he gave me last summer a most lovely portrait of my eldest daughter, drawn in his most exquisite style. He told her it would be the last he should ever attempt, for he found it too trying for his eyes to do anything so much smaller than life; and I have reason to believe that that of Miss F. Kemble was the only one he did after the one in my possession, finished in June, 1829. He also sent me, with a little engraving from his picture of Mr. Lock's son, a very small drawing of his, done when he was about eight years old, written under it, in a child's hand, 'Thomas Lawrence, Devizes,' and in his own hand at the time of sending it, 'Done when three weeks old, I believe.' I have transcribed many parts of his letters to me, which I thought might be valuable, as elucidating his own ardent and enthusiastic admiration of the works of the early masters. If I have done more than is necessary, you will excuse it, as also my inserting such passages as are so highly flattering to myself. I may surely be pardoned for being proud of compliments received from such a hand! But you will make use of such parts only as may be useful to your purpose.

* * * * *

To return to my father. Simple and frugal in his general style of living, from which he did not deviate even when fortune had begun to smile on his talents, he was, nevertheless, liberal to excess in everything that related to the arts, and his hand was ever open to alleviate distress, although his name might not court applause in *public* subscriptions. He sought the silent and lonely sufferer, and administered relief in private, sometimes without its being even suspected from whom the succour was obtained. Latterly, he became very strict in his religious tenets, which opened the way to numberless applications from those who attended the same places of worship which he did, though perhaps with less pure motives than himself. He spent considerable sums in either assisting them in difficulties, or promoting their plans for extending their sect. Yet notwithstanding his liberal expenditure, both in their service, and in collecting works of art, he left a handsome provision for his widow.

I do not know that I have anything to add to this little sketch that may prove interesting to you; but I hasten to despatch it to-day, with all its imperfections, in case there should be any point on which you may wish for more explicit information. I have not been able, on account of the distance from my residence, to send the drawing to the Rue de l'Ecole de Médecine, but hope to be able to do so to-morrow or next day, with the various extracts I promised from Sir T. Lawrence's letters, the list of models, &c. I beg you will not scruple to omit any part of what I have written that may appear to you irrelevant to the subject. I need not, perhaps, have said so much about myself, but as being the principal object of his affection and interest throughout his life, I thought you might wish to include me in the account of his domestic habits; and grateful affection for so excellent a parent has probably led me beyond what was requisite; but you will use only what suits you best.

Mr. Chantrey has probably had a visit from Lord and Lady Nugent, to look at my father's models, for they are kind enough to say that they may be able to give some of them stowage. I will mark the list of them, specifying which I am most anxious to preserve.—I am, &c.,

LAVINIA FORSTER."

Anastatius Hope has a right to be heard touching a work of art;—the well-known "Mourning Achilles," by Banks, in the hall of "The British Institution."

To the Rev. Edward Forster, South Audley-street, London.

"Esher, 22nd April, 1805.

Sir,—No doubt you will have been surprised at my not acknowledging the honour of your letter of the 17th sooner. The fact is that I happened to be on a little excursion in the country, and only returned to Esher, whence I now write, yesterday morning.

I feel myself utterly at a loss to express how very highly I find myself flattered with the offer of Mrs. Banks and Mrs. Forster. I have always considered Mr. Banks as one of those few artists who were an honour to this, and would have been to any, age or country; and your thinking my little collection of sufficient merit to be adorned by one of his finest works is paying it a compliment indeed, which it has seldom received even in words. It, however, only occasions a renewal of that regret which I experienced once before in Mr. Canova's offering me a cast of his Perseus; and though I am well aware of the *immense* difference there is between the copy of an original existing elsewhere and an original model, I still have to lament that my space is so confined as to oblige me to limit myself entirely to marbles. Of these I already possess more than I can conveniently place; and I expect a colossal statue from Rome which I am totally at a loss to find room for. I cannot help indulging a hope that my not being able to avail myself of the highly gratifying offer I receive may be the means of Mr. Banks's statue finding a place more worthy of its merit than my roof could have afforded.

I request you will present to Mrs. Banks and Mrs. Forster my best respects and most grateful thanks, and have the honour to be, sir, your most obedient and obliged servant,

THOS. HOPE."

Chantrey went to the thinning and destruction of Banks's *models* with a remorseless hand. He had no kind of feeling for poetic flights in marble. My father stepped in and secured the two small casts of "Achilles" and "Venus," to which he has done justice in his Life of Banks. They are now in my possession, and merit all that he has said of them.

A large and very noble alto-relief by Banks, not mentioned by my father, may be seen in one of the ugliest churches in the environs of London,—Mrs. Petrie dying in the Arms of Religion, and supported by Faith and Hope. It is in Lewisham church, in Kent. Banks's monument will repay a visit,—fine—Flaxman not finer. The beautiful Thetis bas-relief, mentioned by my father, is now in the National Gallery, and richly deserves the space it occupies.

PETER CUNNINGHAM.

MEDIÆVAL MONUMENTS TO MODERN HEROES.

WHEN Edward I. determined to erect a lasting memorial to his devoted queen at every halting-place of the funereal cavalcade on its long route to the Abbey of Westminster, neither he nor the artists employed by him sought to imitate the style of the fine monuments of the pure Norman period, nor those of any other by-gone epoch. The art of the day, in its own spirit, in its own peculiar phase of development, in its own most marked characteristics, was alone called upon to furnish suitable designs and devices. It was the artistic spirit of that special age, in which living tears were shed for the early death of Eleanor, that was called upon to embody its own original skill in a series of worthy memorials which should remind a far distant posterity of a loss which the nation had sustained in that unpropitious year, 1291, which had deprived it of a generally beloved queen. It was the very essence of the intellect of that age, as displayed in its peculiar forms of art, that was required to show itself to posterity in the act of marking an irreparable loss by the erection of a series of suitable and lasting monuments. If the forms of art peculiar to preceding epochs had been adopted in those monuments, either through the absence of sufficient contemporary skill, or the accidental existence of a morbid taste for antiquated styles of art, the celebrated Eleanor Crosses would not possess, in an artistic point of view, a tithe of the interest which they now inspire; carrying us back unerringly, as they do, to the epoch at which they were erected. The attempts to revive the massive spirit of ancient Egyptian architecture during the Greek dynasty of the Ptolemies, though perhaps satisfactory enough in that age, as meeting the desires inspired by a passing fashion, prove themselves but very poor and shallow copies, when compared, by critics of the present day, with the Titanic models of which they are such weak and poorly accentuated imitations. In Rome, also, in the age of Hadrian, when it was sought to introduce the worship of several Egyptian divinities, the statues of Egyptian style with which the new temples were embellished became in the hands of Roman artists very tame representations of the ancient models. It is true that they were sculptured with great manipulative skill, and wrought up to the highest possible degree of finish in the rarest and most costly marbles; and yet, as we know them by the examples that may be examined at the present day in the museums of the Vatican, they appear wretchedly devoid of the true character of Egyptian art, and entirely without that fine aroma of originality and high antiquity that still clings about the vast antique monuments which they were vainly meant to rival if not surpass.

The fact is, that a *true* style of art is an integral, and a very main part of the general, social, and historic expression of every well-defined epoch. It is one of a set of features that requires the sympathetic accordance of all the others to heighten and complete its real value. The institutions, the character, the costume of an epoch, all agree with a true form of art which has been evolved under their influence, and which has placed its own impress upon them in return.

We are, during the prevailing rage for imitations of Mediæval art, doing precisely what the half-Egyptianized Greeks were doing under the dynasty of the Lagidæ, and what the sculptors of Hadrian were driven to do in order to impart splendour to the pseudo-Egyptian worship introduced by the emperor. We are creating works which our posterity will, in a similar manner, compare with their ancient models, and condemn as unreal and as not stamped with the true artsignet of the age in which they were produced. That much talent has been shown in the modern attempts to adopt every form and detail of Mediæval architecture to present use, every one will readily concede; and also that many of our artists appear to be working through a conscientious study of old styles of art towards a new and national style; but, in the meantime, the prevailing Mediæval mania, in the shape of slavish reproductions, not only of main forms, but of every intricacy of detail of past styles, when applied to the monuments and memorials to heroes and worthies of our own day, is creating artistic inconsistencies, to say the least, which are of the most objectionable character. Placing the portrait-statue of a man of our day beneath a Gothic canopy in the style of the fourteenth century, presents one of the most unreconcilable forms of incongruity to the eye of a thoughtful critic. It is as though the marble effigy of a Paladin of the reign of Edward III., with crested helm, and plate armour, and embroidered surcoat, and jewelled baldric, were to be removed from beneath the rich tabernacle work of the ancient Gothic canopy of his tomb, and the modern statue of a man of our own day put in its place. In fact, to surround the monumental portrait of a modern personage with the architectural decorations of the fourteenth century is as ridiculous as it would be to clothe the modern statue itself in the trunk hose and the gigantic ruff, and all the other toilet luxuries of the reign of Elizabeth, merely on the ground that they would form, like the Gothic canopy, more picturesque accessories. Incongruities of this kind tend towards the utter destruction of the historic chronology of art.

The monument to Walter Scott, at Edinburgh, is one of the first and most conspicuous of modern monuments of the class alluded to. It might at the first glance be mistaken for one of the memorials to Eleanor, so nearly are some of the principal characteristics of that interesting series of monuments imitated in the modern work. The modern marble figure beneath the Mediæval canopy does not seem to belong to it. In face, in costume, in artistic treatment, it is thoroughly of our own day, while all the decorative surroundings are of a style four centuries old; and though evidently quite new, their newness does not bring them into any better accordance with the features and general contour of the great novelist of the nineteenth century, as exhibited in the statue under description. It could scarcely be argued that, because Walter Scott sometimes wrote of Gothic times, he should have a monument of sham Gothic to agree with the sham Gothic of his historical novels, because the idea would not involve a compliment to the great author; and there is no other possible defence of the artistic incongruity that has been perpetrated.

But of all our recently erected Mediæval monuments to modern worthies, not one combines so great a sum total of incongruity, both in general conception and in all its various details, as the monument to the officers educated as boys at Westminster School, who fell in the Crimean war, and during the Indian rebellion; though, taken as a mere modern exercise in the reproduction of Gothic design, it is one of the best things that our modern Mediævalists have produced. But its utter discordance with the times, and with the events and persons which it is intended to commemorate, is such, that neither foreigner nor native, not let into the secret, would ever be able, from the general aspect of this monument, or from any of its very numerous features, to guess its purpose; and when, after digging out its meaning from the inconspicuous and, to modern eyes, almost illegible black-letter inscription, the expression of its purport in any of its features would still be exceedingly difficult, and it may be said impossible, to trace.

But only let the inscription be permanently removed from that curiously ornamental columnar design, and the riddle might defy the cleverest guesses of the most learned critics of this or any future age to unravel. To quote a passage from a contemporary journal, a careful and conscientious critic might, after due examination of every part of the structure, perhaps "come to the conclusion that the work was a careful restoration of an ancient monument erected by the Black Prince or his father, to commemorate the institution of the order of the Garter;" . . . . . or "seeing the circlet of shields about half way up the column, which looks very like the shields of the barons in the parchment margin of the original Magna Charta, he might imagine that the object before him was a trophy erected at that epoch, which had, in churchwarden fashion, been newly polished and beautified. But giving up that notion as untenable, he might at last notice the St. George and dragon at the top; when he might, in despair of a better interpretation, jump to the conclusion that a curious discovery relative to the supposed tomb of the saint had been recently made in that place by some enthusiastic archæologist, and that it had been determined to raise a splendid memorial to the national saint in order to mark the exact spot of the interesting discovery."

It may be urged that after the removal of the inscription from any monument whatsoever, it would be difficult to say what it was intended to commemorate. But it is not so. Taking another columnar monument as a strictly analogous test, and supposing that no inscription existed,—the column of Trajan may be cited as a comparative example which would prove the contrary. A spectator has only to glance at the progressive drama elaborately carved in marble which spirally unfolds itself as it rises from the base to the summit of the column, to perceive at once that a magnificent memorial of the triumph of Trajan was the object of the work. The attacks of intrenched camps, the struggles of compact Roman legions against hordes of barbarians in Dacian and other costumes, the hasty construction of temporary bridges over rapid rivers, and many other incidents of war, one conspicuous figure being always present, in which we at once recognise the well-known features of Trajan, render all inscription superfluous. The inscription is nevertheless there, and still nearly as perfect as when freshly left by the chisel of the Roman sculptor; and indeed it is desirable that an inscription should always form part of a public memorial, while at the same time a monument should not be so designed as to become an unsolvable riddle without it.

The memorial proposed to be erected at Manchester to the late Prince Consort is open to objections similar to those urged against that to Sir Walter Scott. There is a member of the Royal Family of England, of the nineteenth century, in the robes and general dress of his own day, placed beneath a canopy of Italian Gothic, that might have been copied from one surmounting the effigy of a Colonna or Frangipani of the fourteenth century. The new Drinking-fountain in the Market-place at Maidstone is composed of a somewhat similar canopy of English Gothic, beneath which is a modernly-conceived statue of our present Queen; forming another example of the mixing together in an incongruous manner of the artistic feeling of the thirteenth century with that of the nineteenth.

That an architectural canopy, as a protection and ornamental accessory to a statue, is in itself a pleasing and appropriate device, none will deny. But why not design a canopy which shall be consistent with the general feeling of modern art, instead of one almost diametrically opposed to it.

The monument erected to Sir Humphry Davy on Leskundjack Hill, near Penzance, is another example of the incongruous muddling up of times past and present. Here is the effigy of one of the chiefs of a science exclusively modern—of one of the great discoverers in the entirely new region of chemistry—placed on the top of a column which, from its pretended style, might be assumed to belong to a period anterior to that of the alchymist. It surely was not impossible to identify a somewhat similar erection (as to proportions) with the advanced spirit of modern discovery in the higher branches of positive science, instead of making it seem to belong to an age in which even the rudiments of those modern branches of science were unknown, and, indeed, unguessed at.

It is not that the architectural portion of the monuments we have alluded to, when considered from a special point of view, is not excellently well conceived and designed: quite the contrary. The Westminster memorial is exceedingly clever. The Leskundjack tower has a simple grandeur about it that is very remarkable; and Mr. Worthington's design for the Manchester memorial to Prince Albert is one of the cleverest reproductions of the Italian Baldochino style of the thirteenth century that has yet been made; but the works alluded to are all inconsistent with the purpose in view. Our age must learn to stamp the national memorials of its great events and great achievements with its own seal, and not with one that may be taken for the forgery of some signet of the past.

Let us keep our noble Gothic monuments, our noble cathedrals, and ancient family halls from decay as long as possible; and in the matter of churches, the Gothic style appears so suitable, and the chain of associations connected with churches in that style not having been broken through, there can be no great incongruity in building new churches in the general features of that style, leaving to the individual genius of our architects the unfettered power to gradually break through the trammels of precedent, just as the Gothic architects themselves did, thereby securing to their style five centuries of continuous expansion into different phases of character, always elegant and original.

In public monuments to men of the day, however, the matter is very different, and so it is also in the matter of our civic buildings. They should accord with the spirit of the age, and not, by any features too directly borrowed from the past, meet posterity with an artistic expression that is not our own. The left-off suits of our forefathers may possibly be in some respects more splendid than our own; but, as that is no reason why, in our family portraits, we should appear tagged and tasselled, frilled and mantled, and laced and embroidered, as our ancestors were; so, in the

case of our public statues, there can be no good reason for the adoption of Mediæval canopies, enriched with servile imitations of Gothic vaulting and groining, and with the corbels, and crockets, and bosses, and traceries of the thirteenth or fourteenth centuries. It is a kind of artistic masquerading that is below the dignity of the age. Moreover, practices of this kind tend to destroy the historic chronology of art. We have the arts of 1450 muddled up with those of 1830; 1350 mixed up with 1850, and 1250 mixed up with 1860; for there has been a tendency, as soon as one Gothic period was copied out, to go farther back to ransack another, and another, till no truly consecutive history of art (worth the telling) could result from a critical examination of our national monuments; insomuch that, if another D'Agincourt should attempt in England to write "L'Histoire de l'Art par ses Monuments," the result would be a mass of confusion; unless, putting utterly aside all the servile imitations of former periods of art, he should take as his example only such works (and we are not altogether without them) as exhibit a genuine tendency towards originality of conception and design. There would be still another method of treating the artistic history of England,—by dividing our last ten centuries of artistic development into two kinds of periods, distinguished as active and originative, and dormant and imitative; in which system our own epoch would certainly fall into the last-named category, exhibiting a few striking exceptions, as all periods of debasement generally do. But, while this conclusion may appear somewhat discouraging, we may console ourselves with the conviction that an artistic age is already dawning, which is evidently destined to be one of activity, and one of renewed creative power.

THE LATE M. CARISTIE, ARCHITECT.

THE profession in France has very recently lost one of its oldest representatives in M. Caristie, a member of the French Institute, and honorary and corresponding member of the Institute of British Architects, a man of great erudition, and an architect skilful in design for the restoration, and in the actual conservation, of ancient monuments. Auguste Nicolas Caristie was born at Avallon, in the department of the Yonne, on the 6th December, 1783; and when he died, was just completing his seventy-ninth year. He studied under Vaudoyer and Percier; and he gained in 1813, the grand prize of Rome. He received medals on the occasions of the Exhibitions, severally, of 1822, 1831, and 1855. In 1840 he was elected of the Académie des Beaux Arts, in the place of Huyot. He filled the important public offices of an inspector-general and vice-president of the council "des bâtimens civils," and was specially charged with the third and fourth *circonscriptions* of the public buildings of Paris, including the Institute, the Palais d'Orsay, and the crypt of the Invalides; and he was a member of the permanent commission "des monuments historiques." He was also a member of the municipal council of Paris, and an officer of the Legion of Honour.

Amongst the foreign societies of which he had been elected a member, was the Royal Academy of Belgium.

Of his ideal restorations of ancient buildings, one of the best was the restoration of the so-called Temple of Serapis at Puzzuoli, recently taken as an authority by M. Hittorff for some of the features of plan of his restoration from a Pompeian wall-decoration, of a building, "hospitium," for the treatment of the sick. M. Hittorff's paper was noticed and illustrated in our last volume. M. Caristie's principal, actually built, work was the Expiatory Monument, or "Monument de Quiberon," near Auray and Vannes, on the coast of Brittany, which was erected by the Bourbons to the memory of 950 *émigrés* and Royalists, who formed the expedition to Quiberon in 1795, and fell there, or were shot at a place not far distant. If we do not mistake, there are three monuments of these events,—all in the same locality,—namely, one in the form of a Grecian temple, one within a church, and that attached to the nunnery of the Sœurs de la Sagesse, which last we believe to be the work referred to as by Caristie. The subject of our notice, however, was best known to English architects by his ably-executed structural work of restoration or conservation of the Arch of Orange, a Roman monument of much importance to architectural students. M. Révoil, the present diocesan architect of the Bouches-du-Rhône, was one of M. Caristie's pupils.

STAINED GLASS WINDOW FOR GARRISON CHURCH, WOOLWICH.

THE engraving represents one of a series of five windows that are proposed to be erected to the memory of officers who fell in the Crimea, in the apse of the new Garrison Church now erecting from the designs of Messrs. T. H. & Digby Wyatt, at Woolwich. The subjects contemplated are to illustrate the petitions of the Litany—"By Thy Holy Nativity. By Thine agony and bloody sweat. By Thy precious death and burial. By Thy glorious Ascension. Good Lord, deliver us."



One of Series of Windows for Apse of Garrison Chapel, Woolwich.

These will be typified by events recorded in the Old Testament, one of which, viz., "The Feast made by Abraham at the weaning of Isaac," is shown in the window of which this is the engraving. Messrs. Lavers & Barraud, of Endell-street, London, are the artists employed.

The church is described as Byzantine in style, decorated externally with coloured bricks, Bath stone columns, caps, and corbels, and a couple of granite pillars supporting the front porch. The contractors are Messrs. Smith & Co., of Pimlico.

LABOURERS' COTTAGES.

IN my concluding remarks on Mr. Taylor's paper at the Society of Arts I am reported to have said, Mr. Rawlinson "hoped the Society of Arts would give all the aid in its power; not that cottages should be built which the poor man was able to pay for, but such as would enable him to live as became a Christian, and properly to perform his duty to society."

Some persons may infer from the general tenor of my remarks, as reported (and, as I believe, accurately reported), that it is my desire to urge, as a national work, the building of cottages out of national funds, for the whole of the badly-housed poor, regardless of any adequate pecuniary return in the form of rent; that is, that I entertain wild Socialist notions of maintaining the poor at the pecuniary cost of the rest of society. I can only say, I have no such ideas. All experience teaches that indiscriminating and wholesale charity may be one of the greatest possible curses, both to the recipients and to the givers: the best form "charity" or assistance by the aid of money to the poor can take is to do something which shall be of permanent benefit to the poor man, and which something he could not possibly do for himself; but, being done, shall enable him better in future to help himself. The poor man cannot provide himself with a properly constructed dwelling in which to reside with his family. The fearful results of residence in defective dwellings you have shown in the *Builder* over and over again. You have never, in any instance, overdrawn the picture of human misery; nor, in any of your inferences, gone beyond the actual horrible contingencies. I can also assert, that of my own knowledge, your pictures of "Town Swamps" are true;—true of this vast metropolis; true of the whole of Great Britain; true of the whole of Europe; and, no doubt, of the whole world. Civilization rests on a substratum of human misery, the offspring of neglect and defective house accommodation; leading to disease, to poverty, to pauperism, to vice, and to crime. If the poor cannot lift themselves out of this slough of despond,—and history is full of evidences that they cannot, and our own reason tells us the same,—then it must surely be the duty of a wise Christian Government to devise means to enable the poor to live as Christians; that is, as members of civilized society. To remain apathetic is to leave as the base on which civilization rests the smouldering but active lava-fires of vice ready to heave at any exciting convulsion and overwhelm the whole.

I will not preach levelling doctrines, nor advocate universal suffrage, but universal Christianity. I find that defective house accommodation leads to defective health and to defective morals. Defective health produces misery, poverty, and premature death in the weakly: defective morals lead to vice and crime: poverty ends in pauperism: vice leads to the lunatic asylum; and crime leads to the gaol. A nation suffers loss both directly and indirectly in consequence of all the misery, ignorance, pauperism, vice, and crime, engendered out of defective house accommodation. It must, therefore, be a national duty to assist in removing, as far as may be practicable, the prime cause of some of the most terrible evils society now endures.

In my opinion, rent could be paid if sickness is lessened, bodily strength to labour is increased, and the Christian virtues to strive and to endure have the chance of growth. Society is not safe with a substratum of disease, pauperism, and vice. Society will not be safe with a substratum of receivers of bounty for which no equivalent is given. Society can only rest safely on an *independent*, healthy, and virtuous Christian community.

ROBERT RAWLINSON, C.E.

PLANS FOR THE IMPROVEMENT OF THE CONDITION OF THE YOUTHFUL WORKERS AT THE POTTERIES IN STAFFORDSHIRE.

THERE are few social questions more difficult than the right and useful employment of the youth of both sexes, so that injustice may not be done by working the undeveloped powers before the sinews, bones, and muscles have been sufficiently formed; that education may be attended to; that a due amount of care should be taken in manufactures and large works to prevent accidents, and to make arrangements which will be likely to prevent evil in cases where young men and girls are thrown much together in various descriptions of labour. Within the last half cen-

tury there has been much good done in this way. The employment of females in coal-mines has been prohibited: the condition of children, boys and girls of tender years, in the cotton manufactories and elsewhere has been mended; and those employed in the bleaching-grounds have been cared for.

It has for long past been thought that the same attention which has been shown to the classes above mentioned is very much required by the large number of young persons who are engaged in the pottery works of Lancashire, Northumberland, and elsewhere; and it has been regretted that both the physical and educational condition of not only the children but also others engaged in the Staffordshire Potteries, is of a very unsatisfactory description. For the purpose of considering this question, meetings have been held at Burton-on-Trent and at Hanley. At the first-named place the Earl of Harrowby took the chair, and addresses were delivered by various gentlemen of influence, most of whom were interested in this branch of manufacture. The evil of the present state of affairs was generally acknowledged; and although a strong desire was shown for improvement, there seemed some difficulty and difference as to how the necessary amount of good was to be effected.

After some observations by the chairman and Mr. Adderley, the member for the north division of Staffordshire, the Rev. H. Sandford, her Majesty's Inspector of Schools, said the difference had often struck him between the number of children attending schools in the towns and rural places in this country. In eleven schools in the rural districts there were 135 children over twelve years of age, while in twenty-two of the Pottery towns there were only 127. This showed how the children were drafted from schools, or from no schools at all, and sent to work at manufactories at a very early age. He was of opinion that good was only to be done by the half-time system. Mr. J. Edge could not see how the half-time system could be applied to the Potteries. He thought they should bring their influence to bear to prevent children going to work before they were of a certain age, and before they could read and write. At present children went to work at seven or eight years of age, and before they had any useful education. He thought they should not be employed until they were ten years of age at least.

Dr. Aldridge said that there was a great prevalence of scrofula, a variety of skin diseases, and also of consumption, in the Potteries, caused by the nature of the work of the potters. He also alluded to the low average of age to which those workers arrived. Potters came to him who in appearance were at least fifty or sixty years of age; but, on inquiry, they were found not to be more than thirty or forty. Mr. Maddocks was convinced that legislation was necessary, but did not see how the half-time system could be applied to the Potteries. He referred to the improvidence of parents, and that it would be better to prevent the children from going to work before they were twelve years of age. Mr. Adderley thought that this plan would be better than resorting to the half-time system, and suggested that it was a matter which rather concerned the parents than manufacturers. He admitted, however, that when trade was good there was a difficulty in attaining a sufficient number of boys, but that the half-time plan would add to this inconvenience. The Earl of Harrowby said that a limit to age would create the same difficulty as regards the number of boys available. Mr. W. Moore said that one objection to the half-time system was that the children were associated with the men in labour, who would have great objection to have fresh boys in the middle of the day. Mr. Wedgwood had been long of opinion that the work to which boys were put in manufactories was not fit for them. Everybody would admit that for boys to work fourteen or fifteen hours a day, running in and out of intensely heated rooms, was not right. There were two ways of remedying the evil: one was to have relays of boys; the other to limit the age at which they should be employed. If they limited the hours, it would be best to limit them to half a day: if, on the other hand, they only limited the age, they created the same difficulty as in the first case: they would still limit the supply of boys.

Mr. Aynsley said that, on an average, the potters did not work more than ten or ten and a half hours in the day. They were improvident men, who neglected their work for two or three days in the week, and worked night and day for the purpose of making up for lost time; and the boys were obliged to work with them. After other remarks, Mr. E. J. Ridgway said that there were many light branches in the trade which little girls were well able to do; and if they were put upon half-time, it would be a good thing for them to be so employed. If they restricted the employment of children to those above twelve years of age, a great many of them would be running about the streets, and doing nothing else until they were old enough to be employed.

After a conversation it was determined, in order to arrive at the opinions of all parties, that public meetings should be held in all the towns. [We fear that the working potters will not be able to take much part in those meetings; but some means should be used to learn what the majority of them say on a subject which very much concerns them and their children.]

In Hanley, at a meeting of manufacturers and overlookers, a general opinion in favour of the half-time system seems to have been expressed.

FIRE!—WATER! WATER!

SUCH were the cries which were heard in the Soho district about midnight on the 26th of December, when a fire, fatal in its consequences to six persons, broke out in Portland-street, in one of those houses which are now for the chief part let in tenements to several families. The flames appear to have spread with great rapidity; this being accelerated by some injudicious person forcing open the shutters of the shop below, and thus fanning the fire by the increased draught.

Clark, the conductor of the fire-escape, stated to Mr. Low that he was called, at about half-past eleven o'clock, by several persons, and immediately started with his escape, and reached the scene of the fire in about a minute and a half. On arriving, Clark found the fire issuing from the broken shutters of the shop. As soon as the fire-escape was fixed to the second-floor window, two or three men from amongst the crowd rushed in, and amongst them succeeded in rescuing two children; and Clark, at much risk and some damage to himself, managed to bring away a third child. It being "boxing night," the mob which suddenly assembled was very rough and troublesome. But the engines seem to have arrived with praiseworthy rapidity. The St. Ann's parish engine, the powerful land steam-engine by Shand & Mason, and numerous others of manual power, were soon on the spot; but though all, including the steam-engine, were ready for action, *ten minutes—some say more—elapsed before a drop of water was to be had.* Some thousands of people had assembled. The police, fire-escape conductors, the firemen and their engines, were all at their posts—*but where was the turncock?* This is a question which calls for a clear answer. We want to know whether, in the hurry and confusion of the scene, no one had thought of rousing this functionary? Perhaps it was not well known where the turncock lived; or his house may have been at a distance; or it is just possible that he might have been keeping the holidays; a turncock is as liable to be frail in this way as any other man. After the rescue of the three children, it became known that, besides the children in the room below, there were six others in the upper part of the house, through which the flames were sweeping; and, notwithstanding, no water from the New River Company was to be had. It is clear that in connexion with metropolitan fires we want some better arrangements in this respect, for there should always be a supply of water waiting for the fire-engines, instead of the engines being obliged to wait for this element, which should be always ready in thousands of gallons to be thrown during day or night, into any part of the metropolis. From time to time, when the evils arising from the present system of working the water mains have been shown, and loss of life and property has resulted from delay, we have directed attention to the circumstances, and pressed the necessity of change in connexion with the fire brigades. Steam-engines, both on land and water, are coming into general use; and a system of electric telegraph will, ere long, have been made complete between the various stations of the brigade; but the turncock's office seems to be carried on in the same old-fashioned and imperfect manner as it was in the days before the locomotive and the electric telegraph came into use. We are aware that in the management of the mains there is a difficulty as regards the supply of water in cases of fire. But why is the law requiring them to be charged at *high pressure* set at nought?

On the present sad occasion, Emily Spencer, aged 16; Samuel Spencer, aged 11; Sarah Ann Spencer, aged 12; Joel Walter, aged 8; Edward Spencer, aged 7, and Alfred Spencer, aged 3 years, all children of the same parents, were suddenly put to death.

After mentioning this loss of life, and describing the damage which has been done to the several premises, Captain Shaw, the chief of the fire brigade, says, "So much damage was done by a stranger pulling the shutters down." It is reported that this person has been taken into custody.

THE LATE MR. FOXHALL, ARCHITECT.

MR. FOXHALL was so much respected by many members of the profession for his integrity and charity, that, though it was not his fortune to adorn the country with many fine buildings, we cannot allow his death, which unfortunately occurred about a fortnight since, to pass without some record. Mr. Foxhall was born in London on the 26th of May, 1793. He was articled to Sir John Soane; his father, who had made a large fortune in trade, and Sir John being old friends. In consequence, Soane, when making his will, inserted young Foxhall's name as residuary legatee. Through circumstances he came into possession, not long before his death, of a much larger sum than Sir John had contemplated. His practice was principally confined to the appointments he held. He was district surveyor of St. George's, Hanover-square; and surveyor to the London estates of Sir John Sutton, bart., and of his Grace the Duke of Norfolk. He built the Roman Catholic chapel at Southampton, and one with large schools at Westminster; several houses in London and its neighbourhood,—among them the group of buildings forming the corner of Bond-street and Conduit-street. Mr. Foxhall was one of the earliest members of the Institute of British Architects.

GREENHOUSE ROOFS.

THE circulation given to the prescription we published for making defective glass roofs watertight, viz., a mixture of resin and tallow, has led a number of persons to write to us, recommending the use of different plans of glazing which might prevent the necessity for any such expedient. Two wiseacres, indeed, go so far as to ridicule the *Builder* for mentioning a remedy for such a defect, when they, the aforesaid wiseacres, each know a plan by means of which a glass roof can be made to remain watertight;—much as if they should laugh at a surgeon who taught how to set a broken leg, on the ground that he should only tell his listeners by what means to keep a whole limb. A more rational correspondent speaks well of an advertised plan (Nixon's). He says,—"According to this invention the sash bars are made 7 feet long of wood inclosed in zinc, having an open tube on each side, the glass being slid down the tubes from the top or bottom according to circumstances. The bar is constructed on a principle that *allows for expansion and contraction*, without which no skylight will remain waterproof: it is also self-ventilating." Another points attention to Showell's waterproof glass roofs, of which we spoke a few weeks ago. In this, plates of glass with turned up edges rest on iron purlins, the edges of the glass where they meet being protected by a metal cover.

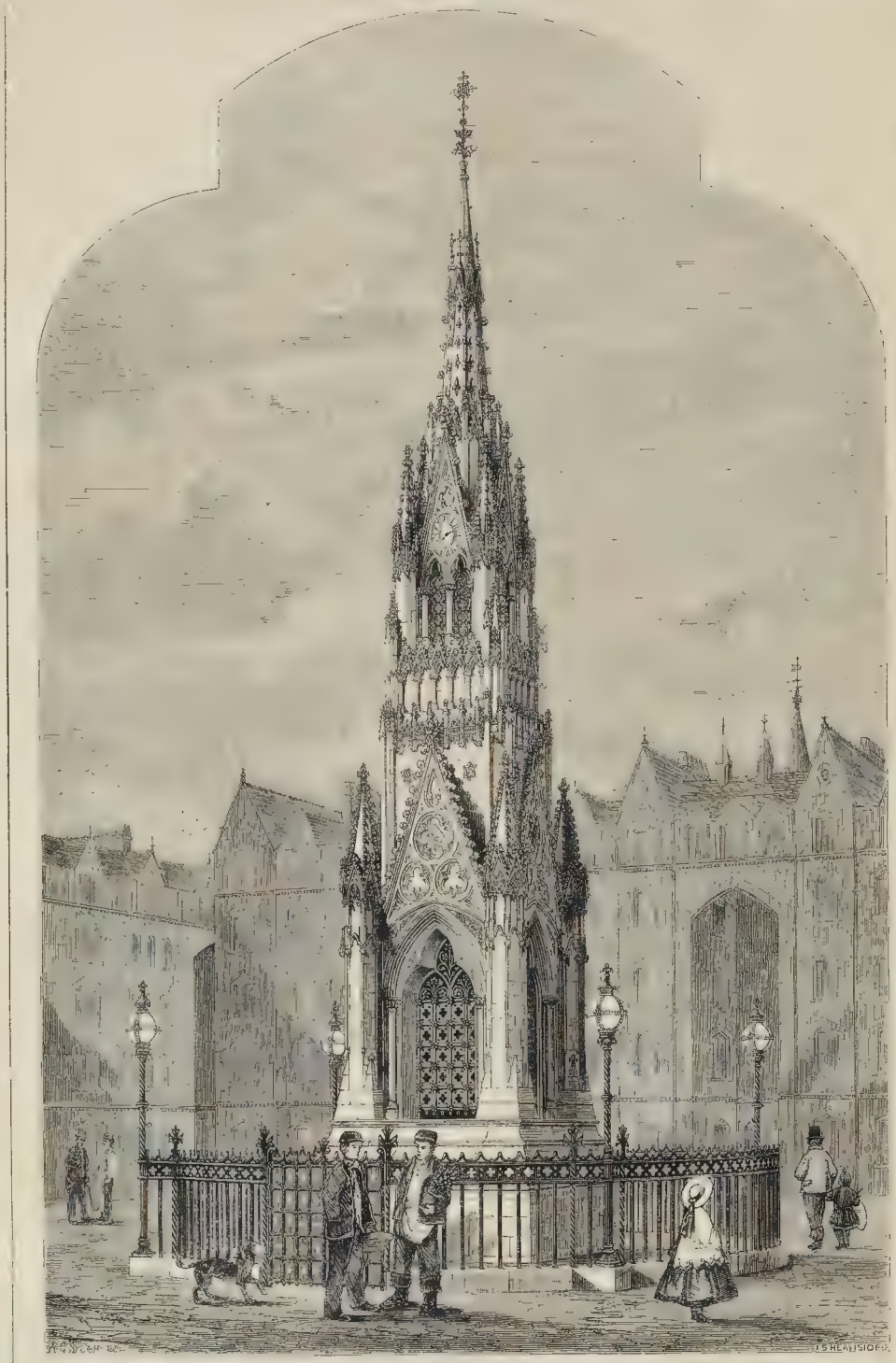
"The cost, including Hartley's three-sixteenths fluted glass, with the addition of the patent form and covers, &c., will be about 1s. 2d. or 1s. 3d. per foot." All we desire to say is, that persons about to erect a conservatory, or other glass house, should themselves inquire into the merits of these plans.

CLOCK TOWER, COLUMBIA-SQUARE, BETHNAL-GREEN.

THIS clock-tower has been built by Miss Burdett Coutts, for the convenience of the tenants of Columbia-square. It is situate in the centre of the quadrangle, and contains a striking clock with four dials, to which access is obtained by ornamental iron gates on its north and south sides. Upon the alternate sides are panels containing inscriptions which relate to the accommodation, &c., of the surrounding buildings.

The tower is 12 feet square at the base, and 35 feet high to the top of the vane; and it is composed entirely of Aubigny stone of good quality. The various details and carvings have been executed with care. The contractor was Mr. R. C. Baker, of Park-street, Camberwell.

The works have been completed from the designs of Mr. H. A. Darbishire, at a cost of about 900*l.*



CLOCK TOWER, COLUMBIA SQUARE, BETHNAL GREEN.—Mr. H. A. Darbishire, Architect.



THE NATIONAL PROVIDENT INSTITUTION, GRACECHURCH STREET, LONDON.—PROFESSOR KERR, ARCHITECT.

THE NATIONAL PROVIDENT INSTITUTION, GRACECHURCH STREET.

WE present in this number an engraving of the new offices of this Institution, at the corner of Gracechurch-street and Eastcheap, just completed under the charge of Professor Kerr, and of which occupation was entered upon within the last three weeks.

To speak of the history of the institution itself is not required of us; but it cannot fail to be interesting to every person who sympathises with the philanthropy of our age and country to note that the "Friendly Society" which has now erected for its business a building of this magnitude and pretension, was established little more than five-and-twenty years ago, in a second-floor room in Nicholas-lane, with very humble accompaniments indeed. The institution, in a word, is a life assurance office on the principle of absolute mutuality. We believe it never required one shilling of subscribed capital from the first; and its income at the present moment is said to reach 350,000*l.* a year; the value of securities in its strong-room being proportionately large.

The edifice now completed has been in progress for the somewhat lengthened period, now-a-days, of two years. The late strike of masons fell with its full weight upon the undertaking; but all's well that ends well. The general contract has been carried out by Mr. Myers; Mr. Grissell, Mr. Shaw, and Mr. Barrett have severally been connected with the ironwork; Mr. Stewart has been decorator; and the name of Mr. Ruddock deserves mention in connexion with carving-work, and, indeed, sculptural art of great skill. The whole of the works seem to merit approbation for substantiality. Upon the good principle of giving credit to the hand as well as the head, we are authorized to say that much of the success of the work is due to the care and good craftsmanship of the foreman, Mr. Shillito.

There are five stories in the building, namely, the basement, for muniments, &c.; the ground-floor, public office; other offices on the first-floor; a second-floor to be let off; and above this the messengers' rooms. The basement contains a large deed-room, solicitors' examination-room, and accommodation for books, papers, and stationery, all arranged in order, as also the lavatory, &c., for the clerks. Light and air have been provided for throughout; and in particular the deed-room has been contrived for dryness, not by iron or lead lining and gas-burners (an excellent expedient for the express *creation* of damp), but by the simple measure of providing the ordinary means of warming and ventilation,—a door and window to be opened at pleasure, a fire to be lighted when required, and a few common air-flues. The slate fittings for papers are remarkably complete throughout the basement generally. The access is from the public office by a continuation of the principal stair. As for the ground-floor, it is merely one large open expanse, more than 50 feet square, the whole of the division walls above being supported on about half a dozen iron columns. Here Messrs. Smee have fitted up a complete and elegant series of mahogany counters and desks, on either side of the central line which passes from the entrance-door in front to the staircase immediately opposite, at the back. On the first-floor this staircase lands in a spacious central vestibule. The board-room occupies the front over the entrance, the medical officers' rooms adjoin at the corner, and the secretary's and chairman's rooms look on Eastcheap, all entered, of course, from the vestibule. Here there are also several waiting-rooms. The second-floor has a separate entrance at the extremity of the Gracechurch-street façade, with a separate entrance at the back. It has been already said this story will be let as chambers. The uppermost story has also its special entrance at the extremity of the Eastcheap façade, and its separate stair; the rooms being appropiated chiefly for the residence of the messenger. The three staircases are grouped in contact at the back part of the site, and the architect has arranged them for intercommunication (both present and prospective) and no less for perfect separation, with much care. It thus appears that simplicity of plan has been the great object internally; and accordingly it is found by visitors that the inspection of the arrangements is a thing of a very few minutes.

The exterior design will explain itself, but it is sufficiently peculiar to warrant us in requesting the architect to explain his views, which he does thus:—Being firmly attached to the classical party, he holds that classic architecture alone is calculated to give lasting satisfaction in a London commercial building. At the same time he sees no reason why the spirit of the picturesque should not be openly acknowledged. Once more he suggests that modern English taste will be found to favour permanently in decorative art only such forms as shall be delicate and graceful in detail rather than bold and heavy,—playful rather than severe; certainly simple rather than complex. The so-called Italian model of general design is adopted, with its simple horizontal lines; simplesymmetries, simple arithmetical proportions. Uninterrupted arcuation throughout, recessed porch and balconies, a special treatment of the splayed angle, a high-pitched roof, undisguised chimneys and dormers, and some lesser features of similar tendency, supply the picturesque element. Mouldings of a Greek type, carvings in every case simple, and comparatively flat, decoration concentrated, and features generally small, give a delicate character to the whole, which is equivalent in effect to elaborate ornament, without suggesting that ostentation which the English mind always desires to avoid.

What may be called the focus of the effect is the entrance porch. The key-stone of its wide outer arch is the shield of the institution: this carries a carved stone clock-case, surmounted by a vase, and supported by a pair of well-sculptured figures in full relief, being the heraldic supporters of the institution,—Justice as a woman (whether this is not Charity, however, or some other female virtue, is doubtful), and Strength as a lion. Heralds say the head of the lion should be next the shield, but we will let the architect have his own way. The sides of the archway are formed with three pairs of red granite shafts with foliated capitals, and the successive soffits, together with the semicircular panel above the door, are delicately carved in flat water-leaves and shells, the depth of the recess being in all 5 or 6 feet. The windows have massive mahogany casements throughout; the entrance doors are of the same, with very nicely-carved spandrils; and around a massively-moulded mahogany door-frame there is a lining of white marble, which forms a delicate finish. A very little gilding is introduced in the porch.

The stone is Portland; the roof is covered with green Westmoreland slates; a slight iron cresting, still of Greek character, runs along the ridges; the glazing, it need scarcely be said, is of British plate, in single squares. The floors are Barrett's fire-proof.

The endeavour after novelty of design is not confined to the exterior; and the iron-work of the ground-floor especially is carefully studied, with the object of producing a highly ornamental effect without resorting to sham in any way. The columns, of cast-iron, have delicately-foliated capitals, carved brackets, enriched base mouldings, and so on, all of iron fitted on the plain casting.

The girders are the every-day box girders, of rolled iron, but no less ornamental. The sides are filled in with cast-iron panels, perforated in a pattern, fastened to the top and bottom flanges and the boxes over the columns covered with well-carved medallion plates, all in symmetrial lengths. The rivet-heads on the soffit are also covered with cast-iron paterae, screwed on. The iron-work is thus, at little cost, rendered the most ornamental feature in the interior, and its effect of lightness is universally remarked upon.

Credit is due also to the architect and Mr. Stewart for their having taken considerable pains in making the experiment whether colour decoration may not be introduced into places of City business. The attempt is one that requires more than ordinary discretion; but when we bear in mind that the National Provident Institution is largely identified with the "Friends," that the decorator himself is a member of that most respectable and unimpassioned body, and that the architect in this case has frequently stood up as a champion of the little-colour-if-any school, we may be satisfied that as little colour as possible has been here ventured upon. It is enough for us to point out that the attempt has been fairly made, and to say that we believe "City men," who must be the judges, do not disapprove.

As regards that satisfaction of the client which every architect considers to be his boast when unreservedly accorded, it must be a satisfaction to Mr. Kerr to know that at the annual general meeting of the Institution, held on the 22nd of December, when there were assembled a large number of that British public which always claims full license to be allowed to differ, there seemed to be no difference upon the approbation of the building. For our own part, we point to it with very great pleasure as one of the most successful works of its class in the city of London.

HOLBORN VALLEY.

IMPELLED by the tendency of public opinion, and by the many colossal works now meditated in new causeways, bridges, and underground railways, the Committee of Improvements, as representatives of the corporation, have set themselves seriously to consider how to bridge over the worst of City grievances—Holborn Valley. It is proposed to raise the driftway 12 feet 6 inches at the lowest part, commencing at Hatton-garden and terminating at a corresponding elevation on Snow-hill, on the traverse route from about the site of the old Fleet Prison; an ascending gradient being formed, extending into Victoria-street to about the point where Cowcross-street crosses that line of desolation. The whole of this *terra di lavoro* would thus become trotting-ground; and by so small a reform of their ancient ways, the corporation would save in one year, for the community at large, at least one half of the money expended in consummation of the work.

If the loss of time and labour incurred by the carriages, omnibuses, and teams be taken into account, the computation of benefit resulting from the embanked street now meditated must confer upon civic commerce advantages beyond estimation; but, viewing the waste and ruinous state in which corporate property has lain dormant for fifteen years, the outlay must prove most valuable even as an investment. What but its inaccessibility, coupled with the *incertitude as to future plans* for raising the route, or for bridging over the valley, could have continued such a site in the very heart's core of the City, as "the abomination of desolation" for so long a period?

The improved system of subway for water and gas mains ought certainly not to be omitted in the causeway.

Owing to the same want of centralized power, the valuable property in Victoria-street, Westminster, has been equally long a disgrace to the western division of the metropolis: both these sites offering extraordinary incentives to invest money in reproductive building, have astonished all visitors to London, more especially Parisians, who have seen in a capital of far less commercial wealth, boulevards, public structures, and monuments arise where antiquated slums defiled the position.

It is to be hoped that the spirit evinced in the meeting of the Improvement Committee, as announced by the press, will not be suffered to slumber; and that this commencement may be made in the reforms of structural London, as the first instalment of what is due to a great and forbearing people, who have suffered with fortitude straits and obstructions in every quarter, to bar the concentrated traffic of the universe.

The strong desire to grapple with this great metropolitan project, as expressed by the chairman of the Improvement Committee and the corporate surveyor in the interview with Mr. Cowper, induces the hope that the work may be soon taken in hand. Although the underground line will take much of the passenger-traffic, and goods transmitted by railways; still this great leading thoroughfare needs reform all the more, since it is the point where all the lines converge and concentrate; besides that, as is invariably the case where new routes are opened up, the traffic of intercommunication by short traverses is trebled or quadrupled.

QUONDAM.

DIET, FAMINE, AND PESTILENCE.

IN the journal of a political mission to Affghanistan, in 1857, by Mr. H. W. Bellew, medical officer to the mission, a useful work, which has recently been published, we find the following instructive notes:—"Our time has been spent mostly within the limits of our Residency; the mission only moving out for a few hours' exercise daily, either for a ride at sunrise, or for quail shooting in fields outside the city walls. On these occasions, whilst traversing the filthy lanes of the city in our egress and ingress, we had full and painful proof of the sufferings of the people from the combined effects of scarcity and pestilence, for epidemic small-pox, which first made its appearance in the city shortly before our arrival, was now raging with terrible virulence, and greatly multiplied the horrors of the famine. Almost every house had its doomed, dying, or dead, whilst the houseless lay naked in the public thoroughfares,—a most sickening and disgusting mass of sores and corruption, in the silence of death, or in the ravings of delirium, or the pangs of starvation, filling the already foully-tainted atmosphere with most piteous moans and cries, a feast to myriads of flies. . . . ." The

other parts of the description show a more terrible picture than the above. "But," says Mr. Bellew, "most fortunately the pestilence, which was so rife in the city and surrounding villages, hardly existed within the citadel," a fact for which, the medical officer says, "no satisfactory explanation could be found." We, however, think that the reason is sufficiently obvious, for he says that it was somewhat *cleaner* than the rest of the city, and *less densely peopled*: "it was impossible to prevent a constant tide between it and the infected quarters." Its inhabitants, also, consisting as they did of the troops and adherents of the heir-apparent and their families, were better supplied with provisions than the generality of the townspeople. This would also have a beneficial influence; "but yet," says Mr. Bellew, "not sufficient to account for their almost total immunity from the disease, unless one is allowed to suppose that the well-cared for native is less predisposed to the contagion than the starved, so as in a measure to be protected from it. Besides, the fact of most of the natives of this country having already had small-pox in their youth, either by natural means or inoculation, may have had some weight in protecting the better classes from a second attack."

In this instance we have another example of the effect of sanitary provisions; for we find that, in the citadel, which was comparatively clean (although it may not have been all that could be wished) and the people were better cared for, notwithstanding that the pestilence raged around, and there was constant communication, the inhabitants escaped without any great extent of damage.

GENERAL MEETING OF INSTITUTION OF CIVIL ENGINEERS.

ON the 16th ult., Mr. John Fowler, Vice-President, in the chair, the annual general meeting was held.

The tabular statement of the transfers, elections, deceases, and resignations, showed that the number of elections had been 72, of deceases 15, and of resignations 2, leaving an effective increase of 55, and making the total number of members of all classes on the books on the 30th of November last, exactly 1,000. This was an increase of nearly 20 per cent. in the last five years, of which about 6½ per cent. occurred in the past session.

The abstract of receipts and expenditure, as prepared by the auditors, showed that the current subscriptions had exceeded those of the previous year by from 7 to 8 per cent., and that the income arising from the several stocks held by the Institution was much larger than formerly. With regard to the expenditure, there were several exceptional charges; and the very large sum of upwards of 1,000*l.* had been paid on account of printing the minutes of proceedings. Still, however, the total disbursements had been less than the receipts from subscriptions and fees alone, without including the other sources of revenue.

During the year the "Miller" bequest of 2,000*l.*, invested in 2,133*l.* 6s. 8d. Consols, which had been left for the general purposes of the Institution, had been received; and also the "Errington" bequest of 1,000*l.*, now standing in Great Northern Railway Company 4 per cent. Debenture Stock. It having been found that there was a considerable balance of dividends arising from the "Telford" fund, which had not as yet been expended in annual premiums, it was deemed advisable to consult the honorary solicitor on the subject. Acting on the recommendation of Sir Roundell Palmer, Her Majesty's Solicitor-General, this balance, amounting to 1,669*l.* 8s. 6d., had been invested in the purchase of 1,775*l.* 19s. 8d. Consols. The funds now under the charge of the Institution were—General Funds, 8,133*l.* 6s. 8d., yielding an annual income of 292*l.* 12s., and the Telford, Manby, and Miller Trust Funds, together amounting to 8,194*l.* 12s. 11d., which produced, in the last financial year, 141*l.* 6s. 8d., 9*l.* 12s. 6d., and 119*l.* 6s. 11d. respectively. There were, besides, the balance of dividends arising from the Telford Fund, represented by 1,775*l.* 19s. 8d. Consols, the current balance at the bankers', of 458*l.* 8s. 2d., and on deposit on account of the Building Fund, a sum of 447*l.* 7s., making a total of upwards of 19,000*l.*

After the reading of the report, Telford Medals were presented to Sir Charles Augustus Hartley, Messrs. J. H. Müller, J. Paton, J. Abernethy, and J. Bailey Denton; a Watt Medal to J. D'A. Samuda; a Stephenson Prize of twenty-five guineas to Sir C. A. Hartley; Miller Prizes of fifteen guineas each to J. H. Müller and J. Paton; Council Premiums of Books to Captain Douglas Galton, R.E., and Messrs. J. Brunlees, H. C. Forde, C. W. Siemens, J. A. Longridge, and J. Oldham; and the Manby Premium in Books to Sir C. A. Hartley.

The following gentlemen were elected to fill the several offices on the council for the ensuing year: John Hawkshaw, President: J. Fowler, C. H. Gregory, J. R. McClean, and J. S. Russell, Vice-Presidents; Sir William Armstrong, N. Beardmore, J. Cubitt, T. E. Harrison, T. Hawksley, G. W. Hemans, J. Murray, G. R. Stephenson, C. Vignoles, and J. Whitworth, Members; and J. T. Leather, and F. Marrable, Associates.

CHURCH-BUILDING NEWS.

Nocton.—The new church at Nocton has been consecrated by the Bishop of Lincoln. Originally the church at Nocton adjoined the hall, which was destroyed by fire in 1834; but, as additional accommodation was required by the inhabitants, a new church was erected something less than a century ago, near to the village. This church, which was dedicated to St. Peter, must have been built of material unable to resist the weather, for we find that in 1860 it was in a somewhat dilapidated state. As the church was not nearly of sufficient capacity to contain the inhabitants, it was determined to pull it down; and the Dowager Countess of Ripon offered to erect on its site at her sole expense a memorial church to her late husband. Plans were prepared by Mr. Scott; and Mr. W. Huddleston, of Lincoln, builder, was selected to do the work. The new church has been dedicated to All Saints; the late Earl of Ripon's birthday falling upon that day. The church, though built on the old site, is extended on the west, south, and east. It is in the Early Decorated style, and consists of nave, chancel, mortuary chapel, and vestry, with heating vault underneath. The lower part of the tower forms the entrance or porch, on account of the whole village being situate on that side. The tower is roofed in just below the belfry windows, and is intended to be carried out at some future time and surmounted with a spire, the height of both being 120 feet. The exterior of the church is of native walling stone, hammer dressed; and the whole of the dressings, both internal and external, are of Ancaster stone. On the south side of the nave the foundations of a future aisle have been put in, and the arcade is placed in the now south wall, so that the whole of it can be removed with very little trouble. The clerestory windows have also been introduced on the south side. The whole of the roofs are of Memel timber, pane drawn between the rafters. The nave and chancel are covered with plain and ornamental Broseley brindled tiles, and surmounted with an ornamental Staffordshire ridge. The mortuary chapel and the vestry are covered in with lead; the whole of the inside walls being finished in rough stucco. The nave and chancel seats are of pitch pine, and all are open; the seats in the chancel being carved, stained, and varnished. The chancel floor is of Minton's encaustic and glazed tiles: the remainder of the floors are of Garrett's four-inch black and red, laid in patterns. The whole of the windows are glazed with smooth cathedral glass, slightly tinted, and ventilated with Moor's patent: the tracery is glazed in geometrical patterns. The screen between the vestry and chapel is of metal and brass. The capitals of the pillars between the chancel and the mortuary chapel are carved,—one in imitation of the passion-flower, and the two respond capitals in imitation of the rose and the lily. All the carving, internally and externally, is in imitation of natural foliage. The internal shafts of the windows of the chancel, chapel, and west end of the nave, are of Derbyshire polished marble. The tower-door, tower, belfry, vestry, and heating vault, are all framed of pitch pine, covered on the outside with oak boards, hung with wrought-iron ornamental bands. The church-yard, which is four times as extensive as it was before, is enclosed within a stone wall of the same description as the church, with Yorkshire stone coping: the entrance-gates from the park and the road are of framed oak, hung with ornamental bands. On the east side of the church is a very fine old chestnut tree, supported by nearly 100 props: the branches cover a large extent of ground, the diameter being 100 feet. The cost of the church up to the present time, is upwards of 5,000*l.*; and, of course, the expense of the tower and spire will be considerable. A statue of the late Earl of Ripon has been placed in the chancel. The figure, which is in a recumbent posture, is dressed in peer's robes, and both it and the couch are in Carrara marble. The tomb was designed by Mr. Scott, and is of Devonshire marble and Bath stone. The whole of the work was executed by Mr. M. Noble, the sculptor. The whole of the monuments which were in the old church have been placed in the new one.

Washingborough.—The ancient church of St. John, Washingborough, after an extensive restoration, has been re-opened by the Bishop of Lincoln. Of late years large sums have been expended in the reparation of this edifice: in 1859, by the liberality of the incumbent, the chancel was restored at a cost of 500*l.*; and in 1861, the south aisle was rebuilt and an apparatus for thoroughly heating the church was introduced at a further cost of 360*l.*; whilst an additional sum of about 800*l.* has been expended during the present year. The completion of the restoration included the removal of the old roof of the nave and north aisle, and the substitution of a new one of Memel timber, covered with lead; the removal of the old gallery, and the re-opening of the western entrance beneath the tower: the whole of the plastering on the interior of the nave and north aisle walls has been removed, and the rubble walling pointed with dark-coloured mortar: the windows have been re-glazed: the inside masonry has been cleaned of its colour-wash and paint, and restored: all the floors have been taken up, re-faced, and re-laid; the deficiency being made up with new rubbed Yorkshire stone. The benches are part pitch pine and part Petersburg deale, and the pulpit and reading-desk are entirely of pitch pine. The whole of the woodwork of the roof, seating, and pulpit has been stained and varnished. The screen at the east end, and the screen between the chancel and vestry, are of English oak. The restorations were made by Mr. Huddleston, of Lincoln, under the direction of Mr. Goddard and Mr. Scott.

Lexden (Colchester).—The rector of Lexden intends making an appeal to the public to assist him in the erection of a new district church, which is considered to be much needed for the north-western portion of the parish of Lexden, where it adjoins the town of Colchester, and where a suitable site has been secured for that purpose from the National Freehold Land Society's allotment ground, in North-street, on the road leading to the Great Eastern Railway station. It is proposed to build a church capable of holding upwards of 200 persons, and adapted for future enlargement. The sittings will be all free. The first cost would be about 1,150*l.*, of which the purchase of the site requires somewhat more than 200*l.* Plans have been prepared by Mr. H. W. Hayward, of Colchester, architect. The position of the proposed church has been staked out on the intended site in North-street, at the corner of Colne-road.

Bray.—The church of Bray, after considerable repair and restoration, has been re-opened by the Bishop of Oxford. The work of restoration began above three years ago, in the chancel; and has been continued, with little interruption, to the present time. Large portions of the work have been accomplished by individual parishioners. Some of the expenses have been supplied by a rate, while a large sum has been raised by general subscription. The whole has proceeded on one uniform plan, designed by Mr. T. H. Wyatt, of London. The roofs are new throughout. The walls of the nave have been heightened. Unsightly masses of walls, which had obstructed the sound, and shut out all view of the chancel, have been removed, and the building has been strengthened by new arches and buttresses. A lofty decorated arch now connects the nave with the chancel. The north wall, which was in a dangerous condition, has been rebuilt. The old pillars, composed of chalk and rubble, have been cut away from under the arches on each side of the nave, and pillars of stone substituted. Low open seats, of one uniform pattern, have been placed throughout the church. An organ has been remodelled and adapted to a new position by Messrs. Bevington. A warming apparatus has been supplied by Mr. Haden, of Trowbridge. Six coloured windows by Wailes, O'Connor, Hughes, and Lavers & Barraud (two of them after designs given by Mr. E. Street), occupy the eastern and western terminations of the church. Three windows in grisaille work have been placed by Lavers & Barraud in the south wall. The stonework of many of the windows is new, but the old forms and traceries have been preserved. The works have been executed by Mr. Foster, of London, and Mr. Vickery and Mr. Silver, of Bray.

Lower Beeding.—The church here has been re-opened. The greater part of it has been rebuilt at the sole expense of Mr. W. E. Hubbard. By addition of two side aisles, and a lengthening of the west end of the church, a considerable in-

crease has been made to the number of sittings. The improvements have been made under the direction of Mr. Habershon, of London, as architect, by Mr. Patman, as builder. The usual obstruction occasioned by the pillars upon which the arches rest has been obviated by the introduction of double pillars of Purbeck marble, surmounted by capitals of Ancaster stone, carved with representations of fruit and flowers. The seats, which are of pine, are open and uniform. The roof is open, in the Tudor style, the ends of the hammer-beams being ornamented with shields, painted with a variety of ecclesiastical devices by Mrs. Hubbard. The triple window in the chancel is filled with stained glass, executed by Mr. Wailes, of Newcastle. The three great events in the history of our Lord, His crucifixion, resurrection, and ascension, form the subjects which are represented. It is also adorned with medallions, containing figurative emblems of the four Evangelists, the "Agnus Dei," &c. This window was the gift of Miss Hubbard (Mr. Hubbard's sister). The west window, also executed by Mr. Wailes, and presented by Mr. and Mrs. Stuart Rendel, contains in one compartment a representation of the Baptism of our Lord, and in the other His Blessing Little Children. The stained-glass windows at the ends of the north and south aisles were given by Mrs. and Colonel Boldero, as a memorial to the late Mr. H. Boldero, of South Lodge.

STAINED GLASS.

Chapel of St. Cross Hospital, Winchester.—The two upper Norman windows at the east end of the choir of this peculiarly interesting edifice have just been enriched with stained glass illustrating the resurrection and ascension of Christ. These windows have been designed and executed by Mr. Wailes, of Newcastle, under the superintendence of the architect of the Hospital, Mr. Butterfield. This is another step towards the thorough restoration of this fine old Norman church, which there is every desire on the part of the authorities, we are told, to carry out, did the Hospital funds permit.

Watford Church, Northampton.—A stained-glass window, by Messrs. Heaton, Butler, & Bayne, of London, has been set up by Lord Henley, in the east end of this church to the memory of the late Lady Henley. The window has five lights, and the subject of "Mary hath chosen that good part" occupies the three centre ones. In the side lights are the "Six Acts of Mercy." The family arms are introduced at the face of the centre light. In the tracery are the twelve apostles.

Sherborne Church.—A memorial window has been erected in the south aisle of the nave of Sherborne Church, to the memory of Mr. George M. Butt, late M.P. for Weymouth, and a native of this town. At the top of the window is the monogram, I.H.S. Underneath are ranged four angels, bearing shields, upon which are emblems of the crown of thorns, the nails, the hammer and pincers, and the sponge and spear. Below these are angels bearing scrolls. Immediately beneath, and in the centre of the window, are three large representations of incidents of the Saviour's trial and burial. On the left is Joseph of Arimathea: on the right is Joseph vindicating our Lord before the High Priest, begging the body of Jesus; and in the centre, Joseph laying the body in his own new tomb. Three guards are represented below these subjects, sleeping at the mouth of the tomb.

St. Peter's, Chester.—A memorial window to the late Prince Consort has been erected in St. Peter's Church, Chester. The subject is the "Last Supper," and the inscription at the base of the window runs,—"In memory of the great and good Albert Emanuel, Prince Consort, who entered into immortality Dec. 14, 1861." It was designed and executed by Messrs. Heaton, Butler, & Bayne. The same firm have in hand another Albert Memorial window for St. Michael's Church, Coventry, the subjects of which are from the life of Moses.

Thorne Church.—A stained glass window has just been erected in the parish church of Thorne, to the memory of the late Rev. E. Rudd, who was incumbent of the parish for upwards of fifty years. The subject of the window is the resurrection of our Saviour. The work was intrusted to Messrs. Clayton & Bell, of London, who were very much limited in price. The middle compartment represents our Lord rising from the tomb. In the light on the south side are the three Marys coming to anoint the body, and beneath them one of the Roman soldiers starting back with horror at the sight of the rising Saviour. In the light on the north side there are two angels rolling away the stone. In the tracery above are the figures of the four Evangelists. In the three lower divisions of the window there are also devices. The centre one is occupied by the arms of the deceased, and on either side are figures of angels bearing scrolls. The cost of the stained glass and stone-work together is 100*l.*

Selby Vestry.—The Feoffees of Selby have collected some of the different coats of arms from the windows of the Abbey Church, and placed them in the east window of the vestry. This glass is interesting from its antiquity. The royal arms are emblazoned as in the time of Richard I., and without the *fleur de lis* of France, which was afterwards quartered on the English shield. Some of the glass must, therefore, be about 700 years old; yet it retains its full brilliancy of colour. Along the margin of the new window is the inscription stating that it was "restored by the Feoffees of Selby, Robert John Parker, treasurer, 1861." There are two modern stained glass windows in the church,—one in memory of a departed Selby worthy, and another window has now been ordered (representing the history of Abraham), which will be placed in the north aisle, in memory of another Selby worthy, Mr. James Banks, who died a few years ago at the patriarchal age of ninety-two years.

St. Mary's Church, Ryehill, Newcastle.—On Christmas Day, a new stained-glass window was inaugurated in this church. The window is the production of Mr. H. M. Barnett, of Newcastle. It is erected over the communion-table in the church, being a gift of the congregation, in commemoration of the consecration of the edifice by the bishop of the diocese. The window, as described in the *Gateshead Observer*, includes fifteen groups of figures, or subjects, selected from the life of our Lord; and in the construction of the window regard has been paid to the effect of the light. The groups of figures are ranged in tiers, and are respectively as follows:—The Baptism, Adoration, Annunciation, Dispute with the Doctors in the Temple, the Sermon on the Mount, The Betrayal, The Last Supper, The Crucifixion, the Agony in the Garden, the Entombment, the Resurrection, The Incredulity of Thomas, The Ascension, Charge to Peter, and the Transfiguration. The upper portion of the window consists of two quatrefoils containing the sacred monograms I.H.S., and A O. Above are the symbols of the four evangelists, surmounted by the emblem of the Holy Trinity, on each side of which are two angels in a sitting position, one bearing the scourge, and the other a crown of thorns. Other two compartments of the window contain angels flying, one holding the cross, the other the pillar. Above all appears the Lamb, surrounded by a halo of rays. The whole of these subjects are balanced by the foliage ornaments—the grape, vine, and passion flower—which form the vesica containing these groups of figures. The backgrounds are all diapered with a variety of foliage ornaments in keeping with the minute sculpturing of the church. The carmine ground is also minutely ornamented; and it is mentioned that the window contains about 10,000 separate pieces of glass, each piece varied as much as possible in tint. The window was exhibited in the International Exhibition of 1862, being the only work of the kind from the north of England.

PROVINCIAL NEWS.

Campsey Ashe, Suffolk.—Works are going on at the Elizabethan mansion, the seat of Mr. J. G. Sheppard, under Mr. Salvin; and on the 23rd ult. Mr. Sheppard gave the whole of the workmen employed on the works an entertainment at the Green Man Inn, Tunstall, the chair being taken by Mr. W. Oldreive, the clerk of the works.

Bristol.—The block of buildings recently erected on the site of the old sugar-house, near the Stone Bridge, for the firm of Messrs. Waterman & Co., the extensive leather merchants and wholesale boot and shoe manufacturers, of this city, has been opened with a *soirée*, at which the *employés*, numbering upwards of 200, were present. The premises consist of two massive buildings, to which Messrs. Pope & Bindon, the architects, have given an Italian frontage, resulting in a building the appearance of which ranks with the most pretentious structures forming the many busy hives of industry in this ancient city. The front building consists of stock-rooms and cellarage; and in the rear is the manufactory, with the rough leather-room, riveting-rooms, and machine-room, and capable of accommodating 600 workmen.

Taunton.—The Memorial Hall, erected in connexion with, and contiguous to, Paul's Meeting, has been inaugurated. The church and congregation of the above place of worship had determined to commemorate the bicentenary of 1662 with a lasting memorial. At that time there was no room connected with the chapel suitable for the holding of meetings and the delivery of lectures. Besides this, extra class-rooms and school-rooms were required; and it was therefore determined that a hall should be built on a piece of land adjoining the chapel. The new Memorial Hall is a building of Italian character, erected with red brick and Bath stone dressings. The chief front is surmounted by a cornice, in the frieze of which are cut the words "Memorial Hall;" and under the sill of the windows is the following inscription:—"Erected A.D. 1862, to commemorate the two-hundredth anniversary of the Church of Christ worshipping in the adjoining Meeting-house."

Uppingham.—The old rooms, in connexion with the grammar-school here, have for some time past been found inadequate to the requirements of its present position and increased numbers. It was resolved by the governors of the school, at their meeting in April last, to erect at once new school-buildings. They consist of class-rooms and library, each measuring 28 feet by 22 feet, and of a covered playground, 32 feet by 28 feet, approached on two of its sides by an open arcade. The large school-room above these measures 88 feet by 28 feet. The height from the ground to the ridge of these buildings will be upwards of 56 feet; and, connected with the school-buildings, by an open porch, a chapel is being erected by subscription. The architect is Mr. G. E. Street; and, when the whole is completed, there will have been expended 40,000*l.*

Manchester.—The new road between Manchester and Northenden has been formally opened. The road, according to the local *Courier*, branches from the Didsbury road at Withington, and leads almost in a direct line to the church and village of Northenden, and is about two miles in length, and nearly level the whole distance. The river Mersey is crossed at Northenden by an iron bridge, and leads into the village close by the church. The road was constructed under the supervision of Mr. J. J. Mawson, of this city, civil engineer, by Messrs. Worthington, contractors; and the iron bridge was erected by Messrs. Ormerod & Co, of Hulme.——Attached to the London Hotel, Bridge-street, a spacious music-hall has just been erected, which is intended to be conducted on the same plan—both as to performances and accommodation for the public—as the Oxford Concert Hall, in Oxford-street, London. The new building is 170 feet long, inclusive of the stage; 90 feet wide; and 64 feet in height. There are two side galleries, with a balcony at the end opposite the stage. This is that which adjoins the hotel; and three tiers of boxes, having their entrance from the hotel, are here erected, which are intended for families and private parties wishing for reserved accommodation to witness the performances. The hall will be illuminated by a number of sunlights suspended from the roof; and the building will be fancifully decorated in the Chinese style. It possesses a proscenium and stage, the opening being 38 feet wide, and 47 feet in depth. The scenery and decorations are by Mr. Morley. Mr. W. Maugnall is the architect, and his designs have been carried out by Mr. Neill, of Strangeways, builder. The hall was to be opened on Christmas Eve.

SCOTTISH NEWS.

Leith.—Various new buildings have been erected and are in course of erection here. The Corn Exchange is now open for the transaction of business. The entire cost of the building amounted to about 7,000*l.* Other buildings of a less imposing but important character are also in course of erection. Amongst these may be mentioned a foundry, near the Junction-road, which will be the most extensive of the kind in Edinburgh or Leith. A large warehouse is also being constructed in Salamander-street; and a flour-mill at Hillhousefield is well advanced. The English church in Constitution-street, although in a state approaching completion as regards its outward appearance, is progressing very slowly. The slaughter-houses are now almost completed; and as they are at some distance from the crowded parts of the town, the public will be well rid of a nuisance. There are also a number of shops and dwelling-houses in course of construction. There is still a great want of convenient houses for the working classes, however. Several building societies contemplate the erection of dwelling-houses for the working classes in Leith, and the civic authorities are actively endeavouring to induce working men themselves to move in the matter.

Cupar.—The new Corn Exchange has been formally opened as a grain market. The building, which is calculated to hold 1,200, is 84 feet by 52 feet inside. The roof is arched by iron girders, ornamented, and the height of the ceiling at the highest point is 50 feet. The exterior of the building is of a plain description, with the exception of a spire, in the French-Gothic style, rising 136 feet from the ground. The architects were Messrs. C. Douglas & J. J. Stevenson, of Glasgow; and the contractors, Messrs. Wallace, builder; R. Adam, wright; Bryson, plasterer; Duncan, slater; Peattie, painter; Ramsay, gas-fitter, &c. The cost of the undertaking, including 1,000*l.* for the site, is about 3,000*l.*

Alloa.—The Alloa Grain Market, instituted in 1859, has been merged in the Alloa Corn Exchange. The new building is not only suitable for a grain market, but adapted for a hall for public meetings, lectures, and musical entertainments. It is capable of accommodating an audience of 700. The Exchange is situate in High-street, within easy reach of the railway station. The front, which is parallel with the west side of the High-street, is built in the Scottish Baronial style, with an entrance-door in the centre, under a projecting six-light mullioned window. The body of the hall is 86 feet long by 38 feet broad, besides which a gallery is erected over the entrance-door, and a committee-room adjoins the other extremity. The hall is lighted principally by a range of plate-glass windows on each side of the roof, and mullioned windows in each gable. The cost of erection is about 1,000*l.* Mr. Thomas Frame, of Alloa, was the builder.

Glasgow.—The monument in honour of the late Lord Provost Lumsden, in front of the Royal Infirmary, has been inaugurated. The statue is in bronze, and was modelled by Mr. John Mossman, of Glasgow, and cast in London. The figure, which is 8 feet 6 inches high, is draped in modern costume, and holds in the right hand an eye-glass, and in the left a scroll. It stands on a pedestal 10½ feet in height.

Dumbarton.—The Free Church congregation of this town have arranged to build a new place of worship in High-street, at the corner of Brewery-lane. The building, which has been designed by Mr. Honeyman, architect, Glasgow, is to be in the Gothic style, with a spire rising to a height of 110 feet. The building is to accommodate from 700 to 800 persons.

Hawick.—The town council have employed Mr. Bateman, C.E., the engineer of the Glasgow (Loch Katrine) Waterworks, to examine the town and neighbourhood, and report on the best means for obtaining an ample supply of water. Mr. Bateman has just sent in his report. He recommends the extension of the present waterworks, as being, on the burgh lands, sufficient to meet the present requirements of the inhabitants at the smallest cost, and the best water. The drainage ground extends to 233 acres; and taking the available rain-fall at the low estimate of 18 inches per annum, it would yield about 258,000 gallons daily. This could be collected in a reservoir to hold twenty-five millions of gallons, of 250,000 gallons per day for 100 days, in addition to what the springs will afford during that period. The cost of the reservoir, all works, land purchases, and connexion with present reservoir will be about 5,800*l.*; and the cost of distribution in pipes about the town will be from 3,000*l.* to 3,500*l.* As regards the sewerage, Mr. Bateman reports that the natural facilities are great, the river Teviot forming the channel into which the sewage waters must be discharged. The cost of sewerage would in all amount to about 5,000*l.* The council have remitted the report to the sanitary committee to consider it in detail.

SCHOOLS OF ART.

The Stourbridge School.—The annual meeting of this school has just been held; Mr. H. F. Vernon, M.P., in the chair. The report for the last year congratulated the friends of the school upon a continued increase in the number of students, and also in the number examined and passed by the Government Inspector of the second or higher grade. The number of students in the central school in 1861 was 120; in 1862, 141; number of students in glass trade, in 1861, 27; in 1862, 30; number in national and other schools, 1861, 680; 1862, 425; number passed and marked "fair," 1861, 18; 1862, 25; number passed in first or lowest grade, 1861, 20; 1862, 30; ditto in second or higher grade, 1861, 16; 1862, 18; medals awarded, 1861, 9; 1862, 10; prize students, 1861, 3; 1862, 5. The falling off in the pupils in national and other schools was owing to the Government giving certificates to masters of national schools, enabling them to teach drawing. This, for the present, reduced the number of pupils taught through the medium of the Schools of Art; but, by giving a largely-extended number of pupils of national schools a knowledge of the mere rudiments of drawing, the effect would, in the end, be to greatly increase the number of students in the Schools of Art. Under all the other heads the increase had reached a point never from the first opening of the school before attained. The council, continued the report, had, year by year, had the unpleasing duty of directing attention to the small number of students connected with the glass trade,—a trade necessitating, in order to arrive at excellence, the aid of art; but they had the pleasure of announcing that there were now in the school more students connected with the glass trade than there were in 1858 in all the schools in the kingdom. The Exhibition of 1851 proved that art had not been called to the aid of the English to the same extent it had to the continental workmen in glass; but the Exhibition of 1862 gave evidence that the English workmen had, in the intervening years, availed themselves of the assistance of art, and actually outstripped their former successful competitors. After the report had been read, the chairman proceeded to distribute the prizes and certificates.

The Bromsgrove School.—This school has also had its annual meeting. Mr. J. S. Pakington was in the chair. The report of the committee stated that the total number receiving instruction during the past year in drawing has been 231, being an increase of 16 over the preceding year. This number includes 138 from the national school, and 93 in the central school. Mr. Vernon, M.P., in moving that the report be adopted, said it was satisfactory in many respects: it informed them of the increase of students; the efficiency they had attained; and, lastly, it pronounced the institution to be out of debt. The chairman also expressed his satisfaction with the state of the school, and with the fact that the institution was liberally supported, and that it had contributed its full share to that general improvement in the public taste which now existed in this country. Mr. Pakington then proceeded to give a little advice to the students, conjuring them to avoid all extremes one way or the other,—to avoid attaching too much importance to genius, or putting too high an estimation on what is called the ideal.

RAILWAY MATTERS.

Great Malvern Railway Station.—The works of the new railway station at Great Malvern are rapidly approaching completion. The entrance is by a lobby, in which are situate the ticket windows of the booking-office. The platforms are spacious, and covered with an iron and glass roof of an ornamental character. The accommodation afforded by the new building consists of ladies' first and second class waiting-rooms, with dining-rooms *en suite*; second-class refreshment-rooms, kitchens, pantries, and large wine and ale cellars; telegraph office and station-master's office, which, by a bay window, takes in the view of the line both up and down; the porters' rooms, and all the necessary offices. The up and down platforms are connected by an underground way. The approach to the new Imperial Hotel is by a covered passage from this platform. A wooden turret is placed over the principal entrance, rising to a height of about 50 feet, and contains a clock. The walls are built of Malvern-hill stone, with Bath stone dressings. The style being Gothic of the period of Charles VI. of France. There is some good carving in caps of columns and elsewhere, by W. Forsyth, who has cleverly introduced the foliage of the plants of the neighbourhood. The buildings have been carried out from designs and under the superintendence of Messrs. Elmslie, Franey, & Haddon, architects, by the Messrs. Wood, of Worcester, builders.

Singular Accident at Manchester.—At the London Road Station, Manchester, in order to facilitate the erection of the new station, the contractors had erected a scaffold about 35 feet or 40 feet high, to the top of which a six or eight-horse steam-engine was elevated, for the purpose of raising the stonework. In the absence of the driver, this engine started along the runners; and before any one could reach the scaffold to stop it, it fell over the end of the framework and dropped into Store-street, a depth of 70 feet. Several passengers in Store-street had narrow escapes.

Gas in Trains.—The Scottish Central Railway has adopted gaslight in one of the passenger trains, between Edinburgh and the North. The trial has been successful. The gas is supplied from a large boiler at the Perth station, which is filled from the gas-works there. The supply for the train is kept in an india-rubber gasometer of about 6 feet square, defended by iron rods, and kept in a compartment of the break-van. When full it occupies the whole of this compartment; but as the gas passes away it is compressed by a weight on the top. The gas is conveyed into it from the boiler by a large tube in the bottom of the van, and is conveyed out of it to supply the carriages by a smaller tube, also in the bottom. This tube again passes up through the anterior part of the van to the roof; and the gas is thence conducted along the carriages by metal pipes, connected by india-rubber tubing, and passes down by brackets into large and strong glass globes in the various divisions of the carriages. The supply necessary for the double journey to Perth and back, which occupies somewhat less than eight hours, is about 260 cubic feet: and the expense, after the fittings are completed, is estimated at one-half of that of the ordinary oil apparatus. The system is now in operation on the Lancashire and Yorkshire, London and North-Western, and Great Northern Railways.

Miscellaneous.—The new railway-station in Rome, opposite to the Baths of Diocletian, has been opened. A fall of part of the mountain near San Germano took place the same night. The passengers in a train which was thus stopped spent the night in the train.——Indian soldiers are now being employed in making a tunnel under the Indus, to form a link in the great chain of railroad between Calcutta and Peshawur.——At Lisbon, on the 18th December, a train with 200 workmen was passing over the bridge of Sor on the Great Eastern Railway, when the bridge gave way and the whole were precipitated into the river. It is reported that 100 people were killed, and many others wounded.

ACCIDENTS.

Fall of a Tunnel.—A portion of the roof of the tunnel at Orkenshaw, on the Cleckheaton branch of the Lancashire and Yorkshire Railway, and about a quarter of a mile from the Low Moor station, recently fell in and blocked up the road. The portion which fell is about twelve or fifteen yards off the end nearest Low Moor. The earth and material covering the tunnel at that end was about 18 feet deep; and at the same point the tunnel was crossed by a common road which was temporarily obstructed by a chasm. Between seventy and eighty men were quickly set to work to clear away the *débris*, and the line is now again open for traffic.

Damage to a Church by Gales.—Saint George's Church, Leicester, has sustained considerable damage by the late gales. The vane fell from its pinnacle, carrying with it the iron rod and the stone which formed the apex to the spire, making a chasm in the southern roof of the tower, and nearly demolishing the stone stairs which lead to the gallery on that side of the church. This edifice has been somewhat unfortunate. In June, 1835, the east window was shattered to atoms by a destructive hailstorm. In 1846 the spire was struck by lightning. On examining the rod after the recent accident, it was found, according to the local *Advertiser*, that it did not go below the bottom of the stone which formed the apex more than a few inches, whereas it is usual to drop the rod into the stonework some six or more feet, securing the same by a proper stay and a nut screwed on to the bottom of the rod.

Fall of a Chimney Stalk.—At Glasgow, a chimney stalk 120 feet high has been blown down. Fortunately it fell in an easterly direction, as there was scarcely another way it could have fallen without almost certain destruction to human life.

Fall of Floors.—The flooring of the fourth story of a flag spinning manufactory at Broadford, Aberdeen, fell in lately. In its descent it carried away the other floors, and a number of workmen were buried in the ruins. Three are missing and supposed to be killed, and several are severely injured.

London, Chatham, and Dover Railway.—On Wednesday, part of a viaduct on the Metropolitan Extension of the London, Chatham, and Dover Railway gave way. The second station on the line is that at Clapham, and at about 200 yards distant the line crosses the Clapham-road and the Bedford-road by means of iron-girder bridges. Between these two bridges is a viaduct, consisting of nine arches of massive brickwork, standing in a field. All this structure appeared to be quite

safe up to the evening of Tuesday, when there were slight indications in the parapet of a subsidence of one of the centre piers taking place. On Wednesday morning, at about half-past six o'clock, the men on watch found that the pier began to sink rapidly, and before long it had subsided upwards of 4 feet into the earth, carried with it the next pier, and, as a matter of course, the centre arch and portions of the arches on each side. As to the cause of the subsiding of the pier no positive reason has yet been assigned.

Chester.—The Exchange and Town-hall of Chester have been destroyed by fire.

FOREIGN AND COLONIAL NEWS.

M. KRAUS, of Mayence, architect, has submitted to their Royal Highnesses Prince and Princess Louis of Hesse plans and designs for a palace about to be erected at Darmstadt.

The French Academy of the Beaux Arts, at its last sitting, elected as corresponding member M. Dupré, statuary, at Florence; M. Fonteca, painter to the king, at Lisbon; M. Vaagen, archæologist, at Berlin; and Mr. John Pye, copper-plate engraver, in London.

The excavations at the Palatine Palace of the Cæsars, at Rome, are being pursued with great activity. Water, according to *Galignani*, has sprung forth in abundance there, so that a fountain has been arranged. The amount granted yearly by the French Government for the researches is 40,000 fr.

A new bridge for the passage of railway carriages over the Rhine has just been opened to the public at Mayence. The length of the bridge from one side of the river to the other is 1,212 feet; and it is said to have cost 3,000,000 florins. This is the third bridge of the kind that has been built over the Rhine within a few years. The two others are at Cologne and Strasburg. It is said that two other bridges are shortly to be thrown over,—one at Mannheim and the other at Coblentz.

The last Cape mail states that the Dutch church at Malmesbury, built less than two years ago, at a cost of 6,000*l.*, fell in on November 15. It was supposed that the continuous rains had sapped the foundations. The various public works in the colony, which had been more or less interrupted by the severity of the winter weather, were being pushed on vigorously. The railway works were almost completed to Klapmuts. The line was about to be further opened from Stellenbosch to Bennettsville, a few miles short of the Paarl. The Wynberg Railway was also progressing favourably: a dispute had arisen between that company and the Cape Town and Wellington Company relative to the junction of the lines at Salt River and the traffic thence into Cape Town.

Since the Cathedral of Notre Dame, Paris, after having been closed several months, was opened to the public on the occasion of the solemnity of Christmas Day, it has been crowded with visitors. The decorations most noticed, according to the daily papers, are the choir, with its grand altar, statues of bronze and marble, two archiepiscopal thrones, carved woodwork, new gilt gates, stained-glass windows, and chapels. The mausoleum erected to the memory of Archbishop Affré, who sacrificed his life on a barricade in 1848, is now finished, after a labour of fifteen years. The statue of the archbishop, as large as life, is placed on a pedestal. He is represented falling on a barricade, holding an olive-branch in his right hand and a crucifix in his left. On the façade of the pedestal, which is of French marble, is a bas-relief, representing the entire scene of the death of the archbishop on the barricade. Workmen are still engaged in the Harcourt Chapel in placing a grand Madonna of Carrara marble on a pedestal. The statue, which is larger than life, was lately brought from a Carmelite convent at Rome. It is believed to be the work of a Florentine sculptor,—either Coysevox or one of the Coustons.

THE STAGE.

English Opera, Covent Garden.—The pantomime here is from the pen of Mr. H. J. Byron, who has catered for three other theatres also: it is founded on the suggestive story of "Beauty and the Beast." The introduction is very good, aided as it is by the Paynes, and includes some very striking "changes" and effective scenery. The moving about of large masses of trees could not be managed on any other London stage: these are wholly supported from below. The transformation scene, invented and painted by Mr. W. Callcott, under the title of "Moonbeam and Sunlight, or the Descent of Morn's first Ray," is the work of an artist: the sight of it alone is worth the cost of admission. On wood and water the moonbeam and sunlight are contrasted; the sun, of course, ultimately triumphing. Mr. Callcott is entitled to high praise. Miss Hiles, Mr. Weiss, and Mr. Perren are singing in two acts of the "Bohemian Girl" before the pantomime: and the reproduction of the "Lily of Killarney" is promised.

Princess's Theatre.—"Riquet with the Tuft" is a very amusing pantomime. Mr. E. L. Blanchard wrote the opening, and Mr. Beverley and Mr. F. Lloyd have prepared the scenery. The element of beauty preponderates, but that of fun, somewhat less cared for now-a-days, is not absent. A field of fungi which produce imps, a very lovely wood scene with water (the "lake of the lilies"), for a ballet of bouquets (producing some charming combinations of colour), and the transformation scene, are the great points in it. Mr. C. Seyton, who plays Riquet, shows much ability. Those who select the Princess's pantomime for the children's treat will not go wrong.

The Strand Theatre.—It is frightful to contemplate the injury done to the English language and the English drama, and the destruction of agreeable recollections effected, by the nightly performance of such a piece as the parody of "Ivanhoe," now being performed here. Slang, bad grammar, and the evil twisting of words, damage the ear throughout, and the absurdity that ends every piece of music with a nigger dance is carried to the extremity. Whether it be a solo, a duet, or a sestet, the performers think it necessary to terminate it with some variety of the double shuffle. Six times does this idiotically occur in the piece in question, if not more; so that what might be funny in one or two cases, becomes, from repetition, positively disgusting. Something should really be done to prevent the very clever burlesque actors here from doing further damage to public taste.

FROM IRELAND.

THE parish church of Loughinisland, diocese of Down, was reopened by the Lord Bishop, on the 11th of December, after the completion of additions and improvement. Two short transepts have been added, with open-timbered roofs, and double Early English lancet lights in each gable. The whole of the church has been repewed, and an unsightly gallery removed, under the direction of the Ecclesiastical Commissioners' architects. A chancel has been also added for the reception of a huge simicircular-headed window,—a memorial to the late Rev. Wm. Forde, formerly owner of the property in which the church is situate. The chancel has an open-timbered roof, and is divided from the nave by an arch of two orders, the inner order being carried on corbel shafts, with foliated capitals. The flat plaster ceiling has also been removed, and the roof cleaned, stained, and varnished; and Early English lancet lights substituted for the semicircular-headed wooden-mullioned windows formerly existing. A monument has been erected to the memory of the late rector, of Early English character; the carving executed by Messrs. Fitzpatrick, of Belfast; and a pulpit has been substituted for the former unsightly one, the architect for the latter works being Mr. Thomas Drew. The contractor for the whole is Mr. Geo. Stockdale, of Downpatrick.

St. Patrick's Cathedral, Dublin, still continues closed for an indefinite period, the restorations proceeding slowly. The parish church of St. Nicholas, formerly occupying one of the transepts, has been acquired by the Dean and Chapter, and is being rebuilt, and thrown into the cathedral once more. It is stated that the expenditure (at the sole cost of Mr. Benjamin Lee Guinness, the eminent brewer), up to the present amounts to 80,000*l.*

As yet competitors have received no tidings of the Cork Cathedral competition, although ample time for coming to a conclusion has elapsed. We believe that drawings are being packed up to return to competitors, from which it may be presumed that a selection of one or more designs has been made.

Belfast is determined to erect a cathedral for the diocese of Connor; and an energetic movement is being made with the bishop of the diocese at the head; and the subscription list is already in a flourishing state. Messrs. Lanyon, Lynn, & Lanyon, of Belfast and Dublin, have received instructions to prepare plans.

The works at St. Mary's Cathedral, Limerick (under Mr. Slater), have been completed.

Derry Cathedral has been extensively renovated, under the architects to the Ecclesiastical Commissioners; and Tuam Cathedral is to be rebuilt. It is very much to be regretted as one feature in the last scheme, that it is intended to demolish the present church, a fourteenth century building, containing very elaborate and beautiful traceried windows, and other remains of interest; although it is not intended to build upon its site; which, to say the least of it, appears unaccountable.

POLLUTION OF THE THAMES.

AT a meeting of the Metropolitan Association of Medical Officers of Health, held at the Government Offices, Richmond-terrace, Whitehall, Dr. Thomson (Marylebone) in the chair, this subject was brought under consideration by Dr. Burge (Fulham and Hammersmith), more especially in relation to these parishes. He presented to the meeting a report drawn up by himself on the subject, and which had been printed by the Fulham Board. It appears that the Metropolitan Board propose to construct works for the deodorization of the sewage of the western district of the metropolis at Sands End, near Cremorne-gardens, by means of which works nearly 10,000,000 gallons of sewage west of Ranelagh sewer will be subjected to deodorization daily. In consequence of this scheme the Fulham district memorialized the Metropolitan Board in August last, protesting against it as fraught with evils of alarming magnitude to health and property in the locality, as well as tending to pollute the river in general, which the Metropolitan Board are otherwise endeavouring to purify. The Metropolitan Board having replied to the Fulham memorial, a second protest was forwarded to the same Board, inclosing the report depicting the evils which would result from the scheme. Dr. Burge now urged upon the association the necessity of taking up the matter as one of metropolitan interest, with a view to expose its evils and prevent its accomplishment.

Dr. Challice (Bermondsey) thought the subject of sufficient importance to require a special meeting for discussion; for to throw a large amount of sewage into the river even after deodorization would cause a putrefaction throughout the same.

It was resolved that the subject be referred to the general purposes committee to consider and report upon at a special meeting.

ARSENICAL PAPER-HANGINGS.

THIS subject was discussed by the medical officers of health at their meeting on Saturday evening last. The subject was opened by Dr. Orton (Limehouse), who read a paper, full of facts, detailing the evils resulting from inhabiting rooms papered with the common light-green paper, as brought out in evidence before coroners' juries, especially in regard to the deaths of children; and birds also had been known to have died from a like cause. A gentleman present remarked that the evils, in his opinion, were rather of a mechanical than chemical character; or, in other words, that, unless the pigment was scratched or rubbed off, or otherwise inhaled from actual contact with the arsenical substance, no evil would ensue. Dr. Challice (Bermondsey) opposed that theory; for, if arsenic entered largely into the composition of paper on walls, harm must result, though not detectable by a practical chemist. He believed many cases of death attributed to diphtheria were the consequences of arsenic absorbed into the system from the presence of arsenical paper, independent of direct contact therewith. Dr. Liddle (Whitechapel) believed the best green paper had no arsenic; and if there were so much arsenic in paper as stated, or that it was such an evil in that form as alleged, they would hear more of its effects. Dr. Aldis (Belgravia) introduced Mr. Turner, a manufacturer, who exhibited specimens of beautiful light-green paper, destitute of arsenic, which could be produced as cheaply and in as great beauty and variety as the arsenical papers. Dr. Druitt (Mayfair) mentioned the case of a child's death which had been caused or accelerated by having its cot near a wall, the child having picked off the paper and put it into that universal receptacle, the mouth. Dr. Orton mentioned a proved case of twelve birds having died in a week from contact with arsenical papers. Dr. Thomson would recommend persons to have nothing to do with such papers. He had none in his own house, and believed the dark green contained no arsenic.

OUR PUBLIC STATUES AND MEMORIALS.

SIR,—How true and just are the observations in yours of the 13th ult., with reference to our public statues in this country! With scarcely two exceptions in London, viz., the statue in front of the open space of St. Paul's, and the Duke of Bedford, in Russell-square, we possess few attempts at giving importance to the statue and pedestal by subordinate sculpture. Where a statue is erected in a cathedral or church (and here they are out of place) there may be some reason for limiting the sculptor's art in the pedestal; but where a statue is placed externally in a large open area, and where it is of importance to give mass and grandeur to the composition, the pedestal should form an essential portion of the composition; and the aid of the architect should be called in to assist the sculptor, otherwise the whole design would be most wretched. As for placing statues on the summit of a column, it is a most egregious error. How beautiful is the pedestal to Charles I. at Charing Cross! W.

THICKNESS OF WALLS OF "CLOSET" BUILDINGS.

SIR,—I learn that the Metropolitan Board of Works are interfering to prevent the district surveyors from allowing 4½-inch walls in water-closet buildings. I hope they will pause before they put this obstacle in the way of sanitary improvement; and I beg leave to submit,—

1. That closets may be considered as attached or detached offices, and that rules of thickness of walls do not apply as for dwelling-houses.

2. That 4½-inch work has been the common custom under the late Act, and is so to a great extent under the present.

3. That in many cases space would not admit of more; and, further, that an unnecessary expense would be entailed; and

4. That for closets 4½-inch work is sufficient for all purposes. A BUILDING SURVEYOR.

THE LIVERPOOL EXCHANGE COMPETITION.

I AM in receipt of the conditions and instructions proposed by the Liverpool Exchange Commissioners for the guidance of architects who may choose to compete for their new buildings. These, apparently, have been prepared with great care, and a desire to insure fairness throughout; but I would, through your paper, respectfully suggest to the committee, that if it be their object in making the competition a general one to obtain the best suggestions for their work, this object must be considerably defeated by the very extensive requirements, in the way of drawings, which the conditions insist on. I imagine that very few of the leading architects could spare the necessary time, or would enter on such an undertaking, on the mere chance of obtaining any one of the premiums. 1,000*l.* is in itself no doubt a handsome premium, and might be considered sufficient remuneration by the fortunate individual who might obtain it. It strikes me, however, that the interests of the Exchange Committee would be much better secured by a different mode of proceeding, and a different distribution of the money which they propose to expend in premiums, and at the same time have the effect of saving an immense deal of labour and expense to the necessarily unsuccessful competitors.

I would beg leave, therefore, to suggest that, instead of the elaborate geometrical drawings and perspectives (twenty-two in number) which the committee now require, they should in the first instance invite a competition for merely *general designs*, which could be fully expressed by a 20-inch or 16-inch scale plan of each floor, with a general section to show heights, and a perspective sketch, to illustrate the style and treatment of the architecture proposed. All the more important points, such as general arrangement, style, &c., could be fully set forth in these drawings; and, at the same time, condensed in a convenient form for the consideration of the committee.

From the designs thus submitted, the directors to make a selection of say *ten*, which in their opinion embraced the most advantageous features; —that the authors of these ten designs be then invited to further compete in more detailed plans, &c., as at present set forth in the printed instructions, adhering of course to the general features of their original design;—that for the labour and expense thus involved, nine of the competitors should each receive the sum of 200*l.*; and that the architect whose design was considered the best of these ten should be employed to carry out the work (unless there be any reasonable objection against him).

This would appear to me to be a much more reasonable course to pursue in this or any other competition, where otherwise an extraordinary amount of labour must necessarily be expended altogether in vain; and I venture to say is a course which would prove much more satisfactory to competing architects; to those who, in the first instance, might be set aside, by relieving them from the labour and expense of elaborating ideas which would be considered unsuitable; and also to the ten selected, as providing a certain, though it might be inadequate, remuneration for their further labour. T.

*** A somewhat similar plan was tried at Liverpool in the case of the Public Library competition.—ED.

THE WORKS AT ST. MARY'S CHURCH, MINSTER, THANET.

SIR,—With your permission, I accept Messrs. Smith & Son's invitation to criticism;* but whether this will justify them in the eyes of the archæologist and public, I think the latter had better decide, for a person on his defence is not, according to English fairness, a judge in his own case. In a country possessing so many Gothic architects, a proper design might have been obtained for the use and adornment of a wall possessing—at the commencement of the work—such unmistakable marks of age. This north aisle wall *had* one of those old Norman seats of masonry, in its entire range from the inside of the old Pointed Gothic doorway to the north transept, consequently running under this square-headed window of 1350. (Query, 1520?) This venerable seat was part and parcel of the wall of the north aisle, and it must have been hard work severing it from its long attached principal. These seats are only to be found in old conventual churches, and are undeniable proofs of age. This distinctive mark in Minster Church was much prized by the historian and antiquary. This seat is *entirely* obliterated. What shall we call this?—restoration or destruction? By what strain on the inventive faculties can any person, not even claiming the title of architect, make a flat-headed window accord with this old wall. It could *not* have been the original window. As to the flatness of the internal arch being a proof of there always being a level-headed window there, the old Pointed Gothic doorway has an exactly similar arch; so that proves nothing. The roof of nave is also altered in appearance, the old lead being replaced by red-looking tiles. Perhaps this was a pecuniary consideration; not so with the old memorial stones, some of which are taken away; but I hope they will again find a place in the church, as some of the old extinct family names—as Jenkins, Kennett, Proud, and others, should be preserved, without too much attention to prettiness. Such memorial stones as John Potley raised to his wife, who died in 1715, I think should not be sold to assist building private walls with.

CORRESPONDENT OF "S.E. GAZETTE."

SIR,—Will Messrs. Smith & Son, who, fortunately for themselves, are builders as well as *architects*, kindly inform your readers whether they removed the old lead from the high-pitched nave roof in order to meet the expenses of the so-called restoration? or whether, from their careful researches, which they assert to have been so eminently successful, they considered that tile ought to replace it? Such careful restorers ought to have some reason for so materially altering and destroying the general character of this part of the building.

With regard to the flat-headed windows in north aisle, portions of which have been found in the walls, they in all probability replaced pointed windows of the same date as the walled-up doorway. If the miserable arcade at the east end of the chancel, inside, is a specimen of original design, it is to be hoped the architects will in future take some old examples and copy them faithfully; especially with regard to the seating, pulpit, and other fittings; or else get some architect under whose direction they have worked in their proper capacity of builders, to furnish them with drawings. A PASSER-BY.

CASES UNDER BUILDING ACT.

District Surveyors' Fees.—Messrs. Temple & Reynolds, of Metcomb-street, Belgrave-square, were summoned to Wandsworth Police-court, by Mr. A. J. Hiscocks, the district surveyor of Wandsworth, for the non payment of 5*l.*, being the fee for surveying an addition to a building at West-hill, called Melrose Hall, lately the residence of the Pacha of Egypt.

The addition in question was the erection of a fireplace by the side of the kitchen range, with a communication in the chimney, for the purpose of affording extra cooking accommodation during the stay of the Pacha. The defendants were summoned in the first instance for not giving the district surveyor notice, and a nominal penalty was inflicted. The defendants objected to pay so large a fee for such works. The surveyor claimed the fee according to the first part of the second schedule. The words are as follows:—"For every addition or alteration made to any building after the roof thereof has been covered in, the fee shall be half of the fee charged in the case of a new building." It further appeared that the full extent of the surveyor's fee was 10*l.*, Melrose Hall being beyond the limits chargeable for that fee: Mr. Hiscocks claimed a right to recover 5*l.*

The defendants did not now appear.

After waiting till the closing of the court, Mr. Ingham addressed the complainant, and stated that he should decide in his favour, as he found it was the custom to charge in the way mentioned; but Mr. Hiscocks was not to consider the decision final, for he (Mr. Ingham) was not certain of being right, and he was doubtful what meaning the Court above would put on the words "in case of a new building."

An order was then made upon the defendants for the payment of 5*l.* and 2*s.* costs.

* See Vol. XX., p. 872.

Books Received.

London: How the Great City Grew. By GEORGE ROSE EMERSON. London: Routledge, Warne, & Routledge. 1862.

THE greater part of this work appeared at intervals in the *Dispatch*, and Mr. Emerson has done well in adding to it and reproducing it as a compact little book. The history of London, as we have often had occasion to say, is full of interest; and those who have not made themselves acquainted with it by harder studies will find in this volume information pleasantly conveyed, that will give materials for thought and invest with interest every walk in the streets.

British Almanac and Companion, for 1863. London: Knight & Co., Fleet-street.

THE "Companion" in its thirty-sixth year is as various and instructive as ever. In "London in 1862" Mr. Charles Knight sets forth pretty fully the misconceptions of foreign writers who visited us during the Exhibition. Mr. John Plummer contributes a paper on "The Distress in Lancashire," with reference to its social and economic effects. Then there are papers on the products and industry of the British colonies, with reference to the International Exhibition; British Columbia; Logarithms for the Many; Fires and Fire Brigades (with the important reminder that the London water companies evade the law which requires fire-plugs and their mains "kept at all times charged at *high pressure*"); and last, but certainly not least, a judicious and interesting paper headed "Characteristics of the Present State of the Fine Arts in Europe, as shown in the International Exhibition of 1862" (though dealing only with one of the fine arts), by Mr. James Thorne. Speaking of the tendency towards the real and the true, he says, justly:—

"The only safe policy for the historical painter is to accept frankly the knowledge of his day, and treat his subject with the same conscientious regard to truth as the historian would treat it. But it should be clothed with poetry. Truth dealing with reality in the spirit of the historian, not of the antiquary, or the chronicler; of the analyst, not of the collector; of the poet, not of the commentator: accurate, exact, but not pedantically minute. And this verisimilitude would, if dealt with in manly simplicity, in no way shackle the imagination. Expression, colour, beauty, sentiment, emotion, are not dependent on these conventional vestments."

Mr. Thorne, speaking of some of our past landscape painters, asks "where, among our rising men, are those preparing or prepared to take their place?" The answer must be unsatisfactory: and applying the question as we would still further,—in the class of history and *genre* painting, we see little at present that is promising for the future of British art. What are our young men about?

The usual account of "Architecture and Public Improvements" is illustrated with small views of St. Stephen's, Spitalfields ("not on account of its beauty, but because, in its way, it illustrates the changes which are taking place in ecclesiastical architecture"); the Assize Courts, Manchester; the Jews' Hospital, Lower Norwood; the Kingsland Birkbeck Schools; and the National Provident Assurance Office, Gracechurch-street.

The New Forest: its History and its Scenery. By JOHN R. WISE. With Sixty-three illustrations, drawn by W. CRANE and engraved by W. J. LINTON. London: Smith, Elder, & Co., Cornhill. 1863.

HANDSOMELY bound, beautifully printed, and largely illustrated, this volume may be regarded as one of the very few gift-books published this season. It is in truth, however, more than a book for the season. Mr. Wise has brought to bear on his subject, learning, power of research, and good taste; and has produced what may be read with

vantage. An enthusiastic admirer of the beau- s of the forest,—"present at all times and ours, changeful in form, but the same in essence," he rightly calls on the Government to spare me of the finest trees, when felling timber, for e delight they will give to future generations. ie appendices include a glossary of some of the ovincialisms used in the New Forest (the first blished); a list of the flowering plants of the strict; and one also of the birds.

VARIORUM.

"Land Registry, 1862," edited by Mr. Jas. igg, and published by Waterlow & Sons, Parlia- ent-street, contains the statutes passed in 1862, uthorising the registration of estates with an defeasible title, and which ought to be known all purchasers. The object of the Act is to nder the dealing with land more simple and onomical than is now the case. The Act is rmissive only.——"Horse Warranty," by Peter owden (R. Hardwicke, Piccadilly), is described be "a plain and comprehensive guide to the irious points to be noted; showing which are sential and which are unimportant." It con- ins much information, in an accessible shape, at should be possessed by those who have horses. r. Howden makes one thing particularly clear— at there are very few horses which can stand a rict examination for the purpose of unqualified arranty; and yet, with a little attention to ractical detail, and the use of common sense, we ay obtain the tools for our work. As with men d women, perfection must not be expected: we ust balance qualities, not press too hardly on ie weak point; and, when we do find a good one, lake the most of it.——"The Churchman's amily Magazine" (Hogg & Sons, Fleet-street), intended to provide monthly, pleasant light eading for serious families. The first number, ow published, includes illustrations by Cope, illais, J. D. Watson, and others. The cover, by r. J. Leighton, is an amusing piece of eclecti- sm, involving in style the rustic, the Gothic, nd the Greek.——The January number of London Society" is the best yet issued.——

Miscellanea.

MR. PEABODY'S GIFT.—We understand that ie sum given by Mr. Peabody for the benefit of ie poor of London will be invested in more ways an one. Part will be expended in the erection f lodging-houses from the designs of Mr. Darbi- ire; for which a site has been obtained.

WESTMINSTER BRIDGE.—By a return issued ately it appears that the amount expended on Vestminster Bridge to the 14th of July last, was 93,189*l.*; of which 145,057*l.* were paid to con- ractors, and 248,132*l.* to other parties. The mount expended on the approaches was 109,054*l.* he whole of the expenditure has been supplied rom property belonging to the Westminster Bridge Commissioners and from votes of Parlia- ient.

ADULTERATION OF LINSEED OIL. — We learn rom "The Oil and Colourman," weekly trade ircular, that the subject of the adulteration of inseed oil, which was some time since brought fully under public notice in the *Builder*, is now ngaging the active attention of the trade; and hat a meeting of the principal merchants and thers interested in the seed trade has just been eld at the Baltic Coffee-house, with a view to rame regulations for the prevention of adulte- ation in linseed oil; when resolutions in accord- nce with this object were unanimously adopted, nd a committee appointed to promote the pur- ose in view.

PROPOSAL FOR A GRAND PUBLIC TELESCOPE.—Mr. William Distin, of Covent Garden, a corre- pondent, makes a promising suggestion in egard to future astronomical discoveries. He proposes that a joint-stock company (of course, n the limited liability principle) be got up for he purpose of constructing "a telescope of such nuge dimensions that in comparison with it even ord Rosse's would appear very small;" and con- idering that hitherto the larger the telescope the more extensive and wonderful the discoveries, here seems every hope that a still larger one than ord Rosse's would yield still better results. The ublic interest in such an instrument, which any ne would have the power to use for a small harge, would certainly be very great; and it is robable that an adequate return for the outlay night thus be realized. We hope some of our well-known astronomers will take an interest in he project.

"WEST SHANDON."—The architect of Mr. Napier's residence, on the Gareloch, published in our last,* was Mr. J. T. Rochead, of West George-street, Glasgow.

HENRY II. WARE.—The *Chronique des Arts* says:—"The problem of the origin of Henry II.'s earthenware has just been solved by M. Benjamin Fillon, an amateur of Poitiers. This mysterious pottery, which has been designated the 'Sphinx of Art,' was made at Ofron, near Thouars (Deux-Sèvres), with clay from Rigné. Two artists aided in the manufacture; the potter François Charpentier, and Jean Bernard, librarian and secretary of Hélène de Hangert-Genlis, widow of Artus Gouffier, a superior woman, who died in 1537."

TELEGRAPH ACROSS PERSIAN GULF.—A correspondent states that the Indian Council have decided on a submarine cable across the Persian Gulf, and that the whole management of the work is intrusted to one of their own officers, Colonel Stewart, R.E. The core will be gutta-percha, made at the Gutta-perch Company's Works, Wharf-road. It will be tested by Reid's process of pressure, equal to the depth of sea where the cable is to be laid. Mr. Henley, of North Woolwich, will make the iron sheathing, and the Government ships will submerge it. The whole will cost about 300,000*l.*

METROPOLITAN TOLLS.—On Wednesday, Dec. 24th, a deputation of five gentlemen, viz., Messrs. D. Nicoll, R. Yeo, R. Hackworth, Mosley, F.C.S., and the Curate of St. Mary's, Kilburn, waited upon Mr. G. T. Jenkins, barrister-at-law, of Avenue-road, St. John's Wood, to present that gentleman with a silver claret jug, subscribed for by a number of gentlemen and tradesmen principally residing in that locality, as a slight testimony of respect and admiration for that gentleman's spirited conduct in trying and successfully maintaining (after several failures by others) the right of the public to pass toll-free through the sidebars of the Swiss Cottage Gate, placed at the top of Belsize and Victoria Roads. Mr. D. Nicoll formally presented the testimonial in a few appropriate remarks.

COOKING FOR THE MILLION IN MANCHESTER. Among the schemes lately put into practice, are the working men's dining and coffee-rooms, in Nelson-street, Angel Meadow, where the Ducie Relief Committee offer the distressed operative a plentiful "ha'porth" of food; for he can procure a cup of good coffee, or a cup of tea, or plate of bread and butter for that sum; while for three halfpence he may have a bowl of broth or soup, a plate of potato hash, and a plate of potatoes. One penny will cover the cost of bread and cheese; while for twopence the poor fellow may enjoy the unwonted luxury of a plate of beef or bacon. This is an immense improvement on the "soup-kitchen" system, and should be introduced into Preston, Blackburn, and other towns. By such means as these the self-respect of the poor cotton-spinner may be preserved unimpaired. Let them pay a trifle, no matter how small the amount, and it takes away that appearance of almsgiving, towards which the Lancashire artisans, we see with gratification, evince such a decided repugnance.

CHELSEA VESTRY REPORT FOR 1861-2.—The usual Report of the Vestry of Chelsea Parish has been printed. It contains a minute and lengthened account of all the various subjects of parish and vestry interest, chiefly in the form of Appendices. The parish authorities have not overlooked the sanitary condition of the parish, and have taken proceedings for the removal of nuisances during the year in 78 cases affecting the state of houses, 208 the state of drains and closets, 126 water-supply, and so on; but none as regards ventilation, with which, unfortunately, parish authorities have not so much power to interfere as they ought to have, in regard to the internal economy of dwellings: they made an endeavour, however, to induce the London Apothecaries' Company to lower or open with railings the high and close wall of their botanic garden, so as to promote the ventilation of the locality, and hinted that they might open the garden as a promenade; but the Company refused to do either the one thing or the other. The Vestry might have urged the benefit of ventilation to the plants, if the Company cared nothing for its benefit to human beings. The churchwardens and overseers of the parish, we observe, have written a voluntary testimonial of thanks to Mr. C. Lahee, the vestry clerk, in a formal letter to the vestry, whom they congratulate on the possession of so valuable a servant.

* P. 928, Vol. XX.

THE EXHIBITION BUILDING.—The building has been formally handed over to the contractors, Messrs. Kelk & Lucas.

THE PNEUMATIC DESPATCH.—On 24th ult., the tube for the conveyance of letters, parcels, newspapers, and packages, on the pneumatic despatch principle, and which has been carried underground between the railway clearing-house of the London and North-Western Railway, in Seymour-street, Euston-square, and the North-Western District Post-office, in Eversholt-street, Hampstead-road, was completed. The engine-house is a brick building on the London and North-Western Railway Company's station. The engineers, Messrs. Rimmell & Clark, report to the directors that the tube will be ready for public traffic early in January.

DEMOLITION OF THE SOHO MANUFACTORY.—The celebrated Soho, at Birmingham, we learn, is to be destroyed, to make room for improvements in the neighbourhood. It was erected by Matthew Boulton in 1762-63-64. Here it was that Matthew Boulton gathered around him the talent, the skill, and ingenuity available in Europe. Here Watt brought his steam-engine to perfection. Here Rennie studied and worked, and also Flaxman and Wyon. Soho is also associated with many other well-known names, such as Eginton, the glass-stainer; Murdoch, the inventor of the first locomotive steam-engine, and the discoverer of gas-light; as also Priestley, Franklin, Small, Black, Edgworth, Darwin, Johnson, and others of "the Lunar Society."

INSURANCE OF WORKMEN'S TOOLS.—Sir: I agree with your suggestion that all employers should insure their workmen's tools, as the men cannot easily do it for themselves. I have done so for several years past without letting my men know it, in case some evil-disposed workman might be careless, or, perhaps, worse, in order to make a claim beyond the value of his tools. All carpenters' shops should be lighted with gas where possible, and no wood fires allowed for heating the glue-pot. A notice should also be put up that any man found smoking in the carpenter's shop should be liable to instant dismissal. With these regulations there would not be greater risk with builders' shops than with others where combustible materials are stored.—A BUILDER.

SHORTEN THE BACK LEGS OF YOUR CHAIR.—I will tell you a secret worth knowing. A thousand things not worth half as much have been patented and elevated into a business. It is this: If you cut off the back legs of your chairs, so that the back part of the seat shall be 2 inches lower than the front part, it will greatly relieve the fatigue of sitting, and keep your spine in better shape. The principal fatigue in sitting comes from your sliding forward, and thus straining the ligaments and muscles in the small of the back. The expedient I have advised will obviate this tendency; and, as I have suggested, add greatly to the comfort and healthfulness of the sitting posture. The front edge of a chair should not be more than 15 inches high for the average man, nor more than 14 inches for the average woman. The average chair is now 17 inches high, for all, which no amount of slanting in the seat can make comfortable.—*Lewis's Gymnasium.*

DISCOVERY OF MURAL PAINTINGS IN NORWICH CATHEDRAL.—In the course of erecting, in the south aisle of Norwich Cathedral, a series of mural tablets, the workmen have discovered in the three central arches of the arcade, beneath the window, some ancient mural paintings. According to a local paper, the easternmost one was the most perfect; and in the upper part, in capital letters, was distinctly to be read S C S. WLSTANVS. St. Wulstan, who was Bishop of Worcester (1062-1095), is represented receiving his pastoral staff from King Edward the Confessor. Of the king, however, very little remains but the head and shoulders. The painting in the next arch is very imperfect, and the name is illegible: the figure, which seems to be that of a female, and may represent St. Etheldreda, is represented kneeling, with joined hands, and arms extended, as if in supplication: there is a crozier at her side and a crown above her head. The third painting represents a bishop; for the outline of the mitre and remains of the pastoral staff can be distinctly traced. Here, also, unfortunately but a letter or two of the name remains. St. Wulstan was not canonised until 1203: these paintings, therefore (being all executed at the same period), cannot be earlier than the thirteenth century. Judging from the shape of the mitres, they belong to the fourteenth; but appear at some subsequent period to have been in part repainted, and were probably hidden from view at the Reformation. Drawings and tracings have been made.

THE THAMES TUNNEL.—During the week ending 27th of December, 27,297 passengers passed through the tunnel, paying in tolls, 113*l.* 14s. 9d.

QUEEN'S (WESTMINSTER) RIFLE VOLUNTEERS. On Friday evening, the 19th ultimo, the members and friends of the 10th company (Messrs. G. Trollope & Sons), or Second St. Margaret's, had their annual meeting at the Freemasons' Tavern. Nearly 200 *employés* of the firm sat down to supper. Captain Trollope was in the chair, supported by his partners, Captain and Adjutant Morris, Captain Rose, and many of his brother officers. By the permission of Earl Grosvenor, the band of the regiment attended, and an agreeable evening was spent.

ORIGIN OF PETROLEUM.—Dr. J. B. Edwards, in the *Pharmaceutical Journal*, remarks that the flow of oil from mineral springs is by no means new, either to science or commerce. Herodotus has recorded that the island of Zante furnished large quantities, while Pliny and Dioscorides describe the oil obtained from Agrigentum, a small town of Sicily. The Persian springs at Bakoum have yielded to the value of 600,000 dollars annually; and the earth oil from Rangoon, in Burmah, has been exported to the extent of 400,000 hogsheads yearly. The streets of Genoa and Amiens were formerly lighted by a petroleum obtained from Parma. In 1847 a spring was discovered in Yorkshire, which was successfully worked by Mr. James Young, of Glasgow, until exhausted, when he turned his attention to the distillation of coal, and discovered paraffine oil. The marvellous oil-springs of the New World, however, far surpass in extent and interest all previous discoveries; and the quantities already yielded, without apparently diminishing the supply, show that this will be a most important article of commerce for some years to come.

CHARRED TAN AS A DEODORIZER AND ABSORBENT OF NIGHT SOIL.—At the Maidstone Farmers' Club, Mr. H. Martin, secretary to the Central Cottage Improvement Society, has given some account of experiments of his with charred tan from tan-yards as an absorbent and deodorizer of night-soil. For use in rural cottages and other country residences, charred tan may be of service, at least where it is easily attainable; but the Rev. Mr. Moule's use of mere earth for such a purpose is certainly preferable, as being much cheaper and more practicable. Besides, charred tan is just charcoal; and no doubt the tan is not essential; and indeed charred peat, and other forms of charcoal, have been already used for the like purpose; but even charred peat has been found too costly; and as for tan, the supply must be very restricted, compared with the contemplated uses over all the country. Moreover, if charcoal, as is believed, destroys foul gases when used at a ventilator, it is likely to destroy the ammonia which Mr. Martin believes it only to absorb and retain; and an experiment at a gaswork is said to have shown that the odour expelled from his "black ash" was not that of ammonia at all.

THE NORTH STAFFORDSHIRE INFIRMARY QUESTION.—It having been found that, notwithstanding the erection of a new wing to the old building, the occurrence of mines beneath the site was undermining and dilapidating the hospital, and reducing it to a dangerous state, the governors proceeded to the consideration of what was to be done in the circumstances. It was at length resolved to purchase a new site for the hospital, and also to establish local dispensaries in aid of its objects. A site at the Mount was purchased, and some forty or fifty plans for a new hospital were also obtained. Such was the state of matters when an agitation against the removal of the hospital was got up in the Potteries, and meetings have recently been held on the subject. An endeavour has also been made to rescind the resolution come to by the governors and their committee, although a deposit of 300*l.* has been paid towards the purchase money of the site, and a very stormy meeting of the governors has been held with that view; but nothing definite was effected. In the course of the confused discussion which took place, some of the governors insisted that the present hospital was quite safe, and one (Mr. Peake) offered to bind it up effectually with iron rods; but another (Mr. Garner) stated that he thought the chief objection to the infirmary was not its instability, but the deficient supply of air and ventilation. There were only 670 cubic feet of air for each patient, whereas the smallest proper quantity was 1,500, and very often 2,000 were provided. Mr. Garner then entered into details for the purpose of showing the disastrous effects which had in former years attended the crowding of the hospital. The meeting broke up in great confusion without undoing anything that had been done.

THE ROYAL ACADEMY.—The silver medals in connexion with the Royal Academy for the present year have just been awarded to Mr. Henry Thomas, for the best drawing from life; to Mr. Francis Holt, for the best drawing from the antique; to Mr. Thomas Webb, for the best perspective drawing; and to Mr. George Hall, for a specimen of shadow drawing.

SANITARY CONDITION OF GRANTHAM.—Fever has been very prevalent in Middlemore-yard, there having been as many as fifteen cases in that locality, which contains only thirty-two small tenements. The road runs from Castlegate to the river, and is mostly in a very wet and dirty state; and some gentlemen, it is said, are exerting themselves with the object of having it drained and improved.

ELECTRO-TELEGRAPHIC PROGRESS.—The Syrian telegraph is now open as far as Ourfa, at the top of the Desert, beyond the Euphrates. A branch line extends from Diarbekir to that point, and will be carried on thence in a few weeks to Aleppo, whence communication will be established with Damascus and Beyrout. From the latter station a line will run down the coast connecting Latakia, Tripoli, and Alexandretta. Another line will run north to Karffa, Jaffa, and Jerusalem.

DIAMONDS USED FOR BORING INTO HARD ROCK. An instrument for this purpose is now being employed in France, made out of a tube furnished with a circular cutter of rough diamonds. It is caused to revolve, and as it enters into the stone the cutter scoops out a cylinder, which is afterwards easily taken out of the tube. Holes in hard granite for blasting purposes, 47 millimètres in diameter, and from 1·10 mètres to 1·20 mètres deep, are thereby bored in one hour.

SANITARY IMPROVEMENT OF DUNDEE.—A subcommittee of the Sanitary Committee of Police at Dundee recommend that the whole streets of the burgh be paved by the commissioners, or by owners of property, as required by the Police Act;—that, with scarcely an exception, the existing public conveniences be removed, and new ones be constructed on sound sanitary principles, and that there be a large addition to their number;—that ash-bins of an improved description, furnished with patent stoppers be extensively distributed through the closes and lanes of the town, and the present ash-bins repaired or removed;—that the closes, lanes, and courts of the town be daily scoured with water;—and that, as respects Lochee, the streets be paved or otherwise made good.

ENGLISH IRONWORKERS FOR RUSSIA.—Within the last two months a number of men have left the Dowlais and Rhymney Ironworks for Russia. A gentleman connected with the Government of that country came over and selected some of the best workmen connected with these works, and the wages agreed to be paid to them were from 12*l.* to 20*l.* per month, being double and treble the money they earned in Wales. It appears that large ironworks are about to be started in Russia; and, as metallurgy and iron-making are comparatively unknown, the far-seeing Muscovites no doubt thought it would be well to have some practical men from this country. One of the party is expected to return shortly, it having been determined to secure the services of a few Welsh colliers as well.

LIVERPOOL ART UNION.—At the annual meeting of the subscribers to this art-union, Mr. W. G. Herdman, the secretary, entered into an explanation of the circumstances which had led to a decrease in the sale of tickets in various parts of the kingdom, and, complaining of the misrepresentations made by some speculative art-unions established for the purpose of profit, urged that the members should memorialise the Home Secretary to interfere in the regulation of some of the art-unions, which, it was alleged, were putting forth misstatements as to the advantages which they conferred, with a view to deceive the public and increase their business. Mr. Ewbank, as an artist, condemned as disgraceful the conduct of some of the newly-formed art-unions in perverting the patronage afforded to the encouragement of art by Government to private purposes of gain. In giving a greater premium to their agents than other art-unions, such new schemes were guilty of robbery upon the public, by beating down the artist in the purchase of his paintings, and then palming them upon the prize-holders at their original price in the catalogue, such unions were chargeable with robbing the artists and the public also. The report stated that the income of the society during the year had been 1,060*l.*, and the expenses 245*l.* 7s. 10d.; leaving a balance of 815*l.* to be spent in pictures.

CHATHAM.—The Government authorities have entered into a second contract with Mr. K. Spicer of Strood, for the erection of the second portion of the Commissariat Establishment, Chatham, including officers' quarters, barrack-rooms, quarters for superintendent and non-commissioned officers, cook-house, bakery, brewery, stables, cart-sheds, road-making, &c.——The Roman Catholic chapel is progressing. It stands on an area of 100 feet by 50 feet. The inside of the church is divided into nave and side aisles. The architect is Mr. H. Clutton, London.

THE FEN DRAINAGE.—The wind and tide on Sunday last made a complete wreck of Mr. Page's dam at the entrance of the Norfolk Marshland Smeeth and Fen drain. The dam has now been in course of construction since October, and about 3,000*l.* have been expended upon it. At a meeting of the committee of the district at Lynn, on Tuesday, it was resolved to rescind the appointment of Mr. Page, as engineer, and the dam and bank have been entrusted to Mr. W. D. Harding, C.E., of Lynn, with whom a committee has been appointed to co-operate.

TENDERS.

For re-building 47, Parliament-street, 1 and 2, Derby-street, S.W., for Messrs. Watson & Overend. Mr. H. R. Abraham, architect. Quantities by Mr. E. W. Crocher and Mr. A. T. Abraham:—

	Portland Stone.	Lisbury Stone.
Cubitt	£18,999	£18,810
Lucas, Brothers	18,830	18,3 0
Trollope	18,389	17,842
Piper & Wheeler	18,490	17,990
Flint	18,173	—
Ashby	17,400	16,900
Holland & Hannen	16,849	16,300
Myers & Son	16,751	16,055

For rebuilding the Coppice Shiplake, near Henley-on-Thames, for Sir R. Phillimore, Queen's Advocate. Mr. Henry Clutton, architect. Quantities by Mr. E. W. Crocher:—

Macey	£3,833	0	0
Myers & Sons	3,391	0	0
Anson	3 380	0	0
Piper & Wheeler	3,191	0	0
Foster	3,180	0	0

For house, John-street, for Mr. C. S. Butler, M.P. Mr. Reddell, architect:—

Piper & Wheeler	£835	0	0
Amos	830	0	0
Livermore	819	0	0
Ashby & Sons	810	0	0
Heath	794	0	0
Scott	794	0	0
Pritchard & Son	785	0	0
Macers	720	0	0

For rebuilding No. 26, Widegate-street, Bishopsgate. Mr. James Harrison, architect. Quantities supplied by Mr. A. W. Q. Nicholl:—

Richardson	£847	0	0
Patman & Fotheringham	779	0	0
Ashby & Sons	759	0	0
Ennor	657	0	0

For alterations, The Perseverance, Southgate-road, Kingsland. Mr. Harrison, architect:—

Patman & Fotheringham	£526	0	0
Hodges	487	0	0
A. & J. Smith	427	0	0
Ennor	389	0	0

For converting premises, Hatfield-street, Goswell-street, into a ragged school:—

West	£176	0	0
A. & J. Smith	174	0	0

For new Congregational Chapel, Guildford. Mr. Henry Peak, architect, Guildford:—

Sharpington & Cole	£2,787	0	0
Young & Co.	2,750	0	0
Swayne	2,496	18	0
Mitchell	2,493	0	0
Goddard	2,413	0	0
Barnes	2,390	0	0
Nye	2,380	0	0
W. & T. Smith	2,375	0	0
Moon	2,330	0	0
Simms	2,209	0	0
Harris	2,280	0	0
Pollard	2,262	10	0
Garnett	2,252	0	0
Mason & Son	2,167	0	0
C. Smith	2,120	0	0
T. & J. Loe (accepted)	2,100	0	0
West	2,041	10	0

The above is exclusive of glazing, staining, lighting, and warming.

For cabinet and counter for Mr. E. Villiers, of the London-road, exclusive of glass and pewterer's work. Mr. W. Paice, architect:—

Mills	£152	0	0
Grimes	143	0	0
Bottom & Co.	114	0	0
George	101	10	0

For new lodge and alterations to house at Millfield, near Leatherhead, Surrey, for Mr. Henry Hansard. Mr. G. R. Burnell, architect:—

Sherburne	£1,278	10	0
Lawrance	1,182	0	0
Carruthers	1,166	0	0
Colls & Co	1,150	0	0
Longmire & Burge	1,148	0	0

For the erection of a pair of semi-detached villas in Edward-street, St. Leonards. Mr. J. Ford Mackenzie, architect. Quantities supplied :—

Renwood	£1,579	10	0
Howell	1,520	0	0
Parks	1,487	0	0
Russell, Campbell, & Bourne	1,480	0	0
Vidler	1,392	14	3
Palmer	1,375	0	0
Wood	1,337	0	0

TO CORRESPONDENTS.

Lymington (power of recovery for work not in bill of, quantities depends on wording of the contract).—J. H.—B. H. (can look back himself).—R. B.—R. H.—Delta (certainly not too much if the work be properly done) —W. O.—Patent Ventilating Grates (several inquirers must be referred to our advertising pages We cannot supply addresses).—H. B. & B.—T.—J. P. B.—G. H. (thanks).—An Unemployed Workman —Rev. Mr. L.—G. L.—C. L.—E. H. T.—W. G.—A. T. (the jury report referred to has not reached us). — C. C.—C. S. C.—C. N. B.—E.—J. H. E.—C & Co.—H. P.—W. H.—G. O.—J. D. E. (we have no further information).—S. P. (Parliament-street). A. W. B. (in type).—T. A. C. (ditto).

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

The INDEX to volume of last year will be given in our next.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

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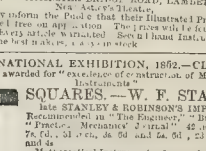
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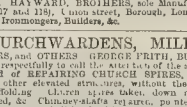
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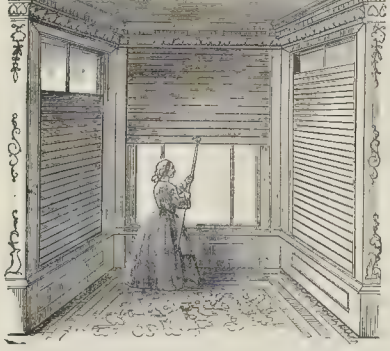
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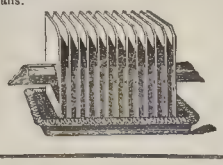


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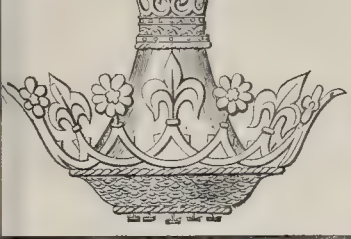


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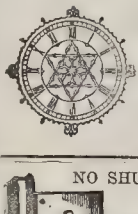
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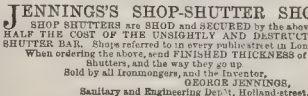
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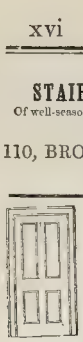
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1-inch „	14s. 6d.	15s. 0d.	15s. 6d. „
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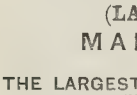
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⅞ by 7 „	13s.	13s. 6d.	14s. 6d. „
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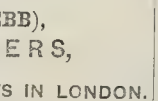
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LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
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FOOT OF BATTERSEA BRIDGE, CHELSEA.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Earp's Mine Works, Holywell, Flintshire
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Where it can be obtained, of the best quality:—
GREY STONE, CHALK, FLARE, and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BRENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Dressed to WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS
Plain, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY POTS.
TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall, and at the Works.

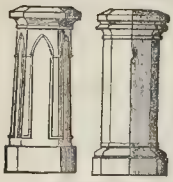
JAMES STIFF & SONS,

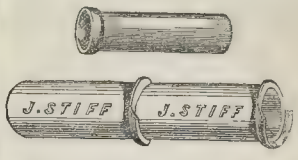
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.

TRAP, 2s.

HALF SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of re-laying further connexion is

Manufactures taken also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION-SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground, adapted also for vents and

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED SANITARY GOODS.



FLUSHING CLOSETS, URINALS, CHIMNEY-FLUES, &c.

N.B.—No MEMBER of this FIRM was on the SUB-COMMITTEE of CLASS 10 or 35.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET PANS, at the price of the commonest description of earthenware

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME obstructions removed, and CAP-JUNCTIONS of any size inserted on the event of further connections being required without breaking pipe, ordered during the flow clearance

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, S.; or from the WORKS, near POOLE, DORSET.

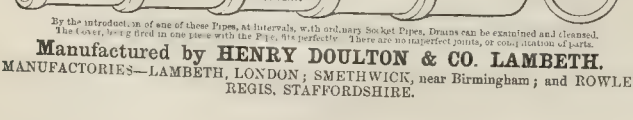
Illustrated Lists with full Particulars and Prices may be obtained of

WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

A GOOD DRAWING-DOCK AND LANDING WHARF.

*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent-street, W

DOULTON'S PATENT OPERCULAR PIPES.

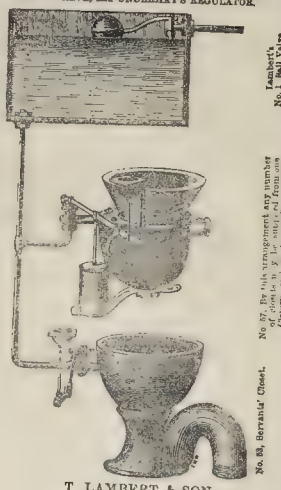


By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fired in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.

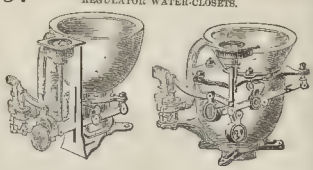
MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is obtained. Any number can be worked by one supply pipe. No cisterns, valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London.





UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermittent supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency guaranteed, several of them have been sold, and no instance of failure has occurred

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

F. G. UNDERHAY

now prepared to execute HIS OWN ACCOUNT the Original Regulator Water Closets, Valves, Gas Meters, &c. on the same premises

CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

OSLEY POTTERY WORKS, GLASGOW

Messrs. R. H. PENMAN & CO. from Staffordshire, Manufacturers of the best description of EARTHENWARE GOODS for Sanitary Purposes required for private and public buildings, supply the Trade, Wholesale, at the lowest possible prices for Cash. The Ware sent by their customers to the late Exhibition was highly spoken of

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862, FOR EXCELLENCE OF MANUFACTURE AND BEAUTY OF DESIGN.

THE ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAND MOSAIC TILES, also SUPERIOR TESSELLATED TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs, &c.; as also for external decoration, as plinths, friezes string courses, pilasters, &c. and white glazed tiles for baths, dairies, &c.; also, for Architectural Pottery Company's patent orange tree Boxes. Various specimens of the above may be seen, and every information obtained at the Offices of the Company, No. 26, Parliament-street, S.W. Specimens also on view at the Galleries of the Architectural Exhibition, 9, Conduit-street, Regent-street; Kensington Museum, the Fine Arts' Academy and the Crystal Palace, Sydenham. Address, The Architectural pottery Company, 26, Parliament street, S.W., or Poole, Dorset.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED 1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. The Asphalte is now extensively used for paving Stables (as shown above), the absence of Gases preventing the generation of Ammonia. For Estimates and Prices, &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE ENGINES, STEAM WORK, &c.



No. 35.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty five feet in depth.

Diameter of Barrel	Height.		£	s	d
2½ in. short	1 ft. 7 in	Fitted for lead, gutta percha, or cast iron pipe.	0	13	6
2½ „ long	3 ft. 3 in.		1	4	0
3 „ long	3 ft. 6 in.		1	15	0
3½ „ long	3 ft. 6 in.		1	19	0
4 „ long	3 ft. 6 in.	Fitted for galvanized iron pipe.	2	6	0
2½ „ short	with 1 feet of lead pipe attached, ready for fixing		1	15	0
2½ in. long	ditto, ditto		2	0	0

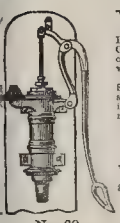
No. 36½.

WARNERS' IMPROVED CAST IRON

LIFT AND FORCE PUMP,

The Barrel lined with Brass.

2½ inch	£2	10	0
3 „	2	12	0



No. 69.

WARNERS' PATENT

BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive rings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

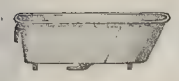
2½ inch	£1	4	0
3 „	1	5	0
3½ „	1	6	0

Larger sizes when required.

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3	10	0
3 „	4	0	0



WARNERS'

Baths can be had of either Copper, Zinc, or Galvanized Iron. Prices from 27 Jos. each. J. W. & SONS also supply all Fittings requisite for the same.

TWO PRIZE MEDALS FOR BELLS HAVE BEEN AWARDED TO JOHN WARNER and SONS,



AT THE GREAT EXHIBITIONS IN 1851 AND 1862.

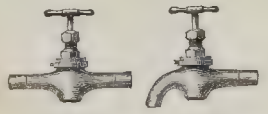
Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in Peals.

TUNED BY MACHINERY.

Old Bells recast or taken in Exchange.

An experienced Bell hanger sent to inspect, report, and advise on the state of Peals out of repair. Estimates furnished for New Oak Frames and Fittings, and for Repairing Old Ones

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.



No. 384. No. 383.

WARNERS' HIGH-PRESSURE COCKS

are made with Gland Stuffing boxes and Loose Valves. They can always be made sound after wear, and releathered with facility.

All Warners' Cocks are tested with 80 lbs. Pressure.

Improved Ball Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.

JOHN WARNER & SONS

HAVE BEEN AWARDED A PRIZE MEDAL FOR THEIR NEW

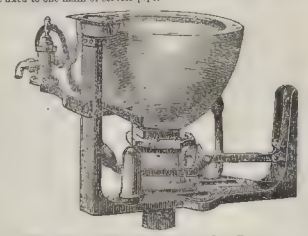
CHIMING APPARATUS,

by means of which a lad may correctly play a great variety of chimes upon peals of six, eight, or more bells. Several have since been fixed, and give great satisfaction

Prices and further particulars furnished on application at the Manufactory, 8, Crescent, Cripplegate, London.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service-pipe.



No. 1458.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin £3 15 0
Sunk Handle, extra 0 3 0
Blue Basin, extra 0 1 6

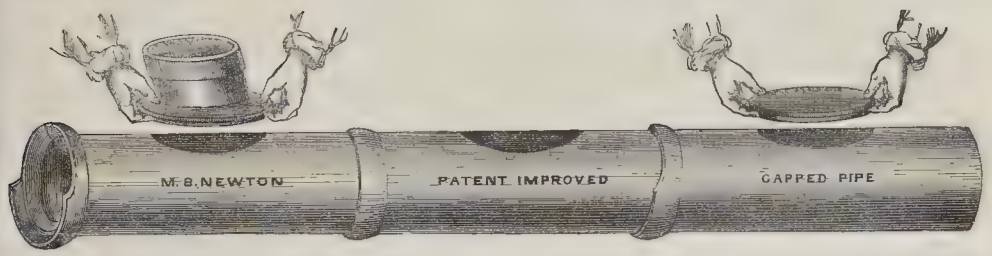


No. 1484.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0
Sunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0

The above prices are subject to a liberal discount.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.



The ABOVE INVENTION WILL RECOMMEND ITSELF to Architects, Engineers, and others interested in Drainage, for its SIMPLICITY of construction; there being NO COMPLICATION OF PARTS.

The "Manhole" is sufficiently large to admit of the DRAIN being THOROUGHLY CLEANSED WITHOUT A SINGLE PIPE BEING REMOVED.

It DOES NOT at all INTERFERE WITH THE FLOW OF WATER in the Drain.

It IN NOWISE WEAKENS THE PIPE; and

It ADMITS of the ready INSERTION OF A JUNCTION by removing the "Manhole" cover, and replacing it with a loose Junction Arm.

Manufactured solely by

JOSEPH CLIFF & SON, WORTLEY, near LEEDS;

For MARCUS BOURNE NEWTON,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, LONDON, N.

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS,

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart VENTNOR, ISLE of WIGHT.—Second Testimonial.—"March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least appearance of difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY ROAD, LONDON.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,

VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

SALES BY AUCTION.

TO IRONMONGERS, BUILDERS, ENGINEERS, SHIP CHANDLERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on MONDAY, JANUARY 12, and following days, at ELEVEN precisely, on the PREMISES South-lane, Upper Thames-street, in 4, lots, without reserve the extensive STOCK-IN-TRADE of Messrs Crowley, Millington, & Co, including many tons of cast, steel, and wrought-iron, chain, cables, ropes, oil bir ges generator, anvils, vices screw and rack jacks, shovels, spades and forks, grindstones, cross saws, cc chisels, files, bolt and tree chains, ships' ironmongery, kedge anchors, hooks, thimbles, &c; export ironmongery, West India locks, bills, and a large and general assortment of black ironmongery.—To be viewed on Saturday previous and mornings of sale, when catalogues may be had on the Premises; of F. W. EDWARDS, Esq. Official Assignee, Basinghall-street; of Messrs. ANDERSON & REE, 5, LAW, Solicitors, 24, Bush-lane, Cannon-street; and of Messrs FULLER & HORSEY, 13, Billiter-street, London, E.C.—At record bills at three months' date will be taken from purchasers to the extent of £50 and upwards.

TO GAS ENGINEERS, GAS-MILLER MAKERS, AND OTHERS.—In BANKRUPTCY.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, in lots, without reserve, on THURSDAY, JANUARY 15, 1863, and following days, at ELEVEN, on the PREMISES, Great Peter-street, Westminster, the extensive STOCK IN TRADE, PLANT, and UTENSILS of Mr Edward Gas meter maker and gas engineer, including 1,000 finished gas meters (wet and dry), from 3 to 600 lights; including 150 French meters, 200 gasellers of elegant designs, 2 to 8 lights, lacquered and bronzed, including one rise and sink fountain gasolier, as used for a club or concert-room, 350 low set burners, 60 illumination devices, 2 tons of new brass castings for meter and gas work, 7 cwt. block tin (Hamb & Flag), 10 cwt composition tube, 1 lb pipe, 1,500 feet iron gas tubing, 36 gross T pieces, elbows, sockets, plugs, &c., 11 boxes dies, 4 turn brass and white metal patterns and core boxes, 4 gas cooking-stoves, 8 fly and stamping presses, 3 tons steel faced dies and punches, 36 turning lathe, planking anvils and hammers, bench stakes, 3 set bending rolls, 2 cwt. chair cutting and turning up machines, fire pots, forges, and bellows; over-head travelling crane, Pooley's 2-ton weighing machine, fittings of brass Laundry and smiths' shop, a large assortment of stocks, taps and dies (gas thread), steel tools, rod and bar iron, metal and iron flasks, moulding troughs, hot-water apparatus, with 300 yards of pipe, fittings in hanging and joinery shops and in warehouses and show-room; capital office furniture, fire-proof safes, mahogany bookcase, large collection of working drawings and designs for gas works and gas engineering, van, 2 carts, 2 horses, and numerous other effects. To be viewed on Wednesday previous to the Sale; when catalogues may be had on the Premises; of H. H. STANSFELD, Esq. Official Assignee, No. 14, Basinghall-street; of Messrs. DEPREE & AUSTEN, Solicitors, 23, Lawrence-lane, Cheapside; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

In re the Patent Bituminized Pipe Company (Limited).—Costly Plant, Machinery, and Stock-in-Trade, Old Ford.

MESSRS. FULLER & HORSEY are instructed by the Official Liquidator to SELL by AUCTION, on THURSDAY, JANUARY 22nd, and following days, at ELEVEN o'clock each day, in lots, without reserve, upon the PREMISES, Old Ford, by order and on account of the Official Liquidator, the whole of the costly PLANT and MACHINERY used for the manufacture of patent bituminized pipes fitted with the best joints, principally by Heath and Whitehead, including four boilers, one double and three single cylinder steam engines, of 14 inches stroke, 220 barrel iron pipe moulds, 3 wrought iron jib cranes, 2 cwts., 2 wrought iron bitumen pans, 8 open steel iron pan brickwork, horizontal high pressure steam engine, of 14 inch power, wrought-iron 3 coiled steam boiler, 25 feet by 7 feet, by 7 inch, with shafting, 50 pulleys, 1 lathe for boring bush, 1 planing machine, 1 punching machine, 1 set of edge runners, 2 chains, portable crane on wheels, trucks, driving chain, smiths' tools, 3 cwt. of various description of iron, and loose iron, rails, rope, twine, vulcanized india-rubber flanges, 8 cwt. red, white, bluestone, black lead, 6 tons pan brick clays, and iron coupling, 3 tons 1 ton pipes, 1,000 yards patent air tubing, 1,000 feet 12 inches, under, 1,000 feet 8 inches, 500 feet 6 inches, and numerous other effects.—To be viewed two days prior to the sale, when catalogues may be had on the Premises; of E. W. EDWARDS, Esq. 23, Basinghall-street, E.C.; of Messrs. LAWRANCE, PLEWS, & BOYER, Solicitors, 14, Old Jewry-chambers, E.C.; and of Messrs FULLER & HORSEY, 13, Billiter-street, E.C.

Preliminary Advertisement.—Wigham's Mill, near Newcastle-on-Tyne.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, JANUARY 28, at ELEVEN, on the PREMISES, unless an eligible offer be previously made by private contract, the ROLLING MILL, fitted with the requisite machinery for rolling bars and plates, together with the tenants' fixtures, and the whole trade, building, and plant belonging to Messrs. Crowley, Millington, & Co. The mill is situate about distance from Newcastle, and is substantially new, and is driven by the motive power of a never-failing stream. Particulars will shortly be ready, and may be obtained of E. W. EDWARDS, Esq. 22, Basinghall-street; of Messrs. VANDERSTEM, REE, & LAW, Solicitors, 24, Bush-lane; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

Drayton-green, Ealing, within 400 yards of Great Western Railway Goods Station, Middlesex.

MESSRS. KING & SON will SELL by AUCTION, on the PREMISES, as above, on WEDNESDAY, JANUARY 7th, 1863, at ELEVEN o'clock, the PLANT and STOCK-IN-TRADE of a brick and Tile Maker, the property of Mr. James Cotterell, comprising a powerful 8 horse-power double cylinder steam and tile brick machine, with table, dies, &c., complete, by Whitehead, of Preston; a smaller ditto, by Williams, of Bedford; planks, sand, pallets, and driving harness, pug-mills, fire and fire brick-tables, chalk shoots, 82 dozen, new board and straw hack cape, moulding boards, wheelbarrows, 12 plates, planks, 200 kiln bars, six brick carts, a dog cart, with lamps, six sets of cart harness, chaise harness, pony harness, 30,000 close kiln bricks, 5,000 fire bricks, socket-pipes, punnets, hot-house pots, seed pots, twenty-one dozen hurdles, two useful horses, a stump of straw, hay, chaff-box, corn-bin, useful timber, and various effects.—May be viewed, and catalogues had at the Place of Sale, or of Messrs. KING & SON, Auctioneers

BEDFORD LUNATIC ASYLUM.—EXCELLENT BUILDING MATERIALS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the Premises close to the town, on the Ampthill-road, on MONDAY, JANUARY 12th, at TWELVE for ONE o'clock in the afternoon, the third portion of the BUILDING MATERIALS of the late County Lunatic Asylum; comprising about 60,000 stock bricks, a quantity of floor tiles, slates; deal timber, consisting of beams, joists, rafters, excellent floor-boards; strong doors and frames, windows, bricklath, paving stone, iron grates and spouting, three cl. bonded partitions, principals, laths, 1 st water apparatus, stores, staircase with iron rails, iron fencing, &c.—May be viewed on Friday and Saturday preceding the sale. Catalogues may be obtained of the Foreman on the estate, and of the Auctioneer, 14, Moorgate-street, E.C.

LONDON, CHATHAM, and DOVER RAILWAY. — Metropolitan Extensions. Twenty-fifth Clearance Sale. — Building Materials of Sixty Houses southwark.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on MONDAY, JANUARY 12, at TWELVE, in lots, all the valuable BUILDING MATERIALS of about SIXTY HOUSES, stores, workshops, and premises, situate in Charlotte-street, Blackfriars-road, Upper Ground-street, Broadwall, New Surrey-street, Webber-street, Hill-street, and Great Suffolk street, Southwark; comprising about stock bricks, wood timber and shortings, slates, rushes, large plate glass skylights, doors, and interior fittings, pan and plain tiles and slates, stone paving, coping, and sills, lead gutters and pipes, iron sheds, stoves, and other useful effects as fittings to. May be viewed and Catalogues had at Mr. VIGERS'S Offices, 3, Frederick's place Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 30, Fore-street, E.C. and 40, Parliament-street, Westminster, S.W.

GREAT ST. HELEN'S.—Extensive SALE of BUILDING MATERIALS of Whittens's Gun Factory and Warehouses, covering a quarter of an acre of ground.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, JANUARY 12, at TWELVE, in lots, the whole of the capital BUILDING MATERIALS of WHITTONS GUN FACTORY, extensive WAREHOUSES, and PREMISES, in Great St. Helen's, Bishopsgate-street; comprising 400,000 excellent bricks, paviours, and stocks; 70,000 plain tiles, 30 tons of lead in gutters and pipes, about timber roofs, 250 squares of boarded and timber floors, 20 squares of granite paving; 30 pole doors, entrance gates, York paving, 500 feet coping, stone cills and stringing; 50 feet range of iron railing, 12 feet by 6 feet; four iron doors, crane at 1 ton copper tank, and numerous materials and fittings up.—May be viewed on Saturday previous. Catalogues had of C. J. CORBETT, Esq. and of PULLEN, HORNE, & EVERSFIELD, 30, Fore-street, City, E.C. and 40, Parliament-street, S.W.

HANWELL GREEN, MIDDLESEX.—Valuable Freehold Land, Dwelling-houses thereon, at present producing 112l. per annum, capable of great improvement.

MR. FRED. GODWIN will SELL by AUCTION, at the MART, on THURSDAY, JANUARY 8th, 1863, at ONE o'clock, in one lot, under a power of sale and after recovery in regulement, a valuable investment; comprising a large PLOT of LAND, and FIFTEEN BUILDINGS and SHOPS thereon all well tenanted, producing 112l. per annum. The property has two frontages, shops on the high Road, and is close to the passenger station of the Great Western Railway; and parties who look out for a sale may be had fourteen days prior to the sale, of Mr. T. F. CREW, 7, Staple-inn, Solicitor, Holborn, Solicitor; at the principal Inns at Ealing, Hanwell, and Uxbridge; of Mr. SQUIRES, Auctioneer, Hanwell; of Mr. BATTEY, Builder, Boston-lane, Hanwell; at the Mart; and at Mr. GODWIN'S Offices, 3, Hatkin terrace, Belgrave-square, S.W.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 400 yards only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain such restrictive clauses as may be deemed necessary to secure a specified time. LAND also TO LET at Blackheath, Tottenham, Kingston; some very eligible SITES in the Grove-road, Mile-end, a few of which are already let to shops, and large and very CHEAP PLOTS TO LET, at Ealing.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

PHILBROKE ESTATE, at Leytonstone, on the Woodford and Loughton Railway, twenty minutes from Broad-street and Bishopsgate Stations.—This valuable FREEHOLD ESTATE, in the most rising part of the Station, healthy and picturesque locality, gravelly soil, excellent drainage, water and gas in the roads, is now offered for building on the estate, it is proposed TO LET in Plots suitable for building detached and semi-detached villas. Repeated applications have been made for houses in the neighbourhood.—For terms, apply to Mr. ATHEY, at the Surveyor's Office, Philbroke Estate, Leytonstone, Essex.

CRYSTAL PALACE (close to).—Valuable BUILDING SITES TO BE LET or SOLD, within a few minutes' walk of Sydenham Hill Station, forming a handsome roadway of considerable width. The supply of houses in the neighbourhood of so far made out to the demand, the position being undoubtedly one of the most favourable and convenient in the vicinity of both its healthy salubrity, picturesque scenery, proximity to the Crystal Palace and Park, facility of access to the City and West-end, will always insure to the locality a high rank in popular estimation, and remunerative rentals may consequently be relied on for any houses erected on the property, on the estate, on the setting back required for carriage entrances by a bold curve to the roadway.—Apply on the Estate, to Messrs. FOX & BOUSFIELD, Agents for the Estate, 31, Coleman-street, City

BUILDING LAND, well Timbered, with House, Stabling, &c. TO BE SOLD, at Acton, Middlesex. Upwards of 1,000 feet gravel soil, of extensive area sloping to south, double frontage; less than a quarter of a mile from a first-class railway station giving access to all parts of London. Good water supply and drainage.—May be viewed, and the owner's address obtained on the property, Grove House, Acton, Middlesex.

TO BUILDERS.

BUILDING GROUND TO BE LET, on Lease, ninety years, situate in the improving neighbourhood of Pancras-road (close to the Great Northern Hotel), where there is a great demand for shops and private dwellings. A most eligible frontage for eight or ten shops, and adjoining land for thirty or forty fourth-class houses. Sewers and roads nearly complete on the whole estate.—Apply to JOHN POOLE, Wheel Works, Pancras road, King's Cross.

FREEHOLD SITES FOR BUILDING, and FREEHOLD HOUSES, can be obtained in the best part of Prince Albert's-road, near Kensington Gore, in front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 17, Prince Albert's-road, N.W.

BUILDING LAND TO BE LET.—HACKNEY, close to the Railway Station, for fourth-class Dwelling-houses

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Advances if required, case if required.

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WANTED, on Lease or to Purchase, BUSINESS PREMISES in the vicinity of London, with a good Dwelling House and 1 Foreman's Cottage, to have a siding on station or navigable river; a good supply of water from main or well, with a few acres of ground for drying purposes, are indispensable.—Forward particulars and terms to D. F. BAXTER, Accountant, &c. 2, Guildhall chambers, Basinghall-street, E.C.

TO BUILDERS or CAPITALISTS.—To BE LET or SOLD, a valuable FREEHOLD BUILDING SITE, near London Bridge, having a frontage of upwards of 60 feet to the river, and an area of 10,500 superficial feet. A lease will be granted for a long term at a low ground-rent, or if purchased two-thirds of the purchase-money might remain on mortgage. Warehouse accommodation, with river frontage and great demand in the locality, and very large rentals would be obtained, with a comparatively small outlay. — For further particulars and cards to view, apply to Messrs. WILSON & SCOBLE, 141, Leadenhall-street, E.C.

TO BUILDERS and OTHERS.—TO BE SOLD or LET, on BUILDING LEASE, part of a very valuable FRONTAGE, to a high road in a favourite suburban district, where houses are in great demand, offering an unusual opportunity for a man of enterprise and small capital to safely and quickly realise a large and desirable profit.—Apply to H. PEACHEY, Esq. Surveyor, 1, Parliament. None but persons of good character will be dealt with, and to such liberal advances will be made.

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N.B. Sole of the Patent Graining Tools will be forwarded upon the receipt of a Post office order for 22s.

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MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (Incorporated by Act of Parliament), 25, CASSELL STREET, Covent Garden, W.C. Advances from 10l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemable on the advance can be paid off by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and of the reversion of the whole taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a stamped directed wrapper.

EDWARD HARPER, Secretary.

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The Builder.

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BUILDERS' BALL will take place at WILLIS'S ROOMS, St. James's, FEBRUARY 12th, 1863.

JOSEPH BIRD, Hon. Sec

10, Hanover Cottages, Regent's Park.

ROYAL ACADEMY of ARTS.—SYDNEY SMIRKE, Esq. R.A. Professor of Architecture, will deliver his LECTURES on the Evenings of THURSDAY, the 8th, 15th, 22nd, and 29th of JANUARY, and the 5th of FEBRUARY. The Lectures will commence each evening at EIGHT o'clock precisely.

JOHN PRESCOTT KNIGHT, R.A. Secretary.

GEOLOGY.—KING'S COLLEGE, LONDON.—Professor TENNANT, F.G.S. will commence a COURSE of LECTURES on GEOLOGY, on FRIDAY MORNING, JANUARY 23rd, at NINE o'clock. The LECTURES will be continued on each succeeding Wednesday and Friday at the same hour. Fee £2 12s. 6d.

R. W. JELF, D.D. Principal.

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A detailed Prospectus, containing Syllabuses of all the Courses of Lectures, and all other information, arrangements for boarding, &c. may be obtained by application to the Director.

THE SCHOOL WILL OPEN IN THE FIRST WEEK IN FEBRUARY, 1863.

TO ARCHITECTS.—Mr. BURBIDGE, Artist and Architectural Colourist, has REMOVED his Studio to No. 28, CRAVEN-STREET, STRAND, W.C.

GALLERIES of the ARCHITECTURAL UNION COMPANY (Limited), 9, Conduit-street, Regent-street, NOW OPEN, FREE, from ELEVEN till DUSK, daily. The Autumn Exhibition of Building Materials, Patents, and Inventions, will CLOSE, FEBRUARY 28, and must then be cleared for the Architectural Exhibition.

JAMES EDMESTON, Hon. Sec.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION. The Photographs for 1862 are now being distributed.—Apply to Mr. MOODY, 9, Conduit-street, Regent-street.

A General View of the Wells Cathedral; 10 Plates of the Third Tier of Sculptures; and a Descriptive Account extracted from Professor Cockerell's work.—Annual Subscription, One Guinea.

WILLIAM LIGHTLY, Hon. Sec.

WATER COLOUR PAINTERS' LANCASHIRE RELIEF FUND.—The EXHIBITION NOW OPEN (by the kind permission of Messrs. Day & Son), at the German Gallery, No. 168, New Bond-street, from TEN a.m. to NINE p.m. will CLOSE on SATURDAY, the 17th instant. Admission, 1s. Catalogue, 6d.

JAMES FAHEY, Hon. Sec.

Shares, One Guinea, in the allotment of the Paintings, may be obtained at the Gallery.

THE METROPOLITAN BUILDING ACT, 1855. Section 49.—The INSTITUTE of BRITISH ARCHITECTS hereby give notice, that an EXAMINATION of persons desirous of obtaining a Certificate of Competency to perform the duties of DISTRICT SURVEYOR will take place at the ROOMS of the INSTITUTE, No. 9, Conduit-street, Hanover-square, W. on THURSDAY, the 29th day of JANUARY, at TEN o'clock in the forenoon. Persons desirous to be examined must, on or before TUESDAY, the 20th day of JANUARY, send an Application, which must be accompanied by a statement, according to a form to be previously obtained at the Rooms of the Institute.

JOHN P. SEDDON, CHAS. FOR-TER HAYWARD, } Hon. Secretaries.

Conduit street, January 6, 1863.

COMPETITIONS.

TO ARCHITECTS.—WESLEYAN CHAPEL, VESTRIES, and SCHOOL-ROOMS, King-street, Plymouth.—The committee appointed to carry out the ERECTION of a NEW WESLEYAN CHAPEL and SCHOOL-ROOMS, in King-street, Plymouth, invite architects to send designs, with plans, specifications, and estimates, on or before MARCH 2nd, 1863, to Mr. JOHN HILL, Mill-lane, Plymouth. The designs which obtain premiums to become the property of the committee, who are not to be bound to adopt any of the competitors to carry out the works. In the event of the successful competitor being employed, the premium will merge into the commission. Two premiums will be given, one of 5/. and the other of 2/.—A ground plan and all necessary particulars for the guidance of architects, may be obtained on application to the Rev. J. LOUTIT, Saltash-street, Plymouth.

CONTRACTS.

CITY of LONDON, BARBERS' HALL. Important SITE for WAREHOUSES, or MANUFACTURING PREMISES, in the immediate vicinity of Wood-street, Cheapside.—The Committee of the Worshipful Company of Barbers, will meet at their Hall, on THURSDAY, the 29th day of JANUARY, 1863, to receive TENDERS, for letting on a building lease, for ninety-nine years, the extensive PREMISES, known as Barbers' Hall, situate in Monkwell-street, Wood street, comprising three houses, fronting Monkwell-street, Nos. 33, 34, and 35, part of the courtyard in the rear thereof, the passage leading thereto, and the greater portion of the Company's Hall, together with the kitchen, scullery, and outbuildings, having a frontage towards Monkwell-street of about 83 feet by an average depth of about 116 feet, and an extreme depth of about 135 feet.—Full particulars, with a plan of the property, elevation, and section of street front, also conditions of letting may be obtained, on application to the Clerk of the Company; to Mr. CHARLES JOHN SHOPPEE, the Company's Surveyor, No. 64, Doughty-street, W.C.; or to the Beadle at the Hall.—By order,

HENRY GROSE SMITH, Clerk.

4, Warnford-court, Throgmorton-street, E.C.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of a LAUNDRY, near the Hospital at Albany Barracks, Parkhurst, Isle of Wight.

Parties desirous to Tender for this work must leave their names at the Office on Fuse for the 18th JANUARY, 1863, and pay the sum of half a guinea for the Bills of Quantity, which will be forwarded to them as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Albany Barracks, Isle of Wight, January 7, 1863.

SOUTH-EASTERN RAILWAY.—To BRICKMAKERS, CONTRACTORS, and OTHERS.—The Directors of the South-Eastern Railway Company are prepared to CONTRACT with a competent party or parties for about FORTY MILLIONS of BRICKS, on their line of railway at River Head, near Seven Oaks, Kent. Specifications, plan of land upon which the bricks are to be made, with any other information, may be had on application at the Engineer's Office, London Bridge, on and after THURSDAY next, the 1st JANUARY, 1863.—By order,

S. SMILES, Secretary.

London Bridge Station, December 26th, 1862.

TO BUILDERS.—Parties desirous of TENDERING for all or any portion of the WORK required in the ERECTION of the NEW BRUNSWICK CHAPEL, North-street, Bury, Lancashire, may see the plans, specifications, and obtain quantities at my Office on and after THURSDAY, the 8th of JANUARY, 1863. Sealed Tenders, endorsed "Chapel Tender," to be sent in to SAMUEL SMITH, Esq., Treasurer, King street, Bury, on or before the 24th day of JANUARY, 1863. The Trustees do not bind themselves to accept the lowest or any Tender.

JOS. CHATTWOOD, Architect, &c.

6, Union-square, Bury, January 2nd, 1863.

CONTRACTS.

TO DUST CONTRACTORS, &c.—TENDERS are required for the REMOVAL of all DUST and RUBBISH from the MIDDLESEX HOUSE of CORRECTION, at Coldbath-fields, for One Year, from the 1st day of FEBRUARY next. Information as to quantity, times of removal, &c. to be obtained of the Governor, at the Prison, any week day, between ELEVEN and FOUR. Tenders, specifying the total charge for the year, to be sent to the Prison, addressed to the Visiting Justices, before TWELVE o'clock, on FRIDAY, the 16th instant; and the persons tendering to be in attendance there the same day at TWO. The Visiting Justices do not bind themselves to accept the lowest or any Tender.

JOHN S. SKAIFE, Clerk to the Visiting Justices.

3rd January, 1863.

BARNSLEY LOCAL BOARD of HEALTH.—Water-Works Department.—CONTRACT No. 2. To Contractors for Pipe-Laying.—The Local Board of Health of Barnsley, in the County of York, are desirous of receiving TENDERS for LAYING DOWN about 11 MILES in length of CAST IRON SOCKET PIPES and other CASTINGS. Specifications may be seen, and Forms of Tender may be had, on application to me, or to Mr. THOS. HAWKSLEY, C.E. 30, Great George-street, Westminster, S.W. on and after MONDAY, the 12th day of JANUARY instant; and Sealed Tenders must be delivered at my office, not later than MONDAY, the 2nd day of FEBRUARY next, endorsed "Tender for Pipe Laying." The Board do not bind themselves to accept the lowest or any Tender.—By order,

WM. H. PEACOCK, Clerk to the said Local Board.

Barnsley, 6th January, 1863.

TO BUILDERS, IRONFOUNDERS, and CONTRACTORS.—WELSHPOOL SMITHFIELD.—Parties disposed to TENDER for the FORMATION of a SMITHFIELD, for the Local Board for the district of Welshpool, may inspect the Plans, Specifications, and Conditions, at the Office of Mr ALFRED MERRDITH, Town-Clerk, Welshpool, and duplicates of the same at my Office, in Bridgnorth, on and after THURSDAY, the 1st day of JANUARY, 1863, until THURSDAY, the 22nd of JANUARY, 1863.

Tenders, sealed up and endorsed "Tenders for Smithfield," must be delivered at the Town Clerk, Welshpool, on or before THURSDAY, the 22nd day of JANUARY, 1863. The Local Boards do not bind themselves to accept the lowest or any other Tender

ROBERT GRIFFITHS, Architect.

Bridgnorth, December 26th, 1862.

CARDIGAN CORPORATION WATER-WORKS.—To EXCAVATORS, MASONS, and GENERAL CONTRACTORS.—The Waterworks Committee of the Cardigan Corporation are desirous to receive TENDERS for LAYING about 3,000 feet of Salt glazed Stoneware SOCKET PIPES, of 6 inch and 4 inch bore; also the CONSTRUCTION of Depositing and Service RESERVOIRS and Works connected therewith. Plans, sections, and specifications may be seen at the Office of the Mayor of Cardigan. In addition to the above, the Committee wish to receive Tenders for laying about 6,000 feet of 6-inch and 4 inch Cast-iron Socket Pipes and other Castings.—Further information may be obtained on application as above.

Cardigan, January 5th, 1863.

DORSET COUNTY LUNATIC ASYLUM. To ENGINEERS and OTHERS.—The Committee of Visitors of the Dorset Lunatic Asylum are desirous of receiving TENDERS for the EXECUTION of the various ENGINEERING WORKS and FITTINGS of the said ASYLUM, viz.:—Hot and cold water supply, steam engine for well and pumps, steam cooking, stoves, ranges, grates, fenders, wash house fittings, gas works, &c. &c. The drawings, specifications, and conditions may be inspected at Forston House, near Dorchester, on and after the 19th January instant. The works are to be done under the direction of the Committee and their Architect, Mr. H. E. KENDALL, Jun. 33, Brunswick-square, London. The Committee will not pledge themselves to accept the lowest or any Tender, and the contractor will be required to enter into a contract, and to give a bond with a sufficient security, to be approved of by the Committee, in the sum of £1,000 for the due performance of the contract. The Tenders to be sealed up, endorsed "Tender for the Engineering Works, Dorset Lunatic Asylum," and sent or delivered to Mr. JOHN BROWN, Dorchester, Clerk to the Visitors, on or before THURSDAY, the 29th instant.—By order of the Committee of Visitors,

JOHN BROWN, Clerk.

Dorchester, 6th January, 1863.

MID-WALES RAILWAY.—To RAILWAY SUB CONTRACTORS.—WORKS to LET.—EARTHWORKS, MASONRY, &c.—Messrs. JOHN WATSON & CO. of Westminster, London, are prepared to receive TENDERS for the EXECUTION of the WORKS on the South Division of the above Railway, extending from near Newbridge, in Radnorshire, to within five miles of Brecon, in Brecknockshire. Plans, sections, specifications, and forms of Tender will be ready for inspection on and after the 18th inst. at their Offices in Builth, and any other information relative thereto will be furnished by Mr. WILSON, Resident Agent. Parties tendering for greater or lesser portions of the work must forward them, sealed, and addressed "Messrs. JOHN WATSON & CO." at their Offices at Builth, and endorsed "Tender for Works," on or before the 26th inst.

Builth, January 10th, 1863

TO BUILDERS, CONTRACTORS, and OTHERS.—The British Land Company will receive TENDERS from parties desirous of CONTRACTING for the ERECTION of a BRICK SEWER, 66 feet in length, or thereabouts, in the Bow-road; and of a 12-inch Pipe Sewer, in British and Merchant Streets, 1,800 feet in length, or thereabouts, and other works connected therewith. Plans, sections, and specifications of the works may be inspected, and other particulars obtained, at the Office of the Company, 14, Moorgate-street, E.C. any day between the hours of TEN and FOUR o'clock. The Board does not bind itself to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties for the due performance of the work. The expense of the contract will be borne by the Board. Tenders to be delivered on or before THURSDAY, the 22nd instant, addressed W. E. WHITTINGHAM, Secretary.

[*For remainder of Contracts see next Page.*

CONTRACTS.

ENFIELD LOCAL BOARD of HEALTH.—Notice is hereby given, that the Enfield Local Board of Health will meet at their Office, at Enfield Town, on the 23rd day of JANUARY instant, at TEN o'clock in the forenoon, to receive TENDERS from persons desirous of CONTRACTING for PROVIDING and LAYING DRAIN-PIPES, and LAYING IRON WATER MAIN PIPES, at Enfield New Town. Plans and specification to be seen at the Office of the Enfield Local Board of Health. Tenders must be sent in on or before the 23rd JANUARY instant, sealed and endorsed, "Tenders for Pipe-drain," &c. addressed to the Enfield Local Board of Health. The Board do not bind themselves to accept the lowest or any Tender.—By order of the Board,

E. LETCHWORTH, Clerk.

Enfield, 2nd January, 1863.

TO CONTRACTORS.—TENDERS are required for the OUTSIDE PLASTERING of EIGHTEEN HOUSES at Tottenham. Plans and specifications may be seen by applying to Mr. SWALES, 29, Myrtle street, Hoxton.

TO BUILDERS.—TENDERS are invited for the ERECTION of TWO VILLAS, at Clapton. The plans and specification may be seen at my Office, any day between the hours of TEN and FIVE. Tenders to be delivered on the 21st JANUARY, 1863. The lowest or any Tender will not necessarily be accepted.

CHESTER CHESTON, Jun. Architect.

Manor Offices, January 7th, 1863.

TO SEWER and ROAD CONTRACTORS.—Hornsey Park Estate.—TENDERS are required for the LAYING DOWN of about 7000 feet run of STONEWARE PIPE SEWERS, and other incidental works in connexion therewith; also for the CONSTRUCTION and FORMATION of 3000 feet run of road on the above estate. Specifications, plans, and sections, may be seen at the Office of Mr. JAMES LOVEGROVE, Surveyor, Finsbury Lodge, Dalston-rise, Hackney, N.E. on MONDAY and TUESDAY next, between the hours of ELEVEN a.m. and THREE p.m. The lowest, or any Tender, not necessarily accepted. Tenders to be sent in on or before the 22nd inst. endorsed "Tenders for Roads and Sewers," and addressed as above.

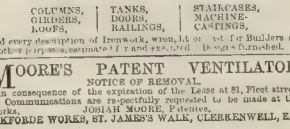
January 5th, 1863.

HART & SON,
MEDIÆVAL METAL WORKERS.



MONUMENTAL BRASSES, HERALDIC DEVICES, &c. &c.
55 TO 58, WYCH STREET, STRAND, LONDON, W.C.
SHOW ROOMS—20, COCKSPUR STREET, S.W.
Catalogues Free on application.

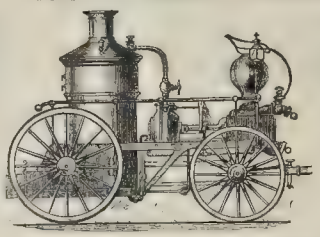
COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union street, and 254, Great Guildford street, Borough, S.E. inventor of the Rotary Shoe Point, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.
GENERAL IRON FOUNDERS, MERCHANTS, and PATTERN MAKERS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE CASTINGS,
And every description of Ironwork, wrought or cast for Builders or other purposes, executed from approved Designs furnished.

MOORE'S PATENT VENTILATOR
NOTICE OF REMOVAL.
In consequence of the expiration of the Lease at 81, Fleet street, all Communications are respectfully requested to be made at the Works, JOSIAH MOORE, Patentee,
SEKFORDE WORKS, ST. JAMES'S WALK, CLERKENWELL, E.C.

THE PATENT AMERICAN FIRE-ENGINES,
MANUFACTURED UNDER
MESSRS. WELLINGTON LEE & CO.'S PATENTS

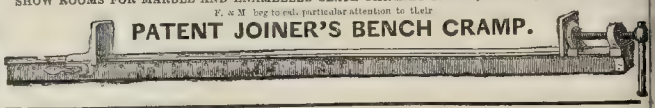


Comprise all the latest improvements brought out in America, together with some modifications to adapt them for use in this country.
These Engines are without fly-wheels, eccentrics, or dead centres, and are of considerably less weight than any others of equal power hitherto made.
Size E is capable of delivering from 500 to 1,000 gallons of water per minute, according to the height and length of hose, and weighs, in working trim, less than 3 tons.
Size F, which is the next smaller, will throw about half the above quantities, and weighs only 40 cwt.
A novel facility is given in these Engines of changing, in a few minutes, the size of the pumps, so as to throw either a very large quantity or a very high jet, as the buildings to be protected from fire may render necessary.
MANUFACTURED BY
EASTON, AMOS, & SONS,
GROVE, SOUTHWARK, S.E.

FURNER & MINN,
WHOLESALE AND EXPORT IRONMONGERS,
7, BISHOPSGATE WITHOUT, E.C.
ARE THE APPOINTED AGENTS FOR
LEA'S PATENT LUBRICATING IRON COCKS,
Which are much cheaper and more durable than Brass, offering no inducement to theft.



LEA'S PATENT SELF-ACTING ROLLER-BLIND FURNITURE, (Without Springs).
LEA'S PATENT LOCK BOLTS, FOR CASEMENTS AND FOLDING DOORS.
Contractors and Builders supplied with Ironmongery at Manufacturer's Prices.
SHOW ROOMS FOR MARBLE AND ENAMELLED SLATE CHIMNEY PIECES, STOVES, RANGES, &c.
F. & M. beg to call particular attention to their
PATENT JOINER'S BENCH CRAMP.



TUPPER & CO.'S GALVANIZED CORRUGATED IRON.
IRON BUILDINGS, IRON ROOFS, & IRON HURDLES erected in any part of the Kingdom.
ILLUSTRATED CATALOGUES POST FREE.
WORKS.—Birmingham, and Limehouse.
Every description of Iron Work Galvanized.



LONDON OFFICE—61A, MOORGATE STREET, E.C.

W. HARMER & SON,
BUILDERS' IRONMONGERS, AND SMITHS, STOVE AND KITCHEN RANGE MANUFACTURERS, IRON AND ZINC MERCHANTS.
WROUGHT IRON FLITCHES AND CAST IRON GIRDERS AND COLUMNS to Order.
WROUGHT IRON TUBE AND FITTINGS for GAS or WATER.
CARPENTERS' TOOLS of the Best Quality. A Reduced LIST of PRICES upon application.
W. HARMER & SON,
3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.
ESTABLISHED 1817.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public. All kinds of Bent Glass Silvered.
N.B.—The usual discount to builders and the trade.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 53 and 56, High Holborn.

The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES, was awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES
of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Pasters, and Wholesale Houses, in Town and Country.
ESTABLISHED 1774.

SASH WEIGHTS, 5s. per cwt. at Ashton Wharf, Blackwall, and at Hope Wharf, near the Church, Rotherhithe.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Iron-mongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of GOODS of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare market, London.

PATENTED HOT AIR APPARATUS in CAST-IRON, consisting of prismatic tubes, to be applied to chimneys with flues and heat conduits. By this system is obtained heath, durability, a clear fire, security, economy.—An apparatus in use can be seen, every day, at the Office of M. LEWAI, Nos. 5 and 6, Philpot lane, City.



THE LARGE 3½-Ton BELL, EXHIBITED at the INTERNATIONAL EXHIBITION, by Messrs. DENT, of the Strand, in connexion with their Clock, is now to be DISPOSED OF, at a GREATLY REDUCED PRICE.
For particulars, inquire of
JOHN WARNER & SONS,
BELL AND BRASS FOUNDERS TO HER MAJESTY,
8, CRESCENT, CRIPPLEGATE, LONDON.

TO BUILDERS in IRON or ZINC.—WANTED, a GLASS-HOUSE, built in London.—Apply to Mr. LAXTON, 5a, Arundel street, Strand.

GLASGOW CORPORATION WATER-WORKS.—PUMPING ENGINES FOR SALE.—The Glasgow Corporation Water Commissioners are prepared to SELL Two Powerful PUMPING ENGINES, used up to March, 1860, in supplying the city with water, and still in good working order. One of these Engines when at work raised 230,000 gallons per hour, to a height of 96 feet; and the other 150,000 gallons per hour, to a height of 195 feet.—For further particulars, apply to Mr. GALE, Engineer, Water-works Offices, 23, Miller street, Glasgow; or to
4th November, 1862. JOHN BURNET, Secretary.

TO CHURCHWARDENS, MILL PROPRIETORS, and OTHERS.—GEORGE FRITH, BUILDER, &c. Coventry, begs respectfully to call the attention of the above parties to his method of REPAIRING CHURCH SPIRES, CHIMNEY SHAFTS, and other elevated structures, without the expense of scaffolding. Church spires taken down and rebuilt, painted, repaired, &c. Chimney-shafts repaired, pointed, and new caps fixed. New vanes and all kinds of lightning conductors applied. Estimates given. References from architects, engineers, &c. Circulars illustrating the principle and containing testimonials sent free on application as above.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

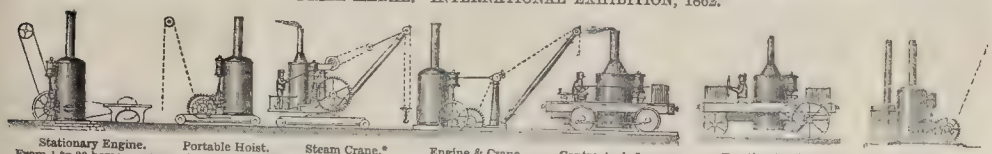
ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

CHAPLIN'S PATENT PORTABLE STEAM-ENGINES AND BOILERS.

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.



Stationary Engine. From 1 to 30 horse power. | Portable Hoist. 1 to 30 horse power. | Steam Crane.* 30 cwt. to 10 tons. | Engine & Crane. 2 to 25 horse power. | Contractor's Locomo. 6 to 27 horse power. | Traction Engine. 6 to 27 horse power. | Ships' Engine. Winding and Cooking.

* These Cranes were selected by Her Majesty's Commissioners to receive and deposit the heavy machinery in the International Exhibition.

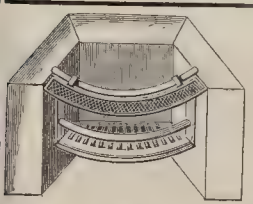
Full particulars and Prices for Delivery in Glasgow or London, on application to

ALEXANDER CHAPLIN & CO. PATENTEES & SOLE MANUFACTURERS,

CRANSTON-HILL ENGINE WORKS, GLASGOW;

Or LONDON DEPOT AND WHARF, LOWER FORE STREET, NEAR STEAM-BOAT PIER, LAMBETH.

Parties are cautioned against using or purchasing imitations or infringements of these Patent Manufactures.



No. 1.

A PRIZE MEDAL AWARDED AT THE INTERNATIONAL EXHIBITION, AND A HIGHER COMMENDATION THAN TO ANY OTHER MANUFACTURER OF STOVE GRATES.

FIRE-LUMP STOVES.

These Stoves are of a most useful description. They are formed of Fire-Lump, with only the fire-bars and grating of iron. They give a good heat with a small consumption of coal.

PRICES OF NOS. 1 AND 3.

	£	s.	d.
21 inches wide, 12 inch bars	0	12	6
24 inches wide, 15-inch bars	0	15	0
27 inches wide, 18-inch bars	1	0	0

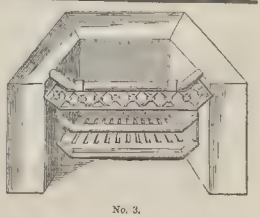
Without the hanging-trivet, 2s. less. Larger sizes in preparation.

EDWARDS & SON,

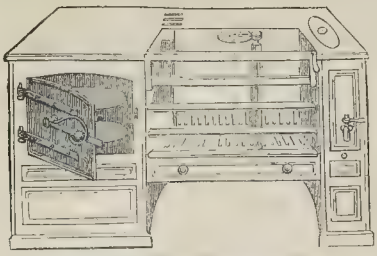
STOVE GRATE & KITCHEN RANGE MANUFACTURERS,

No. 49, GREAT MARLBOROUGH STREET, REGENT STREET, LONDON.

MARBLE OR STONE FENDERS, WITH TILE HEARTHS COMPLETE, SUPPLIED AND FIXED.



No. 3.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.		Self-acting Cottage, with Open and Brass Under	
24 inches	54s.	20 inches	22s.
28 "	80s.	23 "	24s.
34 "	58s.	31 "	26s.
42 "	60s.	36 "	28s.

Register Stoves, with Strong Bars, from per in h, 4d
Improved New Pattern Cast-Iron Check Register, with strong Bars and Frets, 4d per inch.
Best ditto, with Fire Brick Back, from per inch, 5d.
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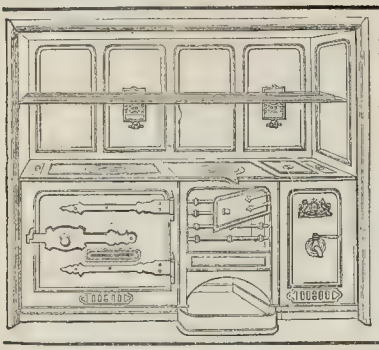
	4-in.	4½-in.
O G Gutters, with Clips on....	10d.	1s. per yard.

	2	3	4	5	6
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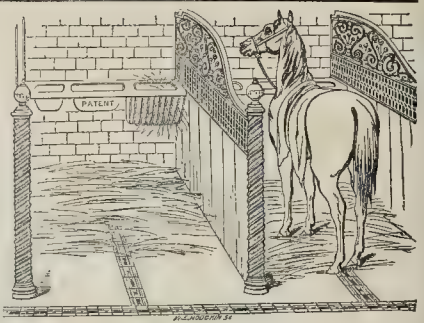
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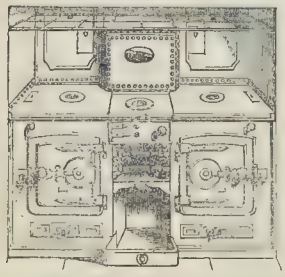
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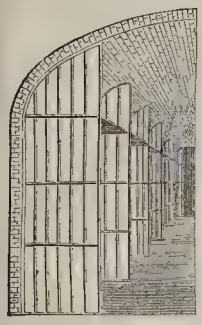
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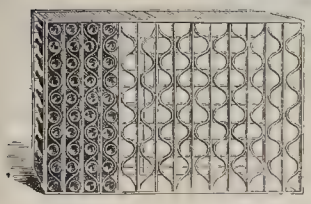
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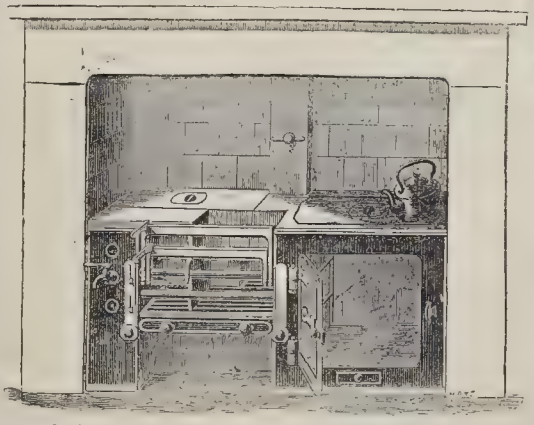
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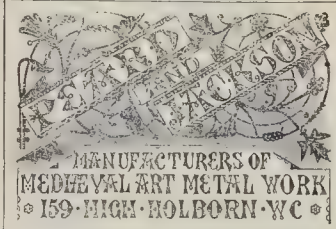
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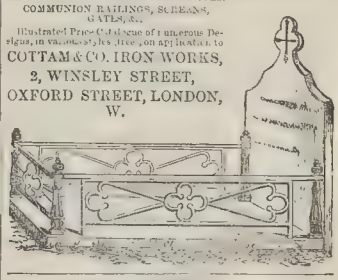
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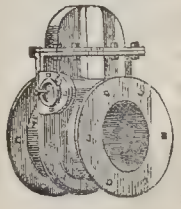
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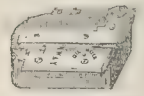
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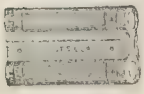
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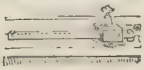
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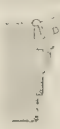
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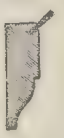
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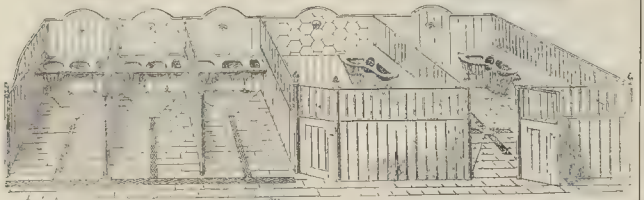
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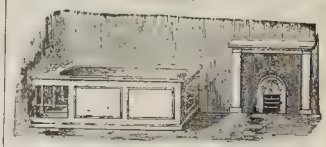
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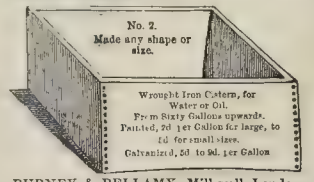
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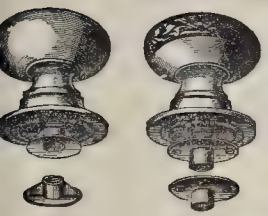
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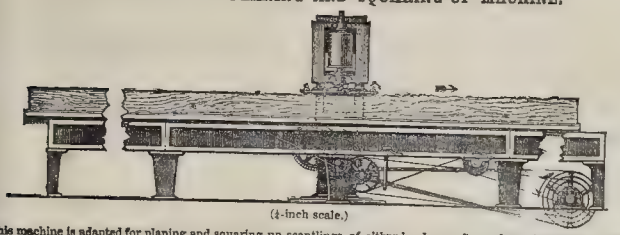
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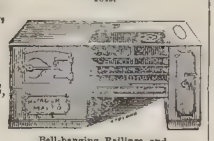
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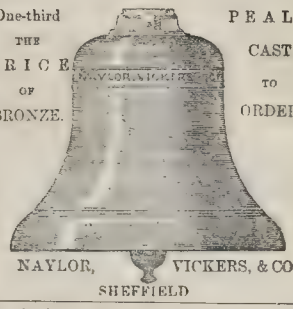
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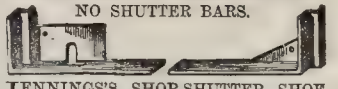
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VOL. XX.—No. 1040.

The Metropolitan (Underground) Railway.



HEN the project of a railway passing in a tunnel along a line of London thoroughfare, and to serve London traffic, was first distinctly put forward, there were many who doubted of its accomplishment. As to the construction; though a course for the Metropolitan Railway had been found, which would intersect the sites of few houses, there would still be the sewers to fall foul of, or to escape, and that wondrous reticulation of pipes which the wisdom of London ratepayers suffers to exist for the benefit of the paving "interest," and the particular inconvenience of riders and drivers; whilst, assuming that breakage of these arteries and veins could be prevented, so that a small river like the Fleet, or the whole contents of a waterworks' reservoir, would not be rushing from time to time through open cutting or unfinished tunnel, the difficulty was to tell what could be done under the apparently numerous probabilities of sewers, mains, and pipes, intersecting the line at the very level of rails or arch-springing, also to see on what available areas of ground stations could be placed, and how the passage of frequent trains, if safe, could be rendered free of nuisance in a length of subterranean way devoid of the open shafts which may have been sometime deemed necessary to ventilation in tunnels. Though sufficient reason has, we think, existed for the postponement of the certificate of the Government inspector, the bulk of the difficulties had some months ago been overcome, and in a manner which should command admiration especially of the class of readers we address; and the last of the essentials to efficient working of the line, the system and mechanism of signals, originally devised with appreciation of the importance of that branch of the arrangements, has at length, we are assured, been brought to the state of perfection which will allow the line to be used for traffic on this present Saturday. Some of the features of design and construction which the work comprises, will be noticeable at the stations; but many of the chief items of contrivance and skill are no longer obvious; and they have not been described in print. Our readers, therefore, may feel interested in results of an attempt which we shall make, to afford a more clear apprehension of the structural details of the great undertaking than has been given by some of our daily contemporaries; whose favourite phraseology in their now frequent notices of public works, that such or such a feature is "of immense strength," does not supply much information on the matter taken in hand,—even viewing the limited digestive power, as regarded, of "the general reader."

We have, in our last volume, and previously, not only stated what was the course of the line, but have given engraved illustrations of one portion of the work, at King's-cross, which has novel features, and involved certain difficulties of construction; and we have also printed some particulars of the accident of the bursting of the Fleet Sewer, at a point just north of the present City terminus, into the open-cutting which there, as in some other parts of the line, is substituted for tunnel. This accident, we may say, the company's engineers maintain was not caused by their works, but by faulty design and very bad construction of the sewer itself; the first portion of the accident, which involved but about 20 feet of the sewer, being, through inattention, left conducive to the second and serious calamity, which involved a length of about 100 feet; when the ground at the back of the company's retaining wall, became saturated with water, which at length undermined the foundations, so that the wall fell,—when it came down in a mass, showing the excellence of the workmanship. The inundation of the company's works in this case, where the sewer runs parallel with the railway, might have been merely one of several serious accidents from sewers and water-mains, had not the constant skill and watchfulness of the engineering staff,—and we must add, of the contractors,—been directed and alive to the prevention of them. The Fleet Sewer had to be carried across the main line, as we shall mention hereafter, and three times across branch lines, at a level below that of the crown of the arch of the tunnel, where it occurs, and in a manner to prevent the slightest leakage: the 3-feet service-main of the Grand Junction Water Company had to be held slung in chains for weeks, across an open cutting, when serious disaster might have accrued ere a messenger could have reached the sluice-keeper at the reservoir; and numerous smaller sewers and pipes had to be diverted, or to be taken across the tunnel, each with its different contrivance suited to the level and angle of crossing. For many of the water-pipes so intersecting, a special casting as supporting trough, was required to be built in with the brickwork as a portion of the crown of the arch; the pipe being so arranged in its receptacle, that the first effects of leakage would be retarded, and that the circumference of the pipe could be got at for necessary repairs from the street-level. In these several cases of intersection, usually the angles of crossing were different; and no casting could be ordered, or drawing even made, till the ground had been opened and dimensions taken: thus, delay in portions of the work was of frequent occurrence. Indeed, in numerous instances, positions of water-pipes were found to be different to those given by any plans to which the engineers had access when their own drawings were made. The flanged-joint pipes, not allowing much settlement, required more care than the socket-joint. Meanwhile, or rather from the commencement, the footways and the entrance-ways to houses had to be maintained; and the placing the supports for these was alone a work of considerable ingenuity. The company were bound to reinstate some things for which the opportunity might well have been taken to effect improvements; and the perils of injunctions of the Court of Chancery were freely thrown in the face of the undertaking. A passage-way under the road, from the garden of Park-crescent to that of Park-square, was to be retained in its level as found,—so that it became the datum for the depth of the railway below the road; whilst, some distance westward, at Stafford-street, one of the sewers of Marylebone was some feet above the level of rails. In this latter case, the authorities at first would accept neither of the courses offered,—the diversion by the side of the railway, or the passage below the line in inverted syphon form,—so that, after the gradients for the whole line had been decided upon, everything seemed to be thrown back for a fresh design under conditions of level which would have made the line very different from what it is. The two houses forming the horn of Park-crescent, north-east, which the line passes under, the company were required to purchase, to take down, and to rebuild exactly as they were, to the smallest detail. To accomplish this latter portion of the work required drawings, and the gutting of the buildings in order to make them. The drawings cost the company 150*l*. They possess some value for inquirers into the growth of modern practice of building. The company were advised that they could not hope to let their houses, unless there were basements of 8 feet in the clear height; therefore those dimensions had to be kept, and the houses carried by such an arrangement of girder-construction as would leave sufficient headway in the tunnel, and shut out as much as possible, noise of the passage of trains.

These instances will be sufficient to show the sort of skill that is required to construct a line underground, traversing any portion of area of a town; and it will be observed that the difficulties are different to, and greater than, those of formation of ordinary tunnels, such as the tunnels under the town of Liverpool, where a considerable thickness of earth or rock separates the crown of the excavation or arch from the foundations of buildings. In such cases, the practice of modern railway-construction has eliminated difficulties. It is easier to excavate a tunnel passing at a considerable depth below a surface,—unless the Mont Cenis case, where there are no shafts, be an exception, because of the new conditions which are involved with those of the very extraordinary length and vertical depth,—and easier in the case of cutting in open country, to deal with extraordinary stratification, than it is to construct a work which, like the greater portion of the Metropolitan Railway, has to be built and vaulted in a cutting through a town; or tunnelled in bad ground, so little below the street traffic as to be in constant vibration.

Should the working of the traffic of the Metropolitan Railway prove as successful as the engineering construction appears to be, the example may be followed in many towns, despite all the apprehensions that have prevailed in the present case from the delay in opening the line. A similar line is talked of for Paris; where the difficulties from water-charged subsoil must equal, or more probably exceed, any that have been met with in the London instance. This much however seems demonstrated as to railways below the street-level; namely, that along lines of street or *boulevard* such as London needs, and must one day possess,—lines direct and of great breadth, and having the sewerage and water-service provided for in sub-ways,—railways might be formed, if not altogether underground, contrived with some of the features of lighting and ventilation which were those of the scheme which preceded this of the Metropolitan Railway, we mean the project of the late Mr. Charles Pearson, to whose memory our recognition of his usefulness is due. At least we may say, that viaducts above the street level are for many reasons to be regretted. They interrupt the view,—as will be found shortly, though in a case where we may be told it could not have been avoided, in the crossing of Ludgate-hill; and the girder bridges of their engineers are vile blots on a city: these viaducts are objectionable as interfering with the circulation of air which is necessary in towns, especially in such districts as those traversed by the viaducts of the Great Eastern, North London, and Blackwall, and the South London lines; and their arches, which indeed might be turned to account (as long since suggested), made into comfortable dwelling-places for families who have inferior accommodation, or have been ejected from houses taken down for these very lines, seem to bring in little or nothing to shareholders, whilst they are to some extent resorts of the dangerous classes, and receptacles for dirt and filth. We do not press these points very strongly as in favour of the alternative of railways subterranean or below street-level; but we say that they deserve to have their due value considered now that opportunity has accrued for testing, in its working, the Metropolitan Railway, a line however which perhaps would

be inferior to such railways as a proper scheme of London street improvement would admit of.

Of course, if a line in any part of its length were liable to inundation, the objections preferred to the principle of the Metropolitan Railway would hold good; and there may be cities in which it would be impolitic to introduce the system. But with a tolerable level in the line of street, and no worse arrangement of the sewer levels than exists in London north of the Thames, if not south, and with such provisions for keeping a tunnel dry as exist in this Metropolitan Railway, the objections to the system have not all the force that has been attached to them. There is this further, to be said on the question between viaducts and underground lines, that given the most favourable circumstances for each, there is a difference between the two, of about 11 feet of staircase, in favour of the latter system. About 4 feet more of headway are required in arches over roads, for laden carts, than are required in the arches which a railway train has to pass under; and the height of the platform has to be *added* in the case of the viaduct, whilst it *reduces* the number of steps in that of the line below street-level.

It may be obvious that the rejection of the street-level itself, in favour of a level above or below it, for the railway, is due to the employment of the locomotive engine and the high rate of travelling. Were not the speed a requisite, the horse-tramway, advantages of which have heretofore been perceived by us,—and should be still advocated, spite of the mistakes that have unaccountably attended its introduction,—or some form of traction engine,—might be sufficient. There are indeed some cases where locomotive engines and trains pass on rails that are laid in streets, level with the carriage-way. An instance in Genoa was referred to when the tramway system was under discussion. But the manner in which similar railways along the line of the Liverpool Docks, and and at Holyhead, are worked, shows that they have no concern with the question of passenger traffic at a rapid rate, as the case is of London.

Hence we discover that in the contrivance of a tunnel line such as the Metropolitan, we are instantly confronted by the question of two alternatives, the one the quick extraction of the steam which would be given off from half-a-dozen chimneys of locomotives that always would be on the route, and the other the prevention of escape from the description of engine that we employ. Without the settlement, primarily, of the point, whether there were means of avoiding the nuisance we have referred to, it would have been scarcely wise to enter upon the construction of such a line as that which from King's-cross to Chapel-street, Marylebone-road, near the Yorkshire Stingo, has no shafts, and no means of ventilation (except at the ends) larger than might be required for the breathing powers of a number of persons such as the number of passengers in the trains. The object has been attained by the construction of a locomotive that is provided with the means of condensing the steam, and damping the fire. In the common form of engine, the steam that has done its work in moving the piston-rods which move the wheels, escapes into the chimney, where it assists the draft; whilst the meeting wind is a constant blower to the open fire. The locomotive for the Metropolitan Railway has a valve in the chimney, to be worked by the driver from his station in the rear of the engine, so that the steam can be instantly shut off from its escape. It passes, instead, into cold water of a tank that is carried under the boiler; and there, provided the water be changed often enough, or does not get too hot, it is condensed, as it is in the common stationary condensing engine. The under-"blowing" of the fire is intercepted by letting fall a flap to the latter. The two valves or flaps are, in the tunnel portion of the line, shut; but in the open cuttings, the ordinary steam-jet draught and air-blowing of the fire, and the non-condensation or escape of the steam, are, exactly as in ordinary engines on other railways, allowed to go on, for the better accomplishment of the distance in tunnel, with the husbanded force or pressure of the steam made whilst the locomotive was at the terminus, or travelling with space overhead. Coke is burnt, so that there is no smoke. At an inspection by Colonel Yolland, on the 27th of last month, so much time was necessarily spent at the stations, that the trial could hardly be regarded as a fair one for the engine. The locomotive, driven by Mr. Gooch, jun., however, behaved admirably; and there appears no reason to doubt that all that the public will demand will be fully accomplished. Should it be necessary to let off steam at any of the stations, as King's-cross, unusually large openings in the roof are found there; and the same means of taking in water as on other railways, are provided at places between the *termini*. As, however, it is necessary to calculate against any contingency, means of escape from the tunnel itself, for steam that may have accumulated, may be perfected, should such agency be found necessary. These means consist of certain small circular openings in the crown of the vault, in that portion of the line where the levels would conduce to an accumulation of steam, which openings form the terminations of pipes extending laterally to a junction with a larger and longitudinal pipe in the pocket or spandril of the arch, to which large channel some permanent contrivance for exhaustion can be attached. Ordinary ventilation required in tunnels, as they are on other lines of railway, will go on without shafts: there is always a current; and certainly we have experienced no inconvenience in walking through the tunnels on the Metropolitan Railway, or in passing through them on an experimental train. The question will hardly be asked, why engines of the sort described have not been in use on ordinary railways. The nuisance there, which is increasing, is from coal-smoke, rather than steam, which indeed in the landscape is rather pleasing; whilst it may be possible to carry the supply of water for condensation four miles, and not to carry a larger quantity, or to arrest the train at short distances frequently.

The reader having appreciated difficulties of the case of an underground railway, may now feel interested in an account of the chief features of the new metropolitan line (only some of which have been slightly referred to), and including those of the stations. To make the whole intelligible, we must repeat, and supplement, some general particulars. The line now extends, from a junction with the Great Western Railway, at the Bishop's-road Bridge (where there is a station), south of the Paddington Basin to Praed-street; the eastern portion of which last it passes along; it then crosses the Edgeware-road and passes parallel with the north side of Chapel-street (in which there is a station), to near the junction of Stafford-street with the Marylebone-road opposite the Yorkshire Stingo: thence it continues along the Marylebone-road (with a station at Baker-street) to Park-crescent, where it leaves the street-line to pass under the houses we have spoken of, and appropriate the patch of ground at the end of the Portland-road for a station: it then regains the New-road, and leaving a station at Gower-street, passes through Euston-square to King's-cross, where on the space between Gray's-inn-road and Battle-bridge, is the largest station, and whereabouts are the several branches, single lines, to the arrival and departure sides of the Great Northern Railway. One connexion, which is intersected by a branch of the Fleet, has been lately commenced; and it will diminish the chances of accident; as trains passing along it will avoid the awkward crossing near the pointsman's station. This station, a small spandril space of plan left between the main line and two branches, and domed over from the walls of the three tunnels, was illustrated by us as above said. It does not appear to be ready for use, indeed the rails in the branches were not all completely laid at the time of our last inspection. The branch which passes under Maiden-lane, joins the Great Northern line at some distance beyond the northern end of its passenger station. From King's-cross, south-easterly, open cutting with retaining walls commences: it is crossed by many bridges; and the line passes south-west of Bagnigge-wells-road, is crossed by that road and Wharton-street, and continues between the road and Granville-square, whereabouts there is a short tunnel. After a further portion of open cutting, it passes Coldbath-fields prison by a tunnel (which was driven) to open cutting by the Clerkenwell Sessions House, and to the station in Victoria-street. There is no portion of the line west of King's-cross that is open, except a large area of ground (where the engines may be stalled in recesses which have been built for them) between the second station we mentioned and the Yorkshire Stingo, and a short space close to the station at the Great Western Railway Junction. There is no branch to the London and North-Western Company's line. That company, it may be supposed, are content with their access to the City *vid* the North London line, and direct to the station which they will have near Moorgate-street. The stations of the Metropolitan Railway, seven in number, are named Bishop's-road, Paddington; Edgeware-road; Baker-street; Portland-road and Regent's Park; Gower-street, for Tottenham-court-road and Euston-square; King's-cross; and Farringdon-street stations. The last-named of these is temporary. The line will eventually be continued, crossing Snow-hill and Skinner-street, to a junction with the London, Chatham, and Dover Railway, at its station on the site of the Fleet Prison; whilst a branch, for which the Act has been obtained, is intended to pass between Charterhouse-square and Long-lane, and to cross Barbican, Red Cross-street, White Cross-street, and Milton-street, ending at the Pavement, Finsbury-circus. Mr. Bunning has designed the New Market to occupy a site which would be intersected by the present course of Smithfield Bars; and it is intended that the railway should pass under the market. There are Bills in Parliament for western branches, or extensions, of the Metropolitan Railway, one of them to start in Praed-street, and pass the front of the Great Western Hotel, and to skirt the Serpentine, and end at Hyde Park-corner; and another to start from this latter branch and follow the western portion of Rotten-row to Kensington, ending in Young-street.

In the completed portion of this comprehensive scheme, the general dimension of breadth in the clear of the tunnel, or span of the arch, is 28 feet 6 inches, the brickwork being 2 feet 5 inches thick, or six rims, and backed by concrete to the walls; and the height from the level of rails to crown of the arch, is 16 feet 6 inches. The rails are laid to the "mixed," or broad and narrow gauge; and we believe, the statement that the tunnel had been formed too narrow, is correct only so far as the lengths between the stations are concerned, where a train should never have to stop, but where the corner of an opened door might touch the vaulting. Plenty of ingenuity has been applied in shaving close; and much originality with calculating power, has been exerted to combine moderation of expenditure with a response to the requirements, and perfect strength under the extraordinary conditions of railway engineering and railway-station architecture. The line will be worked by the Great Western Company.

The gradient is 1 in 100 each way from the lowest point, that where the line enters the City. The course of the line is chiefly in curves; the sharpest of these being one with a radius of 200 yards. In the driven portions of tunnel the crown of the arch reaches in the clear height, 18 feet 9 inches. In the open cutting, until the line widens out to the so-called Farringdon-street Station, the opposite piers of the retaining walls are counterforted across the line, by iron strutting similar to that to be seen on a similar portion of the line of the London and North-Western Railway in Camden Town. The bays between the piers are battered, and are segmental on plan to resist pressure of the earth; and within some of the stations a thin face-wall is added, leaving a cavity; so as to reduce as much as possible any influx of damp.

Every portion of the length of tunnel has of course a drain, which runs underground in the centre between the two lines of rails; and every area and pocket, and each basin or funnel-formed collector of land and surface water at the back of walls or on asphalte covering of the brickwork of the tunnel arch, has its down-pipe and connexion carefully provided. As the work approached Victoria-street, the ground was very wet; and the Coldbath-fields tunnel is still at various places undergoing the processes of pointing with cement, and cutting through the brickwork for the insertion of the catchwater-basins and down-pipes, which together may force and conduct the flow to the general drain-level of the tunnel. Damp and wet, indeed, are to be found, even in stations carefully planned and constructed, but underground; these appearances, however, are not such as to affect the use or substantiality of the work, and are expected to cease in part; and experience on other undertakings has tended to show that after an appearance of moisture from land-drainage leaves brickwork, the work there becomes harder than elsewhere. The strata may have something to do with that.

In one portion of the line between King's-cross and Clerkenwell, where the Fleet sewer had to be carried by girders in an iron water-tight duct of large dimensions, across a tunnel and below the crown of its arch, a short portion of a second and parallel line of tunnel for an expected future widening of the railway has been built, and the Fleet carried over or through both. The whole forms an admirable piece of work. The thin partition wall from which the two vaults spring, has iron castings built in, to get the requisite strength.

South of the King's-cross station, there are some remarkable skew bridges,—in particular, one for a wide street intersected by a narrower one, which gives a curious appearance to the bridge. The

smaller vault seems to groin into the larger one; though the case is not so.

Close by the Clerkenwell Sessions House, there is a steep bank of clay held up temporarily by a double row of piling at the foot. Hereabout, and for the station, concrete walling, or facing to the bank of earth, has been used where we should hardly care to trust to it.

The stations are less remarkable externally, and in architectural details, than they are for their disposition of plan, and for the clever construction of some of them, as the Baker-street and Gower-street stations, which nearly resemble one another. The Paddington, Edgeware-road, and King's-cross stations, have each an iron-framed roof, spanning the lines, and the arrival and departure platforms; whilst the booking-offices, spanning the line at a higher level, are carried on lattice girders, and are constructed of wood wherever light weight was desirable. These stations are perfectly lighted; in fact the King's-cross station seems in all points the best in London. Safety in crossing the line has been well studied, each of these stations having a bridge, or more than one, for the crossing. The Paddington Station has the front of its booking-offices in Bishop's-road. The architectural details and wall-facing of all the stations except the Edgeware-road Station (where the material is Ransome's stone), are in cement. The result is not more satisfactory than it usually is, where imitation of stone-worked mouldings and ornaments is attempted,—as indeed perhaps it ought never to be. The least pretentious of the buildings are the best; the King's-cross roof, effective enough within, is only a deformity in the street; and we must confess the extreme difficulty of the problem to make it otherwise. The roof of the Paddington Station is of lighter members than the roofs of the Edgeware-road, and King's-cross stations, where the principals are of wrought and riveted iron crossing the span in the form of an arch, and carrying light trussed girders as purlins, each of which is bridged by two rafters or secondary principals. These last-named members seem each to rest against the side of the top purlin, instead of butting against an opposite rafter or having the strain resisted from the opposite half of the roof. So the construction seems, looking at it from below, however it be as to real strength. There are two different arch-formed roofs to the King's-cross Station, separated by the bridged booking-offices, and one of wider span than the other; for, here, one of the branches of the Great Northern Railway curves in, and there is an intermediate platform with its separate staircase. Space is found at King's-cross, for a water-tank, holding 25,000 gallons. The roof-covering is formed in alternate breadths of glass skylight and zinc, which are stepped at each purlin to leave a large opening for ventilation, without louvres, which last offer much obstruction. In place of louvres, each division of the covering has considerable projection as eaves. Where the lights do not occur, the soffit of the roof is boarded. Ends of roof, the spaces which we may call *tympana* or gables, are left open: though very small, it is found that they give escape to a large quantity of steam compared with even non-louvred openings at sides of a roof. A small portion of the line onward is covered with a ridge and valley roof, extending the station. The southern halves of each span are covered, not with glass. Near this end of the station is a bold piece of construction, comprised of a skew girder-bridge, over the main line, and a brickwork arch, nearly semicircular, over the starting portion of the Great Northern branch. It is also askew. The pier which carries half the weight of the arch and thrust, and half the weight of the massive girder-bridge, is but 1 foot 8 inches on the narrowest face; though it becomes wider where the chief pressure is, and is of ample width on the further face. Passing back again through the King's-cross station, we notice before coming to the tunnel mouth of the main line, a skew-arch which is the mouth of the tunnel of the branch line. Its face of opening, or span of arch on the skew, is about double the transverse span of the general vaulting of this branch line. As brickwork, this specimen is very consoling to those who have thought the art extinct: but similar praise might be given to much of the work on the same line of railway. The pointsman's station, with the starting of the other branches, is reached at a short distance in the main-line tunnel.

The Edgeware-road station much resembles the King's-cross in the form and framing of its roof; though it is much smaller. We need not describe it, therefore; nor need we say more of the Paddington Station than that the roofed area of the rails and platforms (62 feet 3½ inches span) is well lighted, and that the trusses take the form of a segmental or elliptical arch, with tie, and a filling-in of diagonal bracing, the covering being arranged in ridges and valleys, six side spans, and one wider one in the centre, dividing the width spanned by the principal. The underground portion of the line from near this station, for some distance in the direction of Praed-street, has very little vertical space to deal with: the construction is therefore that of cross-girders and arches from them, instead of that which prevails further on.

At each of the three underground stations between King's-cross and Chapel-street, the tunnel has a larger span of arch, to afford room for the platforms, and has as much increased height as could be got, having regard to the fixed level of the street-pavement, and to the requisite strength of brick rims or rings; and other methods of lighting than those we have described, have had to be extemporized; and this has been managed with much skill. At the Portland-road station, which is the best of the whole number for external effect, light was got by the formation of a large eye in one portion of the crown of the vault; where ground above, had become the Company's property. This opening is glazed. Other lights are obtained from the two domes, and windows in their *tambours*, which are the chief features in the external view; and these domes have been so contrived with ventilating apertures, that an engine might stop under them and let off steam. The line is here on a curve. One platform is 217 feet in length; and the other 209 feet.

The most ingenious and clever construction on the whole line, however, is probably that seen at the Baker-street and Gower-street stations, which so nearly resemble one another that one description would serve for both. There is little change in the appearance of things above-ground from what was that of the New-road. In each case there is a small one-storied structure on each side of the road, which contains a booking-office and the heads of the separate stairs of descent and ascent to and from its side of the line. The light to the stations is got by taking space from the gardens of the houses, and constructing the vault of the station with a line of openings to the space. These apertures, or eyes, are lined with white tiles, as are also the sides of the areas; whilst the areas are roofed with thick glass carried on light iron gratings,—small apertures however being left for ventilation,—the upper surface of the glass being flush with the street-footway level; and the space being enclosed by a dwarf railing. This space is taken out of the gardens, in the Gower-street case; at the Baker-street station, the garden-gates and railings are set back, and the areas form an addition to the street, railed in however from the footways. The areas and the apertures in the tunnel vault can be got at for cleaning, and every portion is provided with drainage. The results of this arrangement for lighting are excellent. The contrivance however entailed that there should be special construction of the vault, that is to say the necessary strength in the haunches where the thrust was now to be carried from piers rather than a continuous support and abutment. The thickness is so distributed as to leave recesses of 6 feet 3 inches and piers of 3 feet 6 inches on the face; and the opening of each light is 4 feet 9 inches by a considerably greater dimension of height, especially if it be measured following the *intrados* of the vault. Sufficient abutment, beyond the backing of concrete, exists in the thickness itself, and the nearly equilibrated form of the arch. Where the rooms below the booking-offices, and the staircases, occur, the partition walls of these are the abutments; whilst, as the face of the pier is of slight width, a casting is built into the latter; and the soffit of each arch is carried and formed by a further arrangement of casting: thus these separate piers, with the arches, are all connected together. In one case where a room occurs, so that the pier could not extend back as abutment, two cast-iron struts diverging from the point of thrust to be relieved, are diagonally placed on plan and connected by a tie at the feet (or showing on the plan the form of a triangle); whereby thrust is distributed. To get the necessary strength in the work of the vault itself, and to keep the crown of the arch light, and the number of half-brick rims not so numerous or so arranged as to fill up the depth intended to be left between crown of arch and surface of roadway, or to make it necessary to drop the level of rails,—a peculiar construction of the vault was adopted, increasing the number of rims from the centre to the springing, yet preserving the bond and resistant thrust of the abutment, which latter force would have been cut at every stepping or set-off of commering rims; and the additions would have added only weight and no strength. Therefore, after the crown or middle of the vault constructed in the ordinary manner, with the bricks sommering (in our description we reverse the order of the brick-laying), the whole of the rims, with as many sets-off as were necessary on the extrados, were laid with the bricks not sommering, but with the mortar beds or joints parallel, and therefore not parts of *radii* of the circle or ellipse. Thus, the rims, added as sets-off, could be bonded to the others, and did their work. Those bricks forming the soffit, which would have presented angles, were cut where required for appearance. At the springing, the thrust was received on a skew back, cut or formed on one bed, to the proper direction of a radius, and on the other to the last of the parallel lines of the bricks. Though the wedge-formation of voussoirs, supposed to involve the property of the arch, might seem to be given up by this described method of construction, the line of thrust always falls within the limits of extrados and intrados, whilst greater strength in other respects from better bond is obtained.

The present City terminus is a temporary building covered with a wooden roof in two spans, and of slight scantlings, which, however, having been arrived at, like every other detail of the railway, by calculation, are fairly considered to be quite strong enough.

One of the great features of this railway, which we might have noted above, is the small cost of the construction. It is affirmed that the whole cost of the Metropolitan Railway will come to less than 1,300,000*l.*; whilst a viaduct line intersecting building-property would have cost four times as much. The length of the line as at present, and deducting the branches, is three miles and three-quarters. The branches added together, would make half a mile. The chief engineer, as our readers know, is Mr. John Fowler; and the resident engineer is Mr. T. Marr Johnson, to whose fertility in resources we may rightly ascribe much of what may already be presumed to be the favourable result. Messrs. Knight & Smith have executed the western portion of the work, ending at Euston-square; and Mr. John Jay has finished the line to Victoria-street. As to the safety of the line, though it is said there may shortly be ninety trains a day, and at least three each way may be always on the move, there can be no danger if the prescribed system of signals continue workable. The mechanism of levers and lights, which is combined with the electric telegraph, had till the other day moved stiffly. Now that the signals have been certified as thoroughly complete, the company might do well to assure and satisfy the public that their staff will never be worked to the point of fatigue and carelessness which brings accident. One of the points to be attended to is that of the better lighting of the carriages. The gas-lights when last we were able to judge of them, were no better than the ordinary, bad, oil lamps.

Believing that this new route may do something towards providing many classes of Londoners with better dwellings, and realizing other objects in which we have taken interest, we hope that the undertaking may have every kind of success. But six o'clock, the hour arranged for the first train in the morning, will not be early enough for working-men; and it may be questioned whether 5d. for the third class return-ticket will not be too much.

AFTER-THOUGHTS ABOUT THE INTERNATIONAL EXHIBITION.

THE further the present advances from the past the fainter will be our remembrance of the Great International Exhibition, the more vague the mind pictures upon which we shall shut our eyes and gaze. Here and there, all over the world, in glass cases, in cabinets, in galleries, on drawing-room tables, in gard-robes, in museums, in country houses, in town mansions, in palaces and churches, we shall, from time to time, come in contact with objects that were once part of the prismatic whole; but, nevertheless, as our lives trample down the days, it will be more and more difficult to bring to mind the brilliant, many-coloured, many-toned, eye-filling impressions we thought we had garnered up. There were so many adjuncts that are likely to slip from our remembrance. Let us consider the noises. There were the deafening roar of the foaming flood set in motion by the centrifugal steam force-pump, near which the human voice was inaudible; there was

the splashing, dripping, rippling of water from the majolica fountain; the tones of the great organ filling the air with ecstacy; the whirr, the twirl, the thud, the hiss of machinery in motion; the blows of the steam-hammer; the tumultuous reverberations, the clang and clash of the immense bells, the chimes of the great clock; there were the brass bands, the performances on the sax-horns, on countless pianos; the rustle of silk, the buzz of voices, the shuffle of feet; certain sounds breaking into prominence as we neared them, and subsiding as we receded from them; perhaps a word or two from one voice, all blended in one muffled, intense hum. How long shall we command a realization of this? The word may outlive the roar.

Let us recall the polyglot literature. In twenty years' time shall we ever think of the pamphlets, prospectuses, cards, in every colour of the rainbow, placed in little piles, and in lidless boxes within reach of the public, as a means of advertisement? And yet the handbills and cards offered to visitors, formed a feature of the fair, that was of curious interest. The English language looked so like a foreign tongue when printed with French type; and the French so like our own, when rendered in fair round English characters, that the effect was momentarily confusing. The translations of foreign advertisements teemed with so many mistakes, introduced such comical English; and the rendering of English into good French or Italian, appeared to be beset with as many difficulties, and to produce as droll results. Austrian-English is not less wonderful. What could be the exact meaning of George Hartl & Son, of Vienna, when they distributed a notice that they manufactured "Utmost-purified-cocos-nut-oil-soda-soap (inodorous) white and red, in four angle-tiles, hollow pressed in satin etiquettes in carts?" What are satin etiquettes, and how do they come to be in carts in Vienna? Then, again, what eccentricity was meant by "two sleeping childs," manufactured in soap, and an "Amour with arrow?" MM. Topart, Brothers, Paris, attested that they could make "imitation *real* pearls and corale." M. Descole, Paris, and M. Galopin, Paris, had both been vanquished by the intricacies of number, and announced, respectively, that they are lamps manufacturers, and possess lamps warehouses. And why did M. Boissoneau, *ocularist* of the French army, in a handbill, which we have not yet laid aside, illustrated by the head of a gentleman with a bandage over his right eye, and the head of a lady, with a bandage over her left eye, disturb our fixed ideas on transubstantiation, by declaring that he would be himself on the 1st and 2nd days of the months of June, August, and November, leaving us to understand, darkly, that in the intervals he would be somebody else? A reference to a collection of these ephemeral productions shows us curious facts bearing upon the growth of language. A Baltic *savan*, S. Hestermann, Altona, advertising his "telluriums," writes with a wording of our tongue that the Danes would have found current here a thousand years ago. The story he tells is an old, old tale—oft told—his are the real telluriums, the best embossed globes, all others are spurious. "In the interest of the public I warn against those telluriums turned by means of strings and chains; they give way very soon, and the mechanism stops for ever. I speak from my own and other experiences dearly bought." His embossed earth globe "very practicable and price-worthy," may be bought in various sizes for sums varying from 1*l.* 5s. to 50*l.*, "paid in cash." Mr. Hestermann would not like to be paid, we may infer, in Topart's imitation real pearl beads. How confiding is Joseph Piney, machine builder, at Abilly. Let us read what he calls his "note on his exhibition and workshops." He writes in the third person. "Between 1855 and the present day M. Pinet delivered 4,500 horse-gears, 4,500 thrashing-machines, 500 winnowing machines, a great number of hydraulic motors, transmissions, &c. The yearly amount of affairs is of 32,000*l.* The number of workmen is about 300." The number of gold, silver, and bronze medals M. Pinet has obtained he tells us is ninety; and besides this almost incommoding accumulation of distinctions, he received the cross of the Legion of Honour as agricultural implement manufacturer in 1860. What more can we want to know about M. Pinet? Here is a specimen of long-worded Austrian-English. It is a large blue prospectus about F. J. Kwizda's Viennese Cattle Powder, which has been used in the Royal Prussian stables with a result, says a testimonial from the head horse-doctor thereof, that *corobe-rates* all that has been said in its praise. It is called the Alimental-sanative Cattle-powder. This wonderful powder "removes all miliary fevers, lacteous tumours, inspissation of the milk, by its use the gourd-worm or fluke, as likewise all emphysematous appearances are ever rarely or ever met with in cattle." A variety of it called the Anti-sphacelous-swine-powder has been used with similar success for all diseases in Tigs—the Viennese English, we presume, of Pigs.

Here is a more unexceptionable specimen of Austrian-English in the prospectus of the "Zoolog.—Botanical Society of Vienna. The universal Exhibition, to be opened at London in the course of the present year, being intended to give a conspectus of not only of industry, but also of intellectual pursuits through the whole civilized world, the above-named society thought it perfectly adequate to give notice of their existence and activity, the society's earnest, although unassuming endeavours to promote and diffuse knowledge of natural science, making it their duty to give the greatest extension possible to their scientific connexions. The following brief exposition may give an idea of the society's origin and tendencies. The science of *an*organic nature having been endowed with a dignified and permanent centre of union by the foundation of the Imp. Geological Institute of Vienna, the weekly meetings of friends of Natural Science in this town came to their end; so that organic Natural Science, especially Zoology and Botany, fell back again into their former isolated situation. Some zealous friends and votaries of these sciences met on April 9th, 1849, with the purpose to devote any intellectual and material means in their power to the diffusion of both these branches of organic natural science, by laying the foundations of a society intended to promote their aims by a national museum, distribution of zoological and botanical specimens among establishments of instruction and intercourse by correspondence and exchange of publications with scientific institutions in the widest sense of the term. Presently the society numbers 1,010 Fellows. The annual contribution for every Inland-fellow is 4 Austrian florins [about eight shillings], for which sum he is entitled to receive a copy of the publications of the Society. Foreign-fellows are *free* from contribution; they may, however, claim a copy of the Society's publications by paying merely the amount of an annual contribution." This is such a different aspect of Viennese life to that with which we are, nationally, familiar, that it is pleasant to dwell upon it, and to know that in doing so we may be the means of increasing the numbers of the "Foreign-fellows" so ambiguously placed on the free list. Danish English is excellent. Here is a Danish prospectus which recalls the cool, sea-green, almost grotto-like effects produced by displays of suspended maps. It relates to the execution of an Atlas of Denmark, on a scale so large that all the smaller objects in the country, such as estates, houses, churches, lighthouses, milestones, may be easily found, unobscured by the larger objects, such as woods, market towns, bogs, &c., by L. Both, topographer. It is to be lithographed by A. Bull, and published by Chr. Steen & Son, Copenhagen. The typographical division of the Danish state, notwithstanding annual aid from the State, has been for twenty years at work upon a similar atlas, but up to the commencement of the present year only one-eighth of it has been completed. The Government having liberally allowed these surveys to be taken as the basis for the proposed atlas, the enterprising L. Both hopes to accomplish his task in two years. To return to English-French. Koch, cabinetmaker and *manufactory* of articles for photography, repeats over and over again, only varied by dimensions and prices, the following cabalistic announcement:—"Black Room for 27 and 33 ports id and vues and Latter end broken Sqes rooms 8 f to more." What can be the interpretation thereof? Doubtless the "inland-fellows" who have carried away our British-French will have their laugh at us too. We noted that the French and Italian advertisements of W. Boulton & Sons, needle manufacturers, were corrected with patches that covered the errors of "printers."

It is not solely the mistakes in the international advertisements that render them curious. Messrs. Powell, of Whitefriars, append an advertisement to their prospectus that appeared in the *Tatler*, August, 1710, which carries us back to those wit-abounding, coffee-house congregating and tavern-haunting times:—"At the Flint glass-house in White Fryars near the Temple are made and sold by wholesale or *retale* all sorts of Decanthurs, Drinking Glasses, Crewets, &c.; or glasses made to any pattern of the best Flint, at 12d. per pound; as also all sorts of Common Drinking Glasses and other Things made in ordinary Flint Glass at reasonable rates." Messrs. Defries, Houndsditch, circulate a notice of their mirrors for the palace of the Sultan of Turkey, that reads like a page from one of the thousand and one tales of Scherarzade. Each mirror is to consist of a thousand prisms, and to be 15 feet high by 8 feet wide; and two of the principal saloons, those overlooking the Bosphorus, are to have four mirrors in each of them. A hundred branched-light is to burn before each mirror. Could Aladdin have found more gorgeousness in the jewelled cave into which he descended? Here is a sad-coloured contrast to this Oriental grandeur in a hand-billette, that should be charitably circulated all over the world. "When you want brushes, mats, or baskets, buy those made by the blind, which are sold at the depôt of the Association for the Welfare of the Blind, 125 and 127, Euston-road, London, N.W." A French book of 76 pages, on sanitary perfumery, tells us a few French secrets. It insidiously blames the constant use of *cosmetiques* as the cause of the too prevalent paralysis, and chronic nervous disorders, and recommends the perfumery of M. Arnault, *pharmacien-chimiste*, of Paris and Brussels, as alone safe to use. The *crême de paraffine*, composed of paraffine, oil of almonds, and rose-water, is the softest, freshest, most unctuous cold cream in the world; his paraffine soap for the beard, his paraffine cosmetic for moustaches and *les favoris*; his paraffine mixture for the lips; his paraffine *Oléo*, perfumed with roses, violets, acacias, pinks, jasmine, and vanilla for the hair, are made from sanitary *formules*, which elevate cosmetiques from a cause of ill to be positive benefits,—perhaps. Writing of "Mossoo," as we see him in Leicester-square, it has been the mode to invest him with a strong perfume, which wits have, too precipitately, attributed to unwashed linen. After reading the disclosures of the *pharmacien-chimiste*, we must take stale cosmetics founded upon a basis of paraffine into account. These are samples only of a growth of verbiage over the surface of the great show, that may be considered, perhaps, in a century to come, more indicative than anything that was there. Should we have made no note of these things?

MR. COCKERELL'S TESTIMONIAL.

On New Year's morning the pleasing task was performed of presenting to Mr. Cockerell, R.A., the address voted to him by the Royal Institute of British Architects on the occasion of his retirement from the presidency of that body. Owing to the state of health of Mr. Cockerell, the deputation of members was limited in number to Mr. Tite, M.P., his successor in the presidency; Professor Donaldson, senior vice-president (of last year); and Professor Kerr, honorary secretary of the Testimonial Committee. The address has been written and illuminated on a series of vellum pages, by Mr. Owen Jones; and the long list of signatures of members of the Institute, of all grades, follows on similar sheets, with illuminated borders; the whole being arranged for binding as an album *d'honneur*. As the contributors will, no doubt, in due time have an opportunity of seeing the work for themselves, it is enough to remark at present that Mr. Cockerell expressed, together with his high appreciation of the kindness of the Profession, his great admiration of the beauty of the gift. The deputation had also the pleasure of intimating to Mr. Cockerell that the portrait painted by Mr. Boxall, A.R.A., for the Institute, is ready for final completion so soon as the artist returns from a visit to the south of Spain.

The text of the address is as follows:—

"To Charles Robert Cockerell, Esq., R.A., D.C.L., F.R.I.B.A., late Professor of Architecture in the Royal Academy of Arts; Royal Gold Medallist and late President of the Royal Institute of British Architects; Associated Member of the Institute of France; Chevalier of the Legion of Honour; Member of Merit of the Pontifical Academy of St. Luke at Rome; Honorary Member of the Royal Academy of Fine Arts of Bavaria,—of the Royal Academy of Denmark,—of the Academy of Arts of Genoa,—of the Archæological Society of Athens,—and of the American Institute of Architects; Associate of the Royal Academy of Belgium; Member of the Society of Dilettanti.

DEAR SIR,—Upon the occasion of your retirement from the office of PRESIDENT OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS, we deem it our duty as the Members of that Body to place

on record the very great satisfaction which your Presidency has afforded us.

When the demise of our first President, the late EARL DE GREY, brought to a close the lengthened period during which his Lordship had so worthily occupied the chair, the unanimous voice of the Institute, in acknowledgment of your pre-eminent merits as an Architect and as a Promoter of Art, called you to take his place.

The same unanimity marks our regret that the period for your withdrawal has arrived.

It is with much pleasure that we avail ourselves of your permission to place your Portrait in the Rooms of the Institute; long to remind us and our successors of that Dignity and Courtesy, those resources of Knowledge and graces of Character, by which you did honour to the highest office in our gift.

Although now retired from those professional labours which have gained you so many trophies of success, we hope to enjoy the frequent pleasure of seeing you amongst us; and still more we trust that England may long have the advantage of including in the number of her artistic counsellors one whose reputation is so long established and so widely spread.

We remain, Dear Sir, very sincerely yours,
WILLIAM TITE, President."
&c. &c. &c.

FROM PARIS.

THE last report of the Prefect of the Seine contains some interesting information. The quantity of water derived from the Seine for the use of the town of Paris, which was five millions of mètres cube in 1855, has now increased to fifteen millions of mètres (the mètre cube being 1,000 litres, or 220·10 imperial gallons). By the extension of the hydraulic *reseau* it is expected that *borne-fontaines* will be established in the principal streets of Belleville, Montmartre, Batignolles, Passy, Auteuil, Vaugirard, Petit Montrouge, and the Gare d'Ivry. The waters of the Canal de l'Ourcq have been already conducted as far as Grenelle, and below Vaugirard. The service of lighting the streets, composed of 21,248 burners at the time of the annexation of the suburban communes, now consists of 23,315 burners. This number will be increased to 23,515 next year. The group of sewers and water-courses has been considerably augmented: the main channel of the boulevards, prolonged from the Rue Louis le Grand to the Boulevard de Sebastopol, will receive, in 1863, one of the principal arteries of the distribution of the water supply; so that the ancient conduit of the Seine waters, whose repeated leakages have caused so much trouble and danger, will be no longer requisite. Owing to the works executed in the main sewer of the Boulevard de Sebastopol (right bank), the superabundant waters of the Canal Saint-Martin, formerly allowed to run to waste, are enabled to be conducted to the Egout des Quais, in which an economical system of waggons and boats has been organized to transport the mud from the Boulevard de Sebastopol and the quays, as far as Asnières. In the quarters of the Faubourgs Poissonnière and Montmartre, the works of sewerage have been executed with a view of preventing the recurrence of those overflows and inundations of rain water which caused great damage in showery weather.

On the left bank of the river the most important structure is the tunnel of Saint Victor, which has been constructed to conduct the river Bièvre into the Seine, at a point below the Chaillot waterworks.

In the suburban zone the principal ramifications of the drainage system are being laid down. The most important "collector," that which is to supersede the insufficient sewer of the Rue de Flandre, is already in a great portion completed; and henceforward the quarters of the Combat and the Quai de Jemmapes will be also free from disastrous inundations during the rainy season.

The neighbourhood of the Chemin de Fer de Ceinture, at Auteuil, has been completely drained; and on the left bank the Rues de Vaugirard, de Sèvres, de la Chaussée, du Marne, and du Transit, have been thoroughly cleansed by the same system.

Consequent upon the demolition of the Pont Louis Philippe, the reconstruction of the Quai Napoleon was commenced, and is now completed: the face-wall in continuation of it has been likewise terminated, and the finishing touch is being given to this inclosing quay-wall of the cité, by the Quai de l'Archéveché, of which the last portion is in hand. The conclusion of this work happily coincides with the completion of the restoration of the cathedral of Notre Dame, so that nothing will remain much longer to prevent this thoroughfare, so long blocked up with materials, &c., from being again opened for circulation.

The Quai de l'Archéveché stands on the site of a portion of the ancient ramparts of the cité borders, on the south the lands formerly occupied by the palace, at first episcopal, but subsequently archepiscopal, of the diocese of Paris.

In the first court of this palace were held, besides the ecclesiastical tribunals, those of Monomachia, or judicial duels. In another court, between the great sacristy of Notre Dame and the Episcopal chapel, was the Archbishop's Prison, one of the most antique as well as the most deadly of Paris: it contained *oubliettes*, humid and obscure cells, in which thousands have perished unrecorded and forgotten.

Near this was also the Prison of the Chapter of Notre Dame, where the canons incarcerated, *pêle-mêle*, in 1252, the inhabitants of Chantenay who refused to pay some new contribution that the chapter had levied.

Queen Blanche, the mother of Saint Louis, soon apprised of the situation of the unfortunate peasants, sent a request to the chapter urging them to set the prisoners at liberty, and offering her own security for the payment; but their answer to the Queen-Regent was to the effect that no person had a right to interfere in their affairs; and, to show their increased insolence, they seized the wives and children of those already confined, and added them to the number, *in heaps*, as the space was confined. The Queen, roused with indignation at such cruelty, went at once in person to the very doors, caused them to be broken open, and rescued the inhabitants of Chantenay, who, half suffocated, and fainting from inanition, fell at the feet of the Queen to implore her protection against their persecutors. (*Vide* "Histoire du Diocèse du Paris," par l'Abbé Lebreuf.)

It was in the grand hall of the palace above mentioned that the National Assembly held in Paris its first *séance* after its return from Versailles (19th Oct., 1789); and it was there, also, that the possessions of the clergy were declared the property of the State.

With the exception of the statues destined for the decoration of the new terminus of the "Nord" Railway,* the elaborate, though massive, ornamentations of the exterior are in a great measure completed: the extreme pavilions have been completely disengaged of their scaffolding; as likewise the intermediate galleries; so that the architectural features of the edifice can be appreciated. The gigantic series of arches of the central pavilion, the tall fluted columns, and the immense pediments surmounting the whole, are now entirely visible. The bold outlines of this façade, its noble width, and its sobriety of detail, contrast forcibly with the general style of the Paris edifices in this epoch.

Of the twenty-three statues which are to complete the decoration, the nine principal ones are,—the town of Paris, at the summit angle, due to the chisel of M. Caveiller; over the four pilasters on the left side, those of Brussels, by M. Jouffroy; St. Petersburg, by the same; Amsterdam, by M. Gumery; Frankfort, by M. Thomas. On the pilasters on the right side we have London and Vienna, by M. Jaley; Berlin, by M. Péraud; Cologne, by M. Moreau. The fountain statues in the arcades are Amiens, Lille, Beauvais, Cambray, St. Quentin, Boulogne, Compiègne, Rouen, Arras, Laon, Calais, Valenciennes, Dunkirk, and Douay. All of these are at present in temporary aërial workshops or *logettes*.

On the keystone of the principal arch a head of Mercury represents "Commerce," and having for *pendans* two medallions inserted into each pier, right and left, representing Jupiter and Neptune; while, in the pavilions of the angles, the corresponding panels will contain the emblems of fire and of water, the two bases of steam locomotion. The tympana of the two lateral entrances of the departure court are also to be ornamented with sculptures, the principal subjects being—in one, Papin; and in the other, Watt.

The ground occupied by the new terminus is said to be about 40,000 square mètres, or 9 acres, 3 roods, and 14 perches. The façade is 180 mètres (590 feet 7 inches) in length. The station is in the centre of the façade, and comprises a vast hall 70 mètres (229 feet 8 inches) long. This will be covered by a roof sloping on each side, and be divided into a nave of 34 mètres wide, and two side aisles of 18 mètres each; the separations being made by cast-iron columns, which bear a portion of the weight of the iron roof.

The Paris Chamber of Commerce is now erecting a large building at the corner of the Avenue Trudaine and the Rue Bohard de Saron, intended, according to *Galignani*, for a commercial school. The building will contain four class-rooms, each capable of containing 100 pupils; three amphitheatres for lectures, the largest of which will hold 250 persons; a spacious drawing-school, a gallery of natural history, and a library. The whole building, including the courts, will cover a space of about 3,000 square mètres. This establishment is especially intended for the children of the working classes, who will there receive, in a four years' course of studies, at a very low charge, an excellent business education for clerkships, &c. The course of study will include modern languages, mathematics, physics, drawing, natural history, geography, &c. In the evening there will be classes for adults.

* See page 603, vol. xx.

WORKS IN MELBOURNE.*

THE event of the moment has been the opening for traffic of the great trunk line as far as Castlemaine and Sandhurst. The line cannot yet be said to be completed, and hence many of the excursionists had to suffer great inconvenience; and not a few amusing incidents occurred to render the opening day to Sandhurst permanent in the recollection of the guests. The line was opened a certain distance in April last, so that the portion opened is about fifty-seven additional miles. In this space some of the greatest engineering difficulties have been met with;—two tunnels, each nearly a quarter of a mile long, besides several fine viaducts. Although the whole of the works have been executed in the most substantial manner, yet it does seem that some at least of the gradients need not to have been so steep; Sandhurst being situate beyond the dividing range that had to be crossed; and this is done at an altitude of 1,950 feet, within a distance of 45 miles of the sea level. One viaduct is of five spans, 130 feet each, and 120 feet high. This is over the valley of the Back Creek. That over the Coliban consists of five arches, each 60 feet span, and 70 feet high. The openings were duly attended to with triumphal arches, banquets, balls, &c., according to the time-honoured custom. The line to Castlemaine and Sandhurst will not be fit for goods traffic much before January in the new year. In the *Illustrated Post*, sent herewith, will be seen a view of Castlemaine on the opening day there. Castlemaine itself is a good inland town, possessing some fine public buildings. Sandhurst is not so attractive in appearance: probably it was seen at a disadvantage. The immense crowds which went thither by rail and otherwise, and the dust and heat, rendered the place almost insufferable to a stranger.

And, before quite leaving the railway inauguration, it may as well be noted that his Excellency the Governor has been in great requisition for the laying of foundation stones for churches during the last month. On the 20th of last month Sir Henry Barkly officiated at the laying of a foundation stone for a new Independent Church in Collins-street, Melbourne, for which Mr. Thomas Watts is architect. The notices in the local papers say it will be in the "Roman Corinthian style," the tower will be 100 feet high, and accommodation will be provided for 400 persons. The total cost will be 5,000*l*. Then, again, during his visit at Sandhurst, he laid the foundation stone of a new Wesleyan Church in Forrest-street, which will cost about 3,500*l*.; and the next morning he performed the same ceremony for St. Peter's (Church of England), Eaglehawk, Bendigo. On all occasions he was presented with handsome silver trowels suitably engraved. As his Excellency has frequently during his stay amongst us been called upon to perform this office, and has on each occasion been presented with silver tools for the purpose, it is to be feared that the freight for his effects will be considerably increased when he takes his departure.

In the *Illustrated Melbourne Post* before alluded to will be found several illustrations which may be interesting. One of Melbourne-street architecture,—a building erected in 1858 and 1859, by Mr. Edward Sayce, from designs by Mr. T. J. Cronde, at a cost of upwards of 4,000*l*. It was built for incoming tenants, who took a lease for ten years, at 1,300*l*. per annum; but having lately failed, the landlord has been compelled to

* Our correspondent's communication was saved from the wreck of the *Columbo*.

subdivide and let to various parties. A new insurance company (the Australian Alliance) started under the most auspicious circumstances, has secured the corner shop; and it is understood that the collective rent-roll is now little short of 1,000*l.* There is rather a singular history about this property that may not be uninstructive to the readers of the *Builder*. The ground landlord, a Mr. T. B. Payne—so rich, it is said, that his greatest trouble is, that he has some 60,000*l.* hard cash for which he cannot find a satisfactory investment—leased the property to Mr. Edward Sayce for twenty-one years, at, say 200*l.* per annum, one of the covenants in the lease being that the premises should be insured in the name of the ground landlord. In the course of a few years Mr. Sayce availed himself of some share in a building society of which he was a shareholder, and built a store upon a portion. The rules of building societies requiring that these premises should be insured in the names of the trustees, Mr. Sayce insured *only* in the name of the trustees, and this had been done innocently for years, and the property became cleared from the building society before the breach of the covenant was discovered; when, although the ground landlord had suffered no harm, he stepped in and asserted his prerogative by compelling Sayce to enter into a new lease, and to spend no less than 4,000*l.* upon the ground. It is considered a very nice point; and the opinion of several eminent counsel here and in England has been taken against Mr. Payne. Yet it is so nice that Mr. Sayce would not try it in court.

The Patent Septaria Cement Company have just placed a sample of their cement in the market, and the trials given are highly satisfactory. It will be a great boon to the colonies, as it is with great difficulty that the imported article can be received sound, and consequently many good jobs have become prematurely decayed.

BRONZING CAST IRON.

THE ornamental cast-iron balcony which decorates the façade of the Théâtre Français in Paris* has been the object of a new application. It has been covered with a coating of electro-metallic paint, which gives it an aspect of bronze, the tone being something between the artistic and the antique green. Galvanoplastic copper reduced to an impalpable powder is the principal substance employed in this system, of which the above balcony affords the first specimen. The paint is laid with a brush upon the cast-iron, which has previously received a protective coating, and it is bronzed afterwards by a chemical process connected with galvanized coppering. It is said that the results of experiments which have been carried on for as long as three years past, promise important advantages from the use of the process. It is very different from the usual bronze powders, which are subject to considerable alteration from atmospheric influences, as it is reported not to have suffered in the least from continued exposure.

DESTRUCTION OF THE PLYMOUTH THEATRE AND ROYAL HOTEL.

A FIRE broke out quite early on Tuesday morning last, in the fine pile of buildings known as forming the Royal Theatre and Royal Hotel, Plymouth, and may be said to have destroyed it. It was built by the corporation in 1813, at the cost of 60,000*l.* If we mistake not, the late Mr. Folston was the architect. The north front is 275 feet long, and has in the centre a portico of the Ionic order, under which are the main entrances to the theatre and Assembly-rooms. The hotel occupies all the eastern front, and has also an Ionic portico. The columns are left standing, but the roof that attached them to the building fell in early. In the interior the whole of the grand entrance to the boxes and the upper boxes, as well as the vestibule of the theatre, have been destroyed; also the grand lobby entrance and the staircase leading to the Assembly-room.

The interior of the theatre remains, but all the decorations and fittings are demolished. The lessee, Mr. Newcombe, had just completed alterations and repairs in the theatre costing 3,000*l.*, and had obtained a renewal of his lease for fourteen years. He is not insured. The house had been crowded to see the pantomime, and the manager, after the most careful examination, went home; so satisfied, nevertheless, that something was wrong, that he had opened the door of his house to return to the theatre when a fly came up to the door. "I know what it is," said Mr. Newcombe; "the theatre is on fire." There was great difficulty in obtaining water. No one knew anything about it, and the plug-keys were nowhere.

It has been mentioned, and is worth note, that the party-wall between the theatre and hotel does not go through the roof, and so the fire passed from one building to the other.

* See p. 603, Vol. XX.

DESTRUCTION OF CHESTER TOWN HALL BY FIRE.

THIS old and interesting building has ceased to exist. The Exchange and Town Hall formed a spacious pile, erected in 1695-8, and embellished during the mayoralty of the Earl of Derby in 1702. The structure originally rested on stone pillars, admitting of a public thoroughfare beneath; but in 1756 the west side was filled up with a row of business premises (which were subsequently converted into police offices and bridewell), the alteration being made to increase the general stability of the edifice. The Exchange had from time to time been improved; and a few years ago the sum of 2,000*l.* was expended in renovating and decorating the building. The fire broke out in the council chamber. Before the efforts of the Fire Brigade could be brought to bear upon the roof, it was one mass of flame, and gave way in a very short time. The adjacent cathedral and bishop's palace, as well as the new Market Hall, were also exposed to danger. The Exchange was surrounded with portraits of civic celebrities. There were also numerous portraits of benefactors to the city charities, with an enumeration of their several legacies. Almost all the paintings are lost or injured. A figure of Queen Anne, fixed in the south side of the building, is preserved. The Exchange was insured for 5,000*l.*

THE WEST LONDON MAIN DRAINAGE.

THE plan proposed by the engineer of the Board of Works to pass the drainage of a large part of the western metropolis to a space of open ground, near Cremorne Gardens, and, after a species of deodorization, to the Thames, has just now caused much surprise, although announced long ago. The district which it is proposed to drain in this way, contains a large and rapidly increasing population. The space will yield 1-11th part of the metropolitan sewage, amounting to about 16,000,000 gallons. This it is proposed to collect into reservoirs of two acres in extent at the spot above mentioned, and deodorise with perchloride of iron. In connection with the subject the medical officers of health of the metropolis have held a second meeting, which was presided over by Dr. Thompson, of Marylebone, when a motion was carried, that in the opinion of the Association of Medical Officers, the proposed deodorization of the sewage of the western district of the metropolis, and its subsequent discharge into the river Thames, will be ineffectual in its operation, pernicious in its effect upon the river, and subversive of the principle upon which the interceptive schemes were originally based. If with our increased knowledge a plan had been proposed to pass the sewage to some of the wastes farther west, with a view towards making it useful, the plan might have been more readily accepted. The engineer will find it desirable to give a full description of the plan intended to be pursued.

RESTORATION OF THE CHANCEL OF DARTFORD CHURCH, KENT.

THE parish church of Dartford was re-opened on Tuesday, December 23rd, after having been closed for some time past during the restoration of the chancel. The chancel of Dartford church, without pretension to any beauty or delicacy of detail, is unusually well proportioned, spacious, and lofty; but before the late restorations, the fittings and arrangements were such as to rob it of its due effect in the most complete manner. The arch, reveals, and cill of a grand east window (the work of Haymo de Hethe, Bishop of Rochester, A.D. 1333) still remained, but the tracery had disappeared; the opening was partly built up; and a squat window, with a four-centered head, had been substituted. The usual wooden altarpiece with cornice, pediment, and pilasters, appeared above the communion-table. The space within the rails was narrow and confined, and was further cramped by two large tombs, one on each side.

The roof, formed of pairs of crossed and braced rafters without principals, had a lath-and-plaster ceiling, except a portion at the east end, which was ceiled with painted deal, divided into panels by a moulded rib, having carved oak bosses of good Late character at the intersections. The only seats in the chancel were some rows of open benches, of mean and inconvenient form, facing westward, and four high pews, part of two considerable clusters which had formed round each pier of the chancel arch. In one of these clusters stood the pulpit, reading-desk, and clerk's desk. The arch itself was extremely low, cutting off all view of the chancel roof from the nave: it was also segmental and partially crippled. Whatever its effect might have been when the rood-screen and rood existed, there is no doubt that in its late form it was extremely ugly and inconvenient for sight and hearing: with this view the vicar and churchwardens (having taken professional advice as to the safety of such a course) cut up the opening, and substituted an arch of suitable proportion, shortly before the present works were taken in hand.

The whole area of the chancel has now been cleared out. Massive oak seats have been arranged stall-wise, leaving a wide central passage, and ample space eastward. A new prayer-desk and lectern have been placed on the south of the chancel arch, and the old Elizabethan pulpit—a good specimen of its kind, has been carefully restored, and slightly lowered, but still remains in nearly its original position. The inappropriate font, which stood in the south aisle of the chancel, has been replaced by one of suitable character, near the western entrance. The chancel-floor is laid with Minton's tiles. A new east window has been inserted, filling up the whole of the original opening. In taking down the modern filling in, fragments of tracery of two previous windows were found, but nothing sufficient to render possible a restoration of either. An old view of Dartford church shows what was said to be the original window of Haymo de Hethe, but it is too rude, and evidently incorrect to be taken as a guide. The architect, therefore, thought it better not to attempt a restoration, but to make a new design, with tracery symbolizing the dedication of the church to the Holy Trinity. Below the east window is a reredos of incised alabaster, and inlaid marbles; the rest of the east wall below the window-cill being faced with chalk, firestone, and encaustic tiles. By the removal of the two large tombs from within the altar-rails, the remains of a credence niche and double aumbry were brought to light on the north side, and a piscina on the south; besides a large arched recess occupying the position of a sedile; but which may, perhaps, be "the sepulcre," of which record exists. It is said to have been in the north wall, but a careful examination on removing the plaster, failed to discover any traces of its ever having existed there. The late vestry doorway which cut into the arch of this recess in an awkward manner, and interfered with the altar-rail, has been moved into the south aisle, and the arch restored.

All remains of ancient work, windows, and arches which have been built up; niches, steps, and doorways to rood-loft, &c., have been carefully opened and preserved. The old ceiling has been removed, and the fine oak rafters exposed, repaired, and renewed where necessary. The roof is now ceiled between the rafters, and decorated with colour.

The tomb of Sir John Spillman (said to have been the first papermaker who settled at Dartford), which formerly stood within the rails, has been placed under the arch of Becket's Chapel, and the sides closed with a light metal screen. All remains of ancient brasses have been affixed to the walls, as near as possible to their original position. In the body of the church the stonework has been cleaned, and the walls replastered, but the high pews and galleries remain for the present, as well as the modern roof and ceiling, and the mutilated corner of the south aisle, which was cut off, and neatly rounded in brick, to improve the street in the old coaching days. It will thus be seen that much still remains to be done.

The whole of the woodwork in the chancel is of oak, and has been executed by the Messrs. Melton, of Dartford. The carving is by Mr. Earp. The mason's work has been executed by Mr. Miles, and the plastering by Mr. Bolt, both of Dartford.

The east window is filled with stained glass, by Messrs. Heaton, Butler, & Bayne, who also executed the reredos, and a memorial window in the south aisle. The metal work, including the gas

standard, altar-rail, and screen before mentioned, is by Messrs. Peard & Jackson.

The cost of the restorations has been about 2,000*l.* The architect was Mr. Arthur W. Blomfield; clerk of the works, Mr. G. M. Bates, of Stevenage.

THE STRAND.

THE "COURIER" OFFICE.

IN a late number of the *Builder* you state that, in a room of the first-floor of the house No. 345, Strand, "at one time the office of the *Courier*, Lord Palmerston is supposed to have made his maiden speech." In this, I think, you are mistaken. The house of which you speak was the office of the *Courier* only in its latter days, previous to which it was in a house further westward. In a little book, "A Companion to the Theatres," which I wrote in 1829, in the frontispiece, the *Courier* office is shown to be the house east of the English Opera-house entrance. The *Courier* house front, which I remember many years, was of Egyptian character in the lower floor, and is shown in Cooke's nice print, "Old Exeter Change." It was, I think, removed on making Wellington-street. In the "Picture of London" for 1810, it is stated to be No. 348, Strand. Still, I am not certain that this was the Palmerston house; for the *Picture of London*, 1806, among the evening papers, gives, "*The Courier*, opposite Somerset House." Now, here are *three Courier* offices; and, as Lord Palmerston began his political career in 1806, his maiden speech to which you refer may have been made in the last-named house: the *Courier*, indeed, seems to have changed its office as often as its politics. Excuse this "cartrope" note; but identification of London localities is a dear subject with your old reader,

Gray's Inn. JOHN TIMBS.

"THE *BUILDER'S* BREAKFAST."

AN "unemployed workman" who regards "The *Builder's* Fire" as now "an established institution," proposes that another of our suggestions should be called "The *Builder's* Breakfast," as being a cheap, good, and fitting adjunct to "The *Builder's* Fire." Though evidently an Englishman, he becomes quite eloquent on the merits of Scottish oatmeal porridge;—or rather of a new formula of his own for the use of oat-grits not quite ground to meal; as a nutritious, pleasant, and wholesome breakfast for the working man, whether employed or unemployed. He says he cannot "stomach" the real Scottish porridge (though Her Majesty relishes it); but he takes a fourth or a third of a pint of oat-grits (cost 1½*d.* or 1¾*d.*) and puts it into a quart jar, which he fills up with water and sets by the fire (in the oven or on the hob) for six to twelve hours, when it forms "a beautiful thick farinaceous substance, very palateable; particularly so if you can give it a dusting of sugar and take it with a cupful of milk." This, he says, forms "a breakfast fit to set before a king." The usual mode of making porridge in Scotland is different. The oatmeal is simply stirred into boiling water, and boiled for half an hour till thick and pasty, a *quantum suff.* of salt being put in; and it is supped,—or eaten, as an Englishman would say,—with milk; or failing that, with treacle, sugar, or beer. It would be well for an English cook, however, not to stir the dry meal into the hot water, otherwise "knots," offensive to the taste of many, though purposely produced from liking by others, may be the result. This is easily avoided by first moistening the meal with cold water; and then pouring it, by degrees, into the hot water; stirring meanwhile with a "porridge stick" or long spoon; and the stirring must be kept up every few minutes, till the porridge be fully cooked, otherwise it may "singe," and acquire a disagreeable flavour. Oatmeal, we may add, also makes a cheap and excellent substitute for more costly "stuffing," as in a small "flap" of mutton or veal. It is first mixed with a little finely-minced suet and onions, peppered and salted, and then moistened with a little water. Those who once know the savoury taste of such stuffing, are likely to stuff themselves with it again and again. Oat cake, such as the Princess Alice begged from a cook in "the land o' cakes," makes a capital lunch, with a little bit of cheese, and is much used in Scotland, in preference to wheaten bread itself. It is simply made with water and salt, rolled into very thin paste, the thinner the better, and cooked on an iron plate, or in a hot oven. In buying oatmeal in England it ought to be tasted; and if bitter it is bad and should be rejected.

ARCHITECTURAL INSTITUTE OF SCOTLAND.

THE council, in their report which was read and approved of at the annual general meeting of the Institute on the 5th of December last, state, with reference to the endeavours they made to obtain such a representation of the state of architecture in Scotland, at the International Exhibition, as might be worthy of the country, "that complaints were made by exhibitors that the Scotch drawings were not favourably placed. Remonstrance was made with those in management in London, but without effect; and it will be for consideration, upon any similar future occasion, what steps shall be taken to secure for Scotland an equality of position with England."

Some misconception on this head must surely exist.

The following is an abstract of the treasurer's accounts with the architectural Institute of Scotland, for the year ending 31st October, 1862.

Charge.

1. Balance—			
In treasurer's hands at close of last account	£0 14 6		
In account with British Linen Company at ditto	99 13 4		
	£100	7	10
2. Annual subscriptions, 1861–62, received	105	0	0
3. Arrears of former years' subscriptions received	6	6	0
4. Interest on account with British Linen Company to 15th April last	3	2	6
5. Special fund for endowing a chair of architecture, consigned in British Linen Company's Bank on Deposit Receipt, at 31st October, 1861 £18 19 3			
Interest thereon, to 31st of October, 1862 0 7 2			
	19	6	5
	£234	2	9

Discharge.

1. Rent, taxes, &c., paid for rooms, 89, George-street, and for meeting in Queen-street Hall	£28	12	9
2. Printing, advertising, &c.—			
1. Printing £26 17 4			
2. Advertising 2 16 0			
3. Periodicals and books for Prizes 17 1 0			
	46	14	4
3. Miscellaneous general expenses, including secretary and treasurer's outlays, postages, carriages, and expenses of collections	15	13	7
4. Subscription for memorial to Prince Consort	10	10	0
5. Amount in Deposit Receipt of British Linen Company, on account of fund for endowing a chair of architecture, dated 31st October, 1862	19	6	5
6. Balance—			
In British Linen Company's Bank, at 31st October, 1862 £111 13 4			
In treasurer's hands at ditto 1 12 4			
	113	5	8
	£234	2	9

THE FILTHY STREETS OF LONDON.

WHEN our army was in Pekin the dirty state of its streets was sarcastically commented on by many a British soldier. We wish a whole army-power of sarcasm could be brought at once to bear upon the abominable filth of the streets of London; for nothing short of that, we do believe, will shame either the authorities or the citizens out of that self-satisfied complacency which induces them even to take a pride in such nastiness, as an unparalleled evidence of "the immensity of the traffic, sir," through their wonderful city. It never seems to enter into their calculating heads that immensity of traffic implies immensity of means and resources, and therefore only renders their filth and their self-complacency under such a state of things all the more disgraceful and abominable. There is really not the slightest excuse for it.

What a subject this is for the contempt of those foreign visitors whose "dirty habits" no one is more ready to sneer at than a Londoner! It is most disgusting to be obliged to traverse his nasty streets. No wonder that leather leggings are becoming universal in such streets and among such mud-larkers!

It is some little consolation, though we believe a very poor and hopeless one after all, that the City police, at least, appear to have at length woke up for a moment to an obscure sense of the nuisance; and have issued a notice to house occupants to cleanse the pavement in front of their respective houses in the City, under a penalty of 40*s.*, according to the City Police Act; but unfortunately the City is but the small core of the vast metropolis; and nothing short of legislation on the subject will be of any use, we fear; if even that suffice for the Herculean work of cleansing out this Augean stable.

HOUSES OF THE DANGEROUS CLASSES.

MANY years have passed since we first pressed on the attention of the public the fact that the extent and danger of the under-currents of London society were not duly known and understood: that lying in the dark shadows of London;—bred in town swamps; and living in the midst of vice, ignorance, dirt, and social degradation, an army of rough and desperate men and women existed, unsuspected and uncared for. They are to be counted in thousands. An execution or a local riot sometimes brings them into daylight and the streets: but at ordinary times they are to be found only where they live massed together, and under such conditions that improvement is impossible. We have shown some of these slums, and how they act on the condition and character of the inmates; the effect on the children born in them; and the danger to all constantly resulting from the existence of such a state of things. From these vice-producing quarters the prisons are supplied, and in these places, when liberated from prison, the convict finds his base of operations in continuing what to him is viewed as the business of his life. These spots, this aggregation, are well known to the police and authorities, and it would seem strange that they should be allowed to remain without some efforts at suppression and distribution.

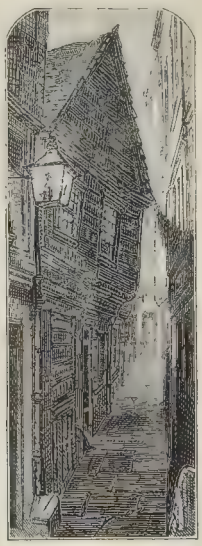
Such haunts as these, it may be noticed, generally lie in situations which are reached through complicated turnings. Take, for instance, the neighbourhood of Lamb and Flag-court, near the Sessions-house, Clerkenwell-green, where narrow courts and alleys run in all directions, like the burrows of a rabbit-warren, so that the inhabitants have the opportunity of returning to or leaving their homes in many varied directions. Costermongers and others live in parts here, but there are also many inhabitants who have for years past never earned a penny honestly. In such neighbourhoods will be found marine store-shops, the proprietors of which manage their business loosely, and in many cases are receivers of stolen goods. There are also low beer-shops, to which well-known thieves and those connected with them resort, and where *business* is arranged. The management of beer-houses calls for the attention of the Home Secretary.

The large body of people who prey upon the honest portion of the community—the ticket-of-leave men, the returned convicts,—chiefly live in the most wretched homes; and there is every indication that although there may be short and sudden glimpses of prosperity, upon the whole the trade is a bad one, and that after all, "honesty is the best policy." Even in connexion with a successful stroke of business, a chief part of the plunder goes to the receiver, and the remainder is usually rapidly spent in dissipation, waste, and drunkenness.

Many pictures might be sketched in the locality just mentioned, but we will pass on to Argyle-square, King's-cross. At the south-west corner of this square, which is formed of good houses, inhabited by respectable families, there are some narrow roadways and passages which lead towards Cromer-street and Judd-street. Various depredations have taken place around here, and but a short time ago an old gentleman was knocked down in the open street and robbed in the forenoon and the bright sunlight. Since then a policeman has been kept constantly on duty at this point; and the officer will tell the inquirer that there is sufficient need for his supervision, for round about thieves and their companions abound.

After leaving Argyle-square there may be seen an immense cow-shed, which can often be scented from afar, and cannot be good for those dwelling around. Nearly opposite to this is a public-house, and at the side of it are a narrow pathway and a long row of houses, many, if not all of which are inhabited by thieves, and the women, and sometimes children, who live with them. In the morning, and until towards the afternoon, these houses are quieter than those which in other quarters are occupied by working people. Now and then, however, doubtful-looking characters may be seen skulking to and from these houses; but for the chief part the inmates are resting from their unlawful labours. The houses towards the front have a decent appearance, and for the most part the front doors are open. The writer knocked at the door of many rooms, but without receiving any response. Either the inmates had, by some telegraphic communication from house to house, been told that a strange inquirer was in the neighbourhood, or else (the time was between twelve and one in the day) they

HOUSES OF THE DANGEROUS CLASSES.—*Hot-beds of Evil.*



A Narrow Alley in the Coal-yard, Drury-lane.



Barley court. Who sowed the Tares?

were sleeping after the labours of the preceding night.

At the time above mentioned one might walk here without suspecting that anything was wrong; but as the evening approaches the dwellers come forth, and towards midnight and late in the morning, this place is a kind of Pandemonium, the women being often more violent and drunken than the men. In dealing with such an evil as this, with a community so depraved, seemingly so irremediably sunk in evil, there is undoubtedly much difficulty. They must have a shelter somewhere; but at any rate great advantage would result from having such a neighbourhood as this, during both night and day, patrolled by the police.

While making sanitary inquiries on former occasions we have visited places without any protection from the police, where neither life nor property was thought safe, and have yet usually met with civil treatment. In a long narrow court in Whitechapel, with a still narrower entrance, the children and others were dying in large numbers from fever; the drainage was shockingly bad, and the people were evidently thankful that inquiry was made with a view towards saving their lives. Many had been robbed and cruelly treated in this court, still a writer for this journal examined cellars and garrets, and other places from which it would have been no easy matter to escape; yet in this instance he did not hear a rough word. He had, before calling, purchased an old-fashioned plaster figure from an Italian, and put it in his coat pocket. After his examination of the houses, one of the occupants presented him with the figure, which had been dexterously extracted from his pocket,—whether as a specimen of skill, or as a hint that the visitor had been treated with a certain amount of hospitality, was not clear.

In the streets leading from Drury-lane there are, as our readers know well, many notorious spots. Amongst these there are, perhaps, none much worse than parts of the Coal-yard,—a place referred to by us some years ago. There, many thieves find harbour. Barley-court and some of the houses adjoining are said to be almost entirely occupied by returned convicts, ticket-of-leave men, and other bad characters, both men and women. During a recent inquest it was stated by an experienced police-officer that Barley-court was one of the worst places in the metropolis. No man could enter it with safety. Not only would he be robbed, but stripped and turned into the street. Evil women and thieves of the worst class resided there. The former were even more desperate than the latter. To say that three or four persons were robbed and stripped there every week was to say less than the reality. Dr. Bennett, the medical officer of St. Giles's Workhouse, corroborated the statement of the constable, and said it had recently come to his knowledge that a man had been robbed in one of the houses and stripped naked, and that the thieves had then rolled a blanket round him, stitched him up in it so that he could not move a limb, and thrust him in that condition into the street, with a large label, on which was written the word "Thief!" pinned over his breast. Surely the allowing of such dens of infamy to exist, in which the most notorious characters assemble for the worst purposes, shows that either the power of the law at present is not sufficient, or that the police are not sufficiently active in dispersing such dangerous communities.

One of our engravings shows a long court in the Coal-yard, which, like the other spots mentioned has several entrances. The width of this court is about 31 inches, and in one part the wooden building very nearly touches the opposite side. Barley-court is near this, and may be reached either from Smart's-buildings, Drury-lane, or other points. We last saw this locality about three in the afternoon, and found the place rather noisy. Women, muddled and tipsy, were singing ribald songs. "What shall I do when I marry a soldier?" and other choruses were taken up by drunken voices. The women here are perhaps more vicious than the men. The people crowded about were more dangerous and savage than a tribe of Caffres.

It is very disheartening to view this class of society; to consider its extent, and the little chance there is of doing good either by punishment or persuasion; and one cannot but admit that this foul blot on the civilization of the nineteenth century has been caused by many years of neglect. Houses, unfit for the occupation of human beings, were left without care or inspection; great districts rose into existence without due provision of schools or churches, and thousands of the metropolitan population were allowed to be born in filth, and reared in ignorance, bad health, and vice. Few troubled themselves to go into those places when the monster, which has become so troublesome, had been allowed to grow to strength. We have now better agencies at work. The ragged-schools effect good, and the Homes connected with them often save those who are on the brink of crime; while the reformatories for those who are young, and have just been convicted of theft, will be the means of training many into industrious habits. A strong effort, however, is needed. The children, in such spots as those we have illustrated, if left to the course of events, can scarcely escape the moral sewer: they will be swept away to vice and crime,—misery and early death. It would be *cheaper* for society to send these children to a first-class boarding school, and put them in a way to be healthy and wise, than to allow them to become, as they probably will, thieves and prostitutes. It is not even a question between prevention and cure. Educate the children downwards to convicts, and cure is very nearly impossible. If you would do anything you must prevent.

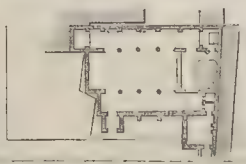
CHURCH OF ST. PANCRAS (R.C.), IPSWICH.

THE church, of which we present an interior view this week, has been recently completed from the designs and under the superintendence of Mr. Goldie, architect.

The site offered considerable difficulties, being at the end of a somewhat narrow garden plot: notwithstanding, a commodious edifice has been produced, capable of seating 650 persons, exclusive of standing room, for the sum of 3,400*l.*, including the elaborate altar, reredos, font, benches, organ-gallery, and various fittings. The church is built of Suffolk red brick, with occasional bands of black brick and Whitby stone dressings. The architect has not scrupled to accept the local material, brick, and use it freely internally in the arches and the clerestory string course, avoiding the employment of the more costly stone where possible. Externally the chancel is marked by a lofty *flèche* of wood and lead, with statues of angels of a large size around its base. The coupled pairs of principals shown in our view sustain this feature, and define the extent of the chancel within. The reredos is a lofty composition containing large statues of our Lord and the four Evangelists, under niches, supported by marble columns. Below are patterns of embossed majolica tiles. The chancel is surrounded by a low pierced wall, with red Mansfield stone pilasters. The baptistery runs out at the west end of the north aisle, and contains a carved font with red Mansfield shaft. Mr. Simpson, of Tottenham-court-road, late of Ipswich, was the contractor. The altar, reredos, and font, and the carving about the building, were executed by Mr. Earp with his usual skill.



Church of S. Pancras



Ipswich G. Gothic Arch.

THE NATIONAL PRINCE CONSORT MEMORIAL.

THE designs which have been prepared by a certain number of architects in competition under terms of which we have already spoken, are to be sent to Osborne on the 13th inst., where they are to be arranged for the Queen's inspection.

CHURCH-BUILDING NEWS.

Horton (*Northamptonshire*).—The church here has been re-opened, after restoration, at a cost of 1,700*l*. The aisle has been rebuilt, and also the north side of the nave. The walls are built in the limestone of the neighbourhood and the red Duston stone, in attenuating courses, irregularly banded. The walls are supported by buttresses, with Bath stone weatherings, quoins, &c. The windows throughout the church are of Bath stone, of Decorated character, all varying in design, with respect to the tracery in the heads. The roofs of nave and aisle are executed in pitch pine and Baltic fir. They are boarded on the top of the rafters. The rafters and principal timbers are stained, and the whole is varnished. The church has been entirely re-seated, and the architect has made use of the old panelled work. The tower has been stripped of its stucco and pointed throughout. The stone string-courses and other dressings have been restored, the Italian pinnacles have been removed, and the tower generally improved. The chancel has been remodelled and partly rebuilt. The roof is new, and has several principals, with curved ribs, resting upon stone corbels, carved with natural foliage and figure-heads. A three-light window has been introduced at the east end, and two two-light windows on the south side. All these, together with the three windows on the north of the nave, are filled with coloured glass. Those in the nave have been executed by Messrs. Powell & Sons, of London; those in the chancel by Mr. O'Conner, of London. The east window, by O'Connor, is filled with figures forming two subjects, one being the last event connected with our Saviour upon earth, the other that of His glorification in heaven. The former occupies the lower part of the three lights, and represents the tomb, with the Roman guards, in each of the side lights: in one of the two side lights are the two disciples approaching the entrance to the tomb, which is in the centre light: in the other side light are the three women approaching the tomb in the opposite direction. In the centre light are the two young men sitting at the tomb, arrayed in white. In the upper part of the centre light is a figure of the Saviour, and in each of the side lights a number of the glorified saints. In the tracery of the head are sundry emblematical representations and small figures. The seats in the chancel are of oak. The altar rail is of oak, partly gilded, and was executed by Messrs. Cox & Son, from designs by the architect. All round the walls in the sanctuary, within the altar-rail, is placed alabaster work, inlaid with marble and incised diapered work of various colours. On the south side is a sedilia; and at the east side, under the stone reredos, the alabaster work is continued. In the centre, immediately over the table, is a Greek cross—white, and jewelled with coloured marbles; and on either side of this are the sacred monograms, inlaid in the alabaster. This part of the work was designed and executed by Messrs. Poole & Sons, of London. The churchyard has also received attention. The works in the churchyard have been executed by Messrs. Perkins & Son, of Northampton. The whole of the works have been executed from the design, and under the superintendence, of Mr. C. F. Law, of Northampton. The building works have been carried out by Mr. Wilson, of London.

Ayott St. Peter's (*Herts*).—The church of St. Peter, Ayott, has been rebuilt by Messrs. Bates & Son, of Stevenage, from designs by Mr. T. G. Pearson, of London, architect; and has been re-opened for divine service. The edifice has been entirely altered, and but a small portion of the walls of the former building remain: these are worked into the present and remodelled church. The plan comprises a nave, 15 feet wide and 32 feet long, with side aisles of the same length, and 8 feet 6 inches wide. The chancel is 15 feet wide, and 22 feet 6 inches long, with a semi-circular apsidal end. A vestry and organ chamber are provided on the north side of the chancel; and over these a tower is erected, altogether 72 feet high. The nave and chancel are of equal height, and are not divided by any chancel arch, the object being to give length to the church. The apse contains three lancet windows filled with painted glass, the centre one having "The Crucifixion," occupying the principal portion of it, and the side lights respectively "The Agony" and "The Resurrection;" and above and below these principal subjects are smaller ones, as follows: "The Raising of Jairus's Daughter," "The Raising of Peter's Wife's Mother," "The Entombment," "Christ bearing His Cross," "Raising the Widow's Son," and "The Raising of Lazarus." Below these windows a reredos has been introduced (the sills of the windows being at some considerable height above the floor). The floor of the chancel is laid with Minton's tiles. The entrance of the church is at the west end, through a wide arched doorway partly in stone and unmoulded: the capitals to the columns are, however, carved. Over this doorway is a large circular window, nearly of the full width of the nave, of very simple tracery, but filled with painted glass. In the centre of the window is a majesty, and in the seven compartments surrounding this are figures representing the seven cardinal virtues in slightly tinted glass with closed borders. The nave is divided from the aisles by two plain brick arches on each side, supported on stone columns with carved capitals. The whole of the church, inside and outside, is of red brick, with stone used as weatherings only; and the windows are all simple lancets. The roofs are all open, and of deal, and boarded. The seats have sloping backs, and are made of pitch pine.

Guildford.—Tenders for a new Congregational chapel have been advertised for. The chapel will be in the Geometrical style, with elevations fronting North-street and the Leapale-road. The general walling will be of local stone—the Bargate—of which the new halls, the militia barracks, &c., are built, contrasting with dressings of Bath stone. The large window of the gable in the principal front towards North-street, will be 20 feet high, of four lights, with traceried head, under which will be an arcading of five bays, with three two-light windows. The interior dimensions will be 63 feet by 47 feet 6 inches, with a clear height of nearly 40 feet from the floor to the centre of the ceiling. There will be accommodation for 700. The estimated cost is about 2,500*l*. Mr. Peake is the architect.

Whatlington (*Sussex*).—The church of this Wealden village has been restored and re-opened. The restoration has been effected at a cost of 1,200*l*., of which the Countess Amherst, the patroness of the living, has contributed 400*l*. Both interior and exterior have undergone a change. The walls have been plastered on the exterior. The roof has been re-constructed throughout; and instead of the old bell-turret, a tower has been erected on the north side. The porch has been rebuilt. The interior walls have been re-plastered, the gallery at the west end rebuilt, and open sittings provided, beneath which hats can be placed without being crushed. The interior of the roof at the chancel is composed of cedar, which emits a pleasant fragrance; and the other part consists of oak. The whole of the windows have been re-constructed, and cathedral glass has been used for the purpose. Two new windows have also been opened. At the east end, over the altar, there is a large window composed of stained glass. In the centre there is a representation of the Crucifixion, with Mary, the mother of Jesus, at the foot of the Cross. On one side is Mary Magdalen, in an attitude of devotion, and on the other side that beloved disciple, St. John. On each side of the chancel there is a window of stained glass, with the figure of an angel having a scroll in his hand. At the west end of the building, above the gallery, is a small circular-shaped window of stained glass, in the centre of which is a triangle surmounted by a dove, descending. The pulpit and reading-desk are of oak, carved. The pulpit was made in Paris from the Rev. J. A. Hatchard's design. At the pedestal there are three figures, representing Faith, Hope, and Charity. The pulpit itself is of hexagonal shape; but, being erected against the wall, only five sides are visible. The masonry and carpentering work have been carried out by Messrs. Adams and Pankhurst, under the superintendence of the architect, Mr. S. W. Tracey, of London.

Tenterden.—The Ecclesiastical Commissioners, have given orders to their architect to thoroughly restore at their expense the chancel and east window of Tenterden Church. The date of the chancel being about 1,100, the new window is to be of the Early English style, and will be filled with stained glass.

Tunstall.—A new chapel and Sunday School have been opened here. The building is in a plain Gothic style of architecture, and the material chiefly red and blue brick. The chapel, which is over a basement story 12 feet high, comprises also a school-room, and is approached by two entrances, with staircases on each side. The floor over the entrance lobbies between the staircases is fitted up with rising pews in the form of a gallery; forms being used for the other portion of the chapel, which, as soon as funds will allow, is intended to be fitted up with low open benches. The roof timbers where seen and other portions of the woodwork in the interior are stained and varnished. When completed, the chapel will seat 300 persons, and the cost already incurred is about 400*l*. Mr. Beech, of Tunstall, has been the general contractor for the work, which has been carried out from designs furnished by Mr. Ralph Dain, of Burslem, architect.

STAINED GLASS.

St. Margaret's, Leicester.—The east window of this church is now filled up with stained glass. The glass in the five lower compartments is by Mr. Willmott, and the five upper compartments by Mr. A. Gibbs, London.

St. Alban's Abbey.—A stained-glass window (thirteenth century), which was exhibited in the International Exhibition, has just been placed in the south aisle of the baptistery in this abbey. The window, which is by Messrs. Heaton, Butler, & Bayne, illustrates the "Baptism of our Lord," and its anti-type the "Passage of the Red Sea." The border is composed of conventional foliage, in which birds, reptiles, &c., are entwined. The arms of the Rev. Dr. Nicholson, the rector, and of the borough of St. Alban's, are also introduced.

St. Mary's, Thame.—The west window of this church, 20 feet by 17 feet, in the Perpendicular style, having been for some time undergoing a thorough restoration, and having now been filled with stained glass, was opened on Christmas-day. The window, designed and executed by Messrs. O'Connor, of London, was exhibited in the International Exhibition, and obtained a prize medal. It is composed of six main lights, with transverse mullions and tracery in the sweep of the arch, and is illustrative of the three great epochs, viz.—the Fall of Man, the Means of Grace, and the Restoration of Man. The idea is carried out with two subjects from the Old Testament for each epoch, thus: — For the Fall of Man—1. Adam and Eve eat the Forbidden Fruit; 2. Adam and Eve are expelled from Paradise. For the Means of Grace—1. The Passage of the Red Sea (type of Baptism); 2. Abraham offering Isaac (type of Holy Communion). For the Restoration of Man—1. The Feast of the Passover; 2. The Lifting of the Brazen Serpent. The tracery has in the lower series of lights figures of the twelve minor prophets: above these are figures of the four major prophets, Isaiah, Jeremiah, Ezekiel, and Daniel; over which again stand Noah, Abraham, Moses, and David, each figure in a separate opening: surrounding these figures are cherubim; while in the seven centre lights of the tracery are represented the seven gifts of the Holy Spirit. For this ornament the church is indebted to Mr. Acton Tindal, and his family.

Trowbridge Church.—A memorial window has been placed in this church by Mr. and Mrs. George Webb. The window is of stained glass. The subject is that of the Shunamitish woman and her son, from 2 Kings iv. 19 to 36. The tracery is surmounted by the subject in Matthew xix. 34, Christ blessing little children. The work was executed by Mr. Bell, of Bristol, and has been fixed by Mr. Jos. Berry.

Rottingdean Church (*Sussex*).—This church has been embellished by the introduction of stained glass into all the windows in the south aisle. These windows have been put up to the memory of the late Dr. Smith, by his former pupils. The windows were executed by Messrs. Clayton & Bell, of London, and represent a variety of scenes in our Saviour's life — "The Nativity," "The First Miracle," "The Call of Peter," "The Woman at the Well," &c.

PROVINCIAL NEWS.

Colchester.—A new rectory-house is about to be built for the incumbent of St. Botolph's, in Priory-street. Mr. H. W. Hayward is the architect; and Mr. S. C. Mansfield the builder. The materials are red brick, ornamented with black leaders in diagonal patterns, and Caen quoins and window-dressings.

Poole.—The new Sunday schools of St. James's, Poole, have been opened. They are capable of accommodating about 800 children. The building

was designed by Messrs. Crecke & Parken, of Bournemouth: the builder was Mr. Wickham; and the painting, &c., was executed by Mr. Joseph Moores.

Worcester.—The new police-station premises, in Copenhagen-street, are now completed. The proposed alteration of the magistrates' court, &c., in the Guildhall, will be soon proceeded with. The new station consists of dwelling-houses for the superintendent, in front of the premises; and for a sergeant, in the rear; superintendent's office, large charge-room, six cells (the old station had but two), warmed with Haden's hot-air apparatus, which is intended also to warm the magistrates' court, &c., in the Guildhall; and ventilation and other requirements seem to be provided for. Mr. Rowe, city surveyor, was the architect of the new station.

Swansea.—A company has been formed here under the Limited Liability Act, and called "The Swansea Public Hall Company." The amount of capital required is 3,000*l.*, which is to be raised in 3,000 shares of 1*l.* each; and nearly 2,000*l.* have already been secured. The site selected is in the Willows-fields fronting Mansel-street, and will have a new road leading to it from Grove-place. The new hall will be on a large scale, as it is intended that it shall accommodate as many as 1,800 persons, together with an orchestra of 300 performers. The block plan, too, will be so arranged as to allow of additions being made when necessary, without inconvenience.

Monmouth.—There is a project on foot to convert a portion of the new Market-house—a building which unfortunately is already tottering to its foundation—into a Corn-exhange. Plans and specifications of the proposed alterations, in order to convert a portion of it into an exchange, have been submitted by Mr. C. Lawrence, builder. The designs have been sent, by a meeting of farmers, corn-dealers, and others, to the mayor and corporation of Monmouth, soliciting them to call a meeting to consider the subject of a Corn-exchange for Monmouth, and to view the drawings, &c. There is no doubt that a Corn-exchange is greatly wanted at Monmouth; but the propriety of turning the new Market-house into such a purpose is open to grave objections, both on legal grounds and those of expediency. It is well-known in the town that the upper part of the building has long been considered in a dangerous state, owing to its defective foundation.

Sheffield.—The new Club-house which has been for some months in course of erection at the corner of Norfolk-street and Mulberry-street for the Sheffield Club, is now completed, and opened for the use of the members. The building has been erected from the designs of Mr. M. E. Hadfield, and under his personal superintendence. The entrance-hall is approached from Norfolk-street by three steps. It has marble pedestals, in one of which is an open fire, and in the other a coil of pipes for heating by water this part of the house. A flight of six steps, 10 feet wide, with single blocks of Darley stone, to serve as pedestals for bronzes or statues, forms the approach to the staircase, and thus raises the coffee-room, which is the principal apartment on this floor, above the street level. The coffee-room is 45 feet long and 25 feet wide, and 14 feet high. There are six windows, 10 feet high and 4 feet 2 inches wide. On the ground floor are also the steward's office, a breakfast or morning room, 18 feet by 14 feet, and lavatories and retiring-rooms. Returning to the staircase, which is 5 feet wide, and entirely of Elland-edge stone, with electro-bronze balustrade, we ascend to the first floor, on which is the reading-room or library, 45 feet by 27 feet, and 14 feet high. On this floor a corridor, 6 feet wide, gives access to the committee-room and private dining-room. The staircase is continued to the second floor, and terminates in a pavilion. The billiard-room (the same size as the reading-room) occupies the front. It has a dome-light, with counter-light of ground plate glass. Adjoining is a small smoke-room, and *en suite* are dressing and bath rooms for the use of the members. On the upper floor are seven lodging-rooms for the household. There is a stone stair from the basement to this floor. Communicating with each corridor; and on the basement floor are the kitchen, offices, rooms for the steward and servants, larder, wine cellars, and a back entrance into the area communicating with Mulberry-street. The builders were Messrs. Craven, Hayball, Pitt, Harrison, J. & C. Ellis, and Kitchen. Messrs. J. & J. Rodgers have executed the painting and decorating.

Scarborough.—The Scarborough Cliff Hotel Company's directors have resolved that early in January tenders shall be sought for the old material of such of the houses on the east side of St. Nicholas Cliff as may then be in possession of the company, with a view to a portion of the site of the proposed hotel being cleared by March or April next.

THE STAGE.

Haymarket Theatre. — Shade of Johnson! "Rasselas" in a burlesque! Yet so it is; and what the burley objurgator of puns would say if he knew that his story was made the groundwork of a Christmas extravaganza may be guessed. Pieced with "Dinarbas," it has served Mr. Brough, and gives an opportunity for the display of some *quasi*-Egyptian scenery, and for the introduction of Miss Louise Keeley to the stage of the Haymarket. The first scene would not bear archæological criticism, but it involves water, mountains, and piled-up Martinesque buildings; and is gay and effective. Originally the piece was intended to introduce a panorama of the Holy Land, as visited by the Prince of Wales; and Mr. Telbin, as we stated at the time, journeyed through the country with his son, and made the necessary sketches. Fever, however, on his return was the consequence of his travel, and unfortunately prostrated him, so that the panorama is postponed. It is to be hoped, however, that we may still have it. The Holy Land portrayed by the able hand that set forth Killarney last year at the Lyceum, would be an enjoyment. *Lord Dundreary* still runs his course at the Haymarket, satisfactorily to the manager. But London playgoers would be glad of some variety. We are not amongst those who revile the British public for the favour they have shown *Dundreary*. We say now, as we said on its first production, that it is one of the most complete assumptions of character ever seen on the stage: the piece itself, moreover, is now very amusing, and it is well helped by Mr. Buckstone himself.

New Adelphi Theatre.—At the Adelphi, under the title of "George de Barnwell," a burlesque and pantomine, the work of Mr. Byron, are given, which are independent of each other, the only connexion being that of sequence. Both are good of their kind;—the first distinguished by the capital acting of Miss Woolgar and Mr. Toole (excellent artists), and some gay scenery; and the second by the remarkable performances of the two French contortionists, Bertrand and Arthur. One of these carries the dislocation of the body at the junction with the legs to the extreme of safety point, and withal in so quaint and easy a manner that the feeling of danger is avoided. They are certainly one of the sights of the day. For the first scene of the burlesque, "Where Fancy was bred," and the opening scene of the pantomime, wherein fairies by the dozen drop from the skies (happy time!), Mr. C. S. James deserves much praise for skill in his art.

THE STORY OF THE SALE OF SAINT THOMAS'S HOSPITAL.

IT is worth while to record the history, briefly, of negotiations which led in the end to the destruction of old St. Thomas's Hospital. Work must be eventually done by a few, but a report must be made from time to time to a larger controlling body on whose vigilance depends after all the judicious and economical management of all public matters. Here is an affair which never would have drifted into such miserable confusion if the body of governors had actively looked after the grand committee, and if the grand committee had not abandoned in turn their work and duty to two or three persons.

The Charing-cross Railway Company desired to extend railway accommodation from the Borough to the West End,—a mere business, money-making or money-spending affair,—but one of very great public good; not merely of general comfort, expediting transit, and helping to relieve the crowded streets; but also it was a matter greatly affecting public health; clearing away old buildings; forcing a direct passage through lofty walls of houses; and bringing along the course of the railway a broad river of fresh country air, flowing unimpeded right up to the centre of the densest population; enabling many thousands to pass quickly and cheaply to their suburban homes; leaving their empty dwellings in town to be taken by others who had before lived in more unhealthy corners. The alley and the court are well supplanted by the lane and street. He who did live in the lane is promoted to the street; and he of the street to Blackheath or Lewisham; while the less fortunate tenant in the alley is advanced to the lane or the street,—no great good in the eyes of the rich man, but an immense gain to the poor man himself. Foolish, indeed, has been the outcry against railways,—that they have destroyed the dwellings of the poor. They have destroyed places that it was the greatest good should be extirpated: they have opened up new homes of indefinite number for the fortunate classes: they have caused to be left vacant, improved homes for those to take who cannot remove far from the centre of industry. Hence the projected railway should have been welcomed as a friend to the hospital, and encouraged in its sanitary work; instead of which, by a narrow prejudice, the railway was treated as an enemy, to be harassed and driven away, if possible. Why, even on less general grounds, the railway should have been *invited* to come within a few yards of a corner of the hospital, and to make an hospital station touching its very premises; by which means the sick, when advanced beyond the crisis of their sufferings, and being in a convalescent state, might have been carefully, and without fatigue, removed even in their beds, upon a properly constructed invalid-carriage, to a country asylum, where in purest air their recovery might have been quickened, and thus suffering, time, expense, and wages saved. If the hospital people had been alive to their own and the public interest, they would cheerfully and liberally have co-operated in a most friendly manner with the railway. The railway, seeing the liberal terms they offered, through all their negotiations, would have paid all costs of such invalid-station, and would have made most cheap terms for the conveyance of hospital patients to the country; and that might have been obtained *for nothing*,—*literally nothing*,—for St. Thomas's, which, in the course of a few years, every hospital in London will be enforced to create at the cost of many thousands,—namely, *a county convalescent establishment*. One desires that bygones shall be bygones, except that past experience must teach people to look after their affairs, and not abandon them all entirely to an active little sub-committee. Now for the money matters.

When the Charing-cross Railway were pursuing their Bill in Parliament, the hospital considered the railway would be an enemy injurious to its interests and the comfort of its patients, and opposed the Bill. A small piece of ground was required, which belonged to the hospital. It was open garden ground: to get rid of opposition in February, 1859, the railway offered, for this 1-16th of an acre, 10,000*l.*, which was refused. Again, in April, 1859, they offered 20,000*l.*, which was refused: they then shortly after offered a rent of 6,000*l.* yearly, which was refused. The Commons, however, passed the Railway Bill, notwithstanding the vigorous opposition of the hospital, who employed four counsel, Messrs. Brougham, Paget, Johnson, and Burke.

Indeed, so wildly liberal was the offer of 6,000*l.* per annum deemed by all parties, that actually the lawyers and all others on both sides agreed to it: all considered further opposition at an end; and it is said an agreement was prepared; nothing wanted but the signature of one person, which was relied upon. When, said the Authority, "Make it 9,000*l.* (!) and I will sign." The railway people, who had had time to cool and repented of their liberal terms of 6,000*l.*, broke off indignantly all further negotiation in the Commons. When the Bill was in the Lords, to get rid of opposition, an offer was made to build on a more convenient site a new wing, equal in size and accommodation to the north wing, with a new treasurer's house, church, &c. &c., at the cost of from 40,000*l.* to 50,000*l.* All was again refused.

When, at last the company got their Act, then said the hospital, "You shall take all our place—all or none: we will not let you have a part only." On this, application was made to Vice-Chancellor Wood to enforce the whole purchase under the Lands Clauses Act. The hospital employed again five counsel, the Attorney-General (now Lord Chancellor), Messrs. Rolt, Giffard, Baggalley, and MacNaughten, the railway paying, in all this litigation, only, of course, the costs after being taxed; so that three-fifths of the whole will fall on the charity. After the decision of the Vice-Chancellor it went to arbitration. Two arbitrators were appointed, who could not agree upon their umpire: probably they never intended to agree. Reference was then made, according to the provisions of the Act, to the Board of Trade. Mr. McGregor named the usual professional person, Mr. Powell, but this did not please; and at last Mr. Stewart, of Liverpool, was appointed, with, of course, the consent of both parties. Why Mr. Powell was put aside for a gentleman from Liverpool, who could know so little of London property, is a profound mystery, which may some day be unravelled.

The hospital surveyor valued the four acres of land at about	£70,000
The buildings as a hospital	105,000
Inconvenience and cost of removal	50,000
Total hospital valuation	£125,000
The company's surveyor	£180,000
As old materials only	11,000
Inconvenience, &c.	50,000
Total railway valuation	£241,000

The mean of this is 333,500*l.*, and there is no doubt this sum might have been obtained. They got 296,000*l.* after having originally claimed 750,000*l.* Rumour says that the company would have given 400,000*l.*, and Mr. Powell was inclined to think 350,000*l.* the value.

The costs of all this are as yet unknown; certainly not less than 16,000*l.* or 18,000*l.* Claims of 8,000*l.* have been sent in for professional fees, and about 5,000*l.* have been paid. Here are a few of the professional charges:—Mr. Hunt, 1,050*l.*; Mr. Currey, 1,000*l.*; Mr. Clarke, 740*l.*; Mr. Marrable, 740*l.*; Mr. Pownall, 250*l.*; Messrs. Tite & Clifton, 1,480*l.*

Of all this expense the railway will only have to pay the taxed costs, which will certainly leave 5,000*l.*, out of these 8,000*l.*, to come out of the charity funds.

It must be noted that Mr. Tite had given the munificent donation of 1,000*l.* to the Medical School, so that there is a balance in the favour of his firm of 480*l.* I do not learn that any other of the professionals have allowed any such handsome discount to the charity.

That this noble charity has parted with its property for a sum much under its value—either by means of jobbery or incapacity—is well shown by the corroborative evidence that several parcels of land have been subsequently let at very different prices in the Borough. The Alliance Bank has taken a piece of ground at 500*l.* per annum rent, which, when capitalised, is at the rate of 260,000*l.* an acre. Another property has just been taken on a twenty-one years' lease, at an improved rent of 750*l.*, which is at the rate for the freehold of 298,000*l.* per acre, in no better situation than the frontage of the hospital. The site of the old Town Hall has lately been taken at 500*l.* a year; the area about 2,090 feet superficial: this would indicate a freehold value of more than 250,000*l.* per acre.

Now the hospital ground of four acres, with buildings, and including compensation for inconvenience of removal, has only obtained 74,000*l.* an acre, or 296,000*l.* for the whole. Surely it must have been worth 150,000*l.* an acre if these facts in the same immediate locality indicate anything.

I. H. E.

COST OF COTTAGES.

SIR,—Observing in your journal of the 27th of December last a report of the proceedings of the Society of Arts subsequent to the reading of Mr. Taylor's paper on "Cottage-building and Sanitary Appliances," Mr. J. Bailey Denton is reported to have said that—

"Much has been endeavoured to be done by prizes and the efforts of various societies; but it was a fact that not one of those prize designs had provided for buildings that could be erected for the money which was stated as a necessary condition to the premium offered."

Also that—

"No point would strike them more forcibly than the fact that none of those designs could be built for anything like the price estimated."

And again,—

"A pair of cottages should be built for 200*l.* It might be asked why he had put them at that sum? The reason was this. In all the designs which had received commendation or prizes, there were none the estimates for which exceeded that sum."

Now, being the author of the design which obtained the 25*l.* premium last given by the Yorkshire Agricultural Society for a pair of labourers' cottages, to contain five rooms each, and not to exceed in total cost 220*l.*, I am able to rectify the whole of the above statements, which I am surprised Mr. Denton should have made, seeing that, as an unsuccessful competitor for the second prize, he had the opportunity of making himself better acquainted with the real facts of the case.

I need simply refer to the published report of the society, No. 24, in which my detailed estimate is given at page 37, amounting to 210*l.* 14*s.* 1*d.*, and not "under 200*l.*" Also at page 23, in alluding to the actual cost of the cottages, as built by the Leeds Committee of the Royal Agricultural Society, the following remarks:—

"This pair of cottages was built for the Leeds show, just opposite to the entrance to the show-yard at Armley. The contract price for the pair was 212*l.* 10*s.* The cottages, as they appeared at the show, actually cost 224*l.* 16*s.* 5*d.*; but, of the extra 12*l.*, 5*l.* 12*s.* was for work in the foundations, in consequence of their being built over a hole, and about 5*l.* was for inscription-tablets and signboards, forming no part of an ordinary cottage. The pair of cottages, therefore, with the necessary out-buildings, would certainly have been built at Leeds, on level ground, for less than 220*l.*"

A large number of these cottages has since been built from my plans and specifications in various parts of the country, and there are numerous instances of the cost not exceeding 220*l.*, although there are many remote localities where materials and labour are so costly as to necessarily increase the expense beyond that sum.

Not looking upon the erection of good cottages at remunerative prices in such a hopeless light as Mr. Denton, and not wishing to discourage the stirring endeavours now being so largely made to solve that problem, must be my excuse for troubling you at such length.

JOHN ROSS
(late Richardson & Ross).

THE CATHEDRAL AT TUAM.

SIR,—Your Irish correspondent, in the last number of the *Builder*, attributes an act of Vandalism to the architects of the cathedral at Tuam, which I can hardly allow to pass without some notice. I have much pleasure in sending you drawings, with explanatory letter-press, and a tracing which will, I feel confident, induce you to form a very different opinion as to the manner in which this difficult subject has been treated from that formed by your correspondent.

The existing structure, used as parish church and cathedral, the demolition of which is regretted by your correspondent as "a building of the fourteenth century, and containing very elaborate and beautifully-traceried windows," possesses, in fact, six windows of a most uninteresting type and coarse workmanship. Four of the six are in limestone, and in all probability of the fourteenth century: the others are imitations of them in wood, sanded and painted, and probably of the eighteenth century, to which enlightened period of Gothic art the tower also belongs. The building has been, in my opinion, constructed from the *débris* of a more ancient edifice; the only architectural features deserving such a name being the stone windows above mentioned.

The entrance to this structure is through the chancel-arch and triplet east window of a Romanesque building of great interest and beauty. To have added to the present building would have involved the destruction or removal of this unique ancient chancel for the sake of preserving a building which has no architectural or antiquarian feature of any value. This might, indeed, have been considered "unaccountable." This Romanesque building will be preserved at the east end of the cathedral.

T. NEWENHAM DEANE.

OPENING UP CHINA.

I BEG your powerful aid to lay before the public my plan of staying the bloody rebellion in China; and at the same time developing the very many latent resources of that mighty empire profitably; employing British capital, and adding another link to the great railway and steam-boat excursion tract round the world, *viâ* Cabool, Shanghai, and San Francisco, now looming in the future (not so distant either). My plan, sir, is simply this (pray take a good map, or globe):—Get a concession from the Chinese, and make a railway and telegraph line from Calcutta, through the valley of the Burrampootra, to Shanghai, one of our Chinese treaty ports. This would at once strike the admiration, excite the cupidity, employ the time and attention, and recall the minds of the people to that which they most love,—money-making. I take it that it would naturally follow that the British ideas of commercial and industrial development (in a word, political economy) would take deep root in that interesting country. A Young China party would make good progress, and a new civilization open up the vast resources of the greatest nation of the earth.

Now, sir, for the question—Would it all pay? The answer is:—To suppose a railway at the one end of which would be (India, 150,000,000 inhabitants, and at the other end still more, would not pay, would be in these times treated simply ridiculous; to say nothing of any traffic to Europe or America, which would take time to develop. Now that the affairs of that country are taking somewhat the attention of our public men, let them just see the thing in a feasible shape (I have for years), and it will not be so very much easier said than done.

GEO. TODD, C.E.

COMPETITIONS.

IN the month of June last, a certain committee advertised for plans, elevations, sections, specifications, and estimates for a public hall, offering the munificent sum of 25*l.* for the set of plans, &c., adopted, provided the architect was not employed to carry out the work; and a sum of 5*l.* for the next approved set of plans, &c.

At the present time, we find the same committee again advertising, "not having succeeded in obtaining plans strictly in accordance with their requirements."

Surely this may be regarded as a sign that "good men and true," young or old, are beginning to discern that *small* competitions are too speculative to be worthy of notice, and that in time, therefore, we may hope to be fairly rid of them.

The advertisement seems at a glance to reflect the highest credit on the discriminative powers of the members of the committee; but it also gives rise to a feeling that, if they be *thoroughly* acquainted with their requirements, it would be wise and just to put the matter into the hands of some professional man at once, since the only use of a competition is to obtain *various* interpretations of the stated requirements.

AUGUSTUS FREBE.

LIVERPOOL EXCHANGE COMPETITION.

SIR, I have just returned from Liverpool, where I have been to make some inquiries respecting the competition for the new Exchange there, and learnt, what probably many of your readers would also wish to know, that it was stated at a meeting of the committee, although not mentioned in the conditions, that it was intended that the *prize* of 1,000*l.* was to merge into the architect's commission.

The committee charge a *guinea* for the conditions and plan of site;—a few papers that have cost perhaps a few shillings.

AN ARCHITECT.

THE PUBLIC LAMPS IN THE CITY.

ANOTHER report on this subject has been made to the City Sewers Commission, by their engineer and surveyor, Mr. Haywood. He states that since his last report and that of Dr. Letheby, after which the Commission resolved to burn by meter, and tried some experiments on the subject, he has found the result to be that "by the Great Central Gas Company twelve per cent. less gas is given than is contracted for, and twenty-five per cent. less by the Chartered Gas Company." In reference to certain contrary results alleged on the part of the gas companies, Mr. Haywood remarks that burning by meter will alone set all doubts to rest and do justice to all parties. Carburation he regards as an independent question; but when the gas is burnt by meter, the carburation will not be interfered with by the companies: meantime, however, the reporter expects a decided saving by this means. The fixing of the meters to the lamps is also considered. The companies, it appears, insist on a separate meter to every lamp, and Mr. Haywood recommends that the meters be fixed upon the brackets of those lamps which project from walls, and in wells or pits beneath the others; but he anticipates a more ornamental and sightly description of street lamp, in which the meter will be enclosed at the base of the lamp itself.

In connexion with this subject we may here point attention to a new lamp column. It has been purposely designed by Mr. E. H. Thorman, engineer of the West Ham Gas Works, to meet the difficulties hitherto experienced in supplying public lamps by meter, and is mounted with Burnett's patent reflecting and flame-regulating lanterns, as described in the *Builder*.

Books Received.

Solutions of Questions in Arithmetic by First Principles. For the Use of Teachers and Students. By WALTER M'LEOD, F.R.G.S. London: Longman & Co. 1863.

MR. M'LEOD is the head master, model school, and master of method, Royal Military Asylum, Chelsea, and author of various arithmetical works. His present book, which he states to be the result of many years' experience, contains full solutions of questions in simple and compound proportion, per-centages, commission, interest, discount, stocks, profit and loss, and partnership, by first principles, dispensing with rules altogether; thus solving the most difficult question by multiplication and division alone, and in a simple form, adapted for elementary instruction. Every step in the solution of a problem is thus an intellectual exercise. The method is not one which Mr. M'Leod claims as his own; for it has been recommended by some of the ablest writers on education; but no one has hitherto shown this method to be applicable to difficult problems in the higher branches of arithmetic; and this Mr. M'Leod seems to do in a very efficient way, which cannot but tend to cultivate the mental power of youth.

International Exhibition: the Industry, Science, and Art of the Age. By JOHN TIMBS, F.S.A. London: Lockwood & Co. 1863.

WE have here for the first time, in one compact and entire form, an excellent and complete condensation of the popular descriptions in the *Times*, the *Builder*, and other journals, of the principal objects and articles exhibited in the International Exhibition which has just closed. The volume, though thus in part a compilation, nevertheless contains much new writing, as well as condensa-

tion, in Mr. Timbs's own effective and correct way; and forms a very timely, useful, and interesting compendium and memento of the Exhibition of 1862.

VARIORUM.

FROM the "Third Annual Report of the Cranley Village Hospital," and the "Statement of the Medical Officer of the Cranley Village Hospital" accompanying it (Palmer, publisher, Little Queen-street, Holborn), we are gratified to notice that "the Cottage Hospital continues to afford all the advantages for which it was devised, and may be pronounced a decidedly successful undertaking." The public throughout the whole country are much indebted to its promoter, and active intelligent medical officer, Mr. Napper, M.R.C.S., for his exertions in realizing and establishing so useful an idea as that of village hospitals; by means of which much good will undoubtedly be done both in town and country. Would that the authorities of St. Thomas's Hospital, at the present critical moment in its destiny, would take a lesson from Mr. Napper, under the conviction which his important experiment is so forcibly corroborating, that town hospitals are far more fatal than country ones, whether on the large scale or on a small. No doubt, there is a necessity for both; but the St. Thomas's Hospital authorities can well afford to establish both, and will be inexcusable if they fail to do so. The lives of thousands in future years depend upon their settlement of the question of at least a convalescent hospital removed from malign and exhaustive town air influence.——"The Popular Science Review, January, 1863: Hardwicke." This new scientific quarterly sustains its character as a substantially good periodical. The leading papers comprise Notes of the Exhibition, concluding with machinery, by Dr. Fairbairn; War implements, by Captain Donnelly, R.E.; the Colonies, by the editor, Mr. Samuelson; and Zoology, by Mr. C. Collingwood. Among the other papers is a very interesting one on the planet Mars, by Mr. J. Breen, F.R.A.S., in which we can readily make a somewhat more intimate and familiar acquaintanceship with the ruddy Mars than heretofore. The paper is illustrated by several graphic coloured views of the planet, in which its general hue is depicted by a light and uniform dun or reddish yellow colour; its dark spots by varying intensities of black; and its polar snows and ices by the white hue of the paper. Now Mr. Breen, like other astronomers, regards the more restricted, outshapen, and varihued dark spots as the seas, and the uniform and more wide spread, and far brighter, dun coating as the land; but in this interpretation the views appear to us to be quite unintelligible: the varying dark streaks and spots seem to be much more like the continents, islands, and connecting necks or isthmuses and promontories of land than seas; while the uniform and bright dun hue (mottled in the telescope), in which the darker spots are embedded, much more clearly indicates seas. Moreover, we are deliberately of opinion that it is a mistake to suppose that the seas must be dark and the lands light in colour. When we take a bird's-eye view from a mountain-top, or a balloon, in our own planet, is not the land dark and the water bright? Are not the streams like silver threads running through a "dark ground?" and does not the sunlight glance off the ocean surface and its spray in a somewhat similar way, even notwithstanding the graver tint of its inner depths? Only let us look at Mr. Breen's coloured views of Mars in this light, and all becomes natural and intelligible. The snowy and icy spots near either pole are known to deviate from the actual poles, or axis, of the planet, just as the isothermal lines around our own arctic and antarctic regions show the snowy icy envelopes of the earth to do; the cold and fixed ice and snow penetrating farthest south where there is land. Now it is notable that in most of Mr. Breen's views the ice or snow spots, in deviating from the exact poles of the planet, occupy almost precisely the centres of dark spots; indicating, as we would conclude, that the dark spots are the land, and the wide-spread and uniform mottled dun tint the sea, as seen through a perhaps somewhat foggy atmosphere; or, as the spectral analysis people tell us, through an atmosphere tinged by the reddish hue of bismuth. It is remarkable that while Mr. Breen himself speaks of the diverse-shaded dark spots as the seas, and the uniform and mottled dun surface as the land, he also inadvertently alludes to the dark spots as perhaps indicative of varying surfaces such as forests and sands.——Lockwood's "Builders' and Contractors' Price-Book for 1863" has been revised by Mr. Geo. R. Burnell. An appendix gives valuable tables.——The same publishers, Lockwood & Co., Stationers'-hall-court, issue as usual, for the new year, "The Engineer's, Architect's, and Contractor's Pocket-Book," which includes the "Memorandum Book of Mr. Telford," and is full of valuable information.——Adcock's "Engineers' Pocket Book for 1863," published by Simpkin & Marshall, Stationers'-hall-court, contains, like the last, numerous tables and formulæ for use in mensuration, strength and weight of materials, &c., and lists of the members of the Institution of Civil Engineers, &c.——"The News Almanac" states that, in the year 1862, fourteen insurance companies have transferred their business;—that of these fourteen offices one was established fifty-nine years ago; another, thirty-six years; a third, twenty-nine years; and a fourth, twenty-eight years ago.——"The Utilization of the Metropolitan Sewage and Reduction of Local Taxation" (Kent & Co.), is a pamphlet, in the shape of a letter to Mr. Fred. Doulton, M.P., in the interest of Mr. Ellis's plan as against that of Mr. Napier. The main point of difference is that Mr. Napier's plan is based upon the principle of large dressings of sewage applied over a small area; Mr. Ellis's plan, upon small dressings of sewage, applied to all crops over a large area. The writer urges, in somewhat strong language, that Messrs. Lawes, Way, Morton, and Voelcker are too much concerned in the sale of artificial manures, and in an existing Fish Guano Company, to be quite disinterested in their opinions on this subject.——No. 1 of "The Sculptor's Journal" has been published (Lindley, Catherine-street). It is illustrated with a cut of the "Tinted Venus."——Amongst other works that have reached us are "The Fine Arts and Civilization of Ancient Ireland," by Henry O'Neill (Smith, Elder, & Co.); "A Handy Book on Villa Architecture," by C. Wickes (second series) (Lockwood & Co.); "The Practical Mechanics' Journal Record of the Great Exhibition of 1862," now completed as a fine volume (47, Lincoln's Inn-fields, and Longman, Green, & Co.); and Mr. Leede's Edition of "Chambers." These will receive notice hereafter.

Miscellanea.

FRENCH SORROW AND SENTIMENT.—At Montmartre Cemetery a tombstone has been erected with a colossal tear carved on it, and the words underneath,—"Judge how we loved him!"

WESTMINSTER BRIDGE AND PALACE-YARD APPROACHES.—Notice has been given to the owners and occupiers of the remaining houses situate in New Palace-yard, that they will have to vacate in the course of the month, the space being required for the new Westminster Bridge and Palace-yard approaches.

ARCHÆOLOGICAL DISCOVERIES IN ALGERIA.—There has recently been a great "find" in Algeria. The *African*, French paper, published at Algiers, contains a long account of various antiquarian treasures discovered in the course of making excavations in the French possessions. At Kreneg, nearly 200 Latin inscriptions have been found: at Lambsea many hundred objects of art have been disinterred; and extensive Roman remains, including mosaics, have been brought to light at Constantina.

IMPROVEMENT IN WHEELED CARRIAGES.—Lamentable accidents frequently take place in consequence of the wheels of carriages coming off their axles when on the road. Attempts have from time to time been made to obviate these disasters by means of complicated and expensive contrivances, for securing the nave of the wheel on the axle; and although these endeavours have undoubtedly been successful in preventing accidents in certain cases, it cannot be said that the most improved of them will ensure perfect safety; as, in the event of an axle breaking, the wheel will inevitably become detached from the carriage, which will be upset. The hitherto difficult problem of preventing a wheel from coming off the axle and upsetting the carriage, even when the axle breaks, seems at length to have been solved, to a considerable extent, by Messrs. Upfill, Morton, & Co., of Birmingham. This object is effected in so simple a manner that the expense is not great. The improved axle-box and nave are connected together so as to form one piece, and they are secured on the axle by means of tongues, which take into grooves made round the axle-tree. Unless, therefore, the body of the axletree itself breaks, the wheel cannot become detached from the carriage.

THE VIADUCT ACCIDENT AT CLAPHAM.—Means have been safely and successfully adopted whereby the subsided arches have been brought down, so that the foundations may be examined, which will next be done after the piers are removed. The cause of the subsidence will then probably be discovered, and new foundations for the erection forthwith laid.

PROFESSOR SMIRKE'S LECTURES AT THE ROYAL ACADEMY.—Mr. Sydney Smirke, R.A., delivered the first of a course of six lectures on architecture to the members and pupils of the Royal Academy on the 2nd instant, and the second of the course on the 8th. The others are fixed for the 22nd, 29th, and 5th of February. The first lecture was devoted to a historical review of the subject, and the second treated of architectural character; both founded on previous lectures, of which we have given reports.

SPREAD OF MUSIC HALLS.—A large hall, known as "Turnham's Music Hall," has been constructed in the Edgware-road, facing Chapel-street. The building, which is said to be capable of accommodating 3,000 persons, is of hexagonal form, and built in the Italian style of architecture. According to the *Observer*, its decorations are in cream white and gold. The height of the ceiling is 45 feet, and the diameter of the building is 80 feet, whilst the width of the proscenium is 40 feet, by a depth of 18 feet. The flutes of the proscenium columns are fitted with looking-glass. The cushions round the balconies are composed of crimson Utrecht velvet, and the seats in the balconies and stalls are in green and scarlet leather. The architect is Mr. J. P. Patman. In order that some idea may be formed of the elaborate character of the building, it is stated that its entire cost to Mr. Turnham will be over 20,000*l.*

RAILWAY TO CONSTANTINOPLE.—A project has just been set on foot by an engineer, named Dumont, to continue the present continental railway communication as far as Constantinople. The present European network of railways extends as far as Bazias, a small port on the Danube, 650 kilometres (⅝ of a mile each) distant below Pesth. The line from Paris to Bazias by Strasburg, Munich, Vienna, and Pesth, is about 2,100 kilometres in length, and the journey may be performed in sixty hours. This line of railway might be extended to the Black Sea and Constantinople in two directions; one by Belgrade, Servia, Bulgaria, and Roumelia, a line already surveyed by the English; and the other which would reach Constantinople by Roumania, passing by Crajova, Bucharest, Rustchuck, Schumia, and Adrianople, crossing the Balkans at the most available point, in the neighbourhood of Aidos. This is Dumont's project. The total length of the proposed lines would be about 1,500 kilometres, thus divided:—On the Austrian territory, from Bazias to the frontier of Roumania, near Orsova, 125 kilom.; from Orsova to Rustchuck by Bucharest, 353 kilom.; from Rustchuck to Constantinople by Schumla, Aidos, and Adrianople, 600 kilom.; giving a total from Orsova to Constantinople of 1,085 kilom. Branches from Bucharest to Bazias and Galatz, and those from Cernavoda to the foot of the Carpathians, would be together about 400 kilom., making a total length of 1,485 kilom."

THE GREAT EXHIBITION IN CONSTANTINOPLE. *Public Opinion* translates an article, with reference to the Turkish Great Exhibition, as a specimen of Oriental journalism, from the Constantinople native paper called "The Importer of Events." The article says:—"And within a few days definite orders will be given by the Padishah that the building be erected (if God help, and frustrate the Evil One) by the company formed under the shadow of the 'Divinely strengthened One' (the Sultan), in the neighbourhood of the sacred mausoleum of the most worthy ancestor of his Majesty the Asylum of the Universe, the late Sultan Mahmoud, now in Paradise, in the plain near the school of the Validei Mekteb, in a new and wondrous fashion. Now, although this show be specially for the things of the 'Well-guarded Empire,' yet his Majesty the Padishah, wishing to furnish the artificers and workmen who live in the shadow of his benignity an opportunity to witness with their eyes the cunning devices which, by the employment of the wondrous power, steam, and divers other contrivances, enable the Europeans to produce goods in their workshops at half the price of those wrought by hand—nay, perhaps for less—has decided that, if there be any persons who will desire to send such machines and tools, they shall be received, and that a proper and special place shall be appropriated to them in the vicinity of the show, and that such machines and tools shall be exempt from all customs duty on entering the Empire."

MONUMENTAL.—The committee appointed some time ago to raise an "Oastler Memorial Fund" have obtained upwards of 1,000*l.* It is intended to erect a full-length statue of this "Factory King" in one of the principal towns of the West Riding, either Bradford or Leeds; the former being the place where the short-time movement originated, and the latter the birthplace of the late Mr. Oastler.

DISCOVERY OF GRANITE IN DUMFRIESSHIRE. A quarry of grey granite, said to be finer than that of Aberdeen, has been discovered at Kirkconnell, on the estate of Witham, belonging to a Mr. Maxwell. The *Dumfries Courier* states that the locality has been examined by Mr. David Stevenson, of Edinburgh, civil engineer, who reports favourably both of the material and the prospect of supply. The granite will be shipped from a jetty to be constructed at Aird's Point, facing the Carse, to which it will be sent by tramway to Liverpool, Glasgow, Belfast, &c. The freights will be only from 4s. to 6s. per ton. It can also be easily sent to Dumfries.

RAILWAY TRAINS.—Last year, 1,902,069 passenger trains, travelling 44,594,359 miles, and 1,222,617 goods trains, travelling 42,973,849 miles, were run in England and Wales; 275,825 passenger trains, travelling 5,044,655 miles, and 276,152 goods trains, travelling 6,558,777 miles, were run in Scotland; and 174,445 passenger trains, travelling 4,416,462 miles, and 30,882 goods trains, travelling 1,553,338 miles, were run in Ireland. We thus arrive at the amazing aggregate of 105,141,440 miles as the railway work of the British islands for twelve months. Every mile traversed involved an outlay of 2s. 7½d.

METROPOLITAN ALBERT STATION AND MID-LONDON UNDERGROUND RAILWAY.—This proposed subterranean line of railway is to commence on the east side of St. Martin's-lane, the station being intended to occupy Bedfordbury; running thence, at a depth below the surface of 40 feet, under the parishes of Westminster, St. George's, Hanover-square, St. James's, Brompton, Old Brompton, Knightsbridge, and Chelsea, into the West London Railway at St. Mary Abbot's, Kensington; with seven branch lines communicating with the Kensington station and North and South London junction, Warwick-road, on Lord Kensington's-park, the Kensington Canal-basin, the West London Extension, near Hammersmith, Fulham, and other points of the West London Railway. The estimated cost of the undertaking is 740,000*l.*, with powers to borrow an additional sum of 240,000*l.*

BROWN'S BUILDINGS, LIVERPOOL.—The pile of buildings erected on the west side of the town-hall, by Colonel William Brown, the munificent donor of the library and museum building, has been so far completed and inaugurated. The frontage to Exchange-street is 184 feet, to South Chapel-street 143 feet, and to Rumford-street, 120 feet. The plan of the building is extremely simple, consisting of a range of buildings carried round the three fronts, with a cross range in the middle, forming the shape of the letter E, having two interior courts. There are three entrances from Exchange-street, one from South Chapel-street, and two internal staircases. There are four stories of office chambers, with vaults below the basement, and an attic at the top, containing sample-rooms, keepers' apartments, &c. The exterior is entirely built with stone; the basement grey granite from Dalbeattie, near Dumfries; the superstructure, sandstone from Cefn, near Ruabon. The style of the design may be termed Renaissance of the Venetian school, treated freely. The centre portal on the east front is flanked by two gigantic figures, 13 feet high, on pedestals supporting the entablature. The portal on the north front has two monolithic polished red-granite columns. The central group of columns on the one-pair story are also polished red granite. The internal stairs and corridors are all of stone. In the arrangement of the interior the aim of the architect has been simplicity of plan, easiness of access, and abundance of light. The architect is Mr. J. A. Picton: the contractors are Messrs. Jones & Jump; the subcontractors for the brickwork, Messrs. Smith & Son; masonry, Mr. A. Dempster; ironwork, Messrs. W. Bennett & Sons; plastering, Messrs. Potter; and plumbing, painting, and glazing, Mr. Erlam. The sculptural decorations, of which there is a large amount, have been executed by Mr. Edwin Stirling and his assistants. At the inauguration, the architect announced the fact that the owner of the premises was now Sir William Brown, bart. Sir William was present; but, we regret to say, appeared to be in a very bad state of health.

WATER COLOUR PAINTERS' LANCASHIRE FUND. The Exhibition in Bond-street will remain open till the 17th. Application has been made to the Lord Mayor for leave to exhibit the pictures at the Mansion House for a week, and it is to be hoped his Lordship will assent. The subscription for chances goes on steadily.

GAS.—The Worcester gas company's directors have announced a further reduction in the price of their gas, from 5s. to 4s. 6d. per 1,000 cubic feet.——A portion of the permanent barracks at Aldershott has just been lighted with gas from extensive works erected by the Government on the banks of the Basingstoke canal. The gas supplied is said to be pure and good, and its introduction is regarded with much satisfaction by all ranks and branches of the service. The gasworks, it is said, were erected at a cost of 22,000*l.*

THE HOLY SEPULCHRE.—The following details relative to the works for restoring the cupola on the Church of the Holy Sepulchre are given by the *Monde*:—"The French architect and the one sent by Russia, a German by birth and a Protestant, have made a minute examination of the present state of the cupola. They have ascertained that all the woodwork is so worm-eaten, that at the first heavy squall of wind the top of the cupola might fall on the tomb of the Saviour. The architects propose in the first place to construct a provisional covering so as to protect the pilgrims and the clergy from any accident. As to the cupola itself, every one has been long agreed as to the necessity of its being completely rebuilt. The architects are of the same opinion; and it will, it is said, be constructed in bronze, and be finished by Christmas next year."

ACCIDENTS.—One of the masons employed in the construction of the Bath theatre, was employed in laying stones at the end of a platform abutting on the stage-door entrance, when the support of it gave way and precipitated him into the street. He was not killed fortunately.——A plumber in Liverpool, while engaged in repairing some gutters on the roofs of the houses in Rutland-terrace, Berwick-street, placed his foot on some tallow which he had been using, and slipping fell off the roof of the house into the street below, and was killed.——An accident, illustrative of the perilously-slight manner in which cottages for the poor are built, occurred the other day at Manchester. A woman was coming down stairs in the cottage where she lived, in the Oldham-road, when she put her hand against the wall. This slight pressure pushed away the bricks, and the whole wall fell in! killing the poor woman by the fall of the rubbish. A verdict of manslaughter has been returned against the agent for the property; who, it appeared, had often, but in vain, been warned of the unsafe state of the property.——A farm-house in the west of Scotland has been split from top to bottom by lightning during a recent storm.

ANNULAR BRICK-KILNS.—The annular furnace (patented by Messrs. Hoffman & Licht) consists of a circular channel, of any section, which receives the articles to be fired; which articles are let in through doors in the outer wall, or by apertures formed in the top of the arch. Flues, of the same number as the doors, lead from the bed of the furnace to the smoke chamber, which surrounds the base of the chimney stalk. The communication can be shut off when required by means of cast-iron bell-shaped covers. A damper, which is moveable along the furnace, can be lowered in grooves let into the walls of the furnace, immediately after each flue, so as to separate the horizontal section of the furnace into distinct and equi-distant compartments. The fuel passes through apertures which are formed in the top of the arch; thence through channels, which are formed by the objects to be burned, to the bed of the furnace, in which a certain number of flues are cut to produce a free current to the fire in all parts. Among the advantages claimed are, that the atmospheric air necessary for the support of the fire absorbs the heat of the ready burned bricks and supplies the fire of the furnace with hot air, while on the other side the superfluous heat contributes to the gradual heating of the bricks to be burned, so that no heat is lost except that in the hot air necessary for keeping up the draught in the chimney-stalk. The charging and emptying of the furnace can be done at the same time and without interruption, and it is not necessary to wait for the bricks to cool. A saving is also effected in building the furnaces as compared with the old construction. The cost of these brick-kilns varies between 500*l.* and 2,000*l.* Such furnaces are at work in Germany.

EXTENT OF A HOTEL.—A hotel has just been completed at St. Louis, which is thus described:—"It is eight stories high; contains 515 rooms, 21 parlours, 27 acres of plastering, 7 acres of flooring, 32 miles of bell-wire, 9½ miles of base board, 12 miles of gas, steam, and water pipe, 1½ mile or 1,980 yards of hall, 810 windows, and 14,000 feet of painted imitation of cornice. The number of bricks used in the building is 8,000,000. In the basement there is a railway running the entire length, for the transportation of heavy articles; and above are two steam elevators for lifting fuel and baggage from the ground to the floors above."

DRINKING-FOUNTAIN MOVEMENT.—A memorial drinking-fountain has been erected, at a cost of about 200*l.*, at Baildon, by Mr. Richard Paul Amphlett, of Wychbold Hall, Worcestershire, and Mrs. Amphlett; and has just been formally opened and presented to the village. The structure stands in the market-place, very near the market-cross, and consists of a column, about 20 feet in height, including a flight of four steps, by which it is approached. The material of the main shaft—6 feet in height, and 2 feet in diameter—is red granite from Aberdeen. This is surmounted by a canopy, on which the emblems of the four evangelists are sculptured, and by an ornamental cross in free-stone. The water flows from leaves on four sides of the base, into basins of Aberdeen granite. Round the flight of steps at the bottom of the column are 4 feet of asphalte, with a small stone pillar at each corner. The general character of the design is Old English. The architect employed was Mr. Crossland, of Halifax, an old pupil of Mr. G. G. Scott. The builders were Messrs. J. & W. Beanland, of Bradford and Halifax.

INTIMIDATION BY A STONEMASON.—At York, last week, the Lord Mayor was engaged in hearing a charge preferred against James Dunsmore, for having unlawfully used threats to George Fisher, for the purpose of forcing him to pay a fine of 2*l.* Mr. Mann appeared for the complainant, and Mr. Roberts, of Manchester, for the defendant. Some time ago the stonemasons of York struck for an advance of wages; and Fisher, who did not belong to the Masons' Union, was applied to by the union men to strike also. He declined to do so, but afterwards joined the society. He was then told that for refusing to give up working during the strike the union had inflicted a fine of 2*l.* This sum he did not pay; and he heard no more of the matter until the 26th of November last; when, having been for six weeks out of work, he had taken a job under Mr. Keswick, who has a contract for executing some of the work in connexion with Leedal Bridge. After breakfast on that day Dunsmore reminded Fisher of the fine of 2*l.*, which still stood against him, and told him that unless that amount was paid the whole of the men would strike. On Saturday night a similar statement was made to Fisher; and on the following Wednesday Mr. Keswick discharged Fisher in consequence of a communication he received from his foreman, Henry Ward. The bench were of opinion that upon the evidence of Fisher the defendant had brought himself under the Act, and they awarded one month's imprisonment.

BRONZE DOORS FOR THE CAPITOL AT WASHINGTON.—An American paper has a description of the magnificent doors designed for the eastern front of the centre building of the Capitol at Washington:—"The door is composed entirely of bronze, back and front, and is said to be the only elaborate work of the kind in the world constructed in this manner. Its total weight is about 20,000lb. The leading subject of its embellishments is the history of Columbus. It has door valves, with four panels in each valve, and one semicircular panel over the transom. The first panel contains a scene representing Columbus before the Council of Salamanca; the second panel his leaving the Convent of La Rubida; the third panel his audience before Ferdinand and Isabella; the fourth panel his departure from Palos; semi-circular panel his first landing at San Salvador; the fifth panel his first encounter with Indians on the island of Hispaniola; the sixth panel his triumphant entry into Barcelona: the seventh panel represents him a prisoner in chains, about to be sent back to Spain; and the eighth panel contains a scene representing his death. There are sixteen small niches in the border or frame around the door, in which are sixteen statuettes, representing distinguished contemporaries of Columbus; and between the panels are heads representing historians who have written on his voyages from his own time down to the present day, ending with Irving and Prescott. Crowning the door is a bust of Columbus."

SIR JOHN SUTTON'S LONDON ESTATES.—With reference to our notice of the late Mr. Foxhall, we are asked to mention that he resigned the appointment to Sir John Sutton's London estates about a year and a half ago. Mr. Benjamin Ferrey was appointed his successor, and is now surveyor to the estates, which are very considerable.

THE OTTOMAN NATIONAL EXHIBITION.—The bad weather has at length proved too much for the contractors and workmen employed on the new building (says the *Levant Herald* of December 24th), and the latter have accordingly been knocked off since Sunday. The four porticoes, which are to form the entrances to the structure, were, however, covered in before this interruption; and a few days after the resumption of work will suffice to roof in the whole. This once done, the further progress with the shell of the building will be easy and rapid, though we shall still adhere to our conviction that neither the house nor its contents can possibly be ready for the proposed "opening" on the first day of Ramazan.

LEAD MINES.—The number of lead mines worked in Cornwall in 1861 was 44; in Devonshire, 11; in Cumberland, 79; in Northumberland and Durham, 39; in Westmoreland, 6; in Cheshire, 1; in Shropshire, 9; in Yorkshire, 30; in Somersetshire, 4; and in Staffordshire, 1; making a total for England of 224. As regards Wales, the county of Cardigan had 43 lead mines at work in 1861; Carmarthenshire, 3; Denbighshire, 14; Flintshire, 48; Montgomeryshire, 14; Merionethshire, 3; Pembrokeshire, 1; Radnorshire, 2; Carnarvonshire, 19; making a total for the principality of 147. The Isle of Man, at the same time, had 5 lead mines worked; Scotland, 7; and Ireland 7; making a total for the United Kingdom of 390, as compared with 380 in 1860, and 264 in 1859. The quantity of ore raised does not show a corresponding increase. The metallic lead produced from this aggregate of ore was 65,634 tons in 1861, against 63,317 tons in 1860, and 63,233 tons in 1859, the estimated value being 1,445,255*l.* in 1861, 1,412,660 in 1860, and 1,410,095 in 1859.

ORNAMENTAL LIVING FENCES.—Although by no means is this a new method of forming ornamental living fences, as it has been largely practised on the Continent for more than three centuries, I have seldom seen it used in Britain. It is the method of forming the sides of berceaux walks, and consists in planting young slender trees in a slanting direction—*i.e.*, every tree leaning the opposite way and in the same line, that they will cross each other and form a regular trellis with diamond-shaped openings. At the parts which come in contact, if a small piece of the bark is removed and the parts tied together and clayed over, as in common grafting, a union takes place, leaving each tree grafted into its neighbour, which in time makes one of the most beautiful and strong hedge fences imaginable. The following trees are best suited for the purpose;—Mountain ash, common ash, laburnum, most of the poplars, strong-growing willows, alders, birch, beech, chesnut, elm, hornbeam, &c. Such fences need at no time exceed four or five inches in thickness; and, when established a few years, will resist bullocks or any kind of cattle, and form excellent screens in gardens for separating one part from another, or for hiding out objects it is desirable shall not be seen. —L. O. S.—*Scottish Horticulturist.*

ARTISTS IN FRANCE.—At the recent distribution of medals at the Paris School of Fine Arts, Count Walewski made an address, at the close of which he said,—"Yes, gentlemen, the career of the arts is an everlasting struggle, a continued competition in which the high places are only attained by right of victory. Reflect, therefore; and, if you feel confidence in your own efforts, go forward. The time is propitious: barriers are being removed: prohibitions are disappearing: exhibitions succeed each other: from all points of France, and from all parts of Europe, a never-ceasing demand is made for your works; and it may without hesitation be proclaimed that artists are now the sole artisans of their own fortunes. Ought the protection of the State to be withdrawn from them for that reason on their leaving the school? Unquestionably not; only you will yourselves aid it to change its character that protection will no longer continue dividing itself and wasting its resources in often fruitless efforts: it will no longer have to seek necessities, but works: it will call them into existence: it will be the great and fruitful protection; that which creates the beautiful, because it knows how to honour and remunerate talent; and because, in order to excite art to become elevated, the reward must be placed aloft."

EMPLOYMENT FOR COTTON-WORKERS ABROAD.—At Brussels, in order to employ the poor who are suffering from the effects of the scarcity of cotton, a sum of 30,000 francs has been voted by the municipal council for the construction of some works of improvement in the city. They consist in levelling streets, prolonging others, and in improvements towards forming a new boulevard.

THE GLASGOW ART-UNION.—In this society this year the prizes are allotted as formerly; but, instead of the usual engraving, every member is to receive three photographs of as many pictures that form the chief prizes. These are "Morte d'Arthur," a work in sepia, by Mr. J. Noel Paton; "The White Cockade," by Mr. J. E. Millais; and "The Better Land," by Mr. Sant.

THE PROPOSED ROYAL ARCADE.—The proposed Royal Arcade is described as consisting of a covered public promenade and all necessary buildings, the object being to connect Bond-street with Regent-street. It will commence at a point in New Bond-street between Clifford-street and Conduit-street, near to Stevens's Hotel, and thence running in a direct line north-easterly, to terminate in Regent-street near Nos. 189 and 191 on the west side of that street, and near Old Burlington-mews. Its construction will necessitate the removal of a mass of old and ruinous houses for the erection of commodious shops and houses, besides improving the communication between the localities. The estimated cost of the proposed improvement is 290,000*l.*

THE DAM AT MARSHLAND.—On behalf of the district commissioners, Messrs. E. F. & E. Jackson, in a letter to the *Times*, called forth by previous remarks of a correspondent, enter into an explanation, in which they say,—The execution of the work was entrusted to Mr. Harding, who acted under orders from Mr. Page. As the work proceeded, the commissioners questioned its stability, and expressed to Mr. Page their dissatisfaction. Some correspondence ensued; and on the 16th of December Mr. Page signified to the commissioners that he could no longer act as their engineer, except for the security of the sluice and bank. The commissioners then requested him to state the time required for completion and at what cost. On the 21st of December, before the receipt of the reply, the work failed; and on the 23rd of December they discontinued his services. The commissioners did not consider it expedient to incur further expense in attempting to restore the work, the cost of which had already far exceeded their expectations.

COPPER MINES.—The number of copper mines worked in England and Wales in 1861 was 139, of which 97 were situate in Cornwall alone. In 1860 the number was 137, and in 1859, 147. The quantity of copper ore raised from these mines was 196,798 tons in 1861, as compared with 196,553 tons in 1860 and 208,031 in 1859. Besides these mines eight were worked, in 1861, in Ireland, as compared with ten in 1860 and 1859, the production of copper ore being 15,661 tons in 1861, 18,411 tons in 1860, and 14,258 tons in 1859. Various other districts produced 19,028 tons of copper ore and iron pyrites in 1861, 21,732 tons of copper ore in 1860, and 14,510 tons in 1859. The total production of copper ore for the United Kingdom was 231,487 tons in 1861, of the estimated value of 1,364,727*l.*; 236,696 tons in 1860, of the estimated value of 1,507,183*l.*; and 236,719 tons in 1859, of the estimated value of 1,506,835*l.* The yield of fine copper for the United Kingdom was 15,331 tons in 1861, of the estimated value of 1,572,480*l.*; 15,968 tons in 1860, of the estimated value of 1,706,261*l.*; and 15,770 tons in 1859, of the estimated value of 1,734,700*l.*

CLAMP FOR JOINERS.—A patent has been obtained by Mr. W. H. F. Wells, of Woolwich, for an improved clamp for the use of joiners and others engaged in working wood. It consists of a notched or plain bar of metal of any desired length, according to the purpose for which the clamp is to be applied. When one arm only is used, the end of the bar is turned up to form an abutment or pressing surface, against which one side of the material to be clamped is placed. The sliding arm is self-fixing by its peculiar form; and, when placed in the proper position upon the bar, forms the other abutment. An adjusting screw, fitted either in the head of the bar, or in the end of the sliding arm, or in both, completes the clamp. In place of turning one end of the bar up, a plain bar notched in opposite directions, and two sliding arms may be added. The sliding arms are formed with a hole or slot at one end, through which the bar can be passed. The arms can thus be moved along the bar to any required position.

DUBLIN WINTER GARDEN AND PALACE.—The directors have selected from the designs sent in by about twenty-four competitors, the design of Mr. Jones, of Dublin; but how far it will be carried out remains to be seen. The "quantities" are being taken out.

COUNTY SURVEYOR FOR STAFFORDSHIRE.—At the last meeting of the county magistrates, Mr. Robert Griffiths, of Bidgnorth, was appointed county surveyor, in the room of Mr. Trubshaw, deceased. There were sixty-seven candidates for the office, and among the number were many eligible men.

FALL OF A RAILWAY TUNNEL.—Twelve or fifteen yards of the end of a tunnel at Oakenshaw, on the Cleckheaton branch of the Lancashire and Yorkshire Railway, fell recently and completely blocked up the passage. A mail train from Mirfield, which should have reached Bradford at a quarter before six in the morning, ran into the midst of the rubbish. The engine was firmly embedded, but the passenger carriages were soon backed out. There was no loss of life nor other serious personal injury. Between seventy and eighty men were set to work to clear away the earth and rubbish, and it was expected that the line would be freed from obstruction on Tuesday night. A common road crossed the portion of the tunnel which fell in.

THE PROTESTANT CHURCH AT NAPLES. — The edifice will occupy a site in the Strada San Pasquale, at the back of the Riviera di Chiaja, a quiet yet central spot. The stone was laid by an English lady whose maiden name was Locke, but who is now the Duchess of St. Arpino. The architects, Messrs. Smith & Son, of Hertford and London, were selected by a public meeting of subscribers in April last, and their plans were approved of by the British Government, who have made a grant of 1,500*l.* under the terms of the Consular Act. Mr. Smith is well known as the builder of several Protestant churches on the Continent, and very recently of one at Nice. The funds contributed up to the present time, inclusive of the Government grant of 1,500*l.*, amount to 4,150*l.*: of this nearly 2,000*l.* have been given in Naples, and 800*l.* by friends in England. The further sum of 1,500*l.* has, therefore, yet to be raised to complete the original design of the architects.

TENDERS.

For the erection of the Royal Infirmary for Diseases of the Chest, City-road. Mr. J. L. André, architect. Quantities by Mr. C. Poland.

Axford & Co.	£2,630 0 0
Mansfield & Son	2,628 0 0
Browne & Robinson	2,556 0 0

For the erection of a slaughterhouse and stable for Mr. J. O. Moore, Rochester. Mr. J. H. Andrews, architect, Rochester.

Jennings	£434 0 0
Sampson	410 0 0
Naylar & Son (accepted)	409 0 0

TO CORRESPONDENTS.

C. C (we are always thankful for information. How else can the *Builder* focus the whole kingdom?) -A Mechanic's Son —A. S — A. W —York (correspondents should send name and address) — W. B.—P. C.—M. F.—T. B.—R. G.—G. C.—F. L.—S. C.—E. W. (next week) —R. W. J. (let us see plan, and cost. Bawtrorick (a newspaper is, we believe, published in Jerusalem) —Alpha (no).—B. F.— W. S.—J. W. G.—W. B.—C. A. W.—Set Square (by private influence).—B. & Son.—R. G.

NOTE. - *The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

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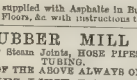
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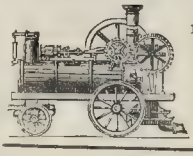
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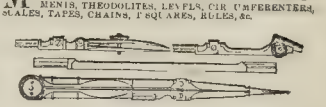


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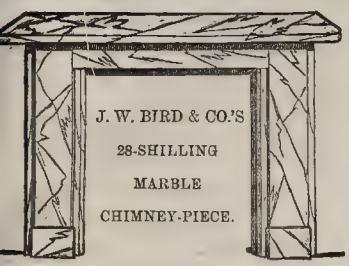


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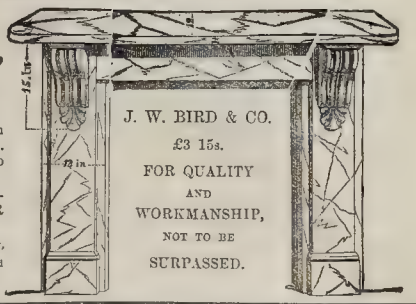
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The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
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ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
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TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS
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JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
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PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard sculptola imitation of marble — Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

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SOFT CHALK, of very Superior Quality will grind and wash with less than half the labour than any other known; free from grit or rubbish, at EPSOM LIME-KILN.—Forwarded from Epsom Station to coal ports on the South-Western or the Brighton lines (within 15 miles) at from 6s. 6d. to 7s. 6d. per ton, carriage free. References to persons using it. One trial will prove.—W. HOBMAN, Ewell, Surrey.

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PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.
CONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Government Departments.
It contains Nature's Disinfectant (OXYGEN), possesses the exact properties, and acts precisely in the same manner, as the great disinfectant provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innoxious and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter-houses, sinks, house-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable, such as purifying impure water, sweetening musty casks, removing and preventing taint in meat, game, fish, &c. as well as by use in the bath for promoting and maintaining personal purity.—Obtainable of all first-class Chemists, in Bottles at 1s. 2s. or 4s each; or per Gallon, 10s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.
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One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

PRIZE MEDAL, 1862.
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No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stripping Brushes, Gilders' and Graiuers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 6d. per Gallon; Boiled Oil, 3s. 10d. per Gallon.
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Fine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury street, and 45, Coleshill-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

COLOURS and VARNISHES at REDUCED PRICES.
Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 4d. per gallon; Boiled Oil, 3s. 8d.; Turpentine, 8s. per gallon; Fine Pale Oak Varnish, 8s. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 137 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
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Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purist Quality and at the lowest Prices.
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REVOLVING IRON SHUTTERS,

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COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

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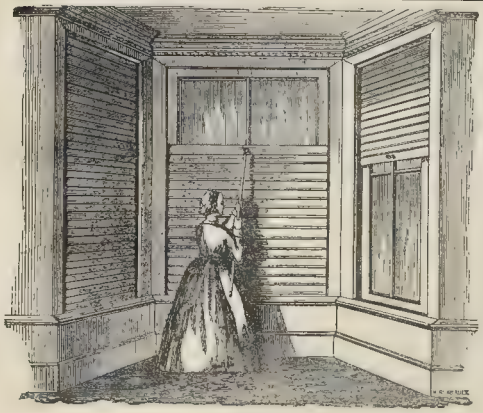
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SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,
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Supplied on the lowest terms, direct from

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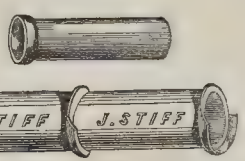
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IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

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STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



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HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

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CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.

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Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.;

PATENT SILICEOUS PAINT, FOR COATING STONE, CEMENT, STUCCO, &C.

Specimens of the Silicates and Aluminates, and of their applications, may be seen at the CONSTRUCTIONAL DEPARTMENT, SOUTH KENSINGTON MUSEUM.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

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TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

INTERNATIONAL EXHIBITION, 1862.
CLASS 35, NO. 6349.

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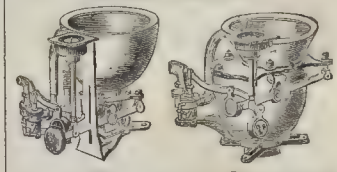
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Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

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REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No cistern-valves, cranks, or wires required. The closets can be seen in action at the Manufactory, and illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

OSLEY POTTERY WORKS,
GLASGOW.

Messrs. R. H. PENMAN & CO. from Staffordshire, Manufacturers of the best description of EARTHENWARE GOODS for Sanitary Purposes required in private and public buildings, supply the Trade, Wholesale, at the lowest possible prices for Cash. The Ware sent by their customers to the late Exhibition was highly spoken of.

F. RANSOME'S
NEW PATENT CONCRETE STONE,
Made without burning,

For which the Commissioners of the Exhibition of 1862 HAVE AWARDED THE PRIZE MEDAL, and which for SHARPNESS OF OUTLINE, BEAUTY OF APPEARANCE, DURABILITY, AND CHEAPNESS, stands unrivalled. Manufactured in BLOCKS of any dimensions, suitable for the construction of SEA WALLS, DOCKS, &c. as well as BUILDINGS generally. It surpasses every other material in its applicability to every description of ARCHITECTURAL EMBELLISHENTS, CAPITALS FOR COLUMNS AND PILASTERS, CHIMNEYPIECES, TRUSSES, BALUSTRADES FOR TERRACES, GATE PIERS, CAPS, AND TERMINALS, Monuments, Tombs, and all kinds of Cemetery Requirements, &c. &c

For prices, specimens, illustrations, and licenses, apply to Mr. FREDK. RANSOME, 36, Parliament street, Westminster, or Patent Stone Works, Ipswich.

MINTON & CO.
HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 30, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE UPON-TRENT.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE ROAD, LAMBETH. The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Couzin. They would also call the attention of the public to the very superior quality of their Portland Cement.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO'S Pattern Book, designed by M. Digby Wyatt, Esq., together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21, Wharf, Mr. Cledell street North, Pitt's road Road, N. Study, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Jurors," page 581, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tilaries," Tunstall, Staffordshire, as the first of the kind in the world.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet street, London. ROBERT M. LATHAM, Secretary.

SALES BY AUCTION.

TO IRONMONGERS, BUILDERS, ENGINEERS, SHIP CHANDLERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on MONDAY, JANUARY 12, and following days, at ELEVEN each day, on the PREMISES, Swan-lane, Upper Thames-street, as lots, will not reserve, the extensive STOCK-IN-TRADE of Messrs. Crowley, Millington, & Co. including many tons of cast, shear, and blister steel, chain, 1 anners, wrought hinges generally, anvils, vices, screw and rack jacks, shovels, spades and forks, grindstones, stone saws, ox chains, timber and tree chains, ships' ironmongery, kedge anchors, hooks, thimbles, &c.; export ironmongery, West India hoes, bills, and a large and general assortment of black ironmongery — To be viewed on Saturday previous and mornings of sale, when catalogues may be had on the Premises; of Messrs BROWN & DUBOIS, Accountants, 10, Basinghall-street, E.C.; of Messrs. VANDERCOM, CREE, & LAW, Solicitors, 23, Bush-lane, Cannon-street; and of Messrs FULLER & HORSEY, 13, Billiter-street, London, E.C. No person whose bills in the Estate will be taken from purchasers to the extent of 50l. and upwards.

TO GAS ENGINEERS, GAS-METER MAKERS, AND OTHERS.—In BANKRUPTCY.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, in lots, without reserve, on THURSDAY, JANUARY 15th, and following days, at ELEVEN, on the PREMISES, Great Peter-street, Westminster, the extensive STOCK-IN-TRADE, PLANT, and TOOLS of Mr. Edge, gas-meter and brass finisher and gas engineer, including 2 gas-holders (one 30 feet and one dry), from 2 to 500 lights, including 150 French measure, 200 gaseliers of elegant designs, 2 to 8 lights, lacquered and bronzed, including one massive solid 8-arm 8-light gasalier, adapted for a club or concert room, 36 bracket lamps, 60 illumination devices, 2 tons of new brass castings for meter and gas work, 7 cwt. block tin (Lamb & Flag), 10 cwt. composition and tin pipe, 1,000 feet iron gas tubing, 30 gross T pieces, elbows, sockets, plugs, &c.; 31 boxes tin plates, 4 tons brass and white metal patterns and core boxes, 4 gas cooking-stoves, 8 fly and stamping presses, 2 hand-feed and power punches, 36 turning lathes, polishing and hand hammers, bench stakes, 3 seta bending rolls, 5 circular cutting and burring machines, fire pots, forges, and bellows, 5-ton lead traveling crane, pulleys, 2-ton weighing machine, fittings of brass foundry and smiths' shop, a large assortment of stocks, taps and dies (gas thread), steel stocks, and bar iron, metal and iron rods, wrought-iron tubing, pipe apparatus, with 300 yards of pipe; fittings in lacquering and japanners' shops, and in warehouse and show-room; capital office furniture, fire-proof safes, mahogany bookcase, large collection of working drawings and designs for gas works and gas engineering, useful tilt hay mare, van, 2 carts, gig, harness, and numerous other effects — To be viewed on Wednesday previous to the Sale, when catalogues, if not already had on the Premises; of H. H STANSFELD, Esq. Official Assignee, No. 14, Basinghall-street; of Messrs. DEFREE & AUSTEN, Solicitors, 23, Lawrence-lane, Cheapside; of W. SKILBECK, Esq. Solicitor, 19, Southampton-buildings; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

In re the Patent Bituminized Pipe Company (Limited).—Costly Plant Machinery, and Stock-in-Trade, Old Ford.

MESSRS. FULLER & HORSEY are instructed by the Official Liquidator to SELL by AUCTION, on THURSDAY, JANUARY 22nd, and following day, at ELEVEN o'clock each day, in lots, without reserve, on the PREMISES, Old FORD, How unless an acceptable offer for the whole previously made by private contract, the costly PLANT and MACHINERY used for the manufacture of patent bituminized pipes, fitted within the last two years, principally by Horn, of Whitechapel, including four machines, one double and three single, for making pipes from 2 inches up to 2 feet 6 inches internal, 220 cranes, 20 wrought-iron plants, 5 wrought iron jib cranes, 2 cranes, 2 wrought-iron bitumen pans, 8 open cast-iron pans in brickwork, horizontal high-pressure steam-engine, of 14-inch power, wrought-iron fly-wheel, 8 feet 6 inches turned, bright, wrought iron shafting, 12 riggers, 16 feet leather bands, hydraulic press, 40 tons, circular saw, portable steam portable crane on wheels, racks, drying stove, smiths' tools, stores of various descriptions, bar, rod, and hoop iron, nails, rope, twine, valuable India-rubber stamps, 8 cwt. of lead, 4 cwt. of antimony, black lead, 6 tons powdered glass, cast-iron couplings, 8 tons brown paper, 10,000 yards patent bituminized pipes, from 7 to 15 inches in bore, 1,200 ash fetterers, watching machines, 2 weighing machines, and numerous other effects — To be viewed two days prior to the sale, when catalogues may be had on the Premises; of R. W. EDWARDS, Esq. 22, Basinghall-street, E.C.; of Messrs. LAWRANCE, FLEWS, & BOYER, Solicitor, 14, Old Jewry Chambers, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

In re the Patent Bituminized Pipe Company (Limited).—Serious Leasehold Manufactory Wharf, Trade Premises, Old Ford.

MESSRS. FULLER & HORSEY are instructed by the Official Liquidator to SELL by AUCTION, on THURSDAY, JANUARY 22nd, at ELEVEN, on the PREMISES (unless an acceptable offer be previously made by private contract), the extensive MANUFACTURING PREMISES, erected at the works of the Company, at Old Ford, Bow, within a short distance of the Bow Station of the North London Railway. The estate is rather more than two acres, and there is a frontage of 500 feet near the Lea Cut; also a gateway entrance from a private road leading from Stratford High-road. The buildings have been principally erected within the last two years, and are very substantial: they comprise a range of high and lofty ground-floor manufactories, measuring about 100 feet by 23 feet, 30 feet by 30 feet, and 45 feet by 36 feet; steam-engine-house and boiler-house, with two lofty chimney shafts, a detached brick building used as a laboratory, smiths' shop, warehouse, store, and offices with loft over, foreman's cottage, and large yards: held on lease for an unexpired term of 14 years, at the very low rent of 100l. per annum — To be viewed till the sale. Printed particulars may shortly be had on the Premises; of R. W. EDWARDS, Esq. No. 22, Basinghall-street, E.C.; of Messrs LAWRANCE, FLEWS, & BOYER, Solicitors, 14, Old Jewry-chambers, E.C.; and of Messrs FULLER & HORSEY, 13, Billiter-street, E.C.

BEDFORD LUNATIC ASYLUM—EXCELLENT BUILDING MATERIALS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the Premises close to the town, on the Ampthill-road, on MONDAY, JANUARY 12th, at TWELVE for ONE o'clock in the afternoon, the third portion of the BUILDING MATERIALS of the late County Lunatic Asylum: comprising about 80,000 stock bricks, a quantity of floor tiles, slates; deal timber, consisting of beams, joists, rafters, excellent floor-boards, sashes, doors and frames, windows, brickbats, paving stone, iron grates and spouting, firewood, wooden pavement, partitioning, with all the water apparatus, stone staircase with iron rails, iron hooping, &c.—May be viewed on Friday and Saturday preceding the sale. Catalogues may be obtained of the Foreman on the estate, and of the Auctioneer, 14, Moorgate-street, E.C

IMPORTANT TO BUILDERS AND DECORATORS.

MR. EDWIN WHITE will SELL, at 12, HOLBORN BARS, facing Furnival's-inn, on TUESDAY next, 8,500 pieces of PAPER-HANGINGS and DECORATIONS; comprising flocks, glazes, gernalls, gilts, bronzes, velvets, friezes, cornices, oaks, &c. Also a stock of White Lead and Paint, some Gilt Room-moulding, and 150 white and coloured Marble Chimney pieces, enamelled slate ditto, and hard stone ditto.—View and catalogue day prior and morning of sale

TO BUILDERS and OTHERS.—Absolute Sale, chiefly under a Sheriff's Execution

MR. WM. HOLLINGSWORTH will SELL, at the AUCTION ROOMS, 13, High Holborn, on MONDAY next, JANUARY 12th, BUILDERS' PLANT, and COMMONGERY of every description; also 60 Marble and Slate Chimney pieces, 2,000 pieces of best and common paperhangings, fine foundry goods, 3 tons metal, 1 ton sheet and pipe lead, kitchen ranges, coppers, piping and guttering, cabinets, varnishes, white lead, iron water-tanks, 2 patent ploughs, 600 iron hurdles, and builders' materials generally. Catalogues on delivering the place of sale.

CAMDEN TOWN, N.W.—TO CARPENTERS AND BUILDERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Bradbury Arches, Camden-terrace, on MONDAY, JANUARY 19th, at TWELVE for ONE, 1,840 PLANKS, DEALS, and BATTENS; 800 lights of 24, 18-quarter flooring, 2,500 feet of mahogany, pattern, dado, and other skirtings, oak plank and wall trees, wide pine board, feather-edge and match-boards, doors, &c.—Auctioneers' Offices, 2, Carlington-street, Hampstead-road.

GREAT ST HELEN'S.—Extensive SALE of BUILDING MATERIALS of Whitton's Gun Factory and Warehouses, covering a quarter of an acre of ground.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, JANUARY 12, at TWELVE, in lots, the whole of the capital BUILDING MATERIALS of WHITTON'S GUN FACTORY, extensive WAREHOUSES, and PREMISES, in Great St. Helen's, Bishopsgate-street: comprising 400,000 excellent bricks, paving, and shafting; 70 boxes tiles, 10 tons of lead in gutters and pipes; stout timber, deals, 250 squares of boarded and timber floors, 2) squares of granite paving; loop-hole doors, entrance gates, York paving; 500 feet coping, stone sills and springers; 30 feet run of iron railing; large iron tank, 12 feet by 6 feet; four iron doors; crane and jib, copper vane, and other useful materials and fittings-up — May be viewed. Catalogues had of C. J. CORBETT, Esq. and THOMAS NEWSON, Esq. Architects, 17, Gracechurch-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, City, E.C. and 40, Parliament street, S.W.

TO SCULPTORS, MASONS, and OTHERS.—Carrara Wharf, Thames Bank, Pimlico

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Fabbricotti Brothers to SELL by AUCTION, on the PREMISES as above, on WEDNESDAY, JANUARY 28th, at ELEVEN for TWELVE precisely, a large quantity of MARBLE in blocks: comprising fine statuary, veined and Sicilian, black and gold, Pavonazzo, choice Imperial Green Breccia Rondilla, and black, well, several thousand feet of slabs of vein, Sicilian, statuary, and coloured marbles; also a selection of garden figures, vases, baths, mortars, and blustader columns. May be viewed two days prior and catalogues had at the place of sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, S.W. and 80, Fore street, E.C.

IN BANKRUPTCY.—By order of the Assignees. Bayswater. A most valuable LEASEHOLD ESTATE, of noble size for the investment or occupation, held direct from the Freeholder, at moderate ground rents, and estimated to produce 90l. per annum.

MR. W. B. BAKER will SELL by AUCTION, at the MART opposite the Bank of England, on TUESDAY, JANUARY 20th, 1863 at TWELVE for ONE precisely, in six lots, two desirable brick-built FAMILY RESIDENCES, Nos. 1 & 2, Chichele-square, near the Queen's Road, Westbourne-grove West, Bayswater, of the value of 240l per annum, and Nos 3, 4, 5, 6, 7, and 8, a desirable range of shops, and when complete will command 360l per annum. May be viewed by cards to be obtained at the Auctioneer, and particulars with conditions of sale had of Messrs. LAURANCE, FLEWS, & BOYER, Solicitors, 14, Old Jewry Chambers, E.C.; of Messrs. VALLENCE & VALLENCE, Solicitors, 20, Essex-street, Strand, W.C.; Messrs. COMBE & WAINWRIGHT, Solicitors, Staple Inn, Holborn, W.C.; Messrs. SMITH & WALL, Solicitors, 6, New Inn, Strand, W.C.; at the Mart; and at the Auctioneer's Offices, 5, Queen's-terrace, Queen's road, Bayswater, W.

IN BANKRUPTCY.—NOTTING HILL (for ABSOLUTE SALE) To BUILDERS, CAPITALISTS, and Others.—EIGHT substantial brick-built CARCASES, estimated to produce, when completed, 680l per annum; also BUILDING GROUND (adjoining) eligibly situate for the erection of two RESIDENCES.

MR. W. B. BAKER is instructed by the Assignees TO SELL by AUCTION, at the MART, opposite the Bank of England, on TUESDAY, JANUARY 20th, 1863, in Six Lots, EIGHT well-built CARCASES, in different stages of completion, and affording a first-rate opportunity for Builders and others. The property is well situate, of pleasing elevation, and has the right of entrance to extensive pleasure ground in the rear, and from the continuity of the station on the Metropolitan and City Junction Railway, must be a desirable investment. Sites for remunerative rentals; and when completed is estimated to produce 680l. per annum. Also BUILDING GROUND adjoining, admirably adapted for the Erection of Two Residences, and particulars with conditions of sale obtained of Messrs. LAWRENCE, FLEWS, & BOYER, Solicitors, 14, Old Jewry-chambers, E.C.; of THOMAS PUGOOK, Esq. Solicitor, 38, Bucklersbury, E.C.; of ALEXANDER HEMSLEY, Esq. Solicitor, 5, Albany, Piccadilly, W.; at the Mart; and at the Auctioneer's Offices, 9, Queen's-terrace, Queen's-road, Bayswater, W.

FOR SALE by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, 21st day of JANUARY, 1863, at ONE o'clock precisely (Luncheon at Half past Twelve o'clock) For convenience of Shipowners

- 20,000 Spruce Deals, Battens, Scantling, and Ends
- 7,000 Prime Quebec Red Pine Deals and Planks
- 6,000 Quebec Pine and Spruce Deals
- 5,000 St Petersburg Red and White Wood Deals
- 7,000 Archangel Red and White Deals, and Boards
- 2,000 Fresh Gothenburg Battens
- 4,000 Fresh Tjunne and Sundswall Deals and Battens
- 15,000 Lathwood Fir Timber and Deals
- 200 Loads Quebec Yellow Pine
- 200 Loads Quebec Red Pine
- 400 Loads Quebec Pine and Fir
- 45 Loads Quebec Oak
- 50 Loads Quebec Elm and Ash
- 50 Loads Quebec Birch and Walnut
- 5 Logs Pitch Pine
- 75 Logs Wainscot Logs
- 60 Loads St. John, New Brunswick Pine
- 100 Loads St. John and Prince Edward Island Fresh Birch
- 200 Loads Fresh Mixed Timber
- 500 Loads Swedish Timber
- 500 4 inch
- 500 4 inch } Fresh Norway Spars
- 200 10 inch
- 100 Fathoms Hemlock, Danzic, and St. Petersburg Lathwood
- 65,000 Spruce Palings and Laths
- 20 Logs Mexican Mahogany Flooring

With other Goods.

Catalogues will be issued in the Week of Sale

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, January 7th, 1863.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality Soil gravel, situation healthy, and aspect excellent The Snaresbrook Station is 400 yards only from the Estate, and the City is reached in twenty-five minutes The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Buckhealth, Tottenham, Staples Farm, some very eligible SITES in the Grove Road, Mile-end, a few of which are adapted for shops, and largely near Very CHEAP PLOTS TO LET, at Ealing —Apply to Mr. KNIGHTLEY, Architect, 2, Cannon-street.

PHILBROKE ESTATE, at Leytonstone, on the Woodford and Loughton Railway, twenty minutes from Fenchurch and Bishopsgate stations —This valuable FREEHOLD ESTATE (land-tax redeemed), surrounding the Station, healthy locality, gravelly soil, excellent drainage, water and gas laid down, roads made, sand on the estate, it is proposed TO LET in Plots suitable for building detached and semi-detached villas. Repeated applications have been made for houses in this neighborhood For terms, apply to J. CHENEY, at the Surveyor's Office, Philbroke Estate, Leytonstone, Essex.

CRYSTAL PALACE (close to).—Valuable BUILDING SITES TO BE LET or SOLD within a few minutes' walk of Sydenham Station, fronting a handsome carriage road of considerable width. The supply of houses in the neighbourhood is quite inadequate to the demand, the position being undoubtedly one of the most favourite and convenient in the vicinity of town, its healthy salubrity, picturesque scenery, proximity to the Crystal Palace and Park, facility of access to the City and West end, all always insure to the locality a high rank in popular estimation, and remunerative rentals may consequently be relied on for any houses erected on the property. 12 to 15 per cent on the outlay has been paid for some residences lately built on this land Sewers in use; gas laid on —For plans and terms, apply to Messrs. FOX & BOUSFIELD, Agents for the Estate, 4, Coleman-street, City.

BUILDING LAND TO BE LET.—HACKNEY, close to the Railway Station, for fourth-class Dwelling-houses

NORWOOD, on Westow Hill, for Shops and Dwelling-houses.

PERRY HILL, Sydenham, for Shops.

Advances in each case if required

Apply to Mr. F. K. GREEN, 25, College-hill, Cannon-street, E.C.

WANTED, on Lease or to Purchase, BUSINESS PREMISES in the vicinity of London, with a good Dwelling House and Foreman's Cottage; must be near a railway station or navigable river; a good supply of water from stream or well, with a few acres of grass land for drying purposes, are indispensable Forward part culars and terms to C F BAXTER, Accountant, &c. 2, Guildhall-chambers, Basinghall-street, E.C.

PARISHES of ST. GILES, CRIPPLEGATE and ST. LUKE, MIDDLESEX.—TO BE LET by TENDER, for eighty years, a PLOT of LAND on the North side of the Middle-road (on part of which the King Harry's Head now stands), for the erection of a Tavern and Three other Houses.—Particulars, with plan, can be obtained at the Office of Mr. A. J. BAYLIS, Solicitor, 1, Church-court, Old Jewry.

TO BUILDERS and OTHERS.—The GOLDSMITHS' COMPANY propose LETTING, on a Building Lease, for a term of 99 years, a very eligible PLOT of FREEHOLD LAND, abutting on the high road leading from Kentish Town to Acton, and close to the Station of the North and South Western Junction Railway. An Auction will be held at Goldsmiths' Hall on THURSDAY, the 5th of FEBRUARY next, at THREE o'clock p.m. to RECEIVE PROPOSALS for the Land, which are to be sealed up and left at the Clerk's Office, Goldsmiths' Hall, before THREE o'clock on that day, and the parties proposing will be expected to attend the Committee. A plan of the land may be obtained, and all other particulars known, at Mr. HARDWICKE'S Office, 1, Henrietta-street, Cavendish-square.

N B The Committee do not pledge themselves to accept the highest or any other of the proposals that may be delivered.

BRICKFIELD, SURREY.—TO BE LET, with immediate possession, within one mile of Wilby Station, on the direct London and Portsmouth line, a well adapted YARD, with suitable Kiln and Tile sheds erected thereon Large quantities of clay and sand surround them of excellent quality for the manufacture of bricks, tiles, pipes, and pottery-ware. There is chalk in the neighbourhood for lime, with an opening for a first-rate trade. A large Government Asylum is to be built shortly close to the Estate.—For particulars apply to Mr. S. G. BERRY, Combe Court, near Godalming.

BUILDING LAND TO BE LET, for Shops and Private Houses, on the Main Wandsworth-road, within ten minutes' walk of Nine Elms Boat-pier, and three minutes' walk of the New Workshops at Battersea for the South Western Railway, which are nearly complete, and will employ 1,000 men. Houses are in great demand —For particulars apply to H. N. BATES, The Priory, Wandsworth-road

WATERSIDE LAND and PREMISES, on the BANKS of the THAMES, within 30 miles of London, TO BE LET on LEASE, with the option of purchase, the property is most eligibly situate for the erection of factories, millineries, or works of any description which may be carried on at some distance from other buildings, and has the advantage of a line of passing trade, which gives direct retail custom on the public roads adjoining There is also a capital supply of fresh water, which for some purposes will be most valuable —Apply to Messrs. G. & E. HILLARY, Solicitors, 5, Fenchurch-buildings, Fenchurch-street, London

CAMDEN TOWN, in the Centre of the High street.—TO BE LET on LEASE, a large PLOT of GROUND, at present covered with cottages, 70 to 80 feet deep, by 25 feet wide, suitable for the erection of a Public Refectory.—Apply to Mr. WILLIAMS, 91, High-street, Camden-town, N.W.

WATERSIDE WAREHOUSE WANTED, FLOUR MILLS, or LAND on River or Canal, within two miles of London, to LET, in Rent or Occupation.—Address particulars to R. D. 16, Alfred-place, Newington-causeway.

BUILDING LAND.—TO BE LET, most eligibly situate in the very heart of a densely populated neighbourhood close to Shoreditch Church, suitable for the erection of small or large rooted houses, which are in great demand both for occupation and as an investment. Title free and open on the Estate in unusually favourable positions for Shops. Advances made if required. For further particulars, apply to Mr. CLARKSON, Surveyor, 94, Great Saint Helen's, City.

DALSTON, Eleanor Road North, Richmond Road.—BUILDING LAND TO LET in this favourite neighbourhood for Seven-Roomed Houses. Advances made if required.—For further particulars, apply to Mr. CLARKSON, Surveyor, 94, Great Saint Helen's, City.

TO CARPENTERS and UNDERTAKERS. A BUSINESS, established sixty years, TO BE DISPOSED OF, in the above line, in Walworth For particulars inquire at 167, Southwark Bridge-road, near the Borough-road.

PLUMBERS, PAINTERS, and GENERAL CONTRACTORS —An OFFER presents itself to a Person of Small Capital (with good security), in a very old established BUSINESS, a few miles from London. A more ADVANTAGEOUS OFFER would be entered into with a responsible person who can command 200l to 300l —Apply to Mr. HISCOCK, Messrs. Franks, Lead Merchants, Borough, Southwark.

TO CARPENTERS and UNDERTAKERS. DORKING.—TO BE DISPOSED OF, on moderate terms, with immediate possession and suitable premises, at a low rent, a small BUSINESS in the above trades, capable of much improvement, well suited for a young man with a moderate capital and possessing a proper knowledge of his business.—Apply to Messrs. WHITE & SONS, Auctioneers, &c. Dorking, Surrey.

TO PLUMBERS, CARPENTERS, and BUILDERS.—TO BE DISPOSED OF, a good West-end BUSINESS as above, doing between two and three thousand a year for the last few years. To those with small capital very moderate. Goods, and Fixtures, 300l. The stock, about 300l taken at a valuation. No person treated with but of the highest respectability. No agents need apply —Address, Mr. H. CONOLLY, Lead Merchant, No. 29 Hampstead-road, N W

TO BUILDERS, CARPENTERS, and OTHERS.—A first-rate BUILDER'S and JOBBING BUSINESS, at the West end, TO BE LET, carried on by the proprietor (lately deceased) upwards of fifty years. To any person commencing in the above business, this presents an excellent opportunity. Particulars of W. MITCHENER, Printer, 23, Red Lion-street, Holborn, W.C.

TO PLUMBERS, GAS-FITTERS, and DECORATORS.—A SHOP to be DISPOSED OF in the above line, in the suburbs of London, doing a good business, and with attention might be greatly increased —Apply, any evening, to T. GRAVES, 18, Seymour-street, Euston-square.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Fox & Wyman, No. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, January 10, 1863.

The Builder.

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The Sheffield School of Practical Science and Metallurgy will afford a complete scientific and practical education to students who are destined to become civil, mechanical, or mining engineers, or manufacturers of any kind. Its object is thoroughly to discipline the students in the principles of those sciences upon which the operations of the engineer, metallurgist, or manufacturer depend.

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A detailed Prospectus, containing Syllabuses of all the Courses of Lectures, and all other information, arrangements for boarding, &c. may be obtained by application to the Director.

THE SCHOOL WILL OPEN IN THE FIRST WEEK IN FEBRUARY, 1863.

GALLERIES of the ARCHITECTURAL UNION COMPANY (Limited), 9, Conduit-street, Regent-street, NOW OPEN, FREE, from ELEVEN till FOUR, daily. The Autumn Exhibition of Building Materials, Patents, and Inventions, will CLOSE, FEBRUARY 28, and must then be cleared for the Architectural Exhibition. JAMES EDMESTON, Hon. Sec.

PRACTICAL INSTRUCTION in ARCHITECTURAL MECHANICAL, ORNAMENTAL, and PERSPECTIVE DRAWING; also TAKING OUT QUANTITIES and MEASURING from PLANS and the BUILDING. Day classes, from TEN till FOUR. Evening classes, SEVEN till TEN. Apply to Mr T. J. HILL, Architect, at the Offices, 70, Old-street, City-road.

NOTICE.—Mr. T. J. HILL'S Drawing Classes for the sons and Assistants of Architects, Engineers, and Builders, will RE-OPEN on MONDAY, the 5th of JANUARY, 1863.—Prospectuses at the Offices, 70, Old-street, E.C.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERK of WORKS, 9, CONDUIT STREET REGENT STREET, W.—The members of the above Institution are particularly requested to ATTEND a GENERAL QUARTERLY MEETING, to be held on WEDNESDAY EVENING, JANUARY 21, 1863, for the purpose of ELECTING OFFICERS, and transacting other important business.

JOSEPH KAY, Corresponding Secretary.

BUILDERS' BALL.

THE ANNUAL BALL, in AID of the FUNDS of the BUILDERS' BENEVOLENT INSTITUTION, under the especial Patronage of the Right Hon. the LORD MAYOR, M.P.; the LADY MAYORESS, the SHERIFFS of LONDON and MIDDLESEX, and the President of the Institution, HENRY LEE, Esq. will be held at Willis's Rooms, St. James's, on THURSDAY, 12th FEBRUARY.

COMMITTEE OF MANAGEMENT.

Mr. T. Cozens.	Mr. J. Morris.
Mr J. Chapman.	Mr. D. Nicholson.
Mr C. Ebl	Mr. G. Plucknett.
Mr. M. Ha l	Mr. T. Sterling.
Mr T. Howard.	Mr. J. Thorn.
Mr. W. Hutchins.	Mr. W. Todd.

STEWARDS.

Mr. F. Bacon.	Mr. Tilson Lee.
Mr. J. Bennett	Mr. J. Long.
Mr. G. Bell	Mr. G. Myers.
Mr. Stanley G. Bird.	Mr. J. H. Notley.
Mr. T. E. Bolding.	Mr. J. Peters.
Messrs. Cubitt & Stanbury.	Mr J. G. Pilcher.
Mr. E. Cutler.	Mr. S. Phillips.
Mr. S. Cuming, jun.	Messrs. Pfeil & Stedall.
Mr. J. Dowell	Mr. R. Richardson.
Mr. W. M. Dunnage.	Mr. T. Robins.
Mr. W. L. Edwards.	Mr. A. A. Robinson.
Mr. C. Forman.	Mr. W. Stirling.
Mr. T. Fergusson.	Mr. T. Thomas.
Mr. R. J. Hickman.	Mr. R. Thomas.
Mr. J. Hibberd.	Mr S. Tuckett.
Mr. J. Jay.	Mr. W. Wood.
Mr. W. H. Jackson.	Mr. T. Yeo.
Messrs. Lucas, Brothers.	

A further List of Stewards will be published.

Gentlemen desirous of promoting the interests of the Institution by becoming Stewards, will please forward their names to the Hon. Sec. Mr. JOSEPH BIRD, 10, Hanover-cottages, Regent's Park; or at the Office, 33, Southampton-street, Bloomsbury.

GEOLOGY.—KING'S COLLEGE, LONDON.—Professor TENNANT, F.G.S. will commence a COURSE of LECTURES on GEOLOGY, on FRIDAY MORNING, JANUARY 23rd, at NINE o'clock. The LECTURES will be continued on each succeeding Wednesday and Friday at the same hour. Fee £2 12s. 6d.

R. W. JELF, D.D. Principal.

WATER COLOUR PAINTERS' LANCASHIRE RELIEF FUND.—The EXHIBITION will remain OPEN ONE MORE WEEK (by the kind permission of Messrs. Day & Son), at the German Gallery, No. 168, New Bond-street, from TEN a.m. till NINE in the evening.

JAMES FAHEY, Hon. Secretary.

Subscribers have free admission to the Exhibition, and one share in the distribution of the prizes, for every guinea subscribed.

Each picture will constitute a prize, and will be declared the property of the subscriber the number of whose receipt may chance to be drawn with it.

As only a limited number of tickets remain unsold, early application must be made to the Secretary, or to the Keeper in the Gallery. The Exhibition must be CLOSED on the 24th of JANUARY.

PHOTOGRAPHIC EXHIBITION.—The NINTH ANNUAL EXHIBITION of the PHOTOGRAPHIC SOCIETY of LONDON OPEN DAILY, from TEN till FOUR, at the Gallery of the Society of British Artists, Suffolk-street, Pall-mall East. Admission, One Shilling.

ARCHITECTURAL ASSOCIATION.—A PAPER WILL BE READ, on FRIDAY EVENING next, JANUARY 23rd, at the ROOMS, 9, Conduit-street, by J. W. PAPWORTH, Esq. F.R.I.B.A. on "The Use of Libraries." Members may introduce a friend.

CHARLES J. ADAMS, } Hon. Secretaries.
H. ATTWOOD REEVES, }

CONTRACTS.

CITY of LONDON, BARBERS' HALL.—Important SITE for WAREHOUSES, or MANUFACTURING PREMISES, at the immediate vicinity of Wood-street, Cheapside. The Committee of the Worshipful Company of Barbers, will meet at their Hall, on THURSDAY, the 29th day of JANUARY, 1863, to receive TENDERS, for letting on a building lease, for ninety-nine years, the extensive PREMISES, known as Barbers' Hall, situate in Monkwell-street, Wood-street, comprising three houses, fronting Monkwell-street, Nos. 33, 34, and 35, part of the courtyard in the rear thereof, the passage leading thereto, and the greater portion of the Company's Hall, together with the kitchen, scullery, and outbuildings, having a frontage towards Monkwell-street of about 83 feet by an average depth of about 116 feet, and an extreme depth of about 155 feet. Full particulars, with a plan of the property, elevation, and section of street front, also conditions of letting may be obtained, on application to the Clerk of the Company; to Mr. CHARLES JOHN HOPPER, the Company's Surveyor, No. 61, Doughty-street, W.C.; or to the Beadle at the Hall.—By order,

HENLEY GROSE SMITH, Clerk.

4, Warnford-court, Throgmorton-street, E.C.

TEDDINGTON, MIDDLESEX.—TENDERS are required for the ERECTION of Two Detached VILLAS on this Estate. Builders desirous of estimating to send in their names, on or before the 22nd instant, to the Architects, Messrs. LAWS & DENNISON, 12, Doughty-street, Mecklenburgh-square.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS, &c.—TENDERS are required for EXECUTING the WORK, &c. that may be required in the following Trades, at Barnsley Barracks, from 1st APRIL, 1863, to 31st MARCH, 1865, viz.: Bricklayers, Masons, Paviors, Carpenters, Plasterers, Slates, Plumbers Smiths, Ironfounders, Painters, Glaziers, Paperhangers, and Gasfitters'.

Parties desiring to Tender for this Contract must leave their names at this Office, on or before the 10th proximo, and pay the sum of 7s. 6d. for the scale bill and form of Tender.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, 23, Stretford-road, Manchester, 14th January, 1863.

BARNSLEY LOCAL BOARD of HEALTH.—Water-Works Department.—CONTRACT No. 2. To Contractors for Pipe-Laying.—The Local Board of Health of Barnsley, in the County of York, are desirous of receiving TENDERS for LAYING DOWN about 11 MILES in length of CAST IRON SOCKET PIPES and other CASTINGS. Specimens may be seen, and Forms of Tender may be had, on application to me, or to Mr. THOS. HAWKESLEY, C.E. 30, Great George-street, Westminster, S.W. on and after MONDAY, the 12th day of JANUARY instant; and Sealed Tenders must be delivered at my office, not later than MONDAY, the 2nd day of FEBRUARY next, endorsed "Tender for Pipe Laying." The Board do not bind themselves to accept the lowest or any Tender. By order,

Barnsley, 6th January, 1863. WM. H. PEACOCK, Clerk to the said Local Board.

TO BUILDERS, IRONFOUNDERS, and CONTRACTORS.—WELSHPOOL SMITHFIELD.—Parties disposed to TENDER for the FORMATION of a SMITHFIELD, for the Local Board for the district of Welshpool, may inspect the Plans, Specifications, and Conditions, at the Office of Mr. ALFRED MEREDITH, Town Clerk, Welshpool, and deputates of the same at my Office, in Bridgnorth, on and after THURSDAY, the 1st day of JANUARY, 1863, until THURSDAY, the 22nd of JANUARY, 1863.

Tenders, sealed up and endorsed "Tenders for Smithfield," must be delivered to the Town-Clerk, Welshpool, on or before THURSDAY, the 22nd day of JANUARY, 1863. The Local Board do not bind themselves to accept the lowest or any other Tender.

ROBERT GRIFFITHS, Architect.

Bridgnorth, December 26th, 1862.

CARDIGAN CORPORATION WATER-WORKS.—To EXCAVATORS, MASONS, and GENERAL CONTRACTORS.—The Waterworks Committee of the Cardigan Corporation are desirous to receive TENDERS for LAYING 3,000 feet of Salt glazed Stoneware SOCKET PIPES, of 9-inch and 6-inch bore; also the CONSTRUCTION of Depositing and Service RESERVOIRS and Works connected therewith. Plans, sections, and specifications may be seen at the Office of the Mayor of Cardigan. In addition to the above, the Committee wish to receive Tenders for laying about 6,000 feet of 9-inch and 4-inch Castiron Socket Pipes and other Castings.—Further information may be obtained on application as above.

Cardigan, January 5th, 1863.

DORSET COUNTY LUNATIC ASYLUM.—To ENGINEERS and OTHERS.—The Committee of Visitors of the Dorset Lunatic Asylum are desirous of receiving TENDERS for the EXECUTION of the various ENGINEERING WORKS and FITTINGS of the said ASYLUM, viz.:—Hot and cold water supply, steam engine for well and pumps, steam cooking, stoves, ranges, grates, heaters, warming fittings, gas works, &c. &c. The drawings, specifications, and conditions may be inspected at Fordington House, near Dorchester, on and after the 14th day next instant. The works are to be done under the direction of the Committee and their Architect, Mr. H. E. KENDALL, Jun. 33, Brunswick square, London. The Committee will not pledge themselves to accept the lowest or any tender, and the contractor will be required to enter into a contract, and to give a bond with a sufficient security, to be approved of by the Committee, in the sum of 1,000l. for the due performance of the contract. Tenders to be sealed up, and endorsed "Tender for the Engineering Works, Dorset Lunatic Asylum," and addressed to Mr JOHN BROWN, Dorchester, Clerk to the Visitors, on or before THURSDAY, the 29th instant.—By order of the Committee of Visitors,

JOHN BROWN, Clerk.

Dorchester, 6th January, 1863.

MID-WALES RAILWAY.—To RAILWAY SUB-CONTRACTORS.—WORKS to LET.—EARTHWORKS, MASONRY, &c.—Messrs. JOHN WATSON & CO. of Westminster, London, are prepared to receive TENDERS for the EXECUTION of the WORKS on the South Division of the above Railway, extending from near Newbridge, in Radnorshire, to within five miles of Brecon, in Brecknockshire. Plans, sections, specifications, and forms of Tender will be ready for inspection on and after the 12th inst. at their Offices in Bulth, and any other information relative thereto will be furnished by Mr. WILSON, Resident Agent. Parties Tendering for greater or lesser portions of the works, must forward them, sealed, and endorsed "Messrs. JOHN WATSON & CO." at their Offices at Builth, and endorsed "Tender for Works," on or before the 24th inst.

Builth, January 10th, 1863.

CIRENCESTER DISTRICT of TURNPIKE ROADS.—CONTRACTS for REPAIRS.—The Trustees of the Cirencester District of Turnpike Roads are prepared to receive sealed TENDERS for the REPAIR of all the ROADS comprised in their Trust (in length 84 miles) for a term of one or more years. Full information as to the quantity and description of stone to be used, the specifications, and form of Contract, may be obtained by application to the Clerks to the Trustees. The stone to be taken for repairs in the immediate vicinity of the roads. Tenders will not be received later than TEN o'clock of the 14th of FEBRUARY next. The Trustees do not pledge themselves to accept the lowest or any Tender.

BEVIR & ELLETT, Clerks to the Trustees.

Cirencester, 14th January, 1863.

[For remainder of Contracts see next Page.

CONTRACTS.

METROPOLITAN BOARD of WORKS.
MAIN DRAINAGE of METROPOLIS.—NORTHERN OUTFALL RESERVOIR.—To BUILDERS, CONTRACTORS and OTHERS. The Metropolitan Board of Works hereby give notice, that they will meet at the Office of the Board, Spring-gardens, S.W. on FRIDAY, the 30th day of JANUARY instant, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of a RESERVOIR, with Pumping and Machinery, two Shed, Buildings, a Dwelling-house, and other works in connexion therewith, near to Barking-creek, in the portion of the parish of Woolwich in the county of Kent, north of the river Thames. Parties desiring to submit Tenders may, upon payment of 2l. obtain plans, sections, specifications, form of Tender, and other particulars, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE a.m. and FOUR p.m. or on SATURDAYS between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 29th day of JANUARY. The Tenders are to be addressed to the CLERK of the BOARD, and must be delivered at the Office before FOUR o'clock on the last mentioned day, and no Tender will be received after that hour. The parties Tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the works.
JOHN POLLARD, Clerk of the Board.
Spring-gardens, S.W. 10th Jan. 1863.

BROKEN GUERNSEY GRANITE.—MIDDLESEX and ESSEX TURNPIKE ROADS.—Notice is hereby given, that the Trustees of these Roads are willing to CONTRACT for 500 yards of NEW BLUE GUERNSEY GRANITE, of the best and hardest quality, free from dirt, broken to a gauge of two inches and one-half inch, to be delivered in the month of FEBRUARY next, at Ilford Wharf, Ilford Bridge, Ilford, Essex, and payment will be made for it on the 26th April next. Tenders sealed and endorsed "Tender for broken granite" to be sent to the Office, on or before MONDAY, the 26th instant, from Contractors willing to perform the same, specifying the conditions of such Tender, under the penalty of 50l. the Trustees do not bind themselves to accept the lowest or any offer that may be made to them.
GEORGE DACRE, Clerk to the said Trustees.
Turnpike Road Office, Bow, Middlesex, 15th January, 1863.

BUILDERS desirous of TENDERING for the ERECTION of a PUBLIC-HOUSE, by the river, at Chelsea, are requested to forward their names, together with a deposit of 10s. to the Architect, from whom all further information may be obtained, on or before SATURDAY, the 24th inst. after which time no further application will be received. The requisite number of copies of the bills of quantities will then be provided, and forwarded to each Builder as may have applied and the deposit will be returned.

CONTRACT.—TENDERS are required for the different TRADES in the ERECTION and COMPLETION of a RESIDENCE and ENTRANCE LODGE upon the Hartwell Estate, Burslem, Staffordshire. Parties desirous to Tender can inspect the drawings and specification, with conditions of contract, at the Office of Mr. STEVENS, Architect, 18, Cooper street, Manchester, from the 26th instant to the 29th instant, inclusive; and at the Office of Mr. J. S. FORBES, Cheapside, Hanley, from the 30th instant to FEBRUARY 2nd, inclusive, between the hours of TEN and FOUR, upon which date the Tenders must be left at either of the above Offices, not later than FOUR p.m. The quantities of each trade have been taken out, and can be had upon application.
N.B. The lowest Tender not necessarily accepted.

SEWER'S OFFICE, GUILDHALL, 14th JANUARY, 1863.—The Commissioners of Sewers of the City of London will treat at the Guildhall Tavern, City, on TUESDAY, the 27th of JANUARY, inst. at TWELVE o'clock at noon, precisely, TO DELET and UNDERTAKE the WORKS, at and for the following PRICES per rod. Candidates, who must be practically acquainted with building works, are to send in their applications and testimonials, stating full particulars as to their experience, &c. addressed to the undersigned, on or before THURSDAY, the 22nd JANUARY, instant, and will have to attend a committee for examination as may then be required. The person to whom the work may be given up his whole time to the duties of the office, particulars of which may be had on application as above.
JOSEPH DAW, Principal Clerk.

TO ARCHITECTS and OTHERS.—The Ringwood Burial Board is desirous of receiving PLANS and SPECIFICATIONS for the CHAPELS, LODGE HOUSE, and FENCE WALLS necessary for the intended new CEMETERY. The land measures three acres, is nearly square, abuts the high road, and is near the railway station. The chapels and lodge house to be of, or faced with, rough sawn stone, to be laid in even courses, or rubble stone set in fillence work of brick or brick and stone. The cost of the whole not to exceed 2,000l. The work whose plan is accepted will be apparently the cheapest. The plans and specifications to be sent sealed, on or before the 31st JANUARY inst. under cover to me, of whom further particulars may be obtained.
RICHARD BROWN, Clerk to the Board.
Ringwood, 1, January 6, 1863.

SOUTH-EASTERN RAILWAY COMPANY To BRICKLAYERS, CONTRACTORS, and OTHERS.—The Directors of this Company are prepared to receive TENDERS, from competent Contractors, for the SUPPLY of about FORTY MILLIONS of BRICKS, required for the construction of the Tunnel at Sevenoaks and Polhill, and the new direct line through Mid Kent of the South-Eastern Railway. Specification and plan of the land upon which the bricks are to be made can now be had on application at the Engineer's Office, London Bridge Station.
S. SMILES, Secretary.
Secretary's Office, 8th January, 1863.

TO BUILDERS and CONTRACTORS.—TENDERS are required for BUILDING BOYS, GIRLS and INFANTS SCHOOLS, Kingsland with Dwellings, &c. at Hollingbourn, Kentish Railroad. The plans and specifications can be seen at the Office of the Architect, where the Tenders are to be delivered on the 8th of FEBRUARY. No pledge is given that the lowest or any Tender will necessarily be accepted.
THOS. NICHOLSON, F.I.B.A. Architect.
Hereford, January 16, 1863.

TO BUILDERS and CABINETMAKERS.—Persons desirous of furnishing TENDERS for the SUPPLY of FITTINGS to the new Bank Building, for the Strand and Spalding, and Boston Banking Company, can obtain particulars on application to Mr. WILLIAM EVE, Architect and Surveyor, 3, Union-court, Old Broad-street, E.C.

ST. MARY, ISLINGTON.—To IRONFOUNDERS and OTHERS.—A Committee of the Vestry will meet at the Vestry Hall, Upper street, Islington, on MONDAY, the 2nd of FEBRUARY next, at HALF PAST NINE o'clock in the evening precisely, to receive TENDERS for the supply of and fixing about 80 feet of WROUGHT-IRON RAILING round Islington green; also the supply of and fixing about 100 feet of wrought iron railing of a lighter description in the interior of the said Green. A plan may be seen and particulars obtained upon application to the Surveyor, Mr. PRATT, at the Vestry offices, between the hours of NINE and TWELVE daily. Sealed Tenders must be sent in before the hour of meeting. The Committee do not bind themselves to accept the lowest or any Tender.
JOHN LAYTON, Vestry Clerk.
Vestry Office, Upper street, Islington, January 14, 1863.

NOTICE.—To CONTRACTORS and IRONFOUNDERS.—The Corporation of Cork will receive TENDERS from competent parties for the ERECTION of a CAST-IRON ARCH BRIDGE, of 60 feet span, plans and specifications to be seen at the City Engineer's Office, No. 24, South Mall, Cork. Sealed Tenders to be forwarded to the Town Clerk, Cork, on or before the 20th day of FEBRUARY, 1863, marked on face outside, "Tender for Iron Bridge." The Corporation do not bind themselves to accept the lowest or any Tender.—By order,
ALEXANDER M'CARTHY, Jun. Town Clerk.
Office, 33, South Mall, Cork.

THOMAS MILLINGTON,
GLASS, LEAD, OIL, AND COLOUR MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.
In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.

	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. — 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1½	1¾	2	2½
„ 2 ft. 6 in. sup.	1½	1¾	2½	3
4 ft. super...	1¾	2	2½	3½

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.
Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
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Coloured Glass.
Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.
16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 6½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS,
Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s. } per cwt.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.

VARNISHES, &c.
Fine Oak Varnish ...
„ Carriage ... } per gallon.
Linseed and Boiled Oil
Turpentine .....

Milled Lead in Sheet and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

WINDOW GLASS! WINDOW GLASS!—Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental, Rough, Rolled, and Patent Plate. Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at GRIST'S CITY GLASS WAREHOUSE, 47, Chiswell-street, opposite Whitbread's Brewery, E.C.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Obscured, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George yard, Crown street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

SHOWELL'S
PATENT WATERPROOF GLASS ROOFS,
Address—17, PRINCESS-STREET, MANCHESTER.

PATENT and BRITISH PLATE GLASS.
JAMES HETLEY & CO. beg to inform Architects, Builders and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

PAINTED and STAINED GLASS WINDOWS.—LAVERS & BARRAUD, Endell-street, Bloomsbury, London; and No. 3, Oxford-street, Manchester. Prize Medallists, Class 34 A, 1862.

STAINED GLASS and WALL PAINTING
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MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Next Astley's Theatre,
Respectfully inform the Public that their Illustrated Price List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

POLONCEAU and LIMMER ASPHALTE.
ESTABLISHED 1838.



For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

PATENT ASPHALTIC ROOFING FELT.
D. ANDERSON & SON,
BELFAST.
And 23 and 23½, BUTLER STREET, LONDON,
Patentees and Manufacturers of Asphalte Roofing, Ship Sheathing, Boiler and Inodorous Felts. Contractors, Builders, Ironmongers, and others, supplied on lowest terms.

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TARPAULINS for COVERING WORKS.
SCAFFOLD and HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES, was awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES
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They can be obtained of all Ironmongers, Ironmongers, Merchants, Factors, and Wholesale House, in Town and Country.
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May be PROVIDED AGAINST by taking a POLICY of the RAILWAY PASSENGERS' ASSURANCE COMPANY,
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£140,000 have been already PAID as COMPENSATION for Accidents of all kinds.
In Seventy-five Fatal Cases, and 6,580 Cases of Personal Injury.
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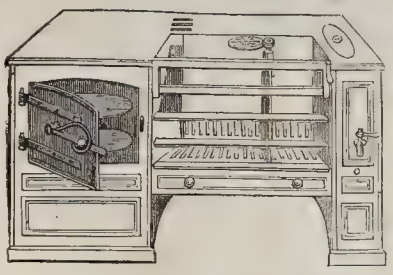
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30 inches ..... 22s.
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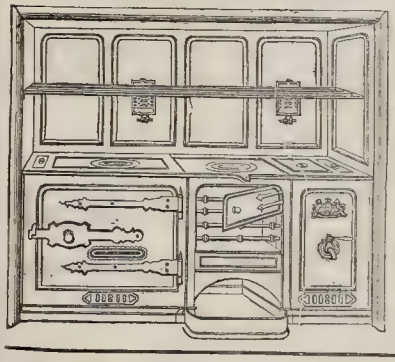
	4 in.	4½-in
O G Gutters, with Clips on...	10d.	1s per yard.

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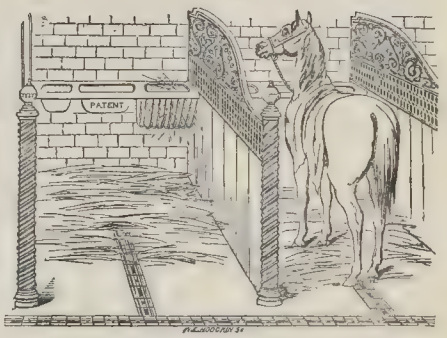
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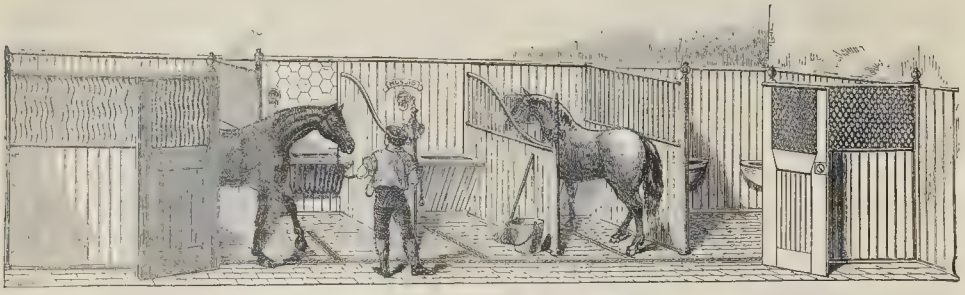
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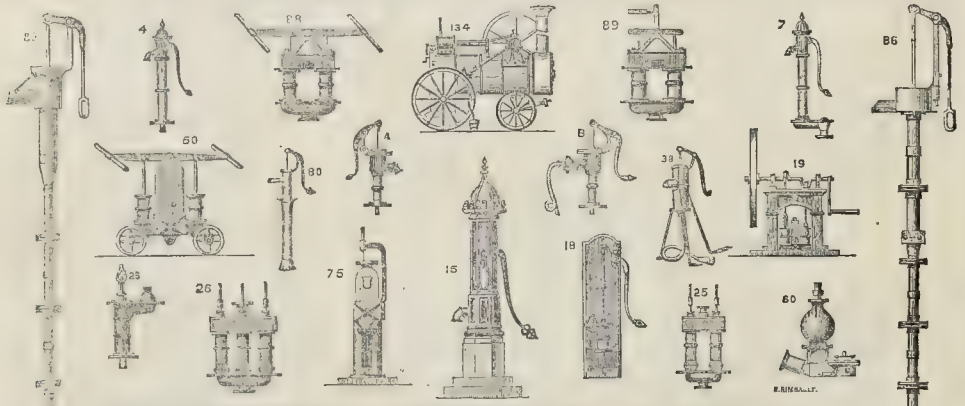
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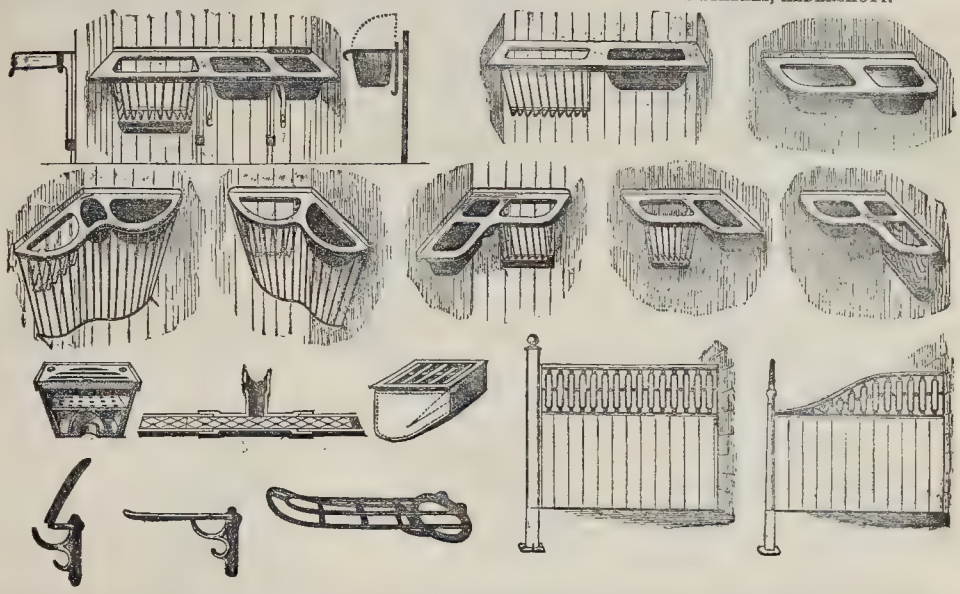
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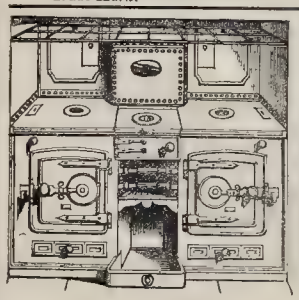
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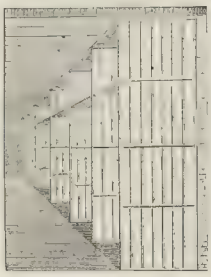
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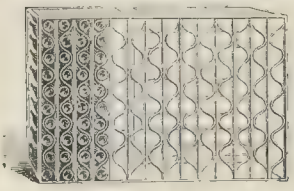
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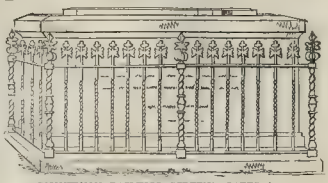
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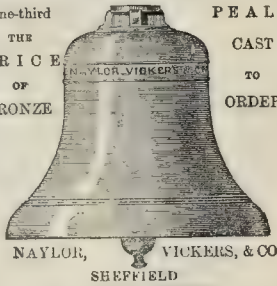
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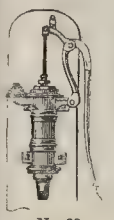
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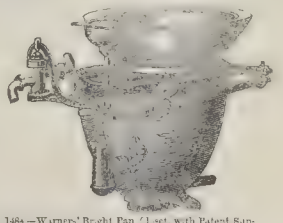
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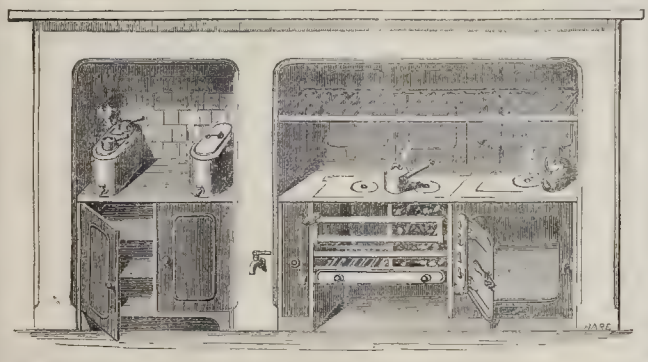
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The Builder.

VOL. XXI.—No. 1041.

District Surveyors and the Metropolitan Board of Works.



DISTRICT SURVEYOR of twenty-five years' standing has been suspended by the Metropolitan Board of Works for what they consider non-performance of the duties of his office. The broad outline of the case, so far as we know, appears to be this:—Two small houses, each having two rooms on a floor, front and back, were erected in Stepney, with a large open area behind. When the houses were built the inclosure-walls at the back were put up in such a way as not to give to each house an area of 100 square feet. Section 29 of the Building Act says, it will be remembered, that,—

> "Every building used, or intended to be used, as a dwelling-house, unless all the rooms can be lighted and ventilated from a street or alley adjoining, shall have in the rear or on the side thereof an open space exclusively belonging thereto of the extent at least of one hundred square feet."

Complaints were made to the builder of the houses, and, in consequence, he removed the door, on each floor, between the two rooms, and made an opening about 4 feet 6 inches wide, so as, nominally, at any rate, to turn the two rooms into one, "lighted and ventilated from the street." A neighbour wrote letters to the district surveyor on the subject, and ultimately to the Board of Works. A correspondence ensued, the district surveyor replying to the allegation, that the builder had complied with the words of the Act, whatever might be the case as to the spirit of it. Interviews took place, and after a long pause he received intimation one Thursday that, at the meeting to be held on the following day, the Board would proceed to consider a report from their Building-Act Committee, recommending his suspension from office for one month. The Board met, and, in lieu of carrying out the recommendation, suspended him for *three* months: in other words, then and there inflicted on him a penalty equal to one hundred pounds.

We shall not be suspected by any of our readers of attaching no importance to the clause evaded by the owner of the houses in question. The efforts of the *Builder* in the cause of sanitary improvement and good structural arrangements, are too well known, we hope, to permit such a belief. To obtain an open area in the rear of houses for the purposes of light and ventilation, is of the utmost consequence, and the district surveyors are bound to do their utmost to obtain it. But the question here is not what the district surveyor thought right and desired to have, but what he could enforce; and our strong impression, indeed conviction, is that, if the facts be as conveyed to us, it would have been useless to take the case before a magistrate. Magistrates have already stated that although the Act requires the rooms to be lighted and ventilated from a street or alley adjoining (or to have an area at the back), the clause is not contravened if the back room be so lighted and ventilated through the front room. In the case of the District Surveyor of Bethnal-green against Raven, who had not provided the required area at the back, Mr. Hammill, the sitting magistrate, suggested that the builder should remove the partition which divided the front room from the back room on the different floors, so as to meet the requirement of the Act, and this was done. In a more recent case in Marylebone, the district surveyor having summoned a builder for not providing the proper area, the sitting magistrate suggested to the builder to get over it by substituting a glass door for the deal one between the two rooms.

That the means of evasion should exist is much to be deplored; but in the face of these and similar decisions, we can well understand the feeling on the part of the district surveyor in the case which has led to his suspension, that it would be useless and unwise to take the builder before a magistrate,—unwise, because every case in which a district surveyor is defeated, weakens his position.

We are not writing in the interest of the district surveyor. Personally, we have not the pleasure of knowing anything of him beyond the fact of his unquestioned integrity. But in the interest of sound building and the discharge of a public duty, we would remind the Board of Works that the Building Act is not a popular Act; that it is full of difficulties; that the district surveyors are *their* officers; and that it might be desirable rather to counsel and strengthen than hastily to injure and degrade. We happen to know well the difficulties of the position of district surveyors, their intelligence and worth as a body, and their anxiety to discharge properly the duties of their office; and we would express a hope that the Board of Works will not seek to render these more hard to compass than they are.

With reference to the prevention of the occupation of underground rooms, it is much to be regretted that the Metropolis Local Management and Amendment Act, so far from rendering the existing legislation more effective, is calculated to keep it inoperative. The Local Management Act, setting forth that no underground room or cellar may be "occupied separately as a dwelling" unless it possesses certain described requisites, calls upon the district surveyors to report periodically, without fee, to the Metropolitan Board and to the vestries "all cases in which rooms or cellars are occupied contrary to this enactment" in their several districts. It has been shown again and again by published statements, memorials, and otherwise, that it is aside the duties of a district surveyor, and, indeed, quite out of his power, to obtain evidence as to what underground rooms are "occupied separately" as dwellings, and that the duty involved should at any rate be divided, the parish authorities obtaining, by means of the police or otherwise, evidence of the occupation, and the district surveyor then reporting whether or not the rooms so occupied are in accordance with the requirements of the Act. So far, however, from the Amendment Act remedying the error, as was proposed by the Metropolitan Board in their draft Bill, it confirms the original arrangement, with the specific instruction, that the district surveyor shall report "in the months of June and December in each year, and at all other times when he shall be required so to do." The result must be, that the section will remain inoperative. A district surveyor can of course report, on examination of an underground room, whether or not it possesses the requisites for a dwelling set forth in the Act; but he cannot give sufficient evidence as to the occupancy of the room as a dwelling within the meaning of the Act. The discharge of the first part of the duty, without remuneration, falls with severity on the surveyors, especially in the central districts, where many underground rooms are inhabited, and the surveyor's receipts for his ordinary structural duties are very small; but the efficient discharge of the latter part is out of their power.

NEW MATERIALS FOR THE LIFE OF JOHN FLAXMAN, R.A.

My father brought a full-stored mind to the life of the greatest of English sculptors—John Flaxman. He himself knew Flaxman,—had heard him deliver his lectures before the Royal Academy,—was always a curious inquirer about the ways of the man he admired,—and sat down to his work with a determination to write a life that would live. Nor was he content with such advantages alone. He sat with the great sculptor's sister and sister-in-law (Miss Flaxman and Miss Denman, his nearest surviving relations), talked unreservedly with them about our English Poidias, and made Boswellian notes before them, which he enlarged at home. He questioned Flaxman's great rival in his latter life—Sir Francis Chantrey,—and Sir Richard Westmacott, his competitor, in the full swing of his mid-career reputation. Chantrey knew little about Flaxman; but that little, from so observing a man, was all to the point. What Westmacott had to tell (or rather had not to tell) I have often heard my father relate with a smile, always ending in a hearty laugh at Westmacott's idea of the wants of biography. "I called on Westmacott, in South Audley-street, by appointment," my father was wont to relate, "note-book in hand. He knew the object of my visit. 'I wish I could tell you,' said Westmacott, 'anything about Flaxman that would be of use to you in your work; but I cannot. Flaxman, sir, lived as if he did not belong to the world; his ways were not our ways. He had odd fashions; he dressed—you know how he dressed; he dined at one; wrought after dinner, which no other artist does; drank tea at six; and then, sir, no one ever found him in the evening parties of the rich or the noble: he was happy at home, and so he kept himself. Of all the members of the Academy, the man whom I know least of is Flaxman.' In this way," my father was wont to observe, "Westmacott continued to talk to me about Flaxman. He answered all my questions directly and to the point. You will readily guess," he would end by saying, and with a hearty laugh (still pleasantly ringing in my ears) "Westmacott's notion of the wants of biography. I thanked him and withdrew. I had obtained, unknown to Westmacott, the very information I wanted from him."

When Chantrey was little or nothing more than a raw Derbyshire lad in London, working in clay, with slender prospects of translating his labours into marble, he went to the Royal Academy exhibition, then in Somerset House, and made his observations, catalogue in hand. When Chantrey approved, he was always emphatic in his approval:—

> "Fools admire, but men of sense approve."

Against Flaxman's statue of Sir Joshua Reynolds, now in St. Paul's, then only a small-sized model, he has written "fine," in large blacklead letters. The influence of this very fine statue on Chantrey may be traced in the very best of Chantrey's works.

The story of the noble portrait of Flaxman, by John Jackson, R.A. (lucky man, he painted Canova as well, and for Chantrey), was given to my father by George Agar Ellis, afterwards Lord Dover, in a long memorandum in his own handwriting before me while I write. "In 1824 and 1825 (I think), Mr. Jackson painted for me the magnificent head of Flaxman—probably his finest work—in which the chiaro-scuro of Rembrandt is united with the colouring of the greatest masters in that art. The origin of the painting of this picture is as follows:—At the Academy dinner, in, I think, 1824, I sat at table exactly opposite Flaxman, and was so much struck by the intelligence of his eye, the placid benignity of his countenance, and his venerable head, that I became anxious to see those characteristics worthily represented in painting. In going downstairs, I found myself next to Jackson, and said to him, 'I never was more struck in my life than by the countenance of Flaxman,—you must paint him for me.'" Lord Dover adds,—"After the great success of the portrait of Flaxman, I gave Jackson a commission to paint a head of Chantrey, which was not quite completed when he died."

Flaxman's letters, as autograph collectors know to their cost, are of rare occurrence. Here is one unknown to Flaxman's biographers:—

"To Prince Hoare, esq., Secretary for Foreign Correspondence, Royal Academy of Arts.

[London, 1803.]

DEAR SIR,—The public monuments which I am doing, by order of the King and Parliament, are two; one to the memory of Captain Montague of the ship *Montague*, who fell in the naval engagement on the 1st of June, 1794, in which Admiral Earl Howe commanded, and defeated the French fleet.

The monument is to be insulated, and to stand under an arch in the nave of Westminster Abbey in such a manner that the spectator may walk round it. Captain Montague rests on his sword and stands on a pedestal adorned with naval flags Victory, on a globe behind him, waves over his head the laurel crown which he did not live to wear. On the pedestal is a bas-relief representing the engagement; and a lion on each side of the pedestal guards the basement. On the back of the pedestal, under the trophy, is a bas-relief of prisoners. The statue of the captain is 7 feet 2 inches high, and the whole work will be 20 feet high from the ground.

The other monument is to the memory of Admiral Earl Howe, commander-in-chief in the above engagement, who, having rendered a series of essential and brilliant services to his country, died at home in peace, at an advanced age, beloved and regretted, particularly by the navy. The principal figure is the earl in a naval uniform and boat-cloak, with a telescope in his right hand, resting on a rostrated pedestal, on which Britannia is seated as the guardian both of herself and trophies. Fame writes his achievements in golden letters on the pedestal. Victory [without wings] leans, like a sister, on the shoulder of Fame, beholding with delight the record of her hero's deeds, while with her other hand she places the garland in the lap of Britannia. The British lion watches by the earl's feet. This monument is to be placed in a distinguished situation in St. Paul's Cathedral. The statue of Earl Howe will be 7 feet 6 inches high; the rest of the work will be magnificent in proportion, both in size and decoration. Concerning the bust of Ceres, of which you inquire, I have seen it and made drawings of it. When entire, it was a statue made of two blocks of marble: including the basket she supported on her head, the whole must have measured 16 feet in height; but as a slight sketch will give a better idea than a laboured description, I have taken the liberty to trouble you with one,* which you may, if you please, send to the President of the Academy of Vienna, with my respectful compliments. The original is quite a ruin, as you will perceive by the sketch. The face is gone. It is 6 feet 10 inches high, from the bottom of the girdle zone to the top of the basket. It is now set up in the Public Library at Cambridge. I have examined the ancient authors, but have found no mention of the statue. Pliny says nothing of it; Vitruvius says nothing of it; nor Pausanias. Strabo says the temple was erected by Ictinus, under Pericles. It is certainly a work of the time of Phidias, of an elevated beauty, and powerful execution, but I think it must be evident that Phidias could not have done all the works attributed to him, unless he had possessed as many hands as Briareus.—I am, dear sir, &c., JOHN FLAXMAN.

There is a passage in my father's Life of Flaxman which the following note from a careful and very severe corrector of slips of the pen in print will serve in some measure to set right:—

To Allan Cunningham, esq.

"Molesey Grove, Hampton Court,
31st March, 1835.

DEAR SIR,—In re-reading your Life of Flaxman, I observe, p. 311, a statement and an anecdote which imply that Flaxman had not left Rome till after the irruption of Buonaparte into Italy. This, I think, must be a mistake. Your book does not, indeed, state the *exact* time of Flaxman's return, but you say that he *went* in the spring of 1787, and remained seven years, this would bring the return to 1794. Now it was not till the autumn of 1795 that Buonaparte's name ever was heard of, and it was not till the spring of 1796 that he crossed the Alps.

If you will look at the passage, you will see that this matter involves inaccuracy, and consequently the credit of the work; and, as *I* cannot account for the mistake or anachronism, I have thought proper to mention it to you, that it may be corrected or explained in a new edition.—I am, dear sir, faithfully yours, J. W. CROKER."

On the receipt of this letter my father wrote to Miss Flaxman, and to what purpose the following answer will fully tell:—

To Allan Cunningham, esq.

"74, Upper Norton-street, April 7th [1835].

DEAR SIR,—I was much surprised at receiving a letter addressed to Miss Flaxman, as it is now nearly two years since I lost that dear and valued friend.

In reply to your letter, I will take upon myself with pleasure to answer your question, as there are few circumstances in my brother-in-law (Mr. Flaxman's) life that I am not well acquainted with, having been his and my sister (Mrs. Flaxman's) constant companion ever since their return from Italy in 1794, till the very last moment of their earthly existence.

In answer to your question concerning the medal,—It was some years after Mr. Flaxman's return from Italy that he first saw the medal of Buonaparte at a friend's house in London, and he always said and thought that the profile of Buonaparte, during his early career, bore a strong resemblance to Augustus Cæsar."

We come now to a grievance of five years' standing. Miss Denman continues:—

"I regret that when you favoured Miss Flaxman and myself with a visit, previous to the publication of my brother's Life, you did not avail yourself of our offer of looking over it, as we could have pointed out to you many errors which are now in it.

I also greatly regret that you made use of any part of those two works from which you have made so many long extracts. They were never intended for the public, and when I showed them to you I most expressly said:—'These are private works; they were made for the gratification of my sister: now they are mine, I hold them sacred, and I only show them to you that you may the better understand the character of the man whose Life you are writing; and I must beg you will not make any other use of them in the work you are now writing, as I do not wish them to be made public. If, at any future time, I may have reason to change my mind, I shall then bring them out in a way most congenial with my own feelings, and in a way that shall not detract from the fame of the great and good man;' and you then promised you would not.

I was so much hurt by this breach of confidence that neither Miss Flaxman nor myself could at that time thank you as we otherwise should have done for your kindness in sending us your little interesting volume.—I remain, dear Sir, yours truly, MARIA DENMAN."

What promise, if any, as Miss Denman alleges, my father made I cannot tell, nor can I see aught but a good service rendered to Flaxman's memory in the way the story of the "two works" is told in Flaxman's Life. My father was never in possession of the volumes; the extracts made were made in Miss Denman's house, and, if my memory does not err, in Miss Denman's presence. The lady, somewhat difficult to please (as I know by my own experience of her when I was honorary secretary to Watson's fine statue of her brother), relented ere long, re read the Life, and transmitted to its author such queries and notes as occurred to her. These annotations (new and of moment) I purpose giving in a second communication; here, however, I may relate what Stothard told my father, in Chantrey's studio,—"I have read," said Stothard, 6th July, 1839, "your Life of Flaxman, and am much pleased with it." "Mr. Flaxman," Miss Denman records in her own handwriting, "had the highest regard and friendship for Mr. Howard, both as an artist and a man; but his old friend Stothard he could only admire—as an artist." Why? PETER CUNNINGHAM.

OF THE INFLUENCE OF FASHION IN ARCHITECTURE.*

"Fashion constantly begins and ends in the two things it abhors most, singularity and vulgarity. It is the perpetual setting up and then disowning a certain standard of taste, elegance, and refinement, which has no other formation or authority than that it is the prevailing distraction of the moment; which was yesterday ridiculous from its being new, and to-morrow will be odious from its being common."—HAZLITT.

A POPULAR feeling has exhibited itself, far and wide, in favour of an inappropriate adoption of colour in lieu of form. This new feature has been very properly denounced, and termed the piebald, petrified chessboard, or harlequin style, and consists of an indiscriminate employment of black, white, yellow, and red bricks, in arches, bands, diapers, and strings, which have lessened the use of architectural mouldings and other beautiful forms.

The system of rendering buildings all the colours of the rainbow should be avoided, as it entirely destroys form. It has actually been propounded by an architect that "if we wanted colouring in a building, we must give up the mouldings, or *vice versâ*: for his own part, he would always give up the mouldings!" For my part, I would dispense with the *daubing*, and retain all mouldings and architectural forms and features in their integrity. "I believe," says Professor Westmacott, "that colouring sculpture is one of the greatest mistakes that can be committed. Sculpture represents by *form*, and form alone: painting is a distinct art: the mixture of the two, in sculpture proper, is meretricious and false, however pretty some people may think it."

There are many interesting examples remaining of cornices, window-dressings, and chimney shafts, executed in moulded brickwork, in mansions of the time of Henry VIII., William III., George II., &c., well worthy of being studied; and they serve to prove how successfully mouldings can be embodied in brickwork, without having recourse to parti-coloured brickwork to their total exclusion.

Red stocks alternating with grey stocks present no new feature in art: the fashionable use of them, therefore, does not consist in their novel introduction, but the nonsensical abuse of them. The harsh contrast between red bricks and stone has been condemned years ago; and the heavy colour of the bricks is considered unpleasing in itself. The absence of proportion and taste in design at the present time may be readily discerned (without naming individual examples), by reference to the illustrations in the recent volumes of the *Builder*. There are, however, occasionally many beautiful examples of red brickwork to be met with.

I attach great importance to mouldings in fine-art architecture, and consider them to be the alphabet of each period. If colour must be introduced, let it arise out of the blending of natural and varied marbles. Mouldings in this case will be of advantage rather than otherwise: they will serve to separate the prominent coloured marble surfaces from each other, by marbles of various colours as practised by the illuminators during the Middle Ages, and by the Roman architects in their buildings, which were renowned for the many beautifully coloured marbles employed in their construction. In the Pantheon at Rome, as is well known, the internal entablature is of white marble and porphyry, and the columns are of yellow antique marble, with capitals and bases of white marble: the surface of the piers is also incrusted with thin slabs of marble of various colours.

During the Classic and Mediæval periods, windows, doors, and other openings were suitably and therefore usefully ornamented with mouldings, grouped in cornices, architraves, jambs, arches, &c., forming important features in public and private edifices; but recently it has become the *fashion* to forego these decorations, and to construct buildings with red brick string courses, red brick arches, and to introduce red brick peculiarities of endless unmeaning and incongruous patterns, not limited to secular buildings, but employed in churches, chapels, and other important works. This I consider a retrograde movement, or at least no advancement in the direction calculated to create a new style of architecture. In the course of a few years the atmosphere of London and large cities will so deaden the red and other coloured bricks, that only one dark tint will remain; and in all those buildings in which mouldings and other architectural features have been discarded, naught will remain but the pierced openings of doors and windows. This to me appears so self-evident that too much public attention cannot be directed to the fact. To depend wholly upon colour without mouldings in external brickwork must lead to disappointment; but if when a pointed red brick arch is introduced over a pointed or semi-circular opening, a brick or stone label be put immediately over the red brick, a permanent architectural feature is preserved. In like manner, if red panels be sunk or raised, the forms are retained: not so, however, when they are simply surface shams.

The attempt to force upon the profession and the public polychromatic decorations has not been successful, either in architecture or sculpture. The Classic authorities have been diligently searched, and the beautiful remains of early art closely examined, with a view to prove that

* Flaxman's drawing was engraved by his friend William Blake for the "Academic Annals."

* By Mr. W. Pettit Griffith, F.S.A., read at the Liverpool Architectural Society, on the 14th inst.

Grecian architecture and sculptures were coloured In after ages the Romans employed more colour than the Greeks: there, however, is no doubt that whatever colour the Greeks applied was most sparingly used,—often as a groundwork only for gilding, and without detriment to their beautiful forms; and that the idea (promulgated by some) that Classic edifices were painted with blue, red, yellow, and sea-green colours, and that the statues were of a flesh colour, with artificial eyes, red eyebrows, red and brown hair, &c., has not been yet satisfactorily proved; and if it ever be substantiated, instead of raising art in the minds of educated persons, it will only certify that the taste of the ancients was not so pure, so simple, and so chaste as its admirers have ever considered it to be.

The treatment of colour in architecture requires great thought and consideration; and although a harmonious whole has to be realized, still the characteristic details and mouldings must be well marked and brought out in agreeable relief. The Greeks treated their sculptures and mouldings with care, and sought by their use to heighten the effect of the architecture, rather than subdue it with heavy colouring: a pleasing light and shade must be always kept in view.

The colour imparted to the interiors of continental buildings by coloured marbles contrasts greatly with the cold Portland-stone tint of St. Paul's Cathedral and many other public buildings in this country. At the period when St. Paul's Cathedral was erected it was incorrectly imagined that the ornamentation of the cupola with mosaic work, similar to the cupola of St. Peter's in Rome, would have been too expensive: resort was therefore had to the perishable substitutes of painting and gilding. This gilding, it appears, was intended only to serve until such time as suitable materials could have been procured. It is much to be deplored that, instead of painting and gilding the interior of the building, sufficient funds were not raised for ornamenting the inside of the cupola with the more durable mosaic work, which would have lasted as long as the building itself, as well as freely to have introduced coloured marbles.

The marbles of Devonshire and the west appear boundless in variety. The isles of Man and Anglesea abound with marbles; also Darington, near Hereford. Considering the beauty and durability of mosaic work, it has been considered a matter of surprise that it should for so long a time have escaped the attention of our native artisans. The marbles and ornamental masonry of the British islands are well worthy of attention.

In a city atmosphere, and with gas in a building, the gilding cannot be preserved beyond a very limited period. Besides, would it not have been desirable, prior to internal painting and gilding, to have thoroughly restored the external decomposed mouldings, broken capitals, and vases, and the statues, which must ere long receive attention? Considering the vitiated atmosphere of London, the exterior stonework of St. Paul's is in an excellent condition; nevertheless, all the joints of the masonry of the pediments are open, and there is much external repair wanting to preserve the building; and funds could not, I feel assured, be expended upon more needful and important matters.

Apart from the question of the durability of the painting and gilding in St. Paul's, it is but fair to state that the latter have been accomplished with great care and in excellent taste, and with every attention to the development of the mouldings and ornamentation.

It has been recently pronounced *ex cathedrâ*, that principles never change: there may be new combinations, new excellencies, new paths, new powers; but there can be no new principles in art. This is no doubt correct, and should be borne in mind, although it would be more instructive to art-students if these principles were more clearly enunciated.

Sir Christopher Wren's idea of principles seems to have been limited to the "five orders." "It" [architecture], says Wren, "aims at eternity; and therefore is the only thing incapable of modes and fashions in its principles (the orders), which are founded upon the experience of all ages."

Art-principles, unless founded upon nature, are ever varying: the most eminent modern architects never agreed as to the proportions of any one of the five orders: in the height of the Tuscan column alone they differed by three modules.

In the works of Nature there is not any portion of the framework, however minute, which does not appear to have been developed upon perfect principles: in fact, the more we study each object, let it be either animal, vegetable, or mineral, the more there is to admire; each part being in its place, and having its duty to perform; all interference with regularity being occasioned through abortions or degenerations, forming the exception and not the rule.

There is some satisfaction in studying the works of Nature: the truths we learn are eternal; but in architecture new influences create new fashions, and a style which has occupied hundreds of years and the skill of the greatest artists to perfect, is liable to be spurned in a moment for any new and crude style that may be introduced.

The reflection is somewhat humiliating that architecture is amenable to new fashions, like women's costume and fancy dogs. When the painter shadows forth a landscape, and the sculptor idealises, in marble, human life, their works are as truthful in a thousand years hence as they are this day: no differences of opinion or new fashions can alter them: they represent Nature's works, and are consequently eternal.

Sculpture, however, is sometimes influenced by fashion. In London and elsewhere may be seen statues of eminent men, executed not many years ago, in the Roman costume, with the toga, &c. Our statesmen are now more appropriately represented attired as they lived. I pointed this out in the year 1839, when competing for the Nelson monument. Ridiculous as the figure of George III. may appear in Pall-mall with a pig-tail and cocked hat, still it is a true record of the fashion of the day. All sculptured and other records in stone or metal should be truthfully portrayed, so that future antiquarians and historians can at once fix the period of their execution.

Fashions have generally been produced to conceal defects, or to exhibit some of Nature's gifts; and at an early period so constant were the changes of dress, that Andrew Borde, in his first chapter of his "Boke of the Instruction of Knowledge" (1542), prefixed these lines:—

> "I am an Englishman, and naked I stande here,
> Musing in minde what rayment I shal weare:
> For nowe I wil weare this, and now I will weare that,
> And now I will weare I cannot telle what."

Ladies' costume and the decorative arts the French may have ably treated, but they are too volatile and too impatient either to practise or to extend pure architecture. However, as regards dress, they appear to possess more correct taste. "A French woman," says Goldsmith, "is a perfect architect in dress: she never, with Gothic ignorance, mixes the orders: she never tricks out a squabby Doric shape with Corinthian finery; or, to speak without metaphor, she conforms to general fashion only when it happens not to be repugnant to private beauty."

The frivolous decorations heaped upon architecture by our Continental neighbours have occasionally influenced our own adaptations. For example, in lieu of the architrave and cornice to windows, a kind of looking-glass frame is often substituted, which, to an educated eye, has a very flimsy appearance. The cornice, or label, over window openings, is useful and ornamental; not so, however, a band of twisted mouldings of uniform projection.

The continuity of horizontal lines in the fronts of street houses has been condemned as monotonous, and gables recommended as being more picturesque. The adoption of the latter would be sacrificing utility for ornament, and re-producing Mediæval London. I pity those who would have to exist in the gables. Gables are fashionable features, and excellent as terminations to Mediæval roofs of churches and chapels. The harmony of many new churches has been sadly marred by breaking up the roofs of the aisles into gablets, rendering them neither ornamental nor useful, except for side galleries, which are universally condemned. Cicero, speaking of the magnificence and expenses of building, says that there certainly ought to be some bounds fixed and prescribed for these things, and those to be according to the rules of moderation; but the measure whereby we are to judge of their being moderate is their subserviency to the ornaments and conveniences of life.

In early times each country appears to have retained its own style of architecture without much change: Egypt and Greece were not subject to the fashionable caprices of modern times. The inventive genius of the Romans was not severely taxed: the three Greek orders, ready made, were found eminently acceptable; and by forming the clumsy Tuscan, and placing the Ionic volutes on the Corinthian capital, the composite was easily fashioned; and hence the production, without much thought, of the memorable *five orders*, destined to create architecture! Rome, and to satisfy after-ages with ready-made ideas. Although Sir Christopher Wren considered that architecture aimed at eternity, and was the only thing incapable of modes and fashions; still it is well known that architecture is a progressive art, and the orders in their turn were soon exchanged for the Gothic mode of construction; and notwithstanding it has been termed by the admirers of the Classic styles, "a sort of monster engendered in the night of barbarity; a heterogeneous mixture of confused remembrances, and obliterated traditions;" it is still in vogue, although somewhat marred by a Venetian modification.

Architecture can scarcely be said to have developed itself to any extent in this country until the invasion of William I., in 1066. At this period the Norman, or Romanesque, with its semicircular arches, chevron and other mouldings, became the prevailing style until the twelfth century, when the next general change was effected by the introduction of the Pointed arch; and in the thirteenth century a style of architecture termed Gothic was matured, of a novel and interesting character: the many cathedrals and churches throughout the country that have been spared to us testify to this day its beauty. This new fashion passed through several phases, and was rendered as marked a style as the architecture of Greece and Rome; and, no doubt, many would have desired that it had progressed and become perfected, and remained to us as a national style, and as free from fashionable caprices as Classic architecture had been in early days. But the desire for novelty and new fashions soon ushered in a new mode, which,

> "Like a sick man's dreams,
> Varied all shapes, and mix'd all extremes."
> HORACE.

It assumed the name of Elizabethan architecture, and flourished during the latter half of the sixteenth century. So great was the aversion at this period to regular architecture, that columns, balusters, pedestals, &c., were executed tapering downwards; and every other distortion was cultivated for the sake of variety.

The Roman style was feebly introduced into England in the sixteenth century; and, like all new fashions, was grafted upon preceding styles; and in the seventeenth century it was fully developed by Inigo Jones and Sir C. Wren, and afterwards most successfully practised by Sir W. Chambers.

Early in the nineteenth century the architecture of

> "Fair Greece! sad relic of departed worth!
> Immortal, though no more,"—BYRON—

was imported, and soon became the fashionable style of the day; and although extensively copied and adapted, it never took root or expanded itself. The pedimental roof, however well suited to its native country, is too depressed for a northern climate; and its noble portico, admirably arranged to afford protection from the heat of the sun, is wholly unfit, in this country, at least, to afford shelter from rain. So ill-adapted is the portico to modern buildings, rendering obscure all rooms in contiguity, that it has now become the practice to remove the pediment and insert glass in its coffered ceiling. The coffers, if filled with painted glass ornaments in the centres, would have a good effect.

Among other styles imported may be named the French, Chinese, Moorish, Egyptian, Turkish, Modern Italian, Swiss, &c.; and although occasionally employed, they can hardly be said to have ever become fashionable.

The present fashionable style is a mongrel, polychromatic Italian Gothic, surmounted with an extreme northern roof; and singular enough, that although the intermixture of styles by Inigo Jones and others has been strongly deprecated, the very same corrupt manner of proceeding is still being adopted. Architects must follow the current;—

> "See the right, and approve it too;
> Condemn the wrong, and yet the wrong pursue."

Many distinguished men complain of the present fashion; but follow it they must, or others will do so for them. If the current cannot be checked, and architects must follow it, they can endeavour to guide it; but whatever is done, it is to be sincerely hoped that they will retain the noble and distinguishing parts of buildings; viz, their mouldings; and not sacrifice them for the substitutes of black, red, and coloured bricks.

No doubt, the Venetian Gothic has its beauties, which, if judiciously culled, and due regard to proportion—now much neglected—being paid, with proper and adequate mouldings in red brick, if red brick must be used, and with a moderately high pitched roof, may be reasonably introduced for secular buildings; but for eccle-

siastical architecture, let us have coloured marbles and honest stone; brick and pictorial mosaics being at all times a mean substitute for the latter materials. As has been observed, nobody will be at such an open defiance with common sense as to profess that we should not endeavour to know, and to think of, things as they are in themselves; and yet there is nothing more frequent than to do the contrary; and men are apt to excuse themselves, and think they have reason to do so, if they have but a pretence that it is for God, or a good cause; that is, in effect, for themselves, their own persuasion or party.

Nature, the one and only standard acknowledged by all to be ever perfect and beautiful, never influenced by fashion, each returning year presenting the same forms of foliage and flowers, is yet always acceptable: how far different architecture ever varying, and its disciples always eager for novelties.

The best and surest way of checking an undue fashionable influence in architecture is to properly educate the minds of the people. If this were attended to, the conflicting opinions on taste and proportion would be fewer. How is it possible for any one to decide upon the merits of a building if utterly ignorant of the ordinary rules of art and the grammar of the various styles? In a discussion on an æsthetic principle in decoration, not long since, the speaker remarked "that a correct judgment in the matter of colour consisted in having what was called *an eye for colour*; that such an eye was the gift of the good God; and if it be wanting, no amount of reading or theorizing could supply the deficiency." My opinion is, that not only the eye, but also "that, if the soul be without knowledge, it is not good;" and that the eye, through the mind, is perfectly capable of being educated, and becoming qualified to judge of the relative quantity of each line which should be present in any ornamental arrangement placed before it. The ignorance prevailing on art products at the present period is surprising. As an instance, I was recently examining a public building, when a man of considerable self-importance, who was with me, observed, "Now I call that a pretty thing." I regretted not being able to agree with him in opinion, and urged that the attic story was of an undue altitude, and overpowered the rest of the building. "Well," said he, "that is a mere matter of taste: I don't think so. I have eyes, and can see as well as you."

Professor Faraday,* speaking of deficiency of judgment, truly says "that, in physical matters, multitudes are ready to draw conclusions who have little or no power of judgment in the cases; that the same is true of other departments of knowledge; and that, generally, mankind is willing to leave the faculties which relate to judgment almost entirely uneducated, and their decision at the mercy of ignorance, prepossessions, the passions, or even accident."

The further development of true architecture would be greatly accelerated by instilling into the public mind correct *data* on matters relating to architecture and the fine arts. No freemasonic secrets are required by the profession at the present time: free knowledge of art as well as free trade is a *sine qua non* now-a-days.

The three learned professions, viz., divinity, law, and medicine, justly retain their universally-acknowledged high position; and as a guarantee to the public, all young men have to qualify themselves, and to pass strict examinations, prior to being admitted as regular practitioners.

It has been asked, what is an architect? and the question gave offence; but upon reflection it was not an unreasonable inquiry; especially when it is known that the builder of Osborne was termed an architect,—the sketcher of the 1851 Exhibition was termed an architect, and the engineer of the 1862 Exhibition was called an architect,—and that the *employés* of the late Commissioners of Sewers now acting as surveyors to vestries are often engaged in building schools, repairing churches, &c., and consequently call themselves architects. The inquiry, therefore,—what is an architect? was not altogether out of place.

It is somewhat remarkable that although the utility (and position) of an architect has been publicly doubted; still some members of the Institute of Architects have actually questioned the necessity of an examination; and consequently a *voluntary* architectural one has been instituted. From a cursory glance at the proposed examination papers, I cannot see anything beyond that which is required at an ordinary public school. In the list of books recommended to candidates, the celebrated works of Pugin, Bowman and Crowther, Britton, and others are not named, although Stuart and Revett's works, and Taylor and Cresy's, have not been forgotten.* Proportion, taste, decoration, and other important fine art matters, are not even alluded to; but gardening is not overlooked. These omissions, however, can be easily rectified.

Great credit is eminently due to the promoters of the architectural examination, and no doubt it will be justly valued, and tend to invest the subject with high interest, and raise its dignity as a science. Architecture must be considered by the Institute as a whole;—all unseemly contests for a president favouring either Classic or Gothic, as much as possible avoided; and, to insure this desideratum, perhaps in future it would be better to select an educated nobleman, without bias, as president, rather than a professional man. All divisions tend to weaken, and it would be a public regret and a great evil if any party influence be permitted to prevail, to disturb the growing importance of so valuable and necessary a body as the Institute of Architects. By educating the profession and the public, architecture will become, as of old, less affected by fashionable caprices.

It is neither to be expected, nor necessary, that the public should acquire a practical knowledge of building,—that is the architect's province: for the strength and durability of materials, the public consider the architect responsible, and it is the duty of an architect when he uses perishable materials, such as red bricks and Bath stone, to acquaint his employer of their decaying nature; so that in the event of failure, he will not be answerable.

Cement is often denounced as a sham, but it is a singular circumstance that in London it has been, in innumerable instances, sought to repair and render decent works in which Bath stone has been used.

A good general knowledge of architecture and of the fine arts is most important for the public: it would prevent that disappointment which frequently occurs through a previous non-acquaintance with the appearance of a building until it is erected. The public should be enabled to understand a building and its parts, independently of those alluring and deceitful highly coloured and picturesque foregrounds and backgrounds, which only exist in the mind of the artist hired to depict them.

Fashion in architecture appears to have been entirely overlooked by the enthusiastic writer of the introductions to the Fine Art Department, in the official catalogue of the International Exhibition. Instead of portraying historically the various phases of architectonic art, he pronounces in favour of Gothic as a *panacea* for all requirements. "Gothic," he observes, "is simply the one style which, by the circumstances of its development, has united in itself all the best constructive and the best ornamental forms of the world's inventions in architecture." "It is no fine figure to say, that by ten thousand proofs Gothic has stamped itself on the fair face of Europe as the architecture of Heaven, and the architecture of home. Man's requirements in the province of building do not substantially vary: they are amongst the things that have been, and will be again."

Prior to a new style of architecture being matured, there will be, in my opinion, a revival of the Classic styles. It will be recollected that when Stuart and Revett introduced the Grecian style, it was deemed an act of barbarism to do otherwise than to strictly copy; and it was not considered lawful to introduce even a semi-circular arch in a Grecian building. More freedom of thought is now permitted; and it is probable that the Classic style will be revived. It is now dawning,—and without that strict adherence to precedent as formerly. Wren, in his City churches, handled the Roman style with freedom; but it must be borne in mind, that he was limited to the ritualism of his time. For a font he generally took a baluster, and formed a basin in the top,—but now fonts, sediliæ, piscinæ, &c., can be designed on Mediæval principles, in the Classic style,—and also properly proportioned chancels, which were not encouraged in Wren's time. I am still of opinion that a higher development of the Mediæval architecture of the fourteenth century is the best suited for ecclesiastical edifices; yet I must admit that the Classical style is capable of further expansion without that strict adherence to ancient models. If architects were now invited to prepare designs in the Grecian style for St. Pancras Church, they would not require such a composition as the present building, viz.,—the Temple of Erectheus, with the Tower of the Winds stuck on the top. As an example of Greek art, no doubt, the edifice is valuable, but no credit is due for originality of design: the power of thought has not been invoked.

"It may be asked," says Mr. Fergusson,* "if I propose to throw over all precedent, and to abandon at once all Grecian pillars and Gothic pinnacles, and all the classical and Mediæval details which now make up the stock-in-trade of an architect, what would I propose to substitute in their place? The answer," he says, "is a simple, though scarcely a satisfactory one, as it is merely—I do not know."

I consider that it is possible to produce a new style of architecture, based upon correct principles and good taste, without aid from either Classical or Mediæval examples; and this can be more easily accomplished by practical demonstration than by lengthy verbal descriptions. Whether the new style, when created, will be worthy of acceptance is another question. At the present time eccentricity is more sought after than originality.

It is to be hoped that the present Venetian-Gothic architecture, with its stunted and twisted columns and other deformities, will not remain in vogue. Parliament wisely rejected it; and as the public become better acquainted with the best productions of art, it will eventually be supplanted by a purer style. The folly of dogmatising in favour of any particular style must be evident when we consider how much architecture is influenced by fashion. It is far better to have a general knowledge of all the various styles and to endeavour to follow nature, and apply her unerring principles to art purposes, than to idolise any one style in preference to another, which in the course of a few years is no longer countenanced, beautiful as it may seem to be; but doomed, at least for a period, to enable some new phase of art (however ridiculous) to exert its influence. The works of nature, on the contrary, as Scripture instructs us, were "done in judgment from the beginning: from the time they were made the parts thereof were disposed, and garnished for ever."

MEETING OF THE ARCHITECTS OF IRELAND.

DUBLIN WINTER GARDEN COMPETITION.

On Saturday, the 3rd, a special general meeting of the architects of Ireland was held at the Ancient Concert-rooms, for the purpose of protesting against the unjust course adopted by the committee of the above project towards the members of the profession who competed for the intended building; as also to adopt measures either for the re-organization of the Institute of Architects in Ireland, or the formation of some other Association for the better protection of professional interests in future. Mr. Jacob Owen presided. Amongst those present were Messrs. J. H. Owen, W. G. Murray, J. J. M'Carthy, George Ashlin, E. H. Carson, J. M'Curdy, J. R. Carroll, C. Geoghegan, N. Montgomery, J. S. Butler, C. Papworth, J. Bourke, D. C. Ferguson, W. Welland, J. Bell, jun.; J. Maguire, J. C. Burne, J. J. Lyons, W. R. Farrell, C. D. Astley, T. Owen, J. C. Campbell, Franklin, R. Turner, T. Turner, W. J. Barre, Lee, &c.

Letters of apology for unavoidable absence, but cordially concurring in the objects of the meeting, were read by the honorary secretaries from Sir Thomas Deane, Messrs. J. Lanyon, W. Fogerty, Boyd & Batt, &c. &c.

Mr. W. Murray moved the first resolution:—

"That this meeting, having been convened for the purpose of taking into consideration the necessity that exists for some co-operation amongst the architects of Ireland, in order to protect themselves against the injuries inflicted on their profession by the present system of competition, has to express its regret that the recent extraordinary course adopted by the directors of the Dublin Exhibition Palace and Winter Garden Commissioners, whose ostensible object would appear to be the promotion of science and fostering of art, should furnish, as it does, the most striking proof of the urgent demand that presses upon us, individually and collectively, to devise some tangible remedy for the future against inroads so fraught with injury and injustice to our profession."

The present meeting was convened, he said, in consequence of the great abuses which had crept into the system of professional competition existing in public bodies, and more particularly with regard to competition for the building of the New Winter Palace. The commissioners interested in that project had laid down a series of rules and regulations with regard to the fur-

* "Observations on Mental Education."

* Pliny and Strabo are to be studied, but not Herodotus and Diodorus Siculus.

* "Historical Inquiry into the True Principles of Beauty in Art," &c. 1848.

nishing of plans and specifications, which in no one instance were strictly conformed to. There was a general impression amongst the profession that the competition was not carried out in such a manner as the public might expect. In almost every instance the prescribed regulations with regard to the plans and specifications were broken through. For instance, it was said the designs were to be in Indian ink, whereas they were almost all coloured. 35,000*l.* was the sum estimated for the work, and that was broken through on the assumption it was almost impossible to get the building executed for that. It was necessary the profession should adopt some rule with regard to committees who, not thoroughly understanding what they required, met together as judges of competitive plans.

The resolution was seconded by Mr. J. M'Curdy, and carried.

Mr. R. Carrol proposed the next resolution :—

"That this meeting views with extreme regret the course adopted by the directors of the Dublin Exhibition Palace and Winter Garden Company, in withholding, in the recent competition, the two premiums offered by the printed conditions, under the plea of nonconformity of the designs to the said conditions; whilst at the same time the directors utterly ignored their own rules by selecting (without awarding either of the premiums) a design from amongst those submitted which conformed as little as any with the specified conditions; as such a course adopted by the directors of a public company is calculated to break all faith and confidence between the architectural profession and public committees."

As one of the profession, he wished to state that their case against the commissioners was this. It was not to be supposed that twenty-five gentlemen competed, at an expenditure of 150*l.* and 200*l.*, for the mere premiums of 75*l.* and 150*l.* which had been offered. They competed for success. They had not, however, a fair competition. The directors threw all the original designs aside, and received designs on different conditions, increasing the cost by 5,000*l.*, and reducing the amount of accommodation required. The design which was to be carried out, and which Mr. Jones was at present preparing a specification for, would cost 40,000*l.*,—5,000*l.* over the stipulated sum. The accommodation given by the accepted plan was not at all equal to that of some of the designs which the authors were prepared to carry out for 35,000*l.* The new designs had been selected without any competition; and in the preparation of them the directors had the advantage of studying all the other designs for weeks. It was understood that to save outlay the directors adopted this course; but why should twenty-five men sacrifice from 2,000*l.* to 3,000*l.* in preparing their drawings, in addition to an equal sum to compensate them for loss of time? He had spent 80*l.* in the preparation of his design, and another competitor nearly 200*l.* It was not a fair course to adopt towards the competitors. He considered there should be a new competition on the altered conditions.

The motion was seconded by Mr. Jas. Owen, and carried.

It was proposed by Mr. C. Geoghegan, seconded by Mr. E. H. Carson, and resolved—

"That this meeting is of opinion that the directors of the Dublin Exhibition Palace and Winter Garden Company had, in justice, *no power* by their conditions to select any design from amongst those submitted in competition without awarding the premium to such design, and that by so doing they have broken faith with the members of the architectural profession, who competed under the firm conviction that they had a sufficient guarantee in the names appearing in this directory that no *unfair advantage* would be taken of the *unsatisfactory* and *unsafe* terms offered to the competitors—namely, that 'the directors reserved to themselves the right of rejecting all the plans without awarding the premium,' of which this meeting could hardly think it possible they would have availed themselves; and now desires to express its great surprise that the liberal response of the profession generally, by which plans to the value of 2,500*l.* were placed before them, was not deemed worthy of some more unexceptionable termination than the extraordinary compromise entered into by the above body with one of the competators, the mere anticipation of which result would have prevented *any honourable* man from entering the lists of the competition."

Afterwards, amongst other business, it was proposed by Mr. J. H. Owen, and seconded by Mr. J. J. Lyons, and resolved—

"That for the future protection of the profession at large, the architects do herewith undertake the re-organization and revival of the "Irish Institute of Architects," or the formation of some similar body; and that a committee be now formed to consider as to how this object can best be effected, and report to a meeting of the profession, at which the rules, bye-laws, &c., shall be discussed, and adopted if approved; and that such committee shall consist of the following gentlemen, viz.: — Messrs. J. M'Curdy, N. Montgomery, W. Murray, J. H. Owen, T. N. Deane, J. R. Carroll, E. H. Carson, W. J. Welland, and J. J. Lyons, who shall have power to appoint a secretary and convene a further meeting at such time as shall seem to be desirable."

Thanks were voted to Mr. Jacob Owen for presiding, and the meeting separated.

Messrs. John M'Curdy, E. H. Carson, and J. R. Carroll, acted as honorary secretaries to the meeting.

If the competition in question should have the effect of bringing the architects of Ireland together as a body, it will have effected much good.

THE SANITARY CONDITION OF LANCASHIRE.

DR. BUCHANAN, physician to the London Fever Hospital, and one of the London medical officers of health, has been engaged, since the middle of October, in an official inquiry (following our lead) into the sanitary condition of the principal manufacturing towns under their present exceptional circumstances. His report, unhappily, leaves no doubt that "one of the most lamentable consequences of extreme destitution has made its appearance." Typhus fever has broken out among the population of Lancashire for the first time since 1847. Again it has appeared in the track of want; and, it might have been said, of want especially when combined with a bad sanitary condition.

In Preston there were 227 cases between Midsummer and the end of November; and those attacked died at the rate of 23 per cent. In Manchester there have been 100 cases of the disease in the same period, with nearly the same high rate of mortality among its victims.

Of this phase of the cotton famine we fear we see only the beginning. In the presence of this enemy there must be no relaxation of the work of relief, and an increased attention to the no less requisite work of purification of suspected and infected localities. The great peril is the appearance of a disease that may become epidemic. The "famine fever," if it become epidemic, does not limit its ravages to the localities and population amid which it first appears. In 1846-7 the Irish famine produced our last great typhus epidemic. In those years there were 300,000 cases of the fever in England. In Liverpool alone the number of deaths from this disease was 10,000. It is thus the interest as well as the duty of all classes to help in every way to avert so universal a calamity. The report points decidedly to the necessity of an increase of the allowance per head to support the destitute to the end of the conflict. It is to be hoped, too, that those sanitary measures which we have on former occasions, as now, pointed out to be urgent, will not be neglected.

ART EXHIBITION FOR THE RELIEF OF THE DISTRESS IN THE COTTON DISTRICTS.

Two of the rooms belonging to the Society of British Artists, Suffolk-street, are filled with 782 paintings and drawings, contributed at the instigation of a very influential committee in aid of the Lancashire operatives. Prices are affixed. The majority of the contributors are amateurs, including many known at former exhibitions,—Lady Belcher, Countess Grey, the Ladies Cadogan, Mr. Ruskin, Miss Blake, Mrs. Higford Burr, Mr. Gambier Parry, Lady Eastlake, Mrs. Roberton Blaine, Mrs. Spencer Lewin, and others; but Messrs. Desanges, Cope, R.A., E. W. Cooke, R.A., Mulready, R.A., C. L. Stanfield, R.A., David Roberts, R.A., Millais, A.R.A., Miss Mutrie, G. Lance, and other artists, have assisted with valuable contributions.

Some of the works by less known names require to be looked at with "charity;" but the collection, as a whole, is interesting and gratifying.

THE PHOTOGRAPHIC SOCIETY'S EXHIBITION.

As an art becomes more and more perfected its advances are necessarily slower and less observable. It is not strange, therefore, that in the present exhibition of photographs and daguerreotypes we find few things that might not have been seen last year. Amongst the exceptions we should place the "Instantaneous Views at Naples and elsewhere," by Col. Stuart Wortley (392 and 422); "Photographic Studies," by Vicountess Hawarden (160 and 168), remarkable for delicate gradation and beauty; and some of the large-sized portraits by Mr. Claudet. Col. Wortley, in his views includes in-rolling waves of the sea, the representation of which, sharp and distinct, must indeed have been obtained "instantaneously." Mr. Thurston Thompson sends a number of noticeable photographs after Turner, from paintings as well as from the "Liber Studiorum." Mr. H. P. Robinson has a large picture, "Bringing Home the May" (166); Mr. Vernon Heath, amongst many other things, a remarkable "Study of Ferns" (143); and Mr. J. Bedford, as usual, some charming architectural subjects, both from England and abroad. The London Stereoscopic Society send a large number of works from the International Exhibition, of which there must have been an enormous sale.* One of the smaller rooms contains some very fine works by foreign photographers, not yet catalogued. The large view of sculptured doorway, *gravé sur acier*, by C. Nègre, seems an advance on what has hitherto been done in that direction. The exhibitors are ninety-seven in number.

WINDSOR CASTLE.

REPORT ON THE SEWERAGE, WATER-SUPPLY, VENTILATION, AND SANITARY WORKS.

THE Report on the sanitary condition of Windsor Castle made by Mr. Robert Rawlinson to the Right Hon. W. Cowper, First Commissioner of Her Majesty's Buildings, having never been made public, and containing matter suggestively useful for other places, we are glad to have the opportunity of placing it on record.

Sir,—On the 27th of January, 1862, I received instructions to "examine and report upon the present condition of the drainage of Windsor Castle."

I immediately put myself in communication with Mr. John Turnbull, Clerk of Works at Windsor Castle, and William Starie, Esq., of the Office of Works. In company with these gentlemen I have examined plans of the sewerage, of the basement, of the several floors, and also of the sewers and of the buildings external the outer walls of the Castle. A personal inspection has been made by us, in detail, of the interior of the Castle from the basement to the roofs, visiting every floor and almost every staircase, corridor, and closet within the Castle. We inspected the royal mews and the tenement residences connected with the stables; as also the waterworks.

Plans of the sewers, drains, and of the several floors have been examined during the inspection.

Mr. Turnbull, at my request, has furnished the statistical information as to sewers, drains, water-closets, flushing-tanks, water-works, fire-prevention apparatus, warming apparatus, ventilation apparatus, and the general arrangements for effectively keeping these works in order.

That I may be enabled to give a more comprehensive idea of the sanitary works undertaken and executed, and the natural and artificial difficulties encountered and overcome, it is necessary, briefly, to describe the site on which the Castle stands; and, also, to notice the progressive growth of the Castle from a rude fortress up to its present magnitude.

The site on which the main buildings of the Castle stand is about 100 feet above the river Thames adjoining. The subsoil is chalk.†

The direction of the "slopes" most probably indicates a line of "fault." The steep face or "crag" is to the north and east; the "tail" to the south and west. The valley of the Thames, at Windsor, consists of alluvium, a mixture of gravel, sand, silt, and marl, in various proportions. At or near Frogmore (Frog Mere) the bed of chalk on which the Castle stands passes beneath "alluvium."

Chalk forms, comparatively, a dry and healthy subsoil, situate as at Windsor. The elevation of the main platform on which the Castle stands is also an advantage, offering free play for external ventilation, and a good fall for subsoil and surface drainage.

Edward the Confessor, "for the hope of eternal reward and the remission of all his sins, his father's, mother's, and all his ancestors," granted Wyndleshore (then so called from the winding course of the river Thames), now called Windsor, to the monks at Westminster. William the Conqueror exchanged lands, &c., in Essex for it, and built a house on the hill, which Henry I. converted into a castle, wherein Edward III. was born. About the year 1374, William of Wickham was engaged during a space of fourteen years rebuilding and enlarging Windsor Castle; and from this period to the present date alterations and additions have, from time to time, been executed. Sir Jeffrey Wyatville commenced the most exten-

* The London Stereoscopic Society have published a striking album portrait of Dr. Colenso, whose book is disturbing men's minds just now.

† Chalk absorbs water readily, and is consequently never absolutely "dry:" it is, however, considered a dry subsoil when elevated, as at Windsor Castle.

sive alterations ever made in Windsor Castle, August 12, 1824. Alterations and additions were continued to the end of the reign of William IV., and yet the sewerage and drainage of the Castle palace remained defective. Cesspools, full of putrid refuse, and drains of the worst description existed beneath the basements. The means of warming and ventilation were also of the worst possible character. In the royal apartments small casements in the lower parts of the windows could alone be opened.

Soon after the year 1840, Sir James Clark, on learning from Sir Jeffrey Wyatville the very imperfect state of the drainage of Windsor Castle, reported it to the First Commissioner of Woods and Forests, then Lord Lincoln, and requested that the whole subject of the drainage should be thoroughly investigated. Lord Lincoln saw at once the importance of the matter; and after consulting with His Royal Highness the late Prince Consort, caused examination to be made into the sanitary condition of the Castle. The late Sir Henry De la Bèche, at the request of Lord Lincoln, reported fully on the sanitary state of Windsor town and Windsor Castle. In consequence of this report, Capt. Vetch, of the Royal Engineers, was commanded to cause plans to be made, and to devise and lay out a system of main sewerage and drainage. Under the immediate superintendence of Mr. Turnbull, the great sanitary works at the Castle, of sewerage, drainage, water-supply, warming, ventilating, &c., have been carried out up to this date.

Windsor Castle has been fortunate in its sanitary works and arrangements. Capt. Vetch had probably studied the subject of sewerage and drainage more fully than any other person at the date when he reported. The late Prince Consort, with that enlarged and far-seeing vision of intellect which so peculiarly characterized him, readily mastered the question, and encouraged the efforts of those engaged in the work. Mr. James Simpson, civil engineer, revised the water-supply, and brought his long experience and practical knowledge to bear; giving Windsor Castle and its offices a supply of water, for fire and for sanitary purposes, abundant and complete. Mr. John Turnbull, acting under the superior officers of the Board of Works, but also in constant communication with his late Royal Highness the Prince Consort, has, with untiring labour, worked at the progressive changes which have been undertaken to make Windsor Castle as wholesome and as comfortable for domestic uses as it is extensive and regal for State purposes. Sir James Clark has also persistently attended to all necessary sanitary arrangements; so that this class of works in Windsor Castle has received full attention.

Area.

The main buildings of Windsor Castle, including the courtyards, now cover an area of about twelve statute acres, the basement floors of the upper ward having an area of about 9,500 square yards, or some two statute acres.

	A.	R.	P.
Area of Windsor Castle on plan	12	2	3
Terraces not on plan	1	2	29
East terrace garden.....	3	2	12
Royal mews	2	1	0

The plan of Windsor Castle is in some respects complex, and such as would not be advisable in new buildings. There is, in parts, too much crowding for the most perfect sanitary arrangements, and also too much isolation for the greatest facility of service and convenience. These defects are due, no doubt, to conditions under which the Castle has grown from a comparatively small place of defence, in a barbarous age, by repeated additions, to the largest Royal residence in Great Britain. Some of the walls now in existence were originally built for purposes of defence, and are consequently of great thickness. They are of chalk-ashlar and rubble wall-stone, set in weak mortar, rendering it difficult, in some instances, to make the spaces and rooms within them available for modern uses. This has, however, been done in a very successful manner. Walls have been underpinned and carried to lower foundations. Flues have been formed, and windows and doors have been cut through, sufficient to give security, ventilation, light, and means of communication.

In the earliest days of Windsor Castle sanitary appliances were of the rudest form. Within the walls there were floors of mud, covered with rushes and litter; and externally, heaps of ordure and refuse, but no sewers nor cesspools.

When chamber-floors were first added to Windsor Castle, square "stacks," or vertical openings like large flues, were formed in the external walls to serve as privies.* The position of some of these places can now be seen in the old walls, but their use, for their original purpose, has gradually been abolished, and they have been adapted to more modern requirements. It is not necessary, for the purposes of this inquiry, to fix a date to the first formation of sewers and cesspools. Sewers of a rude construction, square on section, with rubble side-walls, and uneven in line and gradient, were first formed from internal rooms to the external walls; and, for the most part, ending immediately outside the buildings. The accumulation of solid and fluid refuse at the base of the Garderobe Tower and at the outer ends of the sewers in time became obnoxious to sight; and then, first open cesspits, and subsequently covered cesspools, were invented to store and cover over the foul solids, the sewers only removing occasional overflowings of these most dangerous receptacles of filth; sewers and cesspools, and their putrid contents, acting with far more deadly energy on the health of those so unfortunate as to breathe the gases liberated within the buildings than the exposed heaps of refuse of former and ruder periods, when the dung-heaps were washed by the rain, dried by the sun, and the gases were diluted and dispersed by every wind.†

General Sanitary Rules.

There are some general rules necessary to be observed in devising entirely new sewerage works, which cannot now be made applicable to Windsor Castle. I name this because an approval of work done might otherwise be taken to imply that it would be proper to follow, in other cases, that which exists at Windsor Castle, whereas nothing better could, under existing circumstances, be accomplished.

As a rule, sewers should not enter any inhabited building, and all drains should commence at the outside walls, and not traverse the floors of the basement.

All water-closets should be in connexion with an external wall, and have a fixed amount of external light and means for unceasing ventilation.

All rooms, to be inhabited, should have external sunlight.

All sewers and drains should have full and free external ventilation, and gases escaping being made to pass through wood charcoal filters.

Cesspools should not be in existence within or near any dwelling. Manure-tanks can only be allowed for agricultural uses, and these should never have any direct communication with sewers or with house drains.

An elevated site (like Windsor Castle) offers a good fall for water and for fluid refuse, but also offers facilities for the rapid upward flow of sewage gases. It is therefore advisable to break the gradient of any steep sewer or drain at intervals, and cut off by a flap-valve and full ventilation all chance of gases rising from the lower levels to the buildings and rooms at the highest points.

If sewers and drains traverse the basement of any building, such sewers and drains should be absolutely air-tight within the external walls, and no untrapped internal communication should be allowed with any sewer or drain.

The sub-soil beneath any inhabited building should be dry and sweet, because at all times, when the internal temperature of the air is greater than the external temperature, or than the temperature of the subsoil and the sewers, the rooms exert a sort of pumping power; so that a foul sub-soil, in which are foul cesspools, sewers, and drains, may give off gases sufficient to contaminate the entire body of air within any building, if such influence is not made impossible and if a full admission of pure air is not provided for.

A natural watercourse should not be inclosed and converted into a sewer, because the volume and flow of water down a brook or rivulet is very irregular, varying as much as 1 to 300; that is, the dry-weather flow of a stream being represented by 1, the wet-weather flow or "flood" may be represented by 300. Any such culvert must, therefore, be vastly in excess of the requirements for removal of sewage, which is almost a fixed volume; the range of variation being very much less than in a natural watercourse. A small brook may serve to drain the surface and subsoil of several hundred acres of land; a sewer, to remove the entire sewage, surface, and subsoil water of Windsor Castle, only drains, comparatively, a few acres of land. This distinction is of the utmost importance, but was not considered when the large sewer leading to the Thames was made.*

New Sanitary Works.

Previous to the commencement of the works of sewerage and drainage in 1846, the old drains and cesspools were opened out, examined, and their direction, dimensions, and positions laid down on plans. These plans are now in the Clerk of Works' office.

The old rubble-stone and brick drains have been taken up, as also all tainted refuse and adjoining subsoil, and removed.

All cesspools were opened out, and their foul contents carefully disinfected and emptied. The greater portion of such cesspools have, as in the case of old drains, been removed; and where it was not found practicable to take out the bricks and surrounding earth, such cesspools were emptied, cleansed, disinfected by hot limewash, and filled in with lime concrete.

During the last sixteen years about 6,000 square yards of basement and ground-story floors, out of a total area of about 9,500 square yards, have been taken up for the execution of alterations and repairs, to an extent that gives good reason to believe that not one old cesspool nor old drain remains in Windsor Castle where these works have been executed.

Twenty-three cesspools were removed from the upper ward, and twenty-eight from the middle and lower wards, making 51 in all. These cesspools varied in dimensions from 12 feet by 8 feet and 9 feet deep, to 3 feet diameter and 6 feet deep.

The new sewers are of brickwork, for the most part in cement. The work is true, sound, and perfect.

The new drains are formed with vitreous glazed earthenware pipes, only such as were true in form and perfectly sound having been used. The pipes have socket-joints: they are truly laid, and the joints made good with cement. The drain-pipes within the Castle are laid upon a bed of concrete, composed of chalk and "bone-lias lime," and are surrounded and covered to a depth of not less than 6 inches with similar material.

The main drain for Windsor Castle is at a depth of about 30 feet (30 to 35 feet) below the level of the ground-floors, and extends from the North Terrace to the "main sewer," near "the Long Walk," and a branch of the main drain extends from the court-yard near the Norman Gate to the East Terrace Garden.

The greatest fall in any drain is 1 in 30; the least gradient, that on the large main, 1 in 460. The gradient of the drain beneath the Castle is 1 in 40. These are good and safe-working gradients.

The work of improvement has been progressive, and is now going on. Money has been voted for some of the works recommended in this report; such, for instance, as the improved outlet to the river from the main sewer. Water-closets and drains are being ventilated, and the several fixed windows remaining in the Castle will be made to open.

Any wells opened up and found to be foul, have been cleansed by removal of the tainted substance, and renewals made with fresh materials.

Foul subsoil has also, in all cases, been removed, and fresh gravel or concrete substituted.

In the numerous structural alterations made in Windsor Castle, the old, large, and open chimney-spaces of Mediæval periods have been made good. All new chimney-flues are lined with fire-clay tubes, flushed and grouted in solid.

To prevent smoky chimneys, about seventy of the most troublesome rooms have been ventilated and otherwise improved.

The Quadrangle, or Great Courtyard, was lowered some 3 or 4 feet by the late Sir J. Wyattville. The area is about 2½ acres. This court has been re-formed, drained, gravelled, and paved, so as to preserve an even, clean, and dry surface.

The Cloisters are the property of the dean and

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* The old name for the rude conveniences found in palaces, castles, and mansions, in England formerly, and on the Continent to this day, is "garderobe." The towers in which such conveniences were placed, tier above tier, with a shaft common to the whole, as at King John's Tower and others in Windsor Castle, and as at Langley Castle, are designated "garderobe towers."

Matthew Paris used the terms "Domicilium necessariorum." The French term "garderobe" is used in old books; as also "privy chamber:" the modern terms are "water-closet" or "closet."

† The dangerous arrangement of sewers, drains, cesspools, and water-closets beneath and in the Castle did not escape the notice of the architect. He is said to have remarked, "I hope it is all right; but there will be a terrible stink some day." The abolition of cesspools and construction of proper sewers and drains did not, at the time, engage the professional attention of architects.

* An independent sewer outlet of comparatively small sectional area may be constructed, with storm-water overflows. This sewer may preserve the sewage from extreme dilution, and carry it to the land for agricultural uses, should such mode of sewage-application be at any time adopted.

canons of Windsor. I did not make any inspection of these, but I was informed that the cloisters had been drained by the late surveyor.

The Military Knights' residences, being private houses, I did not enter to examine them, neither did I inspect the private residences in the Keep, or Round Tower. But I learned that the drainage had been improved.

In these private residences, where the rooms are small, ventilation must, in a great measure, continue to be regulated by the residents themselves.* Perfect sewers and drains, with regular flushing, only constitute parts of a sanitary system necessary to health. Close apartments and rooms, however well sewered and drained, may allow of the ripening of contagious fevers, such as scarlatina, if the air is poisoned by over-crowding, and remains stagnant.

DETAILS OF SEWERS AND DRAINS.

Sewerage and Drainage of Upper Ward, Royal Apartments.

	Length in Yards.
Brick sewer, 4 feet 6 inches by 3 feet; 9-inch work; executed in 1846	421
Glazed earthenware pipe drains:—	
9 inches diameter	1,211
6 do. do.	1,629
4 do. do.	1,056

Executed in 1847-8 and 50.

On this system of drains there are seven man-holes outside the Castle walls for purposes of inspection, ventilation, and cleansing. There are also seventy down-spouts (stack pipes) and soil-pipes acting as ventilators. There is one ventilating grate at end of main drain on the slopes. The sewers can be entered at three points within the Castle. These entrances are most carefully closed and protected. Two ventilating flues, each 14 inches by 9 inches, lined with earthenware, have recently been carried in the Castle wall from the main sewer to the top of the battlements of the Prince of Wales's Tower. These flues were recommended to be put in during my inspection, and are acting perfectly.

Sewerage and Drainage of Middle and Lower Wards (exclusive of the Cloisters).

	Length in Yards.
Glazed earthenware pipe drains:—	
12-inch diameter	94
9 do. do.	584
6 do. do.	748
4 do. do.	312
Brick sewer	120

Executed in the year 1850.

The sewerage and drainage of the Royal Mews were commenced in the year 1850, and completed in 1860.

	Length in Yards.
Brick sewers, old, but adopted:—	
18 inches diameter	229
12 do. do.	382
9 do. do.	282
Glazed earthenware pipe drains:—	
18 inches diameter	483
12 do. do.	173
9 do. do.	314
6 do. do.	928
4 do. do.	342

Sewerage in Home Park, commenced in the year 1845.

Main sewer, 7 feet 6 inches by 5 feet 4 inches	1,617
,, 3 feet 2 inches by 2 feet 2 inches	268
,, 3 feet diameter	342
,, 2 feet 2 inches diameter	313

On the main sewers there are eighty ventilating gratings, and one flap, over sewer end, to prevent any flow of sewage gases up to the Castle.

WINDSOR CASTLE CLOSETS, &c.

The Royal Residence, Upper Ward.

Water-closets in Upper Ward 85

Forty-two of these closets have 2-inch flushing valves and pipes from cisterns to traps: thirty-one have the soil-pipes ventilated: nineteen additional are ventilated by the rain-water down-spouts ("stack pipes"); and twenty-six have Watson's patent double-action syphon ventilators. There are also forty-one additional of these syphon ventilators to the corridors, staircases, and passages. There are ten external water-closets for servants, and four urinals.

The floors of the external water-closets and urinals are laid with glazed earthenware tiles, and the walls are covered with similar tiles to a height of 5 feet. These places are washed with a fire-hose and mops every morning. M'Dougall's disinfecting powder is used as required.

Middle Ward.

Water-closets..... 29

Eighteen of these closets have 2-inch flushing valves and pipes from cisterns to traps: ten have the lead soil-pipes ventilated: five are ventilated by rain-water pipes (stack pipes); and eight are exterior servants' water-closets.

There are five urinals, all external, arranged and managed as previously described.

Lower Ward (exclusive of the Cloisters).

Water-closets..... 25

These have syphon traps: two are ventilated by rain-water pipes, and one has a Watson's ventilator.

The means of flushing the syphon traps of the water-closets is new, having been invented and applied by Mr. Turnbull; and, so far as I know, is peculiar to Windsor Castle. The abundant supply of water enables this form of application to be made. The effect is most beneficial.

In arranging, constructing, and fixing the water-closets, great care has been taken to test all the "stack pipes" by hydraulic pressure. The leaden pipe has been placed vertical, and then filled with water, so as most effectually to prove the soundness of the pipe and its joints before use.

Old and defective forms of water-closets have been removed, and the best and most perfect forms substituted.*

* Means of ventilation may, with advantage, be applied to the stairs and passages of these houses and rooms.

THE TOWN SEWAGE QUESTION.

VERY slowly the important question how to make the sewage of towns useful to the land is assuming a practical shape. The Parliamentary Committee of Inquiry have just made their second report. The Committee, after regretting that the extent of the experiments which have been made is very limited, think, notwithstanding, that the information now obtained will enable the authorities in each town to deal with the sewage in the manner most suitable to the circumstances and the place (we are afraid not); but the Committee desire to add, that the municipal authorities have not at present sufficient powers to enable them to rent or otherwise deal with the lands in their neighbourhood for the most profitable application of the sewage in relief of local taxation.

The evidence asserts that sewage contains the elements of every crop which is grown; and that, as compared with solid manure, there are advantages in the application of sewage to the land. In the application of solid manure loss is sustained by evaporation; but no such loss occurs with sewage. In the application of solid manure to the land, years may pass before its entire productive qualities are all absorbed, causing a loss to the farmer by the slow return of the capital invested in manure; but in the application of sewage, or any liquid manure, no such loss occurs, as every particle of it comes into immediate action on the crop in a day or two.

From Lord Essex's evidence it appears that we cannot fairly test the agricultural value of town sewage by the quantity of solid manure which is found in each ton of this material, for Lord Essex says that the use of sewage manure permanently improves land, its good effects being visible afterwards for years; and the evidence further proves that the sewage has been applied to common grass, Italian rye grass, and the roots and grain crops, with great advantage; and further, that sewage grass has a great effect in increasing the quantity and quality of the milk of cows, as well as improving the condition of the cattle. It is further proved that the use of sewage hastens vegetation.

Next to sanitary considerations, the commercial value of sewage is the most important consideration. It must yield a certain amount in proportion to the outlay, in the same way as other manure; and the agriculturist must have actual worth for his money.

As regards this part of the question, Lord Essex remarks that he applied 134 tons of sewage to each two acres of wheat (67 tons to an acre), and on each acre he obtained an increase of produce worth 3*l.* 1*s.* 6*d.* On 35 acres of his meadow grass his lordship applied 600 tons per acre per annum in two dressings, and states that he got an extraordinary crop, such as he never saw before using the sewage.

Mr. Miles says that the sewage of his establishment of thirty persons was passed principally for sanitary purposes over 14 acres of land, arable and pasture. This gentleman and his bailiff, Mr. Foster, say that the value of the 14 acres of land was doubled simply by the application of this manure. This success in Mr. Miles's case is attributed to care which was taken to feed the crops with such moderate supplies of the liquid manure as could be properly absorbed, and no portion was allowed to flow in waste over the surface. To the want of attention in this respect Mr. Miles attributes the want of success at Rugby; and it appears that this is shown to be the case by the result of experiments at the school at Anerley.

The Committee are of opinion that the evidence which has been given fully establishes the fact that sewage is applicable to all crops; and that, if commercial results are sought for, it should be applied in small dressings. If the sewage of our towns and cities were utilized to the best advantage over suitable areas, it is evident that little or no imported or manufactured manures would be used. This would greatly limit the area now supplied by such manures.

Next comes a most important point of the question. Would the application of town sewage to land be likely to cause a nuisance, or be attended with dangerous consequences? On this the Committee report, as the result of the evidence, that sewage in the state in which it is found at the outfall of the sewers, even in the very hottest weather, is very slightly offensive. If applied to the land in this state and in such dressings as can be easily absorbed by the earth, no fear of nuisance need be felt, as the soil possesses the power to deodorise and separate from liquids all the manure which they contain, provided that too large a quantity be not applied; but if the absorbent power of the soil be overtaxed, and very large dressings be applied, a nuisance will be created in the neighbourhood, and injury to wells and running streams would occur. As regards the question whether solid manure can be profitably manufactured from town sewage, the committee are clearly of opinion this cannot be done.

* To be continued.

THE LONDON FIRES OF 1862.

CAPTAIN SHAW, superintendent of the London Fire Brigade Establishment, has just made his annual report to the committee of the Associated Insurance Offices, on the number and causes of fires occurring in the metropolis during the past year.

The document is full of interesting statistics, and ought to aid considerably in bringing about, what we have so often pointed out the necessity for, a change for the better in the highly combustible construction of metropolitan houses, which can be compared to nothing perhaps so fitly, as to the "laid" domestic fire, with its wood next the coal, and its paper next the wood, all ready for the match.

The total number of "calls" on the Fire Brigade in 1862 was 1,543, of which 109 were false alarms; 131 proved to be only chimneys on fire, and 1,303 were fires; of which 33 resulted in total destruction of buildings, &c., 238 in serious damage, and 982 in slight damage. Compared with the preceding year, the fires of 1862 show an increase of 120; and compared with an average of the previous twenty-nine years, the increase is 497. These returns do not include ordinary calls for chimneys on fire, which may be roughly estimated at 3,000. The totally destroyed list (33), compared with that of 1861, shows a decrease of 20; and compared with the average proportion of the twenty-nine previous years, the decrease is 12.

In many cases the imperfect construction of the buildings, and the combustible materials of which they were composed, rendered the extinction of the fires impossible until great destruction of property had taken place.

Referring to the introduction of land steam fire-engines, Captain Shaw states that their superiority has now been proved beyond the possibility of dispute. Many serious and threatening fires have been successfully controlled at an early stage by these engines; one great advantage of which is the diminution of damage by water, which is driven with such force by steam that almost every drop does its duty, and very little is wasted. Telegraphic communication has now been established between the central station in Watling-street and the other principal stations.

The monthly summary of fires shows that there occurred, in January, 106; in February, 112; in March, 92; in April, 111; in May, 106; in June, 92; in July, 121; in August, 136; in September, 119; in October, 86; in November, 100; and in December, 122: total, 1,303. Of this number 494 occurred from unknown causes. Of the rest, 198 happened through the careless use of candles; from gas, 124; from defective flues, 96; from lucifer matches, 15; from smoking tobacco, 24; from sparks from fire, 95; from spontaneous ignition, 17; from overheating stoves, 28; from hot

ashes, 19; from airing linen, 10; from children playing with fire, 27; from intoxication, 9; from naphtha, 2; and the remainder from various causes. Captain Shaw concludes his report with the following comparative table of fires in several of the principal cities in Europe and the United States:—Philadelphia, approximate yearly average, about 363; New York, 370; Berlin, 260; Baltimore, 255; Brooklyn, 140; Hamburg, 244; Boston, 160; Dublin, 120; Charleston, 59; Paris, 244; Manchester, 206; Liverpool, 176; Edinburgh, 101; Birmingham, 95; Bristol, 89; Belfast, 31; and London, 1,303.

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held on Friday evening (the 9th inst.), at the House in Conduit-street, the President (Mr. Thomas Blashill), in the chair.

Mr. S. Wright, 2, Alexander-road, Upper Holloway; Mr. Young Bolton, Angel-court, Throgmorton-street; and Mr. W. Trimmer, Bayswater-road, were, on ballot, elected members of the Association.

The Honorary Secretary read a letter from the Bristol Society of Architects, in answer to a circular from the Association, on the subject of the approaching architectural examination, in which Mr. E. W. Godwin (writing on behalf of the Bristol Society), inclosed a copy of a resolution lately passed by that body to the following effect:—

"That the principles of the scheme for architectural examination as proposed by the Royal Institute of British Architects, are fully recognized by this Society as of the highest importance to the profession, and this Society will endeavour practically to assist by encouraging candidates whenever an opportunity arises."

Mr. L. W. Ridge then read a paper "On Architectural Criticism," in the course of which he observed that as a rule architects did not appear to be amiable critics, as they generally detected faults before conceding virtues. The cold criticism usually given to modern works contrasted strongly with the respectful terms in which they spoke of ancient buildings. This was, perhaps, to be traced to the circumstance that some architects were in favour of some particular style which they considered most suitable to modern requirements; others desired to see nothing beyond the correct reproduction of an ancient style; while others were striving after a Victorian architecture, in which novelty should be the most prominent feature. The mass of the profession, however, took a middle course, and while desiring conformity with the general principles of the school in which they had learned, still wished to see features introduced in harmony with the age in which we live. Such considerations as these were, he thought, quite inapplicable to the buildings of past ages; and thus, however enthusiastically one architect might believe in Early English, he need not necessarily deprecate Perpendicular, nor ignore the beauty and grandeur to be found in works of the Renaissance. Neither was it necessary that the student educated in the acknowledged Classic and Gothic should regard all other styles as rude, barbarous, and unworthy of his attention. It was one thing to be a hearty advocate of a style, another to speak or act as if it alone was worthy of consideration. It was necessary to bear in mind that a style could not be estimated by the state of civilization of those who invented it. The fallacy to which such an assumption might lead was shown by the low opinion in which Gothic architecture was held by generations only just passed away. Having pointed out the peculiarities in the various early types of Eastern architecture and the ornamentation characteristic of Indian and Moorish buildings, as distinguished from the Classic, Mr. Ridge proceeded to refer to the utilitarian and artistic elements as applicable to modern buildings. He contended that many of the objections urged by utilitarians who argued against churches in which the clergyman could not be seen by the whole of his congregation during portions of the service might be met by making the building larger than was absolutely necessary to accommodate the average number of attendants. With regard to grandeur and sublimity of effect, Canterbury Cathedral might, he thought, be quoted as a happy illustration. The choir showed a multitude of shafts and other features of the ordinary scale united in one grand whole, while the nave had the inner mouldings of the piers carried up from the basis to the vaulting with but two insignificant breaks; and then, after a small capital, the line was continued along the ribs, so that this feature alone attracted attention and impressed the beholder with a sense of height. St. Peter's at Rome, where everything was on a gigantic scale, was, however, so harmoniously constructed that many visits were required to realize the intrinsic vastness of its proportions. Although a just sense of proportion was not, perhaps, as generally appreciated by the public as might be expected, ornamental features were universally recognized. Abundance of ornament applied to a building was not without its charms, but the educated eye would always prefer quality to quantity. Ornament, to be duly valued, must be examined at leisure. To be worthy of examination, it must be of novel, not of copied or oft-repeated, design; for if the same forms were constantly found, they ceased to be of use except so far as to tell us the general design, and for that a few bold strokes would serve better than elaborate detail. He feared that much of what he had said was directed rather towards making them better architects than better critics. Love for their art would, doubtless, ever be the best spur to exertion; still in these practical days the criticism which young architects would have to submit to would, no doubt, serve to inspire them to search for the truthful and beautiful in art. By this means alone could they hope to imitate those who had gone before them, and thus alone could they hope to replenish the lamp of all the seven that now burned with the dullest light.

The President, having complimented Mr. Ridge on his paper, observed that what the student wanted was not some one to agree with him, but some one to differ with him and criticize his work. The criticism to which the contributions to the class of design were exposed had, in his opinion, a most salutary effect; and he regretted that a greater number of the members of the Association had not joined the class.

Mr. R. P. Spiers observed that the vast dimensions of St. Peter's, were not at first sight appreciated by the beholder; but this was not to be considered a blemish in the architecture, as a really grand design was rarely appreciated at first sight. This remark, he thought, applied not only to St. Peter's, but to other buildings, such, for instance, as the Arc de Triomphe, at Paris, the enormous proportions of which could scarcely be appreciated without repeated examination. In his opinion, it was most desirable that students should copy the best works as often as possible, so as to become thoroughly familiar with particular styles. In this respect Classic students had an advantage over Gothic, because they were obliged to study the five orders, and copy them over and over again; whereas Gothic students, by adhering to one idea alone, might frequently be led into perpetration of eccentricities. With regard to ornamentation, he did not approve of foliage in panels, unless it was very carefully sculptured.

Mr. North submitted that there ought to be something in the character of a building, either in proportion or general grouping of details, which should strike the beholder as out of the common. In his opinion, the true way to arrive at a new style was to study the old, and then endeavour to give expression to one's thoughts.

The President said he had recently sketched a remarkable doorway in the country, which was an illustration of beauty depending wholly upon proportion, without ornament.

Mr. Mathews recommended careful copying as the groundwork of study. By copying examples of Vitruvius and the best ancient masters, it would be impossible to go wrong.

After some further discussion, a vote of thanks was passed to Mr. Ridge for his paper.

The President announced that the next drawing in the class of design would be a street lamp; and that on the 23rd inst. Mr. J. W. Papworth would read a paper "On the Use of Libraries."

THE WASHHOUSES IN PORTPOOL LANE, GRAY'S INN LANE.

SOME time since we mentioned the risk which then existed of this place being altogether closed, in consequence of the annual loss which had for some years been connected with it. At that time we urged the pressing necessity of keeping the washhouse open. It is satisfactory to find that it is used by a vast and increased number of poor persons of the neighbourhood; and that, in consequence of more economical management and some other causes, it is likely that a more favourable balance-sheet will appear. A vast amount of good is done by the means of cleanliness which are here afforded; and it would be of advantage if the parishes, instead of levying high rates upon such institutions as this, were, in case of necessity, to afford assistance.

It is inconvenient, and almost impossible in thousands of instances, for the working and poorer classes to use the necessary means of cleanliness in their inconvenient homes; and yet, besides attention to proper drainage, ventilation, the cleanliness of the rooms and the skin of the inmates, much depends upon the regular and thorough washing of bed-linen and the various kinds of clothing.

To all, rich or poor, but particularly to young children, attention to the most scrupulous cleanliness is a necessary element of health; and it should never be forgotten that the skin which covers the body has many important uses:—it is the safety-valve of health and life; and so delicate is the machinery by which matter is thrown off, that the ducts and tubes provided for the skin are not more than the 450th part of an inch in diameter, and that on the surface of the body their number has been estimated at many millions.

When the breathing of the lungs is stopped the blood becomes poisoned, the brain loses its power, and the heart growing too weak to carry on the circulation, death ensues; and in the same way, to a certain extent, the purity of the blood and the state of health depend on the cleanliness of the skin and of clothing. Besides this, there are other offensive matters emitted from the skin, which render long-worn body-clothing offensive and unwholesome to the wearer and others. Most persons perspire more in the night than in the day; nevertheless—particularly in the winter time, when drying clothes is difficult—it is by no means uncommon amongst a certain class to use the bed-covering without change for several weeks or even months.

To those who labour, the attention to cleanliness of the skin and clothing is especially necessary.

We all know the difficulties which exist, especially amongst the poor. Every facility that can be afforded in this way must be of much advantage. The public baths, so far as they have been brought into operation, afford the opportunity of personal cleanliness at a comparatively small cost; and the washhouses, also, enable many to wash and dry their clothes, &c., who otherwise would not be able to do so. We therefore trust that if difficulties should again occur in connexion with the Portpool-lane building, in a neighbourhood where it is so much wanted, no measures for closing will be adopted before the circumstances are made known; and, if needful, an appeal be made to the public.

OPENING OF LENDAL BRIDGE, YORK.

LENDAL BRIDGE, over the Ouse, connecting the south-western and north-western parts of the city of York, was formally opened on Thursday in last week, by the Lord Mayor of York; the proceedings terminating with a banquet at the Mansion House. The opening was attended with much ceremony, as appears from the reports in the local *Herald*.

The bridge consists of a single arch of the Tudor style; has a span of 175 feet 2 inches; and is 25 feet in height from the summer level of the river to the crown. As the foundations of the intended girder bridge had been put in in raking lines, the ribs of the present bridge had to follow those lines. The foundations (as proposed by Mr. Page) were extended to within 7 feet of the water towers; and this enabled the contractor to provide for the erection of two lodges, designed by Mr. G. G. Page, son of the engineer, at an estimated cost of 503*l*. In the construction of the bridge six ribs of immense size are tied together with cross girders and braces tied and stayed; there being bearers for the corrugated iron plates which had been prepared for the girder bridge, and which have been used up in the present bridge. The iron contains one-tenth of wrought-iron after Morries Stirling's patent for casting cast-iron with a mixture of wrought-iron. The parapet consists of a series of quatrefoils very much resembling the parapet of the nave of York Minster. The footpaths on the bridge are formed of the Hopton Ward stone, a white paving stone which has been used at the Houses of Parliament. At the margin of the footpaths is a cast-iron curb, which forms the ribs of a gutter as well as a tram. The paving of the carriage-way is of Mount Sorrel granite, of a red colour, approaching to the red porphyry of Egypt. The painting and decorating of the bridge were intrusted to Mr. G. Hartley and Mr. F. Moore, both of York. The general colour is a lightish green grey. The extreme width of the bridge is 37 feet 9 inches; the width of the footpaths 8 feet 3 inches; and the

width of the roadway 21 feet 3 inches. The weight of the bridge is at least 380 tons, and it is believed to be of sufficient strength to carry a railway train.

Messrs. Hawks, Crawshay, & Co., were the contractors, and Mr. Graham the resident engineer.

YORK AND THE RAILWAYS.

WITH reference to the completion of Lendal Bridge mentioned elsewhere, a correspondent from York writes as follows:—You will perceive, Mr. Editor, that by the account in the *York Herald*, Mr. Page has been asked by the directors of the railway company, whether the bridge will carry an engine and train. This points in the right direction;—to a central railway station, between Little Blake-street and Stonegate, by the formation of a square in the front of the Minster, a precedent for which is now in actual operation, viz.,—"The Citadel Station, Carlisle," near Carlisle Cathedral; and when it is considered that the number, who travel from Scotland and the North to London in twelve months is upwards of a million—the *Athenæum* gives the number at two millions from Scotland to London in twelve months,—not quite a million going by way of Lancashire;—it ought to be done, and the city of York would receive at least 150,000*l.* a year benefit from the measure. The railway company might erect a large hotel in the square, and it would have the further advantage of their making the present railway station into a goods station, thus saving them the expense of another goods station, and the necessity of going through the ancient city wall, by being obliged to make an arch through the wall opposite Rugier-street.

FALL OF WAREHOUSE, SOUTHWARK.

PART of one of the back warehouses at Messrs. Moser & Sons', of High-street, Southwark, iron merchants, fell late on Monday night. The warehouse consisted of one story only. It is about 80 feet in length, and between 30 and 35 feet wide, and was covered with a corrugated iron roof. The walls are 20 feet high. In the centre of the building, running its whole length, was what is technically called "a horse," which is used for stacking, or leaning bar-iron against on each side of it; and it is stated that, from examination of the *débris*, it appeared that the timbers of this horse had decayed and become unequal to their load, and it fell against the external side wall of the warehouse, which also was loaded with bar-iron; the consequence of which was, that this wall was thrown down, and carried with it the roof. The long bar-iron falling against some other warehouses, across a narrow alley, called Birdcage-alley, in the purlieus of the Mint, the walls of these warehouses were also much damaged, and the alley completely blocked up. Fortunately no loss of life or personal injury ensued.

NEW STYLE IN GARDENING.

THE introduction of a geometrical style in laying out grounds and gardens has become of late so prevalent that a few remarks may not be unwelcome in the *Builder* on the subject, inasmuch as the lawn and parterre must always have a close affinity to the domestic structure. All that we view daily in the park borders affords pleasing proof of the advance of floriculture and of the increase and improvement in our stock plants; and so far as geometric order is used in details of these grounds, there is nothing to be objected against; but on looking into the "Horticultural Gardens," the great national display in conjunction with the Exhibition, it is impossible not to be struck by the glitter of coloured walks, which have the appearance of red, yellow, blue, green, and other tinted ribbons, cunningly wrought through the intricate flower knots, which form the principal area of the twenty-acre reserve.

That the accuracy of the exquisitely-wrought box borders is laboured and telling, none will deny: these are the works of an artist; and it is equally palpable that the colours of the walks are brilliant. Now, however, winter has set in and the flowers decayed: when the mould is raked and laid by in ordinary for winter, these gaudy bands winding symmetrically over the russet earth wear the appearance of true-lovers' knots; and viewed in connexion with the fountains, balustrades, terraces, &c., make up the total of a formal Dutch garden; but when the flowers were in bloom,—those objects for which such cunning devices were but meant to be the garniture,—what was then the effect of all this polychromatic decoration? Why, simply that it subdued the effect of much natural beauty!

It is not the question whether the South Kensington Garden, surrounded as it is by high buildings and arcades, is the proper site for horticultural growth, since that point has been long conceded. The position, within the metropolis, may be convenient for the exhibition of plants, flowers, and fruits grown elsewhere; but in the midst of smoke it has long ceased to be appropriate for the raising of seedlings or for the conservation of plants.

Some hardy and beautiful flowering shrubs there are, which might thrive and bloom within the imposing boundaries. This is demonstrated by the gorgeous display of the neighbouring Kensington flower walk; but the aspect of this costly inclosure, its nakedness of floral or arborific garniture, leads one to inquire, might it not be improved by the introduction of some well-grown shrubs and trees, which would impart to it more of the hortulan if not sylvan character?

Exhibitions of fruits and flowers occur, perhaps, six or eight times a year; and these, together with the amount collected from Fellows of the Society, possibly do yield a fund sufficient to support the grounds and conservatory. It is more of a public arena for promenade than horticulture.

The broad walks and terraces, as laid down, are, perhaps, essential for the crowds that sometimes frequent the place; and considering the many architectural evidences within and surrounding it, even the winding walks of gaudy colours might be suitable here, however incongruous they might be in a rural garden. Still as a border or setting for rare planted flowers, nothing that could be invented would more effectually mar and neutralize the delicate bloom of nature's tender nurslings. Let them stand, then, as they are,—highly wrought proofs of the gardener's skill; but, in the name of Flora! do not suffer vitreous walks to be farther extended, to the detriment of our best collections.

QUONDAM.

BANKS AND NORTHCOTE.

SIR,—In a note appended to the paper headed "New Materials for the Life of Thomas Banks, R.A.," which appeared in the number of your paper of the 3rd inst., there is a reference made to me respecting the portrait of Mr. Banks painted by Northcote. I wrote immediately to my friend Mr. Ambrose Poynter, the architect; who married the eldest daughter of Mrs. Forster; and in reply I have received from him the following letter:—

"Dover, 8th January, 1863.

My dear Hardwick,—I shall be happy to supply all the information I possess relating to Mr. Banks; but since I can only write by my *womanuensis* (as Tom Hood says) it is difficult for me to put anything into shape. I must content myself with giving you the crude facts, and begging of you to make use of them in any way you please.

The portrait of Mr. Banks by Northcote came into my possession in 1832. I am surprised at Mrs. Forster writing in 1830 (see her letter to Mr. Cunningham in the *Builder*) that she did not know where it was, as she had no difficulty in directing me to the place where it had been put for safe custody, in London, ever since 1814. I received at the same time a portrait of Mrs. Banks, also bearing the name of Northcote; but I am very much mistaken if the final touches, at least, are not by the hand of Sir Joshua Reynolds: if not, it is certainly the best portrait Northcote ever painted. Both these pictures were exhibited at the British Gallery, I think, in 1847. I have also a very beautiful oil portrait of Mrs. Banks, painted by Ozias Humphreys, and another by Northcote of Mrs. Forster: all these were the property of Mrs. Banks.

Of Mr. Banks's own works I have but three,—the angel carved in wood, mentioned by Mrs. Forster as an ornament for her harp; a plaster cast of an alto-relievo, 4 feet 10 inches long by 9 inches wide, representing horses attacked by lions; and a basso-relievo, also cast in plaster, 4 feet 9 inches long by 8 inches wide, representing a Hindoo religious ceremony. It consists of twenty-three figures, and combines a character thoroughly Oriental with a purity of treatment thoroughly Greek. I do not know for what purpose this composition was designed. I have also the drawing mentioned by Mrs. Forster as one of the last ever done by Sir Thomas Lawrence, and the drawing made by Sir Thomas Lawrence when a child, which I presume to be his earliest extant work: it is a street view in Devizes, with the church, done in pen and ink.

The collection of drawings by the old masters made by Mr. Banks was divided by Mrs. Forster between M. de Triqueti and myself, about four years before her death. She took great pride in this collection, and was always ready to exhibit it to any one who professed to take an interest in art. Those now in my possession are about 200 in number, of which about sixty are genuine works of the great masters. Two by Raffaelle were photographed about five years ago for the collection of H.R.H. Prince Albert: the remainder are all good specimens by artists of secondary note in the Italian school. Those belonging to M. de Triqueti, of course, remain in Paris. There is a mask taken from Mr. Banks's face in the Royal Academy. Mrs. Forster desired it should be placed there, and it was sent through me by M. de Triqueti after her death.—A. POYNTER."

I may add that I have in my possession a beautiful work of Mr. Banks's,—a cast in plaster of a female figure kneeling, representing "Filial Piety;" also a basso-relievo in plaster, a very early work of Mr. Banks's, the subject being the Death of Epaminondas. M. de Triqueti, to whom Mr. Poynter refers in his letter, is the eminent sculptor in Paris, who married one of Mrs. Forster's daughters.

PHILIP HARDWICK.

DRAINAGE OF THE WESTERN AREA OF THE METROPOLIS.

WE are very glad to hear from Mr. Thwaites that the Board of Works, in committee on the 13th, agreed to a unanimous recommendation to rescind their resolution of the 29th of June, 1858, directing the formation of deodorizing works at Fulham; and advised that the sewage of the western area be carried into the Low Level sewer, to be conveyed to Barking-creek—a recommendation which there is little doubt will be very generally approved by the Board on (this) Friday.

COMPETITIONS.

Hartlepool Mechanics' Institute.—We understand that in answer to the advertisement which appeared in our columns, eighteen designs were submitted for this building, and that the premium has been awarded to the design bearing the motto "Labor et Spes," by Messrs. Pritchett & Son, of Darlington.

Amicable Society's Schools, Scarborough.—Forty designs were sent in by thirty-three competitors. A design by Mr. Stewart of that town, was selected. Tenders were obtained, ranging from 2,000*l.* to 1,400*l.* A correspondent points out that the committee said in the instructions, "They hoped to keep the estimate within 1,000*l.*" This, however, as times are, is not a very grave charge.

Sheffield.—A correspondent says,—"I beg to hand you one of the curiosities of the old town of Sheffield, which has appeared in the *Independent*:—

'TO ARCHITECTS, MILLWRIGHTS, ENGINEERS, AND OTHERS.

Wanted, Plans, Specifications, and Estimates for the Construction of FURNACES of One Hundred Holes.

Also, for FORGE of Six Steam Hammers, ranging from Five Tons to Ten Cwt., with Boilers and Connexions complete. and ROLLING MILLS, with Engines and Boilers, capable of Rolling about 150 Tons per Month, of Sizes from Six to One Inch Diameter.

Plans and Specifications to be lodged on or before the 31st inst., addressed, ——.

N.B. All Plans will be kept, but only the one adopted paid for.'

I think such men ought to be exposed in your Journal."

Exeter.—The committee for rebuilding the church for the united parishes of St. John and St. George, Exeter, having invited the architects residing in Exeter to send in plans, received five sets, marked "Apta;" "Devoniensis;" a red cross; "Excelsior," and "Desideratum." The plans having been examined, the committee selected the design marked "Excelsior." On opening the envelopes the design was found to be by Mr. W. F. Cross; and the one marked "Apta," selected as second, by Mr. J. Hayward.

ENLARGEMENT OF SUSSEX LUNATIC ASYLUM. At the East Sussex Sessions, at Lewes, the visiting justices of the Sussex Lunatic Asylum, at Haward's Heath, reported that there are now 500 inmates in the asylum, which was still very much over-crowded; and they recommended that the sum of 5,000*l.* be granted, which would be sufficient to afford accommodation for 100 additional patients. This recommendation was carried by a large majority.

THE NATIONAL LIFE AND DEATH RECORDS.

IT is only by personal inspection of our great public and private establishments, that any idea can be formed of the gigantic operations which in this country are being daily carried forward. The Bank of England, the Mint, the Treasury, the Admiralty, the Board of Trade, and Departments of Inland Revenue; the docks, vast stores in vaults and warehouses, immense manufactories, workshops, and many other places, must be examined before any one can form a just idea on the subject.

There is one public establishment the results of which are perhaps more frequently under the public notice than those of any other; and yet its nature and extent are comparatively little known: we refer to the Registrar-General's Office in Somerset House, where the records of life, marriage, and death are carefully arranged in their proper order, and stored away for future use; and whence come those useful health reports, which ought always, and frequently do, direct attention to dangerous conditions which need care, in order to preserve health and prevent the waste of human life.

On entering the western archway of the main entrance to the Quadrangle of Somerset House, after passing the lodge of the porter, comes the entrance to the Registrar-General's apartments. A spacious hall meets the eye. On one side is a small office from which inquiries are answered; and on the other, on a door, are the words—"The Search-room." To this apartment we will return by and by; but first will ascend the noble staircase, noticing the contrivances for hoisting packages and other bulky articles which are constantly arriving; and when we reach the first staircase, we note the elegant finish of the doorways and the extreme beauty of the decorations. The exterior of Somerset House is one of the finest in the metropolis; and although various alterations have been necessary for adapting it to the varied purposes for which the building is now used, the interior is well worthy of the architect. Besides, this staircase has many rare associations, for it was familiar to the lovers of art in the early days of the Royal Academy. In the rooms above, the annual exhibitions of paintings and sculpture were held, until the removal of the Academy to Charing-cross. This way have often passed Reynolds and the contemporary painters of his time, and Dr. Johnson, Burke, Goldsmith, and the brilliant band who were so closely knit together in friendly union. Since then Turner, Etty, Wilkie, and a host of eminent painters, sculptors, and patrons and admirers of art have visited here.

One of the doorways on the first staircase is the entrance to the large and finely-proportioned apartment which was once the council-room of the Royal Academy, and which is now appropriated to the use of the Registrar-General. The ceiling is elaborately decorated with wreaths of flowers, monograms, and other devices. In the centre there was formerly a picture, painted by a good hand; and on the panels of the walls there were coloured designs. These pictures were removed with the other effects of the Academy to Charing-cross.

One of the exhibition-rooms on the next landing now contains a valuable class library of Parliamentary and other works connected with population, its history and conditions, &c., &c. Above the mantelpiece there is an engraving of a well-known painting, showing the visitors and pictures at one of the early Royal Academy exhibitions.

There are other apartments here which were prepared by direction of George III. for the Society of Antiquaries, and which for some time were occupied by the members of that body. On the ceiling are the royal monograms and those of the society. Here the celebrated Swiss calculating machine is now kept; and various reports required for serial and other publications in connexion with the public health, are prepared. In other apartments will be found Sir Horace Mann, Dr. Farre, and other able workers connected with the staff of the Registrar-General.

It is in the rooms above, however, that we begin to form some estimate of the nature of the task of preserving in order the registers of our population. In one part of the premises the registers of births, marriages, and deaths are received from the registrars of the metropolitan districts, and from those in the provincial towns and throughout the country. These are sorted according to their date and the alphabetical running of the names; and, having been carefully tested as to correctness, are arranged on large pages, which are afterwards bound up in the huge volumes which will be found down below. This is a labour which, day after day throughout the year, occupies a number of persons, some of whom work in the large room, lighted from the top, which formerly held the chief part of the pictures of the Royal Academy exhibition.

About half way up this apartment there now runs a gallery, furnished with desks, seats, &c., which is usually occupied by from twenty to thirty clerks, whose labour is to write in a bold and distinct hand the names, date of a birth, and place at which it occurred, together with the number of the original report, and the volume in which it will be found; and the same as to marriages and deaths. These lists are all given to the clerks in alphabetical order, and they are copied in the same rotation on sheets of parchment.



A View in the Vaults.

The chief part of the persons who are here employed are law-writers, who complete their lists with singular uniformity and neatness. Great pains are taken to preserve this uniformity; and the registrars throughout the country are supplied not only with the same description of paper, but also the same kind of ink. With great rapidity those clerks perform their work; as each sheet is completed it is taken away, and in due course of time forms part of one of the volumes contained in the "Search-room."

The large number of persons with what may be considered to be odd names who are born, get married, or die throughout England on the same day, surprises one: even where there are three or more names, the coincidence is extraordinary. As might be expected, the number of John Browns, John Smiths, Jane Robinsons, &c., is great; but one would scarcely expect to find several John Obadiah Browns, and other names quite as uncommon.

This kind of copying is very monotonous; and, we are told, affects the memory, and sometimes the reasoning faculties, of the clerks. In such a completely mechanical manner is the work performed, that one of these men might copy the account of the death of his own wife or child without particular notice.

Descending to the search-room, we find it a very large apartment of great height. In part of the central space on the floor is an inclosed desk, which is occupied by the superintendent of the room. In other parts are tables and seats. Round the apartment run several galleries, which are reached by a spiral iron staircase. There are rows of large thick volumes, which are marked with the various years since the new system of registration was established. They also run in volumes, and are so marked that the marriages can be easily distinguished from the births, and so forth. In this room there are usually a number of people waiting, either for the purpose of searching for registers, or of obtaining copies of such as may be required. The books here, numerous as they are and imposing in size, are, like the volumes of the catalogue in the reading-room of the British Museum, only a reference to the long array of volumes which stand elsewhere.

If the person inquiring knows the date of a birth, the exact name, and the locality in which it took place, the volume in which the original is will be found in a few minutes in the vaults below, and be presently passed by an attendant up an open trap-door into the search-room, when it can either be examined, or a stamped copy of it be made. The cost of a search is small; and for a stamped copy, which is legal evidence in any court of justice, the charge is 3s. 7d.

But the most wonderful part of this office is the vaults, which are of immense length, and which run in rows under the building, and for a considerable distance below the pavement of the Strand. These subterranean chambers have been thoroughly dried and ventilated. They are always kept at a suitable temperature by means of hot-air pipes, and each avenue is lighted with gas. We have seen few things in the metropolis more solemn or imposing than this great library of the dead and the living. Of such great length are the perspectives of the vaults that they seem to vanish at a point; and not only are the walls, as high as the springing of the arches, lined with cases filled with books of record, but along the centre spaces are tall partitions, against which are cases occupied in the same manner as the others.

We notice that the books are bound in different colours,—some scarlet, some green, and the others black. The scarlet-bound volumes contain certificates of births: the verdant colour, chosen for reasons which we are not able to explain, contain the list of marriages; and the sombre black tomes are filled with the lists of the departed. In these books of life and death are the names of princes and peasants, philosophers and fools, the good and the wicked, the men and women of wealth and fashion, and the miserble and half-fed pauper. The records of the Registrar-General, like the grave, level all distinctions; and the death report of the great Duke of Wellington shows of no greater importance than that of Thomas Giles the ploughman, or Private Jones, of a militia regiment. Singularly silent are those vaults themselves: the white walls and the black, green, and scarlet books, the gas-lights not sufficient to illuminate the whole space, present pictures which have an effect upon the mind; and there is heard a dim roar from without, and a noise like distant thunder when the throng of carriages rolls along the Strand.

There is here, too, an apartment in which the registers of the Fleet marriages are kept, and the register-books from many Dissenting congregations of the metropolis. Some of these are old, and amongst the names in them will be found those of Daniel de Foe and John Bunyan.

NATIONAL MEMORIAL OF THE PRINCE CONSORT.—The arrangement that the seven sets of designs for the proposed memorial in Hyde Park should be sent to Osborne, as we mentioned last week, has been changed. It is now directed that the designs are to be sent to Windsor Castle; but the time for doing so is not fixed.



LONDON STREET-ARCHITECTURE.—WAREHOUSE, BOW CHURCHYARD.

MESSRS. TRESS & CHAMBERLAIN, ARCHITECTS.

LONDON STREET-ARCHITECTURE.

WAREHOUSE, BOW CHURCHYARD.

THE warehouse that has just been erected in Bow Churchyard for Messrs. Copestake, Moore, Crampton, & Co., as an addition to their present extensive premises, was commenced in the autumn of 1861, and is now fast approaching completion. Considerable delay was occasioned at the outset in consequence of the discovery of an ancient brick arched gallery, 13 feet wide, 10 feet high, traversing the entire length of the site, and containing 300 yards of solid soil. It is thought that this passage was a portion of a subway for the escape of fugitives from the sanctuary of St. Mary-le-Bow to the river: traces of it are still existing under a warehouse in Garlick-hill.

The clearing out of this gallery (which had been used as a cesspool for centuries) for the purpose of getting a solid foundation for the internal iron columns retarded the works, as it could necessarily only be done at night. It was afterwards still further excavated on either side, and forms a sub-basement at a level of 23 feet below the street paving.

The building consists of sub-basement, basement, ground and five upper floors. The sub-basement is a store for packing cases, &c.: the basement, ground and four upper floors are devoted to the various branches of Messrs. Copestake's business. Additional light to that obtained from the front is provided by a well 51 feet 6 inches by 13 feet 6 inches, extending throughout the floors, and terminating with a curved glass lantern. Over the fourth floor is a fireproof flat, on which are built the kitchen and offices for the accommodation of the entire establishment. The roof is covered with thick zinc plates stamped to a scale pattern, specimens of which were exhibited in the International Exhibition last year. They have been recently used in Paris, but are new to this country.

Access to the new building is obtained solely from the old warehouse, the floors of which are on the same level, and consequently some difficulty has been experienced in the treatment of the window openings in the façade to mitigate the want of height in the floors.

The front is of Portland stone, and the openings are filled in with enamelled bronzed iron sashes from designs furnished by the architects. Peterhead granite and serpentine marble have been used in the small columns and panels of the elevation. The carving has been well executed by Mr. Redfearn: the caps to the granite columns and the cable moulding round the second floor windows deserve notice.

The front arches are carried on large cast-iron columns made by Bunnett & Co. (who also made the sashes), the caps and other ornaments having been cast separately. Mr. Anley is the builder, Mr. Cooper the clerk of the works. The cost, exclusive of fittings, is about 15,000*l*. Messrs. Tress & Chamberlain are the architects.

CHURCH-BUILDING NEWS.

Ketton (*Rutland*).—The chancel of the cross church of St. Mary, Ketton, is about to be restored. A design has been supplied by Mr. Graham Jackson, one of Mr. Scott's earliest pupils. The Rev. F. S. Sutton, a son of the late Sir Richard Sutton, Bart., has just presented a second painted window to this church: it has been inserted in the south wall of the south transept.

Chipping-Norton (*Oxfordshire*). — The new Baptist chapel here has been opened. The edifice, which is in the Gothic style, is erected on what was an open space between the old one and the street, and the latter has been converted into school-rooms. The designs were furnished by Messrs. Gibbs, Thomson, and Colbourne, of Stratford-on-Avon, architects. The building has been carried out under their superintendence by Messrs. Orchard, of Banbury. The total cost of the erection of the chapel, altering the old one, lighting, seating, &c., was 2,300*l*.

Tring (*Herts*).—The church here was reopened for divine service, after a partial restoration, on the 1st instant. A small decorated window in the west end of the north aisle has been brought to light, having been blocked up by a wall and gallery. The restorations have been entirely confined to the interior of the church, the exterior having been left for want of funds. New roofs of oak, of the old examples, have been put on the nave, chancel, and south aisle. That of the chancel has been raised about 5 feet, so as not to intercept with the chancel arch, as heretofore. These roofs have been covered with new lead. The old high-backed seats have been replaced with open benches of wainscot, backs and fronts and next gangways, and bench-ends have been filled with carving. The gangways throughout have been paved with Maw's encaustic tiles. The chancel has been paved with geometrical tiles, made expressly by Messrs. Maw & Co., from patterns taken from old tiles dug up during the excavations in the church. The gallery which formerly blocked up the tower has been removed, and exposes the west window to view, which is a new three-light window, of Ancaster stone, and with Perpendicular tracery, and has been filled with stained fleur-de-lis glass. A new window of Ancaster stone has been put in the east end—a five-light, with Perpendicular tracery, and has been filled with stained glass by Messrs. Clayton & Bell. The subjects are the principal events of the life of Christ, with Old Testament analogies to the same, and is the gift of the Rev. J. Williams, of Park House, Tring. The windows of south aisle and south clerestory have been filled with patent rough stained glass of various shades, intended to subdue the rays of the sun, and is in lieu of blinds, and was put in by the same artists. The whole of the stonework to the interior has been cleaned and restored. The old plastering has been hacked off, and finished in rough stucco. The south doorway has been restored with Ancaster stone and polished Purbeck shafts, and is hung with two new wainscot doors with ornamental hinges. This work is the gift of Mrs. Williams, of Park House, Tring. An organ, built by Messrs. Hill & Son, London, has been placed in the north aisle, raised and supported on brackets. The case was designed by the architect. The organ is the gift of the minister, the Rev. H. A. Harvey. The new pulpit is of oak, with carved panels, and is octagon on plan. The church is heated with a hot-air apparatus, by Messrs. Haden & Sons, of Trowbridge. The carving to seats and pulpit was executed by Mr. Forsyth, of London. The gas-standards and metalwork to altar-rail, &c., were provided by Messrs. Hart & Son, of London. The new font is by Poole & Sons, Westminster. We believe this restoration has cost about 4,000*l*. The whole has been carried out under the superintendence of Mr. W. Slater, architect, London. The contractor was Mr. G. Cooper, of Aylesbury, Bucks. Mr. W. Thompson was clerk of works.

Stourbridge.—The Unitarian Chapel alterations having been completed, the chapel was formally re-opened on the 21st ult. The most noticeable addition to the chapel is the organ niche, constructed at the western end, and into which the organ has been removed. An arch, supported upon enriched piers, with moulded bases and carved stone capitals, forms the opening into the chapel. The choir is arranged in front of the organ, and in a slightly-raised portion. On the outside of the chapel buildings have been erected, comprising a large library and a minister's room, the latter communicating with the pulpit, which is of stained oak. An apparatus for heating the chapel has also been fixed. Much additional sitting accommodation has been provided in the above alterations. The architect was Mr. F. S. Smith, and the works have been executed by Messrs. Allsop & Son.

Bristol.—The Hensman Memorial Church has now been consecrated. It is situate near the parish church of Clifton, being built on land which had formed part of Thorny-close, and belonged to the Society of Merchant Venturers. The edifice contains 400 sittings, is intended as a chapel of ease to the mother church of Clifton, and is dedicated to St. James the Apostle, though designed as a memorial of the Rev. J. Hensman, who has completed the fiftieth year of his ministry at Clifton. The architects were Messrs. Pope & Bindon. The edifice is in the Decorated style, and consists of nave, chancel, and vestry. The length of the nave is 83 feet, its width 33 feet, and its height 57 feet. The chancel is in the form of an apse, 22 feet long, and 23 feet wide. There is a stone bell turret, with two bells, over the chancel arch, and there are a north and western porch. The walls are built of Hanham stone, with freestone dressings; and old red sandstone from Sir William Miles's estate, is introduced in the relieving arches over the windows. The ceiling is of open timber; the wood being stained deal; and the seats are of the same material. The floor of the church is of wood, and there is a crypt under the church 10 feet deep, containing an apparatus for warming the church. The chancel is paved with Moore's encaustic tiles of an ornamental pattern. The shafts of the chancel are of Purbeck marble, and those at the vestry door are of Devonshire marble. These shafts were presented by different donors. The communion rails are of wrought iron, painted and gilded, and were made by Mr. Butcher, from designs by the architects. An arcade runs round the whole of the chancel, supported on marble shafts, carved with natural foliage. The capitals and bosses in the chancel are carved with foliage of different descriptions. On the chancel is represented the passion-flower. All the windows are glazed with cathedral glass of light patterns; and it is intended to fill the chancel windows some day with stained glass. The carved stone pulpit was given by a lady. It is octagonal in form, with Devonshire marble shafts to the panels, which are carved with diaper: the shafts beneath the pulpit are of Purbeck marble. The general contractor was Mr. Brooks, of Bristol; while Messrs. Lewis & Sons, of Clifton, executed the plastering, slating, and painting. The ground around the church was laid out by Messrs. Baskerville, of Bristol. The entire cost of the erection is upwards of 3,000*l*., of which 300*l*. have yet to be provided.

Great Malvern.—A Roman Catholic chapel has been consecrated at Great Malvern. The chapel is in the Gothic style, and was erected at the expense of the pastor, the Very Rev. W. Scott, from designs by Mr. B. Bucknall, of Rodborough, Gloucestershire. Messrs. Perkins & Edwards were the contractors. The structure, which is dedicated to St. Wolstan, consists of a nave, 80 feet by 30 feet, having three side chapels. At present the building is not complete, but will be so when a chancel and other parts are added.

Ross.—The parish church here has been re-opened. The restorations and improvements have been carried out from designs by Mr. J. C. Buckler, of Oxford, architect, who re-erected the spire some years ago. The high pews have been replaced by low open seats of deal, stained and varnished. The floor has been excavated and lowered, and laid with concrete beneath a wood floor; the passages being laid with encaustic tiles from the manufactory of Mr. Godwin, of Lugwardine. Two galleries have been removed. The organ has been improved and repaired, and removed from the tower to a gallery especially provided for its reception, and the accommodation of the choir; and the space in the tower formerly filled by the organ has been fitted with seats appropriated to the children of the various schools of the parish. Fourteen brass standards distributed over the area of the church were furnished from the manufactory of Messrs. Hart & Son, and fixed by Mr. London, of Ross. Amongst the improvements must be noticed the font, a restoration by Mr. Hards, of Ross, from some fragments of an early one which were discovered in excavating the floor of the church. A heating apparatus has been laid. The accommodation now amounts in the whole to at least 1,000. Mr. W. Deeley, of Ross, builder, was the contractor for the works.

Congleton (*Cheshire*).—Astbury parish church has been re-opened for divine service, having for a long time been partially closed for restorations in the interior. All the walls have been stripped of plaster and the stones dressed. The modern gallery, erected by the late Sir Edmund Antrobus, has been taken down, and the organ (also his gift) has been removed to the south side of the church for the present, its final situation not being fixed upon. A wood screen has been erected to form a new vestry, and three memorial windows of stained glass have been placed to the memory of the late Mr. Randle Wilbraham, of Rode Hall. The chancel, with the ancient carved stalls, &c., is restored; as also the panelled oak roof. The new pews are uniformly arranged. The pulpit has been removed, as its old situation obstructed the view of the windows from the nave.

Whickham (*Durham*).—The parish church of Whickham has been re-opened for divine service, after having been closed for a considerable time, during which it has been undergoing a restoration almost equivalent in extent to reconstruction. The whole northern side of the nave and north pier of the chancel arch required to come down; whilst, to compensate for the loss of space by the removal of the galleries, the area of the church required to be extended. The only side on which this could be done was to the northward; and it was determined to erect a second north side aisle, and also a side aisle to the chancel, removing the old vestry to make way for this. Mr. Salvin was appointed architect; and the parishioners in vestry came to the decision that the new pews should be open. An accession of about 200 sittings was thus obtained, every seat being free, and all of one form and pattern. The church is now capable of accommodating 600 persons. Amongst the numerous improvements is a stained window, situate near the south entrance. It is composed of four compartments each containing a group of figures, the subjects being the Five Wise Virgins, Christ re-

buking Martha, Christ raising Jairus's Daughter, and Christ blessing little Children. They are surmounted by a canopy, mixed with foliage decoration, composed of the rose and lily; and the tracery portion is also minutely ornamented. This window is the work of Mr. H. M. Barnett, of Newcastle-upon-Tyne, and is a memorial to the late Miss Simons. On the east gable is another work by this artist, in the form of a wheel window. In the centre of this is the Lamb, surrounded by a circle of radiating branches, set, as it were, with precious stones. Mr. Wailes is at present engaged on another large window for the same church, in memory of Miss Jeffrey. At the west end of the north aisle is placed a stained-glass window. The design consists of two groups—"The Nativity of our Lord," and "The Presentation in the Temple;" above which are canopies. The window is the gift of an artist in the establishment of Mr. Wailes.

Houghton-le-Spring.—A great improvement has been made in the chancel of the parish church by the addition of an inlaid marble reredos, of the diamond pattern, with an ornamented Greek cross in the centre. Its not appearing to have a good finish, remarks the *Gateshead Observer*, induced the rector (who has been at the entire expense) to have a kind of stone frame, with a battlemented top, made for it, and the work was intrusted to Mr. Brookes. The east window is now being filled in with stained glass, by Messrs. Wailes, of Newcastle, the subject being "Our Lord in Glory." The subject includes a large number of figures. Mr. G. Elliott, of Houghton Hall, has been at the sole expense, and the window is to the memory of his daughter, the late Miss E. Elliott.

Silloth.—A new Congregational chapel has been erected and opened at Silloth, according to the *Carlisle Journal*. The building is a brick erection, situate at the south-east of the town, and is capable of accommodating about 250 persons. The chapel is lighted by eight ground-glass windows. The building cost 550*l*.

STAINED GLASS.

Ludlow Church.—Two stained windows have been put up in the east end of the nave of the parish church of Ludlow. Each window is of two lights, and each contains two subjects, viz., in the one to the left, the call of Peter, "Follow me," and Christ's charge to Peter, "Feed my Lambs;" in the one to the right hand, "The Conversion of Saul," and "Paul before Agrippa." Messrs. Edmundson & Son, of Manchester, were the artists.

Cowfold Church (*Sussex*).—This church has recently been adorned with two memorial windows of stained glass. Of that in the chancel, the subjects are three events in the history of Our Lord immediately after his resurrection, viz., His appearing to Mary in the garden; His being known at Emmaus by the breaking of bread; and the incredulity of St. Thomas. This window is in memory of the late Mrs. White, of Wooldringfold, in this parish. The window in the south aisle is in memory of the late Mr. John Grimshaw, also of this parish. The subject of it is "The Ascension."

St. Martin's, Blue Pitts (*near Rochdale*).—Messrs. Edmundson & Son have just completed and fixed two windows in St. Martin's new church. One is in the nave, and put up chiefly at the expense of the sunday scholars connected with the church, to the memory of Job Sheppherd, late a teacher in the school. The subjects are "The Raising of the Widow's Son," and "Christ's Charge to Peter." In the tracery is an angel bearing scroll, with memorial inscription, and texts at bottom. The other is behind the font, and contains "The Presentation in the Temple," and "Christ Blessing Little Children." In the tracery are "The Crossing of the Red Sea," and "Destruction of Pharaoh's Host," as an emblem of baptism. It is the gift of Mr. Ernest Bates, architect of the church, and brother to the Rev. Joseph Bates, the incumbent.

SCHOOL-BUILDING NEWS.

Notting-hill.—The new national schools in connexion with St. James's, Notting-hill, have been formally opened by the Bishop of London. The schools were for a lengthened period carried on in Kensington Potteries. The new building is capable of accommodating 450 children. The cost, including the site, has been about 2,100*l*. Of this sum 1,480*l*. have been raised by voluntary contributions.

Manningham.—The foundation-stone of new schools, to be built in connexion with Greenfield Independent chapel, Manningham, has been laid. The site of the proposed building is at the south-east side of the chapel, and comprises an area of 290 square yards, exclusive of the playgrounds. The building will be two stories in height, the principal front and entrances facing Lumb-lane, and will be erected in the Early English style of architecture, corresponding with that of the adjoining place of worship. On the groundfloor there will be a meeting-room for members of the congregation, 35 feet by 20 feet; an infants' school, 35 feet by 16 feet; three class-rooms, and separate entrances and staircases for boys and girls. The upper school-room will be 35 feet by 40 feet, 27 feet 6 inches high to the apex of the roof timbers, which will be of an ornamental character, exposed to view, and stained and varnished. Four class-rooms will be formed at one end of this room, being separated from it by means of low partitioning. The room will be lighted partly from above, but chiefly by four triplet lancet windows; and heated, as also the rooms below, by a hot-water apparatus. The schools will accommodate 350 children. The cost, including fittings, will be about 1,000*l*., towards which subscriptions to the amount of 620*l*. have been promised. Messrs. Andrews and Delaunay are the architects, and the following are the contractors:—Masons, Messrs. Bell & Farnish; joiner, Mr. Gill; plasterer, Mr. Kitchenman; plumber, Mr. J. Schofield; slater, Mr. Hill.

Newhall (*Derbyshire*).—New National Schools, for boys, girls, and infants, with two class-rooms and a residence for the master, are about to be erected near the centre of the village, on a new site, which has been given by the Earl of Chesterfield. The architect is Mr. Nicholas Joyce, of Burton-on-Trent and Stafford.

White Colne.—A new day-school is about to be erected at the above place, under the direction of Mr. Henry W. Hayward, of Colchester. Mr. Rogers, of Earl's Colne, is the builder employed.

DAIRY ARRANGEMENTS.

VALUE OF DRYNESS.

LECTURING recently on cheese-making, Professor Voelcker said, as to the arrangements of the dairy,—You will not expect me, of course, to enter into all those minute practical arrangements which every dairy-woman carries out in the mode best adapted for her own comfort. No very general rule can be laid down as to the best practical arrangement, which is generally that which is the handiest; and as some persons are left-handed, and others right-handed, we cannot lay down invariable rules applicable for each. Follow that arrangement which is most handy for you, would be the general advice I would give to every one. But yet there are some points which admit of a philosophical explanation. For instance, the aspect of the dairy should be north, if possible, for this reason, that a north aspect will bring dry and cold air into the dairy, and keep it cool. But it is not merely the low temperature which a dairy that looks towards the north has, that is so beneficial to the keeping of butter and the making of cheese, but also because such dairies are generally drier. And this is a very important consideration; for, after all, it is not so much the high temperature of the dairy that spoils the cheese, and causes it to become sour and hard, as the condition of the atmosphere as regards dryness or dampness. In a damp or wet dairy you generally find a disagreeable smell all through the place; and in such a dairy it is next to impossible to make first-rate cheese. Whereas dairies that are celebrated amongst the dealers for their high qualities of cheese are generally dry: no matter whether it be cool or moderately warm, it is the damp that spoils the cheese more than anything else.

When going through Cheshire, in visiting the celebrated dairy which produced the prize cheese at the time of the Royal Agricultural Society's meeting, at Chester, at Riddeley Hall, a dairy which is presided over in the most admirable manner by Mrs. Willis, I was much struck in finding a perfectly dry room, and the utmost care used to prevent any damp in any shape coming into the dairy. She would not allow any one to bring the milk in. The servants, by a very simple arrangement, poured the milk through a sort of funnel, connected with a tube from the outside, into the cheese vat. They were not allowed to enter with their wet, and, perhaps, dirty boots, but delivered the milk outside the door. Then all the servants were obliged to wear pattens,—a very excellent plan. You never ought to let any one go in with a damp pair of boots on. If by any accident milk was spilt, there was not a pail of water thrown over it to wash it off, but a dry cloth was used. She assured me that she had never done any scrubbing, except when they made no cheese, and then she would not make any cheese for a week or so, until she was perfectly sure the ground was dry again. In other dairies in Gloucestershire and Cheshire, as well as in Derbyshire too, I found invariably a damp floor in dairies, where cheese fetched from 8s. to 10s. per cwt. less than good cheese-makers got for their cheese; and I acquired so much practical experience in this matter (I may say so without presumption), that I could venture to make a very good guess as to what description of cheese is made on a particular farm without seeing the cheese, and even without seeing the dairy: you may blind my eyes and lead me into the dairy, but you must not shut my nose. I will not, of course, say under all circumstances that I should be able to smell the good cheese, but I can smell the bad one; and this bad smell, the sour, peculiar, damp, muffy smell (I don't know whether that term is understood), that musty, damp smell is very characteristic of bad cheese. For it is productive of a peculiar kind of ferment, or taint; and we know how very little of such taint is sufficient to give a bad quality to the cheese. Tainted meat can be produced in a damp cellar, even in cold weather, in a short time; whereas when meat is hung up even at a high temperature in a current of air, it will keep in good condition for a long time. This shows the influence of damp upon cheese. We are then, by all means, to avoid a damp place. Sometimes people are afraid that by building their dairies above ground they get them too warm. But it is clear that it is better to have a warmish place than a damp one. If a damp place must be put up with, I would recommend an increase of temperature, thus keeping it as dry as possible by artificial heat.

LECTURES ON SCULPTURE.

AT the London Institution, Professor Westmacott, R.A., is delivering a course of four lectures on "Sculpture." The first lecture, given on the 5th instant, treated of the distinction to be observed in addressing professional and non-professional audiences; theory and practice; importance of a knowledge of true principles to those who would be judges of art; the great object of sculpture among the ancients; classed as mythological or religious, heroic, commemorative, portrait late; the beautiful; review of the more important ancient schools, and notice of their decline. In the second, given on the 12th, the professor spoke of the total change in the art-impulse of the moderns, and its causes; the dark ages of art, and its revival; religious (Christian) sculpture; change to the pseudo-Classical; with a review of the leading sculptors of Italy from the twelfth to the eighteenth century. The third lecture, to be delivered on the 19th, will treat of ecclesiastical and monumental sculpture, as a special phase of art; its great interest, and its practice in England; promise of excellence—how disappointed; decline of fine art incorrectly attributed to the Reformation; false principles introduced in Italy, and their spread throughout Europe. In the fourth, on Monday, the 26th, he will speak of sculpture in the present century and age; future prospects; principles as yet undefined; sentiment, and high motive; imitation; realism and idealism; artifices to attract attention; ignorance of the public, in matters of taste, the opportunity of pretenders, whether artists or amateurs; the remedy; and then give a general explanation of the practice of sculpture, including modelling, carving, moulding, and casting. The lectures are given extempore, with illustrations; by which means the attention of the audience is kept more fully alive than by the reading of a discourse.

RAILWAY MATTERS.

THE site decided on for the construction of the new railway docks at Milford Haven is upon or near the estuary known as Neyland-hill, at its junction with Milford Haven near to the South Wales Railway Company's station of New Milford, at Burton, in Pembrokeshire, with branch railways thereto, and all the requisite pier, dock, and warehouse accommodation. Powers will be taken to adopt both the broad and narrow gauge. The estimated expenses of the docks is 190,000*l*, and of the railways, 30,000*l*.

A new station is being built by the Midland Railway Company at Peterborough. It is being erected on the site of the Crescent Station. There

is likely to be a good deal of work here next summer. A new college and Independent chapel are to be built, as well as new houses; a great deal of building land having been bought by the Freehold Land Society for building purposes. The Great Northern Company are also going to make considerable alterations; having just bought the estate of Mr. Thomas Hill. Fifty-one lots of building land have been sold. The land is situate in Eastgate, where new houses are likely soon to spring up.

The Blyth and Tyne Railway Company have erected a new station adjoining the Tynemouth-road, North Shields, to the east of the House of Correction. The station, which is a brick building, with stone facings, comprises ladies' first-class waiting-room, and a general waiting-room and booking-office.

The traffic receipts of railways in the United Kingdom amounted for the week ending the 3rd of January, on 10,584 miles, to 483,396*l.*; and for the corresponding week of last year, on 10,193 miles, to 460,796*l.*; showing an increase of 391 miles, and of 22,600*l.* in the receipts. The gross receipts on the fourteen principal railways amounted in the aggregate on 7,268 miles, to 380,942*l.*; and for the corresponding week of 1862, on 7,003 miles, to 364,713*l.*, showing an increase of 260 miles, and of 16,229*l.* in the receipts.

ORNAMENTATION OF WINDOWS BY THE TRANSFER PROCESS OF DIAPHANIE.

IN the year 1857, a French lithographic firm first attempted to print, by new processes in lithography, designs in colours sufficiently solid and transparent for the decoration of glass. More recently they have made many improvements. We have before us one of the first sheets printed, and some of the latest; and the advance is striking.

The original method of using these printed designs was to varnish them thoroughly, and affix them to the glass with gum or other cement. The improvement in the application of these designs consists in permanently fixing the coloured surface to the glass, and then removing the paper upon which they are printed. This is now rendered very easy; and glass thus decorated certainly has a very striking effect, while the cost is comparatively trifling.

The work is so simple that it may be done by any person with ease, although the arrangement of the design for a proposed window requires some taste, and a proficient will always excel. Briefly this is the process:—Make a careful drawing of the proposed decoration on paper, or adopt those which are sold for the purpose; marking out where the subject, border, and grounding join with a double line, say about an eighth of an inch in width; then lay the glass upon the pattern, and cement over the double lines a strip of tin foil previously cut to the proper width. Having finished this the coloured surface of the subject, border, &c., is to be cemented to the glass in the places already marked out by the tin foil, which it should overlap a little. Allow the work to harden for a day or two. The paper is then to be damped and rubbed off with a piece of sponge or flannel: a slight coating of the clearing liquid (which is a thin varnish) is passed over the back of the design, and a coating of very hard copal varnish completes the work. In cases where one sheet fills exactly the window, the tin-foiling may be dispensed with. Messrs. Barnard & Son, of Oxford-street, have published a little sixpenny pamphlet, which contains lithographic plates of the designs alluded to, and may be usefully consulted.

SAFETY FOR MINERS.

THE public mind, painfully excited by the numerous recent cases of explosion in coal-mines, attended with more or less fatal results, has within the last few weeks been again shocked by the account of the dreadful catastrophe at Edmund's Main. The so frequent occurrence of this description of accident proves, beyond dispute, that the present means employed to prevent such disasters is, at the best, of very imperfect effect. Every thinking man sitting by his fireside can hardly fail to remember that while he is reaping every benefit to be derived from the invaluable mineral coal, he does this too often at the price of the very lives of the hardy men who toil in the mines to procure it. Is it necessary that this should be so? I will with deference say that it is not. If I may venture to say so, this coal was stored up for the use of man by the Architect of the Universe. Man has been gifted with reasoning faculties which should enable him to counteract the risks which, without due precaution, must occur in gaining coal. Let us see whether he has taken the steps which seem best calculated to ensure safety.

The present, as it appears to me most primitive and most inefficient method, I will endeavour briefly to describe. Most persons are aware that the only access to a mine is down a narrow well or shaft, sometimes of small depth, and sometimes many hundred feet deep. This well or shaft is divided into two parts by a partitioning of timber, from the top to the bottom. The partitioning is technically called "bratticing," a term now almost as familiar to the general reader as mine or shaft. The various partitions in the workings of the mine are also called by the same name, brattice, or bratticing. I will suppose, merely for simplicity, that there is only one "main" or horizontal layer of coal at the bottom of the shaft. From this point at the bottom of the shaft the layer of coal is worked in all directions, often to a distance of many thousand feet from the shaft. The shaft has to provide for the conveyance of mineral to the surface; of men and horses up and down; to find room for the pumping apparatus; and above all is the sole means of ventilation to a series of workings several hundred feet below the surface of the earth, and extending over many thousand square yards. I only propose here to speak of the all-important service—ventilation. One of the divisions of the shaft before alluded to is called the "main," or "down shaft," the other the "upcast" shaft. The "down" shaft is the medium by which fresh air is conveyed from the surface of the earth: the "upcast" shaft is that which conveys from the mine the gases evolved and the vitiated air. In the upcast shaft, generally at or near the bottom, is placed a large furnace, which, by heating and rarefying the air, causes it to rush up that shaft, air from the mine rushing forward to supply its place. The air to furnish this supply finds its way by the down or main shaft; and is compelled, by appropriate bratticing, to traverse the various workings of the mine, and so to ventilate them. But can it be a matter of surprise, when we consider that in a large mine these workings always extend to very many thousand feet of intricate passages, that the power of the furnace is insufficient to keep up a sufficient draught through the complicated workings? I can only say, for my own part, I should be very much surprised if such an arrangement were found to be effective; and I will proceed to give what I am sure would prove an efficient plan. The cost would not be great; but, should the expense of working a large mine be somewhat greater on the following plan, I contend that the miners have a right to stipulate for the greatest amount of safety that can be secured by any reasonable expenditure. An addition of cost to the price of coal, of 3d. or 4d. per ton, would probably amply cover any such expenditure; and I am certain the public would gladly pay that increase of price upon the understanding that the life of the miner was duly cared for.

The plan I suggest is, to employ the shaft solely as a downcast shaft, and to provide for the upcast draught by artesian borings, as nearly as possible at the extremities of the various workings. It is well known that the expense of a boring, as compared with a shaft, is trifling, and would not be very material in the expenditure of a large mine. But the borings once made, I should not rely upon the furnace system for maintaining a draught; but the borings should be in communication with a vacuum, maintained by power, either exhausting cylinders or discs, as found most desirable. The borings should be lined with cast-iron tubing, unless the nature of the strata should be such as to render that course unnecessary. In very many mines one or two such borings, of 12 inches in diameter, would thoroughly ventilate the mine. It is not at all necessary that the exhaust-chamber should be at or near the top of the borings: communications with a central pumping-station may obviously be made by pipes laid on the surface of the ground. I think that the proposed plan is so simple, and so certain of operation, that I sincerely trust some coal-owner will at once give it a fair trial.

The present bungling and imperfect furnace plan, I contend, must be abandoned for the greatly improved one which modern mechanical science has rendered not only possible, but easy of attainment. This is not a subject I have taken up at a moment's notice, but one which has occasionally occupied my attention for some years; and I trust you will think, with me, that the influential columns of the *Builder* cannot be better occupied than by drawing public attention to a plan calculated most materially to lessen the risk to which the coal-miner is at present exposed.

THOS. A. COTCHETT.

ADULTERATION OF WHITE LEAD.

SIR,—Perhaps many of your readers may not be aware of the extent to which white lead is at present adulterated with barytes,—a very heavy white earth, an oxide of barium. This substance is said to be valuable in the manufacture of fine earthenware; but, in reality, very large quantities are ground in oil, and sold in barrels at about 4*l.* 10s. a ton, as a substitute for, or to mix with, white lead. Some of the painters in Glasgow use it constantly. It is also used by some masons in their putty for joints in ashlar work.

This mineral is extensively wrought at Muirshields, near Lochwinnock, in Renfrewshire; also in the island of Arran. At the former place extensive works are in operation for grinding and bleaching it. The working of this mineral must be a valuable source of revenue to the proprietors, who, of course, cannot help its being put to bad uses. After the paint has been used the adulteration is difficult to detect *at first*, especially in flat tints (that is, when unglazed); but, of course, it *very soon* appears. The presence of barytes in oil paint may be detected by rubbing the paint between the finger and thumb for a little time, when it becomes *granular*; whereas, white lead paint does not. Barytes in place of white lead, and petroleum in place of turpentine, account for low estimates and bad work. By the way, can any of your readers say whether petroleum really discolours light tints, when used in paint instead of turpentine?

DETECTOR.

COTTAGE BUILDINGS AND SANITARY APPLIANCES.

SIR,—At the recent discussion of this subject at the Society of Arts, reported in the *Builder*, Mr. Godwin very justly observed "that if labourers cannot pay such rent as will secure to them a proper home, they are not getting out of the land a proper sustenance and that provision for shelter which they are entitled to receive." Men working on the land are, in many cases, hedged in by the law of settlement to a limited market for their labour; and they are generally men deficient in adaptability of mind and body to take their labour into channels where it would be useful and profitable to others, and consequently more remunerative to themselves; but I cannot agree with the gentlemen who set forth that the labouring classes generally are in this matter powerless to help themselves. There are many thousands of artisans and mechanics earning wages amply sufficient to command suitable and desirable homes. We see large and most magnificent productive establishments, maintained almost wholly by the labouring classes. There are the acres of breweries, the costly spirit palaces: an abundance of capital readily flows to the production of any necessary or luxury for which the labouring population evidence a persistent demand. The mistake appears to be that we are endeavouring to move in this matter without the co-operation of the labouring class. We are repeating the mistake made by Government in introducing sanitary improvements. They sought to force them on the cities and towns before the residents were educated to the want of them; and so excited their strenuous opposition, instead of securing their cordial co-operation.

We are leaving the labouring classes in ignorance on the subject, and endeavouring to prevail on the landlord class to take sanitary improvements to them. What is the consequence? We have not the co-operation of those we are seeking to benefit; and to carry out the matter without their co-operation will be impracticable, however desirable the landlord class may be to accomplish it. They will be over-weighted in the attempt. We cannot estimate the present labouring population of England and Wales at less than thirteen millions. We may estimate their house-rental to be something over one pound per head per annum —say thirteen millions; but half as much again must be paid to cover the interest on the outlay that is required to make their dwellings such as we desire. Instead of an average of five pounds per house, the average must be seven pounds ten shillings per house. The lowest estimate, therefore, we can make of the desired improvements is an annual cost of six millions five hundred thousand pounds. Can we hope that landlords will make this sacrifice for the benefit of the labourers?

It appears to me, Mr. Editor, we must begin at the other end. We must educate the labouring class to a knowledge of the importance to their well-being of light, ventilation, and cleanliness: we must teach them the attendant circumstances that lead to debility and fever: we must awaken in them the desire for health-conducing homes. At present we are endeavouring to call forth a supply of such dwellings artificially. We are seeking to supply the food before the appetite is created. We should create first the desire for homes of this class: from this will grow a demand; and when the labouring class are willing to pay for improved dwellings a rental that will leave a profit to those who supply them, they will not have long to wait for them. At present cottages are let in the country at prices that do not pay for the ground they occupy and the cost of erection. In cities and towns cottage-rental is so irregularly paid, and the damage committed on the property is so continuous and excessive, that the supply has very generally fallen into the hands of needy men, seeking high interest at great risk and great personal trouble.

In my own immediate neighbourhood (Corsham) there are men earning wages ranging from 24s. to 30s. per week, who are content to domicile their families in houses that cost them about 2s. per week; and it is notorious that there are at the present time thousands of mechanics and artisans in this country earning wages ranging from 4s. to 7s. per day, who are content to domicile their families in dwellings which cost them from 2s. to 4s. per week rental, while it is equally notorious that they spend on gin, beer, and tobacco, for their own personal consumption, three times the amount that they devote to secure a dwelling. Wages generally are one-third higher than they were seven years ago. Meat, butter, and cheese, a little dearer; bread and clothes not dearer; neither is more spent on rent. How is the increased rate of wages disposed of? In many cases four days' work instead of six, and more beer. Let us hasten to create amongst them nobler wants; to leave them no longer content with impure air, impure water, badly-cooked food, with a damp, ill-drained, ill-lighted, ill-ventilated dwelling, insuring a debilitated condition of body that will enervate the mind, and beget a craving for stimulants, to purchase which will absorb a large portion of their earnings, leaving the least possible amount for food, clothing, and cleanliness.

There are now many useful publications of which we may avail ourselves in disseminating sanitary truths. One of the most effective of these is the publication you so ably conduct. Beyond this, and to reach a humbler class of labourers, there are household tracts for the people:—"The Worth of fresh Air," "The Use of pure Water," "The Value of good Food," "The Influence of wholesome Drink," "The Value of a well-trained Mind."

When we have taught them the value of sanitary improvements, they will then anxiously desire them: instead of an inert mass which we cannot move, we shall then have three millions of sons of toil ready to co-operate with us.

No emperor has such an army: neither North nor South can command such a phalanx. Effecting it in this way we not only insure the desired result the most certainly, but we shall also elevate the character of the labourer, and prepare him for other desirable efforts. Cultivate first in the labouring classes an appreciation of the benefits, a knowledge of their value, and your humble neighbours will then work out their own improvements more surely, more effectually, and far more beneficially, than we can do for them. With the desire to enjoy, and the capability to pay, the question will become simply one of demand and supply.

JAMES S. RANDELL.

COST OF COTTAGES.

ABSENCE from town has prevented me seeing *The Builder* of last week, in which a letter appeared from Mr. Ross, and in which my name is mentioned.

Not having time to explain as fully as I should wish the motives which instigated me to say what I did at the Society of Arts, I will content myself by stating that I hope very soon to trouble you with some remaks on the subject generally.

In the meantime I may observe that the expressions of satisfaction which have reached me from *builders* of various parts of the country afford confirmation of the justice of those remarks, which were intended to show the prejudicial effect of false estimates in advancing the real object we all have in view, which is the building of healthy cottages in a substantial manner, at a remunerative price, considering all the interests involved.

Perhaps the fact of my having been a competitor the better qualifies me to speak of the deception practised by competitors, and to assert that it is very easy to draw plans and to build cottages at 200*l.* a pair if the architect foregoes his charges, and the builder the legitimate profits of his trade, though it is not impossible that even if these be given up a loss will still result. I fear in such instances the parties interested look to subsequent contracts to recover their position through the fascinating medium of "*extras*" at least such is my experience in the numerous opportunities I have had of judging.

J. BAILEY DENTON.

LODGINGS FOR LABOURING MEN.

SIR,—Model cottages cannot supply the want in or near town. Large houses must therefore be used, and I think the best kind of house would be a double one, containing twelve or sixteen rooms; no basement; two front and two back rooms on a floor. The street door to be in the centre, and the staircase just inside, the space for it (12 feet by 6 feet) to be taken off the front rooms instead of the back. The advantage of this would be—first, a larger staircase without increase of frontage; secondly, larger back rooms for bed-rooms; thirdly, a better chance of escape in case of fire. Large bed-rooms are much wanted: most families want two bedsteads of some kind, and space is wanted for them as well as for health. The back room to be entered from the front one.

Could not such houses as these be built in the route of the Hammersmith and City and West London railways so as to pay a fair interest?

A MECHANIC'S SON.

CASES UNDER THE METROPOLITAN BUILDING ACT.

DIVISION OF WAREHOUSES.

ON the 5th instant, Messrs. Ashby & Horner, builders, appeared before Mr. Alderman Sidney, at the Guildhall justice-room, at the instance of Mr. Edmund Woodthorpe, district surveyor of the northern division of the City of London, to answer complaint that they had executed certain works to the warehouses Nos. 66 and 67, Aldermanbury, and Nos. 4, 5, and 6, Love-lane, belonging to and in the occupation of Messrs. Baggallays, Westall, & Spence, warehousemen, in contravention of the provisions of the Metropolitan Building Act.

Mr. Woodthorpe conducted the case personally. Mr. Raymond, instructed by Mr. Albert Turner, appeared for the defendants. The facts are as follows: Messrs. Baggallays formerly occupied Nos. 4, 5, and 6, Love-lane only; these houses, though exceeding the prescribed limits for warehouse buildings, having been joined under a former Act of Parliament, and previous to Mr. Woodthorpe's appointment as district surveyor. About nine months since, Messrs. Baggallays purchased the adjoining property, Nos. 66 and 67, Aldermanbury, and entered upon the occupation thereof, but without forming a communication with their former premises. Nos. 66 & 67, Aldermanbury had been already joined, but the lower portion of No. 67 was in a different occupation, and had a separate entrance from the street, without being separated from the upper portion by party arches or fire-proof floor, as required by section 27, rules 2 and 3. On the 1st November, 1862, it was discovered that Messrs. Baggallays had had openings formed to connect the whole of the premises without carrying out the provisions of the Act in respect thereto, and hence these proceedings. The facts were admitted, as also that the buildings contained, together, 323,000 cubic feet.

It was argued by Mr. Raymond, the counsel for the defendants, that the several clauses relating to the uniting of buildings, alone referred to new buildings, the 7th section stating that whenever mention is made of any building, it shall, unless the contrary appears from the context, be deemed to imply a new building; and that there was nothing in the 27th and 28th sections to preclude this reading. Moreover, Messrs. Baggallays being the occupiers on both sides of the wall in question, and in which the openings were made, constituted that wall a cross wall within the meaning of the Act; and though it was originally built for a party wall, it being intended that the premises on either side should be occupied by different persons, as soon as the occupation became one, the wall practically and legally became a cross-wall, and so was without the jurisdiction of the Act of Parliament.

Mr. Alderman Sidney said that the question resolved itself into one of fact as to the nature of the wall in question; and having only heard evidence that the wall did not change its character on account of the single occupancy, made an order for the several works enumerated in the notice of irregularity to be carried out forthwith. Mr Raymond took exception to the admission of the evidence, and gave notice of appeal to one of the superior courts.

PATENTS CONNECTED WITH BUILDING.

APPARATUS FOR WARMING APARTMENTS.—*G. Blake.* Dated 13th May, 1862.—In order to present as large a heating surface to the air as possible it is proposed to apply a number of surface plates or partitions *inside* the stove, the air passing through the intervening spaces between such plates or partitions. These stoves may be made of metal, fire-brick, or other suitable material, and the surface plates or partitions may be arranged therein in various ways. The stove may be also so constructed as to derive its heat from steam or hot-water introduced into a space around its exterior.

HOLLOW GLASS WARE.—*A. V. Newton.* A communication. Dated 25th April, 1862.—The nature of the first part of the invention consists in producing a solid wall to a hollow glass lamp bowl, a tumbler, and to other similar pieces of hollow glass ware, with ornaments formed in or on the glass composing the wall at a point intermediate of or between the inner and outer plain surfaces of the wall, by a combination of a pressing and a blowing operation or process. The nature of the second part of the invention consists in the combination of the blowing and pressing processes for the production of glass-lamp pegs and other similar articles, with ornaments on their inner or outer surfaces in a more expeditious and cheap manner than is at present known in the art of glass manufacture. The nature of the third part of the invention consists in a method of producing pressed open-work figures, such as flowers, shelves, and leaves, net-work, and geometrical figures in coloured glass, and uniting the same to various descriptions of glass ware, so as to stand in bas relief. This manufacture combines the pressing and blowing processes, or requires but one or the other of them, according to the character of the article being made, or as the fancy of the operator may dictate.

IMPROVEMENTS IN DRAWING METALS AND IN THE MACHINERY OR APPARATUS EMPLOYED THEREIN.—*L. Christoph, W. Hawcksworth,* and *G. P. Harding.* Dated April 10th, 1862.—This relates to a peculiar system or mode of drawing metals, whether of a tubular, hollow, or solid section, and consists in the application to that purpose of hydrostatic pressure, in lieu of the ordinary mechanical power heretofore adopted. In carrying out this invention the patentees employ a hydrostatic cylinder and ram, the gripper bars being secured to the end of the ram, whilst the draw plates or "wordles" are fitted into a suitable support or flange cast on the cylinder.

IMPROVEMENTS IN THE MANUFACTURE OF PORTLAND CEMENT.—*J. Langston.* Dated April 9th, 1862.—Here the patentee employs, in grinding the materials, only so much water as will make a dough or paste, suitable for being at once dried without the separation of water by settling. The drying apparatus he employs consists of ovens heated by furnaces or fire-bars below, and the flues from these furnaces pass over the top of the ovens in the vaulting of the roof. Ovens so arranged will dry the materials more rapidly than the open floors, and with smaller expenditure of fuel. The passing the materials from the grinding apparatus to the drying ovens without the use of the settling ponds renders it necessary that no lumps should be allowed to escape the grinding apparatus; hence he employs, to effect or to complete the grinding rollers, set at a short distance the one from the other, and between which the materials are caused to pass; or a roller revolving at a short distance from a stationary surface may be employed.

IMPROVEMENTS IN ANGLE IRON APPLICABLE TO METALLIC BEDSTEADS, ROOFS, BRIDGES, AND OTHER SIMILAR PURPOSES.—*E. Peyton and W. F. Batho.* Dated April 14th, 1862.—Here the patentees roll or otherwise manufacture angle iron with corrugations, by which they give it additional strength or stiffness, and are thus enabled to use a lighter bulk of metal than at present, thus combining strength with lightness of material, and giving an improved appearance to the object constructed with it, such as metallic bedsteads, roofs, bridges, and similar constructions.

IMPROVEMENTS IN REVOLVING SHUTTERS AND IN MACHINERY FOR PRODUCING THE SAME.—*J. Bunnett.* Dated April 12, 1862.—These shutters are so constructed that they can also be used as venetian blinds. For this purpose such lath is mounted on a central axis, which moves up and down in the grinding shutter grooves. The upper edges of the laths are connected together by hinged flaps. A portion of the inner side of each shutter-pivot turns on pivots; and when it is desired to use the shutter as a venetian blind, this limb of the groove is turned a quarter round, when the laths are free to turn on their axis, and may be set at any required inclination. The winding pulley for raising and lowering the shutter is fitted with a friction wheel or break, which is brought into action on lowering the shutter, but runs free when the shutter is being wound up. In order to give the required curve to the edges of the shutter laths, a bending machine is used, by which both edges of the lath are simultaneously bent to the proper form by dies acted upon by cranks or eccentrics, actuated by steam or other power.

REVOLVING WINDOW SHUTTERS AND BLINDS.—*A. Clarke.*—These improvements in revolving shutters and blinds consist, first, in the application of flat, coiled, or volute steel tempered springs, combined with a barrel or case revolving upon an axis for the purpose of coiling or rolling up the shutters. The second part of the invention refers to mortising holes through the laths of revolving shutters, to receive tapes or steel strips for connecting them together. The third part relates to the manufacture of sash bars and mouldings and brass stall-board plates.

IMPROVEMENTS IN TUMBLER LOCKS.—*G. Hamilton.*—This invention has for its object the so constructing tumbler locks that the proper positions of the tumblers, for allowing the bolt to be shot, may not be detected by applying pressure

to the bolt in the well-known manner. For this purpose, the patentee mounts the tumblers on an eccentric, the pin of which is carried by the case of the lock. The tumblers are each capable of turning around the eccentric; and when the tumblers are correctly set by the key before the bolt is shut back, the eccentric will not be caused to turn on its pin; but when the bolt is pressed back, before the tumblers are correctly placed, the stump upon the bolt will press against the tumblers and cause them to recede; the eccentric, by turning on its pin, allowing them to do so. The turning of the eccentric on its pin he arranges to bring into action a catch or stop for the bolt to come against; and he also arranges the lock so that the bolt, when further pressed on, shall, by acting on the stop, cause the eccentric still further to turn on its pin, and so move back the tumblers away from the stump on the bolt, in order that the stump shall no longer press against them.

Books Received.

Galvanized Iron and its Application. By A. DEMARTEAU, Architect, and Inspector of the Building Department of the South Austrian Railway Company. 1862. Vienna: Rud. Lechner, Bookseller to the University. London: Trübner & Co.

GALVANIZED or zinced iron is making some progress in Austria, as is shown by M. Demarteau's account of it, chiefly as manufactured at the Galvanizing and Lead Works of Gumpoldskirchen.

On the subject of the introduction of corrugated galvanized sheet-iron into Austria, he says:—

"Although Mr. Moritz Löhr, at present counsellor in the ministry of public works, drew the public attention to the highly important employment of corrugated iron in civil engineering, at a meeting of the Polytechnic Society in Vienna, in the year 1849, on his return from England and America; still this material, corrugated iron, was not to be obtained in Austria; and Messrs Winiwarter's manufactory is up to this time the only one in Austria in which corrugated iron plates are produced. A principal object of the newly-established factory was, to convince the public of the value and durability of galvanized iron sheets; which was the more difficult, as even now, after a period of twelve years, it often occurs, that architects and civil engineers pay no attention to the important difference of the galvanized iron sheets, when compared with zinc sheets, and confound even the names of the two articles.

It seems also to escape notice but too frequently, that zinced sheets are very combustible, and often dangerous to the firemen, from falling sparks during a conflagration; while galvanized iron sheets are perfectly incombustible. Besides, zinced plates are liable to injury from other causes, on account of their softness; while galvanized plates, notwithstanding their lightness and thinness, offer much greater security.

The elongation of zinc in consequence of the increasing temperature must also be taken into consideration; and although wooden laths may be used with advantage, when roofs are covered with zinced sheets, still a similar expedient in the construction of zinc gutters is not possible.

It is well known that, while galvanized iron sheets at an increasing temperature of from 0—80 degrees Reaumure, expand only 1-800th part of the length, zinc sheets at the same temperature expand 1-322nd part of their length and breadth, an elongation which causes injury to the soldered parts of zinc gutters.

In order to prove that galvanized iron sheets are really durable and otherwise suitable material for building purposes, it was necessary to make different trials, and obtain testimonials as to the advantageous application of this article.

Messrs. Winiwarter's endeavours have at last succeeded so far, that the State building authorities in the Austrian provinces now order the application of galvanized iron sheets for the roofs of the larger public buildings.

In the metropolis itself they naturally had greater difficulties to contend with from the competition with other materials and the influence of the agents interested in them."

The treatise is illustrated by engravings, and betokens a thorough knowledge of the subject.

In contrasting tinned iron with the zinced iron, the author remarks that "the covering of tin is a mere mechanical plating on iron sheets and only affords a protection to the iron so long as it remains uninjured; but in the process of galvanisation the zinc unites thoroughly with the iron, and protects it even when the zinc covering becomes injured in any part."

On the application of galvanized corrugated iron plates to the construction of chimneys, he says:—

"Thin galvanized iron sheets have been recommended instead of the thick iron sheets, which are now in use, for the construction of chimneys, the building of which in brick would be attended with great difficulty and expense. Such galvanized chimneys have been made in the form of double tubes: the inner tube is cylindrical, and the outlet for the smoke, whilst the outer tube, made of corrugated iron sheets, is a little conical, and serves as a jacket, inclosing a stratum of air, at least 9 inches thick, which counteracts the considerable cooling observable in all other iron chimneys. Both tubes are firmly connected with one another, giving a stiffness to the chimney which enables it to withstand wind and weather. In Messrs. J. & G. Winiwarter's factory several chimneys of this description have been constructed, from 70 feet to 80 feet high, and an experience of from five to six years shows the best results."

The use of galvanized iron for partition-walls is thus explained:—

"In order to explain the new principle of constructing partition-walls, it must be stated that the galvanized iron is not used in the form of flat sheets, but that for this purpose elliptical pipes, 2½ inches in the oval, and 1 inch broad, are made from the iron sheets, and are then galvanized and put together to any required length, according to the size of the partition. Twisted straw dipped in clay is then bound firmly round the pipes, which are pressed one upon the other, up to the top of the partition-wall, in vertical iron grooves, as will be seen in the figure 22. The partition-wall then receives a coating of common clay on both sides, of a sufficient thickness to form a flat surface, and as soon as this covering is partly dry, it is covered with mortar, and finished off with stucco as in the ceilings of rooms."

Our experience of galvanized iron is as yet but recent, and not wholly satisfactory.

Outlines of Modern Farming. By R. SCOTT BURN, Architect. Vol. I.—Soils, Manures, and Crops. Illustrated. London: Virtue & Co. 1863.

THIS small volume belongs to the rudimentary series for students of agriculture in course of publication by Messrs. Virtue & Co. The author, Mr. Burn, as our readers are aware, has already written several works on agricultural subjects, and is an amateur cultivator of the soil himself. We have no doubt that, notwithstanding his former modest confession of unprofitable amateurship, of which we should be sorry to take advantage in the present instance, this little work will be found to be quite as reliable as such works generally are; although, as he himself remarks in his preface, "agriculture abounds with vexed questions, some of which appear to be as far from settlement as ever, after years of keen and vigorous discussion." Mr. Burn does not affect to settle such questions in this simply rudimentary treatise on soils, manures, and crops. As for the important question of the utilization of town sewage, he proposes hereafter to treat of that, as well as of cottages, and the labour and other questions, and says but little on these subjects in the treatise under notice. Of the little he does say on the town sewage question, we may quote from his present treatise the opinion of an authority as to the dreaded exhaustion of the soil:—

"Duly considering the facts that as much of our town sewage is used directly to the soil; and that as much of it owes its existence to the use of imported corn, which, as it never grew upon, cannot in any way be said to be exhaustive of our soil; and that, moreover, as there is a large field of fertilising substances in the waste products of our manufactures, of the sea, &c.,—Dr. Anderson comes to the conclusion that 'at the present moment we cannot anticipate the exhaustion of the soil;' and that at all events the fact, pregnant as it is with meaning, is patent enough that, 'so far as we at present see, the soil is not becoming exhausted.'"

Specimens of Early French Architecture, selected from the Churches of the Ile de France. By ROBERT J. JOHNSON, M.R.I.B.A. London: 18, Adam-street, Adelphi.

THE last published part of Mr. Johnson's work consists of eight large plates, and includes parts of Rouen Cathedral; Church of St. Leu d'Esserent (half the size would have sufficed for the capitals); Church at Limay (round arched); Notre Dame, Paris; Church of Villars St. Paul (Oise); and choir of St. Germain des Prés, Paris, the modern paintings on the walls being omitted.

VARIORUM.

"Excessive Infant-mortality: How can it be stayed? By M. A. Baines. London: Churchill." This pamphlet contains a paper contributed to the London meeting of the National Social Science Association; and also a short paper reprinted from the *Lancet*, on "Infant Alimentation, or artificial Feeding as a Substitute for Breast-milk, considered in its Physical and Social Aspects." The author agrees with the very general opinion of those who know anything on this latter subject, that "wet-nursing" and "dry-nursing," which so frequently go together, as in cases where a poor woman gives out her own child to dry-nurse while she wet-nurses the child of another woman, are both of them disastrous practices, in a sanitary as well as in a social point of view, and tend not a little to augment the dreadful lists of infant mortality from both extremes of the social scale. The enormous proportion of "still-born" infants he rightly regards as a most suspicious circumstance, and points attention to the remarkable fact that the infant mortality of England far exceeds anything of the kind in any other part of the civilized world. Even China, where infant murder can scarcely be said to be regarded as a crime, ought probably not to be excepted.——"Considerations on the Reform of the Patent Law. By M. A. Soul. London: printed by J. T. Pickburn, Myddelton House, Myddelton-street. 1863." This tract is a reprint from the *Clerkenwell News*, and its author was formerly conductor of the *Artizan*. We may quote his remarks on one important point connected with patents.

"I would now briefly allude to one point, and that is the injury which the public and inventors sustain by persons marking words upon articles, from which it would be supposed that they are the subject of letters patent, when in reality they have either not been thus protected, or the term of protection has expired. By this means a high price is maintained upon the improved contrivance, to the injury of the public; and inventors are oftimes deterred from introducing further improvements therein. It is not generally known that the Merchandise Marks Act of last session (25 and 26 Vict., cap. 88), provides a remedy for this state of things."

Miscellanea.

MOROCCO.—The Emperor of Morocco is having important works executed at Rabat. A new palace is being built, and an old mosque and the tomb of the Emperor, Sid Mohammed-ben-Abdallah, are being repaired. Round the new palace will be erected extensive barracks for the troops of the garrison, and houses for the principal members of the Government. Those works give reason to suppose that the Emperor intends to make Rabat a third imperial residence.

VIOLET DYE FOR WOOD. — A dyer at Lyons has discovered a method by which wood may be dyed violet. This colour is produced by two immersions — one in iodide of potassium, containing 80 grammes of that ingredient per quart; the other in bichloride of mercury, at the rate of 25 grammes the quart. The wood to be dyed is to be placed in the first bath, where it must remain for some hours. It is then to be immersed in the latter, where it will acquire a bright colour. The dyed wood should afterwards be varnished. The baths may be used several times for a similar purpose.

THE LIVERPOOL ACADEMY.—An announcement was recently made that the Liverpool Academy would not again hold an annual exhibition. The connoisseurs and patrons of the fine arts in Liverpool, however, have resolved not only to sustain the Academy intact, but to enable it to extend its usefulness. In a day or two after the announcement that the Academy was *in extremis*, says the local *Journal*, the sum of 500*l.* was subscribed by a few gentlemen to accomplish this end; and one patron of art placed his name on the list for 100*l.* The movement is still going on. The members of the Academy had determined that rather than incur engagements which might compromise them they would abandon for a time their usual exhibition. This indignity to art will now be spared. Before the competition commenced which has exhausted the Academy's balance at its bankers', it had a handsome surplus fund, which the competition has swept away.

THE BURNING OF THE PLYMOUTH THEATRE. A survey of the Plymouth Theatre, Assembly Rooms, and Royal Hotel, has been made by the town surveyor on behalf of the corporation. The damage caused by the fire is estimated at 5,500*l.* Though the entrance, ladies' dressing-room, refreshment-room, and other rooms immediately connected, are all gone, the interior of the theatre remains to a very large extent uninjured, according to the *Western News*. The preservation of the building is to be ascribed to the good genius of Foulston, the architect. He designed an iron roof, which the trial has proved to be capable of bidding defiance to the ravages of a conflagration. It is formed of hoop iron, arranged in a honeycomb form, and of surprising strength. Though the flames were on all sides it stood the test, and was mainly instrumental in stopping the flames from spreading over the other parts. The seats in the gallery were all destroyed, but here again the wrought-iron girders did good service. Mr. Elliott, builder, who had an intimate knowledge respecting the construction of the theatre, knowing these facts, directed the efforts of the enginemen in a manner which very materially helped to save the place from further destruction. The upper and lower boxes were not injured, and the seats which were removed from the latter are nearly as good as ever. Great efforts have been made, and the theatre, we believe, has been opened again.

TEWKESBURY TOWN SURVEYORSHIP. — At a meeting of the local Board of Health for the election of a town surveyor, in the place of Mr. T. Freeman, resigned, three candidates presented themselves; Messrs. G. Howell, T. P. Holder, and F. Thomas. Mr. Howell was elected.

REMOVAL OF NEW PALACE-YARD. — A large number of workmen have been set to work to pull down the two or three remaining houses which stand eastward of the King's Arms Hotel, in Palace-yard, in order to carry out, as far as possible, the new approach to the Houses of Parliament from the end of Westminster-bridge before the commencement of the session.

SANITARY CONDITION OF DUNDEE. — At a recent meeting of the local police commissioners, the reports by the sub-committee of the sanitary committee were read. They revealed a state of matters requiring instant attention throughout the whole town, such as the filthy condition of closes, pends, lanes, streets, and common stairs; the want of public halting-places and other conveniences; the foulness of drains, &c. After some discussion, in course of which it was admitted by various members of the commission that Dundee was one of the dirtiest towns in Scotland, though so situate as to be capable of being made one of the cleanest; the reports were referred back to the sanitary committee to carry out the recommendations as expeditiously as possible.

METROPOLITAN BENEFIT SOCIETIES' ASYLUM. The inmates of this institution in the Ball's Pond-road were recently regaled with the annual dinner there. Mr. Morrell presided, and the committee, wives, and friends attended, all heartily enjoying themselves and partaking of tea. The committee having arranged, with praiseworthy liberality, for a series of free lectures on Wednesday evenings in the chapel, the Rev. Mr. Pilkington, of St. Jude's Chelsea, gave the first on the 7th instant, with magic-lantern views, on Egypt and the Holy Land, to a crowded audience. The next lecture was by the Rev. Mr. Hunt, of Christ Church, Hoxton, upon Bernard Palissy, the Huguenot potter; and the third (on the 21st instant) will be on "An Excursion on the Continent," by the Rev. W. Holmes.

MANCHESTER SELF SUPPORTING COOKING DEPÔT. This institution, in Ancoats, is in the centre of a populous district inhabited almost entirely by the working class, and was opened on Saturday, the 3rd instant. The objects of the institution are stated on a board in the dining-hall to be "the supplying of well-cooked and wholesome food both to persons in the hall, and also at their own homes. The defective cooking in cottages and the absence of suitable places for men to dine in who are employed at a distance from their homes, have suggested this establishment." The arrangements comprise a dining-hall for men, and another for women; a counter at which food is sold for home consumption; store-rooms for materials, and modern and complete cooking apparatus. The prices and general plan are those of Mr. Corbett, of Glasgow, the tariff ranging from a penny to twopence. The Rev. Canon Richson, M.A., and others, have promoted this desirable aid to the operatives. Other institutions of a similar character are in beneficial operation in other parts of Manchester, established by Mr. John Pender, M.P.; by Mr. Birley; by Mrs. Eadson Wilkinson; by Mr. Clarke; and by Miss Hilton.

MONUMENTAL.—Mr. Marshall Wood has received a commission to execute a colossal marble bust of the Prince of Wales, to be placed in the Townhall, Manchester, and for which his Royal Highness has granted Mr. Wood the necessary sittings.——A statue to the late Lord Cockburn, the eminent Scotch barrister and judge, has just been placed in the Parliament House, Edinburgh. The statue, which is erected by subscription, is from the chisel of Mr. W. B. Brodie, R.S.A. It is a full-length figure, in the robe of Solicitor-General. The figure is placed a little to the right of Roubilliac's famous statue of Lord President Forbes. The old Parliament House of Scotland (which has been since the Union an adjunct to the law courts) has now a series of seven statues, those of Lord Jeffrey and Lord President Boyle, by Steell, being (excepting Cockburn) the latest additions.——Mr. Steell's model of the statue of Sir David Baxter, bart., which is to be erected in the Pavilion of the Baxter-park, at Dundee, although not quite completed, is sufficiently advanced to give an idea of the artistic design. Sir David is represented standing with a plan of the park in his hands, as if in the act of presenting it to the town. The costume is that of our own time, with just sufficient drapery to give the requisite strength.

HOTEL PROFITS.—It has been stated in more than one quarter that the Great Western Hotel, Paddington, will this year pay to the shareholders the enormous dividend of 45 per cent. If this be the case, it is quite time the prices were lowered there.

BAVARIAN PENCILS.—A letter from Nuremburg, in Bavaria, says:—"Our pencils have obtained the first prize at the Exhibition of London No branch of industry in our city has taken such an extension as this manufacture. We possess about twenty large factories, employing about 5,000 workmen, who produce annually 216 millions of pencils, representing a value of three millions of florins (6,400,000fr.)."—*Galignani.*

ACCIDENTS.—A house has fallen in at Beaumont-place, Euston-road. It had been in a dangerous state for some time. Several labourers were set to work to remove the *débris*, and it was discovered that fortunately no lives were lost. Orders were immediately given for an adjoining house to be pulled down, as it appeared in a very tottering state.——The remarkable escape of a workman is reported from Blackburn. He slipped from the roof of a house, where he had been at work, and fell a height of 22 feet. Fortunately, his foot caught a projection from the window and saved his fall, the worst consequences of it being a broken arm.

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.—The fifth session of this society was inaugurated last week with a *conversazione* at the rooms of the Arundel Society, in Old Bond-street. The attendance was numerous. In addition to the works of early Italian art, published by the Arundel Society, the walls displayed several of the works by water-colour painters produced in aid of the Lancashire Relief Fund, and of Bedford's photographs, taken during the Prince of Wales's tour in the East. The report of the council gave a satisfactory account of the condition of the society. The members now nearly numbered 350, and the financial statement showed a surplus to begin the year. The proceedings of the evening were enlivened by a miscellaneous musical performance.

KILKENNY ARCHÆOLOGICAL SOCIETY. — The annual meeting of this active and thriving Society was held on the 7th inst., the Very Rev. the Dean of Ossory, president of the Society, in the chair; when eight new members were elected; and the report of the committee for the past year was read by the Rev. James Graves, the honorary secretary and treasurer. The report noticed the fact, that from 1849 to 1862 inclusive, no fewer than 1,401 members had been elected. Of this number, however, 749 had "fallen away, having resigned, died, or become hopeless defaulters," and of the last and not quite reputable order of quasi members some complaint of "laziness" in meeting their very small archæological liabilities is made in the report. Various presentations were made at the meeting, and objects of interest reported on or described.

GLASGOW ARCHÆOLOGICAL SOCIETY.—The usual monthly meeting of this society was held on Monday, the 5th instant, Mr. Sheriff Strathern, V.P., presiding, when the following papers were read:—I. "Note on the Discovery of a Vitrified Fort at Portencross, Ayrshire," by Mr. William Keddie. II. "On Excavations among the Stone Circles on the Island of Arran," by Dr. Bryce. III. "Historical Notes on the Modes of Ancient Interment," by Dr. Scoular. Dr. Bryce exhibited a skull, an urn, and numerous flint arrow heads, found in the course of his excavations. His discoveries seemed to demonstrate that, whatever else these monuments may have been intended for, they were undoubtedly used as places of sepulture, the dispositions of the stones having always, apparently, reference to a cist in the centre of the circle.

ELECTRO-TELEGRAPHIC ORGANIZATION IN FRANCE FOR POLITICAL PURPOSES.—On the 14th ult. the first essays of the great system of telegraphic organization, conceived by M. de Vougy, director of telegraphs, were to be put in execution all over the French empire. Henceforward each sous-prefecture will deposit its despatches in the chief town of the department, or will correspond with any of the sous-prefectures through the medium of the prefecture. Thus it is arranged that each prefecture will be put in direct communication with the neighbouring prefectures and with Paris; or, where the telegraphic wires are extended to great distances, with the principal towns of France, and as far as the very frontiers. When the group will be completely terminated, each chief town of a canton will communicate with its chief town of arrondissement or chief town of prefecture by the intermediary of the sous-prefecture.

CHRISTCHURCH ARCHÆOLOGICAL SOCIETY.—The annual meeting of the Christchurch Association was held at the town-hall, on Wednesday, 7th. After electing several new members, the hon. secretary (the Rev. Mackenzie Walcott) read a paper on Romsey Abbey. A paper sent by Mr. B. Ferrey, architect, was also read to the meeting.

ARSENICAL PAPER-HANGINGS.—A Warrington correspondent, who signs his communication "S. Chandley," protests against the total disuse of arsenical green in paper-hangings. He admits that exceptional cases have occurred, as where children have torn off and eaten such papers; but doubts the truthfulness and discretion of sensational alarms as to alleged fatalities attendant on the mere sleeping or living in rooms containing such papers, which fatalities seem to him inconsistent with the fact that paperhangers engaged in putting them on, and rubbing them over all day long, do not appear to suffer from such floating atoms of arsenic in the atmosphere as are imagined and dreaded. For our own part, we so far agree with our correspondent in thinking that it is just possible the alarm has gone too far in regard to the evil effects of breathing an atmosphere where arsenical colours are present in a room; but that serious evils have been proved to have arisen from the use of such colours there can be no doubt. Our correspondent remarks, in conclusion, that it is only necessary to "avoid bright loose greens, as all others contain comparatively little arsenic, or none at all; and if they did, being satin or glazed, no arsenic could escape in sufficient quantities to injure the most sensitive or delicately constituted among us." A new colour as a substitute for arsenic was lately spoken of.

TENDERS.

For the erection of four Slaughter-houses, and one boiler-house, for the Ruath Local Board of Health, Cardiff. Mr. John Williams, Surveyor to the Board, Architect:—

Watkins	£325 0 0
Jefferies	318 0 0
Shepton	289 0 0
Evans	284 0 0
Harris	273 0 0
Davies	270 0 0
Facey	268 0 0
Moore	269 0 0
Stride	265 0 0
John	239 0 0
Purnell	237 0 0
Price (accepted)	235 0 0

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Barnes	1,284 0 0 ..	..
Beil	1,263 0 0 ..	..
Porter	1,261 0 0 ..	985 0 0
Hatlock	1,254 5 8 ..	757 0 0
Kent	1,253 0 0 ..	889 0 0
Bagland	1,250 0 0 ..	930 0 0
Bennett	1,225 16 4 ..	1 112 18 0
Rowe	1,169 0 0 ..	889 0 0
Johnson	1,146 11 4 ..	..
Harris	1,145 0 0 ..	848 0 0
Brock	1,116 4 9 ..	..
Potter	1,094 0 0 ..	837 0 0
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Moass & Son	7,200	.....	£100
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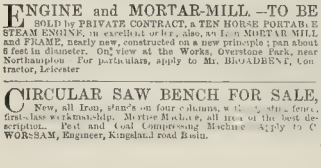
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EDWARD HARPER, Secretary.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—sent gratis by the General Patent Company, Limited, 71, Fleet street, London. ROBERT M. LATHAM, Secretary.

INVESTORS should consult PIKE'S BRITANNIA METAL MINES and PRICE CURRENT, which contains Latest Statistics of these Enterprises of the day, original Articles on each, extracts from the Press, and the most reliable mine for immediate investment. Sent free for 1 stamp.—Application to JOHN R. PIKE, 3, Finner's Court, Old Broad-street, London, E.C.

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PATENT INDURATING SOLUTIONS,
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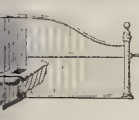
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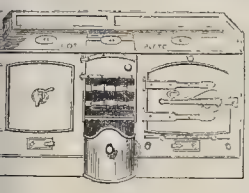
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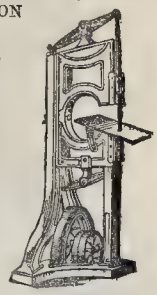
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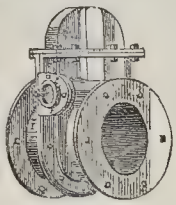
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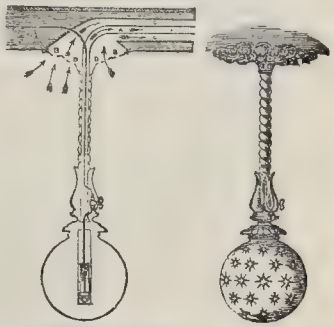
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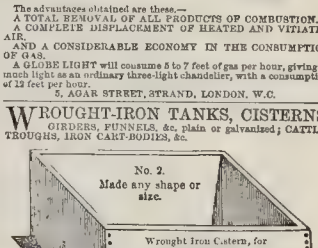
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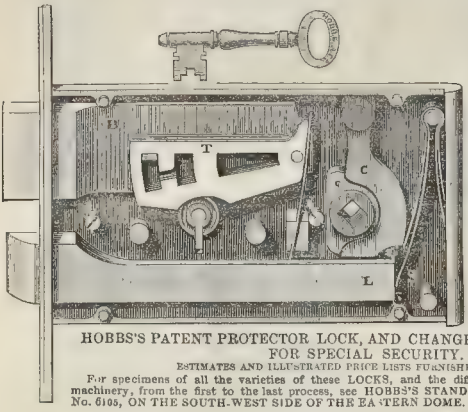
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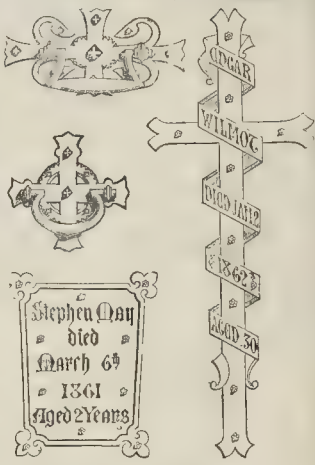
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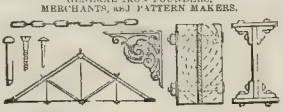
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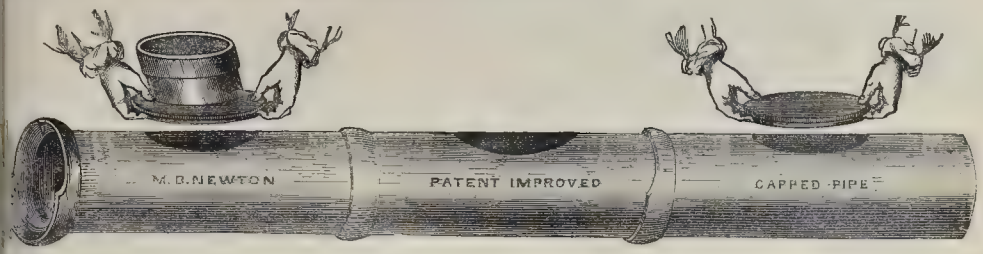
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N.B.—The usual discount to builders and the trade.

SASH WEIGHTS, 5s. per cwt. at Ashton Wharf, Blackwall, and at Hope Wharf, near the Church, Rotherhithe.



The ABOVE INVENTION WILL RECOMMEND ITSELF to Architects, Engineers, and others interested in Drainage, for its SIMPLICITY construction; there being NO COMPLICATION OF PARTS.
The "Manhole" is sufficiently large to admit of the DRAIN being THOROUGHLY CLEANSED WITHOUT A SINGLE PIPE BEING MOVED.
It DOES NOT at all INTERFERE WITH THE FLOW OF WATER in the Drain.
It IN NOWISE WEAKENS THE PIPE; and
It ADMITS of the ready INSERTION OF A JUNCTION by removing the "Manhole" cover, and replacing it with a loose Junction Arm.

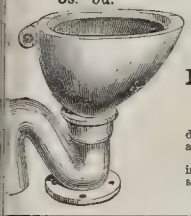
Manufactured solely by

JOSEPH CLIFF & SON, WORTLEY, near LEEDS;

For MARCUS BOURNE NEWTON,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, LONDON, N.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

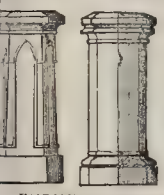
JAMES STIFF & SONS,

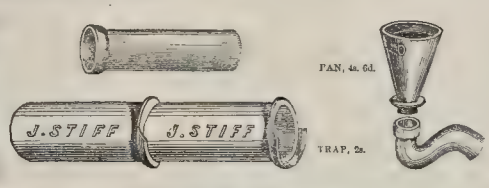
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manhole Covers and

CLOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation Sewers and Drains.

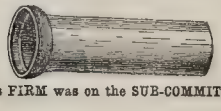
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

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GLASS LINED AND SALT-GLAZED SANITARY GOODS.

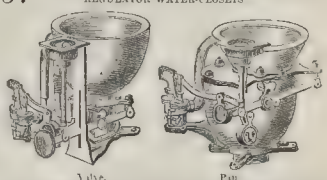


FLUSHING CLOSETS, URINALS, CHIMNEY-FLUES, &c.

N.B.—No MEMBER of this FIRM was on the SUB-COMMITTEE of CLASS 10 or 35.

J. TYLOR & SONS' PATENT

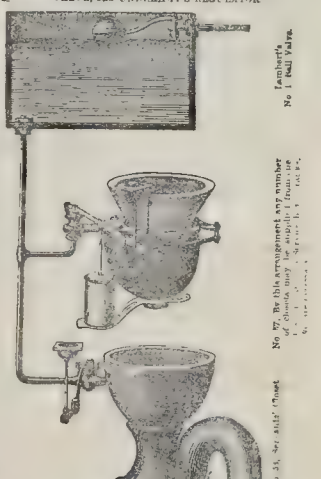
REGULATOR WATER-CLOSETS



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the jet of water, perfect flushing is insured. Any number can be worked by one cistern. No cistern valves, cocks, or waste pipes are used. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues and all particulars to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate street, London.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR



T. LAMBERT & SON,

FOUNDERS, HYDRAULIC AND GAS ENGINEERS,

SHORT STREET, LAMBETH.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 8s. each; with leading pulley, from 9s. 6d. These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

FLOORING! DEALS! MAHOGANY!

100,000 Dry Prepared Flooring Boards ..... } from 11s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
8,000 Yellow Deals ..... from 3s. 3d. each
15,000 Spruce ditto ..... from 2s. 9d. each

50,000 feet Spanish and Honduras Veneers.... } from 1d. per foot
5,000 Yellow Battens..... £11 10s. per 120
2,000 Spruce ditto ..... £9 per 120
Scaffold Poles ..... 1½d. per foot, or 1½d. per foot

FIR TIMBER 55s. PER LOAD.

SAMUEL PUTNEY,

ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

JOINERY OF EVERY DESCRIPTION.

STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

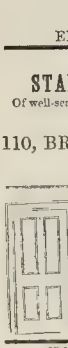
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

J. MILLS,

110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET

(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first class goods at the lowest possible scale of prices—for cash

Sash and Frames, Living Shutters, Doors, Staircases, Hand rails, and Water closet Fittings, well-seasoned Flooring, Mouldings, Skirtings, and Moulding to any pattern, Shop Fronts, Shop and Office Fittings, Architrave Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



BUILDERS, AND CARPENTERS, AND OTHERS,

Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE-FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square. Laths, 28s. per Load.

Yellow Deals, sound and good	£19	10	0 per 120, or 6s. 3½d. per foot.		
Spruce Deals	16	10	0 „	0	2½ „
Yellow Battens, excellent quality	11	10	0 „	0	2 „
Fine Planks, dry, 12 feet 3 inches by 11 feet	21	0	0 „	3	6 each.

Seasoned Mahogany, Plank and Board, 5d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 6d.	13s. 6d. per square.
¾-inch „	12s. 6d.	12s. 6d.	13s. 6d. „
1-inch „	14s. 6d.	15s 6d.	15s 6d. „
1¼-inch „	0s 0d.	18s. 0d.	19s. 0d. „
Yellow Deals, 3 by 9	£19 10 per 120.	Pine Planks (dry), 3 by 11	£24 0 per 120.
Yellow Battens	11 10 „	Pine Deals, ditto, 3 by 9	19 10 „
Spruce Deals	16 10 „	¾-inch White Matched Lining	0 13 per square.

J. TERRY & SON, 109, Borough-road, S.E.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of Stamp.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S INN LANE, W.C.

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CLERIHEW & LASCELLES

(LATE WATERLOO, DRAPER, & WEBB),

MANUFACTURING JOINERS,

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THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

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Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.

SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

KING & DUNGEY,

GREAT SAFFRON-HILL, HOLBORN,

OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 9d. per square.
⅞ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	15s 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square. 144 Feet run, 9 inches to the square.

MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

JOINERY WORKS,

21, HARRINGTON STREET, HAMPSTEAD-ROAD, N.W.

NEVIL SIMMONDS,

SHOP FRONTS, SASHES, DOORS, &c.

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GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 9x 7 Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1 inch Yellow, from 13s. 3d.; 1 White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

SEASONED WAINSCOT OAK,

30,000 feet in Plank and Board, sawn three years.

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JOSEPH & ALFRED ROSLING beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.

Southwark-bridge Wharf, Bankside, S.E.

JOINERS' WORK in all its branches EXECUTED with despatch, and cheaper than any house in London

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N.B. Price List on application.

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MESSRS. THORN & CO.

CONTRACT to MANUFACTURE and LAY WOOD PAVING, of every description. It is particularly adapted for RAILWAY STATIONS, ENGINES, SHOPS, IRON BRIDGES, &c.

THORN & CO. STEAM SAW-MILLS, CHELSEA WHARF, CHELSEA, and GROSVENOR ROAD, PIMLICO.

Asphalte for Railway Arches and Iron Bridges.

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The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS, IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNERS.

The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

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BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.

Price, including royalty and three dies, &c.

Licences to Manufacture granted for certain districts.

For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen street, London, E.C.

The Machines may be seen at work at Southborough (about one mile from the Station), Kingston-on-Thames.

A NEW BRICK and LIME WHARF and DRAWDOCK.

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the

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For the Sale of Building Goods generally.

BRICKS, TILES, SLATES,
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SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
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MALM CUTTERS, PICKINGS, &c

A good Stock on the Wharf. Bricks, Sand, Ballast, &c by barge alongside, where required.

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J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
„ 8-inch Pavings, at 30s 6d per 1,000.
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Mingled Kiln Bricks, at 30s. per 1,000.
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Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. About 20,000 Bricks lying at Devonshire street Station, at 24s per 1,000.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,

Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 „
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Gentlemen's Gold Compensation Balance Watches	40 „
Do. Silver do. do.	25 „
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Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BRENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

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JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
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PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in Fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble. — Manufacturers, FRANCIS, BROTHERS, & FOTT, Nine Elms, London.

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NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable. — Orders received at Great Scotland yard, Whitehall, and at the Works.

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GREAVES & KIRSHAW,
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PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
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THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, railroad, or cart, and to every part of the Kingdom by canal or rail.

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COAL, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, PIPE CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c
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FOOT OF BATTERSEA BRIDGE, CHELSEA.

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(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

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Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

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GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
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CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, and BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

J. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:
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KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
WOODS WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
MERKLIN-HILL, LIMEHOUSE, E.
Where can be obtained, of the best quality :—
GREY STONE CHALK LIME and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also ROSHER'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
ROMSLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and ANGLES.
STOCK and PALE MALM CUTTERS, FACINGS, PACIORS, COMMONS, BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
WELSH, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH ANGLES, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, SLABS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS &c.
RED DRAIN-PIPES, TILES, and CHIMNEY POTS.
TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, CORNICES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
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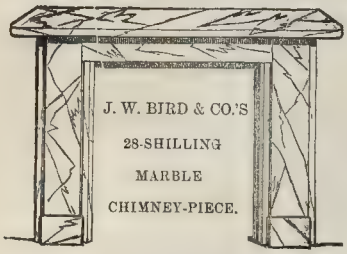
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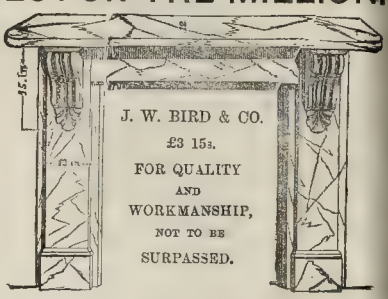
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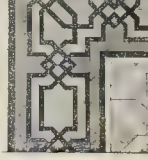
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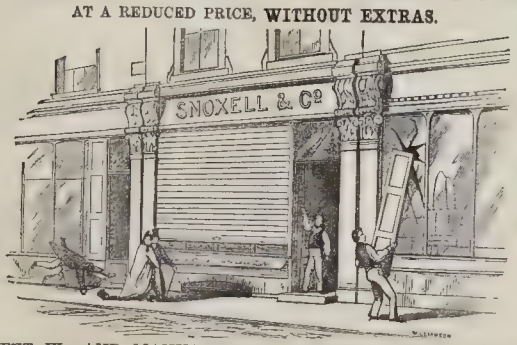
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No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.

SALES BY AUCTION.

In re the Patent Bituminized Pipe Company (Limited).—Costly Plant, Machinery, and Stock in Trade, Old Ford.

MESSRS. FULLER & HORSEY are instructed by the Official Liquidator to SELL by AUCTION, on THURSDAY, JANUARY 22nd, and following day at EIGHT o'clock each day, in all, without reserve upon the PREMISES, Old FORD, Bow (unless an acceptable offer for the whole be previously made by private contract), the costly PLANT and MACHINERY used for the manufacture of patent bituminized pipes, fitted with the Bateman's apparatus, principally by Horn, of Whitechapel, including four patchways, one double and three single, for making pipes up to 2 inches up to 2 feet 6 inches diameter, 220 turned iron pipe mandrils, 6 wrought-iron jib cranes, 2 crabs, 2 wrought-iron bituminating open steel troughs in brickwork, 3 capital 14-inch pressing screw engines, of 16-inch power, wrought-iron Cornish steam boiler, 27 feet turned, bright, wrought-iron shafting, 50 riggers, 1,000 feet leather belting, 3 flanch pieces and 1 cast-iron pipe, 2 pumps, cisterns, portable crane on wheels, a capital fire-engine and 1 hose by "Amor," racks, drying stove, smiths' tools, stores of various descriptions, bar, rod, and hoop iron, nails, rope, twine, galvanized iron roofing, hinges, 3 cwt. soda, fire, limestone, block lead, 6 tons powdered glass, cast-iron couplings, 8 tons brown paper, 10,000 inch patent bituminized pipes, from 2 to 15 inches diameter, 1,300 sc. weighing machines, scales and weights, trucks, and numerous other effects.—To be viewed two days prior to the sale, when detailed catalogues may be had on the Premises, of R. W. EDWARDS, Esq. 22, Basinghall street, E.C.; of Messrs. LAWRANCE, PLEWS, & BOYER, Solicitors, 14, Old Jewry Chambers, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

In re the Patent Bituminized Pipe Company (Limited).—Spacious Leasehold Manufactory, Warehouse, and Wharf.

MESSRS. FULLER & HORSEY are instructed by the Official Liquidator to SELL by AUCTION, on THURSDAY, JANUARY 22nd, at ELEVEN, on the PREMISES (unless an acceptable offer previously made by private contract), the eligible MANUFACTURING PREMISES occupied as the works of the Company, at Old Ford, Bow, within a short distance of the Bow station of the North London Railway. The site is rather more than two acres, and there is a frontage of 500 feet next the Lea Cut; also a gateway entrance from a private road leading from Stratford-le-Bow. The buildings have been recently erected within the last few years, and are very substantial: they comprise a range of large and lofty ground floor manufactories, measuring about 100 feet by 32 feet, 80 feet by 60 feet, and 45 feet by 36 feet; steam-engine house and boiler house, with two lofty chimney shafts, detached brick building used as a laboratory, smiths' shop, warehouse, stores, and clerks' office, forewoman's cottage, and large yards: held on lease for an unexpired term of 19 years, at the very low rent of 100l. per annum.—To be viewed till the sale. Printed particulars may shortly be had of the Premises; of R. W. EDWARDS, Esq. 22, Basinghall-street, E.C.; of Messrs LAWRANCE, PLEWS, & BOYER, Solicitors, 14, Old Jewry-chambers, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

In re the Patent Bituminized Pipe Company (Limited).—The valuable Patents.

MESSRS. FULLER & HORSEY are instructed by the official liquidator to SELL by AUCTION, on THURSDAY JANUARY 22nd, 1863, at ELEVEN o'clock, on the PREMISES, Old Ford, Bow, (unless an acceptable offer be previously made by private contract), the valuable PATENTS for Great Britain and Ireland, the Channel Islands, and the Isle of Man, also for France, Belgium, and the Colony of Cape of Good Hope, granted to Mr. Charles Newbold for IMPROVEMENTS in MACHINERY or APPARATUS for and the Method of Manufacturing Vessels, Tubes, Pipes, Vases, and other articles in Bituminized Paper or Textile Materials used for manufacturing paper, &c. Specifical ons of the Patents may be seen on application to Messrs. LAWRANCE, PLEWS, & BOYER, Solicitors, 14, Old Jewry Chambers, E.C. of whom also printed particulars may be had. Particulars may also be had of R. W. EDWARDS, Esq. 22, Basinghall-street, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

150 Tons Best Scrap, Rod, and Bar Iron.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, FEBRUARY 11, 1863, at ELEVEN for TWELVE o'clock, at the SWALWELL IRON WORKS, near Newcastle-upon-Tyne, in Lots, 150 Tons BEST SCRAP, ROD, and BAR IRON, assorted sizes, manufactured by Crosley, Mellington, & Co now lying at the Swalwell Works. To be viewed at the Works on the morning of the Sale. Cards to be had and Steamers at the Station Hotel Newcastle, or at the "Millfield Counties Herald" Office, Bramham; of Messrs. VANDERCOM, CREE, & LAW, Solicitors, Bush lane, London, E.C.; of Messrs. CHARLES CLAW & ROBB, Accountants, No. 13, Basinghall-street, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter street, London, E.C. Approved bills at three months' date will be taken from purchasers to the extent of 50l. and upwards. There is every facility for removing the iron by water carriage.

INTERNATIONAL EXHIBITION, 1862.—The Materials of the Annexe—the Sawing, Raising, Planing, and Dressing Machines used for showing the Machinery in motion, and supplied to Plant

MESSRS. FULLER & HORSEY are instructed by Messrs. Kelk & Lucas to SELL by AUCTION, on TUESDAY, FEBRUARY 24th, 1863, and following days at ELEVEN each day, at the Building, at the upper end of MAIDENHEAD THICKETS, the ANNEXES, the shafting, plummer, and steam-pipes used for showing the machinery in the Western Annex of the International Exhibition Building, and the surplus plant: 350 laminated trusses for carrying the roofs, each 40 ft. span, 50 ft. high; 1,600 squares 1-in. roofing boards, 1,500 squares tongued and grooved flooring, 600 squares 1 in. and 1¼-in. flooring-boards, 150,000 ft. run joists, 8 in. by 2 in.; 35,000 ft. run plates, 9 in. by 3 in.; 100,000 ft. run quartering, 6 in. by 5 in. and 4 in. by 3 in.; 2,000 squares 1-in. dressed match boarding, 400 squares rough ditto; 1,000 ft. glazed enclosure, 20 feet Dantz timber trusses, 12 in. by 6 in.; 2,000 yards contractors' railing, 7,000 ft. of sleepers, 12 in. by 4 in.; 20 strong-framed trollies, 230 fluted cast-iron columns, 10 ft. 6 in. high, with turned bright caps, iron bases, and base plates, with holding-down bolts; 3,000 feet bright turned wrought-iron shafting 2½ to 3¼ in. with couplings and self-bracket pedestals; 30 turned riggers, 3 ft. to 4 ft. diameter; 9 pair mortice mitre-wheel, 300 turned bright and fluted cast-iron pulleys, from 2 in. to 18 in. diameter, with expansion joints, valves, &c.; 13 derrick cranes, from 1 ton to 6 tons, by Bowser, Cameron, & Co.; erection of iron boilers and engines, with corrugated iron and brick chimney-shaft; 100 rods new brickwork; erection of gantry, 65 ft. long, with two travellers, 5 tons and 10 tons, 20 ft. span; erection of water-closets and urinals; 800 double and single doors, with iron standards; and numerous other effects.—To be viewed on Saturday and Monday previous to the sale, from NINE to FOUR o'clock each day, at all of which catalogues may be had; persons not admitted, may be had at the building, or previously of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

N.B. Approved bills at three months' date will be taken from purchasers to the extent of 50l. and upwards.

TO SCULPTORS, MASONS, and OTHERS.—Carrara Wharf, Thames Bank, Pimlico.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Lake & Smith, Bicheno to SELL by AUCTION, on the PREMISES, on WEDNESDAY, JANUARY 21st, at ELEVEN for TWELVE precisely, a large quantity of MARBLE in blocks: comprising fine statuary, veined and Sicilian, black and gold, Pyrenean, chimney-piece, Genoa cream, Bardiglio, and other slabs, several thousand feet of slabs of rein, Sicilian, statuary, and coloured marbles; also a selection of garden figures, vases, baths, mortars, and alabaster ornaments.—May be viewed two days prior and catalogues had at the place of sale; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, S.W. and 81, Fore-street, City, E.C.

OLD SHADES PIER, LONDON BRIDGE.—The dummies, bridges, &c.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Thornton and others to SELL by AUCTION, on the PREMISES, on FRIDAY, JANUARY 23 at TWO for THREE precisely, the STEAM BOAT PIER; consisting of three dummies, a barge covered with stout platform, two bridges 40 feet long, a new bridge 30 feet long, two shorter ditto, three brows, iron pump, a large clock with two dial plates, bell, mooring, and other chains, standards, &c.—May be viewed and catalogues had at the pier, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City, E.C.

IN BANKRUPTCY.—NOTTING HILL (for ABSOLUTE SALE).—To BUILDERS, CAPITALISTS, and others.—EIGHT substantial brick built CARCASSES, estimated to produce, when completed, 1,200l. per annum; also BUILDING GROUND (adjoining) eligibly situate for the erection of two RESIDENCES.

MR. W. B. BAKER is instructed by the Assignee to SELL by AUCTION, at the MART, opposite the Bank of England, on TUESDAY NEXT, JANUARY 20th, 1863, in Six Lots, EIGHT valuable CARCASSES, in different stages of completion, and affording a first-rate opportunity for Builders and others. The property is well situate, fronting a clear site, and has the right of early extensive pleasure grounds in the rear, and from the contiguity of the site in the Metropolitan and City Junction Railway cannot fail to command first-class tenants at remunerative rentals; and when completed is estimated to produce 1,200l. per annum. Also BUILDING GROUND adjoining, admirably adapted for Hotel, Club, or Two Residences. May be viewed, and particulars with conditions of sale obtained of Messrs. LAWRENCE, PLEWS, & BOYER, Solicitors, 14, Old Jewry-chambers, E.C.; of THOMAS POCOCK, Esq. Solicitor, 58, Bartholomew-close, E.C.; of ALEXANDER REMSLEY, Esq., Solicitor, 7, All-ay-court-yard, Poultry, W.; at the Mart; and at the Auctioneer's Offices, 9, Queen's terrace, Queen's road, Bayswater, W.

IN BANKRUPTCY.—By order of the Assignees.—Bayswater.—A most valuable LEASEHOLD ESTATE, eligible alike for investment or occupation, held direct from the Free holder, at moderate ground rents, and of a rising, growing, and very valuable character.

MR. W. B. BAKER, will SELL by AUCTION, at the MART opposite the Bank of England, on TUESDAY NEXT, JANUARY 20th, 1863 at TWELVE for ONE precisely, in six lots, two desirable brick-built FAMILY RESIDENCES, Nos 1 & 2, Colville-square, near All Saints' Church, Westbourne-grove West, Bayswater, of the value of 240l. per annum, and Nos. 4, 5, 6, 7, and 8, Colville-square, adjoining, requiring a small outlay to complete same, and of equal value to Nos. 1 & 2. The property is situate in the best and rapidly improving locality, a short distance from the Freeholder for 78 years, at a moderate ground rent, and when completed will be a sound 900l. per annum. May be viewed by cards to be obtained of the Auctioneer, and particulars with conditions of sale had of Messrs. LAURANCE, PLEWS, & BOYER, Solicitors, 14, Old Jewry Chambers, E.C.; of Messrs. VALLENCE & VALLENCE, Solicitors, 20, Essex-street, Strand, W.C.; Messrs. COMBE & WAINWRIGHT, Solicitors, Staple Inn, Holborn, W.C.; Messrs. SMITH & WALL, Solicitors, 5, New Inn, Strand, W.C.; at the Mart; and at the Auctioneer's Offices, 9, Queen's terrace, Queen's road, Bayswater, W

To Timber Merchants, Coach builders, Wheelwrights, Builders, and Others.—Adjoining the Railway-arches of the South-Western Railway, Lambeth road, the Premises being required.

MESSRS. F. HALL & SON will SELL by AUCTION, on MONDAY, JANUARY 19th, 1863, at TWELVE, on the PREMISES, near the East Lambeth-road, and close to the new Lambeth Bridge, the entire STOCK of a TIMBER MERCHANT: comprising about 8 loads of clean sab planks, from 1¼ inch to 4 inch, 6 loads of capital sound oak planks, 5 loads of Spanish and Honduras mahogany planks and beads, 4 loads of deal spruce planks, 1,000 feet of linetree planks, 15 ash cart-beds, 2 large flat butchers' blocks, 300 yellow deals, 500 dry white ditto, cut and uncut, 5,000 feet of long yellow pine boards, also 1 log of mahogany, and other useful effects.—May be viewed, and catalogues had on the Premises; at the Sir Sidney Smith, Chester street, Kennington; and of the Auctioneers, 1, Thurlow-terrace, Wandsworth-road, S

TEDDINGTON, Middlesex.—TO BE LET or SOLD, the Remaining Portion of a BUILDING ESTATE in this favourite locality, with frontages on main roads overlooking Bushy Park, five minutes' walk from the Station on the new Kingsbury from Waterloo. 13 Kingsbuilt villas have been let up this spring, and will in half an hour of the City and Claimcross. The land stands high and dry, possesses a good gravelly soil, is beautifully timbered, and has the rare facility of Two Canal and Hampton Court, Richmond, and the Thames, so all that can be desired for the erection of first-class residences, which are in great demand. Advances made to responsible builders, or two thirds of the purchase money of freehold may remain on mortgage at 4½ per cent. A plan of the estate may be seen and further particulars obtained at the Office of the Architects, Messrs. LAWS & DENNISON, 12, Doughty-street, Mecklenburgh square.

FREEHOLD BUILDING GROUND, City of London.—The Commissioners of Sewers of the City of London will meet in the GUILDHALL of the said city on TUESDAY, the 3rd of MARCH next, at TWELVE o'clock at noon precisely, to receive PROPOSALS for TAKING, under a Lease for Ninety Years, certain PLOTS of FREEHOLD GROUND situate in Angel-alley, Bishopsgate. Further particulars, with plans and printed forms of proposal, may be had at the Office of the Solicitor to the City, of the ground may also be seen. The Commissioners do not bind themselves to accept any proposal unless deemed satisfactory. Persons making proposals must attend personally, or by a duly authorised agent, on the above-named day; and the parties whose offers are accepted will be required to execute an agreement and bond at the time. No Tender will be received after TWELVE o'clock on the said day of treaty. JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, 12th January, 1863.

LAND.—WANTED TO PURCHASE, about FORTY ACRES of LAND, on a gravelly soil, within 3 miles of London. Must be sheltered from the north-east.—Particulars to be addressed to Messrs. EDWIN FOX & BOUSFIELD, Surveyors, &c. 41, Coleman-street, City.

BUILDING LAND TO BE LET in the best part of Hornsey, where good houses are in great request. The situation is high ground, and the soil a principal road. Good drainage and water supply. Parties requiring houses for occupation can have them built to order. Liberal advances will be made to builders. For further particulars, apply to Mr. W. JENNINGS, Surveyor, 60, Cornhill, E.C.

MANUFACTURING PREMISES, convenients situated, close to the City road and the Regent's Canal.—TO BE LET, for long, very desirable PREMISES, possessing a valuable double frontage, and comprising three floors and a half high, with suitable offices, smithy, smelting house, and yard.—For particulars, apply to Mr. THOMAS BULL, Auctioneer and Estate Agent, 86, Cornhill, E.C

WOODFORD RAILWAY.—The GROVE, WANSTEAD. Portions of this beautiful Estate are NOW TO BE LET for Building purposes and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 2 yards only from the Estate, and the City is reached in twenty minutes. The Lessee will not be required to contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Hampton; some very eligible SITES in the Grove road, Holloway, while only a few of which are adapted for shops, and large and very CHEAP PLOTS TO LET, at Ealing.—Apply to Mr. KNIGHTLEY, Architect, 2, Caton-street

PHILBROKE ESTATE, at Leytonstone, on the Woodford and Loughton Railway, twenty minutes from Bishopsgate Station. Eleven acres of the above ESTATE (land tax redeemed), surrounding the Seat of, healthy locality, gravelly soil, excellent drainage, water and gas laid on, and numerous roads, including the entrance, are in lots of 100 feet by 150 feet, suitable for building detached and semi-detached villas. Prepared plans and leases have been made for houses in the neighbourhood. For terms, apply to Mr. ASHBY, at the Surveyor's Office, Philbroke Estate, Leytonstone, Essex.

BRICKFIELD, SURREY.—TO BE LET, with immediate possession, within one mile of Witley Station, on the direct London and Portsmouth line, a well-adapted YARD, with suitable kiln and Tile sheds erected thereon. Large quantities of clay and sand surround them of excellent quality for the manufacture of bricks, tiles, pipes, and pottery-ware. There is chalk in the neighbourhood for lime, with an opening for a first-rate trade. A large Government Asylum is to be built shortly close to the yard.—For particulars apply to Mr. S. G. BERRY, Town's Court, near Godalming.

BUILDING LAND TO BE LET.—HACKNEY, close to the Railway Station, for fourth class Dwelling Houses

NORWOOD, on Weston Hill, for Shops and Dwelling-houses.

PERRY HILL, Sydenham, for Shops.

Advances in each case if required.

Apply to Mr. F. K. GREEN, 23, College-hill, Cannon-street, E.C.

BUILDING LAND.—TO BE LET, most eligibly situate in the very heart of a densely populated neighborhood close to Shoreditch. Church, suitable for the erection of small self-contained houses, which are much wanted in that locality, for a capital ground rent and an investment. There are some sites on the Estate in immediately favourable positions for Shops. Advances made if required. For further particulars, apply to Mr. CLARKSON, Surveyor, 9a, Great-Saint Helen's, City.

DALSTON, Eleanor Road North, Richmond Road.—BUILDING LAND TO LET in this favourite neighbourhood for Seven Roomed Houses. Advances made if required. For further particulars, apply to Mr. CLARKSON, Surveyor, 9a, Great Saint Helen's, City.

WANTED, on Lease or to Purchase, BUSINESS PREMISES in the vicinity of London, with a good Dwelling House and Foreman's Cottage; must be near a railway station or navigable river; a good supply of water from a stream or well, which runs across, if not fordable, for purposes, are indispensable.—Forward particulars and terms to F. BAXTER, Accountant, &c. 2, Guildhall-chambers, Basinghall-street, E.C.

FREEHOLD SITES for BUILDING, and FREEHOLD HOUSES, can be obtained in the best part of Prince Albert's-road, near Kensington Gore, in front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's-road, W.

TO SPECULATIVE BUILDERS and OTHERS.—TO BE LET, on Lease, or the FREEHOLD TO BE SOLD, several eligible Pieces of LAND, situate at Weybridge, and near Forest Hill, on which advances can be made.—Apply to Messrs. HARE & WHITEHEAD, 3, Mincing-court, Fleet-street, E.C.; or to Mr. F. TODD, 50, Norland-square, W.

PLUMBERS, PAINTERS, and GENERAL CONTRACTORS.—An OFFER presents itself to a Person of Small Capital (with good security), in a very Old-established BUSINESS, a few miles from London. A most ADVANTAGEOUS OFFER would be entered into with a respectable person who can command 2 or 3 hundred.—Apply to Mr. HISCOCK, Messrs. Franks, Lead Merchants, Borough, Southwark.

TO PLUMBERS, PAINTERS, and DECORATORS.—WANTED, to take a bona fide BUSINESS in the above line. Price must be moderate. Locality unimportant.—Address, A. B. C. Mr. J. King's, Wisbeach-road, King's Lynn.

TO PAINTERS, DECORATORS, and DECORATIVE ARTISTS.—The Proprietors of a FIRST-CLASS BUSINESS in one of the largest towns of the Midland Districts being desirous of retiring, are willing to treat for its DISPOSAL. Arrangements could be made for a Share only, if desired.—Apply, for further particulars, to D. J. BROWN, Surveyor, No. 27, Great George street, Westminster.

TO PLUMBERS, CARPENTERS, and BUILDERS.—TO BE DISPOSED OF, a good West-end BUSINESS as above, doing between two and three thousand a year for the last seven years. The Stock and Fixtures will be valued with, and fixtures, 300l. The stock, about 300l. taken at a valuation. No person treated with but of the highest respectability. No agents need apply.—For cases, Mr. H. CONOLLY, Lead Merchant, No 7, Hampstead road, N.W.

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One of the greatest improvements of the age is KERSHAW'S PAINT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

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PRIZE MEDAL, 1862.

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Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' and Graiuers' Tools

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.

Linseed Oil, 3s. 6d. per Gallon; Boiled Oil, 3s. 10d. per Gallon.

Prepared Linseed Oil, 4s. per Gallon.

Fine Pale Oak Varnish, 7s. per gallon; Fine Pale Oak Varnish, 7s. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 133 and 134, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices

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The Builder.

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THE SCHOOL WILL OPEN IN THE FIRST WEEK IN FEBRUARY, 1863.

BY ORDER of the TRUSTEES of the SOANE MUSEUM.—The Museum, 13, Lincoln's-inn-fields, will be OPEN this Season AS USUAL, on the TUESDAY in each week from the end of FEBRUARY to the 25th of AUGUST, and on THURSDAYS and FRIDAYS in APRIL, MAY, and JUNE. Cards of admission to be obtained at the Museum, or from the Trustees.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street.—Drawings, Models, and Specimens of Building Manufactures, &c. must be delivered early in MARCH. Further particulars will be shortly announced.

JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, F.R.I.B.A. }

GALLERIES of the ARCHITECTURAL UNION COMPANY (Limited), 9, Conduit-street, Regent-street, NOW OPEN, FREE, from ELEVEN till FOUR, daily. The Autumn Exhibition of Building Materials, Patents, and Inventions will CLOSE, FEBRUARY 28, and must then be cleared for the Architectural Exhibition. JAMES EDMESTON, Hon. Sec.

BUILDERS' BALL

THE ANNUAL BALL, in AID of the FUNDS of the BUILDERS' BENEVOLENT INSTITUTION, under the especial Patronage of the Right Hon. the LORD MAYOR, M.P.; the LADY MAYORESS, the SHERIFFS of LONDON and MIDDLESEX, and the President of the Institution, HENRY LEE, Esq. will be held at Willis's Rooms, St. James's, on THURSDAY, 12th FEBRUARY.

COMMITTEE OF MANAGEMENT.

Mr. T. Cozens.	Mr. J. Morris.
Mr. J. Chapman.	Mr. D. Nicholson.
Mr. C. Fish.	Mr. G. Plucknett.
Mr. M. Hall	Mr. T. Stirling
Mr. T. Howard.	Mr. J. Thorn.
Mr. W. Hutchens.	Mr. W. Todd.

STEWARDS

Mr. T. Abbott.	Mr. W. F. Meakin.
Mr. T. Aney.	Mr. W. Norris.
Mr. F. Bacon.	Mr. C. D. Sewell.
Mr. J. Bennett.	Mr. Tilson Lee.
Mr. G. Bell.	Mr. J. Long.
Mr. Stanley G. Bird.	Mr. C. Myers.
Mr. T. E. Bolding.	Mr. J. H. Notley.
Messrs. Collins & Stanbury.	Mr. J. Peters.
Mr. E. Conder.	Mr. J. G. Pilcher.
Mr. S. Cuming, jun.	Mr. S. Phillips.
Mr. J. Dowell.	Messrs. Pfeil & Stedall.
Mr. W. M. Dunnage.	Mr. R. Richardson.
Mr. W. L. Edwards.	Mr. T. Robinson.
Mr. C. Formby.	Mr. A. A. Robinson.
Mr. T. Ferguson.	Mr. W. Stirling.
Mr. R. J. Hickman.	Mr. T. Thomas.
Mr. J. Hibberd.	Mr. R. Thomas.
Mr. J. Jay.	Mr. S. Trickett.
Mr. W. H. Jackson.	Mr. W. Wood.
Messrs. Lucas, Brothers.	Mr. T. Yeo.

A further List of Stewards will be published.

Gentlemen desirous of promoting the Interests of the Institution by becoming Stewards, will please forward their names to the Hon. Sec. Mr. JOSEPH BIRD, 10, Hanover cottages, Regent's Park; or at the Office, 23, Southampton-street, Bloomsbury.

Double Ticket, 21s.; Lady's ditto, 8s.; and Gentleman's, 14s. Refreshments included.

MEMORIAL TO THE LATE H. L. STYLEMAN LE STRANGE, Esq.—Many of the friends of the late H. L. STYLEMAN LE STRANGE, Esq. having expressed a wish to mark their sense of his high character and of his great services to the cause of ecclesiastical art by a Public MEMORIAL of some kind, a Committee has been formed for the purpose of carrying this wish into effect. The Committee have come to the conclusion that the most suitable memorial would be the continuation of the work of RESTORING the PARISH CHURCH of HUNSTANTON, which was commenced by Mr. Le Strange himself; and they now invite contributions towards the work. The extent of the work done must of course depend upon the amount of aid promised in reply to this appeal. Contributions may be paid to the "Le Strange Memorial Fund," at Messrs. GURNEYS', Bankers, King's Lynn, Norfolk; at Messrs. BARCLAY, BEVAN, & CO.'S, 54, Lombard-street, London; or to any Member of the Committee. Subscriptions only, if desired, to be paid by instalments.

Committee, with power to add to their number

The Dean of Ely (Chairman)	£20	0	0
Hon. and Venerable Archdeacon Yorke, Ely. ..			
Rev. Canon Selwyn, Ely	10	10	0
Rev. Canon Thompson, Ely			
The Lord Alfred Hervey	5	0	0
J. Stewart Forbes, esq.	100	0	0
J. Gardner Parry, esq.	50	0	0
Captain Davy, R.N.	21	0	0
D. Gurney, esq.	21	0	0
A. J. Beresford Hope, esq.	10	0	0
J. G. Hubbard, esq. M.P.	25	0	0
C. Neville Rolfe, esq.			
Rev. C. Bagot	5	0	0
W. Butterfield, esq.	25	0	0
Rev. N. Raven			
Rev. W. M. Church, Secretary	100	0	0
Other Subscribers:—			
C. W. W. (first instalment)	20	0	0
Edwd Hawkins, esq. junior	20	0	0
Hon. Mrs. Howard	5	0	0
Rev. W. L. Hussey	10	10	0
Rev. A. Ogle	10	0	0
Rev. W. Beckett	5	0	0
J. B. Scott Chadd, esq.	20	0	0
G. Preedy, esq.	10	0	0
F. Preedy, esq.	10	0	0
G. G. Scott, esq.	10	10	0
Rev. J. W. Dover	2	0	0
Miss J. V. Brown	2	0	0
Rev. F. Wilson (first instalment)	1	0	0
Mr. Joseph Scott and Family	2	0	0

W. M. H. CHURCH, Secretary.

Hunstanton Vicarage, January, 1863.

WATER COLOUR PAINTERS' LANCASHIRE RELIEF FUND.—The EXHIBITION will remain OPEN ONE MORE WEEK (by the kind permission of Messrs. Day & Son), at the German Gallery, No. 168, New Bond-street, from TEN a.m. till NINE in the evening.

JAMES FAHEY, Hon. Secretary.

Subscribers have free admission to the Exhibition, and one share in the distribution of the prizes, for every guinea subscribed.

Each picture will constitute a prize, and will be declared the property of the subscriber the number of whose ticket may be drawn out to be drawn with it.

As only a limited number of tickets remain unsold, early application must be made to the Secretary, or to the Keeper in the Gallery. The Exhibition must finally CLOSE to the Public on SATURDAY, 31st instant.

GLASS PAINTERS' SOCIETY.—The ANNUAL MEETING of this society was held on MONDAY, DEC. 22nd, at the Bell & Tun, Serjeants'-inn, Fleet-street, when the Auditors' Report was passed, and the Society pronounced to be in a flourishing condition. Notice is hereby given, that a SPECIAL MEETING will be held on MONDAY, FEB. 2nd, for the purpose of REVISING the RULES. HENRY HATHERLY, Secretary.

COMPETITIONS.

GRAVE-SPACE INDICATORS for CEMETERIES.—WANTED, Drawings, with Estimates, of Specimens of GRAVE SPACE INDICATORS, to be made at any suitable material. The same to be forwarded to me on or before the 3rd proximo. J. L. BELL, Clerk of the Burial Board,
January, 1863. Bourn, Lincolnshire

CONTRACTS.

CITY of LONDON, BARBERS' HALL. Important SITE for WAREHOUSES, or MANUFACTURING PREMISES, in the immediate vicinity of Wood-street, Cheapside. The Committee of the Worshipful Company of Barbers will meet at their Hall, on THURSDAY, the 29th day of JANUARY, 1863, to receive TENDERS, for letting on a building lease, for ninety-nine years, the extensive PREMISES, known as Barbers' Hall, situate in Monkwell-street, Wood-street; comprising three houses, fronting Monkwell-street, Nos. 33, 34, and 35, part of the courtyard in the rear thereof, the passage leading thereto, and the greater portion of the Company's Hall, together with the kitchen, scullery, and outbuildings, having a frontage towards Monkwell-street of about 88 feet by an average depth of about 116 feet, and an entire depth of about 135 feet.—Full particulars, with a plan of the property, elevation, and section of street front, also conditions of letting may be obtained, on application at the Clerk of the Company's Hall, by Mr. CHARLES JOHN SHOPPEE, the Company's Surveyor, No. 61, Doughty-street, W.C.; or to the Beadle at the Hall.—By order,

HENLEY GROSE SMITH, Clerk.

4, Warnford-court, Throgmorton-street, E.C.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS, &c.—TENDERS are required for EXECUTING the WORKS, &c. that may be required in the following Trades, at Burnley Barracks, from 1st APRIL, 1863, to 31st MARCH, 1865, viz.: Bricklayers, Masons, Paviors, Carpenters, Plasterers, Slaters, Plumbers, Smiths, Ironfounders, Painters, Glaziers, Paperhangers, and Gasfitters.

Parties desirous of Tender for this Contract must leave their names at this Office, on or before the 10th proximo, and pay the sum of 7s. 6d. for the schedule and form of Tender.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, 22a, Stretford-road, Manchester, 14th January, 1863.

SOUTH-EASTERN RAILWAY COMPANY.—To BRICKLAYERS, CONTRACTORS, and OTHERS.—The Directors of this Company are prepared to receive TENDERS, from competent Contractors, for the SUPPLY of about FORTY MILLIONS of BRICKS, required for the execution of the Line of Railway at Sandgate and Folkestone, and the new direct line through Mitcham of the South-Eastern Railway. Separate tenders for the supply of the bricks on the lands now in the Company's occupation, and for the bricks on the lands not now in their occupation at the Engineer's Office, London Bridge Station.

S. SMILES, Secretary.

Secretary's Office, 8th January, 1863.

CIRENCESTER DISTRICT of TURNPIKE ROADS.—CONTRACTS for REPAIRS.—The Trustees of the Cirencester District of Turnpike Roads are prepared to receive sealed TENDERS for the REPAIR of all the ROADS now vested in their Trust (in length 84 miles) for a term of one or more years. Full information as to the quantity and description of stone to be used, the specifications, and forms of Tender, may be obtained by application to the Clerks to the Trustees. The stone is obtainable from quarries in the immediate vicinity of the roads. Tenders will not be received later than TEN o'clock on the forenoon of FRIDAY the 30th inst. The Trustees do not pledge themselves to accept the lowest or any Tender.

BEVIR & ELLETT, Clerks to the Trustees.

Cirencester, 14th January, 1863.

METROPOLITAN BOARD of WORKS. MAIN DRAINAGE of METROPOLIS NORTHERN OUTFALL RESERVOIR.—to BUILDERS, CONTRACTORS, and others. The Metropolitan Board of Works hereby give notice, that they will meet at the Office of the Board, Spring gardens, S.W. on FRIDAY, the 30th day of JANUARY instant, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of a RESERVOIR, with Pentstocks and Machinery, also Shed, Buildings, a Dwelling-house, and other works in connection therewith, near to Barking-creek, in the portion of the parish of Woolwich, in the county of Kent, north of the river Thames. Parties desiring to submit Tenders may, upon payment of £1, obtain plans, sections, specifications, forms of Tender, and other particulars, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE a.m. and FOUR p.m. or on SATURDAYS between the hours of NINE a.m. and TWO p.m. until THURSDAY the 29th day of JANUARY. No Tenders are to be addressed to the CLERK of the BOARD, and must be delivered at this Office before FOUR o'clock on the last-mentioned day, and no Tender will be received after that hour. The Tenders being handed to the attendants at the Board of WORKS on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to enter into Bonds for the due and satisfactory performance of the works.

JOHN POLLARD, Clerk of the Board.

Spring gardens, S.W. 10th Jan. 1863.

NOTICE.—To CONTRACTORS and IRONFOUNDERS.—The Commissioners of Works will receive TENDERS from competent parties for the ERECTION of a CAST-IRON ARCH BRIDGE, according to plans and specifications to be seen at the Co. Engineer's office, No. 23, South Mall, Cork. Sealed Tenders to be forwarded to the Town Clerk, Cork, on or before the 10th day of FEBRUARY, 1863, marked on the outside, "Tender for Iron Bridge." The Commissioners not bind themselves to accept the lowest or any Tender.—By order,

ALEXANDER M'CARTHY, Jun. Town Clerk.

Office, 33, South Mall, Cork.

[For remainder of Contracts see next Page.

CONTRACTS.

CONTRACT. TENDERS are required for the different TRADES in the ERECTION and COMPLETION of a RESIDENCE and ENTRANCE LODGE upon the Hartwell Estate, Ravenston, Staffordshire. Parties desirous to Tender can inspect the drawings and specification, with conditions of contract, at the Office of Mr. STEVENS, Arcade 4, 18, Copper street, Manchester, from the 24th instant to the 29th instant, inclusive, and at the Office of Mr. J. S. BURGES, Cheapside, Hanley, from the 30th instant to FEBRUARY 3rd, inclusive, between the hours of TEN and FOUR, upon which date the Tenders must be left at either of the above Offices, not later than FOUR p.m. The quantities of each trade have been taken out, and can be had upon application.

N.B. The lowest Tender not necessarily accepted

BARNSLEY LOCAL BOARD of HEALTH.—Water-Works Department.—CONTRACT No. 2. To Contractors for Pipe-laying.—The Local Board of Health of Barnsley, in the County of York, are desirous of receiving TENDERS for LAYING DOWN about 13 MILES in length, of CAST IRON SOCKET PIPES and other CASTINGS. Specifications may be seen, and Forms of Tender may be had, on application to me, or to Mr. THOS. HAWKSLEY, C.E., 30, Great George-street, Westminster, S.W. on and after MONDAY, the 12th day of JANUARY instant; and Sealed Tenders must be delivered at my Office, not later than MONDAY, the 2nd day of FEBRUARY next, endorsed "Tender for Pipe-laying." The Board do not bind themselves to accept the lowest or any Tender.—By order, WM. H. PEACOCK,

Barnsley, 8th January, 1863. Clerk to the said Local Board.

TO BUILDERS and CONTRACTORS.—TENDERS are required for BUILDING BOYS, GIRLS, and INFANTS' SCHOOLS, together with Two Residences, &c. at Knighton, Radnorshire. The plans and specification can be seen at the Office of the Architect, where Tenders are to be delivered on the 8th of FEBRUARY. No pledge is given that the lowest or any Tender will necessarily be accepted.

THOS. NICHOLSON, F.I.B.A. Architect.

Hereford, January 16, 1863.

CONTRACTS for DREDGING and the CONSTRUCTING a TIDE JETTY. The Commissioners of the Haven of Great Yarmouth desire to CONTRACT for the following WORKS:—The Dredging and Deepening the Channels of the Rivers Yare and Waveney, from Breydon Bridge and Bridge Flats, with the removal or deposit of the soil or land raised therefrom, and the Constructing a Tide Jetty at or near the confluence of the rivers Yare and Waveney. The Contractor, for the purpose of the works only, will, at the option of the contractor, allow the use of their steam-dredging engines for the dredging, and an engine and boil for driving piles for the tide jetty; but will receive Tenders for the performance of the respective works either with or without the use of these engines. The plans, sections, and specifications of the several works, and the contracts to be entered into, may be examined at the Office of Mr. ISAAC PRESTON, Jun. the Clerk to the Commissioners, Great Yarmouth; and any further information may be obtained from the Pier Master of the Commissioners. Deposits of 75*l.* per cent. upon the respective works (one will sometimes only, and the contractor at three months after their certified completion. Separate Tenders, marked "Tender for Dredging," "Tender for Tide Jetty," addressed to the Commissioners of the Haven of Great Yarmouth, are to be delivered to the Clerk to the Commissioners, Great Yarmouth, on or before the 2nd day of FEBRUARY next. The parties to tendering will be considered as bound by the stipulations contained in the respective contracts above specified, to the party whose Tender for dredging may be accepted, who is required to provide approved security in the sum of 250*l.* for the due performance of the contract, or at his option and undertake that one such sum shall be retained out of the monthly payments of 75 per cent. until a bond of 500*l.* per cent. only. The Commissioners do not engage to accept the lowest or any Tender.—By order,

ISAAC PRESTON, Jun. Clerk.

Great Yarmouth, January 13th, 1863

LEICESTERSHIRE MILITIA QUARTERS.—Builders willing to TENDER for the ERECTION of QUARTERS for the Leicestershire Militia, may inspect the plans, specifications, and specification, and obtain copies of the quantities, of the Architect, Mr. WILLIAM JACKSON, Leicester, on and after MONDAY, the 26th instant. Tenders, sealed and endorsed "For the Leicestershire Militia Quarters," to be sent to the Clerk of the Peace, not later than FRIDAY, the 6th of FEBRUARY next. The Magistrates do not pledge themselves to accept the lowest or any Tender.

WILLIAM FREER, Clerk of the Peace.

Leicester, January 14, 1863.

THE VESTRY of the PARISH of CHELSEA, in the County of Middlesex.—SCAVENGERING and WATERING SEASONAL NOTICE TO VOTERS.—The Vestry of this Parish will meet in the Board-room at the Vestry Hall, King's-road, on TUESDAY, the 10th day of FEBRUARY next, at THREE o'clock in the afternoon precisely, to receive TENDERS in person or by CONTRACT, pursuant to the terms of a Draft Contract now lying for inspection at the Vestry Clerk's, for WATERING the STREETS and proper with the out-lying Districts, Kensal New Town, from the 1st of MARCH next to the 14th day of OCTOBER next, and for the REMOVAL of the SLOP from the said District, from the 1st of MARCH next to the 14th day of MARCH, 1864. The Tenders are to name one amount for both scavenging and Watering, and are to be upon printed forms, which may be obtained at this Office. Parties Tendering must appear personally on the day the Tenders are opened, and the parties whose Tenders are accepted (if any) will have to pay the cost of and incidental to the preparation of the Contract. Sealed Tenders signed by the proposed Contractor, with the names and description of two sufficient sureties for the performance of his Contract, are to be left at this Office on or before TWELVE o'clock on TUESDAY, the said 3rd of FEBRUARY next. The Vestry do not bind themselves to accept any Tender. By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's road, January, 1863.

THE VESTRY of the PARISH of CHELSEA, in the County of Middlesex.—SCAVENGERING and WATERING.—The Vestry of this Parish will meet in the Board-room at the Vestry Hall, King's-road, on TUESDAY, the 3rd of FEBRUARY next, at THREE o'clock in the afternoon precisely, to receive TENDERS in person or by CONTRACT, pursuant to the terms of a Draft Contract now lying for inspection at the Vestry Clerk's, for WATERING the STREETS and proper with the out-lying Districts, Kensal New Town, from the 1st of MARCH next to the 14th day of OCTOBER next, and for the REMOVAL of the SLOP from the said Districts, from the 1st of MARCH next to the 14th day of MARCH, 1864. The Tenders are to name one amount for both Scavenging and Watering, and are to be upon printed forms, which may be obtained at this Office. Parties Tendering must appear personally on the day the Tenders are opened, and the parties whose Tenders are accepted (if any) will have to pay the cost of and incidental to the preparation of the Contract. Sealed Tenders, signed by the proposed Contractor, with the names and description of two sufficient sureties for the performance of his Contract, are to be left at this Office on or before TWELVE o'clock on TUESDAY, the said 3rd of FEBRUARY next. The Vestry do not bind themselves to accept any Tender. By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's road, January, 1863.

TO BUILDERS and CABINET MAKERS. There is a desire to have TENDERING for the SUPPLY of FITTINGS to the NEW BANK at Reading for the Stamford, Spalding, and Boston Banking Company, and any particulars, on application to Mr. WILLIAM EVES, Architect and Surveyor, 4, Union-court, Old Broad-street, E.C. The lowest, or any Tender, will not necessarily be accepted.

TO BOILER MAKERS.—The Salisbury Local Board of Health are desirous of receiving TENDERS for the CONSTRUCTION of a DOUBLE FLUED CYLINDRICAL BOILER 25 feet 6 inches long by 6 feet diameter. Further particulars may be obtained on application to Mr. J. C. ROTHAMS, C.E. Surveyor to the Board. Sealed Tenders, endorsed "Tender for Boiler," to be sent to me on or before the 10th FEBRUARY next

CHAS. MARSH LEE, Town Clerk.

Salisbury, January 16, 1863.

TO CONTRACTORS.—SHEERNESS DRAINAGE WORKS.—CONTRACT, No. 1 OUTLET PIPE.—The Sheerness Local Board of Health hereby give notice, that they are prepared to receive TENDERS from persons willing to CONTRACT with them for PROVIDING and LAYING DOWN about 1,300 LINEAL FEET of CAST IRON FLANGED SOCKET PIPES, 24 inches in diameter, with tidal flap valve, &c., and specification can be had, and form of Tender obtained, by applying to Mr. JAMES LUND, the Surveyor of the Board, at his Office, No. 20, Montagu-terrace, Sheerness. Sealed Tenders, indorsed "Tender for Outlet Pipe," are to be delivered at the Office, not later than THURSDAY, the 12th FEBRUARY, 1863, at SIX o'clock in the evening.—By order of the Sheerness Local Board of Health,

EDWARD FELKIN, Clerk.

Office of the Local Board of Health Sheerness, January 13, 1863.

ST. PANCRAS, Middlesex.—To CONTRACTORS and OTHERS.—Notice is hereby given, that the Highways, Sewers, and Public Works Committee of the Vestry of the Parish of St. Pancras will meet at the Office of the Department of Works on MONDAY, the 2nd day of FEBRUARY, 1863, at SIX o'clock, in the forenoon precisely, to receive a willing to contract for SUPPLYING GUERNSEY, MARKFIELD, GROBY, and MOUNT SORREL GRANITES, for supplying Flints, Gravel, and other Roadway Materials; and for the same respectively to the terms of specification to be seen at the said Office daily. Good security will be required for the due performance of each contract. Further particulars with forms of Tenders, may be obtained at the Office aforesaid. N.B. If a Contract is let at the Office of Mr. WILLIAM BOOTH SCOTT, Chief Surveyor, as under The Vestry do not bind themselves to accept the lowest or any Tender. No Tender will be received or accepted unless made on one of the printed forms. Tenders must be delivered by SIX o'clock p.m. on the said MONDAY, 2nd FEBRUARY, 1863. By order,

CHARLES WORRALL,

Chief Clerk of the Department of Works.

10, Edward-street, Hampstead-road, January, 1863.

TO BUILDERS.—TO BE LET, the different WORKS required to be done in the ERECTION of a LODGE and FARM BUILDINGS at Stung Close, Keighley, in the county of York, preparatory to the early commencement of other and more important works on the same estate, for J. H. Craven, Esq. Drawings and specifications of the said lodge and farm buildings may be seen at my Offices in Keighley, and at the White Swan Inn, in Keighley, aforesaid, after WEDNESDAY, the 28th instant. Sealed Tenders, endorsed "Tender for Lodge and Farm Buildings," to be delivered at the said White Swan Inn before TWELVE at noon on FRIDAY, the 6th of FEBRUARY. WILLIAM SUGDEN, Architect.

Leek, Staffordshire, 21st January, 1863.

BUILDERS desirous of TENDERING for the ERECTION of a PUBLIC HOUSE, by the river, at Chelsea, are requested to forward their names, together with a deposit of 10*s.* to the Architect, from whom all further information may be obtained, on or before THURSDAY, the 29th inst. after which time no further application will be received. The requisite number of copies of the bills of quantities will then be provided, and forwarded to such builders as may have applied, and the deposit will be returned to all Tendering. The sheet of any Tender will not necessarily be accepted; and the Contractor must, if required, provide approved sureties for the due performance of the Contract.

JAMES J. LAFOREST, Architect.

11, King's-road, Bedford-row, W.C. Jan 15th, 1863

TO STOVE and RANGE MAKERS, IRONMONGERS, &c.—The Guardians of the Poor of the Stepney Union will meet at the Board-Room, at the Workhouse, York-street West, Commercial-road East, on THURSDAY, the 5th day of FEBRUARY next, to receive and open TENDERS from persons willing to supply and fix STOVES throughout the new Workhouse of the Union at Bromley, Middlesex. The Specification may be inspected after the 27th instant, at the Offices of Mr. JARVIS, the Architect, No. 2*b*, Trinity-square, Southwark, where also may be obtained printed forms of Tender (which alone will be received) and full particulars. By order of the Guardians,

22nd January, 1863. W. H. SWEPSTONE, Clerk

SOUTH-EASTERN RAILWAY.—CONTRACT for WORKS.—The Directors of the South-Eastern Railway invite TENDERS from Contractors for the due CONSTRUCTION and MAINTENANCE of the SECOND SECTION of the HORSHAM LINE, between Lennon and Tonbridge, extending from the latter place to Halstead, a distance of about twelve miles. Plans, sections, and specifications of the works may be inspected at the Engineer's Office, No. 28, Great George-street, Westminster, on payment of 10*s.* (as per set), on and after TUESDAY, the 27th of JANUARY instant. Tenders to be delivered to the Secretary not later than TEN a.m. on THURSDAY the 12th of FEBRUARY next, when the Directors will meet to open and consider the same. The Directors do not bind themselves to accept the lowest Tender, and ample security will be required. By order,

S. SMILES, Secretary

London Bridge Terminus, January 16, 1863.

TO BUILDERS.—Persons desirous of TENDERING for ADDITIONS and ALTERATIONS to HARRINGTON HALL, near Hatfield Broad Oak, in the county of Essex, may see the plans and specifications by applying to me on and after the 22nd instant. Sealed Tenders to be sent in, according to the form supplied, by the 24th of FEBRUARY next. Estates required by order of the Court of Chancery for the due performance of the works to the amount not less than 10,000*l.* The lowest or any Tender will not necessarily be accepted.

EDWARD BROWNING, Architect.

Broad-street, Stamford, 20th January, 1863.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER TIGHT WATER BAR; and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING for FRENCH WINDOWS

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Iron-safes, Brass Foundry, Patent Locks, Bolts, Gilt, Glass, and Wood Furniture, of all kinds, with Patent Shutter Spindles; Dr. Arnott's Ventilators, 4*s.* 6*d.* and the New Regulating Ventilator, so much admired, 5*s.* 6*d.* each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 20 years, for the supply of GOODS of the BEST MANUFACTURE, at the LOWEST PRICE

14, Stanhope-street, Clare-market, London.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN.

PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

TO IRONMONGERS AND THE TRADE GENERALLY.

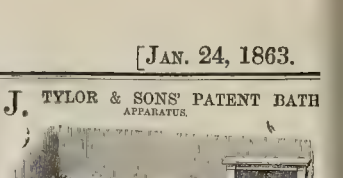
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SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the supply of the flame

D. HULETT & CO. 55, High Holborn, London,

Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

J. TYLOR & SONS' PATENT BATH APPARATUS.



The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.

Estimates given from architects' drawings, or by inspection of buildings.

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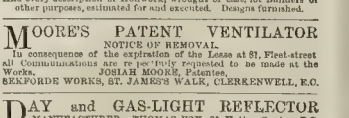


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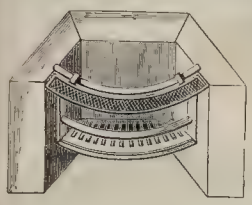
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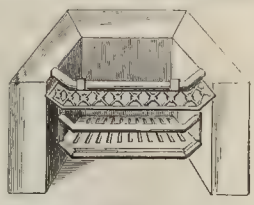
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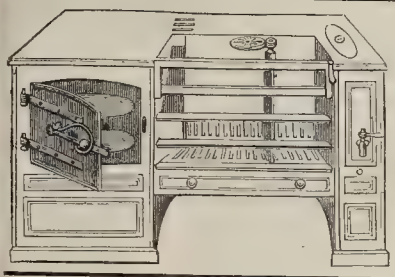
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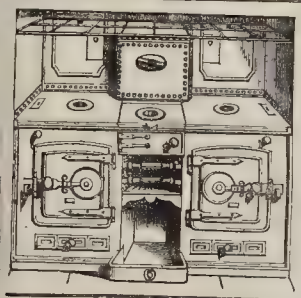
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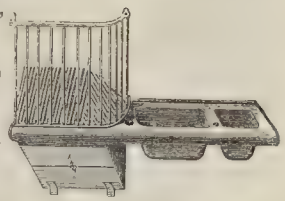
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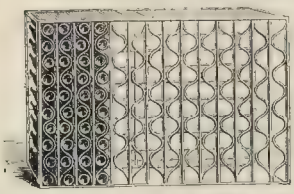
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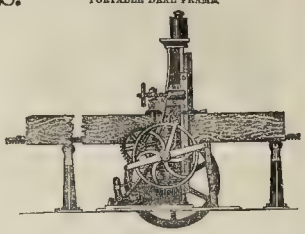
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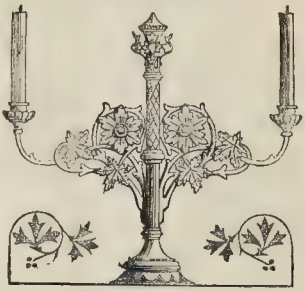
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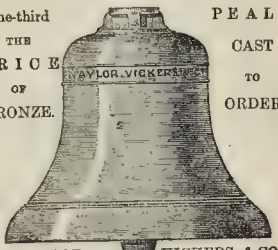


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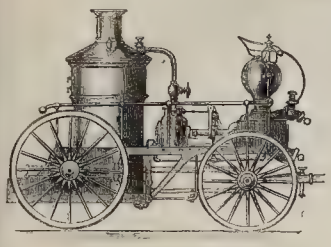
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This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

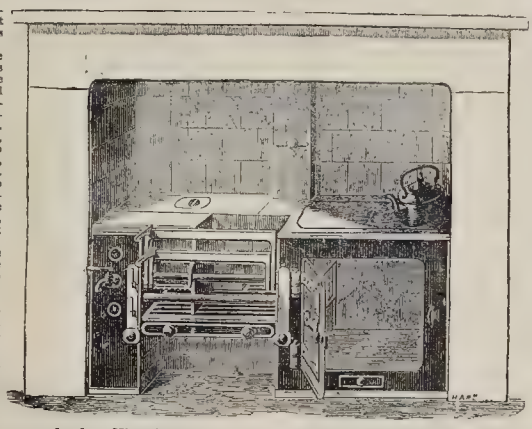
The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Check, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,



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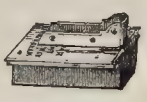






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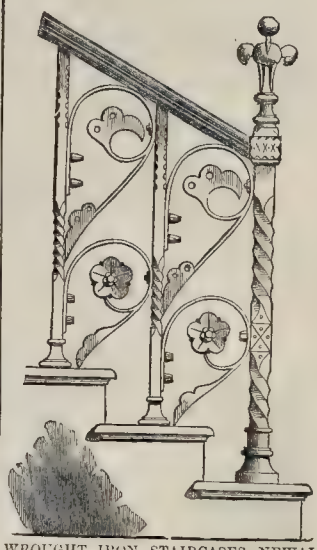


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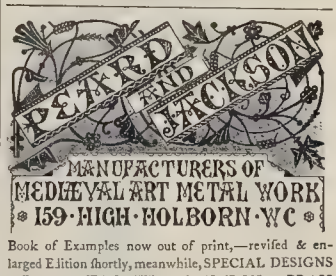
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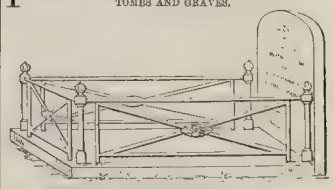


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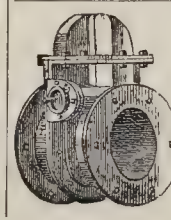
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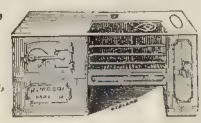


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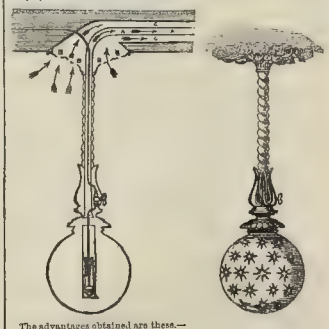
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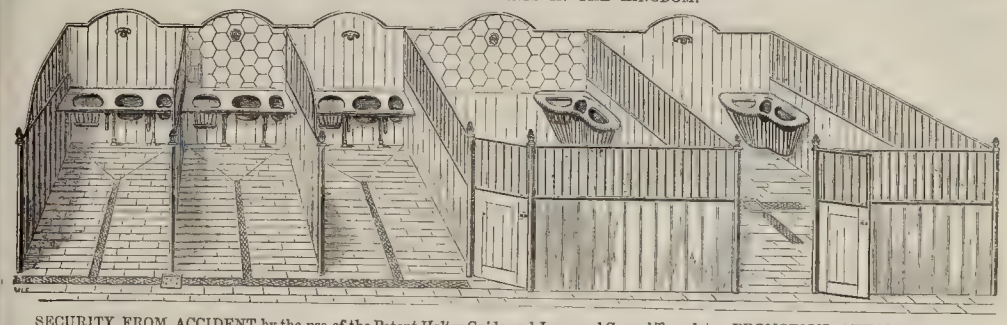
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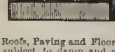
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The Builder.

VOL. XXI.—No. 1042.

Of Monuments and Memorials, and of a Training School for Monumental Design.



E have witnessed the establishment of schools of design in all parts of the country for teaching the art of ornamental composition, and the application of suitable decoration to various branches of manufacture, to household furniture, and to the decorative enrichment of the more important kinds of architectural interiors. Some good effect produced by the training of these schools we have seen manifested in works of various kinds which have recently done honour to our native art in the great International Exhibition of 1862; but we have not at present a school, nor even a distinct branch in any of our artistic training schools, devoted to that highest kind of ornamental design which is applicable to important public monuments of a partially architectural character. No official public training of this kind is at present to be had in this country; and yet the advantages that might be derived from the establishment of a separate branch in already existing schools in which this important department of art should be taught, are incontestable. The art of decorative composition as specially applied to the ornamental accessories of public statues and other public memorials of analogous character ought to be known among us, but it is not. It is not known because it is not specially taught or studied; and without effective teaching and earnest study it will certainly not develop itself. It is a class of art that is not of spontaneous growth. Without a training-school of the precise character alluded to, it may be safely affirmed that the recent monuments of Paris, and, above all, the sumptuous decorations of the new Louvre, could never have been executed with the feeling of profuse magnificence that will long insure to Paris a pre-eminence as the metropolis of the Fine Arts.

It has been shown in a recent article in the *Builder*, and often before, that the accessorial features of our public statues and memorials are of the poorest kind; that even the masonry of the pedestals, or columns, is unworthy of any sort of monumental structure. The usual process in erecting a public memorial seems to be as follows. A statue is procured (frequently the result of the grossest job in the selection and patronage of a favoured artist), and then, the funds having been all lavished on the fortunate *protégé* of some influential patron, the pedestal and accessories become the result of some contract job, done at the lowest possible price, and, of course, in the worst possible manner. Our sculptors have not been trained to consider that the mere portrait-statue should form but a small part of a memorial erected in honour of a departed celebrity, whatever may have been the character of his services. It should form, as we have before now pointed out at length, but the nucleus of a composition destined to surround the statue with artistically-expressed signs of public sympathy, as the representative of a departed member of the national family whose career had shed honour upon his country. This feeling in the design of public memorials of a monumental character is fully appreciated by our Continental neighbours; but the reason of its being so much better understood by them than by our own artists is, that in Paris there is a special department in the *Ecole des Beaux Arts* devoted entirely to the combination of architectural and sculptural art, in which the united labours of the sculptor of the human figure, the ornamental carver, and the architect, must be harmoniously united, each bringing the best powers of his own speciality to the work, before a truly grand monument, such as those of the fifteenth and sixteenth centuries, can be produced. Such, for instance, as the elaborate tomb of the Cardinal d'Amboise, in the cathedral of Rouen, which, with all the defects that a modern critic might point out, is exquisitely beautiful, not only in a general profuse richness of effect, which at once arrests attention and admiration, but in the exquisite finish of the elegant details, which are so elaborate that the spectator is irresistibly detained to examine their almost endless ornamental details, each wrought out with the conscientious skill of a real artist.

The establishment of the *Cours d'Ornement et d'Ajustement*, in the *Ecole des Beaux Arts*, has been the means of teaching a new race of French artists the secret of designing sepulchral monuments and other public memorials in a style of magnificence worthy of the descendants of the great artists who produced those fine Mediæval monuments, many of which are still found enriching the churches and public places of France, notwithstanding the numbers which were so recklessly destroyed during the Revolution.

The subject selected to test the powers of the pupils in the *Cours d'Ornement et d'Ajustement*, in the last session of the school was, a design for a public monument to the great French sculptor of the Renaissance epoch, Jean Goujon. Many of the drawings exhibited considerable powers of invention in the design of appropriate ornament, and skill in the grouping and general distribution of the ornamental accessories to the principal figure, evidently the result of very careful and successful training. The two selected as worthy of the first and second Rougevin prizes were, however, much in advance of all the others,—a satisfactory proof of the good taste and impartiality of the judges; though it should be stated at the same time that the one to which the second prize was awarded was thought by many experienced artists to be the best design of the two.

As a contrast to the baldness and poverty-stricken style of the accessories by means of which the statues of our British worthies are presented to the public, it may not be out of place to describe the decorative features which, in the two designs in question, were made to support, decorate, and protect the proposed statue of Jean Goujon. The fine design which received the first medal, accompanied by a gift of 600 francs, was the work of M. Pascal, a young *élève* of M. Questel, the well-known architect. This design is that of a mural monument, consisting of a projecting base surmounted by appropriate mountings, and supporting a projection of sufficient prominence to contain a deeply-recessed niche for the reception of the portrait-statue. This central portion of the composition is extended laterally by means of wings of corresponding character, but less prominence, which have the effect of uniting the central projection with the general level of the supposed wall to which the monument is attached, and so shade off the general composition into the mass of the building of which it is intended to form an integral, or at all events an attached, portion; and prevent it from having the appearance of being simply stuck on, without any of those devices of artistic design by which alone one work of art can be grafted upon another. The details of the composition are in many respects very good, while in others they exhibit the short-comings seldom entirely absent from the works of an inexperienced pupil. The figure of Goujon, in the costume of his time, is sufficiently characteristic in conception, but poor in treatment. It is not fair, however, to criticise this feature of the composition too closely, as it is only the sketch of the ornamentist, to fill the niche as a test of general effect; the real statue being of course the destined task of an artist of another and a higher class. The pilasters at either side of the niche are of a reduced and Mediævalized Corinthian order, and the ornaments filling the plain spaces furnished by the treatment of the architectural portion of the design are of a delicate Renaissance character, of the style in which Goujon himself loved to design; for those who are regularly trained to design monuments of this class would never dream of a simple portrait being all-sufficient, when placed upon the cheapest, and of course meanest and plainest, kind of pedestal. They necessarily seek to enrich the pedestal or niche which is destined to receive the statue with various kinds of appropriate enrichments.

The fawn from Goujon's famous group of Diane de Poictiers, and also the separate figure of Diane herself, are both represented as in bronze, while the general composition displays in its various features marbles of various colours, the figure of Goujon being represented as of pure Carrara marble. The whole composition is surmounted by a rich cornice and pediment of semi-Classical character; and the effect of the entire design is that of a compact monument, very highly elaborated, yet having the one unpardonable fault of producing a general impression of not being as rich as it ought to be, in proportion to the great amount of ornament employed.

The design which gained the second Rougevin prize was that of M. Brune, another pupil of M. Questel. In this design, which is of the same character, that of a mural monument, the general effect is much richer, though the main outline of the composition is perhaps not so compact. The design of the statue is also inferior to that of M. Pascal's work. Between the columns which form the wings, however, very graceful features are introduced, which greatly add to the rich and genuinely sculpturesque effect of the whole. These consist of two nymphs bearing vessels of water, which they are pouring forth; the one from a vase, supported on the hip; the other from the shoulder. They are, if we remember rightly, taken from the graceful *fontaine des Innocents*, one of the best works of Goujon, and from the last-named of these graceful figures, it may be remarked, or from an involuntary reminiscence of it, M. Ingres undoubtedly conceived the first idea of the exquisite picture, "La Source," so much admired in our last International Exhibition. At the feet of the sculptor's own statue lies the torso of the famous Diane, still incomplete, and wanting the last touches of the ever-graceful modeller. The only defect of this last feature is that it is too small. The enrichments of the niche are very carefully wrought out, and full of artistic thought and treatment; every spray of ornament and every enriched moulding being conscientiously studied. The pediment, which forms the raised centre of the composition, is interrupted (viciously) in its rise to the culminating angle by breaking off into scrolls, each side forming a sloping support for a recumbent figure, after the manner of those introduced in this way by Michelangelo in the chapel of the Medici at Florence. This not original device affords the means of introducing reproductions of two more of the works of Goujon; but then the models in the Medicean chapel which have furnished our young designer with his idea are too well known, and they are, moreover, too entirely unapproach-

able in grandeur of conception and execution, to bear repetition at the hands of a novice without rousing the critic to warn the tyro, however strong he may be destined to become, against trying on the clothes of the giant till he is big enough and strong enough to wear them.

In London we cannot hope to improve until this special branch of the fine arts, combining, as it should do, the labours of the architect, the sculptor, and the ornamentist, each of the highest kind, shall be better understood.

We have all the raw material ready to hand,—plenty of artistic talent, which only requires a course of the requisite kind of training. When this training shall have produced a band of competent young artists, full of enthusiasm to go to work, let us have competitions, under wise management, for a series of public memorials, worthy of the truly great and useful among our forefathers,—Caxton, the first English printer; Shakspeare, Milton, Wren, Newton, Hogarth, Reynolds, James Watt, Stephenson,—in short, our great men of every class. We may by such a course hope to become the possessors of a series of national monuments and memorials worthy of the nation; that is, if the great carbuncle of jobbery be fairly and clearly cut out from the system. As a proof how inefficient both architects and sculptors have proved in the design of decorative public monuments when the kind of art necessary to produce them is not taught, we may recall the circumstances under which the great national monument of Russia, recently erected at Novogorod, was produced. At a public competition, open to Russian artists of every class, M. Mikeshine, a painter, was the successful candidate; his design alone realizing, in its combination of picturesque richness with architectural grandeur and sculpturesque refinement, the ideal which the Russian Government had formed of what such a work ought to be. We have a fancy that some of our great scenic painters,—David Roberts, for instance,—might produce a successful design for a grand and generally impressive monument, if led to attempt it in combination with an architect. Both sculptors and architects were associated with M. Mikeshine, to enable him to carry out his work with all the advantages appertaining to tested technical skill in the various departments of the work; but the supreme directorship was left with M. Mikeshine, in order to insure the realization of his design according to his own picturesque conception. Had Russia possessed a number of art students trained to the design of monuments of a memorial character, it is hardly likely that the dashing sketch of an imaginative painter would have secured the prize in such a competition.

LONDONERS.

THE returns of the Registrar-General are full of interest, and will afford feasts of facts to future historians. If the office had been an early English institution, we should have read the vicissitudes of our race through the intermediate centuries by a brighter light than that afforded by chronicles and pipe-rolls. We have occasional notices of the causes of the death of kings and princes,—how they were starved to death, or stabbed, or smothered, or blinded with red-hot pincers, or struck on the head with a pole-axe, or drowned in wine, or how they fell on the battle-field pierced with arrows or covered with wounds, or lost their heads on the scaffold. But, with the single exception of the Plague, we are ignorant of the manner of death of the millions who have gone before us. We hear, too, occasionally of numbers—of Jack Cade's immense mob,—the mob, 300,000 strong, under Wat Tyler,—of a million of men perishing in the wars of the White and Red Roses,—of thousands falling in Welsh, Scottish, and French battles; but we have no definite knowledge of local populations. We may judge of the interest that future ages will take in the reports of the registrar of our own times by that we should feel could we turn to a record of the annual births, deaths, and marriages of the Plantagenet period.

But the Registrar might give us still more curious information. It is not enough for us to know that there are upwards of three millions of human beings in London. We would inquire whence do they come? How many of these are Scotch Londoners, how many Welsh, how many Irish? and, subdivisionally, how are the counties represented in London?

A large proportion of the population of London should be looked upon as picked men, because every day the ranks are recruited from the most promising sons of country families: comparatively few are Londoners proper. The skilled mechanic whose indentures have just expired makes for London: the tradesman who wishes to take his son into partnership sends him first for a few years' experience in London: the country attorney articles his son to a London solicitor. The chances are ten to one that the most courageous, energetic, self-reliant of these young men settle in London and work their respective ways to competence: the more yielding natures return to their native towns. The population of London is recruited, too, by those whom death or misfortune has turned adrift to seek new homes. In due time all these people become Londoners. They are absorbed into the mighty mass, and are never prominent upon its surface; but they are on it nevertheless, and help to give new impetus to it.

Could we inquire at every shop-door in any of our principal streets, we should find that few of their owners were bred or born in London. Take the sunny side of Oxford-street, with its broad white pavement and boundary of bright shops, its roar of passing omnibuses and flash of cabs. That bald-headed old gentleman, with his elbow resting on his window-frame, fifty years ago guarded his father's sheep from wolves on a Welsh mountain. His next-door neighbour is the son of an innkeeper in a Scottish village; the next the son of a Suffolk sailmaker. This jeweller's father was a Buckinghamshire farmer. This grocer could tell of nights at sea on board his father's herring-boats off Yarmouth. The owner of those festoons of fretted lace, so deftly placed on backgrounds of gorgeous velvets, owns quaint, gabled, pebble-paved Shrewbury for a birthplace. Yon furrier, whose sables and ermines a monarch might envy, calls Poland his "faderland." Here and there we should find shops occupied by men whose fathers had lived in them before them; but the instances would be proportionately rare. Or take one of the narrow, dingy back streets, with its perspective hazily terminating in another back street, and in which there appears to be a perpetual "partial eclipse." The song that tailor is humming, as he sits sewing close to the window to catch all the light he may, is German. His little yellow-haired daughter is humming it, too, as she comes out of the house on her road to school, close by. But the book in her hand is English, and it is unlikely that she will ever know more of Germany than the songs and tales her father tells her. On the floor above the tailor, lives a widow's cap-maker, that is to say, a worn-out little man, who daily plods from milliner's shop to draper's shop, all over London and its suburbs, with a large black, shiny, shabby leather-covered basket, nearly as big as himself, to sell the muslin mysteries made by his wife and her out-door assistants. This man is the only Londoner proper in the house, for the second-floor is occupied by a journeyman joiner and his wife, from Hampton. The pianoforte tuner next door comes from Canterbury. He came to town long ago to work under one of the great "makers;" and, by a transition not unusual, has turned into a tuner. Canterbury would be no field for him now. He dreams sometimes of the cathedral, the shadow-flecked cloisters, the ancient gateways, the red-coat-dotted streets, the green pastures and still waters, but means to die a Londoner. His two rooms are on the ground-floor: they are curiously pervaded with pieces of green baize, odd cases opening like diptychs, and showing musical instruments enshrined within, calamanco bags, with the tips of violin sticks peeping out of their necks, tuning forks, rings of wire and catgut. The first-floor over them is advertised as "furnished apartments to let," and changes occupants nearly every week. The second-floor is tenanted by the landlady who, to the scant profit gained from the letting of these apartments, adds that of staymaking. She is the widow of a Government clerk, who was tempted from the heathery wolds of Yorkshire, by the offer of an appointment worth 80*l.* a-year. And so on from house to house. The focussing of foreigners in the district of Leicester-square has been often remarked; and there are courts with populations that are exclusively Irish to a man. The early education and impressions of all these men would imbue their lives with distinct tints; but in their reminiscences there would be generalities which would be shared by all, and quiver in the hearts of all alike; for although every man taken apart is unlike all others; all men, taken together, resemble each other. Nor are their several nationalities and provincialisms effaced without the wear and tear of time. For years after a Welshman arrives in London, he weekly makes his way to the little Welsh chapel in Jewin-crescent, where there is a Welsh congregation, and where the Welsh language is spoken with the purity of the dew upon Cader Idris, and where he is sure to see the latest arrivals from his native land. And so, too, with the natives of other countries. There are Scotch, French, German, Bavarian, Spanish, Greek, Russian, Swedish, and Swiss chapels in London, quite as regularly attended. In the same way Northumbrians turn to the Hotspur Club as to a tryst, and read the *Alnwick Mercury* and *Newcastle Journal* before the *Times*. The Registrar-General might tell us the exact composition of the sinewy, stalwart, enterprising population called Londoners.

THE LATEST EDITION OF CHAMBERS'S TREATISE.*

IF the publication of a cheap edition of Chambers's Civil Architecture should lead to increased study of the work, enriched as it was greatly by the introduction and notes of Mr. Gwilt, a considerable service may prove to have been rendered to our art, and very opportunely. The last editor, Mr. Leeds, indeed has not contributed much in amount, in notes which he has appended to some of the divisions of the treatise; and the notes are in part recapitulatory of matter from his hand, which has at various times appeared amongst writings acknowledged as his, or which have been fairly attributable to him. Seeing the value which there is however, in the matter, both that now appearing, and that in his excellent little book, the treatise published by Weale, on the Orders, we regret that Mr. Leeds has not been allowed to supplement the labours of Gwilt to the extent which his own stores of thought, and the results of a quarter of a century's researches by others since the date of Gwilt's edition, would have admitted of. He has not even named his treatise on the Orders, a work which more than any other on the subject, would be capable of correcting errors that linger, as to the Orders constituting the sole matter of classical architecture; or those of variously prejudiced persons, that the Orders must not, or cannot, be altered; or those, most recently prevalent, that the Orders as of Vignola, Palladio, Chambers, or some other master, can be of no value whatever towards the architecture of the future. The plates of the present edition of Chambers are those of Gwilt's, transferred to and printed from stone; and considering an inferiority of result, which makes considerable difference where scale is small, the edition will not be of much use to those who possess the original one of Gwilt, together with the treatise on the Orders by Mr. Leeds. Therefore, if we express any satisfaction at the appearance of such an edition as the present, we must be allowed to hope that the publication will not stand in the way of the appearance of such a treatise as Mr. Leeds could supply, on the comprehensive subject of those styles of architecture of which the Orders form part. Publications which either, only add to the number of books, or hold the ground against something better, are to be regarded as evils, rather than sources of good. The present edition of Gwilt's Chambers appears to have been published originally with some of the numbers of a periodical, in 1860, though not so stated except on the plates.

Mr. Leeds has added no note to that part of the volume which comprises Mr. Gwilt's introduction, and scarcely any to the opening chapters of the original treatise. He might have corrected one slight mistake which there is in several of Mr. Gwilt's representations of orders from chief examples. Mr. Gwilt shows as crowning members of the entablature of the Parthenon order, the echinus and fillet which are the crowning members of the raking cornice of the pediment; whilst a fillet and bird's-beak moulding, of the corona, which carry antefixæ, form the real termination of the entablature of the flanks (as of course of that of the fronts also) of the temple. The crowning members of the Parthenon pediment, usually de-

* "A Treatise on the Decorative Part of Civil Architecture. By Sir Wm. Chambers, K.P.S., F.R.S., F.S.A., F.S.S.S. With illustrations, notes, and an Examination of Grecian Architecture, by Joseph Gwilt, Architect, F.S.A." Revised and edited by W. H. Leeds. 4to; pp. viii. & 336; plates 11 & 54. London: Lockwood & Co. 1862.

signated together as *cyma*, from the form in other examples, are returned horizontally only a very short distance along the entablature of the flank, or just enough for a single lion's head. Mr. Gwilt's crowning "cyma" (*cyma recta* and fillet) also marked "restored" in the representation of the Doric order of the Temple of Apollo in the Island of Delos, and similarly shown in his plate of the Ionic of the temple on the Ilyssus, and in that of the Minerva Polias order, must be so indicated in error. The Greek system was to confine these members to the pediment, and to place the antefixæ of the flanks immediately upon the fillet of the corona, as we have said, and as they are in the monument of Lysicrates. The other method, continuing the crowning mouldings of the pediment as those of the flanks, was Roman rather than pure Greek.

Notwithstanding that some expression of regret has appeared necessary, we must say that the notes which the present editor has added to the work, may be read with advantage. He has no extraordinary admiration for Chambers, and no respect whatever for Vitruvius as a teacher,—considering his influence to have been disadvantageous,—and he is anything but a defender of the practice of Italian architecture as it has been in this country, unless as at the hands of Sir Charles Barry. But he perceives that, if any style is to be regarded as either worthless for lessons, or exhausted and incapable of serving as a basis for, or contributor to, future art, such style is not any one of those which are called Classical. The name "Italian" has led people to ignore facts both of previous centuries, and of the present day; and which were, and are, those of architecture throughout the length and breadth of European civilization, and in the New World no less than the Old; whilst the designation "Revival" has led to forgetfulness, incomprehensible in educated architects, that the architecture in Italy and France from Brunelleschi to the present day, has exhibited a succession of *inventions*, and no mere reproduction of Roman examples, as the argument, if it mean anything, of those who depreciate the "Italian," would have us suppose. The Greek orders, within our recollection, were regarded as things which if used, could not receive any addition or modification. Yet, in the antique, the variety in the small number of examples, as in the Ionic capital, was considerable; and every discovery since the time of Stuart and Revett, has tended rather to show that there was entire liberty, than that invention was subject to trammels of orders or of rules. Even the method of arranging the proportions of an order by modules seems to be about to be no longer admitted as consistent with practice of the Greeks. Mr. Leeds has not now allnded to the evidence which the Germans have afforded to the modern capabilities of Grecian architecture; though he may have done so on other occasions.

Precision of thought, or clearness of ideas, without which perspicuity in the language of explanation is impossible, is served by good nomenclature, as we have often remarked. The want of such a nomenclature has been felt by every conscientious writer on architecture; whilst also it has had perhaps the chief share in alimenting controversies wherein men forget the pursuit of art in that maintenance of dogmas so apt to result from study restricted to that of a single style. Mr. Leeds, as he shows in this new edition of Chambers, has done something, by contributions to our nomenclature, to induce accurate conceptions of things. His term *fenestration*, now generally adopted, has even helped to direct attention to the quality which, most of all the attributes of the architecture of the so-called Revival, gave it the character of original style, the quality which it was left to Barry in this country, to exhibit in erected buildings. The term *astylar* applied to composition where the effect is obtained, without the use of columns, and *mycrostylar*, where the columns are subordinate to decorated fenestration, are also useful. The designation *anthropomorphic pillars*, to comprise Persians, and Caryatides, has also something to be said in its favour. *Intercolumn* for the space between two particular columns, in preference to *intercolumniation*, which would be reserved to the manner of spacing the columns, or proportion; and *portal* when, as often, more exact than *doorway*, or than *door* (which last even, is used sometimes where doorway is meant), are others of Mr. Leeds's additions. He has spoken in their favour in his notes in the body of the present work; but he has not inserted them in the Glossary at the end. *Eumorphic* is an adjective which he finds very useful. *Quadrantes*, for square columns, or piers which show each face as a pilaster, would have a form in the singular that would be scarcely distinguishable from the word signifying the quarter of a circle. *Inter-fenestration* is a term which he would use for the spacing of windows; and *hyper-fenestration* for an arrangement of ceiling-lights.

The ill-effects which can result from an original blunder, and the connexion between false ideas and retention of a term no longer correct, are strikingly shown in the designation, "Orders," which we do not know how to get rid of. Architects may have now a restricted sense of the term; and possibly, even the public, presented everywhere with architecture of some sort, in which the Orders are wanting, may have become disabused of a notion that these "Orders" formed the whole of architecture. It is unquestionable, however, that the art has been retarded by the difficulty of abandoning the term. The editor observes,—

"It is not altogether without reason that the hitherto-received as orthodox doctrine of the Five Orders has been of late brought into disrepute. Not only does it authorise, but even insists upon, not only the most servile, but the most mechanical copyism. Dispensing with, even prohibiting, any exercise of the artist mind, such system reduces what ought to be design nearly to the level of manufacture. What are termed Orders ought rather to be regarded as Classes of columns and their entablatures, which, though conforming respectively to certain normal proportions, and preserving certain characteristic details, admit of great, almost illimitable diversity.

Far better would it have been for Modern Classic had the writings of Vitruvius never been brought to light, or else estimated at their real worth, instead of being regarded with superstitious reverence.

The division of the Orders into five gives either too many or else too few. Too many, because it makes distinct orders of the Corinthian, and that variety of it invented by the Romans, and called the Composite. The same may be said of the modern Tuscan and Doric orders, since they plainly enough belong to one and the same general class: or else, if each strongly-pronounced variety of the same original type is to be accounted as a separate order, the orders might be greatly and also very inconveniently multiplied. There are, for instance, authentic examples of the Ionic which have nothing in common—are altogether dissimilar in expression, except that the capital is voluted. The same may be said of the so-called Corinthian or foliaged capital order, to enumerate all the varieties of which would be no easy task. Let it suffice, then, for comparison's sake, to place only two of them in juxta-position: the Tivoli example of Corinthian and that of the Pantheon, or else that exhibited by Chambers himself as the technically-correct representative of the order. Hardly do we need stronger evidence to convince us that it is possible for striking varieties to be produced which, however strongly marked may be their differences, partake alike of the same generic character."

The Ionic elsewhere, he regards as not clearly traceable to the columns at Persepolis. The question is one on which it seems to us, much more might be said, taking probable dates into consideration, than has been said by Mr. Fergusson. But in undervaluing evidence of some connexion, Mr. Leeds seems to us to overlook the original argument respecting the capital, and the evidence of the fluted shaft.

We are inclined to go farther than he does in the comparison between the Italian voluted capital and the Greek; for, we consider, that however beautiful was the Greek form for the position of columns *in antis*, the capital of the angle column in the Greek prostyle or peripteral plan, with one volute obliquely placed, was a bungle and a deformity.

On the subject of pilasters, or antæ so used, Mr. Leeds, like other writers who say there is no Greek precedent for them, is not strictly accurate. There is one precedent; and though only one, it may be quoted with advantage to questions which he has touched in his "Note on pilasters and antæ." The example, and this is not the first time we have had to mention it, is in the Erectheion. The Greeks also used the square columns, the "*quadrantes*," to the value of which Mr. Leeds has usefully called attention. There is one example in the Choragic monument of Thrasyllus; and the plan of the Parthenon in Mr. Penrose's book, affords some slight evidence that the form was used in the interior of this latter building.

Speaking of arcades and arches, Mr. Leeds remarks that both impost and keystone are essential to the fall expression of an arch of any magnitude; and he instances the "tame effect" from the want of them in "the otherwise noble arch" on Constitution-hill. Rustication, which has been tabooed by writers of a certain class, he speaks in favour of, rightly giving amongst its advantages, that of its producing "richness of surface, and what in architectural language is called *colour*." There are more varieties of it, he shows, than have been introduced into recent buildings. In speaking of sculpture in pediments,—which he would restrict to three figures and ornament, on the ground that the angles with crouching figures cannot be successfully managed,—though the view may be a not ill-founded one, he seems to us to have made an omission in not directing attention to a certain method of treatment, as by the most experienced architect-sculptors, which overcomes much of the objection of the confining framework of mouldings. The standing figures should be so tall, as, with the whole composition in entire relief, to allow some of the heads, or other parts of the composition, to intersect the line of the bed-mould, or even corona, as seen from below. However, there are many crowded pediments that would have been the better, designed as to their sculpture, on one of the methods which Mr. Leeds and Mr. Garbett have recommended.

In his note on balusters, Mr. Leeds remarks on the difference between balusters and columns, in the form, as showing that into what is pleasing in each, the point of scale enters; since the form of either could not be adopted with the scale of the other.

Mr. Leeds's notes on doors, on windows, and on niches and statues, contain some valuable hints. He speaks of the doorway in the west façade of the Bank, as having "not its rival in the metropolis" for *grandiosity*. The treatment of the doorways under the portico of St. Martin's Church he condemns; because the centre doorway, from being arched, yet not rising higher than the others, shows as positively lower. As to pediments over doors that are within a building, or even under porticos, he considers it is not altogether without reason that they are objected to. Distinction between exterior and interior, in design, should be observed; and opportunity should be taken to increase it. This might be by means of a finial of scrollwork, perhaps spreading out below to the extremities of the cornice. He observes of windows, that whereas sashes were formerly clumsy, we have now got into an opposite extreme of dispensing with bars altogether. The effect, he does not consider the best, and remarks that Barry avoided windows divided only by the meeting rail of an upper and a lower sash. He objects to Hosking's condemnation of "Venetian" or three-light windows.

Whatever may be our conclusions on the subject of sculpture in pediments, there can be no doubt as to those of Mr. Leeds on that of statues on the summit of a building. He would place good sculpture where it can be seen, say in a niche, where it is framed in, and relieved by background of shadow, not seen against the sky, as well as foreshortened from below. He somewhat overestimates, in this, the force of his argument: the case is not quite like that of a statue with a window as background. We might refer him to the effect of the group on the eastern pediment of Covent Garden Market. Could anything better be substituted, considering the slight distance from the spectator, and the background as generally or in whatever sort of weather? Vase-forms, or pinnacles, which might be designed,—though we must say, not even Barry quite succeeded,—Mr. Leeds prefers to statues. The niche, scarcely known to the Greeks, he remarks was a happy invention; and he shows that it is capable of great variety of treatment, and of being made to contribute largely to internal effect.

Chambers's treatise is rather deficient in matter relating to interiors. Mr. Leeds gives one of his longest notes to ceilings and ceiling-fenestration, which last he rightly regards as a hopeful source of future effect. The difficulty in getting balance to windows which are on one side only of a room, is certainly considerable. We should agree with him, that art of the first class may be thrown away when the ceiling is treated as a picture. Even the French, whose recent architectural productions would have served Mr. Leeds in some of his arguments, have not yet learned to avoid the mistake of the old masters. But we have seen many a ceiling, as in French *cafés*, painted as a sky, and sometimes with birds flying, which we were not disposed to wish otherwise treated. Such cases, where there is no imitation of balusters or other architecture, and no chandelier, are distinct from those painted with historical subjects. How far he may agree with us, we cannot stop to consider. He is a great admirer of Soane's talent in interiors, as exhibited in the house in Lincoln's Inn-fields, where one room has a *velar* ceiling, — or one domical over a square plan, and having what would be the diameter or span of the perfect dome corresponding with the diagonal of the square,—the springing of the dome or pendentives being in this case, from the floor.

The author of these notes has not omitted to show how much he dissents from many of the architectural tendencies of the day, such as the "rampant Gothicism," "which seems to affect, as its characteristic, the veriest *sans-culottism* in regard to architectural design and composition." "The

very fact" of the Anglo-Classic, or Anglo-Italian, "being anti-Mediæval in character," he says, "ought to recommend it to us all the more, since all our social sympathies, and feelings, and tastes, are enlisted on the side of Modernism, in opposition to Mediævalism;" whilst it does not follow because further advance in a style has not been attempted, that such advance is impossible: we should be rather pleased to see that so much is left to be done that has been overlooked. He thinks it remarkable that Italian-Gothic should have been taken into especial favour by those who object to Italian Classic. Objection on the score of foreign origin surely applies to a Gothic which is decidedly inferior to that of our own country, and in which verticality and the gable are not strongly marked. The gradual lowering of the arch in the apertures of domestic buildings, till at length it was discarded for the square-head, more accordant with horizontal ceilings, he deems worthy of notice. Symmetry, and the evidence of artist-mind, are necessary in fine-art architecture; and these he does not recognize in the irregularity of the Gothic. It may be difficult to reconcile such requirements of external design with those of internal plan; but such difficulties may lead to happy results; and at any rate, if external design is to give way, we have, he says, a right to expect that the *planning* shall not be the mere tacking together of room to room, which is the best that can be said of the distribution of more than one recently-erected large country mansion.

NEW MATERIALS FOR THE LIFE OF JOHN FLAXMAN.*

I NOW give *entire* the valuable annotations of Flaxman's sister-in-law (Miss Maria Denman) on my father's Life of Flaxman. I need hardly add that Miss Maria's criticisms and additions appear in print for the first time:—

Page 275. Mr. Flaxman was of a quick and hasty temper when young, as well as of an enthusiastic mind; but corrected by good sense and sound judgment when grown to manhood.

Page 276. He never was under the direction of Mr. Roubiliac, or any one else.

Page 277. Mr. Flaxman befriended Blake, as well as many others, but without being assisted by any one, besides recommending him to many of his friends.

I believe the story about the crutches to be an entire fabrication: he was always reckoned a delicate and weak child, but not *infirm*.

Page 279. The noble lord, who lacks both sense and good feeling, shows the narrowness of his own mind by endeavouring to turn into ridicule this high-minded and talented man, whom he found so much his superior, and whose worth he could not understand. He has conjured up this story from some very trifling occurrence (having just wit enough for this), in order to gain that attention, when a draft on his own resources would not have been honoured. Mr. Flaxman was as free from *personal* vanity as any man living.

Page 279. *This story of Mortimer's is wrongly told.*

Young Flaxman was receiving lessons in drawing at school. One evening, a friend coming in, the lad showed him a copy of an eye he had been making from a drawing by his master, when this friend asked him "if it was a flat-fish?" This jest gave the youth so mean an opinion of his master's abilities, that he could not be prevailed upon to take any more lessons. Nor do I think *Mortimer* was the friend.

Page 281. Mr. Flaxman was a good Greek, as well as Latin and Italian scholar, and was not a bad French scholar, though he did not speak it well. He always made his designs from the original text, unless he had to compose subjects to accompany translations.

Page 282. It was the year after his death that the statue of Kemble was exhibited at the Royal Academy.

Note to page 282. The three small busts of Mr. Flaxman, sen., Mr. Howard, and Mr. Hayley, were modelled soon after Mr. Flaxman came from Italy.

Page 285. Conceit was never the characteristic part of his character. There seems but little knowledge, judgment, justice, or foresight in the Academy at this time in this affair.

Page 290. There was nothing like despondency in his composition,—quite the reverse. Courtship and matrimony rather doubled his diligence than retarded it. Mrs. Flaxman never called her husband "John" in her life; it was "Flaxman;" nor did he ever call her "Ann" (this mode of speaking of them totally changes their character); it was either "my love," or "my dear Nancy."

Page 292. *You must be careful how you quote [Nollekens] Smith;*—he had too coarse a mind to understand Mr. Flaxman's ways, and knew very, very little of Mr. Flaxman's affairs. Mr. Flaxman never was a collector of water-rates,—at least, I never heard it; but I do know that he scrupulously avoided all parish business throughout his life. The ink-bottle story, as well as many more that he and others have related, must belong to some one else.

Page 293. The monument to Collins was executed in 1795; consequently, not till after Mr. Flaxman's return from abroad.

The group of Venus and Cupid was not his favourite work: the poet Collins and Miss Cromwell were.

Page 296. It is not true that he transcribed subjects from the Greek vases, for his Homeric works; this was done in part for what he did for Mr. Wedgwood.

Page 303. The *group of Athamas** was, by some unaccountable accident, lost sight of for many years. Nor did it come to England till within these few years, when it was purchased by the present Lord Bristol, and sent to Ickworth.

The restoration of the group of *Hercules and Hebe* was an order from the late Mr. Thomas Hope. Mr. Flaxman never approved of it himself after it was finished; therefore he refused to work it in marble, *though pressed to do so by Mr. Hope;* nevertheless it was a general and a deserved favourite of *all* who saw it; and it is greatly to be regretted that it was destroyed. This you would have said had you ever seen it.

Page 321. The basso relievo of "Christ raising the daughter of Jairus," was designed for a monument to the memory of a young lady in 1822.

Page 321. "Feed the hungry," and "Comfort and help the weak-hearted," were also of a much later date.

Page 322. It is not till after an artist has been elected an Academician that he is expected to present to the Royal Academy a specimen of his art.

I no not understand the drift of your tailor story in this place. It seems to me what the painters call "out of keeping."

Mr. Flaxman did not desire to be employed on national works. He infinitely preferred the employ of private individuals who had good sense enough to leave the artist to his own taste and judgment, which is not always the case with committees. But on this occasion, Mr. Flaxman, with other artists, both sculptors and architects, were called upon to make designs for a national monument. He not only made a model of *Britannia Triumphant*, but two other designs, one a triumphal arch, the other a naval pillar, besides writing the letter you speak of; but, at the request of the committee, in this act he was not singular. Other artists did the same, and when they were all brought together in one room they formed a very interesting exhibition; and as a large subscription had been raised, it was thought something would be done. But as you say [p. 323], "The *committee deliberated* and dined, as committees generally do, and then as deliberately let the *money* as well as the matter drop;" but whether into their own pockets or any other strong box, remains a secret to this day. On this subject history is silent!!! and there this matter ended. Nor did the failure of this plan grieve *Mr. Flaxman*, except in a national point of view, for it had taken up much of his valuable time from more important business, and the *remarks you have quoted* my brother might well smile at—they are such as envy flings at superior merit.

Mr. Flaxman did not execute the monument to Walker and Beckett.

The *statue of Earl Howe* was purposely left unfinished, in order that it might be finished working in the light it was to remain in, which was very different to that in his own study.

And with respect to national monuments, we ought to take into consideration how artists are tied down by the commonplace notions of committee-men who are, on these occasions, lord and master.

Page 326. "It was the practice of this eminent artist to work in marbles from half-sized models." This was not altogether the case, and when he did it was from necessity, and not by choice. All his early works were modelled *full size*, as well as many of his latter ones. The whole of *Lord Mansfield's monument*, for instance, and others of the same period, were modelled full size; and only those that required a greater height than he had in his own study were modelled half-size, and that on account of not getting false perspective by looking down on the work; nor did he do it to save expense: so much was he the other way given, that I have known him to add in one instance only marble and work to the amount of 200*l.* when he thought it would improve the composition, and that at his own certain loss; and his mode of having his models put together was precisely the same as you recommend.

Page 353. Mr. Flaxman did *not* select from Pope or any other translator, but composed and designed his Shield of Achilles *entirely* from the *original Greek text. It is a very great error to say "he was not a good Greek scholar."* The subjects on the shield (which are seven in number) are continued without any visible division. The faint waving lines you speak of are only the seams, unavoidable in a cast from a piece-mould, and which on my cast I would not have removed.

Page 355. *Kemble* is in the character of Cato.

Page 355. *The statue of Burns* was to be a portrait of the man. Considering this, I think he is made as good-looking a youth as the subject would allow. The first sketch that was made for the statue I think was very preferable: so thought Mr. F.; but that was rejected as not being like the man.

Page 357. *Mr. Flaxman* had the highest regard and friendship for Mr. Howard, both as an artist and a man; but *his old friend Stothard* he could only admire as an artist.

Page 361. "Flaxman usually rose at eight o'clock,—breakfasted at nine," &c. Mr. Flaxman was always a remarkable early riser. He usually rose at six or soon after, and frequently much sooner; he was mostly up first in the house, and generally first in his study; he mostly breakfasted at eight, and sometimes much sooner.

Page 357. The visitor with his book I received myself one morning, my brother being out.

Page 358. Mr. Flaxman had taken a most violent cold at a friend's house. He had medical assistance; he was a most dreadful sufferer for the last three days, which he endured with a saint-like fortitude to the latest moment of his earthly existence, which was terminated in my arms; nor did he ever wish or ever have other attendance than what he received from her whom he and his wife had adopted as their daughter in her early life. His sister, Miss Flaxman, had lived comparatively but a short time with them, and that till latterly only as a visitor.

On his Wife's *sister* only devolved all the duties and cares of his family, not only after, but long before the loss of this most inestimable wife, and between Miss Flaxman and myself subsisted the strongest and warmest friendship.—*From Miss Maria Denman.*

Flaxman made two standing statues (portrait-statues without accessories), and two only. Their influence upon Chantrey was immediate and lasting. I refer to the bronze Sir John Moore (of Corunna) in the open air in Glasgow, and to the marble Sir Joshua Reynolds in St. Paul's Cathedral. Careful casts of these fine statues should be added *at once* to the Flaxman Gallery in University College, London: they would add to Flaxman's reputation, and assist materially in explaining the scope and characteristics of his genius.

PETER CUNNINGHAM.

* Concluded from p. 38, *ante*.

* The Fury of Athamas, a group of four figures above the natural size, executed for the Bishop of Bury, at Rome, price 600*l.*

MANUFACTURES IN METAL.

THE jury report on Class 31 of the International Exhibition is one of the longest and, we may add, most complete of those issued. Mr. Alfred Tylor, who drew it up, has in the course of it given some observations on the effect of the patent laws, the influence of architects in improving the quality and design of articles in metal, and has treated at some length of the education of those classes who are engaged in manufacture, at the express wish, it seems, of some of the foreign members of the jury, who propose to translate his report for the benefit of their respective countries.

We give a few paragraphs from the report, and note that it is published separately by Bell & Daldy.

Bronzes.—"The Japanese and Chinese bronzes show great perfection of workmanship. There are numerous specimens from Japan, in which the moulding operation is accomplished by inclosing a real basket in sand and then burning out the wood. When the molten metal is poured in it fills the mould, and becomes solid where it touches the sand first. The remainder of the melted metal is poured out as soon as the bronze basket is of

sufficient thickness, as is the case when plaster casts are made.

These imitations of natural objects in cast bronze are certainly in advance of anything old or new that has been produced in Europe. In the castings from baskets made of plaited grass the structure of the leaves is quite visible. Where the shape of the basket is simple, either with a wide aperture or with a false bottom, as in some specimens, the ashes might have been blown out of the sand mould after the basket had been carbonized; but this could not be done with the delicate handles of basket-work projecting from the baskets. The handles must have been cast first by the same process, or perhaps twisted and plaited out of strips of bronze. In one specimen I purchased, the bronze or copper wire which fastened on the metal handles to the wicker basket previous to moulding still remains, but of course burnt in, as the union of a piece of cold metal with metal in a state of fusion is termed.

This helps us to understand the manner in which insects with their extremities, and tortoises, are cast on the exterior of the basket, as in some specimens purchased by Mr. Moffatt, M.P., and I think General Malcolm. The insect or tortoise must have been cast either by the *cire-perdu* process, first in wax and then attached to the grass basket, and then moulded, and the woody matter and wax got rid of by heat and blowing; or the insect and tortoise must have been moulded in sand, heated, and then the animal and mineral matter blown away, then cast in bronze, and then attached to the grass basket to be moulded; the heated metal uniting with the cold in the sand-mould, and connecting the insect with the basket without any appearance of a joint.

It would be interesting to learn something of the antiquity of this process, which is the analogue of the cire-perdu process mentioned by Celliui, but superior in that the basket is a harder material than the wax, and would therefore bear more pressure without losing its shape. The grotesque figures of iron and bronze in the same collection are said to be of great antiquity—perhaps older than those forms employed by the Gothic architects.

Eastern patterns in woven goods seem to have spread centuries ago to such distant points, and to have remained up to the present time in general use. The Venetian glass and woven wire-work are now known to have had an Eastern origin; so that we can hardly see anything which assimilates to an Eastern form without imagining it is a copy, and not an original production of the Western land we find it in.

Zinc Bronzes.—The first cost of the plaster model and the metal moulds required for such imitation bronzes is of course considerable. Zinc figures are cast in metal moulds (which take to pieces), generally in several parts. These parts are soldered together with soft solder, and then galvanized and bronzed, and cost very little for wages and material—perhaps not one-fourth of the price of real bronze. They have formed an important branch of commerce, and spread many good examples of tasteful metal-work amongst a class who have not the means of purchasing more expensive works. The imitation cannot compete in quality with the real bronze; because, however well cast the zincs may be, they have the appearance of moulded works, the surfaces being left from the mould, and only the joints repaired; while the real bronze, touched in every part by the hand of the skilful chaser, has a life and vigour which the cultivated amateur can appreciate.

Electrotypes.—Among the French bronzes are some excellent exhibitions of galvano-plastique, or electrotyped copper, bronzed and silvered. The application of this beautiful process is attended with several difficulties which limit its application. An under-cut pattern cannot be electrotyped except in a mould of gelatine or some elastic material, because of the partings of the mould being apparent. Gutta-percha coated with plumbago is the material now employed. Some beautiful examples of the perfection of detail obtained by electrotyping may be met with in the exhibits of Christofle and Lionnet.

An ingenious plan is adopted to strengthen the thin material which is too light for use when taken from the battery, viz.,—by melting brass wire with a blowpipe and dropping it into the interior of the electrotype like sealing-wax, so as to give the requisite solidity. This process is peculiarly applicable to *appliqués* ornaments for furniture where flat ornamentation is permitted, and where delicacy of detail is required without undercutting or false coring; but at present, although it is easy to throw down by electricity a surface of brass on the copper, yet the surface cannot be lacquered so as to keep its colour. This happens because the brass has to be brightened by dipping in acid previous to lacquering, and a portion of the acid remains in the interstices of the crystalline deposit and oxidizes the brass in a few days, so that the surface below the transparent lacquer assumes a dark-brown colour. This renders the cheap process of laequering inapplicable; and gilding, which costs twenty times as much, must be employed. If any plan could be discovered of lacquering electro deposits instead of gilding them, we might hope to see a particular kind of very highly-finished ornamental brass-work produced at a very low price. The master-pieces of chasing and repoussé work can be reproduced by the electro process, so that copies could only be detected from the originals by the aid of a microscope, and might be multiplied in metal as perfectly as impressions from an engraved plate are transferred to paper, giving delight and instruction to the public."

Iron Gates.—"The gates exhibited by Messrs. Hardman, of Birmingham, are, as a piece of pure wrought-iron work, as fine as anything in this class. The construction is very simple, consisting of wrought bars decorated with mouldings; the enrichments being formed of pierced plates of iron filling up forms marked out by slender bent scrolls, in which are again laid conventional imitations of foliage. No other metal or material is introduced, and no part of it is painted. As a specimen of iron work in the style of the fifteenth century, this work is not surpassed. The same grace and refinement that characterize this work are also seen in many of the smaller objects exhibited by Messrs. Hardman.

Messrs. Barnard & Bishop, of Norwich, exhibit some gates intended for the entrance to the bishop's palace. The piers are of cast iron, and the gates are enriched with imitations of natural flowers and leaves scattered in great profusion over the whole of the spaces between the bars. Whilst recognizing the labour bestowed on these gates, we must express our opinion that had they been designed by an artist more conversant with the many noble examples of metal work that are to be found in all parts of Europe, many mistakes would have been avoided, both in conception and mode of execution; and a greater effect produced with less expenditure of labour, and therefore cost,—a result always aimed at by the true artist, as one of his most important duties. The substance of iron out of which these decorations are formed is so excessively thin, and has been treated in such a manner, that we fear the gates will soon be injured, placed as they are to be in the open air, and in a position where they may be exposed to damage by violence."

Reproduction of Mediæval Work.—"We have an instance in the rapid improvement of Mediæval work, how soon an industry answers to the demands made upon it when money is forthcoming on the part of the public, and a guiding hand is applied by the architect. To this learned profession the Mediæval work of England is indebted for its regeneration. The bronze trade of France took its rise also under the direction of the architects of the royal palaces, and we may look for similar improvement in every branch of ornamental decoration when architects have funds at their disposal and take the trouble to direct the manufacturers and workmen, as it has been once in England, and as it was in the best days of Italy, when the architect was also sculptor, and did not disdain the complete mastery of the details of every branch of his profession.

The mechanical processes by which all this group of works have been formed do not materially differ, whatever may be the style or character of fine art that the producer may have given them, and are very simple. The metal, being first forged into bars or plates of greater or less substance and size, is then worked by the hammer into the forms required; the decorations being added to the essential and merely useful part of the object, principally by means of scrolls or applied ornaments, beaten out by the hammer and engraved on the surface; so that it will be better to consider these works in subdivisions, suggested rather by their decorative than mechanical distinctions.

The most striking peculiarity observed at first sight is, that the whole of the objects exhibited, with very few exceptions, present marked signs of their origin, and are separable into two great divisions—those that have for their type the works of the Middle Ages, and those which followed the forms of art which prevailed in Italy in the seventeenth and eighteenth centuries. To enter upon the question of this obvious imitation, and to inquire whether it proceeds from a general demand for works only in particular styles of art, or whether from the want of power in the workman to produce original designs, seems to us foreign to the purpose of this report; but it may not be without service to ask those interested in the state of the decorative arts in this country, and who are engaged in promoting their advancement, to give their attention to the fact. To compare works of this nature in such very different styles would lead to discussions which would be out of place here.

We may remark that the artists among the Greeks succeeded in producing their best effects by the most simple ornamentation. The Mediæval artists worked in just the opposite direction.

The Mediæval works consist of objects, for the most part, made for ecclesiastical use, and intended to be placed near the eye, which must be borne in mind in remarking on the skill with which decorations are applied, and the high finish and great delicacy of most of their details. It is gratifying to find that although in the Exhibition of 1851 some of the metal work shown may have been as highly finished as any produced on this occasion, yet there is a marked advance in the power of applying the resources of the art to accomplish the ends in view, and a greater boldness in the use of forms imitative of natural objects, without any falling off in the care with which the works are finished, or the labour bestowed in ornamenting them. Colour, which scarcely made its appearance in 1851, as applied to metal work, is now frequently used, either in a general painting of the whole surface, or in enamels, or by means of metals of different kinds, mingled with crystals and precious stones in the same object—modes of decoration very legitimate as applied to works in metal, and which it is hoped may be more extensively used in future."

"It is necessary for the skilled mechanic to be himself instructed in art, and the manufacturer must have the requisite knowledge, or seek the assistance of those who have received a sound education in it, to be able to produce with propriety and beauty any work he is called upon to produce.

Coarse, ugly, or feeble attempts at ornamentation,—for which English manufacturers have been so often justly condemned, and which the workmen of continental nations have been so much more successful in avoiding,—arise from a want of artistic knowledge on the part of masters and workmen; and we would urge upon those who are able to influence the producers of manufactured articles, either as having an especial acquaintance with the art of ornamental design, or merely as purchasers in the market, to demand that propriety and refinement of ornamentation shall be essential characteristics of all works on which even the least decoration is bestowed. The employment of artists skilled in design, and of mechanics who have sufficient knowledge of art to enable them to execute works designed for them without destroying their beauty of form or expression, would inevitably follow on the demand being increased for really appropriate decoration; and the works now requiring the assistance of foreign artists would in time find skilled workmen amongst our own people, fitted for the production of the finest subjects."

PHOTOGRAPHY EDUCATIONALLY APPLIED TO THE MAGIC LANTERN.

AN interesting and important practical paper was read by Mr. Samuel Highley, F.C.S., at the Society of Arts, Adelphi, on the 14th instant, on this subject. The paper was illustrated by various diagrams of convenient apparatus for lecturers and other teachers, whereby photography may be made more readily and efficiently applicable to educational purposes. Mr. Highley also exhibited, on a large screen, an extensive series of lantern views of scientific subjects, illustrative of the application of photography to the representation of geological, botanical, zoological, microscopical, astronomical, geographical, ethnological, biographical, and pathological subjects; and afterwards examples of the representations of the artistic works of Kaulbach, Schnorr, and Hogarth; together with groups of sculpture, as well as some specimens furnished by Mr. Charles Jones.

Towards the conclusion of his paper Mr. Highley made the following remarks:—

The advantages I claim, then, for magic lantern views over those in general use, when educational value is aimed at, are delineations truthful to nature and abounding in detail, cheapness, compactness, as compared with paper diagrams, and their utility in museums, when not in use for their legitimate purposes.

Beyond the department I have specially dwelt upon this evening, I may say a few words upon the educational value of stereographs, but only a few words, for every one must have felt their value; though unfortunately they have never been published in a systematic form so as to give them a true value for the purposes of scientific instruction; but, if systematically produced, the schoolmaster, the provincial lecturer, and the professor of natural history, might bring many unique specimens, scattered through the museums of the world, within the ken of their pupils: in fact, the treasures of our British Museum might be carried in a professor's coat pocket. Such productions ought to be accompanied by descriptive letterpress; and this leads me to the application of photography to book illustration.

I was one of the first—I believe *the* first—who applied photography in this direction,* but I feel bound to state that we can never look to the present method of producing photographic prints, if we wish to apply the art to the purposes of book-illustration, for the cost of each print is too great for popular educational adaptation; but there is a method to which I look with hope, viz., the photo-galvanographic process of Paul Pretsch. By this invention the counterpart of wood blocks can be produced from a photograph negative; and every publisher will, I think, back my assertion that this is the right and principal direction in which experiments should work; and I trust to see the day when Paul Pretsch's unwearied labours will, as they deserve to, be crowned with complete success.

In conclusion, I would say that every exploring expedition should be accompanied by its official photographer; that every national museum, observatory, and hospital should have its appointed operator; and then the hoped-for time may come when we can, in systematic manner, place the records of scientific travel, the transcripts of Nature's treasures, and the history of the progress of fell disease, upon the screens of our lecture theatres, the stereographs of our cabinets, and the pages of the books in our libraries."

PARIS.

THE interior arrangements of the new buildings for the Library of the Arsenal, and the restoration of the older structure, continue to be carried on without interrupting the service of the establishment. The works are at present confined to the façade of the Rue de Sully, which is being thoroughly pointed and repaired in the same manner as the rest of the building, now completely renewed.

Before the Revolution the Arsenal was divided into two portions, the "Grand" and the "Petit;" the latter exists entire at the present time, and is occupied for the manufacture of gunpowder and saltpetre: as to the former, nothing remains of it but the buildings of the Library of the Caserne de Sully. This establishment, which was in the time of Louis XIV. the most important of the kingdom, dates from François I., who converted it into a foundry of ordnance, and made use of storehouses, which he borrowed from the town of Paris, but never gave back. Under Henry II., saltpetre mills and various constructions for the artillery service were erected, but they were blown up by the explosion of 20,000 lb. of powder in January, 1562, in the time of Charles IX. These buildings were immediately reconstructed on the same spot, and subsequently Louis XIV. ordered the building of the Petit Arsenal. The Rue de l'Orme, the Rue de Sully, and the Place de l'Arsenal were then interior courts: on the Quai Bourdon and the site of the *Greniers de Réserve*, were the gardens.

REMOVAL OF ST. THOMAS'S HOSPITAL.

ON Tuesday afternoon a meeting of the governors of St. Thomas's Hospital was held at the London Bridge Terminus Hotel, for the purpose of receiving a report from the Grand Committee relative to the removal of the hospital. Sir John Musgrove presided.

The report submitted stated at some length the nature of the various sites which had been approved of by the Grand Committee, namely, Bethlehem Hospital; the Fishmongers' land, Walworth; Surrey Gardens; land at the back of Newington Church; Myatt's Strawberry Ground, Camberwell New-road; and the Lambeth Thames Embankment, opposite the Houses of Parliament.

The architect of the hospital gives the following

Summary.

No.	Names.	Acreage.	Approximate Cost.	Rate per Acre.
1	Bethlehem	11	£160,000	£14,545
2	Fishmongers'	8	46,000	5,750
,,	Ditto, with addition of plots A, B, C, D	13	104,000	8,000
3	Surrey Gardens, including Manor Tavern ..	14½	77,500	5,345
4	Ditto, with additions of Penton and Canterbury Places	17	100,500	5,910
5	Land at the back of Newington Church..	..	no estimate.	—
6	Myatt's Ground	30	39,000	1,300
7	Thames Embankment	7	no estimate.	—

On the motion of Mr. Tite, seconded by the Treasurer, it was resolved, after a long discussion, that the report be received, and "that the several sites be referred back to the Grand Committee for further consideration, with a view to obtain more information in reference thereto, and to report thereon, as well as with respect to any other site which may present itself in the meanwhile, to the next meeting of the governors."

Little was said in favour of any of the sites. The site at the back of Newington Church (nothing being known of price), appeared to have the strongest advocate.

The wildest of the propositions is that which includes pulling down Bethlehem, rebuilding it on other land elsewhere, and erecting St. Thomas's Hospital on its present site.

In the course of the discussion, Dr. Leeson, who holds with us the opinion that the main establishment should be a little way out of town, said his worst fears as to the Surrey Gardens building had been realized. No case of burns had been admitted that had not proved fatal.

We sincerely hope that the committee will still look further afield for a site.

A GOVERNOR, known to many of our readers, addressed some observations to us last week, on the communication signed "I. H. E.," in a previous number; but these reached us too late then for insertion. Part of them may still be usefully printed, as regards the general question.

The vital point for decision is whether the hospital ought to be rebuilt on some site in near proximity to its former position in the heart of a thickly-populated district, or at such a reasonable distance from town as to combine the advantages of a pure atmosphere with efficient medical supervision.

In considering the first part of the subject, we must not overlook the stupendous change which London has undergone since the hospital was first erected on the side of a bright and pure river, and in a comparatively open district; nor its present rapid increase as regards size and population. We must bear in mind, too, that Guy's Hospital still remains for the wants of the locality as well as of the city, and that universal experience proves the necessity of salubrity of situation and pure air, even to the healthy; or why all the present vast expenditure in drainage and the embankment of the Thames, or the legislative enactments for the regulation of trade works, &c.? But I will not weary your readers by specifying unnecessarily objections which their own minds will suggest. I would rather point to the great fact that the medical officers attached to the hospital were so strongly convinced of the necessity of a change of locality, even before the extension of the railway was contemplated, that more than once they so reported their opinion to the governors; and upon the railway being proposed, they added the weight of their testimony to the fact that, if carried out, *the situation would be rendered totally unfit for the purposes of an hospital*; and this opinion, which they repeated before the Parliamentary Committee, applies, as I think, with equal force to any situation within a mile at least of the whole southern bank of the Thames, owing to the great increase of late years in manufacturing works of an unhealthy character, and the density of population.

I might almost rest my argument for the desirability of a change of situation on the words of "I. H. E." when, in advocating the beneficial effects of the limited opening formed by the railway, he says it would bring along in its course "a broad river of fresh country air up to the centre of the densest population, enabling many thousands to pass quickly and cheaply to their suburban homes." He discourses eloquently and well of the great good of the railway lifting the poor from the alley and the court to more favoured positions, and of others to Blackheath or Lewisham.

With such right appreciations, I hope to receive his aid in the endeavour to secure to the suffering patients of St. Thomas's the fullest possible advantage of pure air; adding to it the quiet and retirement which a removal to some convenient locality in the adjacent country would so gratefully afford.

To remove some of the probable objections to the change, I would suggest an auxiliary hospital of moderate dimensions in St. George's-fields for the reception of accidents and cases of extreme urgency.

Admitting the importance of an hospital as a school of medicine; still that consideration must be subservient to the welfare of the patients. But it would, perhaps, be to the advantage of medical students even to spend a portion of their time in the country. The known liberality of the profession would prevent the hospital losing the advantages of the highest medical and surgical skill. The anatomical school should be altogether separated from the hospital. The removal of this blot from our great hospitals would tend greatly to their popularity and the mental quiet of the inmates. It may be remarked that a small proportion only of the patients of old St. Thomas's belonged to the neighbourhood: they mostly came from the country districts; showing that the removal to some situation out of town would not lessen the utility of the establishment.

I close my remarks with the sincere hope that all will weigh the subject apart from every prejudice, and with the single aim to benefit the poor and suffering patient, and to restore him as quickly as possible to health and strength.

Norbury Park. T. GRISSELL.

STAMPED ZINC WORK.

WE are asked to say that the plates of zinc and ornamental stamped zinc-work mentioned in our notice of the new warehouse in Bow Churchyard (p. 49, *ante*),* were executed by Mr. J. W. Tyler, of Wood-street, Westminster, who also executed the noticeable zinc roof, with dormers, in Piccadilly, nearly adjoining the late Mr. H. T. Hope's mansion. The latter was done under the direction of Mr. James Edmeston, by whom, indeed, the stamped zinc-work has been mainly introduced here. In Paris about 2,500 tons of zinc are now used annually for stamped ornament.

INSTITUTE OF ARCHITECTS.

THE extent to which one or two members of a government, parish vestry, or society's council, can commit their colleagues, and render them ridiculous, would be remarkable if it were not common. This was felt pretty strongly at the Institute on Monday evening, when a meeting was held to consider the recent foolish regulations to shut out reporters and prevent the publication in the journals of papers read at the Institute,—regulations passed in the dog-days, as we have been told, by a very small minority of a new council.

The president, on Monday, perhaps expressed the views of the majority present, when he said that, if he had been at the meeting of council, he would have opposed the measures: the principle involved was on the face of it unpopular in England; but, as the authors of them had taken trouble on the subject, he would give them a trial. At all events, after a discursive conversation, which, like the whole affair, has been aptly described by an old member as a "muddle," the regulations are to be allowed to stand. The reasons and apologies offered for them were, we are bound to add, of the weakest description: the real origin was kept out of view. The Institute has been much damaged by the transaction; but we have neither space nor inclination at this moment to speak further of it.

GLASGOW ARCHITECTURAL SOCIETY.

AT the last meeting of this Society, Mr. Alex. Thomson, the president, in the chair,

Mr. Jas. Boucher brought forward the following motion, of which he had previously given notice:—

"That it is the duty of this Society to watch over all public competitions which may take place in this city and neighbourhood, in order that the terms or conditions may be faithfully carried out, and any infringement of the same by the competitors or promotors of such competition be brought under the notice of this Society."

* The *Builder*, we believe, was the first to suggest the illustration of books by photography.

* The architects of this building were Messrs. Tress & Chambers,—not Chamberlain.

Mr. T. Gildard seconded the motion, and commented at some length on recent doings with reference to the Wallace competition.

Mr. Stevenson suggested that, by way of giving the resolution a more practical shape, it should comprise instructions to the Council of the Society to watch over all public competitions.

Mr. Boucher adopted the suggestion, and accordingly the following words were added to his resolution: "And it is accordingly remitted to the Council to carry out the object in view."

The resolution, with this addendum, was unanimously adopted.

Mr. Wm. M'Adam afterwards read a paper on "Imperishable Material applied to Sash and other Pulleys, Economical Sash-weights, and Improved Methods of Hanging Windows." The material proposed by Mr. M'Adam for pulleys is vitrified stoneware, which has the advantage of being proof against the destructive action of the weather. For window-weights he substitutes a cheap material manufactured out of various kinds of refuse; and he suggests an improvement in the mode of hanging windows whereby one weight can be made to answer the same purposes as two applied in the usual way.

NORTHERN ARCHITECTURAL ASSOCIATION.

THE fourth annual meeting of this Association was held in the Old Castle, Newcastle, on Tuesday, the 13th instant. The chair was taken by Mr. Thomas Austin, Vice-President of the Association. The report having been read by Mr. Oliver, showing a balance of 10*l.* 17*s.* 2*d*, in the hands of the treasurer,

On the motion of Mr. F. R. Wilson, seconded by Mr. R. J. Johnson, the report was adopted.

The chairman then read an address. In this he reviewed the proceedings of the Association. In the course of it he said,—"We have found the scale of charges drawn up and sanctioned by this society most valuable to us in our practice, reference to it being, in most cases, decisive in questions of remuneration. The scale of charges recently issued by the Institute of British Architects is a most valuable one, coming from so high an authority. It is singularly corroborative of the justness of the decisions at which we ourselves had arrived; and I may here remark that it is unsatisfactory in the same degree as our own in the question of charges for valuations. Neither our scale nor that of the Institute provides satisfactorily for the remuneration of a class of valuations, which are with us a matter of constant occurrence. I refer to valuations of house property, as guides in cases of mortgage or sale.* I can only infer that in London this is not a part of an architect's practice (the division of labour in London being more marked than in the provinces); but throughout the provinces this is a very common, and I may say, important part of an architect's duty. I think that a revision of these charges in our scale is desirable."

Thanks were voted to the chairman and Mr. Pritchett for the manner in which they had represented the Association at the Architectural Alliance meeting in London.

INSTITUTION OF CIVIL ENGINEERS.

ON January 13th, the paper read was "On Railway Telegraphs, and the Application of Electricity to the Signalling and Working of Trains," by Mr. W. H. Preece, who discussed the various systems that had been introduced in working long tunnels, single lines, steep inclines, &c.

The first application was that of Mr. Cook, the original introducer of the electric telegraph into practical use for railway and commercial purposes. He suggested and established on the Eastern Counties Railway, between Norwich and Yarmouth, in 1844, what was now known as the "block" system.

Mr. Edwin Clark perfected the scheme of Mr. Cooke, in the system he introduced upon the London and North-Western Railway, which was fully described. The needle instrument was employed, but its indications were made permanent by the use of continuous currents of electricity. It not only showed when the line was clear, and when there was a train on the line, but also the occurrence of an accident.

The advantages and disadvantages of speaking telegraphs in connexion with signalling apparatus were considered; and it was maintained that a speaking telegraph should never form a portion of a signalling system, but be a separate and independent agent.

The danger of using the telegraph as a medium of conversation, without carefully writing down everything sent and received, and the necessity of repeating every important message, were adverted to. The use of record-books, as a check upon the telegraph, was also advised. The method of working single lines by telegraph was then discussed. It was argued that single lines, properly worked, would be sufficient to meet a great portion of the traffic of this country; and that large sums of money had been uselessly expended, in consequence of Parliament compelling railway companies to make double lines where a single line would have been ample for the requirements of the district. This had been owing to the absence of a reliable signalling apparatus, and the want of confidence in, or knowledge of, the telegraph by railway managers.

* See a letter on this same point in our present number. ED.

WATER SUPPLY OF TOWNS.

AT a recent meeting of the Manchester Literary and Philosophical Society, a paper was read by Mr. Edward Hull, B.A., on "The New Red Sandstone and Permian Formations as Sources of Water Supply for Towns." The paper commenced by pointing to the advantage enjoyed by most of the large towns of the central counties from their geological position, when built on the new red sandstone. First, from being in proximity to coal; second, from having a dry foundation; third, from having easy access to building-stone; and, fourth, from the fact of their resting upon natural reservoirs of water stored up in the sandstone itself.

The author considered that many of these towns had not taken full advantage of this last-named source of water-supply, partly from a distrust of the resources of the rock, and partly from the failure sometimes sustained in consequence of the positions for the wells having been selected without a proper regard to the geological structure of the country.

The author referred to the failure of the attempts to obtain fresh water at Rugby, and a sufficient supply at Wolverhampton; and he maintained that an abundant supply might have been found at the latter town had the position for the well been selected with due regard to the geological structure of the country.

The author then proceeded to lay down certain rules of general application for the selection of proper sites for wells, and illustrated the subject by reference to a well now being sunk under his direction at Whitmore, for the supply of the railway works and town of Crewe. The position of the well is in a *trough*, both geographically and topographically; and on a 4-inch bore-hole being sunk to a depth of 148 feet, the water ascended to the surface with a head of 4 feet, and has continued to flow without diminution for the last six months.

The well, which is being made within 100 yards of the bore-hole, has only reached a depth of 60 feet, but already yields 250,000 gallons per day.

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.

AT the meeting of the above society on Thursday evening, the 15th instant, at their rooms, in Conduit-street, Mr. Hurlstone, President of the Society of British Artists, read a paper "On the Drama and Poetry of Spain."

He commenced by observing that a French critic had said that all Spanish literature was comprised in "Don Quixote." Now, so far from being contained in one book, it was not only unsurpassed in copiousness and richness, but was stamped with a raciness and originality peculiarly its own. Besides the various works of Cervantes, he cited those of Calderon, the Spanish Shakspeare, and Lope de Vega, who is supposed to have written no fewer than 2,000 pieces, but of which only 300 are printed. After a scene from the early Spanish drama he selected those masterpieces of its best period which contrasted with the greatest dramas of other countries, such as the "Magico Prodigioso" of Calderon, with the "Hamlet" of Shakspeare, and the "Faust" of Goëthe; "La Cisma de Ingleterra" with "Henry VIII.," and "El Mayor Monstruo los Zelos" with "Othello." He then described the favourite types of character in the Spanish drama, and particularly dwelt upon that indispensable one, the *Gracioso*, who is a running satire upon the foibles of his master, and plays the same part in drama that Sancho Panza does in the romance. He divided the Spanish drama, not into tragedy and comedy, for it was a mixture of both, but into heroic dramas and those of the *Capa y espada* (cloak and sword, or dramas of intrigue), of which he gave specimens, and dwelt upon their irregularities, disregard for the unities, and habitual anachronisms. In treating of the "*Cisma*," he described the sacred processions which were connected with the "*Autos Sacramentales*," or sacred dramas, which were very splendid, and in which the figure of Anna Boleyn was prominent and indispensable, as being as much the symbolical embodiment of the hatred of Spanish Catholics to Protestants, as that of Guy Fawkes was at one time of the hatred of English Protestants to Catholics. Time admitting only a very short summary of the poetry of Spain, Mr. Hurlstone referred to the ancient romances and songs, the *Romanceros* and *Canciones*, the subsequent classical style of Mendoza, and the Lyrics and Pastorals of Boscan and Garcilasso; and concluded an able and singularly interesting lecture by alluding to the false taste the *cultismo* style of their latest poets, which is equivalent to our euphuism.

After a vote of thanks to the lecturer, an interesting discussion followed, and the evening terminated as it commenced, with an allusion to Don Quixote,—a gentleman, well versed in Spanish literature, maintaining that to become a *perfect* gentleman, a constant study of the life of that renowned *preux chevalier* was indispensable!

MEDICAL OFFICERS' ASSOCIATION.

AN ordinary meeting of the Metropolitan Association was held at Whitehall, on Saturday evening last; Dr. Thompson, of Marylebone, in the chair. Remarks were made upon the success of the Association in opposing the western drainage scheme of the Metropolitan Board; that body having the day previous rescinded its former resolution on this subject; so that the drainage of Chelsea, Fulham, and adjacent districts will be incorporated with the Main Drainage sewers instead of being thrown into the Thames, near Cremorne, as originally intended.

Dr. Milroy read a paper "On the choleraic visitation at the Central District Schools, Norwood, in 1853." Such were the suddenness and extent of attacks of cholera amongst the children, that a most rigid investigation of all the circumstances connected therewith was made. It appeared that though some causes of the visitation might be unknown, and others with difficulty traced, the great cause was *overcrowded sleeping-rooms*. This was proved by a comparison of figures into which it is not necessary now to enter. A discussion followed, during which it was observed, that more information was needed in regard to atmospheric influences in originating or aggravating epidemical outbreaks. The importance of spare dormitories or apartments, especially in connexion with large establishments, for isolating those attacked with disease, was particularly urged.

METROPOLITAN BOARD OF WORKS.

As we anticipated, the Board, at their last meeting, approved of the recommendation of their committee to rescind the resolution directing the formation of deodorizing works at Fulham. The sewage of the western area will therefore be carried into the low-level sewer, and the intercepting system be thus complete. The estimated additional cost will be about 200,000*l.*

The Board opened tenders for works to be constructed in Queen's-road, Dalston. They were as follows:—

Hill, Kendle, & Robinson	£2,200	0	0
Morris	2,100	0	0
Pearce	2,063	0	0
Kent	2,056	0	0
Scrivener & White	1,997	0	0
Blackmore	1,899	0	0
Bugbear	1,777	0	0
Rowe	1,759	0	0
F. & F. Wood	1,620	0	0
Dowell	1,599	0	0
Thirst	1,582	0	0
Dethick	1,495	0	0

The contract was given to Mr. Dethick, subject to the usual securities.

The District Surveyor of Newington was suspended for three months, and the District Surveyor of Bromley was censured, for "dereliction of duty."



DALHOUSIE INSTITUTE, CALCUTTA.—*Interior of the Great Hall.*

THE DALHOUSIE INSTITUTE, CALCUTTA.

In our last volume we mentioned that the first premium (300*l.*) had been awarded to Mr. C. G. Wray, architect, for his design for the Dalhousie Institute. We now give illustrations of the design. The Institute, as we stated at the time, is intended to cost 25,000*l.*, which sum has been collected. It is intended to be built on a site adjoining Government House. The large hall is to be used as a concert and public-meeting room, and will accommodate 1,000 persons seated. It is also to be appropriated to the reception of statues and other memorials of distinguished men. On either side of it are lecture-rooms, lavatories, and an extensive library. The design, externally, may be described as a Corinthian prostyle temple, octastylos; with a lower building, Ionic, on each side. The two outer columns on each side in the portico are close together, and the tympanum is filled with sculpture. Three statues take the place of acroteria on the pediment.

The great hall has single Corinthian columns with antæ projecting from the wall, on each side at intervals, and a vaulted ceiling, panelled, with lunettes above the entablature of the order. A recess at one end will receive an organ.

THE HUGHES PRINTING TELEGRAPH.

THE United Kingdom Telegraph Company are adopting Mr. Hughes's system. This instrument was first introduced in America as a time and labour saving apparatus. From America the apparatus travelled to France, through Great Britain. The advantages of the Hughes printing system are, that a single wave of electricity produces a letter, or numeral; whereas about three and a half are required for each Morse symbol, and some symbols require waves of long duration. Hence the greatly increased speed attained by the Hughes apparatus. This one wave, too, produces an ordinary printed letter instead of a cabalistic mark. The instrument prints at both ends of the wire simultaneously, so that the sending-clerk sees what he is forwarding. No copying or translating being required, as in other systems, the chance of error is avoided.

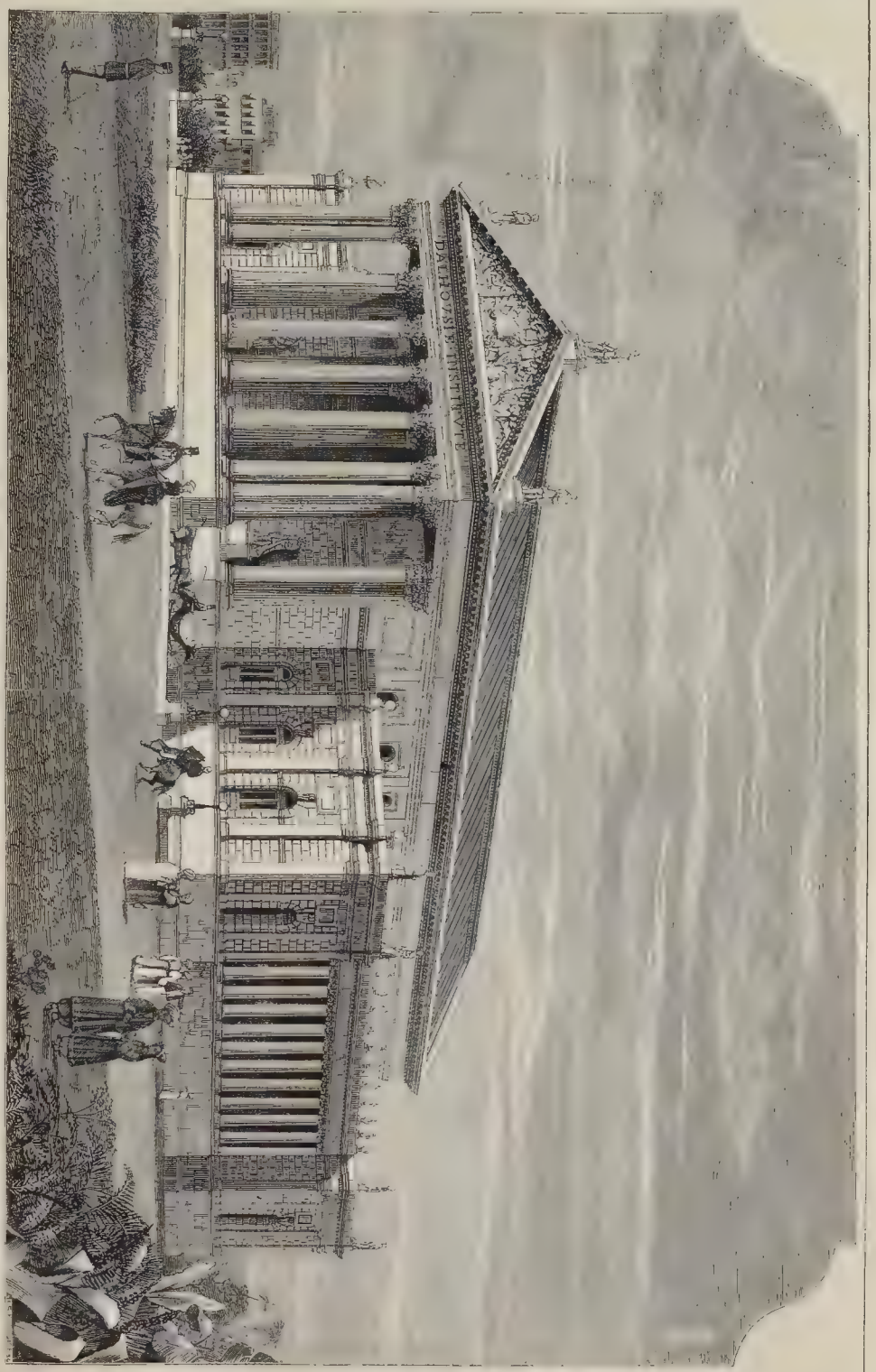
The electrical waves are transmitted by a revolving arm, carrying the segment of a circle as a contact-maker, and the arm revolves at the same speed in each apparatus as the type-wheel. When a key is pressed, a metal plate in connexion with the battery is forced upwards, and meets the contact-maker as it revolves, scrapes along its surface, the current passing the while, and is then thrown back by the contact-maker, and brought to its normal position of rest by a constant spring. The letters are printed while the type-wheel is in revolution, and the type-wheel is driven by friction, which allows of its being moved backwards or forwards by mechanical means.

In the face of the instrument there are twenty-eight keys, arranged like the keys of a piano. These twenty-eight keys correspond with twenty-eight metal pieces or plates, working upwards through slots formed all round a circular disc of metal; on the top of which, but not in connexion with it, the arm and contact maker revolve. The type-wheel and this arm revolve together; and when a key is depressed, a plate corresponding with the letter touched is raised. The position of this on the disc is such that, at the moment the arm and contact-maker touch the plate in their revolution, the corresponding letter on the type-wheel is over the printing-roller,—say at Birmingham and at London. The current instantaneously passing releases the printing-gear at both places, disengaging a detent: a cam driven by the clock-work train immediately presses the paper against the type-wheel, and a letter is printed; whilst, at the same instant, by a graduated movement, the paper is carried on a space, ready to receive the next impression.

The speed secured in France has reached, for days together, fifty messages and upwards per hour per wire, and from forty to fifty words per minute. In America, the apparatus is officially reported as performing upwards of forty words per minute; and at the office of the United Kingdom Company from thirty up to forty words per minute, and forty to forty-six messages, of average length, per hour per wire, have already been sent. The apparatus promises nearly to double the average performances of the Morse and needle instruments at present in use. There is a key-board attached to the instrument, on which the letters of the alphabet are placed: these correspond with the type-wheel, and each time a key is depressed a letter is printed. The key-board is identical with the key-board of a piano, and female operators are consequently found to be admirably adapted for the work.

The peculiarity of the United Kingdom Telegraph Company is that it conveys telegrams (why not "Tell'ems?") between any of their stations, irrespective of distance, at the uniform rate of one shilling for twenty words.

VOLUNTARY ARCHITECTURAL EXAMINATIONS.—Examiners and moderators have been elected in conformity with the regulations for conducting the voluntary architectural examinations for 1863, and twenty-one candidates have sent in their applications for examination; viz., nineteen in the class of Proficiency, and two in the class of Distinction.



DESIGN FOR THE DALHOUSIE INSTITUTE, CALCUTTA.—MR. C. G. WEAY, ARCHITECT.

ARCHED ROOFS AND FLOORS OF BUILDINGS.

THE use of brick arches tied in with iron rods, for floors and roofs, as patented by Mr. W. Clark, engineer to the Municipal Commissioners of Calcutta, appears to be extending in that city. The Calcutta *Engineers' Journal* gives an illustrated account of a house so built there, with rooms 20 feet wide covered by arches of one span. The outer walls are 2 feet 2 inches thick; the inner walls 1 foot 9 inches. The Calcutta and South-Eastern Railway, having made arrangements with Mr. Clark, are just now completing a building composed of three spans: its entire length is 126 feet: the centre arch is 42 feet span; rise 6 feet 6 inches to the height 40 feet. The two side compartments are each 40 feet span, 6 feet rise; thickness 10 inches.

The Government have also erected a spacious range of godowns, 400 feet in length, on the bank of the Circular Canal.

SCHOOLS OF ART.

The Worcester School.—The annual meetings of the friends and patrons of this school have just been held. At the evening meeting for the distribution of prizes, Lord Dudley, the president, occupied the chair. The report, which was read, stated that the school was progressing successfully. The annual inspection of the works of the students and examination were conducted on the 23rd and 24th of October, by Professor Hart, R.A., who awarded twenty-seven medals to students in the Worcester School, and nine to students in the Bromsgrove School, which was taught by the same masters as the Worcester School. The number of medals awarded was greater than on any previous occasion; and it was satisfactory to know that six of them were awarded for works in the highest class of study: three of these were for enamel painting. Awards of the second grade, to the number of thirty-three, were obtained by the Worcester, and to the number of four by the Bromsgrove School. These numbers were also higher than on any previous inspection. During the past year 261 students (13 more than in 1861) had received instruction in the Worcester School, 93 in the Bromsgrove, and 21 in the class at the Pershore Mechanics' Institution. The latter had only been in operation for three months in the year, and a similar class at Droitwich had been for a time discontinued. The total number of persons taught during the year amounted to 1,137; an increase of 73 on the total of the year before. At the close of the distribution his lordship addressed the meeting on the condition of the school, and in so doing said he was sure they would believe that he rose to perform that duty with greater pleasure than ordinary, inasmuch as there were more real signs of prosperity displayed this year in the prospects of the school than they had had to congratulate themselves on for some time past. There was room, however, for more originality in the school.—Though progressing, the Worcester School is not yet self-supporting. The local *Herald* states that it is at least 180*l.* a year under that as yet.

The Kidderminster School.—Several years ago a school of art was established in Kidderminster; but, after a few years of existence, the institution fell through, owing to the want of public support. Twelve months ago, however, the Earl of Dudley, on the occasion of a public meeting at Kidderminster, suggested the necessity of reviving the school, and pointed out its importance to the staple trade of the town. A stimulus having been given to the matter by his lordship's remarks, a meeting was held to consider the question, and this ended in the re-organization of the school. The success of this new effort has just been celebrated by holding the first annual meeting in the Music Hall, Kidderminster. There were about 1,000 persons present. The Earl of Dudley presided; and amongst those present were Lord Lyttelton and Lord Kingsale and party, the mayor, and many other influential persons. The report stated that the school had been in operation for three-quarters of a year on December 21st. The total number of persons who had been taught in or by its agency since its commencement (exclusive of private pupils), had been 520. Although the advantages of the central school had not yet been fully appreciated by the upper and middle classes, the steady increase of the number of artisan students might be considered fully to make up for any temporary discouragements in other respects. The latter class was attended by no less than fourteen artists engaged in the preparation of designs for the staple manufacture of the town. The master had also received applications from professional designers, which have led to the engagement of six of his junior students.

The Manchester School.—A *soirée* in connexion with this institution has been held in the rooms of the Royal Institution, when there was a large attendance of members and friends. A meeting was held in the theatre the same evening, the chair being taken by Mr. Bazley, M.P., the president. The chairman stated that the institution had felt the pressure of the times, and fewer paintings than usual had been sold. Help was needed to sustain them in disseminating the principles of correct design, and he did hope that the friends of education in art would not let it die for want of pecuniary assistance. Mr. Mückley, the master of the school, delivered an address, in which he described the best course for students of art to pursue. Mr. G. Wallis, formerly head master of the school, and now of the Science and Art Department, referred to some of the results of the late International Exhibition. He said it had shown a great progress made during eleven years, and had proved that Englishmen possessed a capacity for art. The progress which had been made had astonished our foreign friends, and the French jurors had made such reports to their Government as would, he believed, result in a complete change in the elementary system of art instruction in France. He had made inquiries and found three hundred and forty-one students of schools of art had been employed in the production of works shown at the late Exhibition. The names of these were returned by the employers, and many more had been employed of whom no return had been made at all. This was distinct evidence that students had been usefully employed in the manufactures of the country, and their works displayed the great advance which had been made in art during the last twenty years. In answer to Mr. Cobden, who wrote to inquire the opinion of his French friends as to the progress we had made during the last eleven years, M. Chevalier and M. Rouher stated that, in metal work, pottery, and textile fabrics, it was very great indeed. Mr. Wallis concluded by urging manufacturers to encourage the study of art by giving employment to the students.

The Norwich School.—The annual meeting of the subscribers to this school has also been held. The report stated that the number of the local medals is considerably larger than in the preceding year; added to which, the school has had the honour of winning a national medallion, which was awarded to Miss Ellen Rose. The total number of pupils in the central and out-door schools was 696.

The Plymouth School.—We regret to learn that the late fire at the Royal Hotel destroyed the casts, models, and examples deposited there. To replace the loss, about 12*l.* are required.

CHURCH-BUILDING NEWS.

Beaminster (*Dorset*).—The parish church of St. Mary, Beaminster, has undergone extensive alterations, and is now re-opened. New seats have been made out of the old pews. The galleries are removed from the aisles, the roofs of which are of dark polished oak. In the south aisle was a place called the bone-house, in which the bones occasionally found in the churchyard were deposited. This has also been removed and its place supplied with seats. The belfry ceiling came down to within about 10 feet of the floor: it has been raised to nearly on a level with the roof; and immediately above the door in the place vacated, a coloured glass window has been placed. The window is the gift of Mr. Edward Fox and his wife, and cost 200 guineas. The window is of the Perpendicular style, which gives the quatrefoil surmounting it a rather out-of-place look. In the quatrefoil is the representation of the young Child in the Manger with his father and mother. Around are angels bearing the mottoes "Glory to God in the Highest, and on the Earth peace, good will toward men." Immediately under this are figures of six prophets. The last portion of the window contains representations of the angel driving "the man" out of the garden of Eden; the three angels visiting Abraham; and the two angels being entertained by Lot. The roof of the chancel is of oak, carved and arranged in pattern. The cost of this was supplied by a rate. The chancel has been restored by the incumbent. The roof of the nave rests upon Bath stone supports, with angels bearing shields with symbols such as the cross, the flaming sword, the nails, the scourge, the ladder, the dice, the crown, the lily, the spear, the sponge, the pincers, &c. The pulpit is of old carved oak, and the choir stalls of the new oak with tracery. The whole of the doors have been made new. In addition to these improvements, an organ has been erected at a cost of 320*l.*, which is to be defrayed by voluntary subscriptions. The organ was built by Mr. G. M. Holditch, of London. The roof was constructed by Mr. Hicks, of Dorchester, and the other alterations have been carried out by Mr. White, of London; Mr. Chick, of Beaminster, acting as the builder. The church contains two stained-glass windows, lately erected. The chancel window is erected "In Memoriam parentem Henricus Oglander, A.D. 1856." Beginning from the top, the symbols are The Lamb, The Four Evangelists, The Birth, Baptism, Crucifixion, Ascension, and Our Lord's Appearance to Mary after death. Beneath these, stretching across the whole of the window, is a representation of The Last Supper. On the south side of this is another window in memory of Peter, only son of Peter and Ann Cox. It represents Jesus assuring Martha that her brother Lazarus shall come to life, and telling the centurion that his son liveth. The total cost of the restorations will be about 2,500*l.*

Cricklade (*Wilts*).—St. Mary's church, Cricklade, has been re-opened. The architect who designed and directed the restorations is Mr. Galpin, of Oxford, and the works were carried out by Mr. Smith, of Highworth, builder. All "Churchwardens' Gothic" is said to have been destroyed, and what was a year ago a mass of mouldering woodwork, crumbling stone, rickety galleries, and irregular pews, now presents something like what a country church should be.

Leith.—The new Episcopal chapel in Constitution-street, Leith, the foundation-stone of which was laid in the beginning of last year by the Chancellor of the Exchequer, is now well advanced towards completion, and is expected to be ready for consecration about Easter. With the exception of the spire, the masonry is all but finished, and workmen are now engaged in roofing it in. The designs of Mr. Gilbert Scott have been carried out, in the erection of this church, under the superintendence of Mr. R. Anderson, architect, Edinburgh. The church, as described in the *Scotsman*, is Gothic, of the style of the thirteenth century, and consists of a nave, with north and south transepts, chancel, and apse. At the south-east corner is the tower, which is to be surmounted by a spire,—the height of the tower and spire, when finished, being 180 feet. The extreme length of the building from east to west is 130 feet, and its greatest breadth 75 feet. The western elevation, which is an adaptation of the west front of Dunblane Cathedral, contains the principal entrance, surmounted by three tall two-light windows, the apex of the gable being filled by a small circular window. The nave is lighted by three three-light windows in each side, and the transepts by two three-light windows in each; and the chancel and apse are lighted by five tall single-light windows. The nave is to have an open timber roof, and the transept and chancel roofs will be boarded in the form of a vault. In addition to the principal entrance in the west gable, there is a smaller one in the south transept. In the interior, the nave is filled with open seats, as is also the whole of the north transept, and part of the south. The church is seated for about 600 persons. The apse is raised three steps above the chancel, and divided from it by an ornamental railing. The interior of the apse is all of dressed stone, and has a moulded arcade running round it. In an arched vault at the south side of the chancel, and dividing it from the vestry-room in the tower will be placed an organ, which is at present being built by Mr. Hamilton, and will cost about 300*l.* It is intended that all the windows shall be filled with stained glass. In the meantime, Messrs. Clayton & Bell, of London, have been commissioned to prepare a picture window, illustrating incidents in the life of St. Peter, in a series of medallions, to be placed in the western gable. This window is the gift of Miss Wood, of Hermitage Park, and will cost about 200*l.* The first-floor of the tower will be occupied as a vestry, and the rooms over it as a library and waiting-room. The church will be warmed by a hot-water apparatus, made by Messrs. Meiklejohn, Dalkeith. Adjoining the church a parsonage has been built, also from designs by Mr. Scott. It has been designed so as to harmonize with the church. The stone of which the church and parsonage have been built is from Bishopbriggs Quarry, near Glasgow. The contractors for the mason work are Messrs. R. & A. Berry, builders, Edinburgh; for the carpenter work, Mr. J. R. Swan, Edinburgh; for the slating, Mr. Anderson, Edinburgh; and for the plaster

work, Messrs. Sutherland & Marshall, Leith. The total cost of the building is about 7,300*l.*, including the tower and spire, and upwards of 1,000*l.* additional for the parsonage. —— Another new church will shortly be opened in Leith. It is for the Pilrig Free Church congregation, and is situate at the north side of Pilrig-street. It will seat about 800, and is understood to have cost about 5,000*l.*——A small church is also being built for a Free Church congregation, in Hope-street, near the foot of Leith-walk.

STAINED GLASS.

Christ Church, Banbury.—The Albert memorial window at Christ Church, Banbury, has been inaugurated by a special service. The church was decorated, and the congregation was an unusually large one.

Chaddesden Church.—On the death of Captain Wilmot, eldest son of Sir H. S. Wilmot, of Chaddesden Hall, the friends of the deceased resolved to perpetuate his memory by some appropriate memorial; and it was forthwith resolved to introduce an obituary window at the east end of the chancel of Chaddesden Church. The design was entrusted to Messrs. Clayton & Bell, of London. The principal subject is the Crucifixion. The window consists of five compartments: on the north side is a representation of the soldiers casting lots for the Saviour's garment, and beyond them the multitude is seen returning from the Crucifixion: on the south side is an illustration of the miracle recorded by St. Matthew—"And the graves were opened, and many bodies of saints which slept arose, and came out of the graves after His resurrection, and went into the holy city, and appeared unto many." In the lower compartments are depicted the typical sacrifices of Abel (Genesis iv. 4), of Noah (Genesis viii. 20), of Abraham (Genesis xxii.), of Aaron (Leviticus ix.), and of David in the threshing-floor of Araunah (II. Samuel, xxiv.). In the upper compartment of the window is introduced a symbolical representation of the Lord in glory; and there are two medallions; one of Eve, and the other of the Virgin Mary. The cost of the memorial was 329*l.* The church has also been further beautified by another stained glass window, which has been fixed at the east end of the north aisle, under the instructions of Sir Henry and Lady Wilmot, as a remembrance of their son. It consists of illustrations of the life of Joseph, in eight compartments. It is also by Messrs. Clayton & Bell.

PROVINCIAL NEWS.

Gloucester.—At the last meeting of the city council, the mayor produced a letter which Mr. Lucy had received from Mr. C. J. Monk, with respect to the proposed removal of the fountain from Eastgate Market to the Park. A short time ago Mr. Monk offered to erect a drinking-fountain in front of the Pump-room, and forwarded a design of the proposed structure; but the Board of Health considered that the site was objectionable. Mr. Monk now offered to place 200*l.* in the hands of the mayor to defray the cost of removing the fountain in the Eastgate Market to any site in the Park which the Board might determine on. The letter was referred to the Park Committee.

Birmingham.—The ceremony of laying the foundation-stone of the New Exchange Buildings, in Stephenson-place, illustrated in the *Builder*, was performed on Wednesday.——The Free Libraries Committee have accepted the tender of Messrs. Branson & Murray, for the erection of the Library and Gallery of Art, on the vacant land adjoining the Midland Institute. The tender amounted to 8,600*l.*, but some additional work has been determined upon, the cost of which will bring the amount up to something above 9,000*l.* The following were the tenders sent in to the committee:—

W. & J. Webb	£10,328 0 0
William Matthews	9,930 0 0
Samuel Briggs	9,920 0 0
John Cresswell	9,900 0 0
Barnsley & Son	9,780 0 0
John Hardwick & Son	9,494 0 0
Chambers & Hilton	9,300 0 0
W. & B. M. Smith	9,000 0 0
Charles Jones	8,760 0 0
Branston & Murray	8,600 0 0

The sum voted by the town council was 12,500*l.* The building will comprehend a news-room on the ground-floor, where the Lending Library will also be situate. Above it, and of the same size and shape, semi-circular, will be the Reference Library, lighted from the top. The Gallery of Art, 69 feet long by 30 feet wide, and having a semi-circular roof, will be placed behind the present buildings of the Institute, and on the top story one additional room will be given to the School of Art. A portico will be erected in front of the present entrance, and a double staircase will lead to the first-floor rooms of the Institute, and to the Reference Library. The building will be erected in the same style as the portion already up. Mr. Martin is the architect. As meddling with another architect's work, it is an unsatisfactory affair.

Halifax.—The new Town Hall is nearing completion. The fixing of the spire is in hand. Some months, however, are expected to elapse before the hall will be formally opened.——The Assembly-rooms having passed into the hands of a joint-stock company, known as the Halifax Public Rooms Company, they have been extensively improved and decorated.

SCHOOL-BUILDING NEWS.

Rodbourne (near Swindon.) — Considerable changes have taken place of late in this parish, the most prominent of which have been the erection of a residence for the parish clergyman and the building of a school-house, both closely adjoining the parish church. The school-house has recently been opened. The principal room is about 50 feet by 20 feet, with open roof. Externally, the building partakes of the Gothic style of architecture. The works have been carried out by Mr. T. Barrett, builder, under the direction of Messrs. Money & Son, architects, Newbury. The school-house has been erected as a memorial of the Prince Consort. A tablet commemorates alike the erection of the building, the liberality of the benefactor by whose orders it has been erected, and the purposes to which it is hereafter to be applied:—

"To the most holy and ever blessed Trinity, our Creator, Redeemer, and Sanctifier, three persons but one God, this building is humbly dedicated, in the fervent hope that the religious instruction given in it on the Lord's day may, by the Divine blessing, be so inwardly grafted in the hearts of the children of this parish as to secure their happiness in this world, and their eternal salvation in that which is to come; and also as a lasting memorial of the virtue and merits of the Good Prince Albert, her Majesty's late Royal Consort, whose untimely end this nation so deeply laments and deplores, by Admiral William Bowles, C.B. September, 1862."

Shepton Mallet (Somerset).—The new church schools, recently erected in the Waterloo-road, have been formally opened. The new buildings, although certainly not very attractive on the outside, are well situate, airy, and commodious. They are built in the Early English style, and have cost about 1,200*l.*

COMPETITIONS.

Carlisle Bridge, Dublin.—What has become of the designs submitted for Carlisle Bridge? Three or four correspondents ask the question, and well they may. Months have passed since the designs were sent in.

Malvern Proprietary College.—At a special meeting of the Vice-presidents and Council of the Malvern College, held on Friday, the 16th, at the Imperial Hotel, Malvern, in order to adjudge the prizes proposed for the two best designs for the College buildings, the first premium of 150*l.* was unanimously awarded to Mr. Charles Hansom, of Bristol, and the second premium of 80*l.* to Mr. Chas. H. Cooke, of London. Mr. Hansom will be employed as architect to carry out his designs for the College buildings. The designs will be exhibited at the Imperial Hotel, Malvern, from Wednesday, the 21st, to Wednesday, the 28th instant.

COST OF IRON AND BRICK VIADUCTS.

FOR those long, over-house viaducts whereon railways are carried into the centres of large towns, engineers appear to still prefer brick arches. The *Engineer* gives particulars as to these and iron girder viaducts, from which we take some notes of cost. About a mile and a half of brick arches have been erected on the line of the Charing-cross Railway, their original estimated cost having been 88,300*l.* A great length of brick viaduct is also being built on the City extension of the London, Chatham, and Dover Railway. The cost of these works is, we suppose, somewhere about 30*l.* per lineal yard, or over 50,000*l.* per mile. The viaduct of the Blackwall Railway was said to have cost 26*l.* per yard. For spans of 50 feet and upwards wrought iron is known to be much cheaper than bricks, and it is questionable if the comparison would not be in favour of iron even down to the spans of 25 feet or 30 feet. For a span of 30 feet the girders for a double line ought not to weigh more than 10 tons, which, at 16*l.* 10*s.* per ton, would come to 16*l.* 10*s.* per yard run. Heavy cast iron piers at 7*l.* 10*s.* per ton ought not to bring up the cost, with a viaduct 20 feet high, to as much as 25*l.* per yard forward. Colonel Kennedy's bridges on the Bombay, Baroda, and Central India Railway have spans of 60 feet throughout, so that the weight of a span for a single line is about the same as the necessary weight of 30 feet spans for a double line. The single 60 feet spans of trussed girders weigh 24 tons, and cost 400*l.*, or 20*l.* per yard. The piers are of all depths, according to the ground, but as they are cast 30 inches in diameter, 1 inch thick, and in 9 feet lengths, and as three columns are employed for a double line over ordinary ground, the weight for a height of 20 feet would be rather under 10 tons for each pier, so that the cost would be about 4*l.* per yard. Perhaps one of the most striking instances of the inexpensive construction of wrought-iron girders on cast-iron piers is that afforded by the pier at Southport. This work, designed by Mr. Brunlees, is 1,200 yards long, and is in 50 feet spans, the breaking weight of each of which is about 120 tons. The whole cost of the pier, including sinking piles, cost of toll-houses, gates, pier-head, &c., was but 7*l.* 15*s.* per yard forward.

THEATRES.

New Bath Theatre.—We understand that the reconstruction of the Bath Theatre, which was destroyed by fire last spring, is rapidly advancing, and that the opening of the house is fixed for the 4th of March. The decorations, which have been entrusted to Messrs. Green & King, and are being prepared at their premises in Baker-street, are in a forward state, and will be ready for fixing by the end of the present month. The colour of the box linings will be a light grey green, intended to form a contrast with the complexions of the audience. Care has been taken to prevent reflexion by using a dead body colour only. The ceiling will contain a series of allegorical figures, representing the various kinds of dramatic performances; while the dress-circle front will be divided into a number of panels filled with subjects on gold ground, from the more important of Shakspeare's plays, alternating with the heads and heraldic devices of the English kings that he has introduced. The whole of these, as well as the decorations generally, are flat in treatment. The fronts of the upper tiers will have a gold diaper in slight relief, partially filled with a siver ornament on a subdued salmon ground, and slightly relieved with brighter colour. The proscenium arch will be enriched with a series of figures representing "The Seven Ages of Man," as if to bring more forcibly before the spectators the recollection that "all the world's a stage."

Warming the Stage.—"It must have been universally remarked," says a correspondent with truth, "that the stages in England are windy and cold." Now this is a fault that cannot be too much acknowledged. On this point the stage of Munich should be duly examined. First of all the passage at the side, alluded to in a recent communication, is walled off from the stage with proper close-fitting doors; and, secondly, there should be warm air-shafts opening on to the stage; and, in fact, this matter should receive thorough consideration. At present the stages are miserably warmed in England, and greatly affect the actors and singers.

VENTILATION IN COTTAGES.

THE discussion on cottage buildings, at the Society of Arts, reported in your pages, shows how little progress has been made. There are but few parts of England in which the labourer can pay more than 2*s.* per week rent; many in which he cannot afford so much. At that rent a cottage, with its ground, fencing, draining, &c., ought not to cost more than 80*l.* For such a sum it is useless to attempt to get more than improvements in some essentials. Nothing can be afforded for ornament, nor is it possible to give any but small rooms. The walls must be thinner than could be wished, and they must be of the material that is cheapest in the district.

No attainable size of rooms can be healthy without ventilation, therefore every room should have a chimney shaft. The Barrack Commissioners state as the condition of a healthy room, that the occupants should have 20 cubic feet of air per person, per minute. At this rate a room, 10 feet square and 8 feet high, contains only enough for one person for forty minutes. As the

rooms of a labourer's cottage must for cheapness be small, an attempt should be made to ventilate them properly: a ventilated small bedroom is without question more healthy than an unventilated large one.

Every cottage should have two small bedrooms for the children, in addition to the parents' bedroom. If these are all placed on the upper floor, and each has a fireplace—not a grate—in it, while the living-room, on the ground-floor, has its fireplace and grate in the middle of the cottage, very little contrivance is necessary to make the sides of the living-room smoke-flue in contact with the flues of all the bedrooms. As the living-room has a fire in it, more or less time, during every day, the air in the adjoining flues will be warmed, and an upward current will be set up in them. Fresh-air flues should be formed in the chimney jambs by building them hollow, and these should be supplied by a duct from a suitable source outside, or above, the building. Such a construction is attainable at little cost in a cottage of two floors. The fresh air should be distributed at the top of the rooms, and may be so done as to be insensible as a draught. The cost need not exceed a few shillings.

Chimneys in the middle of a cottage are economical of heat, and perhaps give increased stability to the structure.

It should be remembered, that when bedrooms are sufficiently large to admit of all the children being put into one room, the second room is frequently let to a lodger. FRANCIS LLOYD.

OPEN SPACES TO DWELLING-HOUSES UNDER METROPOLITAN BUILDING ACT.

SIR,—Your leading article respecting a district surveyor's suspension seems to me to make it desirable that I should send you the enclosed statement of a case.

I need scarcely say how much I appreciate the excellence of your remarks. EDWIN NASH.

DISTRICT SURVEYOR OF PENGE AND NORWOOD v. BUCK.

IN this case, heard at the Lambeth Police-court, Mr. Elliott, magistrate, March 28, 1860; a dwelling-house had been erected by Messrs. Buck, of Gipsy-hill, Norwood, with an open space of 100 superficial feet in the rear, surrounded by high walls; but after the house had been roofed in, and in great part completed, two water-closets were built, one above the other, within the space of 100 feet, thereby reducing the area to not more than 64 feet.

To this the District Surveyor objected, inasmuch as the back room, a kitchen, on the lower story, was not "lighted and ventilated from a street or alley adjoining;" and, therefore, that there should be a space of not less than 100 square feet. The magistrate decided that the area of 100 square feet was requisite. Upon this Messrs. Buck proposed to insert a window, 4 feet by 3 feet, in the wall between the said back room and the front room, so as to bring the two rooms into communication, which front room was lighted and ventilated from the street in front. Mr. Elliott considered this remedy would suffice: it was allowed, and has been executed.

COMPETITIONS: THE LAST OUT.

WESLEYAN CHAPEL, PLYMOUTH.

SIR,—If your patience is not worn out, and if your desire to improve the existing state of things touching competitions has not relaxed, you may add to that list a few "particulars" supplied for the "Wesleyan Chapel, Plymouth" competition. The committee divide their requirements into two parts. 1st. Chapel, vestries, boundary inclosures, iron railings and gates, roads and ways; and, 2nd. Schools, chapel-keeper's dwelling-house, and class-rooms. After stating under each head the accommodation desired, they state what plans they require "to be submitted for competition," which "must be on a uniform scale of 8 feet to an inch, are numerous, and must include details to a large scale.

The list of plans required under the second head is similar, and also includes "details of roofs, windows, walls, seats, desk, and platform, to a scale of 2 feet to an inch."

The outlay of the parts comprised under the first heading, "shall not on any account exceed 5,000*l.*"

The committee with great modesty ask for "a specification, as full and explicit as possible, with particular directions for all things requisite for the completion of the building, including chapel, vestries, schools, &c.; also the boundaries, and the supply of water, lighting, warming, and ventilating."

"The designs which obtain premiums to become the property of the committee, who are not to be bound to employ any of the competitors to carry out the works."

"Two premiums will be given, one of 50*l.*, and the other of 25*l.*" "Competitors must look solely to the premiums for their *remuneration*, as the committee do not engage to employ either of the architects whose designs may be accepted." "The committee will be entitled to receive from the successful competitor or competitors (if not employed to carry out the works), all requisite working drawings and specifications, to enable them to carry out the work; for which, and to cover all correspondence incident to the completion of the building, a sum not exceeding 50*l.* will be paid on the works being completed."

The real fact (which is somewhat clumsily disguised), appears to be that the committee are trying to obtain the right to an architect's entire professional services, value 400*l.* (assuming the outlay under No. 2 head to be 3,000*l.*), on payment of 100*l.* to him, and 25*l.* to some one else. But this is not all: he is to make all working drawings, &c., as in the clause quoted last but one; and yet, in case the works be stopped before completion, he would have no claim whatever beyond the amount of the premium; and even if the works be completed, the "sum not exceeding 50*l.*" might, "in the judgment of the committee," be reduced to 25*l.* A NON-COMPETITOR.

*** Since this was set up in type we have received five other indignant letters concerning this very impudent proposition. Architects who respond to it deserve the treatment they are likely to receive.

SURVEYORS' CHARGES.

SIR,—You have more than once laid before us in the *Builder* the recognized charges of *architects*, but I have not observed any such information as regards surveyors. If some of your correspondents would kindly state what are the usual charges made by surveyors for surveying, valuing and reporting, in reference to property offered as security on mortgage, they would oblige,—

A SURVEYOR.

*** Several letters have reached us to the same effect. We shall be glad to hear from correspondents who may be willing to state their own customary charges.

COMPENSATION CASES.

The Charing-cross Railway.—At the Sheriffs' Court, Red Lion-square, before Mr. Under-Sheriff Burchell, the compensation case, "Marshall *v.* The Charing-cross Railway," has been settled. Mr. Hawkins, Q.C., was for the claimant; and Mr. Lloyd, Q.C., for the company. The claim which, as originally made, was 5,924*l.*, was in respect of the loss of business in Hungerford-street, and the expense attending the purchase of other premises near the Lowther Arcade, in the Strand. Mr. Marshall had been a confectioner and baker in Hungerford-street for twenty-seven years, and had a lease for eleven years unexpired at 16*l.* a year, of premises worth 210*l.* He had netted as clear profit 1,100*l.* a year, of which 520*l.* was derived from chance custom. About 4,000,000 persons a year passed to the bridge; and he had sold on one or two occasions 5,000 buns a day. He had expended 2,700*l.* in respect of his new premises, which were not so eligible either for his business or his customers, and five-sixths of his chance custom had been destroyed. He considered he had lost beyond his usual profits about 300*l.* by being obliged to remove in the Exhibition year. Mr. Hawkins claimed a liberal compensation for the injury done to Mr. Marshall, who had been deprived of an excellent site and an increasing business; and on the present occasion he submitted that he was entitled to 4,483*l.* Mr. Lloyd complained that there had been a good deal of "cooking" in bringing the case before the court, and that sums of items of profit had been grossly exaggerated. Mr. Under-Sheriff Burchell told the jury (composed partly of special jurymen) that they were to give a fair compensation for the loss of business sustained by Mr. Marshall, and for the value of property and any loss he had sustained. The jury, after deliberation, assessed the compensation at 3,000*l.*

PATENTS CONNECTED WITH BUILDING.*

IMPROVEMENTS IN RAILWAY SLEEPERS AND CHAIRS, AND IN THE MODE OF FIXING RAILS.—*M. A. Muir* and *J. McIlwham*.—The improved sleeper is cast in the form of a disc: there is a central boss which forms a base, from which the chair jaws spring. This part of the sleeper is cast thicker than the other portion, and below it is further strengthened by a transverse rib, which extends across the underside of the boss, and has formed on it a feather, which is directly under the centre of the rail, and which fits a notch in the bar. From the raised central part the surface of the sleeper slopes slightly towards the margin, the rim being curved in an outward direction, somewhat similar to the lower part of a bell. The sleepers when laid upon the ground are connected by transverse tie-bars, which extend beyond the centre of the sleeper, and this part of the tie-bar is notched to fit the feather part of the central rib of the sleeper. The tie-bar is fastened to the sleeper by a saddle bolt, which passes up through the disc, and is secured thereto either by a nut or split key. The second part of the invention refers to a mode of fixing rails in the chairs.

* Selected from the lists in the *Engineer*, &c.

IMPROVEMENTS IN THE MANUFACTURE OF BLOCKS, PULLEYS, AND WEIGHTS FOR WINDOW SASHES AND OTHER PURPOSES, AND IN THE MODE OF APPLYING THE SAME.—*W. McAdam*. This relates to the application of clay or other suitable mineral substances, either in the form of earthenware or glass, to the manufacture of blocks, pulleys, and weights, and which have hitherto been manufactured of metal. Under one modification of these improvements, as applied to the hanging of window-sashes, the block or frame in which the pulley or pulleys run is formed of clay, moulded to the required form, and afterwards glazed and fired in the usual way. The sheaves or pulleys are also formed of similar materials, and various kinds of clay, such as is used in the manufacture of porcelain and all kinds of earthenware. Instead of using iron or other metal for weights, it is preferred to make them of the heavier kinds of earthenware. These weights are either moulded solid, or with an internal cavity, to be filled with "mine dust," or other suitable mineral material, or which may be mixed with the clay for the purpose of increasing the specific gravity of the weights.

VENETIAN BLINDS AND OTHER WINDOW BLINDS.—*H. Saunders* and *J. H. Mills, Birmingham*. Dated 28th May, 1862.—This invention has for its object, in the first place, the construction of the blinds, and the combination therewith of apparatus for raising and lowering the same in such manner as to admit of the several laths thereof being packed together at the top instead of at the bottom as usual. For this purpose the several laths are respectively connected to a chain at each end, such chains being adapted to work in gear with a pair of corresponding toothed-wheels by the revolution of which the several links of the blind are successively carried forward and packed together in a suitable receptacle at each side of the window, being guided into their respective places by means of guides, which are in some cases fixed, and in others movable on centres. The laths of the blind are kept at any desired angle. The invention consists, in the second place, in adapting and applying to Venetian blinds "lazy tongs" for the purpose of causing the laths to approach near together gradually throughout the blind when it is raised, instead of bringing the laths at the bottom of the blind close together as usual. And the invention consists, in the last place, in fixing the raising and lowering cord of Venetian or other blinds so as to run on a spindle inside a tube on the end of the ordinary roller, for the purpose of allowing the blind to extend to or nearly to the whole width of the window, instead of leaving the usual space between the end of the blind and the side of the window.

METALLIC SASH-BARS.—*W. Perks, Birmingham*. Dated 29th May, 1862.—According to this invention the patentee makes the metallic sash-bars very nearly of the ordinary figure, that is, of the figure in cross section of an inverted T; but he makes the top of the vertical rib somewhat thicker than the other parts of the rib. Upon the said vertical rib of the sash-bar he places a folded or doubled metallic strip, which fits upon the said rib and clips it closely, the lower edges of the said doubled strip being turned into a nearly horizontal plane, so as to cover or partly cover the horizontal parts of the sash-bar on which the panes of glass rest. The said folded or doubled metallic strip is fixed upon the sash-bar by its opposite sides being partially separated when it is placed upon the bar and allowed to close, and thereby fix itself.

Books Received.

Practical Mechanics' Journal Record of the Great Exhibition of 1862. London: Longman & Co.; also at the Proprietor's Office (Patent Offices), 47, Lincoln's Inn-fields.

THIS is a large and handsome volume, full of profusely illustrated articles, by more or less noted writers, on the various subjects into which the Great Exhibition was divided. We have thus a paper on Building Contrivances and Decoration, written by Mr. G. R. Brunell; on Engineering Structures, Harbours, and Docks, by Mr. G. B. Rennie; on Water Supply and Hydraulic Apparatus, by Mr. J. F. Bateman; on Illumination and Gas-making, by Dr. Frankland; on Sewerage, Deodorization, Disinfectants, and Sanitary Contrivances, by Dr. Angus Smith; and many more by various other competent writers. The general editor is Mr. R. Mallet, Vice President Inst. C.E. Ireland.

Having ourselves already pretty well exhausted the more strictly professional branches of the subject, we may glean a few quotations from the papers of Dr. Frankland and Dr. Angus Smith on other subjects of interest to our readers.

Dr. Frankland thus speaks of the means of purifying gas exhibited :—

"Just previous to the Exhibition of 1851 Mr. Hills made a most important discovery with regard to the purification of coal gas; and his ingenious and beautiful process has since received such an extensive development as to have almost superseded the old lime process. This method of purification depends upon two chemical facts; viz., first, that hydrated peroxide of iron rapidly combines with sulphuretted hydrogen, and becomes converted into sulphide of iron; and second, that the sulphide of iron thus formed is rapidly decomposed in contact with the air, the sulphur becoming separated as such, whilst the iron is reconverted into the original material, hydrated peroxide of iron. Mr. Hills recommends that the hydrated peroxide of iron should be mixed with a considerable bulk of sawdust before it is placed in the purifiers. After the gas has passed through this mixture for eighteen hours it is shut off, and replaced by a current of air forced through by a fanner for three hours. The sulphide of iron is thus oxidized, sulphur being separated and hydrated peroxide of iron regenerated; and the purifying material being now revivified, the impure gas may be passed through it again as before. In this way it is only found necessary to remove the material once a month, in order to separate the lowest stratum of about an inch in thickness, which has become clogged up with tar. A proportional quantity of fresh mixture of hydrated peroxide of iron and sawdust having been added, the whole is again returned to the purifier. It is difficult to conceive a more simple and inexpensive process of purification than this. It does not, however, remove carbonic acid.

Both the lime and oxide of iron processes of purification fail to remove bisulphide of carbon vapour, and the organic sulphur compounds above alluded to, from coal gas. These sulphur compounds produce sulphurous acid during the combustion of the gas, and thus the atmosphere of the apartments so illuminated becomes impregnated to such an extent with sulphurous acid as to be highly offensive to the senses, and very destructive to art decorations, bindings of books, &c. For this evil, so frequently complained of by gas consumers, the Rev. W. R. Bowditch, who exhibits under 492, has discovered a remedy, which consists in passing the gas, after it has been submitted to one of the ordinary purifying processes, through or over hydrate of lime, heated to 400° Fahr. At this temperature hydrate of lime decomposes a large proportion of the sulphur compounds, converting the carbon into carbonic acid, and the sulphur into sulphuretted hydrogen. These new compounds are not absorbed by the hot hydrate of lime, but they can be removed by subsequently passing the gas through cold hydrate of lime. The hot hydrate of lime retains its power of thus effecting the transformation of an irremovable impurity into a removable one for a great length of time. Should this ingenious process be found to be applicable on a manufacturing scale, it will constitute a most important improvement in the manufacture of coal gas, and will remove the last objection to the use of gas in dwelling-houses."

A kindred subject treated of by Dr. Frankland is that of paraffine oil :—

"In the British department of the International Exhibition Mr. Young, who must be regarded as the founder of the paraffine industry, exhibits (532) a splendid block of paraffine weighing nearly half a ton, colourless, inodorous, tasteless, and beautifully translucent: he also shows specimens of paraffine candles, and oils made from the Wemyss, Torbane Hill, Wigan, and Newcastle coals; showing that all bituminous coals yield these substances.

Mr. Young's paraffine oil is now very extensively used throughout the United Kingdom as an illuminating agent, for which purpose it is peculiarly well adapted, since it consists mainly of hydrocarbons free from oxygen. These hydrocarbons deposit much carbon on combustion; and hence, with a properly regulated supply of air, they produce a more brilliant light than that obtained by the consumption of an equal amount of animal or vegetable oils, which contain a not inconsiderable amount of oxygen.

The enormous extent of the use of paraffine oil for illuminating purposes may be conceived from the fact, that in the neighbourhood of Edinburgh two years ago, one lamp manufacturer alone had constructed during one year 247,331 lamps exclusively for its consumption, and that he was then making them at the rate of 1,200 per day.

Paraffine oil requires for its combustion lamps of peculiar, but simple construction: thus, the vessel that holds the oil should be of glass or stone ware, so that the oil may not become heated; and for the same reason there should be no metallic connexion between the burner and the oil. For the perfect combustion of paraffine oil, a more rapid current of air is required than in the case of animal or vegetable oils, and the current must be made to impinge powerfully against the flame, either by surrounding the latter with a brass dome within the glass chimney, or by the contraction of the glass chimney itself. The wick should be well dried before it is put into the lamp, as the oil does not readily rise in a damp wick. With good oil the wick will last several months. In trimming the lamp, the wick should not be cut, but only wiped clean, the carbonized edge which it acquires in burning being found to answer better than a newly cut one. It is found in practice that lamps with flat wicks burn the oil somewhat more economically than those with annular wicks, nevertheless, the latter are more convenient where a flame of considerable illuminating power is required

The comparative illuminating power of paraffine oil is remarkably high. According to Dr. Letheby's experiments one gallon of Young's paraffine oil, weighing about 8½ lb., will give the light of—

23½	lb. of	spermacetti candles; or,
27	,,	wax candles; or,
28½	,,	stearic candles; or,
30½	,,	composite candles; or,
10	,,	best tallow moulds."

Dr. Angus Smith, in speaking of the town sewage question, and while noticing the names of some of those who have recommended dry closets, says :—

"These all seem anxious to retain the method of bringing out the filth of houses by manual labour instead of allowing it to run off by underground passages, never to be seen by the eye until it rises up in the purest and most useful forms in our fields. No method of removal by carts has been found otherwise than disgusting. At the same time it is in many places simply a necessity, and Dr. Lloyd renders it as little offensive as possible. The use of sawdust, as Messrs. G. Smith & Co. propose, or of ashes or any other solid matter poured from the lid, as Dr. Lloyd proposed, may be made to answer with care, but does not promise simplicity and permanence of construction. It is, however, manifest that a reorganization of this old-fashioned method of removal by carts is demanded loudly where water cannot be used, and there is room for great success to its promoters. Generally in schemes of sewage, mechanical is preferred to chemical action. Is it from our love of expenditure or our love of great appearances, which are not found where there is the quiet and silent action of chemical agents?"

On the subject of filters Dr. Smith says :—

"Mr. Spencer sends quite a new filter. It is of artificial magnetic oxide of iron, and it renders even peaty water instantly clear. It is said also to be perennial, because it appropriates the oxygen of the air only and does not expend its own, compelling the oxygen to combine with the organic matter in the water. This certainly gathers probability, from an experiment described as having been in progress for three years at Southport. Experiments will remove all doubt of the efficiency of this new filter, which seems never to fail. Many peaty districts have been rejected by towns seeking a supply of water; now that supply will be available by using Spencer's filter. But it is probably a waste of time to speak well of it, as its power is manifest, and there are no engineering difficulties to surmount. It will be a pity if the love of engineering difficulties should prevent its use.

Dr. Burg, of Paris, sends a stone filter. To filter through stone is not a novelty, and the stone being calcareous, may be an objection. But the form is new. It is a hollow cylinder; and those cylinders intended for towns have nine square mètres of surface within. The frame is of iron, with places for the small filtering stones, which are inserted as panes of glass are. They are about four inches square and a sixth of an inch thick. One description in a French journal says ten millimètres. The inside of the cylinder is filled with water, and the filtering is outwards. Streams flow from the small square stones on every side and fall through the air for thorough aëration. When one-third of the water is filtered, Dr. Burg takes the remainder for purposes where less pure water is demanded. This necessitates two water supplies. The filters cost 20*l.* each, and filter 11,000 gallons per day—a supply intended for 1,000 persons. The force of the water flowing into the cylinder removes the impurities that may collect on the surface. For domestic use the cylinder is dipped into water, and the filtering is inwards.

Atkins & Sons make carbon-moulded filters. Carbon to be moulded, must have pitch or some carbonaceous substance melted with it, which injures the filtering power; but the shapes are capable of variation, and of these may be mentioned the cylinder and tube. By sucking the tube the water enters the charcoal cylinder, and a clear draught is procured from a muddy stream. It may also be used in an inverted manner, that is, by driving the water first into the cylinder, and then allowing it to filter outwards.

M. Danchell, and the Silicated Carbon Company, send very agreeable forms of filters, and this part of the subject is not neglected by the others, who exhibit the finest porcelain and Wedgwood ware in modern and antique forms."

The book is a valuable one.

A Practical Treatise on the Law relating to Mines and Mining Companies. By W. ARUNDELL, Attorney-at-Law. London: Lockwood & Co. 1862.

THIS is a useful summary of the rights, obligations, and privileges of the miner, as they exist at this day, and as defined and determined by the statute law of the land, by decisions in the law courts, and by ancient custom. The Joint Stock Companies Act of 1862, re-enacting that before passed, with some additions and alterations, may have some new bearing on mining as well as other companies, but it was printed on the eve of publication of the present volume. The author, however, refers to its enactments.

VARIORUM.

THE new number of *The Quarterly* contains an interesting and acute article on the South Kensington Museum and the Loan Exhibition. The authorship may be recognised without much difficulty. A short quotation will serve to show the tone of the article. The writer terms the age one of wholesale reproduction of second-rate art, and condemns the working up of sham material to meet the views of the "semi-detached" stratum of society :—

"The key to the prevalence of false furniture will not be difficult to be discovered by any one who has gone a few miles out of town in any direction, and noted the strange phenomenon of the endless rows after rows of neat terraces, shading off into blocks of more ambitious semi-detached houses, which are unvarying types of the modern London suburb in Middlesex, Surrey, Kent, and Essex. If he is of a musing or a practical turn, he cannot fail to make the discovery that these bantlings of the building fraternity present in the aggregate an appearance of boundless wealth which can only be explained by the consideration that they are purposely made to combine the maximum of show with the minimum of outlay, both on the part of the speculator who has run them up, and of the tenant of very moderate means who occupies them. We should be the last persons in the world to deprecate art which is really cheap by being really artistic. The substitution of well-executed chromo-lithographs of the accredited pictures for tenth-rate original daubs or miserable copies, saves the purse and educates the eye of the man who has a drawing-room wall to cover. The general introduction of furniture showing through varnish the genuine grain of the deal or the birch of which it is made, in place of clumsy veneers of inferior mahogany, coarse grainings of impossible foreign woods, or the Quakerly uniformity of drab-paint, is an unmitigated benefit to good taste, economy, and cleanliness. But before we can proclaim a triumph, the false Duessa of sham art must be slain. As it is, the general upheaving of good taste has been more conspicuous in securing improvement of design than reality of material. We have instances in our eye in which the upward movement in one direction has been counteracted by a downward one in the other; and designs which the popular art mind would not have swallowed twenty years back have been made possible by a complex ingenuity in sham, of which that generation would have been equally guiltless. Perhaps the Crystal Palace has something to answer for in this respect."

The writer thinks, nevertheless, that he can discern the results of a more catholic study and appreciation of all the styles of art :—

"Architecture is no longer confined to the direct imitation of a few stock patterns; and the furnishing of a house is no longer abandoned to the upholsterer's unenlightened judgment. Considerations of climate and of national habits, the close study of natural forms in human, animal, and vegetable life, bold experiments in the juxtaposition of colours, a wider employment of materials for constructive objects,—all indicate the germination of a new style derived from, but not servilely following, existing systems. We shall not recapitulate the means by which we have already had occasion to show we have arrived at the conviction that this style, while boldly eclectic in its details, must, in its main principles, vividly embody the historical characteristics of England, for whose material uses it will come into being. We are aware that in venturing this antic paton we may excite the apprehension, and perhaps bring down the grave remonstrances of those who are afraid to look beyond precedent. We are satisfied to take refuge in the conviction of the essential unity of all true art; while from that conviction we infer the unsoundness of all theories which hold up any antecedent age as an epoch of ideal perfection."

After indicating the semi-detached house of the suburbs as a last stronghold of bad taste, he looks hopefully to the country-house, properly so called, as a likely field for successful originality.——"Science elucidative of Scripture and not antagonistic to it. By J. R. Young, formerly Professor of Mathematics in Belfast College, &c. London: Lockwood & Co. 1863." This is an able treatise in its way; but the best of all weapons against sceptics, either from within or from without, we conceive, are spiritual weapons. There is among modern Churchmen by far too exclusive a dependence on the "letter" of the Bible "which killeth;" and an almost total blindness to "the spirit," which alone "giveth life." Hence the power and mischief of such attacks as those of Bishop Colenzo and the Essayists from within the Church, as well as of those of more open sceptics from without. This was not so in olden times, when the spiritual and typical meaning of literal Scriptural narratives was far more deeply and exclusively considered than the mere literal meaning itself. When St. Paul tells us, of the story of Abraham, Agar, and Sarah, that these things "are an allegory;" and turns our attention exclusively to the deep and vital spiritual meaning involved in the literal story; while he treats the latter with complete disregard; what does it signify to a Christian whether "the letter" in such a case be assailable or unassailable, since it is "the spirit" infused into it which alone "giveth life"? Here is a chink opened to us by St. Paul, which lets in the Light of the Spiritual Sun over the whole length and breadth of the Jewish Pentateuch. If, on the other hand; an author such as Mr. Young imagines that he can silence scepticism in the way he tries to do, we fear he will find himself mistaken;—as, for example, in the ingenious attempt to render the miracle of Joshua a little less startling than it appears to be; by an explanation to the effect that the sun, though commanded, really did *not* stand still, neither was the moon stayed; or rather that the earth did *not* cease to rotate; but that some sort of vacuum may have been produced in the ethereal medium; the result of which miracle would be that the sun might disappear, and the moon also, for a whole day; while, somehow, light remained till the sun and moon came round again, or rather till the earth had completed its usual diurnal rotation; when the sun and moon would again appear, in consequence of the filling up of the ethereal vacuum. Now only let us look a little closely to the passage itself in question, in the first place; and we may at once perceive that its true meaning must be spiritual, and not literal at all; and, in the next place, let us "search the Scriptures" for affinitive passages which may shed a light upon this one; such as Scripture alone can shed upon Scripture; and then we shall have a better understanding of its true meaning than by all the vain attempts of science to settle such a question. The narrative of the miracle in Joshua (x. 12) thus opens :—"*Then spake Joshua to* THE LORD, in the day when the Lord delivered up the Amorites before the children of Israel; *and he said* [*"to* THE LORD"], in the sight of Israel,—SUN, stand thou

still upon Gibeon"; &c. The Sun, then, who hearkened unto the voice of a man," was the Lord, himself, "the Sun of Righteousness," who thus "fought for Israel," in "the good fight of faith"; and there are many other passages of Scripture capable of shedding a spiritual and affinitive light upon this one. Thus,—"The sun shall be no more *thy* light by day, neither for brightness shall the moon give light unto thee; but THE LORD shall be *unto thee* an everlasting light [both solar and lunar], and thy God thy glory. THY SUN [the Lord] *shall no more go down; neither shall* THY *moon withdraw itself; for* the Lord shall be thine everlasting light." (Isaiah lx. 19, 20.) We have no room here for the teeming explanatory comments which such a passage as this suggests in connexion with the miracle of Joshua. Here and elsewhere in the Scriptures are abundant materials for the correct interpretation of that miracle, on principles quite as Baconian, or inductive, and as scientific, as any; and much more satisfactory and conclusive.

Miscellanea.

RATING AND RESTRAINING TELEGRAPH COMPANIES.—Some of the metropolitan parishes are moving to obtain an Act to regulate the doings of telegraph companies, and to fix some definite rule for assessing the property to the parochial rates.

THE LATE MR. JOHN BILLING, ARCHITECT.—We have to record the death of this gentleman at the early age of forty-five: and do so with regret. It occurred on the 13th instant. Mr. Billing, it will be remembered, had recently given special attention to the construction and arrangement of chimneys.

"APOLLO AND MARSYAS."—It appears that this picture, attributed by Mr. Morris Moore to Raffaelle, has obtained more general acceptance in Rome than in England, where, if we remember rightly, there were two opinions. The Roman Government have determined on having it engraved at the Pontifical Chalcographic establishment, for which purpose a drawing will be made by a leading historical painter and Academician of St. Luke's. It is desired by many that the Government should purchase this picture to secure it for Rome, but as to this nothing is officially given out, and it is doubtful whether Papal finances will suffice.

PARLIAMENTARY DEPOSITS ON RAILWAY BILLS. The 14th was a busy day at the Bank of England and at the office of the Accountant-General of the Court of Chancery, in consequence of the payment by the railway and other public companies of the 5 per cent. deposits on the estimated cost of their respected undertakings in conformity with the standing orders of both Houses of Parliament. It is understood that the payments, all things considered, were highly satisfactory, and that about 3,000,000*l.* in money, stock, securities, and Consols were paid in before the offices closed. The total share capital proposed to be raised in connexion with the new undertakings amounts to upwards of 30,000,000*l.*, the capital proposed to be raised by the metropolitan lines alone being about 8,000,000*l.* Of these latter, however, some did not pay the required deposit, and among them the Fulham and Hammersmith, Pimlico and Paddington, and proposed Kensington and Knightsbridge railways.

THE MANCHESTER WATER-WORKS.—The Manchester City Council is about to make some important additions to its water-works system. The new works comprise a new grating tank, which it is proposed to construct on the easterly side of the Godley reservoir, with conduits and sluices, to enable the water to be drawn either from the reservoir or the gauge basin, in order that the supply may not be interrupted if at any time it should be necessary to empty the Godley reservoir. A main pipe, 30 inches in diameter, is to be laid down from such grating tank at Godley to a reservoir to be constructed on Prestwich Hills. The reservoir will be constructed on land already purchased, and will contain 23,000,000 gallons, whilst the plans will be designed, and a portion of the land reserved, for the construction—if and when required—of a second reservoir. The works proposed will afford a supply of 8,937,000 gallons a day into the Prestwich Hills reservoir for the high-level district, which is about three times the present estimated demand. It is also proposed to obtain power for the construction of an additional embankment at Woodhead. The additional embankment will cost about 35,000*l.* The estimated cost of the new and important works described, including the expenditure at Woodhead, is 175,000*l.*

CHELSEA LITERARY AND SCIENTIFIC INSTITUTION.—A *soirée* was held in the Vestry-hall, King's-road, on Friday, the 16th, to celebrate the second anniversary, when the lecture-hall and reading-rooms were decorated with statuary, pictures, photographs, and microscopes, and a concert of instrumental music was performed by the band of the Corps of Commissionnaires. A quadrille band afterwards did duty. Some clever transparencies in tissue paper, of which we have before spoken, were lent by Mrs. Herbert.

THE WATER-COLOUR ARTISTS' LANCASHIRE FUND.—The artists have sent their first contribution, 500*l.*, to Lord Derby's committee. The subscriptions are now coming in fairly. Mr. Lewis Pocock and Mr. Agnew have priced the various works, and the result is 4,500 guineas. The subscription will be confined to that sum. We hope the prices have been kept moderate. The exhibition in London will close on the 31st instant, and the collection will then be shown at the Royal Institution, Manchester.

THE PROPOSED BURKE AND WILLS MONUMENT AT MELBOURNE, IN VICTORIA.—An address, on 21st November last, was delivered at the Hall of the Royal Society of Victoria, by Mr. John Millar, F.S.A., Civil Engineer, in regard to the proposed site of the monument to be erected to the pioneers Burke and Wills, who lost their lives in crossing the Australian continent. Mr. Millar objects to a monument which is only to cost 4,000*l.* being erected on the gazetted site, as certain to be dwarfed by the overshadowing Houses of Parliament, Treasury, and proposed Chief Secretary's Office; and advises that it be erected in the vicinity of the Hall of the Royal Society itself, whence Burke and Wills may be said to have gone forth on their expedition. The vertex of the triangular piece of ground on which the Hall stands Mr. Millar suggests as a very fitting site for such a monument, which will be the first statuary group in the colony.

LECTURE ON BELLS.—On Tuesday evening last, the first lecture for the second half of the session of the York Institute was delivered by Mr. W. F. Stephenson, of Ripon, his subject being "Bells—Literary, Pictorial, and Musical." The hall of the Institute was crowded. The lecturer divided his subject into half a dozen appropriately-termed "peals" or parts. The first related to the early history of the bell. The second, which included some curiosities of bellfounding, was concluded with a reference to the Bell-Founder's Window in York Cathedral. This, the lecturer said, was the second window in the north aisle of the nave, and was perhaps put in six or seven hundred years ago by a young lady named Tunneck, in memory of her father. The window was a curiosity as exhibiting in its several compartments the ancient methods of bell-founding, one of which showed that the cone, instead of being cast in a vertical position, was cast horizontally. Another compartment illustrated the removal of the metal to the furnace and the opening of the door, whilst the centre compartment of the window exhibited the presentation of the bell to one of the church dignitaries. In the third, fourth, and fifth "peals," the lecturer showed how bells were rung, remarkable feats of ringing, and the language which bells speak. Illustrations of hand-bell ringing were given by the York Campanalogian bell-ringers.

LODGINGS FOR YOUNG MEN IN LONDON.—This is a subject which has occasionally engaged our attention, and we are glad to observe from a letter in the *Star* that a movement is now being made towards a realization of the object in view. The writer says: "Recent conversation with an eminent merchant in the City, who holds a high office in the Corporation, and is but a few years removed from the civic chair, has brought this subject still more prominently before me, at the same time that an unusually good opportunity of trying the experiment presents itself. There are premises to be had for 340*l.* per annum which would accommodate from eighty to ninety gentlemen with spacious coffee and drawing rooms, and a very large kitchen, housekeeper's room, store-room, and cellars. We calculated that 3*s.* per week would, on eighty inmates, give 12*l.* per week. Now, setting the rent at 7*l.*, four servants 16*s.* each—3*l.* 4*s.*—there would be an ample income, supposing the furniture provided for by one hundred 5*l.* shares paid up by easy instalments, payable, and leave a dividend of 12 per cent. on the outlay: my friend, however, who is willing to be a trustee, doubted whether there was enough cohesion and steadiness among young men to make such a thing succeed. This letter is to try the experiment of inviting letters from young men on this subject."

A POLICE FIRE-BRIGADE.—Government, it is said, have decided upon introducing a Bill into Parliament for establishing a fire-brigade force in conjunction with the metropolitan police.

PROPOSED MEMORIAL OF THE LATE MR. STYLEMAN LE STRANGE.—Subscriptions are being sought to raise a memorial of the late Mr. Le Strange, in the shape of the restoration of Hunstanton Church,—a work commenced by that gentleman. Our advertising pages show where contributions may be paid.

PHOTO-SCULPTURE.—A remarkable invention, intimately connected with photography, is now engrossing the attention of artists, in France, according to *Galignani's Messenger*. The method followed by the inventor, M. Willême, is this:—A number of simultaneous photographs of a person is taken, and the outlines thus obtained are enlarged or reduced at will by the pantograph. With these data M. Willême produces a statue in clay, or bronze, the exact likeness of the original, in any size, and in so short a time as is hardly to be credited. The price, too, is extremely moderate.

THE "DANMARK," DANISH DAILY NEWSPAPER.—A new feature in Danish newspaper literature is the insertion of an English article on literary as well as political events in the Thursday's issue of the new paper called the "*Danmark*," published at Copenhagen. English readers will thus have an opportunity of becoming better acquainted with Danish affairs than heretofore; to the promotion, we doubt not, of a good international understanding between the two countries, which are so soon to be otherwise united in kindred bonds of friendly regard. It is to be regretted that at this precise moment unpleasant questions should be started between the two Governments, at a time when the royal families are about to be more closely united. The circumstance reminds us of something similar on a former occasion. Our oligarchical Government, we suppose, desires to show the world how independent it is of our Royal family affairs.

STEAM ON COMMON ROADS.—Mr. C. B. King (of Abingdon-street, Westminster) has recently designed a traction-engine for some Russian merchants. The boiler, which is constructed on the locomotive principle, is supported by a wrought-iron framing, which, working downwards, is fitted with horn-plates, giving an outside bearing to the driving-wheels, which are 6 feet diameter, and 14 inches wide. They are constructed of T-iron, with a cast-iron boss, from which round spokes proceed. Between the spokes an elastic medium is introduced between them and the tyres, to relieve the wheel from violent shocks, which are often met with when travelling on turnpike roads and paved streets. To each end of the engine are fixed transversely baulks of timber, to which are fixed buffers and drag chains. The length over all is 20 feet, and the extreme breadth 7 feet. The cylinders (which are 8 feet diameter and 13-inch stroke) are fixed on brackets between the main framing and the boiler. The centre of gravity is low, being only 2 feet 8 inches from the ground. The engine is designed to work at 60lb. pressure on the square inch, and will travel at from 6 to 7 miles an hour.

DWELLINGS FOR LABOURERS.—The recent case of death from foul air in Berks, lately reported in our columns, has redirected attention to this subject in Scotland. The *North British Agriculturist* has an article on the deficient accommodation for agricultural labourers, in which it says:—"Let it once be definitely understood that public opinion demands a better description of housing for labourers; and by a judicious combination of the owners and occupiers of land these obnoxious dwellings will be superseded by comfortable, commodious, and healthy cottages. Hitherto the apathy of all classes directly interested—landowner, farmer, and labourer—to the importance of suitable dwellings may palliate, but cannot excuse, the neglect of many of the landowners in Great Britain in their duties regarding the housing of those required to cultivate their estates. A limited number of landed proprietors have combated manfully with the difficulty. The late Duke of Bedford is the most notable example in England, and the Duke of Buccleuch in Scotland. To arouse public attention to the enormous evils which result to society from the insufficient house accommodation in dwellings occupied by the labouring classes, alike in rural and urban districts, a Parliamentary inquiry is apparently necessary; as hitherto neither lectures, public meetings, nor the press, have awakened the influential members of the community to their responsibilities in reference to the housing of the labouring classes

FALL OF A CHURCH AT LOCARNO. — Private letters give an account of the fall of the church of La Madonna del Sasso, at Locarno, on the Lago Maggiore, between Italy and Switzerland, killing fifty-three women and one man. The dome was heavily covered with snow, which caused the whole to give way while the congregation, chiefly women, were kneeling in prayer. One woman alone (a young bride), escaped, with both legs and an arm broken. Had the occasion been a festival probably 500 persons would have been killed.

ORGANS.—The Court of Queen's Bench have this week decided that they could not sustain the right of patent in the pneumatic lever invented by Mr. Willis, the organ builder, against Mr. Davison, who had appropriated the invention. The Court stopped Mr. Grove for the defendant, being satisfied by him that, as it appeared on the evidence that the pneumatic levers were only another form of bellows, and that the escape valves had been applied to the old form of bellows, the new application of it by the plaintiff was not the subject of a patent.

WANT OF VENTILATION IN COURTS OF JUSTICE. At the Staffordshire sessions lately a letter from the high sheriff of the county was read, stating that the three judges who had sat in the Crown Court during the last year complained of the difficulty of hearing prisoners, and also of the bad ventilation of the court. On one of the days of the last assizes the judge had to leave the court for fresh air, and he (the sheriff) had to do the same. Mr. Twemlow said he replied to the letter, promising to bring it before the finance committee, but stating that he was afraid nothing could be done to improve the ventilation of the court, as it was ventilated on the new principle of having a gas-burner at the top. He would only observe that the ventilation was better before the top gallery was closed. Considerable expense has been recently incurred in improving the court. The chairman said the ventilator at the top of the court might be made larger. The subject was referred to the county surveyor.

AN ELECTRIC WEAPON. — Our readers will doubtless recollect of reading a paragraph in the *Builder* (about the close of the year before last, if we mistake not) as to a crown of electric light which the Empress Eugenie was said to have had made for her. To this intimation we appended a suggestion of our own, that electricity might be made to operate as a weapon of personal defence, giving violent shocks on any one attempting to touch one so armed. A French invention was some time thereafter spoken of, consisting of an electric lance; to which we objected that if the point of the lance were so near the body of the enemy as to bring its electricity into operation, the electrical apparatus would be scarcely requisite. An invention much more like our original suggestion, however, is described by the well-known "Wizard of the North" (Anderson), in his really well-written and amusing notes on a recent sojourn at Honolulu, in Hawaii, which we see thus quoted (though at greater length) in the *Liverpool Journal*:—"'Ah!' said the King, 'I cannot understand how Mr. Anderson could make my officer scream, and get him in such a fright.' I told his Majesty I thought if he would permit me to have the honour of shaking hands with him, he would not be surprised. The King stretched forth his hand: he started, making a few muscular contortions. I released his hand. His Majesty was astonished, as he had no knowledge of the agent I employed. He insisted that Mr. Wyllie should have a 'practical explanation.' My friend Wyllie could not account for the phenomenon: he reluctantly gave me his hand: of course I could use a little more freedom with the Minister of Foreign Affairs than I could with the King. He writhed and screamed, and begged to be released; and, when free, he said, 'I am not surprised at the officer thinking you the devil; for, if you are not his satanic majesty, you are 'no canny.'' The King requested me as a favour to explain the phenomenon, to which I at once assented. I showed his Majesty that I had a small galvanic battery in my pocket, with the metallic cords communicating up the back of my coat, running down the sleeve of my right arm, also communicating with the palm of the hand; which, with metallic threads within the palm of the glove, produced a powerful shock as soon as the battery was put in action in the pocket (which I worked with a spring the moment the hand was grasped)." A magneto-electric machine, worked by a spring, would perhaps be the simplest and most efficient mode of "astonishing the natives" in this amusing manner.

MEMORIAL WINDOWS IN MARYLEBONE.—The Marylebone vestry have determined, with reference to an application from the minister, the Rev. Mr. Sandham, for leave to put in memorial windows in St. John's Wood Chapel, that a fee of ten guineas shall be charged for each window with inscription for parishioners, and twenty-one for non-parishioners.

CONDITION OF PART OF WORCESTER.—A correspondent complains in strong terms of the condition in which some cottages are left adjoining the Birmingham Canal, where it intersects a principal thoroughfare in Worcester. A retaining wall here, he says, fell some months ago, and left the cottages built above, in a dangerous position. The bridge at the crossing is not very creditable.

ACCIDENTS.—A workman in the employ of Messrs. Brassey, the contractors for part of the Main Drainage, was killed on Saturday morning while engaged in the cutting immediately opposite the police-station in the Old-street, St. Luke's. He was nearly 40 feet below the surface, securing the "shoring-up;" and another workman was at the top of the cutting, sawing off and supplying him with wedges of planks about 4 feet in length for that purpose. These were flung down with the usual caution; but it is supposed that in consequence of the noise made by the engine at work, the voice was not heard, and one of the pieces struck him on the head. The back of the skull was entirely smashed in.——One of the extensive glasshouses and furnaces at St. Helen's Crown Glass Works suddenly gave way recently, and fell, part of the thick walls only being left standing. The immediate cause of the accident is not known, but it is probably from the constant intense heat to which the furnaces are subjected, and subsequent contraction. No person was injured.——A singular accident occurred the other day at Nantes. A climbing boy employed to sweep a chimney, on reaching the top, attempted to introduce himself into the wide tile pipe by which it was surmounted; but the pipe being insecurely fixed, fell into the street, and the boy being inside was killed on the spot.

PORCELAIN.—The construction of the first building of the new Sèvres porcelain manufactory, which is being erected in the park of St. Cloud, is, says *Galignani*, on the point of being completed. While the roof is being placed, the internal arrangements are being effected, and the buildings destined for the ovens and workshops are going on with great expedition. It is in the part of the building fronting the park that the museum containing three complete collections will be installed. The first is composed of foreign porcelain; the second of specimens of French; and the third specimens of the manufactory from its first foundation. The manufacture of porcelain is one of the most ancient arts in the world, for its origin loses itself in the night of time. In 2600 before the Christian era the Chinese had porcelain manufactories. At Babylon, in the reign of Semiramis, enamelled bricks were made, and Egyptian pottery of the same period has been discovered. In 1200, Talcis invented the potters' wheel in Greece; and in 705, Numa Pompilius instituted at Rome a college for potters. About two centuries later, some Greek emigrants carried their processes and their style into Italy, and thence came those articles of *pâte tendre* called Etruscan vases. One hundred years before our era, Gallic, Celtic, German, and Scandinavian pottery was found in tombs. About the middle of the second century the bright-coloured earthenware of the Romans was to be found among the Gauls, and soon after there appeared the dark-coloured earthenware of the Gallo-Romans. In the ninth century the varnished Arab earthenware was introduced; and in 1146, the enamelled ware of Schelestadt. At the beginning of the fifteenth century appeared the manufacture of Lucca della Robbia and the Hispano-Arab terra-cotta; and a century after, the fine majolicas and earthenwares of Florence, the Flemish articles in sandstone, and the earthenware of Henri II. In 1555 the first pieces of Bernard Palissy made their appearance. In 1695 porcelain of *pâte tendre* was first made at St. Cloud. Five years afterwards the manufacture of porcelain commenced in Saxony, Prussia, and Austria. In 1725, England manufactured, for the first time, ware having ground flint as its basis. In 1741, Sèvres produced porcelain of extreme beauty, and that manufacture was introduced into England three years later. In 1770 the Sèvres manufactory produced porcelain of *pâte dure*, and in 1800 England manufactured porcelain of *pâte tendre* with phosphate of lime and boric acid. Such is, in a few lines, says *Galignani*, a summary of what is known of the history of the ceramic art.

THE CATHEDRAL OF AMIENS.—The *Globe's* Paris correspondent states that the cathedral at Amiens has been discovered in so dangerous a state, particularly the vaulted roof, that a celebrated architect has been suddenly summoned to Paris.

GLASGOW.—The Scotia Music Hall, in Stockwell-street, Glasgow, belonging to Mr. James S. Baylis, was opened on the 29th ult. The length of the building, over walls, is 113 feet; breadth, 60 feet; the height from ground to the ridge of roof, 65 feet. The building is in the Italian style. The music-hall contains upwards of three thousand persons. The height from area floor to ceiling of hall is about 40 feet. The architect was Mr. R. Black.

DEATH OF HORACE VERNET.—The celebrated French painter, Emile Jean Horace Vernet, died in Paris on Saturday before last. He was born at the Louvre, June 30, 1789, and came of a race of painters. He served in the ranks of the French army in 1807 and 1809 (was a sergeant at Montmirail), and in the latter year he married, and opened an *atelier* on his own account, glad to undertake any work,—drawing for ladies' fashion-books, drawing bill-heads, and what not. His picture, "The Fashions for 1815" (Waterloo year), the *Morning Post* says, is in the possession of Mr. W. M. Thackeray. His turn, however, was soon to come. He painted in rapid order "The Capture of a Redoubt," "The Barrier of Clichy," "The Dog of the Regiment," "The Trumpeter's Horse" (this latter for Marie Louise), and was decorated with the Legion of Honour, having two years previously obtained the first class-medal for historical painting. In 1825 he was made an officer of the Legion of Honour, and in the following year a member of the French Institute. In 1828 he became director of the Academy at Rome, and in 1842 he was made commander of the Legion of Honour. He was decorated with nearly all the orders of Europe, including the medal of St. Helena. Vernet has been called the Scribe and Dumas of painting. He quitted the classical school and adhered to nature.

TENDERS.

For six houses at Surbiton. Mr. W. C. Reed, architect.—

	Houses.	Add for Greenhouses.
Strange	£10,700 0 0	£180 0 0
Simms	6,676 0 0	300 0 0
Rodda	6,480 0 0	120 0 0
Jones	6,355 0 0	300 0 0
Welsh	6,200 0 0	150 0 0
Madie	6,090 0 0	120 0 0
Adkins	5,820 0 0	120 0 0
Marshall	5,700 0 0	119 10 0
Bond	5,505 0 0	216 0 0
Clark	5,466 0 0	180 0 0
Mason	5,390 0 0	120 0 0
Bush	5,250 0 0	112 0 0
Stevenson	5,196 0 0	112 0 0
Alderton	5,066 0 0	70 10 0
Boddingham	4,969 0 0	115 0 0
Reed	4,960 0 0	103 0 0
Dover	4,840 0 0	99 0 0

For taking down and re-building two houses and shops in Hope-street, Wrexham, for Mr. Edward Jones. Mr. Michael Gummew, architect. Quantities not supplied:—

Thomas & Roberts	£2,995 0 0
Roberts, John	2,845 11 5
Roberts, Robert	2,750 0 0
Huxley	2,684 10 0
Williams	2,527 16 0
Hughes	2,247 0 0
Pritchard (accepted)	2,200 0 0

The old materials on the ground included in the above tender.

For alterations and additions to Nos. 1, 2, 3, Paddington-green, for Mr. Bonnicod. Messrs. Mathews, Brothers, architects:—

Fox	£890 0 0
Hardiman & Sandon	869 0 0
Tidey	840 0 0
Green	840 0 0
Ramsey	683 0 0
Hill & Son	674 0 0

For additions to the North of England Catholic Reformatory at Howard-hill, near Sheffield. Mr. M. E. Hadfield, architect. Quantities supplied:—

For the whole Work.

Craven, Brothers	£1,785 0 0
Slack & Grayson	1,751 13 0
Robertson	1,741 0 0
Wade	1,738 0 0
Powell	1,699 0 0
Larder	1,629 0 0
Wareham, W. & J.	1,603 0 0
Reynolds	1,600 0 0

'Other tenders were delivered for separate trades.

For the erection of a mission hall and residence at Aldershott. Messrs. Eggar & Stapley, architects. Quantities supplied:—

Martin	£2,562 0 0
Duke	2,467 0 0
J. & G. Goddard	2,440 0 0

TO CORRESPONDENTS.

E & R. (we cannot furnish addresses).—T. & C.—W. & C. (already mentioned in the *Builder*).—T. J. S.—C. H.—J. W. T.—J. R.—R. K. D.—C. A.—A. F.—C. B. K.—F. F.—I.—M. G.—C. J. H. (a running title not desired. Make each communication distinct).—Messrs. H. (thanks).—Mr. B.—R. L.—A Competitor—J. H. (other steps would certainly be necessary to stay the progress of the rot: washing with diluted corrosive sublimate, for example).—X. Y. Z. B—Perenius (declined with thanks).—M. P.—Mr. L.—W. H. L.—W. F.—I. H. E.—E. & S.—E. v. W. D.

Report on Windsor Castle—Remainder next week.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

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THE *Illustrated London News*, Nov. 8, speaking of Benson's Watches in the Exhibition, says: "Ranged around the base of the clock were the Watches which Mr. Benson exhibited, and which have been universally admired for the beauty and elegance of the designs engraved upon them. The movements are of the finest quality which the art of horology is at present capable of producing." Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch, adapted to all climates. Benson's Illustrated Pamphlet on Watches (free by post for two stamps) contains a short history of watchmaking, with descriptions and prices. It acts as a guide in the purchase of a watch, and enables those who live in Scotland, Ireland, Wales, the colonies, India, or any part of the world, to select a watch, and have it sent free and safe by post. J. W. BENSON, Prize Medallist, 33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

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Town-hall, Gateshead, January 14, 1863.

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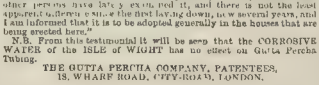
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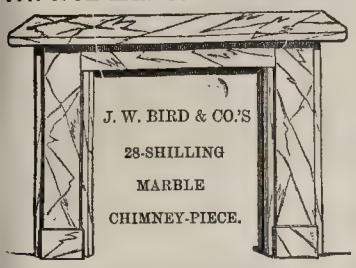
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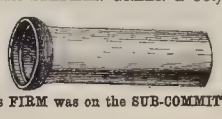
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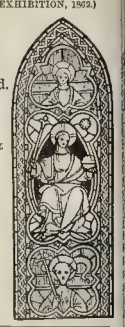
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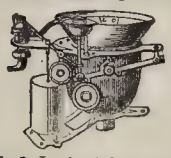
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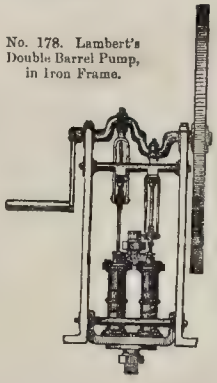
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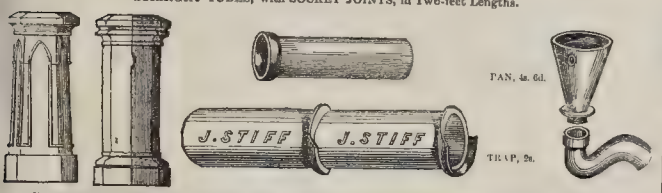
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IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



PAN, 4s. 6d.
TRAP, 9s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls or for dry floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.

CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

INTERNATIONAL EXHIBITION, 1862.
CLASS 35, NO. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the enlarged pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

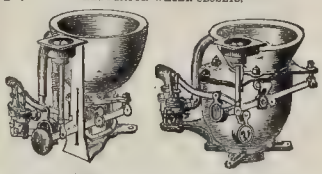
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

OSLEY POTTERY WORKS, GLASGOW.

Messrs. R. H. PENMAN & CO. from Staffordshire, Manufacturers of the best description of EARTHENWARE GOODS for Sanitary Purposes (vide red in private and public buildings, supply he Trade, Wholesale, at the lowest possible prices for Cash. The Ware sent by their customers to the late Exhibition was highly spoken of.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No cisterns, valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

MINTON & CO.

Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE-UPON-TRENT.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for the WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City road Basin, N 2ndly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Jurors," page 561, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufactories known so long as "The Teleries," Tunstall, Staffordshire, as the first of the kind in the world.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.

PAVING TILES in various colours and designs.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c

Dressed Blue Facing BUILDING and SEWER BRICKS.

Architects' designs carried out on the shortest notice.

Illustrated Catalogues on application.

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Belvedere-road, Lambeth, and Kent-road Bridge.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator  for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 8s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union street, Borough, London; and of all respectable Ironmongers, Builders, &c.

SALES BY AUCTION.

150 Tons Best Scrap, Rod, and Bar Iron.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, FEBRUARY 11, 1863, at TWELVE o'clock, at the SWALWELL IRON WORKS, near Newcastle-upon-Tyne, 150 Tons BEST SCRAP, ROD, and BAR IRON, assorted sizes, the whole manufactured by Crowley, Millington, & Co. now lying at the Swalwell Works:—To be viewed at the Works on the morning of sale. Catalogues may be had on the Premises; at the Station Hotel Newcastle; at the "Midland Counties Herald" Office, Birmingham; of Messrs. VANDERCOM, CHER, & LAW, Auctioneers, Bush lane, London, E.C.; of Messrs. CHARLES BROWN & DUBOIS, Accountants, No. 15, Basinghall-street, E.C.; and of Messrs. FULLER & HORSEY, 11, Billiter-street, London, E.C. Any parcels of these materials will be taken from purchasers to the extent of 5cwt and upwards. There is every facility for treasuring the iron by water carriage.

INTERNATIONAL EXHIBITION, 1862 — The Materials of the Annexe, the Shafting, Riggers, Cleaners, and Steam pipes used for showing the Machinery in motion and out of Use.

MESSRS. FULLER & HORSEY are instructed by Messrs. Kelk & Lucas to SELL by AUCTION, on TUESDAY, FEBRUARY 24th, 1863, and following days, at ELEVEN each day, at the Building, as lies, the useful and valuable MATERIALS of the ANNEXE, the shafting, hangers, brackets, and bolts, and steam pipes used for showing the machinery in the Western Annexe of the International Exhibition Building; and the complete plant (250 horse-power) for carrying the above, each 21 feet span, 50 ft. high; 1,250 square feet of roofing boards, 1,500 squares glazed skylights (16 oz. glass), 4,500 yards 1-in. and 1½-in. flooring boards, 150,000 ft. run of deals and battens, 35,000 ft. run of planks, 9 in. by 3 in.; 100,000 ft. run quartering, 8 in. by 2 in. and 4 in. by 3 in.; 2,000 squares 1-in. dressed match boarding, 300 squares rough ditto, Dorset ft. and casements, 2-ton ft. Baltic timber in uprights, 12 in. by 6 in.; 2,500 yards contractors' rails, 7,000 ft. fir sleepers, 12 in. by 4 in.; 23 strong framed trollies, 8 fluted cast iron columns, 10 ft. high, with turned bright spindles, large square bases and base plates, with holding-down bolts; 2,000 feet bright turned wrought-iron shafting, 2½ to 3¾ in. with couplings and self-lubricating pedestals; Clark's patent horizontal tubular boiler of 70 horse-power, 70 turned fingers, 2 ft. to 4 ft. diameter; 3 pair portable mitre-wheels, 500 tons wrought and flanged cast-iron steam pipe, from 2 in. to 15 in. diameter, with expansion joints, valves, &c.; 14 derrick cranes, from 1 ton to 6 tons, by Bowser, Chapman, & Co.; erection of steam boiler-house, with corrugated iron roof and circular chimney-shaft; 100 yards new brickwork; erection of gantry, 45 ft. long, with two travellers, 5 tons and 10 tons, 20 ft. span; erection of water-closets and urinals; 125 sq. yards oak strip-and-buffle, cushion, and slated for picture-galleries or hall-rooms; 850 double and single seats, with iron standards; and numerous other effects.—To be viewed on Saturday, the 14th, Monday previous to the sale, from NINE to FOUR o'clock, when catalogues at 6d. each (without which no person will be admitted) may be had at the building, or previously of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

N.B. Approved bills at three months' date will be taken from purchasers to the extent of 5*l.* and upwards.

INTERNATIONAL EXHIBITION, 1862.—Materials and Fittings of the Enclosures in the English Furniture Department.

PULLEN, HORNE, & EVERSFIELD are instructed by the Chairman of the Committee of Class 30, to SELL by AUCTION, in the EXHIBITION BUILDING (by permission of Messrs. Kelk & Lucas), on MONDAY, JANUARY 26th, at TWELVE for ONE, the Valuable MATERIALS and FITTINGS comprising 30,000 feet of Matched Boarding, 15,000 feet of 1 in. Boards, 10,000 feet of Quartering, 6,000 feet of Battens, a quantity of Red Baize, Canvas Lining, at 1 doz Canvas Covering, Moulton Valleys and Fringe, about 15,000 Block Bricks, 200 feet of Oak Paving, Ironwork, Firewood, and other effects. The Materials are taken down and stacked, and may be viewed from ten to one on the Morning of Sale with catalogue only. May be had on the payment of 6*d.* each, at the Offices of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore street, City. The admission will be at the East Entrance.

TO SCULPTORS, MASONS, and OTHERS.—Carrara Wharf, Thames Bank, Pimlico.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Fabbricotti Brothers to SELL by AUCTION, on the PREMISES as above, on WEDNESDAY, JANUARY 28th, at ELEVEN for TWELVE precisely, a large quantity of MARBLE in blocks: comprising fine statuary, veined and Sicilian, black and gold, Pasnazzo, clouse Brocca Green Griot, Brocatella, and Black with veins of Brocatella, Cottanello, Serravezza, statuary, and other marbles; also a selection of garden figures, vases, baths, mortars, and alabaster ornaments.—May be viewed two days prior and catalogues had at the place of sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, S.W. and 80, Fore street, City, E.C.

TOWER HILL. Building Materials of the Tower Stables Public-house, and Houses going for Pittage and Hovels, &c.

PULLEN, HORNE, & EVERSFIELD are instructed by the Hon. Commissioners of Sewers to SELL by AUCTION, on the Premises, on FRIDAY, JANUARY 30, at TWELVE, in Lots, all the Valuable BUILDING MATERIALS and FIXTURES of the Tower Stables Public-house, corner of Great Tower-street, Tower-hill, and No. 34, the Terrace adjoining: comprising sound brick work, timber, timber in roof, floors, plain and pan tiles, glazed sashes, doors, chimney pieces, sound floor boards, wainscoting, stone copings, paving, and other lead gutters, batten cisterns and backs, box fittings, iron casting, metal and lead piping, counter, spirit fittings and casks, pests of 3 cheese warehouse, settles and benches, drinking tables, stools, range cast iron, and other useful nature and fittings.—May be viewed two days prior, and views and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 40, Parliament street, Westminster, S.W.

LOWER EAST SMITHFIELD. Valuable Materials of a Stack of Warehousing Premises known as the Bell and Anchor Wharf.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the Premises, on FRIDAY, FEBRUARY 6, at TWELVE, the excellent BUILDING MATERIALS of a large Stack of Warehouse, consisting of 300 tons of 3,500 feet, and comprising sound brick, fir timber of 1 and 2 floors, plain and plain tiles, 30 squares of slates, 170 squares of deal flooring, yellow timber boards, 2,000 feet of sound pantile laths, 1,000 feet of deal, and other sashes, lot hole doors, weather boarding, timber, strong stage, a stout wharf crane and 2 jibs, cranes, several tons of lead in gutters, dormers, flashings, and all other effects. May be viewed the Tuesday previous. Catalogues had of T. CHATFIELD CLARKE, Esq., Architect, 127, Londenhall street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament street, S.W.

Near the Railway Station, Seven Sisters road, Holloway.—Second Portion of Sound Building Materials, removed for convenience of Sale.

MR. A. RICHARDS will SELL by AUCTION, on the GROUND, on TUESDAY, JANUARY 27, the nearly NEW MATERIALS: comprising 2,000 feet of well-seasoned Deal, in boards, flooring, and steps, long timbers, rafters, joists, plates, and quartering, modern doors, sashes, and frames, iron columns, counters, gas fittings, stoves, slates, tiles, &c.—Catalogues on the Premises, and of the Auctioneer, Tottenham.

SALE of CONTRACTORS' PLANT, at BLATH, near Newcastle-upon-Tyne. By AUCTION, on WEDNESDAY, the 28th day of JANUARY, 1863, at ELEVEN o'clock, the valuable PLANT used in the construction of the Blyth Harbour Works: including a fine set of powerful Locomotive Engines by Ruston, Proctor, & Co. of Lincoln, of 10 horse power (nearly new), with wheels and double shafts for horse draught, gearing and drums, &c. complete; a 4-horse steam piling engine and gearing, complete, by Gough, of Manchester (nearly new), with two cabs and two runs, of steel each; cranes, earth and stone waggons, winches, cloth, capstan and shaft, with screw moorings, hydrant, piling engines, rams, anchors, patent weighing machine, hay cutter, corn crusher; about 16 loads of Memel timber, iron, smiths', joiners', and masons' tools, chaff cutters, and numerous other effects. Catalogues may be had of the Auctioneer, Mr. CLARK, Royal Arcade, Newcastle; or of Mr. G. HINDHAUGH, Blyth. Payments:—For Purchases under 20*l.* cash; above that sum, approved bills at three months will be taken or the usual discount.

CHIPPENHAM, WILTS.—To BUILDERS, CAPITALISTS, and OTHERS. IMPORTANT INVESTMENT.

MESSRS. PARRY & SON have received instructions from the Executors of the late Mr. Richard Morris to offer for SALE by AUCTION, in one or more lots, in the month of FEBRUARY next, at the Angel Hotel, in Chippenham, an important FREEHOLD PROPERTY, consisting of valuable building ground, intended by adjoining the first class Railway station at Chippenham, and the junction of two branch railways; together also with 17 substantial well built Dwelling houses, excellent building stables, coach-house with 2 rooms and 3 lofts over the same, and a veterinary forge, forming a street called St. Mary's place, and all on the property. Here and in the railway station has been formed, at great expense through the land, a 9 inch cast iron sewer throughout the whole extent capable of receiving drainage from the houses to be erected; and the Great Western Railway Company are under covenant to maintain the same as a road to the Railway station. The property connects the Station Hotel with the principal residential part of the town which is contiguous thereto. The land and site of the building thereon is situate on the Cirencester and Chippenham turnpike road, and is also adapted for a large hotel, and a plan of arrangement is at present in the hands of the Solicitors for the Company, and Messrs. Cleveland Cattle Market. The Auctioneers are thereby enabled to offer the property as a whole, and purchasers may be allowed

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

LONDON.

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BUILDERS' BALL.

THE ANNUAL BALL, in AID of the FUNDS of the BUILDERS' BENEVOLENT INSTITUTION, under the especial Patronage of the Right Hon. the LORD MAYOR, M.P.; the LADY MAYORESS, the SHERIFFS of LONDON and MIDDLESEX, and the President of the Institution, HENRY LEE, Esq. will be held at Willis's Rooms, St. James's, on THURSDAY, 12th FEBRUARY.

COMMITTEE OF MANAGEMENT.

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Mr. W. H. Jackson.	Mr. W. Wood.
Mr. Harvey Lewis, M.P.	Mr. T. Yeo.

Gentlemen desirous of promoting the interests of the Institution by becoming Stewards, will please forward their names to the Hon. Sec. Mr. JOSEPH BIRD, 10, Hanover-cottages, Regent's Park; or at the Office, 23, Southampton-street, Bloomsbury.

Double Ticket, 21s.; Lady's ditto, 8s.; and Gentleman's, 14s. Refreshments included.

BUILDERS' BENEVOLENT INSTITUTION.—An ELECTION of THREE PENSIONERS (two Males and one Female) will take place in MAY next. Candidates may obtain forms of application (to be returned on or before 23rd of February) at the Office, 23, Southampton-street, Bloomsbury. Pension, 25*l.* per annum for males, and 20*l.* for females.

January 27, 1863. A. G. HARRIS, Secretary.

ARCHITECTURAL EXHIBITION, 9, Conduit street, Regent street.—Drawings, Models, and Specimens of Building Manufactures, &c. must be delivered early in MARCH. Further particulars will be shortly announced.

JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, F.R.I.B.A. }

GALLERIES of the ARCHITECTURAL UNION COMPANY (Limited), 9, Conduit-street, Regent-street, NOW OPEN, FREE, from ELEVEN till FOUR, daily. The Autumn Exhibition of Building Materials, Patents, and Inventions, will CLOSE, FEBRUARY 28, and must then be cleared for the Architectural Exhibition. JAMES EDMESTON, Hon. Sec.

SHEFFIELD SCHOOL of PRACTICAL SCIENCE and METALLURGY.

PRESIDENT.

His Grace the Duke of Devonshire, K.G. F.R.S. D.C.L. Chancellor of the University of Cambridge.

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Engineering and Mining—J. Thompson C.E.
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The Sheffield School of Practical Science and Metallurgy will afford a complete scientific and practical education to students who are destined to become civil, mechanical, or mining engineers, or manufacturers of any kind. Its object is thoroughly to discipline the students in the principles of those sciences upon which the operations of the engineer, metallurgist, or manufacturer depend.

The education will be given by means of systematic Courses of Lectures, by Class-books and Class Instruction, by Practical Teaching in the Laboratory and Drawing room, and occasionally by Field Excursions. The School of Practical Science and Metallurgy will be conducted in the Buildings of the Sheffield Collegiate School. The two Institutions, although both under the superintendence of the Rev. G. B. Atkinson, Principal of the Collegiate School, are, however, entirely distinct.

A detailed Prospectus, containing Syllabuses of all the Courses of Lectures, and all other information, arrangements for boarding, &c. may be obtained by application to the Director

THE SCHOOL WILL OPEN IN THE FIRST WEEK IN FEBRUARY, 1863.

WATER COLOUR PAINTERS' LANCASHIRE RELIEF FUND.—The EXHIBITION will from MONDAY next, the 2nd of FEBRUARY, to the SATURDAY following, be OPEN ONLY to CONTRIBUTORS, SUBSCRIBERS, and PATRONS of ART to whom invitations have been sent.

Subscribers and Contributors may obtain extra cards on application to JAMES FAHEY, Hon. Secretary.

German Gallery, 168, New Bond-street.

Subscriptions will continue to be received at the Committee room, 5, Waterloo-place

PHOTOGRAPHIC EXHIBITION.—The NINTH ANNUAL EXHIBITION of the Photographic Society of London is OPEN DAILY, from Ten till Four, at the Gallery of the Society of British Artists, Suffolk-street, Pall-mall East Admission, 1*s.*

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.—The next SESSION commences on SATURDAY, FEBRUARY 7th. Students entering the College at this time are eligible for Election to a Scholarship.—For prospectuses and further particulars apply to the Principal.

COMPETITIONS.

TESTIMONIAL to Sir BARTLE FREERE, K.C.B.—To ARCHITECTS.—DESIGNS, to consist of complete working drawings and detailed estimates, are invited for a BUILDING to be erected in Kurrachee, Scinde, to be called the Freere Hall, for which premium to the author of the selected design, which will thus become the property of the Freere Hall Committee. Competitors must send their plans under a motto addressed to the Joint Secretaries, Freere Hall Committee, Kurrachee, Scinde, on or before the 30th of APRIL next, accompanied by a sealed envelope containing name and full address of the designer. The Committee will use every possible care in returning the plans to the unsuccessful competitors; but they will not be answerable for loss or damage to the plans in transit. A plan of the site may be seen on and after MONDAY next, the 26th inst. at the Offices of Mr. BRUNTON, M.I.C.E. Chief Engineer Scinde Railway, 31 and 60, Commercial Sale Rooms, Mincing lane, City, who will furnish full particulars of the funds available and of the building requirements; also information as to the local prices of materials and workmanship.

CONTRACTS.

ST. MARYLEBONE, January 24th, 1863.—To BUILDERS, SEWER CONTRACTORS, &c.—Notice is hereby given that the Vestry of the Parish of St. Marylebone, in the County of Middlesex, will MEET in the BOARD-ROOM of the Court-House of the said Parish, on THURSDAY, the 5th day of FEBRUARY, 1863, at ELEVEN o'clock in the forenoon, to receive TENDERS from persons willing to CONTRACT for LAYING DOWN a 12 inch PIPE SEWER in Langford place, in the said parish of St. Marylebone. Further particulars may be known, and drawings and specifications, and forms of Tender, seen, on application to the Vestry Surveyor, Mr. ROBERT SCACE, at his daily attendance at the Court-house, from TWELVE till ONE o'clock. The Tenders to be delivered to the Vestry Clerk, at the Court-house, at or before ELEVEN o'clock in the forenoon of THURSDAY, the said 5th day of FEBRUARY, sealed and endorsed "Tender for Pipe Sewer in Langford place," and no Tender will be received after that hour. The contractor to find satisfactory securities for the performance of the works, and to pay the expense of the bond and contract. The Vestry will expect the parties tendering, or some persons on their behalf, to be in attendance at the time of opening the Tenders. The Vestry do not pledge themselves to accept the lowest or any of the Tenders.—By order,

W. E. GREENWELL, Vestry Clerk

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS, &c.—TENDERS are required for ERECTING the WORK, &c. that may be required in the following Trades, at Barnsley Barracks, from 1st APRIL, 1863, to 31st MARCH, 1865, viz.: Bricklayers, Masons, Paviors, Carpenters, Plasterers, Slates, Plumbers, Smiths, Ironfounders, Painters, Glaziers, Paper-Hangers, and Gasfitters.

Parties desiring to Tender for this Contract must leave their names at this Office, on or before the 10th proximo, and pay the sum of 7*s.* 6*d.* for the schedule and form of Tender.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, 225, Stretford-road, Manchester, 14th January, 1863.

NOTICE.—To CONTRACTORS and IRONFOUNDERS.—The Corporation of Cork will receive TENDERS from competent parties for the ERECTION of a CAST-IRON ARCH BRIDGE, according to plans and specifications to be seen at the City Engineer's Office, No. 20, South Mall, Cork. Sealed Tenders to be forwarded to the Town Clerk, Cork, on or before the 16th day of FEBRUARY, 1863, marked on the outside, "Tender for Iron Bridge." The Corporation do not bind themselves to accept the lowest or any Tender.—By order,

ALEXANDER M'CARTHY, Jun. Town Clerk.

Office, 33, South Mall, Cork.

BARNSLEY LOCAL BOARD of HEALTH.—Water-Works Department.—CONTRACT No. 2. To Contractors for Pipe-Laying.—The Local Board of Health of Barnsley, in the County of York, are desirous of receiving TENDERS for LAYING DOWN about 14 MILES in length of CAST-IRON SOCKET PIPES and other CASTINGS. Specifications may be seen, and Forms of Tender may be had, on application to me, or to Mr. THOS. HAWKSLEY, C.E. 30, Great George-street, Westminster, S.W. on or later MONDAY, the 12th day of JANUARY instant; and Sealed Tenders must be delivered at my Office, not later than MONDAY, the 2nd day of FEBRUARY next, endorsed "Tender for Pipe Laying." The Board do not bind themselves to accept the lowest or any Tender.—By order,

WM. H. PEACOCK,
Barnsley, 6th January, 1863. Clerk to the said Local Board.

THE VESTRY of the PARISH of CHELSEA, in the County of Middlesex.—SCAVENGERING and WATERING KENSAL NEW TOWN.—The Vestry of this Parish will MEET in the Board-room at the Vestry Hall, King's road, on TUESDAY, the 3rd day of FEBRUARY next, at THREE o'clock in the afternoon precisely, to receive TENDERS in a sum in writing to CONTRACT, pursuant to the terms of a Draft Contract now lying for inspection at the Vestry Hall aforesaid, and which may be seen on application to the Vestry Clerk, for WATERING the STREETS comprised within the out ring District, Kensal New Town, from the 1st of MARCH next to the 1st day of OCTOBER next; and for the REMOVAL of the SLOP from the said District, from the 1st of MARCH next to the 1st day of MARCH, 1864. The Tenders are to name one amount for both Scavengering and Watering, and are to be upon printed forms, which may be obtained at this Office. Parties Tendering must appear personally at the day the Tenders are opened, and the parties whose Tenders are accepted (if any) will have to pay the cost of and incidental to the preparation of the Contract. Sealed Tenders, signed by the proposed Contractor, with the names and description of two sufficient sureties for the performance of his Contract, are to be left at this Office on or before TWELVE o'clock on TUESDAY, the said 3rd of FEBRUARY next. The Vestry do not bind themselves to accept any Tender.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, January, 1863.

THE VESTRY of the PARISH of CHELSEA, in the County of Middlesex.—SCAVENGERING and WATERING.—The Vestry of this Parish will meet in the Board-room at the Vestry Hall, King's road, on TUESDAY, the 3rd of FEBRUARY next, at THREE o'clock in the afternoon, precisely, to receive TENDERS from persons willing to CONTRACT, pursuant to the terms of a Draft Contract now lying for inspection at the Vestry Hall aforesaid, and which may be seen on application to the Vestry Clerk, for WATERING the STREETS comprised in one or other or both of the Districts in the parish (exclusive of Kensal Town), from the 1st MARCH next to the 1st day of OCTOBER next, and for the REMOVAL of the SLOP from one or other or both of the said districts, from the 1st of MARCH next to the 1st day of MARCH, 1864. The Tenders are to name one amount for both Scavengering and Watering, for each district, and are to be upon printed forms, which may be obtained at this Office. Parties Tendering must appear personally on the day the Tenders are opened, and the parties whose Tenders are accepted (if any) will have to pay the cost of and incidental to the preparation of the Contract. Sealed Tenders, signed by the proposed Contractor, with the names and description of two sufficient sureties for the performance of his Contract, are to be left at this Office on or before TWELVE o'clock on TUESDAY, the said 3rd of FEBRUARY next. The Vestry do not bind themselves to accept any Tender.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, January, 1863.

TO CONTRACTORS.—SHEERNESS DRAINAGE WORKS.—CONTRACT, No. 1. OUTLET PIPE.—The Sheerness Local Board of Health hereby give notice, that they are prepared to receive TENDERS from persons willing to CONTRACT with them for PROVIDING and LAYING DOWN about 1,400 LINEAL FEET of CAST IRON FLANGED and SOCKET PIPES, 24 inches in diameter, with tidal flap—Plan, sections, and specification, may be seen, and form of Tender obtained, by applying to Mr. JAMES HUNT, the Surveyor of the Board, at his Office, No. 10, Montague-terrace, Sheerness. Sealed Tenders, indorsed "Tender for Outlet Pipe," are to be delivered at this Office, not later than THURSDAY, the 12th FEBRUARY, 1863, at SIX o'clock in the evening.—By order of the Sheerness Local Board of Health,

EDWARD FELKIN, Clerk.

Office of the Local Board of Health, Sheerness, January 15, 1863.

[*For remainder of Contracts see next Page.*

CONTRACTS.

TO STOVE and RANGE MAKERS, IRONMONGERS, &c.—The Guardians of the Poor of the Stepney Union will meet at the Ratcliff Workhouse, York-street West, Commercial-road East, on THURSDAY, the 5th day of FEBRUARY next, to receive and open TENDERS from persons willing to supply and fix STOVES throughout the new Workhouse of the Union at Bromley, Middlesex. The Specification may be inspected after the 27th instant, at the Offices of Mr. JARVIS, the Architect, No. 29, Tranquil-vale, Southwark, where also may be obtained printed forms of Tender (which alone will be received) and full particulars.—By order of the Guardians,
22nd January, 1863. W. H. SWEPSTONE, Clerk.

SOUTH-EASTERN RAILWAY.—CONTRACT for WORKS.—The Directors of the South-Eastern Railway invite TENDERS from competent Contractors for the CONSTRUCTION and MAINTENANCE of the SECOND SECTION of the DIRECT RAILWAY between London and Tunbridge, extending from the latter place to Halstead, a distance of about twelve miles. Plans, sections, and specifications of the works may be inspected at the Engineer's Office, London Bridge Station; copies may be had on payment of 10s. 6d. per set), on and after TUESDAY, the 27th of JANUARY instant. Tenders to be delivered to the Secretary not later than TEN A.M. on THURSDAY, the 12th of FEBRUARY next, when the Directors will meet to open and consider the same. The Directors do not bind themselves to accept the lowest Tender, and sureties (if) will be required.—By order,
S. SHILES, Secretary.
London Bridge Terminus, January 16, 1863

TO BUILDERS.—Persons desirous of TENDERING for ADDITIONS and ALTERATIONS to BARRINGTON HALL, near Hatfield Broad Oak, in the county of Essex, are to see the plans and specifications by applying at the estate office after the 26th instant. Sealed Tenders to be sent in, according to the form supplied, by the 24th of FEBRUARY next. Sureties to be required by order of the Court of Chancery for the due performance of the works for an amount of not less than 12,000*l*. The lowest or any Tender will not necessarily be accepted.
EDWARD BROWNING, Architect.
Broad-street, Stamford, 20th January, 1863.

CONTRACTS, 1863.—Parish of SAINT GEORGE, Hanover-square.—Such Persons as are willing to CONTRACT with the Vestry of the said Parish for the following WORKS and MATERIALS, for One Year, from the 25th day of MARCH, 1863, viz.:—
Supply of Flints and Gravel,
Supply of Guernsey Granite,
Purchase of the Cinders and Ashes,
Carting away the Slop and Sweepings of the Streets,
Furnishing Carts and Horses for Day-work,
Spreading Water in the Streets,
Masons' Works,
Paviors' Works,
Supply of Paving Materials,
Supply of Thames Ballast, Land and Hogging,
Supply of Workmen's Tools and Hammers for Stone Breaking, and Repairs of the same,
Smiths' Works,
Chaffiers' Works,
Supply of Base Brooms,
Drain Pipes,
Shoeing of the Horses,
Veterinary Care of Horses;
may deliver in PROPOSALS, sealed up, at the Offices of the Board Room, Mount street, Grosvenor square, or at Board Room, 1, Ebury Bridge road, Pimlico, on or before SATURDAY, the 14th of FEBRUARY, 1863. Printed Tenderforms are to be had. Note that all Proposals must be made upon, and strictly in accordance with, the printed forms of Tender, to be obtained at either of the above offices.—Further particulars may be obtained on application to Mr. E. C. RICHMAN, Surveyor, at the Office, 1, Ebury Bridge-road, any morning between the hours of NINE and ELEVEN o'clock. Contracts to be prepared by the parish Solicitors, at the expense of the Contractors; and the Vestry do not bind themselves to accept the lowest or any Tender.—By order,
JOSEPH HENRY SMITH, Clerk to the Vestry

BOW ROAD. CONTRACT for SEWERS. Builders, Contractors, and others are informed, that new and plans and specification are now open for inspection at the offices of the British Land Company, 14, Moorgate street, E.C., between the hours of TEN and FOUR o'clock, from MONDAY, the 2nd, to THURSDAY, the 5th of FEBRUARY, when tenders are to be delivered on or before MONDAY, FEBRUARY 9th, addressed to W. E. WHITINGHAM, Secretary, and endorsed, "Tender for Sewer Works at Bow."
14, Moorgate street, January 26, 1863.

TENDERS are required for TAKING DOWN and RE-ERECTING a HOUSE in Jermyn-street, St. James's. The Drawings and specification may be inspected, on application to Mr. JOHN ELORE, Architect, St. Michael's-place, Brompton, on MONDAY, FEBRUARY 2nd, from TEN till THREE o'clock.—The proprietor does not bind himself to accept the lowest Tender.

BOARD of WORKS for the HACKNEY DISTRICT.—Notice is hereby given, that the Board of Works for the Hackney District will meet at the Townhall, Church-street, Hackney, on THURSDAY, the 12th day of FEBRUARY next, at ELEVEN o'clock in the forenoon, for the purpose of CONTRACTING for the EXECUTION of the SEWERS WORKS under Contract numbered 17, in Green-lanes, Stoke Newington, and Hall-street, Clapton.
No. 17 CONTRACT will comprise 960 feet run of 3 feet 9 inches by 2 feet 6 inches, and 240 feet run of 3 feet by 2 feet, of BRICK SEWERS; and 1,185 feet run of 15 inch PIPE, and 500 feet run of 9 inch PIPE SEWER, or thereabouts
Plans and specifications may be seen on and after MONDAY, the 2nd day of FEBRUARY next, until TUESDAY, the 10th day of FEBRUARY, and forms of Tender, with any information, to be supplied to Mr. JAMES ALLEBURY, C.E. Surveyor to the Board, at his office, Townhall, Hackney, between the hours of NINE and ELEVEN a.m. The Tenders must be sealed, and endorsed "Tender for Sewer Works, No. 17," and addressed to the Clerk, and delivered at the Townhall on or before WEDNESDAY, the 11th day of FEBRUARY. The parties tendering, or their representatives, must attend at the Board on THURSDAY, the 12th day of FEBRUARY, at ELEVEN o'clock precisely. Persons contracting will be required to enter into a contract or bond in sufficient surety for the due performance of the contract; and the Board do not bind themselves to accept the lowest or any Tender.
RICHARD ELLIS, Clerk.
Jan. 29, 1863.

ABERGWILI, Carmarthen.—To BUILDERS and OTHERS.—Persons desirous of submitting TENDERS for the several WORKS required to be done in BUILDING NEW NATIONAL SCHOOLS, CLASS ROOMS, and OFFICES, complete, on the site of the present schools at Abergwili, near Carmarthen, are informed that the drawings and specifications will be for inspection at the Bank of Ivy, at Abergwili, from THURSDAY, 12th FEBRUARY to SATURDAY, 28th inst., where Tenders, on forms supplied, to be delivered, by post prepaid, addressed to the Architect, Mr. R. J. WITHERS, 31, Doughty street, London, W.C. on or before MONDAY, 2nd MARCH, and of whom further particulars may be obtained. The lowest or any Tender will not necessarily be accepted.
W. E. JAMES, Vicar of Abergwili.
Abergwili, Carmarthen, 26th January, 1863.

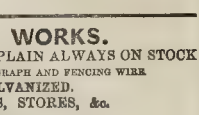
VILLAS, SURBITON.—BUILDERS desirous of TENDERING for Three Pairs of Semi-detached VILLAS at Surbiton may see the plans and specification at the Office of the Architect, W. C. REED, 34, Old Broad street, E.C. Money will be advanced as the work is proceeded, as per agreement

TO BUILDERS. — Persons desirous of CONTRACTING for the ERECTION of PARSONAGE HOUSES at the undermentioned places respectively, viz. Frogmore, near St. Alban's; Melton Ross, near Barnetby; Thurlby, near Lincoln; and Newark, may communicate with Mr. CHRISTIAN, Architect, 8a, White-hall-place, London. Application to be made before FEBRUARY 10th, but Mr. CHRISTIAN does not bind himself to accept, or reply to, any such application.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
OF VARIOUS SIZES, FOR STRONG ROOMS,
AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.

GALVANIZED IRON AND ZINC WORKS.
GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.
VAVASSEUR AND CO.
GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

COUNTRY ORDERS PROMPTLY EXECUTED.
J. MOORE,
WHOLESALE IRONMONGER,
122, EUSTON ROAD
(near St. Pancras Church),
Opposite J. W. Bird's Marble and Stone Works.
THE CHEAPEST AND BEST HOUSE IN LONDON FOR
KITCHEN RANGES, STOVES, NAILS, LOCKS, HINGES, BOLTS,
AND
EVERY ARTICLE OF BUILDERS' IRONMONGERY.
Priced Lists on application.
ESTABLISHED 1846.

All Kinds of Smiths' Work

Bell-hanging, Railings, and Baloon &c.

LYSS, HAMPSHIRE.—To BUILDERS and OTHERS.—Builders desirous of TENDERING for the ERECTION of a PARSONAGE-HOUSE, at Lyss, near Petersfield, are requested to send their names forthwith to the Architect, Mr. R. J. WITHERS, 31, Doughty-street, London, W.C. accompanied by reference, when they will be informed of the terms of contract, and those selected will be furnished with copies of the bills of quantities. The Tenders to be forwarded to the Architect, by post, on or before SATURDAY, 14th FEBRUARY.
F. H. FREETH, Incumbent of Lyss.
Lyss, near Petersfield, January 24, 1863.

BOROUGH of BLACKBURN. — The Corporation of this Borough is prepared to receive TENDERS for the CONSTRUCTION of BRICK and PIPE SEWERS, together with MANHOLES, GULLIES, and other WORKS connected therewith, comprised in Contract No. 6, of the Sewerage Works of the Borough. Persons desirous of Tendering for the above, may see the specification and drawings, and obtain all requisite information, on application to Mr. BRIERLEY, Borough Surveyor, at his Office, Townhall.—Sealed Tenders addressed to the Town Clerk, and endorsed "Sewer Contract No. 6," may be sent to the Town Clerk's Office, not later than SATURDAY, the 14th day of FEBRUARY next. The Corporation will not be bound to accept the lowest or any Tender.—By order,
HENRY SAWARD, Town Clerk.
Townhall, Blackburn, January 26, 1863

BENNETTS' WHARF, Grand Surrey Canal Basin, Peckham.—TO BE SOLD, Two 14-inch Portable ENGINES, and one 6 horse ditto, by Clayton & Co.; one 8-horse ditto and one 5 horse ditto, by Garrett; one 10 horse portable engine and one 7 horse ditto, and one 7-horse vertical engine and boiler, by Chaplin, on wrought-iron carriage and cast-iron wheels; one contractor's locomotive, in capital condition; 14 earth-waggons, two capital lumber drays, one edge-runner, mortar-mill, six wrought-iron truss plates, 48 feet 6 inches long, 15 inches wide, and 1¼ inch thick; a quantity of Staffordshire blue, Gault, and Suffolk white facing Bricks, &c. &c.—Apply on the Premises; or of J. J. BENNETT, No. 5, Hyde-terrace, New cross, S.E.

LIGHTNING CONDUCTORS. R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the plate and all stapes, complete for fixing, at the following prices:—
Three-eighths-inch diameter ..... 1s. 6d. per foot.
Half-inch diameter ..... 1s. 9d. "
Five-eighths-inch diameter ..... 2s. 0d. "
R. S. Newall & Co's Patent Copper Rope Lightning Conductor is being supplied by architects, engineers, and scientific men, in all parts of the world.
Offices—139, Strand, London.
" Gateshead-on-Tyne
" 27, Dale-street, Manchester.
" 63, Anderson-quay, Glasgow.
" 37, South Castle street, Liverpool
" Exchange Buildings, Dublin.
" 7, Frederick street, Aberdeen.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies street, Three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

SASH WEIGHTS, 5s. per cwt. at Ashton Wharf, Blackwall, and at Hope Wharf, near the Church, Rotherhithe

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 95½, Great Guildford-street, Borough, S.E. Inventor of the Rotary Sliding Front, Patentee of the Tubular Railings, now Compounding Under Trees, &c. &c.
GENERAL IRON FOUNDERS, MERCHANTS, and PATTERN MAKERS.

COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, executed for and supplied. Designs furnished.

THE MEDAL FOR 1862.
THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS
TRADE MARK.
CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE
Warehouse—81, Upper Ground street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought Iron Tubes.

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53 to 58, WYCH-STREET, STRAND, W.C.
SHOW-ROOMS,
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Catalogues Free on application.
STANDARDS, PENDANTS, and BRACKETS,
for Gas, Oil, and Candles;
HALL and OUTSIDE LANTERNS;
GATES, HINGES, LOCKS, DOOR FURNITURE,
BELL-PULLS and LEVERS;
REGISTERS and DOG GRATES;
MEMORIAL BRASSES,
&c. &c. &c.

The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES, was awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES
of which he is now making extensive additions, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wire-dress Houses, in Town and Country.
ESTABLISHED 1774.

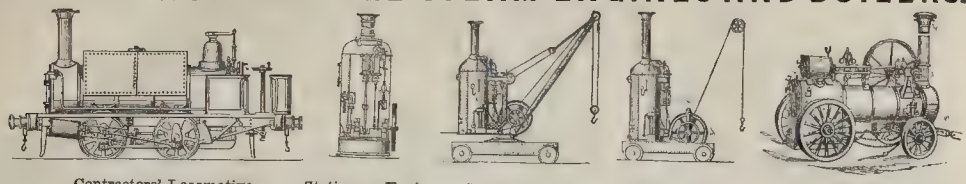
PATENTED HOT AIR APPARATUS in CAST-IRON, consisting of prismatic tubes, to be applied to chimneys with flues and heat-conduits. By this system is obtained health, durability, a clear fire, security, economy.—An apparatus in use can be seen, every day, at the Office of M. LEWAL, Nos. 5 and 6, Philpot lane, City.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 98, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public. All kinds of Bent Glass Silvered.
N.B.—The usual discount to builders and the trade.

ROBERT MACLAREN & CO. EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

WROUGHT and CAST IRON BRIDGE, GIRDER, AND ROOF WORK
TO CIVIL ENGINEERS AND CONTRACTORS.
WESTWOOD, BAILLIE, & CO.
LONDON YARD IRON WORKS, ISLE OF DOGS, LONDON.
Beg to call the attention of their friends and the public to their facilities they have for carrying out CONTRACTS for WROUGHT and CAST IRON WORK of any magnitude.
WESTWOOD, BAILLIE, & CO. have in stock a large quantity of Iron suitable for Bridge, Girder, and Roof Work, and can therefore execute orders intrusted to them with the greatest despatch, and on the most possible terms.
Patentees and Makers of Hydraulic Armour Plate Bending and Testing Machine.

NEW PATENT PORTABLE STEAM ENGINES AND BOILERS.



Contractors' Locomotive. Stationary Engine. Steam Crane. Hoisting Engine. Agricultural Engine.

STATIONARY ENGINES.

THESE Engines require no Chimney-Shaft, nor Building whatever, a Cast-Iron Ash-pit forming the SOLE-PLATE, and they may be set up anywhere and started at once. Being very carefully made of the best materials, they may be perfectly relied on to work satisfactorily and, from their self-completeness, they may be erected and set to work by any ordinary mechanic to instructions supplied. These improved Engines have the great advantage of being applicable to a variety of purposes, the small space they occupy rendering them available where ordinary Engines cannot be used.

PRICES OF ENGINES AND BOILERS COMPLETE.

Delivered Free in Glasgow, Hull, Liverpool, or London.

1	Horse Power,	Cylinder	3½in.	×	6½in.	Stroke	...	...	£45	9	Horse Power, Cylinder 9½in. × 16in. Stroke	...	... £180
2	„	„	4½ „	×	9	„	...	...	65	11	„ „ 10¾ „ × 18 „	...	... 210
3	„	„	5½ „	×	11	„	...	...	85	13	„ „ 11¾ „ × 20 „	...	... 240
4	„	„	6½ „	×	13	„	...	...	105	16	„ „ 13 „ × 22 „	...	... 270
5	„	„	7½ „	×	14	„	...	...	125	20	„ „ 14½ „ × 24 „	...	... 310
7	„	„	8½ „	×	14	„	...	...	150	25	„ pair Cyldrs. 11½ „ × 20 „	...	... 375

Boilers, either plain, dome-shaped, or tubular, with all mountings complete, at half the prices quoted above for Engine and Boiler.

Prices of Steam Cranes, Hoisting Engines, Contractors' Locomotives, Agricultural, Pumping, and other Engines, on application.

*** These New Engines (which are in every respect superior to those J. B. B. & CO. formerly sold) are being everywhere very favourably received. They are already successfully working in various parts of England, and numbers have been sent abroad, particularly to the Continent and the West Indies. *They are warranted, in every case, to be satisfactory.*

J. B. BROWN & CO. 18, CANNON STREET, CITY, LONDON, E.C.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

WALTER MACFARLANE & CO.
ARCHITECTURAL IRONFOUNDERS, SANITARY ENGINEERS, AND ART WORKERS,

GLASGOW, 1st January, 1863.

WE take the liberty of intimating our REMOVAL to New and much more Extensive Premises, 46, WASHINGTON STREET, where we shall endeavour to merit a continuance of that patronage with which we have been so long favoured.

We carry with us to our New Premises our old and well-known designation of "SARACEN FOUNDRY," and every Casting made by us bears our Trade Mark legibly impressed thereon, as follows:—

WALTER MACFARLANE & CO.

Trade Mark.

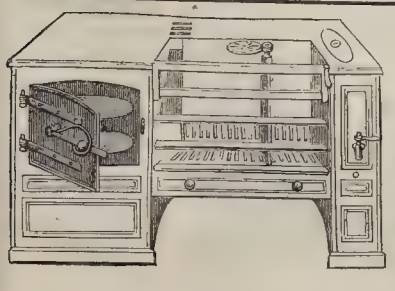
LONDON, 1st January, 1863.

WE have the pleasure of intimating that our New London Premises are open for the transaction of business, and now embrace the Architectural as well as the Sanitary branch of our Manufactures.

We shall therefore feel obliged by our friends forwarding all future orders, &c. to this our only London address, when the same shall receive our prompt attention.

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SARACEN FOUNDRY, 46, Washington Street, GLASGOW; and 38, Bedford Street, STRAND, LONDON, W.C.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.
34 inches ..... 54s.
36 „ ..... 56s.
38 „ ..... 58s.
40 „ ..... 60s.

Self-acting Cottage, with Oven and Back Boiler.
30 inches ..... 22s.
32 „ ..... 24s.
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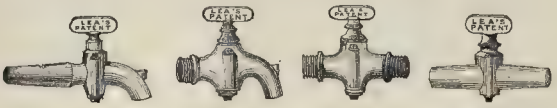
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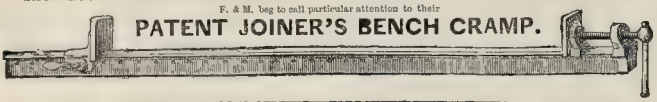
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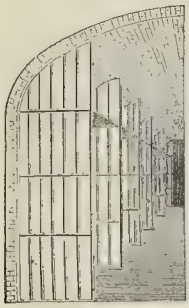
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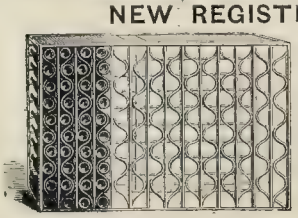


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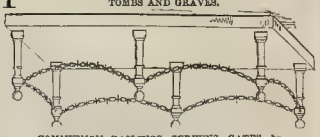
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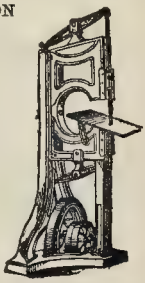


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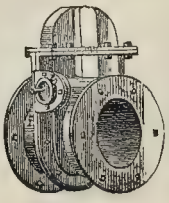
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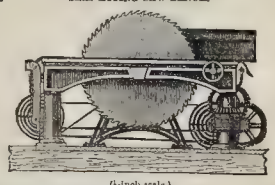
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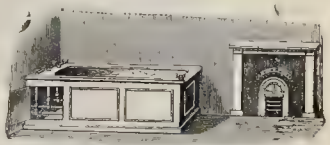


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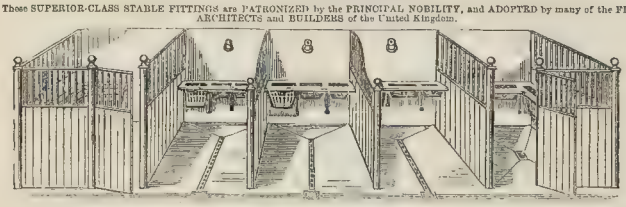
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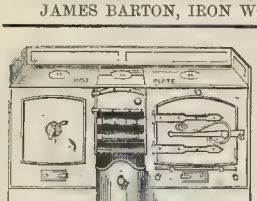
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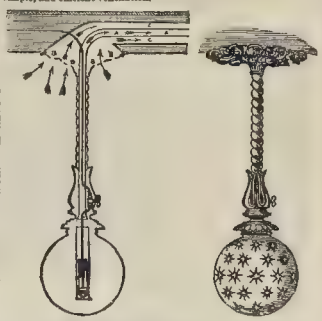
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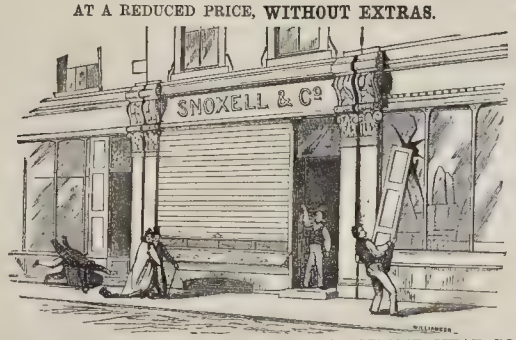
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VOL. XXI.—No. 1043.

Walks and Talks in Rome, near the Walls.



THE Diocletian Thermæ form a suitable point whence to set out on our rambles with intent of visiting those antiquities that lie nearer to the circuit of fortifying walls than to the populous centres of Rome. From the planted level ground extending before these ruins and the Carthusian cloisters we pass through a gateway into the demesne of the Villa Macao, a pleasant *rus in urbe* of the Jesuits, part of whose property here was not long since purchased by Government as a site for the erection of barracks; appropriate indeed for such purpose; being a level area, grass-grown, but uncultured and pathless, within whose inclosing walls we find ourselves on a stage of many historic memories, the scene of strange and tragic vicissitudes,—that Pretorian camp which was formed under Tiberius by Sejanus for the twelve cohorts first organized by Augustus as the imperial body-guard. Here took place the stormy outbursts and intrigues of military despotism: here the empire itself was actually set up for sale to the highest bidder: here were raised the shouts against Nero and in favour of Galba, overheard by the former in his miserable flight to the villa of Phaon, the last day of his life. Destined to behold changes ere long, this site may be remembered with more interest in its hitherto conditions than as the rendezvous of Pontific troops. It is bounded on three sides by fortified walls, with square towers at intervals; and in the midst of the eastern limit rises a towered gateway, whose ingress is built up. The other side of the great quadrangle, 5,400 feet in circumference, corresponding with the city, and where was the principal entrance, has totally disappeared; and we may trace even in these ruins the intent rather to keep in awe than to provide for the protection of the citizens from the stronghold of military sway. Under Maximus and Balbinus the people attacked the Pretorians in this camp, and forced them to capitulate after cutting off the supply of water brought hither by leaden conduits, such as found, in one example, when some excavations were made here in 1742. Constantine's benevolent purposes towards his subjects never perhaps declared themselves more distinctly than in the blow he gave to profligate tyranny by the dismantling of these castra, which thenceforth remained obsolete and useless till the time of Honorius, who, when the new fortifications were commenced in the year 403, caused the outer lines of walls and towers to be included within those works of defence, though the inner, fronting the city, was now thrown down as no longer serviceable.

This scene of ruin has, in its hitherto condition, been one of the most mournfully desolate, silent, and deserted in Rome; and we shall not forget its absolutely depressing effect on the spirits when we first visited it; an effect, indeed, increased by outward influences; being at the hour of a stormy sunset after a winter's day. But on the 14th June, 1861, was presented a strange and brilliant contrast, to awaken the echoes and vary the objects here by all the pomp of military and sacerdotal array, with stirring music and solemn chanting; when, in the presence of the pope, the cardinals, numerous prelates, the mounted troops, and a vast throng of other spectators, was laid the first stone of the new barracks. After these pontific soldiers had passed through their evolutions and paid their military honours to Pius IX., who looked down upon the scene from a lofty throne surmounted by a colossal statue of St. Peter—the plaster copy of that ancient bronze in the apostle's great basilica,—litanies and prayers succeeded to the fanfaronade of martial music; and at the close was chanted the apostolic benediction, with the same formula as at Easter; while the summer sunset lit up the gorgeous scene, clothing with purple tints the Sabine and Alban hills, whose graceful outlines rise in view above the dark boundary of those time-worn walls.

The northern line of these fortifications presents on the inner side a series of lofty arcades, below which, on the ground-floor, open a suite of small vaulted chambers, some retaining on their brick walls the stucco, still in parts tinted, of different colours, but without designs. In the recent works for laying foundations have been uncovered some chambers, brick-lined, and of narrow dimensions, under the actual surface, the mouth of a well or conduit, the pavement of a road, and a few architectural fragments. The fortifications are in the best style of lateritial brickwork, as in other imperial ruins anterior to the time of Caracalla; but those lower chambers along the north side have the end-walls of *opus reticulatum*.

A short walk brings us hence to the gardens of the Barberini Casino, a dilapidated but picturesque mansion, standing conspicuous on a spur of the Quirinal, above the valley between that mount and the Pincian. Along these slopes, in the hollow below, and over the demesne of the opposite Massimi Villa, extended the luxurious gardens of Sallust, called Horti Pretiosissimi, with a circus and many pleasure-houses, which, after the death of that wealthy historian and that of his nephew, sole heir to his estates, were purchased for imperial use, and became the favourite sojourn of Vespasian, of Nerva, and Aurelian. Here the last of those emperors was wont to fatigue himself and his horses by constant exercise in the superb portico (of which no vestige remains) called Miliarensis, from its length of 1,000 feet; and these gardens, when the Honorian fortifications were raised, became included within the new boundary of the city, the naturally suggested limits, as marked by the direction of the Quirinal slopes, being disregarded for the sake of thus protecting them. Soon, however, had they to suffer the devastation, after which they were never restored to pristine magnificence, when the Goths came, under Alaric, and first of all, it seems, directed their fury against this spot, the nearest inhabited, or at least conspicuous, centre; and the Salarian gate by which they entered. Procopius indeed tells us that this demesne was laid waste by the fire they kindled. Its ruins principally consist of a series of lofty parallel halls, vaulted, but with little of their roofing left, against the Quirinal declivities, their masonry partly concealed by plantations and creepers, the cavities of their dark chambers overhung by ivy or weeds. These are supposed to be either the substructures to the tiers of seats in the circus, or (as seems more probable from their extent and elevation) the lower chambers to one portion of the habitable buildings. One better-preserved ruin is circular, with a domed interior, surrounded by spacious niches at regular intervals; and this has been regarded as a pavilion, or loggia, for distinguished spectators at the circus games. Other antique buildings rise on the terrace above,—one converted into a cottage, one into a barn,—in brickwork of good style, lateritial and reticulated; but of the "marvellous and stupendous ruins" described by Flavio Biondo, nothing remains,—at least with character entitled to be so distinguished. Through the upper part of these grounds extends the ridge of the Agger of Servius, interrupted by the long street leading to the Porta Pia,* but rising beyond to its highest point in the gardens of the Negroni villa (near Diocletian's Thermæ), where its elevation is hence seen, crowned picturesquely by a cluster of cypresses. This agger rises at its northern extremity just upon the ridge of the Quirinal, over the valley within the Barberini grounds, where is indicated the site of the Porta Collatina, renowned in history by the entrance of the Gauls in the year of the city 365, and by the defiant approach of Hannibal in 543. On the Pincian slopes, opposite to the other Sallustian ruins, are some remains of a boundary-wall that may here have formed limit to the circus. From this garden was removed, under Pius VI., the obelisk now on the platform before the Trinita de' Monti church on the Pincian. In the last century was discovered, at the depth of 20 palms, a pavement entirely of giallo antico, described by Venuti ("Antichità Romane," 1765), supposed to belong to the great portico of the imperial buildings in these gardens. Within recent years no excavations have been made here; and this historic site, so interesting, amidst surrounding features so beautiful, has been vulgarized to the purposes of growing cabbages, the dingy old casino partly serving as a wine-shop;—no attempt at the ornate, or even at tidyness, in any detail; yet still, ill-kept and neglected though it be, it is one of the pleasantest retreats for strolling or studying;—where we may enter *ad libitum*, undisturbed by custode or cicerone.

The more aristocratic and *soignés* gardens of the Colonna Palace entered from the ample esplanade of the Quirinal, occupy the higher terraces and western slope of that hill, united to the Palace at its foot, on the Piazza SS. Apostoli, by a wooden bridge across a back street. On one of their pleasantly shaded terraces lie some fragments of marble architecture, stupendous in dimensions, the largest of their description in Rome, a Corinthian architrave and frieze, with the angle of a pediment in richly-ornate style, sole remains left of that temple to the Sun-god, built by Aurelian, and known in Mediæval periods as the "Frontispiece of Nero," which stood, in a far more considerable mass of ruin than what we now see, till the time of Sixtus V.; and in the work of Marlianus, "Urbis Romæ Topographia" (1588), is a rude woodcut of this antique, with the same quaint title ascribing it to Nero, showing the massive erect wall of a cella, with triangular entablature, and a lateral front, with cornice and two pilasters, the whole leaning against a high square tower, no doubt some Mediæval fortress here allowed to crush or conceal the Classic structure, neither tower nor ruins being now in any portion erect. Farther advancing on these terrace-walks, we suddenly come in sight of a more extraordinary monument, in still conspicuous construction of brick, an immense quadrate edifice, thrown up against the declivity, and pierced by square windows at different heights along its still compact walls, being the shell of the great public staircase ascending the Quirinal from the Campus Martius, supported on vaults, whose vestiges are still traceable among the houses near this hill's base, anciently used for wine-cellars, and alluded to by Vopiscus in his account of Aurelian's temple to the Sun. Into this edifice we look down, from the terrace near the level of its uppermost windows, so that the startling effect is presented of a vast abyss suddenly yawning below where we stand, no glimpse of the construction from without having prepared us to appreciate its dimensions. Though degraded into the uses of a barn, it is still, in the main structure, perfect. Lower, where the hill steeply slopes westward, we may enter an obscure court round a wash-pool,

* When this street was opened under Pius IV., the Agger was in part destroyed for the levelling of its width

and see a wall-structure of massive quadrilateral tufo stone blocks, and another of brickwork above, propping up the precipitous bank; and if, indeed, this be (as inferred by authorities) a portion of the Servian fortifications (the stonework at least), we must marvel that such an antique has not been rendered approachable save through the miry and bad-smelling den we have to penetrate for a view of it. Even in these Colonna gardens (as elsewhere in Rome), we are offended by contrasts of magnificence and meanness, the grandiose and the slovenly, though the quiet and beauty of the scene are indeed attractive.

To place ourselves on the track of antiquities in the Campus Martius, we must descend from the heights into the modern and least characteristic regions, the populous and commercial Rome, scarcely in any features more ancient than the seventeenth century, and indeed less picturesquely distinguished than the generality of Italian cities. Yet from elevated spots even this aspect of the Papal metropolis is imposing: the multitude of domes and belfry-towers seem an aërial city above that of man's habitations; and the view, though comprising least of antiquarian interest, from the planted terraces of the Pincian, from the gardens of St. Onofrio or the Janiculan, or (of all the finest attainable) from the loggia summit of the Ludovisi Villa, is one to fascinate and impress. It is a fact mentioned by Andrea Fulvio, curious in local history, and in its accordance with Rome's present religious temper, that the chance discovery in the Anno Santo, 1525, of a Madonna picture long hidden in some obscure smoky chamber near the Tiber, led to the founding of this city's most busy modern quarter, or at least to considerable enlargement in this direction, around the spot so consecrated to superstition; and two new regions were soon known as Lombardia and Schiavonia, because mainly peopled by natives of northern Italy and from the eastern Adriatic shores. The now *quasi*-Anglicized Piazza di Spagna was described by Fulvio, 1527, as "a wide concave space, or area, where are some vestiges of the arrangements for seats, to accommodate spectators at public shows, so that they might look on from about half the height above," namely, of the Pincian Hill; this writer mistaking the site for that of the naumachia of Augustus, placed by better authorities on the opposite Tiber shores, the Trestevere as now designated.

Turning from the Corso into the Via di Pontifici, we enter the court of a large gloomy mansion, where at every angle projects the segment of a considerable circular pile in antique *opus reticulatum*, here well preserved; and another portion of the same ruins, to greater extent, is seen in the court of a *palazzo* near the St. Rocco church, on the river side, Via di Ripetta; here being observed, also, a tablet set within the walls, recording the last works effected, 1773, for disencumbering the ruins of the much-maltreated mausoleum of Augustus. With the aid of Strabo's description we may call up to mental vision a clear picture of this monument in its pristine magnificence: clothed in white marble, a tumulus of earth rose above its architectural circuit, crowned by the bronze statue of the first emperor. Beyond extended a grove with public avenues; and in front was the inclosure for the cremation of the dead, also of white marble, girt by iron balustrades, and planted inside with poplars: at the entrance stood two obelisks, now re-erected, one before St. Maria Maggiore, the other on the piazza opposite the Quirinal Palace: fourteen chambers ranged round a great rotunda in the interior; and the diameter of the whole was about 230 feet.

The first ashes laid here were those of Marcellus, the nephew and destined heir of Augustus;* the last, those of Nerva; but the last funeral (if the strange orgies might be called such), that in which the mangled and headless body of Rienzi, after being exposed to every insult in the streets, hung up from a balcony for forty hours, was burnt within this area, whither it had been carried by order of the Colonnas, with the assistance of the whole Jewish population then in Rome (A.D. 1354. See Muratori, *Antich. Ital.*, t. iii.). From the date of Nerva's decease the Mausoleum remained closed till violated first by the troops of Alaric, who broke into it in hope of finding treasures. Thence we hear no more of it till the thirteenth century, when (sharing the fate of most Roman monuments) it became a fortress held by the Colonnas long known as the "Augusta;" and destined to sustain a tremendous shock when attacked by the people (1167) in their rage at the idea that the same family had given support to their enemies the Tusculans, by whom a Roman force had just been defeated. By that onset the inner walls and the cupola (or whatever was the roofing in its then condition) were reduced to crumbling ruin; and the solid mass of *débris*, fallen in, now formed a basement to the upper story, whose uncovered area we may still ascend to. That devastation did not, however, disqualify the edifice from being again defended as a castle, in 1241, and by a cardinal of the same Colonna house, who here held out against the party in the interest of the Pope, till besieged, and his stronghold taken, by the senator. Poggio saw these ruins transformed into a grassy and partly cultivated mound, on whose slopes grew the vine; and about a century later Fulvio witnessed the removal of various marbles and epigraphs from their circuit. Eventually they were purchased, first by the Soderini, then by the Correa family, who converted the highest part, that area above the fallen masonry, into an amphitheatre for *al fresco* entertainments, jousts, equestrian shows, fireworks, and sometimes dancing! What a mockery to the majestic memories of this "Imperial Tomb!" In 1780 was first here exhibited the spectacle of bull and buffalo baiting, which had already become a favourite amusement of the Roman populace, and continued to be eagerly frequented within this arena, till forbidden for the interests of morality by Pius VIII. About the end of that century were undertaken the last excavations on this spot by the then proprietor of the monument and theatre, Marquis Vivaldi Armentieri, but with no notable results. Still are continued, in the fine season, the performances, equestrian or dramatic, in the strangely-profaned mausoleum, known in the Roman parlance as the *dufileatro Correo*, and a movable stage rises on its arena when the artists of the Circus are not engaged to gallop or exhibit their feats in this "pit," around which rise stone seats, ascending stepwise from a podium. But the antique character is not completely sacrificed to such whimsical appliances. Three vaulted chambers are kept in their original state, with walls of compact reticulated masonry, shown by a *custode* here on duty; and in the largest of those otherwise vacant interiors we see on sale a variety of such objects as abound in every old-curiosity shop of Rome,—terra-cotta lamps, phials, bronzes, fragments of wrought marble, &c. In the fourteenth century was found here, and removed, the *cippus* now in the court of the Capitoline Palace, that contained, according to its extant inscription, the ashes of the high-souled Agrippina, wife of Germanicus. In recent years was found, near S. Carlo, on the Corso, the assumed site of the *bustum*, for cremation of the bodies before their ashes were laid in this imperial sepulchre, a beautiful urn, of Oriental alabaster, now in the Vatican, with a *cippus* bearing the name of Livilla, sister to Caligula.

In the noisy Corso no vestige reminds us of the classic Past: but we often walk this gayest of Rome's streets with thoughts of sorrow for vanished splendours, of indignation for their wilful destruction. It is a scene that forces on us the conviction how far from a worthy guardianship over the treasures of antiquity has been exercised by the papacy in earlier ages. Under the houses along the upper, or northern, part of this street, Canina attests the existence of ruins left by the superb portico of Agrippa, which extended, with seven files of arched colonnades, far along the Campus Martius, completed, after its founder's death, by his sister Pola. The mausoleum of Sylla existed in ruins on the adjacent Piazza del Popolo till swept away by Sixtus IV.; and its marble fragments are now seen on the basements of the two square towers flanking the Porta del Popolo, built under that pope, 1475; this incrustation showing traces of injuries sustained by the removal of metallic cramps, in many cavities along the surface filled by irregular marble blocks, some with marks of chiselling. Least of all can we forgive the demolition of the noble arch (for such it appears in extant engravings) raised to Marcus Aurelius after his victories in Germany and Sarmatia. This, a subject of strange mistakes and misnomers, was known to the Mediæval citizens successively as the Arch of Tripoli, Trofoli (both perhaps corruptions from "Trofei," trophies), and the Arco di Portogallo, from the residence in a contiguous palace of a cardinal, Portuguese ambassador to the popes. Fulvio supposed it to be in honour of Domitian: Nardini (*Roma Antica*) was the first writer to determine its real dedication beyond dispute; and, indeed, the figure of the virtuous emperor, in reliefs, fortunately saved from its ruin, is at once recognisable by comparison with the heavy antique busts of M. Aurelius. In 1662 was ordered its demolition, by Alexander VII., for the sake of widening the street; and especially with view to the convenience of carnival-racing, &c.;—a frivolous motive recorded in a tablet on a house-front, opposite the Palazzo Fiano, just where the arch spanned this street. Among the sculptures preserved from its attics, two reliefs were removed in the sixteenth century, as Flaminius Vacca tells us. These and four others, "The Triumph and Sacrifice of the Emperor," "The Apotheosis of Faustina," &c., are now on the landing-places of the stairs in the Conservator's Palace in the Capitol; in the museum of the same palace, two figures of winged Victory; in the court of the Sapienza University, the conquered Germany, a sculpture that adorned the arch's keystone; and four columns of verd' antico are divided between the church of S. Agnese (Piazza Navona) and the Corsini Chapel at the Lateran. The column of Marcus Aurelius, long supposed, and still popularly styled that of Antoninus, stood, till the time of Sixtus V., on a double basement with an interposing *fascia*, sculptured genii and festoons, a portrait-relief of the emperor, and the name *Divi Antonini* alone preserved from the original epigraph, on this lower member, till the sixteenth century visible to a depth of 6 feet below the actual level of soil around, which at present rises above the ancient level no less than 16 feet, the flight of steps on which this monument rises being entirely buried. An epigraph found in 1777 (now at the Vatican), mentions the office of *custode* to it, and bears clearest testimony to its dedication in the title given,—*Columna Divi Marci*. Till the ninth century it had probably suffered no other detriment than loss of the imperial statue at its apex, one of the countless art-treasures carried away by Constans II. in the year 663. The column, with its adjacent ground, was bestowed by Pope Agapitus II., in 995, on the Benedictines of St. Silvestro, a neighbouring church, by whom it was let on lease, but afterwards recovered through means of their abbot, in 1119, who launched a threat of excommunication against whoever should again presume to alienate it from the monastic property; and the curious document with this inhibition, in barbaric Latin, is still to be read in the portico of that church, whose cloisters are now a French barrack.

The monks of St. Silvestro apart, Mediæval proprietors seem to have disregarded this memorial of the most philosophic among emperors. Petrarch accords to it the mere ejaculation, "*Hæc Antonini Columna!*" Poggio states that it had suffered by lightning; but the defacements of its sculptured shaft, on the western side of which the reliefs can scarcely be distinguished in any group, though elsewhere far better preserved, are by other writers (see Nibby) referred to the conflagration of the Norman invaders in 1084. Among their subjects is the celebrated story of the "Thundering Legion" (now much effaced), as a vision of Jupiter Pluvialis pouring down rain and tempest to assist the Romans and confound the Marcomanni forces on the battle-field; and it is remarkable that the miracle claimed by Catholic historians for the prayer of the Christian soldiery on that occasion, is *also* claimed on the pagan side as supernatural answer to the emperor's intercessions!* The first restoration of this column, ordered or ever thought of, was that under Sixtus V., by Fontana: and at the same time was raised to its apex the gilt bronze statue of St. Paul, modelled by De Servi; the basement, reduced to its present form, now receiving the inscriptions which, on one side, perpetuate the popular error as to its original dedication:—"*M. Aurelius Imp.—Imp. Antonino Pio Patri, dedicavit.*" The engravings of Sante Bartoli and Piranesi, rather than the vain attempt to examine the originals on the spot, must be relied on for appreciating this monument in its valuably historic sculptures, of which Emil Braun says,—"The *Germanis* of Tacitus could not be better illustrated than by these life like and characteristic figures." Piranesi (*Le Colonne Trajana ed Antonina*) gives a restoration of the double basement and its sculptures, assuming that on one side of the *fascia* were figures of Victory, or Genii, holding oak garlands; on the other, the military enterprises of M. Aurelius; and from his work we learn that these reliefs were actually *scraped off*, in order to clothe the basement with travertine blocks, when the restoration of Sixtus V. was carried out. At different heights up the shaft we

* "Fulmen de cœlo precibus suis contra hostium machinamentum exorsit, suis pluvia impetrata quum sitl laborarent."—Capitolinus, Marc. Aurel. See also Baronius, anno 176.

" Quantos ille virûm magnam Mavortis ad urbem
Campus aget gemitus! vel quæ, Tiberine, videbis
Funera, quum tumulum præteriabere recentem!"

See the well-known passage of Virgil, which moved imperial auditors, when he read it, to tears.]

see the large gaps made by the tearing out of metal cramps,—one Mediæval outrage from which this monument suffered, like others in Rome. We must regret the total destruction of the temple to this virtuous emperor, of whom it was commonly said, after his death, "bestowed by the Gods, he had returned to the Gods" (*a diis accomodatus, ad deos redisset*). Certain it is that an aggregate of superb edifices raised by the two Antonine emperors on the Campus Martius filled the area now occupied by the Piazza Colonna (so named from the column in its centre), that of Monte Citorio and Di Pietra. The Chigi palace flanking an entire side of the first among these piazzas, marks the supposed site of that temple decreed by the Senate to M. Aurelius; and nearly on the same line with this palace is the wide façade of the police courts (Palazzo Monte Citorio), at whose front angles are several masses of ancient masonry, in regularly hewn travertine,—perhaps the sole remains left visible of that monumental fane. Under the gardens of a convent near, was dug up, in 1704, the real column of Antoninus Pius, with a large square basement, surrounded by sculptures in high relief, of great beauty, this being now in a court of the Vatican; and the granite shaft itself was broken up for the repair of the obelisk brought by Augustus from Heliopolis, when Pius VI. ordered its re-erection, 1789, on the spot where it now stands opposite the Monte Citorio palace. A single stunted column of cipollino, about 3 feet high, is pointed out as sole remnant above ground of Adrian's temple, raised by Antoninus Pius, in an obscure lane, Picolo della Spada d' Orlando, which received that romantic name perhaps early in the Middle Ages, from the designation, "Sword of Orlando," popularly given to this isolated fragment. Platner, indeed, mentions other pillars of the same temple, set into the houses on the Piazza Capranica near, which having sought for in vain, we conclude to have been hidden or swept away by recent buildings. The same emperor dedicated other temples to deified personages of Augustan rank, male and female; to Marciana, sister of Trajan; and her daughter Matidia, all in this vicinity; and that of Marciana has been recognized by German authorities in the noble colonnades built into the front of the Dogana (Piazza di Pietra), long assumed to be either the Temple of Antoninus Pius himself, raised by his adoptive son, or that to Neptune, founded by Agrippa in the purlieus of his portico. Those eleven Corinthian columns, of the Luna marble (from Carrara), first brought to Rome by Julius Cæsar, have fluted shafts almost entire, though the capitals and bases are much impaired, and an architrave, with dog-tooth moulding, little injured except at the extremities, where it was restored in stucco when this ruin, unfortunately for its effect, was enclosed in an unsightly screen of walls under Innocent XII. Entering we see, in an open court, an overhanging mass of formless marble, and the much-worn remnant of a coffered vaulting; immediately connected with that outer colonnade, ascertained to belong to a Peripteros edifice, at each of whose fronts were fifteen, at the sides eight such pillars. The modern piazza takes its name ("Of Stone") from the heaps of marble and stone that long lay accumulated here from that Temple's ruins in the Middle Ages; and in the cellars of the Cini Palace, at its extremity, are portions of walls in immense peperino blocks, believed to belong to the sacred inclosure round the Temple. A few paces hence bring us to the site, on the Corso, where that street enters the Piazza Sciarra, of the Arch of Claudius, whose modern fate is one of the strangest examples of neglect and outrage against antiquity in Rome. Andrea Fulvio tells here it was demolished in his own time (therefore before 1527, when he wrote); and from Flaminius Vacca we learn that in 1565 excavations were made on the spot, and many sculptured marbles disinterred, in which the head of Claudius was recognizable. These were in part purchased by one Cesarini, and placed in his garden on the Esquiline Hill; but in the greater part, no less than 136 cartfuls of fragments, bought by that sculptor himself. Again, in 1641, the research was renewed by Prince di Carbonaro, owner of the palace above this spot; and at a depth of 22 palms below the pavement was found a vast accumulation of marbles, sculptures, fluted shafts, &c., which the civic magistrates inspected, still underground, by taper-light. Before these could be transferred, intimation came from the Pope, Urban VIII., that he intended to reserve the right of purchase as Roman law guarantees to the State. On this the private speculators lost their interest in the object of research: the prince suspended his excavations; and all these art-treasures were actually left where found, again interred under the street, neither the Pontiff nor other authorities interposing to save them! The collection of Vacca is totally dispersed; and Cesarini's purchase has had a like fate, save in two reliefs fortunately exempt, and now at the Borghese Villa; their subject, an allocution by the Emperor to his troops; and though the figures (life-size) be much mutilated, and no head be entire, a grandeur and freedom of style in these works afford proof how superior the Roman art-school was under Claudius. The monument was decreed to him by the Senate after his victories in Britain; and its epigraph, recording these successes, is another relic preserved from its front, now set into a garden-wall behind the Barberini Palace: the terms, of haughty complacence, are such as an Englishman may smile at, in reading what Rome then thought of us.

With this we must bring to an end our series of notices of Rome, under the head of "Walks and Talks." Under other headings we shall from time to time endeavour to give account of the present state of some of the structures remaining in the city, and the results of recent excavations.

WINDSOR CASTLE.

REPORT ON THE SEWERAGE, WATER-SUPPLY, VENTILATION, AND SANITARY WORKS.

*Warming and Ventilation.**

THE Castle is warmed on Price's system, which is simple in construction, safe in use, and perfectly cleanly and wholesome; the fresh air being warmed (not burned) by means of an extensive surface of iron warmed by water at a low temperature, 70 to 80 degrees.

Tunnel entrances open at various points where fresh air can enter, free from any source of contamination, and pass on in a continuous stream to the warming apparatus, where it is heated so as to pass on to the corridors, halls, and rooms, at a temperature of about 65 degrees Fahrenheit.

The tunnels and fresh-air passages are preserved perfectly clean, the side-walls and arches being annually whitewashed.

The existing arrangements for warming and ventilating Windsor Castle were commenced in the year 1842. The apparatus most recently added (1861 and 1862) are in the Lancaster and Winchester Towers.

The numbers and situations of the warming apparatus are as under:—

	Numbers.
Private apartments	7
State apartments	5
Norman Tower	1
Round Tower	1
Henry III. Tower	1
Lancaster Tower	1
Winchester Tower	1
Total	17

Up to the year 1850, means of ventilation by windows in Windsor Castle were very limited and defective. Even in the Royal apartments the upper portions of the windows were fixed: lower casements alone could be opened, so that by far the largest amount of air spaces in the rooms, when they were in use, contained vitiated air, comparatively stagnant. 240 of the top sashes in these windows have been made to open; and 50 of the upper sashes in large windows, which could not be reached by other means, can now be opened, even by a lady, with perfect ease. This is accomplished by the intervention of machinery specially contrived and adapted for this purpose.

It is of the utmost importance that all lofty rooms should have ample means of ventilation at or near the ceiling, and experience demonstrates that no plan is so good, simple, easy, and safe, as windows which can readily be opened.†

Water Supply.

The supply of water to Windsor Castle is abundant in volume and constant in service.

On the bank of the Thames, to the north of the Castle, a water-wheel was erected by the celebrated engineer, John Smeaton, and recently a steam engine has been added by Mr. James Simpson, under whose direction the general supply apparatus has been improved, and the distributing apparatus arranged. A complete and effective fire service exists.

Water, at all times clear and bright, is pumped from wells sunk in the gravel; by a water-wheel ordinarily, which works night and day, and by the steam-engine, in cases of fire, flood, drought, or frost.

There is a storage reservoir situate at the Cranbourn Tower (*Crane Bourn*, or stream), Great Park, some 140 feet above the level of Windsor Castle Quadrangle.

This reservoir contains one million gallons of water, and is maintained full, so as to be ready for use in case of fire.

The wells at the waterworks are, one of 5 feet diameter, and two of 4 feet diameter. They are lined with cast-iron cylinders to a depth of 25 feet, so as to exclude surrounding subsoil water, and are open at the bottom. By this arrangement, this portion of the valley of the Thames becomes a natural filter-bed, 25 feet in thickness.

There is one set of "three-throw" pumps, 8½ inches diameter, and 18 inches stroke, and two sets of "three-throw" pumps 6¼ inches diameter and 12 inches stroke. The ordinary speed worked is twelve strokes per minute. The volume of water forced to the Castle is about 8,200 gallons per hour, or nearly 200,000 gallons per day.

The waterworks supply Windsor Castle, Royal mews, Frogmore, Royal kitchen gardens, the Shaw Farm, and dairy-farm homestead, as also the lodges in the Home Park.

The steam-engine is 16 horse-power. The rising main, from the pumps to the storage reservoirs at Cranbourn Tower, is 10 inches diameter. This main passes through the Castle Quadrangle; 7-inch branch mains pass to the roads, court-yards, and terraces. There are branch pipes, 5 inches and 4 inches diameter, carried into the Castle, on which fire-valves are fitted with keys, hose, hand-pipes, and nozzles complete.

There are 95 stations in the interior of Windsor Castle, and 206 fire-valves provided, with apparatus complete.

There are 33 hydrants, with 2½-inch screw pipe outlets, and boxes complete, on the roads, in the courts, yards, and on the terraces.

The fire-services within Windsor Castle are fixed in the halls, on the staircases, and in corridors and passages, at such distances as to allow of any two commanding all the rooms and spaces betwixt them.

There is a working engineer regularly employed, whose duty it is to clean, repair, and maintain the working parts of the machinery in order, both of the water-wheel and of the steam-engine, as also the valves and hydrants.

There is a turncock to attend to the distribution of the water, and to regulate the supply, from time to time, to the various points as required.

For flushing the drains a man is placed at each sluice-valve, so as to insure a simultaneous discharge of water.

There is a fire brigade, provided with a uniform, composed of ten of the workmen employed at the Castle. They are drilled once each month, going round all the stations to see that every part of the apparatus is in working order.

Royal Mews.

The Royal Mews is fully sewered and drained. The sewers are regularly flushed, and all the drains are fully ventilated.

There are forty water-closets in connexion with the Royal Mews.

There is full light by windows, and ample ventilation by windows and by air chambers to all the W.C.s.

There are thirteen of Watson's ventilators in the passages of servants' apartments.

There are twenty-two of Watson's ventilators in the stables and riding-house.

N.B. Watson's ventilators are upon the double-action syphon principle: a continuous current of air is established.

The clerk of works informed me that every complaint of stench is brought under his notice, and that to the best of his recollection, no complaints had been made of the sewers and drains. At times there have been complaints as to sinks and W.C.s; but on investigation the causes were found to have arisen from improper use or abuse of these apparatus. In all such cases the places are cleaned, and any defects remedied at once.

The servants' residences at the Royal Mews are not on a good plan. There is a block building, several stories in height, having an internal passage longitudinally on each floor. This passage is reached by common stairs at each end, and is also lighted by windows similarly placed.

The separate residences are on each side of these passages, having doors opening opposite. For purposes of ventilation there are open gratings in the upper floors of the passages, giving communication betwixt one passage and the other.

The washhouses are small, and the steam from the boiling water ascends into the passages, to the

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* See page 41, *ante*.

† Flues do not ventilate rooms sufficiently. The air in single flues is frequently stagnant, or has a reverse action, a "down-draught."

annoyance of the residents. (This will be at once altered.)

The barrack-like arrangement described has many inconveniences, and no advantages but that of economy of surface space. Any noise in the common passage disturbs several families, and this tends to disagreement.

As shown in the details given, all possible care has been taken in sanitary works to improve the building; but it never can be other than a bad plan made the best of.

Detached washhouses for the use of the residents in these block tenements may easily be provided; and by removing the heat, steam, and slop from the main building a great sanitary good would be effected.

Flushing Tanks.

The arrangements at Windsor Castle for flushing sewers and drains are of the most complete kind. The sites on which the tanks are placed command the upper ends of the sewers and drains, and the volume of water at command is ample, and the means to liberate it well devised.

	Gallons at command.
Tank in courtyard: Norman Gate ..... This water is discharged through a sluice-valve 10 inches in diameter.	8,100
North Terrace ..... 4-inch sluice valve.	1,789
East Terrace ..... 12-inch sluice-valve.	35,311
Summit of Brunswick Tower ..... 4-inch stand-pipe.	3,139
Round Tower..... 3-inch sluice-valve.	1,875
Winchester Tower..... 3-inch sluice-valve.	350
Total gallons	50,476

There are in addition sixteen sluice-valves on the water-supply mains from 3 inches to 2 inches diameter, opening into branch drains.

At the Royal Mews the arrangements are as under:—

	Gallons at command.
One tank, containing ..... 6 or 2 inch sluice-valves.	2,025
One tank, containing ..... six 2-inch sluice-valves.	4,050
One tank, containing ..... two 24-inch sluice-valves.	3,375
One tank, containing ..... two 24-inch sluice-valves.	2,812
One tank, containing ..... one 3-inch sluice-valve.	625
Making 15 sluice-valves, and a total in gallons of.....	12,887

There are, in addition, three sluice-valves from the water mains, 3 and 2 inches diameter, connected with branch drains.

Windsor Castle drains and sewers are flushed every morning.

At Adelaide Terrace, in connexion with the main sewer belonging to the Crown, there is a large flushing tank, on which are placed two "pen-stocks" complete.

This tank is brought into use on alternate days by the sewer man, who has no other employment than to attend to the sewers and preserve them clean. The pen-stocks insure a head of water of 4 feet; and this, when necessary, is brought into use four times within the twenty-four hours.

Water from the river Thames flows into and through the main sewer of the borough, and thence into and through the Crown sewer.

This flow of water is never less than 18 inches in depth in dry weather, but ordinarily is some 3 feet in depth.

The borough sewer is flushed on alternate days with the Crown sewer, and this insures the main sewers belonging to the Crown being flushed every working day.

Capt. Vetch devised the flushing arrangements as part of his plan, and the numerous additions subsequently made have been in the spirit of the first design. The object aimed at throughout is to remove, immediately, by water, and before any injurious changes of fermentation or putrefaction can take place in the sewage beneath the Castle or in connexion with it, all soil or slop refuse from the drains and sewers to the outlet into the river Thames. This is now accomplished effectively and regularly.

The question of use and utilization of this sewage on meadow lands in the district may be taken up before long. I have no doubt as to the practicability of such plan. A cause of pollution will be removed from the river, and the land will be enriched. A line of conduit will remove the operation to a safe distance from the Castle, at a reasonable cost.

Complaints have been made of nuisances arising from want of proper main sewerage and efficient house drainage at certain new houses near Adelaide-terrace, "King's-road." The Cranbourn brook flows into the head of the large flushing tank, and any sewage discharged into Cranbourn is liable to pass into the flushing tank, and, at times, during local floods of rain, to be washed through the tank at the lower overflow, and so cause nuisance on the surface. Some of the property in this district is on land belonging to the Woods and Forests Department, and it is highly desirable that proper works of sewerage and drainage should be enforced.

In all districts where the suburbs of a town are extending there is a liability to nuisance from new roads remaining unformed and new streets remaining unsewered.

In such cases new houses are drained either into cesspools; on the surface; or, out and into the nearest watercourse or ditch. This latter appears to be the case at the new houses near Adelaide-terrace.

Remarks.

In making the suggestions and recommendations embodied in this Report I do not wish it to be understood that all the various forms of alterations are required in the Castle. On the contrary, I wish most distinctly to record my opinion that very little improvement can be added to the sanitary works connected with Windsor Castle. During my inspections I have been extremely gratified to find evidences of thought, ingenuity, and constructive skill in every alteration made during the last fifteen years. The late Prince Consort brought his great artistic taste, constructive skill, and knowledge in architectural and in sanitary questions to aid the indefatigable exertions of the Board of Works and the resident Clerk of Works, in effecting an entire remodelling of the domestic arrangements within Windsor Castle. This Report is necessarily brief, and consequently in some respects imperfect, but it details and indicates a vast amount of work done within a short period, and most of this work is connected directly or indirectly with sanitary improvement.

At this present time I believe that Windsor Castle is the most complete in sanitary works, appliances, and arrangements, of any large building in existence.

The sewerage and drainage are ample and efficient. The volume of water supplied is relatively large, and the quality is as good as water having sixteen degrees of hardness can be. The service is at high pressure and is constant; the points of distribution are numerous, convenient, and in good working order.

There is a distinct fire apparatus, maintained in working order, and a regularly trained body of firemen. The warming of the Castle is admirably arranged and in perfect condition, and means of ventilation are numerous; in many instances most ingenious and generally efficient. The question of ventilation is, however, by far the most difficult to settle in a climate so variable as that of England. Fixed and constant means of ventilation are required to keep up internal motion in the air, and to promote unceasing change; and if outlets and inlets are not judiciously placed, guarded and secreted, they will be tampered with and blocked up. Warmth is constantly obtained, in modern houses and buildings, at the sacrifice of health. Unceasing motion and change in atmospheric air are necessary to healthy respiration. Stagnation is produced by inadequate means of ventilation. The great problem to be solved in internal warming and ventilating arrangements is to have a comfortable warmth of fresh air, neither much above nor much below sixty degrees Fahrenheit. A less temperature in rooms containing sinks and water-closets is, however, allowable.

The Castle Court Guard-room, now in course of adaptation and construction, will, in many respects, be an improvement. The conveniences (water-closets and urinals) are, however, too much confined, and unless the fullest possible arrangements of a fixed character are provided for ventilation, they will be a cause of nuisance to the inmates of the Guard-room. Places of this sort, used regularly by large numbers of men, should be detached; that is, a divisional wall, having an intervening space, should be provided, and as much open space as the construction of the roof will allow should be made at the highest points. The place is not capable of being fully lighted, except by artificial means.

Recommendations.

The new works, alterations, and appliances recommended are as herein detailed:—

The introduction of charcoal air filters at all available points to disinfect sewage gases.

Covering the portion of main sewer now open near its outlet into the Thames, and forming a low-water outlet, by means of cast-iron pipes continued from the sewer to below the surface level of the water in dry weather. This alteration will abolish a nuisance which now exists near the private road on the margin of the river. This work has been estimated and provided for, and will be done immediately.

The main branch sewers from the Castle to the main sewer to be isolated and ventilated.

The steep gradient, which is now continuous, to be broken, and a flap to be placed at the end of the upper sewer, with a vertical shaft, and double ventilation. This arrangement detaches the lower levels from the buildings on the higher levels, and diminishes the risks of gaseous contaminations.

All branch drains to have means of ventilation outside the main walls of the Castle; and, where practicable, a flap cover to prevent in-draughts from the drains and sewers.

All sink-pipes, where practicable, to have a broken connexion with drains outside the main walls. This arrangement is made by forming a small shaft from the drain, and allowing the sink-pipe to enter. The shaft from the drain to have means of external ventilation.

All water-closets and rooms in which sinks are placed and used, to have means of permanent ventilation, which can neither be seen nor be tampered with. An area of twelve square inches communication with the external air ought to be the least space allowable. A narrow slit-like opening will be better than a square or circular opening, as the area acted upon will be longer, and direct draughts less felt. If rooms in which water-closets and sinks are placed depend for ventilation on windows, which can be opened or shut at pleasure, such windows will frequently be closed, to the exclusion of all means of change of air, other than from or into the adjoining corridors and rooms.

Disinfectants are requisite at servants' urinals and closets. Water alone will not preserve such places free from taint.

All closets and places used for storing fuel, wood, coal, and coke, should be fireproof, and have means for full external ventilation. Material liable to spontaneous combustion, such as lamp-oil, grease, turpentine, waste, and dirty rags, used in cleaning lamps, &c., should be placed in vessels of iron or other metal, and be removed at short intervals. But all rooms in which lamps are cleaned and trimmed should be fireproof and isolated.

A considerable portion of Windsor Castle has been made fireproof so far as is practicable; but one secure precaution against the possibility of any extensive conflagration will be to break the Castle up into sections by fireproof divisional walls from the basement through the roofs, and by double iron or other metal doors of communication. Such arrangements can be carried out without in the least diminishing any domestic conveniences or comforts. Varnished pine timber in floors is specially dangerous, and continuous timber floors (or partitions) in corridors and passages, in cases of fire, facilitate rapid means of combustion. If it is not practicable to remove all the timber in corridor floors and partitions, it is possible to break the continuity of such floors and partitions, at intervals, so as to prevent flame running along unchecked.

Roof-lights and internal reflectors are sometimes causes of fire. A rough unpolished piece of glass may concentrate the sun's rays, like a lens or "burning glass." Metal, in contact with pine wood, may be heated by the sun's rays in this climate almost to the point of combustion. Wood so placed becomes in time "dry as tinder," and quite as combustible. A considerable portion of the roof to Windsor Castle is covered with sheet-lead, and during very hot days it may be advisable to water it.

Covering timber with lead is injurious to the timber, as tending to rot. An air-tight covering of any material for a roof is liable to act injuriously, just as air-tight doors and windows may be injurious; there must be provision for ventilation, by unceasing change of air, to avoid mischief to health and injury to timber.

In concluding this Report, I beg most respectfully to recommend that complete sets of plans be prepared and indexed for future reference. There are the plans, as made from time to time, in detachments, and there is all the information requisite, but not in so clear, complete, and condensed a form as is desirable. It is impossible for any of the present officers to undertake such a work and continue to fulfil their present duties, but they may probably find time to direct and

superintend any surveyor or architectural draughtsmen engaged to do such work. Some of the best men in the Ordnance Survey Office may with advantage be employed to make a complete set of plans of Windsor Castle as it now exists,—its sewers, drains, basements, floors, lands, and appurtenances. ROBERT RAWLINSON.

OUR WEIGHTS AND MEASURES.

THE present state of weights and measures is unsatisfactory. Some attempt at improvement was made by the Acts of 5 & 6 George IV., and 4 & 5 William IV., which profess to prohibit the use of any other weights and measures than those of the Imperial standard, but permit those to be used which have been certified of Imperial capacity, though not of the form required by the Acts, and fix no particular shape for the future. After the 1st of January, 1835, all heaped measures were forbidden to be used, as well as all weights made of lead and pewter. The legal stone was to consist of 14 standard pounds avoirdupoise weight, the hundredweight to consist of 8 such stones, and the ton to consist of 20 such hundredweights, and all contracts made by any other stone, hundred-weight, or ton, were declared to be null and void.

These enactments also provide that all articles sold by weight are to be sold by avoirdupoise weight, except gold, silver, platina, precious stones, and drugs, in retail, which are to be sold by Troy weight. The measure known by the name of the Winchester bushel, and also the lineal measure called the Scotch ell, and all other customary or local measures, are by these Acts abolished, and persons are liable to a fine of 5*l.* who use any other measures, &c., except those of the legal description.

By avoirdupoise weight, all goods subject to waste, groceries, drugs, hemp, pitch, cheese, resin, tallow, and all metals except gold and silver, &c., should be weighed; yet in the London butchers' meat-market and elsewhere, only 8 lb. of beef, mutton, &c., go to the stone.

Then we have Troy weight, which varies in a most extraordinary manner. The drachm avoirdupoise is equal to 1 dwt. $3\frac{1}{2}\frac{1}{2}$ grs. less than the drachm Troy, and the avoirdupoise ounce is nearly one-twelfth less than the Troy ounce; but the avoirdupoise pound contains 4 oz. more than the Troy pound. Then we have the grains, scruples, drachms, and the 12 oz. which make 1 lb. of the apothecaries' weight; and it is worth while to notice that although the apothecaries compound their medicines by this weight, they buy their drugs by avoirdupoise weight.

There is also Dutch Troy weight, of which 16 drops make 1 ounce, 16 ounces 1 pound of 760 grains, and 16 pounds 1 stone. Scotch Troy weight is almost as puzzling as the length of the miles in that country: in this, according to the table, $29\frac{3}{4}$ English Troy grains make 1 drop, and 16 drops, or 476 English Troy grains, 1 ounce, 20 ounces 1 pound, and 16 pounds 1 stone.

In wool weight, 7 pounds make 1 clove; but the question is, how much is the pound of wool, and how many pounds avoirdupoise are there in a clove, a stone, a tod, a wey, a sack, or a last? The same may be said of the weighing hay and straw; but 56 pounds of old hay and 60 pounds of new hay make 1 truss, 36 trusses 1 load of hay, and 36 pounds 1 truss of straw.

The wine and ale measures, as regulated according to the abovenamed Acts of Parliament, have become of general use throughout England; but even these would be much more convenient if a decimal principle had been adapted to the larger measures as well as the smaller ones. We believe that mutchkins, gills, and choppins are still well known in Scotland. The Scotch corn measure is, 4 lippies make 1 peck, 4 pecks 1 firlot, 4 firlots 1 boll, and 16 bolls 1 chalder. We will pass over the Imperial standard dry measure with only the note that it is $\frac{1}{32}$ larger than the old. The ell Flemish, the ell Scotch, the ell English, and ell French are difficulties in the cloth measure both as regards the buying and selling of goods.

The English and Scotch land and square measures are also troublesome. In the English land-measure 640 acres make 1 square mile, and 4 square roods, 10 chains, or 4,840 yards make an acre.

In the Scotch land or square measure, 1 square fall is nearly 346 English square feet, 16 square falls make one square Gunter chain, $2\frac{1}{2}$ square Gunter chains or 40 falls 1 square rood, and 4 square roods or 6,150$\frac{1}{2}$ English square yards 1 square acre. This shows a difference between the English and Scotch square acre of more than 1,300 English yards.

As regards miscellaneous matters, 5 score make 1 common hundred, 6 score 1 long hundred.

A stone, horseman's weight, is 14 pounds; a stone of butcher's meat, as we have already stated, 8 pounds; a stone of iron, 14 pounds; a stone of glass, 5 pounds; a stone of hemp, 32 pounds; a stone of cheese, 16 pounds.

Clear and simple certainly!

A CLERKENWELL RELIC.

NOT long since, in anticipation of the removal of this curious old mark; and fearing that, like the inscription on the site of the Clerks' Well, it might altogether vanish from the view; we thought it worth while to make the accompanying little sketch. At that time the inscribed stone was placed over a doorway leading to a garden. This was situate in the Bagnigge-wells-road, a little to the south-west of the Clerkenwell Police Court and station. Twenty years or so ago this was a green and pleasant scene. In the garden there were several fruit-trees, and on the north side stood a picturesque gabled house, which had the appearance of being as old as Queen Elizabeth's days: the date on the stone does not, however, agree with that.

The front was covered with a luxuriant growth of vines. At the back of the houses, but evidently of more recent date, stood one of the small old-fashioned breweries. There is a tradition that the quaint old house was occupied as an occasional summer residence by Nell Gwynne; and a pleasant



spot it must have been in Charles II.'s reign' standing amid the fields. We are not able to find anything beyond the tradition to associate this spot with the frail but kindly-hearted Nelly.

Of late years, the house, garden, and gateway began to show evident signs of neglect: the trees faded, the house became ruinous, and the doorway and even the inscription were frequently plastered over by the bill-stickers. At length we missed the buildings, and noticed that the inscription was in a dangerous condition. On again passing this way, we found that new houses were in course of erection on this site and the ground adjoining, and were well pleased that, although it had been necessary to remove the doorway and the inscription, care had been taken to recut the lettering on the stone, and to fix it in a prominent part of the front of the new premises. The preservation of old landmarks is worthy of praise, and it would be well if the good example were more extensively imitated.

The Pindar of Wakefield, as we have before mentioned, is still standing in the Gray's-inn-road. It has formerly been a large and ancient hostelry, situate in a country roadway, for the reception and entertainment of waggoners and other travellers on their way to London. Until recently, this place showed marks of antiquity, but these have been disguised by modern adornments. In former days the "Pinder a Wakefilde" and "Bagnigge House" were probably next-door neighbours, although now they are hidden from each other's view by a number of intervening streets and houses.

The discovery of mineral springs which made Bagnigge Wells a place of public resort took place in 1767.

THE ROUND TOWERS OF IRELAND.

A PAPER submitted by Mr. Hodder Westropp to the Kilkenny Archæological Society, seems to deserve even a wider circulation than is given to it by the Transactions of that very active body. We therefore print it:—

Mr. Fergusson, in his "Handbook of Architecture," remarks that Dr. Petrie's argument with regard to the round towers only removes the difficulty one step further back, as he does not attempt to show whence the Irish obtained this very remarkable form of tower; and adds, that any one who has seen the towers must feel that there is still room for any amount of speculation regarding such peculiar monuments. In reading De Caumont's "Cours d'Antiquities Monumentales," vol. vi., I have been struck with a remarkable analogy between the Irish round tower and what is named in De Caumont a "*fanal de cimitiere*," a "beacon of a cemetery," and also "lantern of the dead," which has led me to add another speculation to the already long list, and to infer that the Irish round towers derive their origin from France, and that they were erected in cemeteries as memorials of the dead, and were used as beacons to guide funeral processions to the churchyards; the light in the tower serving also as a signal to recall to the passers-by the presence of the departed, and calling on them for their prayers. The following is De Caumont's description of the fanaux:—"*Fanaux de cimitiere* are hollow towers, round or square, having at their summit several openings, in which were placed, in the Middle Ages (twelfth and thirteenth centuries), lighted lamps, in the centre of large cemeteries." The purpose of the lamp was to light, during the night, funeral processions which came from afar, and which could not always reach the burial-ground before the close of day. The beacon—lighted, if not always, at least on certain occasions, on the summit of the towers—was a sort of homage offered to the memory of the dead; a signal, recalling to the passers-by the presence of the departed, and calling on them for their prayers. M. Villegille has found in Pierre de Cluni, who died in 1156, a passage which confirms my opinion. These are the words in which he expresses himself with regard to the small tower of the beacon of the monastery of Cherlieu:—"Obtinet medium cimiterii locum structura quadam lapidea, habens in summitate sui quantitatem unius lampadis capacem, quæ ob reverentiam fidelium ibi quiescentium, totis noctibus fulgure suo locum illum sacratum illustrat." M. Lecointre Dupont remarks that these towers or beacons are found particularly in cemeteries which were by the side of high-roads, or which were in greatly frequented places. The motive for erecting these beacons was, he says, to save the living from the fear of ghosts and spirits of darkness, with which the imagination of our ancestors peopled the cemeteries during the night-time; to protect them from that "*timore nocturno*," from that pestilence "*perambulante in tenebris*" of which the Psalmist speaks; lastly, to incite the living to pray for the dead. As to the origin of these sepulchral towers, and chapels surmounted by towers (these I shall mention further on), nothing certain is known. Le Cointre thinks that they are of very ancient origin, and can be traced perhaps to the early periods of Christianity. Without disputing this opinion, which would require to be confirmed by authorities which I am not in a position to produce, I think that it was about the twelfth century, consequently about the time of the crusades, that the greater number of these structures were built; for, among those which remain, I know of none to which an earlier date can be assigned than that of the end of the eleventh century, and many are of the thirteenth century. Some of these which were rebuilt in the fourteenth and fifteenth centuries took the form of a high tower: such is, at Bordeaux, the tower of Peyberland, not far from the cathedral. This very high tower was commenced in 1481, and finished in 1492; but it has succeeded or was built on a sepulchral chapel; for it is known that in 1397 the base on which it was built was used as a sepulchral vault, and that over the sepulchral vault was a chapel in which canons celebrated mass. The belfry of St. Michael, of the same town, which has a sepulchral vault at its base, and which is of the fifteenth century (1480), has been perhaps also built over some sepulchral vault: it is detached from the church, and is in the midst of a plot of ground which formed the ancient cemetery. De Caumont then describes one of the towers at Antigny, near St. Savin, department of Vienne:—"It is in the middle of a square before the parish church, which evidently formed part of the ancient cemetery,

for it is almost completely paved with tombstones. Four square windows, turned towards the east, west, north, and south, open, under its roof, at the summit of the tower: it was there the light was placed: the door was at some distance from the ground." He then mentions others:—"The fanal of Fenioux is in the cemetery of the village, at a hundred paces from the church, opposite the south door. The fanal of Estrées occupies nearly the centre of a large plot of ground, to the south of which is the ancient road from Buzancais to Palluau, and to the north of which are the remains of the parish church of Estrées, a building of the eleventh century, the choir of which is still remaining. This plot of ground was formerly the burial-ground of the parish. This tower is built on an octagonal basement: its height is 8 metres 30 c. The fanal of Cirou is 150 metres from the church of the village, and, like that of Estrées, is in the centre of a vast cemetery. The fanal of Terigny l'Eveque was also in a cemetery, about 300 paces from the church, near which passed the ancient road, which, according to M. Damazy, was the ancient way which led from Mans to the Roman camp at Songé. It is terminated by a conical roof: its four windows are towards the four cardinal points: its height is 11 metres 70 cent." He adds:—"I could also mention several towers pointed out by different authors, which ought to be assigned to this class of building which I have pointed out."

This description, it must be allowed, bears a very striking resemblance to everything that is characteristic of the round towers, and would, I think, lead to the conviction that there must be a connecting link between the fanaux and the round towers in their almost identity of purpose. They were both used for sepulchral purposes: they were erected as memorials of the dead in cemeteries: they were placed in churchyards unsymmetrically, at some little distance from the churches: they were built in much-frequented places, such as Clonmacnoise, and Glendalough: their four windows at the summit face the four cardinal points: they are also of the same period, the eleventh and twelfth centuries, and never later than the thirteenth: finally, there is a tradition that they were used as beacons. I cannot but think that there is a similarity in principle as well as in form; for we find in the dark ages the same customs were practised in different countries; for the early Christians, particularly those who were converted from Paganism, frequently adopted and introduced, as has been the case in Italy, Pagan customs and practices into the Christian religion; and it would be but natural to suppose that the custom of lighting a lamp in a tower in honour of the dead (for this was a Pagan custom) was imported into Ireland from France; and, as Dr. Petrie argues with regard to the use of lime cement in religious edifices, a knowledge of this custom may have been imparted by the crowds of foreign ecclesiastics who flocked to Ireland as a place of refuge in the fifth and sixth centuries. We know that St. Patrick was a Frenchman, and was educated in France: a great number of St. Patrick's disciples were also foreigners. St. Declan, who it is said built the tower at Ardmore, travelled to Italy. St. Columbanus also travelled in France. Vergilius, in the eighth century, was born in Ireland; and, like most of his countrymen at that period who were distinguished for learning, left his own country and passed into France. St. Malachy consecrated several cemeteries, and rebuilt several structures, "post ejus reditum e locis transmarinis." In fine, there was in the early periods a constant intercommunication between Ireland and France, particularly with regard to religious dogmas and practices.

That the towers were erected in Irish cemeteries too as memorials of the dead, we have a kind of evidence from an apocryphal document of the fourteenth century. In the registry of Clonmacnoise, translated for Sir James Ware, we find O'Rourke "hath for a *monument* built a small castle or steeple, commonly called in Irish Claighthough, as *a memorial of his own part of that cemetarie*:" its being called here a steeple is, of course, in conformity with the common opinion. A tower as a belfry would be very little to the purpose, but a tower as a monument and memorial in honour of the dead would be in its proper place in a cemetery. It is not surprising to find two round towers and several sepulchral chapels in that cemetery, for Clonmacnoise was celebrated as being the burial-ground of several Irish chiefs. Dr. Petrie also admits that we will find it difficult to resist the conclusion that the towers would be used at night as beacons to attract and guide the benighted traveller or pious pilgrim to the house of hospitality or prayer. *Their fitness for such a purpose must be at once obvious.* He then quotes the opinion of Dr. Lingard to the same purpose, that they were used as "beacons to direct the traveller towards the church or monastery." Lights were kept burning in them during the night; at least such was the fact with respect to the new tower at Winchester, which, we learn from Wolstan, consisted of five stories, in each of which were four windows, looking towards the four cardinal points, that were illuminated every night. Dr. Hibbert Ware also considers this the only rational theory on the subject. Dr. Petrie adduces a further evidence in the description of a pharos, or beacon tower, of the Irish monastery of St. Columbanus, at Luxovium, now Luxeuil, in Burgundy, mentioned in Mabillon's "Iter Germanicum":—"Cernitur prope majorem ecclesiæ portam pharus, quam lucernam vocant, cujus omnium consimilem vidi aliquando apud carnutas. Ei usui fuisse videtur, in gratiam eorum, qui noctu ecclesiam frequentabatur." Mr. Fergusson, when mentioning, in his "Handbook of Architecture," the round towers which are described in the plan of the monastery of St. Gall, remarks the similarity of their position and form to that of the Irish round towers, which he suggests was in compliment to the Irish saint to whom the monastery owed its origin. He adds, no mention is made of bells. I can never accede to the theory, that the towers were built for belfries: in the first place, on account of their unsymmetrical position with regard to the churches they are near: secondly, at Brechin, in Scotland, there is a round tower near the church, and also a belfry in its usual position near the church-door. At Swords also there is a round tower and a belfry; and at Lusk there is a round tower, with a steeple close to it. If the round tower was built for a belfry, what would be the purpose of building a belfry close to the tower at a later period? I must say that I cannot but agree with Dr. O'Connor in thinking that the cloictheaghs, or belfries, mentioned in the Irish annals, quoted by Dr. Petrie, could not be the round towers, which were built of stone. The cloictheaghs, from their being so frequently burned, must have been of wood, like the oratories. Dr. Petrie admits that the custom of building oratories of wood was continued in Ireland even to the twelfth century; "but," he adds, "the strongest evidences in favour of this conclusion, that the *duirtheachs* were usually of wood, are those supplied by the Irish annals, which so frequently record the burning of this class of buildings by the Northmen, while the daimhliags (stone buildings) escaped the flames." If we apply similar reasoning to the frequent burning of the cloictheaghs, we must be led to the conclusion that they also must have been of wood.

Sepulchral Chapels.—De Caumont describes these chapels in the following words:—"Sometimes the *fanaux* have been replaced by sepulchral chapels, surmounted by a hollow tower and a beacon. Sepulchral chapels were evidently for the same purpose as the towers, for they too had beacons at their summit: they could be also used for the purpose of exposing the bodies of the deceased before burial; to celebrate mass; and for other purposes, the memory of which has passed away. I know but one in a state of preservation, that of the ancient cemetery of the nuns of Fontevrault. It is square. From the summit of the stone roof of the building arises a hollow tower of four or five metres high, bearing a lantern at its summit: each face of the lantern is pierced with an opening: a conical roof covers the whole: in the interior the chapel is vaulted. The date is 1223." St. Kevin's Kitchen would seem to answer the description; and thus, if the analogy which I have suggested between the two be correct, St. Kevin's Kitchen would be a stone-roofed sepulchral chapel, surmounted by a tower, which was used as a beacon for the same purpose as the *fanal de cimitiere*, or beacon of the dead; and, further, I should be inclined to consider the several churches built by Irish kings and petty princes at Clonmacnoise as sepulchral chapels.

Crosses of Cemeteries.—In De Caumont's work I remark a further analogy to Irish antiquities in his description of crosses of cemeteries, which, I think, is an additional proof that there was some connecting link between France and Ireland with regard to these towers and crosses. His words are:—"Crosses of Cemeteries.—Crosses erected in the centre of churchyards are also objects deserving of study, when they are ancient; for I am persuaded that in the Middle Ages they have, in many burial-grounds, taken the place of the towers of which I have spoken: at the present day they have taken their place in many sites. The most ancient I know of are of the twelfth, or about the end of the eleventh century. They are the most frequently simple crosses, inclosed in a circle, and raised on a square or cylindrical pedestal. In Brittany crosses have been erected on which are sculptured rather complicated groups of figures, and of a workmanship the more remarkable as they are in granite." Crosses like the first-mentioned are found in several old churchyards in Ireland. The cross over the door of the tower of Antrim is of this description. Crosses like those in Brittany are to be met with at Monasterboice, Clonmacnoise, &c.

We cannot but be led to the conviction that there must have been some connecting link between France and Ireland with regard to these towers, oratories, and crosses; for how otherwise are we to account for this singular coincidence, that in ancient Irish burial-grounds we frequently find a group composed of a round tower, an oratory, and a cross; and that in ancient French cemeteries we find an analogous and corresponding group, composed of a fanal or tower, a sepulchral chapel, and a cross? Some may suppose that the idea of these towers may have been received from Ireland by France; but I think this suggestion could not be admissible, as it is more in uniformity with the course of events that the tide of knowledge should flow from the south towards Ireland, than that the stream should run backwards. It is a singular fact that Dr. Petrie designed a round tower, an oratory, and a cross for the tomb of O'Connell in the Glasnevin cemetery. A round tower as a belfry would be very little to the purpose; but I think the group, considered as a tower or beacon of the dead, a sepulchral chapel, and a cross of a cemetery, would be in its proper place.

THE NEW LIGHT FOR DWELLINGS.

M. MONGRUEL'S ingenious invention is now, it would appear, in the hands of a company. It has of late been exhibited in the City; and we have had an opportunity of examining the process. M. Mongruel's hydrocarbonater forms the chief specialty: it consists of an air-tight vessel, in the upper part of which the hydrocarbonating liquid is contained, apart and secured against direct communication with the lower part of the "generator," as it is called: into this lower part, however, a tube opens, which conducts the liquid in very small quantity from the reservoir above to the floor below, on which it forms a thin film, which is absorbed by wicks, through which common air (or ordinary gas) is driven before it escapes at the burner. The result is that the air or gas is charged with the vapour of the liquid, and burns with a very brilliant light, which is certainly far superior to most of the gas-light one usually meets with. When common air is used, of course it must be supplied, as coal gas also is, under pressure, and hence an aërometer is required; but this may be a very cheap and simple affair for a private dwelling, we should conceive. As for the hydrocarbonization of gas, considering how brilliantly the vapour burns with mere atmospheric air, we cannot see any advantage in using gas at all, which would only increase the cost without any equivalent advantage; for it must be noted that gas thus hydrocarbonated gives no superior light to common air similarly hydrocarbonated; probably from the gas not taking up so much of the vapour as mere air does. As to the safety of such a light, there can be little doubt, we should think, that it must at least be safer than gas, even if the liquid be naphtha, which there seems to be some reason to think may be the case, although a certain reserve is observed as to this; but M. Mongruel talks of it as petroleum as well as naphtha, although these are *not* one and the same thing; petroleum, in fact, being a name recently applied to mineral oils of the nature of paraffine. That naphtha is explosive there can be no question; and the risk attendant on the filling of the "generator" must be considered, as well as the question whether atmospheric air charged with naphtha be or be not explodible in pipes. We should not like to decide from mere theory either *pro* or *con.*: the fact ought to be tested by experiment. We may here add that we observe from the Journal of the Board of Arts for Upper Canada that the subject of petroleum gas is exciting some interest in America. Petroleum gas, however, is a different thing from M. Mongruel's light, even though petroleum be used for that light. In the Canadian process the liquid petroleum is converted into gas by heat, in the usual gas retorts, just as coal is; and is then supplied to towns as is usual with coal gas. Petroleum is said to be a cheaper material for this purpose than even coal, as it produces a much more brilliant

gas-light. As for M. Mongruel's invention, as we have before said, it is just an ingenious and elegant way of burning paraffine, or it may be naphtha, or both. It is said that an immense business in this new light is already arising in this country as well as in France. The gas companies, therefore, had better look out, for serious rivalry. The new light has that purity for use in private dwellings which gas has all along so much wanted; and we have often warned the companies that if they did not find out and put in practice some certain and efficient way of perfectly purifying their gas, the great and profitable field of private dwellings, so temptingly open to them, would be occupied by some rival light more suitable to such uses than gas has been. That gas has been purer of late years than heretofore must be admitted; but neither its purity nor its brilliancy is even yet all that can be desired; nor is gas comparable to M. Mongruel's new light in either of these respects.

ENGINEERING IN BELGIUM.

THE Belgian Railway Conference has offered premiums for the best essays on the subject of their meetings, and has proposed them for public competition under the following condition:—

1. What modifications ought to be introduced into our laws in order to enable the administration, which controls the transport of passengers and goods, to act in accordance with modern improvements, and especially to regulate on equitable terms the reciprocal obligations to be observed by the expediter and the carrier on railways, so that the interests of both parties may be preserved?

2. What influence, in Belgium, do the ascending and descending gradients exert on the working expenses of railways?

3. How, in Belgium, is the cost of carriage of merchandise by railways affected by—

a. The increase of distance travelled.

b. The increase of quantity of goods transported;

And, consequently, what is the most suitable scale of charges in the twofold point of view of the interests of the public and of the companies.

The memoirs are to be written in French, Flemish, English, or German, and addressed to the secretary of the Conference of the Belgian Railways before the 1st of May, 1863. The conference will name from among its members commissioners appointed to report upon the memoirs presented.

The Conference requires the strictest accuracy in the quotations, and requests to this effect the authors to indicate the editions and pages of the books they may quote. Manuscript drawings only will be admitted.

The authors shall not affix their names to their works, but only a device, with a corresponding mark on the outside of an envelope, containing the name and address. Treatises delivered by hand [personally?], or those in which the authors make themselves known in any manner, will be excluded. All essays sent in to become the property of the Conference: copies, however, may be obtained at the expense of the authors by applying to the secretary.

The conference places at the disposition of the competitors all the documents in its possession, and offers to render every possible assistance in giving information which may be requested. To this effect communications must be addressed to M. Wergifosse, secretary of the conference, Galerie du Roi, 15, à Bruxelles.

In no country, perhaps, is higher honour paid to merit than in Belgium. During a concert given at Brussels, on the evening of the 10th inst., in the Salons de la Grande Harmonie, by the Association of Musical Artistes, and in the interval between two pieces, M. Rauwet, president of the society, mounted the estrade, and, after having enumerated the artistic titles of M. Haussens, *chef de l'orchestre* of the Theatre Royal of the Monnaie, read the royal warrant naming him officer of the Order of Leopold. M. Stevens, secretary general of the Minister of the Interior, then remitted to M. Haussens the insignia of his new grade amid the sympathizing demonstrations of the audience, and cries of *Vive le Roi!*

During the present session of the Belgian Chambers, a new project of public works to be executed will be presented to the legislature, containing, among other undertakings, several railways.

The section of public works of the municipal council of Brussels has been lately deliberating upon a new plan of a chamber of commerce presented by M. Mols-Maréchal. This plan has been in due course laid before the special commission, which is shortly to issue its report on the various projects.

The Belgian Government has approved of the new plans of the railway-station at Brussels, and the works are to be commenced forthwith.

PRUSSIA.

FOR some time past the Prussian Government has been occupied with new surveys for the project of a canal which will unite the Rhine, the Weser, and the Elbe, the three most important rivers of its western territory. As recent investigations have demonstrated that these works do not present any formidable obstacles, it is likely that the Government will not delay much longer in putting the scheme into execution.

The model in plaster of the equestrian statue of King Frederick William IV., which is to decorate the bridge over the Rhine at Cologne, is exhibited in the ateliers of Professor Blaser at Berlin. It is of larger size than any of the equestrian statues which exist, even surpassing in magnitude the magnificent monument of Frederick the Great. The statue will be executed in bronze, and will have as pendant the statue of the reigning monarch, at which Professor Drake has been laboriously engaged for some time.

THE CATHEDRAL OF AMIENS.

THE statement transferred to our number of last week from a London newspaper, as to discovery of a dangerous condition of the vaulting of this cathedral, appears to be erroneous. The statement, first made by the *Journal d'Amiens*, originated, according to the *Mémorial d'Amiens*, in the fact of certain work of restoration that had become necessary in one of the clerestory windows, owing to the effects of rusting of iron, which metal had been used in cramps, on the occasion of some former works of reparation, twenty years ago. We can ourselves venture to assert that there are few buildings so well looked after structurally as the Cathedral of Amiens.

The diocesan architect, M. Massenot, is always on the spot. M. Viollet-le-Duc is architect in chief. It may be well to mention that at the level of one of the upper galleries of this cathedral, but wholly inside the structure, a strong iron tie runs entirely round the building. This, we believe, was placed during the period of the First Empire. In its position it is not acted upon by the weather. Whether there has ever been any manifestation of effects from expansion and contraction we are not aware; but if so, they do not seem to have been considered important, and the tie in question was arranged not altogether without dexterity.

GRANITE MONUMENTS IN PREPARATION.

IN the Penryn granite quarries, the establishment of Messrs. W. & J. Freeman, monuments are now in the course of preparation for the late Duke of Wellington and the late Lord Herbert. The first is to be erected, by order of the present Duke of Wellington, at Strathfieldsaye. It is to be formed of a base, with a flight of three steps, covering a space of 30 feet. Upon the highest of these steps will be a plinth for the monument 12 feet square and 6 feet high. Above this comes a moulded plinth. The die is to be 9 feet 6 inches high, and 7 feet square, and will weigh upwards of forty-five tons of itself. The trouble involved in the quarrying, dressing, polishing, and carriage of such an immense piece of granite cannot be well estimated by those unacquainted with the working—the greatest of all being to preserve it from injury. The cornice moulding will be 10 feet 8 inches square. On this will be placed the monolith, respecting which we hear the following particulars. It is 30 feet in length, and, like the other parts of the monument, is of Penryn granite, which has a fine grain, and is susceptible of a high polish. This column was obtained from a quarry at Spargodown, distant from the yard about four miles. As the roads from this and the other quarries are of the roughest character, the reader can easily judge that to convey a mass like this, weighing, as it does, twenty tons, required both skill and perseverance by master and men. It is said to be the finest piece of stone ever dressed in the county of Cornwall, and, indeed, in the kingdom. The operation of dressing is very important, though the tools used are of the most primitive fashion, viz., a kind of blunt axe, chisel, and hammer.

The Wellington monolith will occupy between two and three months in finishing. When erected it will be surmounted by a bronze capital in the Corinthian order; and on this will rest the statue of the Iron Duke, the execution of which is intrusted to Baron Marochetti. The time for the completion of the monument is in 1864.

The work preparing for the tomb of Lord Herbert of Lea is simply designed for a square shaft, on which will be placed a statue, also by Baron Marochetti. The work intrusted to the Messrs. Freeman will be composed of highly-polished Penryn granite, and will be ready in two or three months. A number of men are now employed finishing it.

COMPETITIONS.

Wesleyan Chapel, Plymouth.—We are glad to find that the advertisement of the committee for managing this matter has excited great indignation. One correspondent begs us to print the names of all architects who submit designs in answer to it, and a second desiring that "an example should be made of this proposal, emanating as it does from a professedly Christian body," wishes us to obtain and publish the names of those architects who have written for particulars, and decline to compete. Neither course, however, would be of any value.

Another correspondent, in the course of a communication on the subject, says,—"Why, sir, in those favourite haunts of gambling, the '*Kursaals*' of Baden and Homburg, there is always some tolerably fair proportion between the stake and the prize. For instance, a man stakes 1*l*. with the chances 3 to 1 against him, and if successful wins nearly three times his stake. This principle is to be noticed more or less in other varieties of gaming, and is an illustration of the adage 'honour among thieves.' What would the gaming fraternity think of asking men to stake 3*l*. with the chances 20 to 1 against them, for a prize of 1*l*.? Unblushing as that class may be, I verily believe they would be ashamed to offer such terms. And this is the proposal now being made by some of the members of a community who think themselves more than ordinarily enlightened on moral and religious questions. The venerable John Wesley would not tolerate pawnbroking among his societies, as taking an unfair advantage of men's necessities. The Plymouth Methodists, however, do not seem gifted with any such nice perception. The most charitable supposition to account for the offer of such disgraceful terms is that of ignorance on their part. If so I trust this letter may tend to dissipate some of that, though the precision with which the conditions are drawn out seems hardly compatible with the supposition. Where is the use, I might further ask, of requiring such heaps of drawings for the purpose of selecting what would be amply expressed by a few? I trust the architects of the south-west of England will know how to mark their sense of what is due to them by their conduct in this matter."

Church of Saint John and Saint George, Exeter.—A correspondent writes,—"Your notice of the competition for this church does not tell all the facts as to the decision. It ought to be understood that two or three of the committee, the most competent to decide on the merits of the five plans, judged that the designs should be submitted for the opinion of an experienced architect. The rest of the committee refused this, and the competent men had to withdraw, as they could not approve the design of 'Excelsior,' which was then only adopted. A few days since, at a vestry meeting, the ratepayers, in a majority of twenty-seven votes over fifteen, rejected the plan chosen by the 'Building Committee.' You have my name."

Kenilworth Parish Church.—The plans of Mr. William Smith, New Adelphi Chambers, London, for the restoration of the church, have been selected by the committee. There were seven other competitors.

North Staffordshire Infirmary. — One correspondent, who represents several others, writes,—"Allow me to call your attention to the proceedings of the governors of the North Staffordshire Infirmary. After purchasing land on which to erect the new building, and advertising for plans, and receiving between forty and fifty sets from competing architects, the whole of the actions of the committee for the last eighteen months have been entirely annulled; and while sympathy is claimed for 'poor' Mr. Bishop, who has pocketed 200*l*. on account of the land, nothing is said in reference to the superior claims of the competitors, except the jeering remark that Etruria Station was blockaded with plans! Being myself one of those who with great simplicity competed in anticipation of the erection of the building, I would wish it to be understood that though the committee award the 100*l*. premium, it will not pay more than wages for the work on one set of the plans, leaving out of the question the disbursement on account of materials and carriage, which must amount on the whole to 500*l*. at the least computation. To annul the actions of the committee is to inflict a great injustice upon the competitors.

A COMPETITOR."

LOCK AND SAFE LITERATURE.

RIVAL lock and safe manufacturers appear to be stimulating one another to literary exertions on behalf of their respective inventions. Messrs. Hobbs & Co. have a really interesting little treatise "On the Application of Steam Machinery to the Manufacture of Locks and Keys," in which they give an account of the extensive adoption of machinery at their manufactory in New North-road, with explanatory details of the principal operations, and their influence on the economy of production. Of course, many of our readers have not forgotten Mr. Hobbs, the clever American lock-picker, who has certainly done something to restore the public confidence in locks, as well as much to destroy that confidence. The treatise is illustrated by engravings. We may next notice a plaintive growl about "The Partiality of the London Press," by "A Young Man from the Country," who declares that "nothing can be farther from the truth" than that he is "a disappointed man;" but who bewails the fact that he is an orphan, or at least "lacks the prestige of a father's name," as well as the possession of all the little capital he would wish to have; but hopes "that the day may be far distant when there will be but one lock-maker, one magazine like the *Cornhill*, one illustrated weekly paper, one builders' journal," &c. This "treatise" is mostly filled with a tirade against Mr. Chubb and the *Cornhill Magazine*, whose "partiality" for Mr. Chubb's locks and safes appears to have excited the ire of the poor young country orphan, who would have much preferred that the *Cornhill* had extolled the locks and safes of Mr. George Price, of Wolverhampton; a "partiality" for whom, we dare say, would not have been so objectionable to the author. In allusion to Mr. Price, we may here notice a couple of sheets of engravings of "ornamental key-bows, designed by J. D. Wyatt, architect," for him: some of these are very tasteful, and must require sterling workmanship to do them justice.

Amongst lock and safe literature we may also comprise various circular publications by Messrs. Thomas Milner & Sons, of Liverpool, in advocacy of their well known "hold-fast and fire-resisting safes," respecting which these circulars contain a far greater mass of certificates from all quarters than most people are likely to read.

THE NATIONAL ALBERT MEMORIAL DESIGNS.

ON the 17th inst. the seven architects who have prepared designs for the proposed National Memorial of Albert the Good received instructions to forward their drawings to Windsor Castle, and were invited by Sir C. Eastlake to say exactly how they wished them arranged. St. George's Hall is appropriated to them. Two screens, placed obliquely with reference to each window in the south side of the hall, so as to receive as much light as possible,—approaching therefore towards each other at the end farthest from the window, so as to form a separate enclosure,—contain the drawings of each architect. Every screen is 21 feet long and 8 feet 3 inches in height, admitting of the drawings, where desired, being placed in a single row and opposite the eye; but the adoption of this or any other mode has rested, as we have said, with the competitors themselves. The conditions of light being exactly the same in every case, the order of the screens as assigned to each architect was decided by lot. We have no intention of prematurely communicating any information of the designs even to the extent that may be in our power, beyond the remark that the majority of the architects have taken the view we early put forth, and propose, in varied shape, a shrine or memorial temple, containing a statue of the Prince, and to the adornment of which various arts are made to contribute.

We cannot avoid expressing a hope, with no desire but that of conducing to the most satisfactory accomplishment of the universal wish for a memorial of suitable magnificence and beauty, that the committee, aided by proper advice, will at once critically examine and report on the designs, so that her Majesty may be put in possession of data useful in forming a judgment.



CHRIST CHURCH LLANDUDNO

CHRIST CHURCH, LLANDUDNO.

THIS church was erected in the year 1858, through the instrumentality of John Crossley, Esq., of Halifax, and other friends. Since that time the town has so rapidly increased that the building is found to be much too small for the large number of visitors annually gathered together in this favourite watering-place.

The church, as it now stands, is a simple parallelogram, 70 feet by 33 feet 6 inches; and it is proposed to add transepts on each side, with a circular apsidal recess for vestries and organ, besides a tower and spire at the angle of the principal front, containing a staircase to the gallery. By this means accommodation will be provided for 562 adult sitters on the ground-floor, and 158 in an end gallery opposite the pulpit. Additional gallery accommodation may be obtained at a future time, when still further enlargements may be required.

Mr. Joseph James, of London, is the architect employed.

DUBLIN EXHIBITION PALACE AND WINTER GARDEN.

THE committee, as our readers are aware, selected from the designs for this work submitted in competition, one by Mr. Alfred G. Jones, of Dublin. We have engraved a view of it.

The principal front is intended to face Earlsfort-terrace, and contains three separate entrances, the one in the centre leading to the grand entrance hall, which is to be lighted by a dome, forming an important feature. From this will be corridors communicating with the concert halls, winter garden, and exhibition buildings. There are also two special entrances—that on the north side leading to the Exhibition department, and that on the south to the winter garden. A colonnade connects these three principal entrances, and affords shelter and accommodation for a large number of carriages to set down and take up their occupants without the risk of exposure to the weather.

On the left hand of the central entrance is placed the concert-hall, capable of accommodating 3,000 persons, with an orchestra and retiring and dressing rooms. There are separate cloak-rooms provided for the convenience of the audience both in the body of the hall and in the galleries. On the right of the entrance-hall is placed the small concert-hall, capable of containing 1,500 persons. It is to be provided with similar arrangements, and also a lecture-room and practising-room.

The Exhibition building is placed on the north side, and extends from front to rear, provided with picture galleries.

The Winter Garden will be formed at the south and west sides, and will be of considerable extent, with continuous galleries. This building is to be constructed of glass and iron, having two principal fronts. The west front of the Winter Garden will run the full extent of the buildings, and unite with the Exhibition department. The building will also contain a private entrance for the use of the Lord Lieutenant and his suite, as well as dining-rooms, board-room, secretary's office, manager's residence, &c., with a basement story. The building, except on the north side, will be surrounded by an ornamental garden and grounds, the laying out of which will be under the direction of Mr. Nevin, landscape gardener, of Drumcondra. The cost of the building is estimated at 40,000*l*. The whole site covers about 15 acres of ground.

The architect, Mr. Jones, has engaged the co-operation of Messrs. Ordish & Le Feuvre, of London, to assist him with the details of the ironwork.

The illustration represents the design as selected by the committee; but certain modifications will be made, chiefly with a view to reduce the cost.

The dimensions of the principal compartments in the arrangement of the building will be as follow:—

	Feet.	Feet.	Feet.
Large concert hall..	130 by	65 and 50	high.
Small do. do....	90 by	52 and 50	,,
Band-practising room	65 by	38 and 22	,,
Picture gallery	110 by	22 and 25	,,
Lecture-room.....	65 by	38 and 37	,,
Board-room.....	43 by	30 and 37	,,
Dining-rooms.....	102 by	36 and 22	,,
Winter garden	375 by	80 and 60	,,
Exhibition building	255 by	120 and 60	,,



DUBLIN EXHIBITION PALACE AND WINTER GARDEN.—DESIGNED BY MR. ALFRED G. JONES; SELECTED IN COMPETITION.

INCREASE AND DECREASE IN THE POPULATION.

FROM the recently-published census returns of the Registrar-General we learn something of the increase and decline of the population of some chief English towns and registration districts between 1851 and 1861.

In all parts of the county of Durham the increase of the population during ten years has been remarkable. The population of the entire county in 1851 was 411,674; in 8161, 542,125; increase, 130,446. All the chief towns have largely grown in population. At Stockton in the ten years the increase is 20,233; Hartlepool, which not long ago was a very small fishing town, has now a population of 29,153: the increase in ten years is 13,085. Auckland, formerly a place of no importance, has a population of 50,491; the increase in ten years is 20,408. Durham city has grown in population by 14,323; Sunderland (which now has 67,704) by 20,128; South Shields, 9,059; and Gateshead, by 11,328.

Northumberland county has increased in population by 39,457 people. The chief increase has been in the towns Newcastle-on-Tyne and Tynemouth. The former has 21,812 more people than in 1851, and the latter 13,707. Morpeth has 1,876 more inhabitants, Castle Ward 1,036, and Berwick 1,414. Some other towns in this county have decreased in population. Haltwhistle, 593; Alnwick, 69; Belford, 611; Berwick, 2,231; Hexhamdale, 1,137; and Rothbury, 284.

In Cumberland the increase has been 9,784. The chief increase has been at Whitehaven, which has gained since 1851, 4,336 inhabitants; Carlisle, 2,263; Cockermouth, 2,782; and Longtown, 773. In Westmoreland the increase of the population has been no more than 2,559.

The increase of population in Yorkshire has been in ten years 226,494; the West Riding, 185,866; the East Riding (with York), 22,924; North Riding, 17,992.

The population of York city has only increased 1,344. Bradford has increased 14,511; Hunslet, 12,279; Leeds, 16,223; and Dewsbury, 21,115. The other towns in the West Riding which show a remarkable increase are Barnsley, 10,817; Chapeltown, Brierlow, 25,704; and Rotherham. In the East Riding the largest increase has been at Hedcoates (7,237) and Hull (6,218). In the North Riding the largest increase is at Guisborough, which has 9,926 more inhabitants than in 1851. The chief towns of the North Riding have declined in population; but in other parts of the county, Aldbergh, Settle, Skipton, Ripon, Great Ouseburn, Bedley, Hemsworth, Easingwold, Thirsk, Northallerton, Bedale, Reeth, and Richmond, have all declined in population.

In Cheshire, since 1851, the population has increased by 49,037. All the chief towns show an increase except Macclesfield, which has declined in population to the number of 1,784 persons. The most remarkable increase is at Wirral, which has increased to the extent of 22,683 persons.

The population of Lancashire has been increased to the large number of 398,065 persons. All the chief towns show an increase except Clitheroe and Prestang, which have declined in population. The following towns have increased in population:—Liverpool, 11,506; West Derby, 72,566; Prescot, 10,053; Wigan, 17,022; Bolton, 15,557; Bury, 8,820; Chorlton, 45,738; Salford, 17,812; Manchester, 15,555; Ashton, 15,554 (it is remarkable that there is only a difference of one in the increase of these towns); Oldham, 24,488; Rochdale, 12,239; Haslingden, 19,357; Burnley, 11,727; Blackburn, 29,204; and Preston, 13,978.

Leicestershire has increased since 1851 to the extent of 7,728 persons; seven out of eleven of the chief towns of this county have declined in population. Leicester has increased by 7,548, and Loughby-de-la-Zouch, 2,585.

Rutlandshire has *declined* in population to the extent of 793 persons—Oakham, 441; Uppingham, 352. This decrease is attributed to migration to the manufacturing districts, and to the removal of persons who were, in 1851, engaged in railway works. In Lincolnshire there is the small increase of 3,901. Ten of the chief towns show a marked decrease. Stamford has declined to the extent of 1,542; Bourn, 1,069; Spalding, 341; Wainfleet, 732; Boston, 475; Grantham, 964; Folkingsby, 138; and Gainsborough, 1,285. Sleaford, Lincoln, Louth, Caistor, and Glanford Brigg have increased slightly in population. Nottinghamshire has increased by 29,410 people,—the chief increase, 17,346, being in the town of Nottingham. Worksop, Mansfield, Basford, and Retford, also show an increase. East Retford, Southwell, Newark, and Bingham, have declined. The population of Derbyshire has increased by 33,181: the chief increase is at Chesterfield, which has 15,984 more inhabitants than in 1851. Shardlow has decreased by 1,209; and this decline is accounted for by migration and the depression of some trades.

Gloucestershire has increased in population since 1851 to the extent of 24,021 people: in Bristol city the increase is 311; in Clifton, 16,737; Cheltenham, 5,608; Gloucester, 2,905; Westbury-on-Severn, 2,065. Dursley, Newent, Wheatenhurst, Stroud, Tetbury, Cirencester, Northleach, Stow-on-the-Wold, Winchcomb, and Tewkesbury, have all decreased in population. The increase of the population of Herefordshire is 7,676: all the chief towns have advanced in numbers, the town of Hereford to the extent of 4,133. Shropshire has increased in population 10,905. Shrewsbury, 2,776. Ellesmere, Whitchurch, Newport, Cleobury, and Mortimer, have declined in population.

Staffordshire, like the other great seats of manufacture, shows a large increase. In this county there were, in April, 1861, 138,996 more inhabitants than in 1851. All the chief towns, except Leek, are reported to have increased, Wolverhampton to the extent of 22,744; West Bromwich, 22,751; Dudley, 23,737; Walsall, 16,846; Burton-upon-Trent, 9,222; Stoke-upon-Trent, 13,366; and Wolstanton, 12,440. In Worcestershire, the only chief town which has decreased in population since 1851 is Kidderminster, which had at the taking of the last census 2,610 fewer people. Stourbridge had increased by 11,376; and King's Norton by 16,478. The population of this county is greater by 36,220 persons; and that of Warwickshire by 82,177. In this central county, Nuneaton, Alcester, Shipston-on-Stour, and Southam, have decreased in population; Stratford-on-Avon has increased 502; Birmingham, 38,676; Aston, 33,670; and Coventry, 4,835.

The population of Wiltshire has *declined* to the extent of 4,909 persons. This decrease is attributed to the migration of young persons to towns: in the parish of Calne, to the removal of some of the inhabitants to another neighbourhood; in the parish of Cherhill, to the removal of dilapidated houses, and to a reduction of the number of families in one house; in the parish of Bishops-Cannings, to the number of young men who have entered the army; in Urchfont, the decrease of the population is attributed to the removal of cottages; in Market-Lavington, to the removal of machinery works and of a foundry; in the parish of Bromham, to migration caused by machinery superseding hand-looms [several houses here have been pulled down]; at Bradford, the general decrease of the population is said to have been caused by the migration to large towns in consequence of the use of machinery in the various branches of the woollen cloth manufacture. The houses, when left tenantless, have been allowed to fall into decay or to fall down. In Keevil and Eddington the decrease is attributed to emigration to New South Wales, and to migration to the mining districts. Fourteen out of eighteen of the large towns have decreased in population.

Dorsetshire shows the small increase of 5,098. Nearly all the large towns have decreased in population, except Weymouth, which has increased to the extent of 5,291; Poole, 851; and Sherborne, 382. The increase of Devonshire has been 20,074; but thirteen out of twenty of the chief towns have declined. Plymouth has increased 10,378; Newton Abbot, 6,757. Cornwall has increased to the extent of 11,211 people; but several of the towns have declined in population. The chief increase has been in Liskeard and Redruth.

Somersetshire, with a population in 1861 of 463,261, shows the small increase of 979. Several of the chief towns have declined, and the largest increase is at Bedminster [3,114].

In Essex the increase of population is 35,595; but several towns have declined. Colchester has, however, increased to the extent of 4,372, and West Ham 24,924. The large increase of the Stratford sub-district is attributed to the establishment of manufactories belonging to the Eastern Counties Railway, the operations of building societies, and the erection of the Victoria Docks and iron ship-building establishments.

The population of Suffolk has declined by 747; nearly all the large towns have declined except Ipswich and Mutford.

In Norfolk the decline of population is still greater, amounting to as much as 6,250 persons. Yarmouth has increased by 3,458; Flegg, 134; Norwich, 6,244; but nineteen considerable towns in this county have decreased in population,—in King's Lynn to the extent of 3,829.

The part of Middlesex, not immediately connected with the metropolis, has increased by 36,719; the county of Hertfordshire, 3,490; Buckingham, 3,552; Oxfordshire, 986; Northamptonshire, 17,235; and Bedfordshire, 10,674. But the population of Huntingdonshire has decreased 1,182; and Cambridgeshire by the large number of 10,309 persons. The population of this county was, in 1851, 191,894; in 1861, only 181,585.

The population of that part of Surrey in the south-eastern district has increased by 70,743. The chief increase in towns has been, Farnham, 18,964; Croydon, 14,586. The part of Kent in the same district has been increased in population by 60,251 persons; Sussex, 27,232; Hampshire, 54,608; and Berkshire, 6,411. In those counties the most marked increase has been at Brighton [12,124] and Portsea Island.

THE MEMORIAL OF THE 1851 EXHIBITION, AND THE PRINCE OF WALES.

THE following letters, in continuation of correspondence already made public, will probably interest even a larger circle than the subscribers to the Memorial:—

"*To his Royal Highness the Prince of Wales, &c., &c.*

SIR,—The Memorial of the Great Exhibition of 1851 is now so far advanced that the day of its inauguration may be fixed and announced. Your Royal Highness's lamented father, the Prince Consort, had intimated his intention that this event should be marked with honour. By an act fully appreciated, not alone by the committee I have the pleasure to represent, but by the people of this country, your Royal Highness has connected yourself with the Memorial, and restored to it the twofold character it was originally intended to have. I have now to beg, Sir, that you will increase the obligation already conferred, and permit the announcement that the Memorial will be inaugurated by your Royal Highness on the 5th of June, the anniversary of the opening of the Horticultural Society's Gardens, in which it stands.

I have taken the pleasure of her Majesty the Queen upon the subject, and have received a gracious intimation that her Majesty will have no objection to such an announcement.

I have the honour to subscribe myself,
Sir,
Your Royal Highness's obedient and devoted servant,
GEORGE GODWIN.

24, Alexander-square, Brompton,
January 19th, 1863."

"Sandringham, Norfolk,
24th January, 1863.

"SIR,—I am directed by the Prince of Wales to acknowledge the receipt of your letter, requesting, in the name of the Committee for the Memorial of the Great Exhibition of 1851, that his Royal Highness would be pleased to inaugurate it on the 5th June next, and permit the announcement to be made accordingly.

It is with the greatest satisfaction that his Royal Highness accedes to the request; for in so doing he cannot but feel that he is contributing towards carrying out the wishes of a beloved and lamented parent, that the Memorial of the Exhibition of 1851 should be inaugurated with every circumstance of honour.

I have the honour to be, Sir,
Your most obedient servant,
G. Godwin, Esq." W. KNOLLYS.

BIRMINGHAM OF OLD.

ON the occasion of laying the first stone of Birmingham Exchange Buildings, on the 21st instant (briefly recorded in our last), the Rev. Dr. Miller made an address which interested those present very much. Remembering the Rev. Dr. a painsful and successful student in the Brompton Grammar School, it is always agreeable to us to note the regard in which he is held in the field of his labours. In the course of the address to which we have alluded Dr. Miller said,—"It is one of those occasions when one's mind naturally goes back to the ancient history of the town; and last evening I could not help turning to a page which, I presume, every Birmingham man has read, or ought to read,—that very graphic page in which Lord Macaulay gives us an account of Birmingham in the year 1658. I think we then had, if I may speak of 'we' in such a case, 4,000 inhabitants; and we are told by Lord Macaulay that the manufacturers of Birmingham were, even in that day, a busy and thriving race. They had though, even then, somewhat of a little taint upon them which the persons concerned in the late robbery of bank paper seem determined to perpetuate: they seemed to have a habit of handling bad money. Birmingham buttons were then scarcely known: Birmingham guns were then unknown altogether; and, strange

to say, there was not a Bible nor an almanac to be purchased at any bookseller's in the town. The literature of the town was supplied,—and the supply equalled the demand,—by old Michael Johnson, the father of the great Dr. Johnson, who used occasionally to come over from Lichfield, and bring with him all the literary food that the people of Birmingham were then able to receive. But, turning to more ancient chronicles, we find the first description recorded of the old town of Birmingham; and, looking at the old pictorial plan of Birmingham, which we have all seen, I find more houses in the plan than there should have been, if the written description be right. This description was written of the town in the time of Henry VIII. by Leland. This is it:—'The beauty of Birmingham, a good market town in the extreme parts of Warwickshire, is one street going up alonge almost from the left ripe (or bank) of the brooke (which means that ancient and remarkable river called the Rea) up a meane hill by the length of a quarter of a mile . . . There be many smithes in the town, that use to make knives, and all manner of cutting tools, and many lorimers that make bittes (who, I take it, were the seeds of future harness ironmongers), and a great many naylors; so that a great part of the town was maintained by smithes, who have their iron and sea-cole out of Staffordshire.' A half century later, Camden says, it is 'swarming with inhabitants, and echoing with the noise of anvils (for here are great numbers of smithes'). I turn from old Camden with that covetousness which is inherent in parsons to see what was the state of the fees. I state what I am going to state for the benefit of the Burial Board committee. I congratulate myself that I am rector of St. Martin's now instead of having been then, for I find that in the sixteenth century there were in six months sixteen deaths, six marriages, and twenty-four births. That is from the register of the parish church. In the seventeenth century there were in one year thirty-seven burials, and in another year sixty-four. The marriages in one year were ten, and in another year seventeen,—a number which would now be considered very small for publication in one Sunday at St. Martin's. The baptisms in the year were 102. We should not then have wanted a hospital for sick children. It is very curious to compare these old accounts of the town with the state of the town now, when you want such an Exchange as this; and I hope you will forgive the little gossip in which I have indulged. I will only say it is not simply in the building of an Exchange, or in any such achievement, that we must look for the true prosperity of the town. Nothing rejoices my heart so much as to see the great progress which education is making amongst all classes, and to see especially that we are enabled to maintain that independence and that openness which Birmingham men pride themselves upon, with an increased measure of consideration and kindness towards one another, which enables us to work together, in matters where unity is possible, consistently with conscience. I see all classes are being welded together, and I confess that this is what rejoices me."

CHARING CROSS STATION.

Now that the site is cleared, the extent of the intended railway station at Charing-cross may be judged of. The bridge is approaching completion.

The total length of the bridge from end to end, is called 1,360 feet: its width between the main girders is 50 feet; and outside this there are two 7-feet footways for passengers; making the total width 64 feet, with a clear headway above high water-mark of 25 feet.

The arches under the station are being formed. The front of the station will be set back a considerable distance from the Strand to enable carriages to drive up to the doors of the booking-offices. The station at Charing-cross will occupy rather more than the whole of the area of the late Hungerford-market. From the termination of the bridge to the frontage of the station will be about 450 feet in length, and the width will be 170 feet. Nearly 400 feet of the distance will be covered by an arched roof of glass and iron. The frontage is 230 feet long, and extends from the corner of Villiers-street to Brewer's-lane, taking down the whole of Charles-court, which lies between them. In connexion with the station there will be erected a large hotel, designed by Mr. E. M. Barry, and containing 200 rooms. It will have a frontage looking on to the Strand, and another of 190 feet in Villiers-street.

The principal entrance will be on the Villiers-street side of the station; and the main portions of the hotel will consist of three stories, an entresol, and a mezzanine over the booking-offices. The view from the back will overlook the station. The style of the hotel will be Italian. The Charing-cross Railway Company will receive from this hotel company a large sum, either by way of purchase of the site or annual rental; and this, it is expected, added to the rent of the arches under the station, will pay a dividend on the cost of the land and property of the Hungerford-market. Among other conveniences which will be provided for visitors to the hotel will be an ascending-room, in which they can be raised or lowered to or from any of the floors of the hotel. The contract for the building of the hotel has been let to Messrs. Lucas. Mr. Wythes is the contractor for the station, and also for putting in the foundations for the hotel.

Trains will run all day, at intervals of five minutes, between the Charing-cross station and one in Cannon-street, behind the Mansion House. The main Southern Continental lines will come on to the Charing-cross station.

CHURCH-BUILDING NEWS.

Langham.—The parish church of Langham, near Colchester, is about to be restored and re-seated, and provided with new altar rail, pulpit, and prayer-desk. The carved bench-ends of the fifteenth century at present scattered throughout the nave will be refixed in the chancel. Mr. H. W. Hayward, of Colchester, is the architect: Mr. Bremer, of Colchester, contractor for the masonry; and Mr. Hawkins, of Monks Eleigh, for the woodwork.

Worcester.—The Earl of Dudley has sent a donation of 200*l.* towards the fund for erecting the new church at Shrubhill, near the Worcester Station of the West Midland Railway. The works will shortly be commenced. Mr. W. J. Hopkins, consulting architect to the Worcester Diocesan Church-Building Society, is the architect employed.

Willenhall.—The new Baptist Chapel, which has just been erected in Upper Lichfield-street, for the accommodation of the Baptist Dissenters, who have been heretofore worshipping in Gower-street, has been formally opened. The new building will accommodate 650 persons, and will cost altogether 1,600*l.* Mr. Charles Manton, of Wolverhampton, is the architect; and Mr. D. Evans, of the same town, the builder.

Rhyl (*Flintshire*).—The Rhyl English Baptist Chapel is now drawing towards completion. The rough work is already finished. The bricklayers, plasterers, stonecutters, &c., being on the eve of leaving, Mr. Johnson, the architect, invited all the workmen connected with the building to a *soirée* on the 14th inst., in the school adjoining the chapel. Mr. James Taylor, jun., presided; and Mr. Johnson, architect, and Mr. Bennett, builder, acted as vice-presidents.

Hanbury.—The new chancel of Hanbury church has been opened by the Bishop of Lichfield. The work has been completed in about six months. The old building had fallen into such a state of dilapidation, that to repair it was found impossible. It was, therefore, determined to take it down and rebuild it entirely. Designs were supplied by Messrs. Hine & Evans, of Nottingham, architects, and the work was executed by Mr. Evans, of Ellastone. The new structure, which is built on the foundations of the old, is 40 feet long by 24 feet wide. Its chief features are the east window, with reredos, and the arch between the nave and chancel. The former is a moulded traceried window of five lights of the Early Decorated period (the style adopted for the whole of the new work). It is erected as a memorial of the Prince Consort, and is the gift (both stone-work and glass) of Mr. C. E. Boothby (church-warden) and the Hon. Mrs. C. E. Boothby, whose first husband, Mr. G. E. Anson, was private secretary and treasurer to his Royal Highness, and afterwards privy purse to the Queen. Many like memorials to the Prince have been erected during the past year, but in the present instance there were peculiar reasons for dedicating the Hanbury window to this purpose. In the church of the adjoining parish of Sudbury, where Mr. Anson's remains found a last resting-place, the Queen and the Prince placed a large new east window as a memorial of him. The glass of the Hanbury window is by Messrs. Ward & Hughes, of London, the same firm that designed and executed the Sudbury window. The whole subject of the Hanbury window is devoted to our Saviour: in the centre light the Saviour Himself is represented as "the Good Shepherd," and is placed upon a pedestal to raise him above the height of the Four Evangelists, by whom he is surrounded, and whose figures occupy the other principal lights. All the figures have a white background, diapered with the oak-leaf and acorn; and over each is a light canopy, in the form of the "bower" canopy of the German school of art. The border ornament is composed of passion flowers, the background being worked in ruby glass. In the uppermost trefoil of the tracery above is the symbol of the Holy Trinity; in the centre of the quatrefoil the figures of two angels, having a cross between them, and holding a celestial crown above them; and in the trefoil directly below that, and over the Saviour's head, is the Dove descending upon Him. In two other quatrefoils are "the Lamb of God," bearing the cross and the banner, and the emblem of the Pelican. The subjects in these three quatrefoils are intended to represent the three Christian graces—Faith, Hope, and Charity. The rest of the upper tracery is filled with the sacred symbols and monograms taken from the Greek. The drip-stone over the exterior of the window terminates on one side with the head of the Queen, carved in stone, and on the other with that of the Prince Consort. An inscription in the glass runs along the foot of the principal lights, and is in the following words:—"To the glory of God and to the memory of the good Prince Albert of Saxe Co-Coburg and Gotha, Consort of Queen Victoria, this window was erected in the year of our Lord 1862." The reredos beneath the east window is executed in alabaster from the quarry at Fauld, in the parish of Hanbury. It is of five arcaded niches, divided by circular shafts with carved capitals, supporting moulded tracery with solid spandrils left rough for carving, and surmounted by a string course, sunk to receive an inscription of encaustic tile work. The walls at the back and below the reredos are lined with alabaster. This reredos is presented by Mrs. J. R. Foote. The chancel is entered through an arch, 18 feet in span and 25 feet in height, formed of stone and alabaster, with short shafts and carved capitals resting on corbels sculptured with the figures of two angels, emblematical of Prayer and Praise. The roof is high pitched, its internal section being polygonal, with moulded ribs and carved wall plates, diagonal boarding, and with a pierced tre foil fascia, the whole being stained and varnished. On the south side are two one-light and one two light windows, with a priest's doorway; and on the north side are two one-light windows, with an organ recess intervening, the latter having a stone arch opening into the chancel. The aisles and altar space are laid throughout with Minton's tiles, those of the latter being of a lighter colour and richer design. Exteriorly the walls are executed in roughly-tooled ashlar, with plain lettered buttresses at the angles; a large quantity of the old stone being worked up in the new walls. The roof is covered with slates, and the ridge with Staffordshire tiles, plain rolled and serrated alternately.

Heywood (*Lancashire*).—A school chapel is to be built early in the spring at Heywood. The material will be brick of two colours, and the style a simple form of Gothic. The proposed buildings comprise a school-room for boys and girls, with a gallery at one end; an infants' school-room, and three good-sized class-rooms. It is intended regularly to celebrate Divine service in the new school. The architect is Mr. J. M. Taylor, of Manchester.

SCHOOL-BUILDING NEWS.

Tottenham.—New Green School, in Somerset street, Tottenham, was opened on the 16th inst. This building has just been erected from design and under the superintendence of Mr. E. W. Power, architect. The building is of yellow brick with red banding courses, of an Early Decorated character, consisting of a school-room, 20 feet by 55 feet, for the accommodation of 100 girls, with a class-room, 14 feet by 18 feet, and lavatory adjoining. The school and class-room have open timber roofs, with open trusses, covered in with diagonal boarding. The panels over the fireplace in the school-room have Scriptural texts, in old English letters. The lavatory is fitted up with pegs for bonnets and cloaks. At each end of the school-room are three-light windows, with circular cusped heads. The side windows are flat-headed. Over the entrance to the school is a bell turret surmounted with an ornamental stone ridge and wrought-iron cross. Attached to the school is the mistress's residence. The roofs are covered with plain red tiles, and the gables are surmounted by

lain wrought-iron finials. The whole of the uilding, with the exception of the lining round chool and class-room, gasfittings, and boundary ncing, was executed for the sum of 1,025*l.*, by fr. William Flint, of Stoke Newington, con-ractor.

THE BUILDERS' BALL.

On Thursday, the 12th of February, the Builders' Ball will take place at Willis's Rooms, t. James's, under the patronage of the Lord Mayor and Lady Mayoress, and the Sheriffs of London and Middlesex. The time, therefore, is ow close at hand. We have little doubt that the all will be as popular, as well attended, and as rofitable to the Builders' Benevolent Institution s ever. We certainly hope it may be.

RESTORATION OF AN ANCIENT TOMB IN YORK MINSTER.

Recently, "an ancient tomb has been restored, r, more properly speaking, a new monument has een completed, in York Minster; and on Christmas-ay it formed an object of attraction and admira-ion to many persons who attended Divine wor-hip. The new work of art is situate on the orth side of the nave. The monument which is ow replaced was in a very dilapidated condition, considerable portion of it having crumbled away rom old age. The task of faithfully reproducing he work has therefore been a matter of no small ifficulty; but this has been very successfully and eautifully accomplished by the workmen in the mployment of the Dean and Chapter. The escription which the local historian Torre (who rote towards the close of the seventeenth cen-ury) gives of the tomb has no doubt afforded aluable information. He says:—'In the third isle by the door of St. Sepulcre's Chapell is a onument made up in the wall, carved at ottom into a row of quaterfoils, where one may erceive a leaden coffin in the hollow of the all. Over a table is an arched roof, carved nto fleurs about the edges, and at corners two ngells perfuming with incense pans. Which onument is conjectured to have been erected for rchbishop Roger, who dyed A.D. 1181, having een the first founder of this Chapell of St. Mary nd the Holy Angells.' On removing the old onument, the workmen laid bare the 'leaden offin' referred to in the above extract. The offin, however, is, more strictly speaking, a long arrow wooden box encased in lead, clearly de-oting that this was not the original place of epulture, but that the remains of the deceased whoever he was) had been deposited elsewhere, nd subsequently removed to their present re-narkable position. After a lapse of centuries the ox has been found to contain fragments of a estment composed of cloth of gold, and indicative f the rank of the person interred. On this point, herefore, the well-known quaint historian of ork, Gent, is to some extent correct when he ays (speaking of Archbishop Roger),—'Partly nder the third window he lies interr'd, or rather mmurr'd, and where his coffin is to be seen and elt at this day [1730], for I am inform'd that is ot the tomb of a workman who was kill'd by a all from the high walls of the church, as is gene-ally reported; neither does it appear in reason hat it should be that of an architect, but a more ignify'd person, even an archbishop, and an arch-ishop, too, who was the founder, and in that ense might be term'd the builder' [of the ad-oining Chapel of Mary and the Holy Angels]. Gent, in a note, adds, 'It is said also that an rchbishop or two have been bury'd in the chapel aforesaid;" and it may be that the remains of one f these dignitaries were removed, when the chapel was destroyed, and placed in their present curious situation. The following extract from 'Brown's Guide to York Minster' may throw some light on his inquiry:—'In the north wall [of the nave] he visitor will observe a tomb of singular form, rroneously supposed by some writers to contain he mortal remains of Archbishop Rogers, who ied in 1181,—that is, about 110 years before his part of the cathedral was begun to be built. The more probable opinion is, that it contains the remains of Archbishop Thoresby, who thus lies near the earliest archbishops; and, being a true over of the Blessed Virgin, is thus placed near he entrance to her chapel, the doorway of which s surmounted by a figure of her bearing the Divine Infant, under a canopy of exquisite work-manship.' Here we must take leave of a subject which, it will be observed, is open to considerable controversy, and it may be that the question may never be determined beyond the possibility of doubt. However this may be, we may safely conjecture that the tomb is that of some of our early archbishops, whose crumbled remains, so long exposed to public touch, if not to public gaze, will now, thanks to dear Duncombe, lie unmolested, it may be, for ages to come." The remains of the ancient tomb, of which the new one professes to be a copy, have been removed to the mason's yard of the cathedral—that forlorn wilderness of ancient remains. To that receptacle for regretted antiquities the fine old figure of one of the Barons Percy was removed some years ago (when Mr. Bannester was master of the works). It stood at the east end of the cathedral in a niche. It has been suggested by some one that our cathedrals should have a sort of museum, where ancient remains could be deposited, were it thought necessary (in an artistic point of view, it could not be in an antiquarian, because a genuine ancient monument is far more valuable, though mutilated, to the historical antiquary than the most beautiful restoration) to remove them. From all one reads in the pages of the *Builder*, the impression only becomes stronger of the necessity of having a "Minister of Public Monuments" in the Privy Council, as we already have of "Education," to preserve our precious historical monuments from destruction. What you detailed of the wanton and most uncalled-for destruction or removal of ancient shrines, monuments, &c., at Hexham Abbey Church, some time ago, proves this, and York Minster is no exception.

York.

SOUTH KENSINGTON.

Westward still the tendency of the town continues to advance; the chief incentive for preference being, first, the open Park; a space of woodland, lawn, lake, glade, and flower-garden, not to be found within the precincts of any other city; the second valued attribute being its dry superstratum of yellow gravel—in many parts of great depth—which absorbs freely all rainfall and surface water.

On both north and south sides of the Park and gardens this wondrous extension progresses in nearly an equal ratio; and yet these free and open liberties form a barrier, for *a mile and a half*, restrictive of *commercial traffic*, at all times of the day, and of private intercourse after ten p.m. in totality,—a wide river for the whole length would be less obstructive of intercommunication, and there is no example of a town or city of the same extent, seated upon a river, without several bridges of intercourse. To form an estimate of the necessity for an open public thoroughfare across the Park, even after nightfall, it is only necessary to observe the current of foot-passengers who throng all the traverses between Brompton and South Kensington on one side, and Bayswater and the Marble Arch on the other. This is a bad illustration of enlightened polity; and it is to be hoped that whatever the Chief Commissioner may do as to the route opened temporarily during the Exhibition, Parliament, which is now about to assemble, will deal with a subject so essential to the commonweal.

What ranks next in importance as respects the final completion of the truly noble quarter of South Kensington, is the adaptation of the Exhibition buildings with the 100 acres of ground under management by the commissioners. This site was laid out under the auspices of his Royal Highness the late lamented Prince Albert, who bestowed the most unremitting attention upon the smallest details of the estate. In the too short period of his tutelage all that now exists was based and planned. The solid structure itself was purposed to be permanent, and should be made so. The annexes will doubtless be removed, and the question is, to what use those extensive sites are to be employed. A surmise, which nearly amounts to a rumour, apprehends that, in case the Royal Commissioners should not obtain an Act of Parliament authorizing the transference of part of the British Museum thitherward, it is under review, if not decided upon already, *to let out* the whole of the marginal reserves nearly encompassing the "Horticultural Gardens" on building leases! This extent of frontage, amounting to some 5,000 feet, along the Kensington Gore, the Prince's and the Exhibition roads, would (as it averages a great depth) realize something like 15,000*l.* per annum. No one could accuse the Royal Commissioners with being *unthrifty* stewards were they to net an income after this fashion; but he might call in question their good faith with the subscribers to the Gardens, with the building proprietors who have expended large amounts in ranges of costly mansions flanking the Exhibition, the Prince Albert's and the Cromwell roads, as well as the splendid squares and terraces in close propinquity, and also as regards the public who approved, admired, and respected the objects cherished by the late Prince.*

Amongst those objects, even the laying out of the adjacent building quarters had especial care. It was proposed and laid down on plan, that between the Prince Albert and the Gloucester roads there should be *two complete traverse routes from east to west*; but there is also a central thoroughfare called Elvaston-street. Now the value and importance of this intermediate space, which we may designate as an Upper Belgravia, must be determined by its direct intercommunication with the Prince Albert's-road; without such thorough traverses these streets and terraces, approachable only by right angles and detours, would be a quarter *en arrière*; and in such case the value of rental must suffer very great depreciation; yet on looking at the half-formed roads, as heaped out and demarcated by fences, it is clearly intended to cut short Elvaston-street by a range of houses in front to the Exhibition.

Another feature that is remarkable in this fashionable neighbourhood would seem to be an exception to what in all other new quarters of edification amounts to a requirement—there is no church! In other rising localities, wheresoever four or five hundred houses have been completed, and even before they are occupied, a district church or chapel of ease is sure to arise. There is plenty of space, and the dedication of a square of 100 feet out of the Great Exhibition estate would not be viewed by the public as an extravagant malappropriation. Private proprietors, at Onslow-square and Earles-court, not very distant, have set apart sites for churches; such liberality proving in general not prejudicial to worldly interests.

There is, lastly, one circumstance which in this neighbourhood is a bar to progress and a nuisance, namely, the toll-bars of Kensington and Earles-court. A movement is already in action to withdraw these obstructions, if not to abate them. Let us hope that the requiem of the toll has rung, and that it will soon be as a thing of the past.

Quondam.

A JUDGE'S NOTION OF A BUILDER'S PROFITS.

Marshall v. *Harrison*.—This action, tried in the Hull County Court before Mr. W. Raines, was brought against the defendant, who resides at Gilberdyke, to recover 3*l.* 10s. 7d. for work done and goods delivered. It appeared that the plaintiff had done certain repairs to a house occupied by the defendant.

His honour remarked that the plaintiff, like others he had noticed, charged one price for workmen's wages, while he paid a different sum: for instance, the employer paid his men 3s. per day and charged 3s. 6d. He should like to know what right they had to charge a per-centage on their workmen's wages: it seemed like cheating both the customer and the workman!

The plaintiff said that it was customary to do so.

Ultimately the plaintiff not having brought with him some necessary witnesses, his honour said he should give a verdict for only part of the claim, or nonsuit the plaintiff.

Mr. Pettingell, for the defendant, said he would take a nonsuit.

In what way does the judge suppose a builder is to be remunerated for the outlay of his money, the rent of his premises, his own attention, and his skill? Truly "a learned judge!"

LANDLORD AND TENANT.

LAW OF DISTRAINT.

Attack v. *Bramwell*.—The point raised in this case (heard in the Court of Chancery, Jan. 26th), was of some importance in regard to the law of landlord and tenant. The defendant (the landlord), rent being due from the plaintiff (his tenant), entered the house by the window and distrained, and removed; more rent being due

* It is most desirable, of course, that the Gardens should be kept open and the view preserved for the houses built near; but we have reason to believe it was always understood that the space in question would be built upon. Breach of faith, therefore, there would not be. Moreover, the commissioners require money to meet their engagements; and we may almost conclude that if the Government do not speedily agree to take the land for public purposes, it will be let to build houses on.—Ed.

than the value. The tenant sued for this, and the case was tried before Mr. Justice Blackburn, who told the jury that they were to give something for the wrongful entry, but that as regarded the taking of the goods, as rent was due, they ought, in giving damages, to consider that the amount of the rent was due. The question was whether this direction was right, or whether the plaintiff was entitled to the full value of the goods.

Mr. Henry James, for the landlord, argued that the direction was right; for, as regarded the goods, the tenant had the benefit of his rent being satisfied, and that the taking of the goods was not wrongful.

Mr. Serjeant Shee (with him Mr. Woollett) argued for the plaintiff (the tenant) that he was entitled to the entire value, as the entry was wholly wrongful.

The Court, in the result, so held, and decided that the plaintiff was entitled to recover the entire value of the goods, without deducting the rent. The entering by the window, they said, was just like breaking the outer door, and made the landlord a wrongdoer from the beginning, and the distress utterly void.

RATING GAS MAINS.

The Queen v. Wm. Burton Head and the Metropolitan Board of Works.—This was an appeal, at the Court of Queen's Bench, before Lord Chief Justice Cockburn and Justice Crampton, from the Quarter Sessions. The Imperial Gaslight and Coke Company appealed against a sewers rate upon their property at Fulham, on the ground that their mains and pipes in the land in question were only used for lighting the parish roads with gas, and that therefore they ought not to be assessed so high as house property, which derived a great and important benefit from sewerage. The Quarter Sessions adopted that view, and reduced the amount. The case came before this court to upset that decision.

Mr. Clerk and Mr. Woollett appeared for the Imperial Gaslight Company; Mr. Metcalfe for the Board of Works.

The Court quashed the order of Sessions. They fully agreed in the principle that property ought only to be rated according to the benefit derived, but the suburbs of London were so constantly undergoing change that a hovel to-day might be changed into a mansion to-morrow. The principle that should guide the court should be the benefit derived by the broad area from the sewerage, and as soon as that was established the exemption claimed was gone.

Order quashed.

PATENTS CONNECTED WITH BUILDING.*

WATER-CLOSETS. — *W. T. Smallwood, Limehouse*, and *W. Wright, West India Dock-road, London*. Dated 31st May, 1862.—This invention consists, first, in simplifying the constructing of the water conducting and stopping media by placing the same at the front of the closet. Secondly, in so placing a valve or tap upon the service-pipe, and coupling the same thereto, that it may be readily unshipped or detached and replaced at sea, or when out of repair, without removing or disturbing the other parts of the closets, thereby rendering the operation capable of being performed by any ordinary workman or person unskilled in the manipulation of these articles. Thirdly, in forming and fitting the plug of the stop-tap so as to turn upon or within the spindle, carrying a seated valve at the bottom of the soil-pan, and in mounting a tumbler lever upon and between the said plug and spindle for actuating the same. Fourthly, in so forming the male and female parts, or couplings of the plug and spindle, that one may be partially moved about their common axis independent of the other, thus providing the means by which a single lever is rendered capable of first opening the tap or valve on the service-pipe, and then tipping the valve or pan at the bottom of the soil-pan, or *vice versâ*.

VENTILATORS. — *T. Guibal.* — The patentee claims the arrangement of a rotary ventilator or fan, the case of which communicates with an outlet passage increasing in sectional area as it passes away from the case, and which has a regulating slide following the curve of the case to adjust the size of the outlet therefrom, as described.

VENTILATOR.—*E. T. Nouailhier.*—This improved ventilator is intended to considerably increase the draught of the chimneys at the extremity of which it is placed. It is essentially composed of two hollow and concentric cylinders of sheet iron or zinc. The two cylinders are in their entire length separated from each other by a small circular space which leaves a free passage for the air. The inner cylinder represents but the continuation of the chimney flue: it terminates at about the middle of the length of the exterior cylinder in which it is contained. This latter is completely closed at the extremity which corresponds with the lower extremity of the inner cylinder, and contrary to which is immovable: it will pivot around its congener when the slightest rotary motion is given to it. Further, it presents on one of its faces a large open throat, and on its opposite wing, which forces this throat always opposite the wind.

VENTILATING, COOLING, OR SUPPRESSING FIRE IN PUBLIC AND PRIVATE BUILDINGS OR ROOMS *C. S. Duncan.*—This invention consists essentially in an arrangement of pipes for distributing water over the roofs of buildings or rooms for the purpose of cooling them, or for extinguishing fire, and in carrying such pipes into every room of a warehouse or other building.

IMPROVEMENTS IN THE MANUFACTURE OF CEMENT.—*A. Y. D. Scott.*—Here the patentee claims subjecting lime in the pulverized state to the action of sulphurous acid gas, and an oxydizing agency, in the manner and for the purpose described.

* Selected from the lists in the *Engineer*, &c.

Books Received.

VARIORUM.

"THE History of Clerkenwell. By the late W. I. Pinks: with Additions and Notes by the Editor, E. I. Wood. Printed and published by the Proprietor, J. T. Pickburn, Myddelton House, Clerkenwell. Part I. January, 1863." The material on which this new serial is based first appears, if we mistake not, in the *Clerkenwell News*. It is illustrated by engravings, and is likely to form an interesting volume. We may quote a passage on the alarm in the seventeenth century at the growth of London:—

"In 1683, Sir William Petty, in his 'Political Arithmetic,' expressed considerable alarm about the suburban increase of the metropolis. London, in 1682, contained about 670,000 persons. The growth of London would, he predicted, be at its greatest height in the year 1800, when its population would be eight times more than in 1682, or 5,360,000 souls, and stop before 1842, when it would be double the former number, and the population be equal to that of the rest of England. [How could it be at its greatest height in 1800, Sir William, if it did not stop till 1842?] Time has exposed the fallacy of such reasoning, and London—

'opulent, enlarged,
And still increasing London,'

with its suburbs included, has not attained a population of much more than half the number predicted.

Less than a century ago a strong desire to stunt the growth of London seems to have possessed the minds of our forefathers. It was the same bugbear that had disturbed the peace of generations before them: they were alarmed lest the off-shoots should impoverish the parent stock, and predicted that such must be an inevitable result. Ere a brick of Pentonville was laid, and whilst as yet there were in the northern parts of the parish pleasant pasture lands, hedgerows, flower gardens, and, it may be, cornfields, it was proposed to make the New-road the great boundary for restraining the ruinous practice of building on the north side of the town. In a book entitled 'London Improved,' published in 1766, the author avows that it is his intention to 'advise that proper bounds may be set to that fury which possesses the fraternity of builders' by imposing severe 'penalties,' since if 'they are permitted to proceed at their accustomed rate, we may expect to find the hills of Highgate and Hampstead a considerable part of the suburbs of London; and when the limbs extend themselves so fast and grow out of proportion to the body which it is to nourish and sustain, it may be very rationally supposed that a consumption will be the consequence.'* Time has realized the expectations of this alarmist, and it has also shown how fallacious were his reasonings."

——"The City on the River: a Poem; with a Few Remarks on the Benefit and Utility of Detached Suburbs. London: Mann, Nephews, Cornhill, 1862." The author of this pamphlet has a different idea as to the growth of London from either Petty or Gwynne, but we suspect not a more correct one. He considers that the necessity for great cities is now at an end,—an idea the correctness or force of which is not clear. The present tendency is for the great to become greater. His desire to substitute detached suburbs for one never-ending mass of brick we could more cordially agree with were it practicable, which, systematically at least, it is not; but doubtless such more or less detached suburbs as Hampstead, Highgate, Sydenham, &c., will multiply still farther now that railway conveyance is extending; and when the nearer ones are eaten up by the ever-growing monster city, new ones still farther off will be appropriated and extended like the old. In fact, this has been the natural process for hundreds of years; and it is likely to be so for hundreds of years to come. Suburbs, detached and semi-detached, are already a feature of the metropolis, and scarcely require to be written up.

——"Report from the Provincial Engineer [of Canterbury, in New Zealand] upon the Progress of Public Works, from October 1st, 1861, to June 30th, 1862. Christchurch, Canterbury: Ward & Reeves, Official Printers to the Provincial Government of Canterbury." Roads, bridges, railways, and telegraphs are what the provincial engineer, Mr. Edward Dobson, is busy with at Canterbury. The chief expenditure on public works reported on was made in the northern and central districts of the province, and amounted to 26,293*l.* according to a return by the assistant provincial engineer, Mr. James Wylde, in the appendix to the principal report. On the contracts in hand the sum of 22,405*l.* remained to be paid. The total amount of payments and liabilities on these contracts was 48,699*l.*, and the gross amount of votes for the public works of these districts was 69,647*l.*——"On our Knowledge of the Causes of the Phenomena of Organic Nature. By Professor Huxley, F.R.S. London: Hardwicke. 1863." This volume consists of six lectures to working men, delivered at the Museum of Practical Geology. It is admittedly, throughout, an advocacy of Mr. Darwin's celebrated work on the "Origin of Species," which Professor Huxley believes many of the more thinking men among the working classes (and not a few such there are nowadays certainly) have pondered over. The subject is handled with the professor's usual ability; and Mr. Darwin is fortunate in having his very advanced views set forth by a lecturer such as Professor Huxley. It is not for us here to enter on the question of the origin of species, either *pro* or *con.*; but we may remark that at all events Professor Huxley confesses that, through the careful and ingenious experiments of M. Pasteur mainly, "the doctrine of spontaneous generation has received a final *coup de grace;*" although to this admission the Professor adds the "saving clause," as the lawyers would say, that of course "this in no way interferes with the *possibility* of the fabrication of organic matters by the direct method" to which he had referred, "remote as that possibility may be."——William Thomas's Universal Newspaper and Periodical List. London: Thomas, Advertising and Newspaper Office, Bridges-street, Covent Garden. 1863." This is a very full list of newspapers and other periodicals, and is said to contain "all the newspapers, with their politics, prices, &c., published throughout the United Kingdom; also all the weekly, monthly, and quarterly magazines and periodicals, their publishers, price, place, time of publication, &c., together with the principal foreign newspapers." Doubtless amid the many changes which the newspaper press has undergone of late years perfect accuracy cannot be expected; but on the whole, and so far as we have noted, the list appears to contain much correct information.

* Gwynne's "London Improved," 4to., 1766, p. 16.

Miscellanea.

WATER-COLOUR ARTISTS' LANCASHIRE FUND. Mr. Fahey has been enabled to forward a second 500*l.* to the general committee.

LOCOMOTIVES ON RAILWAYS.—The total number of locomotives at work in England and Wales at the date of a recent return was 4,956; in Scotland, 848; and in Ireland, 352; making an aggregate of 6,156. Assuming that the average cost of each of these locomotives was 2,500*l.*, the capital invested in them would be no less than 15,390,000*l.*

THE OPEN SPACES AND GARDENS OF LONDON.—At a Court of Common Council, held at Guildhall, Mr. Alderman Hale presented a petition from the inhabitants of Finsbury-circus, praying the Court to use its influence to obtain an Act of Parliament to protect for ever the open spaces and gardens of London, and to oppose the projected Act for the destruction of Finsbury-circus and adjacent houses. The petition was referred to the Bridge-house Estates Committee, to examine and report upon the allegations it contained. It is sincerely to be hoped that the desirability of preserving open spaces will be everywhere remembered.

EARLY ARCHITECTURAL SOCIETY.—In reply to an inquiry for the earliest architectural society in *Notes and Queries*, a correspondent in that publication has written:—"The earliest, I believe, to have been the 'London Architectural Society,' founded in 1806. The members who instituted this body were J. Woods, junior, president; J. Elmes and Savage, vice-presidents; and Aikin, W. H. Ashpitel, Samuel Beazley, Billing, Birkhead, Bubb, Busby, Cood, H. Elmes, Lowry, Peacock, Perry, Schroder, C. Smith, G. Smith, J. Taylor, J. Wallen. Singularly enough, the last three named are, I believe, the only survivors. The Society published a volume of Essays about 1808, which was very well received at the time, and has now become extremely scarce."

ELECTRO-TELEGRAPHIC PROGRESS.—It is announced that a submarine cable has just been successfully laid by Messrs. Glass, Elliot, & Co., between the port of Cagliari, in the Island of Sardinia, and Trapani, in Sicily,—a length of 200 miles.

MORTLAKE, SURREY.—This parish has been resurveyed, mapped, and valued by Mr. A. J. Hiscocks, of Wandsworth. At a recent vestry meeting of the parish, the new map and valuation were approved of. Public gas-lamps have been put into the principal streets for the first time. There has been a considerable increase of buildings here within the last few years, and as to this hitherto "Mort-lake," it may now be said—*resurgam*.

DRINKING-FOUNTAIN MOVEMENT.—A drinking-fountain, the gift of Mrs. Isaac Hodgson, has just been erected in Leicester, at the north-west corner of St. Martin's Churchyard, near the police-station, in Town Hall-lane. Mr. Firn erected it under the superintendence of Mr. Stephens, borough surveyor. It is on a Yorkshire stone landing, with Bolsover columns, Red Mansfield bases, and carved capitals of Ketton stone. The bowl, of Cheesewring granite, is placed on a ground of encaustic tiles from Mr. Whetstone's works at Coalville, under a coped Gothic arch, with carved springers and a carved finial at its apex.

THE PROPOSED WET DOCK AT WHITEHAVEN. At the usual monthly meeting of the Whitehaven Town and Harbour Trustees, held on Monday, the clerk read a letter from Mr. Rendel, stating that he had received a packet of plans for a wet dock, and that he should endeavour to forward a report upon them to the trustees in time for their February meeting. The clerk reported that the following plans had been sent in:—Mr. John Askew had sent in a plan for a dock on the south side; Mr. Thomas Fearon a plan for docks on the north and south sides; Captain Joseph Bell, a plan for an extension of the harbour, but neither by means of a wet dock nor a tidal basin; Mr. George Dawson, a plan for a dock on the north side; Dr. Fox, a plan for a dock on the north side; Mr. Miller, a plan for a dock on the south side; and a shipowner has sent a plan for a dock both on the north and south sides.

LIBRARIES FOR WORKMEN. — Means for rendering the toil of the working classes less tiresome, and of enabling them to enjoy the blessings of life without that galling of the yoke to which the mere animal of labour is subject, are most desirable. Mechanics' institutes, libraries, and similar institutions for the improvement of the people, are acknowledged as resulting in much good, an example of which has been shown in the conduct of the population of Lancashire in one of the severest trials which the country has undergone. We have for many years recorded the efforts made in large establishments in this direction, and have more than once noticed the library connected with the printing-office of Messrs. Cox & Wyman, Great Queen-street (where the *Builder* is printed). We are glad to see the subject discussed generally by the press, and hope that few places where large numbers are employed will be without their library. We have before us the annual report of the library of the printing-office mentioned, which was read at a meeting of the members by Mr. J. Bate, the chairman; and we are led to repeat the expression of our hope that the example set will be numerously followed.

A NOVEL BUILDING AND A LUCID EXPLANATION.—The following paragraph appeared in a contemporary:—An uncommon building undertaking.—Near the post-office, Earlswood, a female has possessed of a piece of ground, on which she has commenced erecting a house. The unusual occurrence is, that she is her own surveyor, and carries on the work without any assistance. It appears the house, when complete, is for her own dwelling; but, judging from the present appearance, it certainly will not be very ornamental. Where the door and windows are to be seen is a query to all those who have observed the erection, as no openings are to be seen at present. What is her own business, and concerns only herself. We have received the following explanation, which we insert *verbatim et literatim*:—An uncomon Buildin near the Post office Earlwood ney maid to hasty A look at it if they had gon the Back they would hav seen A small window and A Door but Strangely maid that is why I put it at the back I should like nice Windows and floor but I have no Money to get them with nor have no Money for the Slates or Flawer any Person that have seen it I hape will have the Kindness to send me A small amount to help to Buy thim and will be most thankfully recived.—S. B———, Horwick Town, Rigate.

THE WOLVERHAMPTON SEWERAGE. — At a recent meeting of the town council of Wolverhampton, a resolution, moved by Alderman Banks, the chairman of the sewerage committee, was passed, to the effect—"That this council being of opinion that there exists an imperative necessity for immediately proceeding with the scheme for the general sewerage of the borough, which received the sanction of the council on the 13th of January, 1862, directs the sewerage committee, as a preliminary proceeding towards the carrying out of the same, to employ a competent person to examine and report upon the said scheme as to its levels, sections, and other matters of detail."

THE BRIGHTON DRAINAGE QUESTION.—At the last council meeting at Brighton, Mr. B. Webb asked the chairman of the Works Committee (Alderman Bowdidge) whether the maps and plans with reference to the drainage were ready? So much delay had taken place, that it was high time something was done. He supposed the surveyor possessed all the maps. Alderman Bowdidge replied that the plans had been ready for some time: they should not go to any more expense, but come to the council to know whether the maps should be prepared in the way proposed by the surveyor or not. He did not know when the meeting between Messrs. M'Clean and Wright and the council would take place.

FALL OF THE LYTHAM LIGHTHOUSE. — The most serious of the many disasters recorded of the late gale on the Lancashire coast is the fall of the Lytham Lighthouse, which stood on a point called the "Double Stanners," between Lytham and Blackpool, close to the high-water mark. Considerable fear had been entertained for the safety of the erection for some time past, in consequence of the great encroachments of the sea on this part of the coast; and many workmen had recently been engaged in driving piles around its base, and more particularly in the front facing the sea. The keepers had left the building, as they found it was vibrating in the most alarming manner during the storm of the previous night, and to much greater extent than had been previously experienced. The framework of the piling in front of the lighthouse had given way, and a great portion of the foundation had been undermined by the waves. Soon afterwards it was discovered that the north corner of the masonry was worked out, and the foundation laid bare down to the bottom, below the concrete, there being a large hole filled with water 3 feet below the foundation. The tide during two successive nights and days made great havoc in the foundation, when the whole building at length fell down. It is also stated that the screw pile light in Morecambe Bay, at the entrance of the Wyre, about twenty miles north of the Lytham Light, is now extinguished, owing to the insecure state of the erection, through the collision of a vessel with it.

RAILWAY MATTERS.—The traffic receipts of railways in the United Kingdom amounted for the week ending the 17th of January, on 10,588 miles, to 486,870*l.*; and for the corresponding week of last year, on 10,193 miles, to 461,560*l.*; showing an increase of 395 miles, and of 25,310*l.* in the receipts.——According to the *Patrie* on 1st January, 1863, the whole net-work of French lines conceded or sanctioned was 18,430 kilomètres (11,520 miles), of which 11,098 kilomètres (6,936 miles) are at present opened to the public. The expense calculated on for terminating the concessions already accorded is estimated at not less than 2,000 millions of francs, and the charges of the State, in money or works, will be about 350 millions. The journal then goes on to say:—From 1860 to 1862 the companies which had obtained concessions of railways have expended nearly one milliard of francs for the continuation of their task. Since 1860 the Government, which has taken on itself a part of what is to be accomplished, has devoted to the work a sum of about 90 millions.——In the kingdom of Wurtemburg all the railways have been constructed by the State. The net revenue which they produced in 1862 amounted to nearly 6½ per cent.; whilst the different loans contracted by the Government for the construction of those lines were obtained at an average interest of 4 per cent. The working of those railways now forms one of the principal resources of the budget of that State. Among the other German Governments, Hanover, the Grand Duchy of Baden, and the Duchy of Brunswick, have also constructed all their lines, which have as yet produced a revenue of from 4 to 6 per cent. In Bavaria and Saxony the greater part of the railways belong to the State; but in Prussia the Government has only constructed those of Westphalia and that from Berlin to Königsberg and the Russian frontier.

A ROYAL EDITOR.—Macaulay's New Zealander is preparing the way for his grand stand on the ruins of London Bridge. Catalri, one of the Maori kings, has just published the first number of his new *Gazette!* He says: "The press which has arrived at Ngaruawahia,—from it proceeds the newspapers,—exceedingly powerful to settle matters! When it comes to you, the price is threepence: pay it if you approve. The good of this press is to carry our intentions to the tribes of the world; because steadfastly fixed are the words of the beginning—'Faith, love, law!'" An excellent motto for a savage to begin with.

THE PROPOSED POPULAR SANITARY SOCIETY.—Since this society was suggested in the *Builder* we have had a good many letters approving and urging the realization of the idea, and we are also glad to observe that it has been taken up by other members of the press. Although the communications are not yet numerous enough to justify the foundation of the society, we hope this will ere long be the case; meantime we would advise those who have taken an interest in the subject not to lose sight of it, nor to imagine that it has been dropped merely because no active steps for the establishment of the society have as yet been taken.

WORKING MEN'S CLUB AND INSTITUTE UNION. During last week the Rev. H. Solly, of London, secretary of the above Union, has visited Birmingham and South Staffordshire for the purpose of promoting the establishment of working men's clubs in this important manufacturing centre. Meetings have been held in Birmingham, Dudley, Stourbridge, Wolverhampton, and West Bromwich; and in each place steps are now being taken for carrying out the object of the union. In Wolverhampton there is every prospect that a sum of nearly 300*l.*,—the proceeds of a series of entertainments for the working classes,—will be devoted to fitting up suitable club-houses. The South Staffordshire Educational Association is warmly supporting the movement, and there seems every reason to hope that in a very short time these clubs will be opened in all the important towns of that populous neighbourhood.

MACHINERY FOR CUTTING MOULDINGS.—Mr. James Simpson, of Hulme, Lancashire, has invented machinery more particularly applicable in the manufacture of "mouldings" by hand, but steam or other power may also be applied to the apparatus. The machinery or apparatus, as described, with illustrations, in the *Engineer*, consists in a heavy bar of metal or wood, supported upon a shaft at the centre of the length, this shaft having bearings in a suitable framing. At one or each end of this bar or block a blade or cutter is secured, so formed as to cut the material under operation into the form or moulding required; the bar being caused to rotate by means of a handle on the centre shaft; a self-acting feeding apparatus being provided to propel the wood. The action of the cutters upon the material partakes of a chipping nature; the chief feature in the invention being the distance of the cutters from the centre of support, whereby more leverage is obtained, and greater steadiness is effected in the cutting; the high velocity of revolution not being required, as in smaller revolving cutters.

ALARM OF FIRE AT ASTBURY CHURCH, CONGLETON.—When the warming apparatus, lately put into the restored church, was adopted, an old flue was made use of to carry the smoke from the new fire-hearth, which is situate twenty yards off, under the churchyard wall. From this the flue passes under the churchyard to the church, and there ascends by a new course made in the thickness of the wall to the middle chamber, whence it continues up the old flue to the top. The old open fireplace was closed up, but before doing so it was noticed that the joints of the first-floor were inserted right into the chimney. They were removed and all made safe in that quarter, but the same defect of construction was suspected to exist, and as it now turns out, truly, in the upper floor and in the roof itself; and yet this most unsafe state of matters thus admittedly suspected was allowed to remain just as it was, although with the greatly increased risk arising from modern ideas and arrangements for warmth and comfort. Probably, however, no danger was apprehended from the fireplace being at so great a distance. Last week a fire was accidentally discovered to be taking hold of both rafters and boards of the upper roof close to the chimney, and the lead was beginning to drop molten from it. A supply of buckets full of water soon put an end to all mischief and fear, notwithstanding the fanning of the fire by the violent westerly gale which blew all night and morning. Another half hour and all would have been too late.

HORRIBLE MUTILATION.—A shocking accident has happened to a slater, under the following circumstances. The unfortunate man was in the act of cutting a slate slab with a circular saw, at Mr. Sharp's, slate cutter, Tooley-street, when the slab slipped and he fell on the saw, and in a moment his shoulder and arm were cut off. His cries brought assistance, when the machinery was stopped, and he was conveyed to Guy's Hospital, where every assistance was rendered; but he remains without the slightest hopes of recovery.

PARISIAN FIRES AND FIRE BRIGADE. — The Londoners have just received a strange awakening by the publishing of the Paris fire-statistics, from which it appears that Paris, with its one million of inhabitants, has, in the past year, had but 206 fires; while London, with its three millions, has had 1,303; but Paris has nearly 1,000 well-trained firemen, while London has less than 200! It should, by comparison, be 3,000! Probably this fire news from Paris will induce our metropolitan authorities to extend and consolidate their present system.

HALIFAX SCHOOL OF ART.—This school is being re-opened with improved prospects. The school has been painted and made much more convenient than before. Mr. C. Ryan, till lately one of the head masters of the Leeds School of Art, has been appointed to this school; and an assistant master—Mr. T. W. H. Robinson—has also been added to the staff. A course of art instruction is about to be given by Mr. Ryan, and prizes have been offered for competition in the school by the president, Colonel Akroyd; by the mayor; Sir F. Crossley; Mr. Stansfeld; and others interested in art progress.

THE PLAYGROUNDS IN VICTORIA PARK.—A memorial, signed by a number of influential persons, including the names of Rothschild, Duke, Grote, Layard, and many others, has been presented to the Commissioners of Works and Public Buildings, representing that many clerks and working men employed in the City have, in consequence of early closing on Saturday afternoon, taken great delight in the establishment of cricket clubs, and that they play in a portion of the Victoria Park set aside for the purpose. The ground thus used is, however, rough, and the space is so limited that accidents frequently occur with the balls. The memorialists therefore respectfully request that inquiry may be made as to the practicability of forming a properly-kept and more extensive cricket-ground for the use of the poorer classes who reside in such vast numbers in the east of London.

SCULPTORS' COPYRIGHT.—Mr. Smith, sculptor, of Mount-pleasant, Liverpool, brought an action, which was tried before the Liverpool magistrates, against Mr. Reynolds, waxwork proprietor, Lime-street, Liverpool, to recover compensation, under the Statuary Copyright Act, Mr. Allsop having copied a bust of Tom Sayers which had been modelled by him. The facts of the case were these:—Smith executed a bust of Sayers some time about the middle of last year, and registered his copyright. Reynolds, however, obtained a copy from some person in Liverpool and proceeded to make a "pieced" model of it. When the proceedings were instituted, Reynolds had cast several copies; and, as Smith alleged, had sold about forty. Reynolds admitted that he had made the models, but denied that he had sold any. The penalty prescribed by the Act was the payment of a sum of not less than 5*l.* and not more than 30*l.*, the penalty to go as damages to the plaintiff. The magistrates inflicted a penalty of 20*l.* and costs.

CANDELABRA FOR THE NIZAM OF THE DECCAN. We are informed that Messrs. Defries & Sons, the manufacturers of the monster Crystal Chandelier and Candelabrum, in the International Exhibition, the latter of which, no doubt, many of our readers will remember was erected only during the last month before its close, have just concluded a contract for the construction of five similar candelabra for the Indian prince above named. It may be taken as indication of the progress which European, and more particularly British, influence is making in the Eastern world. The candelabrum is to be fitted for 144 lights, and so are also the other four which have to be made, but in those coloured cut-glass, of various tints, is to be introduced. The scene produced by the illumination of those five gigantic candelabra, with their 720 lights, will be something startling. The palace in which these candelabra are to be used, is now in the course of erection for his Highness the Nizam, and Messrs. Defries are to execute for the same palace two prismatic mirrors similar to those supplied by them to the late Sultan of Turkey. The entire cost of the candelabra and mirror is 15,000*l.*

BELFAST HARBOUR ENGINEER.—At a meeting of the Belfast Harbour Commissioners on the 20th inst., for the appointment of a resident engineer, the following six candidates, who were selected out of forty-eight who applied, were sent for:—Messrs. J. Mitchell, Manchester; R. Salmond, of the Clyde Navigation; Peter Stuart, Harrogate; C. J. Casebourne, Hartlepool; J. Thomson, Greenock; and J. Lizars, Liverpool. Ultimately, Mr. Lizars, was elected.

INSTITUTION OF ENGINEERS IN SCOTLAND.—The usual monthly meeting of this institution has just been held; Mr. W. Johnstone, president, in the chair. Mr. J. E. Napier read a paper on an "instrument for drawing nails from timber," illustrating his remarks by exhibiting the apparatus. Mr. Napier also read a paper on "an addition to a steamer's bilge pumps," and explained it by reference to diagrams. On both papers discussions followed. Mr. Gilchrist then exhibited part of a corroded shaft of a screw propeller, and explained how extraordinarily quick had been its corrosion; throwing out a few suggestions as to the cause thereof. It was reported that the joint committees of the Philosophical and Engineers' Societies were actively engaged in making arrangements for the approaching *conversazione*, which is to be held jointly by these institutions on the 11th of next month.

YORK GUILDHALL WINDOWS. — A memorial window is about to be erected to the late Mr. Alderman Meek, in the York Guildhall; and as the intention has been to remove the old stained glass in the western window and replace it by the proposed memorial, the committee have been memorialized on the subject by several influential gentlemen who object to the removal of the present glass, which is now 200 years old, and is the best specimen of Edmund Gyles's art-workmanship. The memorialists suggest that one of the side windows might be chosen for the memorial, and remark that probably the example thus set would lead to the insertion of stained glass memorials in the other side windows. The memorialists, we think, are quite right in urging that the old glass should not be removed, and that side lights should be filled in the way suggested. Let each period leave its own marks.

STATUES AND MEMORIALS.—Messrs. Dennis Lee & Welsh have just placed under the statue of the late Mr. Baines, at Leeds, a block of polished granite. In front of this pedestal is the inscription, carved in letters of gold.——The inhabitants of the village of Studley, in Wiltshire, have hitherto been obliged to carry their drinking-water from a distance, or to get it from private springs. A well more than 80 feet deep has been dug, and over it a pump of Gothic character, with a drinking-cup, has been placed, in resemblance of the ancient conduits. Above this is a memorial stone erection in the Decorated Gothic style, consisting of an arched recess, supported on shafts and embellished with carved corbels. Between the arch and the gable is a niche for the inscription, and the whole is surmounted by a floriated cross, giving a total height of 30 feet from the ground. The well and canopy are erected to the memory of the late Mrs. Hardman, of South Hill, Toxteth Park, Liverpool, and of Studley Parsonage, by her only son, the Rev. J. W. Hardman, A.M.

SAWDUST FOR STABLES.—One of the papers reports Dr. Dodd as objecting to the use of dry sawdust as a litter for stabled horses, on the ground that it absorbs the natural and healthy moisture from the hoof, and renders it brittle and dry, and so leads on to cracked and contracted feet, to corns, and similar diseases. I had supposed this "eminent veterinarian" too sensible to hold such an opinion. If the pores of a horse's hoof were open and coarse, say like a piece of sugar or sponge, the sawdust might absorb moisture from them injuriously. If I lay a sponge on my hand it does not take up its moisture. If I spread sawdust on my hand it will absorb whatever perspiration or other wetness there may be on the skin, but it will do nothing more. So sawdust will take up whatever liquid manure there may chance to be on the floor of the stable, but it will not suck moisture out of the horse's hoofs. In my own practice I have long used sawdust to keep the horse's feet moist, though I do not for this purpose use the dust in a dry state. I spread it over the entire floor, two inches thick, sprinkling that which is under the fore feet with water, just enough to keep it moist. The dust under the hind feet gets moistened in other ways. By this means the hoof is kept soft and moist, almost as much so as if the animal were running at large in a pasture. Of the valuable liquid manure saved in this way, I need not now speak.—*Correspondent of the American Agriculturist.*

LESSOR AND LESSEE.—It has been decided by the Lords Justices, in the case of Ogden *v.* Fossick, that the Court of Chancery will not decree specific performance of a contract for a lease of premises, where one of the stipulations of the contract is that the lessee shall engage the personal services of the lessor in the business to be carried on upon the premises.

FATAL FALL OF A CHIMNEY-STALK AT STEPNEY.—During one of the late strong gales the chimney-stalk of a small house at Stepney fell upon the roof, which it drove inwards, covering a bed on which a man and his wife and two children lay; and killing the woman. The family had only been three months in the house. The coroner's inquest has been adjourned for inquiries as to the state of the premises.

CIRENCESTER CHURCH. — The committee at Cirencester are issuing their appeal to the county of Gloucester, and to the public generally, for the requisite funds for restoring and repairing their fine parish church. The sum of necessity required for substantial purposes is stated at 12,000*l.*, in which the ornamental parts are not included. The inhabitants have raised 6,813*l.* thus far.

BOOKS IN ENGLAND.—It would appear, from statements in the "Publisher's Circular," that the total number of books published in the United Kingdom last year was 4,294; or, deducting American books and books mentioned more than once because of variation in price or otherwise, 3,913. In other words, for every working hour between morn and eve, some new work is added to the enormous mass of publications of bygone years.

TENDERS.

For parsonage, St. Stephen's, North Bow. Mr. James Tolley, architect:—

Carter & Son	£1,220 0 0
Hack & Son	1,179 0 0
Watts	1,137 0 0
Browne & Robinson	1,125 0 0
Emery	1,070 0 0
Perry & Judson (accepted)	990 0 0

For new sewers and roads, Hornsey Park Estate. Mr. J. Lovegrove, C.E.:—

Johnson	£438 0 0
Carnall & Tracey	338 15 6
Haynes	312 0 0
Pearce	300 15 0
Ayers & Mallow	295 5 5
Brock	275 5 0
Sharon	240 0 0
Wood & Sons (accepted)	239 0 0
Ley	213 10 0

For a pair of semi-detached houses, in the York-road, Tonbridge Wells, for Mr. C. R. Fletcher Lutwidge. Mr. W. Bond, architect:—

Carpenter's Work.	
Pink	£850 10 0
Bricklayer.	
Mercer & Cornfield	973 0 0
Plasterer.	
Twort	389 10 0
Plumber, Painter, and Glazier.	
Soper	296 0 0
Mason.	
Harland	169 0 0
Smith and Ironmonger.	
Catt	52 18 6
Total	2,682 18 6

For a detached villa, Tonbridge Wells, for Mr. G. Godson. Mr. W. Bond, architect:—

Piddlesden	£700 0 0

For building the first portion of a mansion for the Right Hon. Lord Ashburton, at Melchet Park, Hants. Mr. H. Clutton, architect, New Burlington-street. Quantities by Mr. Crocker.—

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Parsons	15,154 0 0
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Clark & Menzoech	717 0 0
Phillips	716 0 0
Sapwell	699 0 0
Airey & Bellingham	693 0 0
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Bond	1,324 0 0
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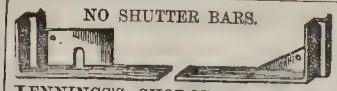
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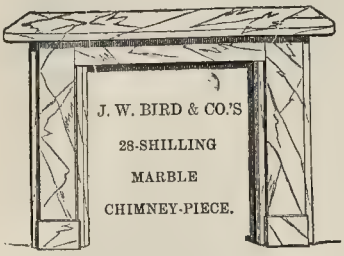
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S. WORSSAM & CO. beg to announce that they have purchased of Mons. Perin, of Paris, the exclusive right to SELL his celebrated BAND SAW BLADES (the superiority of which is universally allowed) in the United Kingdom. S. W. & Co. have always a large assortment of these Saws at their Works, 361, KING'S ROAD, CHELSEA, S.W. where also the Band Saw Machine exhibited by Mons. Perin in the Western Annexe, International Exhibition, is now on sale.

A HIGHLY-FINISHED 10-Horse Power High-pressure STEAM ENGINE.
A Second-hand IRON RACK CIRCULAR SAW BENCH, and A small DOUBLE MOULDING MACHINE, TO BE SOLD cheap Apply to S. WORSSAM & CO. Saw Manufacturers, King's road, Chelsea, S.W.

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MARBLE & STONE CHIMNEY-PIECES FOR THE MILLION.



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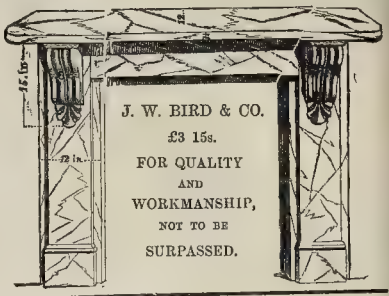
A Stock of 500 always to choose from at

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A Marble Box Chimney, with 8-inch piers, as Illustrated, for 28s. and fitted to any opening up to 3 feet square.

STONE DITTO, WITH BEAUTIFUL MOULDED CAPS, FOR SEVEN SHILLINGS.

Monuments and Tablets in great variety, equally low in price.
Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.
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G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, at the INTERNATIONAL EXHIBITION, 1862. Class 10 C; and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

THOMAS MILLINGTON,
GLASS, LEAD, OIL, AND COLOUR MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.

	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
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300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1½	1¾	2	2½
„ 2ft. 6in. sup.	1½	1½	2¼	3
4 ft. super...	1¾	2	2¼	3¼

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
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Ruby, in sheets, 10d. per foot.	
Green do.	10d. do.
Blue do.	6d. do.
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Rosettes, various sizes and colours.

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16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
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16 oz. in Sheets, 3½d. per foot.
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MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

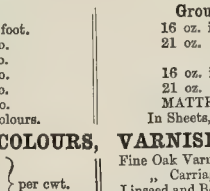
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Genuine White Lead .....30s.	Fine Oak Varnish ...
Anti-corrosian Paint 28s. to 34s.	„ Carriage ...
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Milled Lead in Sheet and Pipe, 21s. 6d. per cwt.
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Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

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PUMPS
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WELL-BORING TOOLS,
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OF ALL SIZES.

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WINDOW GLASS! WINDOW GLASS! Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Cathedral and Ornamental, Rough, Rolled, and Patent Plate. Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at GRIBY'S CITY GLASS WAREHOUSE, 47, Chiswell street, opposite Whitbread's Brewery, E.C.

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CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
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30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Cross-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

ASHTON COURT ESTATE COMPETITION, near Bristol.—300*l.* Premium.—A Surveyor having prepared a MODEL of the above ESTATE, will be happy to forward a CAST thereof on receipt of two guineas.—Address, JOHN LAVARS, Broad street Hall, Bristol.

BRIDGES, by the foot run or mile, in iron or wood, for clear spans, from 30 to 1,500 feet, for rail river, road, lark, or gorge. "Selley's Patent," stronger, lighter, and cheaper than any other, and perfectly rigid.—Apply to PATENTEE, or W. HUMBLER, Esq. C.E. 20, Abingdon street, Westminster. Admirably adapted for colonies and export.

NOTICE.—Builders and Decorators will find superior and unparalleled advantages in MEAD'S PATENT STAINS, comprising the rich oak, satin wood, walnut, Spanish mahogany, &c.; they far surpass anything ever seen, and entirely supersede paint for the interior woodwork of dwelling houses, being admirably adapted for the castle, the magnificent hall, the library, the drawing-room, and the miniature cottage; also for church work, merchants' and bankers' offices, railway stations, schools, &c. &c. To be had of T. J. HUGGS, 3, Brunswick-place, City-road, E.C.; and at the Works, Abridge, Essex. Price 8s. per gallon. Post orders will have best attention. The above merits special notice. The chaste and beautiful effect given to work finished with them, and great saving in time and expense, are highly appreciated by the most experienced workmen.

FOR immediate DISPOSAL, at low prices, TWO 2 horse BRICK-CARTS, ten 1-horse ditto, twelve dobbin carts, two joiner's carts, two timber carriages, one builder's van; also three waggons and several light traps, all new. May be seen at GEORGE ELL & CO'S Euston Works, 366 and 368, Euston road, Londo n, N.W.

WANTED, a DREDGER, on hire or purchase. Ought not to exceed 15 feet beam and 70 feet length, and capable of passing under bridges with only 8 feet headway, and of cutting 8 to 10 feet in depth.—Apply, stating terms, to N. BEARDMORE, C.E 20, Great George-street, Westminster, S.W.

TO BE LET, a DREDGING BOAT, in excellent repair, fitted with machinery combining all the latest improvements. Will dredge 8 feet deep, and is well calculated for river work. Her width does not exceed 11 feet, and draught of water 3 feet. May be seen at Peterborough, by applying to Mr. WM. READ, Boatbuilder.—For further particulars inquire of Mr. GEORGE SIDDONS, Oundle.
18th January, 1863.

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100,000 Dry Prepared Flooring Boards ..... from 11s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
8,000 Yellow Deals ..... from 3s. 3d. each
15,000 Spruce ditto ..... from 2s. 9d. each

50,000 feet Spanish and Honduras Veneers from 1d. per foot
5,000 Yellow Battens ..... £11 10s. per 120
2,000 Spruce ditto ..... £9 per 120
Scaffold Poles ..... 1½d. or 1¾d. per foot

FIR TIMBER 55s. PER LOAD.

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ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	White (not Spruce).	Yellow.	
¾-inch Flooring	11s. 6d. to 12s. 0d.	13s. 0d.	per Square.
1-inch ,, ...	12s. 0d. to 13s. 0d.	13s. 0d. to 14s. 6d.	,,
1¼-inch ,, ...	14s. 6d. to 16s. 0d.	15s. 6d. to 18s. 6d.	,,
1½-inch ,, ...	18s. 0d.	20s. 0d. to 22s. 0d.	,,

YELLOW DEALS, 3 by 9, from... £16 10s.

Yellow Battens ..... £11 10s. per 120
½ White Matched Lining ..... 12s. per square.
¾ Yellow ..... 16s. ,,

J. TERRY & SON, 109, BOROUGH ROAD, S.E.

FLOORING, MOULDINGS, DEALS, MAHOGANY, & .

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from.....	12s.	12s. 9d.	13s. 6d. per square
¼ by 7 ,, ...	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,, ...	15s.	15s. 6d.	16s. 6d. ,,
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180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

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WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.

SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

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GREAT SAFFRON-HILL, HOLBORN,

OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

JOINERY OF EVERY DESCRIPTION.

STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

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Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot houses, and Conservatories, on the most improved principles.

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Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE-FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.				Laths, 28s. per Load.	
Yellow Deals, sound and good	£19	10	0 per 120, or 0s. 3½d. per foot.		
Spruce Deals	16	10	0 ,,	0	2½ ,,
Yellow Battens, excellent quality	11	10	0 ,,	0	2 ,,
Pine Planks, dry, 12 feet 3 inches by 11 feet	21	0	0 ,,	3	6 each.

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

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At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

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NEVIL SIMMONDS,

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SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, seasoned two years.

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CONTRACT to MANUFACTURE and LAY WOOD PAVING, of every description. It is particularly adapted for RAILWAY STATIONS, ENGINES, SHOPS, IRON BRIDGES, &c.

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Genuine White Lead, 20s. per cwt.; Linseed Oil, 3s. 4d. per gallon; Boiled Oil, 3s. 8d.; Turpentine, 8s. per gallon; Fine Pale Oak Varnish, 9s. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 142 and 144, Whitecross street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

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Fine Pale Oak Varnish, 9s. per Gallon.

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And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

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MORDEN WHARF, EAST GREENWICH.
EDWIN HOLLICK,
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COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.
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Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS. FLOORING, and INTERNAL STUCCO, on account of its superior hardness.
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CHALK LIME BURNERS, AND GREYSTONE LIME MERCHANTS
MANUFACTORIES AND WHARFS:
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GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.

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PLASTERERS' HAIR. LATHS.

PLAIN PAN RIDGE and FOOT TILES.

CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.

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SAND, POTTERY WARE, &c. &c.

Orders and Letters addressed to 3, Canal road, Kingsland; or to City Offices, 79, King William-street, City, will receive immediate attention.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble — Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which it is usually applied. Orders received at Grest Scotland yard, Whitehall, and at the Works.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade
Portland Cement is manufactured at these works with especial reference to its destination, whether for stucco, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, SIGNBOARD DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

STOURBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

GREY STONE LIME
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND-STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and PHŒNIX HILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

STRINGFIELD & BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & R. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD & BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

SOFT CHALK, of very Superior Quality will grind and wash with less than half the labour than any other known; free from grit or rubbish, at EPSOM LIME-KILN.—Forwarded from Epsom Stations to all parts on the South-Western or the Brighton lines (within 15 miles) at from 6s. 6d. to 7s. 6d. per ton, carriage free. References to persons using it. One trial will prove.—W. HOPMAN, Ewell, Surrey.

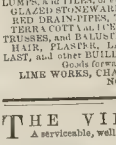
PLASTER OF PARIS.—The only London maker, the best and the oldest established (1830), is ROBISON, Mount Pleasant, Gray's Inn road. The cheap country-made article is bought and sold by nearly all the dealers, agents, and pretending manufacturers, careless as to quality. Superfine and fine Plaster fine ground.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works.—All communications to be addressed to the Company, at their Offices, 3, Winchester-buildings, Great Winchester-street, E.C.
N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH. The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

F. & G. ROSHER,
LIME, CEMENT, AND BRICK MERCHANTS,
LONDON WHARFS —
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Where may be obtained, or delivered, of the best quality:—
GREY STONE LIME, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENES, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOUBLE JAMBS.
Pale, fine lotte WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SEWER BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE and CROWN PAVING-TILES, in RED, BLUE, and BUFF, also GARDEN EDGINGS.
TRIPLO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS
RED, BLUE, and ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
BUFF, BLUE, ENGLISH, and WHITE GLAZED TILES, for Wall Linings of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY POTS.
TERRA COTTA CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; but to strike, from Fifteen to Twenty Guineas; adapted for the village church or school



INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,243.
JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,
Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches		8 Guineas.
Gentlemen's do. do.		10 "
Ladies' or Gentlemen's Gold English Lever Watches		18 "
Strong Silver Lever Watches		5 "
Gentlemen's Gold Compensation Balance Watches		40 "
Do. Silver do.	do.	25 "
Marine Chronometers		35 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange, and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, SIEFS, &c.
DOBBIN and other CARTS, specially adapted for exportation, with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.
Price Lists on application.
GEORGE ELL & CO.
EUSTON WORKS, 266 and 268, EUSTON-ROAD, N.W.

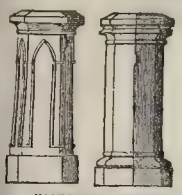
JAMES STIFF & SONS,

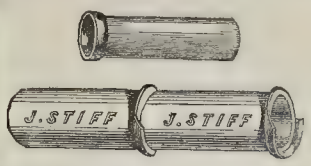
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s 6d.



TRAP, 2s.

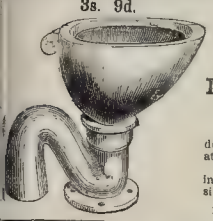
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions limited, in the event of requiring further connections.

Manufacturers as sole of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilating Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

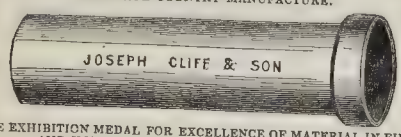
In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY,



Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE, BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF No 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

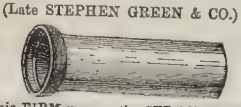
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED SANITARY GOODS.



FLUSHING CLOSETS, URINALS, CHIMNEY-FLUES, &c.

N.B.—No MEMBER of this FIRM was on the SUB-COMMITTEE of CLASS 10 or 35.

BARTLETT, BROTHERS, & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

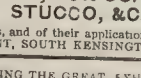
For the Preservation of Stone, Cement, &c.;

PATENT SILICEOUS PAINT, FOR COATING STONE, CEMENT, STUCCO, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen at the CONSTRUCTIONAL DEPARTMENT, SOUTH KENSINGTON MUSEUM.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862

By Her Majesty's



Royal Letters Patent.

T. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,

Manufacturers and ONLY Patentees of

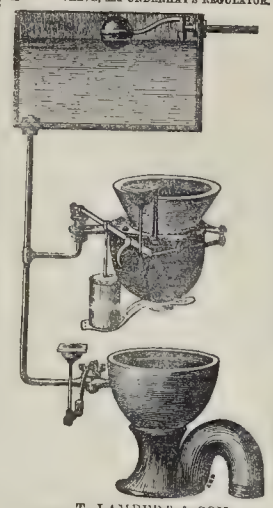
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronised by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

ld by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal ricultural Society's House, in Hanover square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, w, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE NNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of m of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of town or country. DRY HAIR FELT, for coating Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is ected. The TRADE are respectfully requested to send their orders DIRECT to the FACTORY, as the surest means of being supplied with oofing article, and in lengths best suited to their roofs. The original works where the above roofing is made are T. McNEILL & CO.'S Manufactories LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT, to be seen at the CAMPS of ALDERSHOTT, ERAGH, SHORNCLIFFE, and COLCHESTER (upwards of Three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, ear One Million Feet. A Liberal Discount allowed to the Trade.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.

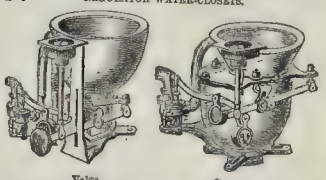


T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

OSLEY POTTERY WORKS,
GLASGOW.

Messrs. R. H. PENMAN & CO. from Staffordshire. Manufacturers of the best description of EARTHENWARE GOODS for Sanitary Purposes required in private and public buildings, supply the Trade, Wholesale, at the lowest possible prices for Cash. The Wares sent by their customers to the late Exhibition was highly spoken of.

J. TYLOR & SONS' PATENT
REGULATOR WATER-CLOSETS.

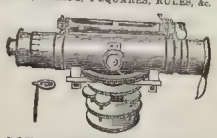


Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cistern valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate-street, London.

THE NEW STUDIO EASEL.
Very Simple and Efficacious.
WINDSOR & NEWTON, Manufacturers,
38, Rathbone-place, London.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTELS SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre.

Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

SECOND-HAND MATHEMATICAL INSTRUMENTS, by Elliott, Troughton & Simms, Dolland, and others. The Cheapest House in London is WM. LAWLEY'S, 73, Farringdon-street, City. Bow Pens, by Troughton & Simms, from 1s. 6d. each. Second-hand Telescopes, Opera, Race, and Tourists' Glasses, by Voigtlaender, Dolland, and others. Instruments, Telescopes, &c. bought or exchanged.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13.
Only Medal awarded for "excellence of construction of Mathematical Instruments."

T SQUARES.—W. F. STANLEY,
late STANLEY & ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42 inch, 5s and 7s 6d; 44 inch, 5s 6d and 8s 6d; 36 inch, 2s 6d, and 4s.

Mathematical Instruments of every description of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Reds, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use.

Lists of Prices on application

3, GREAT TURNSTILE, HOLBORN,
LONDON, W.C.

Price 2s. 6d. post free,

STANLEY'S IMPROVED DRAWING PEN.

SALES BY AUCTION.

150 Tons Best Scrap, Rod, and Bar Iron.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, FEBRUARY 11, 1863, at ELEVEN for TWELVE o'clock, at the SWALWELL IRON WORKS, near Newcastle-upon-Tyne, in Lots, The Tons Best SCRAP, ROD, and BAR IRON, as rolled 3-cwl. mendfactured by Crowley, Millington, & Co. low lying at the Swalwell Works.—To be viewed at the Works on the morning of sale. Catalogues may be had on the Premises; at the Station Hotel Newcastle; at the "Midland Counties Herald" Office, Birmingham; of Messrs. VANDERCOM, CREE, & LAW, Solicitors, Bush-lane, London, E.C.; of Messrs. CHARLES BROWN & DUBOIS, Accountants, No. 10, Basinghall-street, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C. Approved bills at three months' date will be taken from purchasers to the extent of 50l. and upwards. There is every facility for removing the iron by water-carriage.

TO IRONMONGERS, BUILDERS, ENGINEERS, SHIP CHANDLERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on MONDAY, FEBRUARY 16, at ELEVEN o'clock, on the PREMISES, Swan-lane, Upper Thamesstreet, in lots, without reserve, the entire and continuous Portion of the extensive STOCK IN TRADE of Messrs. Cayley, Millington, & Co removed from the works in Newcastle, including many tons of cast, shear, and blister steel; many tons straight flange, gunmetal, brass saws, or chains, timber and trade chains, ships' ironmongery, hooks, thimbles, &c.; export ironmongery, and a general assortment of black ironmongery; also the warehouse fixtures, crane, cast-iron columns, day-light reflectors, Milner's safe, counting-house and gas-fittings, &c.—To be viewed on Saturday previous and morning of sale, when catalogues may be had on the Premises; of Messrs. BROWN & DUBOIS, Accountants, 10, Basinghall-street, of Messrs. VANDERCOM, CREE, & LAW, Solicitors, 23, Bush-lane, Cannon-street; and of Messrs FULLER & HORSEY, 13, Billiter-street, E.C. Approved bills at three months' date will be taken from purchasers to the extent of 50l. and upwards. The Warehouses to be let, with immediate possession.

INTERNATIONAL EXHIBITION, 1862.—The Materials of the Annexe, Shafting, Risers, Columns, and Steam-pipes used for showing the Machinery in motion, at Lowpline Plant

MESSRS. FULLER & HORSEY are instructed by Messrs. Kelk & Lucas to SELL by AUCTION, on TUESDAY, FEBRUARY 24th, 1863, and following days, at ELEVEN each day, at the Building, in lots, the capital, sound MATERIALS of the ANNEXES, the shafting, columns, steam boiler, and steam pipes used for driving the machinery in the Western Annex of the International Exhibition Building, and the surplus plant. Also intimated lots for carrying the roofs, each 40 ft. span, 20 ft. high; 1,200 superior 1-in. roofing boards, 1,500 square glazed skylights (16 oz. glass), 2,500 squares 1-in. and 1¼-in. flooring-boards, 150,000 ft. run joists, 8 in. by 2 in.; 25,000 ft. run plates, 9 in. by 3 in.; 100,000 ft. run quartering, 6 in. by 2 in. and 4 in. by 3 in.; 2,000 squares 1-in. dressed match boarding, 400 squares rough ditto, 10,000 ft. glazed sash-bars, 12,000 ft. Danby timber in flitches, 12 in. by 6 in., 2,500 yards cast-iron gutters, 7,000 ft. tie sleepers, 12 in. by 4 in.; 20 strong-framed trollies, 20 fluted cast-iron columns, 10 ft. 8 in. high with turned light caps, and bases, and bow plates, with bolting down bolts; 2 wet feet bright turned wrought iron shafting, 2½ to 3¾ in. with couplings and collars attached; 2 patent multitubular steam boiler of 30 horse-power; 2 turned riggers, 2 ft. to 4 ft. 6 in. diameter; 3 pair spur mitre-wheels, 200 cubic yards light and flanged cast iron steam pipes, from 2 in. to 18 in. diameter, with expansion joints, valves, &c.; 11 derrick cranes, from 1 ton to 6 tons, by Bowser, Cameron, & Co.; erection of steam boiler-house, with corrugated iron roof and circular chimney-shaft; 100 rods new brickwork; erection of gantry, 65 ft. long, with two travellers, 5 tons at 11½ tons, 20 ft. span; erection of water closets and urinals; 125 expensive oak spring-shift iron levers, adapted for picture galleries; half-a-ton 4-2 double and single sash, with iron standards; and numerous other effects.—To be viewed on Saturday and Monday previous to the sale, from NINE to FOUR o'clock when catalogues may be had. No. 1 to 3 Lots will not be admitted, may be had at the building, or present only of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

N.B. Approved bills at three months' date will be taken from purchasers to the extent of 5l. and upwards.

CHIPPENHAM, WILTS.—To BUILDERS, CAPITALISTS, and OTHERS—IMPORTANT INVESTMENT.

MESSRS. PARRY & SON have received instructions from the Executors of the late Mr. Richard Mortimore to offer FOR SALE by AUCTION, in one or more lots, at the sun mit of FEBRUARY next, at the Angel Hotel, in Chippenham, an important FREEHOLD PROPERTY, consisting of valuable building ground, immediately adjoining the first class Railway station of Chippenham, at the junction of two branch lines of railway; together also with 12 substantial well-built Dwelling houses, excellent hunting stables, coach-houses with Lodge and out-offices connected therewith, and a veterinary forge, fronting a street called St. Mary's place, laid out on the property. The road to the railway station has been formed, at great expense, through the land, with an excellent sewer throughout the whole extent, capable of receiving drainage from the basements of any houses to be erected; and the Great Western Railway Company are under covenant to maintain the same as the road to the Railway station. The property connects the Station with the important and thriving market town of Chippenham, and the lines contiguous thereto. The land and some of the buildings are in contact of about 2a. 1r. 23p. The upper part, immediately adjoining the Station, offers an advantageous site for a large hotel, and valuable arrangements might be made for adapting a portion of the land for the increasing requirements of the Chippenham Cheese and Cattle Markets. The Lodges, which are already erected on the property, are well planned, and produce 70l. per annum. A portion of the purchase-money may remain on mortgage.—For particulars, apply to the Auctioneers, 47, Cheapside, and Chippenham; or at the Office of Mr GODDEY, Solicitor, Chippenham.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MR. ROBERT BOYCE has been favoured with instructions from Mr. William Dethick, who has completed his contract with the Metropolitan Board of Works for the Main Drainage on Victoria Street Embankment, to SELL by AUCTION, without Reserve, on MONDAY, FEBRUARY 2d, 1863, at the following days, in the WORKS adjoining the Station of the Metropolitan Railway, at Victoria Street, Pimlico, the whole of the valuable PLANT and STORES, comprising a 20 horse power portable engine, driving stone engine, wood working engine, cement mill, &c., by Ruston & Proctor; eight and double puncheon mortars, gins, pumps, derricks, saw bench fitted for steam power, iron barrel dredging scoop, 10 cwt. spring dead weight hoist, 2 pairs of Morrison and Dunford's patent lifting jacks, 2 cwt. and 3 cwt. crabs, 2 timber trucks, two timber carts, twelve strong and useful cart horses, two set single and double shoot carts, fifty wheel barrows, large wood sheers, and a quantity of other useful plant.—To be viewed two days previous and morning of sale; and catalogues on the Works, and at the Auctioneer's Offices, 47, High street, Hoxton, N.

HACKNEY.

MESSRS. WINSTANLEY have received instructions from the Mortgagee to OFFER for SALE by AUCTION, at the MART, on FRIDAY, FEBRUARY 6, in two lots, TWO convenient family HOUSES, with shop, &c., being Nos. 2 and 3, Aspland-terrace, Amhurst road, East Hackney, a rapidly improving neighbourhood, 5 to the railway station. The houses are nearly finished, and a small outlay only is required to complete them for occupation. A separate lease for each house will be granted direct from the freeholder for a term of 80 years, at a ground rent of 14l. per annum. To be viewed. Printed particulars may be obtained of Messrs. J. J. ALLEN & SON, 85½, Long Lane, Carlisle street, Soho; at the Old Mermaid, Hackney; at the Place of Sale; and of Messrs. WINSTANLEY, 10, Paternoster-row, E.C.

EXTENSIVE SALE of TIMBER, STONE, TILES, &c. from the Chatham and Dover Railway.

MR. FREDERICK INDERMAUR will SELL by AUCTION, on MONDAY and TUESDAY Next, at TWELVE o'clock, on the PREMISES, Edmund street, Snithampton street, Canal road, comprising large and ex ensive rafter, lowest cut quartering, quantity of floor and lining boards and 3in. planks, portions of sheets, iron gates and railings, sashes and doors, York paving and sundries, fan bunks, slate slabs, steps, and coping, railway sleepers, and other articles. May be viewed and catalogues obtained, and at the Auctioneer's Office, 130, Union street, Borough.

OLD BROAD-STREET.—BUILDING MATERIALS of Two HOUSES.

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on MONDAY, FEBRUARY 9, at TWELVE, in lots, all the BUILDING MATERIALS, FIXTURES and FITTINGS-UP of TWO HOUSES situate in Cushion court, Old Broad street, comprising stock brick, oak and fir timber in roofs and floors, plain tiles, sashes, doors, partitions, wainscoting, marble and other chimney pieces, sound floor boards, York paving, coping and sills, zinc flats, lead gutters and 1-pipe, screwed, and various useful fittings up.—May be viewed on Saturday prev ous, and catalogues had of J. CORBETT, Esq., and THOMAS NEWSON, Esq., Architects, 17, Gracechurch-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

CHARING CROSS RAILWAY.—Twenty-fifth Clearance Sale.—Building Materials.—Ninth Portion of the Hungerford Market.—To Builders, Contractors, Paviors, and Others.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is favoured with instructions from the Directors to SELL by AUCTION, on the PREMISES, on TUESDAY, FEBRUARY 10th, 1863, at ONE o'clock punctually, in lots, the NINTH PORTION of the very valuable BUILDING MATERIALS of three Houses in Hungerford-street and two Houses in the Strand: comprising capital stock brickwork, Bangor slating, 9-in. and 11-in. gauged arch fronts, 60 flooring boards, sashes and frames, fastened and ribbed doors, plate glass and glazed sash-bars, lead in flats, pipes, and gutters, plain and panelled grates, slop-stoves, ranges, marble and other chimneypieces, and a variety of useful fixtures and fittings up. May be viewed the day prior to sale, and catalogues had of Mr. MARSH, 4, Old Jewry-chambers; of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey; and of Mr. EDWARD BYRON, Surveyor to the Company, at his Offices in the Lot Ion Bridge Terminus.

MIDDLESEX, WEST DRAYTON.—To BUILDERS, CONTRACTORS, and OTHERS.

MESSRS. E. & C. NEWMAN have received instructions from Messrs W. & J. Stidds, to SELL by AUCTION, in three BRICKFIELDS, near the West Drayton Station of the Great Western Railway.—May be viewed and catalogues had four days prior to the sale at the Bo Bargh Arms, West Drayton; No. 72, Chiswell-street, Finsbury; and at the Offices of the Auctioneers, Agricultural and General Valuers, West end House, Uxbridge, and Church Farm, Harlington, Middlesex.

BUILDING LAND ISLEWORTH, MIDDLESEX.—Desirable Freehold at Copshold Property, held of the Manor of Isleworth aforesaid, at a nominal rate certain.

MESSRS. KING & SON are instructed to SELL by AUCTION, at the AUCTION MART, near the Bank of England, on MONDAY, FEBRUARY 9, at TWELVE, in five lots, a substantially-built PROPERTY, known as the Coach and Horses Inn, with a private house adjoining, very commodiously situate on the roadside, and containing extensive accommodation for business, with yard, stabling for seventeen horses, out-houses, walled garden, &c.; let on lease determinable at Michaelmas, 1865, to Messrs Young & Burbridge, at an annual rent of 95l. Five private Houses adjoining, known as Park Cottages, with back and front gardens, at rents amounting to 39l. per annum. A noble and very substantially built detached Family Residence, distinguished as Syon Lodge, approached by a flight of stone steps, and containing every accommodation for a gentleman's family, situate at an agreeable distance from the high road, at Isleworth Syon Park, with large paved courtyard, stabling for six horses, coach-house, and outhouses, brewhouse

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place; or by Mr. ALFRED HILL, 2, Tonbridge-street, Euston road, W.C.

J. TURNER, Hon. Secretary, 13, Wilton-street.

BUILDERS' BALL.

THE ANNUAL BALL, in AID of the FUNDS of the BUILDERS' BENEVOLENT INSTITUTION,

under the especial Patronage of the Right Hon. the LORD MAYOR, the LADY MAYORESS, the SHERIFFS of LONDON and MIDDLESEX, and the President of the Institution, HENRY LEE, Esq. will be held at Willis's Rooms, St. James's, on THURSDAY, the 19th FEBRUARY.

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Gentlemen desirous of promoting the interests of the Institution by joining Stewards, will please to send their names to the Hon. Sec. JOSEPH BIRD, 10, Hanover-cottages, Regent's Park; or at the Office, 25, Southampton-street, Bloomsbury.

Double Ticket, 21s.; Lady's ditto, 8s.; and Gentleman's, 11s Refreshments included.

BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1863, be open to public competition.

A Competitive Examination will, accordingly, be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which candidates will be admitted to the Examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter.

(Signed) T. G. BARING.

India Office, 28th June, 1862.

N.B.—All communications to be addressed to the "Under Secretary of State for India."

CIVIL ENGINEERING.—UNIVERSITY COLLEGE, LONDON.—PROFESSOR POLE, F.R.S. Mem. Inst. C.E. will commence his COURSE on MONDAY, the 9th instant. Lectures will be delivered during the months of FEBRUARY, MARCH, APRIL, and MAY. Days of Lecture, MONDAYS and WEDNESDAYS of the second and third weeks of FEBRUARY, and of the first three weeks in each of the other three months. Hours, a quarter past SEVEN, on each day. Fee for the Course, 3*l*. On payment of 10*s* College fee in addition, the Course is open to any gentleman who will include a series of lectures on Iron Bridges, and other structures in Iron.

T. HEWITT KEY, A.M. F.R.S.
Dean of the Faculty of Arts and Laws.
CHARLES C. ATKINSON,
Secretary to the Council.

February 2nd, 1863.

EXHIBITION at PAINTERS' HALL, London, 1863.—Notice is hereby given that the THIRD ANNUAL EXHIBITION of GRAINING, MARBLING, WRITING, and DECORATION, will be held at the Hall of the Painters' Company, No. 9, Little Trinity lane, Cannon-street West, E.C. in JUNE next. Notice of intention to exhibit should be given forthwith to the Clerk of the Company. Specimens for exhibition will be received from residents in the United Kingdom between the 1st and 15th of May. Full particulars of the terms of exhibiting to be had at the Hall, between the hours of Eleven and Three daily.—By order of the Court,

F. C. TOMLINS, Acting Clerk.

ROYAL SCHOOL OF MINES, Jermyn-street.—The following Courses of Lectures are about to be commenced:—

Thirty Lectures on PHYSICS, by Professor TYNDALL, F.R.S. to be delivered on every week day but Tuesday, at Ten a.m. commencing on 16th February. Fee for the Course, 3*l*.

Thirty-Six Lectures on APPLIED MECHANICS, by Professor WILLIS, M.A. F.R.S. to be delivered on every week-day but Saturday, at Twelve, commencing 16th February. Fee for the Course, 3*l*.

Thirty Lectures on GEOLOGY, by Professor RAMSAY, F.R.S. to be delivered on Mondays, Tuesdays, Wednesdays, and Thursdays, at Half-past One, commencing 16th February. Fee for the Course, 3*l*.

TRENHAM REEKS, Registrar.

NOTICE.—Builders executing Works in the District of Newington, Lambeth, and Battersea, are requested to forward all communications and notices required by the Building Act to No. 1, Goding-street, Nursh-gardens.

S. WOOD, District Surveyor, *pro tem.*

GALLERIES of the ARCHITECTURAL UNION COMPANY (Limited), 9, Conduit-street, Regent-street, NOW OPEN, FREE, from ELEVEN till FOUR, daily. The Autumn Exhibition of Building Materials, Patents, and Inventions, will CLOSE, FEBRUARY 28, and must then be cleared for the Architectural Exhibition.

JAMES EDMESTON, Hon. Sec.

SHEFFIELD SCHOOL of PRACTICAL SCIENCE and METALLURGY.

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Chancellor of the University of Cambridge.

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Mathematics, Natural Philosophy, and Applied Mechanics.—Rev. G. B. Atkinson, M.A.

The Sheffield School of Practical Science and Metallurgy will afford a complete scientific and practical education to students who are desirous of becoming civil, mechanical, or mining engineers, or manufacturers of any kind. Its object is thoroughly to develope the student in the principles of those sciences upon which the operations of the engineer, metallurgist, or manufacturer depend.

Practical education will be given by means of systematic Courses of Lectures, by Catechetical Class Instruction, by Practical Teaching in the Laboratory and Drawing room, and especially by Field Excursions.

In the Buildings of the Sheffield Collegiate School. The two Institutions, although both under the superintendence of the Rev. G. B. Atkinson, Principal of the College, are local, are, however, entirely distinct.

A detailed Prospectus, containing Syllabuses of all the Courses of Lectures, and all other information, arrangements for boarding, &c. may be obtained by application to the Director.

THE SCHOOL WILL OPEN IN THE FIRST WEEK IN FEBRUARY, 1863.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.—The next SESSION commences on SATURDAY, FEBRUARY 7th.—Students entering the College at this time are eligible for Election to a Scholarship.—For prospectuses and further particulars apply to the Principal.

COMPETITIONS.

TO SCULPTORS.—The COUNCIL of the ART UNION of LONDON propose to award the sum of SIX HUNDRED POUNDS for a GROUP, or SINGLE FIGURE in MARBLE, to be competed for by finished models in plaster, the size of the intended work, which must not be less than five, assuming five feet as the minimum. The models are to be sent in by the 1st of MARCH, 1864, and the work is to be completed in the best statuary marble, by the 1st of MARCH, 1865. Two hundred pounds will be paid on the award of the premium, and the remainder on the completion of the marble. The Council reserve to themselves the right of withholding the premium if a work of adequate merit be not submitted. The competition is open to artists of all countries.

GEORGE GODWIN, } Honorary
LEWIS POCOCK, } Secretaries.

444, West Strand, Feb 2, 1863.

PLYMOUTH WESLEYAN CHAPEL, &c. and the ARCHITECTURAL ALLIANCE.—Members of the Allied Societies are informed that a communication has been made to the Manager of the competition by the Hon. Secretary of the Alliance; and all members are requested to refrain from competing until the conditions are satisfactorily altered. See letter in columns of "The Builder."

TESTIMONIAL to Sir BARTLE FRERE, K.C.B.—To ARCHITECTS.—DESIGNS, to consist of complete working drawings and detailed estimates, are invited for a BUILDING to be erected in Karra-hee, Scinde, to be called the Frere Hall. 500 will be paid to the author of the selected design, which will thus become the property of the Frere Hall Committee. Competitors must send their plans under a motto and cased to the Joint Secretaries, Frere Hall Committee, Kurrachee, Scinde, on or before the 30th of APRIL next, accompanied by a sealed envelope containing name and full address of the designer. The Committee will use every possible care in returning the plans to the unsuccessful competitors; but they will not be answerable for loss or damage to the plans in transit. A plan of the site may be seen on and after MONDAY next, the 9th inst. at the Offices of Mr. BRUNTON, M.I.C.E. Chief Engineer Scinde Railway, 31 and 32, Commercial Sale Rooms, Mincing-lane, City, who will furnish full particulars of the funds available and of the building requirements; also information as to the local prices of materials and workmanship.

TO ARCHITECTS.—A PREMIUM of 25*l*. is OFFERED for the BEST PLAN for LAYING OUT EIGHT ACRES of LAND, at Ripon, in building sites, with the elevations of detached and semi-detached villas, of from 30*l* to 50*l* rental.—Plans to be sent in by the 25th MARCH.—For further particulars, and to view the ground, application must be made to

ROBERT WILKINSON, Jun. } Hon. Secs.
JOSEPH STEVENSON, }

Ripon, February 2nd, 1863.

CONTRACTS.

TO CONTRACTORS.—SHEERNESS DRAINAGE WORKS.—CONTRACT, No 1 OUTLET PIPE.—The Sheerness Local Board of Health hereby give notice, that they are prepared to receive TENDERS from persons willing to CONTRACT with them for PROVIDING and LAYING DOWN about 1,200 LINEAL FEET of CAST IRON FLANGED and SOCKET PIPES, 24 inches in diameter, with tidal flap. Plan, sections, and specification, may be seen, and forms of tender obtained, by applying to Mr. JAMES LUND, the Surveyor of the Board, at his Office, No. 10, Montague terrace, Sheerness. Sealed Tenders, indorsed "Tender for Outlet Pipe," are to be delivered at the Office, not later than THURSDAY, the 12th FEBRUARY, 1863, at SIX o'clock in the evening.—By order of the Sheerness Local Board of Health,

EDWARD FELKIN, Clerk.

Office of the Local Board of Health, Sheerness, January 15, 1863.

DELAMERE, CHESHIRE.—The Commissioners in charge of Her Majesty's Woods and Royal Forests hereby give notice that TENDERS will be received for the ERECTION of a HOUSE and OFFICES, a HOMESTEAD, BAILIFF'S HOUSE, and TWENTY LABOURERS' COTTAGES, at Delamere, near Hartford, in the County of Chester. Drawings and specifications may be inspected, on application to Mr. MOODIE, at the Abbey Arms Inn, Delamere, on and after the ELEVENTH instant, and further particulars obtained on application to Mr. JOHN CLUTTON, 9, Whitehall-place, Westminster.

Tenders to be sent in on or before the 9th day of March, addressed to the Honourable JAMES A. HOWARD, Office of Woods, Whitehall Place, Westminster, S.W. endorsed, "Tender for Works at Delamere."

The Commissioner does not bind himself to accept the lowest or any Tender.

TO BUILDERS.—TENDERS are required for the ERECTION of OFFICE and BOARD-ROOM, with RESIDENCE attached; also four shops adjoining, in a plot of ground at the corner of Eleanor-road and Powis-street, Woolwich. The plans and specifications may be seen at the Offices of Messrs. CHURCH & RICHWOOD, Architects, Waldram-street, Woolwich, where all further information may be obtained. The Tenders to be sent in on FRIDAY, the 13th instant, before TWELVE o'clock. The lowest or any Tender will not necessarily be accepted.

Woolwich, 4th February, 1863.

[*For remainder of Contracts see next Page.*

CONTRACTS.

CONTRACTS, 1863.—Parish of SAINT GEORGE, Hanover-square.—Such Persons as are willing to CONTRACT with the Vestry of the said Parish for the following WORKS and MATERIALS, for One Year, from the 25th day of MARCH, 1863, viz :—

Supply of Flints and Gravel,
Supply of Guernsey Granite,
Purchase of the Coal, Coal and Ashes,
Carting away the Slop and Sweepings of the Streets,
Furnishing Carts and Horses for Day-work,
Spreading Water in the Streets,
Masons' Work,
Paviors' Works,
Supply of Paving Materials,
Supply of Thames Ballast, Sand and Hoggins,
Supply of Workmen's Tools and Hammers for Stone breaking, and Repairs of the same,
Smiths' Works,
Gasfitters' Works,
Supply of Bass Brooms,
Drain Pipes,
Shoeing of the Horses,
Veterinary Care of Horses;

may deliver in PROPOSALS, sealed up, at the Offices of the Board Room, Mount street, Grosvenor-square, or at Board Room, 1, Drury Bridge-road, Poultry, on or before SATURDAY, the 14th of FEBRUARY, 1863. Persons Tendering are desired to take notice that all Proposals must be made out, and strictly in accordance with, the printed Forms of Tender, to be obtained at either of the above Offices.—Further particulars may be obtained on application at Mr. E. C. RICHMAN, Surveyor, at the Office, 1, Drury Bridge-road, any morning between the hours of NINE and ELEVEN o'clock Contracts to be prepared by the parish Solicitors, at the expense of the Contractors; and the Vestry do not bind themselves to accept the lowest or any Tender. By order

JOSEPH HENRY SMITH, Clerk to the Vestry.

BOARD of WORKS for the HACKNEY DISTRICT.—Notice is hereby given, that the Board of Works for the Hackney District will meet at the Townhall, church street, Hackney, on THURSDAY, the 12th day of FEBRUARY next, at ELEVEN o'clock in the forenoon, for the purpose of CONTRACTING for the EXECUTION of the SEWERS WORKS under Contract numbered 17, in Green lanes, Stoke Newington, and Hill-street, Clapton.

No. 17 CONTRACT will comprise 960 feet run of 3 feet 9 inches by 2 feet 6 inches, and 9,647 feet run of 3 feet by 2 feet of BRICK SEWERS; and 1,200 feet run of 12-inch PIPE, and 660 feet run of 9-inch PIPE SEWER or thereabouts

Plans and specifications may be seen from and after MONDAY, the 2nd day of FEBRUARY next, until TUESDAY, the 10th day of FEBRUARY), and forms of Tender, with any information, upon application to Mr JAMES LOVEGROVE, C.E. Surveyor to the Board, at his office, Townhall, Hackney, between the hours of NINE and ELEVEN a.m. The Tenders must be sealed and endorsed, "Tender for Sewer Works, No 17," and addressed to the Clerk, and delivered at the Townhall on or before WEDNESDAY, the 11th day of FEBRUARY The parties Tendering, or their representatives must attend at the Board on THURSDAY, the 12th day of FEBRUARY, at ELEVEN o'clock precisely Persons contracting will be required to enter into a contract or bond in sufficient surety for the due performance of the contract; and the Board do not bind themselves to accept the lowest or any Tender.

RICHARD ELLIS, Clerk.
Jan. 29, 1863.

ABERGWILI, Carmarthen.—To BUILDERS and OTHERS.—Persons desirous of submitting TENDERS for the several WORKS required to be done in BUILDING NEW NATIONAL SCHOOLS, CLASS ROOMS, and OFFICES, at Abergwili, complete, on the site of the present schools at Abergwili, near Carmarthen, are informed that the drawings and specifications will lie for inspection at the Black Ox Inn, at Abergwili, from THURSDAY, the 12th FEBRUARY to SATURDAY, 28th, inclusive Tenders, on forms supplied, to be delivered, by post prepaid, addressed to the architect, Mr. R. J. WITHERS, 31, Doughty-street, London, W.C., on or before MONDAY, 2nd MARCH, and of whom, further particulars may be obtained. The lowest or any Tender will not necessarily be accepted

W. E. JAMES, Vicar of Abergwili.
Abergwili, Carmarthen, 28th January, 1863.

TO BUILDERS. — Persons desirous of CONTRACTING for the ERECTION of PARSONAGE HOUSES at the undermentioned places respectively, viz Frogmore, near St. Alban's; Melton Ross, near Barnetby; Thurlby, near Lincoln and Newark, may communicate with Mr CHRISTIAN, Architect, 8a, Whitehall place, London.—Application to be made before FEBRUARY 10th; but Mr. CHRISTIAN does not bind himself to accept, or reject to, any such application.

LYSS, HAMPSHIRE.—To BUILDERS and OTHERS Builders desirous of TENDERING for the ERECTION of a PARSONAGE-HOUSE, at Lyss, near Petersfield, are requested to send their names forthwith to the Architect, Mr R. J. WITHERS, 31, Doughty-stre t, London, W.C. on application by reference, when they will be informed of the terms of contract, and those selected will be furnished with copies of the bills of quantities The Tenders to be forwarded to the Architect, by post, on or before SATURDAY, 14th FEBRUARY.

F. H. FREETH, Incumbent of Lyss.
Lyss near Petersfield, January 24, 1863.

BOROUGH of BLACKBURN. — The Corporation of this Borough is prepared to receive TENDERS for the CONSTRUCTION of BRICK and PIPE SEWERS, together with MANHOLES, GULLIES, and other WORKS connected therewith, comprised in Contract No 5, of the Sewerage Works of the Borough Persons desirous of Tendering for the above, may see the specification and drawings, obtain all requisite information, on application to Mr BRIERLEY, Borough Surveyor, at his Office, Townhall – Sealed Tenders addressed to the Town Clerk, and endorsed "Sewer Contract No. 5," must be sent to the Town Clerk's Office, not later than SATURDAY, the 14th day of FEBRUARY next. The Corporation will not be bound to accept the lowest or any Tender—

HENRY SAWARD, Town Clerk.
By order,
Townhall, Blackburn, January 26, 1863

TENDERS for PULLING DOWN and RE-BUILDING the HOUSE, No. 109, Jermyn-street, St James's, will be received on TUESDAY, FEBRUARY 17th, at TWO o'clock, p.m. on the Premises, 109, Jermyn-street, where plans and specifications can be seen, and of Messrs MEEKS and DUDGEON'S, 3, St Martin's-lane, Cannon-street.—N B The proprietor will not bind himself to accept the lowest or any Tender

S. Michael's-place, Brompton. MR. JOHN BLORE, Architect.

NEW WESLEYAN CHAPEL, LEICESTER.—To ENGINEERS, GAS-FITTERS &c.—Parties desirous of CONTRACTING for the WARMING, VENTILATING, and LIGHTING of the above Chapel, near its progress, may obtain a plan and section of the same, and such preliminary data as may be necessary to enable them to do so, by application to F. W. ORDISH, Esq Architect, Queen-square, Westminster The above Contracts to be accompanied with detailed estimate of cost —Sealed Tenders to be forwarded before the 20th instant (February), to Mr H WALE, 56, New walk, Leicester The committee do not pledge themselves to accept the lowest or any Tender

CONTRACT for the SUPPLY of BUILDING MATERIALS for CONVICT PRISONS.—Persons desirous of TENDERING for the SUPPLY of TIMBERS, deals, slates, lime, sand, bricks, land, glass, wrought and cast iron, ironmongery, gas and water pipes, white lead, oils, &c for twelve months from the 1st of APRIL next to the 31st of MARCH, both for the Pentonville, Millbank, Brixton, Portland, Portsmouth, Chatham, Parkhurst, Dartmoor, Woking, and (in connexion with Woking) Bo ulmer Prisons are hereby informed that Forms of Tender, prepared for the purpose, addressed "The Directors of Convict Prisons, 45, Parliament-street, Westminster, S.W." on or before SATURDAY, the 21st FEBRUARY, 1863, at NOON Forms of Tenders will be supplied on application at the several prisons before named, or at the office of the Directors, 45, Parliament-street, on and after TUESDAY, the 10th of FEBRUARY, 1863.

45, Parliament street, January 31st, 1863.

ERECTION of WORKHOUSE. — To CONTRACTORS, BUILDERS, &c — PARISH of ST LEONARD, SHOREDITCH, MIDDLESEX.—The Board of Guard, one of the Poor of the above parish, are desirous of receiving TENDERS from contractors for the ERECTION of a NEW WORKHOUSE for the said parish, to be erected on the site of their present workhouse and adjoining premises, situate in the Kingsland-road and Hoxton. Parties tendering will be required to find securities to the amount of 20,000l. for the performance of the works in accordance with the drawings and specification Such drawings and specification can be seen, and all information obtained, at the Office of the Architect, Mr WILLIAM LEE, St Michael's House, Cornhill, E.C. Bills of quantities may be obtained on payment of 10l. 10s which sum will be returned to the parties tendering whose Tenders are not accepted Tenders are to be addressed to the Board of Guardians, and endorsed "Tender for erection, &c. of New Workhouse," and must be delivered at the Board room, Kingsland-rd, London, N.E. not later than SIX o'clock in the evening of WEDNESDAY, the 25th day of FEBRUARY, 1863. The Guardians do not pledge themselves to accept the lowest or any other Tender. Parties tendering must be present, by themselves or their agents, at the time of opening the Tenders by order of the Board,

WILLIAM NIGHTINGALE, Clerk.
Board-room, Kingsland road, 4th February, 1863

BOROUGH of WOLVERHAMPTON. — To CONTRACTORS, MANURE DEALERS and OTHERS — TENDERS for REMOVAL of NIGHT SOIL. The Council sitting as the Local Board of Health of the Borough of Wolverhampton require TENDERS from persons who may be willing to undertake the REMOVAL of the PRIVY MANURE, ASHES, REFUSE MATTER, and SURFACE FILTH of the Borough, for a term of one year, commencing on Lady Day next. Printed forms of Tender, a draft contract and specification may be obtained from the Borough Surveyor on payment of 2s 6d for each copy Tenders to be sent to the Borough Surveyor on or before THURSDAY, the 19th day of FEBRUARY, 1863, endorsed "Tender for Removal of Night Soil, &c" The Council do not bind themselves to accept the lowest or any Tender.

EDWIN JOHN HAYES,
Town Clerk, and Clerk to the Local Board.
Town Hall, Wolverhampton, February 2nd, 1863.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of an INFANTS' SCHOOL, with TEACHER'S RESIDENCE, BOUNDARY WALLS, &c. in the Parish of St John's, Chatham, may see the Plans and Specification of the proposed works, at the Office of Mr. MARTIN BULMER, Architect, Maidstone, any day except Sundays, between the hours of TEN and FIVE.—Forms of Tender are to be obtained at the Architect's Office, where Sealed Tenders, endorsed "Tender for Infants' School," must be delivered, on or before MONDAY, the 16th instant. The Committee do not bind themselves to accept either the lowest or any other Tender, and security will be required for the proper performance of the works

Maidstone, February 2, 1863.

TO BUILDERS. — TENDERS are required for the ERECTION of SIX HOUSES at Upper Holloway. Plans can be seen at the office of Mr. R. HORNE, Architect, 13, Guildford street, Russell-square. The lowest Tender will not necessarily be accepted.

WEST HAM LOCAL BOARD of HEALTH.—The Local Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS for SUPPLYING and for LAYING GUERNSEY GRANITE CURB, and also for such Road Metal and Labour as may be required in making and repairing the streets called Frederick-street, Martin-street, Station-street, Western-street, Stratford, within the District, according to plans, sections, specifications and conditions prepared by Mr. MARSHALL, the Surveyor of the Board, and which may be seen at his Office at Rokeby house, in Stratford, where also Forms of Tender may be obtained, together with any further information required Tenders endorsed "Tender for Roads," are to be sent to me, on or before MONDAY, the 23rd FEBRUARY next.—By order of the Board, CHARLES WILSON, Clerk.
Rokeby-house, Stratford.

TO CONTRACTORS and BUILDERS.—The Trustees of Watts's Charity, at Rochester, are desirous of receiving TENDERS for the CONSTRUCTION of a ROADWAY and CESSPOOL, at ground near an adjoining Ordnance-terrace, and abutting on the road leading to Fort Pitt, in the parish of Chatham, in Kent. Plans, sections, and specification of the proposed Works (as proposed by Mr Bulmer), are deposited at the office of Mr. W. HAY. MEN (the Surveyor of the Charity), High street, Rochester, and open to inspection previous and up to the day of Tender, between the hours of TEN and FIVE o'clock. Tenders are to be sent in to the Office of Messrs. LEWIS & MARSH, High-street, Rochester, on or before SATURDAY, the 21st of FEBRUARY instant (after which day no Tender will be received), and addressed to the Trustees of Watts's Charity, and marked "Tender." The Trustees will not hold themselves bound to accept the lowest or any other Tender; and the Contractor is at his own expense to enter into sufficient contract, either with or without surety, as the Trustees shall require, for the due execution of the Works.

Rochester, 3rd February, 1863.

EXTENSION of TIME for receiving TENDERS—CITY of LONDON, BARBERS' HALL.—Important SITE for WAREHOUSES or MANUFACTURING PREMISES in the immediate vicinity of Wood-street, Cheapside —The Committee of the Worshipful Company of Barbers will meet at their Hall on THURSDAY, the 29th day of MARCH, 1863, to receive TENDERS for LETTING, on a Building Lease for 99 years, the Extensive PREMISES known as Barbers' Hall, situate in Monkwell street, Wood-street, comprising three houses fronting Monkwell street, 58 feet and a part of the courtyard in the rear thereof, the passage leading thereto, and the greater portion of the Company's Hall, together with the kitchen, scullery, and cellarage, having a frontage towards Monkwell-street of about 83 feet, by an average depth of about 116 feet, and an extreme depth of about 136 feet.—For plans, particulars, with a plan of the property, elevation and section of streets, and conditions of letting, may be obtained on application to the Clerk of the Company; to Mr CHARLES JOHN SHOPPEE, the Company's Surveyor, No. 61, Dorset-street, Manchester-square, W.; or to the Beadle at the Hall.—By order, HENLEY GROSE SMITH, Clerk.

4, Warnford-court, Throgmorton-street, E.C.

WESLEYAN CHAPEL, Sittingbourne.—The Trustees are prepared to receive TENDERS, on or before the 9th day of FEBRUARY instant, for the ERECTION of a CHAPEL, VESTRIES, &c. at Sittingbourne The plans, specifications, and quantities may be seen on application to Mr. A. BULEY, Highland-place, Sittingbourne, to whom the Tenders are to be addressed. Any further particulars may be had of J WILSON, Esq., F.R.S. 38, Parliament-street, Westminster, and 1, Belmont, Bath. The Trustees do not bind themselves to accept the lowest or any other Tender.

OTTOMAN GAS COMPANY. - The Directors of this Company are prepared to receive TENDERS for the CONSTRUCTION of GAS WORKS at SMYRNA. The drawings and specification may be seen, and bills of quantities and forms of Tender may be obtained, on application to Mr. BAYLIS, C.E 25, Parliament-street, Westminster, S.W. on and after MONDAY, the 9th day of FEBRUARY. Tenders must be sealed and endorsed "Tender for Smyrna Gas Works," and must be delivered at the Offices of the Company, 8, Copthall-court, London, E.C. on or before ELEVEN a.m. on TUESDAY, the 24th day of FEBRUARY —The Directors do not bind themselves to accept the lowest or any Tender

TARPAULINS, MARQUEES, &c. for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
59, Bishopsgate-street Without, E.C Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES,
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

PAN TILES.—WANTED, 7,000 to 10,000 PAN TILES (second hand), sound and unbroken, to be delivered into the Trenks of the S. E. Railway Company.—Send price to Mr. J. F. MATHEWS, Surveyor, London-road, Reigate.

TO CHURCHWARDENS, MILL PROPRIETORS, and OTHERS.—GEORGE FRITH, BUILDER, &c. Coventry, begs respectfully to call the attention of the above parties to his method of REPAIRING CHURCH SPIRES, CHIMNEY-SHAFTS, and other elevated structures, without the expense of ladders or scaffolding Church spires taken down and rebuilt, pointed, repaired, &c. Chimney-shafts repaired, pointed, and new caps fixed. New vanes and all kinds of lightning conductors applied. Estimates given References from architects, engineers, &c. Circulars illustrating the principle and containing testimonials sent free on application as above

PENCILS, BLACK LEAD, and COLOURED CHALKS.
A. W. FABER'S POLYGRADE LEAD PENCILS, sold by all Stationers and Artists' Colourmen.
Sole Agents, HEINTZMANN & ROCHUSSEN, 9, Friday-street, E.C.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.
These Pencils are prepared in various degrees of hardness and shade.

H H H	for drawing on wood.	F	for light shading.
H H	for architectural use.	F	for general use.
H	for engineering	B	for shading.
H	for sketching.	B B	ditto ditto.
H B	hard and black for drawing	B B B	ditto ditto.
		B B B B	ditto ditto.

Medium.
Sold by all the principal Stationers in town or country.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.
CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS, 243, EUSTON ROAD, ST. PANCRAS.

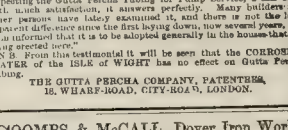
DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart VENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 10th, 1852. In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N B From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS), 17, Union-street, and 295, Great Guildford-street, Borough, S.E. inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c &c

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And every description of Iron work, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

SASH WEIGHTS, 5s. per cwt. at Ashton Wharf, Blackwall, and at Hope Wharf, near the Church, Rotherhithe.

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PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanised ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 85, High Holborn.

PRIZE MEDAL.
INTERNATIONAL EXHIBITION, 1862.
IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Dispensaries, Consuls or Banking Rooms &c. suitable to all Climates, fixed complete in town or country or packed for exportation.
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

PERIN'S PATENT BAND SAW BLADES.
B. WORSSAM & CO. beg to announce that they have purchased of Mons. Perin, of Paris, the exclusive right to SELL his celebrated BAND SAW BLADES (the superiority of which is universally allowed in the United Kingdom 8, W. & Co. have always a large assortment of these Saws at their Works, No. 305, ROMAN ROAD, LMEHOUSE, A.S. where also the Band Saw Machine exhibited by Mons. Perin in the Western Annexe, International Exhibition, is now on sale.

TO BUILDERS, CONTRACTORS, AND OTHERS.
AN OVERHEAD TRAVELLER with single purchase crane, spur and pinion wheels, spindles and stretchers pair 4-inch 2 and 3-sheave wrought iron blocks, length 5 301 x inch chain about 300 feet; 2 trussed girders 17 feet long each 4 cast iron travelling wheels, and 2 length s 3 by 1-inch girder iron pair rail 30 feet long each, two 12 by 12 inch horizontal timber bearers 40 feet long each, and 4 uprights 12 by 6-inch timber supports 10 feet each—For particulars, apply to Mr. S. H. RODMAN, 8, Vauxhall Bridge-road, S.

PAIR of HORIZONTAL HIGH PRESSURE and CONDENSING STEAM ENGINES, each 4 horse power—FOR SALE by private contract. The cylinders are 1 foot 8 inches diameter, 3 feet stroke, with metallic pistons, bright connecting rods, slide valves, eccentrics, 8 inch fly-wheel shaft, crank and pinion, exhaust pipe, cast iron condenser, cast-iron feed pumps, steam and vacuum gauges, pair of bright governor balls and apparatus, made in 1851.—For further particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

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Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.
CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

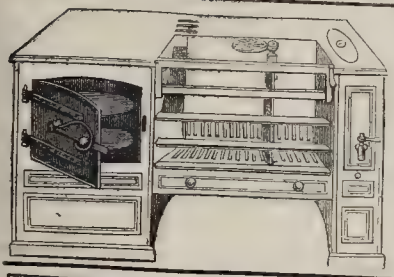


ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
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A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.		Self-acting Cottage, with Oven and Back Boiler.	
34 inches	34s.	30 inches	22s.
36 "	36s.	32 "	24s.
38 "	38s.	34 "	26s.
42 "	40s.	36 "	28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Cheek Register, with strong Bars and Levers, 6d. per inch
Best Kitchen, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 40s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch.	1½ inch.	2 inch.	2½ inch.	3 inch.
11s.	14s	13s.	12s	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s per cwt.
Best Cut Lath Nails, 14s. per cwt.

Cast Rain-water Pipe....	2-in. 8d.	2½ in. 10d.	3-in. 1s. per yard.

Cast Gutters, 4 in. 7d. per yard.

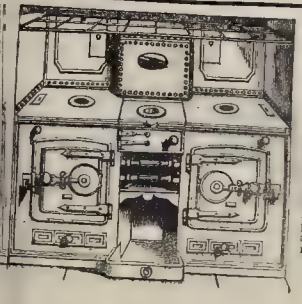
O G Gutters, with Clips on....	4-in. 10d.	4½-in. 1s. per yard.

Patent Line.	2 3s. 6d.	3 4s.	4 5s.	5 7s.	6 9s. per gross.

6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s 9d. each. Light Elliptic and Register Metal 12s. 6d. per cwt.

Dr. Arnott's Ventilators, 4s. each

Brick Moulds kept in stock. Any size made to order



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 35*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates

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39, OXFORD-STREET, W.; 1, 1a, 2, 3, and 4, NEWMAN STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.



THE PRIZE MEDALS,

LONDON, 1851. PARIS 1855. LONDON, 1862.

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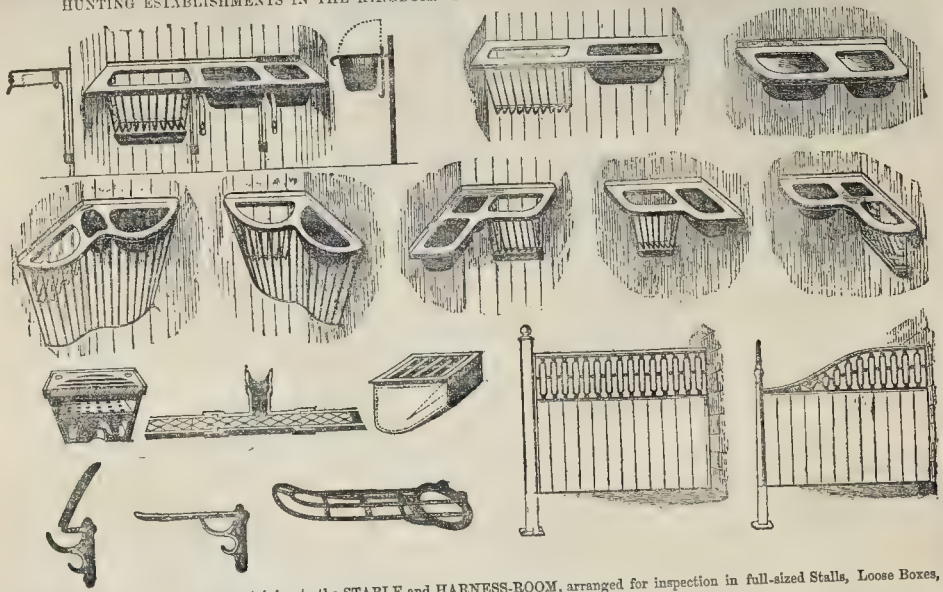
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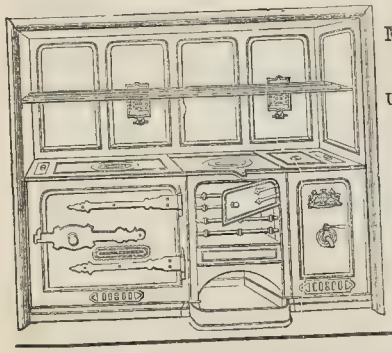


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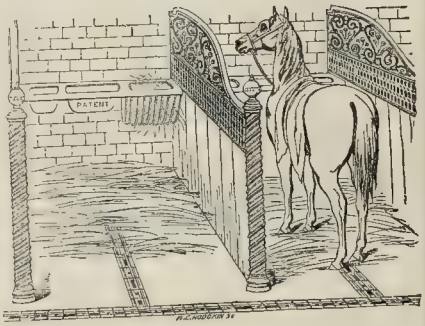
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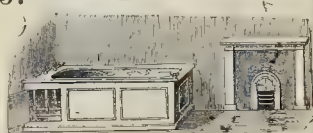
MANUFACTURERS, BIRMINGHAM.







J. TYLOR & SONS' PATENT BATH APPARATUS.

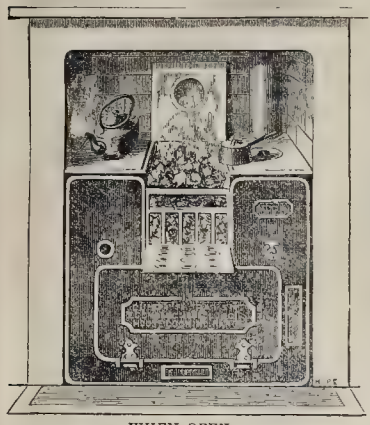


The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.

Estimates given from architects' drawings, or by inspection of buildings.

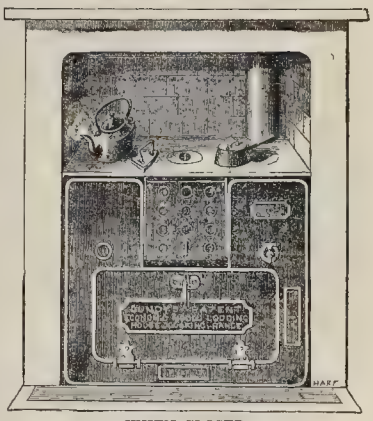
Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London.

CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIR-CASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of THE MANUFACTURER,



WHEN CLOSED.

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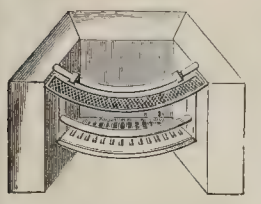
WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.

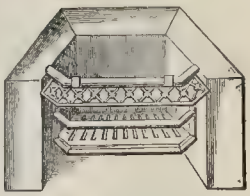
FIRE-LUMP STOVES,

FOR BED-ROOMS, COTTAGES, SERVANTS' OFFICES, BARRACKS, SCHOOL-ROOMS, WAREHOUSES, CHARITABLE INSTITUTIONS, &c



			Without glass front.	With glass front.
			s. d.	s. d.
18 inches wide,	10 in.	bars	7 6	8 6
24 "	12 "	"	10 6	12 6
24 "	15 "	"	13 0	15 0
27 "	18 "	"	16 0	18 0
30 "	21 "	"	20 0	—
36 "	24 "	"	30 0	
38 "	27 "	"	36 0	Extra strong.
42 "	30 "	"	42 0	

These Stoves give a considerable heat with a small consumption of coal.



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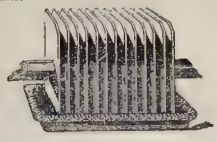
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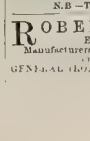
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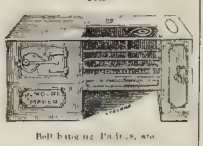


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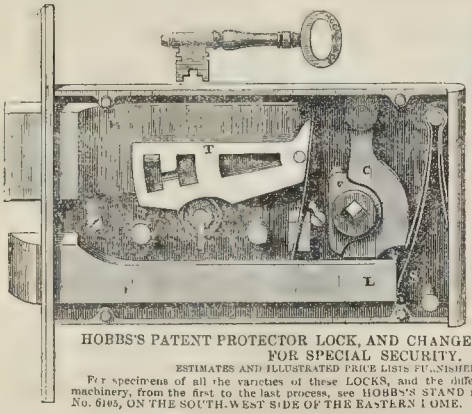
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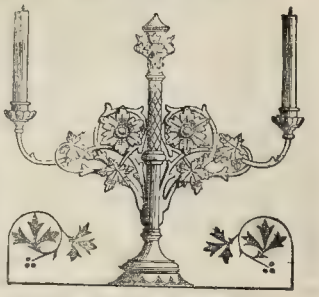
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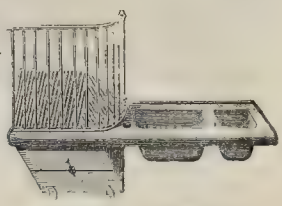
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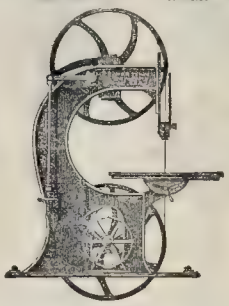
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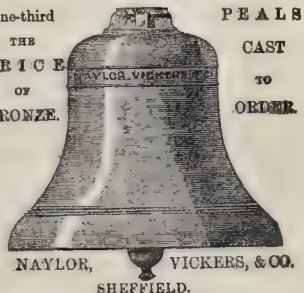
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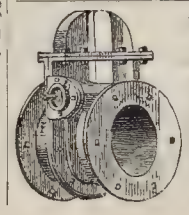


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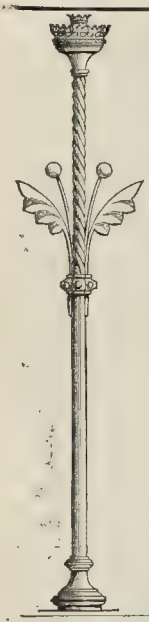


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Mr. Fergusson's History. Ethnology of Art.



THE "History of the Modern Styles of Architecture," by Mr. Fergusson, is too important in the present condition of our art, to be left with the notice that we gave of it immediately on its publication, which notice however presented a sufficient indication of the general spirit of the work, along with the heads into which it is divided.* Though it would be easy to find in the book itself, sufficient testimony to our view that prospects are not so bad as the author would seem to regard them for the Anglo-Saxon race especially, expressions of opinion in the work deserve to be weighed, whilst the narrative of the course of architecture in the present and the three preceding centuries, had not previously been given with a like completeness; and indeed for many parts of the world, and for the really important period comprised in recollection of living men, it had been touched hardly at all. We might almost take credit to ourselves for pointing out in this journal, that there was such a field of architectural history as what is here referred to, and for urging that its study was essential to the adjustment of right measures for the future. This history Mr. Fergusson has presented in a manner which, if showing that upwards of 500 pages, and of 300 illustrations, do not go near to exhausting the subject, may be quoted as an example of how history should be written.

It has been held by some one, that history, as of states and governments, was all the better treated if under some of the leaning which is that of a partisan; and Mr. Fergusson of course felt that he had a purpose when he sat down to write. That purpose was to show by something more than assertion,—which has been made repeatedly of late, and with too little effect upon the public,—that copyism and the exhibition of learning are not architecture, and that "buildings which delight the scholars and archæologists of the day, but which the less educated classes can neither understand nor appreciate," will "lose their significance the moment the fashion which produced them has passed away." He considers that in the sixteenth century,—

> ... "men forsook the principles on which this and all other cognate arts had been practised from the beginning of time; they forsook common sense and common prudence, not in the hope of attaining greater convenience or greater effect, more easily, or with less means, but in order to reproduce certain associations with which education had made them familiar."

To the period of commencement, or which ultimately grew to the effort to reproduce, he confines the designation "Renaissance;" whilst he calls "Revival," any modern use, in fact or intention, of an old style.

Just as Cooking may be refined into Gastronomy, so may, he says, the "technic" or *useful* art, Building, be refined into the *fine* art, Architecture; and so long as that common-sense path was followed, progress was achieved. Architecture, "the æsthetic form of the purely Technic art of building," he regards as having nothing in common with Speaking, Writing, Painting, and Sculpture, "different modes in which men's thoughts can be communicated to other men, or perpetuated for the use of posterity;" and he considers that a really great change to which several causes conduced, was introduced into the practice of architecture at the time of the Reformation, namely, that "a Technic art came to be cultivated on the principles which belong only to one of the Phonetic class," subjecting art to the caprices and vagaries of intellect of the individual, instead of to the feeling of the age, and having the attendant "inconvenience that what a man learns in his life-time dies with him, and his successor has to begin at the beginning, and, following what may be a totally different track, their careers neither assist nor probably even cross each other." We have already in our former article, given expression to the view that the author's depreciation of the importance of individual influence is carried too far; we might have said something also about an apparent exaltation of the abilities of "men who could neither write nor draw," which might almost lead persons to think he would not be favourable to any education of architects; but we may say that the "inconvenience" which he speaks of, is one of the unfortunate circumstances in what we regard as the position of our art in this country, at the actual time. All the writing and talking, and machinery of societies, have succeeded in establishing a discursive and random firing at objects, but not an adequate system of registration and conservation of discoveries and acquired steps; whilst little of that cordiality exists between master and pupil, which was maintained elsewhere in some periods of art, which still is to be remarked in France, and which there is in the profession of civil engineering. Perceiving exceptions, however, we have hope of them.

But what else, we would ask, will be that future, hoped for even by Mr. Fergusson, but a combining of individual influence, and solidarity of the age, when all architects will be working within the same system or style, no matter which, though allowing scope to those individul efforts whereby have arisen the differences existing between works that are of the same age and locality? We shall have both, and we cannot spare either, of the sorts of influence: but, the truth is, they are not of the nature of things to be regarded as separate. Given the possibility of good architecture of the future; whatever the style or character be, is it not obvious that the art will be indebted in some slight degree to individuals,—for example, Pugin and Barry? Even a book may individually exert influence: and we are disposed to think in the face of the author of the one before us, that he himself will have helped to produce the very result. Moreover, we must not forget the *fact* of influence of individual architects in the early Classical and Mediæval periods. Greek architects have had their authorship recorded; and there are stories of the rivalry, as on the point of attaching a name to a work. William of Wykeham is almost as well known as Jones or Wren. But it seems to us scarcely possible to draw an accurate comparison between the circumstances of periods so different as were those which had and had not the advantage of printing to record the true facts.

There is in the volume, so much besides a narrative of the styles, so much in the form of observations to which the reader may respond, feeling that the matter was waiting to be said, and so much that arrests attention from its piquancy, if not correctness, that it is difficult to present a fair review of the work within ordinary limits. Designating the whole of the styles which preceded the Reformation as the "True Styles,"—those wherein we can reason with regard to buildings, "with the same certainty, and according to the same rules, which we apply when speaking of the works of Nature,"—and those, in whatever countries, subsequent to the same or a like epoch, as the "Copying" or "Imitative" Styles, wherein it would be "not too much to say that no perfectly truthful building has been erected in Europe," and the art has lost, besides intellectual value, all ethnographic signification, the author traces the chief features of ecclesiastical and secular architecture in Italy, Spain and Portugal, France, England, Germany; North-Western Europe, including Belgium, Holland, Denmark, Hamburgh, Sweden and Norway; India and Turkey, and some of the principal countries of North and South America. In the Introduction he recounts, and examines into, the proximate causes of the change that took place, as the revival of classical literature, the reformation in religion, and the development of the Italian school of painting. In the body of the work, further, he shows how such causes combining with circumstances of a people or locality, or operating after an interval of time, led to such varieties as the French and English forms of Renaissance and Revival. The division on Spain and Portugal, though written under difficulties which might be supposed, of gaining correct information, is a valuable portion of the work, giving not only information as to the succession of the three epochs which succeeded the Moorish and Gothic, the Plateresco, the Greco-Romano, and the Churrigueresque, but pointing attention to arrangements of plan, forms of steeples, effects of grouping, and many details which could be turned to account in modern English practice. In this and the other divisions of his work, he gives some attention to the subject of race as concerned in the varying intensity of the pursuit of art.

He sees, as others will if they attend to the subject, a remarkable difference between the Anglo-Saxon, Teutonic, Indo-Germanic or Aryan race, as he may choose to call our own, and the Celtic. He discovers in the race which has the work of colonizing and so peopling the globe, a temperament or an organization not favourable to the spread of art. He says in the Appendix, speaking of a possible success of the Aryan as result of education rather than feeling, and saying that such work fails to impress like real Art:—

> "This, probably, also is the true cause of the decline of architecture and other arts in Europe, and in the rest of the modern world. Wherever the Aryans appear, art flies before them; and where their influence extends, utilitarian practical common sense is assumed to be all that man should aim at. It may be so, but it is sad to think that beauty cannot be combined with sense."

The alliance of common sense and beauty, forming, however, as our author has shown, the art of architecture, and our branch of the race being not so much engrossed with the "true mission" of the Aryans, of pervading "the world with the useful and industrial arts," as to neglect poetry and painting, we have that expectation of an art, English and excellent, which Mr. Fergusson himself has, it seems to us, from time to time. No one can regard the particular fertility of taste which is French, and which, as we understand the theory of races, would be Celtic, without being struck with the fact that there are wanting to it just those "common-sense principles" which, by the aid of recent teaching and pursuits more than ever recognized and felt in England, this country could so easily offer in exchange for the element of art which it needs. In effect, there is in the horizon both for England and France, art that each country may grasp, if present relations continue, which will be the full denial to all such assertions as have been heard, that new and living art in architecture could never be seen again.

Notwithstanding that our author seems to underrate the imaginative element as exhibited in the *literature* of the Teutonic races, or not to observe that perfect art, like perfection in everything else, requires the special qualities of the Aryans, along with those of other races competent in imparting to it the essential of striking the attention at first sight, we recommend his Appendix, "Ethno-

* See p. 865, vol. xx.

logy from an Architectural Point of View," as one of the most interesting divisions of his book. We should be disposed to read it first. The author leaves indeed salient features of the difference as between the English and French in aptitude for art-work, unmentioned or unexplained. He alludes, however, to those differences which are observable in France itself; and we hope that he will pursue the interesting subject of the influence of race upon art, and be able to tell us why it is that there are the differences which strike the wonder of a traveller who studies the moving picture of human character, and which have their reflection in decorative form and colour, and that he will develope the field in what relates to savage races, and extend that which he has well commenced, the inquiry into the art-practice of civilized and colonizing nations under the new conditions which are presented by change of country and climate.

In the important division which we have mentioned, of Mr. Fergusson's work, after showing that archæology is of the same value to ethnology as palæontology is to geology, and putting aside all hypotheses of successive or simultaneous creations of mankind, he supposes that an original family, or tribe, in the highest state of civilization, and dwelling in the first seat of the human race, on becoming too large for resources of the country, sent off at successive periods, swarms or migrations, which hordes would degenerate, as there are innumerable proofs that man will, when exposed to want and misery, and that thus the world became divided amongst the Turanians, the Semites, the Celts, and the Aryans, the last being a Sanscrit-speaking race which went to India, and thence sent off the migration called Indo-Germanic.

The Turanians, supposed to have been at first hunters, would include the ancient Egyptians; the Chinese, ancient and modern, and the Japanese; the Mexicans, possibly; the Tamuls who once occupied all India; all tribes generally called Tartars, and all those now between India and China; the predecessors of the Semitic and Aryan races in Assyria; and amongst other races the Turks, who however, we may observe, are at present believers in one God, which characteristic Mr. Fergusson says is not generally Turanian. In Europe, are found the Magyars, Fins and Lapps, but overpowered by the more civilized Aryans; in Africa the Turanians have been almost as completely overpowered, by the Semites; whilst in America the same result has been produced by the Aryans.

The Semitic races, who were perhaps shepherds, migrated from the sources of the Tigris and Euphrates to the plains of Shinar, and reached Arabia, where now the tribes are nearly pure Semitic. The race included the Phœnicians and the Jews, and it is found in Africa; but the chief locality in which it developed itself was the country between the Tigris, the Mediterranean, and the Red Sea.

The next migrating horde, the Celts, who may be considered agriculturists, were not sufficiently distinct from the other races to have developed a form of nationality, polity, or religion, like the Semites. Mixing freely with those with whom they settled, they adopted manners and customs; yet they retained their principal characteristics. Their course was westward, to Europe, where they displaced the earlier Turanians. We first find them in Asia Minor. Thence, it is supposed, one portion of them passed by the northern coast of Africa to Gibraltar, and thence to Ireland. Another portion crossed the Bosphorus and ascended the Danube; and subsequently this branch was divided, part of those Celts entering Italy and getting to Rome, and the main portion going to Gaul and Belgium, and thence to Britain and Ireland. They are still going west.

The Aryan races having left their fatherland, crossed the Indus about 3101 B.C. More than a thousand years later they were penetrating to Ceylon. They gradually lost much of their purity of blood and faith; and in 300 B.C. they became Buddhists. Ten centuries after Christ, when the Moslems came to India, the religion of the earlier people, Turanians, had become supreme; and there was only a nominal thread of Aryanism showing the prior existence of a purer faith. They appeared in the western world in Greece, where by their union with the Turanian Pelasgi was formed the Greek civilization. In Rome they mixed with the Turanian Etruscans and the Celts. At last they reached Northern Europe, where they are at present. Whilst in India, they had sunk into the arms of a Turanian people; in Europe they found the country cleared of Turanians by the Celts. These last were improved by the mixture of new blood; but where the country was unoccupied, the Aryans have remained so pure that "they may perhaps regain something of the position they had temporarily abandoned, and something of that science which mankind only knew in their primeval seats."

Mr. Fergusson notes under separate sections of Religion, Government, Morals, Literature, Arts and Sciences, the characteristics which were those of the races. These features differed considerably; and those of architecture were variously affected by them.

The Turanians had no idea of a God external to the world: they worshipped trees, and a serpent, or a bull. From the reverence which they had for localities, pilgrimages originated. Government with Turanian races was a despotism. Having hieroglyphics rather than a regular alphabet, they had no poetry beyond lyrics, and have never advanced beyond the rudiments of a literature. The Chinese are in an advanced stage; but it appears that Mr. Fergusson does not regard them as having mastered even the elements of any scientific philosophy. The Semites have and always had, the distinguishing tenet of belief in one God. Their government was patriarchal. Having always had an alphabet, they possess one of the oldest literatures of the world, which with their creed has exerted influence over almost all the nations of the earth. Of the Celts our author writes, that in religion, none of the pure race "ever rose to a perfect conception of the unity of the Godhead," and that they have "a whole hierarchy of heavenly powers of various degrees, to whom the Celt turns with as confiding hope and as earnest prayer, as ever Turanian did to the Gods of his Pantheon;" that the Celt is the slave of a casteless priesthood; whilst that his temples are as splendid, and the formula of his ceremonials as unmeaning "as any that ever graced the banks of the Nile, or astonished the wanderer in the valleys of Thibet, or on the shores of the Eastern Ocean." As to Celtic government it is difficult to speak; the only form we know of is despotism, though not necessarily personal. The people are "too impatient to submit to the sacrifices and self-denial inherent in all attempts at self-government, and too excitable to be controlled, except by the will of the strongest, though it may also be the least scrupulous among them." A real aristocracy, and the restraints of caste, are impossible; "la carrière ouverte aux talens" is their boast; and the gratification of "individual ambition is consequently always preferred with them to the more sober benefit of the general advancement of the community." In morals, the Celts had lax ideas of the marriage-vow. "The ruling passion in the mind of the Celt is war," war not like that of the intolerant Semite, of extermination or of proselytism, but one "from pure 'gaieté de cœur' and love of glory. No Celt fears to die, if his death can gain fame, or add to the stock of his country's glory; nor in a private fight, does he fear death or care for pain, if he has had a chance of shooting through the heart, or at least wounding, his best friend at the same time." As to literature, nine-tenths of that of Europe which is lyric is of Celtic origin. "The Epos and the Drama may belong to the Aryan; but in the art of wedding music to immortal verse, and pouring forth a passionate utterance in few but beautiful words, the Celtic is only equalled by the Semitic race." The remainder of the literature is epigrammatic, but less sound and enduring than that of the Aryan.

The religion of the Aryans was the belief in one God, pervading everything that was made, in and beyond the universe. "A creed so etherial could not long remain the faith of the multitude, and we early find fire,—the most etherial of the elements,—looked to as an emblem of the Deity." But fire, with the earth and the heavens, were "reverenced because they were visible manifestations of a Being too abstract for an ordinary mind to grasp. Below this the Aryans never seem to have sunk." No temple or human ceremonial could be wanted with such a faith. "The most marked characteristic of the Aryans," says our author under another division of his subject, "is their innate passion for self-government." "The village system" which they "introduced into India is still the most remarkable of its institutions." Caste is another feature in these races. Where it is a living institution, our author speaks of it "as perhaps more conducive to the proper regulation of society than any with which we are acquainted." In the ratio in which a people is Aryan, they possess an aristocracy and municipal institutions, and are prepared to respect the gradations in society, and to sacrifice individual ambition. In literature, the possession of an alphabet more perfect than that of the Semitic races, and the structure of their language, enabled the Aryans to assume a position which the other races never attained to. History was not a mere record of dates; their poetry tended more to the didactic than the lyric; the Epos first rose to eminence, and the drama was elevated above a mere spectacle. When the blood of the Aryan has been mixed with that of other races, a literature eminently imaginative and poetic has been produced; but in proportion to their purity has been the tendency towards a more prosaic style. He says:—

"The aim of the race has always been the attainment of practical common sense, and the possession of this quality is their pride and boast, and justly so; but it is unfortunately antagonistic to the existence of an imaginative literature, and we must look to them more for eminence in works on history and philosophy than those which require imagination or creative power."

Of the four races thus described, the Turanian and the Celtic are regarded as all that are innately imbued with what brings the realization of great works of architectural art. Deficient as the first of these races was in the "phonetic modes of literary expression," as architects the Turanians were "unsurpassed,"—as shown, the author would seem to say, by the *dimensions* of their works in Egypt, Southern India, China, and Mexico, as well as by a degree of taste and skill, considering the civilization, which is remarkable as it is unexpected. In consequence of their gods having been kings, and being supposed to continue influencing destiny, temples were palaces on a large scale. More sacred however than their temples were the tombs.

"Wherever a Turanian race exists or existed, there their tombs remain; and from the Pyramids of Egypt to the mausoleum of Hyder Ali, the last Tartar king in India, they form the most remarkable series of monuments the world possesses; and all were built by people of Turanian race. No Semite and no Aryan ever built a tomb that could last a century, or was worthy to remain so long."

The Buddhist reform altered the funereal tumulus into a relic shrine; but the tope is still essentially a tomb. The Turanians also possessed, combined with wonderful appreciation of form, a passion for coloured decoration and an intuitive feeling for harmony of colours. They used throughout, the primitive colours, so as to be always brilliant, but never vulgar.

"From the first dawn of painting in Egypt to the last sign-board in Constantinople or Canton, it is always the same—the same brilliancy and harmony produced by the simplest means."

In sculpture, and indeed in painting regarded as the higher art, they were not so fortunate. Not having a literature, they felt obliged to attempt to make their sculpture express more than sculpture can. For the same reason the picture was to be all in all. But is the author sure the Egyptians had no literature? The story, in the picture, is told, he continues, with clearness that charms; its greatness however is less intellectual than the utterances of the other divisions of the human family.

There is this peculiarity about the Turanian arts, that they are instinctive rather than intellectual, and as shown by the works in Egypt and China, are incapable of "that progress which distinguishes most of the works of man."

The Turanians were to some extent astronomers; and in artificial irrigation they have always been singularly expert.

"Wherever you follow their traces, the existence of a tunnel is almost as certain an indication of their pre-existence as that of a tomb. It is amusing, as it is instructive, to see at this hour an Arab pasha breaking down in his attempts to restore the irrigation works of the old Pharaohs, or an English engineer officer blundering in his endeavours to copy the works instinctively performed by a Mogul, or a Spaniard trying to drain the lakes in Mexico."

Building and irrigation were "the special instincts" of the Turanians; and the perfection attained therein is the more singular, from contrast with what they did not do in other branches of art or science.

The Semitic races, Mr. Fergusson says, never erected a building worthy of the name. His assertion that "neither at Jerusalem, nor at Tyre or Sidon, nor at Carthage, is there any vestige of Semitic architectural art," and that the works never existed, however, requires some explanation. If he means that the numerous works of imitative art, *quasi* Egyptian, Greek, or Roman, that Mr. Franks has suggested to him may be Phœnician, are not true art,—that the Semitic races were in fact copyists,—we can understand him; though there is a particular character of masonry (*en bossage*) that is Phœnician, and that has been regarded as the original of *rustication*. As to Phœnician remains in general, we noticed in a recent volume the

researches, at Sidon, of M. Renan, for the French Government, and described the sarcophagus in the Louvre discovered at a previous date; and perhaps we may be tempted to return to the subject, for the sake of seeing what was discovered at Tyre, Jerusalem, and other places. We do not quite understand the remark, that Solomon had recourse to *Turanian* people to build his temple; for, Hiram was a Phœnician; and the Phœnicians, no less than the Jews, our author says, were Semitic. As we pointed out in our notice of the French researches, they deserve the attention of writers of Mr. Fergusson's calibre: we greatly suspect that though the bulk of the Phœnician art was imitative, there was something more, and that the whole of the works have more importance in the history of architecture, the art, than has been perceived. Taking the Semitic art, however, as all imitative of other art, we should instance it along with Egyptian works of the Ptolemies, as tending to controvert the notion,—though, may be, it is not that of our author,—that such unoriginal art is peculiar to the last three centuries.

The architecture in Assyria, of palaces of dynasties more or less Semitic, our author believes was unimportant prior to the time of Sennacherib, when the art was derived from the Egyptians. During the domination of the Romans, the temples of Baalbec and Palmyra were erected "without one trace of Semitic feeling or Semitic taste;" but they are beside the question, as being Roman works. Whatever there might be of architecture about the Jewish tombs, our author shows was subsequent in date to the Babylonish captivity or the Roman influence; neither the Turanian idolatry, nor any special reverence for the dead, being consistent with the Jewish feelings and religion. Painting and sculpture were forbidden. Music was the one æsthetic art of the Semitic races.

"The true glory of the Celt in Europe," says Mr. Fergusson, "is his artistic eminence."

"It is perhaps not too much to assert that without this intervention we should not have possessed in modern times a church worthy of admiration, or a picture or a statue we could look at without shame.

"In their arts, too,—either from their higher status, or from their admixture with Aryans,—we escape the inistinctive fixity which makes the arts of the pure Turanian as unprogressive as the works of birds or of beavers. Restless intellectural progress characterizes everything they perform; and had their arts not been nipped in the bud by circumstances over which they had no control, we might have seen something that would have shamed even Greece, and wholly eclipsed the arts of Rome."

Without the instinctive knowledge of colour of the Turanian, and without having been able to give to music that intellectual culture elaborated by the Aryans, the Celts are far better musicians than the former, and far better colourists than the last-named races. But,—

. . . "in modern Europe. Architecture is practically their own. Where their influence was strongest, there architecture was most perfect; as they died out, or as the Aryan influence prevailed, the art first languished, and then died."

Temples were required by their "quasi-Turanian theology," almost as grand as those of the Copts or Tamuls; whilst even more remarkable were their tombs, which were such as a Turanian might have envied, not for size, but for art; and "even now" they can "adorn their cemeteries with monuments which are not ridiculous." The Celts are mixed with other races; but it is thought that,—

. . . "where no Celtic blood existed there no real art is found; though it is perhaps equally true to assert that not only Architecture, but Painting and Sculpture have been patronized, and have flourished in the exact ratio in which Celtic blood is found prevailing in any people in Europe; and have died out as Aryan influence prevails, in spite of their methodical efforts to indoctrinate themselves with what must be the spontaneous impulse of genius, if it is to be of any value."

In the future of science, "it is doubtful whether the deductive brilliancy of the Celtic mind can avail anything against the inductive sobriety of the Aryan."

As to the Aryans, we understand our author to say, their practical common-sense aim is antagonistic to imaginative literature, and is more than doubly so to the Fine Arts. We have already suggested that there may be some difference of opinion on this point. Our feeling is that the assertion is not accordant with what is elsewhere said of what goes to form good architecture. We must also dissent from a following *dictum*, put forward as an explanation of another assertion, that a people possessing great "power of phonetic utterance," never could look upon picture or statue as more than subsidiary illustration of written text. A painting may represent what took place at one moment of time; but also, it can show what it is scarcely possible for the best written description to afford. Architects know this; or there is no need of plans and working-drawings. With architecture, the case of the Aryan is so bad, Mr. Fergusson says, that "had there been no Pelasgi in Greece, there probably would have been no architecture of the Grecian period." Convenience is the first thing which the Aryan seeks, and by the readiest means, and "why should he do more?" If out of emulation he is induced to ornament, he is willing to copy what has proved successful, to spend money, and to submit to some inconvenience; but "in his heart he thinks it useless, and he neither will waste his time in thinking on the subject, nor apply those energies of his mind to its elaboration, without which nothing great or good was ever done in Art." As to faith in ceremonial worship, he,—

. . . "can never be brought to understand that prayer is either more sincere or more acceptable in one form of house than in any other. He does not feel that virtue can be increased or vice exterminated by the number of bricks or stones that may be heaped on one another, or the form in which they may be placed; nor will his conception of the Deity admit of supposing that He can be propitiated by palaces or halls erected in honour of Him, or that a building in the Middle Pointed Gothic is more acceptable than one in the Classic or any other style."

The want of faith "may be reasonable," our author adds, "but it is fatal to poetry in art."

Moreover, the Aryan is deficient in appreciation of colours; though, even savage races cannot go wrong in this respect. As before noted, if the Aryan be exceptionally successful in art, education, not feeling, is, according to Mr. Fergusson, the cause. The ancient Aryans, in marked contrast with the Turanians, never erected a building in India; and we do not know what their style was or is.

Though wherever *such* "Aryans" appear, it may be that "Art flies before them," and "utilitarian practical common sense is assumed to be all that man should aim at," *we* do not think "that beauty cannot be combined with sense." We have no belief that it is necessarily uncombinable. Our poetic literature, appreciated by all who understand our language, would show otherwise. Even if the task be hard to the Aryan race, is it so to the "true-born Englishman," Celt, Roman, Teuton, Dane, Norman, and French? That product of this mingled blood is not a "sober, reasoning, unimaginative and unartistic people," like "the Aryans of the Vedas or of Tacitus." The "literature eminently imaginative and poetic," that has come of the mixture of races, discloses the existence of a fund of originative power which, hitherto manifested in a rythmic medium, whilst equally a prime mover in those arts with which the "Aryan" is "pervading the world," is of the nature to grasp the beautiful as the useful, and will probably permit of, and conduce to, the art architecture, the more that the Aryan can appreciate "the beauty of scientific truth."

NEW MATERIALS FOR THE LIFE OF SIR FRANCIS CHANTREY.

THE two greatest bust sculptors England has produced have each had their Lives or Recollections of their Lives written by one of their executors. The story of Joseph Nollekens is told by "an ungentle executor," John Thomas Smith, and he has carried into every page of it the resentment of great expectations, not deferred alone, but entirely disappointed. The story of Francis Chantrey has been written (or attempted to be written) by George Jones, esq., R.A., a very gentle and in no way disappointed executor. The parallel between Mr. Smith and Mr. Jones may be soon summed up: Smith is all scandal, Jones all panegyric. Smith finds vinegar and gall from his legacy of one hundred pounds, Jones honey and fine words from his legacy of two thousand pounds.

It is much to be regretted, many have been heard to remark, that the author of the Lives of the most Eminent British sculptors did not survive to write the life of one of the greatest of our sculptors. Allan Cunningham should have been spared to write the Life of Francis Chantrey. He was not. Nor do I believe that he would have written it. Why? it will be asked. He who knew so much of the man—was in his service, and with him daily for the last thirty years of his life, and a practised writer of Lives! Why not? Was there aught to conceal in Chantrey's career? aught to varnish? I believe not. Did the man know too much of the master? or did he care too little about him? That my father would *not* have written the Life of Chantrey I have heard him more than once declare. There were many to please, and some to offend:—

"Last night her lord was all that's good and great,
A knave this morning, and his will a cheat:"

for thus by turns lamented and roared Sarah Jennings, Duchess of Marlborough, wife of John Churchill, the great Duke of Marlborough. Little spiteful wasp of Twickenham, you stung the heart of your Atossa, of all time, in that condensed and withering couplet.

In the church of Walton-upon-Thames (where Roubiliac's fine monument of Boyle, Viscount Shannon, is enshrined), is a figure by Chantrey of a female weeping, erected in memory of Christopher D'Oyly, esq., barrister, who died in 1795, and his widow, Sarah, grand-daughter of Sir Hans Sloane, who died in 1821, in the ninety-seventh year of her age. This Mrs. D'Oyly lived, when in London, at No. 24, Curzon-street, May-fair: she was nurtured in good style in her youth, saw company to the last, and died rich. In her will she remembered a Mr. Daniel Wale, an old and faithful servant. Mr. Wale had a daughter, Mary, calling Chantrey cousin, and to this cousin, with her little portion, our young and struggling sculptor was married, in 1809, in the church of Twickenham-upon-Thames.

My father was fond of relating two anecdotes of Chantrey, when young and unknown, that materially helped the young sculptor on the road to fame. They relate to two very peculiar characters,—Nollekens, the sculptor, and Lord Mayor Sir William Curtis. When, in 1811, Chantrey sent his bust of Horne Tooke to Somerset House, Nollekens viewed it earnestly, lifted it from the floor, set it before him, moved his head to and fro, and having satisfied himself of its excellence, turned round to those who were arranging the works for exhibition, and said, "There's a fine, a very fine *busto*; let the man who made it be known—remove one of my busts, and put this in its place, for it well deserves it."

The other relates to the same year, when he became the successful candidate for the Guildhall statue of King George III. When the design was approved, and his name made known, it was objected that he was a painter, not a sculptor. "You hear this, young man," said Sir William, with a turtle and champagne accent, "what say you—are you a painter or a sculptor?" "I *live* by sculpture," was the reply; and, short and Chantrey like, it was enough. London thus obtained a fine statue at once easy, characteristic, and dignified.

Chantrey, some five years later, modelled a bust of Curtis. He has caught the man,—shrewd, humorous, voluptuous, liberal, and yet mean,—the lips redolent (though in marble) of turtle and discount.

Chantrey was a poor correspondent, though his letters in the way of business are numerous enough and to the point. His longest letter to my father is from Italy. The readers of the *Builder* will like to hear what so keen a reader of mankind, and so quick an observer of nature, has to say. He was travelling with Jackson, the celebrated portrait painter:—

To Allan Cunningham, Esq.

"Rome, 18th October, 1819.

"Dear Sir,—Our journey hitherto has been very pleasant and very fortunate. We ran through France with all possible haste. We passed the Simplon in eleven hours. The road is in every part 21 feet wide, and equal to the best of our English roads. It is *perfectly safe*, though for many miles it is cut in the sides of almost perpendicular rocks of granite, at a fearful height from the bottom. Milan was the first place that presented anything important in art. Verona and Padua are interesting, but to me unimportant. The first contains the most perfect amphitheatre in Italy, and the latter much of Palladio's architecture. Venice was the place that first excited my surprise and raised my admiration. It abounds with the very finest works of art,—works, unfortunately, in fresco. Bologna and Florence, also, contain endless treasures; but Rome, above all, is the most important. My mind is so confused with the rapid succession of interesting objects, that I am not yet sufficiently settled to take advantage of anything. Canova is the great modern master here, and deservedly so. He is excelling in simplicity and grace every day.

F. CHANTREY."

In my paper upon Soane,* I gave a characteristic note from Chantrey to the original Paul Pry. A *notelet* or two from Chantrey to his

* See *Builder*, p. 743, vol. xx.

"friend and assistant," will be found equally characteristic:—

To Mr. Cunningham.

"Westminster Abbey, 3 o'clock.

Examine the bearer, Affleck. If you think him in a state fit to serve me, keep him; if not, discharge him. F. CHANTREY."

Affleck was a Dumfries mason, who found his way to Pimlico, and obtained employment under Chantrey through Allan's influence. He was an able mason, but

"Fonder of purl and skittle-grounds than *work*,"

took kindlier to the neighbouring "Crown and Anchor" than he did to the mason's banker. My father looked at Affleck, turned and looked, hinted regret at what he saw, and had seen, and sheltered before; paid him his wages (with something for his own pocket at the same time), and dismissed him. Affleck—I remember him well—never again served Francis Chantrey. He had a touch or two of pawky Scottish humour about him, not unwelcome to my father.

A second *notelet* is additionally valuable for its answer. It is brief and to the point:—

To Mr. Cunningham.

"Holkham, Monday.

Dear Sir,—D—n John for sending me away without my telescope, and find Foster's letter.

F. C."

At the bottom of this my father has written "Copy of Answer:"—

To Francis Chantrey, esq.

"Belgrave-place, Tuesday.

Dear Sir,—I've d—d John, and found Foster's letter. A. C."

John was Chantrey's butler, and a very good fellow and excellent servant, but John "unhappily thought fit" (dear Mat. Prior) to publish his love of drink to the bulk of Chantrey's visitors. Old Mr. Robinson, who had been Sir Joshua's fishmonger, and was then Chantrey's neighbour (a kindlier hearted man I never met with), called to inquire for Chantrey, who had been unwell. John was in his cups when he answered the door. "Who! who! shall I say—I say—called?" hiccupped John, full in the face of the retired fishmonger. "Mr. Robinson," was the reply. "What!" said John, effervescing with real drink and imaginary delight, "what!" (peering closer into his eyes), "what, old Robinson Crusoe. Give us your hand. How's Friday?" and H. Robinson, esq., of 14, Upper Belgrave-place, Pimlico, "fishmonger," not of "York, mariner," had a grip from John the butler that brought tears of laughter and pain into the eyes of the old gentleman. My father dearly loved to relate this story; Chantrey was delighted with it; Robinson himself told it my father, rather seriously at first, but very good-humouredly withal. "He that is drunk is as great as a king," as the Alderman of London hiccupped at Guildhall to that merry monarch King Charles II.

"Who has e'er been to Paris,"—no, to Holkham, in Norfolk, must have seen and will remember the *two* woodcocks cut with so much delicacy in marble by our great sculptor. Chantrey, proud of his achievement (he had killed at Holkham two woodcocks at one shot in what is called a shy season), commemorated the event in marble. The following verses record the circumstance:—

"The snowy hills of Norway bred us,
The silver springs of Holkham fed us:
A sculptor, as we wing'd our way,
Held out his gun and made us gay;
But, sorrowing for us as we fell,
To marble turn'd us by a spell.
Princes and peers flocked in a bevy,
And said, 'How glorious done in gravy!'
Geologists* looked marvelling on,
But feeling cried, 'By God, a stone!'
How blest our fate o'er men and mice,
Heaven made us once, and Chantrey twice!"

These verses, I may now announce, were written, that is, thrown off "at a heat," by Allan Cunningham.

Of the man Chantrey I wrote (anonymously) the following description soon after his death. When I add that it contains a few touches by my father, it will be liked all the better:—

"Sir Francis Chantrey was about 5 feet 7 inches high, of a stout make, and one of the most active and vigorous men of his time, but latterly inclined to corpulency. His head and face were very fine, his mouth exquisitely chiselled,—Lord Byron's not finer nor more expressive. His eyes round and lustrous,—one useless for vision, but in no way apparently different from its fellow. He had been bald from an early age. His voice was agreeable, his conversation humorous and sarcastic by turns, and always animated. He had mixed much with the world, and, unlike the Hermit of Parnell, knew it better by experience than by books. He had been much of a reader in his youth, and had that happy and rare art of learning from conversation what others seek and acquire in books and silent study. His knowledge was, therefore, very general, and there was scarce a topic at table but what he could speak, and very ably, upon. His reputation, his manner, and matter, always commanded attention. Then how delightful were his dinner parties, not for the viands only, though they were always of the choicest description, but for his own sake; for he talked much, and made a stranger's diffidence rub off by touching on subjects he knew would be agreeable to him. Then, too, his conversation was not addressed to one or two on his immediate right or left, but was aimed at the whole company. Dr. Johnson would have loved his table, and would have been reminded of the dinners he enjoyed so much at Sir Joshua's and Allan Ramsay's."

I have something more to say of the great sculptor. PETER CUNNINGHAM.

* Chantrey's great friends, Professors Buckland and Sedgwick.

AMERICAN HOTELS.

"THE LINDEL," OF ST. LOUIS.

THE following more precise account of one of the large hotels in America, to which we briefly referred lately, will be read with interest:—

During my visit to London I have seen in the *Builder* a notice of a new hotel at St. Louis, of which I was the architect and superintendent. Believing you anxious to lay before your readers all the building news both of the Old and New Worlds, a detailed description of it may prove interesting, from the fact of its being the largest and said to be the most complete either in Europe or America.

Before giving the details of its construction, a brief comparison with some of the other extensive hotels of the United States will show its magnitude. For the last twenty years the Astor House of New York, a plain but substantial building of grey granite, costing 360,000 dollars, has been *the* hotel, when size alone was taken into account. The St. Charles, at New Orleans; the "Virginia" and "Planters," of St. Louis; and the "Burnet," at Cincinnati—the latter containing some 260 rooms, and being in some respects the queen of hotels—have for fifteen or more years been among the larger hotels of the union. For the last ten years these have been excelled in the north-west by the Tremont of Chicago, which in its turn is being eclipsed by the new Sherman of the same city; which is 181 feet in front by 120 feet deep, and has six stories in front and seven in the rear, over side walk; its cost being over 400,000 dollars. There have been many excellent houses of larger capacity, and fine specimens of architectural taste, but of less pretensions, as the New-hall at Milwaukee, the Gayosa at Memphis, the Richmond at Caicago, Barnum's in Baltimore and in St. Louis, &c. The large Metropolitan of New York overtopped the Astor; and the St. Nicholas and Fifth Avenue, of later date, surpassed this in dimensions and modern improvements. These again were all cast in the shade by the magnificent Continental of Philadelphia, which, until the Lindel of St. Louis was erected, was certainly not excelled in America. The Continental is six stories in height, exclusive of basement, and presents a front of 235 feet by a depth of 194 feet. Its grand dining-room is 90 feet by 47 feet; its tea-room, 65 feet by 36 feet. Its capacity is for 800 to 900 guests.

But extensive as is the Continental, the Lindel largely excels it, being seven stories high exclusive of basement. Its height from side walk to top of eave cornice is 112 feet: its south front is 272 feet; its depth, 227 feet. The east and south fronts are faced with cream coloured magnesian limestone, elaborately finished. The north and west fronts are faced with the finest stock brick, with cut stone ornamental window trimmings. The two dining-rooms (with carving-room between), easily thrown together for dancing or other purposes, are 233 feet in length by 45 feet in width, evidently the largest in the world: that part used as the gentlemen's ordinary is alone 128 feet long by 45 feet. On the same floor, and contiguous, is a kitchen 60 feet by 48 feet, and 20 feet high.

This hotel can accommodate with ease 1,200 persons. Some idea may be formed of its great extent by a few statistics of materials used in its construction. The brick laid in the walls would be sufficient to pave an area of more than 38 acres. This is in addition to 8,000 perches of rubble masonry in the foundations, 35,000 cubic feet of cut stone in the fronts, 740 tons of cast and wrought iron, 27 acres of plastering, 810 windows, 650 inside doors, 3,240 lb. of copper for gutters: the plate glass in the building would cover an acre of ground, the floors seven acres: the skirtings, or washboards, laid in a continuous line, would reach thirteen miles; and if a boarder desires to take a walk through the wide and lofty corridors before breakfast, he may travel one mile and a quarter without going over the same floor twice. Besides the marble flooring and other flagging, 300,000 feet of flooring boards have been laid, and it will require 30,000 yards of carpet to cover them. Thirty-two tons of sash-weights are used, 16,000 feet of gas-pipe (with many thousand burners), 120,000 lb. of lead, and 30,000 of iron pipe to supply it with water, besides 37,700 feet of steam pipe for heating it. Thirty-two miles of bell wire were required, and three water-tanks containing 30,000 gallons of water rest upon its roof. The actual cost of the building is 950,000 dollars, which, with the ground, valued at 326,400 dollars, makes the whole value 1,276,400 dollars, without the furniture. There are 525 bed-rooms, 19 parlours and club-rooms, and 36 shops and basements.

Style of Architecture and Plan.

The design is Italian, of the Venetian school, and the building is substantial in the extreme, being built with brick, stone, and iron. The hotel consists of two parallel buildings, extending east and west the length of the whole front, with a space of 45 feet between them, and connected only in the centre, and both extremes, by wing buildings running north and south, and leaving between them two courts, one of which is used for a gentlemen's recreation, and the other for a ladies' conservatory. While the centre connecting building, and the eastern flank extend to the full depth of the lot, the space that would be occupied by the western flank has been reserved for the erection of a theatre, to connect with the building. The principal or southern front is divided into five compartments, on its base line, the centre and both extreme divisions forming projections, and the two receding divisions forming on the first and second stories colonnades between them, thereby producing a very pleasing effect. The three principal elevations on the ground-floor are supported by columns, imposts, and arches, the shafts having every alternate course lightly vermiculated, and forming a continuous arcade around the three fronts, imparting strength to the building, and obtaining sufficient light for the shops and basements: the pedestals of these columns extend down to the basement floor, and are supported by inverted arches: the elevations are sufficiently marked by continuous cornices and string courses, dividing each story, together with the variety of pitched and compassed pediments, columns, pilasters, and transes, around the windows, and its handsome crowning entablature.

The basement extends under the entire building, courts, and side walks, and is arranged in the following manner:—The laundry has five rooms for washing, drying, mangling, ironing, and general linen room: the latter connects with steam elevators, with the distributing-rooms on each story. The baker and pastrycook have each two rooms, and two ovens, with a general flour-room between them. The butcher and fishmonger have one large room each, with refrigerators: the grocer and greengrocer have one room each: the wine-cellars are six in number, and convenient to the ice-vaults. The coal-vaults are six in number, and connect with a steam elevator: the ash-vaults are spacious, and are the termini for all the ash-flues of the building. The steam-boilers and engine-rooms are outside the building: the latter is so situate that the shafting passes directly through the laundry. There are also two well-lighted and ventilated dining-rooms for the servants of the house and those of the guests, and a large saloon 93 feet by 64 feet, under the office and vestibule, with outside and inside entrances, to be used as a general bath-room, handsomely fitted up.

The drainage is very complete, and all the water from the inside and outside of the building passes through glazed earthenware pipes, having all the hot and cold water connexions near the extreme end from the main sewer, so as to insure a continuous current, together with all the surplus steam and hot water from the boilers passing into them, and preventing them from freezing in winter. The force-pumps can also be applied for washing them out when required. The conducting flues for the offal and waste water terminate over the traps on iron gratings, allowing the

fluids to escape while the solids remain to be removed through outlets inclosed by iron doors. A railway is constructed through the main passages for the conveyance of supplies to and from the different apartments, each of which is well ventilated and fitted up to suit the various purposes.

There are four principal entrances to the building besides a carriage entrance. The principal or grand entrance is on the south front, and is covered by a very elaborate two-storied portico, with a projection of 8 feet. The vestibule of this entrance is 93 feet by 64 feet wide, and has a variegated marble floor, with inside columns supporting enriched arches and cornices, and having the walls and ceiling decorated by fresco painting. The ladies' carriage entrance is on the east side, and is so arranged that guests can alight under cover, the carriage then being driven through the hotel, and leaves by the north side. In the courts in the eastern and western parts of the ground-floor are separate colonnades for ladies and gentlemen, fitted up with fountains, evergreens, &c. Also on this floor is the richly-decorated saloon, 60 feet by 46 feet; billiard-room 62 feet by 42 feet; public and private offices, freight-room, coat and wash rooms, waterclosets, and a large fire-proof vault. The walls and ceilings of these rooms are painted and panelled, and the halls, billiard and refreshment saloons highly decorated by frescoes.

There are no columns in any of the large rooms in the building, the floors being supported by wrought-iron boxed girders, 48 feet long, 30 inches deep, and 9 inches wide, with 7-inch joists, and brick arches between them. Encircling the public offices and these four entrances are the thirty-six shops, communicating with the interior of the house, with a walk or platform all around the rear doors, and designed to suit the requirements and convenience of its guests. On the first floor also, to the right and left of the main entrance, are two grand staircases, commencing in the basement and running up the entire height of the building. The steps are each 12 feet long, and the walls wainscotted with black walnut, handsomely panelled and moulded, having gorgeous mirrors on the landings.

The first story contains the ladies' public and private parlours, reading and writing room, antechambers, receptions, &c.; also gentlemen's public and private parlours, writing and conversation rooms, club and reading rooms; all spacious, lofty, and finished magnificently. The latter, in the centre of the building, is surmounted by a large stained-glass skylight, and separated from the courts on either side by glass partitions. The gentlemen's public reception-room is in front over the main entrance, and is 35 feet by 25 feet. The gentlemen's, ladies', and children's dining-rooms are on this floor, and the carving-room located between the ladies' and gentlemen's, and are all wainscotted in the richest manner, with frescoed walls and ceilings, which are filled with allegorical representations, and the walls to the height of 13 feet between the windows are empanelled with gorgeous mirrors. These mirrors are all supported by appropriate statuary. Attached to the carving-room is a large fireproof vault for silver ware, and commodious china and delf closets, steam plate-warmers, tables, &c.

Behind and attached to these dining-rooms on the same floor, but running back northwardly, is the culinary department, including all their attendant and multifarious requirements. The kitchen, 60 feet by 46 feet, and 20 feet high, is one of the best lighted and largest in the United States, and is entirely fire-proof, with a stone floor. The apartments for roasting, broiling, frying, stewing, boiling of meats and vegetables, &c., are in the centre, allowing passages all around them. A hood covers the whole, of sheet-iron, which terminates with a large flue, to carry off all smoke and effluvia from cooking into the main shaft from the steam-boilers. And yet with all these rooms, there is a fine promenade on this floor, between the parlours and reading-rooms.

The second, third, fourth, fifth, and sixth stories are divided into bedrooms and suites of rooms for families, containing two to six rooms as desired. The house is not cut up into small apartments, like some, though there are 525 bedrooms in the hotel (and not a dark one among them), ranging in size from 13 by 16 feet, to 31 by 25 feet, connected by spacious corridors 12 feet wide, by 16 to 20 feet high. These corridors, straight, and extending almost as far as the eye can reach, with triple windows (nearly the width of the halls) at their extremities, give good ventilation; aided by twenty patent ventilators through the roof.

The whole of the large rooms and halls are warmed by hot water and steam; also fire-places and gas throughout the entire building; each room in the hotel having a white marble mantel-piece, and the floors of the first and second story corridors, and of the bar, billiard-room, and office being flagged with black and white American marble. These are in addition to the marble wash-basins, toilet-stands, &c. Besides the quantity of lead and iron pipe in the building, there are six main lead pipes 3 inches in diameter. The water-closets will number 175. In fourteen sets of rooms are baths of planished copper, with silver-plated furniture, equal to any in the first-class dwelling-houses; wash-basins with handsome counter-sunk marble tops, highly finished; and each of these, with 96 other wash-stands, furnished with a constant supply of hot and cold water for every guest. All the water is filtered through Rice's patent filterers.

As protection against fire, there are, in various parts of the house (four in each story) twenty-six openings or fire-plugs, with three coils of hose-pipe. All these conveniences are fed with water from three large tanks on the top of the building; the water of which is forced there by the engine of the house. The pumps being connected with the city reservoir, can all the time force water over the building.

The telegraph, bells, and speaking tubes, will communicate from the office (which is in the vestibule of the principal entrance) to all parts of the house.

The building is heated by coils of pipe, 1 inch and 1¼ inch in diameter, each coil being inclosed by very handsomely-perforated brass screens, and placed under the windows, forming the panelled backs, with reflectors behind them; under the tables having marble or mosaic tops, in the floors of the halls, and the panels of the pilasters.

All the hot and cold water supplies are from the tanks under the roof of the building, and the pipes for both hot and cold are inclosed in wooden boxes, flush with the walls, and placed behind the base of the rooms, making them easy of access; while the hot water keeps the cold from freezing in the winter season, the steam from the boilers heats the water in the tank, and the hot water, after circulating through the pipes, returns to the boilers.

In conclusion, I will add that nothing has been omitted which might contribute to the comfort of the guests, and the successful working of the house. Having a choice of four fronts, the south was selected, for the reason that the summer winds blow chiefly from that quarter, and, circulating through the building, carry away all effluvia from the kitchen and objectionable parts of the building, which are placed most northwardly. The office, being placed at the extreme end of the vestibule, and between the two courts, commands a full view of all the entrances. The chief steward, from his position in the principal carving-room, has also a full view of all persons in the dining-room, as well as his little army of waiters, and has all supplies under his immediate control. In case of an alarm of fire, the inmates would not only have the advantage of seven large staircases, passenger and other elevators, and five entrances, but also the shops, which connect with the interior of the building, by which to escape.

THOMAS WALSH.

LONDON BELLS.

IT is curious to note the number of bells that on Sundays and Saints' days summon the multitude to the various places of worship; that on high days and holidays clang from the steeples; and, as hour after hour slips by, chime the note of departing time. There are also bells connected with railway stations, hospitals, almshouses, and manufactories, which mingle their tones in the great voice of London. In the old time, before the population had become so dense as it is and the traffic so immense, the city bells must have tolled with far greater effect than they do at present, when, owing to the din, it is seldom that the great bell of St. Paul's can be heard in either Cheapside or Fleet-street. If the bells of Bow were ringing a full peal, they would not, during the busy time of the day, be heard in the bustling thoroughfare at any distance. In quiet nooks further removed to some extent from the traffic, the neighbouring church-bells can be plainly heard.

When we remember the beautiful chimes of some of our ancient cathedrals and churches, the sweet and musical notes which come from the steeples of rural churches, and compare them with the sounds of more modern bells, the contrast is greatly in favour of the former.

There are certain bells still remaining in London, notwithstanding the Great Fire, which have historical notes. That, for instance, at the top of the Bell Tower which adjoins the governor's lodgings in the Tower, which was probably tolled at the execution of Lady Jane Grey, Anne Boleyn, and other state prisoners, and probably sounded alarms of fire and other calamities in early days. This bell seems to have been more particularly used by the Tower authorities than that in St. Peter's Church, which stands near the spot where the scaffold was usually erected. The bells of St. Bartholomew's, Smithfield, are old, and were probably rung when the court has come to the tournaments and jousting at Smithfield. With the exception of Westminster Abbey, St. Saviour's, All Hallows, Barking, Cripplegate, and Old St. Pancras, there are few of the ancient bell-towers of the metropolis remaining. Several of the bells, however, may have been saved from the ruins of the fire. There is also the bell of the Charter House, which has tolled at the departure of a brother from soon after the death of Sir Thomas Sutton. Many will still remember that, while the fire of the second Royal Exchange was raging, the self-acting bells played merrily the tune of "There is nae luck about the house," and eventually fell with a crash amidst the blazing ruins.

Those who live near the Regent's Canal, particularly in one part, have at times the opportunity of hearing many bells, for the water acts as a conductor of sound. While listening to these bells striking the hour and chiming the quarters, it is curious to notice the varied way in which the work is done. One is exceedingly slow, and in Johnsonian notes takes a long time to tell the hour of twelve. Another, also slow, although it commences loudly, falls off towards the end, so as to be scarcely audible. Some clocks fail in the same way in the middle of the long hours. One clock is impatient, and in a tinny tinkle strikes twelve before the others can complete two. This quick bell does not chime the quarters, but at each half-hour gives a sharp sound. Nor are the tones of the bells less varied: some are sweet and silvery, and float like pleasant music on the breeze: others are hoarse and heavy; and some have a cracked and miserable note. The effect of the atmosphere in the conveyance of sound is very remarkable. Sometimes for a week or more at a time not even those bells which are nearest can be heard. Then occurs a sudden change, and a multitude of sounds come from Citywards; or, as the wind may set, from other quarters. Although the Great Northern railway line passes at a distance of less than a quarter of a mile from the spot where this is written, at times not the least sound from it can be heard. At other times in the night, the signals and the puffing of the locomotives are heard from a long distance, as though blown close to the windows.

The compression of a heavy atmosphere, in towns, which envelopes all, and prevents the diffusion of sounds, is worthy of study; for, when the air is thus loaded, the evil emanations of ill drained spots are concentrated, and assume a more deadly character.

Great as is the number of bells in the metropolitan districts, they fail to produce the same amount of effect as in some provincial towns where a lingering relic of the curfew may be heard from the churches at morning and evening, where the passing bell is still tolled on the death of an inhabitant; and on special occasions rattling peals, stirring the memory and the feelings, may be heard by every one in the place. Let us end with two inquiries;—what is to be done with Big Ben? and are our bellfounders now-a-days as clever as they ought to be?

MEETINGS OF ARCHITECTURAL SOCIETIES.

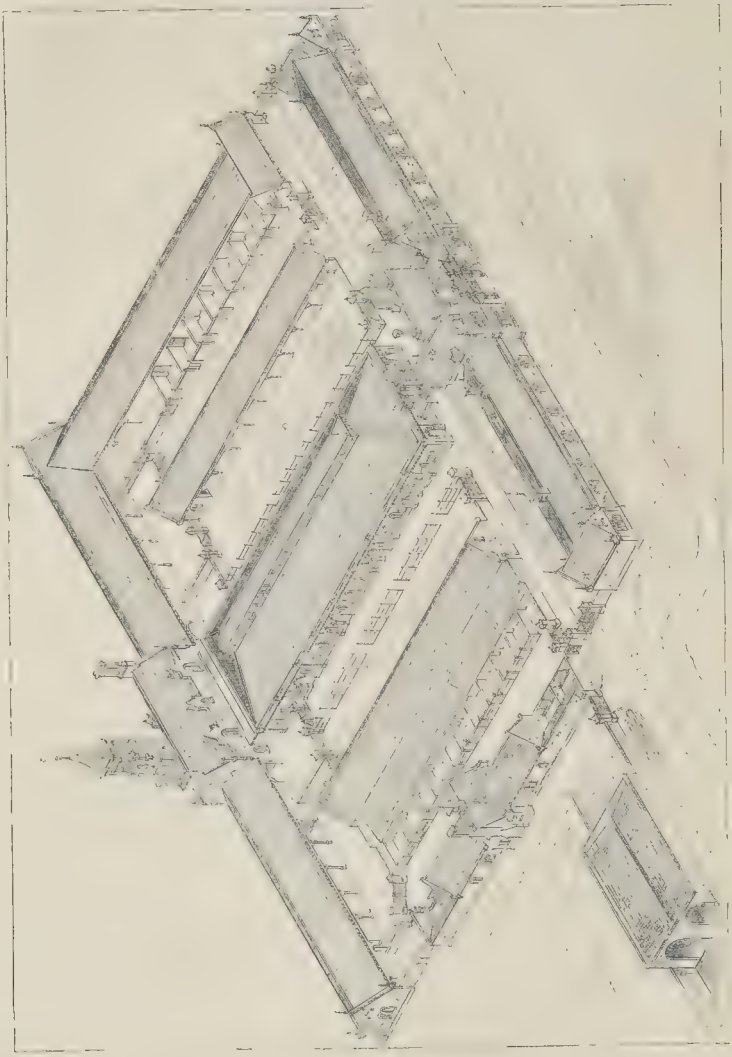
Edinburgh Architectural Association.—At the last meeting of this society,—Mr. R. Thornton Shiells, the president, in the chair,—Mr. Connell read a paper on "Ventilation, and its Influence on Health." On the paper having been read, Mr. Brown made a few remarks on the subject of which it treated, and the meeting separated with a vote of thanks to the chairman.

Liverpool Architectural Society.—The eighth meeting of the session of this society was held on Wednesday evening, the 28th ult., at the Royal Institution, Colquitt-street, Mr. W. Wrightman, president, in the chair. After the transaction of business, Mr. W. H. Picton read a paper, "Notes on Rome and her Edifices."

THE PRINCE CONSORT'S FARMS.

The recently published account of "The Prince Consort's Farms" is a book honourable to all parties concerned.* Its appearance is inviting; and the manner in which Mr. J. C. Morton has collected and arranged the materials is creditable alike to his knowledge and discretion. If he is a benefactor "who makes two ears of corn grow where only one grew before," how much so was the good Prince, who reclaimed or improved many hundred acres, and thus added a vast breadth of land to the "permanent staple" of the country; while by his example and successful investigations he assisted in leading to the general adoption of such improvements in farming as tend to increase greatly the produce of any given quantity of land. Our agricultural contemporaries will doubtless do full justice to the technical branch of the subject: to them it will afford many texts; for, as is correctly stated, his Royal Highness "stood, we believe, alone in British agriculture, as in himself the exemplar and exponent of a greater diversity of farm practice and experience than any other agriculturist." The book is in four chapters, headed, "The Royal Estates;" "The Prince Consort's Farms;" "The Prince and the Labourer;" and "Biographical;" with an appendix, giving a list of coniferous trees at Osborne and Barton, and list of animals exhibited and prizes won by the Prince. It is fully illustrated with sketches, isometrical views, maps, and plans, including engravings of many, if not all, of the cottages erected for labourers and others.

In the description of Osborne an account is



ISOMETRICAL VIEW OF THE PRINCE CONSORT'S DAIRY HOMESTEAD.

given of one of the Prince's contributions to the solution of the sewage question, formed as a remedy to the nuisance once caused by taking the drains to the shore for an outlet. We described at the time what was done, but may usefully quote the more complete description now given:—

"The original idea contemplated such a filtration of the sewage as should retain in compost with earth all the solid and most of the fertilizing ingredients of the liquid portion, letting the bulk of the water thus treated run to waste in a perfectly deodorized, and, as it was believed, purified and inert state. It is found, however, that while the nuisance has thus been completely abated, so that the water which escapes is limpid and without smell, it nevertheless carries with it much soluble matter of use as manure; and thus many acres of land lying below the line along which it is discharged over the northern side of the valley, are greatly increased in productiveness and fertility. The filter, designed by the Prince, by which this result has been achieved ever since 1851, consists of a brick-built tank, 30 feet long and 4 feet deep, and as much wide, divided into two equal parts by a wall across it, which has a double structure, with an interval of 6 or 8 inches between its parts. A similar double wall is provided at the end, which receives the drainage of the house. Into the space within the first double wall the drains deliver their flow, which thus sinks to the bottom and passes through holes at the bottom into the inner tank. There it rises through three successive sets of trays, each carrying 2 or 3 inches deep of mould, through which the water ascends to the surface of the first division of the tank. Thence it flows down the space within the second double wall, and in like manner rises through mould in the second half of the tank, which it ultimately leaves in an almost perfectly clear state, and entirely without smell. This water is then conveyed, partly by open channel and partly by hose, to one point and another over ten or fifteen acres of land, being allowed to flow unguided for ten or twelve hours at a time at each spot. At intervals of two or three weeks the tank and its trays are cleaned of all mud and sludge, and this is mixed with earth and forms a useful compost. The success of this scheme, and the simple manner in which it is carried out, seem to prove its adaptability to the cases of large establishments, as workhouses, gaols, and barracks, wherever sloping land exists, on which matter at present wasted could be turned to profitable account. As a contribution to the solution of the sewage question, it may be mentioned here that the waste of a household num-

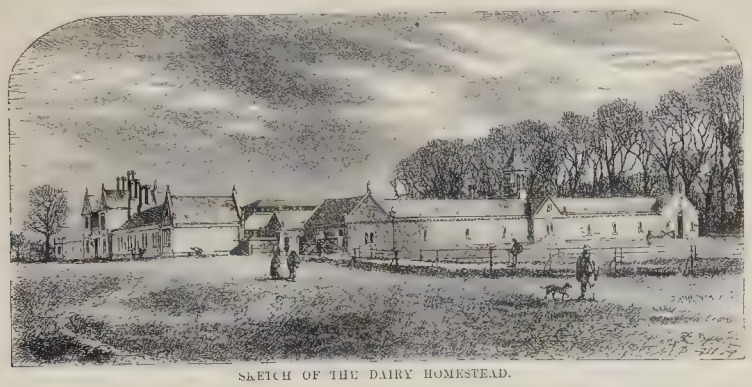
* "The Prince Consort's Farms: an Agricultural Memoir." By John Chalmers Morton, Editor of the "Cyclopædia of Agriculture." London: Longman, Green, Longman, & Co. 1863.

bering perhaps 150 persons during three months of the year, is thus delivered over fifteen acres, while the compost taken from the tank is applied to about one-third more. The produce of the grass is many-fold that of the land around it; and, eaten barer, it affords food enough for three or four times as large a stock."

In mid-winter, the land on which the house sewage is used is seen green in the midst of the generally bleached surface which poor grass land then exhibits.

Speaking of the Alverstone Farmery, Mr. Morton says,—"In the midst of this farm lies the tilery of the estate, where capital goods are turned out of all colours—white, red, and black. Moulds are used for every sort of brick required in the drainage either of fields, or roads, or stalls, or yards, and for every variety of brickwork connected with walls, windows, chimneys, roofs, eaves, and flooring." A gentleman-hobnails, to whom we submitted this paragraph, glowing with delight, said: "That's the way to improve your farms and lands: bring bricks to their doors." And so it is: but all are not able to effect it. The buildings on the various Royal farms exhibit great variety. For example:—

"There are the gorgeous dairy and magnificent cattle range of the Home farm, fit for inspection by Royal visitors; and the well-planned combination of stabling, cattle-boxes, stalls and yards, poultry-house and 'piggeries, with the covered sheep-shed over open floor, and manure tank underneath it, as a special feature at the Shaw Farm. The compact and compendious arrangement under a common roof of covered yard, with the stable on one side, and straw and food house, thrashing-barn, and granaries at the end of both—probably the latest improvement in modern homesteads—is seen at the



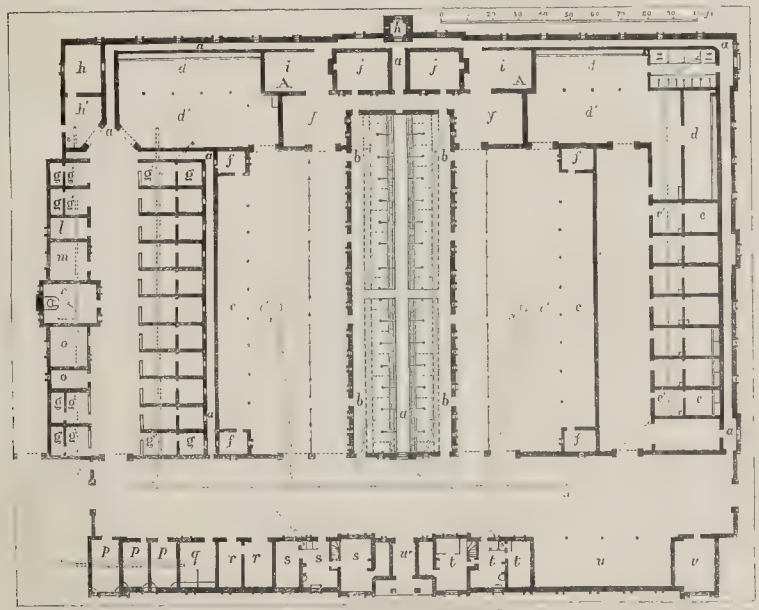
SKETCH OF THE DAIRY HOMESTEAD.

Flemish Farm. There is the old-fashioned thatched and wooden barn, with stabling, granary, and cart-shed, arranged around a large working court, in one corner of which stands the comfortable farm-house, at the Norfolk Farm. And there is something similar to this, though an improvement on it in respect to facilities for thrashing and for pig and cattle feeding, at the Rapley Farm."

All of these, except the last-named buildings, are fully illustrated by drawings and descriptions in Mr. Morton's pages. Of the illustrations we are enabled to give some examples.

The Dairy farm, Frogmore, built under the direction of Mr. Turnbull, exhibits many arrangements deserving of study. The principal feature in the arrangement is a magnificent two-rowed cow-house, with wide central gangway and lofty roof. The arrangements for watering and for draining, the latter being shown by dotted lines upon the plan, are most perfect throughout the building. The structure consists, it will be seen, of no fewer than five lines of building abutting upon a cross line which connects them, and which carries a clock-tower in its centre. A roadway runs across the other ends of these lines, and gives access up the intervals between them, which are used partly as roadways and partly as open yards. On the other side of this cross road, occupying, therefore, the same relative position as the cross line of building on the other side, stands another line with an architectural elevation, of which a separate drawing is given: it faces this dividing road. The other elevation of this row is seen in the isometrical drawing, which gives the general style of the structure. It includes cart-shed, cottages, loose boxes, and stables.

"From the southern end of it you walk up the space

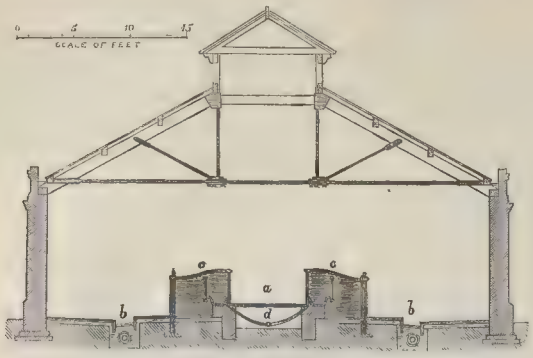


PLAN OF THE DAIRY HOMESTEAD.

between the first two rows of which the main structure consists. On your right hand is a series of pigsties, fed from the roadway through Crosskill's hanging flaps. You may also look into them from the gangway separating them from the cow-shed, which is provided with an open yard upon its other side. On your left hand are other pigsties, stores for food and litter, boiling-house, slaughter-house, &c.; the whole of this department being a most complete establishment for the accommodation of the valuable herd of the Prince Albert Windsor pigs. Traversing the gangway in which the road terminates, you pass yards, *h*, *d'*, and stores for straw and hay, *j j*, to the other side of the building, where is another open yard *d'*, provided with sheds, a calves' house, *x*, and hemels, *e e'*, for feeding cattle, cows, and bulls. Between this, the fifth ridge line, and the fourth, there is, as between the first and second, a roadway, and on the other side of the roadway is a shed like the cattle-shed of the second ridge line, furnished, as it is, with an open yard. The central line is the noble cow-byre to which reference has already been made. Its dimensions will be gathered from the following section. The stalls are 9 feet wide, for two cows each, divided by slate partitions."

The iron trough for each is divided into three compartments—the central division for water. The raised gangway, *a*, has a stone floor, with slabs of slate on either side of it. The pipes, *d*, supplying water to the drinking-troughs, lie below the passage floor. The stalls and passage floors are asphalte. The gutter, *b*, presents a sloping cross section, allowing of the easy escape of water, which falls at intervals into the drain shown in section below it.

The whole of the floors are laid upon a bed of



SECTION OF COW-HOUSE.

concrete, and this has completely prevented rats, mice, and other vermin from burrowing below them. The several yards for cattle have drinking-troughs stationed in them, supplied on the self-feeding principle; and there are hydrants placed in various parts of the buildings, with a plentiful supply of water from the Castle waterworks in case of fire. The surface water from the roofs and roadways is carried away by a separate set of drains, which are not shown in the plan. The whole of the door and window jambs, the ornamental coping, corbels, terminal pieces, and panels in gables, are executed in terra cotta. This was done by the command of the Prince Consort, who took great interest in superintending the erection of the homestead, declaring when it was finished that he possessed the best cow-house in the world. The reader will easily gather, by an inspection of the plan, how well and with how much economy of labour it is adapted to its purpose. In nothing is this saving of labour more considerate or more economical, than in the provision of cottages for the herdsmen and young men employed in them. These occupy a position, *e* and *f*, on either side of the central archway.

It may be added that the whole of the soakage and drainage of the sheds and yards is conducted to a manure-house, outside the plan, but represented in position in the isometrical drawing.

Arrangements are here made, and wisely, to prevent loss by the fermentation of the soiled litter. On this point we have often spoken, believing that throughout the country two-thirds of the valuable farm-yard manure produced is either lost or spoiled by exposure to the elements. Mr. Morton dwells on the advantages of the covered and inclosed dung-pit, and no one need be alarmed at the expense; for he states that a construction at the Home Farm, 30 feet by 35 feet, and 10 feet deep, is sufficient as an appendage to buildings affording stall and box accommodation for 200 cattle of all ages, and fifty or sixty swine. Too much attention cannot be directed to Mr. Morton's observation on this subject; and we hope ere long to find every homestead provided, as of the first importance, with the means of protecting, till carted on to the lands, the natural and most effective fertiliser.

The Dairy and some of the cottages we have ourselves fully illustrated on previous occasions; and we must here terminate our present notice of this very valuable book;—valuable in two capacities,—as a manual of information useful to the proprietor, the agriculturist, and the architect, and as a further exposition of the sagacious labours in the cause of social progress of the illustrious man we have lost. He touched everything, and advanced all he touched.

THE APPROACHING MARRIAGE OF THE PRINCE OF WALES.

ALREADY the note of preparation is sounding throughout the land for the purpose of giving due expression to the loyal feelings of the public in connexion with this event. The corporation of the ancient and honourable city of London, and some hundreds of old and modern boroughs and corporations, are considering how best to do honour to the day. At Windsor Castle the decorators are actively at work; and before two or three weeks have passed St. George's Chapel, by the aid of carpets and hangings, will present a somewhat gay but impressive aspect. We, and thousands, would have been glad for the marriage ceremonial to have taken place in London. This, however, is not to be. Even at Windsor, however, a route from the Castle to the Chapel might be contrived which would allow many to see part of the wedding pageantry.

So far as the arrangements are determined, the future Princess of Wales will land at Gravesend, and there will be received by the Prince, and conducted from that place by the road to, and thence through, London. This will allow an opportunity for a marked expression of feeling; for, besides the welcome to be given to the fair stranger, this will also be the first public appearance of the Prince in this the capital of these realms. On this occasion we do not expect to see the old-fashioned towers, with surprises of mermaids, angels, and giants; but we need not lose sight of the tasteful and elaborate decoration of the streets through which the royal couple will pass. There should also be as much state and importance as possible given to the procession which will pass through London.

On most of those instances of rejoicing which have occurred in modern times, the street decorations have been sad failures; and this has been chiefly caused by the want of some good and general supervision. As these things are usually managed, everything depends on individual exertions; and, in consequence, the general effect is very unsatisfactory. There are many points between London Bridge and Buckingham Palace which would afford as good opportunities for display as do the streets of most foreign towns.

In the City there either has been, or will soon be, appointed a committee, who will arrange the means and superintend the preparations for the public reception. There should also be meetings of the inhabitants of other districts, at which committees should be formed and subscriptions opened for the purpose of meeting the necessary expenses.

We would not now in a stately procession see the numerous and armed bands of the nobility and gentry wearing the badges and mottoes of their chiefs; nor will the liverymen in their many-coloured gowns act the part of policemen, and keep the roadway of Cheapside clear for the approaching cavalcade; but in these days the discipline and good management of the police on such occasions is in itself a show; and instead of the armed retainers, we might array in a procession thousands of well-dressed and well-ordered workmen belonging to various trade and other societies. There are also the thousands of children of our charity, national, Sunday, and other schools, who, placed in proper positions, would not only make a comely sight, but also, by their united voices, be able to give a pleasant note of welcome. There are, too, the Volunteers, who will, no doubt, on this occasion, come forward in considerable numbers.

The short days of February will rapidly pass away, and we would have care taken to make timely preparation. The very circumstance of persons meeting together to consider the matter would lead to many practical suggestions, and probably add much to the effect of a general display. There will be considerable uncertainty respecting the arrangements for celebrating this royal marriage, until some official announcement of what the Government recommend on the occasion has been made. The month of March is scarcely a safe time to risk the display of fireworks in the parks; and the same may be said respecting the opening of a fair, or making display upon the Serpentine. It would be well, however, to hear as soon as possible what suggestions are made; and whatever may be determined upon, let it be well and earnestly carried out, so that we may succeed in publicly celebrating an event in which all classes of the community, both rich and poor, take much pleasure and interest.

THE CURIOSITIES OF SOME ENGLISH SURNAMES.

THIS subject, which some have considered of trifling consequence, has been of late exciting attention; and what with the singular origin of many names, and the changes and corruptions which have taken place in the progress of time, English surnames have become a matter of much curiosity. The belief that "the rose by any other name would smell as sweet," cannot rightly be held; for, although it is true that genius or good conduct can give distinction to names of no pleasant sound, it is also certain that in the artistic and literary world, and in other positions in life, the name of a youthful aspirant is not without a certain amount of consequence. About half a century ago, not only in many provincial towns, but also throughout most rural districts, and even in parts of the metropolis, it was the custom for persons to be best known by their Christian name, and one in addition descriptive of their pursuits, or indicative of some peculiarity, as in their manner and appearance. Even at the present time this primitive custom is not out of use in certain rural and mining neighbourhoods. In this way we have had generations of Boots, Ostlers, Gardeners, and other persons connected with inns and houses: we have also had the signs of the inns themselves; and in families of some note, the bearing of badges or cognizances have given rise to names,—among which may be placed Lion, Roebuck, Talbot, Swan, and many others. Local positions have also much affected surnames; and we find Horsefield, Woodford, Westgate, Northgate, Southgate, Eastgate, Blackgate, Whitegate, and other gates; Westgarth, &c. &c.

Then we have also a vast number of derisive and sarcastic names. Amongst these may be classed the Piggs, Milksops, Foxes, Slowmen, Tallboys, Whiteheads, Blackheads, Littles, Biggs, &c. We have remarked, as indeed every Londoner must have done, a disposition in tradespeople with certain surnames, either to adopt businesses having some noticeable connexion with their names, or to enter into partnership with other persons of surnames capable of thus attracting attention. We recollect of a milkman in King-street, Holborn, of the name of Milksop, for example; Flint & Steel, in Holborn; and in the "London Directory" may be seen the name and address of one Steer, a cowkeeper, in Whitechapel. There is a well-known nurseryman at Highgate of the name of Cutbush. Firms have often curious names, even though not significant of their calling;—Ward & Lock, the well-known publishers, for instance. Moreover, there are seasonable names, such as Spring, Summer, and Winter, and it might be worth while to search the Post-office Directories for the name of Autumn. The names of the months, however, seem to have been especially neglected in connexion with surnames. March is a name by no means uncommon; but it has had another origin than the month. The Fields form a numerous family: besides the simple name of Field there are Butterfields, Springfields, Meadowfields, and many others of this description; and there are persons of the name of Meadows, Cowmeadow, Hawthorn, and other terms which have a pleasant rural sound. We have often felt regret that the surnames of many of those who have been raised to the peerage have been changed in such a way that the original names, and even the means by which the first bearers achieved greatness, are forgotten by the general public.

Surnames which have foreign roots would make a long list, and show to what a great extent this country has been improved by the introduction of fresh blood. Examples of this importation of new names might especially be picked out in Spitalfields,—a district which was long prosperous; but which at present is shaded by a cloud of adversity. In Birmingham, too, and throughout the midland counties, there will be found lingering the names of those broad-shouldered and active Flemings who at one period gave a great impulse to the manufacturing industry of this country.

If George or Robert, the descendants of one Stephen, had lived in old times, and if it had been

then possible that they should have assisted in the invention of a locomotive, there is no doubt that some name would have been, in a cant way, applied which would have been even more familiar than Stephenson at the present time.

There are many shades of colour in surnames: thus, there are Whites, Greens, Browns, Reids, Reddies, Blacks, &c., and these names of colours have been in several ways corrupted. As regards some of the commonest of such surnames,—Brown, for instance,—its varieties are extraordinary, and the same may be said of others.

There are some surnames, the origin of which forms a subject of considerable discussion. For instance, there are Cæsar,—even Julius Cæsar,—and Death, Corpse, Skull, Suett, Raw, Ram, Dam, Rascal, and others mentioned by a contemporary. In accounting for such names it is worth while to remember that before the reign of Queen Elizabeth, when the registration of births and deaths was to a certain extent for the first time insisted upon, and the mode of doing this was reduced to some sort of system, many thousands throughout the land must have been obliged to decide for themselves, or to have decided for them by others, the question of surname to which they had no legal or established right; and to a great extent the general custom of employing cant or "nick" names, and the ignorance of the masses of the people themselves, would cause many of them not to be very particular as regarded the names which should descend to their children.

The origin of such names as those of the Smiths, the Wardens, Wardells, Armstrongs, Wrights, Cartwrights, Wheelwrights, Archers, Bowyers, Goldsmiths, and many others, is very evident; but there are a multitude of other surnames of comparatively modern origin. There are constantly foundlings cast away in the streets, squares, and by-lanes of our cities; and also in the country districts and provincial towns. In this way there are many odd names originated. Many, also, are born in the workhouses and unions, who are either named by the authorities, or very doubtfully surnamed by their mothers. Many curious notes might be gleaned from the parish books. At the Foundling Hospital, since worthy Captain Coram and Master Hogarth's times, there has been difficulty in finding names for the children. We have before referred to this circumstance; but it is worth while again to mention that a vast number of surnames have originated in this hospital, and that many which had become uncommon were revived: in this way it is likely that even the name of Julius Cæsar has come into use by a London shopkeeper; for at times the committee of management selected for a term had difficulty in finding new names for the poor foundlings. Sometimes a classical taste prevailed, and we find that those with "no name" became, like the negro slaves in America, Hannibals, Cæsars, and so on after the well-known heroes of antiquity: then would come a literary and artistic taste; and so we had the names of great writers and painters applied to helpless and forlorn little children.

The corruption of what have been in the first instance good names is a matter of complaint to many: for example, Mountjoy would be not a bad cognomen; but in the north of England it would to a certainty be corrupted into "Mainjey," a term applied only to diseased and dirty dogs.

When surnames have been corrupted or altered in bad taste, they may often be improved by the mere alteration of a single letter; and those which are incorrigibly unpleasant may, at very little trouble and cost, be changed altogether; but, in nine cases out of ten, the best plan is to determine by right personal exertions to give credit to a name which in the first instance might not be remarkable for either its beauty or its seeming fitness.

THE PNEUMATIC DESPATCH.

The modified revival of the atmospheric system appears to promise well, at least for the transmission of letters, parcels, and other goods. It may be a question whether it would not be the best system for underground railways in place of the objectionable locomotive. Lord Stanley of Alderley, the Postmaster-General, and Sir Rowland Hill, the Secretary to the Post-office, have officially inspected the working arrangements of the branch tube from the Euston Station to the North-Western Post-office, in Eversholt-street, previous to the transmission of the mails between these two places; the Post-office authorities having conceded this privilege to the Pneumatic Despatch Company; and on the arrival of the Postmaster-General and Sir Rowland Hill at the station, within the boundary of the Euston Terminus, they were received by Sir Charles Rich, one of the directors; Mr. Margary and Mr. Rammell; the secretary and engineer of the Pneumatic Despatch; Messrs. Blake and Stewart, of the London and North-Western Railway, being among those present. The working arrangements were thoroughly explained by Mr. Rammell, the engineer, and trains of cars were rapidly propelled backwards and forwards through the tubes. The cars contained heavy weights; being principally loaded with stout planks; and on the signal being given by Wheatstone's telegraph, they were despatched to the other end of the tube, with a pressure of about 4 ounces, in a few seconds over a minute; the average up the incline being about 1 minute 12 seconds, returning by vacuum in 1 minute 5 seconds. The mail bags—upwards of 120 per day—will be blown through the tube in 55 seconds to the post-office, Eversholt-street; the usual time occupied by the mail carts being at present about 10 minutes. Two persons were conveyed, in presence of the Post-office authorities, through the tube, and returned by vacuum without having experienced the slightest discomfort. The Postmaster-General observed that the system appeared from the experiments to be very satisfactory and efficient. Previous to leaving the station at Euston, Lord Stanley descended with Mr. Rammell into the air-chamber of the revolving disc, the motive power of which consists of a fifteen-horse power engine.

The next step of the company will be to lay tubes connecting the markets of London with Camden Goods Station, with a tube to the General Post-office and Pickford's depôt in Gresham-street; and these operations will eventually tend to revolutionise the carrying system of the metropolis, and relieve the crowded state of our principal thoroughfares.

GLASGOW ARCHITECTURAL ASSOCIATION.

The usual meeting of this Association was held on the evening of the 27th ult., the president in the chair. After the minutes of the previous meeting had been read, the hon. secretary laid before the meeting communications from the Institute of British Architects, and from the Architectural Institute of Scotland, Edinburgh, in which they intimated their intention of presenting copies of their printed transactions to this Association. Mr. Melvin then read an essay on "Propriety of Styles." A discussion followed.

CONVERSAZIONE OF THE MANCHESTER ARCHITECTURAL ASSOCIATION.

This Association held its annual conversazione in the Library Hall of the Athenæum, on Thursday evening, the 29th ult. A number of tables were arranged in the Hall, on which was displayed a valuable selection of goldsmiths' work and pottery. The latter comprised specimens of the progress of porcelain manufactory from the Grecian period down to the present time. There was also a fine selection of encaustic tiles and some choice serpentine granites from Cornwall. The whole of these were exhibited by Mr. T. Oakden. On the side tables was a magnificent series of architectural and other photographs, by Mr. Francis Bedford, lent for the occasion by his agent, Mr. C. J. Jackson; and on the walls were displayed some original architectural detailed drawings, by Leoni, the Italian architect, which had been contributed by Mr. W. J. Legh, M.P. Portfolios of original sketches by Italian masters, and valuable architectural works of design were placed about the rooms, and numerous architectural designs by native architects were hung upon the walls. At the lower end of the room was a full-sized model of a portion of a waterproof glass roof, constructed of the new sectional form of glass manufactured under the patent of Messrs. Showell, of Manchester.

Mr. Lawrence Booth, the vice-president of the Association, delivered a short address. He said it was the first occasion on which there had been a number of friends not connected with the Association present. It was only in a few of the large towns that associations of the kind were established; and it was considered that such an important city as Manchester ought not to be behind less important places in architectural matters. Their institution was founded in 1860, and from that time the number of members had been gradually increasing, the society now including about fifty members.* Some opposition had been met with where least expected, but the Architectural Association had extended to them the right hand of fellowship. Mr. Alderman Goadsby then addressed the meeting. He commented upon the great advance which had been made in the architectural adornment of this city during the last few years; and said that he believed, when the present distress passed away, other works would be commenced superior to anything before attempted. Mr. J. J. Lyons also spoke, and the proceedings closed about eleven o'clock.

PRESENT TO THE TOWN OF SWANAGE.

Mr. Mowlem, whose name in connexion with the stone trade of Guernsey is known to some of our readers, has erected and presented to the town of Swanage an Institute for the Working Classes. The building is described as being "in the Romanesque style, treated freely. The reading-room is 46 feet long by 25 feet wide, and 25 feet high, with a library under a spacious gallery at the west end. The building is erected of the Swanage stone, roughly hammer-dressed in random courses, pointed with black mortar. The dressings are of the same stone tooled." Mr. Mowlem has invested 200*l.* in the Funds for the benefit of the institute.

ST. FIN BARR'S NEW CATHEDRAL, CORK, COMPETITION.

The general committee for the erection of this cathedral have adopted the design with the motto "*Non Mortuus sed Virescit*," as that deserving the first premium, 100*l.*, and as that which should be the one ultimately built. To the design with the motto "Let us arise and build," has been awarded the second, 50*l.*

The delay in coming to a decision is said to have been caused by the anxiety of the committee to do full justice to the competitors by the exhibition of the plans to the public.

"*Non Mortuus sed Virescit*" is the design of Mr. W. Burges, of London. "Let us arise and build," that of Mr. T. Newenham Deane, of Dublin.

We have already received letters taking strong objections to the selection of the first design on the score of cost; but they reached us too late for consideration.

THE NEW MARKET AT CHESTER.

This new market will shortly be opened. The main front is in Northgate-street. It is built of stone from the Manley Quarries. Extending to a length of nearly 120 feet, it is 50 feet high in the centre to the apex, and 36 feet in the wings. It is divided into three parts, the centre slightly in advance, with two wings, corresponding with the threefold division of the internal roofing, the centre part being the widest. These are again subdivided into three intercolumniations by three-quarter engaged columns round and square, the square ones occupying the angles, all rusticated by horizontal and oblique bands, and supporting a Doric entablature and balustrade, broken over the columns, and which in the central part rises higher and follows the pitch of the main roof. A group of sculpture is now in course of execution to be placed on the apex of the building. A fountain of red granite is to be inserted in the inner columns on each side of the main entrance.

The interior is divided by ranges of cast-iron columns and girders into a centre and two aisles, the former raised about 10 feet higher, so as to leave a clerestory filled in with plate-glass luffers along the length of the building; further ventilation being provided by quasi clerestories 5 feet high, also filled in with luffers, produced by raising the central portion of each roof, and glazed with rough plate glass. The roof is constructed of light wrought T iron and king and tension rods, covered with diagonal boarding on timber purlins. Around the three sides of the market are ranged twenty-seven shops, and over that at the north-west angle is provided the inspector's office, overlooking and commanding the whole market.

The Fish Market, of an area of about 70 feet by 40 feet, is situate at the north-west angle.

Messrs. W. & J. Hay, of Liverpool, were the architects of the building, and have been assisted in the superintendence of the works by Mr. Richard Davies, the city surveyor. Mr. Roberts, of Chester, was the contractor. The style is described as an adaptation of the Flemish Italian, treated with freedom.

* In earlier days Manchester had a very active architectural society. Ed.



THE NOVGOROD MONUMENT, RUSSIA.—One of the Groups around the Orb.

THE RUSSIAN MONUMENT, AT NOVGOROD.

Our readers will have heard of the completion at Novgorod of the monument erected to commemorate what is called the one thousandth year of the Russian empire, dating from 862 to 1862. We are glad to be able to place a view of it before the public at a moment when the character of a memorial in which the nation is concerned is about to be decided on.

The upper part of the Novgorod monument, of bronze, consists of an orb, 15 feet in diameter, surmounted by the cross and two figures emblematic of the orthodox faith, as the foundation of the moral elevation of the Russian people. Around the lower part of the orb are nineteen figures, each 12 feet 6 inches in height, arranged in groups, personifying the six principal epochs in the history of Russia, and thus placed:—

Rurick—the foundation of the Russian state, 862.

Vladimir—the introduction of Christianity into Russia, 988.

Dimitry Donskoi—the liberation from the Tartar yoke, 1380.

Ivan III.—The foundation of the Russian monarchy, 1462.

Michael Fedorovitch—the restoration of the monarchy by the election of the house of Romanof, 1613.

Peter the Great—the reformation of Russia and the foundation of the Russian empire, 1721.

The lower part of the monument is partly of bronze, partly of granite. The portion immediately under the groups is of bronze, then comes a cornice of Serdobol granite, then a series of bas-reliefs in bronze, and then a socle of Serdobol granite.

The bas-reliefs, 5 feet in height, represent men and women (107 in all) who have contributed, by their exploits, to the glory of the Russian empire.

The diameter of the lower part where surrounded by bas-reliefs is about 28 feet: the height of the pedestal, base, and pavement, is 21 feet; and the height of the whole monument, 50 feet. The weight of the bronze portions is 65½ tons. The cost of the monument is stated to be Rs. 480,000, or, taking the rouble at 3s. 1½d., 75,000*l*. About one-third the amount has been raised by subscription: the remainder is to be paid out of the State treasury.

The group, of which we give an enlarged view, typifies the epoch of Vladimir. On one side, at his bidding, the people destroy their idols: on the other a mother offers her child for baptism.

In the general view Peter the Great is seen on the right hand side, protected by a winged figure, with the right hand on his right shoulder. The figure on the left of the view represents Michael Fedorovitch.

The monument, as a whole, is bell-shaped, to remind the Russians of the great bell which was always rung when they were threatened by an invasion of the Tartars. It was designed by M. Mikeschine, a young Russian artist.

A VISIT TO PART OF THE MIDDLE-LEVEL MAIN SEWER.

The members of the Holborn District Board of Works being desirous of satisfying themselves as to the progress of the works and general state and character of the Middle-Level Sewer, application was made to the Metropolitan Board of Works, and Messrs. Brassey & Co., the contractors, were instructed to afford every facility for pursuing the inquiries on which those gentlemen desired information. Descending down a shaft which was prepared in the contractors' yard, near the western bank of the Fleet, the visitors were ranged under the guidance of Mr. Lovick, assistant-engineer, and of Mr. Isaacs, C.E., surveyor of the Holborn District, and proceeded westward. The first part to which attention was directed was the junction with the Fleet. When the main drainage was designed, the Metropolitan Railway was but in embryo, and an alteration of the original plan had to be effected to meet the altered state of the case. This alteration has been made since the original line of sewer has been completed, and the whole business has been accomplished without injury to the property in the crowded locality through which it runs. Passing onwards the visitors were informed that the tunnel through which they were traversing was bearing on its shoulders the enormous weight of Reid's Brewery, a feat which it seemed to accomplish without flinching and without any apparent sign of the enormous load which it had to bear. Still moving westward, the visitors minutely examined the appliances introduced for the interception of the subsidiary drainage; how Gray's-Inn-lane, with its numerous courts, Bedford-row, and the regions of the Foundling and Bloomsbury, were provided with an outlet for their refuse, and the means for the periodical inspection of the main artery.

At the junction of Theobald's-road and Bloomsbury-square there is an awkward projection of houses which has long been considered the subject of metropolitan improvement. To avoid interference with these houses, a curve of an extensive character had to be constructed; and the visitors were surprised to find, on approaching this spot, that, although no external indications existed of work having been executed below the surface, the curve had been constructed and no impediment intervened to their progress, and they proceeded onwards until they reached that part of Oxford-street where the works, having been postponed in order to prevent interruption to traffic during the Exhibition season, they were at last compelled to retrace their steps in consequence of the tunnel not having been sufficiently advanced to admit of their further progress. The return journey was accomplished in much less time than the advance had been made, until a halt was sounded, when the explorers were by no means displeased to find that, although at so great a depth below the surface, the amenities of social life were not forgotten, and over a glass of veritable cliquot, they were enabled to drink the health of Mr. Lovick, the assistant engineer, who had devoted himself to the duties of cicerone, and of the contractors, Messrs. Brassey, Ogilvie, & Harrison, who had kindly placed their whole staff at his disposal to assist him in this duty.

Monument to the late Archbishop of Canterbury.—In is proposed to erect in Canterbury Cathedral a monument to the memory of the late Archbishop Sumner. With this view it is intended to raise a sum of 1,000*l*.



MONUMENT OF THE RUSSIAN EMPIRE, AT NOVGOROD.——DESIGNED BY M. MIKESCHINE.

A LECTURE ON ARCHITECTURE TO THE ROYAL ENGINEERS.*

ON being requested to deliver a lecture "On the Principles of Design in Architecture," I willingly consented to do so; the result of long and patient thought on the subject having led me to conclusions so different from those which generally prevail, that I am glad of an opportunity of explaining my views to such an audience as this, feeling confident of the correctness of the reasoning I am about to lay before you; and being, at the same time, impressed with the importance of a juster appreciation of the true conditions of the problem being generally diffused. It seems to me that unless this is the case, it will be impossible for any improvement to take place in the present very unsatisfactory state of architectural design. Unless, also, architects are agreed in the principles on which the science of their art is based, all criticism must be empirical and worthless.

Before, however, I attempt to define what architecture really is, let me first try to explain what it is *not*, for I feel convinced that one-half of the errors in design, and nine-tenths of those of the theory, arise from mistaken analogies with other arts with which it has no real affinity, and from false theories based on these erroneous data. First, then, architecture has no affinity in principle with painting and sculpture. These arts are what are properly called phonetic arts—that is to say, are voices, or represent what may be expressed by words. In Egypt painting was the only mode of perpetuating thought, but since the invention of the alphabet, painting has become subsidiary to writing; still all our paintings are either repetitions in a different form of what has been written, or representations of things which might be expressed more or less clearly in words. Hogarth's "Rake's Progress," for instance, or his "Marriage à la Mode," is a novel written with the brush. The thousand and one pictures which illustrate Milton's "Paradise Lost," or "The Vicar of Wakefield," are only transcripts in another form of the original poem or novel; and even our landscape or animal painters are only doing in a vivid manner what words would paint—if not so well, yet in some respects with more distinctness of detail. Sculpture is an art which has the same tendencies and objects as painting, only that it expresses by form what its sister art accomplishes by the employment of outline and colour. Still the pen, the brush, and the chisel, are only instruments for doing precisely the same thing, though in different ways. But architecture has nothing to do with words. No amount of eloquence will build a house, and no conjuration of words will keep out the weather, or warm the inside of a dwelling: words cannot make a house, and a building can only express a very few and limited class of ideas, and these only very imperfectly. Notwithstanding all this nothing is so common as to group these three arts together; and the painters, sculptors, and architects, are supposed generally to be men following different branches of the same profession, and are joined together in the same academies as if they had everything in common. Yet, unless you can thoroughly eradicate from your minds all idea that there is any analogy between them, it seems to me impossible that you can ever acquire any clear ideas as to what architecture really is or means.

If, however, architecture has no real affinity with these phonetic arts, there is another group of arts with which its relations are intimate, and all the analogies drawn from them are true. The group I allude to is that of the useful or technic arts; and without attempting to go into any classification of these it will be sufficient at present to define them as those arts which provide for mankind *food, clothing, and shelter*. By a beneficent arrangement all these, which, in the first instance, are indispensable for his existence, are capable of being refined into fine arts, so as not to supply the wants, but to gratify the tastes of mankind. It is the desire to possess these refinements which is the greatest incentive to exertion, and it is practically their possession which distinguishes the civilized from the savage races. To take an instance: man cannot eat raw meat, and even raw vegetables or fruit are very poor food to work upon, so that roasting and boiling become quasi necessities; but when men have leisure and means they soon become dissatisfied with even these, and stews and compounds of various kinds become indispensable till at last the useful art of cookery is refined into the fine art of gastronomy.

It is the same with clothing: a sheepskin and a blanket are sufficient to keep out the cold, but these have been refined by steps I need not trace, into art as elaborate and as expensive as any other. The fairer half of the creation, at all events, spend more time and money on making their dress beautiful than, I fear, is spent on architecture; and even men are not always quite free from the hankering after the beautiful in this form.

It may at first sight appear comparing great things with small to compare architecture with gastronomy and tailoring, but this is not the question: what I assert most unhesitatingly is, that the useful art of building is refined into architecture by the identically same process by which cookery is refined into gastronomy, or tailoring into an art without a name. The same process which refines a boiled neck of mutton into a dish of cutlets *à l'Impériale*, or a grilled fowl into a *Poulet à la Marengo*, or any other elaborate compound, is the process by which a hut to shelter an image is refined into a temple, or a meeting-house into a cathedral; and so essentially is this the case, that if you wish to acquire a knowledge of the true principles of design in architecture, you will do better to study the works of Soyer, or Mrs. Glass, than any or all of the writers on architecture between Vitruvius and Pugin. Architecture is thus nothing more nor less than a useful art, necessary for the existence or convenience of man, refined into a fine art in order that it may also minister to his intellectual gratification.

In this country the civil engineers are the plain cooks, and, though most excellent in that capacity, generally make a sad mess of it when they borrow a cookery-book and try their hands at a higher flight. The architects with us are what the French call *des Artistes*, and, like their confreres, are very indignant when asked to superintend the spit or to look after the boiling of a leg of mutton. Both are excellent in their way, but the fact is that no line can be drawn between them, and no one can say where the useful art ends, or where the fine art begins: it changes with times, places, and subjects, but the process is the same in all branches; and whenever you desire to refine any useful art into a fine art, there is only one path by which it can be done, and that is the same for all: if you deviate one hairbreadth from that path, you get into difficulties, from which no talent has ever yet been able to recall the wanderers.

It is hardly necessary to enter into the argument whether it is expedient to build beautifully, or to cook elaborately, or whether we ought not to be content with plain roast and boil, or plain undisguised brick and unhewn stone: all, I fancy, will agree that the element of beauty or refinement, if it can be obtained without unnecessary inconvenience, or without materially enhancing the cost, ought to be aimed at; and that this, when it is accomplished, is a gain to the refinement and dignity of mankind.

If all this is as clear and simple as has just been stated, it may well be asked why it is not universally acknowledged, and how was it that men ever came to believe that there was any connexion between architecture and the phonetic arts, or ever came to practise it on these mistaken principles? The answer to this is unfortunately only too easy and obvious. When in the fifteenth and sixteenth centuries men re-discovered the literature of Greece and Rome, they were so much struck with the immense superiority of the classical literary models, as compared with anything that had been done in Europe during the middle ages, that they one and all became enthusiastic classicists. So far as literature only was concerned they might be right; and they were also, perhaps, not far wrong in reproducing the refinement of the classical ages in the sister arts of painting and sculpture. The error was in jumping to the hasty conclusion that the same reasoning applied to architecture also; in fact, that the principles of the phonetic arts might be applied to the technic, or useful arts. No sooner was this false analogy conceived than architecture was taken out of the hands of the true experts—the master masons who had brought it to such perfection—and was handed over to such men as Alberti, a scholar; Michaelangelo, a painter and sculptor; Raffaelle, Perruzzi, Sansovino, Giulio Romano, and others who were painters—in short, to the artists who practised the phonetic branches of fine art, but who had no real knowledge of construction or any definite idea of the principles on which the art ought to be carried out. From that day to this the error has never been thoroughly corrected. The architect has become a man who conceives a design for a building *ab externo*, as a painter conceives the design of a picture; and very rarely indeed a man who works out his forms *ab imo*, or from the real essential necessities of the case. The idea of a man sitting down in his office to prophesy buildings of all sorts and kinds, for all purposes and all places, never occurred to any one in the Middle Ages. They did not then believe that any human intelligence was capable of foreseeing the ultimate form of 50 or 100 buildings; of drawing, measuring, estimating, and describing every detail before a stone was laid on the ground. They set to work in a very different style: one man devoted his whole life to one particular class of building, and undertook one building at a time; and, assisted by masons, carpenters, carvers, and ornamentists, each of whom had devoted his life to his speciality, and was devoting his whole time to that one work in hand, they elaborated among themselves, during a long course of years, those buildings which we now so much admire, and admire simply on account of the amount of honest, earnest, skilful thought that has been devoted to their elaboration. The one simple object that these men set before them was, how to produce the best possible building for the purposes entrusted to them with the means at their command. The last church, the last castle, or the last mansion, nearly of the dimensions of that they were undertaking, served them as a model; and with such altered conditions as their purposes necessitated they set to work, introducing as they went on every amendment in construction that had been introduced since the last was built; every improvement in arrangement, and every new form of ornament that had come to be admired in the interval. They thus went on gradually accumulating experience, till at last they reached that degree of perfection which so much astonishes us now, but which then enabled any village mason in the fen country, or in the Moors of Cumberland, or Wales, to produce buildings which our greatest and most learned men are now trying to emulate in vain.

This simple system had the further advantage that everybody understood it. If a priest wanted to build a church, a baron a castle, or a gentleman a mansion, they knew what was the model that suited them best, and they knew also where to find the man best suited for their purposes. The conditions of the problem were so simple that every one could understand them. There was no looking back to past ages, or to other countries. No learning or antiquarian skill was needful, nothing, in short, but a knowledge of what was going on around them. It was then with architecture, as it is now with ship-building, engine-making, or any other useful art. A merchant does not require any deep knowledge of the art of ship-building to know where to find the man that can build him exactly the ship or steam-vessel he may want, for carrying, or for speed. If a man wants a marine steam-engine of a certain quality he knows where to find the men who can supply it. If he requires one for pumping, there exists another class who make their speciality; and if he wants a locomotive, he knows also where to go. Thus, without any special knowledge of ship-building or engineering, any man may now be sure of getting exactly what he wants, and of the quality he requires, by applying to those men who have made it the special study of their life, and who, consequently, know all that has been done or can now be effected. It was precisely the same in the Middle Ages: priests, barons, gentry, all knew what they wanted, and they knew also where to find it; and they have found it, too, in a manner we well may envy, but hitherto have failed to compete with. With the Renaissance a new element was added to all this: besides the necessities of convenience and construction, the building, if a church, was to look like a Roman temple; if a palace, like a Roman amphitheatre, or bath; and if a villa, like what that of Pliny or Lucullus was supposed to have been. This was not the work of an architect or a builder, but of a scholar or antiquary, and his subordinate workmen knew nothing of all this; so the architect was obliged to spin the whole out of his own head before commencing, and deliver it complete to be carried out by men who had not the smallest conception of its meaning, or of the purposes the various parts were meant to subserve or express. In fact, the whole secret of the problem lies in this, that during the Middle Ages, and during the existence of any true style, men practised architecture precisely as we practise any other useful art. Precisely the same process that converted the galleys of Edward into the three-deckers or ironsides of the present day, converted the rude churches of our Saxon forefathers into such cathedrals as those of York and Lincoln,

* By Mr. James Fergusson.

or the spinning-wheel of the cottage door into the hundred-spindled mule of our cotton factories, bit by bit progress towards a well-defined end, steadily persevered in for years without ever turning to the right or left, or ever admitting of the introduction of any extraneous element. Since that time we have added the new element of the problem in architecture alone of all the sister technic arts: we have insisted that, besides convenience of arrangement, perfection of construction, and beauty of ornament, the building shall look, or try to look, like something that was done in some other clime or at some other age, and was probably for some other purpose. It is as if we were to go to Scott Russell and ask him to build us a steam-boat, but insist at the same time that it shall have three tiers of oars, and look in every respect like a Roman Trireme; or go to John Penn and order a steam-engine, but stipulate that it must be so arranged that it must look like a wind or a water mill. These orders would not be so ridiculous as insisting that an architect shall build you a museum, but shall put up in front of it a screen of columns intended for, and useful only in the temples of classical times; or shall build a Protestant place of worship in which you can neither see nor hear, nor sit with safety or comfort, and all because in the Middle Ages seeing and hearing were not important, and because our forefathers were too rude to suffer from draughts or hard seats.

The fact of an æsthetic element being introduced into the practice of any art, makes no difference in the argument; for, as before hinted, all arts, phonetic or technic, are capable of this species of development. Thus, prose is capable of being developed into poetry; narrative into eloquence; a mere photograph into a highly imaginative painting; a figure in wax-work into an Apollo Belvedere, or a Venus de Medici; by exactly the same process by which cookery becomes gastronomy, tailoring costumery, or building architecture. But each is developed into beauty within its own limits: there is no shunting of one art into the province of another to obtain this result; nor is it possible within the limits of the art itself to tell where use ends and beauty begins; and certainly no new principle is developed by the change in the manner in which the art is practised in its various phases. So far as I know, there is no instance in the history of the world of one art invading the territory of another, except in the solitary case of architecture during the last three centuries; and the experiment has been so unsuccessful that it is not likely to be repeated. If it had succeeded, the anomaly might have been overlooked, and the apparent absurdity forgiven; but, as the result is entirely the other way, it is time it should be abandoned. It is, perhaps, not too much to say that, though more money has been lavished, and more talent employed in building during the last three centuries than at any previous period, not one single building has been produced which is entirely satisfactory, and thousands which are very much the contrary; while during the three preceding centuries it would be as difficult to find a single edifice in any part of Europe which is not beautiful in itself, or which we cannot now contemplate with delight. The latter were the work of men comparatively ignorant and rude; the former of men in the highest state of civilization and refinement which the world has yet known; and this difference in result can only be ascribed to the difference in the principles on which the art was carried out during these two periods. It is high time, therefore, that architecture should recover her true position as one of the most important of the useful arts in the utilitarian stage of her development, and as the one most suited for artistic development, and perhaps the only one capable of rising to grandeur or sublimity in the second or æsthetic stage. Her true career is so grand, and her purposes are so noble, that she can very well afford to repudiate any connexion with the phonetic arts which belong to a totally different class, and need not borrow shreds from their adornment. Her own principles suffice for all her own purposes; and when these are honestly carried out, she has no rival among human arts except among the highest flights of poetic literature.

Elements of Design.

Without further preface, then, let us come to the practical point. What are the means by which a satisfactory architectural design may be obtained? The best general answer that can be given to this question is, perhaps, that which was given by the painter Opie to a young artist from the country, who, struck with the brilliancy of Opie's colouring, timidly ventured to inquire with what he mixed his colours. To this the gruff old painter briefly replied,—*Brains!* In that one word is the whole theory of architecture. If a man will only think of what he is doing, and think of that only, I defy him to produce a bad design. A vulgar man may impress something of his own vulgarity upon it; a weak man, something of his feebleness; but if the position of the art is up to the mark of the age, these will not be perceptible to the general eye. An earnest purpose-like design, pretending to be nothing but what it is—going straight to its object, and giving evidence of careful study and thought, must always be pleasing, not only to its contemporaries, but through all ages, even if neither ornamented nor ornamental; while no extravagance lavished on a falsehood can remain tolerable beyond the fleeting fashion that gave rise to it.

To descend a little more to particulars, the principles of design in architecture may be classed under four distinct heads, thus:—

1. Convenience in arrangement.
2. Economy in construction.
3. Ornamental arrangement.
4. Ornamented construction.

The two first belong, properly speaking, to the builder, or to the engineering part of the profession; and only the latter two, strictly speaking, to architecture; but unless he gets them done for him, which sometimes, though rarely, may be an expedient arrangement, no architect must neglect the former two. Indeed, the foundation of all good architecture is, that the building shall be so arranged as to meet the purposes for which it is intended in the best possible manner. This alone will not suffice to make a building beautiful, but it will go as far towards it as almost any other quality, and nothing that can be added will redeem the want of it.

By economy is meant that all the material used in a building should be so employed that the greatest possible amount of work shall be got out of it. When this precept is carefully attended to it frequently happens that a stable and elegant building may be erected with a certain proportionate amount of material, while with twice that quantity less scientifically applied, a clumsy rude edifice is all that is obtained, crushing itself by its own weight. It is, in fact, doing by reflection and science what too often is attempted by brute force. Like any other good principle, it may be carried too far, but it may safely be asserted that nothing adds so much to the charm of Gothic buildings as the scientific economy displayed in every part of their construction.

The third principle, enumerated above, is the foundation of all good architectural design, and consists in arranging the various parts of a building, or of a group of buildings, so as to be in harmonious proportion one to another, and so that each may aid every other part in producing the effect desired. By thought and care this may generally be obtained without any extra expenditure of money or materials, or with only the slightest if any loss of convenience. As such it ought always to be the principal study of the architect, and as the means by which the most permanently satisfactory results may be obtained. The fourth principle, which is the special province of architecture, ought always to be treated as an addition—something very useful towards architectural effect, but not as essential. It ought never to be allowed to interfere in any way with convenience, nor with economy of materials: its main use is to aid and refine ornamental construction, to accentuate the constructive details, and, if I may use the expression, to tell the whole story of the building in an agreeable manner.

Ornament is extremely useful in conferring on buildings a degree of elegance and richness, which, without it, it would be difficult to obtain; and it also may be made to convey an impression of wealth and magnificence which, in its absence, could only be attained by increased dimensions, or massiveness, which would be as expensive, and, in some instances, at least, less effective. Ornament is also extremely useful in altering the apparent proportion of buildings: thus, by the employment of strongly-marked horizontal lines, a building which is too tall may be reduced to proportion; one that is too low made to look nearly as high again by employing only vertical features. Buildings that from the inherent necessities of their construction look weak, may be made to appear of any desired degree of strength, and sparkling gaiety of effect be given to those that otherwise would be too massive and heavy.

Internally, the architect very often cannot control the dimensions of his apartments; but by a judicious application of ornament he may always make low rooms look higher, narrow rooms broader, and reduce long rooms to a better proportion. More than even this ornament enables an architect to give to every part of his design exactly that degree of prominence and dignity, and that class of expression which suits its position or purposes. These are all legitimate uses for the employment of ornament, and when used for these purposes it is never offensive. It always becomes so when it is employed to conceal either use or construction, or to make a building try and look like what it is not or cannot be.

Ornamental Arrangement.

In order better to explain what is meant by ornamental arrangement, let us take an example. It is proposed, for instance, to erect a barrack for say 1,000 men. The first thing, of course, is to study the economy of the regiment, and to ascertain exactly what is wanted. There must first be dormitories and living-rooms for the men—quarters and a mess-room for the officers, quarters probably for married soldiers, an infirmary or hospital, an entrance gateway, main guard and canteen, &c. If you arrange all these in a row any how, you will get a very commonplace effect. But supposing you divided your men's barracks into four nearly cubical blocks, and place them at the angles of your square, and fill up the longest curtain with the officers' buildings opposite the entrance, and let the married men's quarters and the infirmary or other offices fill up the other two. If all these buildings are well proportioned to each other, and each appropriate to its own use, you may get a very pleasing and stately effect without one shilling of extra expense. But if, on the other hand, you make the officers' quarters exactly like those of the men, as is done in this barrack,—if you make the field-officers' quarters like those of subalterns, you lose one of the principal elements of architectural expression, and the design loses all the meaning it might otherwise convey. In this instance I recommend the principal masses being placed in the angles, not only for sanitary purposes, but because in nine cases out of ten it is better architecture to accentuate the angles, than to attempt to dignify the centre. We have got into the contrary practice from the habit of using porticoes, which can be only applied to the middle of a building, but half the weakness of modern design is owing to this cause: in military constructions especially it is most prejudicial.

The above assumes that the barrack is built on a perfectly plain site, but if the ground undulates there is nothing gives so perfect an architectural result as a design suited to, and following all the accidents of the situation: no matter how irregular the result may be, the evidence of thought and design, which a motived irregularity gives, redeems any other fault; but it must be motived; irregularity for irregularity's sake is mere affectation, and ought never to be indulged in.

One of the best and most important modern examples of ornamental construction that can be quoted is, perhaps, the recent juncture of the Louvre and Tuileries by Visconti. When the latter building was erected, it was so distant that its architect never thought of making its plan range with that of the older building; and in the least artistic age of French architecture, Henri IV. joined the two by the long gallery, without ever thinking of the principles of ornamental arrangement. The consequence has been that, for more than 200 years, every French architect of eminence has tried to remedy this defect. Fifty of their plans are now exhibited, some of great ingenuity, but on the whole perhaps the best is that by Visconti, which has just been carried into effect by the present Emperor of the French. It does not remedy all the defects introduced by the negligence of the first designers, but it goes a great way towards it, and generally speaking, it produces a grand and harmonious effect, even irrespective of all ornamental details; but the Place de Concorde is still too large for the buildings that surround it, and unless it is broken up by some erections in its centre, these will always look low and comparatively mean, while a judicious ornamental arrangement would add immensely to their beauty, and give them a dignity they do not now possess.

But, besides the ornamental disposition of masses, any one building may be so ornamentally arranged as to produce the best possible architectural effect without ornament, or with only the smallest possible amount of applied decoration. The Gothic architects were the great masters in this department of art: take, for instance, Salisbury Cathedral: the windows are without mullions, the buttresses without pinnacles, and with very few mouldings, while the walls are singularly plain; yet with all this, the nave, the two tran-

septs, and the choir are so pleasingly arranged as to produce the best effect; and if you come to look closely into it you will find that the problem being given of producing a vaulted hall of a certain height, to cover a given area of floor space, it would be hardly possible to do it at less expense. The buttresses, for instance, on which the external effect mainly depends, are the most economical way of disposing of the quantity of materials required for the purpose, and the intersecting transepts the cheapest conceivable mode of roofing a great area of floor space, and at the same time of making a small building look large internally as well as externally. The Italian architects, who neglected these expedients, used, in consequence, three or four times the quantity of material which the Gothic architects employed. In St. Paul's, for instance, one of the most mechanically perfect of modern buildings, the area of the solids, as compared with the voids, is 1 to 6; St. Peter's as 1 to 4, St. Isaac's and other churches about the same; while at Salisbury, and in most early Mediæval buildings, it is as 1 to 8, and in later Gothic buildings, it generally may be quoted as 1 in 10, and in some in even a lower proportion than that. Or, to take another example, I have here a section of Westminster Abbey, showing the buttresses on the south side of the nave: nothing can be more purely mechanical than they are, but nothing can at the same time be better adapted to resist the thrust of the vaults of the aisles and nave, which, owing to the interposition of the cloister, they could not approach. A modern architect would probably have built a plain wall at right angles to the thrust, and sloping slightly inwards, have met the difficulties of the case. In so far as expense of execution is concerned, the Mediæval plan may be the most so: to cut the stone of each arch into voussoirs and to put a moulding under each flying buttress would, probably, cost from 5 to 10 per cent. more than to build a plain wall, the amount of materials and the height being the same in both cases; but to do the same amount of duty the wall in this instance would require at least a third more material, because its mass would be near its base, where there was no work to do, so that the ultimate expense would probably be greater. The real objection, architecturally, to the modern system, is that the wall would be a hideous deformity, the buttress a thing of beauty, because it is thoughtful and truthful.

There is at the present day a class of architects among the younger members of the profession who, struck with the fact that truth is one of the great, perhaps the greatest, element of architectural beauty, carry this system to excess. In their churches, the plain brickwork is shown inside as well as out, the timber-work of the roof is all shown, and not arranged symmetrically, but according to the mechanical exigencies of the case only. In dwelling-houses the timbers of the drawing-room roof are equally exposed, rudely squared, the bolts and screws all shown; the doors are plain deal; the windows heavily timbered. Notwithstanding all this, if the proportions are good, the light judiciously introduced, and you can trace the evidences of thought through the design, the effect is certainly pleasing and satisfactory, because truthful; but these men are mere builders, not architects. To produce an architectural effect a certain amount of symmetry is indispensable, a certain amount of refinement, combined with the greatest possible amount of mechanical excellence. All these can frequently be superadded without any material increase of cost; and when these are conjoined with truth of design and construction, a very perfect architectural effect may always be obtained, even without the addition of ornament. It is, however, quite a mistake to suppose that rudeness can ever be a desirable quality in modern times, or that proclaiming the fact that the mechanical have overruled the artistic elements in a design, can ever be productive of that expression of beauty we are aiming at in architectural art.*

* To be continued.

THE CONDITION OF LANCASHIRE.

THE terrible distress which has fallen on the manufacturing population still continues; and the heavy cloud which has for so long a time hung over Lancashire does not yet show its silver edge. In certain districts the number of the unemployed has slightly decreased; but we fear that the continuance of this improvement is uncertain, and we can see indications of complications which may ere long give rise to much contention and angry feeling. The workpeople complain of the bad materials which are at times put into their hands, and say that with them they are unable to work for the same amount which is allowed in charitable or parish relief. There will also, we fear, be some dispute respecting the rate of wages. Any difference of this nature would, in the present position of affairs, be attended with bad results to all.

Both men and women are getting tired of their listless idleness; and the long delay of the hoped-for good time coming, when they will be in full work again, begins to cause a certain amount of impatience and dissatisfaction. Something must be done to put them to real work. At one time we stood alone in saying this; but now others are urging it also.

The correspondent of the *Daily Telegraph*, whose reports from Lancashire have been remarkable for their truthfulness and many practical suggestions, notes that infectious maladies seem just now to be re-appearing in various districts among the poor of Lancashire. In some, scarlet and typhoid fever prevail; in others, diarrhœa and typhus fever; and in many, diseases of a cutaneous character. The latter are very prevalent amongst the females in some of the industrial schools. This is very singular; because, to all appearance, the factory-girls attending such establishments are a hundred per cent. neater and cleaner now than they ever were before. The writer says—"The re-appearance, at any rate the increase, of typhus fever, &c., in certain towns and districts, is also difficult to account for. When it first broke out the cause was plain,—destitution, bad and insufficient diet, &c. But all that has been removed. Diet has been improved in both quantity and quality: the poor are, comparatively speaking, well clad; and there is none of that destitution which originally marked the ranks of the operatives."

As we have before said, the destitution which for some time prevailed—and even now the supply of food in many instances is not sufficient—would have an injurious effect upon health; but, besides this, it will be found that the main cause of sickness is to be sought for in the homes of the people. We know that overcrowding is one chief cause; and there are, besides, those sanitary derangements, which, when the minds of men and women are troubled and filled with anxiety, food not being so plentiful as required, are sure to have injurious and even fatal effects.

The overcrowding of sleeping-rooms, in small ill-ventilated houses at night, is a sure means of producing fevers and many other disorders.

It is to be feared, also, that sufficient care is not taken to ventilate the sewing-schools, and other places in which large numbers of persons congregate. A stranger going into some of these interiors, in which 200 or 300 and upwards of women and young girls have been confined for several hours, would be surprised at the polluted state of the atmosphere. These matters require the most careful attention, for it is in such situations fevers are generated. In the months which are to come, sanitary care is almost as needful as the supply of food. At Preston, the fever is again on the increase: at Bacup it prevails severely: at Darwen, gastric fever is prevalent (several fatal cases of scarlet fever are reported); and from other parts there come unfavourable accounts.

In various districts a strong desire for emigration is shown by the operatives, and a considerable number have departed for America, and the more distant colony of Queensland. Many of the best and most intelligent of the hands are in favour of this movement; nor is this to be wondered at, when we consider the state of uncertainty which exists in Lancashire. It is feared, however, that many of the emigrants will experience disappointment, and that, when the cotton famine shall have come to an end, the skilled workmen will be missed at home.

ARTIFICIAL INDIA-RUBBER.

SOME years since we suggested that a time would probably come when essentially the same substance as india-rubber would be artificially made; and adduced such known facts as that bitumen when chemically manipulated in a certain way with sulphuric acid yielded an elastic gum very analogous to india-rubber, but unfortunately not permanent in its assumed properties; and also that linseed oil, when exposed in thin surfaces to the air, became oxidized, and very much resembled india-rubber.

In consequence of our suggestion a correspondent wrote us some time thereafter, stating that it had induced him to try to form a substitute for india-rubber or gutta percha by help of leather parings; but the result was rather crude; and besides, as we explained at the time, it was not our purpose to suggest anything but artificial modes of producing a substance equivalent to and in a manner identical with india-rubber.

Something very like the desired substance has of late been talked of as now producible by oxidizing linseed oil; and we give the following particulars as to this and another invention, extracted from a report, in the *Sheffield Independent*, of objects of interest exhibited at a *conversazione* of the Sheffield Literary and Philosophical Society:—

"In the chemical department were shown specimens of a new and valuable invention, patented by Mr. A. Parkes, of Birmingham, and called after him, 'Parkesine.' It is a compound of oil, chloride of sulphur, and collodion, and may be used as india rubber and gutta percha. In its plastic state it is easily pressed into moulds; and when set becomes hard and durable. It may be produced of any colour, and also made to imitate ivory. If this latter substance can be successfully imitated, Mr. Parkes will have accomplished what many men have long tried to do, and on which some have in vain sacrificed fortune and health. The inventor only shows the articles as the work of an amateur, and to give some idea of the capabilities of the material, which he says can be produced in quantities at 1s. per lb. Allied to this is another substitute for india rubber,—'Campticon,' an invention of Mr. Frederick Walton. This remarkable substance is formed by the oxidisation of linseed oil. Plates of glass are dipped into linseed oil, and allowed to dry. The plates are again dipped and dried, until a sufficient film has accumulated, and then it is removed. In describing his invention, Mr. Walton says:—'I soon found that by crushing the solid oxidised oil obtained in sheets, as described in my patent, and working it thoroughly in hot mixing rolls, I produced a substance which required only the cohesive nature which exists so strongly in india-rubber. The addition of a small proportion of shellac soon gave that which was wanting; and I found in my power a material singularly like caoutchouc when worked into dough; and which could be rolled on to fabrics in the same manner and with the same facility. Pigments could easily be added to give colour, and the addition of the resins gave other or rather varied proportions of adhesion, useful as affording the means of uniting fabrics as by rubber. Fibre, whether flock or cork, mixed in and rolled into sheets, gave me samples of kamptulicon and other floor-cloths. Not only has this singular product been thus assimilated to rubber for uses on fabrics, or combined with fibre for floor-cloths; but, still more strange, it is capable of being worked with pigment and vulcanised exactly as india-rubber has been described to be, and forms a hard compound like vulcanite and ebonite, excepting that the sulphur is not necessary. It will readily be seen how valuable a substance is here represented; for while it possesses in so great a degree all the qualities of india-rubber, it may be produced at a much less cost. The specimens which Mr. Walton has sent for exhibition show the material in its different stages of manufacture, from the films that are removed from the glass to the masses ready for manufacture into any of the articles above enumerated."

We may here note that in the same exhibition was what is called an "interesting novelty" in the form of a machine for copying sculpture. But considering how many years such a machine has been in use, as witness the successful copies of sculpture made by it for the Art-Union of London, the novelty of such a machine is a mistake. It is thus described:—

"The plan of its operation is simple. The bust or statue to be copied is placed on a revolving pedestal; and on a corresponding pedestal is placed a block of stone, roughly cut into a shape somewhat resembling the work to be copied. Over the copy and the block is suspended a lever, on one side of which is a blunt pointer, which touches the copy, and on the other a graving tool which touches the block to be cut. As the machine works, the block is cut down until the pointer touches the copy; and as it follows the variations of the one the graving tool makes corresponding shapes on the other, until a faithful and perfect tracing is obtained. The machine was worked by a small model steam-engine."

BARBER SURGEONS' HALL.

THE quaint and picturesque entrance to this hall, which is so well known to the wayfarers along Monkwell-street, is now nearly hidden from view by a huge board, on which is announced the intention of disposing of a considerable part of the premises on a building lease for 99 years. The houses Nos. 33, 34, and 35, the frontage in Monkwell-street, in part of which is the gateway, are in this way advertised for sale; also a portion of the courtyard in the rear, and the passage leading thereto and the greater part of the Barbers' Hall, kitchen, scullery, and outbuildings, having a street frontage of about 83 feet, by an average depth of 116 feet. In some parts the premises extend back to a depth of 135 feet.

The carving above this doorway, illustrated in one of our earliest volumes, is bold and masterly. It is to be hoped, therefore, that in carrying out any alterations, it will be preserved. The large head in the centre, and two little side figures expressive of infancy, are very good, and the arms of the company above are well cut and emblazoned. The large hall has great interest, for part of it is formed by one of the only two remaining circular bastions of the ancient city wall. The outer portion of this defence is in Cripplegate churchyard.

This relic, standing as it does much out of the way of every one, should under no circumstances be demolished.

DOINGS IN DENMARK.

WE glean some information interesting to our readers from the *Danmark*:—One of the final measures of the Danish Parliament was to pass several Railway Bills, whereby the net of State railways may be regarded as settled for a long time. This railway net spreads over North Jutland and Fyen, and consists of a trunk line from Aalborg, in the north of Jutland, over Aarhus and Fredericia to Vamdrup, on the Slesvig border, and a branch from Aarhus, over Viborg, to the west of the Limfiord. On Fyen the line will run from Nyborg, over Odense, to Strib, opposite Fredericia, in Jutland. The connexion between the Sealand line and the Fyen line, and between this and the Jutland will be by means of a steam ferry for goods and passenger waggons. As soon as a similar communication is established between Helsingborg, in Sweden, and Elsinore, in Sealand, the whole Scandinavian North will have a satisfactory iron route to the European continent. The execution of this railway-net has been intrusted to Sir Morton Peto. Its whole length is about 300 English miles, and its total expense about 16 millions of Danish dollars.——In Copenhagen the old watchman, with his long coat and his "morning-star," is to "move on" and make room for a brand-new police-force, partly arranged on the English model. On the 1st of April this new city-guard will commence its duties, according to an Act just passed in the Danish Parliament. The capital, with its 160,000 inhabitants, is divided into six districts, each with its station. The police director and his two superintendents are supported by six inspectors, twenty-one sergeants, and 210 constables. London, with its 2,500,000 inhabitants, has about 5,000 policemen, or 1 to every 500 souls. Copenhagen has only 1 to every 760.——The German Court-painter Lauchert, who was despatched to take the portrait of H.R.H. the Princess Alexandra, has now completed the work.—— The Danish manufacturers are highly gratified with the compliments they have received at the Great Exhibition, and the many sales they have effected. This is particularly the case with the porcelain works of Bing & Gröndahl. While the Exhibition was open they had a couple of thousand orders, and they still continue to receive fresh ones.——The first stone will soon be laid of the New English Episcopal Church, in Stockholm. It is to be in the English Gothic style, 80 feet long and 40 feet broad. The outside will be of dressed sandstone, but the interior will be faced with Swedish marble. —The Danish landowners, among other costly gifts to the Princess Alexandra on occasion of her marriage, will present her with a marble statue by Jerichau,—"Our First Parents before the Fall." Eve, suddenly sprung into being, is gazing wistfully on Adam, who sits on the earth, and on whose left arm she is reposing. The clay-model is now ready. The marble itself will be finished in a couple of years. As a state wedding-gift the Princess is to receive 100,000 Danish dollars, of which about 21,000 will be asked at the hands of Holstein, while the rest will be paid by the Danish realm.

FROM ANTIGUA.

THE first division of the new market at Antigua has been opened to the public, and has been attended with so much success that it is contemplated to complete the work immediately. It was opened with all due ceremony by the Governor Hamilton and authorities under a beautiful and impressive invocation from the Lord Bishop of the diocese. The people assembled outside the City of St. John, and walked in procession with the articles for sale on their heads, preceded by bands of music and flags: the building also was decorated with flags and the day was kept as a public holiday. St. Kitts has taken the initiative for the establishment of a market-house to supply a long existing want; and probably other colonies, profiting by their example, will carry out such necessary works, particularly as they have good sanitary and civilizing tendencies.

Under the new contract with the West India Packet Company it is intended to make Antigua the first port touched at by the Ocean Steamers, where all the mails will be left for the islands north and south, and they will proceed on to Jamaica, which, it is stated, is to be the head depôt. The mail service between England and the West Indies will thus be accelerated many hours, and trade and commerce be materially benefited.

The harbour of Falmouth, Antigua, has been surveyed, and found to have a sufficient depth of water. It has 70 acres with a depth exceeding 4 fathoms, and 200 acres with a depth exceeding 3 fathoms, which may be easily increased,—advantages which few of our British harbours possess. Some opposition to the change is threatened, as the picturesque situation and the many claims and allurements of St. Thomas have taken a deep hold on the minds of many individuals, immortalized as they have been by the graphic and sentimental pens of N. P. Willis and others; but I trust, says our correspondent, the British Government are not to be led away from a sense of public duty by the voice of such charmers, charm they ever so wisely. Besides Antigua is a British colony; and in the event of war the harbour could be effectually protected from the commanding heights of the ridges, Monk's Hill, &c.; and with a few guns of long range every approach could be vigorously defended. When the new routes of packets are established we shall shortly, perhaps, have the electric telegraph wires laid to connect the islands together, so that early information may be conveyed both for Government purposes and those of trade and commerce. The advantages to all would be inestimable.

MACADAMIZATION AND MUD.

THE justly-severe remarks upon the filthy state of the thoroughfares of the metropolis which have appeared in your pages from time to time, pass unheeded; and it seems as though nothing short of an indictment will rouse any of the authorities from their disgraceful apathy. I traverse a good portion of London daily, and I have no hesitation in saying, as I did a year ago, that whenever a rain-fall occurs unaccompanied by wind, bad as it is generally, in no locality is the mud deeper than between Cockspur-street and Westminster Bridge, at the threshold of the Metropolitan Board of Works and all the Government Offices. The mud is not scraped up sufficiently quickly to prevent its conveyance to the trottoirs by pedestrians; nor, when it is scraped to each side of a street, is it carted away with sufficient promptness; and therefore horses with broad feet, and vehicles of all kinds, splash it on to the pavement. Macadamization appears to me to be wholly unfitted for heavy and increasing traffic; but if this method of paving be continued, the nature and quality of the stone used should be most carefully investigated. I beg leave to suggest to the authorities, parochial, police, and ministerial, that every occupier of a house or shop be enjoined to have his or her portion of the pavement thoroughly cleaned by eight o'clock every morning; that paid crossing-sweepers, in some distinguishable dress, be placed at every required crossing, and that overseers be appointed to keep them up to their work; that the surface-drains (now nearly useless) be maintained in an efficient state, so that the liquid mud may flow off; that the streets be scraped early every morning; and that the contracting scavengers be compelled to remove the mud from each side without delay. The employment, at moderate wages, of many of those now idle and begging, would confer immense benefits upon the community, at a small comparative cost. IMPROVER.

DESTRUCTION OF THE THEATRE ROYAL, GLASGOW.

THIS building has been totally destroyed by fire. From the first discovery all hopes of saving any part of the theatre or properties were given up, and the exertions of the firemen were mainly used in preventing the fire from extending to the surrounding buildings. The flames in the theatre did not subside until almost nothing remained to burn. The walls were left standing, but the back one was found to be considerably off the perpendicular, and it was thought would have to be pulled down. The north one was found to be still more insecure. Theatres in Glasgow seem fated to destruction by fire. The Queen-street one was burned down: that of Anderson, the "Wizard of the North," shared the same fate: so did David Prince Miller's Adelphi Theatre; and now the Theatre Royal has been destroyed. The wardrobe, library, armoury, and "properties" generally of the Theatre Royal are said to have been the richest, most extensive, and most varied of any theatre out of London. The theatre was about 50 feet high, 50 feet broad, and 70 yards long. It was raised in the latter end of 1839, on the site of the old theatre, in consequence of the felt insufficiency of the then existing theatre accommodation.

Mr. J. H. Alexander was the proprietor.

The building and decorations, including site, were estimated at from 20,000*l.* to 30,000*l.* The property in it belonging to MRS. Glover is valued at from 8,000*l.* to 10,000*l.* The building is insured for 8,000*l.* Mrs. Glover's property is only insured for 3,000*l.*

THE LATE FATAL FIRE ACCIDENT AT THE PRINCESS'S THEATRE.

FROM the proceedings at the inquest on the poor little self-sacrificing ballet-girl, Miss Sarah Gibson, whose not very romantic theatrical name was Smith, it appears to have been from the sputterings of "blue fire" that the first accident, to Miss Hunt, occurred. Mr. Harris said that Miss Gibson prided herself on the expansion of her skirts; but it was evident that this had not much to do with the accident arising from her generous and successful endeavour to save the life of her companion. Moreover, Miss Gibson's interference at all would have been unnecessary had the theatre authorities provided beforehand the usual means and appliances in such cases; appliances whereby Miss Hunt's life had been saved on a previous occasion at the Surrey theatre. Mr. Roxby, who appeared with his arm in a sling, merits all praise for his gallant exertions.

Dr. Lankester's charge to the jury on this and other cases of accident to ladies by fire, contains remarks which merit reiterated quotation. It was most important, he observed, that attention should be directed to the character of the dresses which these young ladies wore, with a view to make them less inflammable; and not only should the same care apply to these young ladies, but to ladies in private life. It was a circumstance to be deeply regretted that fashion was carried out at the risk of life; and he wondered how many valuable lives would be sacrificed before they could find one woman who would give up the use of a certain article of dress, known to be so thoroughly dangerous. If the female sex would wear these outrageous dresses, care should be taken to render them uninflammable. There were several simple processes by which this could be accomplished; viz.,—phosphate of soda, tungstate of soda, and sulphate of ammonia: either of these would effect the object at a very small expense. Phosphate of soda was the cheapest, but that combined with tungstate of soda was the most effective. Out of 613 inquests which he had held since he had been coroner, 23 cases had arisen from burning, and 18 from clothes catching fire; and if they had been held in the same ratio throughout England, the jury would see how large a proportion there were in the country of persons who perished annually from this cause. He did hope, now their attention had been thus publicly aroused, that managers of theatres would insist that no dresses should be worn by their *corps de ballet* and others which were not rendered uninflammable by some of the processes he had mentioned, as they were bound to protect those employed by them from their present danger.

The jury ultimately returned a verdict "That Sarah Gibson, otherwise Smith, died from the effects of burns by the igniting of her dress at the Princess's Theatre with fire, and that such ignition was accidental." They then appended the following:—"The jury wish, also, to express their opinion that sufficient precautions were not taken at the Princess's Theatre to extinguish any accidental taking fire of the clothes of the *corps de ballet*. They also strongly urge the necessity of rendering articles of linen and cotton clothing fire-proof by the manufacturer and the undress."

The other sufferer is stated to be progressing favourably towards recovery, but is much affected by the fatal result to her less fortunate companion.

A hint as to what the sufferer should do when once on fire in a private dwelling will not be out of place. It is to ring the bell violently, if no one be present, and roll on the carpet. The flame will then rise from the body instead of up to it; and as half the poor creatures die from prostration, stimulants should be given instantly — either wine, brandy, sal volatile, or even, in some cases, laudanum diluted. Servants, too, should hasten to throw flour over the wounds till medical aid can be procured, and the things should be taken off, of course directly. For small burns, grease of any kind is a good application.

STAGE LIGHTS OF THEATRES.

AT the annual general assembly of the proprietors of Drury Lane Theatre, held last week, the architect of the proprietors, Mr. M. Nelson, said in his report:—

"The order given last season by the committee, to have every exposed gas burner throughout the building protected by a wire guard, has been most satisfactorily carried out. Formerly there were nearly 300 exposed gas lights: now every one has a wire globe around it, and the additional protection of a cover over the burner where necessary. The usual accidents arising from exposed gas burners cannot therefore take place, and even cotton or gauze may pass over gas lights so protected without danger.

As public attention is at this moment much directed to the subject of accidents by fire, I beg to refer to another precaution that has been adopted by order of the committee, viz, the introduction of hand-pumps. This simple contrivance consists of a common hand-pump in a bucket of water. These are distributed over the theatre, ready for use at any moment. The late Mr. Braidwood prized them so highly that no engine was allowed to leave its station without one; and numbers of fires have been extinguished by the brigade in using hand-pumps alone.

I cannot conclude my report without mentioning that the order of the committee, with reference to keeping open every door of public entrance and exit throughout the building during the performance, has been carried out to the fullest extent."

"I beg to add, that it may be of some public advantage to state the comparatively trifling cost of the precautions referred to that the committee have taken against accident by fire, the principle being applicable not only to theatres, but to every shop, warehouse, stable, and private house.

The expense of a galvanised wire globe, of the most useful form, is 2*s*. There is no reasonable limit to its durability; it cannot be broken, and never requires painting.

The tale covers cost from 6*d*. to 1*s*. each, and are as applicable to glass as to wire globes.

The wire guards and covers are as suitable to candles as to gas lights.

The cost of a hand-pump and pail of the best kind, with hose complete, is about 2½ guineas. No building of any description should be without one. It should be placed on the landing of every dwelling-house, and may be used by any maid-servant.

If all exposed lights and open fires were properly guarded, and a hand-pump provided, a large proportion of the accidents by fire would be prevented."

WORKMEN'S HALLS.

Southampton.—As we have before noted, there are three of these new institutions already established in Southampton. The first *soirée* in connexion with them has just been held at the new Hartley Institution under the presidency of the Earl of Carnarvon.

Wandsworth.—The inaugural meeting of the Wandsworth Working Men's Club was held last week. The proceedings commenced with a well-attended tea meeting held at the club-house, The Plain, Wandsworth, which was followed by a public meeting in the Spread Eagle Assembly-rooms. The chair was taken by Mr. G. F. White, who, after prayer had been offered by the Rev. Hugh Allen, D.D. (rector of St. George's, Southwark), gave an account of the circumstances connected with the formation of the club, and its objects and proposed mode of government. Mr. George Cruikshank then addressed the meeting in a forcible speech. Other speeches were also delivered. The club premises consist of a recently vacated public-house, containing the various rooms requisite for the purposes of the club, and with skittle-grounds, &c. attached. The lease was purchased by the liberality of ten gentlemen, each of whom lent 25*l*., without interest, to raise the amount needed. About 160 workmen have already enrolled themselves as members.

Scarborough.—A public meeting has been held in the Town-hall, Scarborough, for the purpose of forming a Working Men's Club. The chair was taken by Sir J. V. B. Johnstone, bart., M.P. The meeting was large and enthusiastic. A considerable sum of money was subscribed, and a provisional committee was appointed, with Mr. Tugwell as secretary. From the feelings manifested by the working men of Scarborough the club is considered certain to obtain several hundred members as soon as it gets into working order.

Faringdon.—A Working Men's Club was also formed lately at Faringdon under the auspices of the Working Men's Club and Institute Union. The Earl of Radnor and the local gentry generally subscribe liberally to its funds, and 200 working men have become members. So great is the success of the institution that it has outgrown the limits of the premises originally taken.

Miscellaneous.—It appears that upwards of 130 applications have been received by the committee from almost all the important towns in the country, including Liverpool, Ramsgate, and Cardiff, where halls are being formed on this model. Several of the railway companies have also taken a similar plan in hand.

THE RUINS IN THE STRAND.

THE pedestrian who traverses the ancient highway of the Strand in the month of January, 1863, will find that many changes have "come o'er the scene." From the days of the Maypole, the football, and the pastimes of old London, we have come suddenly into the midst of the frolics of the new; and wherever we go, whichever way we turn, gigantic railways, hotels, and music halls strike our eye. Three examples of these changes are pointed to by a writer in *Notes and Queries*; and we quote his remarks:—

Hungerford Market.—Upon its site once stood the palatial Hungerford House, the town residence of the Hungerfords of Farleigh Castle, Wiltshire, and the last of whose race, Sir Edward Hungerford, having squandered his fortune, obtained from Charles II. his royal charter for converting the site of the house and grounds into a market, and endeavour by this means to retrieve his fortune. This was in 1681. In 1685, Sir Stephen Fox and Sir Christopher Wren were proprietors of the estate, in the centre of which was a lofty hall, with a bust of one of the Hungerfords. But the market did not prosper: it remained till about thirty years ago, when Sir Thomas Tyrwhit, having set forth a project for rebuilding it in 1821, the second structure was commenced from the designs of Mr. Charles Fowler, upon the three acres and a quarter of ground, and was opened 2nd July, 1833, after costing 97,000*l*. This structure must be known to nearly all, and it therefore suffices to say, that the Market Company, after paying off in full the debentures and borrowed money, and returning to the shareholders 79 per cent. of their advances, sold the site of the market, as well as Brunel's Suspension Bridge, to the Charing-cross Railway Company, who thereupon, by means of public auction, sold the building materials, &c. of the hall (erected in 1851), the shops, with the stone columns, and surrounding houses in Villiers-street, Hungerford-street, and adjoining buildings, and upon the site commenced erecting (query) a railway terminus. It is this railway that has destroyed the happiness of, and sent adrift, St. Thomas's Hospital, and it is this railway that causes the fine bridge of Brunel's to be transported to Clifton.

Exeter Change.—The rise of the Strand Music Hall Company has caused the fall, not too soon, of Exeter Change. The site once occupied by the parsonage-house and garden of St. Martin's, and subsequently by the mansion of the Cecil family, was, in the reign of William and Mary, the scene of the erection of the first Exeter Change. Through troubled times, when the poet Gray and Lord Baltimore lay here in state; when Thomas Clark amassed here half a million, and Cross's Menagerie frightened horses in the Strand, Exeter Change struggled on, and it was not till 1829 that it was entirely destroyed; but on its site* was erected the well-known arcade, into which the jovial *Punch* oft paid a visit; and, lamenting on its deserted look, sounded a note about its ill-paying prospects. But its dozen shops continued deserted; its power of attraction had long fled; and when Messrs. Glasier & Son, on December 10, 1862, sold the building materials and fittings in 130 lots, for the purpose of clearing the ground for the Strand Music Hall, one and all firmly believed that a more profitable work would arise from its ashes.

Lyon's Inn.—Upon about half an acre of ground, and situate between Holywell, Wych, and Newcastle streets, Strand, has stood for hundreds of years Lyon's Inn, an inn of Chancery, an appendage to the Inner Temple. From the year 1420 to the year 1862, the site has been tenanted by those "learned in the law," although of late years these gentlemen have visited it but seldom; the last mortals on the spot clinging to the place with a despair brought on by long association with the secluded nook. Taking its name from the sign of an hostelry, "The Lyon," it, as an inn of Chancery, had for a reader, in 1578, none other than Sir Edward Coke. The hall was erected in 1700, and it had "once upon a time," many trees, and a sun-dial,—the latter shorn of its gnomon and figures in 1828. A very well-written article will be found on this subject in the *Illustrated London News* of December 27. But if Lyon's Inn is dead, a tablet to its memory remains, for in one of its attics was annually collected the materials for the "Post-office London Directory," when the size of that volume was not to be compared to the 2,574 pages of the Directory of to-day. And close handy lived Philip Absolem, the antiquary, who so ably assisted Mr. Brayley in his "History of Westminster Abbey." But the inn having decayed, the Strand Hotel Company (capital 100,000*l*.) took a lease of the ground for ninety-nine years, with power to purchase the freehold; and on December 2nd, 1862, and two following days, there were sold, in 284 lots, the furniture, fittings, and building materials of the hall, of Nos. 2 to 8, Lyon's Inn, and two houses in Holywell-street, being the first clearance sale; the carved stone lion, and the dated shield (1700) on the hall front, being included in lots 204 and 205. Thus has fallen Lyon's Inn!

T. C. N.

* This is not quite correct. Exeter Change was farther west, and in the Strand.—ED.

PLYMOUTH WESLEYAN CHAPEL COMPETITION.

SIR,—I send you a letter addressed by me as honorary secretary of the Alliance, to the managers of the Plymouth competition, and shall be obliged by your inserting it in the *Builder*:—

SIR,—I beg respectfully to call your attention to the conditions of the competition for a Wesleyan Chapel and Schools, which are in some respects unsatisfactory. I have the honour to be the honorary secretary of the Architectural Alliance, which includes Architectural Associations in every part of the United Kingdom, the great majority of architects being members; and as one of its principal objects is to discourage competitions of which the conditions are unsatisfactory, I am not incorrect in stating that as the conditions now stand, few, if any, respectable architects will compete.

I assume that your committee wish to do only what is regular and fair, and that if informed as to the objectionable conditions, they will not object to alter them. The objectionable conditions are, first, that more drawings are required than is usual or at all necessary, to clearly show a design. The necessary and usual drawings are,—Ground and gallery, or upper floor plans, two sections (one longitudinal and transverse), of each building, and two elevations (side and end) of each building. The plans of foundation and drainage and large scale sections of roofs, &c., and two additional elevations, are quite unnecessary to show the design, and would give much extra labour to competitors without any advantage to either them or the committee.

Secondly. A full and explicit specification is quite unusual and unnecessary. Such a document can only be properly prepared after all contract and detail drawings are finished. A brief description of the building mentioning the principal materials to be used would be quite sufficient, and all that is usual.

Thirdly, the *chief* objection to the conditions is to the clause requiring the architect to whom the premium is awarded to furnish all requisite working drawings, and specifications, &c., and conduct all correspondence for 50*l*. additional. I cannot but think that this must be an error, as it is practically requiring the architect to superintend the carrying out his design for one-fourth the proper commission. Assuming the premium of 50*l*. to pay for the "*design*," the proper and usual charge for performing the services above mentioned, with an occasional journey (for which of course travelling expenses are allowed), is 200*l*. additional to the premium, or 5 per cent. in all.

Fourthly. I would suggest that perspective drawings be allowed, if only in *outline*, and not as frames, as they show a design far better than any geometrical elevations can do.

Hoping that you will reconsider the above points, and issue fresh copies of the instructions, with the objectionable points erased, I have the honour, sir, to be, &c.

John Hill, esq., Plymouth. J. P. PRITCHETT.

The objections to the conditions sent forth in this case have already been fully shown in our pages, with our own opinion on the subject; but we insert the letter in compliance with the request of the writer. It will probably raise a question apart from the competition very properly objected to; but reference to this will be better made on another occasion.

THE METROPOLIS GAS ACT.

SIR,—As you have taken some interest in the gas question, especially as regards the metropolis, I have made up my mind to address a few observations to you on the subject of the Metropolis Gas Act, 1860, and the misrepresentation of which it has lately been the subject at recent meetings of the City Court of Sewers.

It may be necessary first of all to explain that the authorities of the City of London, for reasons best known to themselves, kept entirely aloof from, and took no part whatever in, the proceed-

ings, relative to the supply of gas to the metropolis, which took place in Parliament during the years 1858, 1859, and 1860. Had the City of London come forward in a manly, liberal spirit during the protracted inquiries of those years, extending as they did over four sessions of Parliament, it is possible that the Metropolis Gas Act might have been considerably modified, and the companies supplying the City prevented from raising their price from 4s. to 4s. 6d. per 1,000 feet. The committee sitting on the Metropolis Gas Bill would have heard the arguments of the City against the permissive rise of price, and the whole question would have been discussed as to the comparative value of the gas supplied in the City under the provisions of the Great Central Act and that which was to be supplied in future under the Metropolis Gas Act.

As there has been a great deal of misrepresentation on the subject of this change in illuminating power, I wish to explain in a few words the real nature of the change.

According to the Great Central Act, the illuminating power of the gas supplied before the passing of the Metropolis Gas Act was equivalent to $10\frac{1}{2}$ sperm candles, at a price of 4s. per 1,000 feet, or 4·57 pence per candle. The standard to which the gas has been raised is that of twelve sperm candles, for which the companies now insist on charging 4s. 6d. per 1,000 feet, being at the rate of 4·5 pence, or $4\frac{1}{2}$d. per candle. It is difficult to perceive how the consumers of the City are injured by this change, inasmuch as the gas required to produce a given amount of light absolutely costs less now than it did before the passing of the Act, and this notwithstanding the rise of 6d. per 1,000 feet in the price of the gas. Those who complained so loudly of the increased price forgot at the same time to notice the increased illuminating power, or, in other words, the increased value of the gas. So much for the facts. There is, however, another point of view from which this matter may be considered, and it is this:—Although twelve-candle gas is worth to the consumer 6d. a 1,000 feet more than gas of $10\frac{1}{2}$ candles, it by no means follows that it costs the company 6d. a 1,000 more to make the superior gas. The fact is, the extra expense to the company, as was proved abundantly before the Metropolis Gas Committee, is less than $1\frac{1}{2}$d. per 1,000 feet, or less than 1d. per candle. Hence the question becomes whether companies are really justified in charging an addition of more than *three halfpence per* 1,000 *feet* for supplying twelve-candle gas instead of $10\frac{1}{2}$. If the authorities of the city of London had come forward in a practical and business-like manner in support of this principle, we should never have heard of the recent rise in price, and we should have been spared the infliction of all that monstrous absurdity of statement which has characterized the speeches on this subject in the various City conclaves.

To return, however, to the more immediate subject of my letter. The City took no part in the Metropolis Gas Act; instructed no Parliamentary agents; appeared by no counsel; and in due course escaped payment of the miserable pittance levied rateably on other metropolitan parishes and districts for the expenses of the Act. Happy, fortunate, prudent City of London! But, in the midst of the congratulations which this splendid policy gave rise to, the City of London found, to its great surprise, that it had been caught in the meshes of the Act so far as to make the City liable to its provisions, although not liable for the expenses of procuring the Act. There is probably some anomaly in the co-existence of these conditions; but as this is a dry legal question, I do not at present discuss it.

The whole of the companies supplying the metropolis, finding themselves bound to supply 12-candle gas, and being allowed to raise the price, under certain easy conditions, where it did not exceed 4s. 6d. per 1,000 feet, those supplying the City availed themselves of the permission, and increased their price from 4s. to 4s. 6d.

But what has been the operation of the Act in other districts? The Imperial Company, supplying twice as much gas as all the three City companies put together, has had its standard raised from that specified in the Act of 1854 (the same as the old City standard) to the high standard of the Metropolis Gas Act, and yet has made no increased charge to its numerous customers.

It is not too much to assume that the illuminating power prescribed in the Acts of the Great Central and the Imperial companies was the ruling standard all over the metropolis. Now, the price has nowhere been raised except in the City, so that everywhere the consumer has gained an increase of light equal to 15 per cent., and may make a corresponding saving in his gas bills. Nay, the results go far beyond this, for in less than two years after the passing of the Act two large companies (the Phœnix and the South Metropolitan) have successfully reduced their prices, and with others will probably soon come to 4s., in compliance with the restrictions which limit their dividends. I have shown before that these large and sweeping reductions and this considerable increase of illuminating power when converted into a money value are equivalent to a clear boon of more than 200,000*l.* a year to the gas consumers of the metropolis; and I deny that the City of London has sustained any real injury from the Act, although the consumers there have certainly not reaped the same proportionate benefit as those in other parts of the metropolis. For this, however, they have only to blame themselves and their bad management. The City of London, however, has another great grievance, namely, the extortionate prices demanded by the gas companies for their public lamps. Nothing can be more unjust or unreasonable than the pertinacity with which this grievance is attributed to the Metropolis Gas Act. The Metropolis Gas Act is no more to blame for this than the man in the moon. It has nothing whatever to do with it, however it may serve the purpose of officials to shift the burden from their own shoulders, and to impute to others blame which should be laid on themselves. The Metropolis Gas Act, far from encouraging extortions on the part of gas companies, expressly restricts them, and affords adequate and easy means of meeting them.

Let the City authorities take the Metropolis Gas Act in their hand, and by way of illustration confine themselves to the public lighting clauses alone; see the admirable provisions for compelling companies to supply the lamps by meter; restrictions against charging more for public lights than the lowest price charged to any private consumer; and above all, the power given to local authorities, the Commissioners of Sewers amongst the number, of settling any disputes as to price or other matters by arbitration. By adopting this course, and exercising only an ordinary amount of patience and caution, they will avoid errors such as they have lately made; and they will find that the Metropolis Gas Act contains more useful provisions than any which have been secured for many years through the imperfect though costly legislation achieved by their own legal skill. Witness the failure of their last Parliamentary contest, when one of their own companies, the City of London Gas Company, was allowed to perpetuate the fearful nuisance of their works in the heart of the City under the very noses of the Templars, and to become, in a year or two later, one of the greatest stumbling-blocks in the way of carrying out that great public work, the Thames Embankment. Samuel Hughes.

CLAIM FOR COMPENSATION FOR DAMAGE BY CONTRACTORS' HOARDING.

ROBERTS *v.* BRASSEY AND OTHERS.—SHOPKEEPERS AND THE MAIN DRAINAGE WORKS.

This was an action (tried in Court of Exchequer, before Mr. Baron Bramwell), to recover compensation in damages for alleged injury done to the trade and business of the plaintiff by reason of a hoarding erected by the defendants, who are contractors for one of the sewers in connexion with the main drainage of the metropolis.

The defendants pleaded not guilty; and, secondly, that they were justified in constructing the hoarding under the Metropolitan Board of Works Act.

Mr. M. Chambers, Q.C., and Mr. Quain were counsel for plaintiff; and Mr. Coleridge, Q.C., and Mr. Welsby for the defendants.

The plaintiff was a clothier, carrying on a retail business in Shoreditch, at the corner of Church-street; and the defendants were the well-known contractors, who had contracted to make a main sewer from Clerkenwell to Old Ford. In May last the defendants commenced excavating the ground in Church-street, opposite the plaintiff's shop, and for the purpose of the works put up a hoarding which extended 14 feet into Shoreditch. It was 6 feet high, and extended over the footpath leaving only a space of 3 feet 6 inches between it and the shop front for passengers. Within the boards there was a steam-engine, a tramway, barrows, planks, and the usual plant of a sewer contractor. There was also a large heap of paving stones 15 feet in length, and 5 or 6 feet high immediately before the shop, and it covered a part of the pavement. In consequence of the hoarding being so near the shop, the plaintiff said persons could not stop to look at the window, where the goods were exhibited, without being run against and jostled by passers-by, and thus being compelled to walk on. The plaintiff also alleged that the hoarding was unnecessary, and negligently and improperly constructed, and had been kept up an unreasonable time, viz.—till September. He also said that during the Exhibition of 1851 his retail trade greatly increased owing to the number of country people who came to town by the Eastern Counties Railway, and that he anticipated a similar increase last year, but in consequence of these obstructions the business fell off, and he had sustained a heavy loss, which he estimated at more than 1,000*l.*

Mr. Coleridge, on the part of the defendants, characterised the action as unprecedented, and said if contractors carrying on works of this kind under the powers of an Act of Parliament were to be liable to an action by every single shopkeeper or householder in front of whose house it was necessary to erect a hoarding, great pubic improvements would be impossible. He contended that the works opposite the plaintiff's shop were conducted in the proper manner, and as speedily as possible, and that all unnecessary obstructions were avoided.

Evidence was then given to show that the hoarding was erected on the 17th of May, and cleared away on the 12th of July, when the roadway was reinstated; that the excavation was made in the proper way by means of "stages and lifts," and with every speed consistent with safety.

Mr. Joseph W. Bazalgette, the engineer in chief of the Metropolitan Board of Works, said he designed and superintended these drainage works, and that they had been executed entirely according to his plans. The excavation in Church-street was a very difficult piece of work, in consequence of the nature of the soil and the narrowness of the street, where the houses were badly built and the traffic very considerable. The hoarding was put up at the expense of the contractors, and they were required to construct it, on account of the cramped nature of the street, for the protection of the public. If there had been no hoarding, the paving stones and earth would have got on to the pavement and prevented persons passing freely. He added that the works were conducted in a proper manner and with proper speed, and that in such works it was necessary that the contractors should have all their materials on the ground.

The jury, without calling upon the judge to go over the evidence, found a verdict for the defendants.

THE ROUND TOWERS OF IRELAND.

In reference to the interesting paper in the *Builder* of January 31st upon this subject, those of your readers who have not access to the authorities quoted by Mr. Westropp may obtain some further insight into the subject by referring to the article "*Lanterne des Morts*," in M. Viollet le Duc's "Dict. Raisonné," in which some of these French structures are figured; which appear to corroborate Mr. Westropp's view of their analogy to the Irish round tower.

We have, as far as I am aware, nothing strictly analogous to these towers in England; but the assumed later development of the custom, as seen in the Cemetery Cross, is common in many parts of England. In Somersetshire these crosses are all but universal, either in the churchyard or in the high road near; and there are also remains of some of them erected in the high road far from any church or cemetery.

Can any of your archæological readers throw any light upon this subject from our own point of view? Were these crosses supposed to have any efficacy in laying the restless spirits of the departed? or were they merely open-air preaching-stations? Was their use associated with the church or with the cemetery? Any independent evidence touching the use of our own crosses would be valuable in confirming, or otherwise, the assumed relationship between the *Lanterne des Morts*, the round towers, and the cemetery crosses. J. F.

THE SURVEY OF NORTON PARISH.

A somewhat curious dispute has arisen as to this survey. On the 14th November, 1860, the guardians of Ecclesall Union contracted with Mr. Reuben Chapman, surveyor, to make a complete survey of the parish of Norton for a new assessment, and to deliver to the guardians a large sheet plan, with book of reference and smaller sectional plans to correspond, &c., for the sum of 9d. per statute acre, more or less, being 16*l.* The contract provided that the plans should be drawn "to the satisfaction of the Poor Law Board." The plans and book of reference were delivered in January, 1861; and some time afterwards, Mr. Chapman applied to the guardians for a payment on account. Although the plans had not then received the sanction of the Commissioners, the guardians consented to Mr. Chapman's application, and he received a cheque for 8*l.* The plans were sent up to London for approval, and the Commissioners requested the guardians to obtain Mr. Chapman's "field books," to test the accuracy of the plans. Mr. Chapman refused to send up these books, alleging that he had fulfilled every condition in the two schedules annexed to the contract; and that as the production of the field books was not mentioned in that document, he had a perfect right to refuse to accede to the request. The matter stood thus when the auditor drew up the payment made to Mr. Chapman, and surcharged the three guardians who had signed the cheque with the amount. The Commissioners, when applied to, said that the payment made was clearly illegal, because, by the terms of the contract, their approval was necessary before any money could be paid; but if the vestry would pass a resolution requesting them to relieve the three guardians, they would take the subject again into their consideration. A meeting has therefore been called and a resolution unanimously passed in favour of the suggested request. There the matter rests; but the meeting have also resolved that the guardians be empowered, in the event of Mr. Chapman adhering to his refusal to give up the field books, to have the accuracy of the maps tested by admeasurement on the ground. The mover said he had no doubt the plans were correct, and should have been very glad if Mr. Chapman would put an end to the dispute by giving up the books. The guardians are advised that if the plans be found to be inaccurate, Mr. Chapman must bear the expense of testing.

Miscellanea.

NEW MODE OF GENERATING STEAM. — An American gentleman, Mr. J. L. Linton, has lately visited Paris for the purpose of submitting to the French Government his new method of generating steam. Instead of the ordinary fuel, he uses petroleum oil; or, should that be wanting, ordinary coal oil; and as the machinery which he employs can be easily applied to the steam-engines in general use, he claims the merit of effecting a very considerable saving. The plan, according to *Galignani*, has been examined by a Government committee in Paris.

THE NEWCASTLE SCHOOL OF ART.—The award of prizes to the successful students at the Christmas Exhibition of this school has taken place in the school. The exhibition is considered a successful one. For architectural design there were two prizes of 1*l.* 10s. each, in money or books; one limited to architects or draughtsmen, the other for operatives or workmen. For the best design and drawings of plan, elevation and section of a villa two stories high, containing ten rooms, with bayed and dormer windows, and offices attached, not to cost more than 1,200*l.*, nor less than 1,000*l.*, Tudor style, with or without coloured perspective view. One of these prizes is the gift of a lady. It was given to Hubert Austin, of Newcastle. There was no competition for the workmen's prize.

DUNDEE CEMETERY PLANS.—The plans for the extensions at the Eastern Cemetery for Dundee, prepared by the Town's Architect and Mr. Fulton, have been open to inspection in the Council Hall. Mr. Fulton's design consists of a Gothic gateway, with a main carriage entrance, and two side entrances for foot passengers,—the houses on either side adjoining the gateway. The Town Architect's design is of a gateway which the local *Warder* says it cannot recognize as belonging to any of the regular orders of architecture, and seems better suited for a park or a pleasure ground than a cemetery. The houses are apart from the gateway, and thrown back, so that they are partially hidden by the fence; and the front, it is said, does not present the same imposing appearance as that in Mr. Fulton's design.

THE SEWAGE QUESTION AT WEST HAM.—The outlet for the sewage is into the river Lea, at Bow Creek, by permission of the commissioners of that river; and when first permitted, it was understood that the West Ham Local Board of Health would only be allowed for a temporary and not for a permanent period. Application has been made by the board for the purchase of the same; and if the intended purchaser was in attendance with a committee of the local board of health; but the question was deferred, as the matter was not entered on the usual notice paper. It is computed the cost of the pumping-engine, and the other expenses incidental to the outfall works, amount to little if anything less than 600*l.* per annum, or 12*l.* per week; and, therefore, any arrangement that could be made for the disposal of the sewage would at least effect a considerable saving.

COTTAGE HOSPITAL FOR EAST GRINSTEAD.—The advantages which cottage hospitals afford, in the treatment of accidents and severe diseases in rural districts, being now universally acknowledged; and the want of some such place in the neighbourhood of Grinstead having been frequently experienced; it is proposed to open one near the East Grinstead Railway Station. This hospital, which will be conducted on the plan so successful at Cranley, is not intended to supersede the projected Infirmary, but to serve as a temporary substitute. A cottage on East Grinstead Common, enlarged so as to obtain a room 28 feet by 12 feet, with proportionate height, and other accommodation, adapted for the reception in all of seven patients, and situate close to the residence of Dr. Henry Rogers, who is willing to give his professional services gratuitously, is offered by the gentleman rent free, on condition that a sufficient amount is contributed to pay for the fires and other requisites. About 120*l.* will be required. The furniture and all other property purchased or presented will be vested in trustees to be appointed from the contributors. The current expenses for nurses, medicines, fuel, and lights, will be defrayed by voluntary subscriptions and donations; but patients, or their employers or friends, except in very special cases, will pay for their maintenance: the hospital will thus be partially self-supporting. Donations and subscriptions may be paid to "The Cottage Hospital Fund," at Messrs. Whitfeld, Molineux, & Whitfeld's, East Grinstead, or to Dr. Rogers, to whom further particulars may be obtained.

CEMENTATION OF STEEL.—An invention has recently been patented by Mr. A. A. Lamiable, of Paris, according to which he claims the application of wood divided into small parts, such as sawdust, the leaves of trees, and the envelopes of certain fruits for the cementation of the pieces of cast or forged iron to form steel suitable for the manufacture of cutlery, rails, tyres of wheels, and other articles.

EXTRAORDINARY DISCOVERY IN THE FAST RIDING.—At Langton a ploughman has laid bare a portion of tesselated pavement in a field belonging to the Langton estates. The Rev. C. B. Norcliffe, of Langton Hall, and other gentlemen, have made an examination of the site, which is on the top of an eminence near the village. The result so far, it is said, has been the discovery of a fine pavement of pure white chalk-stone, composed of tesseræ about 1½ inch cube, set in cement or mortar. About 30 or 40 yards of foundation were traced to a huge block of sandstone, squared and pierced as if for the reception of a column. The inference is, that this formed the base of one side of the entrance to the court-yard of a Roman villa, or the portico of a temple. In the village adjoining there is a well-marked Roman camp, and on the wold there are extensive earthworks.

LECTURE BY TURKISH SAVANS AT CONSTANTINOPLE.—The lecture on chemistry lately in course of bi-weekly delivery at the Dar-il-Fanoum, Constantinople, by Dervish Pasha, attracted large and enthusiastic audiences. The lecture-theatre is comfortably fitted up *à la Européenne*, and the lecturer was amply provided with instruments, diagrams, and materials for experiment, all at the expense of the Turkish Government. At the conclusion of the series, the lecturer was to be followed by Salih Effendi, late president of the Pera municipality, who will deliver a course on natural history; and will be in his turn succeeded by Edhem Pasha, who will discourse on geology. "Shades of Amurath and Bayazid!" exclaims the *Levant Herald*, "can all this be taking place within the very shadow of St. Sophia?" It well may, however, at an epoch when a New Zealander is editing his own *Gazette* in his own native isle.

THE OTTOMAN NATIONAL EXHIBITION.—The building and its belongings continue to advance steadily towards completion. The applications for space in the machinery annexe are now so numerous that the commission has decided on enlarging this portion of their scheme to 5,500 square archins (about 4,280 yards). Amongst the articles said to be *en route* from the Babylonian capital is an immense pearl, reported to weigh no less than 335 *muscals* (about 500 drachms!), and to be valued by its owner, one Seropé, an Armenian, at the proportionate sum of 20,000*l.* This very precious jewel is said to have been fished in Ottoman waters in the Persian Gulf, and is to be offered—in sale—first to the Sultan, and if declined by his Majesty at the above figure, to be taken to England in search of a purchaser. The prices of admission are now fixed at 3p. for the general public on five days of the week, 6p. on Tuesdays for Turkish ladies, who will be exclusively admitted to the building on that day, and 6p. for the public again on Fridays.

GLASGOW ART-UNION. — The subscription for the past year amounted to 3,849*l.* 6s. The report read at the distribution said,—"Following up the design indicated by the committee in the report for last year, photographic reproductions of three original paintings have been prepared, and are in course of distribution amongst the subscribers of 1862. The commission for these paintings were undertaken by Messrs. J. Noel Paton, R.S.A., J. E. Millais, A.R.A., and James Sant, A.R.A.; and the paintings themselves form the three first prizes to be drawn for on this occasion. The prizes for the subscribers of 1862, selected by the committee, or to be selected by the prizeholders themselves, will number in all 250, or a proportion of one to each fourteen shares subscribed for. The sum appropriated for these prizes is 1,380*l.*, which added to the cost of the photographs, makes 2,530*l.* of the subscriptions of the year expended directly on works of art, and the total sum so expended by the society since its formation in 1841, 89,090*l.* The prizes are as follows:—1. The three paintings, the photographic reproductions which form the presentation work, being in value 105*l.* each. 2. Fifty paintings or other works of art, the selection of which will be in the option of the prizeholders. 3. 197 minor prizes, the selection of the committee, of the aggregate value of 365*l.* For the year 1863 the committee have in contemplation to extend the principle so favourably inaugurated this year of substituting photographs for engravings."

ARCHITECTURAL INSTITUTE OF SCOTLAND.—At the annual general meeting of the Architectural Institute of Scotland, held in the hall of the Institute, on Monday, the 2nd, letters were read from the secretary of the Architectural Alliance, and from the committee of the Institute of Architects in Ireland. The report of the council of management on the Bill of the Edinburgh Water Company, as affecting new buildings, was brought forward; and a paper by Mr. William Miller read, entitled "Some Remarks on Edinburgh, and its Improvement."

ACCIDENTS. —An accident attended with loss of life has occurred by the fall of a building in the Caledonian-road. Messrs. Gatti, the ice merchants, were constructing a depôt for their ice, and had sunk a shaft of 12 feet, over which was a building of some extent. Workmen were busy with the roof, when some iron supports gave way, and the men were precipitated down the shaft. One man, named Porter, was killed by the fall, and several others were severely bruised.——A newly-constructed house, at Worcester, erected on the site of some old premises in Friar-street, have fallen, owing to the foundation giving way. The house is one of several in course of erection; and the workmen were engaged in sinking cellars for two houses and shops which are to front the street, when the end house of four in the yard fell, and the labourers employed narrowly escaped with their lives.

THE LIVERPOOL TIMBER TRADE. — Mr. E. Chaloner, in his Annual Circular, states that the imports from Canada and America have decreased, whilst those from the Baltic are more than for the preceding year. This decrease is principally accounted for by the limited consumption at home, through the dulness of trade in our manufacturing districts, consequent upon the protracted civil war in America, combined with high rates of freight ruling, especially in the latter portion of the year, when a large amount of tonnage was required to transport grain to this country from Canada and the North American ports, and for the immense imports of cotton from India and other countries. The import of fir logs from the Baltic is much larger than that of the previous year. Mr. Chaloner in the following table contrasts the tonnage employed in the timber trade of this port with our colonies and the Baltic during last year with that of the previous one:—

From the 22nd January, 1862, to the 27th January, 1863.			
Quebec	120	vessels,	116,479 tons.
St. John, N.B, &c...	193	,,	142,362 ,,
Baltic	73	,,	23 831 ,,
Total	386	,,	292,672
From the 23rd January, 1861, to the 22nd January, 1862.			
Quebec	142	vessels,	134,597 tons.
St. John, N.B., &c...	237	,,	189,446 ,,
Baltic	66	,,	21,401 ,,
Total	445	,,	345,444

LECTURE BY CARDINAL WISEMAN AT THE ROYAL INSTITUTION.—The usual meeting at the Royal Institution, last week, was crowded to overflowing at a lecture by Cardinal Wiseman, "On the Points of Contact between Science and Art." He considered the subject in its relations separately to painting, sculpture, and architecture, each of which department of art, he remarked, is intimately connected with the progress of science. The first representative man in whom science and art were combined in the greatest perfection was Leonardo da Vinci; for, though little is generally known of that great artist's scientific acquirements, he wrote thirteen folio volumes on matters relating to science, and he had brought that knowledge to bear in executing his works of art. The man of modern times who had done most to connect science with art was the late Prince Consort, whom Cardinal Wiseman eulogised in high terms, and mentioned the many successful endeavours which had been made by the Prince to promote science in connexion with art. The relation between Scripture and science was illustrated by reference to the elliptical curves of which the form of the human body is composed; and Dr. Wiseman pointed out an analogy between these elliptical curves and the orbits in which the planets revolve round the sun. The study of anatomy, also, had been of eminent service to the sculptor. The relation between architecture and science, he observed, is so intimate, that the operations of the architect are entirely founded on a knowledge of the principles of mathematics. To illustrate the importance of the application of science to architecture, the lecturer explained, in considerable detail, the manner in which the dome of St. Peter's at Rome had been repaired when in danger of falling. The lecture was an hour longer than usual.

WESTMINSTER PALACE HOTEL.—The report of the Westminster Palace Hotel Company, presented at the half-yearly meeting, stated the receipts for the six months to have been 18,408*l.*, and the expenditure 11,999*l.*, leaving a net profit of 6,409*l.*, of which the sum available for dividend, after paying debenture interest, &c., was 5,620*l.* A distribution was accordingly recommended at the rate of 8 per cent. per annum, and 420*l.* was carried forward.

THE RUINS OF BABYLON.—A letter from Bagdad, in the *Moniteur*, says:—"The excavations carried on among the ruins of Babylon, under the direction of the French consul at Bagdad, have resulted in some interesting discoveries. In the Nimroud Mound, which was visited by Mr. Layard, in 1840, were found four bas-reliefs of colossal dimensions, each sculptured on a large slab of stone, with allegorical figures. The greater part of these bas-reliefs bear long inscriptions in cuneiform characters, and are remarkable for their state of preservation. A certain number of other sculptures of smaller dimensions, representing scenes of Assyrian life or warlike episodes have also been discovered. These artistic treasures are on their way to France."

TO PREVENT THE ROTTING OF WOODEN POSTS AND PILES.—The following receipt has been sent to the Société d'Encouragement, Paris. The paint, it is said, or varnish, has the hardness of stone, resists damp, and is very cheap. It has been in use for the last five years. 50 parts of resin, 40 parts of finely-powdered chalk, about 300 parts of fine hard sand, 4 parts of linseed oil, 1 part of red oxide of lead, and 1 part of sulphuric acid, are mixed together. The resin, chalk, sand, and linseed oil are heated together in an iron boiler: the red lead and the sulphuric acid are then added. They are carefully mixed, and the composition is applied while hot. If it be not found sufficiently fluid, it may be made thinner by adding linseed oil. This paint, when cold and dry, forms a varnish of the hardness of stone.

SANITARY CONDITION OF THE CITY OF LONDON. Dr. Letheby, the medical officer to the City Sewers Commission, has presented his annual report on the sanitary condition of the City. It states that "in the course of the year which has expired there were 3,046 births, 2,726 deaths, and 1,540 marriages in the city of London. These occurred among a population of 114,472 persons. The births, therefore, have been in proportion of 26·4 for every 1,000 of the inhabitants; the deaths of 23·8; and the marriages of 13·4. In all England the average birth-rate is 33·1 per 1,000 of the population, the death-rate 22·3, and the marriage-rate 8·2." The distribution of the deaths has been very unequal: in the eastern and western unions the general proportions have been at the rate of 25·8 per 1,000 of the population, whereas in the central district it has been but 20·6. The cause of this has been, not so much the difference in the character of the population, as the density of it. In the former districts the number of persons upon an acre ranges from 200 to 266, whereas in the latter the number is but 105. The infant mortality in the City is unquestionably very large. It can hardly be estimated by the proportion of children's deaths to the total mortality, because the proportion of children in the City population is comparatively small, but it may be seen by observing the number of children that die before they are a year old. Last year there were 3,046 births in the City, and there were 475 deaths of infants that had not reached the first year of their age. In the course of the last ten years the annual proportion of births had been 3,412, and the annual proportion of infant deaths has been 556. This is at the rate of 16 per cent., or, in other words, 1 in 6 of all the children born in the City die before they are a year old. In the rest of London the proportion is about 15 per cent., and in all England it is only 14 per cent., or about 1 in 7. The causes of this are chiefly to be found in the density of the population, and the bad condition of the homes of the poor. The means of storing water and the appliances for distributing it are so defective in the poor localities of the City that there are constant complaints of a deficiency of water. Indeed, the water is on for so short a time in many districts that the poor have but little opportunity for collecting it. From a quarter of an hour to an hour is too short a time for filling butts and cisterns; and, therefore, during the greater part of every day they are without water: on Sundays they are nearly always without it. This is a subject we have ere now brought under notice. It would be a great boon if the daily supply were continued for an hour instead of half an hour, and if there were a like supply on Sundays.

M'INTOSH *versus* THE GREAT WESTERN RAILWAY.—In the cause of Mr. M'Intosh, the contractor, against the Great Western Railway Company, which has been in litigation for several years, the chief clerk of the Vice-Chancellor Stuart, before whom the accounts have been, has now terminated his investigation; and it is understood that the amount of the plaintiff's claim is found to be, in round numbers, 80,000*l.*, with interest from the opening of the line, in 1838 or 1840. The costs of the suit will probably amount to a further sum of 20,000*l.* There is another suit of a similar character between the same parties, the accounts in which have not yet been entered on.

CHATHAM.—In order to provide healthful recreation for the troops stationed at this garrison, the War-office authorities have decided upon the erection of an extensive gymnasium for their use. The spot selected as the site of the building is that portion of the inner lines nearest to the drawbridge, leading to New Brompton. The contract of Mr. Matthews, of Dover, for 3,500*l.*, has been accepted.——The foundation of the memorial arch erected about eighteen months ago at the eastern end of the parade ground, Brompton Barracks, to the memory of the Royal Engineers who fell during the Crimean war, has, according to the *Morning Post*, been gradually giving way for some time past, and the structure is now in such a state as to demand immediate steps for its preservation.

ST. THOMAS'S HOSPITAL.—A Surrey magistrate, an old supporter of the London Hospital, offers to "give" a freehold site of 73 acres for the new Hospital of Bethlehem, on condition, first, that St. Thomas's Hospital be built on the site of Bethlehem; and, secondly, that the sum of 21,000*l.* (20,000 guineas) be added to the capital stock of the London Hospital, in the Whitechapel-road. The estate (which is freehold, land-tax redeemed), occupies the southern slope of one of the hills in Surrey, is eight miles from the City and seven from the West-end, and is said to be worth at least 300*l.* per acre. After all, therefore, the offer, so far as St. Thomas's is concerned, is to *sell* a site.

LECTURE ON ARCHITECTURE AT LEEK.—A lecture, one of a series promoted by the vicar, was lately given by Mr. R. Edgar, of London, architect, in the national school at Leek. His subject was, "Ecclesiastical Architecture," which he treated in its Gothic branch only; showing how our English Gothic had grown up a school out of the character and necessities of our northern climate; and tracing its rise and growth to its culmination in the period of the Perpendicular Gothic, and its decline in the sixteenth and seventeenth centuries. He also gave some hints on the spirit in which he considered that a revival should be attempted. The lecture was illustrated by a number of sketches, many of which Mr. Edgar drew before the audience.

THE WEDGWOOD STATUE.—A correspondent of the *Staffordshire Advertiser* says:—I was passing through the Railway-square at Stoke the other day, when what I suppose to be the pedestal of the long-looked-for Wedgwood-in-bronze attracted my attention. On closely approaching the work I was not a little astonished to see that the material employed is of no more durable a nature than *red sandstone*..... Perhaps the eminent sculptor wants the particular colour for the work: need he be reminded that there is abundance of granite that will give it him? Perhaps the amount to be paid for the work will not allow of the use of this material. If not, it is hard to believe that the subscribers will on this occasion "spoil the ship for a ha'porth of tar."

TRANSMISSION OF LETTERS.—A curious project has been set on foot by M. Faget, of Bordeaux. He proposes to erect, at a distance of about 1,000 mètres from the coasts of Calais and Dover, two strong edifices of masonry, containing steam-engines of sufficient power, by means of which two immense wheels, 25 mètres each in diameter, are to be made to turn forty times a minute. By this rotation a series of wires, forming a gigantic strap extending across the Channel, is to be coiled round the wheel at one end, say at Dover, and uncoiled at the other, Calais, and conversely. To this strap india-rubber letter-bags are to be attached, which are thus to be conveyed across the Channel at the rate of 3,000 mètres per minute; so that within the space of twelve minutes the letters and despatches from one country may be landed on the other. The length alone of the strap is sufficient to cause its submersion, and the transmission might be effected in any weather. But what of the navigation of the Channel, especially on the coasts?

DAMAGE TO CHRIST CHURCH, BATH.—The north-east pinnacle of the tower of Christ Church, Bath, has been blown down by the violence of the wind; and, falling through the roof, has destroyed a portion of the flooring of the gallery; falling into the body of the church. The organ had a narrow escape, the moulding of one part of the case being carried away by the falling stone.

IPSWICH.—The new weir, which has been constructed at the expense of the Ipswich corporation, with the design of preventing the flooding of the Marshes belonging to them, is now available for carrying off from the Gipping the storm water, &c., which hitherto, from want of a legitimate mode of escape, has poured over the meadows and marsh lands adjoining. The weir is formed on the south bank of the Gipping, just at the last bend the river takes before it is crossed by Handford Bridge, from which bridge the weir is about 250 yards distant. The weir is the edge of a "tumbling bay," and presents a surface of 140 feet to the river. To form this the earth was excavated to a depth of 7 feet, and a gradual hollowed slope formed of concrete, over which is brickwork 18 inches thick in the weakest part, and at the sides 3 feet in thickness; its shape resembling a long spoon with a blunt rounded point, the end which should join the handle being cut off square. The edge is formed of blocks of "Roach Portland" stone 3 feet deep and 2 feet in thickness, over which the water will run in case of any rise in the river. The tumbling bay is 62 feet in length and 42 feet wide. From hence the water runs into a channel, for a distance of 150 feet filled in with concrete, communicating with the old channel, which has been enlarged, leading into the tidal river through the Seven Arches. For some distance the banks of the river have been raised. The works were according to a plan by Mr. W. H. Holland, C.E., of London, and have been executed under the direction of Mr. Monson, engineer, by Mr. R. Worswick, whose contract was for 897*l.*; and the extras will, probably, bring the cost of the works to something over 1,000*l.*

TENDERS.

For alterations and additions to Beddington House, Surrey, for the Rev. A. H. Bridges. Mr. Joseph Clarke, architect:—

Conder (accepted)	£5,295 0 0

For the oak seats, East Peckham Church, Kent. Mr. Joseph Clarke, architect.

C. W. & J. Bowley (accepted)	£418 0 0

For building the first portion of the Hampden Gurney Memorial Schools, Adam-mews, Berkeley-street, W. Mr. Joseph Clarke, architect:—

Aldred & Doulton	£3,256 0 0
Ashby & Son	3,256 0 0
Foster	3,220 0 0
Conder	3,171 0 0
Gammon	3,065 0 0
Key & Head	3,044 0 0
Norton	2,948 14 0
Lawrence & Son	2,931 0 0
Piper & Wheeler	2,897 0 0
D'Anson	2,844 0 0
Trollop & Son	2,826 13 0
Brown & Robinson	2,810 0 0
Bowley, Brothers	2,7 0 0 0
Carr	2,688 0 0

For new warehouse buildings in Long-lane, Bermondsey, for Messrs. Gibbs & Son. Mr. Geo. Elkington, architect. Quantities supplied by Mr. Herring:—

Nixon	£3,360 0 0
Lugg	3,115 0 0
Wills	2,764 0 0
Coleman	2,730 0 0
Peake	2,700 0 0
Thompson	2,692 0 0
Wood & Munn	2,649 0 0
Kent	2,626 0 0
Wells	2,599 0 0
Preston (accepted)	2,532 0 0

For building two villa residences at Hackney, for Mr. Kelsey. Mr. Chester Cheston, architect:—

Goodwin	£3,668 4 0
George	3,377 0 0
Flint	3,256 0 0
Stevenson	3,057 0 0
Perry	2,799 0 0
Bond	2,740 0 0
Aldous	2,720 0 0
James & Ashton	2,693 0 0
Meers	2,666 0 0
East	2,470 0 0
Cubitt	2,324 0 0

For fitting up public house at Kingsland. Mr. Cass A. Long, architect:—

	Bars, Fittings, &c.	Counter.	Gas-Fitting
Skinner, Brothers	£310 0 0		
Lidbetter	232 0 0		
Scott	231 10 0		
Saunders	....	£89 10 0	
Gerardin & Watson	....	86 5 0	
Warne	....	89 0 0	
Bird	....	....	£37 0

For building new parochial and industrial schools, and mistress's residence, at Lymm, Cheshire. Mr. Joseph Clarke, architect:—

Parker	£1,870	0	0
J. Bramall	1,440	0	0
S. Bramall	1,349	0	0
Pennington	1,259	11	9
T. & J. Ardern	1,250	0	0
Brazendale & Son	1,248	0	0

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C. E. S. (mentioned last week).—J. M. S.—H. R. (the Stockton and Darlington).—Messrs. B.—Messrs. H.—A. J.—W. H. B.—W. B. R. M. L. Constant Reader (Somerset House. Doubtful if license be needed for that purpose).—R. L.—J. S. Poor Will ("shingles" are usually of oak, from 8 inches to 12 inches long and 4 inches broad; rather thicker on one edge than the other).—W. H.—G. P. (finds ill-feeling where none is felt or expressed).—T. D.—W. D.—Mr. E. W. E. F. (see the Clerk of Works' Society).—W. A.—T. B. P.—R. & Sons.—B. S. (sent).

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THEODORE M. WRATISLAW, Clerk.
Rugby, February 5th, 1863.

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HENRY CLINTON, Secretary to the Committee.
Offices, Fair-street, Drogheda.
Dated at Drogheda, this 29th January, 1863.

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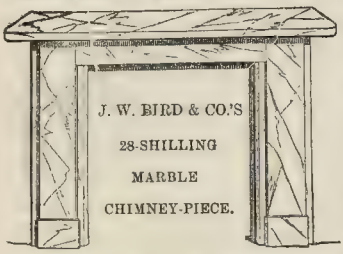
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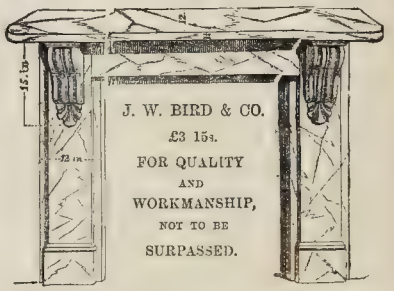
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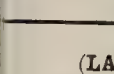
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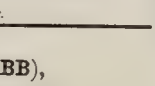
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SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S INN LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

CLERIHEW & LASCELLES

(LATE WATERLOO, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

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B. J. HUDSON

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

JOINERY WORKS,

21, HARRINGTON-STREET, HAMPSTEAD-ROAD, N.W.

NEVIL SIMMONDS,

SHOP FRONTS, SASHES, DOORS, &c.

Price Lists and Estimates on receipt of Stamp.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the River Thames.—For further particulars apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic Wharf, Pimlico, London, S.W. five minutes' walk from the Victoria Station.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 9d; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d; 9½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1 inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER YARD, MANCHESTER.

JOSEPH & ALFRED ROSLING beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings A large Stock of Dry Flooring at low prices.

Southwark-bridge Wharf, Bankside, S.E.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED

BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.

Price, including royalty and three dies, 85l.

Licences to Manufacture granted for certain districts.

For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen street, London, E.C. where the Machines may be seen at work at a few hours' notice.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d per 1,000.
,, 8 inch Pavings, at 57s. 6d. per 1,000.
,, Floor Bricks, 40s. per 1,000.
Mingled Kiln Bricks, at 36s per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway About 20,000 Bricks lying at Devonshire-street Station, at 24s. per 1,000.

VICTORIA BRICK and LIME WHARF

and DRAW-DOCK, NINE ELMS, S.

BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES AND RED GOODS,
TERRA COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS,
RED AND WHITE FACINGS,
STAFFORDSHIRE AND FIRE GOODS,
MALM CUTTERS, PICKINGS,
AND BUILDING GOODS GENERALLY.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

JOHN DOWNEY, Victoria Wharf, Nine Elms, S.

Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage-Steam Wharf, Wapping, E.

WHITE and RED SUFFOLK FACING

BRICKS and other KILN GOODS,

By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY,

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MARK of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.

The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

OATES'S PATENT SOLID BRICK MACHINE.—Persons who may be contemplating MAKING BRICKS by MACHINERY are requested to see the above Machines in operation before purchasing others. These Machines are warranted to make thirty perfect bricks per minute, stiff enough to be wheeled (as soon as made) to the kilns to be burnt; and from the time the clay is dug from the mine until the bricks are made and set in the kilns for burning, does not exceed five minutes.—Application to be made either to J. F. OATES, Erdington, near Birmingham; or to OATES & BAYLIS, Stourbridge, from whom drawings and every information may be had, with card to view.

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Sheringham's Day and Night Ventilator



for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 6s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is at all required. HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 119), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

PART'S MARTIN'S CEMENT
Is the best internal Cement in use.
Manufactured ONLY by J. CUMBERLAND PART,
186, DRURY-LANE, LONDON, and at DERBY.
COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.
Exhibition, Class 10, No. 2,326.

HONDURAS WHARF AND FALCON WHARF,
74 and 80, BANKSIDE, SOUTHWARK, LONDON, S.E.
JOHN NEWTON & CO.
STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

PORTLAND CEMENT WORKS,
MORDEN WHARF, EAST GREENWICH.
EDWIN HOLLICK,
MANUFACTURER OF PORTLAND CEMENT,
Having greatly extended the above Works, is now prepared to supply MERCHANTS, BUILDERS and CONTRACTORS with PORTLAND CEMENT, of the best quality only, delivered to all parts of London.
N.B.—Vessels loaded alongside.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE GOODS MERCHANTS
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
ROMAN CEMENT made at the above works may be had fresh from the kilns daily, a great advantage to dealers and sewer contractors, especially in winter time
PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. This cement will carry more sand than any of the others in a bunch of which a new brand, called the Orchard brand, is a Portland.
PLASTER OF PARIS, both coarse and fine, of very superior quality and colour
LIME—Grey Stone, Chalk, and Blue Lias Lime well burnt, by the lump or yard, and may be had fresh ground daily, by steam power, for concrete.
BRICKS from our fields in Kent, by the large also pale, in the rough or camelion, or by cart from the above wharf, of good quality and in shape and
A large Assortment of Glazed Stoneware Drain pipes, Yorkshire Plain, Tan, and Paving Tiles, Hair, Lath, Chimney pots, &c. always kept in stock.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT

GREY STONE LIME
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS
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7, NORTH WHARF ROAD, PADDINGTON, W

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into wagons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks
Agents wanted. No applications attended to without a banker's reference

STRINGFIELD & BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & R. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD & BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND
BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch

SOFT CHALK, of very Superior Quality will grind and wash with less than half the labour than any other known; free from grit or rubbish. EPSOM LIME-KILN. Forwarded from Epsom Station to all parts on the South Western or the Brighton lines (within London) at from 6s 6d. to 7s 6d. per ton, carriage free. References to persons using it. One trial will prove.—W. HOBMAN, Ewell, Surrey.

PLASTER OF PARIS.—The only London maker, the best and the oldest established (1830), is ROBESON, Mount Pleasant, Gray's Inn-road. The cheap country stone article is bought and sold by nearly all the dealers, agents, and pretended manufacturers, careless as to quality. Superfine and fine Plaster unequalled.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works. All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.
N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and the Company received an "HONOURABLE MENTION" for the good quality of their Lime.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAUGE BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS,
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLDS VAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Wherein may be obtained, of the best quality:—
GREY STONE, BLUE, FLARE and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COW, EY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DUTCH CLINKERS
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YELLOW and PALE MALM CUTTERS, FIGGINS, PAVIORS, SEGMENTS, BEATS, BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF, also for GARDEN EDGINGS
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS
Ditto ditto ORNAMENTAL COPPING and RIDGE TILES, WITH CRESTS BLUE, RED and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, Hobbs, Larders, Dairies, Sculleries, Kitchen Ranges &c.
WIGAN, NEWCASTLE, and STOURBRIDGE FIRE BRICKS, LUMPS, and TILES, of every description.
GLAZED STONEWARE DRAIN PIPES, TRAPS &c.
RED DRAIN PIPES, TILES, and CHIMNEY POTS
TERRA COTTA CHIMNEY POTS, GARDEN VASES, TRUSSES, and ORNAMENTAL WORK in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Orders promptly executed by the Wharfingers, and delivered with despatch
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED STREET, PADDINGTON

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble. Manufacturers, FRANCIS, BROTHERS, & PUTT, Nine Elms, London.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants and Brokers' Orders promptly executed.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
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L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851 are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first class quality, for the Home and Foreign Trade
Portland Cement is manufactured at these works with especial reference to its designation, whether for armouring, breakwaters, locks for breakwaters, Coal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
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STOURBRIDGE FIRE-CLAY WORKS,
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24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

GREAVES'S BLUE LIAS LIME
GREAVES & KIRSHAW, WARWICK, and
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L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

COLOURS and VARNISHES at REDUCED PRICES.
Genuine White Lead, 20s. per cwt.; Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s. 10d.; Turpentine, 9s. per gallon; Fine Pale Oak Varnish, 9s. per gallon, for cash, at P. LANGTON'S Colour Warehouse, 144 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post office order for 21s.

PRIZE MEDAL, 1862.
HAMILTON & CO
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKING'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stripping Brushes, Gilders' and Grainers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the Kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

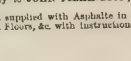
IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 20s. per cwt.
Linseed Oil, 3s. 6d per Gallon; Boiled Oil, 3s. 10d. per Gallon.
Turpentine, 10s per Gallon.
Fine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 33, Upper Ecury-street, and 43, Colebatt-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

NOTICE.—Builders and Decorators will find superior and unparalleled advantages in MEADE'S PATENT STAINS, comprising the rich oak, satin wood, walnut, Spanish mahogany, &c., they are unsurpassed for anything ever seen, as entirely superseding paint for the interior woodwork of dwelling houses, being admirably adapted for the castle, the magnificent hall, the library, the drawing room, and the humblest cottage; also for church work, merchants' and bankers' offices, railway stations, schools, &c.—To be had of T. J. HOGG, 3, Brunswick-place, City-road, N.; and at the Works, Abinger, Surrey. Price 8s. per gallon. Post orders will have best attention. The above merits special notice. The cleanliness and beautiful effect given to work finished with them, and great saving in time and expense, are highly appreciated by the most experienced workmen

STAINING DEAL TO IMITATE ALL KINDS of WOODS. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Tint, 5s. per gallon; Dark Oak, 6s. per gallon; Mahogany, 8s.; Rosewood, 8s.; Walnut, 8s. Varnishes for NAYLOR'S Stains may be had at the Factory, No. 4a, James street, Oxford street, also Manufacturer of Improved Knotting and Decorative Varnishes.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD, &c. Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. ——, CHICHESTER, of Chittlehampton, near South Molton:—
"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."
H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 64, Stamford-street, S.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON SQUARE, LONDON, E.C.
. Also Manufacturers of the Patent India-rubber Knife-board Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT and CROWDEN & GARROD, are stamped on the Brushes

POLONCEAU and LIMMER ASPHALTE.
ESTABLISHED  1838
For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absolute prevention of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

JAMES STIFF & SONS,

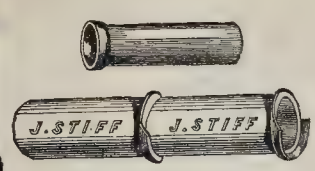
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







PAN, 4s 6d.

TRAP, 2s.

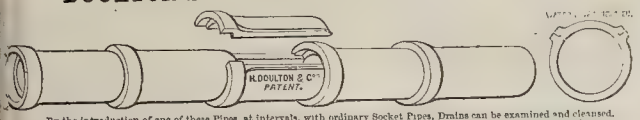
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

DOULTON'S PATENT OPERCULAR PIPES.



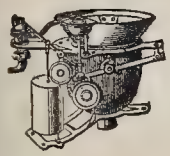
By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fired in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.

MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.

THOMAS LAMBERT & SON,

No. 57. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



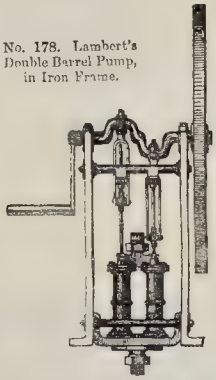
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS,

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.

CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the improved pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

STAINED-GLASS WINDOWS, for CHURCHES and DWELLINGS.

(PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.)



Illustrated Treatise, Postfree, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works:— Cardington Street, Hampstead Road, London.



STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL,

311, REGENT STREET, W.

Adjoining the Polytechnic Institution.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, farm cases, &c. &c. combining perfect transmission of light, durability against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

WINDOW GLASS! WINDOW GLASS! Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and sheet Glass, Coloured and Ornamental, Rough, Rolled, and Patent Plate. Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at GRIST'S CITY GLASS WAREHOUSE, 47, Chiswell-street, opposite Whitbread's Brewery, E.C.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price-lists forwarded free on receipt of business card addressed to

R. METTAM & CO.

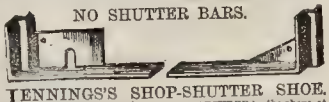
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 28, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

TO BE LET, a DREDGING BOAT, in excellent repair, fitted with machinery combining all the latest improvements. Will dredge 8 feet deep, and is well calculated for river work. Her width does not exceed 11 feet, and draught of water 4 feet. May be seen at Peterborough, by applying to Mr WM. READ, Boatbuilder.—For further particulars inquire of Mr. GEORGE SIDDONS, Oundle.

16th January, 1863.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 35.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel	Height.		£ s d
2½ in.	short 1 ft. 7 in.	Fitted for lead,	0 19 0
2½ „	long 3 ft. 3 in.	gutta percha,	1 4 0
3 „	long 3 ft. 6 in.	or cast iron	1 15 0
3½ „	long 3 ft. 6 in.	flanged pipe,	1 19 „
4 „	long 3 ft. 6 in.	as required.	2 5 0

2½ „ short, with 15 feet of lead pipe attached, ready for fixing 1 15 0
2½ in. long ditto, ditto ..... 2 0 „

No. 364.

WARNERS' IMPROVED CAST IRON

LIFT AND FORCE PUMP,

The Barrel lined with Brass.

2½ inch £2 10 0
3 „ 2 15 0



No. 69.

WARNERS' PATENT

BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

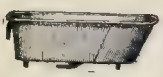
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch £4 4 0
3 „ .... 5 5 0 } Larger sizes when
3½ „ .... 6 6 0 } required.

Fitted to the best planed, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch..... £3 10 0.
3 „ ..... 4 9 0.



WARNERS'

Baths can be had of either Copper, Zinc, or Galvanized Iron Price, from 30s. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

TWO PRIZE MEDALS FOR BELLS HAVE BEEN AWARDED TO JOHN WARNER and SONS, AT THE GREAT EXHIBITIONS IN 1851 AND 1862.



Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in Peals.

TUNED BY MACHINERY.

Old Bells recast or taken in Exchange.

An experienced Bell hanger sent to inspect, report, and advise on the state of Peals out of repair. Estimates furnished for New Oak Frames and Fittings, and for Repairing Old Ones

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells,



No. 384. No. 383.

WARNERS' HIGH-PRESSURE COCKS

are made with Gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and refastened with facility.

All Warners' Cocks are tested with Hydraulic Pressure

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.

JOHN WARNER & SONS

HAVE BEEN AWARDED A PRIZE MEDAL FOR THEIR NEW

CHIMING APPARATUS,

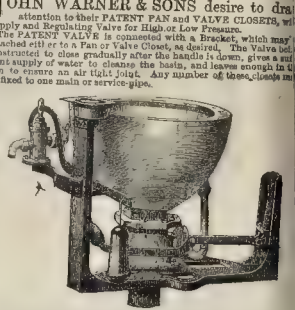
by means of which a lad may correctly play a great variety of chimes upon peals of six, eight, or more bells. Several have since been fixed, and give great satisfaction.

Prices and further particulars furnished on application at the Manufactory, 8, Crescent, Cripplegate, London.

JOHN WARNER & SONS desire to dra

attention to their PATENT PAN and VALVE CLOSETS, wi
Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may attached either to a Pan or Valve Closet, as desired. The Valve be constructed to close gradually after the handle is drawn, gives a su cient supply of water to cleanse the basin, and leaves enough in t pan to ensure an air tight joint. Any number of these closets m be fixed to one main or service-pipe.



No. 1434.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin £3 15 0
Sunk Handle, extra 0 3 0
Blue Basin, extra 1 1 0

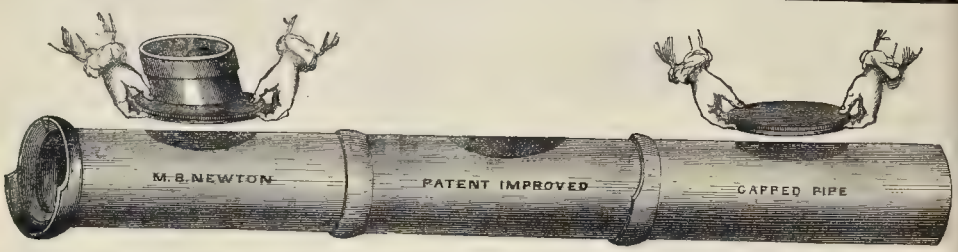


No. 1434.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0
Sunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0

The above prices are subject to a liberal discount.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.



The ABOVE INVENTION WILL RECOMMEND ITSELF to Architects, Engineers, and others interested in Drainage, for its SIMPLICITY of construction; there being NO COMPLICATION OF PARTS.

The "Manhole" is sufficiently large to admit of the DRAIN being THOROUGHLY CLEANSED WITHOUT A SINGLE PIPE BEING REMOVED.

It DOES NOT at all INTERFERE WITH THE FLOW OF WATER in the Drain.

It IN NOWISE WEAKENS THE PIPE; and

It ADMITS of the ready INSERTION OF A JUNCTION by removing the "Manhole" cover, and replacing it with a loose Junction Arm.

Manufactured solely by

JOSEPH CLIFF & SON, WORTLEY, near LEEDS;

For MARCUS BOURNE NEWTON,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, LONDON, N.

ARMANI AND CO.

IMPORTERS DIRECT FROM THE MINES OF

PRIZE MEDAL, LONDON, 1851. Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL, PARIS, 1844.

SEYSSEL ASPHALTE,

AND BY H.M.'S ROYAL LETTERS PATENT,

MANUFACTURERS OF

METALLIC LAVA.

FOR PRICE AND PARTICULARS APPLY AT THE OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.

MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.





UNDERHAY'S PATENT

REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self acting, and Servants' Closets on this principle, may be seen at the Works They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

F. G. UNDERHAY

now manufactures on HIS OWN ACCOUNT his Patent Regulator Water Closets, Valves, Gas Meters, &c. on the same premises.

CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

BENJAMIN FOWLER & Co. Whitefriars-st. Fleet-st. London,

MANUFACTURERS OF PUMPS AND HYDRAULIC MACHINERY OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DOMESTIC, AGRICULTURAL, OR MANUFACTURING PURPOSES, OR FOR CONTRACTORS' USE, TO BE WORKED BY HAND, HORSE, WATER, WIND, OR STEAM POWER.

Portable Steam Engines, Powerful Single and Double-Barrel Pumps, Centrifugal Pumps, and Boring Tools for Contractors' Purposes, ON HIRE.

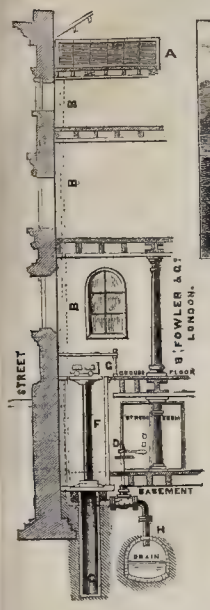


Fig. A.



THE LANDSCAPE SKETCH ABOVE SHOWS

THE IMPROVED HYDRAULIC RAM.

This is a simple Self-acting Machine for Raising a considerable Supply of Water for Use in Public or Private Establishments where a fall can be secured from a Stream, Brook, or Spring. Messrs. FOWLER have fixed a great many Hydraulic Rams in various parts of the country, for raising from 500 to 6,000 or more gallons per day to elevations varying from 30 to 300 feet, and forcing through main pipes from 50 yards to several miles in length. The fullest particulars and estimates will be handed on application.

No. 37 SHOWS A SET OF

TREBLE-BARREL PUMPS WITH HORSE GEARING,

For Raising Water from DEEP WELLS for the SUPPLY of TANKS in MANSIONS and PUBLIC BUILDINGS. Messrs. FOWLER also Manufacture and Erect every other Form of Pump for Deep or Shallow Wells, for Hand or other Power.

Fig. A SHOWS

A HYDRAULIC LIFT,

Worked by Pressure from a Cistern. Suited for Banks Warehouses, and other Buildings. Messrs. FOWLER also Manufacture such Lifts to be worked by Hand Pumps, where pressure cannot be obtained from a Cistern.

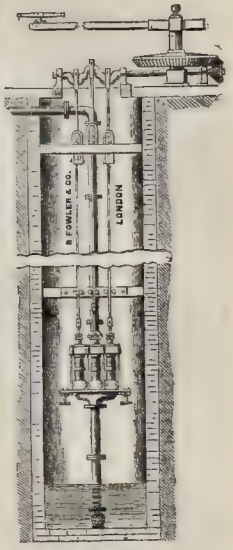
BENJAMIN FOWLER & CO.

MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

PUMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE, STEAM-ENGINES, WATER-WHEELS, TURBINES, HOISTS, WARMING AND DRYING APPARATUS, BATHS, GAS-WORKS, AND FITTINGS.

ESTIMATES WILL BE HANDED ON APPLICATION.



No. 37.

PRICE LISTS OF PUMPS FREE BY POST.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED SANITARY GOODS.



FLUSHING CLOSETS, URINALS, CHIMNEY-FLUES, &c.

N.B.—No MEMBER of this FIRM was on the SUB-COMMITTEE of CLASS 10 or 35.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month.

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,

Manufacturers of Ironwork for Drainage Purposes,

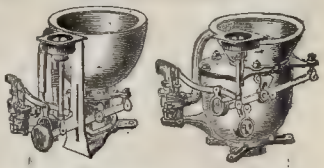
JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.

N.B. Steam Power, with Workshops, to Let

OSLEY POTTERY WORKS, GLASGOW.

Messrs. R. H. PENMAN & CO. from Staffordshire, Manufacturers of the best description of EARTHENWARE GOODS for Sanitary Purposes required in private and public buildings, supply the Trade, Wholesale, at the lowest possible prices for Cash. The Ware sent by their customers to the late Exhibition was highly spoken of.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cistern valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862, FOR EXCELLENCE OF MANUFACTURE AND BEAUTY OF DESIGN.

THE ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAND MOSAIC TILES; also superior TESSELATED TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs, &c.; as also for external decoration, as plinths, fascia, string courses, pilasters, &c. and white glazed tiles for baths, dairies, &c.: also, the Architectural Pottery Company's patent orange tree Boxes. Various specimens of the above may be seen, and every information obtained at the Offices of the Company, No. 26, Parliament-street, S.W. Specimens also on view at the Galleries of the Architectural Exhibition, 9, Conduit street, Regent-street; Kensington Museum, the Fine Arts' Academy and the Crystal Palace, Sydenham.—Address, The Architectural Pottery Company, 26, Parliament-street, S.W.; or Poole, Dorset.



TYE & ANDREWS NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREWS, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

SALES BY AUCTION.

150 Tons Best Scrap, Rod, and Bar Iron.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, FEBRUARY 11, 1863, at ELEVEN for TWELVE o'clock, at the SWAN-WELL IRON WORKS, near Newcastle upon-Tyne, in Lots, 150 Tons Best SCRAP, ROD, and BAR IRON, assorted sizes, manufactured by Crowley, Millington, & Co. now lying at the Swalwell Works.—To be viewed at the Works on the morning of sale. Catalogues may be had on the Premises, at the Station Hotel Newcastle; at the "Midland Counties Herald" Office, Birmingham; of Messrs. VANDERCOM, CREE, & LAW, Solicitors, Bush lane, London, E.C.; of Messrs CHARLES BROWN & DUBOIS, Accountants, No. 10, Basinghall-street, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter street, London, E.C. Approved bills at three months' date will be taken from purchasers to the extent of 5*l*. and upwards. There is every facility for removing the iron by water carriage.

TO IRONMONGERS, BUILDERS, ENGINEERS, SHIP CHANDLERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on MONDAY, FEBRUARY 16, at ELEVEN o'clock, on the PREMISES, Swan lane, Upper Thames-street, in lots, without reserve, the Second and concluding Portion of the extensive STOCK IN-TRADE of Messrs. Croley, Millington, & Co. removed from the works in Newcastle, including many tons of cast, shear, and bl ster steel; Lammers' weight bar iron, grindst ones, stone saws, cane-hams, tin bar and trade chains, ship's ironmongery, hooks, thimbles, &c.; export ironmongery, and a general assortment of black ironmongery; the warehouse fittings, crane, cast-iron columns, ha light reflectors, Miner's safe, counting house and gas fittings, &c To be viewed on Saturday previous an l morning of sale, when catalogues may be had on the Premises; of Messrs. BROWN & DUBOIS, Accountants, 10, Basinghall street; of Messrs. VANDERCOM, CREE, & LAW, Solicitors, 23, Bush lane, Cannon street; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C. Approved bills at three months' date will, be taken from purchasers to the extent of 50*l*. and upwards. The Warehouses to be let, with immediate possession

TO ENGINEERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, FEBRUARY 18th, at ELEVEN, at the WAREHOUSE, Reynolds' road, Lambeth, in lots, without reserve, ENGINEERS' TOOLS, &c. removed for convenience of sale, including an 8-in self acting screw-cutting lathe, 10-feet gap bed; a 10 inch slide lathe (12 feet bed); self acting wall-drilling machine, bench drilling machine, a new tenoning machine by McDowall, a pair of 4 feet 6 inches granite edge-runners, a gun-lock letting-in machine by Evans & Son, two grooving machines for gun barrels, an hydraulic girder-proving machine, four drill-presses, hand power fly wheel, an assortment of steel tools, two large cranes, two loads of seasoned oak planks, two trolleys, work benches, valuable assortment of wood patterns, engine patterns, crane patterns (from 2 to 10 tons), several tons of castings, office furniture, two spring town carts, spring truck, and numerous other effects.—To be viewed on Tuesday previous to the sale, when catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

INTERNATIONAL EXHIBITION, 1862.—The Materials of the Annexes, the Shafting, Engines, Columns, and Steam pipes used for showing the Machinery in motion, and surplus Plant

MESSRS. FULLER & HORSEY are instructed by Messrs. Kell & Lucas to SELL by AUCTION, on TUESDAY, FEBRUARY 24th, 1863, and following days, at ELEVEN each day, at the Building, in lots, the capital, sound MATERIALS of the ANNEXES, the shafting, columns, steam boiler, and steam-pipes used for showing the machinery in the Western Annex of the International Exhibition Building, and the surplus plant: 300 laminated ribs for carrying the roofs, each 40 ft. span, 50 ft. high; 1 000 squares 1-in. roofing boards, 1,500 squares glazed skylights (16 oz. glass), 3,200 squares 1 in. and 1½-in. flooring-boards, 150,000 ft. run inch deep, 10,000 ft. run plates, 9 in. by 3 in.; 100,000 ft. run quartering, 8 in. by 2 in. and 4 in. by 2 in.; 2,000 squares 1-in. dressed match boarding, 400 squares rough ditto, 1 000 ft. gas-piping, 2 000 ft. run gutter, 3 gutter lights, 12 in. by 6 in.; 2,500 yards contractors' rails, 7,000 ft. tir sleepers, 12 in. by 4 in.; 20 strong-framed trollies, 230 fluted cast iron columns, 10 ft. 6 in. high, with turned bright caps, bases, and base plates, with holding-down bolts; 2,000 feet bright turned wrought-iron shafting, 2½ to 3½ in. with couplings and self lubricating pedestals; Cater's patent multitubular boiler of 50 horse-power; 30 turned riggers, 9 ft. to 4 ft. diameter; 9 pair mortise mitre-wheels, 200 tons wrought and flanged cast-iron steam piping, from 2 in. to 18 in. diameter, with expansion joints, valves, &c.; 13 derrick cranes, from 1 ton to 6 tons, by Bowser, Cameron, & Co.; erection of the boiler-house, engine-house, and erecting shop and erection of the chimney shaft; 100 rods new brickwork; erection of gantry, 65 ft. long, with two travellers, 5 tons and 10 tons, 20 ft. span; erecti n of water-closets and urinals; 125 mahogany coal spring stuffed couches, adapted for picture-galleries or ball-rooms; 650 double and single seats, with iron stall ends; and numerous other effects.—To be viewed on Saturday and Monday previous to the sale, from Nine to Four o'clock, when catalogues at 6d. each (without which no person will be admitted), may be had at the building, or previously of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

N.B. Approved bills at three months' date will be taken from purchasers to the extent of 50*l*. and upwards.

Two Steam Boilers, with Mountings.

MESSRS. FULLER & HORSEY are instructed to include in the SALE at the WAREHOUSE, Belvedere-road, on WEDNESDAY, FEBRUARY 18th, at ELEVEN o'clock, TWO Wrought-iron Cylindrical TUBULAR BOILERS with Brick and Furnace work, now lying about 6 miles from the Thames at Marlow road Station. To be viewed by special order any time previous to the sale. Catalogues may be had of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

MIDDLESEX, WEST DRAYTON.—To BUILDERS, CONTRACTORS, and OTHERS.

MESSRS. E. & C. NEWMAN have received instructions from Messrs. W. & J. Studds, to SELL by AUCTION, in their BRICKFIELDS, near the West Drayton Station, on FRIDAY, FEBRUARY 14, 1863, at TWELVE o'clock, in lots, about 1,000,000 Stocks, Grizzles, and Place BRICKS. The Brickfields conveniently situate on good roads for land carriage, and adjoining the Great Junction Canal. May be viewed, and catalogues had four days prior to the sale, at the De Burgh Arms, West Drayton; No. 72, Chiswell-street, Finsbury; and at the Offices of the Auctioneers, Agricultural and General Valuers, West end House, Uxbridge, and Church Farm, Harlington, Middlesex.

TIMBER AT GARENDON, near LOUGHBOROUGH, LEICESTERSHIRE.—To be SOLD by AUCTION, by

MESSRS. COOKE & WARNER, at the BULL'S HEAD HOTEL, LOUGHBOROUGH, on FRIDAY, the 13th of FEBRUARY, 1863, at TWO o'clock, a large quantity of very large and superior OAK, ASH, ELM, and other TREES, now growing in the hedge-rows and plantations, near Garendon; also a large quantity of ASH POLES, CRATE WOOD, and BOBBIN WOOD, now lying in lots, in Piper and No. 1 Rick Wood. The Auctioneers request the company to meet them at Piper Wood, at ELEVEN o'clock precisely, to proceed to the sale of the Poles, and the Timber will be sold at the Bull's Head Hotel, Loughborough, at TWO o'clock. Catalogues may be had at the Bull's Head Hotel, Loughborough; of the Auctioneers; and at the office of Mr. MILES, Surveyor, Leicester. Timber on the table at ONE o'clock. Garendon is about three miles by turnpike road from the Loughborough Station, on the Midland Railway, and within a short distance of the canal.

CROYDON, SURREY.—EXCELLENT GROWING TIMBER.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the Premises, on MONDAY, FEBRUARY 16, 1863, at ELEVEN for TWELVE o'clock, the excellent Growing TIMBER on the Addiscombe Estate, about a mile from the West Croydon Railway Station: comprising about 70 Elms, 27 Limes, 28 Oak, 9 Walnut, and sundry Ash, Chesnut, Beech, Fir, Hornbeam, Sycamore, and other Trees. Each Tree is marked with the number of its Lot in white paint, and may be viewed at any time previous to the sale. Catalogues may be had at the principal Inns in the neighbourhood; on the Estate; and of the Auctioneer, 14 Moorgate street, London, E.C.

OLD BROAD-STREET.—BUILDING MATERIALS of Two HOUSES.

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on MONDAY, FEBRUARY 9, at TWELVE, in lots, all the BUILDING MATERIALS, FIXTURES and FITTINGS-UP of TWO HOUSES situate in Cutlers' court, Old Broad street; comprising sound oak joists, oak and fir timber in roofs and floors; plain tiles, sashes, doors, part tiles, wainscotting, marble and other chimney pieces, sound floor boards, York paving, coping and cills, lead flats, lead gutters and pipes, stoves, and various useful fittings. May be viewed, a plan of the lots had of C. J. CORBETT, Esq. and THOMAS NEWSON, Esq. Architects, 17, Gresham-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, City, E.C and 40, Parliament-street, S.W.

19, MILLBANK STREET.—TO SCULPTORS, MASONS, BUILDERS, AND OTHERS

PULLEN, HORNE, & EVERSFIELD are instructed by Mr. J. Udny, Agent for Count Lazzoni & Son, to SELL by AUCTION, at the MARBLE WHARF, 19, Millbank-street, Westminster, on TUESDAY, FEBRUARY 17, at ELEVEN for TWELVE, a large assortment of MARBLE, in blocks and slabs, viz. 100 blocks of statuary, 80 of Sicilian, 20 of Devio, 12 of yellow Sienna, and other marbles; also 1,000 feet of marble slab, garden figures, &c. Approved bills at 4 for and six months. May be viewed two days previous, and catalogues had at the place of sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, City.

METROPOLITAN IMPROVEMENTS.—Southwark and Westminster Communication.—Twenty-third Sale.—Building Materials, Southwark bridge-road.

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works, to SELL by AUCTION, on the Premises, on FRIDAY, FEBRUARY 20, at TWELVE, in Lots, all the excellent BUILDING MATERIALS and FIXTURES of Forty-seven Houses in Green-lane, Newstreet, and a large range of Factories, Workshops, Stabling, and Premises in The Grove, Southwark, comprising capital brick-work, a large quantity of pan-tiles and slates, stout timber roofs, boarded and timber floors, weather boarding, sashes, doors, and interior fittings-up, racks, mangers, and stable fittings, folding gates, stone paving, large iron tank, lead gutters and pipes, stoves, and useful fixtures and fittings up. May be viewed the day previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament street, S.W

FOR SALE by PUBLIC AUCTION, in the SALE ROOM, at F. K. BARNES & SONS' TIMBER YARD, Canonbury Marsh, Bristol, on THURSDAY, 19th day of FEBRUARY, 1863, at ONE o'clock precisely. (Luncheon at Half-past Twelve o'clock.) For account of Importers.

250 0 Spruce Deals, Battens, Scantling, and Ends
5,000 Fresh St. John Pine Deals and Plank
7,000 Quebec Pine and Spruce Deals
8,000 St Petersburg Red and White Wood Deals
5,000 Onega R d Deals, Battens, and Boards
3,000 Fresh Gothenburg Deals and Battens
5,000 Fresh Pyhaln Red Deals
700 4 and 3 by 11-inch Memel Deals
500 Loads Quebec Yellow Pine
100 Loads Quebec Red Pine
300 Loads Quebec Board Pine
40 Loads Quebec Oak
15 Loads Quebec Ash
50 Loads Quebec Birch
1 Loads 2, 3, and 4 Prince Edward Island Pine
50 Loads Prince Edward Island Fresh Birch
200 Loads Fresh Maine Timber
500 Loads Dantzic Timber
50 Loads Dantzic Oak
300 Loads Swedish Timber
5 0 4 to 6-inch } Fresh Norway Spars
2 0 Inch }
2 0 Rickers
25 Tuns Hemlock, Deals, and St. Petersburg Lathwood
15,000 Spruce Palings and Laths
50 Lees Mexican Mahogany (Dockyard)
Flooring

With other Goods.
Catalogues will be issued in the Week of Sale.
F. K. BARNES & SONS, Brokers.
Canons' Marsh, Bristol, February 3rd, 1863.

CAMDEN TERRACE, CAMDEN TOWN, N.W.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, RAILWAY ARCHES, on MONDAY, 9th FEBRUARY, at TWELVE, 1,400 Yellow, Pine, and White Planks and Deals: 400 very long Battens, dry and Stuff, Flooring, Lining, and Moulding Boards, 10,000 feet of excellent Die Square, a Brick Cart and a Light Cart; also a few Building Materials.—Auction Offices, 2, Cardington-street, Hampstead-road, N.W.

MAIN DRAINAGE CLEARANCE SALE.—Bonnett's Wharf, Surrey Canal Docks, Peckham-rye, Camberwell, Contractors, Builders, Dealers in Contractors' Plant, Ball Ing Materials, Wood, Iron, &c.

MR. FRED. CHAPMAN is favoured by the Contractors for the South ern High-Level Sewers (Messrs. Lee & Bowdel, with instructions to SELL by AUCTION, on THURSDAY, FEBRUARY 19 1863 at ELEVEN for TWELVE o'clock precisely (and on the following day, should the number of lots render it necessary), on the WHARF and PREMISES, as above, Two Gwynne's Patent Centrifugal Pumps, timber drums, whims, forty earth-waggons, chain, wrought, and cast iron, inch spring cart, four good hack horses, a large quantity of temporary sleepers, rolling board, block boxes, round timber, the square, and other useful wood, stacks of firewood, &c; stone, Staffordshire blue and other bricks, besides a valuable and numerous collection of contractor's plant and miscellaneous effects. May be viewed the day preceding and morning of Sale. Catalogues had of J. J. BENNETT, Esq. 4, Hyde-terrace, New Cross; at The Kent-sh Drovers, and Hawser Arms, Peckham; The Railway Tavern, New Cross; The Roebuck, Lewisham; at the principal Inns in the neighbourhood of the Wharf; and of the Auctioneer, New Cross-road, Kent.

PHILBROKE ESTATE, at Leytonstone, on the Woodford and Loughton Railway, twenty minutes from Fenchurch and Bishopsgate Stations.—This valuable FREEHOLD ESTATE (land tax redeemed), surrounding the Station, healthy locality, gravelly soil, excellent drainage, water and gas laid down, roads nearly made, and let by FRED. SMALL, Esq. Philbroke, will be LET in Plots suitable for building detached and semi-detached villas. Repeated applications have been made for houses in this neighbourhood For terms, apply to Mr. ATHEY, at the Surveyor's Office, Philbroke Estate, Leytonstone, Essex

BUSHY PARK ESTATE, Teddington.—TO BE LET, or SOLD, the Remaining Portion of a BUILDING ESTATE, of 75 Acres, in the Occupation of Mr. Knight, with frontage on main roads overlooking Bushy Park, five minutes' walk from the Station on the new Railway from Twickenham to Kingston, which will be opened early this spring, and within half an hour of the City and Charing cross. The land stands high and dry, possesses a good gravelly soil, is beautifully timbered, and being in the vicinity of Twickenham, Hampton Court, Richmond, and the Thames, is all that can be desired for the erection of first-class residences, which are in great demand. Advances may be made to responsible bunders, or two-thirds of the purchase money if required may remain on mortgage at 5*l*. per cent. A plan of the estate may be seen and particulars obtained of the Proprietor on the Estate and the City is reached in twenty five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Kingston; some very eligible SITES in the Grove road, Mile-end, a few of which are adapted for shops, and large and very CHEAP PLOTS TO LET, at Ealing.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

WOODFORD RAILWAY.—THE GROVE, WANSTEAD.—Portions of the beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Railway Station is 400 yards only from the Estate and the City is reached in twenty five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Kingston; some very eligible SITES in the Grove road, Mile-end, a few of which are adapted for shops, and large and very CHEAP PLOTS TO LET, at Ealing.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

ST. HELEN'S, Lancashire.—TO BE LET on LEASE, the extensive MANUFACTURING PREMISES known as the Ravenhead Upper Sheeting Works, situate at St Helen's, with a wharf on the canal, and a branch of the St Helen's Railway running through the property. The entire site is about twenty acres, of which about fifteen acres are occupied by the works, the remainder being arable and pasture land. The buildings comprise a series of very substantially erected, light, and lofty ground flat factories, arranged for the purposes of copper and silver-melting works; but they will be available for many other large manufacturing establishments, as they possess the advantages of direct communication by rail or water carriage with all parts of the Kingdom. Coals can be obtained from pits in the neighbourhood at an almost nominal price, and labour is cheap and abundant.—For particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.; and Messrs. HARRISON & FINCH, 2, Gray's Inn, London.

LAND WANTED by the Guardians of the West London Union.—About FOUR ACRES of FREEHOLD LAND, upon which to erect a Workhouse. The Land must be within about four miles of the City of London, and the Middlesex side of the Thames will be preferred.—Full particulars, including prices, to be sent to me, at my Office, as below.
JOHN PONTIFEX, Clerk to the Guardians.
5, St. Andrew-street, Holborn, January 29, 1863.

BUILDING LAND TO BE LET. HACKNEY, close to the Railway Station, for small Dwelling Houses.
NORWOOD, close to the Crystal Palace, for Shops and Villas. PERIVALE HILL, SYDENHAM, for first-class Residences. Advances made if required.—Apply to Mr. T. K. GREEN, 25, College-hill, Cannon-street, E.C.

GUILDHALL, London, 31st of JANUARY, 1863. The COMMITTEE for LETTING the BRIDGE HOUSE ESTATES will meet at GUILDHALL, on FRIDAY, 13th FEBRUARY next, at ONE o'clock precisely, to receive PROPOSALS for REPAIRING LEASE of a HOUSE, No. 13, York place, Kent-street-road, in the county of Surrey. Plans of the property may be seen and forms of Tender obtained on application at the Architect's Office, Guildhall.
FERDINAND BRAND, Comptroller.

TO BRICKMAKERS, BUILDERS, and CONTRACTORS.—BRICK FIELD. TO BE SOLD, with immediate possession, the LEASE and PLANT, &c. of a BRICKFIELD in full work, and pitched on the north side of London. An underlying bed of clay has been proved by subscribers' working.—For particulars apply to JOHN ASHDOWN, Esq. 42, Charing-cross.

WATERSIDE PREMISES WANTED, between London and Vauxhall Bridges, Warehouses or building ground, to rent or purchase.—Address particulars to R. D. 10, Alfred place, Newington causeway.

TO LANDLORDS and OTHERS.—WANTED, FREEHOLD or LEASEHOLD, a PIECE of GROUND to build a Lodging-house, within six miles westward of Charing-cross.—Particulars to be addressed to HENRY KING, 94, Drury lane, W.C.

ON the PORTLAND ESTATE, near Oxford street.—THREE capital HOUSES, with good workshops, TO BE SOLD, together or separate; or the largest House with four workshops, 22ft. by 19ft. 6in. respectively, TO BE LET; together with a Timber Shed.—For further particulars, apply to Messrs. LEREW & LEREW, Auctioneers, Cardington street, Hampstead-road, N.W.

FREEHOLD LAND, about 100 yards from the Station proposed to be constructed at the Queen's-road, Peckham, on the London and Brighton Railway Company's Extension line, is now ready for Building. About 50 Houses have been built on this road thoroughfare, built upon entirely on one side. Gravelly soil, and only three miles from London. The station will be the best all round Land on. Advances will be arranged if required by the person, to the FREEHOLDER, Bath House, Queen's-road, Peckham

BUILDING LAND TO LET, at Canonbury, Haverstock-hill, Lower Norwood, &c.—Also to the Station for large and small Houses, at Croydon; also at Elsworth's road, Bow. Gardens for superior. The usual advances made.—Apply at the Offices of Mr. JAS. MADELEY, Architect and Surveyor, 6, Crown-court, Old Broad-street, E.C.

RICHMOND, Surrey.—Valuable FREEHOLD LAND TO BE LET, or Building.—1st. The substantial mansion known as Suffield House, capable of being divided into two genteel houses; frontage 50 feet, depth 114 feet, and The frontage next Mansion House, 50 feet, depth 114 feet, and The frontage next Eton street, 120 feet, and depth average 53 feet. 4th The frontage next Marsh gate road 16 feet, depth 173 feet. The whole of the above is now let on lease, and may be had at the railway station. To view, apply at the Mansion; and for particulars, to Mr. W. HUDSON, Architect, 19, Bennet's hill, Doctors' Commons.

ALDERMANBURY. — Several HOUSES in the above street, with or without odd tenal groups behind them, may be HIRED from the Freeholders at Christmas 1864, either on building lease or otherwise.—Apply, in the first instance, to Mr. MAY, at Soon College, Lambeth.

BUSINESS PREMISES, covering an area of 1,490 square yards, in the centre of a rapidly-improving town 12 miles from London, within a few hundred yards of a railway station, and adapted for builders, manufacturers, brewers, or others requiring space, with a good Dwelling house, Stabling, Store rooms, and other buildings.—Address to R. KERRIDGE, Surveyor, Kingston, London, S.W.

EXTENSIVE MANUFACTURING PREMISES, Southwark.—TO BE LET on LEASE, extensive MANUFACTURING PREMISES, occupying a very large area, situate in the Borough road, Southwark. The buildings, which are very substantially erected, comprise a very large factory of three lofty floors, with basement, a smaller factory of four floors adjoining, a very spacious and lofty ground floor factory, yard, a capital family residence and other dwelling-houses, counting-house, dwelling houses fronting the Borough road, Nos 77, 78, and 79, which can be readily let off if desired.—For further particulars apply on the Premises, or to Messrs. FULLER & HORSEY, Billiter-street, Fenchurch-street, E.C.

EXTENSIVE MANUFACTURING PREMISES, WHITECHAPEL.—TO BE LET or SOLD, together or separately, the extensive and important RANGE of PREMISES, recently occupied as the Whitechapel Distillery, with land adjoining, if required. The buildings, many of which are of great extent, are most substantially erected, principally in 1845, and very conveniently arranged for almost any industrial purpose. There are three distinct sets of entrances, and the buildings and yards are surrounded with paved yards. The total area is about three acres, exclusive of six acres of accommodation land, which may be had if required. There is an artesian well, which affords a constant and unlimited supply of pure water. Further particulars and cards to view may be had of Messrs. TENNANT & DARLEY, Solicitors, Basinghall-buildings, Gray's inn; and of Messrs. FULLER & HORSEY, Billiter-street, E.C where plans of the property may be seen.

BUILDING LAND.—A PLOT of FREEHOLD LAND, in the centre of Fulham, with a frontage for eight or ten houses, or other buildings, TO BE LET, on lease, or 50*l*. per annum, with immediate possession.—Letters addressed to ALPHA, at Maddala's Library, Edgeware-road, will be attended to

London:—Published by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles in the Fields; and published by the said CHARLES WYMAN, at the Office of "The Builder," No. 1, York street, in the Parish of St. Paul's, Covent-garden, both in the County of Middlesex.—Saturday, February 7, 1863.

The Builder,

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Architect, Engineer, Operative & Artist.

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ROYAL SCHOOL OF MINES, Jermyn-Street.—The following Courses of Lectures are about to be commenced :

Thirty Lectures on PHYSICS, by Professor TYNDALL, F.R.S., to be delivered on every week day but Tuesday, at Ten a.m. commencing on 16th February. Fee for the Course, £6.

Thirty-Six Lectures on APPLIED MECHANICS, by Professor WILLIS, M.A. F.R.S. to be delivered on every week day but Saturday, at Twelve, commencing 16th February. Fee for the Course, £6.

Thirty Lectures on GEOLOGY, by Professor RAMSAY, F.R.S. to be delivered on Mondays, Tuesdays, Wednesdays, and Thursdays, at Half-past One, commencing 16th February. Fee for the Course, £4.

TRENHAM REEKS, Registrar.

ARCHITECTURAL EXHIBITION, 9, CONDUIT-STREET, REGENT STREET.—Parties wishing to exhibit BUILDING MATERIALS or INVENTIONS at the forthcoming EXHIBITION, or desiring to send ADVERTISEMENTS for the CATALOGUE, must at once communicate with Mr. MOODY, at the Galleries. Drawings to be sent in on the 2nd of MARCH, between the hours of NINE and SIX.

JAMES FERGUSSON, F.R.A.S. } Hon Secs.
JAMES EDMESTON, F.R.I.B.A. }

GALLERIES of the ARCHITECTURAL UNION COMPANY (Limited), 9, Conduit-street, Regent-street, NOW OPEN, FREE, from ELEVEN till FOUR, daily. The Autumn Exhibition of Building Materials, Patents, and Inventions, will CLOSE, FEBRUARY 28, and must then be cleared for the Architectural Exhibition. JAMES EDMESTON, Hon. Sec.

SHEFFIELD SCHOOL of PRACTICAL SCIENCE and METALLURGY.
PRESIDENT
His Grace the Duke of Devonshire, K.G. F.R.S. D.C.L. Chancellor of the University of Cambridge.
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The Rev. G. R. Atkinson, M.A. Principal of the Collegiate School ; late Fellow and Assistant Tutor of Trinity Hall, Cambridge.
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Engineering and Mining—J. Thompson C.E.
Mathematics, Natural Philosophy, and Applied Mechanics—Rev. G. B. Atkinson, M.A.
The Sheffield School of Practical Science and Metallurgy will afford complete theoretical and practical education to students who are destined to become civil, mechanical, or mining engineers, or manufacturers of any kind. Its object is thoroughly to discipline the students in the principles of those sciences upon which the operations of the engineer, metallurgist, or manufacturer depend.
The education will be given by means of systematic Courses of Lectures, by Catechetical Class Instruction, by Practical Teaching in the Laboratory and Drawing room, and occasionally by Field Excursions.
The School of Practical Science and Metallurgy will be conducted in the Buildings of the Sheffield Collegiate School. The two Institutions, although both under the superintendence of the Rev. G. R. Atkinson, Principal of the Collegiate school, are, however, entirely distinct.
A detailed Prospectus, containing Syllabuses of all the Courses of Lectures, and all other information, arrangements for boarding, &c. may be obtained by application to the Director.
THE SCHOOL WILL OPEN IN THE FIRST WEEK IN FEBRUARY, 1863.

LECTURES to WORKING MEN, ROYAL SCHOOL of MINES, JERMYN STREET.
The FOURTH COURSE, consisting of SIX LECTURES on MINERALS, by Mr WARINGTON W SMYTH, M.A. F.R.S. will be commenced on MONDAY, the 16th FEBRUARY, at EIGHT p.m.
Tickets may be obtained by Working Men only, from TEN o'clock on MONDAY, the 16th instant, upon payment of a fee of Sixpence for the whole Course. Each applicant is requested to bring his Name, Address, and Occupation, written on a piece of paper, for which the Ticket will be exchanged.
TRENHAM REEKS, Registrar.

BILLING'S PATENTS.
CHIMNEY TERMINALS. THROAT VALVES.
NOTICE to ARCHITECTS.—The Proprietors of the late Mr Billing's Patents have secured the services of Mr H H COLLINS, M.I.B.A. of No 30, Poultry, E.C as the Consulting Architect, from whom full particulars and the reduced prices may be obtained, or from the Manager, Mr. TYLER, 14, Abingdon-street, Westminster, S.W.

ARCHITECTS.—NOTICE is hereby given that the Trustees appointed by Sir John Soane will on or at the MUSEUM, No 14 Lincoln's Inn fields, on TUESDAY, the 24th of MARCH, at TWELVE o'clock at noon precisely, to distribute the Dividends which shall have accrued during the preceding year from the sum of 5,000l Reduced 3l per Cent. Bank Annuities, invested by the late Sir John Soane, among Distressed Architects, and the Widows and Children of deceased Architects left in Destitute or Distressed circumstances. Forms of Application may be had at the Museum, and must be filled up and delivered there on or before SATURDAY, the 14th of MARCH, after which day no application can be received.

COMPETITIONS.

TO ARCHITECTS.—A PREMIUM of 25l. is OFFERED for the BEST PLAN for LAYING OUT EIGHT ACRES of LAND, at Ripon, in building sites, with the elevations of detached and semi-detached villas, of from 30l to 50l rental.—Plans to be sent in by the 24th MARCH. For further particulars, and to view the ground, application must be made to
ROBERT WILLIAMSON, Jun. } Hon. Secs.
JOSEPH STEVENSON, }
Ripon, February 2nd, 1863.

TO ARCHITECTS.—GIRLS' SCHOOLS, MATRON'S HOUSE, and OTHER BUILDINGS.—The Trustees of the General Charities in the city of Coventry, invite Architects to submit DESIGNS, with plans, specifications, and estimates, for the ERECTION (in pursuance of an order of the Court of Chancery) of a GIRLS' INDUSTRIAL SCHOOL, with Matron's House and other necessary buildings in the City of Coventry. The school room should be capable of holding seventy pupils, and there must be accommodation for thirty girls to be boarded and lodged in the house, and the buildings should be arranged so that they could be extended if necessary. The cost of the whole, including all extras, not to exceed 2,000l. A ground plan of the site may be seen at my Office, and a lithographed copy will be forwarded on application. A premium of 20l will be paid for the design, plans, &c which shall be selected and adopted by the Trustees (or which can be carried out for the sum above limited); and a second premium of 10l will be paid for the designs and plans which the Trustees shall think entitled thereto. On payment of the premiums the Trustees are to be entitled to the designs, plans, and specifications selected, but are not to be considered as bound to employ the parties furnishing them ; but in the event of the successful competitor being employed the premiums will merge in his commission. The designs, plans, &c. to be forwarded to me under a letter or motto, with a sealed letter to correspond, on or before SATURDAY, the 21st day of MARCH next, and in the meantime any further information may be obtained on application to me.
HENRY J. DAVIS, Clerk to the Trustees.
Hay-lane, Coventry, February 5, 1863.

CONTRACTS.

DELAMERE, CHESHIRE.—The Commissioner in charge of Her Majesty's Woods and Royal Forests hereby gives notice that TENDERS will be received for the ERECTION of a HOUSE and OFFICES, a HOME-STEAD, BAILIFF'S HOUSE, and TWENTY LABOURERS' COTTAGES, at Delamere, near Hartford, in the County of Chester. Drawings and specifications may be inspected, on application to Mr. MOBIE, at the Abbey Arms Inn, Delamere on and after the ELEVENTH instant, and further particulars obtained on application to Mr John CLUTTON, 9, Whitehall-place, Westminster.
Tenders to be sent in on or before the 9th day of March, addressed to the Hon. and Rev. Thomas B. HOWARD, Office of Woods, Whitehall-place, Westminster, S.W. endorsed, "Tender for works at Delamere."
The Commissioner does not bind himself to accept the lowest or any Tender.

EXTENSION of TIME for receiving TENDERS.—CITY of LONDON, BARBERS' HALL.—Important SALE of WAREHOUSES or MANUFACTURING PREMISES in the immediate vicinity of Wood street and Jewry-street.—The Court of the Worshipful Company of Barbers will meet at their Hall on THURSDAY, the 26th day of MARCH, 1863, to receive TENDERS for LETTING, on a Building Lease for 30 years, the Extensive PREMISES known as Barbers' Hall, situate in Monkwell street, Wood street, comprising three houses fronting Monkwell street, Nos 33, 34 and 35, part of the courtyard in the rear thereof the passage leading thereto, and the greater portion of the Company's Hall, together with the kitchen, scullery, and outbuildings, having a frontage towards Monkwell street of about 81 feet by an average depth of about 11 feet, and an extreme depth of about 135 feet.—Plans and particulars of the property, elevation and section of street front, also conditions of letting, may be obtained on application to the Clerks of the Company ; to Mr CHARLES JOHN SHOPPEE, the Company's surveyor, No. 61, Dalghty street, W.C. ; or to the Beadle at the Hall.—By order,
HENLEY GROSE SMITH, Clerk.
4, Warnford court, Throgmorton street, E.C.

CONTRACTS.

CONTRACT for the SUPPLY of BUILDING MATERIALS for CONVICT PRISONS. Persons desirous of TENDERING for the SUPPLY of TIMBERS, deals, slates, lime, sand, bricks, lead, glass, wrought and cast iron, ironmongery, gas and water pipes, white lead, &c. &c. for twelve months from the 1st of APRIL next to the 31st of MARCH, 1864, for the Pentonville, Millbank, Brixton, Portland, Parkhurst, Chatham, Dartmoor, Woking, and the Asylum, with Woking Broadmoor Prisons, and the Refuge at Fulham, are requested to forward their Tenders, by post, addressed "The Directors of Convict Prisons, 45, Parliament street, Westminster, S.W." on or before SATURDAY, the 21st of FEBRUARY, 1863, at NOON. Forms of Tenders will be supplied on application at the several prisons before named, or at the Office of the Directors, 45, Parliament street, and not later TUESDAY, the 10th of FEBRUARY, 1863.
45, Parliament street, January 31st, 1863.

ERECTION of WORKHOUSE. — To CONTRACTORS, BUILDERS, &c.—PARISH of ST. LEONARD, SHOREDITCH, MIDDLESEX.—The Board of Guardians of the Poor of the above parish, are desirous of receiving TENDERS from contractors for the ERECTION of a NEW WORKHOUSE, for the said parish, to be erected on the site of their present workhouse and adjoining premises, situate in the Kingsland road and Hoxton. Parties tendering will be required to find security for the amount of 20,000l. for the performance of the works in accordance with the drawings and specification. Such drawings and specification can be seen, and all information obtained, at the Office of the Architects, Mr WILLIAM LEE, St. Michael's House, Cornhill. Bills of quantities may be obtained on payment of 10l 10s. which sum will be returned to the parties tendering when Tenders are not accepted. Tenders are to be addressed to the Board of Guardians, and endorsed "Tender for erection, &c. of New Workhouse," and must be delivered at the Board room, Kingsland road, London, N.E. not later than SIX o'clock in the evening of WEDNESDAY, the 25th day of FEBRUARY, 1863. The Guardians do not hold themselves to accept the lowest or any other Tender. Parties tendering must be present, by themselves or their agents, at the time of meeting. By order of the Board,
WILLIAM NIGHTINGALE, Clerk.
Board room, Kingsland road, 4th February 1863.

BOROUGH of WOLVERHAMPTON.—TO CONTRACTORS, MANURE DEALERS, and OTHERS.—TENDERS for REMOVAL of NIGHT SOIL. The Council acting as the Local Board of Health of the Borough of Wolverhampton, are TENDERS from persons who may be willing to undertake the REMOVAL of the NIGHT SOIL, ASHES, REFUSE MATTER, and SURFACE FILTH of the Borough, for a term of one year, commencing at Lady Day, 1863. Printed copies of the proposed contract and specification may be obtained at the Borough surveyor on payment of 2s. 6d. for each copy. Tenders to the Borough surveyor on or before THURSDAY, the 19th of FEBRUARY, 1863, endorsed "Tender for Removal of Night Soil, &c." The Council do not bind themselves to accept the lowest or any Tender.
EDWIN JOHN HAYES,
Town Clerk, and Clerk to the Local Board.
Town Hall, Wolverhampton, February 2nd, 1863.

WEST HAM LOCAL BOARD of HEALTH.—The Local Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS for SUPPLYING and for LAYING GUERNSEY GRANITE CURB, and also for such Road Metal and Labour as may be required in making and repairing the streets called Frederick's road, Martin street, Station street, Western street, Stratford, within the District, according to plans, sections, specification and conditions prepared by Mr MARSHALL, the surveyor of the Board, and which may be seen at his Office at Robert's house, in Stratford, where also Forms of Tender may be obtained, together with any further information required. Tenders endorsed "Tenders for Kerbs, &c." are to be sent to me, on or before MONDAY, the 23rd FEBRUARY inst.—By order of the Board,
CHARLES WILSON, Clerk.
Robert's House, Stratford.

TO CONTRACTORS and BUILDERS.—The Trustees of Watts's Charity, at Rochester, are desirous of receiving TENDERS for the CONSTRUCTION of a ROADWAY and CESSPOOL, at ground near or adjoining Ordnance Terrace, and a cutting on the road leading to Fort Pitt, in the parish of Chatham, kent. Plans, sections, and specification of the proposed Works (as prepared by Mr. Bidder), are deposited at the Office of Mr WILLIAMSON (the Receiver of the Charity), High street, Rochester, and open to inspection previous and up to the day of Tender, between the hours of Ten and FIVE o'clock. Tenders are to be sent in to the Office of Messrs LEWIS & MARSH, High street, Rochester, on or before SATURDAY, the 21st of FEBRUARY instant (after which day no Tender will be received), sealed up, addressed to the Trustees of Watts's Charity, and marked "Tender." The Trustees will not hold themselves bound to accept the lowest or any other Tender, and the Contractor at his own expense to enter into a sufficient contract, either with or without surety, as the Trustees shall require, for the due execution of the Works.
Rochester, 3rd February, 1863.

BOARD of WORKS for the LIMEHOUSE DISTRICT.—TO PAVIORS and MASONS.—Notice is hereby given that the Works Committee will meet on TUESDAY, the 3rd day of MARCH, 1863, to receive TENDERS from persons willing to contract for the GENERAL WORKS and REPAIRS to the Granite Pavements of the several streets, courts, alleys, and other places under the jurisdiction of the said Board, for two years from the 9th day of APRIL, 1863. Further particulars may be known, and printed conditions, and the scale of Prices and Rates of Border obtained, by parties intending to Tender for the works, upon application at the Office of the Board, White Horse street, Commercial road East, between the hours of TEN and FOUR o'clock, upon payment of twenty shillings, which will be returned to each person sending in a Tender. Tenders, sealed up and endorsed "Tender for Paviors' and Masons' Work," must be delivered at the said Office not later than FOUR o'clock p.m. on the 2nd day of MARCH, 1863. The Board do not bind themselves to accept the lowest Tender. The sum of two pounds per cent. on the amount of the Contract will be required to pay the costs of the contract. No Tender will be received after the time specified, nor unless strictly in accordance with the printed instructions.—By order,
THOS. W. RATCLIFF, Clerk to the Board.
Dean Colet House, White Horse street, Commercial road East, February 10th, 1863.

CONTRACTS.

TO BUILDERS.—Persons desirous of CONTRACTING for the RE-TRATION of the SOUTH PORCH of the PARISH CHURCH at Hythe, Kent, may see the drawings and specification after the 12th instant, by calling on the Town Clerk at Hythe or at the office of Mr CHRISTIAN & SS, White hall place, London. Tenders to be sent to Mr. CHRISTIAN on or before TUESDAY, the 24th instant. The Committee do not bind themselves to accept the lowest Tender.

LUDFORD CHURCH, LINCOLNSHIRE. Builders desirous of submitting TENDERS for the ERECTION of a NEW CHURCH at Ludford near Market Rasen, and Parish, are requested to send in their names before MONDAY, POWER, Esq., Architect, by 10th, on or before the 23rd inst. of FEBRUARY next when they will be informed on what basis they are required to make their tenders, and obtain copies of the specifications. The Committee does not pledge itself to accept the lowest or any Tender not approved.

W. B. HASTINGS, Secretary.

Ludford, February 9th, 1863.

FURNESS RAILWAY.—CONTRACT for WORKS.—The Directors are prepared to receive TENDERS for the Widening and Completion and Laying of a Second Line of PERMANENT WAY between Carnforth and Ulverston stations, for a distance of about thirteen miles, including the widening of the Viaduct over the Kent and Leven Estuaries, in one or in two sections. Drawings of the portion may be seen, and forms of Tender obtained, at and after SATURDAY, the 14th day of FEBRUARY next, on application to Messrs McLEAN & STILEMAN, the Engineers of the Company at 24 Great George street, Westminster; or at the Secretary's Office at Barrow-in-Furness. Tenders addressed to the Secretary, to be sent to No. 9, old Burlington street, London, W on or before MONDAY, the 23rd FEBRUARY next. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

Barrow, January 27th, 1863. JAMES RAMSDEN, Secretary

FURNESS RAILWAY.—The Directors are prepared to receive TENDERS for the SUPPLY of the undermentioned STORES, viz.:—

TONS of RAILS, 70 tons of Chairs, 30 tons of Fish Plates, 1,000 sets of Bolts and Nuts, 5,000 Spikes, and 12,000 Oak or Elm Keys. Drawings and specifications may be seen, and forms of Tender obtained, on and after SATURDAY next, the 14th day of FEBRUARY, on application to Messrs McLEAN & STILEMAN, the Engineers of the Company, at 24 Great George street, Westminster; or at the Secretary's Office at Barrow-in-Furness. Tenders addressed to the Secretary, to be sent to No. 9, old Burlington street, London, W on or before MONDAY, the 23rd FEBRUARY next. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

Barrow, January 27th, 1863. JAMES RAMSDEN, Secretary

COUNTY of SOUTHAMPTON.—To BUILDERS and STONEMASONS.—REBUILDING BOW BRIDGE.—Forms of CONTRACTING for REBUILDING BOW BRIDGE, on the road from Newport to Ventnor, in the Isle of Wight, with plan and specification for same, may be either at the Public Office of the undersigned in Newport, or at the office of Mr F. SOPHER, County Surveyor, St. Swithin-street, Winchester, of whom any further information may be obtained on and after WEDNESDAY, the 11th instant, between the hours of TEN and FOUR. The form of contract will be found to be correct and will be for inspection, with the plan and specification, and forms of Tender may also be obtained there. Sealed Tenders, on the forms supplied, to be sent in on or before SATURDAY, the 7th day of MARCH next. No Tender will be received but that upon the printed forms. The Magistrates do not pledge themselves to accept the lowest or any Tender. The names, residences, and descriptions of two sureties willing to enter into a bond with the contractor for the due performance of the contract, must accompany the Tender.

T. B. WOODHAM, Deputy Clerk of the Peace.

County Hall, Winchester, February 4th, 1863.

COUNTY of SOUTHAMPTON.—ISLE of WIGHT ARTILLERY MILITIA STORES.—To BUILDERS and STONEMASONS.—Forms of CONTRACTING for MAKING ALTERATIONS and CONVERTING certain BUILDINGS, formerly used as barracks and others, within Parkhurst Cadet, in the Isle of Wight, into STORES for the Isle of Wight Militia, may be had either for the Sureties in charge, near at hand, or personal application for such Works, either at the present Militia Stores, Carisbrooke Priory hill, No. 2, or at the office of Mr. J. SOPHER, County Surveyor, St. Swithin-street, Winchester, of whom any further information may be obtained on and after WEDNESDAY, the 11th instant, between the hours of TEN and FOUR. The form of contract will be found to be correct and will be for inspection, with the plan and specification, and forms of Tender may also be obtained there. Sealed Tenders, on the forms supplied, to be sent in on or before SATURDAY, the 7th day of MARCH next. No Tender will be received but that upon the printed forms. The Magistrates do not pledge themselves to accept the lowest or any Tender. The names, residences, and descriptions of two sureties willing to enter into a bond with the contractor for the due performance of the contract, must accompany the Tender.

T. B. WOODHAM, Deputy Clerk of the Peace.

County Hall, Winchester, February 4, 1863.

TO QUARRYMEN, STONE MERCHANTS, and OTHERS.—The Dover Local Board invites TENDERS for the SUPPLY of 1,000 cube YARDS GRANITE and 1,000 cube YARDS of CHANNELLING and 750 square YARDS of YORKSHIRE PAVING. The flints to be broken to a size to pass through a 2-inch mesh, and the granite to the size required by the Surveyor of the Board may direct, from the date of acceptance of the Tender. The granite to be from Guernsey. Tenders to be delivered to the undersigned Between 2 and 3 p.m. and flints to be delivered on or before the 18th day of MARCH next, and the granite in such quantities as may be agreed upon with the Surveyor, but on or before the 30th day of June next. The Kerbs to be All-down, or Guernsey Granite, 12 inches in face by 7 inches deep, dressed the same. The Channelling to be of the same quality, 9 inches in face by 6 inches deep, dressed on face and on one side, and to square and true ends. The Kerbs to be delivered before the 18th day of MARCH next. The Yorkshire Paving Stone to be of approved quality, and to be delivered at the Station before the 31st day of MAY next. The Flints are to be delivered by the contractor at such part or parts of the harbour as the Surveyor may direct; and all the materials contracted for are to be subject to be passed by the said Board, or the Quay at Dover, and all the deliveries are to be subject to the approval of the Surveyor, who is to have the power to reject any part or the whole of the shipment in accordance with the terms of the contract. The price to be stated, also to include freight, labour, and all other charges whatever, except wharfage on local dues, which will be paid by the said Board. Payment will be made within two months after the date of the certificate of the Surveyor that any delivery is in accordance with the terms of the contract. The Board do not bind themselves to take any one or more of the articles above named in the lots, but shall be at liberty to take any one or more of the materials named in any Tender with the necessary quantity of each required in such Tender. Any person whose Tender is accepted will be required to execute a deed of contract with sufficient sureties, to be approved by the Town Clerk at the expense of the said Board, and further particulars may be obtained by inquiry at the Surveyor's Office. Tenders, in sealed covers, marked "Tender for Flints," or "Granite," as may be, are to be delivered at this office, on or before WEDNESDAY, the 18th day of FEBRUARY instant. The local Board do not bind themselves to accept the lowest or any Tender.—By order

KNOCKER, Town Clerk.

Local Board Office, Dover, February 6, 1863

TO BUILDERS and CONTRACTORS.—PERSONS desirous of CONTRACTING for the ERECTION of a FLOOR-CLOTH MANUFACTORY, at Milbank, Stirling, may see the plans and specification at the Office of Mr THOMAS DANBY, Albert Road, Pendleton, Manchester, on application. Messrs HARVEY & KNIGHT, Engineers, Bolton-by-Bowland, on and after FEBRUARY, 17th, and the Tender between the hours of TEN and FOUR, where sealed Tenders, addressed to Mr. DANBY, Surveyor, are to be sent. The Tenders are to be sent on or before the 24th FEBRUARY, 1863. Any further information may be obtained on written application to the Surveyor. HARVEY & KNIGHT do not bind themselves to accept the lowest or any Tender.

METROPOLITAN BOARD of WORKS.—To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give notice that they will meet at the Office of the Public Supply Engineer, S.W. on FRIDAY, the 27th day of FEBRUARY instant, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of a BRICK SEWER 1,950 feet in length or thereabouts, with other works in connection therewith, at the back Hill in the parish of St. Giles, Camberwell, in the county of Surrey. Plans, sections, and a specification, together with the form of Tender, may be inspected, and other particulars obtained, on application to Mr J. W. BAZALGETTE, Engineer of the Board, at the Office of the Public Supply Engineer, as before, on MONDAY and TUESDAY next, between the hours of NINE a.m. and FOUR p.m. or on SATURDAYS between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 26th day of FEBRUARY. The Tenders are to be addressed to the Chief Clerk of the Board, and must be delivered at the Office before FOUR o'clock on the last-mentioned day, and no Tender will be received after that hour. The parties Contracting must enter into sureties to the Board in TWENTY pounds each for the due and satisfactory performance of the works.

JOHN POLLARD, Clerk of the Board.

Spring gardens, S.W. February 6th, 1863.

TO BUILDERS. — Builders desirous of TENDERING for the ERECTION of the NEW SCHOOLS and TEACHER'S RESIDENCE, at Ruscombe, Hurst, may view the Plans and Specifications after MONDAY, the 16th inst. at the Office of Mr. NICHOLAS JOYCE, 18, High street, Burton-on-Trent. Sealed Tenders to be delivered before MONDAY, MARCH 2nd, addressed to the Rev. W. H. HARKE, the Parsonage, Newbold, Burton on Trent. The Committee do not bind themselves to accept the lowest or any Tender.

TO ROAD MAKERS. —The Guardians of the Poor of the Stepney Union will meet at Ratcliff Workhouse, York street West, Commercial road East, on THURSDAY, the 19th day of FEBRUARY instant, at FIVE o'clock in the afternoon, to receive and open TENDERS for persons willing to MAKE UP and FORM the ROADS, &c. of the NEW WORKHOUSE PREMISES of the UNION at Bromley, Middlesex.—Copies of the specification, under the Seal of the Board, and particulars, may be obtained from the Architect, Mr. HENRY JARVIS, at his Offices, No. 29, Tothill-street, Westminster, where also may be seen the plans and sections of the intended works.—By order of the Guardians,

February 5, 1863. W. H. SWEPSTONE, Clerk

BOARD of WORKS, WHITECHAPEL DISTRICT.—A meeting of this Board will be held on MONDAY, the 23rd day of FEBRUARY, 1863, at SIX o'clock in the evening, at the Office of the Board, No. 15, Great Alie-street, Whitechapel, to receive TENDERS for CLEANSING the STREETS and GUTTERS and for REMOVING the DUST and other REFUSE within the district, for the period of one year, to commence from the 1st day of APRIL next, and for WATERING the ROADS and STREETS from and after the 1st day of MAY next. Persons disposed to contract may obtain printed forms of the several Tenders, and level information thereto may require, at the Office of the Board. Sealed Tenders, in which a bid or bids is to be encased, must be delivered at the Office of the Board, before FOUR o'clock in the afternoon of the day of meeting; any Tender which is not upon the printed forms prepared by the Board, and duly signed by the person or persons tendering, as well as by the present proposed sureties will be rejected. Persons tendering are required to attend the Board at HALF PAST SIX o'clock, in order that a preliminary agreement may be signed by the person whose Tender is accepted.—The Board, however, do not bind themselves to accept the lowest or any Tender.

ALFRED TURNER, Clerk to the Board.

15, Great Alie-street, Whitechapel, February 3, 1863.

TO BUILDERS and CONTRACTORS Persons desirous of TENDERING for the ERECTION of a NEW CHURCH at Charlton Kings, near Cheltenham, may inspect the plans and specification at the Office of Mr. JAMES, No. 27, High-street, Cheltenham, on and after MONDAY, the 9th instant. Sealed Tenders, endorsed "Tender for Church at Charlton Kings," to be sent to G. EDGE, Esq. Solicitor, Cheltenham, on Tuesday afternoon and on or before SATURDAY, the 7th MARCH. The lowest or any Tender will not necessarily be accepted

GEORGE W. SADLER, Architect.

Cheltenham, February 10th, 1863

CALNE RAILWAY COMPANY. — The Directors are prepared to receive TENDERS for the ERECTION of STATION BUILDINGS at Calne. Plans and specifications can be seen at the office, as under. JAMES & BURKE, Esq. 4, Queen's square, Westminster, and after MONDAY, the 16th inst. Sealed Tenders, addressed to the Directors, to be delivered at the Secretary's Office, on or before the 4th day of MARCH next. The Directors do not bind themselves to accept the lowest or any Tender.

Calne, Feb. 10, 1863. W. M. VIZARD, Secretary.

TO ENGINEERS and Others.—Trinity House, London, EC. 5th February, 1863.—This Corporation being desirous of obtaining TENDERS for the CONSTRUCTION of THREE LANTERNS of a description hereby give notice thereof to Engineers and Others, who may be willing to execute the work. The plans specifications and form of Tender are deposited at the House, and may be inspected at any day before SATURDAY, the 14th instant between the hours of TEN o'clock a.m. and FOUR p.m. Any person desirous to undertake the work is invited to send in a Tender, and Tenders must be delivered, at this House on or before MONDAY, the 16th instant.—By order, P. N. BERTHON, Secretary

N B The Board does not pledge itself to accept the lowest or any Tender.

OTTOMAN GAS COMPANY (Limited).—The Directors of this Company are prepared to receive TENDERS for the CONSTRUCTION of GAS WORKS at SMYRNA. The arrangements and specification may be seen, and bills of quantities and forms of Tender may be obtained, on application to Mr. BAYLISS, C.E. 25, Parliament street, Westminster, S.W. on and after MONDAY, the 9th day of FEBRUARY.—Tenders must be sealed and endorsed "Tender for Gas Works," and left at the Board Room, at the Office of the Company, 9, Cornhill court, London, EC. on or before ELEVEN a.m. on TUESDAY, the 24th day of FEBRUARY.—The Directors do not bind themselves to accept the lowest or any Tender

PARISH of ST. MARY ABBOTT'S, Kensington, in the County of Middlesex.—WATERING of STREETS.—The Works, Buildings, and Sanitary Committee of the Vestry of the Parish of ST. MARY ABBOTT'S, will meet at the Vestry Hall, Church street, Kensington, on FRIDAY, the 20th day of FEBRUARY inst. at SEVEN o'clock in the evening, to receive TENDERS for the SUPPLY of all persons with WATER AND HOSES, and the WATERING of the several Streets within and Parish, for eight consecutive months, commencing on the 1st day of March next. The Vestry have divided the Parish into two districts, one North of the Metropolitan and South District; the parties Tendering to be at liberty to Tender for the districts jointly or separately. Form of Tender and schedule of streets can be obtained at the Clerk's Office, Vestry Hall, where the same Tender, sealed and endorsed Tender for Street Watering," are to be delivered by or before FOUR o'clock in the afternoon of FRIDAY, the 20th day of FEBRUARY aforesaid. The Vestry do not bind themselves to accept the lowest or any Tender. The contractor or contractors or sufficient sureties in a sum of £200. The contractor to pay expenses of contract and bond. By order,

REUBEN GREEN, Clerk to the Vestry.

Vestry Hall, Kensington, 5th February, 1863.

TO CONTRACTORS, BUILDERS, &c. — TENDERS are invited for the ERECTION of a PIER at Porthgain Harbour, and for a WINDMILL, WORKSHOPS, and MILL-HOUSE, on the land in one lot. The plans may be seen at application to Mr. HENDERSON, Trevine, Haverfordwest; and plans may be seen at the office of W. H. CUBITT & MACKRELL, Esq. C.E. 19, Chester street, Milford, South Wales; or at the Office of Messrs HEWETT & GRIFFITHS, Portgain Slate Quarries, Trevine, Haverfordwest, to which Tenders must be sent on or before the 1st of MARCH. The advertisers do not bind themselves to accept the lowest or any Tender.

TO SCAVENGERS and DUST CONTRACTORS.—The Vestry of the Parish of St. James and St. John, Clerkenwell, will meet in the VESTRY HALL, Upper Rosoman-street, on THURSDAY, the 19th of FEBRUARY instant, at Half-past SIX o'clock in the evening to receive TENDERS for DUSTING and CLEANSING, from 25th MARCH to 29th MARCH, inclusive, and also Watering the streets and other public places generally, twice a day (Sundays excepted), with New River water from stand posts, from the 25th MARCH to 29th SEPTEMBER next, for District No 1, comprising Wards 1, 2, and 3; also for the like work, for same periods, District No 2, comprising Wards 4 and 5. The watering not to commence before 8 o'clock in the morning. Prince's pile of their agents must attend at the time and place above mentioned, and must send in their Tenders endorsed "Tender for Dusting and Cleansing and Watering District No 1 or 2," by FOUR o'clock on the day named, inclosing a Bank of England note as a guarantee of good faith, or they will not be received. The usual printed forms of Tender may be had in each case for the faithful performance of the contract. The Vestry do not bind them selves to accept the lowest or any Tender. Further particulars and forms of Tender may be had at the Vestry-hall, daily, from TEN till FOUR o'clock.—By order,

ROBERT PAGET, Vestry Clerk.

Vestry hall, Clerkenwell, February 6, 1863.

TO BUILDERS. —Persons willing to TENDER for the ERECTION of NATIONAL SCHOOLS and TEACHER'S RESIDENCE, at Newhall, Derbyshire, may inspect the plans and specifications after MONDAY, the 16th inst. at the Office of Mr. NICHOLAS JOYCE, 18, High street, Burton on-Trent. Sealed Tenders to be delivered before MONDAY, MARCH 2nd, addressed to the Rev. W. H. HARKE, the Parsonage, Newhall, Burton on Trent. The Committee do not bind themselves to accept the lowest or any Tender.

BUILDERS and CONTRACTORS willing to CONTRACT for the several WORKS required in the COMPLETION of TWO first rate VILLA RESIDENCES, at Blackheath, may inspect the plans, specifications, and conditions of contract at the Office of Mr W MUMFORD, Architect, &c 21, Lincoln's Inn-fields, who does not pledge himself to accept the lowest or any Tender. February 11th, 1863

TO BRICKLAYERS, PLASTERERS, CARPENTERS, PLUMBERS, and OTHERS.—TENDERS invited by the undermentioned trades for the ERECTION of TEN HOUSES, at Parkhurst, Tottenham. Specification may be seen by applying to Mr. SWALES, 29, Myrtle-street, Hoxton; or on the Works, at Tottenham.

TO BUILDERS.—TENDERS are required for the ERECTION of TEN small HOUSES, on the site of the Royal Vauxhall Gardens, Lambeth. Plans and specifications may be seen at the Office of Mr RAYSON, Solicitor, No. 11, Alfred-place, New Bond-street, Mayfair, S.E. The Tenders are to be sealed, and delivered to the above address, before TWELVE o'clock on MONDAY, the 23rd inst. The parties do not bind themselves to accept the lowest or any Tender.

TO BUILDERS.

PERSONS desirous of TENDERING for a VILLA RESIDENCE and STABLES at Erith, Kent, can have a copy of the drawings and specification for three or four days by applying at Mr. Charlton's Office, Charlton-row, Manston House, Erith. Tenders to be delivered on the 25th inst.

CHRISTCHURCH, Surrey; St. Saviour's, Southwark.—CONTRACT for WATER CARTS, &c.—The Board of Works for St Saviour's District will meet at their Board room in Ensom-street on WEDNESDAY, the 25th day of FEBRUARY inst. at SIX o'clock p.m. precisely, to receive TENDERS for the SUPPLY and USE of such number of good and efficient WATER-CARTS, with a sufficiency of proper working gear, also Horses Drivers, and Men to do the carts work as may be required in effectually watering the roads, streets, &c. in the Parish of Christchurch, within the district; and also for watering the roads, streets, &c. in the Parish of St. Saviour, within the district, from and after the 1st day of MARCH to the 1st day of OCTOBER 1863. Not less than four carts, &c. will be required daily for Christchurch, and not less than five carts, &c. for St. Saviour's. The carts will be required to be worked daily to the purpose of watering the above named parishes, as there to be in good working order to the satisfaction of the Board, or their Surveyor or Inspector; and the watering to be done at such time or times by them or him. Tenders, addressed to the Board, sealed up, and endorsed "Tender for Supply of Water carts, &c." stating the aggregate amount for the whole term of the contract, are to be sent to the parish separately must be sent in before half past FIVE o'clock of the day of the meeting. The Board will be at liberty to dispense of this contract; think proper, with one month's notice to the contractor. The draft of the contract can be seen, and all particulars obtained, daily, at the Board-room, between the hours of Ten and Four o'clock. The person or persons tendering must be in attendance at SIX o'clock on the day of meeting. The Board do not bind themselves to accept the lowest or any Tender. By order of the Board,

HERBERT STURMY, Clerk.

Board room, Emerson street, Bankside, S.E. February, 1863

ENGINES and LATHE for SALE.—The Croydon Local Board are prepared to receive TENDERS for the SALE of—

1 A 2-Horse High-pressure Steam-engine, with fly-wheel, governor, &c complete, at Engine house.

2 A 5-capital 8 feet Lathe, by Smith, Beacock, & Co. with self-acting slide rest, screw bed with eight change geared wheels for screw work, with shafting and drums complete, at Engine house.

3 A 10-Horse High-pressure Steam engine, by Ransome, with fly-wheel, boiler, furnace, setting, &c complete, at Old Filter Works.

4, The drums, shafting, gearing, supporting, &c. at Old Filter Works.

Which may be inspected on application at the Engineer's Office, Tunwhall, on and after FRIDAY, the 13th of FEBRUARY, between the hours of TEN and FOUR. Sealed Tenders, endorsed "Tender for Engines and Lathe" to be delivered at the Office of H. RICHARD, Esq 99, High-street, Croydon, on or before MONDAY, the 23rd inst. The Board do not pledge themselves to accept the highest or any Tender

Croydon, February 10, 1863.

TO STONE MERCHANTS and PAVIORS.—The Vestry of the Parish of Rotherhithe will meet on TUESDAY, the 24th day of MARCH next, at Half past SIX o'clock in the evening precisely, at the Board Room at the Workhouse, Deptford Lower road, to open and consider TENDERS for the supply, per ton or cube yard, of the following descriptions of Stone, viz.:—

Guernsey granite spalls, York paving, half soverigns for carriage drives, Guernsey granite chippings or siftings, &c for one year, to be delivered in a convenient Wharf at Rotherhithe. Forms of Tender and Schedule of Articles to be supplied may be obtained at the Clerk's Office, No. 6, Parish-terrace, Rotherhithe. Tenders to be sent to the Clerk's Office, on or before TWELVE o'clock on TUESDAY, the said 3rd day of MARCH, after which no Tender will be received. The Vestry require the parties tendering, or some persons on their behalf, to be in attendance at Half past SIX o'clock on the day appointed for opening Tenders, and will not accept the lowest or any Tender unless approved of.—By order,

12th February 1863. R SHAPTO HAWKS, Clerk.

TO BRICKLAYERS, &c.—The Vestry of the Parish of Rotherhithe will meet on TUESDAY, the 3rd day of MARCH next, at Half-past SIX o'clock in the evening precisely, at the Board Room at the Workhouse, Deptford Lower road, to open and consider TENDERS from such persons as may be desirous of CONTRACTING for the EXECUTION of such DRAINS as the Vestry may direct to be performed in the Parish of Rotherhithe. Printed forms of Tender and Schedule of Works, with conditions, may be obtained at the Clerk's Offices, 61, Paradise street, Rotherhithe, or of Mr. GEORGE LEGG, the surveyor, 61 King William street, London Bridge. Tenders, are signed with the name of each responsible person as surety, to be sent to the Clerk's Office, on or before TWELVE o'clock on TUESDAY, the said 3rd day of MARCH, after which time no Tender will be received. The Vestry require the parties tendering, or some person on their behalf, to be in attendance at Half-past SIX o'clock, on the day appointed for opening Tenders. The Vestry will not accept the lowest or any Tender unless approved of.—By order,

12th February, 1863. R. SHAPTO HAWKS, Clerk.

[For remainder of Contracts see page ix.

CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.

159, SHOREDITCH.

Self-acting, with Bright Wrought Bars.		Self-acting Cottage, with Oven and Back Boiler.	
34 inches	54s.	30 inches	22s.
36 „	56s.	32 „	24s.
38 „	58s.	34 „	26s.
42 „	60s.	36 „	28s.

Register Stoves, with Strong Bars, from, per inch, 4d.

Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4d. per inch.

Best ditto, with Fire-brick Back, from, per inch, 5d.

Bright Stoves, with Two Fires, 46s. to 100s. each.

Best Cut Clasp and Rose Nails.

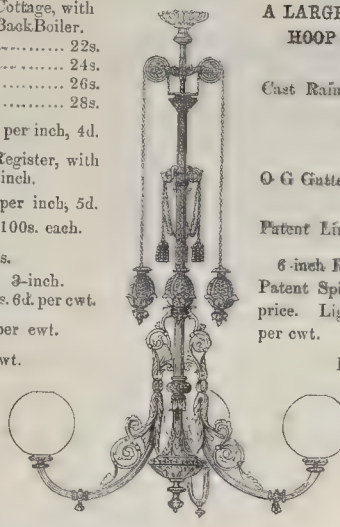
1-inch.	¾-inch.	2-inch.	2½-inch.	3-inch.
14s.	14s.	13s.	12s.	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.

Best Cut Lath Nails, 14s. per cwt.

GAS PIPES AND FITTINGS.

POST-OFFICE ORDERS PAYABLE AT SHOREDITCH.



A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

	2 in.	2½-in.	3-in.
Cast Rain-water Pipe,	8d.	10d.	1s. per yard.

Cast Gutters, 4 in. 7d. per yard.

	4-in.	4½-in.
O G Gutters, with Clips on	10d.	1s. per yard.

	2	3	4	5	6	
Patent Line	4s.	4s. 6d.	5s.	7s.	9s.	per gross.

6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each; China Furniture, same price. Light Elliptic and Register Metal, 12s. 6d. per cwt.

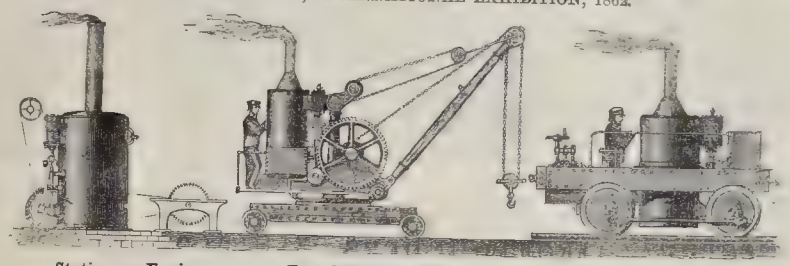
Dr. Arnott's Ventilators, 4s. each.

CHANDELIERS AND BRACKETS.

BRICK MOULDS KEPT IN STOCK. Any Size made to order.

CHAPLIN'S PATENT PORTABLE STEAM ENGINES AND BOILERS.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.



Stationary Engine. From 1 to 30 Horse Power.

Portable Steam Crane. 1 to 10 Tons.

Contractors' Locomotive. 6 to 27 Horse Power.

From the strength, simplicity, and compactness of these Engines, they are now extensively used for general purposes; also in situations where Steam Engines of the ordinary construction cannot be applied.

Stationary Engines,—require no building in, nor chimney stalk, and with our Patent forced combustion apparatus, will burn inferior qualities of coal, wood, or peats. These Engines are specially suited for shipment, and may be packed inside the Boiler to economise freight.

Portable Steam Cranes,—for wharf or railway, with wrought-iron carriages on wheels, link motion, foot brake, &c., all under the easy control of one man; the larger sizes hoist, lower, and turn round in either direction by steam.—*These Cranes were selected by H.M. Commissioners for receiving and sending away the heavy machinery at the International Exhibition of* 1862.

Contractors' Locomotives,—are adapted to work on rails or tramways of a gauge from two feet upwards; they are complete and efficient Locomotives, simple in construction, and the working parts easily got at for repair; they draw heavy loads at reduced speeds. These Engines are usually sent in one package, ready for work on arrival.

LIGHT PORTABLE, HOISTING, WINDING, AND PUMPING ENGINES, &c.

ALEXANDER CHAPLIN & CO.,

CRANSTONHILL ENGINE WORKS, GLASGOW, or LONDON DEPOT and WHARF, Lower Fore Street, Lambeth, S.

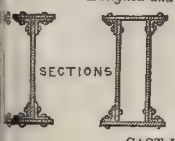
Engines of each class KEPT IN STOCK for SALE or HIRE, and all our Manufactures GUARANTEED as to EFFICIENCY, MATERIAL, and WORKMANSHIP.

Parties are cautioned against using or purchasing Imitations or Infringements of these Patent Manufactures.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE



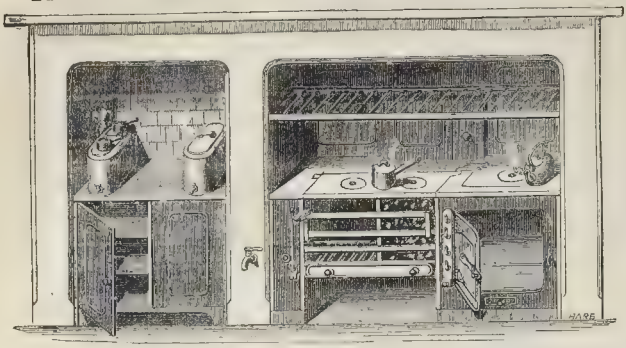
CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

CUNDY'S

PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

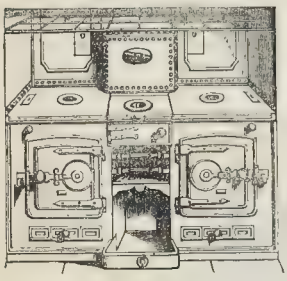
THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

WILLIAM ADDIS,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

6, 7, and 15, LEICESTER STREET, LEICESTER SQUARE,

Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 2*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.

WALTER MACFARLANE & CO.

ARCHITECTURAL IRONFOUNDERS, SANITARY ENGINEERS, AND ART WORKERS,

GLASGOW, 1st January, 1863.

WE take the liberty of intimating our REMOVAL to New and much more Extensive Premises, 46, WASHINGTON STREET, where we shall endeavour to merit a continuance of that patronage with which we have been so long favoured.

We carry with us to our New Premises our old and well-known designation of "SARACEN FOUNDRY," and every Casting made by us bears our Trade Mark legibly impressed thereon, as follows:—

WALTER MACFARLANE & CO.



Trade Mark.

LONDON, 1st January, 1863.

WE have the pleasure of intimating that our New London Premises are open for the transaction of business, and now embrace the Architectural as well as the Sanitary branch of our Manufactures.

We shall therefore feel obliged by our friends forwarding all future orders, &c. to this our only London address, when the same shall receive our prompt attention.

WALTER MACFARLANE & CO.

SARACEN FOUNDRY, 46, Washington Street, GLASGOW; and 38, Bedford Street, STRAND, LONDON, W.C.

FURNESS'

PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,

5 and 6, BROAD STREET, BLOOMSBURY.

PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.

Best Stock of Builders' Ironmongery in London.

Price Lists on application.

The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES, was awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES

of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

ESTABLISHED 1774.

PATENTED HOT AIR APPARATUS in CAST IRON, consisting of prismatic tubes, to be applied to chimneys with flues and heat-conduits. By this system is obtained economy, durability, a clear fire, security, economy.—An apparatus in use can be seen, every day, at the Office of M. LEWAL, Nos. 5 and 6, Philpot-lane, City.

A HIGHLY-FINISHED 10-Horse Power High pressure STEAM ENGINE.

A Second hand IRON RACK CIRCULAR SAW BENCH, and A small DOUBLE MOULDING MACHINE, TO BE SOLD cheap Apply to S WORSSAM & CO. Saw Mill Engineers, King's-road, Chelsea, S.W.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.



POWIS, JAMES, & CO. BLACKFRIARS ROAD, LONDON.

Awarded a Prize Medal at the International Exhibition, 1862, for Collection of

FIRST-CLASS WOOD-CUTTING MACHINERY,

being the highest commendation attached to any Medal in the same Class,

OFFICE, 26, WATLING STREET, CITY, E.C.

Where all Letters and Applications for Machinery are to be addressed.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

COUNTRY ORDERS PROMPTLY EXECUTED.



All kinds of Smiths' Work.

J. MOORE,

WHOLESALE IRONMONGER,

122, EUSTON ROAD

(near St. Pancras Church),

Opposite J. W. Bird's Marble and Stone Works.

THE CHEAPEST AND BEST HOUSE IN LONDON FOR

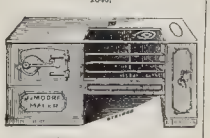
KITCHEN RANGES, STOVES, NAILS, LOCKS, HINGES, BOLTS,

AND

EVERY ARTICLE OF BUILDERS' IRONMONGERY.

Priced Lists on application.

ESTABLISHED 1846.



Bell hanging, Railings, and Fountains.

FURNER & MINN,

WHOLESALE AND EXPORT IRONMONGERS,

7, BISHOPSGATE WITHOUT, E.C.

ARE THE APPOINTED AGENTS FOR

LEA'S PATENT LUBRICATING IRON COCKS,

Which are much cheaper and more durable than Brass, offering no inducement to theft.



LEA'S PATENT SELF-ACTING ROLLER-BLIND FURNITURE,

(Without Springs).

LEA'S PATENT LOCK BOLTS, FOR CASEMENTS AND FOLDING DOORS.

Contractors and Builders supplied with Ironmongery at Manufacturer's Prices.

SHOW ROOMS FOR MARBLE AND ENAMELLED SLATE CHIMNEY PIECES, STOVES, RANGES, &c.

F. & M. beg to call particular attention to their

PATENT JOINER'S BENCH CRAMP.



CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



HENRY GOODWIN, JUN.

IRONFOUNDER, &c.

67, GREAT GUILDFORD ST., BOROUGH.

BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.

RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.



CRABS, BLOCKS, JACKS MORTAR MILLS, &c.

CHUBB'S

WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,

OF VARIOUS SIZES, FOR STRONG ROOMS,

AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.

Specimens at the Architectural Exhibition, Conduit-street. Drawings and Estimates furnished.

HART & SON,



ENGRAVERS of MEMORIAL BRASSES, and HERALDIC DEVICES,

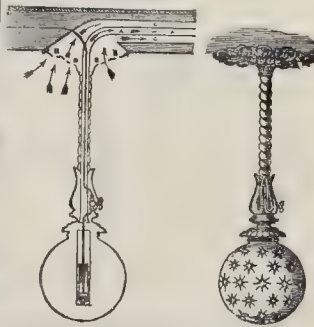
55 TO 58, WYCH STREET, STRAND, W.C.

20, COCKSPUR STREET, PALL MALL, S.W.

RICKET'S & HAMMOND'S

VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient simple, and efficient ventilation.



The advantages obtained are these —

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,

No. 24, Davies-street, Three Doors from Oxford-street.

For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford street, Manchester-square, running out of Baker-street, Portman-square, London, W.

GALVANIZED WROUGHT IRON CISTERNS AND TANKS,



SERVICE PIPE, BRASS BALL VALVES, &c.
MANUFACTURED BY
TUPPER & COMPANY,
61A, MOORGATE STREET, LONDON, E.C.
CISTERNS, FROM 30 TO 150 GALLONS, ALWAYS IN STOCK.
Prices delivered in London.
A Discount to the Trade, Builders, &c.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,
13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE
PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,
which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

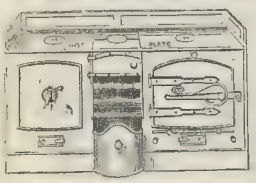
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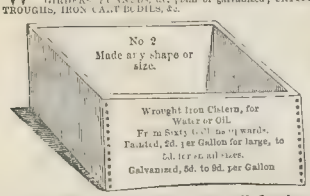
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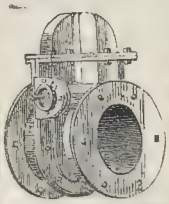


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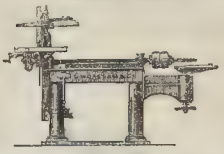
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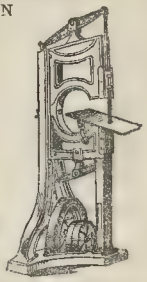


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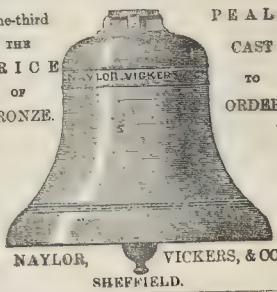
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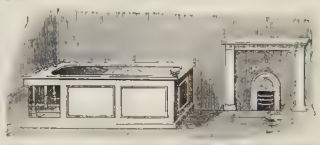


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VOL. XXI.—No. 1045.

Akroydon. Improved Dwellings for the Working Classes.



AMONG the many recent movements having for their object the welfare of the working classes, we believe none to be more important or more essentially practical in its aims than that which begins by providing wholesome dwelling-places for working-men. And this is the case both because the development and encouragement of home influence and home ties are to the last essential, and because without our having yet fully recognized it, yet undoubtedly, healthy well-drained houses, well-ventilated living and sleeping apartments, with enough of both, lie at the very foundation of the possibility of health, happiness, and morality, and therefore of success.

Up to within comparatively recent times the efforts of philanthropists have been directed more towards the amelioration of great social evils than towards the prevention of them; in curing the sick man rather than to keeping him in health; in rendering him assistance when he is irretrievably a pauper instead of extending the helping hand which would prevent his ever becoming a pauper. There is no scarcity of hospitals and workhouses; and society seems to have been better satisfied with the reparation of its own neglect, under the garb of charity, than conscious of its duties and its interest in promoting health and solvency as acts of common justice. We have had to deal with disease and poverty in a manner which has been more flattering to our philanthropy than creditable to our common sense; and the delusion seems to have fast hold of us, that hospitals, workhouses, gaols, lunatic asylums, and reformatories are more satisfactory institutions than that which would to a great degree render them unnecessary,—healthy houses and the encouragement of co-operation and self-reliance.

It is to be regarded, therefore, as a most hopeful sign, that though social science is yet in its infancy as a science, its juvenile experiments should be in the opposite direction to bygone philanthropy, and tend to prevention rather than to cure.

Necessarily many of the objects proposed to be attained by the diffusion and operation of social science will only be achieved by the results gained through many experiments, some of which must be unsuccessful. If, however, there is one means by which poverty, disease, and misery may be successfully combated, and a most admirable spirit of self-reliance created; if in effect there is one movement which lays the foundation for all social improvements among the working classes and may therefore be pronounced to be one of the *successful* efforts of social science, it is that movement which undertakes to provide "improved dwellings for the working classes." For with improved and healthy dwellings all other social movements towards improvement are possible,—without them, impossible. We do not think, therefore, we are overrating the importance of the movement, if it be conceded to be what we claim it to be,—the commencement of the possibility of others, which are perhaps equally good, but not of equal importance.

The building of model cottages is not an experiment of very recent origin. In one form or another it has been tried, both by individuals and associations, in many parts of the kingdom. Societies have offered prizes for designs, and architects have not been backward in preparing designs for various descriptions of model cottages. The object hitherto seems to have been confined to the production of well-arranged houses, having a sufficiency of accommodation, and paying a fair return on money invested in them. Commercially speaking, these experiments have not been uniformly, or even generally, successful; and this has operated very materially against the adoption of model cottage-building as an investment. Much good, however, has been done by directing attention to the subject of the dwellings of the working classes, and the recognition of the need for improvement in them. How this improvement is to be brought about will depend very much on the circumstances of the various localities in which experiments may be tried. The value of land, and the demand for labour in any one place, will necessarily govern both the extent and character of any proposed experiment for the improvement of working men's dwellings. Thus, in London, the model lodging-house, or the collection of model dwelling-places for families in a block of buildings many stories in height, is the form the experiment assumes, consequent on the great value of land, and the diversity of occupations of the various tenants. But in the great provincial towns, where land is usually not so valuable, and where extensive factories give employment to large numbers of workmen engaged in similar occupation, it is possible to give a more independent character to the dwellings, by building cottages or houses not connected with each other, except by being placed in rows or terraces. Each house may then become a freehold tenement, which cannot so easily be the case when many suites of rooms are together under one roof, as in London. We propose to give an account of the scheme for improving the dwellings of working men which bears the name at the head of this article.

The scheme of AKROYDON originated with Mr. Edward Akroyd, a gentleman of well-known public spirit in Yorkshire, residing at Halifax, where his extensive factories are situate. The founder of Haley Hill Church, one of the finest as well as one of the most costly of modern ecclesiastical structures, Mr. Akroyd desired to see an improvement not only in the arrangement of the interiors of working men's dwellings, but some regard also paid to the character of their external appearance.

Ten years ago, Mr. Akroyd and his brother built a village of 112 houses, for the accommodation of the workmen in the Copley Mills, of which the Messrs. Akroyd were proprietors. These houses were built for the double purpose of offering house accommodation to the large body of workmen employed in the mills, and in order also to give them well-constructed and well-ventilated dwellings, possessing superior arrangements and conveniences to those common in the neighbourhood. The cost of each house varied from 120*l.* to 90*l.*, and they were let at rentals varying from 5*l.* 15*s.* to 4*l.* per annum. Of the whole village of Copley, Mr. Akroyd is still the proprietor; and this experiment may be looked upon as an ordinary investment, bearing an interest of 4¼ per cent. The houses are built on the back-to-back system, or what are called double houses; and this, one of the most pernicious principles of house building, is the greatest social and sanitary drawback to the otherwise successful character of the dwellings. There can be no apology for back-to-back houses; and though it is one of the common features of the country in this neighbourhood, we believe strong efforts are now being made to put a stop to the practice. Its adoption in this case seems to have been from the desire to bring the rentals within the necessary limits of the workmen's incomes; though even from this aspect we are convinced it is false economy thus to build. It may possibly enable the proprietor of such tenements (for we cannot call them houses, properly) to obtain an additional ¼ or ½ per cent. interest on the outlay more than would be derived from the erection of thorough independent houses, with a communication back and front, and with the possibility of ventilation: but some of the health thus lost, some of the feelings of privacy and delicacy thus destroyed, will bear their fruits; and in the form of taxes and rates and subscriptions, the grudging landlord will have to disgorge his extra per-centage, with compound interest, for his participation in the origin of crime, disease, and pauperism. In these remarks we do not specially refer to Copley, for the houses at this village are by far the best examples of the class that can be found perhaps in Yorkshire. Here, too, if anywhere, on the open country, it is possible to have such dwellings,—for here is fresh air to be had by opening the windows. The fair test of the system is to be found in the lowest parts of a manufacturing town, where every foot of ground is valuable, and where the factory smoke pollutes the air, and the dyehouses poison the streams; where streets cannot well be described than as canals in wet weather, and the tracks of simooms in dry weather; where it is difficult to get air at all, and impossible to get it untainted by the chimneys and the sewers; where the refuse of a thickly-populated district lies rotting on the open streets, and the gutters do duty for more than surface drainage. In such a place—and there are many—what must it be *never* to have a draught of air through the house? The Registrar-General can tell us: the record of infant mortality is a fair gauge. At Leeds, for instance, where this system of half-houses is the most common, the people have been said to succeed in everything but in making health; and it has been asserted that the rates of mortality are higher than can be accounted for, except by the explanation that the people are cannibals, and live upon each other as surely as if they eat one another.

We must, however, return to the subject of Akroydon.

With a view of improving the character of dwellings for working men in the district of Haley-hill, Halifax, Mr. Akroyd purchased, in the year 1855, a considerable plot of land, upon which he designed to build a small town, having, for its prime characteristics, beauty of architecture; a combination of all the improvements in arrangements evolved by the progress of sanitary science; and a town in which every inhabitant was his own landlord, living in his own freehold; and lastly, that these freeholders should be working men. For political purposes many working men in Halifax had already become freeholders; building houses with the assistance of the Halifax Union Building Society, who advanced three-fourths of the capital. The houses thus built, though inferior in construction and character, have so improved in value as to be worth, in some instances, nearly double what they have cost to their proprietors.

Making use of this experience, it was determined to build the new town in connexion with a local society called the Halifax Permanent Benefit Building Society. Plans were obtained from Mr. Scott; the character and style of the buildings were determined; and a local architect, Mr. W. H. Crossland, became the acting architect to the scheme, furnishing designs and carrying out the

propositions of Mr. Scott, whose pupil he seems to have been. Some delay occurred in the preliminaries, but designs were at last submitted to a meeting of proposed shareholders, in June, 1860. They were well received, and immediate steps were taken to form the Akroydan Building Association, in connexion with the last-named society. We will let Mr. Akroyd describe for himself the motives which led him to embark in the scheme, as stated by him in a paper read before the last meeting of the Social Science Congress in London. At this meeting of proposed shareholders, in June, 1860, "It was stated to the meeting that the object of the promoter was not only the improvement of their dwellings in a sanitary point of view, but also to awaken the innate taste of the people for the beautiful in outline: he therefore stipulated that the block plan (as furnished by his architect) should be strictly adhered to, and that the design should be Gothic, simple, yet bold in detail. On these conditions he undertook to provide plans, to defray all expenses connected with the contracts and supervision, and to guarantee the fulfilment of the contract within the estimate, provided there was no deviation from the contractor's plans; or otherwise that the cost of any such deviation should be paid to the contractor by the party requiring it, and at his sole cost."

Upon this understanding, in March, 1861, the contractor commenced operations for building two blocks, eighteen houses in all; and, with those now nearly built, four blocks, containing thirty-one houses, have been erected. They are of two classes. The first and less costly house contains on the basement — wash-kitchen, coal-cellar; ground-floor—living-room, 15 feet by 13 feet, small scullery; first-floor—bed-room, 15 feet by 11 feet, and bed-room, 11 feet by 6 feet. A yard at the back, 18 feet 6 inches by 12 feet, contains closet and ashpit. The guaranteed cost to the shareholders of these was 130*l.* each.

The second and better class contain on the basement—cellar, 18 feet by 16 feet, larder, 10 feet by 7 feet, coal-cellar; ground-floor—parlour, 15 feet by 12 feet, kitchen, 9 feet by 13 feet 6 inches; first-floor — bedroom 15 feet by 10 feet, ditto 13 feet 6 inches by 9 feet, ditto 8 feet by 9 feet. A small yard at the back contains closet and ashpit. The guaranteed cost to the proprietors of these houses was 150*l.*

The blocks last built are of a somewhat more expensive kind, two houses in them costing 300*l.* each, four 150*l.* each, and six 210*l.* each.

The whole are supplied with water and gas; are thoroughly drained with sanitary tubes; and each has a separate back and front entrance. Externally the blocks already built are pleasing in design, of the Domestic Gothic very frequent in the older houses in the neighbourhood, some of which date back two hundred years. The material used is the stone of the neighbourhood, which is both good and plentiful, with blue slate roofs.

The dressings to windows, doors, strings, and quoins, are out of the fine sandstone from the quarries at Ringby, on the hill just above. It is of a very soft warm tone, and harmonizes well with the intermediate external face-walling, which is composed of Northouram wall-stones, of a bright grey colour. These wall-stones are made out of the flat stone of the district, and vary in thickness from 2 inches upwards, and are cut out of the same beds as the best flags and landings. They are walled as they are delivered at the quarry: no labour is used in dressing them.

The internal walling is composed of inside parpoints and bricks. Where economy of space is required, bricks are used; the whole built in mortar. The outside walls are 21 inches thick below the ground line, and 18 inches thick above.

The roofs are covered with Bangor duchess slates, nailed with copper nails to 1½-inch deal laths. The ridge tile at present used is a Staffordshire roll one, but it is proposed to alter the form and material of them. The valley gutters and flushings are all of lead.

The fixtures provided in the houses are, for the single ones, an oven and boiler, a pan for washing or brewing, a cast chamber fire-place and mantelshelf, a sink in cellar, and one in the small scullery, foot of stairs, a large cupboard with folding-doors, and set of drawers under. The double houses have, in nearly all cases, two ovens and boilers, one in the back scullery, level with the living-room, and one in the cellar kitchen, with a pan for washing.

Papering and gas-fitting have been left to the option of the owners. The walls have all been plastered.

No wood was originally painted except the external doors; simply stained and varnished.

Mr. Akroyd is very strong in his idea of not placing all houses of one class together. He rather desires to carry out as much as possible his original scheme of mixing individuals of various grades in one community, so that the better paid and better educated might act usefully on the desires and tastes of others in an inferior social position. This has been followed in Mr. Crossley's proposed scheme, the houses being of four values, 250*l.*, 170*l.*, 140*l.*, 100*l.*

Mr. Akroyd is very desirous of keeping up the old English notion of a village—the squire and parson, as the head and the centre of all progress and good fellowship; then the tenant-farmers; and lastly, the working population.

In examining the houses already built, we were particularly struck by the singular air of neatness both in the interior and exterior, testifying to the pride which the proprietors evidently felt in living in and taking care of their own houses. In the more expensive of the two, the parlours were models of neatness and comfort, furnished in a manner which we venture to say is scarcely known in the houses of artisans in the south of England. From the completeness of the internal arrangements, and the thoroughness with which the houses seem to have been built, the whole appear eminently successful; whilst the occupants are evidently proud of their homes. One feature we were particularly pleased with. Over the doorway, on the keystone of each house, the owner's initials are carved as a monogram, which helps to give an individuality of ownership to each proprietor, and is also ornamental in appearance.

It was intended to add a more picturesque appearance to the houses by the use of dormer windows; but this the owners objected to, supposing it would tend to give the character of almshouses to their freeholds; and though the point of allowing the style to be Gothic was conceded with some reluctance to Mr. Akroyd, the idea of the eleemosynary effect of the dormers could not be overcome, and this part of the design was relinquished.

We have misgivings on the subject of cutting up the available living space into two rooms, as the better classed among the houses are planned. Practically, the working classes live in the smaller and keep the larger and better room for "Sunday best," inhabiting it only occasionally. Two fires will not be kept up in a poor man's house; and therefore during the winter months the best room or parlour is to all purposes closed, whilst the family is compelled to inhabit the much smaller room, or kitchen,—often too small to hold them all without great inconvenience. For this reason we prefer the cheaper of the two classes (excepting as to the bed-rooms), which gives a large healthy dwelling-room, and a small scullery *without a fireplace*. If a better class of house be required for the higher grades of artisan, we should strongly recommend the large room to be provided with the range for cooking, and otherwise so planned, that the inhabitants will of necessity live in the healthier room, and keep the smaller for occasional or Sunday use. Inasmuch as both classes of house have a kitchen with set pot and sink, arranged for washing and other purposes, we can see no urgent need for two fireplaces on the dwelling-floor; unless, as before stated, it be for those who can afford a withdrawing-room. The more there are of the latter among our skilled artisans the better, for more gifted workmen have been driven from their own homes to places of less profitable resort, through the want of a quiet room in their own houses, than perhaps by any other circumstance. But there are a vast number of working men whose wages are such as will always prevent their having such a luxury; and these are the most in need of healthy homes and assistance in procuring them.

It is, however, absolutely necessary, even in those houses which contain only one large living-room and pantry, or scullery, on the ground-floor, that three bedrooms should be provided on the chamber-floor. In the majority of poor men's families there will be both boys and girls of an age which makes it indelicate that they should occupy the same bedroom; and when, to obviate this recognized evil, the girls or boys are provided for in their parents' room, the indelicacy is scarcely lessened, whilst the injurious effect on the health of the children is increased. We can see no reason why the parents' sleeping-room should be so much larger than the others. Wooden partitions would be a sufficient screen for dividing the space above the large living-room into two bedrooms, leaving space for a third over the scullery and stairs. It would be, perhaps, advisable to construct the wooden screen to be removable, if when the family became less, it should be desired to convert two into one large bedroom.

Let it be understood that it is necessary to cultivate moral as well as physical health, as influences constantly and mutually reacting; together forming the mainspring of happiness, the possibility of prosperity, and the basis of civilization.

We cannot forbear noticing, for the benefit of our artisan readers, the method by which the inhabitants of Akroydon become their own landlords; this being the distinguishing feature of the scheme, from other model cottage schemes previously originated.

Referring again to Mr. Akroyd's paper we extract some information. Mr. Akroyd says,—

"The chief advantages which the Society affords are held out to parties building their own dwellings. Every builder or purchaser of property must provide one-fourth of the purchase-money, the Society generally lending three fourths. We will assume a case in which the cost of the building shall be 160*l.*, and the rental equal to 7 per cent. on the outlay: the following will be the result upon the scale of the Halifax Society:—

Subscription on *two* shares of 60*l.* each at 5*s.* per week, or 13*l.* per annum for twelve years and one month	£185	3	6
Deposit money of the one-fourth of purchase-money	40	0	0
	£196	3	6
Rental of property at 7 per cent, or 11*l.* 4*s.* per annum for two years and one month, gives (which the member will save)	£135	6	8
Net outlay (exclusive of interest on deposit)	£60	16	10

This case shows that a property of the value of 160*l.* may be obtained for the sum of 61*l.* 16*s.* 10*d.*, exclusive of interest on the member's deposit.

Or put the case in another light, and supposing the member elect to be living in a house for which he pays 10*l.* per annum rental, or 4*s.* per week. By joining the Association and paying 5*s.* per week besides his deposit—that is, 1*s.* per week more than what he actually pays for rental—in twelve years and one month he will become the owner of the dwelling-house and constitute himself his own landlord; and in the event of being obliged to discontinue his subscriptions from lack of work or other cause, he may transfer or sell his share; or in the event of the death of a subscribing member, his widow or family will have the same facility for disposing of the share.

His account with the Society will stand thus:—

Received from Society.

Purchase-money	£160	0	0
Add interest on same for twelve years and one month	36	3	6
	£196	3	6

Paid Society.

Subscriptions on two shares for twelve years and one month	£156	3	6
Paid deposit (exclusive of interest)	40	0	0
	£196	3	6

Such are the advantages held out by the Benefit Building Society; and such, we may add, are held out by almost all building societies, *without being generally made use of by the working classes*. It requires something besides the mere offer of such advantages to induce working men to take active steps to secure the assistance proffered, for the provision of 40*l.* as a commencement would be an insuperable difficulty with the majority. The technical knowledge which would be requisite in the subscriber who intended building himself a house would be a rare thing in a working man. Moreover, the artisan himself is not the best judge of what is really required for a healthy, well-planned house; otherwise we might not so often have to complain of their scarcity. It required something more than the offer of assistance from the Building Society at Halifax, and this something, and the controlling power also, were furnished by Mr. Akroyd, who further states that the additional benefits conferred by the Akroydon Building Association are,—

"First. A favourable site on easy terms through the landowner and promoter, besides uniformity of style, and a protection against the depreciation which the purchaser of a good house often sustains by the juxta-position of an inferior building. Moreover, the sites of the various blocks are carefully apportioned, and a complete main drainage is established.

Second. The attainment of *the chief and primary object* by the erection of a better class of workmen's cottages than can be secured through the ordinary channels of building speculation, such cottages being designed by a selected architect, subject to the approval of the committee of the Building Association. By employing an efficient clerk of works, Mr. Johnston, to look after the contractors, care is taken that the work shall be *well* and *substantially executed*, and that the contract be faithfully adhered to. *These are especially the points* on which a *working man wants help*, because he can understand but little of an architect's plans and details; and whatever knowledge he may have of the contractor's work, his influence and control will be very slight.

Third. Assistance in raising the deposit of 40*l.*, or one-fourth of the purchase money required. This sum may be as far out of the reach of the member as the whole amount for which he subscribes. To eligible members, unable to pay down the required one fourth, I guarantee the deposit of 40*l.* to the Benefit Building Society, who, with such security, are willing to forego the prepayment

of the deposit, and instead thereof to increase the scale of weekly payments to 6s. 9d. Of course my guarantee will cease when one-fourth deposit money has been paid in by these instalments,—say in three years. The deposit might be met in *another manner:* by each non-deposit member entering himself as a subscriber at the usual weekly rate of 2s. 6d. per share per week for three years before the money is borrowed from the Benefit Building Society, and by that time he will have accumulated the requisite deposit. Under this arrangement the building might be commenced during the third year of subscription, and be completed when the loan is made and the house ready for entry."

In addition to this, Mr. Akroyd gives the land required for the main streets, more for the purpose of initiating so valuable a movement than from any desire to more nearly identify himself with the scheme. He suggests that in all large and populous towns committees should form themselves, composed of those who desire to help and work *with* the working men, and not only *for* them; first purchasing sites in the most likely situations, and then, in co-operation with local building societies, enable working men to achieve their own independence; adding that, should the promoters who wish well to the working man derive no profit, but experience a loss in their efforts, yet "*in no other way can the same benefits be conferred on working men at so slight a loss,*—benefits which *entail no degradation and wound no self-respect, but, on the contrary, confer independence,* whilst *the achievement of the independence constitutes a* HABIT *of saving most useful in after-life.*"

How Mr. Akroyd's sensible method of proceeding has been met in a kindred spirit by the workmen of Halifax, we shall show by a quotation from the annual report of the committee of the Akroydon Building Association, dated August, 1862. After referring to the satisfactory condition of the scheme financially, the committee report:—"We may advert with peculiar satisfaction to the erection of a handsome building for a co-operative store at Akroydon. This store will be a great convenience to our resident members; and as the embodiment of the accumulated savings of working men, it will be admirably in keeping with the objects of the Association. [Our engraving illustrates the store referred to, and also two of the better class houses, with some of the cheaper houses in perspective to the left.*] Regarding the question of the cost of the houses, we may observe that, from the first, we have had no desire to provide 'cheap' houses according to the popular acceptation of the word; for a 'cheap' house, like any other cheap article, is in the end proverbially dear. Our principal aim has been to erect, on the most advantageous terms, good, substantial, healthy, and comfortable houses, replete with every requisite convenience. We have sought to improve the home of the working man, and by improving his home to improve his health, his habits, his tastes, and his character, and altogether to raise him in the social scale; and in these respects we think the houses already built are evidence that our efforts have not been entirely fruitless.

Let us, then, continue to vie with each other in advocating the interests of the Association. Let us never cease in our endeavours to obtain new members; and as time rolls on, we shall have the satisfaction of beholding homesteads springing up thickly around us, and be the means of establishing at Akroydon a community of working men frugal and industrious, contented and happy."

We think that our readers will concur with us in wishing the committee a hearty "God speed" in their endeavours. We cannot refrain from expressing our admiration for the promoter of the scheme and for the working men themselves who are carrying it out. The conduct of both is well worthy of imitation, and will undoubtedly be followed by similar efforts in other parts of the country. Already it is bearing fruits in the formation of a similar association in Leeds, to whose operations we have from time to time briefly referred, and to which we may at some future time devote a separate notice.

Two lessons may be learned from Akroydon. The first is, that men of wealth and intelligence, by the sacrifice of a portion of their time, and by the temporary loan of small sums to deserving working men, may enable them to begin habits of thrift and economy which will eventually raise them in the social scale. By initiating such movements, and remaining to succour them whilst they are yet experimental, infusing into them the weight which position and influence always bestow, and so controlling them that nothing is done which will need to be undone; by such conduct, our public men may confer benefits on working men that will be as permanent as they are beneficial.

* See pp. 116 and 117.

The other lesson is, that working men are both worthy and willing to assist in their own social elevation by the exercise of self-denial and forethought. Too often are well-intended schemes met by the assertion, that the working classes cannot appreciate such luxuries as cleanliness and ventilation, and will not deny themselves sufficiently to allow any general improvement in their ranks. Here, however, is a positive and practical denial to the theory.

THE METROPOLITAN (UNDERGROUND) RAILWAY.

THE Metropolitan (Underground) Railway, of which we gave a full account on the day of its opening,* and before, has been in working five weeks; and if the traffic, and a consequent great rise in value of the shares, are to be regarded, we did not devote more space to its description than the subject in its relation to metropolitan communications, justified and demanded. We have not in the interval, referred to certain reported defects in the working, and even in the design and arrangement, of the railway; but we might have been expected not to be indifferent to the reports, which in some journals have gone to the length of asserting that entire reconstruction of the main length of the tunnel, with the underground stations, would be necessary. An inspection of the line during the last few days however, has satisfied us that such defects as may be found, can be very soon rectified. As we have shown, this particular line can be of inestimable service as an example; and in the way of provision of new localities for habitations, by placing those districts in speedy communication with quarters in which it is and would be impossible to find or provide the places of residence under desired conditions. The Metropolitan Railway is already suggesting many other schemes. Some of these however, as not having the advantage of a line like that of the northern boulevard of our metropolis, will involve large outlay in property, added to their own difficulties of construction.

The right principle of plan to serve at one and the same time many objects of business and sanitation, is unquestionably that of an open line, like portions of the London and Birmingham, and the West End railways entering the metropolis, and in accordance with the original proposition of Mr. Pearson for Farringdon-street. Notwithstanding the existence of a Metropolitan Board of Works, the planning and regulation of London improvements are yet far from the perfection of which they are capable, even making no allusion to the decorative effect of our streets; but were the preliminaries of design properly regarded and attended to, lines of railway communication between different parts of the metropolis would originate with the authority which is charged with all works of street-improvement. Several objects might then be attained at once. At present, there is great waste of money and force, and often postponement indefinitely of one of the objects. Under a proper system, a speedy communication between two quarters of the town being needed,—and wherein steam-power could be used with advantage,—the necessary breadth of cutting through houses would be made for the railway, and for street-way in addition, on each side of it, the railway on the lower level, and the other ways on the regular level of other streets. Thus, very lofty houses could be built, which would peculiarly be free from the disadvantages which, owing to the value of ground, it is very difficult otherwise to escape, even where the boulevards are as wide as are those of new Paris,—in which capital, the connexion of the railways to one another has been unaccountably left imperfect, however not forgetting that there is the girdle line, *chemin de fer de ceinture*, and that in the street-routes, facility of passage between station and station has been the key-note; and channels for the aëration of a thickly populated town like London, would be established, such as otherwise would not exist, except along the course of the river, and of which the value would be found in diminished mortality.

In our former article, we thought fit to allude to the necessity of not overworking the staff of the Metropolitan Railway; and we felt the importance of running a greater number of trains. In effect, the company, or that of the Great Western Railway who work the line, were quite unprepared for the amount of traffic which there was in the first few days; and even yet, especially on Sundays, their arrangements are tasked to too great an extent. About 36,000 tickets, some of them returns, were issued on the opening day; and in the three first days, over 100,000 persons travelled. The traffic of the first three weeks amounted to the daily average of 29,196 passengers, and the receipts to 346*l.* per day. The receipts for passengers only, on the first two days were 813*l.*; and in the week following, they were 2,306*l.*, being at the rate of 615*l.* per mile per week. It has been estimated that the receipts, without the Great Northern traffic, and other resources, which will come into the account in a few weeks, may be taken at 32,812*l.* per mile per annum. The cost of the whole undertaking up to the present time, has been 1,329,296*l.* One account makes the number of passengers on a Sunday, 38,000. For such an amount of traffic, the number of engines brought into use by the Great Western Company, by no means sufficed; and there were some defects in the construction of the engines, though not more serious than might be looked for in machinery of any new kind subjected to a severe test.

* See p. 21, *ante*.

The steam from an engine must be either condensed or allowed to escape: otherwise there would be explosion. We stated in our former article, that the locomotives on the Metropolitan Railway were provided with condensers. By this arrangement, and that of the dampers, it was expected that so far as the subterranean portion of the line was concerned, all escape of steam could be rendered unnecessary, and that the gases of combustion would not have any outlet. However, owing to several causes, as deficiency of engines constructed, or at least brought into use; to the stoppages at intermediate stations, which, for many of the trains, are not necessary; to insufficient speed in the transit, or delay at the stations,—some of which defects have now been remedied; to the inadequacy of the condensers, and some other details of the engines, for their work; and to the bad quality of the coke used by the Great Western Company; the porters and others obliged to remain at the underground stations during long hours, have suffered severely. Passengers, at present, may travel from one end of the line to the other without the slightest perceptible inconvenience; but both at Baker-street and Portland-road, light smoke after the passage of a train, and a constant sulphurous smell, are noticeable; though they are not so bad as they were, when some of the porters who had been ten or twelve hours in the impure atmosphere fainted. It has been calculated that each locomotive had 30 per cent. more work than it could do well: the condensers therefore did not absorb the extra 30 per cent. of steam; and the cylinders, which in any case must be severely tried, have had some of their attachments forced off; and further, they seem to require, in parts, a modification in the material. By improvement in the condensing apparatus and in the dampers, it is hoped that the inconvenience at the stations may be done away with. Meanwhile, however, there are several proposals for the construction of engines to dispense with all fuel of the nature of coal or coke,—some of them proposing to heat the water by the combustion of gas. Should these different improvements not supply a *complete* remedy for the evil, we suppose it would not be difficult to perfect a contrivance for drawing off accumulated gases, in connexion with certain apertures and ducts which were mentioned in the former article. It has occurred to many persons, that, in the case of Baker-street and Gower-street stations, nothing would be easier than to remove the glass which covers the gratings over the areas at the sides of the street-footways; and some may ask why any glass was placed there. It appears that the agents of Lords Portman and Southampton urged that shops might at some day be built on their ground, and that communication from footway to shop-window would be desirable. Although such erection of shops is forbidden by an Act of Parliament, the owners of the ground succeeded in getting their view of the case admitted; and the railway was injured to a corresponding extent. At present, however, some of the glass, in the case of the Gower-street station, is removed; and there, where the chief inconvenience was felt, now scarcely any effluvium is perceptible. At Portland-road, all the means of ventilation that were provided are in use. Others might be added.

We have no doubt that in a very short space of time, the engineers will be able to have perfected every feature of the railway and its mechanical appliances for working; but it is necessary to say that we have yet to be satisfied that the Great Western Company will thoroughly acquit themselves of their portion of the work, and that all our recommendations (of which the necessity has been shown) will be considered by the Metropolitan Company. The traffic on Sundays shows no

sign of decrease, and when the summer comes, there will be great pressure on the company's staff. We must also insist that, so long as trains are run not earlier than six in the morning, and not at a cheap rate, this railway will fail to serve the working classes to the extent it should. When the line is finished to Finsbury (which it is expected to be in August 1864) the company will, in accordance with the stipulations of their Act, run at least two trains each way morning and evening, at a fare of one penny for the whole length of the line or intermediate distances. The Finsbury extension, being for four lines and in open cutting, will make a great clearance of houses. We fear that for many of those who are to be ejected from the class of habitations concerned, the Legislature did not go quite far enough. Cheap trains in the middle of the day, to allow the working-man to dine with his family, would be essential to such influence upon the comforts of the industrious classes, as is no doubt within the sphere of improved means of metropolitan communication.

NEW MATERIALS FOR THE LIFE OF SIR FRANCIS CHANTREY.*

FROM stable-lofts and outsheds, in and about Mayfair and Vine-street, Chantrey carried his clay and his bride into a house in Eccleston-street, Pimlico. Here he commenced sculptor in earnest, and here within a ring-fence of still increasing buildings, he remained from 1810 to his death in 1841. No sculptor in England has covered so much ground with his works as Chantrey covered. Clay and plaster requirements led to room for marble, for sawyers, and for masons, and these in their turn for bankers, for sculptors, and a house for his friend and assistant. Men of mark sat for their busts, and his prices rose with every fresh demand of moment on his time. His highest price for a bust was two hundred guineas, the highest sum ever asked, and the highest that has been obtained by an English sculptor since his death.

He made money with ease, and yet he was careful in keeping it. His account-books were kept by a system worthy of the Barings or Sir Richard Madox Bromley. He knew to a sixpence what each work cost him, minus his own labour. Take a bust for illustration. There was so much for the marble, so much to Cunningham for rough hewing and pointing, so much to Heffernan for carving, and bringing the marble into the state that a day's work or even less from his own chisel would suffice to enable him to send it home with a letter which required, what it soon obtained, approval and a cheque. His balance at Coutts's looking too large to lie idle, he bought into Government and more largely into East-India stock. The latter investment was peculiarly judicious, John Company, of Leadenhall-street, always favouring the claims of any sculptor for monuments in the East who held shares in East-India stock. Chantrey saw this, and experienced the truth of it in many commissions, from the statues of Anderson to those of Heber and Munro.

Chantrey had three first-rate assistants (among many assistants), better men than whom in their way and for a master's purpose never worked in clay, in plaster, or in marble. All three are dead; I will, therefore, say something about them, truly and tenderly as I remember them. Fine, frank-hearted Frederick Smith (son of Anker Smith, the engraver) was his right-hand modeller. Fred's soul was in his art,—unhappily his ambition was limited by the necessities of the week, or, had life been lengthened to him, he had risen to a high rank among English sculptors. Two of his busts—both in marble and from his own hand—will preserve his memory: his busts of Francis Chantrey and Allan Cunningham. Fred Smith knew by heart the features of the men he modelled; he saw them in all moods—in sunshine and in shade,—and has caught the two men, living as they thought and spoke, and sat and moved. When at the Academy, Flaxman's fine lustrous eye fell on Fred's bust of Allan Cunningham, this great sculptor of Michael and the Micheldever monuments, expressed higher approbation of it than was common with his Yorkshire nature, large and generous as it was. Fred's bust of Chantrey was one degree less excellent than that of Cunningham, and that is saying much. My mother has still her husband's bust; Lady Chantrey retains, I believe, the bust of Sir Francis.

James Heffernan, of Cork, comes next before me. I see him in the flesh, as it were, working at his banker by the side of the never-paid-for Hafod monument. He was a consummate master in transferring a look from dull, dead clay to semi-transparent Carrara marble. He saw, and caught, and translated Chantrey into another material. Strange to say, he was only good at a bust. Very marvellous it was to see James Heffernan at work. So sure was he by long servitude and natural confidence and skill in the certainty of his touch, that he would laugh a good Cove of Cork laugh, throw his Irish soul into any little merriment that might be passing, and then resume the chisel and hammer on features where a touch too heavy could never be recalled, and the labour of weeks (to say nothing of the price of the marble) be made entirely valueless. Dear old James's wife wrought me when a boy a sculptor's apron, and I was to have been a sculptor.

"How many an Ovid was in Pulteney lost."

If Mrs. Heffernan could have had her will, I might by this time have been either a full-blown "esquire" in Trafalgar-square, or only a discontented "Mister" and expectant "A.R.A."

Joseph Theakstone, a fine, venerable, kind-hearted man, ever prompt with a kind word and a kind smile: he too is no more—though seemingly in the flesh before me. Theakstone lies in the general cemetery at Kensal Green, not far from my father. He came to Chantrey a thorough master in his art, for he had wrought, and with high wages, in the studio of the elder Bacon. He was a consummate master in making marble convey the qualities and surfaces of silks and satins, velvets and ermines. He played no Phidias or Gibson-tinted Venus tricks—had no secret in his art (what great master ever had?), for he allowed all who cared to see him at his work. Heffernan could not do this—nor, I have heard my father say, could Chantrey, great master as Chantrey was in working marble. What will our Ruskins and others call this excellence in Theakstone—not a fine eye for colour, rather, may I be allowed to suggest, a fine sense for the qualities of texture; but I am wandering, and must fall once more into what the elder D'Israeli called (happily enough), his *anecdotage*.

In the summer of 1831, whilst my father was busy with the sixth and last volume of his "Lives," died John Jackson, R.A., one of Chantrey's very few friends in the Royal Academy, a man always welcome in Belgrave-place. Of one so eminent and so newly dead, my father thought, and very wisely, that the world would like to know something; and Lord Dover, Jackson's great friend, offering his assistance, the Life was undertaken. Chantrey, then in Yorkshire, was written to for help, and a few extracts from his memoranda, half ink, half pencil, will be found interesting and instructive:—

"Jackson was easy and accommodating to a fault. During our journey to Rome, I never saw his temper ruffled for a moment; whatever we did he approved of it; and whether we went to the right or to the left, it was all the same to Jackson."

"I consider Jackson's portrait of Canova* as one of the finest specimens of true character and true colour in modern portraiture."

"In Venice, Jackson spent most of his time in contemplating the works of Titian and Tintoretto, in whose works the finest colour is combined with the finest composition; the latter painter rose much in our esteem. In England we know but little of his merits; he is high in all things where he ought to be high. Jackson, though a silent man, was eloquent here; indeed on all subjects of a professional kind, he showed good judgment, and often surprised by his remarks on works beyond the ordinary line of his studies."

"The late Lord Carlisle bought Jackson's portrait of Northcote, and placed it in the next room to that which contains the head of Snyders by Vandyck; and our countryman's reputation for fine colouring loses nothing by the comparison."

We will now hear Chantrey on his own art,—bust-making:—

"The busts at Cambridge by Roubiliac impressed me at once with a veneration for the genius of the artist. I know of no works of that kind which may be safely compared to them. They have a manly air and vigorous freedom of manner, which proves to me that he treated them rather in the manner of the heads of statues than as domestic portraits, where fidelity of resemblance is more aimed at. Those who have not seen the Cambridge busts, and, above all, the statue of Newton, are strangers to the best works of Roubiliac."

To this I must add what Chantrey thought was the best of Nollekens's many busts, the bust of Dr. Johnson: and he illustrated his opinion by purchasing the original cast of the bust at Nollekens's sale; the loose bold treatment of the hair (copied from a beggar) he thought amazingly fine.

Nor, when accompanied by an anecdote, will the reader dislike to hear what Allan Cunningham looked upon as the best work of his old master. When Lady Chantrey was distributing among Sir Francis's friends little memorials of her husband, Lady C. selected for my father the small clay model of "The Sleeping Children," a very valuable memorial of Chantrey, still in my mother's keeping. When my father showed it to me, I asked him if he had made his own selection? "No," he replied; "if I had made my own selection I should have taken the model for the small-sized James Watt—*not* the model for the large one."

It was Chantrey's custom before commencing a bust to invite his sitter to breakfast. He liked to see his sitter with his morning looks on, and in conversation, and without the remotest idea that he was sitting for his portrait. He thus caught the every-day look of the man. After breakfast the company adjourned to the studio; the sitter's face was caught mathematically in the camera, and then the clay (already shaped into something like a human head) was commenced. The sitter so called was not put into a throne or vice, but allowed to wander within easy shot. Clay was then manipulated into life, and the bust, as far as the so-called sitter was concerned, unconsciously completed. Southey has told this well in his noble "Epistle," in verse addressed to my father.

Horses and women troubled Chantrey in his art. He has left us three horses concocted from "all the king's horses" in the mews at Pimlico. First, there is the Trafalgar George IV. horse, the sire of all; then the Madras Munro horse, very like his father; and then the Wellington Mansion horse, very like his grandpapa. His female busts, only two in number, raise a regret that we have not more of them. His Mrs. Somerville is very fine, while his bust of our beloved Queen, executed in illness and old age, is still, to my thinking, the best bust of her Majesty Queen Victoria. What does Mrs. Thorneycroft say?

A love of money in old age may be excused in a man who was eager to obtain money to leave it as Chantrey left his money. That this love of Mammon grew on Chantrey in his latter years and at a rapid pace there cannot be a doubt. Losses in Pennsylvanian bonds and half-successful intrigues for Government gun-metal for his Wellington statue (free, gratis, for nothing), embittered his latter days. Strange, that three great contemporary English sculptors should live married and die childless—Nollekens, Flaxman, and Chantrey, men of name—surviving only in their marble progeny.

Chantrey died so suddenly that an inquest was held upon his body. I was present. It was a solemn sight not to be effaced whilst unimpaired remembrance reigns. In an exquisite little gallery built for him by Sir John Soane, lay (seen by many lighted tapers) the breathless body and torpid hand that had given life to helpless clay and shapeless stone. Around the body in its winding-sheet were ranged some of the finest casts from the antique that money and taste could procure. Calm and solemn was the scene. My father kissed the cold forehead of his friend with these words—"My dear master." I looked into his eyes as we left together—they were full of tears.

PETER CUNNINGHAM.

* See p. 91, *ante*.

* Where is this portrait?

"THE LONDON ARCHITECTURAL SOCIETY." 1806.

MR. JOSEPH WOODS.

THE paragraph which appeared in our pages recently concerning the earliest architectural Society in London (p. 86, *ante*) having come to the notice of Mr. Joseph Woods, author of the third volume of Stuart's "Athens," and "Letters of an Architect from Greece and Italy;" the architect, too, of the Commercial Sale-rooms in Mincing-lane, and now living at Lewes, he thus writes to an esteemed member of the profession who had commented on it to him:—"You are quite right. I was certainly the J. Woods, jun., mentioned in the *Builder*. I had at one time two copies of our essays, but they have disappeared, I do not know when or how, but certainly at least thirty years ago; and, therefore, I can only speak from memory, which does not quite agree with the list of members given. James Savage was certainly one, and Edmund Aikin, also Samuel Beazley. I saw a good deal of him about that time. Billing and

Birkhead, no; Bubb, a sculptor. Charles Augustine Busby had been my fellow pupil at Alexander's. Cood, maker of artificial stone. Lowry, the engraver, we used sometimes to see, but I doubt if he was a member. Perry, no. Schroder, a sugar-baker. I think neither of the Smiths. Josiah Taylor, the bookseller, was one. J. Wallen was also at Alexander's, but whether he was a member or not I do not know. I think there were one or two more whose names I cannot recall; but Joseph Parkinson was certainly one of us. We published separately a book on the Doric order, written by Edmund Aikin, which brought us into trouble, for Wilkins got an injunction against it. The statements did not profess to be original, and Wilkins was largely quoted; but there happened to be one place where he was not cited, which induced the Court to grant the injunction. Afterwards Wilkins consented to withdraw his opposition on condition that his crotchet about the Temple of Solomon as a Doric building should be omitted in Aikin's book. N.B. This was not the passage on which the injunction was granted."

In the "Essays" of the Society, now before us, dated 1808, the list of members given agrees exactly with that in the paragraph already printed; so it may be either that Mr. Woods's memory of things fifty-seven years ago fails a little (who will wonder if it should?), or that he speaks of those who actually founded the society in 1806.

The volume of Essays comprises a preface, the rules of the Society, and four memoirs, in the whole 151 pages.* The preface gives as a reason for the establishment of the Society that in England, architecture has been considered rather as a trade than as a science; that among the institutions established there is not one which has appeared calculated for the encouragement of architecture:—"The feeble protection afforded by the Royal Academy can hardly be deemed an exception," it continues. "The lectures have long ceased, and medals privately distributed, and the use of a library for a few hours one day in the week, at a time when it is hardly possible for the student in architecture to attend, and that interrupted by long vacations, cannot be deemed of much value;" while the "few clubs which have been formed by persons in the profession, are rather to enjoy the pleasures of good fellowship among men engaged in the same pursuit, than for the advancement of the art."

The subscription was two guineas annually; the meetings were held fortnightly, from the last Friday in October to the first Friday of meeting in May. An ordinary member absent two nights incurred a fine of five shillings. Every ordinary member had to produce, annually, an architectural design never before made public, with critical and explanatory observations, under forfeiture of two guineas; and an Essay on some subject connected with civil architecture, or forfeit half a guinea. The Essays in their published volume are these,—On Modern Architecture, by Edmund Aikin (read October 3rd, 1806); On the Rise and Progress of Gothic Architecture, by Samuel Beazley, jun., 76 pages (December 12, 1806); On the Situations and Accompaniments of Villas (February 20, 1807); and On Dilapidations (January 9, 1807, a foundation for after works on the subject), both by Mr. Joseph Woods, jun.,—the estimable and accomplished gentleman whose letter dated a week ago, firmly and beautifully written, we have just now quoted. "It is charming to see my old friend Joseph Woods," writes Professor Donaldson (surely both of them will forgive us for a friendly breach of confidence) "seated in his study finishing up some of his Grecian studies made above forty years ago, and discoursing of arts and artists with grace and vivacity, and of reminiscences, when we were together at Rome, and were meeting Canova, Camuccini, Thorwaldsen, and like men of mark there; with John Soane, jun., Basevi, Boud, Saunders, Geo. Rennie, the sculptor, and other such now passed away. Hardwick and myself used to go to his rooms, and we read Goldoni and Alfieri together, and battled it out on many questions of taste regarding Greek and Roman architecture."

Such peeps backwards and notes of old friendships do us all good. The day after he penned this memorandum the Professor was busy in Oxford, valuing the property of Christchurch, for assessment to the town rates, having been appointed the valuer by the Poor-law Board; as he was, two years ago, the referee to decide the assessments of the Colleges and University of Cambridge. And so he unites the artistic, the genial, and the practical. We have fallen into a gossip somewhat personal, and perhaps need an excuse, but we could not resist the oportunity to acknowledge the value of the early labours of "Joseph Woods, jun.," now eighty-four.

* "Essays of the London Architectural Society. With four plates. Published by order. London: sold by J. Taylor, at the Architectural Library, No. 59, High Holborn. 18°8."

SOME PARTICULARS OF CURRENT COMPETITIONS.

Westminster Chapel.—Twenty-one or twenty-two sets of designs were submitted in competition to the committee entrusted with the rebuilding of Westminster (Congregational) Chapel, James-street, Buckingham-gate. The shape of the ground, existing schools, the required accommodation of 3,000 persons (2,000 in pews, and the remainder in free sittings and standing room), and the limit of expenditure, to 10,000*l.*, including architect's commission, and salary of clerk of works, interposed considerable difficulties. No premiums were offered, but the committee undertook to enter into an engagement with the successful competitor to carry out the work, "if executed, at the usual commission." The plans were to include, with other accommodation, a lecture-room, capable of seating about 600 persons. The greater number of the designs are of the poorest character. Not more than half a dozen have any claims to consideration. The set of drawings selected, marked Y. Z., are by Messrs. Poulton & Woodman, of Reading; but which of them are to be carried out seems not decided; and inasmuch as they include a geometrical Gothic elevation with spire, a design with a portico of six composite columns, and a sketch of a building of Wren-ish character, with steeple, it is difficult to say what the design really is. If the Gothic elevation be adopted, as is said to be likely, a fresh design will be required for the interior. The interior view exhibited includes two tiers of galleries, and a panelled ceiling more than sufficiently ugly. The plan, a parallelogram, with rounded ends, appears to have weighed with the committee.

The design marked "P. Q. 27," is a more artist-like production externally, with a detached tower, and in other respects showing a resemblance to the church in Garden-street, hard by. The plan may be roughly described as ⊔ shaped, and may have induced fears as to acoustical results. "*Au bon droit*, 1 and 2," one of the sets marked "Westminster," and the set "Ahithophel," have merits.

Cork Cathedral.—We are invited to take part in bringing to the decision of a court of law the legality or otherwise of the conduct of the committee in this competition. It seems to us, however, on careful consideration of the circumstances, that such a step would be futile, even if it be called for; and this some of the English competitors have already stated. We gather from the letters addressed to us containing objections to the selected design (Mr. Burges's), such as the smallness of the piers supporting the central tower, and the absence of a chapter-house,* that the ground taken for legal action is the fact that architects were "invited to furnish designs for the erection of a new cathedral, *at a cost not exceeding* 15,000*l.*," and that the first premium has been awarded to a design the cost of which would be double that amount. This, even without qualification, would be insufficient to maintain an action.

In the printed particulars accompanying the selected design, we find the following paragraph:—

"From the position of the proposed building, on the top of a hill, whence it will be seen from the whole town, it becomes a matter of necessity to have three spires, as well as to carry off the height and shortness of the building itself. Of course, it would be impossible to execute these and the church for the 15,000*l.*, and they must, therefore, necessarily be left to the piety of future generations: at the same time, two or more low towers would only impoverish the building, without any corresponding effect." †

And we understand it has been shown to the committee that the edifice, properly roofed in, and ready to receive the completion of the spires when money is forthcoming, may be erected in accordance with the design selected for the suggested 15,000*l.*

New Iron Bridge at Stamford.—It is proposed to erect an iron bridge over the river Welland, at Stamford. Plans were advertised for, and seventeen were sent. From these four were selected, including one by Mr. Wright, of Sheffield, and one by Mr. Page, jun. They were submitted to the Marquis of Exeter, and Mr. Wright's design has been adopted.

Limerick County Gaol.—On the 31st ult. the premium of 50*l.* was awarded to a design, by Mr. Atkins, architect, Cork, for altering the Limerick County Gaol so as to provide separate cells for 100 prisoners, and a new house for governor.

Kenilworth Church.—Designs for the restoration have been submitted to the committee from Mr. Beasley, Mr. Edgar Brooks, Mr. Dolby, Messrs. Wilson & Walker, Messrs. Nevill & Son, Mr. T. Pratt, Mr. Murray, and Mr. Smith, Adelphi Chambers, London. The committee, after examining the respective plans, determined upon accepting that of Mr. Smith.

Broughty Ferry Free Church.—We hear that the Building Committee, after having offered a premium of 10*l.* for the best plan for their church, and received competition designs from Mr. Heiton, Perth; and Messrs. Edward & Robertson and Mr. A. Kidd, Dundee; have selected the design of Mr. Heiton. The cost is supposed to be about 3,000*l.*, exclusive of the ground, and the accommodation about 600 sittings.

Swansea Public Hall.—Designs have been submitted by Mr. Jowett, Mr. Richards, Mr. S. Edwards, and a few others. The design of the last-named gentleman is thought to be put out of court by its costliness. The sum of 3,000*l.* is named by the directors.

Albert Middle Class College.—Mr. Peck's design was chosen, and he has been directed to take out the quantities with a view to obtain tenders.

* The particulars say Chapter-*room*; and this is provided.

† As a note to this paragraph, in MS., are the words:—"In actual construction the piers of the towers should be slightly increased."

BRITISH INSTITUTION.

VERY little can be said in praise of the present collection of modern pictures, at the British Institution. Taken *en masse*, its pretensions to consideration as an exhibition of the average capabilities of those members of the profession whose interests it ought or might most immediately subserve,—namely, young painters, and others belonging to none of the societies that ensure opportunities of exhibition and sale elsewhere,—are, this year, even more limited than usual.

If anything like a fair inference could be drawn from the inspection of such a heap of "nothingness," such an aggregate of unprofitable labour as this, wherein mediocrity is distinction, and promise or progress even as rare as pearls amongst oysters, there would be little to encourage a hope that the few pictures of the few of its contributors entitled to honourable exception may really illustrate a more general though latent ability amongst the many; and that others in whom that ability most unquestionably exists, may not be represented at all adequately. Another cause for its shortcoming lies in the poor measure of assistance afforded it by artists of mark and established position. Some just barely present are less conspicuous than others are by their absence altogether. Mr. E. W. Cooke, A.R.A., for instance, aggravates whilst he delights, in his exquisite little production (119), "Trabacolo waiting for Tide off the Armenian Convent, Lagune of Venice, Sunset," so perfect, though so small; and Mr. R. Ansdell, A.R.A., sends but one composition (20), "Crossing the Moor," which, though remarkable enough in itself for some beautifully drawn sheep, is poor compensation for his customary two or three of much greater importance and dimension. Mr. T. Sidney Cooper, A.R.A., on the contrary, has adopted a larger scale than usual with him; and in 60, "Catching Wild Goats on Moel Seabod, North Wales," cleverly enunciates his thorough comprehension of the distinctive characteristics of this variety of the species. Mr. G. Lance, too, has increased the size of his canvass; and, ever faithful to the occasion, is as unapproachable in the arrangement of fruit and golden goblets as he is unrivalled in the depiction of them when so arranged. No. 239 may be ranked amongst his most signal successes.

Amongst the known men who continue their support, Mr. T. F. Dicksee must be mentioned for three or four of his agreeable idealities. Of these (427) "Lady-bird" is incomparably the best, and charmingly pretty it is: (27) "Rose-buds and Roses," too, is an excellent portrait of a child. Mr. Gale, not so regular a contributor, provides one of the gems in his perfectly finished (429) "Greek Pilgrim." Mr. J. Hayllar would doubtless have been more successful with any episode more capable of pictorial elucidation than (283) "A Practical Joke," which is nothing more nor less than the time-honoured romance telling how

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Cromwell's chaplain saved himself from the consequences of making love to the Lord Protector's beautiful daughter, by declaring that his affections were concentrated upon Abigail, her maid; to the end, that he was precipitately obliged to marry the same Abigail. There is so much of promise in this picture, that such an error of judgment is to be deplored. (305) "The young Raffaelle showing one of his works to the Duchess of Urbino and Sora," by Mr. D. Wilkie Wynfield, if the production of a young man, may reasonably encourage expectations of something better to follow, and shortly. It shows independence of manner, and is therefore in striking contrast with another exceptionally excellent work (366) by Mr. E. C. Barnes,—

> "Oh! we'll not joy, but strive in vain,
> To light up those glaz'd eyes again."

This might have been cited as the most powerfully conceived and painted composition in the gallery, were it not so closely imitative of the style of a better-known artist; and would have placed its author high in that class of delineators in which his prototype takes the lead.

Again, Mr. J. Holland's (98) "Venezia," and (115) "The Lion of St. Mark," are valuable items; and the admirable English landscape (164), "Milking Time in the Evening," by Mr. T. Danby, and a brilliant sunset entitled (345) "Cornish Wreckers," by his brother, Mr. J. Danby, are amongst the redeeming features.

Mr. Frank Wyburd's (182) "Xarifa," scarcely sustains the promise of former works: he appears to obtain results too easily, and sacrifices substantiality to littleness and pretty manipulation. (197) "Mira," by Mr. A. Ludovici, graceful and, to some extent, delicate; and (218) "Edgar," by Mr. H. Weigall, very firmly painted, and, if a portrait, considerably removed from commonplace, form attractions amidst much barrenness; and the small contributions—(232) "Little Red Riding Hood," of Mr. H. Le Jeune, and (247) "The Name on the Tree," of Mr. G. D. Leslie—are welcome on the same account. The latter shows more of his inherent taste and ability in (288) "The Lost Carkanet," which, for its originality in educing a story, merits closer attention.

(252) "Passing into the Shade," by Mr. G. H. Boughton, is invested with extra interest by its associative narrative, and is a singular instance—the only one present, indeed,—of the value of exalted sentiment.

Mr. H. Dawson is as easily identified in (47) "Chepstow," as much perhaps from repetition of favourite clever atmospheric effects, as Mr. Frank Dillon in (136) "An Egyptian Well," for his peculiar graphic adaptation of Eastern scenery; and Mr. Harry Johnson equally consistent with local truth, claims recognition in (151) "The Olympæum and Acropolis of Athens, from the Banks of the Ilissus;" and still more forcibly in (360) "Ruins of the Temple of Minerva Sunias, Cape Colonna," the better performance of the two. (8) "The Cathedral and old Castle of Limburg," by Mr. G. C. Stanfield, and (215) "The Minne Water, Bruges," are both noteworthy examples.

(335) "Castle Garth, Newcastle," has afforded Mr. E. J. Niemann an opportunity for dexterity and broad execution, and his large panoramic view of (571) "Newcastle: Autumn Morning," is a wonderful proof of the facility with which he executes.

In the treatment of such a subject as Mr. R. Collinson has selected (41), "Ordered on Foreign Service," refinement, as well as a due observance of probability, is indispensably requisite; and any amount of elaboration bestowed upon its production can never atone for the want of such. He is far happier in (276) "A Summer Ramble," and leaves nothing to be desired. Mr. W. F. Yeames deserves high praise for his (81) "Bravo." Echo answers everywhere, "Bravo!" (118) "Children Playing," E. Davis, has a natural freshness about it which calls for remark; and (134) "Past and Present—The Prior's Room at Bradenstoke," is one of the cleverest of Mr. A. Provis's clever interiors. (140) "Auld Lang Syne," could hardly be ascribed to its author, so insipid is it, and unlike anything Mr. J. Clark had hitherto done; whilst (143) "Brimstone and Treacle" evokes a wish that it may never be succeeded by any such mistake again; especially as Mr. J. Morgan shows aptitude for much nobler themes. (152) "Jeanie Deans," as portrayed here by Mr. J. Craig, is winsome enough to be mistaken for her sister, "The Lily of St. Leonard's."

Further on in the catalogue (316) "The Dismissal," by Mr. C. Rossiter, is evidence of the effect produced by acquaintance with the French school, and which (383) "The Gamblers," by Mr. J. Payton, will corroborate; while by antagonism perhaps, Mr. W. Hemsley, in (479) "The Path across the Common," makes it more evident, his picture being thoroughly English, and a very admirable and sufficient basis to argue upon.

LECTURES ON SCULPTURE AT THE ROYAL ACADEMY.

On Monday, the 9th inst., Professor Westmacott, giving his first lecture, made some preliminary remarks upon his renewing, at the request of the Academy, his duties as lecturer. He then addressed the younger students upon the responsibilities they had incurred by devoting themselves to the pursuit of art; and pointed out to them the varied qualifications that were necessary; first, for their attaining excellence in the technical requirements of sculpture especially, and next for their exercising their art in a noble and elevating way, by which its effect on the feelings and sympathies of the public may be secured.

The younger students had then explained to them the principles of the system of instruction followed in the Royal Academy, comprehending efficient teaching in drawing and modelling, under able masters, in the schools of the antique and living model; and the theory of art of the respective branches of practice which the lectures of the Professors were intended to supply. The *rationale* of such division was shown in the distinction that was to be recognized between the merely mechanical workman and the student who aspires to be a real artist; who desires to exercise his intelligence as well as his hand. It was explained how the teacher in the schools might be a thorough master of all that relates to the technical, but might not be competent or qualified to lead the student to a knowledge of the principles which are indispensable in his especial branch of art, and which should guide him in his future practice; precisely as it is quite possible that the most accomplished inventive artist might not always have the peculiar qualities, the tact, the facility, in giving advice and instruction to young students, that go to constitute a good teacher.

The importance and value of true principles in the practice of sculpture, in the works of some of the most celebrated masters in execution, was illustrated by a reference to the works of Bernini, Corradini, Giov. di Bologna, Roubiliac, and others, in whose productions are found the most egregious faults of principle, as regards their art; in confused compositions, flying draperies, exaggerated action, curiosities of mere execution, in veils, nets, and lace; perspectives, and all the picturesqueness attempted but not achieved of landscape, storms, sunrises and sunsets—subjects that the painter's art may represent with some degree of success, but which are utterly beyond the reach of true and pure sculpture. So, while the teacher or master is qualifying the student in the schools, in anatomy, in the knowledge of form, in drawing and modelling, it is for the lecturer to explain to him the principles applicable to each branch of art, and the right way to apply the technical power he has gained. His duty is to prove and illustrate his doctrine by a reference to the productions of celebrated artists and schools.

Executive power in drawing, modelling, and carving, though of the highest importance, should be considered only as a means to an end. Some, unwisely, and fatally to the progress of high art, fancy that when great skill is attained in this all is done. But many a perfectly executed production, most admirable in handiwork, may be utterly worthless as regards the higher object which every work of art should have in view, namely, to address the feelings, and to incite refined emotions in the spectator. A work may possess every academical quality, and yet be deficient in invention, expression, taste, refinement—in all, in fact, that constitutes the real æsthetic element in art. The creative power cannot be taught in schools or elsewhere. Its possession constitutes genius. This is not, however, of every-day occurrence; and even this may be excited by careful training.

Sculpture especially requires to be practised on the principles proper to it. The very simplicity of its means of addressing the sense—Form only,—necessitates the greater care and caution in this respect. The consequence of neglecting these is evident, as has been referred to, in the works of some of the most eminent modern sculptors after the sixteenth century. They are only valuable as warnings. No one copies them, no one collects them, no one makes casts of them; no master who understands sculpture would venture to place them as examples before his pupils. While the value of principles is shown by the estimation in which competent judges of all times hold such works as are found to possess certain qualities admitted to be essential to the art and to constitute its excellence. From such productions a Canon or code of laws has been formed for the guidance and direction of artists; and one of the objects of a lecture is to point out to students the causes of the superiority of the most approved monuments of the art that exist. Though this teaching may run parallel with that of the schools, students well know that their attention could scarcely be secured to both at the same time. Hence the division of labour referred to.

Many adverse influences of a technical kind embarrass and impede the success and progress of really high art in sculpture in modern times. The exceptional use of the nude form, arising from our habits and our non-acquaintance with it, is one of these. Also, when drapery is used the modern costume is most unfavourable to sculpture; and, thirdly, the prevalence of portrait, seeking individuality, acts injuriously on the possibility of inculcating a love for the generally Beautiful. The next great drawback is the absence of high moral impulse in sculpture. The great artists of antiquity, as well as those of the Revival, caught this from the people. They but illustrated and met the popular wants. Our artists usually must take their impulse from the public; but it is a public that has no lofty aspirations in this direction, no knowledge of or feeling for a high quality of form; and the consequence is, that the kind of art produced affords little hope that sculpture will meet with the kind of encouragement popularly that will restore it to its true position. It is said sometimes that artists ought to educate public taste; but are artists always and necessarily competent to do this? Must not they be educated? In what do artists, as a rule, show their superiority? Must not the teacher have been taught? This knowledge is not intuitive.

The whole character of sculpture underwent a fatal change in the sixteenth century, when it became *academical*, the causes of which will be more fully explained in a subsequent lecture. It is sufficient here to say the whole object and direction of the art was changed. As a rule it has appealed to the eye, or been produced to please real or pretended connoisseurs, or used for mere architectural decoration,—never, or seldom, addressed to the heart or to the sympathies of the people. Thus it was constantly seeking new modes of presentation. Fancy or fashion influenced its practice; it was constantly changing. From this period sculpture has, in truth, had no settled position. Considerable power has been exhibited in all the mechanical or more artistic requirements of the art, but it has not made its impress as the language of thought or feeling of an original kind. Where it has been used for illustration, subjects have been hunted up from obsolete sources, usually ancient mythology and poetry, in which the artists have not believed, and whose works, therefore, wanting the earnestness of truth, are simply clever and well-executed imitations or repetitions. Or, in place of this conventional art, every means is employed to attract attention, careless of the power of discrimination in a public notoriously ignorant and uneducated in the true principles of sculpture; elaborate workmanship, sensuous subjects, unmeaning figures,—on one side exaggerated, on the other, insipid,—and, worse than all, claptrap tricks are employed, as a means of producing effects, totally apart from and independent of sculpture proper.

The importance of this subject, as respects the future of sculpture, was strongly urged upon the students. The history of the degradation of the art, from the time this false influence first appeared, is sufficient to awaken interest in the subject, in all who desire to see so noble an art restored.

The art still is capable of renewal. But it must be practised upon different principles to those which have influenced its uncertain existence for many years past. We must recur to purer sources of inspiration. Subjects must be found, and felt, by modern sculptors, as they were presented to the great artists of former ages. The Greek employed his art in the honour of his religion and to glorify his gods. The sculptor of the revival used his art in the service of that purer Christian religion which filled his heart and mind; and how exquisitely, in spite of his want of academic or artistic forms, he treated the subjects he illustrated, all must admit who have examined with attention the numerous works of the early Mediæval schools, spread over Italy, England, France, and Germany. Our own sacred volume, the Old and the New Testaments, afford us art inspirations surely quite equal to the Pantheon of a gone-by and false mythology. It has been shown, by some few

sculptors of modern times, that it is possible to effect this change. Productions might be quoted, if necessary, that may safely encourage others to take a higher aim than that of merely reproducing worn-out illustrations. It is for the rising generation of sculptors to redeem the age from the reproach of constantly running in the old worn-out track, and to show that a beautiful art may still be exercised in a way to address the feelings, the sympathies, and the understanding of the people.

FINE ARTS IN ANCIENT IRELAND.*

NONE but those who seem to be of opinion that out of Ireland "cometh no good thing" can doubt that in ancient times a high state of art-cultivation there existed, whatever degree of general civilization may have accompanied it; and that eminence in art could only co-exist with some considerable degree of general civilization one cannot but admit, since the history of the whole world indicates as much; although high art, in ancient times, has certainly also co-existed with much that was savage and otherwise what we would decidedly call uncivilized. But so it is even now, and in England, too: a few hundred years hence, doubtless, it will be a general opinion that, notwithstanding our eminence in the mechanical and other arts, we were a set of semi-savages. As for such art as that displayed in ancient Irish metalwork, of which more especially Mr. O'Neill gives coloured and other illustrations, we are very much inclined to think with him that,—

"If our modern workers in metal could show as much art power, and use it as skilfully, their works, even if based on common bronze, would be of many times more value than so much solid gold; but, now-a-days, the mere intrinsic value of the metal is generally the first consideration: 'Is it solid gold?' is the primary question: the artistic part is not heeded, simply because decorative art is not properly cultivated. Not so the Irish workers in metal: with them the artistic part was everything: the intrinsic value of the materials was not minded by these talented men."

As to how the ancient civilization of Ireland sank into actual semi-barbarism Mr. O'Neill has but too feasible a theory. The conquest of Ireland, he urges, took hundreds of years fully to accomplish: the severities, and the ruthless treatment of the "mere Irish" for so long a period practised by the English conquerors, degraded the people and retrograded their ancient civilization; and it is only of late years that a very different line of policy is making some amends for that long-continued "injustice to Ireland." We fear there is but too much truth in this theory: at all events, that in Ireland, six hundred years ago, and for an indefinite period previously, there existed a peculiar order of civilization which thereafter gradually sank and expired, there appears to be every reason to believe, notwithstanding the exertions of Dr. Petrie and others to disprove the existence of such a state of civilization.

Of the art displayed during this ancient period Mr. O'Neill admits the defects, but upholds the great merits with all the enthusiasm of a true Irishman.

"We find," he says, "that, in figure, the remains of Irish art are defective; but, in ornament, they show that, in a knowledge of the sound principles of art, in breadth of effect, united to richness of detail, in fertility of invention, and delicacy of execution, the Irish artists were consummate masters, and have, perhaps, never been equalled by those of any other nation; that they excelled in colour as well as in design; and that they, probably, coloured their public buildings and monuments."

The total absence of a Christian character in Irish ornament, as he remarks, has an aspect of Paganism. This he accounts for by answering that the style was established long before Christianity was introduced into Ireland; that on the change in religion being made, the Irish artists employed their style for Christian purposes; that objects, such as the serpents—which originally had a special religious significance among the Pagans—had gradually lost that significance, and become, in the eyes of the multitude, mere objects of decoration; or, even if the converts regarded them in the Pagan religious way, we know that the missionaries of old knew how to wink at some minor matters, in order to effect the great purpose of Christian unity.

That the peculiar form of the Irish cross is heathen, and was a sacred symbol with the Pagans, we have already mentioned: that it has been continued among the Christianised Irish, and used as a sacred emblem we admit; but that does not prove its Christian origin any more than the urn which we see placed on a modern tomb, or marked on the seal of a mourning letter in this Christian age, is, therefore, an emblem of Christian origin: on the contrary, we know that it originated in the Pagan custom of burning the dead, and collecting the ashes into an urn, and hence the urn became an emblem of death; and thus we hold that the character of much of the Irish ornaments, and the particular form of the Irish cross, had their origin among Pagans: this symbol signified Bel, Baal, or Apollo; these being names for the god of the sun, whose annual, or annular course, was indicated by the ring, and the seasons by the crossing lines or quarters. In like manner the serpent was sacred, because that animal sheds its skin annually; and for some other equally superstitious reasons: even the plain cross had a sacred import, as indicating the sun's crossing the equator. Thus it was that, among illiterate nations, symbols were devised to supply the place of words. . . . .

Our conclusion is that Irish art arose some hundreds of years before Christianity was introduced into Ireland."

We do not like Mr. O'Neill's very shallow and Higginsite allusion to the sun "crossing the equator," and all the nonsensical stuff usually associated with such attempts to explain the reverend and exceedingly ancient symbol of the cross; although we freely admit that the evidence is irresistible that it was used as a religious symbol for ages previous to the birth of Christ; and hence was "Pagan," if you will, in its origin. Moreover, "Great is truth, and it will prevail;" and we are quite ready even to strengthen Mr. O'Neill's opinion that the Irish wheeled cross is probably Pagan in its origin, by pointing out to him another sort of meaning in it, if he can himself deduce that meaning from the fact that the wheeled cross may be seen on the Assyrian sculptures in the British Museum, where it is essentially associated with the presiding genius or supernatural guardian, or angel, of the king; above whose head, and occasionally simulating whose very attitude, it is sculptured, with a strong resemblance to the Persian ferocher, fairy, or Peri, which Maurice (and he is not very far wrong, except in mere expression) calls "the Image of the Soul." In the Irish wheeled cross, however, what is believed to be the Saviour takes the place of the king's angel in the centre, though not as in crucifixion. On one of the round towers of Ireland, that of Antrim, if we remember rightly, there is over a doorway a wheeled cross; and on another, in a like position, there is a figure not unlike that of an Irishman in a state of saltatory excitement.

This brings us to what Mr. O'Neill says of the round towers. These towers, he is of opinion, are Phallic; but in this he is not very original. This, it may be recollected, was poor O'Brien's theory; and indeed, if we mistake not, this was Higgins's theory also. Mr. O'Neill, however, does not even broach this theory in the present volume, but speaks of another in which he means to do so. The Phallic symbol was doubtless a very widely extended one; but till the true religious meaning of this symbol be expiscated, no very accurate theory can be worked out, we should think, as to its connexion with the round towers of Ireland. That its real and ultimate meaning was something far beyond the grosser and more obvious one which it suggests can, we think, be clearly shown; so that the *phallus* was at best merely the symbol of a symbol; but this we need not here enlarge upon any further.

Mr. O'Neill says, "We have heard that there are buildings in France which resemble the Irish round towers." Here he indicates that he has just missed by a hair's breadth materials for at least as feasible an idea as the Phallic one; and we would take leave to suggest that he ought to look a little farther into the subject of those buildings in France to which he alludes, before he publishes his volume on the "Phallic mysteries." The buildings to which he refers can be no other than those called by De Caumont, the "lantern of the dead," or the "beacon of a cemetery." That the Irish towers served some such purpose in connexion with those very strange, but still we think traditionally emblematic and explicable observances called "Irish wakes," and "*waking* the dead," we think every one who reads the paper we published recently,* in regard to "The round towers of Ireland," must admit. It is a curious circumstance that in Scotland there are churches which still go by the name of "the Stanes," or "the Stones," a name whereby churchyards were known in Pagan times. The "Stones" were of course allusive to those universal memorials of the dead, the tombstones, which are by no means of Christian origin, or of mere Christian antiquity. In connexion with this circumstance it is also a significant fact, that the Irish towers are in some districts called "clocthеachs," which, Mr. O'Neill tells us, mean the *stone* houses, or the stone buildings; a name which may have been more especially meant in ancient times to indicate the house or building at "the Stones," as in Scotland,—whose intimate connexion with Ireland,—the actual Scotland of extreme antiquity—is well known; as is the fact that there are round towers of the Irish order in Scotland itself. There are such towers in India, which Lord Valentia was told were of an extreme antiquity, and belonged to a people whose religion was as mysterious as those ancient towers; and if so, doubtless, they, too, were "lanterns of the dead," and connected with the religion of "the terrible Nirritti," the goddess of death and destruction, which the conquering "white-visaged friends of Indra," the Aryan forefathers of the Brahminical race, found already prevalent among the aborigines of India; and which, as we have before suggested in the *Builder*, probably constituted the primitive form of Buddhism itself, afterwards revived by Sakya, the son of a Brahmin, and again suppressed. Lucian, the Pagan writer, also describes such towers as the Irish, as existent in Syria before the temples of his time. In connexion with these allusions to round towers in Syria and India, and the supposed use of the Irish towers as "lanterns of the dead" in Irish "night wakes," we may mention that in the eighteenth volume of the *Asiatic Journal, of Bengal*, we have seen, in an account of the Bodos and the Dhimals, who are sub-Himalayan tribes, that waking the dead, just as the Irish do, with drinking and feasting, is a prevalent practice; and that they also go to the graves of the dead, and there leave food and drink. Other practices of these tribes are curiously suggestive of Scottish and probably also of Irish customs; such as youths, towards the end of the year, going about after nightfall dancing and singing, and asking largesse, dressing themselves as females, &c.; which, in Scotland, is called "guising," or disguising, and partakes much of mummer and carnival customs.

Another small item of contribution towards shedding a little more "lantern" light, or "dead" light, on this mysterious subject, and we have done. At a provincial council of bishops at Elberis, in Spain, the precise date of which we do not recollect, but which took place some time before the six-hundredth year of the Christian era, this council "forbade tapers to be lighted in cemeteries *in the day-time*, that the spirits of the saints might not be disturbed,"—a fact which, however obscure in its inferential meaning, at least seems to imply that tapers or "lanterns of the dead" *by night*, were in use very early in the Christian era, though this does not carry us quite back to pre-Christian times.

* * The Fine Arts and Civilization of Ancient Ireland. Illustrated. By Henry O'Neill. London: Smith, Elder, & Co. Dublin: Herbert. 1863.

* See p. 77, *ante*.

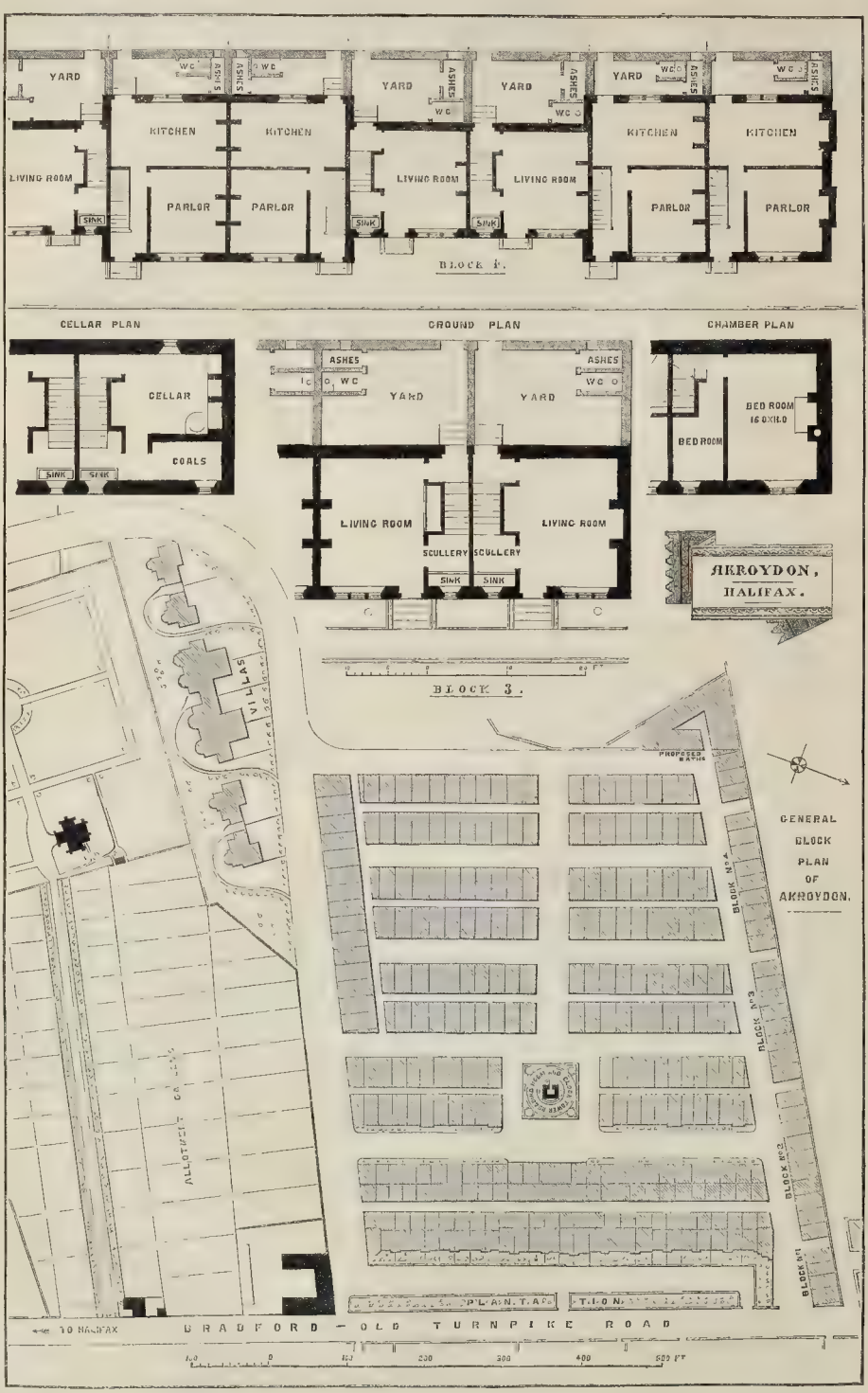
NOTTINGHAM ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of this Association was held on the evening of Tuesday, February 3rd, 1863, in the committee-room of the Public Offices, St. Peter's Church Side; Mr. Hine in the chair.

The discussion on the question of the voluntary architectural examination, as contained in the paper of regulations and course arranged and prepared by the Royal Institute, was resumed; and after giving so important a subject that full consideration and discussion which it demanded, it was unanimously resolved,—

"That this Association, while fully appreciating the exertions of the Institute in the preparation of the valuable scheme of examination for the architectural profession, now submitted for their consideration, deems it due to the large body of architects of experience already in practice, and who cannot be expected to devote the time necessary to an examination, that they should receive from the Institute such a distinct recognition of proficiency by diploma or otherwise, as will place them in a position not inferior to those younger practitioners who may present themselves for the honours of the Institute."

A communication from Mr. Pritchett, the hon. secretary to the Alliance, respecting the objectionable conditions contained in the Plymouth Wesleyan Chapel competition, was discussed, and the members of this Association recommended that all designs be withheld until the conditions were made more satisfactory to the profession. After the nomination of gentlemen as associates, and the transaction of general business, the meeting adjourned to the 3rd of March.


YARD
WC
ASHES
KITCHEN
PARLOR
LIVING ROOM
SINK
BLOCK 1.
CELLAR PLAN
CELLAR
COALS
GROUND PLAN
ASHES
WC
YARD
LIVING ROOM
SCULLERY
SINK
CHAMBER PLAN
BED ROOM
16 0X11 0
AKROYDON,
HALIFAX.
BLOCK 3.
PROPOSED BATHS
GENERAL
BLOCK
PLAN
OF
AKROYDON.
BLOCK No 4
BLOCK No 3
BLOCK No 2
BLOCK No 1
VILLAS
ALLOTMENT GR
PLANTATION
TO HALIFAX
BRADFORD — OLD TURNPIKE ROAD
100 0 100 200 300 400 500 FT



ALEXANDRA; HALIFAX.—MR. W. H. CROSSLAND, ARCHITECT.*

[see p. 109, ante.

A LECTURE ON ARCHITECTURE TO THE ROYAL ENGINEERS.*

Ornamented Construction.

THE elements of construction in Classic architecture are so simple, that they do not afford striking illustrations of the principles of ornamented construction. The base and capital of a column are of very little constructive value, but the one gives apparent stability to the shaft, the other seems to confer on it a power of supporting. an entablature, and both are appropriate for their purposes, as may easily be tested by reversing their positions. In like manner the division of the entablature into three parts—architrave, frieze, and cornice—does not add to their strength, but does to their appearance of stability, and the plain string lines of the architrave help this considerably. The frieze, as the neutral part in the centre, was generally the most ornamented; while the cornice, which was to crown all, and give shadow, was always the most broken,—first, because a plain shadow is always heavy, while a broken shadow is sparkling; and, secondly, because the cornice, having nothing to support, was the part of an order that might be most playfully treated.

In the classical orders every ornament is appropriate to the use of the part to which it is applied, and is elegant in itself; so that all the requisites of good architecture are satisfied, and the result has commanded the approval of all succeeding generations. If you analyze in the same way the ornaments of any Gothic building, you will see their architects followed out precisely the same system. Take, for instance, the vaulting shaft which appears to support the springing of the vault in all the stone-roofed churches: you know that it is of no more use than the torus of a Classic base, or the foliage of a Corinthian capital; but take it away, and it immediately appears as if the vault would slip down the wall. Sometimes it rests on a bold bracket, at others on the capital of the main pillars; and in later times was brought down to the floor; but it was always felt to be so beautiful and so essential an ornament that it very seldom was dispensed with. Originally, the great circular pillars that supported the main walls of the building were ornamented, as in Westminster Abbey, by four such shafts,—one pointing to the main vault of the nave, another to that of the aisles, and two more which appeared to carry the mouldings of the pier arch. These afterwards were multiplied to a very great extent, but never lost their apparent meaning, and thus retained the character-istic of good architectural ornament. In early times they always had capitals, and rightly so; because, in spite of the practice of later architects, the change from a straight line to a curved one ought always to be marked in good architecture, and can seldom be marked too strongly. Instead of doing this by mass, which is the most obvious mode, the Gothic architects accomplished it by sharply-marked and deeply-cut mouldings; and again, frequently made their shadows still more prominent and sparkling by partially filling the cavettos with foliage. If we turn to the vaulting of a Gothic cathedral, we again find it constructed on precisely the same principles. A rib, especially in the angle of an intersecting vault, is a purely mechanical necessity; but it may be built flush with the face of the vault, or may be concealed. The Gothic architects, on the contrary, took care to display it so as to give the appearance as well as the reality of strength. They then accentuated it by deep moulding and sharp angles, to give it an appearance of power far greater than if it had been either simply square or round: afterwards they were so pleased with the effect of these ribs that, in this country especially, they spread them over the vaults in the most complex and varied patterns: they tied them together at their intersections with bosses, and varied their dimensions with the relative quantity of work they were supposed to be performing. All this was perfectly intelligible; for, though no one supposes that all these ribs are really mechanically essential to construction, the mind never draws the line too closely between use and ornament. It is satisfied when the ornament is based on mechanical principles, and used where it may be or might have been, mechanically correct, or even where it suggests such a purpose. On the other hand we are always pleased with a great display of labour and ingenuity; and when elegance is added to this decoration, success is certain.

It would be easy, though I fear tedious, to go on analysing all the parts of Gothic ornamentation,—the windows with their mullions, the buttresses with their pinnacles, the towers and steeples all obey the same laws; all are based on mechanical exigencies; but these are made gradually to yield a part at least of their demands to ornamental arrangement; and frequently small details at last merge into mere ornaments; but in good architecture they are never employed, except where their protoplast would have been useful, or where they do not at least suggest that they may originally have done good constructive work. When this is the case, we have no right to inquire too minutely whether this is absolutely true or not. But if one ornament is used where under no circumstance it could have been useful, its employment is wrong; and if executed in any material which could not constructively be employed for that purpose, it is especially offensive. In a few words, the best architectural ornament is that which most clearly expresses the purpose and the construction of the building, or of that part of the building to which it is applied; and it approaches perfection in the ratio in which, besides its power of constructive expression, it is elegant in itself and pleasing to contemplate, irrespective of its architectural position.

The Gothic instances above quoted are, perhaps, the best examples of how little ornament is really required for architectural effect; and in many of the Mediæval buildings, those devoted to domestic uses especially, there is frequently only such an amount of ornament as would not increase the expense 1 or 2 per cent., while the result is most satisfactory.

The circumstances that generally lead modern architects into extravagance is that, instead of truth in construction and beauty of form, they attempt to disguise their buildings in either Classic or Mediæval costume; and the moment they attempt this they plunge into incongruities from which they can only extricate themselves by means of money and by hiding, by means of ornament, their want of thought, and thus hoping to distract attention from the falsehood they are perpetrating. There are so few truthful buildings in modern times, that it is difficult to get examples to illustrate these propositions; but two clubs in Pall-mall—the Reform and the Army and Navy—will suffice for present purposes. The former has no ornament but a cornice (which would have been better if it had been less expensive) slightly ornamented string courses marking the floors, and dressings to the windows: all this is perfectly legitimate and would have been ample had it been accompanied by a more ornamental arrangement of the building; but, unfortunately, its architect—though more free than most of his compeers from the vice of copying—was haunted by the idea of the Farnese Palace at Rome while trying to accommodate the wants of the Reformers in London, and he has, consequently, produced a building too gloomy for the climate, and especially for the northern aspect of its principal façade. Even a slight grouping of the windows would have done a great deal for it, as may be seen by observing how much that has improved the western front towards the Carlton. Or how beautiful the garden front of the Travellers' Club is, simply in consequence of the windows being grouped ornamentally, and this with the smallest amount of ornament has produced one of the most beautiful façades in London. The Army and Navy, on the contrary, is covered with most expensive ornament, a great deal of it good in itself, but utterly inappropriate to the place and the climate, and only tolerated because a palace in this style was erected in Italy in the sixteenth century; but there is no evidence of design in the building, no accentuation of the angles, nothing to tell of the internal arrangements. In fact, a most unsatisfactory result for an enormous outlay. But this is by no means the worst form of the borrowing system. Take, for instance, the London University. Here is a great portico, beautiful in itself, but at the top of a staircase no one goes up, and leading to a door that won't or can't open. But having put the portico there the whole building is sacrificed to it. The wings are plain and quiet enough, but it would have been an immense convenience to have had a third story. It would have given dignity to the building, and have afforded immensely increased accommodation at less expense than by any other means; but because there was a portico this became impossible; so that not only have we the direct expense of building the useless portico, but the indirect result of being debarred from using the most obvious means of obtaining the accommodation we require. In like manner, the portico of the British Museum may not have cost more than 50,000*l.*, but it has caused the waste of half a million; and half the funds of the Fitzwilliam trustees were wasted on a portico, the only use of which was to ruin the building for the purposes for which it was intended. It is this absurd system which has brought discredit on architecture; but if only a very small fraction of the money wasted on these very unsatisfactory buildings had been applied to express the meaning of any carefully thought-out and purpose-like design, to accentuate its construction, to enliven its façade, or to refine its more utilitarian parts, the result would have been widely different. But the melancholy truth is—it is so easy to borrow, it is so troublesome to think. When we have Gothic and Grecian details all ready to our hands, why must we set to work to invent new ones, and to think about every detail? While we have books which enable us to make up a design without thought or risk, why should we be forced to try and invent every detail, and to spend days and weeks in fitting every part to every other, with a painful suspicion that the result may be unsatisfactory after all? So architects have reasoned during the last three centuries, and the result is what we see, failure everywhere, and failure so complete as to prove beyond all power of contradiction that the moment an architect, no matter what his talents may be, once wanders from the path of simply *ornamenting ornamental construction*, and tries to reproduce the architecture of any other age or country,—once he deviates one inch from the path of truth and of common sense, combined with taste—he fails. He always has failed hitherto, and so far as can be seen, he always must fail in future.

Materials.

There is only one other point which I shall have time to dilate on now, and that is the influence which the materials employed ought to have in regulating the design. Taking bricks, stone, and granite, as the three degrees of comparison, it frequently occurs that an architect is, from the nature of the locality, restricted to one or the other; and when this is the case it is a fatal mistake not to accept the condition promptly, and to try to do the best he can with the material at his command. In doing this, however, it must be borne in mind that a design suitable for one class of material is, in fact, unsuitable for any other: with brick, for instance, it is almost impossible to obtain anything like grandeur, at least, if there are openings in it. A great solid bastion or tower of brick may be grand, because we lose the material in the mass; but the moment it is pierced or broken up, we see how small the material is, and that effect is lost. This is, however, no reason against its employment in architecture, it is only a reason for treating it in conformity with its nature; the consequence is, that a brick building can hardly be too much broken into small parts, or too carefully accentuated at the angles, or wherever strength is required, or too much fitted with discharging arches or other expedients to express strength of construction. Coloured bricks may also be used to accentuate arches and to mark string courses, and moulded bricks, or *terra cotta*, to ornament mouldings or cornices.

The first class—or accentuation by construction—was largely employed by the Romans, and the result is that some of their brick buildings look almost as monumental as if of granite. The last—by mouldings and colour—is largely employed in the north of Italy, and the result is the production of buildings as artistically architectural as any in stone, or even of marble, and quite as durable as either; but it must not be concealed that when so used it is very nearly, if not quite, as expensive as stone, and requires an amount of thought and skill on the part of those employing it which there is little hope of finding in the present day. Generally speaking, it may be asserted, that in almost any locality, in Great Britain at least, the moment you pass a very low quality of design, a better architectural effect may be obtained for the same expense by the employment of stone than by the use of brick. The stone itself gives a certain architectural character to the building, and very much less ornament will suffice with that material than with the other.

When brick must be employed, the first aim of the architect ought to be to *strengthen*,—to get rid, in fact, as far as he legitimately can, of the inherent defect of smallness, and consequent apparent weakness in the material he is employing. The employment of tiles in forming arches, as done by the Romans, is one of the most obvious expedients for this purpose, but vertical projections and reveals may also do much. Horizontal projections are not so easy with so small a material, but something may be done by a change in colour; and if moulded or ornamented bricks are not

See p. 101, *ante*.

available, or too expensive, a string course of darker colour will assist; but it must be confessed that a projection, however slight, will do more.

When stone is employed, especially if it is of light colour, all the required relief may be easily obtained by projections, and their consequent shadow and ornament can always be added to the extent to which the money at the disposal of the architect may justify. Granite is seldom used for domestic purposes; when employed in engineering it cannot be left too plain or too solid, its greatest merit is its mass and hardness, and these ought always to be left to tell their own tale; and when employed in smaller structures, still squareness and simplicity ought to characterise the outline of the mass and the design of the mouldings or ornaments; of these last, however, there can hardly be too little.

Of late years it has been the fashion to cry out against stucco, and to proclaim that it should never be used in external architecture. This, however, is hardly just; a stuccoed Grecian portico of colossal dimensions, or a stuccoed Gothic cathedral, or even parish church, a stuccoed palace, or college quadrangle, are abominations it is true; all these aspire to be monumental, durable buildings, in the erection of which expense is not a primary element, and the use of so perishable a material is a mistake and a sham; but stucco applied to the external walls of brick dwelling-houses is not only a reasonable means of keeping these walls dry, but adds to the lightness and cheerfulness of its aspect, and also allows of an amount of ornament being applied which would be unattainable in consequence of the expense under other circumstances. The only rule to govern its application is that it shall be avowedly stucco, and shall not attempt to look like granite or stone; nor shall pretend to monumental forms, or attempt to look as if designed to last for ever. With these restrictions its use is as legitimate as that of any other material, provided a more durable one cannot be attained, or the means are not otherwise available for obtaining a suitably decorative character.

There is a class of monuments, such as triumphal archways, columns, tombs, &c., to which I have not alluded in the above remarks, partly because they are not such as would interest you especially, and more because it would take long to explain their peculiarities. All of these which we use were invented by the Romans, who were very indifferent architects, though wonderful builders. They took a city gateway, for instance, and by the process described above first arranged its parts ornamentally and then ornamented it till, from an object of engineering, it became a work of architecture. So far they were right; but when they detached it from the wall and stuck it up where no one need, and few did go, through it, then it became an absurdity. So, too, with their columns. What Trajan wanted was a place on which he could engrave a record of his exploits, so he took a column, covered it with bas-reliefs, and placed it in the centre of a small court with galleries all round from which they could be easily seen; all this was tolerably reasonable. The absurdity arises when we attempt to copy without understanding, and stick up plain columns to no purpose except to place a statue where it cannot be seen, or archways which no one may go through. Even the Arc de l'Etoile at Paris, which is, perhaps, the best modern example of its class, would have been a far finer monument if it had contained a Hall of Victory in its centre instead of having an unmeaning arch through it. All this merely brings us back to the point from which we started. If you wish to do what is to be permanently good and satisfactory, first design your building wholly with reference to the purposes for which it is to be erected, or the uses to which it is to be applied; secondly, arrange the parts so obtained as ornamentally and symmetrically as the purposes of the building will admit of; and, thirdly, ornament the parts so arranged to such an extent as the nature of the building requires, or as the means at your disposal will admit of; and, lastly, let the ornaments be appropriate to the building and to the age in which it was erected.

If these rules are attended to, it will not be easy to go wrong, and good architecture may be attained at a very slight cost indeed.

In conclusion, let me try if I can, by repeating in as few words as possible what I have been saying, make myself more clearly understood.

The first thing I ventured to insist upon was, that there were two great classes of human arts—the *Phonetic*, or those concerned with the utterance or recording of speech, which is the exclusive privilege of mankind; and the *Technic*, or useful arts, which are not so exclusively man's property. But without insisting too much on this, the great point which we have to consider now is, that these two families, or groups of arts, are cultivated by totally different processes, and aim at totally different results. Both are capable of an æsthetic development—prose and narrative can be elaborated into eloquence or poetry, and every useful art into a fine art, without our ever being able to draw the line distinctly where the prosaic or useful ends, and the poetic or fine art begins. A still more important point is, that there is no affinity or connexion between these two groups as to their processes or principles; but, it is while thus repudiating her reputed sisters that architecture takes her true position as the queen of the useful arts. If not absolutely the most important of these, she can at least claim to be that one most capable of æsthetic expression, and the only one that has hitherto been refined into forms of permanent beauty, or has aimed at the attainment of grandeur or sublimity.

In all countries of the world, down nearly to the present day, and in Europe down to the sixteenth century, this art continued to be practised, and everywhere with success, on the same principles as in all ages governed, and do still govern, the development of all the sister useful or technic arts. At the Reformation, a new and extraneous principle of imitation was superadded, and for the last three centuries we have been labouring under the delusion that it was neither science that advanced the art, nor truth that rendered its production pleasing, but some strange notion that it would be beautiful if it could only be made to look like something it was not, or had only some very slender connexion with. What is now wanted to restore the art to its prestine pre-eminence is a return to those simple principles which guided the architects of Egypt, India, Greece, Rome, or the Middle Ages, and which are identical with those that now guide our shipbuilders, or machine or engine makers, or the engineers who construct our bridges or our forts. There is absolutely no mystery about it. All that is required is strict and undivided attention, first, to convenience, next to constructive necessaries, then to the ornamental or harmonious arrangement of the parts, and lastly, when it can be done, to their ornamentation.

It may require more thought and self-negation to succeed by this path in the present state of the art than by following the fashion of servile copying; but by the one path certain success may be easily and permanently obtained by even the most moderate abilities, while by the other path no genius will enable any man to erect a building which will be considered successful many years after its completion. This may appear a daring assertion, but it is justified by the experience of 4,000 years, during which the first path was followed by all the nations of the earth with uniform success, and by the experience of the last 400 years, during which the other process has been cultivated; and you yourselves can judge how far during it men have succeeded in attaining what they sought for. Taking into consideration the amount of money spent, the amount of talent employed, and the amount of knowledge available, the result has been the most complete and lamentable failure in the artistic history of the world.

JAS. FERGUSSON.

THE ARCHITECTURAL ASSOCIATION.

THE usual meeting of members was held on Friday evening, the 6th instant, at the House in Conduit-street.

The chair was occupied by the president, Mr. Blashill.

The following gentlemen were, on ballot, elected members of the Association:—Mr. James Lemon, 10, Outwell-terrace, Stockwell; Mr. E. Parker Dew, 8A, Whitehall-place; Mr. Charles A. Peters, 2, Princes-place, Commercial-road; and Mr. G. M. Whitaker, 57, Strand.

The honorary secretary read a letter from Mr. J. P. Pritchett, honorary secretary to the Architectural Alliance, stating that all the architectural bodies represented officially at the meeting held in July last, had given in their adhesion to the alliance on the basis of the rules then definitely agreed upon. The letter further stated that the next general meeting would be held in London, in July next, and that it would be desirable that the Association should appoint delegates to attend it. The delegates from the Northern Association would bring forward a draught scale of professional charges for discussion and adoption by the alliance; and would also propose the draught of a circular to be sent to the managers of all advertised competitions, pointing out what should be the course adopted by them in respect to the remuneration offered, and the mode of adjudicating the premiums.

Mr. Rickman then read a paper on the position of measuring-surveyors in reference to the position of the architects. The question principally discussed in the paper was whether measuring-surveyors ought to be excluded from the Royal Institute of British Architects, the author contending that there was room for both.

The President observed that no doubt the by-law of the Institute excluded surveyors from becoming fellows, although they might become associates; but that in any discussion of the matter, it would be very desirable to have the actual words of the by-law before them.

Mr. Paraire was disposed to think that the subject was one upon which the Association ought not to pass any opinion until in possession of the fullest possible information. For his own part, he did not agree with Mr. Rickman that the position of the surveyor was daily rising, although he was quite ready to admit that there were a great number of gentlemen in the profession of high and deserved standing. The great objection, however, which he entertained to admitting them to the Institute, was the necessity for drawing a line somewhere. If the surveyors were admitted because they were surveyors, how could the builder be excluded, who could allege with truth that he was a surveyor also?

The President said he apprehended that Mr. Rickman did not intend to refer to any surveyors but those who were employed by others.

Mr. Rickman said that was so. He never contemplated the admission of any surveyors but those who were understood to follow the profession of measuring surveyors only.

Mr. Paraire said he had always understood that the mission of an architect was to design, and the position of the surveyor to dissect the various trades, take out the quantities, and ascertain the expenditure under each description of work. He was, in fact, the builder's agent, although, of course, in the end, the client had to be the paymaster.

The President said, it was the duty of the proprietor to appoint a surveyor, and that in practice it was so, as the builder included in his charge the cost of taking out the quantities.

Mr. Mathews said he considered the by-law of the Institute very fair, as it did not exclude surveyors further than to make them ineligible to be Fellows. There was no objection to their becoming associates. It appeared to him that measuring surveyors had only sprung into existence of late years, as no trace of them was to be found in early times. The surveyor had by the very nature of his office to enter into such minute details that he could not be expected to be also a designer. There could be no doubt but that an architect ought to be a surveyor, but it did not at all follow that a measuring surveyor should be an architect.

Some discussion ensued in reference to the claim of builders' clerks to be considered surveyors; and Mr. Rickman stated that his experience led him to place great confidence in builders' clerks, as he generally found that they thoroughly understood their business. For his own part, he would much rather be brought into contact with an intelligent builder's clerk than with a "clerk of the works."

A vote of thanks was ultimately passed to Mr. Rickman for his paper.

The President announced that the next subject for the class of design would be a public fountain, and that on the next evening of meeting a paper "On Ventilation" would be read by Mr. G. B. New.

SOUTHERN OUTFALL WORKS.

MAIN DRAINAGE OF LONDON (SOUTH SIDE).

ON the 4th instant the corner stone of the engine-house of the southern outfall works of the main drainage of the metropolis was laid by the chief engineer of the Metropolitan Board of Works, assisted by nearly the whole body of members. The party assembled at the North Kent Terminus, London Bridge, at twelve o'clock, and proceeded to the Plumstead Station, where a special train, belonging to the contractor of the works, Mr. Wm. Webster, was in waiting to convey them across the Plumstead and Erith marshes to the site of the works at the river bank. The ride across the flat marshes was extremely pleasant and interesting; developing, as it does, the step by step taken by some previous generations to resist the stream and reclaim the foreshore of the river. We noticed three distinct embankments, similar in every re-

spect to the present river bank, that had been erected at early periods against the encroachment of the river, and to which we have before now referred. The alluvial deposit of these marshes produce abundant and highly-prized grazing land, and the Scotch and Irish cattle are brought over in thousands and turned out here to fatten.

Arriving at the works, the engineers, Mr. Bazalgette and Mr. Grant, escorted the party round the side of the reservoir, coal-sheds, culverts, boiler-house, &c., and explained the different uses intended for each. The reservoir, which is to be entirely covered with arching, but not groined, contains an area of upwards of six acres and a half, and appears to be a work of difficulty on account of the depth required to sink for a stable foundation for the piers to carry the arches. This place, when completed, will be an immense catacomb, rivalling in appearance those of Rome and Paris. Here was explained by Mr. Grant how the sewage of the whole of the south side of the river came down to this point, and was pumped up into the reservoir a height of 27 feet, and then at certain states of the tide allowed to flow into the river. Thence we descended into the foundations of the engine and boiler houses, where the corner stone was in suspension ready for final bedding. The engineer, Mr. Bazalgette, having ascended a raised platform, the ceremonial of laying the stone was commenced by one of the Board reading the parchment that had been prepared to be consigned to the vase: it contained the list of the Metropolitan Board, the names of the whole of the officers of the Board, and a general description of the works: this, with a copy of the *Times* newspaper, and the current coin of the realm, having been placed in the vase, it was laid in a cavity cut in the stone for that purpose; and the work of bedding having been performed by Mr. Bazalgette in approved Masonic style, he addressed the company, and said how delighted he felt in having now, after years of toil, arrived at a point from which the final completion of the drainage of London could be seen. This was the commencement of the end; and he trusted that when they met again it would be to open the works for the purpose intended. They were then standing under the bank of the river, and as much as 35 feet below the level of high-water. They might think that too much precaution and strength had been displayed in the timbering of this excavation; but when he stated that they had the whole weight of the embankment of the river to support, he was sure that they would readily admit the desirability of such strength. If any failure arose here, it would be worse than that of the King's Lynn catastrophe. And it reflected great credit upon the contractor, Mr. William Webster, and his agent, Mr. Matthew Jennings. The engine-house consisted in a building 154 feet by 53 feet. The engines and pumps were being constructed by the firm of James Watt & Co., Birmingham, and the contract sum was 45,000*l*. The boiler-house was 112 feet by 59 feet, and was to contain 12 boilers, each 30 feet in length, and 6 feet in diameter. These works, with the reservoir, culverts, &c., would consume over forty millions of bricks, and the contract sum was 300,000*l*.

Mr. Webster having turned the carpenter's shop into a dining-room, the company, to the number of seventy, sat down to a champagne luncb. At the conclusion, the chairman of the Metropolitan Board of Works, Mr. Thwaites, after giving the usual loyal toasts, proposed the health of the engineer-in-chief, Mr. Bazalgette. The latter gentleman, in responding, paid high compliments to the engineer of the works, Mr. John Grant, and his assistant, Mr. Frank Houghton. The Chairman, after proposing several healths, and amongst them those of Mr. Grant, who responded in appropriate terms; and of Mr. Webster the contractor (who, we find, has just obtained another contract under the Board, that of the Low-Level Sewer from Deptford to Battersea, at 235,000*l*.), left the chair; and shortly after the company took their way back to London, apparently well satisfied with the works and things in general.

SELF-SUPPORTING COOKING DEPOTS.

An interesting and important paper was read on the 4th inst., at the Society of Arts, Adelphi, by Mr. A. Burrell, on the cooking depôts for the working classes recently established on the self-supporting principle at Glasgow and Manchester, with suggestions for introducing them into the metropolis.

The first of these establishments, for which the working classes are indebted to Mr. Thomas Corbett, of Glasgow, a merchant well known in the West of Scotland as a practical friend to the working classes, was set agoing on 21st September, 1860, in the Sailors' Home, at Glasgow. The success which attended it led Mr. Corbett to open a second branch a few weeks later, then another, and another—a new one every two months or so up to the present time; so that at this moment there are thirteen in full operation, capable of accommodating 3,000 persons at one time; employing a staff of 135 persons, consisting of one manager, one cashier, one inspector, three vanmen, and one kitchen-man, in all seven males, with 128 females, including thirteen matrons, one at each establishment, and 115 waitresses, paying an aggregate rent of 1,140*l*. per annum, disposing of penny rations of all kinds to the enormous extent of 18,000 a day, involving a gross income of 10,000*l*. a year, and, finally, frequented by no less than 8,500 persons on the average every working-day of the week. These establishments have been spread through the districts chiefly frequented by working men, two of them in premises formerly occupied as large whisky-shops.

In all of them the best materials for food and unintoxicating refreshments, such as tea and coffee, are alone used; and each ration never exceeds one penny. The actual average cost is said to be about three farthings; and the odd farthing pays all expenses and leaves a surplus.

The branches have now become so numerous as to make it absolutely necessary that a large central store and model kitchen should be erected; and arrangements are in progress for supplying this want. At the foot of Pitt-street a store and kitchen are being built, the latter of which will, Mr. Burrell says, be the largest in the kingdom. It will cover 1,000 square yards of ground, and will be 20 feet high in the interior; and it is to be fitted up with steam-cooking boilers, ten of which are in course of manufacture.

Should such commendable establishments be formed in London, it would much enliven and attract were some simple music to be played at intervals (even a good pianoforte would suffice), especially during the evenings. By means of half a dozen musicians, and good and cheap refreshments, a somewhat similar establishment, though for a higher class, was some years since set agoing in Hungerford Hall, where hundreds of young men, such as clerks, shopkeepers, and many of a much higher rank in society, soon learned to spend a temperate and pleasant evening over their tea and coffee, chocolate, ices, newspapers, quiet games of chess and drafts, &c. This establishment has since been removed to the Adelaide Gallery; and although the Middlesex magistrates have thought proper to discourage such a rival to the ginshops and beerhouses, by refusing, without any sound or sufficient reason, the music license which they had before readily granted to the Adelaide Gallery when it was a drinking-hall with naked women exhibiting in it, the present establishment is still attended of an evening by crowds of respectable people, who seem to prefer it even still to such places as the concert-rooms attached to ginshops. This well-conducted establishment, which belongs to two enterprising and sensible Italians, Messrs. Gatti & Monaco, thus demonstrates that orderly places of temperate resort, where good and cheap refreshments can be had, are formidable rivals to drinking saloons and gin-palace concert-rooms, especially when first rendered additionally attractive by a little instrumental music; and we have no doubt that the same result would soon follow with a working-class refreshment-hall got up on similar principles.

FALL OF TILE ROOF.

On Tuesday evening, Dr. Lankester, the coroner for Central Middlesex, resumed an adjourned investigation into the circumstances which led to the death of John Parker, a labourer, who was killed by the falling of an arch into a new ice-well in course of erection for Mr. Gatti,* in New Wharf-road, Caledonian-road.

The coroner opened the proceedings by reading over the evidence adduced at the first sitting, which proved to be of a conflicting nature; but the effect of it was that Mr. Gatti employed some practical men to build an ice-well, and the roof, on the eve of completion, suddenly fell, with the deceased and two other workmen who were upon it at the time, into the well, a distance of 35 feet.

Mr. Robert Kerr, professor of architecture at King's College, said that he had examined the ice-well, and considered the cause of the accident unquestionably arose from the roof being built with four courses of tiles and cement, across 13 feet square, which would not carry their own weight. The thickness was only 3 inches, and how the men could imagine that such a roof would carry its weight, besides that of wind and snow, was beyond his comprehension. The work, so far as it went, was well done, but the accident was occasioned by an error of judgment.

Mr. William Mosseley, district surveyor under the Metropolitan Buildings Act, said he received notice of the intended erection in October last. He had from time to time visited the building, and he found no breach of the Metropolitan Building Act. He thought the accident was caused by the spreading of the arches.

The Coroner summed up at length, and the Jury returned a verdict of "Accidental death," with an addendum expressive of their conviction that the deceased lost his life from an error of judgment of those with whom he was not concerned, who performed the work of constructing the roof of the ice-well. The jurors further expressed their regret that Mr. Gatti, the proprietor of the ice-well, did not employ proper and sufficient superintendence over those who were engaged to perform the work; and they also regretted that Mr. William Mosseley, the district surveyor, should have allowed such a work to proceed to nearly its completion without detecting its dangerous nature.

* Not of the firm of Gatti & Monaco.

THE PAROCHIAL ASSESSMENT ACT.

At an aggregate meeting of delegates from the various Poor Law unions of the county of Worcester, at Worcester, to consider the expediency of adopting some uniform principle in arriving at the rateable value of property, Sir John Pakington presided, and the following resolutions were adopted:—1. That the gross estimated rental of lands and houses is to be taken at such an amount as may be reasonably expected by way of rack-rent from a yearly tenant, such tenant undertaking to pay the usual tenant's rates and taxes and tithe commutation rent-charges; and that therefore existing rents and property-tax returns ought to be considered only so far as they may be useful as guides for arriving at the full actual annual value. 2. That if, in consideration of the rent thus reserved, the landlord shall have agreed to pay the tenant's rates and taxes, or shall have let his land as tithe-free, although it is in fact subject to a tithe commutation rent-charge, and the owner of such rent-charge is separately rated for the same; the amount of such rents and taxes or tithe rent-charge ought to be deducted from the rent so reserved, in order to arrive at the gross estimated rental; but when the land in respect of which such rent has been reserved is actually tithe-free, or the tithe-owner is not separately rated, no similar or equivalent deduction ought to be made. 3. That the rateable value of lands and houses is to be ascertained by deducting from the gross estimated rental the probable annual average cost of repairs, insurance, and other expenses, if any, necessary to maintain them in a state to command such rent. For this object it is desirable that the said deductions be made with uniformity throughout the county, and the following scale is recommended to the committee. First, for lands without farm-buildings, 2½ per cent.; second, for lands with farm-buildings, 7½ per cent.; third, for houses and other buildings, except cottages and mills and manufactories, 15 per cent.; fourth, for cottages, 20 per cent. 4. That in the case of tithe rent-charge the gross estimated rental should be the amount of commutation for the last preceding year, and the rateable value should be ascertained by deducting from the gross rental and tenant's rates and taxes, including tenant's property-tax, and an allowance of 10 per cent. for costs of collecting and legal expenses, and losses by default of payment, and the amount of all tenths and all other ecclesiastical dues and payments, and of insurance and repairs of any chancel to which such rent-charges may be liable, and also all payments in respect of district churches and of assistant curates whose services are required in addition to, and not in substitution for, those of the incumbent. 5. That the assessment of mills, manufactories, railways, canals, collieries, brick-yards, and other property not particularly noticed in the foregoing resolution, must be left to the discretion and judgment of the several assessment committees.

THE PRINCE CONSORT MEMORIALS.

Guernsey.—The special committee for the Prince Consort Memorial assembled at the Government office, 7th of February, for the purpose of having an interview with Mr. Durham, the sculptor, who brought with him a model of the pedestal on which he purposes to place the statue. The committee undertake to see the pedestal executed, under the professional superintendence of Mr. Le Mesurier, C.E., according to plans to be settled by the sculptor, and the work to be of grey Guernsey granite. The statue itself is to be formed in copper, by Messrs. Elkington & Co.'s process. Mr. Durham agrees to land the statue in the island, and he undertakes the responsibility of

placing it on the pedestal, for the sum of 900 guineas, the committee providing the necessary gear and labour. It will be a repetition, as our readers know, of the one intended for the Memorial of the 1851 Exhibition, with permission of the Queen. Guernsey will thus have a remarkably fine statue at small cost.

Victoria Park.—A movement is on foot to erect a memorial bridge over the Regent's Canal, at Twigg Folly, near the southern entrance to Victoria Park, in lieu of the present narrow and dilapidated structure. The suggestion to call it "The Albert Memorial Bridge" has been well responded to. About 300*l.* have been collected, including a donation of 20*l.* from Miss Burdett Coutts.

Gravesend.—In commemoration of the Prince, it was determined to endow the St. Thomas's Almshouse. A fund has been raised for this purpose, but as it is a small one, it is greatly hoped that it may be increased. The trustees have caused two marble tablets to be placed on the building: one as follows is on the Windmill-street side:—"The endowment of this charity was commenced by public subscription A.D. 1862, in grateful remembrance of Albert Prince Consort, and is invested in the trustees with the hope of future contributions:" the other, in King-street, is as under:—"By the will of Henry Pinnock, dated 30th August, 1624, these houses were left for the better relief and maintenances of poor decayed persons living in the parishes of Gravesend and Milton."

Banbury.—The idea of the window to the memory of the Prince which was dedicated the other day in Christ Church, Banbury, originated with the wife of Mr. J. Fortescue, of that town, who collected 140*l.* for the purpose. The work, which is in five lights, is by Mr. Drury, and consists of figures of our Lord and the Evangelists. Under each of the latter are appropriate symbols, whilst at the foot of the centre light are the arms of the Prince quartering those of the Queen. The inscription "*In memoriam Alberti Principis Consortis Victoriæ, Britunniarum Reginæ, defuncti* 1861," runs along the bottom of the window.

Abingdon.—A project has been started to erect a statue to the memory of the late Prince Consort, either in the new recreation-ground or the Market-place at Abingdon.

Glasgow.—A meeting of the subscribers to the Prince Consort Memorial Fund was held on Tuesday in last week, in the council-chamber, the Lord Provost presiding, for the purpose of considering and approving a report by a sub-committee, as to the character of the memorial. The sub committee's report was to the effect that, at a meeting held on 5th December, it had been resolved by a large majority that the memorial should be of a statuary character, as opposed to a scheme which had been suggested of erecting some sort of public building dedicated to the memory of the Prince. Principal Barclay moved that this resolution of the sub-committee be approved of, and that it be remitted to the sub-committee to fix a site, employ an artist, and generally to carry out the objects of the subscribers. Mr. Robert Stewart seconded the motion. Sir James Anderson and Mr. D. C. Rait advocated the idea of a public building, but no counter proposition was made, and the motion was carried without a vote.

GAS.

The bad quality, high price, and deficient quantity of the gas supplied by the Maidenhead Gas Company having been much complained of, a meeting of gas consumers has been held on the subject. The meeting was addressed by Mr. T. Atkins, civil and gas engineer, who stated that he had had much experience in lighting upwards of fifty towns with gas, all from 1,000 to 15,000 inhabitants, and had endeavoured to make gas works not only paying undertakings, but the medium for promoting rational and civilizing influences, and for dispensing comfort. As for Maidenhead, he regretted to say there was a dereliction of duty and a short-sightedness on the part of the old company. He cited half a dozen towns of a like size to Maidenhead, where he had been called in to erect new gas works, all of which had ended in the price of gas being reduced, the consumption extended, and the dividends increased, in some cases from almost zero to 8, 9, and 10 per cent. The commercial policy to be pursued in gas works, he remarked, is to manufacture largely and easily, and supply extensively and at a cheap rate. The terms required by the consumers were a reduction from 6s. 6d. to 5s. per 1,000 cubic feet. In Chepstow, with a population of only 3,500 persons, he had put up new works, at a cost of 6,000*l.*, and had reduced the price of gas from 10s. to 4s. Though both the old and new company still carry on business, both pay a per centage, the new company paying 6 per cent. At Barnet, the rental had been increased from 200*l.* to 1,600*l.* per annum, the old company had been bought up for a large sum, and the price of gas had been reduced from 10s. to 5s. per 1,000 cubic feet. At High Wycombe, the price had been reduced from 15s. to 6s., and the old company's works purchased. In each of these cases a dividend of from 6 to 10 per cent. had been paid. At Dartmouth, with new works at 3,500*l.*, the gas was lowered to 5s., 1,200*l.* paid for the old works, and a similar dividend paid. All these were the results of cheap gas and free trade in gas fittings. Companies stood in their own light by maintaining high prices for gas, and a monopoly of fittings. The nucleus of a Maidenhead consumers' deputation was formed at the meeting.——The Worcester Gas Company have declared a dividend of 10 per cent. for the past half-year.——The Chester United Gaslight Company have also declared a dividend at the rate of 10 per cent.: they have reduced the price of their gas so far by granting 2½ per cent. discount on speedy payment.——A dividend of 8 per cent. has been declared by the Stoke, Fenton, and Longton Gas Company, whose directors congratulate them on the success of their operations, and state that an enlargement of their works has become necessary.——A dividend of 6 per cent. has been declared by the Collingham Gas Company, besides a reserve; and the directors state that the consumption of their gas has considerably increased.——The Crowle Gas and Coke Company have declared a dividend of 5 per cent., leaving a balance on hand.——The Manchester Gas Committee have recommended the following reduced scale of charges in the townships beyond the city on the near side of the Mersey, viz.:—When the quarterly consumption is under 500,000 cubic feet, 4s. 3d. per 1,000; 500,000 and under 1,000,000, 4s. 2d.; 1,000,000 and under 1,500,000, 4s. 1d.; 1,500,000 and upwards, 4s. In the district beyond the Mersey, they recommended that the present price, 4s. 6d. per 1,000 cubic feet, should be continued. It was estimated that the reduction would at the present time amount to 800*l.* per annum. The report was adopted.——The Alnwick Gas Company have just declared a dividend of 10 per cent. for the past year, and resolved to reduce the price of gas 6d. per 1,000 cubic feet, making it 5s. per 1,000.

THE TENDERS FOR CARMARTHEN LUNATIC ASYLUM.

The following is a list of the tenders for Carmarthen Lunatic Asylum. Thirty-two firms sent in offers, ranging from 24,950*l.* up to 45,944*l.*, and this with quantities supplied! Mr. David Brandon is the architect. The quantities were supplied by Messrs. Williams & Schofield, and Messrs. J. C. & E. Lansdowne:—

	£	s.	d.
Somers	45,944	0	0
Thomas	39,650	0	0
Foster	36,848	9	0
Douglas & Co.	35,221	13	7
Williams	34,393	0	0
Moore	34,111	0	0
James & Price	34,100	0	0
Jones & Johns	33,650	0	0
Tregrena	33,000	0	0
Simms	32,636	0	0
Simpson	32,159	0	0
Jenkins & Hallett	31,999	0	0
Myers & Sons	31,844	0	0
Griffith & Thomas	31,665	17	0
Watkins & Jenkins	31,570	0	0
Howell & Morgan	31,133	0	0
Hughes	31,000	0	0
Conder	30,9 0	0	0
Yerward	30,380	0	0
Roberts	30,340	0	0
Ward, Ansill, & Co.	30,150	0	0
Davies & Son	29,910	0	0
Scrivener & White	29,900	0	0
Webb	29,400	0	0
Lewis	29,200	0	0
Simpson	28,784	0	0
Barnsley & Son	28,180	0	0
Jones & Son	26,0 0	0	0
Piper & Wheeler	26,950	0	0
Longmire & Burge	26,134	0	0
Warburton	25,760	0	0
Pollard, Taunton (accepted)	24,950	0	0

The Northampton Surveyorship.—At last week's meeting of council, Mr. William Law was proposed as surveyor to the corporation. Mr. Vernon proposed that Mr. Hull be appointed in the room of his father. The two motions being put to the council, Mr. W. Law was elected by a majority of 11 to 5.

VENTILATION OF HOUSES.

The following notes were prepared by me previously to the discussion at the Institute on Monday last, on the subject of "Ventilation," intending to take part therein: as, however, the opportunity did not occur, and since the meeting has been adjourned, I beg to forward them to you to notice (if you should think them of sufficient interest), prior to the resumption of the discussion.

Attention to a few very simple rules would do much to achieve the result so devoutly to be wished, viz, the proper ventilation of our dwellings.

Every window should be proportioned to the size of the room; and, if possible, be opposite a second window; but the last is rarely attainable in ordinary dwelling-houses, and might not be desirable if it were, on other grounds. All windows should rise to within a foot of the ceiling, and be made to open at the top and at the bottom, so that by opening the doors and windows the room may be flushed with fresh air, and in a few minutes rendered perfectly sweet; and even if the doors are closed, the opening of both upper and lower sashes will produce an inward and an outward draught. But windows should not be alone depended upon, since they can only occasionally be employed, when the room is unoccupied.

External fresh air should be admitted by a tube to a chamber behind the stove, where it may be warmed before entering the room, to feed the fire and the occupants with fresh air, without drawing the atmosphere in draughts through the cracks of the doors and windows, the draughts from which are increased in proportion to the absence of other means of replacing the air exhausted in respiration and the combustion of fuel, &c. The outlet from this air-chamber may be through ornamental fretwork in the stove front. In winter, or at night, and especially if there are gaslights, it will be specially important to provide a ready means of releasing the impure air, without necessitating it being drawn down to the low level of the fire place, to escape by the chimney-shaft when the windows are closed. For this purpose the chimney flues should be constructed in duplicate; that is to say, each room should have two flues 9 inches square, each divided by a thin plate of iron only instead of the usual half-brick withe (similar to those invented by Mr. Boyd): one of these flues will be for the smoke, the other for vitiated air. The opening into the latter from the room should be of the same area as the flue itself, and be situated immediately below the cornice of the room next the ceiling, and provided with a means of opening and closing. (Dr. Arnott's valves are the best.) The cause of their smoking sometimes arises from the absence of a sufficient quantity of fresh air in the apartment, and also from the wideness of the chimney throat.) The heat of the adjoining flue would cause a sufficient rarefraction of the air to create an upward draught in the flue, and thus the vitiated air would be drawn off from the apartment. To prevent down-draught drawing smoke into the air-flue at the point of exit, the latter should open at the side of the chimney-stack, while the smoke-flue should pass up in the usual manner and escape at the top of the chimney-stack. (The writer has successfully introduced these arrangements in buildings erected by him; and, besides the fresh air supply to the stove, has also admitted it from the hall, through apertures contrived over the head, and under the discharging arch of the door.)

The kind of stoves employed may be those manufactured by Messrs. Boyd, Kennard, and others. And Mr. Billing's throttle valves to the terminals will be an advantageous addition, especially in windy weather.

Some cross ventilation by opposite windows should exist in every house, if not in the several rooms, at least in the stairs and landings with which the rooms communicate; so that by opening the room-doors a direct current of air may be maintained at pleasure between the windows in the rooms and the stairs. No house can be considered healthy where reservoirs of stagnant air are permitted to exist.

A false economy commonly incloses the upper stories of staircases between back and front drawing-rooms or closets, so that that portion which the heated and impure air naturally rises into every part for which no means of ventilation are provided; and should the necessity for lighting by a skylight, it is ten chances to one that no means of opening or closing, or aperture for ventilation, are provided. The trap-door to the roof if fitted with perforated zinc might be of some value, but is never so employed, and the roof has no current of air specially provided to assist the escape of such vapours.

Wherever gas is burning fresh and foul air-shafts are required, especially in shops, and not only for the sake of ventilation, but for the increase of light by the more abundant supply of oxygen to aid combustion;—in proportion to the purity of the atmosphere is the brilliancy of the light.

A simple window is insufficient to ventilate a water-closet or lavatory, &c.; and if no cross ventilation can be gained by opposite windows, draught may be secured by external ventilators in direct communication with the closet, or through tubes from perforated zinc-covered openings in ceiling. If this cannot be done, it is better to hang the casement on pivots in the centre than on hinges, the windows being placed as high as possible.

The soil-drains will also require to be ventilated by external shafts, or they will often ventilate themselves with the dwelling. Every other entrance to the drains to be water-trapped.

In larger rooms a greater amount of fresh air will be required than can be admitted through the chamber at the back of the fire; and the point chosen for the admission of the fresh air should always be situate opposite a foul-air shaft of equal area and near the ceiling, or the draught towards the fire will be objected to; and a due proportion should be observed between the admission and dismission of air and the size of the room to be dealt with. Thus, a foul air-shaft 9 inches by 9 inches will answer for a room containing 5,000 cubic feet. Where cold air is admitted at the ground it chills the feet, and makes the coldest part of the room cooler, and rarely rises higher than the fire.

It should be borne in mind that upon the height of the upshaft and the proper influx of fresh air will greatly depend the strength of the draught upward when the air in the shaft is at a low temperature; but if no fresh air is otherwise admitted, the foul-air exit shaft becomes a fresh-air admission flue in the absence of fires to warm the adjoining smoke-flues.

The less horizontal tubing for the conveyance of foul air the better, unless fresh air is admitted at one end and a heated flue receives it at the other. In that case the vitiated air is drawn along by the current as it enters by the perforations beneath the horizontal shaft; but to be of any use they must be very large if of much length. Mr. Kite's ventilators have been successfully used by the writer to produce an upward draught. Mr. Watson's ventilators answer best where no other means of admitting air has been provided. A stable at night when all doors are closed is usually well ventilated by one of these, or Mr. Muir's four-point ventilators. EDWD. C. ROBINS.

OUR THOROUGHFARES.

THE opening of the South-Eastern Railway terminus at Hungerford will have the effect of greatly increasing the amount of traffic in West Strand, and the want of some means of exit in a direction due north from this *locale* will be enormously increased.

Your voice is always foremost in pointing out these deficiencies in our means of intercommunication, and I remember that you long ago pointed out the urgent need of an improvement by widening and straightening the route from the Strand to Piccadilly by King William-street, Chandos-street, and Hemming's-row. This will be the natural course for all vehicles desiring to reach the West-end from the City, avoiding the concourse which the new station will occasion, and a great improvement would be effected by making two diagonal openings through the centre of Leicester-square. The four triangular portions might be planted and laid open in a similar manner to some of the *places* in Paris.

More than this, however, will be required. From the part of Oxford-street, between the Circus and Tottenham-court-road, there is no communication with Charing cross, except the narrow and tortuous defile of Wardour-street, Princes-street, and Dorset-place. A more direct and convenient route might be opened at a comparatively small cost.

An opening from Pall-mall East, close to the western end of the National Gallery, as before now urged in your pages, would take us into St. Martin's-street. The exit from this street into Leicester-square would require the removal of one house. At the north-western corner of Leicester-square is Leicester-street. There is only a small space required,—say two or four houses to be taken down,—to give access to the lower end of Dean-street (called, I think, Macclesfield-street); and by widening the outlet of Dean-street into Oxford-street, we should obtain a route tolerably straight and more direct than any existing thoroughfare in the same direction.

T. S. W.

THICK AND THIN JOINTS.

AT page 147 of M. Viollet le Duc's last published volume of the "Dictionnaire Raisonné" is the following passage:—"En principe, de moment qu'on ne peut poser les pierres absolument jointives, comme le faissaient les Grecs et même les Romains lorsqu'ils employaient le grand appareil, *mieux vaut un joint épais qu'un joint mince.*"

I should be pleased to see this remarkable dictum discussed by practical men in your pages.

I, in my limited experience, have been accustomed to hear admired the wonderfully *thin* joints of the ashlaring of many of our best Mediæval works; but here comes one of the great authorities, who insists on our admiring the *thick* joints of many Mediæval works. This thick and thin admiration puzzles the humble student, and it would be a blessing to us if some undoubted Don would tell us once for all whether we are to lay it on thick or thin. A STUDENT.

GOVERNMENT ENGINEERS, INDIA.

SIR,—With reference to a letter which I addressed to you about a month ago, pointing out the deceptive character of the Engineer appointments in the Public Works Department of India, annually thrown open to competition, I now beg to forward to you copies of letters which have appeared in the leading paper, *The Friend of India*, in corroboration of my statements. Whether you have published my former letter or not I do not know,* but I hope so, as it may perhaps save others from taking a step they will most assuredly repent bitterly when it is too late.

I can state from my own knowledge that nearly every one of my batch is anxiously looking out for an opportunity of leaving the department at any cost, so miserable are our prospects. There is no chance of getting any redress out here: our only hope lies in the powerful aid of the English press; and we look to you, as the leading professional paper, to show your usual alacrity in exposing abuses. A VICTIM.

Simla.

THE ARCHITECTURAL ASSOCIATION AND THE VOLUNTARY EXAMINATIONS OF THE INSTITUTE.

SIR,—The list of candidates successful in the class of proficiency at the first voluntary examination having been made public, allow me to draw the attention of your readers to the fact that seven of the eight students who passed being from London, five of those seven belong to the Architectural Association, and of the remaining two, one stands proposed for election.

This fact is very gratifying to those who take an interest in the Association. It shows that that body has among it a large proportion of those who thus stand accredited as the foremost architectural students of the day; and it shows, also, that the studies of our class of design and the proceedings at our ordinary meetings, have had their due result in helping to fit members thus to to take a position honourable alike to themselves and to the body with which they are connected.

I hope the result will be to attract to that body many of the architectural students who are preparing themselves for next year's examination. T. R. S.

PROCEEDINGS UNDER METROPOLIS BUILDING ACT.

AT the Wandsworth Police-court, on the 4th inst., Mr. J. McLachlan, builder, was summoned before Mr. Dayman for neglecting to give to Mr. Hiscocks, the district surveyor of Wandsworth and Tooting, notice in respect of certain works done by him at Mr. Barnet's, Wandsworth Common. The defendant pleaded guilty to not giving notice, but excused himself on the ground that he considered the building exempt from the operation of the Act, in consequence of its distance from any other building. The district surveyor said the building was not more than 15 feet distant from some other buildings in the same occupation.

Mr. Dayman was clearly of opinion that notice should have been given. Similar cases had been brought before him and thoroughly argued. The Act said the building to be exempt must be 30 feet from any building: if it meant those of an adjoining owner, it would have been from the buildings or ground, instead of "any other buildings and ground of any adjoining owner." When Messrs. Watney were summoned in a similar case, he had decided in the same way, and offered to give them a case for a superior court, but they refused, as they were quite satisfied as to their liability.

The district surveyor said he did not wish to press for penalty in this case; whereupon the magistrate ordered a nominal fine with costs, and notice to be sent.

* Vol. xx. p. 932.

Miscellanea.

ELECTRO-TELEGRAPHIC PROGRESS.—A new step in telegraphy is about to be made in the port of Liverpool. The lightships which lie off the harbour will be furnished with dials and wires to communicate with the shore.

MCINTOSH *v.* THE GREAT WESTERN RAILWAY. The statement contained in the paragraph respecting McIntosh *v.* The Great Western Railway, to which we gave insertion, has received the following explanation in the *Times*:—"It appears that the suit, McIntosh *v.* The Great Western Railway Company, alluded to yesterday, was originally instituted in Vice-Chancellor Stuart's Court, to establish a claim for 280,000*l.*, of which sum 80,000*l.* is certified by Mr. Peake, his chief clerk, to be due to the plaintiff, with interest, from about 1839. In connexion with this question, 76,000*l.* have been uniformly admitted in the company's accounts as a contingent liability, under the head of 'outstanding and unsettled claims.' The other suit, which is still pending, involves a further claim of 16,000*l.*" It is believed that the certified amount is still subject to rectification and possible reduction.

IRRIGATION AND CANAL WORKS IN INDIA.—A contract has just been executed by the Governor-General of India and the East India Irrigation and Canal Company for the construction of their scheme of works in Orissa, and the adjacent districts towards Calcutta. This is the first instance in which clauses of arbitration have formed part of the contract between the Government of India and a private company. The plans and estimates of a canal from the Hooghly to Balasore, 95 miles in length, are now complete, and its construction has been or is about to be immediately entered upon. The Government view this line from Calcutta to Balasore as one of great importance, and express a strong wish for its completion as quickly as possible, so that there is every probability of the work progressing very rapidly, especially as the introduction into Balasore of salt from Liverpool has broken up the manufacture of that article in the locality, and has materially increased the supply of labour for the company's operations.

ACCIDENTS.—At the Bishop's-road Bridge, Paddington, the flooring of one of the repositories of coal recently gave way, when the immense weight of coals (estimated at fifty tons) fell down on three men at work underneath, crushing them in a frightful manner. They were removed dead, and another man lies without the slightest hope of recovery.——The interior walls of a dilapidated house in High-street, Oxford, have fallen: it was about to be pulled down.——The wall of a newly-built cottage in Friar-street, Worcester, was observed to be cracked, and shortly after the building fell bodily. The foundations had been undermined by excavations connected with further building operations.——The Gloucester Steam Mills, at Gloucester, were recently burnt, and a gust of wind has suddenly thrown down one end of the main building, killing a woman and child. The coroner's jury censured those concerned for the dilatory and inefficient way in which the demolition was being carried on.——The roof of Nelson's Monument, on the Calton-hill at Edinburgh, lately took fire, it is believed from a stroke of lightning, but not much damage was done.

RAILWAY ACCIDENT.—A serious accident has happened on the Bow Extension of the Blackwall railway. This section of the line from the Stepney junction to where it joins the North London, is formed on brick arches some 25 feet above the ground. As a train of upturned trucks, in great confusion, were carried along on the occasion referred to, they came with a fearful crash against the coping or wall of the line, and carried away a large portion of the brickwork. Some of the trucks were toppled over and crushed and overhanging the parapet, and the line and road beneath were scattered with the contents of the waggons—cheese, flour, and other merchandise. The permanent way was torn up in sad havoc, and a heavy piece of brickwork at the Bow Commonbridge, where a line of rails runs in, was shivered by one of the trucks which had dashed against it. In another part of the coping a couple of truck wheels, with the axle entire, had been forced through the brickwork of the wall, and fell into the road beneath. The coping up to the Regent Canal-bridge appears to have been torn away by the waggons as they were hurled along, but the bridge does not seem to have sustained any damage. A large portion of the damaged brickwork will have to be entirely restored. No one was seriously hurt.

COMPETITION DESIGNS FOR FLORENCE CATHEDRAL.—Forty-five designs for completing the façade of the Duomo of Florence were sent in by forty-two competitors, and have been publicly exhibited. Three or four of the designs are understood to be by English architects.

THE VOLUNTARY ARCHITECTURAL EXAMINATIONS.—It is understood that the following gentlemen have passed in the class of proficiency:—Messrs. David Ebenezer Gostling, Robert Ovenden Harris, George Tunstal Redmayne, Lacy W. Ridge, Richard Phéné Spiers, Henry Stone, Thomas Henry Watson, Edward Wimbridge. It is stated that there were 19 candidates. No examination was held in the class of "Distinction."

BARBER SURGEONS' HALL.—Mr. Shoppee, architect of the Company, writes as follows:—With reference to the paragraph in your last number, I beg to inform you that in the conditions for letting the portion of the Company's Monkwell-street estate, care is taken that every object of architectural and antiquarian interest shall be preserved for re-using in the remaining portion of the buildings. The large hall is not required to be taken down, as without alteration to the fabric it is available for warehouse purposes. The court-room and other interesting portions of the present structure will not be interfered with by the proposed new buildings, but will remain for use as the Company's hall. The carved doorway to which you refer is intended to be refixed in the court-yard as the entrance to the hall.

INSTITUTION OF MECHANICAL ENGINEERS.—The sixteenth annual meeting of the members of this institution was held on the 26th ult., Mr. Charles F. Beyer, vice-president, in the chair. From the annual report of the council, it appeared that the institution was in a very prosperous condition; its number of members having during the year been considerably augmented. Mr. Robert Napier was elected president for the ensuing year. Two papers were read to the meeting, the first on a "Description of the Apparatus used for Sinking Piers for Iron Railway Bridges in India," by Mr. Joseph F. Strong, of Allahabad; and the other "On a Type-composing and Distributing Machine," by Mr. William H. Mitchell, of London. A number of members and their friends assembled in the evening and celebrated the anniversary by a dinner.

RAILWAY MATTERS.—The report of the Victoria Station directors states that the expenditure upon the station construction account since the last report amounts to 22,500*l.* There remain to be expended but 7,198*l.* to complete the 105,000*l.*, to which this company's outlay on the station is limited by the agreement with the London, Chatham, and Dover, and Great Western Companies. The traffic upon the line has increased beyond all expectation; and the difficulty experienced by the Brighton and Chatham and Dover Companies in meeting the requirements of the public has led to the deposit of plans and to the introduction of Bills by both of these companies in the present session, for the purpose of widening the line, and increasing the existing station accommodation.——The traffic receipts of railways in the United Kingdom amounted, for the week ending the 31st of January, on 10,588 miles, to 501,040*l.*, and for the corresponding week of last year, on 10,217 miles, to 471,230*l.*, showing an increase of 371 miles, and of 29,810*l.* in the receipts.——The Roman and Neapolitan Railway was expected to be opened for public traffic on the 15th of February.

ROMAN HOUSE ON SITE OF THE INDIA HOUSE. Recently at a meeting of the British Archæological Association Mr. T. Wright reported that he had visited the works of demolition on the site of the late East India House, where, in digging up the foundations, the workmen had come upon the floor and walls of a Roman house, the floor lying at a depth of nearly 20 feet below the level of the modern street. An outside wall ran nearly under the edge of the present street and parallel with it, and a transverse wall ran from it at right angles in the opposite direction to the street; and this latter wall was traced to a distance of perhaps 20 feet, when it met with another wall parallel with the former. The length of the room has not been ascertained, but it was evidently much greater than its breadth. The floor was in perfect preservation, and was formed of tesseræ of about a quarter of an inch square, black, white, and red, but arranged in no very intelligible pattern. The walls, which were 2 feet thick, remained on one side to a height of between 3 and 4 feet, and the stucco and fresco painting on the inner surface were unbroken. It appeared to have been painted in panels, with a rather rude pattern.

NEWS FROM STOCKHOLM.—The first stone will soon be laid of the new English Episcopal Church in Stockholm. It is to be in the English Gothic style, 80 feet long and 40 feet broad. The outside will be of dressed sandstone, but the interior will be faced with Swedish marble.

PASTORAL STAFF OF THE BISHOP OF CENTRAL AFRICA.—The pastoral staff for the Bishop of Central Africa, Dr. Tozer, recently consecrated, has been made by Mr. Keith, from the design of Mr. R. J. Withers, and is an elegant production. The head is of ivory and silver (gilt), and the staff of ebony. Forty carbuncles and a diamond adorn it. The cost, irrespective of the diamond, which was a separate gift, was about 150*l.*

WANT OF DRAINAGE IN RUSHOLME, MANCHESTER.—A deputation recently presented a petition to the Rusholme Board of Health, complaining of the want of drainage. The board explained that the great difficulty was to adopt a plan that would not be unbearably expensive to the ratepayers. They had had plans and sections, and levellings taken, and they had sent deputations to London; and the only result they had arrived at was, that the drainage could be thoroughly effected, but not without great cost. They hoped that in a short time they would find an easy solution of their difficulty.

THE DESTRUCTION OF THE THEATRE ROYAL, GLASGOW.—The ruins of this building have been inspected by Messrs. Baird & Neilson, who report that a portion of the walls was in an insecure state, and would require to be taken down immediately. No fewer than 136 persons were employed in the theatre, all of whom have been thrown idle by the catastrophe; and many of them have lost dresses and musical instruments. Mr. Houghton, the manager, has made arrangements for the opening of the Prince's Theatre, which recently underwent a thorough repair.

STRIKE AT WINDSOR CASTLE.—The carpenters, seventy or eighty in number, employed by Messrs. Myers & Son, the contractors for building the temporary saloons at the west end of St. George's Chapel, for the reception and accommodation of his Royal Highness the Prince of Wales and the Princess Alexandra, and personages who will attend the marriage ceremony, struck on Monday last, on the ground that they had been paid at the rate of 4s. 2d. *per diem*, whereas the Windsor master-carpenters were paying their regular men more money. They have since resumed work, the contractors having agreed to the terms required, namely, 4s. 6d. per day of ten hours, instead of 4s. 2d., the sum they had been previously paid.

STATE OF SPIRE OF ST. LAWRENCE'S CHURCH, SOUTHAMPTON.—At a vestry meeting, the architect, Mr. Bedborough, explained that the rod had become bent by the wind, in consequence of the accidental fixture of the cock; and one of the stays had become loosened; but that the spire and all connected with it had been built in a workmanlike manner, and was perfectly safe. The removal of the cock and the straightening of the rod were requisite, the vane being left to indicate the direction of the wind. After some discussion, in course of which an opinion was generally expressed that the architect was not to blame, the vestry authorized the churchwardens to procure from Mr. Frith an estimate of the cost of performing the work required to be done.

THE INVENTORS' INSTITUTE.—The Patent Law committee of this institute have reported to the institute on the subject of the Patent Law. As to the duration of patent rights they say:—"We strongly recommend that the attention of the Legislature should be called to the comparatively short time for which patents for inventions are granted, and to the injustice thereby occasioned to inventors. A fourteen years' patent right is surely a somewhat niggardly encouragement to inventors; since, during so short a period, few inventors are enabled to obtain anything like fair remuneration for the labour and skill required for practically developing and perfecting new inventions. A large outlay of capital, moreover, is usually necessary to bring an invention into general public use; but such an outlay is seldom justifiable, seeing that at the expiration of so short a time any person can step in and reap the benefit of whatever demand the expenditure of capital may have created. Hence, the labours of the poorer class of inventors are often fruitless." The committee is of opinion that the term of patent right should not be less than twenty-one years. A meeting of this institute was held at their offices, in the Polytechnic, Regent-street, on the 9th instant, to consider the working of the laws relating to patents for inventions, and the measures to be taken in defending the rights of inventors.

PROFESSOR SMIRKE'S LECTURES AT THE ROYAL ACADEMY.—On the 6th inst., Professor Smirke delivered an interesting lecture on Arcades, the last of his course. We shall give it *in extenso* next week.

TRAMWAYS.—The Potteries Street Railway Company declared, last Monday, a dividend of 2½ per cent. per annum. During the year 152,290 persons had travelled in the cars.

THE HARTLEY COLLIERY ACCIDENT.—According to a letter from the secretary of the Hartley Colliery Relief Fund, 70,000*l.* subscribed for the Hartley sufferers are safely invested in available securities; 5,500*l.* are in the bank; and 5,500*l.* have been distributed. What is to be done with this very handsome fund? It is not to be devoted to Hartley Colliery accidents alone, is it?

OXFORD WORKHOUSE: CLERK OF WORKS.—Fifty-four applications were received for the office of clerk of works, besides fifteen too late. The list was ultimately reduced to three, and the building committee recommended one of these, Mr. Joshua Walker, who had been employed as clerk of the works at the Birmingham workhouse, to the vacant office. An amendment was made to the effect, that Mr. John Castle, the clerk of the works at the Oxford Corn Exchange, be appointed. Mr. Walker, however, was appointed by a majority of 11 to 5.

DOVER.—On Thursday evening last Earl Stanhope was to lay before the Society of Antiquaries the correspondence which has taken place between the society and the Admiralty on the subject of the tides off the Straits of Dover, with a view to determine the place where Cæsar landed on our shores. The Admiralty have for some months been engaged, at the instance of the Society of Antiquaries, in taking observations on this matter, and their report will also be laid before the meeting.——A provincial paper mentions that what was once known as Shakspeare's Cliff, tunnelled some time ago, as all know, for a railway, has quietly glided into the sea.

TENDERS.

For taking down and rebuilding on an adjoining site the temporary church of St. George, Tufnell Park, Holloway. Mr. George Truefitt, architect:—

Longmire & Burge	£375	0	0
Allen	350	0	0
Waters	349	0	0
James & Ashton	334	0	0
Carter	297	10	0

For alterations and repairs to house, warehouse, &c., No. 52, St. Mary Axe, for Mr. Lazarus. Mr. J. Clarke, architect:—

Coleman	£420	0	0
King	386	0	0
Hardiman & Sandon	373	0	0
Wallis	303	18	0

For stoves, for the Stepney Union. Mr. Jarvis, architect:—

Boyd	£187	0	0
Caston	185	0	0
Wills	168	0	0
Hill	153	0	0
Deane & Co.	149	0	0
Fire Grate and Ventilation Co.	145	0	0
Hayward, Brothers	140	0	0
Evans & Co.	125	0	0

For house and lodge, to be erected upon the Hartnell Estate, Burlaston, Staffordshire. Mr. J. Stevens, architect. Quantities supplied by the architect:—

	House.	Lodge.
Lovatt	£4,000	£200
Collin & Hudson	3,998	254
Espley	3,793	312
Robinson	3,600	300
Young	3,595	280
Bullock & Barton	3,536	254
Terrar	3,435	328
Mathews	3,520	271
Harley & Dean	3,500	270
Ratcliffe & Son (accepted)	3,395	269

The above tenders are exclusive of a great portion of the materials.

TO CORRESPONDENTS.

Cast iron Columns.—A correspondent writes,—I should feel obliged if any of your correspondents would inform me of the formula for calculating the dimensions of hollow cast iron columns, above the table given in the "Engineer's Almanac," which takes only to 100 tons,—18 inches diameter,—½-inch metal. I cannot find it explained in "Tredgold."

J. W.—R. B.—A Workman (shall be thought of).—An Irish Architect.—Shamrock.—Competitor.—W. A. D.—R. D.—A F. (shall appear).—H. de M.—Messrs. O'C. (always glad to receive correct information).—P. C.—H. H. (a simple valve where the pipe enters the chimney would prevent return of the smoke).—A. B. C. (we have not much confidence in *per tar* as a preservative of wood).—R. A.—F. J.—A. L.—Messrs. L.—E. W. (send sketch and we will reply).—J. D. (ditto).—E. H.—L. & S.—J. P. S.—B.—Rev. A. B (see letter in present number).—H. H. C.—E. T. B.—J. S.—J. J. (shall appear).—A J. H.—F. T. D.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

THE *Standard*, Nov. 15, speaking of Benson's watches in the Exhibition, says:—"It has evidently been Mr. Benson's object to render them rivals in point of beauty of decoration to the elegant Swiss knicknacks, and at the same time to preserve the characteristics of an English watch—strength, durability, and accuracy. In point of decoration his watches are certainly unsurpassed." Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch, adapted to all climates. Benson's Illustrated Pamphlet on Watches (free by post for two stamps) contains a short history of watchmaking, with descriptions and prices. It acts as a guide in the purchase of a watch, and enables those who live in Scotland, Ireland, Wales, the colonies, India, or any part of the world, to select a watch, and have it sent free and safe by post.—J. W. BENSON, Prize Medallist, 33 and 34, Ludgate-hill, London. Established 1749. [Advt.]

ALLEGED SECOND-HAND SAFES.—Any person or persons having recently purchased, from furniture brokers or dealers in second-hand fire-proof safes, any such safes which were stated to be of Chubb's make, will oblige by communicating with Messrs. Robinson & Hine Haycock, No. 32, Charterhouse-square, solicitors to Messrs. Chubb & Son.—[Advt.]

ADVERTISEMENTS.

BUILDERS wishing to TENDER for ALTERATIONS to No. 2, Otway terrace, Norwood, for Mr. Ansell, can see the drawings and specification at Mr Campbell's Office, No. 3, Bartholomew-lane, by the Bank of England. Tenders up to 28th inst. Mr. Ansell does not bind himself to accept the lowest or any Tender.

THE GUARDIANS of the POOR of the BIRKENHEAD UNION, in the county of Chester, are prepared to receive TENDERS from competent persons desirous of contracting for the ENGINEERING and PLUMBING WORK to be executed at the new Workhouse, situate at Higher Tranmere. A separate and distinct Tender will be required for the Gas Piping and Fittings. The Works to be executed according to plans and specifications which may be seen at the Office of Mr. THOMAS LAYLAND, Architect, 20, Castle street, Liverpool. Sealed Tenders to be delivered or sent to me at my Office, 109, Lord-street, Birkenhead, on or before SATURDAY, the 28th day of FEBRUARY, and endorsed "Tender for fittings." Security will be required for the due performance of the several contracts. The Guardians do not bind themselves to accept the lowest or any Tender.
PETER GREGORY, Clerk to the Guardians of the Birkenhead Union.
60, Lord-street, Birkenhead, February 3rd, 1863.

SURREY COUNTY HOSPITAL, proposed to be erected at Guildford.—NOTICE to BUILDERS. Builders desiring to TENDER for the several WORKS required to be done in Building this Hospital, and the Outbuildings, Walls, &c. connected therewith, are requested to signify the same in writing, not later than the 27th day of FEBRUARY instant, addressed to Mr. E. W. LOWER, the Architect, at 126, High-street, Guildford, where each party must pay the sum of 10s. 6d. (to be added to the Funds of the Hospital), and may, on and after the 18th day of FEBRUARY instant, obtain information as to the conditions of the contract and form of Tender. All such persons as shall have made the above statement and payment will be required to meet—by themselves or by their agents, not being surveyors—the Hon. Secretary and Hon. Treasurer of the Hospital, and the Architect, at the Council Chamber at Guildford, on the 3rd day of MARCH next, at TWO o'clock, p.m. to appoint a Surveyor on their behalf, to take out the quantities conjointly with the Surveyor to be appointed by the Architect. Sealed Tenders endorsed, "Tender for Hospital," and addressed to the Architect, are to be delivered at his Office not later than TEN o'clock a.m. on the 31st day of MARCH next.
N.B.—The Building Committee reserve to themselves the absolute right to reject the lowest or any of the Tenders. Security from two responsible persons, to be approved by the Building Committee, will be required for the due performance of any contract entered into; and the person whose Tender may be accepted, will be required to pay one-half of the expenses of the stamp duty on the contract and bond.
C. B. DALLAS (Clerk), Hon. Sec.
Uplands, Guildford, 11th February, 1863.

TO CONTRACTORS and Others.—The LOCAL BOARD of HEALTH for the District of Sherborne, in the County of Dorset, are desirous of receiving TENDERS for the execution of the necessary Works in and for the EXCAVATIONS for, and the LAYING and JOINTING of about 1,100 yards lineal of 6 inch Cast-Iron Water Pipes, according to Specifications, which may be seen at the Offices of the Board's Engineer, as under, where also every information can be obtained. Tenders to be sent in on or before TUESDAY, the 24th inst. The Board do not pledge themselves to accept the lowest or any Tender.—By order,
C. S. NEWMAN, C.E.
The Green, Sherborne, Dorset, 9th February, 1863.

TO IRON FOUNDERS.—The Local Board of Health for the District of Sherborne, in the County of Dorset, are desirous of receiving TENDERS for the SUPPLY of about 1,100 YARDS LINEAL of CAST-IRON SOCKET PIPES, of an internal diameter of 6 inches, for the purposes of water supply, according to Specifications which may be seen at the Offices of the Board's Engineer, as under; where also every information may be obtained. Tenders to be sent in on or before TUESDAY, the 24th inst. The Board do not bind themselves to accept the lowest or any Tender.—By order,
C. S. NEWMAN, C.E.
The Green, Sherborne, Dorset, 9th February, 1863.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

MR. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLOURIST and LITHOGRAPHER,
No. 21, MONTAGUE-STREET, RUSSELL-SQUARE, W.C.
Competition and every description of Architecture, Working, and Detail Drawings prepared.

TO SURVEYORS AND BUILDERS.
A QUANTITY and ESTIMATING CLERK who is also a good Draughtsman, is open to an ENGAGEMENT, on moderate terms. Good references.—Address, R. A. L. Office of "The Builder."

TO ARCHITECTS, SURVEYORS, AND BUILDERS.
A QUANTITY SURVEYOR, MEASURER, and ESTIMATOR, of twenty years' practical experience in the various works connected with buildings, would be glad to treat with architects surveyors or builders, for taking off quantities, measuring, estimating, pricing bills, quantities, making drawings, writing specifications, making surveys of dilapidations, &c. upon reasonable terms. Satisfactory references given.—Address, S.V.R. Office of "The Builder."

MR. GEORGE THORNE, Architects' and Builders' Transfer Agent, Partnership Negotiator, and Accountant, will be found a reliable medium for the Purchase or Disposal of Businesses. 18 Austin Friars, E.C.

RUGBY LOCAL BOARD of HEALTH.—To SURVEYORS and OTHERS.—The Board are in WANT of a PERSON to fill the office of SURVEYOR, INSPECTOR of NUISANCES, and SUPERINTENDENT of the CEMETERY for the District of Rugby, at a salary of 100*l.* per annum. The person appointed will be required to devote his whole time to the duties of his office and to have a knowledge of Surveying, Road-making, and Engineering, and also to give security in 200*l.* Application with testimonials (carriage paid) must be forwarded to me addressed to the Chairman of the Local Board of Health, on or before FRIDAY, the 20th day of FEBRUARY instant.—By order of the Board,
THEODORE M. WRATISLAW, Clerk.
Rugby, February 5th, 1863.

THE COURT of ASSISTANTS of the WORSHIPFUL COMPANY of SALTERS, London, propose to APPOINT a SURVEYOR at their Meeting in the month of APRIL next. The nature of the duties and emoluments may be learned at the Office of the Clerk, at the Company's Hall in St. Swithin's lane. The Applications of Candidates (in Freeman's Livery) to be delivered at the Hall of the Company on or before SATURDAY, the 21st day of MARCH next.
EDW. THOMPSON, Clerk of the Salters' Company.
Salters' Hall, 10th February, 1863.

ARTERIAL and LAND DRAINAGE.—WANTED, a competent LEVELLER, and neat Measurer and Mapper of executed drainage.—Apply to Mr. THOMAS SCOTT, Land Agent, 13, Parliament-street.

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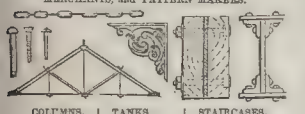
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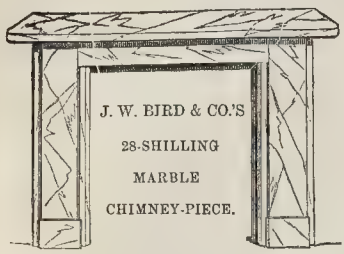
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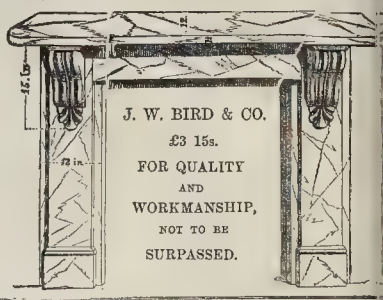
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¾-inch Flooring	11s. 6d. to 12s. 0d.	13s. 0d.	per Square.
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1-inch ,,	14s. 6d. to 16s. 0d.	18s. 6d. to 18s. 6d.	,,
1¼-inch ,,	18s. 0d.	20s. 0d. to 22s. 0d.	,,

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¾ by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	15s.	15s. 6d.	16s. 6d. ,,
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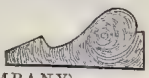
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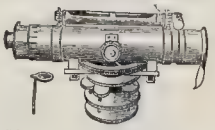
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Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
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PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola limitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
Nine Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall, and at the Works.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

STOURBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

TERRA COTTA and FINE STONEWARE
POTTERY, warranted to stand Frost.
JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and economised the manufacture of TERRA COTTA and Fine STONEWARE for ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to harmonize with Marble, Portland, and other Stones, and equal in hardness to Granite.
A Medal at the International Exhibition was awarded, in Class 10, Section 1, Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra Cotta."
Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusters, Capitals, Crosses, Terminals, Vases, Statues, Brackets, Consoles, Garden Edging, Guttering, &c. &c., and twelve inch Paving Tiles, &c. &c.
Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.
London Office, 377, Oxford-street, W.

STAFFORDSHIRE RIDGING and ROOF-ING TILES, Plain and Ornamental, in Blue or Broseley colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

MINTON & CO.
HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 35, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE UPON-TERNT.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862
IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern book, designed by M. Digby Wyatt, esq., together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, &c. &c., will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES,
PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for the WARE is REMOVED to No. 21, Wharf, Macclesfield street, North, City-road Basin, N. And, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and finally, that the "Reports of the Juries," page 391, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufactories known so long as "The Trieries," Tunstall, Staffordshire, as the first of the kind in the world.

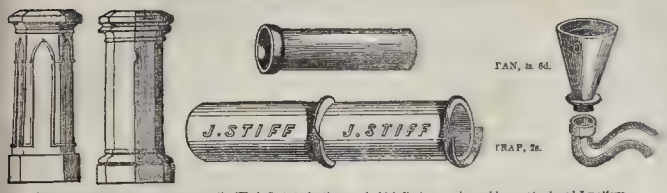
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

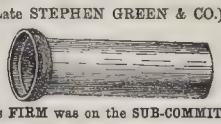
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED SANITARY GOODS.



FLUSHING CLOSETS, URINALS, CHIMNEY-FLUES, &c.

N.B.—No MEMBER of this FIRM was on the SUB-COMMITTEE of CLASS 10 or 35.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY,



Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE, BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF No 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

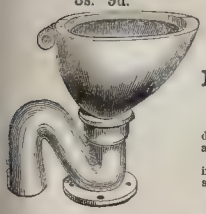
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

BARTLETT, BROTHERS, & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

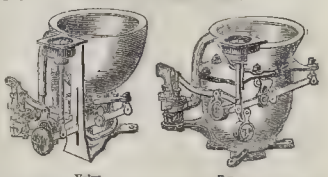
For the Preservation of Stone, Cement, &c.;

PATENT SILICEOUS PAINT, FOR COATING STONE, CEMENT, STUCCO, &C.

Specimens of the Silicates and Aluminates, and of their applications, may be seen at the CONSTRUCTIONAL DEPARTMENT, SOUTH KENSINGTON MUSEUM.

J. TYLOR & SONS' PATENT

REGULATOR WATER CLOSETS.



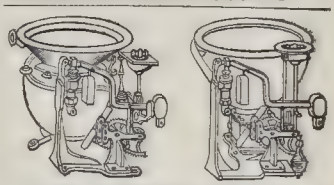
Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No cistern valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

OSLEY POTTERY WORKS,

GLASGOW

Messrs. R. H. PENMAN & CO. from Staffordshire, Manufacturers of the best description of EARTHENWARE GOODS for Sanitary Purposes required in private and public buildings, supply the Trade, Wholesale, at the lowest possible prices for Cash. The Ware sent by their customers to the late Exhibition was highly spoken of.

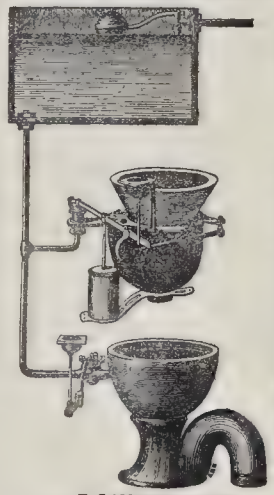


GUEST & CHRIMES, FOUNDRY and

GENERAL BRASS WORKS, Rotherham; and 37, Southampton-street, Strand, W.C. London. London House,—Mr. THOMAS BEGGS. SEKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET. Suitable for first and second class Houses, being most efficient and simple, free from all smell, and requires no cisterns, service boxes, cranks, wires, or levers, but is complete in itself, ready for attachment to any ordinary house service pipes. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet, thus dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary direct Service Main Cottage Water Closets.

PAN CLOSET fitted with LAMBERT'S

VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,

FOUNDERS, HYDRAULIC AND GAS ENGINEERS, SHORT STREET, LAMBETH.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 6s each; with leading pulley, from 6s. 6d.

These Ventilators are arranged so that the requisite quantity of Air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

DRY RUBBISH.—WANTED, 200 barge-

loads of good dry RUBBISH; the same, if delivered alongside the Premises of the Thames Ironworks Company, Bow Creek, will be unloaded free of charge.

SALES BY AUCTION.

TO IRONMONGERS, BUILDERS, ENGINEERS, SHIP CHANDLERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on MONDAY, FEBRUARY 16, at ELEVEN o'clock, on the PREMISES, Swan Lane, Upper Thames-street, in lots, without reserve, the Second and concluding Portion of the extensive STOCK-IN-TRADE of Messrs. Croley, Millington, & Co. removed from the works in Newcastle, in lasting masts; tons of cast, shear, and blister steel, hammers wrought hinges, grindstones, stone saws, cane chains, timber and trade chains, slops' ironmongery, locks, thimbles, &c.; export ironmongery, and a general assortment of black ironmongery; the warehouse fixtures, crane, cast-iron columns, day-light reflectors, Miners's safe, counting house and gas fittings, &c.—To be viewed on Saturday previous and morning of sale when catalogues may be had on the Premises, of Messrs. BROWN & DUBOIS, Accountants, 10 Basinghall-street; of Messrs. VANDER COM, CREE, & LAW, Solicitors, 73, Bush Lane, Cannon-street; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C. Approved bills at three months' date will be taken from purchasers to the extent of 50l. and upwards. The Warehouse to be let, with immediate possession

TO ENGINEERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, FEBRUARY 18th, at ELEVEN, at the WAREHOUSE, Belvidere Road, Lambeth, in lots, without reserve, the following MACHINERY, removed for convenience of sale, including an 8½-inch self acting screw cutting lathe, 11 feet gap bed; a 10 inch slide lathe (12 feet bed); bench drilling machine, a new tenoning machine by McDowall, a pair of 4 feet 6 inches granite edge-runners, a gun-lock letting-in machine by Evans & Son, two grooving machines for gun-barrels, an hydraulic guide pump, shafting, drilling machine, hand power fly wheel, an easy-action set of steel to tile, two large cramps, two dozen of assorted oak planks, two trolleys, work benches, valuable assortment of wood patterns, engine patterns, crane patterns (from 2 to 10 tons), several tons of coatings, office furniture, two spring town carts, spring truck, and numerous other effects.—To be viewed on Tuesday previous to the sale, when catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

INTERNATIONAL EXHIBITION, 1862.—The Materials of the Annexes, the Shafting, Riggers, Columns, and Steam-pipes used for showing the Machinery in motion, and surplus Plant.

MESSRS. FULLER & HORSEY are instructed by Messrs. Keik & Lucas to SELL by AUCTION on TUESDAY, FEBRUARY 24th, 1863, and following days, at ELEVEN each day, at the Building, in lots, the capital, sound MATERIALS of the ANNEXES, the shafting, columns, steam boiler, and steam pipes used for showing the much navy in the Western Annex of the International Exhibition Building, and the surplus plant: 350 laminated ribs for carrying the roofs, each 40 ft. span, 50 ft. high; 1,500 super 1 in. roofing boards, 1,500 squares glazed skylights (16 oz. glass), 2,500 squares 1 in and 1½-in. flooring boards, 150,000 ft. run joists, 9 in. by 2 in.; 36,000 ft. run plates, 9 in. by 3 in.; 100,000 ft. run quartering, 6 in. by 2 in and 4 in. by 3 in.; 2,000 squares 1-in. dressed match boarding, 400 squares rough ditto, 1,000 ft. gas and conveyance, 2,000 lineal ft. timber up, rough ditto, 9 in. by 6 in.; 2,800 yards contractors' rails, 7,000 ft. flights, 13 in. by 4 in.; 20 strong-framed trellises, 24 fluted cast iron columns, 10 ft. in length with turned bright caps, bases, and base plates, with holding-down bolts; 2,000 feet bright turned wrought ir n shafting, 2½ to 3½ in. with couplings and self lubricating pedestals; 4 engines, each 6 nominal (the steam boiler of 50 horse power; 30 turned rakers, 2 ft. to 4 ft diameter; 9 pair mortise nitre wheels, 200 tons wrought and flanged cast-iron steam piping, from 2 in. to 18 in. diameter, with expansion joints, valves, &c.; 12 derrick cranes, from 1 ton to 6 tons, by Bowser, Cameron, & Co.; erection of steam boiler house, with corrugate iron roof and circular chimney-shaft; 100 rods new brickwork; 1 set in of gantry, 65 ft. long, with two travellers, 5 tons and 10 tons, 20 ft. span; erecti n of water-closets and urinals; 125 expensive oak spring-stuffed cushions, adapted for picture galleries and 1 throne; 2,500 feet run straight seats, with iron standards; and numerous other effects To be viewed on Saturday and Monday previous to the sale, from NINE to FOUR o'clock, when catalogues at 6d each (without which no person will be admitted), may be had at the Building, or previously of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

N.B. Approved bills at three months' date will be taken from purchasers to the extent of 50l. and upwards.

Two Steam Boilers, with Mountings

MESSRS. FULLER & HORSEY are instructed to include in the SALE at the WAREHOUSE, Belvedere-road, on WEDNESDAY, FEBRUARY 18th, at ELEVEN o'clock, TWO Wrought-iron MULTITUBULAR BOILERS, with fittings and furnace work, now lying alongside the Thames at Marlow-road station. To be viewed by special order any time previous to the sale. Catalogues may be had of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

DURYFALLS' FARM, near the Church, Hornchurch, Essex.—To Timber Merchants, Ship Builders, Builders, Wheelwrights, Farmers, and Others.—TO BE SOLD by AUCTION, by

C. GEORGE, on the PREMISES, on THURSDAY, FEBRUARY 19, 1863, at ELEVEN o'clock, by direction of the Proprietor, about 300 capital ELM TIMBER TREES, many of which are of large dimensions and excellent quality; about 70 ASH TIMBER TREES; a large quantity of good TALLEY WOOD, and about 5,000 FAGGOTS. The above will be sold in convenient lots, and are lying in a meadow adjoining the high road.—Catalogues may be had seven days prior to the sale, at the White Hart, and King's Head Inns, Hornchurch; Bell, Upminster; Phœnix, Rainham; Railway Hotel, Barking; Greyhound, Chadwell; Angel, Ilford; Swan Inn, Stratford; Globe, Mile End, White Hart, Bretwood; on the Premises; at Harvey's Printing Office; the principal Inns; and of the Auctioneer, Romford, Essex.

CROYDON, SURREY.—EXCELLENT GROWING TIMBER.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the Premises, on MONDAY, FEBRUARY 16, 1863, at ELEVEN for TWELVE o'clock, the excellent Growing TIMBER on the Addiscombe Estate, about a mile from the West Croydon Railway Station: comprising about 70 Elms, 37 Limes, 28 Oak, 9 Walnut, and sundry Ash, Chestnut, Beech, Fir, Hornbeam, Sycamore and other Trees. Each Tree is marked with the number of its Lot in white paint, and may be viewed at any time previous to the sale. Catalogues may be had at the principal Inns in the neighbourhood; on the Estate; and of the Auctioneer, 34 Moorgate street, London, E.C

DUNSTABLE, BEDS.—Seven Cottages and Eligible Freehold Building Land

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the SARACEN'S HEAD, Dunstable, on WEDNESDAY, FEBRUARY 25, at TWO for THREE in the afternoon, TWO FOUR ROOMED COTTAGES, situate in High street THREE SIX ROOMED and TWO FOUR ROOMED COTTAGES, situate in West street, with gardens; in the Lot is FREEHOLD BUILDING LAND in rear of the cottages, with valuable frontages to Princes street; and several lots of eligible FREEHOLD BUILDING LAND, near to the Dunstable Station on the London and North Western Railway. Nine-tenths of the purchase-money may remain on mortgage or contract at 5 per cent to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars and conditions of sale may be obtained five days before the sale, of Mr. W. G. TWIGG and Mr. W. H. DERBYSHIRE, Dunstable; of the Auctioneer, No. 14, Moorgate-street, London, E.C.; and at the Place of Sale.

BEDFORD LUNATIC ASYLUM To BUILDERS, STONEMASONS, and OTHERS

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the Town, on the Ampthill-road, on MONDAY, MARCH 2nd, 1863, the Sixth Portion of the excellent BUILDING MATERIALS of the late County LUNATIC ASYLUM: consisting of sound stock bricks, strong beams, principals, joists, rafters, and boards (containing a large quantity of oak); superior sash-windows, doors, and frames; cupboards, and drawers; ranges and other dressed stone, York paving, slate paving slabs, slate slabs for roofs, iron spouts, sash weights, &c &c.—May be viewed on the FRIDAY and SATURDAY before the sale, and catalogues may be obtained of the Auctioneer, 14, Moorgate-street, London, E.C. and of the Foreman on the Estate.

10, MILLBANK STREET.—TO SCULPTORS, MASONS, BUILDERS, AND OTHERS

PULLEN, HORNE, & EVERSFIELD are instructed by Mr. J. Dibey, Agent for Count Lazzoni & Son, to SELL by AUCTION, at the MARBLE WHARF, 10, Millbank street, Westminster, on TUESDAY, FEBRUARY 17, at ELEVEN for TWELVE, a large assortment of MARBLE in blocks and slabs; viz., 300 white Sicilian, Serravezza, Sicilian Specialle, 12 of yellow Sienna, and other marble; also 1,000 feet of marble slab, garden figures, &c. Approved bills at four and six months.—May be viewed, and catalogues had at the place of sale, and of PULLEN, HORNE, & EVERSFIELD, 46, Parliament-street, S.W. and 80, Fore street, City.

METROPOLITAN IMPROVEMENTS.—Southwark and Westminster Communication.—Twenty-third Sale Building Materials, South Bank Bridge-road

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works, to SELL by AUCTION, on the Premises, on FRIDAY, FEBRUARY 20, at TWELVE in Lots, all the excellent BUILDING MATERIALS and FIXTURES of several Houses in Gravel lane, New street, and a large range of Factories, Workshops, Stabling, and Premises in The Grove, Southwark, comprising fat black work, a large quantity of pan, flash and 4 sash, sound timber roofs, boarded and tiled; floors new boarding, sashes, doors, and interior fittings, up, racks, mangers, and stable fittings, lighting gates, stone paving, large iron tank, lead gutters and pipes, stoves, and useful fixtures and fittings in. May be viewed the day previous. Catalogues had of PULLEN HORNE, & EVERSFIELD, 80, Fore street, E.C and 46, Parliament street, S.W

Re GALE—To BARGE OWNERS, LIGHTERMEN, and OTHERS.

New SAILING BARGE of 80 Tons ready for Sea.

PULLEN, HORNE, & EVERSFIELD are instructed by the Mortgagee under power of Sale, to SELL by AUCTION, at the Yard of Mr. Gale, in Nelson-walk, on TUESDAY, FEBRUARY 24th, at TWELVE for ONE, the Decked SAILING BARGE "Hen Peck," of 80 tons burthen, spritsail-rigged, and completely fitted with stores. Was built in 1860 in the most substantial manner, and has only made one or two voyages.—May be viewed at the place of sale three days previous, and previously at the Iron Bridge, Poplar. Catalogues had of Messrs. E. & G. TANNER, Ships and Insurance Brokers, 83, Lower Thames-street; and of PULLEN, HORNE, & EVERSFIELD, 46, Parliament-street, Westminster, and 80, Fore-street, E.C.

WESTMINSTER.—BUILDING MATERIALS of a large Factory and Range of Workshops.

PULLEN, HORNE, & EVERSFIELD have received instructions from the Directors of the Chartered Gas Company to SELL by AUCTION on the PREMISES, Great Peter-street, Westminster, on FRIDAY, FEBRUARY 27th, at TWELVE, the valuable MATERIALS and FITTINGS-UP of a large FACTORY, range of SHOW-ROOMS and WORKSHOPS (part built within a few years), and recently occupied by Mr. Edge: comprising 200,000 sound stock bricks, excellent timber roofs and floors, 50 squares of slates, 120 squares of flooring, numerous sashes, doors, and other fittings-up; pair of capital large gates, brick pilings, slate paving, several lots of lead in gut ers, rolled, pipe, &c; part of iron doors, and all erections May be viewed one day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 46, Parliament street, Westminster, and 80, Fore street, City.

BRIDGE WHARF MILLBANK.—To Marble Masons, Builders, and Others.—Remaining Portion of the Stock, to clear the Wharf.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs F Edwards & Co to SELL by AUCTION, on the PREMISES, foot of Vauxhall Bridge, on WEDNESDAY, MARCH 4, at ELEVEN for TWELVE, 400 BLOCKS of SICILIAN MARBLE, about 800 feet of MARBLE SLAB, and 2 000 MARBLE SQUARES suitable for paving, being the remainder of the Stock and the accumulation of three extensive at Lady Day Approved bills at four and six months.—May be viewed one week previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 46, Parliament-street, Westminster, and 80, Fore-street, E.C.

WATERFALL FARM, Southgate, Middlesex, near the Railway Station.

MR. A. RICHARDS will SELL by AUCTION on the PREMISES, on THURSDAY, the 19th of FEBRUARY, at ONE, the Capital MATERIALS of a Brick Barn, 90 feet by 25 feet, and Farm Buildings and Stables, 500 feet long, a portion taken down, comprising strong principals, plates, girders, battens, rafters 20 feet long, 9 inch brick walls, 30 feet of gantry, 65 ft. long, with two travellers, 5 tons and 10 tons, 20 ft. span; erecti n of water-closets and urinals; 125 expensive oak spring-stuffed cushions, adapted for picture galleries and 1 throne; 2,500 feet run straight seats, with iron standards; and numerous other effects To be viewed on Saturday and Monday previous to the sale, from NINE to FOUR o'clock, when catalogues at 6d each (without which no person will be admitted), may be had at the Building, or previously of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

N.B. Approved bills at three months' date will be taken from purchasers to the extent of 50l. and upwards.

BENNETT'S END BRICKFIELDS, Hemel Hempstead, Herts.—To BUILDERS, SPECULATORS, and OTHERS.—750,000 excellent well-burnt BUILDING BRICKS will be SOLD by AUCTION, by

MR. GEO. ALEX. SMITH, on the PREMISES, on WEDNESDAY, FEBRUARY 18th, 1863, at TEN o'clock, by order of the Proprietor, Mr. J. Bennett. The Brickfields are about one mile from the Canal, and two miles from the Railway at Boxmoor, upon excellent roads. The quality of the bricks is well known and needs no recommendation. The Brickfield is now in view! by applying to Mr PRATT on the Premises, of whom catalogues may be had; also at the Office of Mr GEORGE ALEX VANDER SMITH, Surveyor and Estate Agent, Hemel Hempstead, Herts

NORTH LONDON RAILWAY.—City Extension.—First Clearance Sale.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, on the PREMISES, on TUESDAY and WEDNESDAY, MARCH 3rd and 4th, 1863, at TWELVE o'clock, by order of the Directors of the North London Railway Company, the BUILDING MATERIALS, FIXTURES, and FITTINGS of about 100 HOUSES, situate in Nichols-square, Thomas-street, Harris-place, and locality of Union-street, Union-crescent, and Bridgeland-road, comprising bricks, slates, tiles, joists, girders, rafters and other timber, floor boards, sashes, doors, fra nes, closets, useful stoves, lead and cast pipes, gut ers, &c., marble and other chimney-pieces, stoves, ranges bells, &c shop fronts and fittings —May be viewed the day previous to sale, and catalogues had at the Railway station, Kingsland, No. 34, Broad-street buildings, E.C; and at the Auctioneers' Offices, Camden Town, N.W.

One hundred BRICKS.—Uxbridge, Middlesex

MESSRS. HERON & SONS will SELL by AUCTION, on the PREMISES, Cowley road, near Uxbridge, on WEDNESDAY FEBRUARY 18th 1863 at ONE for TWO o'clock, in convenient lots, about 600 tons of Superior Oak Stocks, Rough Stocks, Grazles, and Plate The field adjoins the high road, and is only a short distance from the Grand Junction Canal.—Catalogues of HERON & SONS, Uxbridge, Middlesex.

DORSETSHIRE A Highly Important and Extensive Sale of PRIME NAVY OAK and other TIMBER TREES.

MR. HARRIS has the honour to announce that he has been kindly instructed to SELL by AUCTION, at the WHITE HART Hotel, Yetminster, Dorset, on WEDNESDAY, FEBRUARY 25th, 1863 subject to such conditions as will be then and there produced by Mr. Harris, solicitor, Yetminster, the following Timber Trees, standing and growing on the beautifully Timbered Estate called Culf Hay, in the parish of Leigh, Dorset, and marked with the Broad Arrow by Mr. Hamilton, the Navy Timber Inspector for the Dorchester District, as follows, viz.:—The Prime Lot of Timber; it is of good length and large dimensions, and the trees have lopped or trimmed in the most masterly manner when it grew being in a fertile, and celebrated for producing Oak of an excellent quality; the Timber is therefore well adapted for the Navy Yards, and for the use of Shipowners, Builders, Wheelwrights, Farmers, and Railway Companies. Three hundred and fifty-two Oak Trees, containing 1,000 cubic feet and upwards, and 1,000 feet of Ash Timber Trees, standing and growing on the said Estate called Culf Hay, in the parish of Leigh, Dorset, and marked with the Broad Arrow by Mr. Hamilton, the Navy Timber Inspector for the Dorchester District, as follows, viz.:—The Prime Lot of Timber; it is of good length and large dimensions, and the trees have been lopped or trimmed in the most masterly manner when it grew being in a fertile, and celebrated for producing Oak of an excellent quality; the Timber is therefore well adapted for the Navy Yards, and for the use of Shipowners, Builders, Wheelwrights, Farmers, and Railway Companies. Three hundred and fifty-two Oak Trees, containing 1,000 cubic feet and upwards, and 1,000 feet of Ash Timber Trees, standing and growing on the beautifully Timbered

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

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SHEFFIELD SCHOOL OF PRACTICAL SCIENCE and METALLURGY.

PRESIDENT.

His Grace the Duke of Devonshire, K.G. F.R.S. D.C.L. Chancellor of the University of Cambridge.

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Chemistry, Metallurgy, and Geology—James Allen, Ph.D. F.C.S. of the Universities of Giessen and Berlin.
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The Sheffield School of Practical Science and Metallurgy will afford a complete scientific and practical education to students who are destined to become civil, mechanical, or mining engineers, or manufacturers of any kind. Its object is thoroughly to discipline the students in the principles of those sciences upon which the operations of the engineer, metallurgist, or manufacturer depend.

The education will be given by means of systematic Courses of Lectures, by Catechetical Class Instruction, by Practical Teaching in the Laboratory and Drawing-room, and occasionally by Field Excursions.

The School of Practical Science and Metallurgy will be conducted in the Buildings of the Sheffield Collegiate School. The two Institutions, although both under the superintendence of the Rev. G. B. Atkinson, Principal of the Collegiate School, are, however, entirely distinct.

A detailed Prospectus, containing Syllabuses of all the Courses of Lectures, and all other information, arrangements for boarding, &c. may be obtained by application to the Director.

THE SCHOOL OPENED THE FIRST WEEK IN FEBRUARY, 1863.

ARCHITECTURAL EXHIBITION, 9, CONDUIT-STREET, REGENT STREET. - Parties wishing to exhibit BUILDING MATERIALS or INVENTIONS at the forthcoming EXHIBITION; or desiring to send ADVERTISEMENTS for the CATALOGUE, must at once communicate with Mr. MOODY, at the Galleries. Drawings to be sent in on the 2nd of MARCH, between the hours of NINE and SIX.

JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, F.R.I.B.A. }

EXHIBITION at PAINTERS' HALL, London, 1863.—Notice is hereby given, that the THIRD ANNUAL EXHIBITION of GRAINING, MARBLING, WRITING, and DECORATION, will be held at the Hall of the Painters' Company, No. 9, Little Trinity-lane, Cannon-street West, E.C. in JUNE next. Notice of intention to exhibit should be given forthwith to the Clerk of the Company. Specimens for exhibition will be received from residents in the United Kingdom, between the 1st and 15th of MAY.—Full particulars of the terms of exhibiting to be had at the Hall, between the hours of ELEVEN and THREE daily.—By order of the Court,

F. G. TOMLINS, Acting Clerk.

GALLERIES of the ARCHITECTURAL UNION COMPANY (Limited), 9, Conduit-street, Regent-street, NOW OPEN, FREE, from ELEVEN till FOUR, daily. The Autumn Exhibition of Building Materials, Patents, and Inventions, will CLOSE, FEBRUARY 28, and must then be cleared for the Architectural Exhibition.

JAMES EDMESTON, Hon. Sec.

EXAMINATIONS in DRAWING, conducted by the SCIENCE and ART DEPARTMENT, will be held in the Metropolitan Schools of Art during the month of March, viz.:—

Finsbury, William-street, Wilmington square.
Hampstead, Dispensary Building.
Lambeth, St. Oswald's place, Upper Kennington lane.
Marylebone, Wells-street, Oxford-street.
Rotherhithe, Deptford-road.
St. George's-in-the-East, Cannon street road.
St. Thomas's Charterhouse, Goswell-street.
South Kensington, Cromwell road.
Spitalfields, Crispin street.
St. Martin's, Castle street, Long-acre.
Westminster, Vincent-square.

These Examinations will be open to both sexes of any age. Candidates for examination must send their names and addresses to the Secretary of the Science and Art Department, South Kensington, W. on or before the 7th MARCH, and at the same time state the subjects in which they desire to be examined, and at which of the above Schools they wish to present themselves. They will then be informed of the exact date and hour at which they can be examined. Schoolmasters are not only required to furnish the number of their students that will attend for any of these examinations.

By order of the Committee of Council on Education.

17th February, 1863.

SOCIETY of SCULPTORS of ENGLAND, for the Promotion of EXHIBITIONS of SCULPTURE.—SPECIAL NOTICE.—The days for receiving works in marble, stone, terra cotta, Wedgwood, Parian, bronze, and electro-type; wood and ivory carvings; gold and silver work in shields, vases, &c.; granite, marble, and Scagliola columns, will be the 12th and 13th of MARCH, instead of the 2nd and 3rd of MARCH, as previously advertised for the first annual Exhibition. The Council of the Society of Sculptors have arranged with the Committee of the Architectural Exhibition for this extension of time—Regulations for the Exhibition and Circulars of the Society will be forwarded on application at 9, Conduit-street, Regent-street, W. to

MORTON EDWARDS, Hon. Secretary.

TROUGHTON & SIMMS.—For SALE, THEODOLITES, LEVELS, CIRCUMFERENTERS, PENTAGRAPHS, EIDOGRAPHS, a Lead's Mining Dial, a colonial surveyor's Circumferentor with transit Telescope, Schmalcalder's Prismatic Compass, Protractors, &c., by the above-named eminent makers, at JOHN ARCHBUTT & SONS', 20, Westminster Bridge road, Lambeth, London, S.

BILLING'S PATENTS. CHIMNEY TERMINALS, THROAT VALVES

NOTICE TO ARCHITECTS. The Proprietors of the late Mr. Billing's Patents have secured the services of Mr. H. H. COLLINS, M.I.B.A. of No. 10, Poultry, E.C. as the Consulting Architect, from whom full particulars and the reduced prices may be obtained; or from the Manager, Mr. TYLER, 12, Abingdon-street, Westminster, S.W.

ARCHITECTS.—NOTICE is hereby given that the Trustees appointed by Sir John Soane, will meet at the MUSEUM, No. 13, Lincoln's Inn fields, on TUESDAY, the 24th of MARCH, at TWELVE o'clock at noon precisely, to distribute the Dividends which shall have accrued during the preceding year from the sum of £900 Reduced 3½ per Cent. Bank Annuities, invested by the late Sir John Soane, among Distressed Architects, and the Widows and Children of deceased Architects left in Destitute or Distressed Circumstances. Forms of Application may be had at the Museum, and must be filled up and delivered there on or before SATURDAY, the 14th of MARCH, after which day no application can be received.

COMPETITIONS.

TO ARCHITECTS.—GIRLS' SCHOOLS, MATRON'S HOUSE, and OTHER BUILDINGS. The Trustees of the General Charities in the city of Coventry, invite Architects to submit DESIGNS, with plans, specifications, and estimates, for the ERECTION (in pursuance of an order of the Court of Chancery) of a GIRLS' INDUSTRIAL SCHOOL, with Matron's House and other necessary buildings in the City of Coventry. The school room should be capable of holding seventy pupils, and there must be accommodation for thirty girls to be boarded and lodged in the house, and the buildings should be arranged so that they could be extended if necessary. The cost of the whole, including all extras, not to exceed £2,000. A ground plan of the site may be seen at my Office, and a lithographed copy will be forwarded on application. A premium of £20 will be paid for the design, plans, &c which shall be selected and adopted by the Trustees (and which can be carried out for the sum above limited); and a second premium of £10, will be paid for the designs and plans which the Trustees shall think entitled thereto. On payment of the premiums the Trustees are to be entitled to the designs, plans, and specifications selected, but are not to be considered as bound to employ the parties furnishing them; but in the event of the successful competitor being employed the premium will merge in the commission. The designs, plans, &c. to be forwarded to me under a letter or motto, with a sealed letter to correspond, on or before SATURDAY, the 21st day of MARCH next; and in the meantime any further information may be obtained on application to me

HENRY J. DAVIS, Clerk to the Trustees.

Hayclose, Coventry, February 5, 1863.

NOTICE to ENGINEERS, CONTRACTORS, and OTHERS.—The Town Council of Kingston-upon-Hull offer PREMIUMS of £50 for the Best, and £25 for the Second Best, approved Plan, Specification, and Estimate for a New Bridge crossing the River Hull, in the place of the present old North-bridge. The Plans, &c. to be sent in to the Town clerk's office, on or before the 4th APRIL, 1863.—Further information may be obtained on application to Mr. THORP, Corporation Surveyor, Hull.

By order, ROBERT WELLS, Town Clerk.

Hull, February, 1863.

PLYMOUTH WESLEYAN CHAPEL and the ARCHITECTURAL ALLIANCE.—The Managers of this Competition having refused to amend the conditions (see letter in "The Builder"), all Members of the Allied Societies are requested to decline the invitation.

TO ARCHITECTS.—The Town Council of Gateshead invite DESIGNS for the PROPOSED NEW TOWN HALL and CORPORATE BUILDINGS. A premium of 100l. will be paid to the author of the designs to which the Town Council shall award the first place, and a premium of 50l. to the author of the designs to which they shall award the second place. The designs are to be delivered, free of cost, at the Office of the Town Clerk, on or before the 1st of MAY next; and the two designs to which premiums shall be awarded will become the absolute property of the Town Council, without any condition whatever. A copy of the conditions to be observed by architects sending in designs, and a lithographic copy of the plans and sections of the ground will be supplied to competitors on application to the undersigned, and on payment of a charge of 5s.—By order,

J. W. SWINBURNE, Town Clerk.

Town Hall, February 13, 1863.

TO ARCHITECTS. FREEMASONS' HALL, LONDON.—The Committee entrusted by the Grand Lodge with this subject invite PLANS and DESIGNS for the NEW BUILDINGS, and hereby offer the following premiums, viz.: 150l. for the best, 100l. for the second, and 50l. for the third best design. Designs must be sent in on or before the 1st day of MAY next.—Printed instructions, together with the plans of the site, and of the present buildings, may be obtained (price 10s. 6d. which will be returned to those who forward designs) at the office of the Grand Secretary, Freemasons' Hall, London, W.C.

CONTRACTS.

EXTENSION of TIME for receiving TENDERS.—CITY of LONDON, BARBERS' HALL.—Important SITE for WAREHOUSES or MANUFACTURING PREMISES in the immediate vicinity of Wood-street, Cheapside.—The Committee of the Worshipful Company of Barbers will meet at their Hall on THURSDAY, the 26th day of MARCH, 1863, to receive TENDERS for LETTING, on a Building Lease for 99 years, the Extensive PREMISES known as Barbers' Hall, situate in Monkwell street, Wood-street, comprising three houses fronting Monkwell street, Nos. 33, 34, and 35; part of the courtyard in the rear thereof, the passage leading thereto, and the greater portion of the Company's Hall, together with the kitchen, scullery, and outbuildings, having a frontage towards Monkwell street of about 85 feet, by an average depth of about 60 feet, and an extreme depth of about 140 feet.—For particulars, with a plan of the property, elevation and section of street-front, also conditions of letting, may be obtained on application to the Clerk of the Company; to Mr. CHARLES JOHN SHOPPEE, the Company's Surveyor, No. 61, Doughty-street, W.C.; or to the Beadle at the Hall.—By order,

HENLEY GROSE SMITH, Clerk.

4, Warnford court, Throgmorton street, E.C.

ERECTION of WORKHOUSE. — To CONTRACTORS, BUILDERS, &c.—PARISH of ST LEONARD, SHOREDITCH, MIDDLESEX.—The Board of Guardians of the Poor of the above parish are desirous of receiving TENDERS from Contractors for the ERECTION of a NEW WORKHOUSE for the said parish, to be erected on the site of the present workhouse and adjoining premises, situate in the Kingsland road and Hoxton. Parties tendering will be required to find security to the amount of 20,000l. for the performance of the works in accordance with the drawings and specification. Such drawings and specification can be seen, and all information obtained, at the Office of the Architect, Mr. WILLIAM LEE, St. Michael's House, Cornhill. Bills of quantities may be obtained on payment of 1l. 1s. which sum will be returned to the parties tendering whose Tenders are not accepted. Tenders are to be addressed to the Board of Guardians, and endorsed "Tender for erection, &c. of New Workhouse," and must be delivered at the Board room, Kingsland road, London, N.E. not later than SIX o'clock in the evening of WEDNESDAY, the 25th day of FEBRUARY, 1863. The Guardians do not pledge themselves to accept the lowest or any other Tender. Parties tendering must be present, by themselves or their agents, at the time of meeting. By order of the Board,

WILLIAM NIGHTINGALE, Clerk.

Board-room, Kingsland road, 4th February, 1863.

BOARD of WORKS for the LIMEHOUSE DISTRICT. To PAVIORS and MASONS.—Notice is hereby given that the Works Committee will meet on TUESDAY, the 3rd day of MARCH, 1863, to receive TENDERS from persons willing to contract for the GENERAL WORKS and REPAIRS to the footand carr. ways of the several streets, &c. &c. &c. and other places under the jurisdiction of the said Board, for the years ending the 25th day of APRIL, 1865. Further particulars may be known, and printed conditions, schedules of works, and forms of Tender obtained, by parties intending to Tender for the works, upon application at the Office of the Board, White Horse-street, Commercial-road East, between the hours of TEN and FOUR o'clock, upon payment of twenty shillings, which will be returned to each person sending a Tender. Tenders, sealed up and endorsed "Tender for Paviors' and Masons' Work," must be delivered at the said Office not later than FOUR o'clock p.m. on the 2nd day of MARCH next. The Board do not bind themselves to accept the lowest or any Tender. The security of two responsible persons will be required, and the contractor will have to pay the rate of the current Day Wages. No Tender will be received after the time specified, nor unless strictly in accordance with the printed instructions.—By order,

THOS. W. RATCLIFF, Clerk to the Board.

Dean Colet House, White Horse-street, Commercial-road East, February 10th, 1863.

TO BUILDERS. — Builders desirous of TENDERING for the ERECTION of the NEW SCHOOLS and TEACHER'S RESIDENCE, at Pavenham, Beds., may have see the drawings and specifications at the School-master's House, Pavenham, Tenders to be delivered at the Office of the Architect, Mr. JOHN COLSON, 37, Smith-street, Westminster, by SIX o'clock on the 25th inst. No pledge given to accept the lowest or any Tender.

February 7th, 1863.

[For remainder of Contracts see next Page.

CONTRACTS.

PADDINGTON.—TENDERS will be received by the Vestry of Paddington, on or before MONDAY, the 2nd day of MARCH next, at 12 o'clock, for CONTRACTS for the EXECUTION of the DAY and JOBBING WORKS of the Parish during the ensuing year, viz.:—Paving, repairing, and cleansing sewers, stone and flint walling, water-carting, &c., within the Parish of Paddington.

Forms of Tender may be had on personal application at the Vestry Hall, Harrow-road, between the hours of TEN and TWELVE, and the 2nd day of MARCH. The Vestry do not bind themselves to accept the lowest or any tender, and the party whose Tender may be accepted will be required to provide two sureties in the sum of 500*l.* jointly and severally, for the due performance of the contract.—By order,

FRED AVELING, Vestry Clerk.

Paddington, February 18th, 1863.

TO MASONS, PAVIORS, and OTHERS.

The Vestry of the Parish of St. George-in-the-East will meet at the Vestry Hall, on FRIDAY, the 27th day of FEBRUARY, at SIX o'clock in the evening, to receive TENDERS for the SUPPLY of the MATERIALS and the EXECUTION of the JOBBING WORKS required to be done within the Parish during the ensuing year, and for the repairing and relaying the carriage-road from Cannon-street-road to Cable-street for a term of three years, from the 25th MARCH next, as the said Vestry may determine. Specifications and forms of Tender may be obtained at the Vestry Hall on payment of 5*s.*, which sum will be returned the day after the receipt of such Tenders. Any Tender not upon the printed form of the Vestry will be rejected. The person whose Tender shall be accepted will be required to enter into and seal two sufficient securities for the due performance of the bond and contract will be required to be sealed by the Vestry. The Vestry do not bind themselves to accept the lowest or any Tender.

W. L. HOWELL, Vestry Clerk.

Vestry Hall, February 16th, 1863.

TO SCAVENGERS, DUST CONTRACTORS, MASONS, PAVIORS, CARMEN, and OTHERS.—The Vestry of the Parish of St. George-the-Martyr, Southwark, are prepared to receive TENDERS for SCAVENGING and WATERING, for the REMOVAL of DUST, &c., for MASONS' and PAVIORS' WORK, for supplying GURNSEY GRANITE and SPALLS, ROCHESTER FLINTS, YORKSHIRE PAVING; and for HIRE of CARTS, HORSES, and DRIVERS. Forms of Tender and particulars may be obtained at the Vestry Clerk's Office, Vestry Hall, Borough-road, on Monday, where Tenders, if not delivered before, will be received up to Four o'clock in the evening of TUESDAY, the 3rd day MARCH, 1863, and at which time and place the parties tendering, or their representatives, may attend. The Vestry does not engage to accept the lowest or any Tender.—By order,

DANIEL BIRT, Vestry Clerk.

Vestry Hall, Borough-road, S.E.

SURREY COUNTY HOSPITAL, proposed to be erected at Guildford.—NOTICE TO BUILDERS.—Builders desiring to TENDER for the several WORKS required to be done in finishing this Hospital, and described in the Plans, Specifications, and Conditions which are prepared by Mr. EDWARD W. LOVER, the Architect, 12*a*, High-street, Guildford, and which are to be seen there, and at the Office of the Clerk of the Works to the Hospital, and may be had after the 16th day of FEBRUARY instant, and not earlier, on the Payment of Five Guineas for each Plan, each party must pay the sum of Five Guineas to the Secretary of the Hospital), and not to be had before that day, are desired to send in their Tenders, sealed up, addressed to the Chairman of the Building Committee, at the Hospital, Guildford, on or before Four o'clock in the afternoon of TUESDAY, the 10th day of MARCH next, at which time and place the Tenders will be opened in the presence of such Tenderers as may attend.

Each Tender must be delivered in the form prepared by the Architect, and must be signed by the person or persons tendering, as well as by the persons proposed as sureties, who will be required, in accordance with the terms of the Contract and Bond, to enter into Bonds, in the penalty of One Hundred Pounds, for the faithful performance of the Contract.

No Tender will be received unless delivered in the Box at the Hospital, and not later than Four o'clock in the afternoon of the day of MARCH next.

The Building Committee reserve to themselves the absolute right to reject the Tender of any of the Tenderers. Security from two responsible persons, to be approved by the Building Committee, will be required for the due performance of any contract entered into; and the person whose Tender may be accepted, will be required to pay one half of the expenses of the stamp duty on the contract and bond.

C. R. DALLAS (Clerk), Hon. Sec.

Uplands, Guildford, 11th February, 1863.

TO IRONFOUNDERS and CONTRACTORS.—SHARD BRIDGE, in the County of Lancaster.—The Directors of the Shard Bridge Company, incorporated by Act of Parliament, are prepared to receive PLANS, SPECIFICATIONS, and TENDERS for the ERECTION of an IRON GIRDER BRIDGE, upon new piers, across the River Wyre, at the Shard, near Poulton-le-Fylde, in the county of Lancaster. The piers are two in number, the head of the arches, the width of roadway required, with sections of the ironwork, and all other necessary particulars may be obtained on application to Messrs. MYRES & VEEVERS, Civil Engineers, Preston, to whose firm, upon delivery, all Tenders must be sent, on or before MONDAY, the 16th day of MARCH next. The directors will not bind themselves to pay for plans or drawings of the bridge which are not accepted.—By order,

RICHARD MOORE, Solicitor to the Company.

Kirkham, Lancashire, February 14th, 1863.

TO BRICKMAKERS.—The Directors of the Midland Railway Company are prepared to receive TENDERS for the SUPPLY of BRICKS, for the three Houses Tunnel, on the Bawsley and Hasock Extension Railway, near Higginsvale Farm. Thousands will be required, and Tenders may be delivered, and must be delivered for separate Tenders, of one thousand and upwards, specifying the sum per thousand at which they will undertake to supply the Bricks, on the completion of the Tunnel, ready for the delivery of the Bricks, on the specification and plan of Tender, by applying to the Resident Engineer, Mr. CAMPION, at the Office, at Ash-well Tenders to be delivered to G. N. BROWNE, Esq., Secretary, Derby, on or before MARCH 25th, 1863. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

G. N. BROWNE, Secretary.

Derby, February 17, 1863.

TO BUILDERS.

PERSONS desirous of TENDERING for a VILLA RESIDENCE and STABLES at Leith, Kent, can have a copy of the drawings and specification for the same by applying at Mr. H. FORD'S Office, 1, Charlotte-row, Mansion House, E.C. Tenders to be delivered on MONDAY, MARCH 2nd.

TO BUILDERS and OTHERS.—SAINT MARY, ISLINGTON, in the County of Middlesex.—METROPOLIS LOCAL MANAGEMENT ACT.—Notice is hereby given that a Committee of the Vestry will meet at the Vestry Offices, Upper Street, on WEDNESDAY, the 25th day of FEBRUARY, 1863, at HALF PAST SEVEN o'clock, the Evening precisely, to receive TENDERS for the DAY WORK, JOBBING WORKS in connexion with the same, and the supply of such Materials. The forms of Tender and Vestry, where same may be had at the above Office, on payment of 2*s.* 6*d.* Sealed Tenders must be sent in before HALF PAST SEVEN o'clock on the day above mentioned. Persons tendering are requested to attend at the meeting of the Committee. The Vestry do not bind themselves to accept the lowest or any Tender.

JOHN LAYTON, Vestry Clerk.

Vestry Offices, Upper-street, Islington, February, 1863.

THE GUARDIANS of the POOR of the BIRKENHEAD UNION, in the county of Chester, are prepared to receive TENDERS from competent persons desirous of contracting to execute the WORKS required for PAVING and DRAINING a portion of the new Workhouse, situate at Heath Tramway. A separate and distinct Tender will be required for the following Lettings. The whole to be executed according to plans and specifications which may be seen at the Office of Mr. THOMAS LAYLAND, Architect, 20, Castle-street, Liverpool. Sealed Tenders, to be left at the Workhouse, Heath Tramway, Birkenhead, or before noon on SATURDAY, the 28th day of FEBRUARY, are requested "Tenders for Paving," and will be required for the due performance of the Works contracted for. The Guardians do not bind themselves to accept the lowest or any Tender.

PETER GREGORY, Clerk to the Guardians of the Birkenhead Union.

60, Lord-street, Birkenhead, February 3rd, 1863.

SAINT MARY, ISLINGTON.—CONTRACTS for PAVING and MATERIALS, for the REPAIR of ROADS, and the REMOVAL of the ROAD SCRAPINGS.—The Highways Committee of this Vestry will meet at the Vestry offices, Upper-street, Islington, on TUESDAY, the 24th day of FEBRUARY instant, at seven o'clock in the evening precisely, to consider proposals for PAVING the PARTS of the PARISH, and Repairing and Keeping in Repair the Paved Footways for ensuing three months. No Vestry shall receive time to take a street; also, for supplying the Vestry with Granite, Basket, Gravel, and Core, and steam Paints, in such quantities, and to be delivered at such places as the said Vestry shall from time to time direct; also, for Carting the Broken Stone, and for a supply of Peaning and Cairns for the two divisions of the parish; also, for the Removal of the Road Scrapings.—The Tenders for the supply of the Road Scrapings to be separate for each of the said wards; and no contract is to be permitted to contract for more than two of such wards. The whole to be contracted for from the 25th day of MARCH next, to the 29th day of MARCH, 1864.—Forms of Tender (which alone will be received) may be had, and the draft contract may be seen, on application at the Vestry Offices, between the hours of TEN and FOUR daily. All Tenders are to be sealed up, and left at the Vestry Offices before the hour of meeting; and a Tender will be received unless it contains 10*l.* Bank of England note, which will be immediately returned to each person whose Tender is not accepted; but which is retained in the case of success, until the contract and bonds are duly signed. The Vestry do not bind themselves to accept the lowest or any Tender.

JOHN LAYTON, Vestry Clerk.

Vestry Offices, Upper street.

TO BUILDERS.—Persons desirous to TENDER for the ERECTION of new Presbyterian CHURCH and SCHOOLS at Aldershott, are to see the plans, &c., at Mr. THRUPP'S Royal Hotel, Aldershott, on and after Monday, 23rd inst. Copies of quantities will be supplied on application at the above Hotel, for the sum of 5*s.* each. Tenders to be sent to me on or before the 16th day of MARCH next. Neither the lowest nor any Tender will necessarily be accepted.

C. B. MUSSELLWHITE, Architect, Basingstoke.

TO BUILDERS.—TENDERS are required for the ERECTION of a NEW TOWNHALL for the Town Council of the Borough of Bridgwater, on or before the 2nd day of MARCH next. Plans and Specification for the same may be seen at the Office of Mr. ROWLEDGE, Architect, High-street, Bridgwater. The lowest or any Tender will not necessarily be accepted. Quantities supplied.

Dated 12th February, 1863.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A meeting of the Board will be held on MONDAY, the 23rd day of FEBRUARY, 1863, at SIX o'clock in the evening, at the Office of the Board, No. 15, Great Alie-street, White-chapel, to receive TENDERS for CLEANSING the STREETS and ALLEYS, and for REMOVING the DUST and other REFUSE within the district for the period of one year, to commence from the 1st day of APRIL next, and for WATERING the ROADS and STREETS of portions of such district, for the period of five months, to commence from the 1st day of MAY next. Persons disposed to contract may obtain printed forms of the several Tenders, and such information as they may require, at the Office of the Board. Sealed Tenders, in which a 10*l.* note is to be enclosed, must be delivered at the said Board, before, FOUR o'clock in the afternoon of the day of the meeting, and must be made upon the printed forms prepared by the Board, and duly signed by the person or persons tendering, as well as by the persons proposed as sureties, will be required. Persons tendering are required to attend the Board at HALF PAST SIX o'clock, in order that a preliminary agreement may be signed by the person whose Tender is accepted.—The Board, however, do not bind themselves to accept any Tender.

ALFRED TURNER, Clerk to the Board.

15, Great Alie-street, Whitechapel, February 9, 1863.

TO BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a New CHURCH at Charlton Kings, near Cheltenham, may inspect the plans and specification at the Office of the Architect, No. 467, High-street, Cheltenham, and after Monday, the 23rd inst., at the Vicarage, Charlton Kings, or from Mr. Jones, of Tenter Field, Charlton Kings, to be sent to G. RIDGE, Esq., Solicitor, 1, Promenade Buildings, Cheltenham, on or before the 12th day of MARCH next. The Lowest or any Tender will not necessarily be accepted.

GEORGE W. SADLER, Architect.

Cheltenham, February 14th, 1863.

CALNE RAILWAY COMPANY.—The Directors are prepared to receive TENDERS for the ERECTION of STATION BUILDINGS at Calne. Plans and specifications can be seen at the Office of Mr. JAMES BARNES, Engineer, 1, Victoria-square, Westminster, and at the Office of the Secretary at Calne, Tenders, addressed to the Directors, to be delivered at the Secretary's Office, on or before the 4th day of MARCH next. The Directors do not bind themselves to accept the lowest or any Tender.

Calne, Feb. 19, 1863. W. M. VIZARD, Secretary.

TO CONTRACTORS, BUILDERS, &c.—TENDERS are invited for the ERECTION of a PIER at Pwllgwin Harbour, and for a WINDMILL, WORKSHOPS, and MILL DAM, on one, or the first in one and the last in separate Contract. Specifications may be had by letter addressed to Mr. HENDERSON, Penrhyn, Haverfordwest; and plans may be seen at the Office of W. H. COGSWELL, Esq., C.E., 15, Queen-street, Mayfair, South Wales; or at the Office of Messrs. HEWETT & GRIFFITHS, Parliament-street Quarries, Tremine, Haverfordwest, to whom Tenders must be sent on or before the 1st day of MARCH. The Directors do not bind themselves to accept the lowest or any Tender.

TO CONTRACTORS and Others.—The LOCAL BOARD of HEALTH for the District of Sherborne, in the County of Dorset, are desirous of receiving TENDERS for the execution of the necessary WORKS connected with the CONSTRUCTION of the LAYING, and JOINTING of about 1,1?0 Yards lineal of 6 Inch Cast Iron Water Pipes, according to Specifications, which may be seen at the Offices of the Board's Engineers, as under, and can be obtained by letter addressed to them. Tenders to be sent in to Mr. J. Y. MELMOTH, Solicitor, Clerk to the Board, on or before TUESDAY, the 24th inst. The Board do not pledge themselves to accept the lowest or any Tender.—By order,

C. S. NEWMAN, C.E.

The Green, Sherborne, Dorset, 9th February, 1863.

TO IRON FOUNDERS.—The Local Board of Health for the District of Sherborne, in the County of Dorset, are desirous of receiving TENDERS for the SUPPLY of about 1,100 YARDS LINEAL of CAST-IRON SOCKET PIPES, of an internal diameter of 8 inches, for the purposes of water supply, according to specifications which may be seen at the Offices of the Board's Engineers, as under; where also every information may be obtained. Tenders to be sent in to Mr. J. MELMOTH, Solicitor, Clerk to the Board, on or before TUESDAY, the 24th inst. The Board do not pledge themselves to accept the lowest or any Tender.—By order,

C. S. NEWMAN, C.E.

The Green, Sherborne, Dorset, 9th February, 1863.

FREEHOLD GROUND between the Forest Hill and Sydenham Stations TO BE LET on long Building Leases.—For plan and particulars, apply to C. F. REEKS, Esq., Architect, 12, Middle Scotland-yard, S.W.

TO BUILDERS and OTHERS.—TO BE LET, several PLOTS of BUILDING LAND, situate in the best part of Stoke Newington, where Leases are in great demand. Rent as high as 10*l.* per rood. Also a large Piece of Land now let on the ground for building purposes. Apply to Mr. RODDA, at the Estate Office, Rectory-road, Church-street, Stoke Newington.

CATERHAM, on the Surrey Hills, 17 miles from London.—LAND TO BE SOLD or LET, in plots of from 1 to 50 acres, for first-class residences, either on the hill or in the valley. Healthy soil. Ample supply of the best spring water to the top of the highest.—Apply to Mr. R. MARTIN, Estate Office, Caterham.

FREEHOLD BUILDING GROUND, about 30 feet by 44 feet, in Pregent square, Old Bailey, Ludgate-hill, close by Farringdon street Station, TO BE SOLD.—Apply to Mr. PARIS, Surveyor, Walsingham place, Lambeth.

PHILBROKE ESTATE, at Leytonstone, on the Woodford and Loughton Railway, twenty minutes from Fenchurch and Bishopsgate Stations.—This valuable FREEHOLD ESTATE, land tax redeemed, surrounding the Station, healthy locality, gravelly soil, excellent drainage, water and gas laid down, roads made, sand cartage on the estate, it is proposed TO LET in Plots suitable for building detached and semi-detached villas. Separate applications have been made for houses in this neighbourhood. For terms, apply to Mr. ATHEY, at the Surveyor's Office, Philbroke Estate, Leytonstone, Essex.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 400 yards only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the Lessee to purchase a Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Kingston; some very eligible SITES in the Grove road, Milkwood, a few of which are adapted for shops, and large and very CHEAP PLOTS TO LET, at Ealing.—Apply to Mr. KNIGHTLEY, Architect, 25, Canon-street.

ST. HELEN'S, Lancashire.—TO BE LET on LEASE, the extensive MANUFACTURING PREMISES at the Bleaching and Calico Printing Works, situate at St. Helen's, with a wharf on the canal, and a branch of the St. Helen's Railway running through the property. The entire site is about twenty acres, of which about five acres are occupied by the works, the remainder being arable and pasture land. The buildings comprise a series of very substantially erected, light, and lofty ground floor factories, arranged for the purposes of copper and silver-roofing works; but they will be available for many other large manufacturing establishments, as they possess the advantages of direct communication by rail or water carriage with all parts of the kingdom. Coals can be obtained from pits in the neighbourhood at an almost nominal price, and clay is cheap and abundant.—For particulars apply to Messrs. FULLER and HORSEY, Billiter-street, Fenchurch, E.C.; and Messrs. HARRISON & FINCH, 2, Gray's Inn, London.

BUILDING LAND TO LET, at Canonbury, Haverstock-hill, Lower Norwood, close to the station (for large and small houses), at Croydon; also at Edward's-road, Bow, carcases for completion. The usual advances made.—Apply at the Office of Mr. JAS. KIMBERLIN, Architect and Surveyor, 3, Crown-court, Old Broad-street, E.C.]

EXTENSIVE MANUFACTURING PREMISES, South-wark.—TO BE LET on LEASE, extensive MANUFACTURING PREMISES, occupying a very large area, situate in the Borough-road, Southwark. The buildings, which are very substantially erected, comprise a very large factory of three lofty floors, with basements; a smaller factory of four floors adjoining, a very spacious and lofty ground-floor factory, yard, a capital family residence and counting-house, two good cottages, and three dwelling-houses fronting the Borough road, Nos. 77, 78, and 79, which can be readily let off if desired.—For further particulars apply on the Premises; or to Messrs. FULLER & HORSEY, Billiter-street, Fenchurch-street, E.C.

EXTENSIVE MANUFACTURING PREMISES, WHITECHAPEL TO BE LET or SOLD, together or separately, the extensive and important RANGE of PREMISES, recently occupied as the Whitechapel Distillery, with land adjoining, fronting Whitechapel-road, and Sidney-street, extending to a depth of 200 feet, are substantially erected, principally in 1845, and very conveniently arranged for almost any manufacturing purpose. There are three large Carriage entrances, and the land lying on all sides are surrounded with paved yards. The total area is about three acres, exclusive of six acres of accommodation land, which may be had if required. There is an extensive well, with a never-failing and large supply of pure water.—Further particulars and cards to view may be had of Messrs. TENNANT & DARLEY, Solicitors, Raymond's-buildings, Gray's Inn; and Messrs. FULLER & HORSEY, Billiter-street, E.C. where plans of the property may be seen.

THE DIRECTORS of the ROYAL CALEDONIAN ASYLUM, having a desire to remove their Institution some distance from town, will be glad to treat with any person requiring such premises, for the SALE of the present BUILDINGS, with the Land attached, containing nearly four acres of ground, most eligibly situated in the CALEDONIAN-ROAD, near the New Cattle Market, Holloway.—For particulars apply to the Secretary, Mr. DANIEL, at the Asylum, Holloway, N.

Royal Caledonian Asylum, Feb. 11th, 1863.

BUILDING LAND TO BE LET, HACKNEY, close to the Railway Station, for small Dwelling Houses.

NORWOOD, close to the Crystal Palace, for Shops and Villas.

PERRY-HILL, SYDENHAM, for Shops. Advances in each case if required.—Apply to Mr. T. K. GREEN, 25, College-hill, Cannon-street, E.C.

TO BUILDERS.—SPACE for Six Detached Cottages TO BE LET, near Norwood Junction. Money advanced.—Apply to JOHN WILLIAMS, Esq. No. 3, Church court, Clement's-lane, City.

BUILDING LAND, facing Kensington Gardens Broad-walk.—TO BE LET or SOLD, PLOTS for twelve first-class Houses.—Apply, by letter, to Mr. HOWELL, Mansfield street, Portland-place; or to H. FIELD, Esq., 6, Lincoln's-inn-fields.

LITTLE HEATH BRICKFIELD, Cobham, Surrey.—TO BE LET, for the season or for a term, this FIELD, situate about three miles from the Esher Station, where there is a store-shed, and about 2½ miles from the Leatherhead Station. Excellent red bricks, for which there is a large demand, can be made with a small outlay. Further particulars, and stock bricks, pipes, tiles, &c. If let only for the season, the proprietor would purchase all brick left unsold at Christmas next, at a price to be fixed beforehand. Further particulars can be had, and samples seen at Mr. ASHFIELD'S, Builder, 3, Baynes-row, Coldbath-fields, London; or at the Esher Station.

MAYFIELD ESTATE.—Orpington, Kent. Several PLOTS of a part of this pictures ue Estate TO BE LET on BUILDING LEASES, frontages to the High-road. It is an eligible opportunity for a respectable builder to secure a return for money invested in building. The soil is good, partly chalk and gravel, very dry, and the surrounding country undulating. Station for Orpington, St. Mary's Cray, the London, Chatham, and Dover Railway.—For Plans of the Lands and Houses proposed to be erected, as well as those already completed, apply to CHARLES G. STAPELTON, Junr., Architect, 69, Cannon-street, London, E.C.

CHELSEA.—BUSINESS PREMISES TO BE LET, situated No. 26, King's-road, Chelsea, being the most commanding premises in the parish. Suitable for workshops, warehouses, and show-rooms.

GROUND TO BE LET, immediately, on building lease, ninety-nine years. About 2½ feet frontage in the main road. Two minutes' walk from the Station at Addiscombe, Surrey. Gravelly soil.—Apply to R. T. THORN, 59, Bucknall-street, Lonnon, E.C.

BUILDING LAND TO BE LET or SOLD, at Sydenham, near the Church, the Railway Station, the Crystal Palace, and Park. It fronts a wide, handsome road-way, and has ample depth for garden grounds. All the leases on the estate are of 99 years, and the rents obtained give an average return of 12 per cent on the outlay. The remaining frontage will be let on low rents, to secure the ground being speedily covered.—Terms and particulars of Messrs. EDWIN FOX & BOUSFIELD, Land Agents 41, Cateaton-street, Bank, E.C.

ST. PANCRAS IRON WORK COMPANY,

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PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

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These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

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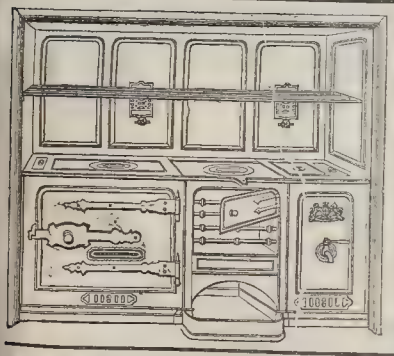
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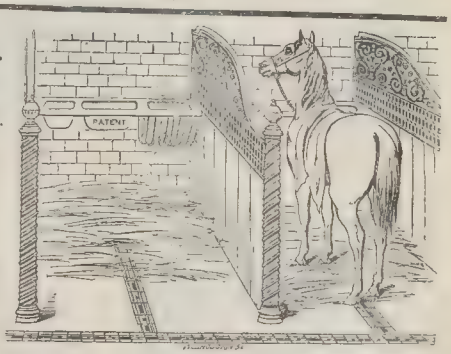
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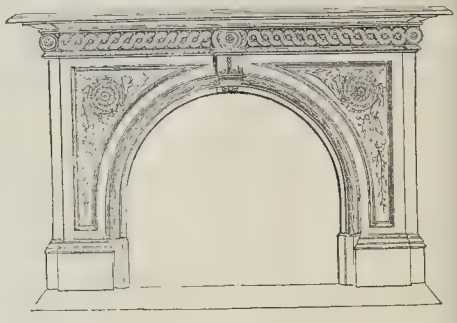
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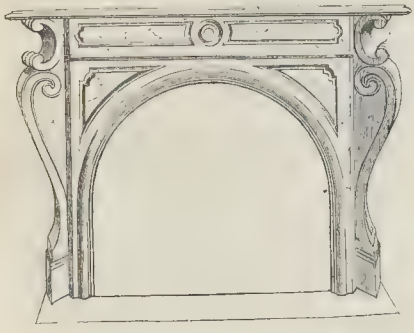
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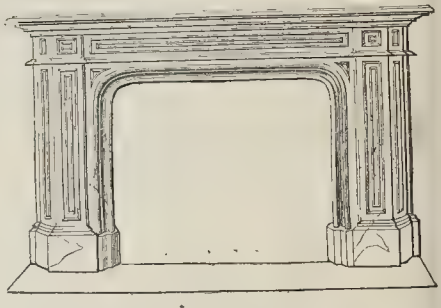
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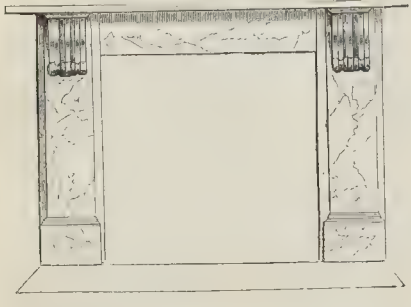
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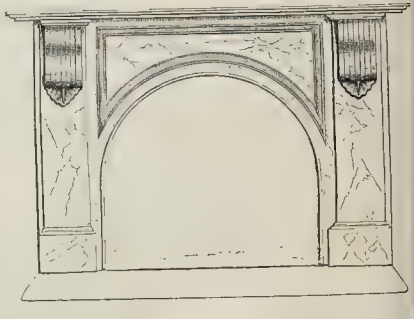












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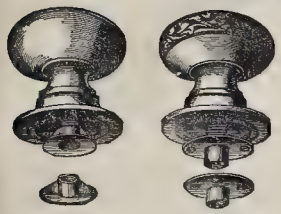
39, OXFORD-STREET, W; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE; and 1, NEWMAN-MEWS, LONDON.

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By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS.

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.



POWIS, JAMES, & CO. BLACKFRIARS ROAD, LONDON.

Awarded a Prize Medal at the International Exhibition, 1862, for Collection of

FIRST-CLASS WOOD-CUTTING MACHINERY,

being the highest commendation attached to any Medal in the same Class,

OFFICE, 26, WATLING STREET, CITY, E.C.

Where all Letters and Applications for Machinery are to be addressed.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

COUNTRY ORDERS PROMPTLY EXECUTED.



All kinds of Smiths' Work.

J. MOORE,

WHOLESALE IRONMONGER,

122, EUSTON ROAD
(near St. Pancras Church),

Opposite J. W. Bird's Marble and Stone Works.

THE CHEAPEST AND BEST HOUSE IN LONDON FOR

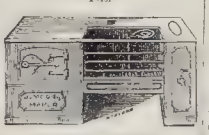
KITCHEN RANGES, STOVES, NAILS, LOCKS, HINGES, BOLTS,

AND

EVERY ARTICLE OF BUILDERS' IRONMONGERY.

Priced Lists on application.

ESTABLISHED 1840.



Bell-hanging, Repairs, &c. promptly executed.

FURNER & MINN,

WHOLESALE AND EXPORT IRONMONGERS,

7, BISHOPSGATE WITHOUT, E.C.

ARE THE APPOINTED AGENTS FOR

LEA'S PATENT LUBRICATING IRON COCKS,

Which are much cheaper and more durable than Brass, offering no inducement to theft.



LEA'S PATENT SELF-ACTING ROLLER-BLIND FURNITURE,

(Without Springs).

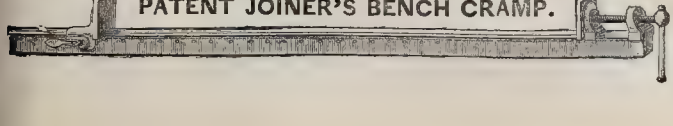
LEA'S PATENT LOCK BOLTS, FOR CASEMENTS AND FOLDING DOORS.

Contractors and Builders supplied with Ironmongery at Manufacturer's Prices.

SHOW ROOMS FOR MARBLE AND ENAMELLED SLATE CHIMNEY PIECES, STOVES, RANGES, &c.

F. & M. beg to call particular attention to their

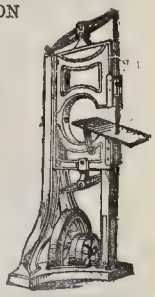
PATENT JOINER'S BENCH CRAMP.



PRIZE MEDAL.
INTERNATIONAL EXHIBITION, 1862,

THOMAS ROBINSON
and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

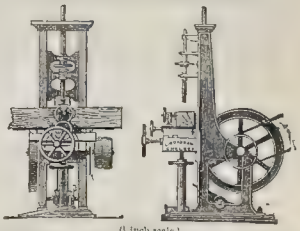
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*



Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, CANNON STREET, E.C.

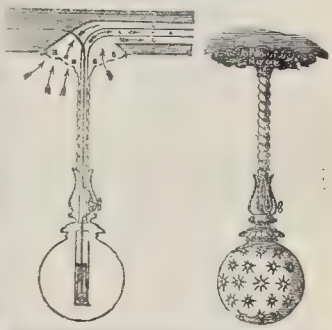
S. WORSSAM & CO.'S PATENT
IMPROVED POWER MORTISING MACHINE.



(¼ inch scale.)

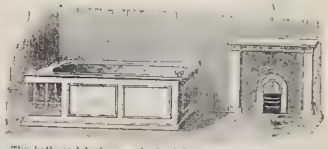
Combining many improvements not to be found in any other mortising machine. A single machine, worked by a man, with a boy to assist him, will do all work usually done by seven or eight persons, or as four by the above. For prices, &c. apply at the Works, 304, King's-road, Chelsea, S.W.

RICKET'S & HAMMOND'S
VENTILATING GLOBE LIGHT,
combining an agreeable method of lighting, with convenient simple, and efficient ventilation.



The advantages obtained are these—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR,
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three light chandelier, with a consumption of 12 feet per hour.
5, AGAR STREET, STRAND, LONDON, W.C.

J. TYLOR & SONS' PATENT BATH
APPARATUS.



The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.
Estimates given from architects' drawings, or by inspection of buildings.
Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London.

PAIR of HORIZONTAL HIGH-PRESSURE and CONDENSING STEAM ENGINES, each of 25 h.p. nominal power FOR SALE by private contract. The cylinders are 14 inches diameter, 2 feet stroke, with metallic pistons, bright connecting rods, slide valves, eccentrics, 8 inch fly-wheel, shaft, crank, cast-iron fly-wheel 14 feet diameter, spur mortise wheel 8 feet diameter, and pinion, exhaust-pipe, cast-iron condenser, cast iron frames, steam and vacuum gauges, pair of Hunt's governor balls and separator, made in 1851. For further particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

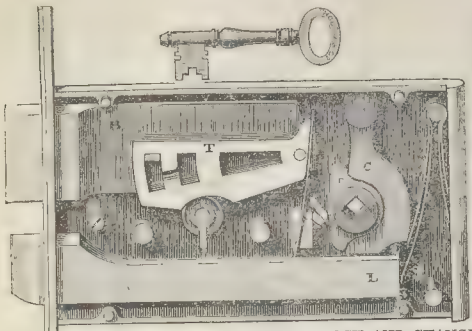
INTERNATIONAL EXHIBITION, 1862.—CLASS 31, LOCKS, &c. No. 6105.

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.

PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.

ESTIMATES AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.

For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 13, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.
Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.

CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.

159, SHOREDITCH.

Self-acting, with Bright Wrought Bars.		Self-acting Cottage, with Over-and-Back Action	
24 inches	16s.	30 inches	22s.
28 „	20s.	32 „	24s.
30 „	23s.	34 „	26s.
32 „	26s.	36 „	28s.

Register Stoves, with Strong Bars, from, per inch, 4d.

Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4d. per inch.

Best ditto, with Fire-brick Back, from, per inch, 5d.

Bright Stoves, with Two Fires, 46s. to 100s. each.

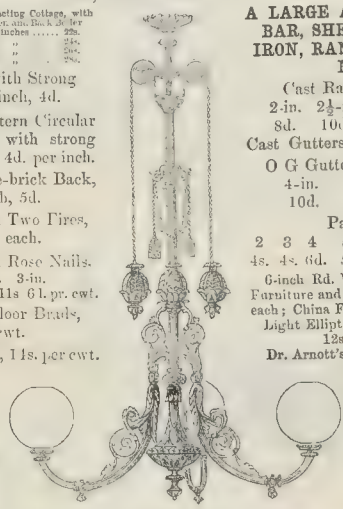
Best Cut Clasp and Rose Nails.
1-in. ¾-in. 2-in. 2½-in. 3-in.
14s. 14s. 13s. 12s. 11s 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.

Best Cut Lath Nails, 11s. per cwt.

GAS PIPES AND FITTINGS.

CHANDELIERS AND BRACKETS.



A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Cast Rain-Water Pipe,
2-in. 2½-in. 3-in.
8d. 10d. 1s. per yard.

Cast Gutters, 4 in. 7d. per yard.

O G Gutters, with Clips on,
4-in. 4½-in.
10d. 1s. per yard.

Patent Line,
2 3 4 5 6
4s. 4s. 6d. 5s. 7s. 9s. per gross.

6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each; China Furniture, same price.

Light Elliptic and Register Metal, 12s. 6d. per cwt.

Dr. Arnott's Ventilators, 4s. each.

BRICK MOULDS KEPT IN STOCK.

Any Size made to order.

POST-OFFICE ORDERS PAYABLE AT SHOREDITCH.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



IRON BUILDINGS, IRON ROOFS, & IRON CHURCHES erected in any part of the Kingdom.

ILLUSTRATED CATALOGUES POST FREE.

WORKS.—Birmingham, and Limehouse.

Every description of Iron Work Galvanized.

LONDON OFFICE—61A, MOORGATE STREET, E.C.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

GLOVER, BROTHERS,

FOUNDERS, ENGINEERS, AND SMITHS,

138, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.

Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

Wheelwrights and Contractors to Government, Oxford-street, and Parker's-row, Bermondsey.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:

Three-eighths-inch diameter ..... 1s. 6d. per foot.
Half-inch diameter ..... 1s 6d. „
Five-eighths-inch diameter ..... 2s 0d. „

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
„ Gateshead-on-Tyne
„ 27, Dale street, Manchester.
„ 66, Anderston-quay, Glasgow.
„ 17, South Castle street, Liverpool
„ Exchange buildings, Dundee.
„ 7, Frederick street, Aberdeen.

IRON ROOFING of CORRUGATED IRON,

Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

PERIN'S PATENT BAND SAW BLADES.

S. WORSSAM & CO. beg to announce that they have purchased of Mons. Perin, of Paris, the exclusive right to SELL his celebrated BAND SAW BLADES, the superiority of which is universally admitted in the United Kingdom. S. W. & Co. have always a large assortment of these Saws at their Works, 304, KING'S-ROAD, CHELSEA, S.W. where also the Band Saw Machine exhibited by Mons. Perin in the Western Annexe, International Exhibition, is now on sale

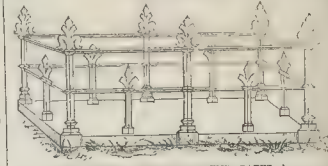
DAY and GAS-LIGHT REFLECTOR

MANUFACTURER.—THOMAS FOX, 50, Hatton Garden, E.C.

These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public. All kinds of Best Glass Silvered.

N.B.—The usual discount to builders and the trade.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c.

Illustrated price catalogue, of numerous designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,
2, WINSLEY-STREET, OXFORD-STREET,
LONDON, W.

FIRE-PROOF CONSTRUCTION.—

FOX & BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and mestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

MR. BARRETT,
12, YORK BUILDINGS, ADELPHI

CANNON IRON FOUNDRY 156, Goswell-street, St. Luke's,

JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Piping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

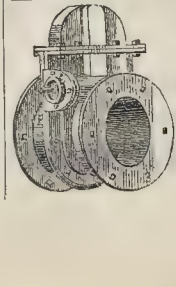
SMOKY CHIMNEYS. — The

best Cure is the PATENT ALBERT CHIMNEY CAP, 200 on Buckingham Palace; in use also at St. James's Palace, Windsor Castle Government building, mansions, halls, club-houses, and buildings in general. Prospectuses on receipt of two postage stamps.



JAMES BARTON,
Iron Works, 370, Oxford-street, W.
N.B. Manufactory for the Patent Stable Fittings and Enamelled Mangers.

REDUCED PRICES OF
BRYAN DONKIN & CO.'S
IMPROVED GAS VALVES.



From 2 in. to 18 in. price 9s. 6d. to 12s per in. diameter.

List of prices, with full dimensions of all sizes up to 30 in. to be had on application.

These Valves are all proved to 30lb on the square inch before leaving the works, and are always kept in stock.

Valves made with outside gun metal faces.

Also Screw Water Valves, with racks to order.

BRYAN DONKIN & CO.
ENGINEERS,
Near Grange road, Bermondsey

IMPORTANT TO ARCHITECTS, ENGINEERS, BUILDERS, RAILWAY, AND OTHER COMPANIES.

VIEILLE MONTAGNE ROOFING ZINC.

Company's General Agency, 12, Manchester Buildings, Westminster.

Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models showing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

Plans, Estimates, and all useful information will be furnished, without charge, by applying to either of the Directing Architects.

JAMES EDMESTON, 5, Crown-court, Old Broad-street.
R. G. FISHER, 12, Manchester-buildings, Westminster.

N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

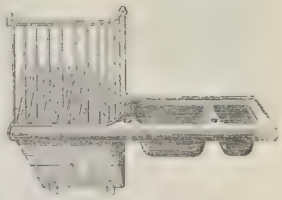
GEORGE SMITH & CO.



No. 1.—EGYPTIAN BATH (Complete).
Received the award of Honourable Mention at the International Exhibition, 1862.

IRONFOUNDERS AND SANITARY ENGINEERS,
SUN FOUNDRY, GLASGOW;
AND 37, SOUTHAMPTON STREET, STRAND, W.C. LONDON.
LONDON HOUSE.—MR. THOMAS BEGGS.

Manufacturers of Rain-water Goods, and all kinds of Cast-iron Fittings for Architectural Purposes;
Patentees of GEORGE SMITH & CO.'S Patent Baths, Bath Stands, and Lavatories,
DRY DEODORIZING CLOSETS, COMMODES, STREET URINALS;
Patent Grave Monuments and Tablets; also Cast-Iron Plain and Ornamental Fountains; Cattle Troughs; and their
REGISTERED STABLE FITTINGS,
Which were selected by the late Prince Consort for Holyrood Palace Stables,
and for which First Premium was awarded by the Royal Highland and Agricultural Society.

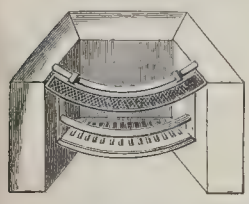


No. 11.—MANGER.

Drawings, Descriptions, Prices, and Testimonials, will be forwarded per post on application as above.

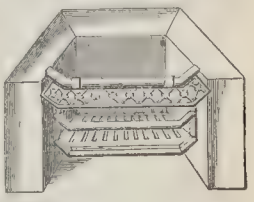
FIRE-LUMP STOVES,

FOR BED-ROOMS, COTTAGES, SERVANTS' OFFICES, BARRACKS, SCHOOL-ROOMS, WAREHOUSES, CHARITABLE INSTITUTIONS, &c.
With hanging trivet.



			£	d.		£	d.
18 inches wide,	10 inch bars.	....	7	6	....	8	6
21	,,	12 ,,	10	6	....	12	0
24	,,	15 ,,	14	0	....	15	0
27	,,	18 ,,	16	0	....	18	0
30	,,	21 ,,	20	0	....	—	
36	,,	24 ,,	30	0			
48	,,	27 ,,	35	0	Extra strong		
42	,,	30 ,,	40	0			

These Stoves give a considerable heat with a small consumption of coal.



EDWARDS & SON,

STOVE GRATE & KITCHEN RANGE MANUFACTURERS,
No. 49, GREATMARLBOROUGH STREET, REGENT STREET, LONDON.

MARBLE OR STONE FENDERS, WITH METAL FITTINGS AND TILE HEARTHS COMPLETE, SUPPLIED AND FIXED.



DRAUGHTS & DUST ROUND DOORS & WINDOWS

EFFECTUALLY PREVENTED BY
GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS
(*Can be had any Length or Pattern.*)

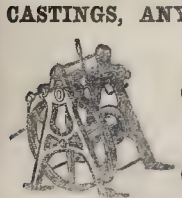
The neatest, most simple, and effectual method of making air tight joints to joiners' or cabinet work OLD or NEW.
Self acting Springs for the bottom of doors.
The most imperfect door can be made air tight without re-hanging.
The Trade supplied on liberal terms.

JOHN GREENWOOD, PATENTEE,
10, Arthur street West, London Bridge

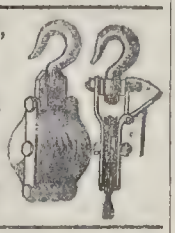


CASTINGS, ANY WEIGHT AND QUANTITY,

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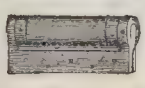
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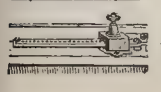
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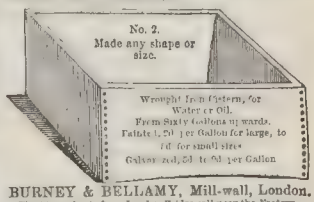


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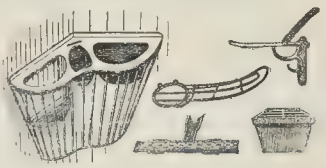
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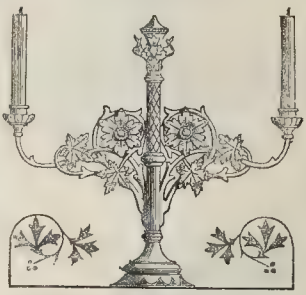
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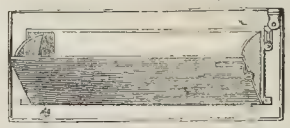
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444, West Strand, W.C. February, 1863.

GEORGE GODWIN, } *Honorary Secretaries.*
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The Builder.

VOL. XXI.—No. 1046.

Building and Excavation in Rome.



THE restoration of Roman monuments in style more or less architectonic can scarcely be dated from any period earlier than the present century, anterior to which her rulers and aristocracy were rather bent upon either demolishing or appropriating to their own uses this city's classic remains. About the earliest instance of *improvement*, with view to rescuing from neglect and decay, though not actually to restoring, was the disencumbering of the Colosseum, ordered in 1675 by Clement X. Under the present pontificate the activity in public works of various kinds has surpassed almost all antecedents in Papal story since the energetic reign of Sixtus V.; and the discoveries made have been most important for the light thrown by them both on Pagan and Christian antiquity. Two disinterred basilicas, on the Campagna, have supplied illustration and local church-history; and the extended range of catacombs given to public inspection has added to the most prized records of primitive Christianity. The Servian fortifications discovered in two places on the Aventine Hill, in the Jesuits' Vineyard (1851), and shortly afterwards in the gardens of S. Sabina, the Dominican Convent, have confirmed the conjectures of well-known writers as to their plans and extent; as also the remarkable fragment of massive stone walls, found on the north-western slope of the Palatine in 1847, has corroborated the tradition of the "Roma Quadrata," most ancient nucleus of the metropolis subsequently extended over the Seven Hills; while the immense constructions in lithoid tufo and travertine, brought to light under S. Clemente in works still progressing at that church on the Cœlian, may be assumed to supply sanction for the more vague theories respecting cities on these renowned hills in an ante-Roman and even pre-historic period. With an exchequer reduced to about one-fifth its former amount of annual receipts, the present government has seldom allowed any suspense of undertakings aiming at public benefit or antiquarian research. Pius IX. has never wanted the king-becoming virtue of open-handed generosity or munificence in the promotion of artistic or charitable objects; and it is reported in trustworthy quarters that for gifts to sovereigns or other favoured persons he has spent more than 60,000 scudi (about 330,000 francs) on pictures, sculptures, bronzes, mosaics, engravings, in great part commissioned expressly, besides about 50,000 scudi on sacred vessels and ornaments for churches. Besides utilitarian advantages first secured to Rome under his rule—gas-illumination, railways, a suspension-bridge over the Tiber, restorations of gateways and walls,—are to be recorded the more decorative works for public monuments, and the repair of fountains, to whose amazing number—no fewer than 660—in this well-watered city, has been added another, with Ionic columns and entablature, on the newly-opened Piazza Pia, between the St. Angelo Bridge and St. Peter's. The injury done to the fortifications on the Trastevere side by the siege of '49 has been effaced by the renewal of the towered gateway, Porta S. Pancrazio, and a considerable extent of bastions on both sides; and the more ancient line of walls under the Pincian Gardens has been in part rebuilt, to supply stronger buttresses to the terrace-walks of that favourite promenade, fortunately without sacrificing that curious remnant of overhanging walls, the Muro Storto, still in exactly the same condition as they are described by Procopius, and were superstitiously revered by the populace during the Gothic siege in the sixth century. Another gateway now being rebuilt is the Porta Pia, on the Nomentan Way, originally raised by Michelangelo, and first repaired about ten years ago, after injury by lightning; now to present an imposing front, with travertine columns on the outer side, and to be adorned by statues of St. Alexander and St. Agnes, because through this gate we pass to the extramural churches of those saints. At S. Maria Maggiore is being constructed a splendid confessional, or elliptical chamber, with steps leading to the chapel under the high altar, by arrangement similar to that at St. Peter's; and as this chapel, hitherto visited with difficulty by torchlight, contains sculptures of the fifteenth century that deserve to be seen, more objects than one will be obtained by the new disposal of the superb sanctuary. It is rumoured that here, within the ellipse before the altar, Pius IX. desires his own monument should find distinguished place.

Among antiquarian undertakings under this pontificate, first in order was that for the disencumbering of the half-buried sepulchres on the Appian Way, begun, under Cavina's direction, in 1850; next was the discovery of the Julian Basilica in the Forum; and a few years afterwards commenced, under superintendence of Visconti, the works still in progress for the disinterment of Ostia, great parts of whose streets and temples have been brought to light, like another Pompeii, after ages of oblivion; and there are few scenes so impressive in this vicinity as that now presented by the partially unburied city amidst the mournful desolation, not without its sad and romantic beauty, of that fever-stricken region. At the meetings of the Pontific Archæologic Institute, Visconti has been, from time to time, reporting on all the more noticeable fragments, epigraphs, and statuary dug up at Ostia, whence several portrait-busts of value have been transferred to the Vatican. In Rome has been found another large Columbarium, still retaining its urns and epigraphs, near the Porta Latina, and therefore not far from the two already open, remarkable for their preservation and monumental contents untouched. Besides undertakings in the metropolis and on its Campagna, works for restoration of the antique in other districts and provincial towns, have been numerous and well suggested in the period we are considering: for more completely isolating the Arch of Trajan at Benevento; for repairing the Temple of Clitumnus, near Spoleto; and the mausoleum-chapel of Galla Placidia at Ravenna; also for some requisite repairs to the ancient walls of Cori (which Gell supposes to be Pelasgic), and to the beautiful Doric Temple, dedicated, according to some authorities, to Hercules—others assume to Castor and Pollux,—that crowns the steep height on which Cori stands, above the valley of the Pontine Marshes. But sacred monuments and antiquities have engrossed the cares of authority and received new features of interest, much rather than those of different character, within this period. In 1854 occurred the discovery of the Basilica and Tomb of St. Alexander, on the Nomentan Way; and shortly afterwards that of St. Stephen's Basilica, alike completely hidden by the rising of the Campagna level, and for centuries forgotten save by the learned; the latter a church of the fifth century, founded by Leo "the Great." In November, 1854, was inaugurated the Christian Museum at the Lateran, filled with sculptured sarcophagi, epigraphs, and paintings (the latter copies) from the Catacombs, judiciously selected out of the most valuable in that range of antiques. Since the end of the sixteenth century the "Congregation of Indulgences and Relics" had been charged with the special care and vigilance over Rome's Catacombs, but they have been in later years watched over, and all excavations in them directed by the Committee of Sacred Archæology. For visiting the most interesting and easily accessible of these hypogees, tickets are given gratuitously to all applicants,* at the office of the Cardinal Vicar's secretary. The Roman catacombs may be subdivided into sixty, extending their corridors and chapels for about 900 miles, in different stories, under the soil of the Campagna, and supposed to have received the bodies of about seven millions of Christian dead. Their use for devotional purposes continued common till the ninth century; but the practice of frequenting them had not, it seems, entirely ceased even in the first years of the thirteenth century. Between 1592 and 1623 much activity was applied to their exploration, after the revival of interest in archæologic pursuits of the sacred sphere; but comparatively few of these subterraneans were known between the Mediæval and this later period, till the discoveries made by the indefatigable Bosio (deceased 1600), who spent more than thirty years in the studies and researches by which he rendered much service to Christian archæology. Since his time no one has effected so much for extending the range of permeable catacombs as the Chev. di Rossi, who, a few years ago, found the entrance to the principal ramification of those of St. Calixtus on the Appian Way, among the most important and rich in art-decoration, with oratories containing the tombs of Sixtus II., Urban II., Eusebius, and other Roman bishops; also that of St. Cecilia, a very curious picture of whom, on a wall in the same chapel, has been copied, besides other paintings in these catacombs, for the Christian Museum at the Lateran.

The now nearly complete basilica of St. Paul is the most splendid example of the munificence with which, spite of public disasters and financial embarrassments, the restoring and embellishing of churches have been effected under this Pontificate; and if we cannot often admire the taste, we must commend the generosity and enterprise displayed in this range of public works at Rome. In response to the circular of Leo XII., 1824, was soon contributed the amount of 1,600,000 francs from other European countries: a Protestant king (of Holland) advanced 50,000 francs; a Moslem prince sent enormous blocks of Oriental alabaster; but subsequently the costs have been defrayed mainly by the Papal treasury, out of which were assigned from the beginning 50,000 scudi per annum for the new edifice; and between 1825—37 had been spent on it 720,000 scudi; 400 labourers being daily employed during that first stage of the undertaking. An anomalous campanile at the eastern end (instead of being, like the ancient one, beside the western façade), has absorbed 120,000 scudi; and for the façades, only just begun, Pius IX. has presented 30,000 scudi out of his private purse, principally towards the costs of a great mosaic, from a design by Agricola, to adorn the upper part. The antique mosaics were fortunately, the greater part, saved

* In the present Pontificate, the visiting of the Catacombs has become admitted into the recognized range of "sight-seeing" at Rome by the whole tourist-public, as never the case formerly. Those for which orders are promptly given are the Catacombs of St. Agnes, on the Nomentan; of St. Calixtus (in the interesting ramification recently re-opened), on the Appian Way; of SS. Nereus and Achilleus, entered near to the former; and St. Alexander, below the exhumed church of that Pope. Others, far less interesting, that may be seen without order, are those of St. Sebastian and St. Pancrace, each entered from below the extramural churches of the same dedication, and where the escort of a friar from the adjacent convent is sufficient.

from the flames, though it has been necessary to alter their disposal over the interior walls. As to the exterior, the architects, Belli & Poletti, will assuredly find little mercy from the criticism of future ages for having, with almost unlimited means, erected an edifice quite below mediocrity, and with all its colossal pretensions, utterly meaningless, paltry to the last degree. Yet there is a regal grandeur in this vast interior that, at the first impression, astonishes and carries away the mind, subdued before that long-drawn perspective and extraordinary accumulation of splendours, however much we must condemn, in calm judgment, such anomalies as the modern Italian baldacchino, on immense alabaster columns, *above* that much smaller Gothic one, of the thirteenth century (a detail saved from the fire), which immediately overshadows the high altar; and the large frescoes along the attics, the lives of the two chief Apostles, by different Roman artists, are, generally speaking, of discordant effect, their tone glaring, their composition deficient in that elevated purity and repose which we admire in the modern sacred art of the Germans. Not a single work by Overbeck or Cornelius adorns this or any other Roman church; though sculptors of highest repute, as Tenerani, Rinaldi, Jacometti, have here contributed, and the St. Benedict, by the first of these, a seated colossal figure over the altar of a beautiful side chapel, is full of patriarchal dignity. The prescription of Leo XII., that the head should be essentially a reproduction of the ancient St. Paul's, has not been consistently observed; in the exterior, indeed, manifestly violated. Its present reality supplies proof how little Rome's artists are influenced by the high and pure type still presented by so many examples in this city, of the Early Romanesque basilica, the only characteristic and nobly religious architecture Rome ever produced under Christianity; and we might appeal to any capable of feeling, whether such temples as S. Sabine, S. Agnese, and S. Lorenzo, beyond the walls, be not far more elevating, and in their majestic simplicity more satisfying than all the overcharged magnificence of the new St. Paul's? The above-named S. Agnese, on the Nomentan Way, is another instance of restoration, with much rich embellishment, carried out under the present Pontiff. Its leading and very graceful features are still those of the original building raised by Honorius I. (625-38), and that olden architecture has been happily preserved intact, though a polychrome decoration, to imitate inlaid marbles, was carried along the spandrils and above the curves of the arches in the nave, medallion heads of Popes, benefactors to this church, interspersed over the same surface, and figures of the Virgin Martyrs painted along the attic above the double colonnade, when the whole was renovated, and the adjacent monastery rebuilt in 1856.

ON THE ARCH AND ARCADES.

PROFESSOR SMIRKE'S CONCLUDING LECTURE AT THE ROYAL ACADEMY.

I THINK it may fairly be said that most of man's greatest discoveries have been the result, humanly speaking, of accident. The manufacture of glass, and gunpowder, the discovery of the magnetic needle, and of the steam engine, are striking, although perhaps somewhat trite, illustrations of this truth. Indeed, the history of science is full of examples of what may be, in some sense, regarded as the *fortuitous* origin not only of the great inventions of human ingenuity, but of many of the subordinate improvements and accessories in art and science. It is not my purpose, however, on the present occasion to expatiate on this wide field of inquiry, or to consider with what propriety the process of the human mind by which it observes, and applies, and appropriates the suggestions offered by external objects, *can* be termed *accidental*.

My only reason for adverting to it is to introduce to your notice a very early and important discovery in the art of construction; a discovery, indeed, which led the way to some of the most important revolutions which have ever influenced the practice of architectural art. I refer to the discovery of the *arch*. I believe that this discovery may really, with great probability, be attributed to accident. This idea forcibly struck me when examining the remains of Pelasgic art in Etruria. We there see no traces of the use of the arch, it is true; but we see in the peculiar masonry of that early period what I cannot but believe to have been the germ of the arch; namely, that fortuitous fitting together of several stones which would admit of the removal of some of them without causing the disturbance of the rest. The pains-taking masons of that period could not have been long without perceiving the convenience resulting from this peculiar collocation to which I refer, and which is the special characteristic of the masonry of the Pelasgi, who are assumed to be the earliest civilized inhabitants of Italy.

I may add in corroboration of this conjecture, that in one of the early vestiges of ancient Rome, namely, the Emmissario at the Lago d'Albano, is a flat arch, such as is technically called a skeme arch, which is just the kind of arch that would naturally suggest itself as one of the first applications of the principle. I must not, however, detain you many minutes on this subject: it is too archæological to be suitable for our consideration here. In thus suggesting the possibility that the arch may have had its origin among the Etruscan masons, on observing the facilities occasionally offered by the collocation of stones in their *opus incertum*, I fear that I cannot claim for them the *exclusive* merit of the discovery; for there is no fact more certain than that arches were used by builders so widely separated from *them* and from each other, both by *time* and *space*, that we cannot reasonably suppose that one borrowed from the other, or that there was any interchange of knowledge.

Sir Gardner Wilkinson tells us of arches in *Egyptian* masonry, to which he considers himself justified in attributing the early date of 1200 B.C. We have, too, brought under our own eyes, in the British Museum, bas-reliefs carved with beautiful precision and in perfect preservation, the representations of walled cities, in which arched-headed doorways repeatedly occur. The date attributable to these examples is, according to our best authorities, the seventh or eighth century B.C. I am informed that quite recently certain excavations made by one of the religious societies, in a vineyard on the Aventine Hill, in Rome, have brought to light well-preserved portions of the ramparts attributed to the regal period of Roman history, composed of excellent masonry; and a perfectly well-constructed semicircular arch has been exposed to view. The antiquaries of Rome regard with confidence this arch as the work of S. Tullius, 578 B.C. The Cloaca Maxima, whose arched entrance into the Tiber is familiar to most who have visited Rome, is by common consent pointed to as the work of Ancus Martius, 640 B.C.; and this is a semicircular arch turned with excellently cut stone voussoirs. It is, therefore, impossible to deny the extreme antiquity of the arch; but what we may feel justified in saying is, that it has been an invention of slow growth; *i. e.* one of which the advantages and wide application were not at once and generally appreciated: nor were the æsthetic and constructive merits of the form marked by any very early recognition. That the Greeks did *not* use the arch is a pretty generally admitted fact: the absence of any indication of it in any remains of pure Greek work is sufficiently strong negative evidence; and the stratagems that we find the builders of that period resorting to in order to overcome difficulties which the arch at once effectually overcomes afford strong collateral proof. I would call attention, for instance, to the construction of masonry over an opening at one end of the Temple of Concord at Agrigentum, in Sicily. The courses sail over on either side of the opening with a view to diminish the bearing of its straight, flat lintel, whilst the ordinary relieving-arch would have answered the purpose so much more effectually.

However, it is certain that, whatever may have been the cause, whether ignorance or the force of habit, for a very long time indeed the value of the arch was not duly appreciated. Nor, perhaps, have we any right to taunt the builders of antiquity with the slowness of their apprehension. Even in our own age of science and civilization, and with all our modern means of interchange of knowledge, a hundred years or more passed between the first discovery of the mechanical power of steam and the full recognition of its utility.

We may regard it, I think, as pretty well agreed that architecture had not appropriated the arch as one of her important features until two or three hundred years before the Christian era. We find it in familiar use during the existence of the Roman republic; and, when once generally adopted, one of the most complete revolutions in the whole history of our art was effected. The whole character of Roman architecture under the emperors seems *influenced by the arch*. The great works of the Pantheon, the Colosseum, and indeed nearly all the great monuments of that age owe much of their character to this system of construction. It is probable that not æsthetic considerations alone, but motives of a practical nature, may have had much influence in favouring the use of the arch. The transport of large, heavy blocks must have at all times taxed the mechanical ingenuity as well as the pecuniary resources of builders. Even at the present day the cost of a stone increases with its size in a compound ratio: how much more so must this have been the case in the early times of which we are treating, when roads and canals scarcely existed? We may then well understand that a system of construction which not only admitted of, but which almost demanded, the use of stones of moderate size, was peculiarly welcome to the builder, and invited his adoption. How rejoiced, too, must have been the architect, to resort to a mode of construction by which not only *cost*, but *time*, was saved, and his boldest designs, his grandest ideas, might be realised in the least possible time. He had no longer to drag, perhaps from a remote distance, his cumbrous blocks of many tons weight, over a trackless country, and then to rear them, tediously and expensively, by the agency of a multitude of labourers. The nearest quarry would now probably be such as to furnish him with stones quite large enough wherewith to turn his arches, however gigantic their span.

Nor was he any longer compelled to select exclusively the hardest and strongest stones for his building: the pressure of weight upon the wedge-shaped voussoirs of an arch is to be measured by the *crushing* power of that weight, whereas the effect of the same weight bearing perpendicularly on a horizontal beam of stone would be much more effectual in fracturing and destroying it.

We see, too, how speedily the Roman builders found that an arch specially favoured the use of *bricks*. The more *ancient* types of temple architecture seem almost necessarily to exclude, in great measure, the use of bricks; whereas an arcuated construction was carried out in every way more advantageously with bricks than with stones.

We may consider, therefore, that it is to the ready applicability of bricks to arch-building, that we owe the existence of the stupendous Colosseum, the Temple of Peace, and others of Rome's proudest monuments.

I may here remark the fact that all the great distinctions of style in our art are traceable, not so much to the genius of the designers as to the *circumstances* of the *time* and the *place*.

How differently would the Egyptians have built had they not had granite and stone quarries available! How different an expression would have distinguished Greek art had Greece been an alluvial country affording bricks only instead of stone and marble! How differently would the Romans have built had they been acquainted with the economic uses of wrought and cast iron!

Were I disposed to encourage the search after a *new style* (a search which I am very far indeed from encouraging you to prosecute), I would say to you, seek it in the application of some *material*, or in the invention of some new *system of construction*; for truly it is in our own art as it is in the fabric of the human body; the general aspect of every animal depends for its varieties of form far more on the structure of the skeleton than on the superficial integuments with which its exterior is clothed.

I revert now to the state of our art, when the arch had acquired that influence which it never afterwards ceased to exercise.

I suppose that we may regard the Tabularium, on the Capitoline Hill, as the earliest, well authenticated, example of a regular *arcade*. An inscription exists to this day which tell us that it was built by Q. Luctatius Catulus, who was consul, A.U.C. 676, a hundred years therefore before our era.

After this date examples become much more frequent. I believe I am justified in saying that the earliest surviving example of the superposition of one arcade upon another is the Theatre of Marcellus, built by Augustus. There was but a step between this system of construction and that which was perfected in that stupendous pile, the Colosseum.

I have, in a lecture which I had the honour to deliver last year, pointed out the deep and durable effect on architectural design that must have been produced on all subsequent time by that marvel of art. When we remember that this building was the great centre of attraction in the pleasure-loving capital of the world; the eager resort of a countless population, whose cry was ever "*Panem et circenses!*" such a building would almost necessarily be the object, *first*, of admiration, and then of imitation. Hence we find the arcaded corridors of the Colosseum repeated in various

parts of the wide-spread Roman empire, thus exercising a powerful influence on the architecture of the whole civilized world. The accomplished artists of Rome were not slow to perceive that, besides the opportunities for rich ornamentation which this union of the arched and columnar principle afforded, and the pleasing variety of effect obtained by this combination of straight and curved forms, there were practical benefits resulting from it: the far wider span that could be given to the *arches* than it would be possible to give to an *intercolumniation*, was an important advantage in a great public building resorted to by the teeming population of Rome; whilst the three-quarter columns, bonded in as they were, so as to form an integral part of the piers of the arcade, became a source of great additional stability to the structure, acting, in truth, exactly as the buttresses in Mediæval work.

It would be out of place *here* to dwell upon the magnificent masonry of this wonderful building; but I would remark that the Roman builders, however deficient they may have been in the higher efforts of genius, were certainly most remarkable for uniting a strong artistic feeling with a knowledge of construction that might well put to shame the puny efforts of modern masons, whose ingenuity generally exhausts itself on ignoble endeavours to pare down their work to the minimum of substance, and to ascertain what is the greatest tenuity that may be given to their walls so that they may just stand—and no more. Certainly, had such penurious calculations influenced the great masters of Roman art, we should not now, at the end of eighteen centuries, be contemplating the gigantic remains that still survive to surprise and instruct us.

It was said by one of the most eminent engineers of the last century, Mr. Mylne, that he derived more practical benefit from the careful study of the masonry of ancient Rome than from any other professional object of his attention on the Continent. With reference, however, to the combination of arches and columns, I am not prepared altogether to defend the union of these two modes of support on the ground of any great propriety there may be in that union. The arches, or the columns, ought perhaps each to suffice for the purpose of carrying the superincumbent weight, without the aid of the other. In the case, for example, of the triumphal arch of Severus at Rome, and the numerous similar structures to which the patriotism of the Romans, and their love of military glory, gave birth, the coupled pillars on either side of the arch seem superadded for no purpose whatever beyond mere embellishment. Critics may differ as to whether that is a sufficient justification. It is a wide question how far an architect is to be permitted to avail himself of forms of no real utility for the sake of their æsthetic merits. I have already, on a former occasion, sufficiently discussed that question; and the result which I,—perhaps I may say, *we*,—came to was, that pure and excellent as is the principle that utility should be at the foundation of all architectural design, a too literal acceptance of that principle would lead to the abandonment of much of that pleasure which we derive from the contemplation of abstract beauty: it would deprive the pinnacle of its crockets and the frieze of its foliage. Such considerations incline me to justify the ancient artists in that pleasing combination of arches and columns which became afterwards so rich a source of beauty, when the cinque-centists came to found on the antique type their own essentially new style.

The arch having now become the form most favoured by Roman architects, we find it entering into the construction of all their most important works, both public and private. An arcaded cloister forms the most marked feature in the beautiful building at Tivoli, known as Mæcenas's villa, but attributed by some antiquaries to a date somewhat later than the lifetime of that patron of art. Arches also form the essential feature of the Temple of Peace, the magnitude of which arches may be understood by considering that the span of each arch or vault is about the width of Regent-street, and is in height up to the crown of the vault something more than the height of the York column.

We have not time, were it expedient, to follow the history of this form through the period of the decadence: the palaces of Caracalla and Diocletian present many magnificent examples of it, and a peculiar character is given to the early Christian basilicas by its almost constant use. An arcade completely surrounded the multangular tomb of Theodoric. The architecture, indeed, of the Bassi Tempi is especially characterised by these arcades, although reduced, it is true, to very insignificant dimensions. The façades of perhaps all the churches of that period were usually covered with them; and it is curious to observe how direct the descent is from these arcaded, Romanesque façades down to the west fronts of our Chichester and Lichfield cathedrals. All art is generative. We begin by simply repeating what we have seen and learnt to admire or revere; but the active mind of man is not content to stop there: it goes on to vary and modify and amplify. New ideas will supervene; new resources of art arise: thus great changes are made, and wide departures suggest themselves, till the original type remains uneffaced, and the parent idea—the arcade, the dome, the spire—is handed down in a numerous and diversified progeny.

Hastening now on to the Early Renaissance, I do not call to mind any surviving building of that date wherein *columns*, if introduced at all, do not play a very subordinate part as compared with *arches*. It is true that Alberti, writing about the middle of the fifteenth century, does lay down some not very definite rules for the *Orders*, such as he found taught by Vitruvius, whose treatise, although then but little studied, was beginning to receive that attention which was afterwards even *too* lavishly bestowed upon it. Nevertheless, it is very certain that the early masters of the Revival sought for architectural effect, not from stately colonnades, but from variety of outline in their masses produced by the infinite diversity of graceful forms afforded by the arch.

If you examine the pictures and frescoes of that early period to which I advert, you will find the painters perpetually revelling in the graces of the arch. Arcades of infinite variety and originality occur in the works of P. Perugino, Alberti, Albert Durer, and others.

But the *architecture of painters* is a subject too pregnant and important to be treated on incidentally or slightly; and I shall, therefore, reserve that subject for a future occasion.

I have now detained you at perhaps more than sufficient length on the historical view of my subject; but all history, remember, is a treasury of useful lessons. The politician is ill prepared for his task of advising how a country is to be ruled if he be not thoroughly well informed how, under various circumstances and at former periods, other countries have been ruled, and with what results; and so the young architect will find himself unequal to cope with the difficulties, or to win in the contests which await him in his future professional career, unless he shall have learnt how his predecessors have contended with and overcome like difficulties. Reynolds goes so far as to predict that, "when the great masters of past times shall cease to be studied, the arts will no longer flourish, and we shall again relapse into barbarism."

It is an undoubted truth that the artist, whatever may be the branch of art he would cultivate, must take these retrospective, general views, if he desires to be well informed in his art. A man who is in search of the *right path* must needs scan well the country around him, far and wide, in order to find it.

My special purpose on this occasion is, as I have told you, to confine your attention to the subject of the *arcade*. I trust I may say, honestly and without risking the charge of conceit, that I feel somewhat of kin to enthusiasm on this subject. In the earlier days of my studies, when I first viewed the noble works which time has spared us on the Continent, nothing attracted a more eager attention, nothing impressed me more deeply, than the beauty of those arcades which, in endless variety, offer themselves to our admiration in that land of art, Italy. It is far from my purpose, or wish, to depreciate the beauty of columnar architecture: the cortile of St. Peter's and the façade of the Louvre are evidence of the noble effects attainable by a simple colonnade: yet it cannot, I think, be denied that the *arcade* has in many respect an advantage over the colonnade: there is more variety of outline in the former; a broader chiar'scuro; perhaps a greater scope for ornamentation; for whilst both alike may present cornices, friezes, and shafts, upon which ornament may be lavished to any extent, the arcade *alone* affords a peculiarly favourable field for the ornamentist in its springing stones, keystones, archivolts, and spandrils. But besides these purely *æsthetic* considerations, there is another point of view in which the arcade may be looked upon with favour. It is obvious that the arcade, and the vault, offer a system of construction which leaves the space they occupy freer, and more unencumbered than any other, not only because the use of the arch permits the points of support to be wider apart, but also because, as I think may be easily shown, the points of support themselves may, *cæteris paribus*, be made, in respect to their area, or horizontal section, smaller in the case of an arcade than in that of a colonnade. The reason is this: when the whole height of the aperture, or series of apertures, in a wall is *given*, the length of the shafts which support an arcade will necessarily be less than their length when they are charged with a horizontal entablature, *by the radius of the arches supported*.

The *stability* of a pillar or shaft, or of any upright support, is, in the language of mathematics, *directly* as their diameter, or horizontal section, and *inversely* as their height or length. Therefore, in order to support any given pressure, whether it be that of an arch or of a horizontal entablature, the *less the height, the less* may be the area of the section of the pillars.

This is no scientific delusion, but an exact, certain, mathematical truth, a truth which may be recognised in the general adoption of the arch, whenever circumstances render it expedient to occupy as little space as possible by the supports. Thus it led to the substitution of arches instead of columns in the Christian Basilicas, for the internal supports of their roofs; and the recognition of this truth no doubt led to the ultimately universal adoption of arches instead of columns for the interior supports of Mediæval churches. It is true that the *wider* the *arch*, the *larger must be the section of the piers* which carry it; but then the diminished length (or height) of the piers compensates for this, and the result is that an equal burthen is borne by less bulky supports when arches are used instead of columns. I fear that in this disquisition about the size of piers I may have been led away into details somewhat too technical; forgetful that within these walls we are limited to the consideration of architecture as a *fine art*; but unfortunately, in architecture, science and art are so intimately blended, or rather so indissolubly connected, that it is sometimes apparently impossible to skim over the surface of one without dipping our wings slightly into the other.

One of the most beautiful applications of the arcade is in the *cloisters of the middle ages*; originating, I presume, in the impluvium, or, perhaps, in the crypto-porticus of the Roman villa. The cloistered court became, in very early Christian times, appropriated as the atrium or fore-court of the Basilica, an interesting example of which survives at the Basilica of S. Ambrogio, in Milan. This cloistered court, so well adapted to the solitary and contemplative habits of monastic life, soon became an essential feature in every monastery, and we find even that *two* such secluded courts were not unusual. At first, probably, mere sheds of wooden construction, they ultimately became objects on which the builders of old loved to display all their power. Even as early as the tenth century, a portion of a cloister which exists at Puys de Vélay, in France, shows much elaborate masonry. The Campo Santo, of Pisa, is a highly interesting and very well preserved example of an arcuated cloister of the thirteenth century, which, although now open, appears formerly to have been glazed, no doubt with a view to protect the frescoes and monuments with which the interior was so richly decorated.

This glazing was a luxury unknown in earlier cloisters, and seems to have been a natural consequence of the growth of tracery.

I must not, however, dwell on this subject of cloisters: the examples are too numerous to render it expedient for me to present them to your notice here. Yet they well deserve your careful study, as being one among the most beautiful of the applications of this principle of construction.

In *civil* architecture, the builders of the Middle Ages were not slow to avail themselves of the arcade. The front of the doge's palace towards the piazzetta, Venice, presents an example of singular beauty; and suggested, probably, those smaller glazed arcades which became one of the favourite modes of enriching the façades of the palazzi in that city during the fourteenth and fifteenth centuries. To the former century is due, also, the noble arcade so well known as the Loggia dei Lanzi, in the principal piazza in Florence. This most original work marks an epoch in the history of our art; for we recognize in it the commencement of the change which took place so early in Italy, and which heralded the return to the ancient types. Michelangelo is reported by Vasari to have so enthusiastically admired this work by Andrea Orgagna that, when a general improvement of the piazza in which it stands was contemplated, he declared that the most perfect mode of ornamenting it that he could devise would

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be to continue this noble arcade around all the four sides of the square; and I think there can be no doubt that, had Michelangelo's conception been realized, one of the most magnificent architectural scenes in the world would have been the result. Some idea of the grandeur of this arcade may be formed by picturing to the mind an arcade considerably higher than Somerset House, consisting of a single range of arches 45 feet high from the pavement to the crown of the arch.

The Campo Santos at Ferrara, Bologna, and Milan, are examples of arcades very remarkable for their extent; and, in the case of the latter example, especially worthy of study as an evidence of the applicability of terra-cotta to the purposes of architectural ornamentation. It is in the style of the earliest Renaissance, and overladen with a superabundance of the most intricate decoration, executed wholely in brickwork, and designed in a quaint and original, but very effective manner.

Those only who have endeavoured to execute buildings with bricks of moulded terra-cotta can fully appreciate the masterly dexterity with which this most elaborate piece of work is carried out; a dexterity which is immeasurably beyond even the remotest *conception* of a London bricklayer.

When the practical difficulty of moulding and casting in mere brick earth minute enrichments with the sharpness and force we here see,—the difficulty, too, of building up and bonding together this multitude of details so closely and solidly that at the end of four hundred years the work should still stand in excellent preservation—with these facts before us, we are constrained to admit that our artisans have a very great deal to learn before they can come up to the level of their ancestors.

The other two cemeteries I have named are also noble arcaded areas, offering valuable suggestions for similar structures in this country; inasmuch as these covered avenues, while they afford a well-protected walk, offer most favourable positions for sculpture and for inscribed memorials.

A uniform, symmetrical arrangement of this nature would surely be better than the chaotic confusion of heterogeneous monuments which our open cemeteries usually present.

It would occupy a great deal too much of our time were I to attempt to enumerate even the most conspicuous examples of this popular and pleasing feature, the *arcade*. Italy abounds in them. The city of Bologna, more than any other city in Europe, or perhaps in the world, is rendered remarkable by them: you may traverse that large city in most directions wholly under their cover; but perhaps one of the most singular arcades in existence is that which extends for upwards of two miles from one of the city gates up to a church built on the summit of a height overlooking the city. This arcade was built by the inhabitants in honour of the church to which it leads, and for the public use and benefit, at their own cost, each citizen contributing an arch.

I am tempted here to ask why so remarkable an instance of the benefit resulting from a combined action in such matters should not suggest the erection of some similar arcade encompassing, or traversing, one of our own parks? Such a cloister would be a work of signal public utility in a climate such as ours.

Now, with regard to the relative proportions which should be given to an arcade, it does not appear to me that any rule can be laid down rigorously on the subject. Much depends, perhaps I might say *all* must depend, on the circumstances of each case. Independently of every consideration of *style*, the *nature* and *position* of the building would have to be consulted before we could determine whether an elegant lightness or a grandiose stability should characterize it; and this applies equally to the arches themselves, and to the piers from which they spring.

The utmost diversity prevails among even the finest examples; and, in truth, it is the facility with which the arcade lends itself to every purpose of our art which is one of the good qualities especially recommending it to the architect. We have had to vary the proportions of the pier to the arch, and we have at our command the widest extremes of effect. There are *pedants* in all pursuits, whether in letters or in art; and our art has, perhaps, more than the sister arts, been the victim of those narrow views which pedantry engenders. We have had our rules laid down for us with a precision that would lead us to infer that there must be some arithmetical gauge by which we may test all the most subtle questions of taste in art. Thus Milizia determines for us that an arch 12 modules wide should never be *less* than 23 modules, nor *more* than 26 modules in height; and with respect to the piers which support them, that their width should never be more than one-half nor less than two-fifths of the span of the arch. There perhaps may be some use in arbitrary or empirical rules of this nature as helps to the student, but they must ever be regarded as mere rough approximations, subject to so many modifications according to circumstances as to render such rules of very limited application. For instance, some of the most pleasing examples of Italian arcades that I can call to mind have their arches springing from single or coupled columns. It is obvious that Milizia's rules are wholly inapplicable in such cases: it is also obvious that, in determining the proportion that the arch and pier should bear towards each other, it is most important to regard the weight and bulk of the superstructure. To an arcade that has but its own weight to carry, a degree of lightness and airiness may be given which would be quite inappropriate when a heavy building surmounts the arcade.

It would be in vain to argue that by the use of marble, or granite, or, perhaps, iron, the slenderest supports may be rendered adequate to bear even the loftiest and heaviest structures: the *prejudices* of the eye must be consulted if we would wish to please it.

There is but one other detail to which I need now refer; namely, the manner in which the arch is made to bear upon the piers or pillars which receive it. This appears always to have been regarded as a difficulty, demanding the exercise of more or less ingenuity, especially when the arches sprang from columns. The earliest idea was to make the arches spring from imposts consisting of so many fractional parts of the ordinary continuous entablature of a columnar order. This is, of course, a very easy contrivance, inasmuch as it involves little effort: the portion of the entablature between each column had but to be removed and an arch substituted. Yet this easy arrangement had its obvious objections: a *stilted*, *unstable* effect is produced, and the cornice returning round over each column has a top-heavy appearance: in fact, it converts this part of the entablature into a sort of overloaded capital of clumsy shape.

This defect became effectually remedied by the total omission of the entablature and by making the arch spring directly from the capital of the column. Examples of this occur so early as Diocletian's Palace, in Dalmatia; and many other instances of the period of the Bassi Tempi. But the incongruity of the square archivolt resting on the circular shaft became soon apparent to the Early Mediæval masons, who struggled to invent some intermediate course. Hence arose the use of those blocks which we see on the capitals of columns in the Lombardic and Byzantine schools. These rude devices are not without merit and originality, and were, at all events, good and sensible pieces of masonic construction. All, however, were abandoned when the facile hand of the Gothic freemason had learnt to overcome the difficulty by a variety of more or less effective contrivances.

At length all further embarrassment was removed by the total omission of an impost or capital, and the archivolt mouldings were continued, and the archivolt mouldings were continued, uninterrupted by any impost whatever, to mark the springing of the curve.

I have addressed to you these somewhat miscellaneous and imperfect notices of the arcade, its history and its construction, and its æsthetic merits, with a view to invite your attention to what I consider one of the most fruitful sources of beauty that our art commands. I would have you study with diligence and with becoming respect the glorious examples that have been bequeathed to us by our predecessors; for I am not of those who seek to despise or repudiate the authority of *precedent*, and who thus set at nought the experience of ages. The self-satisfied who find their vanity gratified by vaunting the superiority of the present over the past—of their own pre-eminence over their forefathers—are precisely the men who do most to check improvement and impede real progress. Yet I would, with equal earnestness, deprecate that blind and unreasoning *subjection* to precedent—that blank and ignoble perverseness that raises up any given style or any given period into an object of idolatrous worship, at the foot of which every votary of art must bend the knee and prostrate his own judgment. All such narrow exclusiveness enfeebles and impoverishes the mind, leading to direct imitation and to a disregard or forgetfulness of the general principles of our art.

It should never be overlooked that, in æsthetic as in other matters, we are reasoning creatures, bound to exercise the judgment with which we are endowed, weak and faulty as it may be, prone to error as it certainly is; yet such as it is we are bound to listen to the promptings of our *reason*, for such in truth is the sole ground on which we can claim superiority over all other of God's creatures. We are taught by the highest authority that has been revealed to us for our guidance, that we should "Prove all things, and hold fast by that which is good." This great dictum was uttered for our spiritual guidance, but it may, I trust, without irreverence, be regarded as teaching *artists* also a lesson. It tells us to make ourselves as thoroughly acquainted as we can be with all that the past has left for our admiration and instruction in art; and with our minds so edified we are to exercise the attributes of reason and judgment in selecting that which is true and good, and rejecting that which, whatever its merits, may appear to us as having become unsuitable or unequal to meet the requirements of the present time.

This doctrine may be stigmatised as eclectic or latitudinarian, and as encouragement to an indulgence in all manner of fantastic excesses. Yet I would reply that into whatever amount of error our ineffectual struggles may lead us, such error would be the result, *not* of any unsoundness in the doctrine, but of our own weak judgment and of our own insufficient intelligence.

Reason and good taste can never be really at variance. If we do *not* take reason for our guidance, to what pyx or star are we to resort for direction? What test in our art have we, if it be not our sense of what is reasonable? Is *tradition* to be the test? Can abstract *science* furnish us with it? Shall *fancy* supply us with the mete-wand with which we are to measure taste in art? Vainly shall we seek to place reliance on any of these insufficient guides.

It appears to me that architects have no alternative but to choose between an entire, blind, and exclusive reliance on precedent and authority; or we must take the dictates of reason as our guide, and endeavour to shape our course under her influence.

Let us then hold fast to that which presents itself to our minds as good and right, allowing no superstitious prejudice to warp our judgment be it *Greek* or *Gothic*; and I think we may rest assured that such a course would afford us the best chance of ultimately, arriving—it may be after a long purgatorial period of folly and excess yet still ultimately, arriving—at a sound, consistent, and original style, worthy of the genius and civilization of the nineteenth century.

In making these remarks in vindication of our right, perhaps I should say,—in enforcement of our duty, to exercise, in the best way we can, that reason which has been beneficently implanted in our minds,—I am very anxious not to be misunderstood as undervaluing that other important duty of studying the works of our great predecessors. I have already urged this duty on you: let me do so again emphatically and with all earnestness.

Has not the text I have ventured to quote told us to "Prove *all* things?" Make yourselves, then, I repeat it, intimately acquainted, not in a desultory, superficial way, but intimately, critically and studiously, with all that our forefathers have done. They have handed down to us treasures which, to disregard, would be to deprive ourselves of the means of acquiring their wealth. It is our great Reynolds who says, with true Johnsonian force, that "Bacon became a great reasoner by first entering into and making himself master of the thoughts of other men."

So also, I sincerely believe that the best possible foundation of originality in design, as much in that art with which I am alone conversant as in the two kindred arts so closely allied to it, is an intimate knowledge of the works of others.

Having in these few words touched upon the subject of the education of an architect, I attempted in closing this my last lecture of the present season, to pursue the subject a few minutes longer.

The nature and extent of the professional education which it behoves an architect to acquire who aims at taking a place among the foremost rank of his fellow labourers, form a large and important question, which has of late excited a deep interest in the profession, and has occupied much of the attention of its elder members; and I can not doubt that on the result of their deliberations may much depend the good or evil destiny of the profession.

But this is not a proper place for dwelling on that momentous question. I must not forget that I am addressing a body of which but a very small portion are architects; and it is therefore necessary that my remarks should apply exclusively to my art in its relation to the sister arts; keeping clear

of those technical inquiries with which our brethren of the other branches of art cannot be expected to sympathize. There is, however, one lesson of which a pretty long experience has taught me the high importance, and which applies with equal force to all the arts of design: I mean the absolute necessity of acquiring the power to *draw* well.

In painting there is, perhaps, no point so emphatically dwelt upon by those who have a right to guide us, as the necessity of acquiring this power; and, in the *sculptor's* art, to draw well must necessarily be of at least equal importance; for in that art *form* may truly be regarded as of paramount consideration.

But I venture to aver that, whatever may be urged on this point by the painter and sculptor, will apply with especial force to architecture.

Truthful representation and a delicate appreciation of form are so essentially a part of an architect's education, that I know of no acquirement in the curriculum of his studies that can take precedence of the power of *drawing*.

I am tempted here to quote the words (*never, I believe, yet quoted*) of perhaps the very highest authority that could be adduced on such a point.

In the very valuable collection of drawings by Michelangelo in the British Museum is an architectural sketch upon a loose sheet of paper, preserved from destruction by the reverence of his zealous scholars, and now stored amongst the most highly-valued of our art-treasures. Upon the margin of this sketch are written, in the well-known handwriting of the great master himself, these words:—"*Desegna, Antonio,—desegna, Antonio,—desegna, e non perd' tempo.*" The Antonio to whom these admonitory words were addressed was probably Antonio Mini, who was a favourite pupil of Michelangelo. Such, at least, has been suggested to me by Mr. Carpenter, in whose able hands these sketches are deposited. The emphatic repetition of the word "*desegna*" unmistakably and forcibly expresses the importance attached by Michelangelo to the necessity of *drawing* well, and it points out with singular force the great master's opinion that unremitting application in the drawing-school is of paramount importance to the artist.

Such application is attended, I need scarcely remark, by other beneficial results besides mere facility of *hand* in the use of the pencil. It is also excellent practice to the *eye*. The power of observing *closely*, and therefore *correctly* and *profitably*, can alone be acquired by those whose eyes are trained by a constant exercise in drawing; and we may add, as the converse of that truth, that he only can draw with correctness who has educated his eyes by constant habit of observation.

In the painter's art, I apprehend that the best safeguard against mannerism is this habitual exercise of the power to see and to represent objects as they really are; and it is almost superfluous to say that in the art of architecture the best security for originality of design is to be found in the acquirement of a full command over the pencil, by which the designer is saved from the tendency to repeat commonplace forms and to follow in a beaten track, and also from the risk of falling into an indulgence in architectural platitudes. My urgent advice, therefore, to all young architects, is that, while the *pen* may well be laid aside as an instrument of very doubtful value in your æsthetic education, and whilst the *tongue* may well be spared its labours, inasmuch as a wonderful volubility of that organ may be found to co-exist with a very slender store of solid knowledge; let your pencil, in the mean time, be ever in your hands; and remember Michelangelo's advice to his favourite pupil, "*Desegna, Antonio; desegna, Antonio!*"

LONDON RAILWAYS.

THE necessity for widening the Metropolitan line between King's-cross and Victoria-street, will present itself, we apprehend, very speedily. A similar necessity must also be felt soon, in the case of the line from the Victoria (Pimlico) Station. The traffic has increased beyond all expectation; and trains of the Great Western Railway will ere long have to be provided for. Indeed, two of the companies at present using the station, have Bills in Parliament for widening the line and increasing the station accommodation. For the northern lines, our readers know, a bridge is being built across the Thames near Cremorne Gardens.

The London, Chatham, and Dover Company have not fixed upon the exact site for a station in the City. Indeed it would appear that this Company propose to bring their line only to Earl-street; and to leave the station, and the line connecting theirs with the Metropolitan Railway, to be constructed by a distinct company. Meanwhile they are seeking to have the time allowed for the completion of their line, extended to the 1st of August, 1867. They have already a line in operation from the Elephant and Castle, through Camberwell, to Herne Hill, and one from the Victoria Station through Clapham and Brixton to the same place. There is a connecting line between these two; and passengers may travel from the Victoria Station to the Elephant and Castle, and eventually, crossing the Thames to the station in or near Farringdon-street, or still further in a northerly direction, in fact to the north and west of England; or may travel in the reverse direction. The two lines, or branches, one from the City and the other from Victoria-street, unite at Herne Hill as already mentioned; and the main line to Dover will continue with a station at the north end of the Crystal Palace, and the one at Beckenham. The Junction between the London, Chatham, and Dover Railway and the Metropolitan, as well as the station, and a connecting line to the new Smithfield Market, form the subject of the Ludgate Station and Junction Railways Bill, promoted by a distinct company. Ludgate-hill is to be spanned by a girder bridge, at a height of 18 feet. Every one seems to regret the prospect of the unmitigated ugliness of such a structure interfering with the view of St. Paul's,—as it is to be feared also may the Thames Bridge with the view from the new Blackfriars Bridge,—yet no one seems to have the will or power to control the proceeding now, further than the City propose in getting power to require that the span of the Ludgate-hill Bridge shall be sufficient to permit of a widening of the street at some future time. The total area scheduled is about 17¼ acres; and it is probable that a large portion of the property at the western end of Ludgate-hill will be taken down.

According to Mr. Heywood's Report (lately presented to the Commissioners of Sewers for the City), from which some of these particulars are taken, the whole area bounded by Eldon-street on the north, London-wall south, Finsbury-pavement west, and Bloomfield-street east, and therefore including Finsbury-circus, and the London institution (but excluding four chapels, and an eye-infirmary), is to be taken for the new Metropolitan Station of the Great Eastern Railway. We have already spoken of the general want of harmony between such undertakings as those of the railways in the metropolis, and the arrangement of the streets. The railways about Finsbury are an illustration of the defective system. The Metropolitan Railway coming to the east side of Finsbury-pavement, will, according to Mr. Heywood, have its level of rails 18 feet 6 inches below the street-level; whilst the Great Eastern Extension will have its level 19 feet above the street. The break, and the ascent or descent of seventy or eighty steps, are very properly commented upon as matters deserving the serious consideration of the City authorities, of the two companies mentioned, and others, and of the Government. The scheme of the Great Eastern Company as it was in 1861, comprised a junction with the Metropolitan Railway; whilst a general station on the site of the circus, was to serve for both railways; and no reason is apparent for the changed intention of the Great Eastern Company. According to Mr. Bazalgette's Report to the Board of Works, this railway will join the North London near Dalston-lane, and the Enfield and Edmonton Railway at Edmonton.

The City extension of the North London Railway, which was authorised in 1860, will, it seems, have its terminus in Liverpool-street, Bishopsgate-street.

It is difficult to make an accurate enumeration of the schemes, or to lay down on the map of London the proposed works and the sites of stations. The lines about Wandsworth, appear very complicated without such a guide. Mr. Stanford's advertised map, if posted up from time to time, may be of service; but the want of good planning which will become a feature of the area of London, will deduct much from usefulness of the means of communication provided. Besides the lines mentioned, however, there are several others. The Charing-cross Railway, which will be connected with the South-Eastern line and the South-Western, will include a line from Charing-cross to Cannon-street,—a more direct route than, without looking to the map, might be supposed. The second bridge will be commenced immediately. The line between Charing-cross and London Bridge, is expected to be completed this summer.

Amongst the proposed lines which would run at a lower level than that of the streets, are the Albert Station and Mid-London Railway, the Regent-circus Railway; the Metropolitan, Tottenham, and Hampstead Railway; and the Kensington, Knightsbridge, and Metropolitan Junction Railway, mentioned in our notice of the Metropolitan; a line passing through the Thames Tunnel; and the Midland Extension to London; but there may be some others. Of those named, the first and last have lately failed to comply with the standing orders. The Regent-circus Railway is proposed to commence at the Great Northern Terminus, and to extend to Great Windmill-street, Haymarket. It would cross over the Metropolitan Railway, the Euston-road being raised 11 feet, with an inclination of 1 in 30. The Hammersmith and City Railway will be connected with the Great Western line near to Portobello-lane, Notting Hill; and the other schemes include those of the Barnes, Hammersmith, and Kensington Railway; a line from the Blackwall Railway to the London Docks; one between Brixton and Peckam in connexion with the London, Chatham, and Dover; a Greenwich and Woolwich line; and the South London, Greenwich, and Woolwich Railway. The London and Brighton Company have lately opened their new line from Balham to Croydon; and are, we hear, about to commence another branch which will pass in the direction of South Norwood, across the country which lies between the first-named branch and the site of the Beulah Spa. Their station at Thornton-heath, by Collier's Water, has been established much in advance of the requirements; but if there are few houses now, there is most extensive preparation for them by the formation of roads. Indeed, in two or three years there will be no break of houses between the Crystal Palace district and Croydon.

The bridges proposed, taking in several that are for road traffic, are very numerous. We hope that the majority of them will be less unsightly than the Charing-cross Railway and the Lambeth Suspension Bridges. One bridge, a high-level, and suspension, would be east of the Tower. There would be others, as opposite St. Paul's; the Temple Pier; Cheyne-walk, Chelsea; Wandsworth, and several places above the metropolitan district. Thus, with the embankment on both sides the river, the new street to the Mansion House, the greater convenience of the steam-boat communication, by means of landing and embarking places which will be in connexion with the bridges; and the footways similar to those proposed for the Charing-cross Bridge, which may be added in other cases; improvement in metropolitan communications is likely to be realized sooner, and even more effectually, than we dared to hope for on occasions when we have treated the subject in its relations with the provision of healthfully-planned and situate places of residence, and with ameliorated condition generally of those who have to toil in the, to say the least, sombre, dirty, and mentally-depressing atmosphere of London.

The appropriation of open spaces like Finsbury-circus, however, will be a serious evil. Judging from Mr. Cowper's reply to a question by Captain Jervis, in the House of Commons, there are no adequate means of preventing such instances of movement in the reverse direction to improvement of the metropolis. We are, therefore, glad to see that Mr. Tite is urging upon the Government the institution of an inquiry into the nature of the various projects.

ROYAL ACADEMY LECTURES ON SCULPTURE.

PROFESSOR WESTMACOTT, in his second lecture, observed that though his last concluded with a somewhat unsatisfactory view of the prospects of sculpture, he endeavoured to show that its return to a healthier condition was by no means impossible or to be despaired of. He had with pleasure referred to the executive power exhibited in the present day; but he had felt it necessary to point out that the present art-impulse in England was calculated to lower the character of sculpture as an art of lofty purpose whose expression should be the highest class of form. But, he added, there was no reason why, if it could be practised on pure principles in its mode of presentation, and with choice of appropriate subjects, having regard to the speciality of this art, sculpture should not in modern times hold an honourable place even when compared with the best schools. This was the purpose of explaining to the younger part of his hearers the system of instruction offered by the Academy; that while the student was acquiring the mere mechanical parts of his art, he should also have his intelligence directed to the principles which should guide the sculptor's practice.

The present lecture was occupied with considerations of a more strictly practical nature. The subject was "Form,"—the crowning object of the sculptor's art. True sculpture can only represent by form. All other means employed by a sculptor to produce the impression desired are foreign to the genius and essence of this art. They usually fall into the category of trick; and such expedients, while they are unworthy the true artist, also have the effect of lowering the character of sculpture.

Thus limited in its means, it becomes very important to inquire in what manner this confined power should be applied.

It may be assumed that the form in which a work of sculpture is presented is understood to be only the *language* in which it is to make its address. The *object* the sculptor has in view is, through this language, to affect the heart and to move the feelings. The problem, then, is how to combine the expressive or sentimental in sculpture with the mode of representation that shall be at once true, and exhibit nature in her most perfect or beautiful aspect.

The highest class of form is found in man, or the human figure. It is, however, well known that from the accidents of life, this originally perfect organization is often subject to deterioration. The true *ideal* is, however, to be sought in the original uninjured condition of the work of the Creator; and the examples for the artist's guidance are to be drawn from this, and not from the less perfect exceptions. It may be asked—where is this ideal of perfection to be met with, it being admitted it is non-existent for general purposes in nature? It is to be found in those remains in which the observation, the sensitive feeling, and the acute appreciation of beauty of the greatest masters of form, the Greeks, have embodied it,—in the best sculpture of the best schools of this art. This is where the student is advised to look for it, and to study it,—not because it is Greek, but because the best Greek sculpture exhibits the most beautiful view of Nature. It took centuries for the development of this idea, but when once the Greeks perceived the value of their system, or rather principle, they strengthened its hold by referring its existence to a quasi-philosophical necessity, using the expression of the Good and the Beautiful as synonymous terms. Here, then, is the safest elementary school for the young sculptor's education.

The limited opportunity in our country for employing the entire nude forms in sculpture, affords no excuse to the student in this art for not making the human figure his most careful study. It should be the groundwork, the foundation of all his exertions. The best course for him is to accustom his eye to the best forms in the school of ancient statues. This will be the standard or gauge which will give tone to his feeling for form. These examples, as they are in fixed action, will be the safest objects for him to draw and model from. From these he may profitably proceed to study from living nature; and coming fresh from the discipline of the selected forms of the antique, he will soon see to what their excellence is owing, namely, to their being based on the only true foundation, nature; but nature without its commonplaces, its accidents, its deformities.

The study of the best works of the ancients leads to the recognition of the conditions necessary for that great result which we call the Beautiful in art. First, it accustoms the eye to its physical qualities, and the mind then by degrees becomes filled with the appreciation of its essential elements, as truthfulness of representation, correct form, fitness, harmony of parts with respect to the whole, and the agreeable flow of lines. The canon of proportion of Polycletus was referred to, with reference to this important condition of beauty and harmony; but, though such formulas have their suggestive value, the student was cautioned against supposing fine sculpture could be produced merely by the laws of the rule and compasses.

Some of the most remarkable statues of antiquity were reviewed for the purpose of showing the students in what their excellence consists; and at the same time the Professor pointed out how striking was the variety of form in all these, as it was required to express particular character; the types of Apollo, Hercules, Mercury, Bacchus, Cupid, and others, being all perfect of their kind, but at the same time differing widely from one another in their respective character of form. It was then shown that the standard of a high ideal among the ancients by no means excluded the most careful attention to natural details; provided only that their use was kept within the limits proper to insure the greatest amount of beauty. This was instanced in some of the sculpture of the Parthenon, now in the British Museum, especially in the statues of Theseus and Ilyssus. The students were advised to compare these with the Discobolus of Myron, the Dying Gladiator, the statue called the Fighting Gladiator, and other works, as instances of inferior treatment in this particular, notwithstanding their peculiar excellence in other respects.

Some works of very great merit by the eminent sculptors of the Italian schools, show the want of that just application of natural details and peculiarities in which the Greeks were such great masters. Michelangelo probably was the most learned designer of the human figure who has lived. His productions strike all judges of art by the energy of character and fearless dealing with form exhibited in them. Yet the effect of this great sculptor's works is admitted to be injured by the too ostentatious display of anatomical knowledge. This never occurs in the best ancient examples. In them the harmony of the whole is alone thought of as an end. The means are never forced into prominence.

A school of Realists would pretend that the mere conscientious copying of a natural object is, in itself, the perfection of art. And so doubtless it is, of mechanical art,—the art of copying. But such art would as often perpetuate deformity as beauty. The object of the sculptor being to express ideas and awaken sentiment by means of form, it cannot be reasonable, or a just homage to the author of perfection, to prefer imperfect form, the result of accident, for the purpose. There may be beauty in a very ordinary, or even ugly face; but this will be beauty of expression; and the beautiful that is there discoverable depends upon totally different conditions to those under consideration. In the sculptor's work, beauty of expression must not be distinct from beauty of form. His speciality is Form. He must not lose sight of that fact; and when Form is proposed to him for his study the very highest and best is intended. There will be sufficient room for him still to show the value of a close study of nature in his works; indeed, without this they will fail to make a lasting impression; but the sculptor must carefully restrain the impulse to carry this too far, and thus to injure the effect and force of the whole by too minute a rendering of parts, and especially of such details as are below the highest standard of beauty.

Some remarks were made upon the treatment of portrait and monumental works in which the taste for particular and minute accidents has often led the sculptor into the most egregious disregard of true art-principles. Thus, if a soldier were to be commemorated, it was not thought sufficient broadly to indicate the military character, but all the details of dress of the very battalion of the regiment to which he belonged, as buttons, buckles, and tassels, were to be correctly copied. But sculptors have gone even further than this; and if the hero, unfortunately, had lost any part of his person, he was to be sent down to posterity thus mutilated, perhaps with only one limb, or, of course, it might be without even one, if such accidents are to be perpetuated. Abuses such as these arise out of the present tendency to dwell upon littlenesses and unworthy details, to the injury of the broad principles which should govern the practice of all art, but which are essential to the success of sculpture. The lecture concluded with recommendations to the students as to the most profitable way of carrying out their studies in the schools of the antique and living model.

PROGRESS IN NEWCASTLE-ON-TYNE.

THE architectural works of this ancient borough are rapidly increasing. At the quay side, where a large amount of rotten and comparatively useless property was destroyed by the great fire and explosion some years ago, there have risen stately piles of buildings. At the north end of the High Level bridge, and near the Blackgate, which leads to the Castle Garth, an immense quantity of old and unwholesome property has been cleared away, and a large and substantial block of buildings, consisting of shops and offices, erected on the site; and we believe that it is intended to continue a uniform line past the west front of St. Nicholas's church to Collingwood-street. The change which will be effected by these alterations in this quarter of the town will be extraordinary. Thirty or forty years ago every building, with the exception of those in Collingwood and Mosely streets, had an ancient and dilapidated appearance. North of the church ran three streets, viz.—the Groat Market, so called from selling oatmeal there; the Middle-street, and the Cloth Market, the latter so named in consequence of an old fair for woollen cloths being held there. The whole of the two central blocks of building were removed some time ago, and the new town-hall is built on the spot. Formerly the view from the Groat Market, looking southwards towards the Norman keep of the castle, was very picturesque: in the foreground stood gabled and quaint-looking houses, and the varied materials of brokers' shops; then came the fine dark grey tower and beautiful lantern of St. Nicholas's church; and towards the Head of the Side the old buildings harmonized well with the massive and crumbling walls of the castle. Ere long, with the exception of the church, the Blackgate, it is to be hoped, and the castle, nearly all will be new which meets the eye here. In Westgate-street changes are also going forward. Immediately above St. John's church is a very good building for the Savings' Bank, and above it a large house with offices for Dr. Gibb. On the site of the old Grammar School, which should, in consequence of its interesting association, never have been removed, stands the monument of George Stephenson. The situation is not altogether satisfactory. Towards the Central Railway Station new and important buildings are springing up rapidly, while at the station itself a vigorous start has been made with the large portico, which will give to Mr. Dobson's noble building a very imposing appearance. Several churches and chapels, too, have been built.

The Tyne is being rapidly improved: what with the dredging and the effect of the sea piers at Tynemouth, ships of nearly twice the former dimensions can now come into the port. There is now on the bar a greater depth of water by 5 feet than there used to be; and all the way to Blaydon (about six miles above Newcastle Bridge) the dredging is being vigorously carried forward. It is hoped that when these labours have been continued a little longer, and the central arch of the old bridge has been removed, and a drawbridge substituted, ships of a considerable size will be able to sail to Blaydon. If this be successfully carried out, and we see no reason why it should not be done, important manufactories will speedily cover both sides of the Tyne in this direction.

In the days of the old corporation vast sums were raised by a duty upon coals, which, if properly applied, should have long since placed both the town and river in an excellent condition. Instead, year after year, shoals were allowed to collect; and in place of large ships being able to reach Blaydon, it was difficult for coal-keels and barges to make a voyage in this part of the river; and after an Ascension Day, when it was the duty of the Corporation to make a survey of their watery boundary, the mayor's and Corporation barges would be stranded for hours. In other parts of the Tyne the impediments were no less troublesome.

As regards sanitary matters, improvements are in progress; but this is slow work, and much requires to be done.

At present there is no cultivated public park; yet north of the town are immense tracts of very desolate-looking land. Part of this is called the Leazes, and is chiefly occupied as a pasture-place for the cows kept by the old *freemen*, who, before the passing of the Reform and Corporation Acts, had the entire management of the pecuniary and other affairs of the town. There is also the Town Moor, a much more extensive tract of land, part of which is used as the race-course.

The general appearance of the Town Moor is desolate in the extreme. There can be no doubt that, if thoroughly drained, both as regards the surface and deeper, and properly cultivated, this range would be very healthy, and the aspect of it would be soon materially changed. Persons in the town have, therefore, proposed to form part of the moor and the Leazes into an ornamental public park for the use of the inhabitants of the town, and to erect certain terraces along the north road, which skirts the margin of the Moor. This scheme is likely to be promoted by the corporation and a large proportion of the inhabitants, but the change will be most violently opposed by the freemen.

It is argued that the Town Moor and the Leazes are at the present time useful as a playground for the youth and children of the rapidly-increasing population. No one would more anxiously preserve useful open spaces than the writer, but in its present state all this land is little better than a waste; and even the cultivation of the district would—not to say anything as to the improvement in beauty—also be beneficial to the health of the town. Besides, there is no necessity for the introduction of a park-like appearance

preventing the usefulness of the land as a playground. An excellent example of this may be seen in the Victoria Park, in the east of London, where are some of the choicest ornamental grounds, and also plenty of space for pasture and all kinds of games.

Formerly there was to the east of Newcastle-upon-Tyne a beautiful walk, one part of which is called Pandon Dean, and the other the Ouse Burn. Here Bewick and his pupils, the Richardsons, Carmichael, Mole, and many other native artists, have studied with advantage. The former of these places, owing to railways, may be said to be amongst the things of the past; and, as regards the latter, its picturesque charms have been diminished by various recent and unsightly introductions. We are told, however, that Sir William Armstrong, of the great cannons, who has a residence at a place called Jesmond, on the banks of the Ouse Burn, has recently bought the whole of the estate from the authorities of Busy College, near Durham. The natural advantages of this spot are great, and exertions are being made to add to these by constructing, near the picturesque and rugged old water-mill, and elsewhere, water-falls, rustic bridges, and so on.

Lady Armstrong has also built upon the grounds a large banqueting-hall of fancy-coloured bricks. The inside walls are covered with coloured tiles. This hall is intended for tea-meetings, and other gatherings of Sir William's numerous workpeople, and the societies and schools of the town and neighbourhood.

With all these matters for congratulation, crimes have been committed which, notwithstanding the intellectual character of the bulk of the inhabitants, show that there is here, as in most other large manufacturing towns, an under-current of neglected ignorance. The children who are growing up in the poorer neighbourhoods should be looked after. It is not in Lancashire alone that the terrible war in America is felt: even in Newcastle, which depends so much for prosperity on our own resources, there are loud complaints. Nevertheless, it seems that there are large orders, amongst others, for stained glass from America, and that much is in preparation for India, Australia, and New Zealand, and for various parts of Great Britain. Since the days of the venerable Bede the Tyne has been famous for its glasswork for ecclesiastical purposes.

MEMORIALS AND MONUMENTS.

Royal Commission to Mr. Noel Paton, R.S.A.—Mr. Paton has been commissioned by her Majesty, says the *Scotsman*, to paint a picture memorial of the Prince Consort—the Royal Family around their widowed mother,—all there but the inestimable, irreparable one—

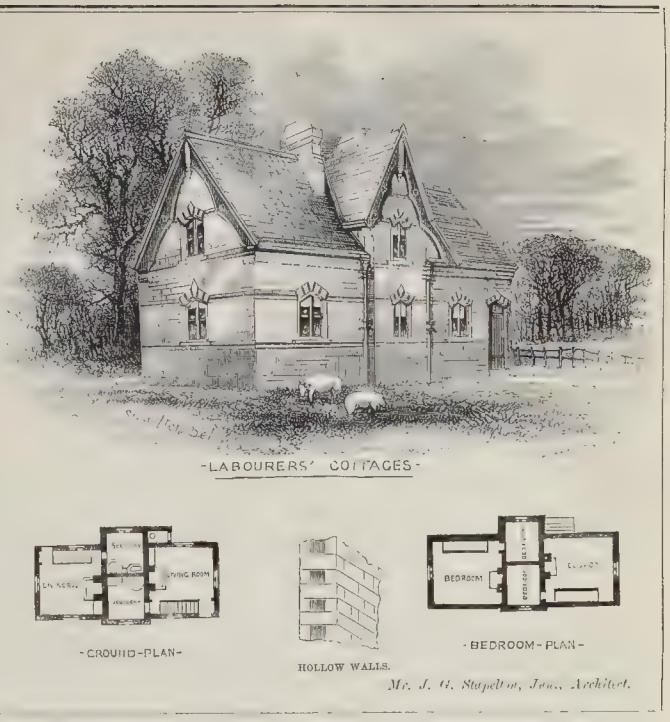
"Whom never more shall they forget or see."

Bishop Hooper's Monument.—The statue of Bishop Hooper has been formally unveiled in Gloucester, in the presence of the mayor and corporation, the local clergy, and about 20,000 spectators. It cost 100 guineas, and was executed by Mr. Thornhill, of Dublin. It stands on a stone pedestal, surrounded by a canopy and a Gothic spire, which have been recently erected by the poorer inhabitants of Gloucester and its neighbourhood, at a cost of about 400*l.*, on the spot where the bishop was burnt. The proceedings of the day celebrated the 308th anniversary of Hooper's martyrdom.

The Yarborough Memorial.—A meeting of the subscribers is to be held at Brigg on the 29th instant, to consider the following recommendation of the committee:—"That the memorial should be a statue of the late earl, placed on an archway across the public highway where it enters the Blocklesby Park from the Brigg road, in the lordship of Kirmington;" or to consider any other memorial that may be proposed.

Statue of the Seventh Earl of Derby.—We understand that a movement is on foot for erecting in Bolton a statue to the memory of James, seventh Earl of Derby, decapitated in this town during the Commonwealth. The gentlemen who have taken the initiative have secured the services of Mr. Calder Marshall, who is preparing a model for inspection.

The Dalhousie Statue.—Mr. John Steell, R.S.A., of Edinburgh, has just completed a marble statue of the late Marquis of Dalhousie, which is to be placed in the Dalhousie Institute at Calcutta. It is a portrait statue in civilian costume, with a military cloak, and is rather above life size. There is no time, it seems, for exhibiting it in this country.



LABOURERS' COTTAGES.

THE cottages illustrated by these engravings were erected in Kent for 180*l.* per pair.* The living-rooms are 14 feet by 12 feet. Contracts have been again taken for the erection of similar cottages in Sussex and other parts.

The walls are generally lime-whited internally, and not plastered. Mr. Stapelton, jun., was the architect.

NOTES ON THE PROPERTIES OF WOOD.

BY wood we understand that portion of a tree between the rind and the marrow, and we have to distinguish the heart from the sap wood. In hotter climates trees generally grow largest. A piece of heart wood is heavier and harder than a piece of sap wood, and a piece cut from near the root will be heavier and stronger than a piece cut from near the top.

The size to which some trees grow is astonishing. A few famous chesnut trees on Mount Etna measure from 60 to 80 feet in circumference: near Worms, in Germany, grows an elm tree (*Ulmus campestris*), called the Luther tree, 116 feet high and 35 feet in circumference: on the island of Teneriffe, a *dracæna* (dragon tree) is seen, 80 feet high with a diameter of 29 feet. Still larger than these are the mammoth trees (*Wellingtonia gigantea*), and the firs, found in America, some of which are reported to measure 400 feet in height and from 60 to 80 feet in circumference.

The inner structure of trees is the foundation of all the singularities of the woods. It is the same in most European and other trees. If we look with the assistance of a magnifying-glass at a cross section, we observe in the centre the marrow, next to it the heart wood, then the sap wood, the cambium, and the bark. From the marrow run out towards the rind thin lines, which are crossed by rings, taking the appearance of the cobweb of a spider. These rings indicate the age of a tree, one being in general added every year. Some trees live very long: for instance, the Adansonian, standing on the banks of the Senegal, is estimated to count nearly 6,000 years.

The yearly rings stand in close connexion with the development of the leaves: if we find them imperfect, it has been caused by the loss or the freezing of the branches. It might also have been effected by dryness, or by insects and larger animals who live upon and in the trees. Among the most destructive in the animal kingdom which attack trees are enumerated the cockchafer, horn-beetle, the barkscrab, the castor, hares, rabbits, squirrels, and deer.* In some instances it has been found that the August sap forms in the same year a second ring, by which the age of a larger tree becomes doubtful if it is estimated from its yearly rings. The formation of these rings is not so clearly marked in the wood which has grown in hotter climates. A strange appearance is caused by the unequal width of the rings, and in fact it is never that two of them are found alike, or at least very seldom. This feature is, however, of value, because one may judge by it upon the physical condition of the wood; and we will, therefore, examine this point more closely.

The fir, which grows on very dry marl, forms very narrow yearly rings; if on rich or damp marl, they are wide; and when on wet soil, they are again smaller. The common fir, on moor soil, has even smaller yearly rings than if on dry sand or marl. From this it is evident that too wet or too dry a soil is not suitable for the promotion of this tree.

The alder (*Betula alnus*), the willow (*Salix*), and partly, also, the ash tree (*Frascinus*), grow best on wet soil, and thrive but poorly when standing dry.

The healthy life of a tree requires a certain amount of light and constant fresh air, which are necessary, besides the nourishment which it derives through its roots from the soil. If a tree is transferred into a more suitable climate or richer soil, it will naturally improve in condition; but should any element be deficient, we shall notice no improvement, or the tree may improve in one way, such as increase in size, while it suffers on the other hand; for instance, loses in its specific weight. A pine with small yearly rings is of good quality, for we find each spring or summer ring surrounded with riper autumn wood, richly saturated with resin.

Towards the bark the autumn rings remain about the same thickness, whilst the softer portions are seen larger. A white fir-tree, twenty-five years old and situate in a tolerably suitable ground, may have a diameter of 3 inches or more, whilst another on dry ground will be but 1 inch thick. With the former the yearly rings will be 2·5 mill., and with the latter 0·16 mill. If we submit a cross section of each under the microscope, the former will appear like a net with

* See Vol. XIX. of *Builder*, page 600.

* A full description of these and their peculiar habits may be found in Ratzeburg's "Waldverderber."

large pores, while the second looks almost like one solid mass. This fact illustrates the cause for the many accidents which have not their immediate origin in the rotten or bad state of timbers. The greatest attention should be paid to the point in the selection of masts and spars in ship-building yards. The usual width of the rings in the fir, when young, is 2·4 mill., with a slight decrease towards the bark: the smallest rings are found in the Swedish and Russian firs: this may be ascribed to the short summer in those climates: however, they are found similar in more southern climates; therefore the same result is brought forward under different circumstances.

The leafwoods with large pores deserve special observation. Analogous but opposite to those made with the pines, we notice with them that, although the rings become smaller, yet the quantity or bulk of the porous spring wood does not diminish at the same ratio; therefore, a cubic inch must contain more mass the less we find pores in the same; or, in other words, the broader the yearly rings, so much greater will be the mass of the wood: the reason is, that the pores are considerably smaller on trees with broader yearly rings, and at the same time less numerous. The outer rings of trees are often found almost as porous as the root-wood. This is still more frequently the case with the branches of the trees. If we have, therefore, to select between two oaks, we shall choose the one with the broader yearly rings, because we shall have in a cubic foot of the same a larger quantity of wood than in the other.

Should it so happen that a whole forest produces trees with wide yearly rings, and another forest trees with small rings, then the question arises whether the former is caused by the wet condition of the soil; in which case the wood in the first will be more porous and loose than in the latter. We must, therefore, take into consideration the specific weight, as well as the broadness of the rings; and if we find both correspond, then we may conclude that the timber is sound. Wood that has rings of more than 6 mill. wide for a section of some inches, should not be used in building: it is only fit to be burned. Trees which have grown in marsh or clammy soil, along rivers, furnish bad timber.

If we dissect the stem of a tree throughout, and notice the yearly rings, we find many diversions, for the explanation of which we have to refer to the organization of the growth of the tree.

In pines we find more regularity in the width of the rings, from the centre towards the bark: this process depends much upon the position of the tree and the surrounding influences. With leafwoods we find a greater variety in the rings, but these as well as the pine have that same feature in common, that the rings increase towards the bark, and that close to the latter they decrease again. The number of branches influence the width of the rings in their position; and if a stem was cut through in its centre, we might then form the relative width of the rings in the various heights, and come to a conclusion as to the cause of their changes. It is necessary to remark, that the assertion that the rings are wider on the south side of a tree than those on the north, is devoid of all truth; still, excentric trees have broader rings on the projecting side than on the flat side; also inclined stems and branches show them smaller on the upper side. The bark is of importance to a tree: it acts as a protective band for the distribution of the sap, and is therefore necessary for the formation of the yearly rings. If the bark is damaged or split in a certain place, we observe that the next following ring increases considerably at this wound: an exception of this is the almond tree (*Amygdalus*), which bends hollow in the place where the bark has been damaged.

If we turn our attention to the condition of the woods, and take a cross section of the stem half an inch thick, it will hardly be possible to detect any difference between the younger and the older wood. If we take a stem of the same wood about as thick as an arm, the centre portion will appear dryer and may be called the ripe wood, while the outer portion is charged more with sap, and called sap-wood. With many timbers the heart-wood is of a deeper colour, or between the ripe wood and the sap-wood is a portion of different colour.

The ripe wood absorbs water less than the sap-wood: it has a greater durability, and it is not so easily decomposed as the latter.

In some trees the destruction commences with the ripening of the wood; for instance, the Canadian poplar (*Populus*) and the willows (*Salix*), which begin to darken in the centre; and by their smell they indicate their decay.

The sap-wood of hard wood trees is of little use: it never lasts for any period; and when used it only serves to introduce destructive organs into the better wood.

When trees arrive at a certain age they should be cut down, if it is intended that their wood should be of good and durable quality. If they are left growing the quantity of wood will certainly increase, but the quality will suffer.

The limits of the period when the trees are to be felled depends upon the development of their wood.

The colour is a prominent feature, not only with the various species, but also of the quality of the wood. If the tree is felled in a rainy or damp atmosphere, for instance, during a mild winter season, then the heart of the wood will retain its natural wet colour for a longer period. In a dry spring atmosphere the heart-wood dries sooner, although the sap-wood retains its moisture longer than the ripe wood of the stem: by this latter process the moisture evaporates and draws towards the bark, by which the sap-wood takes the darker colour of the ripe wood. The proper colours of the various woods are only fully developed after they have been exposed to the influence of the atmosphere for some time. The time when the timber is highest in colour is said to be during the period when the tree is in full bloom, which assertion has, however, not yet been fully verified.

If the colour of an oak is of one cast, it is a sign of its good condition; but it must be of the same shade in the ripe wood as well as in the various yearly rings: as the shades stand under the influence of action from without, a proper judgment upon the condition of the wood can only be given when the tree is forested. In some instances the scent of woods enables us to pass a judgment upon their condition. Persons who pass in the first spring month a number of old white poplar trees (*Populus alba*), will notice an obnoxious smell: this proceeds from the sap, which flows from the decayed interior to the outside. The pine wood will retain its natural smell for years. Leafwood trees have generally a sour smell, and it is reckoned that the stronger it is the healthier is the wood. Should this smell be faint we may judge that the tree is dying off.

The sap which circulates in the tree and promotes its life is composed in its main portion of oxygen, hydrogen, carbon, nitrogen, and sulphur. The same forms a considerable body in the green or fresh wood: it changes more or less in the quality of the wood, and the intimate study of its influences is of great technical importance. It has been said that the sap flows out of a tree after it is cut down. From experiments which have been made it resulted in this being the case with very few woods, and not with the majority: with most of them the moisture evaporates.

The quantity of sap changes very considerably during the season of the year. In elucidation of this a fine example is furnished to us by M. Duhamel de Monceau, and described in his work, "Exploitation des Bois." During the years 1732 and 1733 he felled each month eight oaks of equal age, and from the same spot. These were cut immediately into twenty-five pieces, each 3 feet long and 3 inches square (Paris measure), and he obtained the following results:—

340·718	pounds (Paris weight) in	December.
340·906	" "	January.
328 031	" "	February.
33.·487	" "	March.
311·875	" "	April.
319 500	" "	May.
297·312	" "	June.
297·250	" "	July.
314·469	" "	August.
3.6 875	" "	September.
328 906	" "	October.
331·000	" "	November.

One pound Paris weight = 1·0769 avoirdupoise.)

From these figures it appears that, during the months of December and January, the trees contain more sap than at any other period. It diminishes in October, November, February, and March; next in April, May, August, and September; and its quantity is least during the months of June and July.

From another experiment, made in 1737-38 with six stems of young oaks, it was ascertained that the lower portion of the trunk weighed (hydrostatically determined) of the December wood, 1·132; April wood, 1·016; July wood, 1·017.

This proves that there was most sap in the December wood. The difference between the April and July woods remains doubtful. The same pieces of wood were also weighed when dry, and, compared with the fresh weight, it gave the following result in lb. weight:—

	Green.	Dry.	Loss of Sap.
April wood	57·339	41·839	15·500
July wood	91·851	68·226	26 625
December wood	77·062	52·375	24·687

This shows that the quantity is most in December, and least in July and August. We must not overlook in these cases to take into consideration the influence of dry and wet seasons, by which the sap is materially affected. Contrary to the preceding experiments, the notion prevails that the quantity of sap in a tree is more in the spring than at any other season. Another author, Mr. Th. Hartig, found, after many experiments (which are fully described in Nordlinger's "Technical Properties of Woods") that, upon the average, with most woods the greatest moisture is in the trees during the months of January and February. He reckons it at 50·05 per cent. During the months of March and April some trees discharge through their bark a quantity of sap, from which one should believe that they were full of it, while only 47·5 per cent. is really in them. In May and June they hold 48·5 per cent.; in July, during which the yearly ring is formed, 50 per cent.; and in September, when the ring is fully developed, they contain 48 per cent.

The large amount of sap which is found in stems during the winter months diminishes towards the spring.

Heavy hard woods lose by drying about one-third of their original weight: lighter woods, poplars, alders, pines, &c., lose from one-third to one-half, which in some degree is dependent upon the soil where they were grown. The bark prevents the sap from running out of the stem; therefore, if pieces were taken from the same stem, some with and others without the bark on, it will be noticed that those without bark will discharge much quicker than the latter. Experiments have also proved that the weight of pieces with their bark on fluctuates, whilst the weight of barked wood steadily diminishes. The cause of this difference is most probably due to the hygroscopity of the bark to absorb humidity from the atmosphere.

Wood never loses all its sap: when it becomes air-dry it generally has about 20 per cent. of its weight. It is of importance to know how long various timbers of different dimensions and strengths will take to become air-dry; that is to say, how soon will they arrive at the medium weight which they always maintain, and to which they return whenever the influence of the atmosphere alters it.

Many mechanics require dry wood for their work, but it is not seldom that they use it before it is properly seasoned.

I have before alluded to several instances which affect the due seasoning of timber, and from these it is impossible to adopt a general rule, because in each place surrounding influences must be taken into consideration. Let me, however, refer to the cause of the warping of floor-planks, which has its reason,—that the air does not reach the lower side of the deal. It shows itself stronger where the plank has been planed at the top and the lower side has been left in its rough state, by which a larger quantity of moisture is discharged by the outer side, which causes the warping.

In exposing various woods to the action of water, it will be found that the younger stems are more subjected to its influence, because it absorbs more water than old wood. For hydraulic constructions, none but well-seasoned old hard woods should be used; and the sap wood should also be avoided, because it promotes the decay of the sound parts. The specific weight must next be taken into consideration.

Most of the woods swim in the water. The specific weight of wood is found by taking the dry weight, then thrown into water until quite saturated, after which it is weighed again. We must then weigh it under water. If we then divide with the difference of the second and third weights, which represent the weight of the water displaced by the wood, into the natural dry weight, we obtain the specific weight. This answers in general well enough, but it is not so correct as the process recommended by Mr. Marcus Bull. He justly observes that the wood is liable to swell in the water; and after having taken the dry weight he covered the piece of wood with a varnish having the exact density of the water. This varnish is composed of rosin having a density of 1·079, and wax having a density of 0·967. By this varnish the water cannot penetrate into the wood.

The solid matter of the wood divested of all cavities is heavier than water, and its density or weight, compared with that of water, varies, according to Rumford, from 1·46 to 1·53.

It is very difficult to give a general figure for the specific weight of any kind of wood. Pieces from the same tree produce different results, but the following figures give an average weight:—

Ironwood	1·210
Greenheart	1·200
Sabacue wood	1·100
Brazil wood	1·100
Ebony	1·080
Box	1·050
Medlar	0·950
Lilac or pipe wood	0·930
Oak	0·855
Beech	0·852
Ash	0·845
Yew	0·807
Elm	0·800
Apple	0·793
Fir	0·657
Lime	0·604
Cypress	0·598
Cedar	0·561
Poplar (silver)	0·529
Sassafras	0·482
Poplar (common)	0·383
Cork	0·240

The weight of water for the above is taken at 1 000.

Experience has shown that the time when trees are felled has much influence upon the condition of the wood. A trial was made in Germany with four pieces of oak, cut down in December, January, February, and March. A tin ring was fixed at one end of each of the four pieces: these rings were filled each with two quarts of water, and it proved that the piece of wood cut in December did not permit any water to pass through its pores.

The January wood, after forty-eight hours, passed a few drops; during the same time the entire quantity had run through the February wood; and the water had passed through the March wood in two hours and a half. This accounts for the fact that barrels, of which the wood was felled in February or March, will lose within a year as much as 8 quarts of water, whilst others lose hardly any at all. One should suppose that wood would absorb salt water more easily than fresh water, because of the pressure of the former being so much higher; still, this is not the case; and Mr. Duhamel has proved this by an experiment. He took two pieces of oak from the same plank, each weighing 5 pounds. During eleven months the one was exposed to sea water, and increased only by 2·141 lb. in weight, whilst the other put into fresh water increased by 4·141 lb. in weight.

Wood which lies in the atmosphere will constantly vary in weight, which depends upon the wet or dry season, and as the action is accordingly, we find the wood in its section, in a regular hygrometrical action.

If we attempt to abstract all moisture by heat from the wood, we must not forget that at the same time we destroy its nature; that is, the physical condition of the wood, by which it becomes very liable to break. Too much hot oil on wood has almost the same influence: by this it loses considerably in weight; and soon after the oil has been put on, the wood becomes brittle, and warps more easily than in its natural state.

The remainder of the sap, which is left in the pores of the timber, serves as a binding substance in the whole. It also prevents hygroscopical action provided the tree was cut at the proper time. The hygroscopicity is in constant action in the wood, and affects its body, shape, and weight, which in time leads to its dissolution.

This change is as much a chemical as a physical process, and is noticed in all woods. The weight of wood is of great importance to us because its hardness, resistance, and its heating power, as well as other valuable properties, are all more or less depending upon it. Let us, therefore, enter closer into this subject. In the first instance, we must consider that even wood which has been forested very light will become heavy when put for some time into water; but in such timbers the sap is already given to dissolution. If the fibre were the only substance in the wood, then the specific weight would depend upon the number of pores contained in its body: the pores are, however, filled with a substance such as rosin, die, &c. It comes to this: that young trees contain a great quantity of sap, whilst old trees have in the same proportion less; a volume of air being contained instead.

Suppose we leave the troublesome portion (the water) out of the question for a moment, and inquire into the reason which causes the heavier or lighter specific weight in dry wood.

The hardest and heaviest woods come from the hotter climates: the only exception is the pine which thrives considerably better and furnishes heavier timber when it has grown in colder regions or upon high mountains.

Trees grown on northern slopes furnish lighter timber than if grown on southern or western. In these remarks we have already noticed the fact that the soil has great influence upon the width of the yearly rings; and I also remarked that from this we are able to come to a conclusion in regard to the specific weight. We have since heard of a number of facts by which the connexion between the yearly rings and the specific weight is greatly modified; but, as an instance, I mention the fir and larch trees, which both are heaviest when their rings are smallest.

Another influence upon the specific weight is exercised by the resin and the die which are contained in the interior of the wood. On level dry ground or deep sandy soil we find the fir (*Pinus sylvestris*) beautifully red inside; in the same condition we find the leg-fir (*Pinus mughus*) on turf soil, where there is an abundance of water; but when we look at it on lias soil, it shows broad yearly rings and hardly any colour at all. The larch tree, again, in such soil developes itself well, with a rich colour. The cause for these appearances must therefore rest with the chemical condition of the soil and its effect upon the individuality of the fir. Oaks generally furnish good timber when grown slowly in dry ground, whilst those from wet soil appear comparatively spongy: similar results are obtained with other trees.*

JOS. JUSTEN.

A PREMIUM TO SCULPTORS.

THE ART-UNION OF LONDON.

IT should be known in artistic circles that the Art-Union of London has offered a premium of 600*l.* sterling for a group or single figure, in marble, to be competed for by life-size models in plaster; and, with that liberality of feeling which ignores any boundaries to the kingdom of art, the Council have decided that the *concursus* shall be open to artists of all countries.

The Society in question is far less known on the Continent of Europe than it deserves to be: and we are disposed to note a few particulars of its proceedings for the eyes of our foreign contemporaries, rather than for English readers, to whom they must be partially known. Represented by its agents in all quarters of the globe—from St. Petersburg to New Zealand, from Bermuda to Hong Kong, in Barbary and Port Natal, in St. Francisco and New Orleans—while in some years the subscriptions received have amounted to 650 guineas from the United States, 600 from Australia, 300 from the West Indies, the amount received from the whole of Continental Europe has never exceeded 200 guineas in one year.

We can only attribute this state of things to the want, out of England, of a general knowledge of the advantages which this institution offers. The subscription (one guinea sterling) is high as compared with some of the German art-unions, but the return is more than commensurate. The large reserve fund of the Society enables the Council to put into the hands of the best engravers the most important and interesting pictures in every department of art, and at this moment some of the best works of Frith, Maclise, and others are in preparation. The subscription entitles every member to an impression of one of the plates, to which is frequently added a volume of outline illustrations after the manner of Retzsch. These alone constitute a return worth double the amount of the subscription. The present year's guinea, for example, entitles each member to a very excellent engraving after Dicksee, and a volume of designs illustrating the "Idylls of the King." Besides the engravings there is the chance of a prize in the distribution, which takes place in one of the London theatres every year. The prizes consist of the right to select, by the prizeholder himself, from a public exhibition, a picture or other work of art from the value of 10*l.* to 200*l.* or more, besides statuettes and busts in bronze and in porcelain, medals in silver, choice photographs, some ceramic tazzæ (now in preparation), and other works.

The bronze statuettes are fine specimens of the art, and will bear a comparison with the best samples of Paris work. The production of statuettes in statuary porcelain has been brought to great perfection of late years in England, and the specimens of this work prepared for this society (who may be said to have initiated them), all from copyright models, and exclusively produced for the members, are carefully selected, so that not a faulty or imperfect cast is permitted to go forth. The last work in this material is especially interesting at the present moment, being a bust of the Princess of Denmark, whom the Prince of Wales is about to wed. It is reduced by Mrs. Thorneycroft, for the Art-Union, with the special permission of Her Majesty, from the original portrait bust by the same artist, being the only likeness of the Princess for which she has yet sat in England to any artist.

The medallic series is of great interest, and now comprises fourteen medals, each commemorating a painter, sculptor, or architect, and one of his most famous works.

For these purposes the Art-Union of London, now in the twenty-seventh year of its existence, has raised and distributed the sum of 289,028*l.* sterling. It has sent into distant lands, in which the fine arts were quite unknown, examples of the finest works of ancient and modern art; it has immensely contributed to the increase at home of the love and appreciation of this means of civilization and refinement; and, moreover, it has helped on the road to fame, by purchasing his early works, many an artist who is now quoted as an ornament of his time and country.

* Read at the Liverpool Architectural Society on Wednesday, the 11th instant. To be continued.

SCHOOLS OF ART.

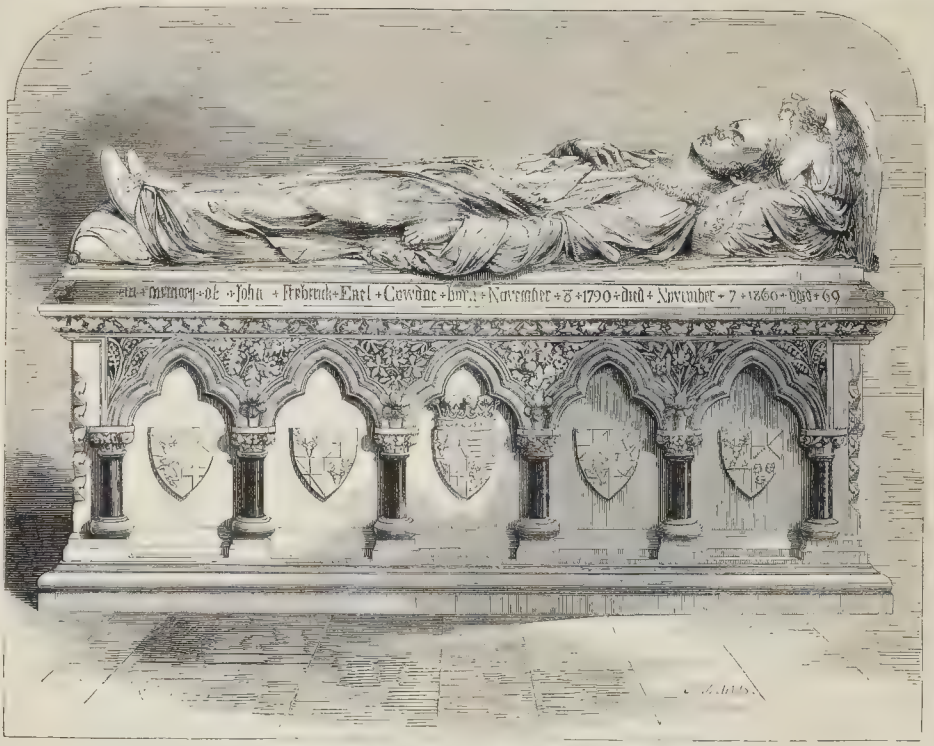
The Birkenhead School.—The prizes at this school have been distributed in the town-hall, Mr. George Harrison presiding. The attendance of ladies and gentlemen was numerous and influential. The students and their friends also mustered in great force. The chairman, in course of his address, gave the following instance of the value of this institution to the working man. I had a labouring man, he said, at the Canada works; who, after he left this school, went to America; and soon after he left Birkenhead a medal came down from Government for him. I sent the medal to the man in the United States, at the place where he had obtained employment as a labourer. On its arrival he was showing it, as naturally he would do, with pride and pleasure to his shopmates. The fact reached the ears of the manager of the works, who called him into the office, and from that day he received very lucrative employment. That was solely owing to his having obtained the medal in the Government School of Art at Birkenhead. Mr. Harrison expressed his regret that the institution was in debt to the extent of 17*l.*, which, however, he cleared off himself.

The Gloucester School.—This school, established in 1859, is at present almost self-supporting. During the past year there have been 128 students in the different classes. Of 89 students there were as follows:—Artist, 1; builders, 6; carpenters, 5; engineers and smiths, 10; railway engineer and surveyor, 1; house-painters, 2; ironmonger, 1; governesses, 2; shipwrights, 3; stonecarvers, 3; shopkeepers and assistants, 8; schoolmasters and pupil-teachers, 15; tinplate-worker, 1; pattern-maker for iron-casting, 1; photographer, 1; wood-carver, 1; plumber, 1; of unknown occupations, 27. Besides these there have been 39 female students attending day classes, and 100 children in the national schools, taught the elements of drawing and geometry. The prizes awarded by the Government inspector have amounted to thirteen medals.

The Brighton School.—The medals and prizes awarded to the students of the Brighton and Sussex School during the past year have been publicly distributed at the Pavilion, before a large and influential audience, composed for the greater part of ladies. The mayor occupied the chair, and Mr. W. Coningham, M.P., and the Rev. J. Griffith addressed the meeting. In national and other similar public schools, 691 children of the working classes had been taught by the head master during the year; and at the School of Art there had been 39 day pupils (8 gentlemen and 31 ladies) and 120 evening pupils (viz., 85 artisans and 35 schoolmasters, pupil-teachers, &c.), making a total of 159, or 850 if the national and other school children were added. The examination took place in December, and the results were that six medals were earned. Mr. Griffith stated that the school was 30*l.* in debt, and suggested a shilling subscription in aid from all present,—a proposal which was heartily responded to, many giving much more than the required shilling.

The Sheffield School.—The annual *conversazione* of this school has been held with the customary *éclat*. The rooms were filled, and various works of art were exhibited. In the course of the evening the distribution of prizes took place in the lecture-hall, the Right Hon. J. S. Wortley presiding, and the meeting was addressed by the chairman, and by Mr. Cole and Mr. Redgrave.

THE ROYAL SCOTTISH ACADEMY.—The thirty-seventh Exhibition at the Royal Scottish Academy opened on Saturday, 14th inst.



MONUMENT TO THE LATE EARL OF CAWDOR.—Mr. Forsyth, Sculptor.

MONUMENT TO THE LATE EARL OF CAWDOR.

This monument, which is erected in the family mortuary chapel in Cheriton Church, near Pembroke, is executed principally in Caen stone, the columns and capitals being marble and alabaster. It is fixed against the wall: the sculptor has, therefore, with a view to give effect to the salient points of the figure from the front, made the head rest a little on the left side, thereby giving the spectator a full view of the portrait, which, we are informed, is successful; and from the arrangement of the hands, which are both in full view, a variety of lines is induced with a repose which gives the *ensemble* a natural and pleasing effect. On the upper moulding of the tomb is an inscription on brass, relating the age of the deceased earl. There is also an inscription in the panel at the head of the tomb, containing the names of his children, by whom the monument was erected. The front panels contain shields with the arms of the different branches of the family.

His lordship was an F.R.S., a D.C.L., and lord-lieutenant of the county of Carmarthen. He built and restored many churches in Wales, nor was he unmindful of the temporal necessities of the poor.

Our readers will probably remember the model of this monument in the Mediæval Court of the late International Exhibition. The sculptor was Mr. James Forsyth, of Edward-street, Hampstead-road, London.

ARCHITECTURAL EXHIBITION.

We would remind readers that drawings are to be sent in on the 2nd of March next. The committee have resolved to admit drawings exhibited at the International Exhibition which had not previously been exhibited elsewhere, but they appeal to architects to contribute at least one illustration of the result of their labours during the year, even if it be merely a detail of ornament or construction.

The report of the committee, just now published, shows that the Exhibition suffered last year through the International Exhibition: the balance in hand (73*l.*) was expended, and a debt of 25*l.* to the honorary secretaries incurred. It is to be hoped additional support will be given this year. The committee are making arrangements with the Society of Sculptors to exhibit in connexion with the Architectural Exhibition; and they feel that, if this can be effectually carried out, a material assistance will be rendered.

The Exhibition will be opened with a *conversazione*, on Wednesday, the 25th of March.

PHOTOGRAPHIC.

We learn from Paris that it is becoming the *mode* there for each lady present at a ball, to leave for the hostess her *carte*, in the dress then worn; and that this is leading to improvement in the means of producing them by artificial light. The photographers, who have probably aided in bringing this about, will reap fresh harvests. Does it ever occur to members of the mighty army abroad and at home now living on photography, that they owe something to Mr. Fox Talbot?——An ex-M.P. suggests that the requirement of a license to practise as a photographer, price say five guineas, would aid the revenue, and clear some of the back streets of establishments where somewhat questionable proceedings are said to occur.——The Photographic Society having determined to award prize medals for the best contributions sent to the Photographic Exhibition, Messrs. Durham & Fenton undertook to act as judges. At the last meeting of the Society, their report was read by the secretary, when the decisions were declared to be as follows:—1, for portraits, Mr. Claudet; 2, for landscapes, Mr. Bedford; 3, for instantaneous pictures, Lieut.-col. Stuart Wortley; 4, for composition pictures, Mr. P. Robinson; 5, for copies of pictures or reproductions, Mr. Thurston Thompson; 6, for best amateur contributions, not instantaneous, Viscountess Hawarden. In our brief notice of the Society's exhibition, p. 41, we pointed out these six contributors, without one exception, as the best.——Mr. Pouncy, of Dorchester, has patented a fresh mode of taking indelible photographs, with the agency of printer's ink. The time required to produce a picture is, moreover, shortened.

BAZAAR BRIDGES.

The idea of connecting the opposite banks of the Thames in its course through the metropolis by means of Bazaar Bridges, was suggested a year ago in the newspapers by Mr. Alcock, one of the members for East Surrey. In a more recent communication, the honourable gentleman showed the feasibility of the plan, and from calculations based upon the cost of the new suspension-bridge at Lambeth, concluded that a profit of 10 or 12 per cent. might be realized on the enterprize.

It has long been felt that the existing bridge communications of London are quite insufficient for the wants of the population, and to provide additional accommodation, a company has recently been formed for the construction of a number of new bridges to connect Surrey with Middlesex. It is proposed to meet the expense of these new structures by the levying of the usual tolls,—a most objectionable method, as practically shutting what ought to be a free highway, and affecting the poorer classes in an especial manner.

Allowing Mr. Alcock, and those who think with him, to speak for themselves,—The great advantage of the plan proposed by Mr. Alcock consists in the absence of any bridge toll whatever,—the interest upon the capital expended being paid by the rents of the stalls or small shops, with which the bridge is proposed to be lined on both sides.

There can be no doubt that free bridges of this sort, in proper situations, would be extensively used, and that the thoroughfare thus created would be sufficient to induce enterprising tradesmen to lease the stalls, and thus two classes of persons would thereby be benefited,—the shareholders and the tradesmen,—not to speak of the invaluable boon which untaxed passage across the Thames would be to the public at large. The accompanying sketches are intended to illustrate the general idea only,—not to show the mode of construction.

BAZAAR BRIDGE, AS SUGGESTED BY MR. ALCOCK, M.P.—*General View.*



A PORTION ENLARGED, SHOWING ROADWAY.

VIEW OF STALLS.

FLORENCE AND PALERMO.

WHETHER, with Rogers, we protest that

> "Of all the fairest cities of the earth
> None is so fair as Florence;"

or with Mr. Hemans,* that "the justness of that poetic dictum recommends itself more the more one contemplates this attractive centre of Italian civilization, olden and modern;" assuredly Florence is a very beautiful city; although we could have little difficulty, we dare say, in exposing some particularly ugly spots and blotches on the fair face even of Florence. Its stately structures, with their marble domes and towers; its cypress groves; and its ancient sanctuaries, have all an especial interest, however, not only for the Roman Catholic, but for every true citizen of the world.

"When one looks down on Florence from the height of S. Miniato, admiring delight may be blent with enthusiasm; for it is the very expression of a high-wrought civilization that scene of fair magnificence presents: the luxuriant Val d'Arno seems a fit framework; and the stately town, with its marble towers and domes, completes the brilliant picture as if by an artist-purpose."

The recent restoration of the ancient Basilica on this hill—so conspicuous an object from the quays along the Arno,—claims attention. A humble oratory amidst forests was the only monument originally marking the spot where Miniatus and his companions suffered martyrdom in the third century; but very soon (early in the fifth century) arose a church dignified by the title of Basilica; to which, become ruinous, succeeded, in 1013, the more splendid temple erected by Ildebrando, bishop of Florence, still standing, with essential features unchanged. This church has long ceased to be used for sacred rites, except that of interment, the commemoration of All-souls, and an occasional early Mass: its uses have now become those of a public cemetery, as is apparent from the numerous epitaphs against its walls and on its pavement.

"In no other Italian church is the celebration of All-souls so touchingly beautiful; and entering S. Miniato this morning [2nd of November, or All-souls], its aspect might strike us as too gaily decorative, too fairy-like, but for those funereal accessories suited to the day's ritual—the black-robed priests, the measured chant to organ-music, the velvet pall and catafalque, the yellow tapers in high candelabra, and purple banner hung from the gilded cross. Its whole area of pavement is flushed with flowers, in garlands, wreaths bound with black silk or crape, or bouquets in vases; and countless tapers gleam amidst these gorgeous piles of Nature's fairest treasures, their pale light aiding the mystic meaning which else might be lost in the joyous loveliness of such resplendent offerings. Here we see a cluster of branching lamps, here a circle of lofty candelabra, or files of humbler candlesticks ranged symmetrically on the tombstone, whose surface is, in some instances, one bed of piled-up flowers, evergreens, and that feathery dark-hued grass peculiar to the Tuscan Flora; but the whole solemnized by the cross, rising, plainly formed of unstripped boughs, from its centre. The cemetery outside is alike adorned and illumined: bright garlands hang against the time-worn marble walls; and where the chiselled epitaph is wanting, an affectionate tribute in large letters on a scroll stretched over the gravestone, supplies its place for the honour of the dead this day."

Lights in cemeteries, therefore, in honour of the dead, are by no means an extinct observance of long past time; but whether the tapers thus lighted in the cemetery of S. Miniato in the daytime are considered to "disturb the spirits of the saints," we do not know; but should rather think not; otherwise the practice would doubtless be prohibited, as it was by the Council of Eliberis, previous to the sixth century. At present, in Florence, there is clearly no prohibition:—

"The Florentines are indeed earnest, and ready for pecuniary sacrifices in regard to these observances, to a degree scarce equalled by other Italian citizens. I was told [continues Mr. Hemans] that one illumination before a monument in the crypt of S. Miniato had cost 100 francs; and the same day learnt that the good woman in whose house I lodged had spent seven scudi for the flowers and lights on the tombs of a mother and son cut off in the bloom of youth. For the whole day these decorations remain in this cemetery and temple."

The church itself is a remarkable-looking edifice.

"One is struck, at the first glance, by the aërial majesty and harmonious effect of this interior,—by the features of the early Roman basilica, preserved in their simplicity amid magnificent details that in no way interfere with the grandeur of the leading design. One singular feature is the spacious crypt, entered under arcades that bound the extremity of the nave, and made more important than the sanctuary itself, which we ascend to by a double staircase above this crypt (or confessional), the latter being thus seen into from the portals, together with the tribune and apse on the higher level. That lower church, divided into five aisles, supported by thirty-eight graceful columns, whose shafts and capitals are evident y (from their disagreement the spoils of more ancient and classic buildings, is a work of architecture extraordinary for the eleventh century; so pleasingly blended are solemnity and grace, lightness and solidity, in its character. In the tribune above are splendid specimens of marble intarsio, on the screen and ambo, unquestionably coëval with the church's origin; but the barbaric style of the figures under the ambo-desk, a supporting eagle with a statuette below, betrays the inferiority of all save the ornamental in that period's art, these being supposed by Rumohr (*Italienische Forschungen*) an offspring of some Greek chisel in the eleventh century. In the apse is a colossal statue of severe and imposing character,—the Saviour, in gold-embroidered vestments, on a throne, holding a closed volume, and giving benediction; the countenance stern and awful, with dark hair and beard, beside Him the letters Alpha and Omega, and below, the accustomed symbols of the Evangelists; on one side, the Virgin; on the other, St. Miniatus, dressed in the regal paludamentum, and offering a crown; palms, fruit-bearing trees, the pelican and dove, and, on miniature scale, figures of monks, occupying interstices; on a frieze below an imperfect inscription, with the date 1297. But is this referring to the mosaic's origin, or to restoration?

In this noble old church we are struck by analogies with the earliest basilica-type, and also by characteristics, thus soon developing, of the style peculiarly Tuscan. Nave and aisles are divided by lofty columns of veined marble, and at the centre an arch spans the width, corresponding to the chancel-arch beyond, and resting on clustering columns of dark green marble (restored in scagliola). Above the arcades on each side rise attics, pierced by narrow round-arched windows; and this whole surface of walls is ornamented with that inlaid work in coloured marbles distinguishing Tuscan Mediæval architecture; but here only of dark green and white; the latter forming the groundwork, on which are inserted diamonds, squares, circlets, and horizontal bands. Some beautiful Corinthian capitals have evidently been fitted to shafts not belonging to them: others, with flat, heavy foliage, betray decadence in art. In front of the arcades, between the upper and lower church, stands an altar, beneath a vaulted marble canopy, beautifully wrought in c ffers and *rovoni*, by Michelozzi, whom Piero de'Medici, 1448, commissioned to prepare this superb chapel for the Crucifix, once here, which bowed its head at the prayers of St. Giovanni Gualberto! Amidst the vicissitudes this church as passed through, several early paintings have been preserved, though others are faded into mere shadows on its walls. Some restoration requisite was ably achieved by Marini. It is six years since the renovation of this church commenced, and workmen are still engaged, though little remains to be done."

The new façade of S. Croce, commenced September, 1857, its first stone laid and blessed by Pius IX., promises a noble addition to the public embellishments of Florence.

"With an estimate of cost at 45,000 scudi, the energetic architect, Chev. Matas, began his task while but a few *paoli* were the instalment yet advanced towards that fund. A wealthy English resident (Mr. Sloane) contributed the greatest part of the entire amount: and in May '61 a royal decree ordered the Municipality to assign 56,138 lire. Long since was at hand the total requisite, for the rest from free-will offerings; and 80 labourers, in the year '61, pursued their work every day under the architect's continual direction. His design is founded, with modifications, on that preserved among the drawings of Cronaca, in a Tuscan Gothic accordant with this temple's character and with the finest models of sacred structure in this city, the material of native marbles, white, grey, dark green and dusky red. When uncovered to view, we may expect to admire in this work a splendid and harmonious design, worthy of the high traditional and patriotic honours attaching to *S. Croce*. Among rich but not over-elaborate details, sculpture has prominent place."

To this convent attach the gloomy and disgraceful remembrances of the Inquisition, whose tribunal and prisons were within its walls till the suppression in 1782.

We may take a glance at Sicily before concluding our notice of Mr. Hemans's interesting volume.

St. Rosalia is a highly-distinguished saint in Sicily; and ever since "the invention,—*i. e.*, the discovery,—of her relics" in 1624, the festival of St. Rosalia at Palermo has thrown all other festivals into shade, even in this paradise of religious highday and holiday observances. The relics were discovered on the ancient Mons Erta, which dominates the wide plain extending to the city of Palermo, and forms a striking feature in the scenery around the city. This height has long been known by the name of Monte Pellegrino: it is a constant resort of pilgrims to the Holy Shrine.

"A level path leads through the valley till, on doubling a steep headland at one extremity, we at once come in sight of the canonical buildings, sheltered by a lofty overhanging precipice, with a few cottages,—one a rustic *osteria* for refreshment,—that cluster around. An outer chapel, first entered, seems neglected and decaying; its only work of art a small statue of the saint on a porphyry column. Thence, emerging into the open air, we enter the sanctum sanctorum, or grotto-chapel above the tomb, where prevails a solemn dimness, partially illumined by silver lamps pendant before the altar, whose light gradually discloses, as the eye becomes accustomed to such gloom, the singularly blent features of art and nature in this wild sanctuary. Its vault of living rock expands into the form of a cupola adorned by fantastic pendants, like the honeycomb vault of Arabian architecture. The rudeness of the cavern-like interior brings into relief the splendours of altar and costly offerings; most interesting amidst which sacred objects, thus set in nature's framework, is the recumbent statue of the saint, by Tedeschi, displayed dimly by taper-light, through a double grating; as at the moment of death;—a death that seems rather the rapturous transit to beatitude, that 'melts in visions of eternal day,' than a painful crisis of mortality; the ecstatic and lovely countenance, as well as the graceful form, executed with consummate skill, though this work belongs to an inferior school of modern Italian art, and suffers in effect from the cumbrous magnificence of its golden robe, the offering, valued 2,000 ducats, from Charles III.; the brow crowned with roses, also golden, a profusion of jewelled rings on the fingers, a broken sceptre in one hand, whilst a little angel holds a garland of gold lilies, to place this also on the head: there is altogether an excess of pomp injurious to the artistically-beautiful and truthful in this figure."

How curiously this recumbent and entranced-like statue of "the Virgin Rosalia" of "the celestial life," in its cave, or grotto, reminds one of the ecstacies of mystic saints, in their cells and sanctums; and of the still more ancient trances of the holy hermits of Egypt in their grottoes, and of oracular sibyls in their caves, such as the one Æneas found at Cumæ's "city of the dead," where—

> "In her cave, upon a rock, by night,
> Reclined the mad prophetic Sibyl!"

About a mile beyond the gates of Palermo is a cemetery, planted with cypresses, whose dark foliage and lofty stems are visible from afar; the extensive platform they rise from being elevated above the surrounding valley, so luxuriantly beautiful, in which the Sicilian metropolis stands. Spacious buildings here adjoin an ancient church, originally attached to a Carthusian monastery, bearing traces of past magnificence, though now most forlorn, and apparently abandoned to the fate which threatens, of total decay. The church, in no way remarkable externally, presents, in the interior, an aspect of gloomy antiquity, spacious, lofty, dimly lighted, and stained by damp. To this church the Palermitan population was streaming for the vespers of Easter Monday, A.D. 1282, when the massacre commenced which has rendered "the Sicilian vespers" a phrase of horror. Charles V. mentions an eclipse of the sun on the day the foundations were laid, in the twelfth century; and here, exactly 500 years after the blood-stained vespers of Palermo, was formed the public cemetery.

The sanctuaries of Palermo acquire a new interest when viewed in connexion with recent events. Strange to say, amongst the most liberal and revolutionary of its citizens were the monks and clergy; and a singular scene presented itself at the Rosalian festival of 1860.

"On the 15th July that year, St. Rosalia's festival assembled a grouping of display yet unprecedented, and contrasts stranger than fiction ever exerted itself to imagine, within the Norman cathedral. From an early hour the national and the 'dictatorial guard' had been on duty within and around the church: presently, in all the pomp of Spanish etiquette, arrived the senators* in long black silk robes, with sleeves and collars of gold embroidered white, driven in two ponderous gilt chariots shaded by white plumes and overspread by the wings of the imperial eagle, heralds with drums and trumpets sounding in the van; but one whose appearance was greeted by the shouts of thousands louder than the burst of military music, came in a common hired coach. Entering the church, that man was received at the portal by the archbishop and canons with holy water and aspergillum, as royalty or its representative; and with this venerable retinue passed up the nave to the splendid sanctuary, a scarlet canopy supported over his head: that soldier in the red blouse sat on the viceregal throne, his broad-brimmed Calabrese hat on his knee, his black handkerchief loosely thrown round his neck, but acquitting himself with all the propriety required by his novel position during the Pontifical High Mass that followed; after which ceremony, the civil officers returned in the same state to the Royal Palace, but now escorting in one of their gilt coaches the Liberator of Sicily; and there in the post of honour, the long-robed magistrates opposite, visible to all through the glazed panels, was the place of the Hohenstaufen, Anjous, Bourbons, of the Viceroys of Spain and Naples, this day filled by Garibaldi!"

Mr. Hemans's new volume is full of curious interest: besides a mass of descriptive and historical details regarding the monuments and sanctuaries throughout Italy, there is much interesting matter in it as to Italian literature, poetry, and the drama.

SOCIETY OF ARTS MEMORIAL OF THE PRINCE CONSORT.

AT a General Meeting of the Society, on the 7th inst., Sir Thomas Phillips in the chair, the Council recommended that the memorial should consist of a bust of His Royal Highness in marble, to be placed in a suitable manner in the great room of the Society; and that a gold medal, to be called the Albert Medal, should be provided by the Society, to be awarded by the Council, not oftener than once a year, "for distinguished merit in promoting Arts, Manufactures, or Commerce."

Sir John Pakington, bart., moved the adoption of the report. He had no hesitation in saying that, in his opinion, the recommendation of the Council—that they should erect in that room a bust of His Royal Highness—was the best that could have been made.

Mr. J. H. Murchison seconded the motion for the adoption of the report; and he was glad to find that every suggestion which he made on a former

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* "Catholic Italy: its Institutions and Sanctuaries." Part II. By Charles Hemans. Florence: Printed by Cellini & Co. London: F. F. Molini. 1862.

* The municipality of Palermo, as also of Messina, bear this dignified title, "senate," being composed of a pretor, and six assessors of patrician rank.

occasion had been adopted by the Council. He thought—although a bust was an appropriate method of keeping alive the memory of the Prince—yet, to perpetuate the great objects which His Royal Highness promoted when living, the founding an Albert Medal was a recommendation which was deserving of the strongest approval and support. This Society, he believed, since its foundation, had awarded no fewer than 20,000 premiums for the promotion of the arts and sciences; and if, in future, they had a medal to be denominated the Albert Medal, it would be as greatly coveted as the Copley Medal of the Royal Society.

Mr. J. Scott Russell said he would suggest the alteration of the word "bust." A bust, as generally understood, meant a rather insignificant work of art. If a little latitude were allowed, and the work of art were not called a bust, he should prefer it.

Mr. Godwin suggested the use of the words "sculptured memorial." He trusted that, whatever might be the result with regard to this question, the artistic element would not be lost sight of in the proposed Albert Medal, inasmuch as that was a branch of art in which they were at present very deficient, from the very little encouragement that was given it.

Mr. F. Lawrence thought the Council had very properly worded their report. A good bust was better than a bad statue. He hoped the decision of the meeting would be in favour of a bust, which they might all admire, as the result of competition amongst the artists of the day.

Mr. Underdown thought the recommendation of the Council should be adopted in the matter of the bust. He did not agree with the gentleman who had suggested competition for the design of the bust. He thought the system of competition in art was bad, and had this serious drawback—that the better class of artists would not compete.

Mr. W. H. Bodkin said, the wording of the report was such as to admit of any accessories to the bust which the means at command might enable them to supply, so that the report might be adopted in its present form, with the expression as it there stood, "to be placed in a suitable manner in the Great Room of this Society."

Sir John Pakington did not agree with Mr. Scott Russell in his remarks, depreciating, as he thought, unduly, busts as works of art. They must all have in their minds many instances in which marble busts were very splendid works of art; and he thought it would not be desirable that any expression of opinion should go forth from this Society to undervalue the importance of such productions. But having said this, on the other hand, he really felt very little choice in his own mind whether they placed in that room a bust or a statue of His Royal Highness. He thought the matter might be left open by the addition of the words either "sculptured memorial," or "portrait in sculpture."

After some remarks from other members,

Mr. Bodkin suggested that the resolution should be passed as it stood; and if hereafter it should be found expedient to depart from it and to extend their design, the Council could report to that effect to a future meeting.

The original motion and an additional motion as suggested were then both passed unanimously.

INSTITUTION OF CIVIL ENGINEERS.

Wood in India.—On the 3rd instant (Mr. Hawkshaw, president, in the chair), the paper read was "On the Woods used for Sleepers on the Madras Railway," by Mr. Bryce McMaster.

The native wood sleepers having hitherto been found for the most part to fail,—on the Madras Railway between 30 and 40 per cent. requiring to be renewed annually,—the author undertook an investigation with a view of ascertaining the causes of this deterioration, and whether those causes could be overcome, so as to render available the vast resources of India. Thirteen hundred sleepers, of sixteen different woods, were submitted to careful examination and scrutiny twice at an interval of twelve months. The sleepers were variously placed, both on embankments and in cuttings: in some cases they were entirely covered with ballast to a depth of 4 inches, while in others they were as much as possible uncovered, and completely so from the rails to the ends, the ballast being only raised 2 inches in the middle of the way, and sloped off so as to carry away the water under the rails. From these observations it appeared that only five woods—Chella Woonjay, Eloopay, Kurrah Murdah, Palay, and Karavalum—were sound at the end of two years, the other eleven not lasting even that time. Also, that when the sleepers where uncovered, decay was less rapid than when they were buried in the ballast. It was noticed, that of the sleepers beginning to rot, 19 per cent. had commenced under one or both chairs. This was due to the retention of moisture under them, and might be remedied, the author believed, by tarring the seats of the chairs.

English creosoted sleepers led, say, 100 miles by rail and 50 miles by road, cost 9*s.* 6*d.* each; while good, native wood, plain sleepers delivered at the works averaged 6*s.* each. If establishments and apparatus for creosoting were erected in convenient positions near to each extensive jungle, it was believed sleepers of common wood might be procured for 4*s.* 6*d.* each, and be creosoted for about 1*s.* each.

In proof that the resources of India were likely to be equal to the demand, reference was made to the report of the Conservator of Forests for the official year 1859-60. From this it appeared that from the Salem Jungle alone—one probably of twenty in the Madras Presidency—about 246,000 sleepers, or sufficient for 133 miles of railway, had been cut during that year. Of this number about 62 per cent. could not be used plain, and were practically useless, owing to the want of artificial means for preserving those of a perishable nature. But as a supply from each jungle of 2,000 sleepers per month would provide for the construction of 500 miles of railway in that Presidency within the next five years, and for a renewal of 33 per cent. of those already laid, it might be confidently anticipated that the supply would not fail, if means were taken to make the naturally perishable sleepers last a reasonable time.

Drainage of Towns.—On the 10th, Mr. McClean, V.P., in the chair, the first paper read was a "Description of the Drainage of the Borough of Dundee," by Mr. John Fulton.

It was stated that, previous to 1851, this town was in a most defective condition in a sanitary point of view. In that year the borough was brought under the powers of "The General Police Act for Scotland;" but owing to a defect in the drainage clauses of the Act, the sewerage was not commenced until 1856. It, however, progressed steadily after that date, and was entirely completed in five years, at a cost of 52,000*l.*

In designing this drainage, one primary object kept in view was the application of the sewage to some useful purpose, although, in the mean time, it was allowed to flow directly into the River Tay. Accordingly, the whole drainage, so far as practicable, had been carried to one point—the outlet of a sewer previously constructed by the Harbour Trustees, to intercept the drainage of the town, and prevent it from entering the docks or tidal basins. The sewer had a fall of 1 in 400, was 7 feet high by 3 feet 9 inches wide, and its discharging end was 8 feet below the level of mean tide. The sewage discharged by it, in dry weather, measured 2 feet in depth, and during storms, 6 feet. The velocity, in the former case, was 65 feet per minute, and in the latter 116 feet per minute. The drainage had been carried out by a combination of brick sewers and salt-glazed fire-clay socket-pipes, of dimensions suitable for the discharge of the sewage and the flood waters combined. The whole of the brick egg-shaped sewers were provided with invert blocks of glazed fire-clay.

In the course of the paper the statement was made that no ventilation whatever had been applied to the sewers in Dundee, and none was contemplated; for although a length of thirty miles of main sewers, and nearly as many miles of branch drains, all closely trapped, had been in use for several years, not a single complaint had been made regarding foul emanations from them. The sewers were kept free of all silt, except sand, by the flow of the ordinary sewage and rain-fall, regulated by the flushing gates, so that no putrescent substances were retained in the sewers or drains, to fill them with deleterious gases, and to poison the inhabitants. It was believed it was only where sewers were badly constructed, as regarded their form and water-run, that putrid matters were retained in them to bring disgrace on the very name of drainage. It was thought that no sewer under 10 feet in height ought to have an invert of more than 9 inches radius, and that a radius of 6 inches was quite large enough for the invert of any ordinary sewer. When the sewage was confined to such a small compass as this, its scouring power was very great; and if care were taken to have the invert blocks laid to a straight line, there would be but little silting, even with a slight fall.

In conclusion, it was stated, as the result of the drainage of the town, so far as could at present be ascertained, that as compared with former years, a decided decrease had taken place in the rate of mortality.

The second paper read was a "Description of the Sewerage and Drainage Works at Newport, Monmouthshire," by Mr. Alfred Williams.

It appeared that, prior to the construction of the works which formed the subject of this communication, several miles of sewers and drains had been built at different times, but mostly in an imperfect manner, and without regard to any general system.

The plan comprised about seven miles of new brick sewers, varying in height from 14 inches to 4 feet 6 inches, all above 14 inches being egg-shaped and narrow at the invert; with outlet works; also of a sufficient number of entrances with ventilating shafts, and of street gullies. The contract for the works was let to Mr. J. Phillips, and their cost had amounted to 11,862*l.*

The author did not consider it advisable to use stoneware pipes as main sewers, having regard to the circumstances of the town, the existing works, the relative cost of brickwork and pipes, the quantity of *débris* washed from the roads into the sewers, the difficulty of preventing improper interference after construction, &c. Under the Newport contract, the cost of radiating brick sewers 14 inches diameter and 4½ inches thick, at a depth of 10 feet, with a junction-pipe for every house, was 7*s.* 7*d.* per lineal yard. This was about the same as a pipe 12 inches diameter, well laid, with junctions. Sewers 2 feet 6 inches by 1 foot 10 inches, of brickwork 4½ inches thick, similarly constructed, and large enough for a man to pass through, cost 11*s.* per lineal yard. The author generally recommended brick sewers not less than 2½ feet high for all important lines, excepting where the fall was very great; and he confined the use of pipes to house-drainage, for which they were admirably adapted, to short branch sewers on steep inclinations, and to conduits for fresh water.

The rate of mortality in Newport in 1850, previous to the adoption of the Public Health Act, was 30·3 per thousand, whilst for the two years ending Michaelmas, 1861, it was rather less than 20 per thousand, or below the average of England and Wales. This very large decrease was no doubt due, under Providence, to efficient drainage and water-supply, to the prevention of overcrowding, and to other sanitary measures.

BRISTOL SOCIETY OF ARCHITECTS.

On the 12th instant, this society held its first ordinary meeting for 1863; Mr. Gabriel in the chair.

The hon. secretary, Mr. E. W. Godwin, explained the adjournment of the last two ordinary meetings. He said the papers promised by the president and Mr. Clark were, of course, not to be expected in the midst of their domestic afflictions; and the long-promised paper on fenestration, by Mr. Lysaght, was again put off by the author only a day or two ago. Under these circumstances he felt himself again bound to come forward with a paper rather than that the ordinary meeting should fail for want of a subject for discussion. He then read a memoir of the destroyed monasteries of Bristol, with some reflections on the present state of art. In the course of the discussion at the conclusion of the paper,

Mr. J. B. Atkinson called in question the assumed connexion of Gothic and Classic, and held that the monstrous births of new styles in the present day was one of the results of false eclecticism.

PROVINCIAL NEWS.

Leiston (Suffolk).—The Works Hall, at Leiston, which has just been erected, in the Italian style, at the expense of Mr. Richard Garrett, has been opened. The new hall, which measures 74 feet by 34 feet, will be used for different gatherings, and specially for the drill of the 9th Suffolk Rifle Corps, under the command of Capt. R. Garrett, jun. Two smaller rooms above have been devoted by the proprietor respectively to the Mechanics' Institute and to a committee-room, besides providing for the comfort of the workmen who live at a distance, giving them all the appliances of a home for their meals.

Leicester.—A warehouse is about to be erected for Mr. C. Noon, on a plot of ground adjoining the Temperance Hall, in this town. Mr. Millican is the architect. Mr. Firn's tender has been accepted for the work appertaining to the bricklayer, &c.; and Mr. Clifton's for the carpentering. Mr. Firn's estimate is 3,079*l.*, and Mr. Clifton's 2,378*l.*

making a total of 5,457*l*. The lowest of the whole tenders is that of Mr. Osborne, which is 5,464*l*. The following are the tenders:—Whole tenders: Slap (London), 7,171*l*.; Dennett (Nottingham), 5,999*l*.; Wykes, 5,989*l*.; Bland, 5,900*l*.; Neale, 5,900*l*.; Porter, 5,660*l*.; Osborne, 5,464*l*. Tender No. 1, bricklayers, &c.: Slap, 3,924*l*.; Wykes, 3,232*l*.; Firn, 3,079*l*. Tender No. 2, carpentering, &c.: Slap, 3,247*l*.; Dennett, 2,912*l*.; Wykes, 2,757*l*.; Jarrom, 2,430*l*.; Clifton, 2,378*l*.

Aldershott. — The foundation-stone of the Aldershott Mission Hall, or Soldier's Home, was to be laid by the Right Hon. the Earl of Shaftesbury, on the 11th inst. The institution is intended to supply the means of quiet recreation and instruction to the troops, in addition to providing amusing reading, and facility for chess, draughts, and similar games. Refreshments, of a harmless character, will be sold at the Home at a moderate rate; and the whole undertaking, which has been originated by a philanthropic lady, is intended to counteract the demoralizing tendency of some of the places of public entertainment in the vicinity of the camp to which the troops resort in their leisure hours.

Rodbourne Cheney (near Swindon).—We are asked to state that Mr. Mantell, of Swindon, was the architect of the new vicarage-house here, and not Messrs. Money & Sons, as might be inferred from a recent incidental notice of it while describing the school-house recently opened at Rodbourne.

Wolverhampton.—The Agricultural Hall, which is being erected by a company, is nearly completed, and occupies a prominent position on Snowhill. It is intended by its projectors for use as a corn exchange, and for the display of agricultural implements. The building covers a space of 1,200 square yards. The large room is 160 feet long and 60 feet in width. It is lighted from the roof by means of three rows of colourless rough plate-glass, manufactured for the purpose by Messrs. Chance; the object in selecting this description of glass being to secure a uniform light throughout the building. The roof, which has been made intentionally low, is supported on eleven principals, with circular laminated ribs, having a radius of nearly 30 feet. The distance from the floor to the eaves of the roof is 20 feet, and to the apex 40 feet. At either end of the room are three windows for increasing the light afforded by the roof. One portion of this room is intended for the farmers and dealers, and the other for the exhibition of implements. Adjoining the large hall is an apartment, 40 feet long by 26 feet wide, designed for use as a settling-room; and there is also a sack or store room. The yard contains closets and other conveniences for persons attending the hall. The chief entrance to the building fronts to Snowhill, the façade being of Italian design, carried out in Bath stone. There is a spacious entrance-hall, and on each side of the door are convenient offices. It is proposed that at a future time the portico shall be surmounted by a clock-turret. For the present, however, it will be terminated with a recessed arch, containing an agricultural emblem, indicating the purpose of the building. The other entrance to the hall faces the Cleveland-road, and will be used for the admission of implements. The floor of the interior of the hall is boarded, and flues are laid underneath for warming the room with hot water. The building will be lighted with gas, the large room by means of twelve star lights of thirty jets each, suspended from the roof. The outlay incurred in the erection will be about 2,000*l*. The design was furnished by Mr. J. R. Veall, of this town, architect; and Mr. G. Heveningham is the contractor for the execution of the works.

CHURCH-BUILDING NEWS.

Littlehampton, (Sussex).—Galleries have been erected in the Congregational Chapel of this place, from the designs of Mr. J. G. Stapelton, jun., architect. Light iron columns, with floriated T shaped caps, support the trusses. The purlins between are trussed. The fronts are light iron, supplied by Messrs. Walter, Macfarlane, & Co., of Edinburgh, the design of which was exhibited by them at the International Exhibition. The whole of the works have been executed for 236*l*., by Mr. Snewin of the same place, and by the addition 200 sittings have been obtained.

Worthing (Sussex).—Mr. Blaker, of this town, having sent in the lowest contract for building the Roman Catholic Chapel about to be erected here, his tender has been accepted. It is said to be somewhere about 1,250*l*. The edifice is to be constructed of Bath and Pulborough stone, and flint, and will be designed in such a manner as to permit of the easy addition, at a subsequent date, of chancel and transepts. The structure will occupy an area of about 70 feet by 24 feet.

Clifton (Beds).—The works undertaken for the enlargement and restoration of the church here are fast drawing to a close. They have been carried out from designs by Mr. Edward Haycock, architect, of Shrewsbury. The carving has been performed by Mr. Sansom.

Bacton.—The roof of the nave of Bacton church was recently found to be in a dilapidated and dangerous state. It has now been repaired and straightened; many new timbers, bosses, and carved spandrils have been added; and iron bolts and straps now hold it altogether. The wall plates have been renewed, and harmony has been made with the old red brick and flint arches of the clerestory windows by the use of an ornamental red brick cornice beneath the eaves. The roof has been covered with new green slates. By the use of a scaffolding, contrived by Mr. Elliston, of Ballingdon, builder, the whole of this restoration has been effected without depriving the parishioners of the use of the church. The eastern bay of the nave had distinct remains of ancient colour in patterns upon the timbers. These have been renewed in the old colours, by Mr. Osborne, of Bacton, at the expense of the rector, and under the direction of the architect. This painting was formerly harmonized by stained glass in the clerestory and other windows, which have now only white glass in them. It has been remarked by several persons that the whole roof should be painted; but the rector and churchwardens dissent from this view. It is intended to re-pew and otherwise restore the church.

Hereford.—We understand that the restorations and repairs of this cathedral will soon be completed, and that it is intended to celebrate the event on the 25th of June. The organ is to be removed, and a large sum of money laid out on it.

Wharram-le-Street.—The parish church of this village has been repaired and re-opened. The work of restoration has been done at the expense of Lord Middleton. Stall seats have been substituted in lieu of the old ones, and additional accommodation has consequently been provided; the church now being capable of seating one hundred and twenty persons; being an increase of fifty. The flooring is tiled, and the edifice is heated with Mr. Wood's hot-air apparatus, the cost of which was 20*l*. The roof is covered with Staffordshire tiles. The architects were Messrs. J. & W. Atkinson, of York; the contractors, Messrs. Wood & Gibson, of Malton. Mr. Smiddy, of Malton, undertook the plumbing and glazing, Mr. T. Reed the iron work, and Mr. Severs the painting.

Lullington.—The sequestered parish church of Lullington, near Frome, after having undergone complete restoration and some extensions, has been re-opened. The work of restoration has been carried out by Mr. Jones, of Bradford-on-Avon. The west end has been lengthened, and the old decayed pews have given place to open benches. The architect was Mr. T. H. Wyatt, of Wilton, the Salisbury diocesan architect; and the entire expense has been defrayed by Mr. William Duckworth, of Orchard Leigh, the patron of the living. The organ is by Messrs. Hill & Son, of London.

STAINED GLASS.

St. Anne's, Soho. — The large stained-glass window by Messrs. Hughes & Ward, which formed part of the International Exhibition, has just been set up in St. Anne's Church, Soho.

Little Rissington Church (Gloucestershire).—A painted glass window of three triplet lights has been recently placed in the chancel of Little Rissington Church, in memory of the late Rev. R. Wilbraham Ford, his wife, and youngest daughter, by the sons and daughters of the late rector. They represent seven events of the life and passion of our Lord,—"Our Lord bearing the Cross," "His Baptism," "The Last Supper," "The Crucifixion" and "Ascension of our Lord," "Christ appearing to St. Mary Magdalene," and "Christ at the Well of Samaria," upon a mosaic ground. This memorial is the work of Messrs. Lavers & Barraud, of London.

Newark Church (Notts).—Upwards of 798*l*. have been obtained towards a memorial window in the Newark parish church.

Sowerby Church (Yorkshire).—A window of stained glass has just been inserted in the north transept of this church. The window has been erected by Mrs. Flavell, of Keswick, in memory of deceased members of her family. The window represents the baptism of Christ, and the symbols of the four Evangelists.

Horsley Church.—A window of stained glass has been placed in the east end of the old church: the gift of Mr. J. Davenport, in memory of his grandfather, the Rev. Samuel Davenport. The window was executed by Messrs. Clayton & Bell, of London. In it our Lord's crucifixion is illustrated, in three compartments. The first gives his coming and finding his disciples asleep; the second, his crucifixion; the third, Mary Magdalene weeping at the sepulchre.

Manchester Assize Courts.—At the Manchester Assize Courts, now being erected, the windows having a northern aspect are being filled with stained glass. That in the drawing-room of four lights, furnished by Messrs. Heaton, Butler, & Bayne, of London, is heraldic in design, the heraldry representing the arms of the United Kingdom, with shields enclosed in coloured wreaths. The stained-glass window in the breakfast-room is supplied by Messrs. Edmundson & Son. It is of five lights. The centre represents a full figure of Justice, and the other four lights have each two medallions, containing busts of four lord chancellors; viz., Lords Wykeham, Moore, Bacon, and Somers: and of four judges; viz., Gascoigne, Coke, Hale, and Mansfield. On bands running diagonally are mottoes, illustrative of the power and the justice of the law. Five quatrefoils in the upper part of the windows are filled with the arms of the Duke of Lancaster and those of Earls Ducie and Derby, as representing the territorial interests of the hundred: the other two give the arms of the boroughs of Manchester and Salford, each surmounted by a civic crown. Three windows in the dining-room are being filled with stained glass by Messrs. Lavers & Barraud. They consist chiefly of conventionally-treated foliage, into which are introduced the emblematic flora of the United Kingdom.

St. Mary's, Oldham.—A stained-glass window has been erected in St. Mary's Church, Oldham, to the memory of the late Mrs. Blackburne. The subject is the "Parable of the Talents." Messrs. Heaton, Butler, & Bayne, of London, were the artists.

St. Anne's Church, Dublin.—A handsome memorial window has been erected in this church by the subscription of the friends and admirers of the late eminent physician, Dr. William Cusack, at the north side of the apse. Over the arch of the window is the inscription, "I am the Resurrection and the Life," and the designs are intended to illustrate this text. In the upper tracery is the Resurrection of our Lord himself—the figure clothed in white, and bearing in his hand the banner of victory over sin and death. Beneath are the two angels in white guarding the sepulchre, and in front the two soldiers, "the keepers, who for fear of Him did shake, and became as dead men." The lower part of the window represents, in four panels, first, "The Raising of Jairus's Daughter;" second, "The Raising of the Son of the Widow of Nain;" third, "The Raising of Lazarus;" fourth, "The Raising of Dorcas by St. Peter." Under the window runs a brass plate, bearing the simple, unostentatious description:—"In memory of James William Cusack, M.D., born May 26, 1778, died September 25, 1861." In the body of the church, on the south side, there has been also set up a similar window, in memory of the late Mr. Charles Smyth, of St. Stephen's-green. To him and to his wife, the filial piety of their sons has erected this memorial. The window illustrates the legend which is inscribed on it—"And now abide faith, hope, and charity; but the greatest of these is charity. The artists are Messrs. O'Connor, of London. In the east wall Messrs. O'Connor have also just put up an elaborate mural brass tablet, which is erected to the memory of the late Mr. Charles Ferdinand Smyth, by his widow. The same artists are engaged upon another memorial window, to the late Chief Justice Doherty, for St. Anne's Church also.

Church in St. John's, Newfoundland.—Two windows have been designed and executed by Mr. Evans, of Shrewsbury, for a church in St. John's, Newfoundland, under the incumbency of the Rev. John Pearson. Each window contains a figure, the proportions of which are the size of life: the one being a representation of the Virgin Mary, and the other of the Apostle Peter.

GROSVENOR HOTEL COMPANY.—At the half-yearly meeting of the proprietors held last Saturday, after putting by 812*l*. towards a sinking fund to meet depreciation and renewals of furniture, and 704*l*. as a reserve, a dividend at the rate of 10 per cent. per annum was declared.

ACCIDENTS.

Fall of Brickwork in Malvern Tunnel.—A portion of the roof of the Malvern tunnel of the Worcester and Hereford railway has given way. The tunnel is a long one, covering a single line of rails, and runs through the Malvern range of hills at a point near to the Wyche; and although it is newly-built, yet for months past workmen have been engaged in repairing it, and rendering it more secure. It is bricked, and a portion, though a small one, of the roof has just fallen in, followed by a quantity of earth. A large fall of brickwork occurred some short time ago. The tunnel, says the *Birmingham Journal*, is again reported as being perfectly safe—*i. e.* until such-like slips shall again occur.

Fall of a Lime-kiln.—An inquest has been held before the coroner for Birmingham, on the body of a labourer, who resided at Halesowen. Deceased was engaged loading a cart with lime from the kiln, upon Halesowen Wharf, when the wall on the north side fell in upon him. A verdict of "Accidental death" was returned. The cause of the falling of the kiln is supposed to have been recent rain weakening its foundation.

Dunoon Church nearly destroyed by Lightning. The west coast of Scotland has been visited by a frightful storm of lightning, rain, and wind. At Dunoon, down the Clyde, the parish church was struck by the lightning, which threw down one of the turrets of the steeple. One huge square stone fell through the roof and the gallery of the school-house, and was buried in the floor almost out of sight. Most of the windows of the church were driven out, and the gas-pipes wrenched, the window-sills split and broken, some of the large stones at the bottom of the walls driven in out of their places, starting and tearing off the skirting, and the copings of the pews were displaced. Several tombstones in the churchyard were broken by the falling stones, and an old monument from Iona was destroyed. It was feared at the moment by some of the residents of the locality that "the end of the world had come."

Gable blown down at St. Andrew's.—Part of a gable of a house, now in course of erection in Queen-street, St. Andrew's, by Mr. M'Intosh, builder, was blown down by the wind. The gable had just been finished, and the workmen had, it seems, apprehended the probability of some such accident, as they had it propped up with large planks of wood, &c.

THE STAGE.

Royal English Opera, Covent Garden.—In the necessarily brief accounts of new operatic and dramatic works to which we confine ourselves, when we point out the weak parts of a production the character of the notice becomes more depreciatory than would be the case if greater length allowed other portions to be dwelt on. If, for example, we were to say why we thought Mr. Bridgeman had not made the most of the groundwork for the "Armourer of Nantes," *Marie Tudor*, that amongst the characters there was not more than one for whom the audience could possibly entertain any regard, that the management had not avoided anachronism in the scenery, and so on, we should overbalance the expression of our opinion that the opera contains some of the best dramatic music that Mr. Balfe has ever written, and, as a whole, affords a very charming evening's amusement. This we wish to avoid. Miss Anna Hiles is altogether unequal to the part of *Anne Duchess of Brittany* (who takes the place of Queen Mary in the original); but with that exception, the rest of the opera is admirably performed, Mr. W. Harrison, Mr. Santley, Mr. Weiss, Mr. Corrie, Mr. Aynsley Cook, and Miss Louisa Pyne supporting the principal parts. In the first act we should especially point to Miss Pyne's cavatina, "Oh, would that my heart;" the duet, "Were all the earth's vast treasure;" Mr. Santley's barcarole; and the duet between that gentleman and Mr. Harrison at the end of the act: in the second, to the duet "Vast as the ocean," and the ballad "There's one who reared me, loved me:" and in the third act to the ballad, "Oh, love, thou'rt like a reed bent low." To justify what we said as to the scenery it will be sufficient to note that while the time of the action is 1498, the scene for the second act is a hundred years more modern. The last scene, a Norman vaulted chamber, with a balcony beyond, and looking out upon the court-yard of the castle, is very effective and well painted. The opera is sure of a run, and deserves it.

The Princess's Theatre.—Spain is the country in which Mr. Filmore has laid the scene of his *very* "Romantic Drama," "The Winning Suit," wherein kings and princesses trot about the country in a remarkably free and easy manner, but, nevertheless, disport themselves very much to the amusement of the audience. Mr. Vezin, Mr. H. Marston, Mr. Belmore (one of the best low comedians on the stage), Miss Murray, Mrs. Marston, and Miss Amy Sedgwick support it. There is some very good writing in the piece—better than has been heard for some time. Mr. F. Lloyd has painted a capital scene for the third act, the Village of St. Lucia, including the porch of a Norman church (too English), and a distant view of the country. A ruin of a Moorish building introduced at the side of the river, in which it is reflected, has an excellent effect.

THE BUILDING MATERIAL IMPROVEMENT COMPANY.

UNDER this title a Company has been formed, according to the terms of the prospectus, to secure to the building public inventions of practical utility and economy, and to provide the capital necessary for the purchase and development of such only as are proved to be valuable; and they propose to commence operations by the manufacture, on an extensive scale, of a substitute for lath and plaster for covering walls, ceilings, and partitions, called Dixon's "Patent Dry Laminæ," already used in many works for nearly two years. The board of direction consists of four architects and one engineer.

Several advantages are claimed for the material with which they are now concerning themselves, and some of these are obvious. It is light and strong, and may be done with a saving of time and money, they say, as compared with the ordinary method of plastering. Whether or not the setting coat used to finish it would always prevent the joints from making themselves obvious we do not know. As to the constitution of the direction we doubt if it be wise for architects to become commercially interested in the sale of building materials. Indeed, if we are not mistaken, it is incompatible with the rules of the Institute. Apart from this, however, the object of the Company seems a good one, and may be carried out with advantage to the community.

CAST-IRON COLUMNS.

YOUR correspondent, who inquires for a formula for hollow cast-iron columns, will find it given in Mr. Hodgkinson's work on cast-iron, published in 1846, from which all subsequent writers on the subject have quoted. His formula is (p. 334):—

$$\text{Strength in tons} = 44{\cdot}3 \times \frac{D^{3{\cdot}6} - d^{3{\cdot}6}}{l^{1{\cdot}7}}$$ where D and d are the external and internal diameter in inches, and l is the length of the column in feet. In order to aid in the calculation of this formula tables are there given of values of $d^{3{\cdot}6}$ up to 12 inches diameter, and of $l^{1{\cdot}7}$ up to 24 feet length; but the formula is intended to apply to columns of higher dimensions; and in every particular case that may occur it is only necessary to perform a simple logarithmic calculation.

Your correspondent will find the above formula given at p. 674 of the *Builder*, vol. xix.; and also more fully explained at p. 532 of the *Builder*, vol. xi. If he is unable to apply the formula himself to the column whose strength he wants to know, I shall be happy to do so for him if he will state the external and internal diameter, and the length of his column.

E. WYNDHAM TARN, M.A.

THE ARCHITECTURAL ASSOCIATION AND THE VOLUNTARY EXAMINATIONS OF THE INSTITUTE.

SIR,—As one of the successful candidates in the class of "proficiency," in the late Voluntary Architectural Examination of the Institute, and a member of the class of Design at the Architectural Association, I must say that there appear to me no sufficient grounds for the statements made by your correspondent "T. R. S.;" viz.,—that the studies of the class of Design, and the proceedings at the ordinary meetings, have had their due result in helping to fit its members to take a position alike honourable to themselves and to the body to which they belong.

Now, sir, my reasons for differing from your correspondent are as follows; viz.:—On referring to the prospectus issued by the Institute, it will be found that a candidate must obtain half the number of marks allotted to the division, "Materials and Construction," subjects to which the class of Design is almost a stranger. The class may, and, doubtless, does, help its members in the art of design; but is not this a thing which may be as easily attained at home, it being merely a matter of practice?

And, furthermore, I would ask "T. R. S." whether he thinks such lectures as are usually delivered at the ordinary meetings are likely to afford much instruction to the student in such subjects as Physics and Professional Practice?

I think the time taken up by some of the lectures would be far better employed in attending to those subjects which may prove *truly beneficial* to intending competitors for next year's honours.

There is, I understand, a sub-committee appointed to investigate the working of the Association; and I think that most of the members will agree with me that this is at the present moment a very proper subject to take into consideration.

H. M.

*** This note represents the opinions expressed in three other communications on the subject addressed to the *Builder*.

"LONDON ARCHITECTURAL SOCIETY."

I HAVE the volume alluded to before me, which belonged to my late father. It is entitled, "Essays of the London Architectural Society. With four plates. Published by order. London: sold by J. Taylor, at the Architectural Library, No. 59, High Holborn. 1808." 8vo. It commences with a preface of six pages; then follow the "Rules of the Society, instituted 1806;" then a list of members, which is as follows:—

"Mr. Aikin, Bartlet-buildings, Holborn.
Mr. Ashpitel, Throgmorton-street.
Mr. S. Beazley, Duke-street, Westminster.
Mr. Billing, Reading, Berkshire.
Mr. Birkhead, Robert-street, Adelphi.
Mr. Bubb, Francis street, Tottenham-court-road.
Mr. Busby, Queen Ann-street West, secretary.
Mr. Cond, Strand.
Mr. J. Elmes, College-hill, vice-president.
Mr. H. Elmes, College-hill.
Mr. Lowry, Pitchfield-street.
Mr. Peacock, Finsbury square.
Mr. Perry, Lombard street.
Mr. Savage, Throgmorton-street, vice-president.
Mr. Schnider, College-hill, treasurer.
Mr. C. South, Upper Pitchn. d-street.
Mr. G. Smith, Doctors' Commons.
Mr. J. Taylor, High Holborn.
Mr. Wallen, Welclese-square.
Mr. J. Woods, jun., George yard, Lombard-street, president."

Then follow the four essays already named by you, occupying 139 pages. The work is complete, as it finishes with the "Finis" usually affixed to books at that period, but there is no treatise on Grecian Doric, alluded to by your correspondent.*

It would be a great gratification to myself, and I am sure to the profession at large, if the traditions of the society could be collected. My father, who was a pupil of Alexander's, and at that time in partnership with Mr. Savage (Ashpitel & Savage, Throgmorton-street), took a great interest in it; but, beyond some general anecdotes of individual members, the only tradition I remember to have heard was this:—It was the palmy days of pure Classic architecture; and some of the members tried also to revive the Classic drama. My father and Savage painted the scenes; but the success of the experiment in other respects was not great, as is often the case with amateurs. Can any of your readers furnish us with further information? I am sure it would be cordially received.

ARTHUR ASHPITEL.

ROT IN ROOF OF LOWER TOOTING CHURCH.

HAVING recently had occasion to supervise some alterations for ventilation in the roof of Tooting Church, I was led to examine the state of the timbers generally, from unmistakeable vermicular signs; and my survey discovered to me a very extensive and complete decay of some of the principal timbers. I applied my cane to some of the ceiling joists, and part crumbled away, leaving the intermediate space of the plastering of the ceiling to be supported only by the lathing. One of the queen-posts is completely eaten up at the foot, the stirrup-iron alone supporting it in its place on the beam.

* This was published separately, as stated by Mr. Woods.—ED.

Now, I beg to ask, what is to be done, short of cutting out the decayed timbers and cauterizing the remainder? or how is the plague to be stayed? Some active remedies should be immediately applied, or the next thing we shall hear of will be a coroner's inquest on some victim.

There are thousands of hungry worms at work, and they bore holes about the size of a tobacco-pipe, and convert the timber into a mere spongy state: a saturation of corrosive sublimate might to some extent affect them, but I fear it would not reach the interior of the timbers where they are at work.

And now—what is the cause of this premature decay? I simply answer, want of ventilation has been the principal one, and probably the only one, as the roof timbers appear to be Memel, and of excellent quality. It is a queen-post roof, and it is framed in the best possible manner, and of full scantlings; but so rapid is the progress of this disease, that to a certainty it will spread to every stick of timber in the church, in a very short time, and the roof must fall in.

An examination into the facts shows that the whole bulk of the roof has been hermetically sealed for years: no perforations whatever existed in the ceiling, and the slating was carefully pointed.

The church had been heated by a hot water apparatus, which, about two years ago, was removed, and a more effectual hot water apparatus was adopted. Considerable oppression or drowsiness was felt by the congregation, and it was found that ventilation was necessary, and holes were made in the ceiling, but that turned out to be of little effect: the outer covering of the roofs then had to be pierced; or, in other words, dormers or louvred openings had to be placed in the slating from within, in order to allow of the escape of the vitiated atmosphere, thus giving some little ventilation and admitting of an exit for the poisonous gases given off by large congregations.

I may remark that the Small Pox Hospital was attacked by dry rot within a few years after its erection, and the diseased parts had to be cut out, by means of which a successful cure was performed.

A. J. HISCOCKS,
District Surveyor of Wandsworth and Tooting.

"PLYMOUTH COMPETITION."

SIR,—I am obliged by your insertion of my letter to the managers of this competition, and shall be glad if you will insert the reply, which I regret absence from home prevented my sending in time for your last week's impression. Fortunately, however, it is not too late for all respectable architects to take the advice so politely tendered by the reverend writer.

J. P. PRITCHETT, Hon. Sec. of the Alliance.

Plymouth, 6th February, 1863.

SIR,—The letter of the 31st ult., addressed by you as "The Hon. Sec. of the Architectural Alliance, which includes associations in every part of the United Kingdom," to John Hill, esq., recommending, for sundry reasons, the issuing of "fresh copies of instructions, with the objectionable points erased," has been placed in my hands, and I am instructed to say, that while the committee appreciate your advice, they nevertheless presume to think that, *in their present case*, the obvious course for any gentleman to take who may be dissatisfied with their instructions is,—not to compete.—I have the honour, &c.,

J. LOUTIT.

J. P. Pritchett, esq.

RIGHT BY POSSESSION.

Hudson v. *Foster*.—This was a case, tried in the Court of Queen's Bench, Guildhall, before the Lord Chief Justice Cockburn, which is worth a brief report as a warning to owners of property not, by neglect or laches, to lose or waive their rights. In 1812 certain land on each side of the Bedford-road, Clapham, was conveyed to the plaintiff and four other persons, as tenants in common; and the action was one of ejectment, to recover a part of one of those portions so conveyed. So far as the deeds were concerned, the title of the plaintiff seemed clear; but for more than twenty years previous to the action the defendant, who was the owner of the land lying behind the piece of land in question, had used it as his own; and now he claimed to have acquired a title under the Statute of Limitations. The action was begun in July, 1861.

Mr. Serjeant Hayes and Mr. Quain were for the plaintiff: Mr. Chambers, Q.C., and Mr. Raymond were for the defendant.

The Lord Chief Justice told the jury that the sole question was whether the defendant had for twenty years had exclusive possession.

The jury found for the defendant.

CAUTION TO BUILDERS INFRINGING THE RULES OF THE METROPOLITAN BUILDING ACT.

RECENTLY several persons were summoned by Mr. Parsons, the district surveyor of the southern division of Lambeth, before Mr. Norton, at the Lambeth police-court, for erecting buildings with bad and insufficient materials.

The first case gone into was that of G. Adamson. The district surveyor said that he would remind his worship that he some months since summoned a man named Parker for using mud in lieu of mortar, and the result was that Parker was fined 10*l.*; and subsequently, upon the officers stating that they had served a distress warrant, and that there were no goods upon which to distrain, he (Mr. Norton) sentenced the man to a month's imprisonment with hard labour. Upon that occasion a person named Green came forward and said that he was the ground landlord, and that Parker had transferred the houses to him: he pledged himself to amend the work, and that there should be no further trouble on his property. Subsequently Parker had come to the court to plead for mercy; and Mr. Perry, the chief clerk, had asked him (Mr. Parsons) if he wished to enforce the sentence. He had replied that his object was to cause the rules of the Act to be complied with; and that if Parker kept out of his district he should ask no questions, but that if he found him at work again he would most certainly have him arrested. He supposed that this leniency had been taken as an indication of want of power; for since that he had had much trouble with the buildings on Green's plot. Green had put forward men to give him (the district surveyor) notice, ostensibly as builder; but they were never to be seen; and Green was really the builder. He (the district surveyor) had proved one case against Green, for which Mr. Norton had inflicted a fine of 5*l.* as penalty for not giving notice.

Adamson had given notice for twelve houses opposite Parker's, eight of which had been built with the upper part of the external walls above the ceiling line of the bed-rooms of half brick in thickness instead of a brick. He, the district surveyor, finding it impossible, after many attempts, to see the man, had sent him a notice in a registered letter, in accordance with the 98th section of the Act. Adamson had written him word in reply, that he had ceased to be the builder. Upon this he, the district surveyor, had summoned Adamson; but when the day of hearing came, the officer of the court stated that he had been unable to serve the summons, as they denied any knowledge of him at the place of residence as stated by him to the district surveyor. Under the circumstances the case was adjourned until a summons could be sent in a registered letter. The district surveyor now asked for an order to amend. Adamson was called, but did not appear, and Mr. Norton granted an order.

The district surveyor then stated that the remaining four houses above named had been built with mud instead of mortar; that he, finding he never could see the builder, had sent him a notice in a registered letter, and had also posted one on the buildings, to the effect that the houses must be taken down; but, instead of complying, every effort had been made to finish the houses since the service of the notice. He produced specimens of the stuff used as mortar.

Mr. Norton said that it was absurd to call such stuff mortar: mortar required certain component parts, lime and sharp sand in well-known proportions. The stuff used appeared to contain little of either. He should therefore make an order that the houses be taken down.

Amongst other cases was that of H. C. Kemplin, who was building four houses on Green's property, opposite Adamson. The district surveyor produced specimens of the stuff used.

Kemplin, on being called on, said that it was all owing to spite on the part of the surveyor's clerk, Mr. Rawlings; that he had never seen Mr. Parsons there; and that he had witnesses to prove that the houses were well built.

John Edge stated he was a bricklayer, engaged in superintending the works. Kemplin asked him if he had seen Mr. Parsons's clerk pick up that morning a lump of mud from the road: he said he had; and, in reply to a question whether he had seen him take a piece from the walls, he said he was not in the building with him.

Mr. Parsons said that, thinking something of this kind might be attempted, he had taken the precaution to send two of his clerks, that one might corroborate the other.

Mr. Norton said he would hear them first.

Mr. W. H. Rawlings and Mr. William Huc accordingly identified the various packets of stuff from the buildings produced.

Edge, in reply to Mr. Parsons, admitted that he had been told by Mr. Parsons himself, when the walls were about two courses over the footings, that he would not sanction such stuff; and that Mr. Parsons had subsequently told him, when the walls were about scaffold high, that they must be taken down and rebuilt.

Mr. Norton said he had gone, at the district surveyor's request, with him to inspect the houses, and that they certainly were as he described. He saw Mr. Parsons with a very little exertion with one hand push down a considerable piece of a wall. In fact, he thought that mud cottages would be better and warmer than these. The district surveyor had his duty to do to the public, and he was doing it; and if he failed to do it he would be subject to censure. He ordered that the walls should be pulled down, and gave a week to do it in.

Kemplin and others have since taken down the obnoxious work. The district surveyor has applied to the Metropolitan Board of Works, under the 68th section, to indemnify him as to costs and results if he proceed *himself*, in Adamson's case, under the 47th section, and pull down the work.

FEES FROM TRADESMEN TO ARCHITECTS.

SIR, The best way to stop the abominable system of fees from tradesmen to architects is to communicate to you the names of those who offer them; and I beg, therefore, to inclose a letter just received by me, and purporting to come from Messrs. Trestrail & Co., makers of kamptulicon, offering me, as architect of a new church, "a discount on any order that I may send."

GEORGE EDMUND STREET.

TUAM CATHEDRAL.

SIR,—Being the "Irish Correspondent" referred to in a letter on Tuam Cathedral in the *Builder* for January 10, I beg to trouble you with a few additional observations on the subject, which would have been forwarded before this, but for the delay in obtaining sketches.

The general character of the eastern portion of the building (my remark on which appears to have been taken exception to by Mr. Deane) is a question, satisfactorily to understand the merits of which requires a personal examination.

The drawings, however (from measurement), which I forward, will, I dare say, sufficiently explain the general grounds on which the antiquity of this portion of the building may be argued.

Whether the windows referred to by Mr. Deane are of an interesting or uninteresting type, is of course a matter of opinion, and does not necessarily affect the question of antiquity. They certainly present a pure and elaborate system of cusping. The east window (of five lights), especially the two easternmost windows, on both north and south sides, are of three lights, the others of two. Those on the south side are altogether perfect, of limestone, and vary in the design of their traceried heads, the outside jambs being formed of double chamfers.

That these stone windows are "the only architectural features deserving of such a name," is a statement which I must beg leave to correct. A few others exist, such, for instance, as a priest's doorway, now built up, but still apparent from its label moulding and the jamb of the opening on the south side. A piscina, which has evidently been a fine example when perfect, divided originally by a small central column, the cusped heads over which, with cusped circle in the spandril, the whole inclosed by a pointed segmental arch, with label mouldings over, still remain open to view, but in a rather mutilated condition. Close by this interesting feature, and in the position usually occupied by the *sedilia*, there exists in the wall, on the authority of the verger, an arch or recess, which, to say the least, is suggestive: if the plastering were removed, I have little doubt but that the moulding of the arches and other architectural features will be brought to light (I may mention that the cut stone work of this period in the building is of hard limestone, and therefore in good preservation, except where broken maliciously, or from carelessness).

In addition to these a complete *chancel arch* is to be seen. This is of a plain character, not unusual in Middle Pointed work, being composed of a series of chamfered rings, five in number; the whole width of the jamb being 5 feet.

This arch, which is the termination westwards of the Middle Pointed work, is built about 6 feet to the east of the Norman chancel, the centre line of each building being identical.

This exact position of the later chancel could hardly have been adopted with no some particular object, and therefore the non completion of the Middle Pointed building leaves it a matter of interesting conjecture as to what may have been the intended arrangement of the building of which the chancel only was carried out, more especially in regard to the disposition of the arch of Romanesque chancel.

The existence of such features as these, which are not generally considered as unimportant, though in the present case apparently overlooked by Mr. Deane, is, to my mind, quite sufficient to settle the question of antiquity, not only of the details themselves, but also of the walls in which they are to be found. It would appear to me most extraordinary, to say the least, that all these features, supposing them to be the *débris* of a former building, should be re-used so consistently for an after structure and built in so exactly in the proper places. Such a theory naturally suggests the question—where this former building existed: and if these are its *débris*, how is it that the windows and chancel arch are so perfect compared with the piscina? And also, at what particular period subsequent to what might be reasonably

taken as the life of a building erected in the fourteenth century, could such care have been evinced in the proper restoration of such things to their original places and uses?

The interior dimensions of the Romanesque chancel are about 18 feet 6 inches by 17 feet 6 inches; those of the Middle Pointed building 71 feet long by 27 feet wide. Which of these, or whether either of them should be removed in carrying out the proposed restoration (?), are points which I should prefer leaving in other hands for discussion, my object being merely to correct statements which appear to me to have been made without due consideration or examination of the existing buildings, and carrying with them all the more weight in emanating from an architect of Mr. Deane's well-known ability and archæological attainments. THOMAS DREW.

Books Received.

Contribution towards a History of Electro-Metallurgy; establishing the Origin of the Art. By HENRY DIRCKS, C.E. Spon, Bucklersbury. 1863.

THE great object of this volume is to show that Mr. Spencer, though one of the earliest improvers on the germ of electro-metallurgy, was not the originator of it. Mr. Dircks maintains that—

"Professor Daniel is the *discoverer* of the principle on which the deposition of compact copper depends; that Mr. C. J. Jordan [of whom a portrait is prefixed to Mr. Dircks's volume] is the *inventor* of the first application of that principle to useful purposes in the arts, known as electro-metallurgy; and that Mr. T. Spencer is the first of the class of *improvers* of this art, so invented."

But in thus distributing the merits of British subjects as regards the origination of electro-metallurgy, what of M. Jacobi, of St. Petersburg? Though his name does not appear in this summary, Mr. Dircks elsewhere acknowledges his part in it; as where he remarks that "in the instance of electro-metallurgy or electro-type, it is by no means singular to find Professor Jacobi in St. Petersburg, Mr. C. J. Jordan in London, and Mr. Spencer in Liverpool,—each one unknown to the other,—engaged on the same investigation." Here, by the way, Mr. Spencer is virtually admitted to be an independent originator of the process, and not a mere "improver" upon any one's origination but his own. In short, all three were joint originators of it even on Mr. Dircks's own showing. Mr. Jordan seems, however, to have been the first to publish some account of it (dated 22nd May, 1839) in the *Mechanics' Magazine* of 8th June, 1839; but Mr. Spencer, then of Liverpool, had written a general notice to the secretary of the Polytechnic Society on 9th May, 1839, that he was engaged in experiments that appeared to accord with those of Jacobi, which had been previously noticed in the *Athenæum*. The preliminary experiments of Dr. Golding Bird, published in the *Phil. Trans. for* 1837, ought also to be here mentioned in connexion with the subject; and that Mr. Spencer appears to have been one of those who were led by these experiments to turn their attention to the subject so early as 1837. Mr. John Dancer, also of Liverpool, was another of these.

VARIORUM.

"Monthly Supplement to the *Electrician*: Telegraphic Guide for February, 1863. Office, 32, Paternoster-row." This very useful Guide gives not only the names of telegraph stations throughout the three kingdoms and all over the Continent, but also the charges for messages of twenty words at every Continental station, the general charges throughout this country, and the times of opening and closing of each British station. There is also a telegraphic map of Europe, the whole surface of it interwoven as if with ganglial nerves, and showing the extraordinary progress of the electric telegraph within the last few years.——"A Treatise on the Culture of the Pine-apple. By Thomas Torbron. Second edition. Allen, Warwick-lane, Paternoster-row." Mr. Torbron states that his little treatise has been founded on long practice. This second edition contains also a plan for the introduction of the vine in the same chamber with the pine-apple, as also a shed for the cultivation of the mushroom; and he thus describes the plan of all three:—

"The plan represents a house 30 feet long, with a pit for tanners' bark 10 feet wide and 3 feet deep, with paths all round the pit 3 feet wide, and with flues round the pit, which, after the entrance of a draught of heat from the furnace, run right and left to the middle of the opposite end, and then divide, and return over the first course of the flues to the chimney in the north wall. A trellis covers the soil for the path. The vines are intended to be planted against the wall at the north end, or against the upright glass at the south end; then trained over the paths on wires at a convenient distance from the roof-glass, so as not to obstruct the perpendicular light from the pines. The plan represents vertical sashes, which are to slide; and shelves are intended for strawberries, hyacinths, tulips, pinks, and roses, in the forcing season. French beans may be grown on the flues in winter and spring. The shed at the north end represents shelves for mushroom-beds. The warmth from the fire in winter will be favourable to the growth of mushrooms. The shed-section also represents a chimney for the flues by dotted lines. The flues require to be covered with foot-tiles. The ground-plan and section show a 2-inch cavity between the wall of the pit and flues; and the dots in the ground plan show the course of a flue from the furnace to the lower flues."

The arrangement appears to be both convenient and economical.——The second number of the *Sculptor's Journal* is a considerable improvement on the first. It includes an illustration of the "Reading Girl."——The current number of the *Ecclesiologist* contains a paper on Auckland Castle, by Mr. W. Sidney Gibson, with plan and sketches to illustrate it, by Mr. F. R. Wilson.——Messrs. Hogg's series of "Books with a Meaning," is increasing in number, and will form a valuable library for young people presently. Amongst the most recent additions to it is "Our Untitled Nobility," by John Tillotson, with illustrations by Charles Green. The writer sets forth pleasantly the labours and merits of Dr. Smith, the geologist; Waghorn, of the overland route; Raikes; Captain Coram; the Brunels; and poor Cort, to whom for his processes in the iron manufacture the country owes so much and has paid so little. These lives teach that "it is the bravest and best thing in the world to be unselfish."

Miscellanea.

ENGINEERS.—We learn from the *Otago Times* of the 13th ult., that Mr. John Millar, C.E., has been appointed chief engineer of the city of Dunedin, at a salary of 1,000*l.* per annum. The Melbourne papers say:—"Mr. Millar will carry with him the best wishes of all his numerous friends in this colony."

THE MIDDLE LEVEL CATASTROPHE.—The liability of the Middle Level Commissioners to pay compensations for injuries occasioned by the recent floods is to be tested at the ensuing Norwich Assizes; upwards of 100 writs having been served upon the Commissioners. The cost of the various works already undertaken, excluding altogether the question of compensation, amounts to nearly 100,000*l.*

AN INTERNATIONAL PARCELS DELIVERY COMPANY.—"The Factage Parisien Paris General Parcels Post and International Carrying Company" is a new company, with a capital of 200,000*l.*, in 20*l.* shares, which is being got up both in Paris and in London, for the conveyance of packages between Paris and London, all parts of France, and throughout Europe as well. The projectors have already obtained a concession from the Prefect of the Seine and the Paris municipality, with liberty to form some eighty or ninety distinct stations or offices in Paris, and to load and unload in a way not hitherto allowable in that city. The shares have been partly disposed of in Paris, and are now being disposed of in London. The company have received favourable communications from the Great Northern, Great Western, and London and Dover directors; and Sir Cusack Roney, one of the directors of the London and Dover, Mr. L. Simpson, a director of the Great Eastern, and Sir James Carmichael, bart., chairman of the Submarine Telegraph Company, are directors of this International Parcels Delivery Company, which appears to be a very promising speculation, as the fact of its shares being already at a premium seems also to show.

THAMES EMBANKMENT: NEW STREET.—Mr. Cowper has obtained leave, after some discussion in the Commons, to bring in a Bill to authorize the Metropolitan Board of Works to make a new street from the termination of the Thames Embankment at Blackfriars Bridge to the Mansion House, thus completing the new thoroughfare from Westminster to the City. One of the most urgent wants of the metropolis, he remarked, was a thoroughfare connecting the central parts of the City with Westminster and Charing-cross. At present there was thrown into Cheapside not only the traffic which reached it by the Strand, but the traffic which came from the north-east of London by Holborn. What was absolutely required was a new and distinct thoroughfare which would enable persons to pass from the centres of commercial activity about the Mansion House, the Exchange, and the Bank, to the points of Charing-cross and Westminster. The cost of the works was estimated at 600,000*l.*, to be afterwards provided for, not by direct taxation, but by a continuance of the charges on the coal duties for a further period of ten years beyond 1871, as it was feared the Thames Embankment fund would not suffice for these additional works.

PREVENTION OF FIRES IN THE METROPOLIS.—In reply to Mr. Hankey, in the Commons, Sir G. Grey has announced that it is intended to introduce a Bill this session for the better prevention of fires in the metropolis. It would not, however, be based on the recommendations of the committee of last year, which involved the putting an end to the entire system as it was now carried on.

THE PNEUMATIC DESPATCH COMPANY.—This company now proposes to extend its sphere, as well as its means of communication. The tubes are to be enlarged to 4 feet, and are to be arranged for the conveyance of such passengers as may venture on this mode of transit, as well as for packages and parcels. The proposed line is to have stations at Camden Town, the General Post-office, Covent Garden, and the City; and is to be about five miles long, and to be completed within a year.

CURIOUS DISCOVERY AT POMPEII.—A Naples letter states that a very interesting discovery has just been made by M. Fiorelli, the inspector of the excavations at Pompeii. He has found in hardened ashes the perfect mould of a man in a lying posture, and the skeleton entire. M. Fiorelli caused plaster of Paris to be poured into the form of the Pompeiian, and the coating succeeded perfectly, with the exception of two fragments of an arm and a leg, where the mould was incomplete. The cast of the man is of the greatest precision: the moustache, the hair, the folds of the dress and the sandals are all admirably defined. The famous question of the Thesaurum of Gronovius and Grevius, says *Galignani*, in reporting this discovery, is now decided: the Romans did wear drawers. Also archæologists will be delighted at discovering the manner in which the ancients fastened their sandals, and at seeing the heel of a shoe completely protected with iron.

CHESTER TOWN-HALL.—At a recent meeting of the committee of council for restoring or rebuilding the Town-hall, Mr. Holme, of Liverpool, builder, reported on the state of the edifice since the fire. Mr. Holme says, in his report, "I acknowledge a strong inclination to preserve, if possible, an edifice so much in accordance with the general architectural character of your venerable city; but the destruction has been so great, the damage so extensive, and the reasons against repair are so formidable, that I am decidedly of opinion you would not be justified in any other course than taking down the existing ruins, and erecting a new structure. . . . The only conclusion at which I can arrive is, that it is your best economy to take down the whole of the existing structure, and to re-use the materials, as far as they will go, in the erection of an entirely new building. It is going beyond the letter of my instructions, but I hope that I shall be pardoned for suggesting that, should you adopt my conclusions, instead of rebuilding on the present contracted site, the opportunity is favourable for considering whether an edifice which was suitable in the reign of Queen Anne is sufficient for the present day and for the growing population and trade of your city and its vicinity. And also, whether you may not, with great public advantage, embrace this opportunity of centralizing all your municipal and various other public offices and establishments under one roof."

THE PROPOSED ADDITIONAL WATER SUPPLY FOR ROTHERHAM.—The Sheffield Town Council's Sanitary Committee have resolved to resist the Bill in Parliament for increasing the water supply of Rotherham and Kimberworth by collecting the water from various brooks, on the ground that the diversion of so much water from the Don will materially reduce the supply of the borough. A correspondent of our own, dating from St. John, and signing himself "A Rotherham Ratepayer in the West Indies," also protests against the scheme as unnecessarily costly. He is urgent that the supply should be improved; and, indeed, as our readers may remember, wrote to us before on the subject; but knowing the locality and what is meant to be done, he maintains that besides the 27,000*l.* admittedly all but thrown away already on the water supply, the new scheme will cost not less than 20,000*l.* more. He proposes that water should be taken at once from the Rother above Carlton Mill, and thus save so many scattered reservoirs and other costs; and, looking to the quality of the water, he thinks that from a small stream like the Rother, rising in high lands, and not much subject to contamination, the supply might be made unobjectionable. The present supply, he says, is partly gathered from perforated pipes laid almost side by side with the sewers to catch the springs there; and sewage, he conceives, may have percolated into the water supply, and assisted in producing the epidemic.

TURKISH POSTAGE STAMPS.—Turkey has just issued postage stamps, having long been the only Power in Europe that had not adopted that mode of paying for letters. The Turkish stamps are of four different colours, and all bear the signature of the Sultan Abdul-Azizi; the Mahomedan religion interdicting the representation of the face or person.

EFFECT OF SUN ON OIL PAINTINGS.—A correspondent writes from Stuttgardt, stating that Wilkie's picture, "The Reading of the Will," which was purchased for the gallery of the King of Bavaria at the sale of the late Earl of Mulgrave's gallery, is exposed to the sun's scorching rays, which have as it were melted the oil or colours, and also very much affected the tone of the colouring; and that there are cracks nearly one-eighth of an inch apart in many parts. It should be looked to.

BRIGHTON DRAINAGE.—We understand from the local *Herald*, that a meeting recently took place in the town-hall, at which the works committee,—assisted by their consulting engineer, Mr. Hawkesly,—and Mr. Somers Clarke, and the chairman and a deputation of the drainage committee, with Mr. McClean and Mr. Wright, the engineers, were present; when several inquiries were made of the latter gentlemen as to the details of their plan of drainage for carrying the sewage of the town beyond Rottingdean; and, after a discussion which lasted nearly three hours, it was arranged that certain other engineering points and questions relative to the proposed design should be prepared by Mr. Hawkesly for the works committee, and submitted to Mr. McClean and Mr. Wright for their elucidation and answer.

PHOTOGRAPHIC STATISTICS: INTERNATIONAL EXHIBITION.—Some very interesting statistical facts relating to the immense consumption of photographic chemicals by the London Stereoscopic and Photographic Company have recently been made public. The number of glass negatives taken at the Exhibition (from which the paper pictures are printed) amounts to very many thousands:—

The paper used was	300 reams.
Albumen for ditto, about....	280 gallons.
Nitrate of silver.....	4,000 ounces.
Gold	99,000 grains.
Hypho sulp. soda	4,800 lb.

The photographic pictures produced from this immense amount of material are now approaching 1,000,000! Since the close of the Exhibition a new development of trade has sprung up in these photographs. It is reported that the Company received orders on one day for upwards of 11,000 of them.—*Post Magazine.*

POPULAR ERROR REGARDING THE WANT OF UNIFORMITY IN THE THICKNESS OF THE ANNULAR RINGS OF TREES.—On reference to the cross section of a newly-felled tree, it will be observed that the timber has not formed of uniform thickness round the pith of the tree. This is uniformly the case towards the base of the spruce, Scotch fir, and larch. The popular belief is, that the wood forms faster towards the side most exposed to the light and the heat of the sun's rays. Were this the case, it would prove that we have more of these from the south-east than from any other quarter. The prevailing high winds in Britain are from the north-west or south-west, and they usually blow hardest in autumn, when the young wood is most liable to be permanently bent in any given direction. This makes the top lean towards the north-east or south-east; and, by one of the many admirable compensating operations of the Great Creator, the wood at the base grows fastest on those sides, so that it may act as a natural buttress, and maintain the centre of gravity.—*Rait.*

THE NEW ASSIZE COURTS, MANCHESTER.—The new Assize Courts in Strangeways are rapidly approaching completion. The semi-detached portion of the building at the north-west end, and which is to form the judges' lodgings, is completed, except the tiling of the floors and some few details of minor importance. The whole of the main building, except the tower and smaller apartments, is roofed, and the greater part covered in. It is the intention of the committee and their architect to open out the building to the street in the course of a few weeks; so that the boundary-walls and general approaches may be proceeded with. The chief tower has been raised 70 feet above the ground-line; but at this level it has been thought advisable to let the work stand for a few months to consolidate. Mr. Bramall, the general contractor for the building, is making great exertions to forward the progress of the works; and it is hoped that, by the end of the year, the building will be far advanced towards its completion.

THE TEMPLE CHURCH, LONDON.—We understand the Benchers have decided on restoring the conical roof to the "round" of the Temple Church.

THE WOLVERHAMPTON SEWERAGE QUESTION. The Town Council have resolved "That Mr. Carley, C.E., of Hereford, be appointed to examine and report upon the proposed scheme of sewerage for this borough for the sum of 65*l*, and that the town clerk prepare the necessary contract, and affix the corporate seal thereto."

THE COLOSSEUM.—An old subscriber of the *Athenæum*, in reply to a query why the word should be "Colosseum," and not "Coliseum," writes to say that in vol. ii. of the "Lives of the Roman Empresses," p. 50 (edit. Naples, 1768), there is a note which gives the reason for using the orthography as first above given. Referring to the completion of the great Amphitheatre by Titus, the note has the following:—"Nel mezzo dell' Anfiteatro si sorgeva una grande statua rappresentante Nerone, chiamata il Colosso di Nerone, da cui quel luogo prese il nome di Colosseo."

THE OTTOMAN NATIONAL EXHIBITION AT CONSTANTINOPLE.—Goods continue to come in plentifully, particularly from Toulcha, Varna, and Tirnova. Of the metropolitan guilds, the brass-workers, according to the *Levant Herald*, have sent in some creditable specimens of their handicraft, whilst private mechanics have contributed additional models of steam-engines, all distinguished by some peculiarity of construction or intended result. The locally-famed *savant* and numismatist Subhi Bey, ex-minister of the Evcaf, has promised to lend his admirable collection of medals and Ottoman antiquities. From England there are large coming consignments of agricultural implements. The Porte has also directed Musurus Bey to provide from England a complete and varied collection of cotton-gins and other allied machinery. The building was to be opened on the 19th instant.

STATE OF BROMPTON, IN YORKSHIRE.—The district registrar of Northallerton, speaking of the unsatisfactory condition of the district, says,—"Drainage is very bad, and heaps of putrifying filth are allowed to lie close to the dwellings of the poor. I particularly refer to the village of Brompton, where for some time synochus, typhoid fever, and typhus have been very prevalent. Here I find no drainage at all, no proper cesspools; yards unpaved, and dungheaps unremoved; the floors of the dwelling-houses beneath the level of surrounding land; and, what is still worse, the inhabitants appear to have a dread of ventilation. For years this village has been little else than a hotbed of fever, but this fact has not induced the authorities to adopt means of prevention. The mortality of children is excessive. Many infants are, when a few weeks old, left to the care of mere children, going for days without their natural food, but fed on scanty and improper diet. They die literally from neglect."

MORTALITY DURING LAST QUARTER.—The mortality in England and Wales in the last quarter of 1862 was at the rate of 2·226 per cent.: in 1860 it was 2·043; in 1861, 2·061. Though the autumn of 1862 was not as a whole colder than those of 1860 and 1861, the sudden invasion of cold in November, and the abrupt succession of heat are given to account for its having been the most fatal. The Registrar-General in his *Report* says,—The north-western counties, Yorkshire, London, the northern counties, and the west midland are the five divisions in which the highest rate of mortality prevailed. In the first which contains the districts of the cotton manufacture, the rate—2·66 per cent.—was higher than in any other division. This distinction is not of recent birth: it is not the fruit of adverse circumstances, but has sprung from causes which have been in operation since Liverpool, Manchester, and other towns, in what has been called the worst drained part of England, rose into importance as seats of commerce and manufacture. But whatever be the sanitary condition of the towns and villages they inhabit, human beings must be affected by the atmosphere in which they are immersed, and the effects of which they can but partially control; and as the cotton districts participated with the rest of the kingdom in the benefit of a healthy summer, they have also suffered, like other parts, from a less healthy autumn. . . . Scarlatina and diphtheria, and also diarrhœa, prevailed to a considerable extent in Manchester. An increase of deaths in Ashton-under-Lyne is attributed to scarlatina and measles. Scarlatina caused eighty deaths, being a third part of the total number, in Oldham-above-Town: these occurred not only in the working-class, but in the general population.

NEW CARLISLE BRIDGE, DUBLIN, COMPETITION.—In reply to several indignant competitors, who point out that "it is now twelve months since the designs were advertised for, and over nine months since they were submitted, and yet it appears that no decision has been come to," and who ask for information, we are unable to say anything satisfactory. Some pressure should be brought to bear on the committee.

ALBERT MEMORIALS.—It has been decided, if the corporation concur, to place the Manchester statue in the centre of a new and extended area of buildings at Bancroft-street, to be named Albert-square, which will be between two and three times larger than St. Ann's-square.——Designs for the Abingdon memorial have been submitted by Mr. J. Gibbs, of Oxford, architect, and a committee has been formed and liberal subscriptions already contributed.

EDINBURGH.—The *Scotsman* says that the suggestions recently made for the decoration of the walls of the Great Hall in the Parliament House, by hanging there the portraits, scattered through various parts of the building, of judges and other eminent personages, has been carried into effect. The east wall is now tolerably well clothed by these portraits, and the improvement in the aspect of the hall is very marked. They have been hung under the superintendence of Mr. Charles Robertson, treasurer to the faculty, the larger and the smaller pictures being judiciously alternated and adapted to the nature of the spaces as these are broken up by doors, niches, and statues. There is room for many more, and no doubt time will add to the collection.

RENOVATING FLOWER-BEDS.—If the exhausted beds have a good bottom, we advise removing the top spit, and replacing it with a mixture of virgin earth from an upland mixture, well chopped up with old chippy cow-dung, and a good proportion of leaf mould; say, if you can obtain the quantities, equal parts of each of the three ingredients. If you can get the beds empty this winter, the best way will be to take off the top spit, and fork over the subsoil, so as to let the frost and snow penetrate it; then get a good supply of burnt clay, and hotbed dung, and chop them down together in a ridge, and let them be well frozen, and fill up the beds with the mixture early in March, and they will be in admirable condition for planting as soon as they have settled. Chippings of hedges, refuse wood, straw, &c., built up over a hole, and packed round with cakes of old turf, and then burnt, make a capital dressing to dig into the old soil if you cannot well get new material to replace the worn-out stuff. If used chiefly for bedding plants, a compost of leaf-mould, and sandy soil from a common, equal parts, and one-fifth of the whole very old dung, would prove a good mixture. Bedding plants do not require a rich soil so much as a *new* soil.—*Gardener's Weekly Magazine, and Floricultural Cabinet.*

THE "AURA ELECTRIC GAS LIGHT."—Men of science seem resolved not to rest till something quite resplendent in the form of *light* shall be discovered. As for the merits of the following we as yet know nothing, but it appears to be a step towards the ulterior manifestation of the "new light," for which every one is looking:—"Mr. J. Grosmith," says a contemporary, "claims the application of a new improved radiator, which acts upon a solid, and by the use of multiplied interwoven galvano-electric metals he aërates a liquid, from which light is generated through horizontal arrangements. The inventor claims a new mode of presenting multiplied surfaces, by which he produces a carburetted hydrogen gas, most brilliant and lasting: he employs no fire nor heat whatever, but furnishes an improved apparatus by the cold process of generating gas: he uses no vertical tubes, nor cotton, nor any vertical arrangements of tubes for capillary action. . . . He reserves the exclusive use of his apparatus for every purpose to which it may be found applicable in the carburization of common coal gas, to which it imparts a threefold luminosity; as also in the generation of the aura electric gas. Its advantages are—1. The aura electric light can be used in any house, or large establishment, without fire, retorts, or gasholders. 2. That it gives a more intense light, without smell or smoke: the ordinary gas fittings are available, excepting the burners only. 3. It will cost less by one-half in the whole apparatus complete than that of the ordinary gas. 4. When required for enriching common coal gas, it only has to be passed through a photogenic cylinder, when three times the light is evident, while the consumption of the gas is lessened to one-fourth of its usual quantity. The light may be seen at Mr. J. Grossmith's, 85, Newgate-street."

ELECTRO-TELEGRAPHIC.—At the half-yearly meeting of the Electric and International Telegraph Company the directors' report, recommending a dividend of 3½ per cent. for the half-year, was unanimously adopted.

CONDITION OF LEEDS.—We have noticed with interest the reports of the medical officers of the Leeds commission for ascertaining the cause of the present deplorable state of the health of Leeds. It is rather amusing to see the admissions now made by the doctors, when the howl of indignation is remembered which followed our article two years ago, in which we dared to hint that the whole town was slightly dirty, and not altogether healthy. We shall be amply rewarded, however, if improvements follow.

TRADE LISTS.—The new pamphlet issued by the St. Pancras Iron Work Company (Old Pancras Road) is fully illustrated, especially as to stable arrangements and farm-fittings, and will be found a useful guide as to price.——W. Dawbarn & Co.'s List of Prices (Liverpool) is something more than it professes to be, for it contains a number of useful tables and many items of information. Timber, sanitary ware, slating, masonry, &c., are all included.——The illustrated list of George Smith & Co. (Iron Foundry, Glasgow) describes, amongst other things, their "Dry Deodorising Closets," which in some situations have their advantages.

BACHELORS' CHAMBERS IN MANCHESTER.—A company, with 20,000*l.* capital, is being formed in Manchester, for the purpose of providing a superior class of handsomely-furnished private apartments for bachelors resident in Manchester. A site has been secured fronting the Oxford-road, within a mile and a half of the Exchange, and plans have been prepared, by Messrs. Pennington & Bridgen, architects, for a building to contain from thirty to forty suites of apartments, baths, &c., on each floor, and additional large rooms for dining and other purposes; also, stables and coach-houses attached. It is proposed that the rentals of the various suites (including coals, gas, and attendance) shall range from 50*l.* to 100*l.* a year, thus producing about 3,000*l.* a year upon the capital.

"THE CRUCIFIXION," BY MR. H. C. SELOUS.—This very remarkable picture, now exhibiting at 62, Cheapside, should be visited. It is the most important work yet produced by the artist, and will more than compensate for all the danger of a journey into the City; no trifle now-a days, when a "block" at Bridge-street may keep you there twenty minutes. Mr. Selous has brought the crowd into the foreground: a ray of light from the stormy sky illumines the Crucified Christ in the middle distance: the background is filled with mighty towers, temples, porticoe, and colosseums, idealizing Jerusalem. It is not so much a picture of individual expression as of general sentiment; still amongst the 300 figures which fill a canvas 14 feet long and 8 feet high, will be recognized characters prominent in the life of Christ. We offer our congratulations to Mr. Selous on the successful completion of this arduous and beautiful work.

CHURCH BELLS.—In a late number of your journal is a paper on bells, in which are some interesting remarks. May I solicit a corner for a few lines on the neglect of supplying our new metropolitan churches with this useful appendage in its way? If we turn westward, we find that not one church, from St. Giles's (close by the bottom of Old Oxford-street) to a distance of three miles, bearing to the right, has a peal, although the steeples to some of them, from their noble proportions and the taste displayed by their architects, warrant their being supplied with this appendage, without which I consider a church steeple like a body without a soul. Near the Edgeware-road is a church tower large enough for a peal of eight of twenty-three hundredweight tenor, which at present can only boast of five, the largest weighing only eight hundredweight. After this we meet not with another church with a peal till we arrive at the foot of Highgate-hill. The art of change-ringing on bells hung to be raised and rung on the balance, the bell making a circle each time the clapper strikes a blow, is exclusively English, and a national auxiliary that has been used for centuries in awakening feelings of joy when rung on particular days during the year. A small subscription among the parishioners would defray the cost of a peal, and a further grant from the rates, not in amount to bear upon their pockets, would secure the services of a set of ringers; and thus, in districts where a stillness prevails, particularly in the evening, a merry peal would enliven the spirits of the surrounding inhabitants.

HAYDN WILSON.

MINERAL COLOURS.—Some valuable mineral paints have, it is reported, been discovered in California, producing respectively the four colours red, yellow, green, and blue. The minerals are chiefly terra sienna, basalite, sienite, and wacke. They are found in the El Hambre Creek, near the town of Martinez.

"NEW LAMPS FOR OLD."—According to a local paper, a portion of the old painting on the roof of the parish church at St. Neots, supposed to have been painted some centuries back, has been taken down and replaced by others, executed after the same style as the original. The more's the pity.

THE OIL SPRINGS.—Canadian papers state that, owing to the sudden and almost universal cessation of the flowing wells, there is quite a panic among the dealers; and until the result of putting down pumps has been ascertained, contracts cannot be negotiated. Much of the paraffine of commerce, however, is got from other mineral sources, and doubtless will continue to be so got, independently of the oil-wells, as it was before they were discovered.

CITY OF LONDON PAUPER LUNATIC ASYLUM. We hear that Messrs. Piper & Wheeler, the contractors for these works, are making rapid progress with them, the whole of the brickwork (with the exception of the chapel) being nearly completed. The roof-timbers are fixed, and the tiling is in a forward state. The tower in the centre of the building is carried up to a considerable height, and the stonework forming the brackets and cornice is now being set. Mr. Bunning is the architect.

PREVENTION OF MINING ACCIDENTS. — Mr. John Phillips has deposited in the Mechanics' Institute a model of an ingenious contrivance for obviating the commonly fatal results from the breakage of shaft gear. The model is somewhat after Fourdriuier's principle, and represents a shaft with projecting board edges. To the bucket are attached spring handles, which, while the rope is at tension by the weight of either the empty or full bucket, are clear of the sides of the shaft, but which, upon a snapping of the rope, spring out, catch hold of the bevelled edges of the shaft sides, and thus arrest the descent of the bucket or cage.—*Ballarat Star.*

DOUBLE-ACTING VENTILATOR FOR RAILWAY AND OTHER CARRIAGES.—An ingenious and simple apparatus for this purpose has been patented by Mr. M. Wigzell, of Topsham, in Devonshire. It is intended to be inserted in a convenient position, such as above the glass slide in the door of the carriage; and may be briefly described as consisting of a double tube put together in a T form, and inserted horizontally, so that the mouth of the inlet tube will open forward on the route of the carriage, while the mouth of the outlet tube opens in the opposite direction. There are of course interior openings, one for admitting the fresh air, and the other for egress of the foul.

LECTURE ON LIGHT AT THE ROYAL INSTITUTION.—Dr. Frankland has been lecturing on artificial illumination. During the last ten years there had not been any important improvements in the manufacture of coal gas, though several new means of obtaining light for illumination had become known, the most interesting of which was the electric light. After explaining the various forms of the electric light, including the magneto-electric at the South Foreland, the lecturer turned to gas light, and explained, and illustrated by experiment, the Rev. Mr. Bowditch's plan for purifying gas from the obnoxious and pertinacious sulphide of carbon by heated hydrate of lime. Paraffine and petroleum were then noticed, and the value of these substances was compared with that of spermaceti, gas, and other illuminating agents. Assuming that the light of 20 spermaceti candles, burning for 10 hours, cost 6*s.* 8*d.*, the cost of wax to produce the same amount of light would be 7*s.* 6*d.*; of tallow, 2*s.* 6*d.*; of sperm oil, 1*s.* 3*d.*; of paraffine, 7*d.*; of common coal gas, 4*d.*; and of cannel gas, 3*d.* Dr. Frankland exhibited a reading lamp, so contrived that by an external glass the air descends in contact with the heated chimney before it reaches the flame, and by this simple means the light is increased 30 per cent. The lecturer concluded by alluding to thermo-electricity as a power that might possibly become valuable for illumination.

TENDERS.

For works at 15, Clement's-lane, City (exclusive of fittings). Mr. William Roe, architect:—

John Clemence	£1,590 0 0
Hill, Keddell, & Robinson	1,522 0 0
Marsland & Son	1,490 0 0
Bowley, Bros.	1,350 0 0

For 462 feet of iron railing, with dwarf wall and iron curb, Orphan Working School, Haverstock-hill. Mr. James Harrison, architect

Ennor	£396 0 0
Perry & Judson	370 0 0
Coleman	349 0 0
Thurlow	338 10 0

For alterations, Ockendon House, Lower-road, Islington. Mr. James Harrison, architect:—

Gatsby	£459 0 0
Ennor	388 10 0
Johnson & Cooper	379 0 0
Wheen	307 0 0

For rebuilding Llanychilwydog Church, Pembrokeshire. Mr. Withers, architect:—

Davies	£530 0 0
Thomas	470 0 0

For building new parsonage-house, Lyss, Hampshire. Mr. Withers, architect. Quantities supplied by Mr. Poland:—

Bond	£1,874 0 0
Simms	1,849 0 0
Tracey & Co.	1,806 0 0
Moon & Son	1,792 12 11
Elliott	1,763 0 0
Ellis	1,757 0 0
James & Ashton	1,725 0 0
Pitcher	1,617 3 7
Lewis	1,599 0 0
Rogers & Booth	1,535 17 0
Barnes	1,505 0 0
Sharpington & Cole	1,475 0 0

For new parsonage-house at Turnditch, Derbyshire. Messrs. Giles & Brookhouse, architects, Derby:—

Woolley	£1,287 0 0
Lilley	1,209 0 0
Oldershaw	1,205 0 0
Hall	1,180 0 0
Cash	1,165 0 0
Sheppard	1,141 0 0
Dusantoy	1,141 0 0
Gadsby	1,141 0 0
Thompson	1,124 0 0
Thompson & Fryer	1,100 0 0
Robinson	1,100 0 0
W. & C. Bridgart (accepted)	1,065 0 0

For cottage residence, &c., at Borrowash, Derby, for the Right Hon. the Countess of Harrington (first contract). Messrs. Giles & Brookhouse, architects:—

Gresley	£478 0 0
R. Bridgart	389 0 0
Dusantoy	378 0 0
Thompson & Fryer (accepted)	370 0 0

For building four cottages, for Mr. E. Edwards, of Tonbridge Wells. Mr. Bond, architect:—

Weeks	£435 18 0
Walker	435 11 2
Strange	422 9 8
Perigoe	385 0 0
Mercer & Camfield	378 13 0

For repairs and painting to No. 13, Upper Seymour-street West. Mr. Withers, architect. Quantities supplied by Mr. Poland:—

Sharpington & Cole	£127 0 0
Carman	118 10 0
Sanders	117 0 0
Thompson	114 9 0
Tracey & Co.	92 0 0

For sundry works in alterations, repairs, painting, and decorating, to mansion, offices, stables, &c., at Sunningdale Park, Berks, for Sir Charles Decimus Crosley. Mr. Alfred Smith, architect:—

Works to Mansion and Offices.

Foster	£2,545 0 0
Mansfield	2,439 0 0
Macey	2,390 0 0
Norris	2,264 0 0
Holland & Hannen (accepted)	1,812 0 0

Works to Stables and Outbuildings.

Foster	£967 0 0
Norris	960 0 0
Macey	899 0 0
Mansfield	899 0 0
Holland & Hannen (accepted)	810 0 0

For rebuilding No. 102, Jermyn-street, St. James's, Westminster. Mr. John Blore, architect. Quantities supplied by Messrs. Meakin & Dudgeon:—

Wardle & Baker	£2,820 0 0
Bottom & Co.	2,760 0 0
Sharpington & Co.	2,759 0 0
Waters & Saintey	2,715 0 0
Palmer	2,634 0 0
Hill, Kettle, & Robinson	2,598 0 0
Simms	2,398 0 0
H. & C. Bond	2,378 15 0
Ward	2,332 0 0
Wilson	2,300 0 0
Marshall	2,297 17 0
Thompson	2,284 0 0
Stevenson	2,282 0 0
Jackson, Shaw, & Oliver	2,268 0 0
Scrivener & White	2,265 0 0
James & Ashtons	2,259 5 0
Rowe	2,111 0 0
Rudkin (accepted)	2,088 0 0

The adjoining house, No. 103, is about to be rebuilt by Messrs. I'Anson, for 1,447*l.*, under the same architect.

For making and fixing an eight-day turret-clock complete, with four dials, and fixing hour and quarter bells, three in number, for the Liverpool Cemetery, Anfield Park, the tender of Messrs. T. Cooke & Sons, of York, 174*l.*, was accepted; and to supply the bells at 10*l.* per cwt.

TO CORRESPONDENTS.

Oxford Workhouse (Mr. J. Walker, elected clerk of the works, wishes it said that he was not clerk of works at Birmingham workhouse, but the builders' clerk).—R. L. (a reply as to columns was already in type).—B. (ditto).—J. D.—W. A.—Mr. J.—A. M.—H. S. & D.—Dr. R.—Mr. H—E. A—G. R. (must apply to the authorities of St. Paul's. Write to "The Architect, Chapter House").—R. F.—H. M.—H. A. H.—A Member of the Association.—A Disappointed Student.—R.—W. R.—G. & B.—W. B.—R. H.—S. W.—G. K. G.—R. B.—J. R.—A. S—F.—J. S (in Yorkshire, we believe).—W. J. N.—W. D. (send drawings to office, and reply shall be given).—N. R. (we cannot enter into private disputes on *ex parte* statements).—A Student.—J. B.—C. J. M. (apply to the Secretaries of the Institute).—S. W. (next week).

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

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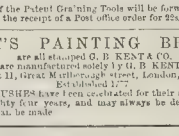
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G. F. Fargus, Esq., Bristol, Director of the Law Property and Life Assurance Society.
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Messrs. Druce & Co. 53, Victoria street, Westminster, S.W.
H. C. Pilcott, Esq., 13, Lincoln's-inn-fields, W.C.
BANKERS.
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Messrs. Hallett, Ommanney, & Co. Cornhill, & 9, Cockspur street, Westminster, London.
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Messrs. Beckett & Co. Leeds.
The Company is formed for the purpose of creating an Hotel on a magnificent site, with all the modern improvements, on the site of the George and Blue Boar Inn, Holborn, with a frontage also to Lincoln's-inn fields, to be called "The Inns of Court and Great Central Hotel."
Applications for shares may be made in the usual form, according to which a deposit of 10s. per share, and prospectuses and all other information may be had at the temporary offices of the Company, 73, Cheapside, E.C., where the plans, as well as the articles of association, may be inspected.
THOMAS WAITE, Secretary pro tem.

THE CITY of MANCHESTER PATENT BRICK & TILE COMPANY, LIMITED (EFFERTZ'S PATENT).
Capital, £ 60,000 in 10,000 shares of £6 each. Deposit, 10s. per share on application, and £1 10s. per share on allotment. Registered under the Companies Act of 1862, with limited liability.

DIRECTORS.
W. NICHOLSON, Esq., Chairman
(late Managing Director of the London and Manchester Glass Company).
W. Routledge, esq. (Messrs. Routledge & Ommanney).
F. Heseltine, esq. (Messrs. W. F. Higson & Co.).
E. T. Tomlinson, esq. (Messrs. Tomlinson & Jones).
E. J. Hughes, esq., (Messrs. Hughes & Bloodworth).
W. Weild, esq. C.E. (Queen's Chambers, Market street.
Charles M'Clellan, esq. Market-street.
CONSULTING ENGINEER.—W. Weild, esq. C.E.
SUPERINTENDING ENGINEER.—Peter Effertz, esq. C.E. (the Patentee).
SOLICITORS.—Messrs. Atkinson, Saunders, & Co.
BANKERS.—Messrs. Cunliffe, Brooks, & Co.

The Directors having now completed their preliminary arrangements, and the Company being duly registered, are prepared to receive and execute orders forthwith, both for the machines (under royalty), bricks, tiles, and drain-pipes.
The Directors very confidently invite application for the remaining shares. A considerable number are already subscribed for, and an allotment will be shortly made.
The Directors reserve to themselves the right to limit the first issue of shares.
With machines made under this patent, bricks can be produced superior to hand made, at one half the present prices.
The said machines may be seen at work on application. Samples of bricks, tiles, and drain-pipes, can also be seen at the Company's Offices, where forms of application for shares and further information may be had.
J. J. S. HUGHES, Secretary.
India Buildings, Cross street, Manchester.

THE BUILDING MATERIAL IMPROVEMENT COMPANY (Limited).
Capital £6,000 in 6,000 Shares of £1 each, with power to increase.
Deposit on Application 1l. per Share, and £1 10s. on Allotment.
It is not the Directors' intention to call up more than half the Capital for the first Twelve Months.

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Frederick Francis, Esq. (Messrs. Francis & Haddon, Architects), 41, Parliament street, and Malvern and Hereford.
Charles Gray Scrase, Esq. (Messrs. Searle, Son, & Yelf, Architects, 4, Bloomsbury place, W.C.)
John Matheson, Esq., Engineer, 138, Leadenhall street, E.C.
Alfred Robert Pite, Esq., Architect, 9, South-terrace, Grosvenor-park Camberwell.

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OFFICES.—9, PALL MALL EAST, S.W.

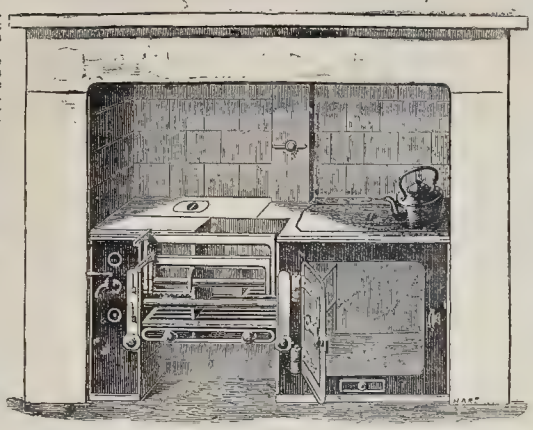
This Company is established in order to secure to the Building public inventions of practical utility and economy, and to provide the capital necessary for the purchase and development of such one as are proved to be valuable.
The disadvantages of the present method of applying plaster to the walls part to us, and consequent on buildings, have caused serious to architects, builders, and the owners of houses property. The public generally now feels the greater convenience which arises during alterations and repairs, from avoiding the dirt, dump, and delays attendant on the present plastering process. The Company, therefore, propose to commence its operations by the manufacture, on an extensive scale, of a substitute for lath and plaster, consisting of slates, for walls, ceilings, partitions, &c. called Imlock's "Patent Dry Lamins," and the Directors have secured an patent for its manufacture. When it is considered the number of square yards of brick work contained in the walls, partitions, ceilings, and the roofs of churches and chapels constantly requiring to be treated in this manner, there can be no doubt as to the demand, and that a large profit will accrue to the proprietors.
The fact that the Laminæ has been used in many brick works for nearly two years and that there are orders now in hand for considerably more than the quantity that can be executed, affords satisfactory proof of the estimation in which the Laminæ is held by the profession. Some of the Directors, who have used the material found the same beneficial to its numerous advantages; such facts, it is considered, are the best guarantee to the Company that a speedy return may be confidently promised to the shareholders.
The estimated profit to the Members of the Company, after deducting all the expenditure, is 50 per cent. on the capital, which it is proposed to the first instance to call up.
The leading advantages offered by Imlock's Patent Laminæ may be summed up thus:—
The saving of time and labour
Houses at once habitable, the Laminæ being put up dry.
The cracks found in ordinary plastering are avoided.
It is lighter and stronger than lath and plaster, and is not liable to fall, as under the old system.
The said roof completes the work, so that ceilings or partitions may be completed in one day, and rooms entirely finished, painted, and papered in two or three days.
The saving of 2d. per yard, or nearly 20 per cent. on the ordinary method of plastering.
The material being light and strong, can be advantageously supplied to any part of the country.
It is dangerous to damp and non-combustible.
It is fixed in one operation, with the greatest ease, to the joists and quarterings of new work, or to old ceilings or partitions, in repairs or alterations.
It is clear that in future investments the Company will stand in the advantageous position of having an efficient staff of officers ready to test any patent that may be laid before the Directors, without incurring any incidental expenses until it particularly struck them, that when they should have proved the worth of any such future invention, they will be enabled to light the expenses of management on the Laminæ account.
Prospectuses and further particulars may be obtained of the Secretary, at the Offices of the Company, 9, Pall Mall East, London, S.W.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION
Incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from £50 to £5,000, upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Parties entitled to terminable leases can purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or compulsory withdrawals, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.
EDWARD HARPER, Secretary.

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This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

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The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

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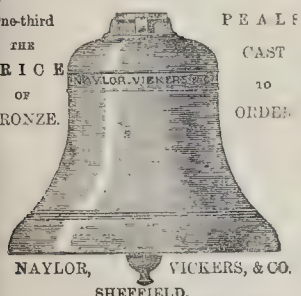
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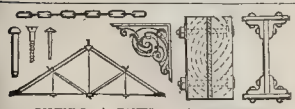
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Yellow Deals, sound and good	£19	10 0	per 120, or 6½d. per foot.	
Spruce Deals, ...	16	10 0	" 9 2½	"
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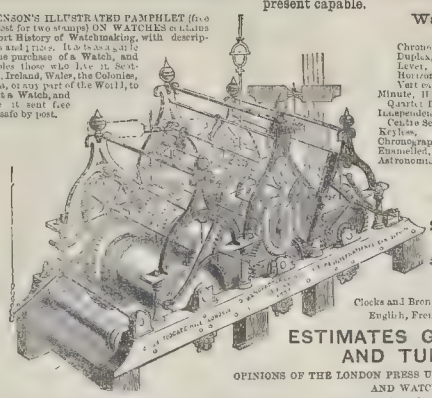
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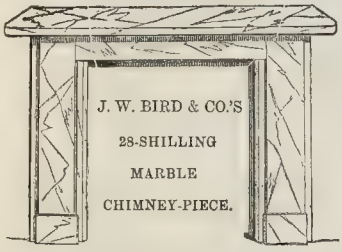
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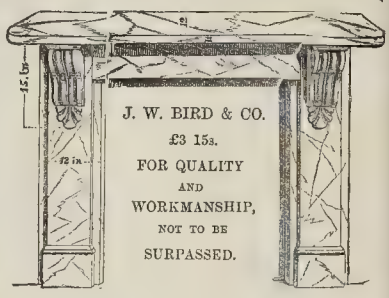
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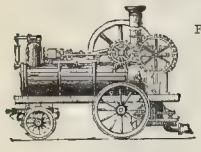
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EXPOSITION UNIVERSELLE,
1855.

PRIZE MEDAL—Class X. (c)
INTERNATIONAL EXHIBITION
1862.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.
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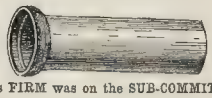
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Manufacturers of Ironwork for Drainage Purposes,
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PATENT INDURATING SOLUTIONS,
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PATENT SILICEOUS PAINT, FOR COATING STONE, CEMENT, STUCCO, &C.
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THE MOST APPROVED INTERNAL STUCCO.
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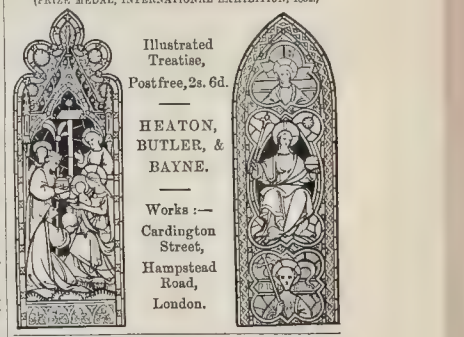
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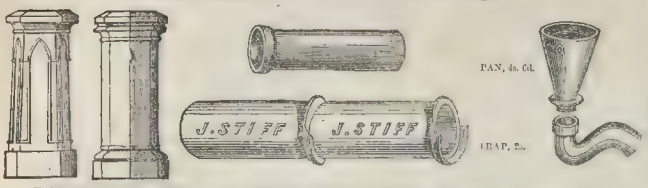
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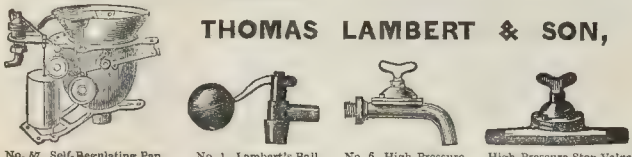


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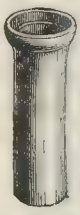


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INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

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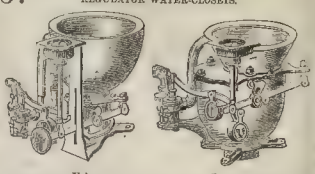
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J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is assured. Any number can be worked by one supply pipe. Pumps, valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate street, London.

OSLEY POTTERY WORKS,

GLASGOW.

Messrs. R. H PENMAN & CO. from Staffordshire, Manufacturers of the best description of EARTHENWARE GOODS for Sanitary Purposes required in private and public buildings, supply he Trade, Wholesale, at the lowest possible prices for Cash. The Wares sent by their customers to the late Exhibition was highly spoken of.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



TYE & ANDREWS NEW PATENT SINK TRAP

is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13. Only Medal awarded for "excellence of construction of Mathematical Instruments."

SQUARES.—W. F. STANLEY,

late STANLEY & ROBINSON'S IMPROVED, Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 2s and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises

Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use. Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s 6d post free.

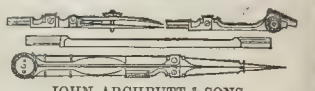
STANLEY'S IMPROVED DRAWING PEN.

SECOND-HAND MATHEMATICAL

INSTRUMENTS, by Elliott, Troughton & Simms, Dolland, and others. The Cheapest House in London is WM. LAWLEY'S, 78 Farringdon-street, City. Bow Pens, by Troughton & Simms, from 1s. 6d each. Second-hand Telescopes, Opera, Race, and Tourists Glasses, by Voigtlander, Dolland, and others. Instruments, Telescopes, &c. bought or exchanged.

MATHEMATICAL DRAWING INSTRUMENTS,

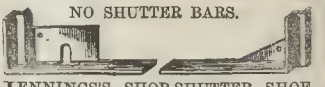
SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre,

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second hand Instruments of all kinds, by the best makers, always in stock.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	. . . .	£2 10
3 "	. . . .	" 15
4 "	. . . .	3 10

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

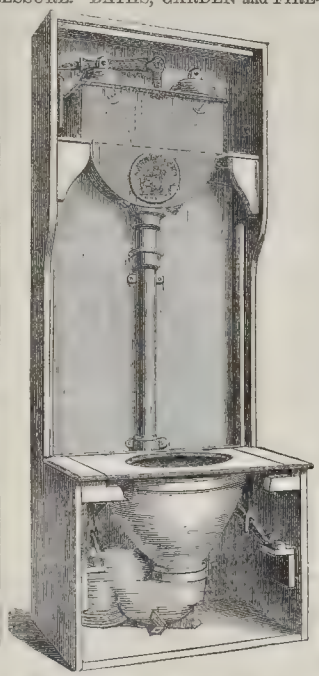
2½ inch	. . . .	£4 4 0
3 "	. . . .	5 5 0
3½ "	. . . .	6 6 0

Larger sizes when required.

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	. . . . .	£3 10 0
3 "	. . . . .	4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£4 4 10
Ditto Work without Wood Case	3 3 10
Basin and Trap, W.	0 15

Further Description, with Sectional Drawings, will be sent on application.



No 143.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 6 0

Sunk Handle, extra 0 2 0

Blue Basin, extra 0 1 0

No. 145.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BENJAMIN FOWLER & Co. Whitefriars-st. Fleet-st. London,

MANUFACTURERS OF PUMPS AND HYDRAULIC MACHINERY OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DOMESTIC, AGRICULTURAL, OR MANUFACTURING PURPOSES, OR FOR CONTRACTORS' USE, TO BE WORKED BY HAND, HORSE, WATER, WIND, OR STEAM POWER.

Portable Steam Engines, Powerful Single and Double-Barrel Pumps, Centrifugal Pumps, and Boring Tools for Contractors' Purposes, ON HIRE.

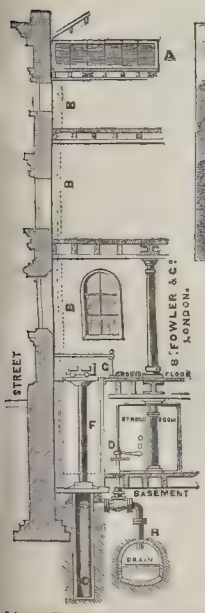
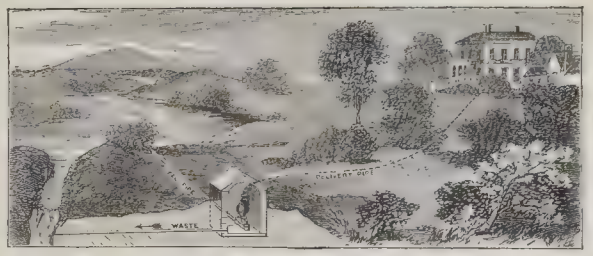


Fig. A.



THE LANDSCAPE SKETCH ABOVE SHOWS

THE IMPROVED HYDRAULIC RAM.

This is a simple Self-acting Machine for Raising a considerable Supply of Water for Use in Public or Private Establishments where a fall can be secured from a Stream, Brook, or Springs. Messrs. FOWLER have fixed a great many Hydraulic Rams in various parts of the country, for raising from 600 to 6,000 or more gallons per day to elevations varying from 30 to 300 feet, and forcing through main pipes from 50 yards to several miles in length. The fullest particulars and estimates will be handed on application.

No. 37 SHOWS A SET OF

TREBLE-BARREL PUMPS WITH HORSE GEARING,

For Raising Water from DEEP WELLS for the SUPPLY of TANKS in MANSIONS and PUBLIC BUILDINGS. Messrs. FOWLER also Manufacture and Erect every other Form of Pump for Deep or Shallow Wells, for Hand or other Power.

Fig. A SHOWS

A HYDRAULIC LIFT,

Worked by Pressure from a Cistern. Suited for Banks, Warehouses, and other Buildings. Messrs. FOWLER also Manufacture such Lifts to be worked by Hand Pumps, where pressure cannot be obtained from a Cistern.

BENJAMIN FOWLER & CO.

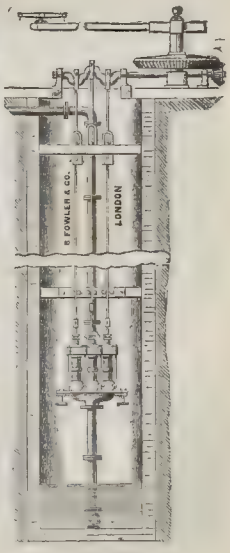
MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

PUMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE, STEAM ENGINES, WATER WHEELS, TURBINES, HOISTS, WARMING AND DRYING APPARATUS, BATHS, GAS-WORKS, AND FITTINGS.

ESTIMATES WILL BE HANDED ON APPLICATION.

PRICE LISTS OF PUMPS FREE BY POST.



No. 37.

SALES BY AUCTION.

INTERNATIONAL EXHIBITION, 1862.—The Materials of the Annexe, the Shafting, Rizers, Columns, and Steam-pipes used for showing the Machinery in motion, and supply of the

MESSRS. FULLER & HOSKEY are instructed by Messrs. Kelk & Lucas to SELL by AUCTION, on TUESDAY, FEBRUARY 24th, 1863, and following days, at ELEVEN each day, at the Building, in lots, the capital, sound MATERIALS of the ANNEXES, the shafting, columns, steam boiler, and steam-pipes used for showing the machinery in the Western Annex of the International Exhibition Building, and the surplus plant: 60 tons wrought-iron roofing principals, each 70 ft. span, 35 ft. high; 1,500 superficial yards corrugated-iron roofing boards, 1,500 superficial yards glazed skylights (16 oz. glass), 3,500 superficial yards flooring boards, 2,000 ft. run joists, 8 in. by 2 in.; 25,000 ft. run planks, 9 in. by 3 in.; 100,000 ft. run quartering, 6 in. by 2 in. and 4 in. by 3 in.; 2,000 superficial yards 1-in. dressed match boarding, 400 squares rough ditto, 1,000 ft. glazed sashes, 2,000 ft. Dantzic timber upwards, 1,000 ft. run, in lengths with turned heads complete, bevel, and base plates, with bolts and nuts complete, 2,000 feet length of turned wrought iron shafting, 2½ to 3¾ in. with couplings and self-lubricating pedestals; 20 turned risers, 2 ft. 6 in. diameter, 9 pair mortise and mitre-wheels (20 tons weight and flanged cast-iron steam piping, from 2 in. to 18 in. diameter, with expansion joints, valves, &c.; 30 pairs wrought-iron blocks, 1 Hoyt's (or similar) boiler, 3 tons rope falls, 100 dozen scaffold-cords, scaffold boards and planks, 13 derrick cranes, from 1 ton to 6 tons, by Bowser, Cameron, & Co.; erection of steam boiler-house, with corrugated-iron roof and circular chimney-shaft; 100 rods new brickwork; erection of gantry, 65 ft. long, with two travellers, 3 tons and 1 ton, 25 ft. rise; erection of watercloset seats and urinals; 80 double and single seats with iron standards; and numerous other effects. — To be viewed on Saturday and Monday previous to the sale, from NINE to FOUR o'clock when catalogues can be had; and but which no person will be admitted), may be had at the building, or previously of Messrs. FULLER & HOSKEY, 13, Billiter-street, London, E.C.

N.B. Approved bills at three months' date will be taken from purchasers to the extent of 50*l.* and upwards.

CITY OF LONDON.—Freehold Building Site, comprising the large Area of a Quarter of an Acre.

MESSRS. WILSON & SCOBLE will SELL by AUCTION (by direction of the Executors of the late Robert Stephenson, esq., D.C.L.) at GARRAWAY'S on THURSDAY, MARCH 5, at ONE o'clock precisely, a highly valuable and important FREEHOLD PROPERTY, comprising the extensive premises upon which the works of Messrs Swinburne, Blake-glass Manufacturers, have been carried on for the last half century; known as "Red Bull Wharf," No. 89, Upper Thames-street, in the best position between Southwark and London Bridges, and opposite the range of warehouses of Messrs. Humphery on the Surrey side; having by a recent grant of the Thames Conservancy a fair frontage to the river of 161 feet by a great depth of about 150 feet. The property is bounded on the west by the premises of the City of London Brewery Company, and on the east by a wide paved passage and the open river Wharf of Messrs Turney-croft, and has an excellent carriage-way to Upper Thames street. The site is in every way most eligible for the erection of very light first-class bonded warehouses, with extensive wharfage so much in demand in the neighbourhood, from the demolition of the very many wharfs or properties taken for railway requirements. The buildings at present comprise a four-tier wide-roofed warehouse, brick and timber, and an dwelling house of modern construction, the whole of good, sound materials. The present tenants are under notice to quit, and therefore possession can be given at Midsummer next. May be viewed, and particulars, with plans, had of J. H. STANTON, Esq. Solicitor, Newcastle-upon-Tyne; of Messrs HAYES, TWISDEN, PARKER, & CO. Solicitors, 60, Russell-square; at Garraway's; and of Messrs WILSON & SCOBLE, Auctioneers and Estate Agents, 114, Leadenhall-street, E.C.

NORTH LONDON RAILWAY.—City Extension.—First Clearance Sale.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, on the PREMISES, on TUESDAY and WEDNESDAY, MARCH 24th and 25th, 1863, at TWO o'clock, by order of the Directors of the North London Railway Company, the BUILDING MATERIALS, FIXTURES, and FITTINGS of about 300 HOUSES, situate in the parishes of Shoreditch, Hackney, and locality of Union-street, Union-crescent, and Kingsland-road, comprising bricks, slates, tiles, joists, girders, rafters and other timber, doors, sashes, doors frames, sheets, lead and zinc pipes, gutters, &c. marble and other chimney-pieces, stoves, ranges, bells, &c. slop-stools and fittings. May be viewed the day previous to sale, and catalogues had at the Railway Station, Kingsland; No 34, Broad-street-buildings, E.C.; and at the Auctioneers' Offices, Camden Town, N.W.

TO BUILDERS, IRONMONGERS, MASONS, PLUMBERS, MACHINISTS, AND OTHERS.

MR. WM. HOLLINGSWORTH will SELL by AUCTION, on MONDAY next, at TWELVE precisely, at the Sale Rooms, 13, High Holborn, a variety of GOODS used in the BUILDING TRADES; including the Stock-in-Trade of a General Ironmonger, register stoves, sliptic ditto, kitchen-ranges, furnaces, piling and guttering brass four tly goods of all kinds, two iron of nails and screws, hinges, locks and latches, door and bell furniture, &c. 20 cwt. of white lead and ground colours, upwards of 100 first and second class enamelled slate chimney pieces, Lindrian excavators, iron bins, harness trackets, iron wheel barrow, two patent ploughs, wrought-iron bedsteads, portable bathes, anvils, vices, tools, and a variety of effects.—On view, and catalogues ready.—Auction Offices, 13, High Holborn.

STOCK OF A BUILDER, Removed for Convenience of Sale.

MR. JOHN R. FOWLER will SELL by AUCTION, on the PREMISES, 145, Old Kent-road, next the World turned Upside down Tavern, on WEDNESDAY, FEBRUARY 25th, at TWELVE for ONE, the STOCK: comprising yellow and white planks, deals, and battens, 100 squares of flooring, quartering, feather-edge boards, match ditto, cut stuff, slating battens, pantile lathe, die square, some capital carpenter's bench, and sundry materials.—Auction Offices, 24, St. Swithin's lane, E.C.

TO TIMBER MERCHANTS, BUILDERS, AND OTHERS.

THOMAS ROBERTS & CO. will SELL by PUBLIC AUCTION, on TUESDAY, 24th FEBRUARY, at GARRAWAY'S COFFEE-HOUSE, Cornhill, at HALF PAST FIVE o'clock precisely (by order of the Importers, &c.),

217 Loads Rock Elm Timber,
185 Loads Red Pine Timber
18,000 Quebec and St. John's Spruce Deals, &c.
7,000 Quebec Pine and Puncheon Staves.
80 Tons Cuba Fustic.
And at SIX o'clock precisely,
MAHOGANY.—367 Logs Honduras (Northern Wood), just landed at the West-India Docks, ex "Pearl," from Belize.
89 Logs Cuba.
96 Logs Honduras.
ROSEWOOD,—871 Planks Rio.
634 Planks Bahia.
BABICU.—28 Logs Cuba.
And other Goods.

Catalogues to be had where the goods lie; at the Place of Sale; and of the Auctioneers, 9, Billiter-street, E.C.

THE CLIFF, SCARBOROUGH.—To BUILDERS and OTHERS EXTENSIVE SALE of BUILDING MATERIALS, &c.

MR. WM. TASKER HART has received instructions from the Scarborough Cliff Hotel Company, Limited, to SELL by AUCTION on the PREMISES, on THURSDAY, MARCH 5, 1863, the whole of the BUILDING MATERIALS, except the bricks, of the Dwelling-houses, Nos. 1, 2, 3, 4, 5, 6, and 7, with the Five Cottages, situate on St. Nicholas Cliff, and which said buildings are to be pulled down, and the materials cleared away on or before the 31st of MARCH. Several of the houses have been built within the last eighteen years and contain timber and other materials of the best description. Each House will be put up for sale separately. Sale to commence at ONE o'clock. The whole of the houses will be open for inspection four days prior to the sale.—For further particulars, apply to CUTHBERT BRODRICK, Esq. Architect, Leeds; or to Mr. WM. TASKER HART, Scarborough.

Re SALE.—To BARGE OWNERS, LIGHTERMEN, and OTHERS.

New SAILING BARGE of 80 Tons, ready for Sea.

PULLEN, HORNE, & EVERSFIELD are instructed by the Mortgagee under power of Sale, to SELL by AUCTION, at CARPENTER'S WAY, St. Rumble, Southwark, on TUESDAY, FEBRUARY 24th, at TWELVE for ONE, the Decked SAILING-BARGE "Rep-Tay," of 80 tons burthen, spritsail-rigged, and completely fitted with stores. Was built in 1862 in the very best manner, and has only made one or two voyages.—May be viewed at the place of sale three days previous, and 1 previous day at the Iron Bridge, Poplar. Catalogues to be had of Messrs. E. & G. TANNER, Ship and Insurance Brokers, &c. Lower Thames-street, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, E.C.

WESTMINSTER.—BUILDING MATERIALS of a large Factory and Range of Workshops.

PULLEN, HORNE, & EVERSFIELD have received instructions from the Directors of the Chartered Gas Company to SELL by AUCTION on the PREMISES, Great Peter-street, Westminster, on FRIDAY, FEBRUARY 27th, at TWELVE, the valuable MATERIALS and FITTINGS-UP of a large FACTORY, range of SHOW-ROOMS and WORKSHOPS (part built within a few years), and recently occupied by Mr. Edge: comprising 500 000 sound stock bricks, excellent timber roofs and floors, 4000 feet run 13,000 plain tiles, 65 squares of slates, 200 squares of flooring, numerous sashes, doors, and other fittings, part of capital large cranes, iron railings, stone paving, several tons of lead in gutters, ridges, pipes, &c.; 220 iron stables, 4 iron doors, 150 feet of wrought plate-glass, 12 ruguted iron roofing sheets, and various other effects.—May be viewed one day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, and 80, Fore-street, City.

NEW LAMBETH BRIDGE. To Contractors, Builders, and Others

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Potter & Co. in consequence of the completion of their Contract, to SELL by AUCTION, near the new Suspension Bridge, Lambeth, on MONDAY, MARCH 2, at TWELVE for ONE, a quantity of surplus MATERIALS: comprising 130 loads of timber in piles, booms, braces, wallings, &c.; 3,000 feet of 3-inch planks, 2,000 scaffold boards, and 150 scaffold poles, a very excellent lot for trenching purposes, 1,000 yards corrugated iron boards, trestles, &c., also two boats and other effects. The timber may be viewed on the shore, near Lambeth Palace, and the remainder of the lots at a wharf in Cannon-row, Westminster; and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, S.W., and 80, Fore-street, City, E.C.

BRIDGE WHARF, MILLBANK.—To Marble Masons, Builders, and Others.—Remaining Portion of the Stock, to clear the Wharf.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs F. Edwards & Co. to SELL by AUCTION, on the PREMISES, foot of Vauxhall Bridge, on WEDNESDAY, MARCH 4, at ELEVEN for TWELVE, 80 BLOCKS of SICILIAN MARBLE, about 800 feet of MARBLE SLAB, and 2,000 MARBLE SQUARES suitable for paving, being the remainder of the Stock sold in consequence of the lease expiring at Lady Day. Approved bills at four and six months.—May be viewed one week previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore street, E.C.

METROPOLITAN IMPROVEMENTS.—Southwark and Westminster Bridge Connection.—Building Materials of Fifty Houses

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works, to prepare for SALE by AUCTION, the first week in MARCH, the valuable BUILDING MATERIALS of about Fifty Houses, situate in Lower-street, Fatharn place, York-place, Prince's-street, and Bear-lane, near Southwark bridge road. Further particulars in a few days, when catalogues may be had of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, City, E.C. and 40, Parliament street, Westminster, S.W.

EUSTON ROAD.—To BUILDERS, MASONS, AND OTHERS

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, at the Show Rooms, Duke place, opposite Southampton street, Euston-road, on FRIDAY, MARCH 20th, at TWELVE for ONE, by order of the Proprietor, the large and genuine STOCK of marble chimney-pieces, about the remaining STOCK: consisting of forty statuary and other marble chimney-pieces, artificial stone figures, fonts, pedestals, vases, and royal arms; a quantity of useful granite, York and Portland stone, and other effects.—May be view Two days previous, and Catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City, E.C.

TO ARCHITECTS, BUILDERS, and OTHERS.—Valuable Stock of CHIMNEY-PIECES and other Goods manufactured by the Lizard Serpentine Company.

PULLEN, HORNE, & EVERSFIELD have received instructions to SELL by AUCTION, at the Showrooms, Surrey street, Strand, on TUESDAY, MARCH 31, at TWELVE for ONE, a selection of SERPENTINE CHIMNEY-PIECES, executed in all the most approved and modern designs, in which much taste has been displayed, also a variety of slate cisterns, tazze, weights, table tops, and other manufactured stock, presenting a favourable opportunity of securing, at a moderate cost, many beautiful specimens of workmanship in the material.—May be viewed one week previous, and catalogues had at the Offices of Messrs. BRACE & LEATHES, Solicitors, 9, Chando-street, Cavendish square; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, S.W. and 80, Fore street, City, E.C.

Unreserved Sale of a Portion of the STOCK of a LONDON PAPER-STAINER, who is positively giving up business.

MR. EDWIN WHITE will SELL by AUCTION, at 12, Holborn Bars, and 1, Castle-street, Holborn Hill, on TUESDAY next, at TWO punctually, nearly 10,000 pieces of PAPERHANGING; inclusive of flocks, golds, satins, grounds, tents, Sculptos and sienna marbles, granites, oaks, and decorations; a large number of beautifully sculptured and handsome plain stainings; foss l back, rouge royal, satin, and other marble chimney pieces; 21 sunk-handle water-closet seats, and numerous other lots; 100 feet of washable gilt room-moulding.—View and catalogues day prior and morning of sale.

LESSNESS HEATH, NEAR ERITH, KENT; AND EDMONTON, MIDDLESEX.—Valuable Freehold Building Land, in Lots, varying from one-third of an acre to one acre and a half each, and a Freehold Ground-rent of 10*l.* per Annum

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on WEDNESDAY, MARCH 4, at TWELVE, upwards of FIVE ACRES of valuable FREEHOLD BUILDING LAND, pleasantly situate on the brow of the Hill, close to the station at Belvedere, in the parish of Erith, commanding a fine view, and possessing extensive frontages to Woolwich-road and Lesness Heath; also, 1a. 2r. 20p. acres and a half of Freehold Land in the parish and near the town of Edmonton, situate near Huxley's Farm, and possessing a frontage of 300 feet to the Southgate-road. Also a Freehold Ground-rent of 10*l.* per annum, secured upon an acre of land at Erith, adjoining that before mentioned.—Particulars of Messrs. STEVENS & BEAUMONT, Solicitors, 6 Old Jewry; and of the Auctioneers, 80, Cheapside.

DUNSTABLE, BEDS.—Seven Cottages and Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the SARACEN'S HEAD, Dunstable, on WEDNESDAY, FEBRUARY 25, at TWO for THREE in the afternoon, TWO FOUR ROOMED COTTAGES situate in High street, THREE SIX-ROOMED and TWO FOUR ROOMED COTTAGES situate in West-street, with productive Yards behind, and a PIECE of FREEHOLD BUILDING LAND in rear of the cottages in West-street, with frontages to Princes street; and several lots of eligible FREEHOLD BUILDING LAND, near to the Dunstable Station, on the London and North-Western Railway. Nine tenths of the purchase-money may remain on mortgage or contract at 5 per cent. to be paid in nine years or by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained (ten days before the sale, at the Railway Hotel and Railway Tavern, New Barnet; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

ACTON, Middlesex.—Valuable Freehold Building Land, Five Miles from the City.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on FRIDAY, MARCH 13th, 1863, at TWELVE for ONE o'clock, THIRTY-THREE LOTS of eligible FREEHOLD BUILDING LAND, with frontages to the Uxbridge-road, and to the road leading from Bollo bridge-road, close to the village of Acton. Nine-tenths of the purchase-money may remain on mortgage or contract, at 5 per cent to be paid in nine years by equal half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained (ten days before the sale, at the Railway Hotel of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

WIMBLEDON, Surrey.—Eligible FREEHOLD BUILDING LAND.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART opposite the Bank of England, on TUESDAY, MARCH 17, 1863, at TWO for ONE o'clock, an Estate fifty one feet in front to the Kingston road, and 150 feet deep, free from tithe and land-tax, with frontages to the main road to Merton and the new road called Hartfield-road, and situate in the Wimbledon and Epsom Station, on the London and South-Western Railway. The corner facing opposite the station is most eligible for a Tavern. Nine-tenths of the purchase-money may remain on mortgage or contract at 5 per cent, to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Plans, plots, and conditions of sale may be obtained ten days before the sale, of Messrs. RUSSELL & DAVIES, No. 59, Coleman street, E.C.; of the Auctioneer, No. 14, Moorgate street, London, E.C.; and at the Place of Sale.

SOUTHGATE, MIDDLESEX.—EXCELLENT MATERIALS OF A CHURCH.

MR. A. RICHARDS has received instructions from the Churchwardens to SELL by AUCTION, on the PREMISES, a short distance from the Railway Station, on THURSDAY, MARCH 12th, the whole of the MATERIALS of Wild Chapel, with pulpit, stained glass window, benches, &c.—Catalogues obtained of the Clerk; and of the Auctioneer, Tottenham.

FOR SALE.—An ENGINEERING and BOILER MAKING BUSINESS TO BE DISPOSED OF, by PRIVATE TENDER. The Works are situated at Corkickle, near Whitehaven; and the Machinery, Tools, Patterns and Implements, and in excellent condition. The business is now in full operation, and has been increasing satisfactorily for the last few years.—All particulars may be ascertained on application to Mr. Peter Dunning, Banker; of Mr. John Whittle, Iron Merchant, Whitehaven; also from Mr. Nathaniel Cams, Iron Merchant, Liverpool

Whitehaven, February 9th, 1863.

TO DECORATIVE HOUSE-PAINTERS.

The Advertiser, who has most successfully carried on business in Edinburgh for the last twenty years as DECORATIVE HOUSE-PAINTER, now finds it necessary, from the state of his health, to Retire from Business. He is in a state prepare prepared to DISPOSE of the GOODWILL of his BUSINESS and PREMISES, 210, KING TRADE, on reasonable terms. To a person of enterprise, so favourable an opportunity of entering upon a business of the highest class rarely offers. The premises are well situated, and are carried on very successfully. They are most eligibly situate, and are extensive and complete. The purchaser of the Business can obtain them either on a Sale or Lease.—Further particulars may be learned on application to X. Y. Z. care of Messrs. Robertson & Scott, News Agents, No. 14, Hanover-street, Edinburgh. Principals only will be treated with.

BIGGLESWADE.—To BUILDERS CARPENTERS, and OTHERS.—TO BE DISPOSED OF, in consequence of the recent decease of the late proprietor, the STOCK IN-TRADE, GOOD WILL, and BUSINESS of a BUILDER, CARPENTER, and UNDERTAKER in the premises now occupied in the centre of the improving town of Biggleswade, and contain a dwelling-house, sawpit, workshops, shed, and all necessary conveniences, and are a business duly established for a series of years. For further particulars apply to THO. J. HOOPER, Solicitor, Biggleswade, Beds.

BRIGHTON.—To PLUMBERS and HOUSE DECORATORS.—TO BE DISPOSED OF, an established BUSINESS, with DWELLING-HOUSE, Workshops, and convenient premises, and without any opposition in the neighbourhood. Stock to be taken at invoice price, and plant at valuation. Rent of premises low, and may be had on lease for a long term of years, and may be greatly improved. Cash required about 150*l.*—Apply, by letter, to W. H. WEBBER, 28, Portland-street, Brighton.

London: Printed by CHARLES WYMAN, Printer, at the Printing-office of C. & A. Wyman, No. 74 (Old No. 13), Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields, and published by the said CHARLES WYMAN, at the Office of "The Builder," No. 1, York street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, February 21, 1863.

The Builder.

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ARCHITECTURAL EXHIBITION, 9, CONDUIT-STREET, REGENT STREET.—All Drawings must be sent in on MONDAY, the 2nd of MARCH. LECTURES, on the TUESDAY evenings, will be delivered by Professor Kerr; F. Y. Hurlstone, Esq. President of the Society of British Artists; by Dr. C. Dresser; T. Hayter Lewis, Esq.; the Rev. J. L. Petit, &c. &c. Season Tickets will be Half a Crown, as heretofore.

JAMES FERGUSSON, F.R.A.S.
29, Langham place,
JAMES EDMESTON, F.R.I.B.A. } Hon. Secs.
5, Crown-court, Old Broad-street,

L'ESTRANGE MEMORIAL FUND.
Chairman of the Committee: the Dean of Ely.
Bankers: Messrs. Gurneys & Co. King's Lynn, Norfolk; and Messrs. Barclay & Co. 54, Lombard-street, London.
Payments may, if it be desired, be made by instalments

	£.	s.	d.
Total, January 31st	587	4	0
Rev. H. Flokes	2	2	0
Rev. F. Meyrick	1	0	0
R. Rawes, Esq. Congham	2	2	0
Mrs. Forge, Hunstanton	0	2	0
Mr. M. Dodman, do.	10	0	0
Mr. W. C. Dodman, Barrett Ringstead	3	0	0
Mr. Hush, Hunstanton	10	0	0
Mr. Robert Hunn, Holme	5	0	0
Rev. Geo Mathias, Chelsea	5	0	0
H. R. Evans, Esq.	5	0	0
Mr. M. Hamerton	1	0	0
Miss A. Blencowe	1	0	0
Rev. T. T. Upwood	2	2	0
Mr. M. T. Nelson	1	1	0

W. M. H. CHURCH, Hon. Secretary.
Hunstanton Vicarage, 21st February, 1863.

TROUGHTON & SIMMS.—For SALE, THEODOLITES, LEVELS, CIRCUMFERENTERS, PENTAGRAPHS, HODGRAPHS, a Lean's Mining Dial, a colonial surveyor's Circumferenter, with transit Telescope, a Schmalcalder's Prismatic Compass, Protractors, &c. by the above-named eminent makers, at JOHN ARCHBUTT & SONS', 20, Westminster Bridge-road, Lambeth, London, S.

BILLING'S PATENTS.
CHIMNEY TERMINALS, THROAT VALVES.
NOTICE TO ARCHITECTS.—The Proprietors of the late Mr. Billing's Patents have secured the services of Mr. E. H. COLLINS, M.I.B.A. of No. 10, Poultry, E.C. as the Consulting Architect, from whom full particulars and the reduced prices may be obtained; or from the Manager, Mr. TYLER, 19, Abingdon-street, Westminster, S.W.

COMPETITIONS.

NOTICE to ENGINEERS, CONTRACTORS, and OTHERS.—The Town Council of Kingston-upon-Hull offer PREMIUMS of 50*l.* for the Best, and 25*l.* for the Second Best, approved Plan, specification, and Estimate for a New Bridge crossing the River Hull, in the place of the present old North-bridge. The Plans, &c. to be sent in to the Town-clerk's office, on or before the 4th APRIL, 1863.—Further information may be obtained on application to Mr. THORP, Corporation Surveyor, Hull.

By order,
ROBERT WELLS, Town Clerk.
Hull, February, 1863.

TO ARCHITECTS.—The Town Council of Gateshead invite DESIGNS for the PROPOSED NEW TOWN HALL and CORPORATE BUILDINGS. A premium of 100*l.* will be paid to the author of the designs to which the Town Council shall award the first place, and a premium of 50*l.* to the author of the designs to which they shall award the second place. The designs are to be delivered, free of cost, at the Office of the Town Clerk, on or before the 1st of MAY next; and the two designs to which premiums shall be awarded will become the absolute property of the Town Council, without any condition whatever. A copy of the conditions to be observed by architects in drawing in designs, and a lithographic copy of the plans and sections of the ground will be supplied to competitors on application to the undersigned, and on payment of a charge of 5*s.*—By order,
J. W. SWINBURNE, Town Clerk.
Town Hall, February 13, 1863.

TO ARCHITECTS.—FREEMASONS' HALL, LONDON.—The Committee entrusted by the Grand Lodge with this subject invite PLANS and DESIGNS for the NEW BUILDINGS, and hereby offer the following premiums, viz: 150*l.* for the best, 100*l.* for the second, and 50*l.* for the third best design. Designs must be sent in on or before the 1st day of MAY next.—Printed instructions, together with the plans of the site, and of the present buildings, may be obtained (price 10*s.* 6*d.* which will be returned to those who forward designs) at the Office of the Grand Secretary, Freemasons' Hall, London, W.C.

TO ARCHITECTS.—BICENTENARY MEMORIAL SCHOOLS.—The Union Chapel Building Committee invite Architects to submit DESIGNS, with details, specifications, and estimates, for the ERECTION of the above SCHOOLS; the design to harmonize with the chapel to which it is to be annexed. The cost of the building, including all extras, not to exceed £*nl*. A premium of 10*l.* will be paid for the design, plans, &c selected by the Committee (and which can be carried out for the sum named). On payment of the premium, the Committee will be entitled to the design, plans, and specifications selected, but are not to be considered as bound to employ the parties furnishing them; but in the event of a successful competitor being employed, the premium will merge in his commission.—For further particulars, together with a view of the site, application must be made to Mr GEO. HART, Park square, Luton. The designs, plans, &c. to be forwarded, under a motto, with a sealed letter to correspond, on or before SATURDAY, the 21st of MARCH next, to Mr G STRANGE, Superintendent of the Union Chapel Sunday Schools, Wellington-street, Luton.
Luton, February 18, 1863.

CONTRACTS.

ARMY CONTRACTS.—TENDERS will be received at this Office until Noon on the 7th of MARCH next, from parties who may be willing to enter into CONTRACT for the SUPPLY of HOUSE COALS (Wall's-end) in such quantities as may be required, for one year, from the 1st APRIL, 1863, for the use of the Royal Military College, Sandhurst.
Forms of Tender and conditions of contract may be obtained on application at this Office; and no Tender will be noticed unless made on such prescribed form, and delivered at this Office by the hour appointed.
HENRY B. MORSE, Deputy-Commissary-General.
Commissariat Office, Aldershott, February 19, 1863.

ARMY CONTRACTS.—TENDERS will be received at this Office until NOON on the 7th MARCH next, from parties who may be willing to enter into CONTRACTS for the SUPPLY of HOUSE COALS (such as that known as Newport Small's), in such quantities as may be required, for the year, from the 1st APRIL, 1863, for the use of the Waterworks at Bentley, near Aldershott. Forms of Tender and conditions of contract may be obtained on application at this Office; and no Tender will be noticed unless made on such prescribed form, and delivered at this Office by the hour appointed.
HENRY B. MORSE, Deputy-Commissary-General.
Commissariat Office, Aldershott, February 19, 1863.

ARMY CONTRACTS.—TENDERS will be received at this Office until NOON on the 7th of MARCH next, from parties who may be willing to enter into CONTRACTS for the SUPPLY of FUEL and LIGHT, consisting of coals, coke, wood, composite and dip candles, in such quantities as may be required for the use of Her Majesty's Forces and Military Departments at Aldershott Camp, for one year, from the 1st of APRIL, 1863.
Forms of Tender and conditions of contract may be obtained on application at this Office, and no Tender will be noticed unless made on such prescribed form, and delivered at this Office by the hour appointed.
HENRY B MORSE, Deputy Commissary-General.
Commissariat Office, Aldershott, February 19th, 1863.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.
Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Shingle End, near Sandwich, in the County of Kent, may inspect the Drawings and Specifications at the Custom House, Ramsgate, or at this Office, between the hours of TEN and FOUR, from MONDAY, the 2nd, to SATURDAY, the 14th day of MARCH now next ensuing, and both inclusive (Sunday excepted).
Tenders to be sent to this Office not later than TWELVE o'clock at NOON on MONDAY, the 16th MARCH, under seal, and directed to the Commodore Controller General of Coast Guard, and endorsed "Tender for Shingle End."
The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.
Dated the 20th day of February, 1863, at the Admiralty
Coast Guard Office, 12, Spring Gardens, London, S.W.

TO BUILDERS.—The Stockton and Darlington Railway Company are prepared to receive TENDERS for certain ALTERATIONS and ADDITIONS to the PASSENGER STATION at BARNARD CASTLE. Plans and Specifications may be seen upon application to the Architect, at the Railway Office, Darlington, from WEDNESDAY, the 25th day of FEBRUARY, to WEDNESDAY, the 11th day of MARCH, inclusive. Tenders to be delivered on or before the last named date, addressed to the Secretary, and endorsed "Tender for Barnardcastle Station." No pledge is given that the lowest or any Tender will be accepted.
THOS. MACNAY, Secretary.
Railway Office, Feb. 20, 1863.

CONTRACTS.

EXTENSION of TIME for receiving TENDERS.—CITY of LONDON, BARBERS' HALL.—Important SITE for WAREHOUSES or MANUFACTURING PREMISES in the immediate vicinity of Wood street, Cheapside.—The Committee of the Worshipful Company of Barbers will meet at their Hall on THURSDAY, the 26th day of MARCH, 1863, to receive TENDERS for LETTING, on a Building Lease for 99 years, the Extensive PREMISES known as Barbers' Hall, situate in Monkwell street, Woodstreet, comprising three houses fronting Monkwell street, Nos 33, 34, and 35; part of the courtyard in the rear thereof, the passage leading thereto, and the greater portion of the Company's Hall, together with the kitchen, scullery, and outbuildings, having a frontage towards Monkwell-street of about 33 feet, by an average depth of about 116 feet, and an extreme depth of about 134 feet.—Full particulars, with a plan of the property, elevation and section of street-front, also conditions of letting, may be obtained on application to the Clerk of the Company; to Mr. CHARLES JOHN SHOPPEE, the Company's Surveyor, No. 61, Doughty-street, W.C.; or to the Beadle at the Hall.—By order,
HENLEY GROSE SMITH, Clerk.
4, Warnford-court, Throgmorton-street, E.C.

TO IRONFOUNDERS and CONTRACTORS.—SHARD BRIDGE, in the County of Lancaster.—The Directors of the Shard Bridge Company (Incorporated by Act of Parliament) are prepared to receive PLANS, SPECIFICATIONS, and TENDERS for the ERECTION of an IRON GIRDER BRIDGE, upon screw piles, across the tidal river Wyre, at the Shard, near Poulton-le-Fylde, in the county of Lancaster. The space for waterway, the level of the bridge, the width of roadway required, with sections of the borings, and all other necessary particulars, may be obtained on application to Messrs. MYRES & VERVERS, Civil Engineers, Preston, to whom plans, specifications, and Tenders must be sent, on or before MONDAY, the 9th day of MARCH next. The directors will not bind themselves to pay for plans or drawings of the bridge which are not adopted.—By order,
RICHARD MOORE, Solicitor to the Company.
Kirkham, Lancashire, February 10th, 1863

TO BUILDERS.—Persons desirous to TENDER for the ERECTION of new Presbyterian CHURCH and SCHOOLS at Aldershott, can see the plans, &c. at Mr TILBURY'S Royal Hotel, Aldershott, on and after MARCH 20th, 1863. Copies of quantities will be supplied on application at the above Hotel, for the sum of 5*s.* per copy. Tenders to be sent to me on or before the 31st day of MARCH next. Neither the lowest nor any Tender will necessarily be accepted.
G. B. MUSSELLWHITE, Architect,
Basingstoke.

TO CAPITALISTS, BUILDERS, and OTHERS.—Persons willing to ERECT two small detached VILLAS on the Nanhoran Hill, adjoining the Nantipond, may obtain Plots of Land for that purpose, in the best part of this picturesque locality, commanding extensive views of the Vale of Gloucester and surrounding country, on Building Leases at a very low ground rent, with power to purchase the freehold. A lease for Ten years, to pay 7*l.* per cent. per annum, will be granted for one house.—Full particulars and every information will be given on application to Mr. GEO. W. SADLER, Architect and Surveyor, 407, High-street, Cheltenham.

SAINT PANCRAS, MIDDLESEX.—To MASONS, PAVIORS, and OTHERS.—Notice is hereby given, that the Highway, Sewers, and Public Works Committee of the Vestry of the Parish of St. Pancras will meet at the Office of the Department of Works, on MONDAY, the 9th MARCH, 1863, at SIX o'clock p.m. to receive and consider TENDERS from persons willing to CONTRACT, until Lady-day, 1864, for the EXECUTION of MASONS' and PAVIORS' WORKS to the Footways and Roadways within the said Parish, pursuant to the terms of specification, to be seen daily at the Office of the Department of Works. Good security will be required for the performance of the Contract.—Further particulars, with the Form of Tender, may be obtained, on the deposit of 1*l.* at the Office of Mr. WILLIAM BOOTH SCOTT, C.E. Chief Surveyor, as under. The Vestry do not pledge themselves to accept the lowest or any Tender. No Tender will be received unless made out on one of the printed forms. Tenders must be delivered by SIX o'clock p.m. on the said MONDAY, the 9th MARCH.
CHARLES WORRELL, Chief Clerk of the Department of Works.
13, Edward street, Hampstead road, February, 1863.

CALNE RAILWAY COMPANY.—The Directors are prepared to receive TENDERS for the ERECTION of STATION BUILDINGS at Calne. Plans and specifications can be seen at the Office of the Engineer, JAMES B. BURKE, Esq., 4, Queen's-square, Westminster, and at the Office of the Secretary at Calne. Tenders, addressed to the Directors, to be delivered at the Secretary's Office, on or before the 6th day of MARCH next. The Directors do not bind themselves to accept the lowest or any Tender.
Calne, Feb 19, 1863.
W. M. VIZARD, Secretary.

TO BUILDERS.—TENDERS are required for the ERECTION of the proposed CHURCH of the HOLY TRINITY, Shrub Hill. Plans and specifications may be seen, and further particulars obtained, upon application at the Office of WILLIAM JEFFREY HOPKINS, Architect, Sansome Lodge, Worcester. Tenders to be delivered before the 10th day of MARCH next. The lowest Tender will not necessarily be accepted

THE OTTOMAN GAS COMPANY (Limited).—The Directors of this Company are prepared to receive TENDERS for the CONSTRUCTION of GAS WORKS at SMYRNA. The drawings and specifications may be seen, and bills of quantities and forms of Tender may be obtained, on application to Mr BAYLISS, C.E. 2, Parliament street, Westminster, S.W. on and after WEDNESDAY, the 4th day of MARCH.—Tenders must be sealed and endorsed "Tender for Smyrna Gas Works," and must be delivered at the Offices of the Company, 6, Copthall-court, London, E.C. on or before ELEVEN a.m. on FRIDAY, the 13th day of MARCH. The Directors do not bind themselves to accept the lowest or any Tender. By order of the Board,
February 23rd, 1863.
WALTER DAVISON, Secretary.

[For remainder of Contracts see next Page.

CONTRACTS.

TO CONTRACTORS, BUILDERS, &c.—TENDERS are invited for the ERECTION of a PIER at Porthgain Harbour, and for a WINDMILL, WORKSHOPS, and MILL DAM, on one, or the other, or both of the last-named Contracts. Specifications may be had by post on payment of five shillings for each; and plans may be seen at the Office of W. H. GOLDSMACKER, Esq., C.E., 17, Charles-street, Milford, South Wales; or at the Office of Messrs. HEWETT & GRIERSON, Portgain Slate Quarries, Trevine, Haverfordwest, to whom Tenders must be sent on or before the 1st of MARCH. The advertisers do not bind themselves to accept the lowest or any Tender.

TO BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a New CHURCH at Clay-hill in Kings, near Cheltenham, may inspect the plans and specifications at the Office of the Architect, No. 26, High-street, Cheltenham, on and after MONDAY, the 16th instant. Sealed Tenders, endorsed "Tender for Church at Charlton Kings," to be sent to Mr. LOCKE, Esq., Solicitor, 3, Promenade-buildings, Cheltenham, on or before SATURDAY, the 7th MARCH. The lowest or any Tender will not necessarily be accepted.

GEORGE W. SADLER, Architect.

Cheltenham, February 10th, 1863.

TO GAS ENGINEERS, CONTRACTORS, and OTHERS.—The Directors of the Cardigan Gas and Coke Company (Limited), are prepared to receive PLANS, SPECIFICATIONS, and TENDERS for the ERECTION of the WORKS for the Manufacture of Coal Gas, and the Supply of Seventy-two Public Lights. The lowest offer will not necessarily be accepted. The plans may be had at the respective offices. For plans, &c., to be sent to the Chairman of the Board of Directors, THOMAS DAVIES, Esq., Bank House, Cardigan, on or before SATURDAY, the 21st of MARCH next.

Cardigan, 19 Feb., 1863. L. LOWTHER, Secretary.

ORPINGTON, Kent, one mile from St. Mary Cray Station.—Builders desirous of TENDERING for the ERECTION of a pair of Semi-detached VILLAS, a stable, &c., from the drawings and specification to an elevation at the Office of Mr. JACKSON, 11, Arcadia-row, Mile End New Town, E., or as will be on view till MONDAY, the 9th day of MARCH, by the Proprietor, will find it useful to accept the lowest or any Tender.—Money will be advanced as the works proceed.

LONDON and NORTH-WESTERN RAILWAY.—To CONTRACTORS.—The Directors are desirous of receiving TENDERS for the CONSTRUCTION of the RAILWAY from Alston, through Garrigill to Hilton, with Branch from Kenwards to the Duke's Dock, a thousand-yards of Coal-road and Landsale, a distance of eight miles, or thereabouts. Parties desirous of Tendering may see the drawings, and obtain a statement of the quantities, upon application to Mr. WILLIAM BAKER, Engineer, Euston Station, on TUESDAY, MARCH 3rd, between the hours of TEN and FOUR o'clock. Tenders addressed to the Secretary, at this Office, to be sent in on or before WEDNESDAY, MARCH 18th, at FOUR o'clock p.m. The Directors do not bind themselves to accept the lowest Tender. By order

Euston Station, February 23, 1863

CIRENCESTER CORN HALL.—To BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of NEW PUBLIC BUILDINGS, and PRINCIPAL ENTRANCE to CORN HALL, in Dyer-street, may see the working drawings and specification at Messrs. MALLAND, MABERLY, & MEDLAND'S Offices, Gloucester, on and after 2nd MARCH.—Sealed Tenders to be addressed to Mr. R. K. HARGOOD, Hon. Secretary, Cirencester, and delivered 12th MARCH.—The lowest Tender will not necessarily be accepted.

R. K. HARGOOD, Hon. Sec.

Cirencester, February, 1863

METROPOLITAN BOARD of WORKS.—To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give Notice, that they will meet at the Office of the Board, Spring-gardens, S.W. on FRIDAY the 27th day of MARCH, 1863, at WELVE o'clock at noon precisely, and will then be prepared to open TENDERS from parties who may be willing to CONTRACT for the FORMATION and PAVING of an INTENDED NEW STREET, the CONSTRUCTION of an ARCHED SUBWAY, 12 feet in height, of Brick-work, 18 feet, or there-abouts, of Cellarage, 970 feet, or thereabouts of Area Wall, 1,710 feet or thereabouts of Brick sewer, at the various points in connection therewith, in the West End new approach street, known as Great Smithfield-street, and the kerb-stones in the respective lines of St. Bartholomew-close, and Charterhouse-street, in the County of Surrey. Plans, sections, and specifications, to be seen with the Board of Works, as above mentioned, and other particulars obtained, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE am and FOUR p.m. on SATURDAYS, between the hours of NINE a.m. and TWO p.m. and THURSDAY, the 26th day of MARCH, 1863. The Tenders are to be addressed to the Clerk of the Board, and delivered at the Office by FOUR o'clock on the said last-named day, and no Tender will be received after that hour. The parties Tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender, but the party whose Tender shall be accepted will be required to enter into two sufficient sureties for the due satisfactory performance of the works.

JOHN POLLARD, Clerk of the Board.

Spring-gardens, S.W. February 23rd, 1863

TO BUILDERS.—HIGHBRIDGE CHURCH SCHOOLS, Somerset.—Builders are invited to submit TENDERS for the above-named ELECTION of SCHOOL BUILDINGS at Highbridge. The plans and specifications can be seen on and after MONDAY, the 2nd MARCH, at my office, and to be returned to the Rev. H. MACAULAY, at the Parsonage. Estimates to be forwarded, by the 14th MARCH, to the Architect, Mr. NORTON, 21, Old Ecclesiast, W.

BERMONDSEY, ROTHERHITHE, and DEPTFORD ROADS.—BROKEN GUERNSEY GRANITE, and other STONE.—To Trustees of the several Roads under the Surrey Office, No. 151, Bermondsey street, Bermondsey, in the county of Surrey, on WEDNESDAY, the 25th day of MARCH, 1863, at TWELVE o'clock at noon, precisely, to receive TENDERS for the SUPPLY during one year of BLUE BROKEN GUERNSEY GRANITE CHIPPINGS of the best description, to be delivered to the satisfaction of the surveyor at the Yards, and to be delivered in quantities of 400 yards at a time, at Jamaica-road, Bermondsey-wall, at the Grand Surrey Canal, Rotherhithe; and a like quantity at Cherry Garden Wharf, Bermondsey-wall, Deptford, before the 1st day of MAY, and the 1st day of JUNE next, and one half of the remaining quantity to be delivered in like manner before the 1st day of JULY next, and the remainder in like manner before the 1st day of OCTOBER next, and the remainder in like manner, at a ledge to the same certain Yards, and by a sufficient boat-quality thereof, at the Yards of the Trustees. The Tenders to state the quantities proposed to be delivered. The Contractor will be subject to the payment of a penalty of 20l. in case of failure to deliver the above-mentioned quantities at any of the respective Yards or Landing-places.

G. H. DREW, Clerk to the Trustees.

151, Bermondsey street, S.E. 23rd Feb., 1863.

PERSONS desirous of TENDERING for the ERECTION of a DOUBLE VILLA at Darlington, may inspect the specification, plans, at the Office of THOMAS SIMPSON, Architect, Northgate, on and after WEDNESDAY, the 4th day of MARCH, 1863. WEDNESDAY, the 18th, at the Office of JOSEPH TEASE, Land Agent, Darlington, on FRIDAY, the 13th day of MARCH, and WEDNESDAY, the 1st day of APRIL, at the Private Office of Messrs. JOSEPH TEASE, Sons, and delivered at the Offices last mentioned, by NOON, on the 2nd of APRIL. The lowest or any Tender not necessarily accepted.

GENERAL ILLUMINATION.—IMPORTANT NOTICE.

J. DEFRIES & SONS

Beg to inform the Public that they have only a few of their

REGISTERED CRYSTAL DEVICES

left, for which early applications must be made as they cannot possibly make up any more for the forthcoming Illumination.

GLASS CHANDELIER MANUFACTORY, 147, HOUNDSDITCH, LONDON.

WATERING the ROADS.—The Vestry of the Parish of St. James and St. John, Clerkenwell, will meet at the Vestry Hall, 24, Upper Rosoman-street, on THURSDAY, the 5th MARCH next, at HALF-past SIX o'clock in the evening precisely, to receive TENDERS for the SUPPLY of WATER CARTS HORSES, MEN, and all other necessaries, and to do Water-work in the Streets, Roads, and Places in the Parish for a year, from the time ordered for the 1st of April, from stand-pests to be put up by the Vestry. For the purpose the Parish is divided into two districts: District No. 1 consisting of wards 1, 2, and 4; and district No. 2 consisting of wards 3 and 5; and a separate Tender must be sent in for each. Forms of Tender (which alone will be received) may be had at the Vestry Hall, between the hours of TEN and FOUR daily. All Tenders are to be sealed up, and left at the Vestry Hall by FOUR o'clock on the day of meeting, and no Tender will be received or returned to each person whose Tender is not accepted, but will be retained in the other cases until the contract and bonds are signed. The Vestry do not bind themselves to accept the lowest or any Tender

ROBERT PAGET, Vestry Clerk.

Vestry Hall, Clerkenwell, 21st February, 1863

TO SCAVENGERS and DUST CONTRACTORS.—The Vestry of the Parish of St. James and St. John, Clerkenwell, will meet on THURSDAY, the 26th of MARCH next, at the Vestry Hall, Upper Rosoman-street, at HALF-PAST SIX o'clock in the evening, to receive TENDERS for DUSTING at 1 for the HOUSES, SHOPS, and other PREMISES within the Parish. For the purpose the Parish is divided by the Vestry into the 25th MARCH next to the 25th of MARCH, 1864. For cleansing and lighting purposes, the Parish is divided into two districts—No. 1 comprising Wards 1, 2, 3; No. 2 comprising Wards 4 and 5, which districts must be tendered for separately, and one contractor will not be permitted to have both districts. The Vestry do not bind themselves to accept the lowest or any Tender. Persons tendering must be prepared to give security for the faithful performance of their contract. Sealed Tenders, endorsed, "Tender for Dusting and Removal of Ashes," and enclosing a 2s. Bank of England note as a guarantee of good faith, must be sent in by FOUR o'clock on the day of meeting. Forms of Tender and further particulars may be had at the Vestry Hall from TEN till FOUR daily.

ROBERT PAGET, Vestry Clerk.

Vestry Hall Clerkenwell, February 21, 1863

MIDLAND RAILWAY.—The Directors are prepared to receive TENDERS for the REPAIRS and MAINTENANCE of the whole of the WROUGH BRIDGES and WEIGHING MACHINES on the Midland Railway, for a term of three years from and after the 25th day of MARCH next.—The form of Contract may be seen, and further particulars obtained on application at the Engineer's Offices, Derby Station, on and after the 3rd of MARCH; and no Tender can be received after TEN a.m. on TUESDAY the 17th day of MARCH next. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

G. N. BROWNE, Secretary

Derby, February 24th, 1863.

TO MASONS and PAVIORS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on THURSDAY, the 12th of MARCH next, at TWELVE o'clock precisely, to receive TENDERS for the execution of such MASON'S and PAVIOR'S WORKS as may be required by them to be done within the year ensuing, for a period of THREE YEARS, from Lady Day next, upon the terms contained in their specifications, model copies of which may be obtained at this Office on payment of 10s. each, which will be returned to such persons who shall send in a bond fide Tender. Persons Tendering are required to give the names and addresses of at least two substantial householders as Sureties, who will enter into bond with the Contractor for the due performance of the Contract. The Commissioners do not pledge themselves to accept the lowest Tender or any unless deemed to be for the public advantage. No Tender will be received after TWELVE o'clock on the day of treaty. The Party sending in proposals must attend personally, or by duly authorised agents, on the day and hour mentioned.

JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, 23rd February, 1863

PARISH of ST. MARY ABBOTT'S, Kensington, in the County of Middlesex.—PAVING CONTRACT.—The Works, Buildings and Sanitary Committee of the Vestry of the Parish aforesaid will meet at the Vestry Hall, Kensington Church Green, on FRIDAY, the 6th day of MARCH next, at SEVEN o'clock in the evening, to receive TENDERS and to CONTRACT for new YORKSHIRE PAVING, GRANITE KERB (CHANNELS, and DRESSED GRANITE), and other KEERING, &c.; also for Re-laying old Kerb Pavement and Channels, and re-setting Iron Rails. The form of Tender may be obtained on application at the Vestry Surveyor, Mr JAMES BROADBRIDGE, at his Office, Vestry Hall aforesaid. Tenders to be sealed and endorsed, "Tender for Masons' and Paviors' Work," and to be delivered at my Office by or before FOUR o'clock in the Afternoon of FRIDAY, the 6th proximo. No Tender will be received unless made upon one of the said printed Forms. The Vestry do not hold themselves bound to accept the lowest or any Tender. The contractor to enter into a written contract, and to pay the expense thereof.—By order,

REUBEN GREEN, Clerk of the Vestry.

Vestry Hall, Kensington, 21st February, 1863.

BUILDING MATERIALS.—TO DEALERS, &c.—TO BE SOLD by TENDER all the valuable BUILDING MATERIALS of PREMISES situate and being 68 Aldermanbury City, including good tiling, lathwork, timbers, flooring, doors, sashes, &c. Premises can be seen of the Caretaker. EACH TENDER to be in the afternoon of the day of meeting, and any Tender which is not upon the printed form prepared by the Board, and duly signed by the person or persons tendering, will be rejected. Persons signing, or their representatives, are required to attend the meeting of the Board. The Board do not bind themselves to accept the lowest or any Tender.

ALFRED TURNER, Clerk to the Board.

18, Great Abe street, Whitechapel, Feb. ary 25, 1863.

BOROUGH of BLACKBURN.—To SEWER and DRAIN PIPE MANUFACTURERS.—The Corporation of this Borough is prepared to receive TENDERS for the SUPPLY of SEWER and DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c. required during the year ending December 31st, 1863. Persons desirous of tendering for the above may see the specification and conditions, and obtain all necessary information, on application to Mr. BRIERLEY, Borough Surveyor, at his Office, Town Hall, Blackburn. Sealed Tenders, indorsed "Tender for Sewer Pipes," addressed to the Town Clerk, may be sent to the Town Clerk's Office, Town Hall, Blackburn, not later than WEDNESDAY, the 11th day of MARCH next. The Town Council will not be bound to accept the lowest or any Tender.

HENRY SAWARD, Town Clerk.

Town Hall, Blackburn, February 22nd, 1863

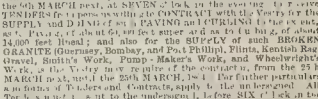
VESTRY of ST. MARY, NEWINGTON, SURREY.—CONTRACTS for PAVING, GURRING, BROKEN GRANITE (Guernsey, Bombay, and Port Phillip), FLINTS, KENTISH RAG, GRAVEL, SMITH'S WORK, PUMP-MAKER'S WORK, and WHEELWRIGHT'S WORK.—The Paving Committee of the Vestry will meet at the Vestry Hall, on the Parish Ground, on MONDAY, the 9th MARCH next, at SEVEN o'clock in the evening, to receive TENDERS for opening Tenders and to CONTRACT with the Vestry for the SUPPLY and DELIVERY and PAVING and CURBING to the several Parts of about 60,000 feet superficial of Broken Granite (Guernsey, Bombay, and Port Phillip), Flints, Kentish Rag, Gravel, Smith's Work, Pump-Maker's Work, and Wheelwright's Work, as the Vestry may require during the currency of the Contract, from the 25th MARCH next, until the 25th MARCH, 1864. For further particulars and forms of Tenders and Contracts, apply to the undersigned. All Tenders are to be endorsed, "Tenders for Paving," before SIX o'clock in the evening, on MONDAY, the 9th MARCH next, and the several persons willing to contract, must attend the Committee, at SEVEN o'clock on the same evening.

H. A. F. CHESTER, Joint Clerks to the Vestry.

1, Church-row, Newington-butts.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. date H. G. COOMBS, 17, Union-street, and 95½, Great Guildford-street, Borough, S.E. Invention of the Rustless Iron Fence, Service of the Tubular Railings, new Compensating Gas-holder Truss, &c. &c.

GENERAL IRON FOUNDERS, MERCHANTS, and PATTERN MAKERS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,

And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON and SON, ROCHDALE, near MANCHESTER, PATENTEES, AND Makers of Sawing Planing, Moulding, and other Woodcutting Machinery. IMPROVED VERTICAL SAW, For Cutting out Sweeps and Circles. Price 20l.



Drawings sent on application. MACHINERY TO BE SEEN AT WORKS IN ROCHDALE. LONDON OFFICE, CANNON STREET, E.C.

WROUGHT and CAST IRON BRIDGE, GIRDER, AND ROOF WORK. TO CIVIL ENGINEERS AND CONTRACTORS. WESTWOOD, BAILLIE, & CO. LONDON YARD IRON WORKS, ISLE OF DOGS, LONDON. Beg to call the attention of their friends and the public to the facilities they have for carrying out CONTRACTS for WROUGHT and CAST IRON WORK of any magnitude.

WESTWOOD, BAILLIE, & CO. have in stock a large quantity of Iron plate for Bridge, Girder, and Roof Work, and can therefore execute contracts entrusted to them with the greatest despatch, and on the best possible terms.

Patentees and Makers of Hydraulic Armour Plate Bending and Testing Machine.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 68, Charles-street, City-road, E.C. near the Canal Bridge.

E. GOLLOP, SOLE PROPRIETOR.

A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Rising-hinges, Gate-hinges, Back-flap-hinges, Rising Spring-hinges, Non-rising Spring-hinges, Double-acting Spring-hinges, Rising and Notching Door Back springs, &c.

Price List and Drawings on application as above.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE, No. 24, Davies-street, Three Doors from Oxford-street. For the supply of Builders, Carpenters, Plasterers, Roofers, Plumbers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford street, Manchester-square, running out of Baker-street, Portman-square, London, W.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only self-acting Instrument for insuring wholesome and uniform lighting, the Prevention of Pressure, and preventing any irregularity in the Consumption of the Gas.

D. HULETT & CO. 35, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

TO BUILDERS, CONTRACTORS, &c.—TO BE SOLD, TWO 10-horse power PORTABLE ENGINES, and one 6-horse power ditto, by Clayton & Co.; one 8-horse power and one 10-horse power, by Garrett; one 10-horse power portable engine and one 7-horse power ditto, and one 7-horse power vertical ditto, and boiler, by Claparede; an wrought-iron carriage with cast iron wheels; one contractor's locomotive, in capital condition; edge-rail, 3 miles and a half; six wrought iron trusses 1 inches long, 15 inches deep, by inch thick.—Apply to Messrs. HENRY LEE & SON, Crown Wharf, Nine Elms.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.

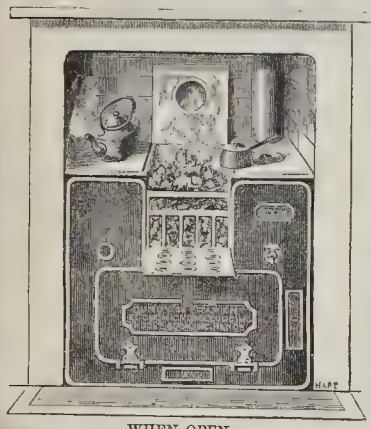


CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

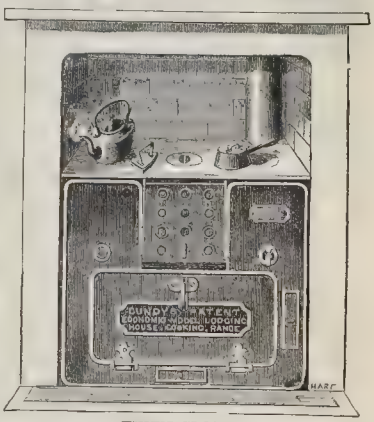
CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

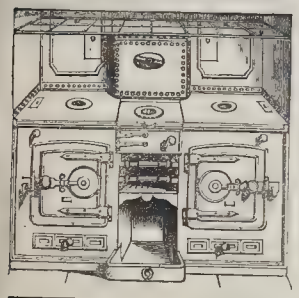
These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of

THE MANUFACTURER,



WHEN CLOSED.

WILLIAM ADDIS, Nos. 6, 7 & 15, LEICESTER-ST. LEICESTER-SQUARE,
WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,
Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.
A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 8*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.

FURNESS'
PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,
73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

COUNTRY ORDERS PROMPTLY EXECUTED.



All kinds of Smiths' Work.

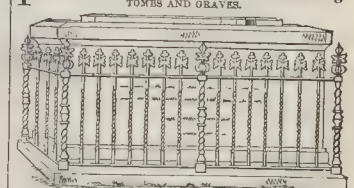
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WHOLESALE IRONMONGER,
122, EUSTON ROAD
(near St. Pancras Church),
Opposite J. W. Bird's Marble and Stone Works.
THE CHEAPEST AND BEST HOUSE IN LONDON FOR
KITCHEN RANGES, STOVES, NAILS, LOCKS, HINGES, BOLTS,
AND
EVERY ARTICLE OF BUILDERS' IRONMONGERY.
Priced Lists on application.

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Bell-hanging, Rasings, and Balconies.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated price catalogue, of numerous designs, in various styles (free), on application, to

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DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public. All kinds of Bent Glass Silvered.

N.B.—The usual discount to builders and the trade.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

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OLD SAINT PANCRAS ROAD, LONDON, N.W.

CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.

159, SHOREDITCH.

Self-acting, with Bright Wrought Bars.

34 inches	54s.
36 ,,	56s.
38 ,,	58s.
42 ,,	60s.

Self-acting Cottage, with Oven and Back Boiler.

30 inches	22s.
32 ,,	24s.
34 ,,	26s.
36 ,,	28s.

Register Stoves, with Strong Bars, from, per inch, 4d.

Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4d. per inch.

Best ditto, with Fire-brick Back, from, per inch, 5d.

Bright Stoves, with Two Fires, 45s. to 100s. each.

Best Cut Clasp and Rose Nails.

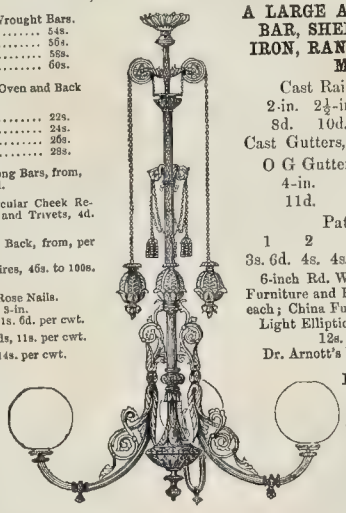
1½-in. 1¾-in. 2-in. 2¼-in. 3-in.
14s. 14s. 13s. 12s. 11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.

Best Cut Lath Nails, 14s. per cwt.

GAS PIPES AND FITTINGS.

CHANDELIERS AND BRACKETS.



A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Cast Rain-Water Pipe,
2-in. 2½-in. 3-in.
8d. 10d. 1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

O G Gutters, with Clips on,
4-in. 4½-in.
11d. 1s. per yard.

Patent Line,
1 2 3 4 5 6
3s. 6d. 4s. 4s. 6d. 5s. 6s. 9s. per gross.

6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each; China Furniture, same price.

Light Elliptic and Register Metal, 12s. 6d. per cwt.

Dr. Arnott's Ventilators, 4s. each.

BRICK MOULDS KEPT IN STOCK.

Any Size made to order.

POST-OFFICE ORDERS PAYABLE AT SHOREDITCH.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.

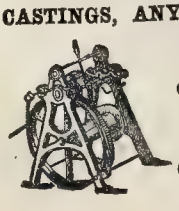
HENRY GOODWIN, JUN.

IRONFOUNDER, &c.

67, GREAT GUILDFORD ST., BOROUGH.

BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.

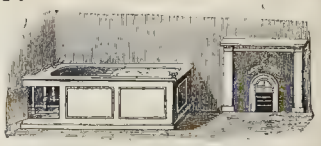
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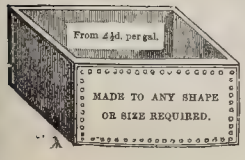
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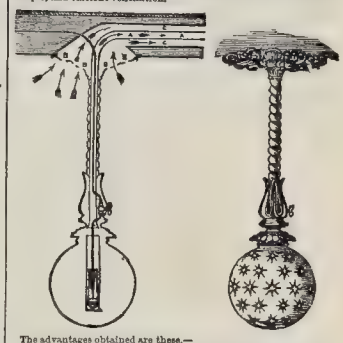


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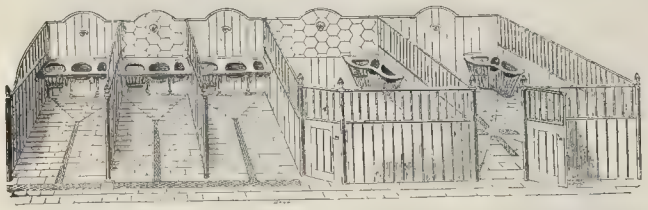
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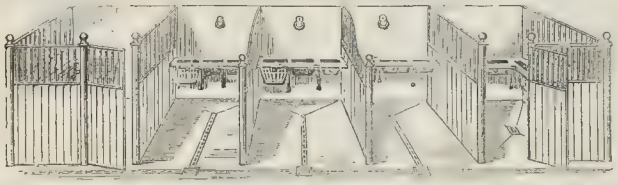
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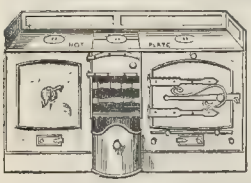
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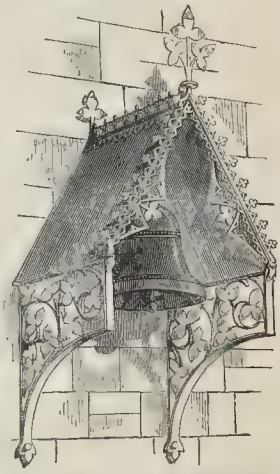
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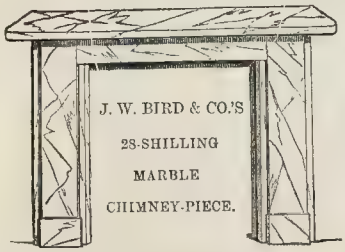
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VOL. XXI.—No. 1047.

The Royal Mausoleum at Frogmore.



WE are graciously enabled to present to our readers the plan and elevation of a building of which only fragmentary and unauthorized notices have hitherto appeared; but it is one in which all who revere the memory of the lamented Prince Consort must feel a deep and painful interest.

Early in January last year, Professor L. Gruner and Mr. A. J. Humbert were honoured with the Queen's commands to prepare designs for a Royal Mausoleum to be erected at Frogmore. One condition was especially imposed by Her Majesty; viz, that the central portion of the structure should be roofed in and substantially completed in the course of the year. Towards the end of January designs were submitted and approved. On the 15th of March the foundation-stone was laid by the Queen; and the dome over the central octagon was turned about the middle of October. The building was consecrated by the Bishop of Oxford in the presence of Her Majesty and all the members of the Royal Family on the 17th of December; and on the following day the mortal remains of his Royal Highness the Prince Consort were removed from Windsor, and placed in a temporary stone sarcophagus in the new edifice.

The mausoleum, as will be readily gathered from the accompanying plan and perspective view,* is in the form of a cross; the arms (or limbs) of which are of equal length; with the addition of a porch on the eastern side.

Externally, the breadth is 70 feet, and the length 80 feet. The extreme height from the general level of the ground to the top of the cross is 83 feet; and the height from the floor of the structure to the top of the central roof, exclusive of the cross, is 70 feet. Internally, there is a central octagonal chamber, 30 feet in diameter, and 65 feet high, roofed with an octagonal dome: each arm of the cross is 16 feet square.

There are connecting corridors or passages at the back of the four main supports of the dome; giving access to each of the arms of the cross, independently of the central portion of the structure.

The floor of the building is raised considerably above the ground; and beneath is a vaulted crypt or chamber, to which access is gained by descending a narrow winding staircase in the thickness of the wall, near the entrance doorway. This crypt was constructed for the purpose of insuring the dryness of the superstructure, by obtaining a free current of air beneath it.

The exterior of the building to the height of about 10 or 11 feet is faced entirely with granite, and above this with Portland stone and granite. The walls are of unusual thickness, and constructed in the most solid manner, a large proportion of the stones weighing from one ton to one ton and a half, and some as much as from three to four tons. All the external columns are of polished granite.

The interior of the building will be faced with coloured marbles and serpentines, combined with frescoes and other decorations. Keeping in mind the deep and incessant interest taken by the Prince in the development of the material productions of this and other countries, there was an anxious desire on the part of those who had been intrusted with the construction of his tomb to avail themselves to the utmost of all such materials suited to the purpose as could be readily procured, more particularly from the British dominions. Thus the woodwork is of Indian teak, the roofs of Australian copper: Wales and Ireland contribute a variety of marbles: Scotland and the Channel Islands supply granite; whilst England is represented by her Portland stone, her granite from Devon and Cornwall, and her Cornish serpentine. Belgium, France, Italy, Greece, and Portugal,* also furnish marbles to enrich the interior of the edifice.

It is intended that a large sarcophagus, of dark grey Aberdeen granite, should occupy the centre of the structure under the dome. The sarcophagus will rest upon a step of polished black marble, with kneeling angels in bronze, at the four angles; and upon it will be placed a recumbent statue of the Prince Consort, in white marble. This work is now being executed by Baron Marochetti, who has been honoured with her Majesty's commands to prepare and carry into execution the design. In this double sarcophagus it is intended that ultimately the Queen's remains shall likewise be deposited by the side of her beloved and deeply lamented Consort; and a recumbent statue to correspond with that of the Prince will be placed next to his. Long may this be wanting!

On the upper part of the bronze door-frame, in the porch, will be the following inscription:—

ALBERTI PRINCIPIS QVOD MORTALE ERAT
HOC IN SEPVLCRO DEPONI VOLVIT
VIDVA MŒRENS VICTORIA REGINA
VALE DESIDERATISSIME! HIC DEMVM
CONQVIESCAM TECVM
TECVM IN CHRISTO CONSVRGAM.

The central portion of the structure is the only part at present roofed in: temporary brick walls have been erected under each of the four large arches supporting the octagon and dome above; forming a chamber complete in itself, 30 feet in diameter, and 65 feet high, in which the stone sarcophagus is placed.

The external walls, owing to delays arising from the difficulty experienced in obtaining the marble and granite, are yet far from being complete.

Mr. George Dines, successor to the late Mr. Thomas Cubitt, of Pimlico, is the builder; and Mr. William Thomas, the clerk of the works.

* See pp. 152, 153.

* The Portuguese marble, "Emperor's Red," of unusually fine quality, was a present from the lamented king, Don Pedro, of Portugal.

† See p. 131, *ante*.

NOTES ON THE PROPERTIES OF WOOD.†

TREES cut in summer give lighter wood than when felled during winter time. The cause for this may probably be ascribed to the fact that in winter a large amount of nourishment is stored in the stem which, during the spring and summer, is spent for the formation of bloom and leaves.

We call hardness of the wood resistance which it opposes when another body enters it. If wood were an equal body like minerals, we should be able to determine its resisting power or hardness; but it being differently built, and, whilst trying its hardness, other properties interfering, we cannot arrive at a decisive result.

Sometimes a wood has very hard fibres but very little body; that is, it is lighter built than another wood with soft fibres and a full body: it is therefore unadvisable to judge the hardness of a wood according to its fibres. Experiments to ascertain its hardness should be made across the stem and not upon a longitudinal section; and although there is no instrument which leads us at once to a definite result, we can generally arrive with a saw at a fair conclusion. Many persons constantly employed on wood are of the opinion that it becomes harder if it is worked or barked whilst green.

Wood, as a porous body, contains in its natural state—whether dead or alive—a certain amount of moisture: by the loss of that moisture or increase of the same the bulk of the wood either contracts or expands.

If we have a piece of wood when this action takes place only upon one side, it is obvious that the piece will alter its form or shape.

The consequence of the loss of moisture is also the warping and splitting of the wood. The inner structure of a stem is irregular: for instance, we find the inner moisture of a yearly ring to be more than on its outer side: this causes the splits on the exterior, after the wood is dry; and it also accounts for the impossibility to form out of green wood a regular body which could not lose its weight or shape. The time during which the evaporation of the moisture takes place depends upon the state of the atmosphere. Several authors are of opinion that the contraction is regulated by the specific weight. This, as a rule, cannot be adopted: for instance, lilac and oak both being heavy and hard, contract quickly, whilst the double American maple, which is equally hard, contracts slowly. It is evident, however, that the fuller of sap a tree is the greater will be the contraction. This will account for the fact, that we find on cut timber the cracks extend from the exterior towards the centre, because the sapwood will contract more than the heart-wood.

Planks turn with their sides upwards; that is, the edges rise from the level of the centre line. This explains why we turn the inside of a plank towards the joists whilst we lay a floor, which prevents the twisting. The contraction and action of the wood cannot be checked altogether. Among the means to prevent it stands foremost the one of putting the tree into water; but when taken out it must not be stored in a place where it dries too soon, as it still would burst if done; nor must it be left too long in the water, as this will injure the quality of the wood.

All the wood which is used is never quite dry: besides this, it works a little in itself under the changes of the atmosphere; and therefore attention must be paid to the selection of the timber for the same purpose, for the heart-wood is less subject to such action than sap or splint wood. This is an important point with the furniture makers. The expansion or contraction is less apparent in the length of the fibre than in the cross section of the wood.

The elasticity of the wood is called its property of return to its original form and shape after such have been altered by another cause. With this quality is connected the valuable fitness of some woods to transmit sounds, for which reason they are much used by instrument makers. The elasticity has its limit; and the more a piece of wood can be bent without breaking the greater its elasticity.

The resistance of wood depends upon the three following conditions:—1st. Two pieces of equal length and height offer different resistance with reference to their breadth. 2nd. Two pieces of equal length and breadth offer different resistance with regard to their height. 3rd. Two pieces of wood of equal height and breadth offer different resistance with regard to their length.

Again, experience has proved that a piece of wood resting freely with its two ends will carry from one-third to one-half less weight than if the ends are fixed or built in a wall. Old wood has less elasticity than young, and heart-wood is less elastic than sap-wood. The same difference is found with wood from the lower stem compared with that from the upper crown. The elasticity diminishes with the progress of the specific dry weight. Square-cut timbers laid horizontally with their yearly rings have not by far such bearing power as when laid perpendicularly.

Green wood has considerable elasticity. Young stems, although they suffer sometimes by the wind, will regain their original position in a short time. Here it is necessary to mention that where young stems or branches have been bent through snow for a longer period, they will not return to their former form.

I submit to you the following as the result of some experiments relative to the bearing capacity of various woods. The pieces were all 3 feet long

✠

and 2 inches by 1 inch, and air-dry. The constants arrived at were the following:—

	Constant.	Wet.	Weight. per C. Ft.
Yellow Pine	358·5		25 687 lb.
Baltic Pine	444·		29·062 ,,
Red Pine	467·		33·437 ,,
Ash	517·75	55 875	41·812 ,,
English Elm	595·25		37·312 ,,
Pitch Pine	629·		45·750 ,,
American Elm	631·5		45 412 ,,
American Oak	653·5		44 875 ,,
African Teak	673·5		50·562 ,,
Mora	691·		71·250 ,,
Sabicu	854·25		59 687 ,,
African Oak	869·5		
Green heart	1,079·5		69 750 ,,
English Oak	—		53·312 ,,
Indian Teak	—		38·125 ,,
Iron Wood	—		73·500 ,,
English Larch	—		32·562 ,,

Formula to find the breaking-weight of a piece of timber:—c constant, b breadth in inches, d depth in inches, l length in feet, w breaking-weight in pounds.

$$\frac{c \quad b \quad d^2}{l} = w.$$

The adaptability of green heart for hydraulic construction, dock-gates, &c., cannot be over-estimated. I refer you to an instance where a clough was taken out of a sewer after sixteen years: it had been made half of oak and the other half of green heart: the oak was completely worm-eaten, whilst the green heart was in its original condition. This certainly contrasts with the fact mentioned by Mr. Burnell in his paper, that he has a piece of green-heart riddled by the teredo; and it would be interesting to ascertain under what circumstances the teredo will attack or not attack this kind of wood. My experience proves that green-heart is exempt from the therosion by the teredo; but there is a mollusc in this timber which we find alive in it as the same arrives here from the West Indies. The worm is found in sizes from the lymexylon to the teredo; but is of a different species, and seems not to live in this wood when used in such constructions as dock-gates, &c., in this country. Green sapwood will not retain its form and bend if it is suspended horizontally by its two ends.

The same will occur in timber constructions where green wood has been used. I may mention that the artificial process of drying wood should not be extended beyond 10 per cent., because it will cause it to become brittle and totally useless. A close examination of a beam supported by its two ends will tell that the upper half of the fibres are stowing while the lower fibres are extending. The centre of gravity lies in the middle of the cross section. All woods do not offer the same resistance, and we can increase it by strengthening the centre of gravity. M. Duhamel describes in his work, "De la Force des Bois," the following experiment in elucidation of this fact: he took twenty-four sticks cut from young willows of equal strength: each stick was 3 feet (Paris) long, and 1½ inch square. Six of these broke in the centre, with an average weight of 256·909 kilogrammes (1 kilogramme equals 2·205 lb. English). In two other pieces he made a cut across ½ inch deep in the centre, and filled it out with a piece of oak: they broke with an average weight of 269·718 kilogrammes. Two more were cut ½ inch deep, and otherwise treated in the same manner: they broke with 265·312 kilogrammes. Five were cut ¾ inch, and broke with 259·761 kilogrammes. From this it results that the smaller piece of harder wood, fixed across the centre, considerably increased the strength of the stems when put in half and even three-quarters of the thickness. It is also the reason why a beam composed of several smaller pieces will bear as much as if of one entire piece. And again, as the bearing power of the timber varies, some advantageous results may be obtained by putting stronger and weaker wood together in a construction.

A round or square piece of a stem will offer about the same resistance from each side; but if we compare a timber cut with the yearly rings vertically with another having the rings horizontally, we find that the former will bear more than the latter.

The sap which protects the wood does not prevent its decay. Turpentine, which is often in the sap, prolongs the preservation of the fibre. According to Baron Liebig, the decay of wood takes place in the three following modes: first, oxygen in the atmosphere combines with the hydrogen of the fibre, and the oxygen unites with the portion of carbon of the fibre, and evaporates as carbonic acid. This process is called decomposition. Secondly, we have to notice the actual decay of wood which takes place when it is brought in contact with rotting substances; and the third process is called putrefaction. This is stated by Liebig to arise from the inner decomposition of the wood in itself: it loses its carbon, forms carbonic acid gas, and the fibre, under the influence of the latter, is changed into white dust.

As an example of this, I refer you to the wooden ceilings of houses which after some time go into that state. The chief cause is, that the free access of the air to the wood is prevented, and the little dampness occasioned by washing is sufficient to promote the dry rot.

The sap of wood contains partly saccharine matter, which will naturally decompose in itself, and this is noticed in timber stores from the sour taste and smell of such woods.

The actual time which wood lasts depends in a great measure on the time when it was felled, and in how far the soil in which it grew was suitable for its development.

As a rule, the wood cut in summer is less durable than that felled during the winter months.

It will also be the case with trees which remain a longer period before their removal in the forest after being cut; however, a great difference does not exist between ripe woods, whether they are felled in the summer or winter time, because the felled in the summer or winter time, because the sap wood and the bark of the tree; therefore, if the sap wood is cut off and the heartwood is properly treated and seasoned, the quality of the summer wood would be equal to that cut in winter time. In support of this I mention, that most of the trees in Southern Italy are felled in July and August.

The pines in the German forests are cut down mostly in summer time, and their wood is generally very sound. The notion that this causes dry-rot must remain out of the question, for I believe whenever such takes place it is in consequence of unseasoned timber being used. Considering the large quantity of timber imported into this country, I must mention that my experience tends to show that the North American woods, with the exception of red pine, are less durable than those from the north of Europe. The latter are stronger, superior, and not so much subjected to dry-rot as the former.

In the earlier portion of this paper I had occasion to mention some enemies of the wood which attack it whilst growing: it is lucky that they are combated and destroyed to a great extent by other animals in the forest; and, among those doing great service in this respect let us remember the woodpeckers, finches, swine, hedgehogs, badgers, frogs, and many others.

Dry or dead wood has also some terrible foes, which at times cause alarming ravages; and unfortunately no effectual means have as yet been found to check them: the most dangerous of them are the termites, the lymexylon, the sirex gigas, the teredo, and the lymnoria terebrans.

It is sometimes difficult to distinguish good from bad timber, and I beg to draw your notice to some illustrations from a work published by the French Government,—"Instructions sur les Bois de Marine," with special reference to the oaks, and to which the following explanation may serve:—

Plate 43, figure 1, represents meagre or better known as English oak, of the best quality. To this kind of oak belong the *Quercus pedunculata*, and the *Quercus sessiliflora*. The fresh cut of such is a yellow straw colour, sometimes of a rose colour. The annual rings show a fine glossy grain, which allows it to take a fine polish. The horny layer of three to five millimetres is quite distinct from the cellular portion, and the pores are very little to be seen.

This kind of oak is very sensible to the influence of the atmosphere. In damp weather it swells, and in a dry temperature it contracts considerably. This makes it liable to split; but notwithstanding this it is excellent wood, and the best suited for the ribs in a ship. The fibres hold together with a great longitudinal and even transversal tenacity, which gives it a great resisting power.

Plate 43, figure 3, shows the cross section of an inferior quality. It is spongy; has large pores of a pale colour, sometimes brown or reddish; its deficiency has been caused by too wet a soil, by want of nourishment, or of fresh air, or of any other condition requisite for its full development.

If such wood be ruptured it will break clean off, and a fibre may be rubbed into dust between two fingers. A valuable property of this kind of oak is, that it alters very little by the changes in the atmosphere, and it is therefore much in use for floors, furniture, and carpentry.

Between these two qualities of oak, range a great number of others, differing in their condition.

When trees are found to be vicious at the trunk, it must be attributed to an interruption of the functions of the roots. It will occur that one or several of the roots die, by which putrefaction is imparted into the lower part of the stem. If this rot be white or black, it is not very dangerous: it does not generally reach more than 1 foot above the roots; but when this rot is of red colour, the wood should not be used in construction, or it will soon lead to decay.

Trees arrive at an age when their wood becomes ripe, and then it is time to fell them. It may be seen when the top of the tree brings forth no leaves in spring. Such trees are superannuated; that is to say, they grow no longer; and then they become subjected to a serious evil called the dial. This is explained by the following process:—We know that with a vigorous tree in full growth the heartwood contains the smallest portion of water, and that its density decreases from the centre towards the circumference: when it is felled and dried it will split from the outer side towards the centre. This is not the case with a superannuated tree, in which the oldest wood begins to perish first; and consequently the greatest density lies between the heartwood and the bark. Now, in such a tree the central wood contracts while drying, which causes the splits. Sometimes splits are found in trees which bear a glossy blackish aspect, and they must be distinguished from those just mentioned. They extend from the circumference towards the heart, and were created whilst the tree was growing. It is asserted that they are effected by frost. They look at first straight or capillary, and enlarge with each heavy cold. They show themselves mostly longitudinally, on a swelling of the stem, and make the tree useless.

The splits in the heart of a tree must not be confounded with holes caused in falling. There is no danger with the latter beyond that they diminish the length of the timber.

Often in the trunk of a stem a particular irregularity is found in the non-juxtaposition of two successive annual rings.

This fault is caused by strong winds, which affect it in the point where the flexion of the stem has its maximum.

It will also arise when the tree has not sufficient nourishment, by which two layers are prevented from growing well together. It shows itself in incomplete dark rings. If these are only in the sapwood they may be looked upon as unimportant; but when they are, on the contrary, in the heartwood, and accompanied with the dial, they betray a serious vice in the tree.

In different cross sections of an oak we often notice circular bands of a different colour from the remainder of the section, sometimes white, yellow, red, or brown. The texture of these bands appears loose, even spongy, and betrays signs of decomposition. It is found in the best qualities of wood, and it cannot be cured. The reason for this decay is not definitely known. Some persons suppose it to arise when the sapwood is prevented by severe cold from developing itself into good wood. When this evil is in the heart, it looks like a whitish circle, and is called the moon. Wood from such trees ought not to be used, because it will soon decay. When the vicious bands are straight, and the shades of colour are less observed, the vice is not so dangerous.

Druxy knots are caused by woodpeckers, by lopping, and by dead and broken branches, which make holes into the tree: into these the water runs, decomposes, and directs the evil towards the inner stem. If we find on a tree a swelling or depression, we may conclude that the condition of the tree is bad. Such trees are often found with the sap running out of their armpits. Among the various rots engendered by the knots we have the following:—

Wet rots are composed of porous fibre running from the knot into the trunk of a tree. This rot is of brown colour, and has an offensive smell.

This evil is often found with white spots, the latter of watery substance. When it has yellow flames it is very dangerous. Black coloured knots are easily cured, and unimportant.

We find wounds on trees which have been effected by the fall of a neighbouring tree or by the friction of a cartwheel through which the rind was torn. If this wound does not reach beyond the bark, it has no bad effect upon the wood; but should it have damaged the ligneous portion of the stem, the wood takes soon a green-like colour, and begins to decompose.

It occurs that a new rind grows over such wounds, and in such instances the evil is not detected until the stem is cut into timber. Similar defects are also caused by lightning.

As a very elaborate work upon the various kinds

of oak, I mention Kotschy's, Eichen Europa's, *Durability and Preservation of Wood*.

Well-seasoned timber will last for an indefinite period if kept in dry air or under water; but when alternately exposed to atmosphere, water, and light, it begins to decompose. The ordinary causes by which this is effected are chiefly the fermentation of the azotic substances contained in the cellular tissue. This is developed under the influence of the oxygen in the atmosphere, and by the moisture contained in the wood. We have therefore the problem to find means to prevent this fermentation, either by obviating all such circumstances as air and water, or to extract from the wood its vegetal albumen, or to act upon the latter in a manner that it resists fermentation, and also the attack of insects. No process has as yet been invented which answers to all these conditions, and with all trials we must have the assistance of chemistry and entomology.

I refer to our museums as the place where, among other rude-made articles, here and there is left a remnant of wood which bears the ages of decenniums, and other specimens of petrified wood which must have been in existence in its natural state centuries ago.

That wood in sandy soil will last for centuries may be seen in the specimens which were dug up whilst making the new docks at Birkenhead, from depths varying from 8 feet to 32 feet below the surface, and they are reckoned to have been there for centuries.

Among the many inventions to preserve wood, those of England have proved the most successful. Already in 1737 a patent was granted to Mr. Emerson, to prepare timber with hot oil, and soon after the methods of Oxford and Kyan came into use.

In 1837 a patent was taken out by Margary, to impregnate wood with sulphate of copper; and since 1838, Sir William Burnett's system, chloride of zinc, was also used.

Mr. Payne obtained a patent in 1841 for preparing wood with two solutions, such as carbonate of soda and sulphate of iron. Some very good results are obtained with this system, but it must be done with the greatest care.

Still better is the invention patented by Mr. J. Bethell, which consists in the injection of oil of tar after the air has been extracted. This process is effective to a great extent, and for a full description I refer you to Mr. Brunell's paper, read before the Society of Arts, in London, 1860.

The disadvantage with the creosoting system is the offensive smell and the increased danger by fire; but it is recommendable for railways and hydraulic works.

In France the price of creosote is too high to admit its general use; and solutions of metallic salts are used instead. Among these M. Boucherie's method has obtained the best results. He acts with a pressure of 5 or 7 feet of water upon wood not later than two or three months after it is felled, and injects a solution of sulphate of copper by a transversal section, while the sap runs out in the opposite direction. Railway sleepers prepared in this manner were laid down in 1846; and in 1853 they were in such good condition that ever since M. Boucherie's system is much applied in France. Another economical process of Mr. Fontenay is worth mentioning. He acts upon wood with what he calls metallic soap, which he obtains from the residues in greasing-boxes of carriages; also from the acid remains of oil, suet, iron and brass dust, which are all melted together.

A piece of wood was put in such a hot fluid for forty-eight hours after the water had previously been partly extracted under the ordinary pressure of the atmosphere. When taken out the metallic solution which it had taken up stood at 3 per cent. to its first weight. This piece of wood was used as a railway sleeper on the Orleans Railroad, and after eight months it was in perfect condition, whilst other wood not treated in similar manner was in a state of decomposition.

Another process is the following, recommended by Mr. Dondeine, and much applied in France and Germany. It is a paint, consisting of the following:—

Linseed oil	15	kilogrammes.
Resin	15	,,
Tar	5	,,
Zinc or white lead	12	,,
Vermillion, red or yellow	10	,,
Colour (clay colours must be avoided as they thicken too much)	4	,,
Cement	6	,,
Oxide of iron	6	,,
Gutta percha, glue, or gum	2	,,
Hydrate of chalk	6	,,
Lard	15	,,
Litharge	2	,,

One kilogramme = 2,205lb. English.

All these are well mixed, and reduced by boiling to one-tenth. When applied warm it may be used with a brush; but not too hot. It may also be used cold; in which case the paste must be mixed with a little varnish or turpentine oil. The results obtained with this process are reported as yet very satisfactory. It prevents decay, and admits no humidity.

Mr. Dondeine further reports that it prevents oxydation of iron; and wherever walls have had a coat of this mixture it has kept away all wet, and unpleasant insects, ants, bugs, &c. Roofs of pasteboard or of wood which have been painted with the mixture keep dry, and withstand the effects of rain and snow.

Wood impregnated with sulphate of copper will not last longer in sea-water than other wood. It is quite as much attacked by the sea worm as when in its natural state. On the other hand it has been proved that wood impregnated with sulphate of copper will have longer durability in the soil than when either tarred or charred.

The following statement of M. Brouzet to the French Academy may also be of interest. He has a seat in the Carennes Mountain, where he cultivates silk-worms. The shelves upon which they breed are of pine. During the period from 1853 to 1858 all his crops perished through illness. In 1860 he was induced to make new shelves of pine impregnated with sulphate of copper, and ever since the silk-worms have been in the finest and healthiest condition. (See "Comptes rendus de l'Academie Française," vol. 54).

At Saint Sebastian, in Spain, the piles of a wooden bridge standing in the sea have been guarded against the attacks of sea-worms in the following manner. Each pile is surrounded by a wooden box, and the space between filled up with cement. After six years it was proved that the piles were in perfect condition, whilst the outer boxes were completely riddled by the worms.

With these I conclude the remarks on wood, and will next consider some works which have been constructed in that material.

JOS. JUSTEN.

"MATHEMATICS FOR PRACTICAL MEN."

THE work which forms the basis of the one before us,* was first published by Dr. Gregory in 1825, and passed into a second edition. In the year 1847 the third edition was published under the direction of Mr. Law; but the mathematical sciences having greatly advanced during the twenty-two years which had intervened since the first edition appeared, it was found necessary not only to enlarge but also to re-write a large portion of the book. A section on the use of logarithms, with copious tables, was added to the chapter on Arithmetic. Much new matter was also added in that on Algebra; and the chapters on geometry, mensuration, trigonometry, and conic sections, were almost entirely rewritten. The sections on the steam-engine and the strength of materials received large additions, these subjects having had but little attention from mathematicians when the first edition appeared. The present work is in reality a second edition of that issued by Mr. Law, with but little alteration beyond the correction of typographical errors.

The object of the author was not to teach mathematics to those who were desirous of becoming mathematicians, or to supersede the usual text-books in which the various branches of the science are accurately demonstrated; but to impart a knowledge of the principles of physics, and their practical application, to those whose acquaintance with mathematics is very limited, and who have not the opportunity of taking up the study, but whose avocations nevertheless require that they shall be able to apply mathematical formulæ, or to work out the many geometrical problems which occur in the arts of common life. This work is more especially intended for the use of the engineer or architect, who here finds ready to his hand rules for solving nearly every mathematical difficulty that may arise in his practice. As a moderate acquaintance with arithmetic, algebra, and elementary geometry is absolutely necessary to the proper understanding of the most useful portions of this book, the author very wisely has devoted the first three chapters to those subjects, so that the most ignorant may be enabled to master the whole of the book without aid from any other. The rules given are in all cases explained by means of examples, in which every step of the process is clearly worked out.

In the chapter on practical geometry, we find rules for setting out curves, polygons, &c. For instance, the radius of the circumscribed circle of any regular polygon of from 3 to 12 sides, being given, its area and length of side are found by multiplying the given radius by the number found in the table against that particular form of polygon. Thus, if the radius of the circle is 10, then $10 \times 0.765367 = 7.65367$ is the side of the inscribed *octagon*. For the *decagon* the multiplier is ·618034, and for the *dodecagon* it is ·517638.

Under the head of mensuration we find rules for measuring the *area* and *periphery* of the conic sections, and also the contents of various forms of solids. The rule given for the area of an ellipse is, multiply the transverse by the conjugate diameter and again by ·785398. The periphery or circumference is found nearly by multiplying the *sum* of these diameters by 1·57079.

The chapter on trigonometry would have been much simplified if the editor had adopted the now almost universal method of treating *sines, cosines*, &c., as *ratios* instead of *lines*. One of the simplest applications of trigonometry is to the finding the height of any building without actual measurement. Let BC be the height, A the position of the observer, who measures the angle BAC by a theodolite; then $BC = AB \times \tan. BAC$; or log. BC = log. AB + log. tan. BAC; log. tan. BAC being found in the tables. The only linear measurement required in this case is the horizontal distance AB. Other rules are given for solving more complicated questions of heights of inaccessible buildings and those on the top of hills, such as will often occur in the practice of the civil or military engineer; also for approximate measurements of heights by the length of the shadow cast, by reflection in water, by the barometer, and by the velocity of sound.

In all mathematical works the *conic sections* have always had a prominent place. They are the curves formed when a plane is made to cut across a cone, either on the slant completely through the cone, the outline of section being in that case an *ellipse*; or parallel to one side of the cone when the curve is the *parabola*; or parallel to the axis of the cone when we get the *hyperbola*. Their peculiarities and the methods of drawing them are here given, and also those of other curves invented by the Greeks; as, for example, the *conchoid*, which has been suggested as the best outline for the entasis of columns. The *catenary* is the curve produced when a cord or chain is loosely suspended from two points, and is of importance in the theory of suspension-bridges.

The second and by far the larger and more important part of the volume is devoted to the examination of the various subjects known by the name of mixed mathematics, which is the application to physics of algebra and geometry. After giving a concise account of the mode of applying mathematics in the science called mechanics, we have the general application to the equilibrium of structures, as in the case of walls or piers sustaining a thrust. For example, let a wall be 39·4 feet high, of material weighing 125 lb. per cubic foot, to sustain a horizontal strain of 9,900 lb. on each foot in length applied at its summit: what must be its thickness at the base to prevent its being overthrown? The formula in this case is,—

$$\text{breadth} = \sqrt{\frac{2 \times 9900}{125}} = 12{\cdot}58 \text{ feet.}$$

The formulæ for the pressure of earth against walls are more complicated, but are such that a moderate knowledge of algebraical rules will suffice for their application. We also find a useful table for the thickness of walls with vertical faces supporting the pressure of different kinds of earth:—

Nature of Earth.	Thickness of wall, its height being 1. Wall of brick 109 lb. per cub. ft.	Wall of un-hewn stone, 135 lb. per cubic foot.	Wall of hewn freestone
Vegetable earth, carefully laid course by course	·16	·15	·13
Clay, well rammed	·17	·16	·14
Earth mixed with large gravel	·19	·17	·16
Sand	·33	·30	·26

We think that the subject of the "Stability of Arches" deserved better treatment than it has received in this book; a couple of pages only being devoted to one of the most important and abstruse problems which the architect has to solve; and what is said on the subject might as well have

* "Mathematics for Practical Men." By Olinthus Gregory, LL.D., F.R.A.S., enlarged by Henry Law, C.E. Fourth edition, revised by J. R. Young. London: Lockwood & Co. 1862.

been omitted altogether, for any benefit it can be to the "practical man."

The next subject considered is that of the simplest kind of machinery, called *the mechanical powers*; these are seven in number, and form the basis of all other machines, simple or compound; they are, the lever, wheel and axle, toothed wheels, pulleys, inclined plane, wedge, and screw. Each of these has a certain *weight* to move by means of a certain *power* applied by the hand of the operator; and the number of times that the *weight* contains the *power* (each expressed in pounds), is called the *mechanical advantage* of the machine. In the case of complicated machines, the *mechanical advantage* of the whole machine is the *product* of the *mechanical advantages* of the separate or simple machines of which it is composed.

The chapters on Hydrostatics and Hydrodynamics (or the properties of fluids at rest and in motion) contain many formulæ and tables of great use to the hydraulic engineer. Under the head of Pneumatics we find a formula and table for measuring the force of wind on surfaces, when blowing at various velocities. The pressure in pounds on every square foot of surface produced by the wind blowing perpendicularly thereon at a velocity v, measured in feet per second, is $\cdot 002288 \times v^2$. For example, when the wind is blowing at the rate of 10 miles an hour, or 14·67 feet per second, the pressure on each square foot of surface is nearly $\frac{1}{2}$ lb.; when at the rate of 20 miles per hour it is nearly 2 lb.; at 45 miles per hour it is nearly 10 lb.; and at 100 miles per hour it is 49 lb.

The theory and practice of the steam-engine is very thoroughly discussed, and many elaborate formulæ given for calculating the power of various kinds of engines. From these may be ascertained the velocity of the piston in feet per minute; the quantity of water, in cubic feet, evaporated by the boiler per minute; and the effective useful work performed per minute in pounds raised 1 foot of height. Also the quantity of coal consumed, and the horse-power. The power of a horse is assumed equivalent to raising 33,000 lb. a height of 1 foot per minute.

In the last chapter, on the "Strength of Materials," the author rejects all the rules which have been deduced from theory alone, on the ground that the principles on which the theory is built are erroneous; and comes to the conclusion "that we cannot deduce any general formulæ by which to determine the transverse strength of a beam of any given form of section, without knowing the position of the neutral axis, the limit to which the fibres may be extended before yielding, and the law which subsists between the extension and compression of the material and the force required to produce such extension and compression; upon none of which subjects have we any certain knowledge." Are we, then, to wait until we obtain this 'certain knowledge' before we attempt to calculate the strength of beams? The formulæ given by the most recent writers on the subject do not profess to give the exact strength of every beam to which they may be applied; but, at least, they enable the architect to make his beams of such strength as shall remove all chance of failure. With this prejudice against theoretical formulæ, our author gives only a few empirical formulæ deduced from Mr. Hodgkinson's experiments. Considering the great research into the strength of materials which has been made by eminent philosophers of late years, by whom the subject has almost been exhausted, it appears to us that the rules which have been deduced for all kinds of beams should have been given here, in order to make this part of the work complete, even though the author might have felt bound to add the caution quoted above.

The appendix contains useful tables of logarithms and of various other numbers frequently required in calculations; also a table by which the area, diameter, or circumference of any circle may be seen at once, when any one of these is given. There are also tables of the specific gravity and weight of various building materials. At the end is introduced a paper on isometrical *perspective*, or, as it should more properly be called, *projection*.

This paper was originally published by the inventor, Professor Farish, of Cambridge, in the Transactions of the Cambridge Philosophical Society. The mode of drawing which goes by this name was originally invented for the purpose of representing views of complicated machines, for which it is admirably adapted. It has also been frequently applied to the representation of buildings for which it is useful in certain cases, but was never intended to supersede ordinary perpective. In this system of projection, all lines parallel in the object are also parallel in the picture, and are drawn to the same scale, so that every portion can be measured.

LECTURES ON SCULPTURE IN THE ROYAL ACADEMY.

In commencing his third lecture, Professor Westmacott observed, that if sculpture were an art newly introduced, and only beginning to be studied and practised, it would simply be necessary to direct the young artist's attention to elementary details. As an untried art there would be no established rules or principles for the student's guidance, and the teacher would not only be uncontrolled in his mode of instruction, but would be liable to indulge in every kind of fanciful theory and speculation, the real value of which might be very problematical. This cannot be the case with our present amount of experience and knowledge to guide us. The valuable remains of the various schools of sculpture enable us to derive the most important lessons from long-continued practice; and they afford also a criterion by which we may test the soundness of any teaching offered us. Referring the student to the well-known productions of famous sculptors and schools is therefore one of the safest means of instructing him in the history, the practice, and the progress of his art.

The object of all our exertions and inquiries in this institution is to advance the success of the artist's practice. The special duty of the professor of sculpture is to care for and assist the improvement of those who intend to devote themselves to this art. In constantly bringing before the students the examples of former schools, the object is not to make them imitators or mere mechanics or artisans, but to show them, by reference to facts and examples, the effect of certain modes of practice. By pointing out to them striking characteristics, they may be induced to adopt what is really excellent, and to avoid what can be shown to be defective in any of the works so noticed. No academical teaching can make the artist feel, nor give him the true genius for art: this must be innate. But the student may be taught where to seek the causes of excellence or failure in existing works, and from such experience, palpable to the sense, draw useful conclusions for his own practice.

It must always be remembered that there are two especial grounds of recommendation of sculpture,—one moral, so to say; the other, physical. That is, the first is the object or purpose intended by the work; the second is the mode of presentation; meaning, of course, the form used as the medium of interpretation or expression. For this the best Greek sculpture is universally adopted as a standard, as it unites the finest normal forms with a profound knowledge of nature. This subject having been the theme of the last lecture, need not be further dwelt upon at present.

With the view of examining the chances of restoring sculpture in modern days to a safe and honourable position, it may be interesting and profitable to inquire what is the relation of the best modern to the best ancient sculpture; confining the evidence to the particular subject of the last and present discourse, "Form."

Of the best ancient sculpture account has already been taken. The best modern sculpture, of a great school, with which it may be fair to compare it, is that of the eminent sculptors of the sixteenth century and their followers. In their productions are found a knowledge of the human figure certainly not surpassed by the Greeks, a profound acquaintance with anatomy, facile and perfect execution, and vigour in design. These are very high qualities in art; and yet, no real judge of the essential elements of first-class sculpture would think of classifying these works with the best Greek examples. The cause of this was examined and explained to the students; and in summing up, the Professor showed where the advantage remained. In one the art was lost sight of in the result; and no one thinks of the sculptor. In the other the art is apparent, and the artist is all in all.

The subject of display, in the particular of Form, was considered at length, and especially referred to as a characteristic of later schools, and its danger pointed out; while the absence of effort to obtain notice is observable in all the best Greek sculpture. Here, then, at once, is a discernible difference, and probably a cause for the inferior success of modern sculpture. Illustrations were drawn from the best known productions of both periods; from the Theseus and Ilyssus, and equestrian groups of the sculpture of the Parthenon, on one hand, and from some of the works of Michelangelo, Gio. di Bologna, and Roubiliac, on the other. The fault seems to have arisen from the later schools not restraining themselves in the use they made of Nature, whereby they over-elaborated the parts in their statues; whereas the Greeks exercised the greatest discretion in this, studiously keeping all display of their knowledge of nature subordinate to general beauty and the harmony of the whole work.

It was noticed as a remarkable fact in the history of ancient sculpture that its later schools show a falling-off in style, entirely owing to over-attention to the particular as contrasted with the general. The introduction of portrait no doubt first led to this. Individuality came to be studied, as essential; and the study of larger characteristics no longer ruled practice. The influence of this new feeling was extended to works even of poetical or fancy subjects, and its effect was pointed out in some well-known and deservedly admired ancient works, as the Laocoon, and the statue known as the Fighting Gladiator.

In making these observations, the Professor said he had felt it desirable to draw his illustrations from works that were well known and of a former age, in order that he might not wound modern susceptibilities by bringing more recent productions into court. The object was to assist the students, not to criticize contemporary sculpture. At the same time, attention should be drawn to the tendency to lay too great stress on the minute in the present practice of art, and to the injurious effect it must have on sculpture. In this art the larger and grander features should in preference be studied. The best form does not necessarily imply, or confine the artist to naked form, but whenever and in whatever way it occurs the form should be of the very highest type. If of the human figure, it should be man, not the individual; and if drapery, it should not be a dress of a particular fashion. Of course, mere portrait sculpture must be subject to other influences than those which produce high and beautiful art; and the results will soon be apparent.

It was not intended to disparage what is really valuable in portrait-sculpture, but only to point out how a devotion to individual details may effect the larger views an artist should take in applying himself to the nobler walks of this art.

If sculpture is only to be produced in slavish obedience to the caprice of a public by no means very sensitive or well-informed on the requirements of the art, it will be both formed and dispersed by the mere breath of fancy or fashion. It will have no sure footing. It will be practised mechanically, by half-educated, incompetent, and not over-scrupulous practitioners, simply for the market; but high and noble and beautiful, like the glorious sculpture of the ancients, it never can be when exercised under such depressing conditions.

In the course of the lecture, the Professor said he should endeavour to devote one of the following evenings of his course to a very important inquiry, namely, to the class of subjects fitted for the sculptor's art. He reminded the students of the wide difference that existed between sculpture and painting, and that what one might deal with effectively, with the aid of colour, background, and perspective, the sister art, confined within the limits of absolute form, ought not to attempt, for the result could only be failure. He should think it desirable, then, to offer suggestions on this theme, under the heads of Subject and Expression.

VICTORIA.

Competitions.—Within the last month or two three several competitions have been invited for works in Sydney, New South Wales. First, for warehouse for Iredale & Co., the premium of 100 guineas was awarded to Messrs. Connor & Wilson, of Melbourne. It was highly creditable to this firm that they should call in the best non-competing professional aid to assist in the selection. The building, when erected, will prove a great addition to the street architecture of the sister city, although the requirements of the proprietors rendered it no small difficulty to prepare an elegant front, which would embrace the points they desired. The second competition was for new offices at Sydney for the Mutual Provident Assurance Institute, a very prosperous Insurance Company, on the mutual principle. For this the premium of 100*l.* was awarded to Messrs. Reed & Barnes, also a Melbourne firm. These difficulties of the site have been successfully met in the selected design, which is in the Italian style. For a third Sydney competition, offering two prizes of 150*l.*

and 75*l.*, the designs have been sent in some time. The local papers report that eleven designs were sent in, five of which were selected for the colonial architect to report upon. During a debate in the Assembly on the question of site, it was stated that the only respectable designs were received from Melbourne, and a telegram was published some ten days since, stating that rumour had it that the first prize was to be given to a Melbourne man.

The remains of the heroic explorers, Burke and Wills, are shortly expected in Melbourne, and the committee have invited designs for a marble memorial, to be erected close to the Houses of Parliament, and have accepted the model submitted by Mr. Summers, a gentleman whose abilities have not always met with that appreciation which they deserve; and he has been commissioned to carry out his design, at a cost of 4,000*l.* The principal figures, of course, are the two explorers. Burke is standing with his hand raised above his eye, as though he were looking into the far-off country, while Wills sits at his feet, with his instruments and note-book, ready to take down whatever may be remarked by his leader. Designs have also been received for monuments over the last resting-place, but no decision has yet been arrived at. It is supposed that no competitor has been rash enough to submit a design, to be executed for the limited amount, which will be satisfactory to the committee.

Buildings, &c.—A fresh start has been made with the General Post-office. The present contract will carry the work up to the capitals of the first-floor order. It is understood that the Government have ordered a floating battery, at a cost of 60,000*l.*, to be stationed at the Heads, for protection against the attacks of foreign foes. Mr. Brady, C.E., of Kyneton, has been commissioned to make the necessary survey and plan for the Coliban water-scheme, for the supply of water to the large gold-fields of Sandhurst and Castlemain. He is to receive 2,000*l.*, and will commence at once.

In the Matter of Railways.—The Melbourne (late Suburban) is now getting into good working-order, while the St. Kilda and Brighton has been taken charge of by the mortgagees. The Hobson's Bay Company are applying for extension of their powers in order to enable them to connect their line with the Government and Melbourne and to build a grand central terminus. There is no doubt the Hobson's Bay have the best site for such a purpose; and notwithstanding some show of opposition, it is expected the Bill will pass; unless, indeed, the Government promise to take the scheme up, whilst the directors of the company are willing to retire. On the Government lines two or three accidents have occurred, all arising from the grossest carelessness, but fortunately unattended with loss of life. Two on the Sandhurst line; first, near Chewton, the train running into some contractors' trucks which were left on the line; the second, one train ran into another in broad daylight, shortly after starting, when several passengers were very much injured; and the last, on the Geelong line, through the points of a siding being left open, so it is said. In this last instance, the engine went over into a cutting, and turned upside down, dragging two carriages after it, but fortunately doing little more injury than frightening the passengers. One old lady "thought she would scream, for her heart was in her mouth."

There seems to be a growing disposition to adopt fronts of variegated brick instead of stucco. The last put up in Melbourne is a new front for Tankard's Temperance Hotel in Lonsdale-street, from designs by Messrs. Crouch & Wilson.

Churches.—Mr. C. Webb has been engaged some time in adding transepts to St. Luke's Episcopal Church, Emerald-hill. The Wesleyan body are pushing forward several new churches;—at Sandhurst, a stone church, which will cost upwards of 2,000*l.*, from designs by Mr. Doane, of Ballarat: the style adopted is the Early Period Gothic;—also at Campbell's Creek, to cost 1,318*l.*; and Donnolly, to cost 668*l.* Both these latter are from designs by Messrs. Crouch & Wilson, and are after the latter part of the Early Gothic period.

Melbourne.

INFRINGEMENT OF BUILDING ACT.—We have received a letter, signed "George Adamson," denying that he is the builder of the houses in Wandsworth-road referred to in our last Number (p. 141); but as we simply reported statements made before the magistrate by the district surveyor, we must refer the writer to that gentleman.

GOOD COOKERY AND BAD COOKERY FOR THE MULTITUDE.

THE unsatisfactory and wasteful system of cooking, or rather want of system, which prevails amongst the industrious and poorer classes of this country, is an old subject of complaint with us. In the ill-constructed houses in which thousands of the working population of the metropolis live, the waste in cooking is enormous; and this is caused partly by the unsuitable formation of the fire-places, and want of knowing how to manage plain, wholesome, and economical cookery.

The practice of filling with several families a house which was intended for only one, prevents the possibility of any proper arrangement for cooking in the kitchens of those houses. There is ample provision for preparing a dinner: there are boilers and ovens which are of daily use to a family, but unfortunately this accommodation is only available for the use of one tenant, the remainder of the persons living in the house being obliged to manage as well as they can with fire-places which have been intended to warm parlours, bed-rooms, or drawing-rooms.

We have made a careful sketch in one of such rooms, the truth of which will be recognized by thousands of well-paid artisans and other workers in the metropolis. The fire grate is not more than 10½ inches in width, and in height 7½ inches. In this instance—and it is one of a multitude—there were not more than 3 inches or 4 inches of space on each hob. In order to get the vegetables ready, it is necessary to place the pan in such a position that it covers nearly the whole of the top part of the fire, and this prevents the roasting of the meat, and generally leads the smoke to fill the apartment and cover everything in it with flakes of soot. There is barely room for one pan on the fire at a time; and if potatoes and cabbages are to be made ready for the Sunday's dinner, they must be boiled one after the other, and one vegetable is sure to be spoilt by being kept waiting. Few joints of butcher's meat can be found to fit those wretched cooking-grates. A neck or breast of mutton is far too long and only part of it is touched by the fire at one time; and other joints are equally difficult to manage. It is not to be wondered at, under such circumstances, that the temper of housewives becomes ruffled, and that husbands are glad to get out of the way until dinner-time. Even then matters are not satisfactory: for in nine cases out of ten the food, when put upon the table, is neither pleasant to the sight nor cooked with advantage. Even in connexion with fire-places of this description good dinners for small families might be cooked with the help of a "Dutch oven," and other contrivances of a similar kind; but these appliances are used by few.

When all this muddle, confusion, smoke, waste,



COOKING AND WASTING.

and ill-temper are caused by cooking in a room of this kind, it is not to be wondered at that the bakehouse is extensively patronized on Sundays. Into the public ovens go all kinds of meat; pork, beef, mutton, geese, and other matters; and it is certain that by this process a large amount of the nutritious qualities of the food is wasted, while the flavour of the varieties of butcher's meat must be assimilated.

In various ways the science of cookery has made advances: in workhouses, prisons, and hospitals, the saving which has been effected by improved apparatus, and by the preparation of food on a proper plan and on a wholesale scale, is enormous. The cost per head at which persons can be properly maintained is thus considerably diminished. The articles are obtained from the cheapest and best markets, and everything is put to its proper use with the least waste. In the army, Captain Grant's apparatus, and that of Messrs. Benham & Son, are doing wonders: besides the large sums which they are the means of saving, in consequence of the soldiers being enabled to obtain a variety of well-cooked food, such improvements tend to improve health and lengthen life.

In the royal kitchens at Windsor and Buckingham Palace, in the kitchens of the great West-end club-houses, and in the large mansions of many individuals, a good description of cooking apparatus has been introduced, and due regard is paid to economy in the nutritious qualities of the various descriptions of food.

In some important families, and in some hotels, the waste of food after it has been dismissed from table is shameful. Good provision, which would gladden the hearts of hundreds of poor persons, and which could in many ways be made most useful, is thrown into tubs and sold with "pig-wash." A perquisite by this means falls to the share of certain of the servants. Those who know the terrible poverty which prevails in Bethnal-green, Spitalfields, and other parts of the metropolis, cannot but regard this waste as a sin, and would urge, although it may not be in accordance with modern custom, that masters and mistresses should themselves look into this matter.

In some of the public schools a reform of this system of cooking is much required: take, for instance, the Blue Coat School, where, for the most part, the meat is baked, and there is but little variety in the food. On ship board—particularly in the Royal Navy—there is also room for improvement in this respect. When a ship is at sea, the choice of provisions is by force chiefly confined to salt meats; but in port there is no necessity for this. In several of the old-fashioned taverns in the City the plan of cooking is antiquated and expensive, and there are but few places in which a working man can obtain a good dinner at a cost which he can afford to pay: the consequence is that he is generally obliged to take

each day a bundle of provisions that have been cooked at home in the manner to which we have referred, and at dinner-time go to the ill-ventilated tap-room of a public-house, where he must, of course, spend a certain amount on beer for very indifferent accommodation.

Look in what direction you may throughout the metropolis,—and the same may be said of the chief of our large provincial towns,—you will find no adequate provision made for well and cheaply feeding a vast portion of the community. And in London especially there is but little opportunity for properly preparing food at home.

The advantage of cooking with the aid of proper apparatus, on a large scale, has been proved in various ways besides those to which we have referred. In Lancashire, during the prevalence of the present distress, many useful lessons have been learned, and persons have been surprised at the large number who can be fed, by proper management, for a comparatively small sum of money. In Glasgow, as we have already mentioned, a movement has been made, which we look to see followed in the metropolis and elsewhere. Already the matter has been taken up in Manchester; and so far as experiments have been made, the fact seems to be established that self-supporting cooking depôts, on a handsome scale, can be established for the use of the working classes.

More important, however, than this it is that knowledge on the subject of cooking should become general, and that the means of cooking properly, and with the greatest effect at the least cost, should be brought within reach of larger numbers than is now the case. We have no wish to see the family circle broken up, or any place made more attractive to an Englishman than his own fireside.

RECENT ARCHITECTURE IN BIRMINGHAM.

A CRITIC of the art wishing to arrive at some definite conclusion respecting the recent progress of our architecture could not do better than pass a few days in the examination of the new buildings of some large and influential country town. The metropolis forms too vast an area for a rapid critical survey. Remarkable edifices of recent erection are too far asunder for ready and immediate comparison; and the metropolitan works, except as to scale, do not always form the best or most important samples of modern architectural art.

It was with these convictions that the writer thoroughly enjoyed a recent stroll through the streets of Birmingham, in many of which new buildings of imposing dimensions have recently sprung up in the form of merchants' warehouses, extensive manufactories, stacks of buildings affording shop-frontage below and exhibiting architecture of palatial magnificence above, which, with a goodly number of new churches, new schoolhouses, and buildings of various other kinds, form in the aggregate as good a field of observation as could be devised for the modern architectural critic.

The somewhat older buildings of the town that were thought to exhibit such signs of architectural advance some score or ten years ago, now serve only as marks to indicate the progress which was then beginning, and which has now left those works far behind in the general artistic improvement of the country at large which has since been taking place. There is the façade of the Free Grammar School, for instance, one of the early (though not among the earliest) modern Gothic designs of Sir Charles Barry. There is a poverty about it that, to the artistic eye instructed by twenty years or more of subsequent advance in the art, is unsatisfactory; and yet it must be conceded that it was one of the best works of its day, and that Sir Charles Barry was one of the chief founders of the present school of modern Gothic art. Then there is the restoration of St. Martin's spire, at the bottom of the Bull Ring, the work of another eminent London architect, and of much more recent date than the Free Grammar School, but which yet presents similar defects of treatment.

It is sometimes urged that if reproduction be *accurate*, the effect of the new work must be *identical* with that of the old. But this is not necessarily the case. For instance: we will suppose that a modern Italian artist has produced a copy of Raffaelle's Transfiguration. A critic pronounces it inferior to the original. The artist calls for compasses; measures the eyes and noses of his own work, and compares their relative dimensions with those of the original picture: they agree to a hair's breadth. The blue, red, or grey draperies are of precisely the same intensity—even the folds identical. Not a feature—not a detail, can be proved to be mechanically different. The modern artist is, perhaps, satisfied that such tests prove the equality of his pencil to that of Raffaelle. But yet the critic is not convinced, however conclusive the tests applied may appear to the copyist. It is true that there is not a strict analogy between a picture and a building, but such as there is, is amply sufficient for the purpose.

The Town Hall, a building in the modern Classical style, belongs to a period now more than twenty years past, and but for its noble dimensions and noble simplicity, it might be as severely criticised for being below its classical models, as the Gothic buildings referred to are below their Gothic ones. The grand and truly monumental scale of this building, however, notwithstanding its many shortcomings, renders it still the most important in the town. But many recent works of far inferior scale and pretension, abundantly prove that, should the occasion offer, more than one Birmingham architect might be found to endow the town with a finer building than the Town Hall.

Among the new churches two especially are worthy of a much more detailed character than can be allotted to them in the brief space of the present article, namely, the Wickliffe Chapel in the Bristol-road, built for a Baptist congregation by Mr. Cranston; and the new Unitarian Church in Broad-street, designed by Mr. Bateman. The Wickliffe Chapel, taken as a whole, possesses, as one of its especial distinctions, that stamp of solidity and completeness which invariably distinguishes good ancient examples, which is so seldom found in modern reproductions of the Gothic style. There is a quaint feeling, amounting almost to originality, about the design of the windows; and also in the delicate and graceful, but sparingly introduced ornaments. The interior of this church is very elegant. It has also the merit, considering the material, to have cost no more than 7,000*l*.

The new Unitarian church, built from designs by Mr. Bateman, has one ingenious peculiarity about it which must not be passed over in silence. This consists in the unusual nature of its foundations. When it was determined to build a new church for the Unitarian congregation, instead of the one in the centre of Birmingham, it was thought that Broad-street, which unites the fashionable suburb of Edgbaston with the main town, was the most eligible situation. But after every attempt to procure a site, it was found at last that none could be found at anything like a reasonable amount of cost along the whole length of that important line of road. It was, however, suggested that, at the point where the bridge over the canal occurs, an adjoining bridge, or archway, might be erected, sufficiently strong to carry the entire structure. This project was found to be workable, and was promptly carried into effect; and when the high parapet wall of the old bridge was removed, and the façade of the church was found running parallel with the existing footway, no one would have guessed that the new edifice was built over the canal, especially as the wall on the opposite side of the roadway is so high as to keep the water quite out of sight. This is probably the only example of a highly decorative church capable of holding something like a thousand people being artificially supported at a considerable height above a line of busy water traffic that passes beneath its whole length. It is true that the bridges of the Middle Ages, when few existed, and the number of passengers crossing them was proportionately large, offered such great temptations to build shops upon them as was almost irresistible; and we know, in fact, that the temptation was not resisted, as proved by the Rialto at Venice, the old bridge at Florence, still gay with its jewellers' shops, our own old London Bridge before the fire, and many others. In such cases, too, we also know that a small chapel often occupied the centre; but the erection of a large church capable of containing a congregation of something approaching to a thousand people in such a situation, cannot, I think, be cited. The Unitarian church extends, supported on its own archway, parallel with the whole northern side of the old bridge, at some little distance from the footway, and is, beyond comparison, the most remarkable structure in the entire line of Broad-street to its termination at the Five Ways. The steeple is elegant, and stands to the right of the doorway.

The doorway is formed of a recessed porch, approached beneath three highly enriched arches, supported by double columns of polished red granite, the colour of which is richly brought out by the deep shade of the porch behind. The arches support three Decorative gables, each terminating in a finial, and united by a sort of connecting parapet, after the manner of many French examples of various periods; the whole surface of the parapet being enriched with diaper work of quatrefoils. The effect of this entrance is, however, somewhat marred, and rendered inconsistent by the coarse rustication of the whole surface of the adjoining walls. The contrast becomes too harsh, between utter rudeness and almost overwrought ornamentation. The window tracery of this building is quaint and pleasing, but the manner in which the blank space beneath the rather broad windows is filled up by a little parasitic buttress cannot be defended. If in consequence of some peculiarity of structure which cannot be externally traced, some additional strength became necessary at these points, it should have been applied in some (seemingly) less objectionable manner. We admired a stack of buildings by Mr. Gibson, in Bennett's-hill, but have not space to describe it.

Some of the most noticeable among recent examples of street architecture in Birmingham (though not always the most praiseworthy) are those which aim at producing their chief effect by means of different coloured bricks—red, black, cream-colour, and brown, being the colours employed; and larger bricks being used in arch work and the structural positions of importance.

Returning from our visit to the Unitarian Church, we passed the first favourable specimen of this style which came under our notice. At the corner of Bishopsgate-street, a small front garden has been built over, in order to turn to account, in the form of a grocer's shop, a valuable and conspicuous corner. The new shop, like some of those built over the gardens in the Marylebone-road, has nothing above it; and its façade terminates above the windows in a border of low Gothic gallery work. The style of the composition may be termed, to use a general term, Italian Gothic, and slightly calls to mind the famous Loggia by Orcagna, on the Piazza Vecchia at Florence, and the porch of a Venetian church which we well recollect; but the conspicuous use of bricks of different colours more strongly reminds one of those well-known edifices of the older parts of Genoa, which are composed from base to summit of alternate layers of black and white marble, marking the entire building with a series of horizontal stripes, which have a much more pleasing general effect than might be imagined. The windows of the structure under description are formed on each front by an arcade of semicircular arches, while the doorway at the angle is a Pointed arch of very sharp character, which produces a good effect, and one that seems perfectly natural. The structure of the arches consists, apparently, of properly-moulded pieces of terra-cotta, of large size, which are alternately deep brown and pale cream colour, the key-piece being brown. This archwork is strengthened in appearance by another arch, formed in small red bricks, immediately above it and adjoining it, the main surface of the wall beyond being of pale cream-coloured bricks of small size and beautiful manufacture. These arches are supported on slender Gothic columns of the same rich tone as the portions of brown in the arches themselves. They stand on a basement of cream-coloured brickwork, strengthened in effect (if we recollect rightly) by a strong line of graduated colour formed by a row of black bricks and row of red bricks joining each other, the black undermost. The effect of the whole composition is pleasing; and, were all the effects legitimately obtained, it would form a good example, on a small scale, of the artistic use of brick; for different-coloured columns of baked clay, and the use of differently-sized and differently-shaped bricks in various parts of the building may be considered quite a legitimate extension of the true domain of brickwork. But in the present example much "sham" supplies the place of what might easily have been the real thing represented. For instance, the large alternating masses of red and brown are not, as they appear, masses of baked clay, of alternately brown and cream colour, but merely painted stucco. Nor do they form the real structure of the arch, as they appear to do, but are merely outside show, the arch being built of ordinary brick cased in Roman cement, and then coloured in this deceptive fashion. The general effect produced by this design of Mr. Naden serves, however, to show what might be done by more legitimate means. This artificial colouring is produced by M. Sezerelmy's material, which, as readers of the *Builder* know, has been tried as a preservative on the stonework of the Houses of Parliament. It

will be well to watch its effect on the cement-work just described.

A much larger and altogether more important application of the coloured-brick style (concerning which architects are running wild) is exhibited in the stack of buildings recently erected after the design of Mr. Chamberlain (professor of architecture in Queen's College, Birmingham), at the corner of Union-passage, in Union-street. The general style upon which the main lines and features and the distribution of parts are based, is that of the Palatial Gothic of Venice. The materials employed, however, necessitate a sufficiently distinct kind of treatment, and the requirements of an extent of glass frontage in the basement have led to still wider departure from the principles of Venetian Gothic. The top line of the building is varied by the pointed gablets of a series of well-designed dormers. Below this pseudo-attic effect is a cornice, intermediate in style between Gothic and Classic, in the fascia of which is an inlay of a Vandyke pattern, formed of plain glazed tiles, of small size, fitted to the pattern, which only consists of three plain colours, green, red, and white. Below the cornice are the windows of the upper floor. They are formed by pointed arches, sparingly decorated and grouped in threes or fours, after the Venetian manner. Below these is a string course, the chief effect of which is produced by different-coloured bricks, the tones of which tell out well against the self colour of the general brickwork of the façade, and form a quaint and not unpleasant contrast with the plain stucco dressings of the columns and arches of the groups of windows. The windows of the principal floor are larger and richer in design, and the self-coloured arches of the cement dressing are made to blend in effect with the general brickwork, by means of a superadded arch formed of red and black bricks in alternate masses. The arches of the shop-windows of the basement, in order to obtain the largest possible quantity of light, are very flat ellipses of great span, squared at the springing in order to obtain a little angularity of effect in accordance with the Pointed character of the features above. These elliptic arches are probably artificial and exist merely on the surface, the real support for the superstructure being obtained by horizontal beams or brestsummers, as in ordinary shops when nearly the whole lower frontage of the building is required to be glass. The elliptic arches just described are enriched with encaustic tiles, and are supported on clusters of Gothic columns, which impart to the arches the appearance of really doing the duty which we presume they only pretend to do. The same architect designed the tower of the new waterworks, in which also effects of colour are obtained by means of varied bricks.

There is another specimen of party-coloured brickwork in Great Hampton-street, which is somewhat raw and course in its effect, but is yet bold and bright. It has, moreover, the additional advantage of being economical, the whole stack of building, comprising four or five shops, with fine lofty houses above, having cost no more than 2,500*l.* Mr. Bland was the architect. The pointed arches of the pseudo Lombardic-Gothic, which has been adopted as the basis of the style of this building, are rendered effective by means of their structure, with long and very narrow bricks, in groups of three or four, alternately black and cream colour.

Of buildings formed of a successful combination of brickwork of the usual kind, enriched with stone dressings, there are several recently erected which take fair rank. We may mention especially a stack of buildings in Bull-street, destined for retail shops, with living-rooms, or offices above. The brickwork of these buildings is deep red, in contrast with which the stone dressings produce a strong effect. The designs of the window dressings are carefully studied. The most notable and noteworthy characteristic of this piece of architectural design is the result of the determination which the architect has shown not to exhibit a massive superstructure apparently resting on the fragile support of a sheet of glass, as is so commonly the case in street architecture, where conveniences required by retail shops are the all-important feature to be studied by the architect. The windows themselves are so good that passengers must be attracted to stop and admire them, and they are very probably more advantageously influenced by the smaller, but, of course, more select display of goods in the narrower compass here afforded, than by the gaudy and profuse exhibition of less choice articles, which go to fill up the wide expanse of the usual wide-spread glass frontage. A similar stack of buildings, but of rather a distinct style of Gothic, has sprung up in Carrs-lane, after the designs of Mr. Charles Edge. The German Domestic Gothic, as exhibited in some of the fine old houses of Cologne and Augsburg, has probably furnished Mr. Edge with the basis of his style. The chief distinctive feature of this pile of building arises from the massive effect of the window dressings, the entire upper part of each pointed head of his window openings being formed of a single piece of stone, supported at the sides on the main walls, and in the centre by a slender column. The head of course forms a kind of stone lintel, and precludes the necessity of constructing an arch for the support of the wall above; but Mr. Edge has, nevertheless, surmounted the lintel with a superfluous arch, worked in bricks, alternately grey and white, which appears to unite the effect of the stone lintel with the general brickwork in a pleasing manner. The lower part of the stone lintel is cut up into the form of a double arch, enriched with good mouldings, the centre resting on the column which divides the window into two compartments. A great space of this stone lintel is, however, still left intact by the cut-up arches, and the broad plain expanse of the stone is only very sparingly ornamented by a small decorative circlet, and three delicate *fleurs de lis*, or as in the second tier of windows simply by the circlet, from which a small but well-carved head projects.

In the Italian palatial style of the Renaissance, Birmingham may boast of some good examples, both in stone and stucco. Mr. Thomason, a descendant of the well-remembered Birmingham celebrity, Sir Edward Thomason, was the first to erect a building of this kind in his native town. It was, indeed, the appearance of his works, which gave that impetus to the progress of architecture in Birmingham which is now exhibiting signs of development. Mr. Thomason's favourite features of the style appear to be, first and foremost, the great Farnesian cornice, which he has, however, almost always surmounted by an attic, varied in top line by dormers, which have sometimes a good effect. Secondly, his upper tier of windows, immediately below the cornice, is generally formed by a series of connected arcades, a portion of which are blanks, while others serve as frames for the lights of the upper rooms, the columns of these arcades being generally of polished granite. His principal tiers of windows are more or less in the usual style, and the basements are of course modified (more or less successfully) to meet the exigencies of shop-fronts, except in those more fortunate cases where they are not required. The richest example of Mr. Thomason's works in this style is perhaps the mass in Union-street, the cornice of which appears rather too heavy, in consequence of the return finishing too suddenly,—a common defect in the style when pressed into the service of close street architecture, in which the cornice only appears in the frontage, instead of forming a complete crown to the whole mass of the building, as it does in the case of the Farnese Palace, and nearly all the fine Italian examples of the style. This building is entirely cased in stucco, with small polished granite columns to the upper arcade of windows. The most monumental example of this style, as being entirely of stone, instead of imitative stucco, is the building now erecting by Mr. Plevins, for offices of the Birmingham and Staffordshire gasworks. This edifice stands in the old square, dwarfing in a remarkable manner all the houses around, which were once ranked among the most important in Birmingham. In the design of this building there are many details well worthy of description; but the general effect, and that which most satisfies the eye of an architect, is a stately simplicity of character, not very easy of attainment, which pervades the whole. Mr. Plevin is also the architect of the Quakers' Meeting-house.

Mr. Payne is another Birmingham architect who has adapted the Italian palatial style of the sixteenth century to the requirements of ordinary street architecture. The pile of buildings known as the Royal Chambers, which he has recently erected in Temple-row for Mr. Charles Couchman, may be pointed to. The windows of the principal floor show conscientious study. The design of this architect for the projected Birmingham Club, at the top of New Hall-street, is on a more extensive scale. The present position of the principal entrance is a defect which, it is to be hoped, may be got rid of.

Many other buildings recently added to the architecture of Birmingham might be noticed, but the extent of space already occupied prevents further extension of the subject just now.

THE ALBERT MEMORIALS: ST. GEORGE'S CHAPEL, WINDSOR.

THE great east window in St. George's Chapel, with its newly-wrought stonework of fifteen lights in width, and four tiers in height, is being filled with stained glass by Messrs. Clayton & Bell, and will be dedicated in the following inscription to the memory of the late Prince Consort:—

"*In honorem Dei et in desideratissimi Principis memoriam, hanc fenestram Decanus et Canonici mœrentes posuerunt curaverunt MDCCCLXIII.*"

The subject-matter of the window comprises the incidents of the Birth (adoration of the Kings), Resurrection, and Glory of our Lord. To these are devoted the central positions on each tier; each subject occupying seven lights in width. In the side lights, four on each side of the window, are introduced, tier upon tier, the following selection of apostles, prophets, and worthies of the Old and New Testaments. *In the lower tier*, Asa, Jehosaphat, Hezekiah, Josiah, Nicodemus, Gamaliel, Timothy, The Good Centurion. *In the second tier*, Abraham, Joseph, Samuel, Daniel, St. John, St. James Minor, St. Bartholomew, St. Barnabas. *In the upper tiers* are introduced the twenty-four Elders casting down their Crowns before our Lord, the three Archangels, and various groups of angels, cherubims, &c. *At the base of the window*, and in immediate connexion with the inscription and the armorial bearings of the Prince, is a tier of fourteen small subjects representing an ideal princely figure—in which portraiture is avoided—engaged in various acts of public and domestic worth. The idea therein embodied is princely interest in Agriculture, Science, Learning, Art, &c. The series comprising the central division is devoted to scenes of private life. The window promises to be the best work of the artists.

The Wolsey Chapel adjoining St. George's is to be restored and decorated in a sumptuous manner in memory of the Prince at the cost of the Royal children. The artists already named are to design and prepare the cartoons for the elaborate decorations of its roof and numerous windows which are to be filled with stained glass. The roof decorations in mosaic work will be carried out in accordance with these designs by Dr. Salviati, of Venice. The works are to be spread over a considerable period of time, and will cost, perhaps, 25,000*l.*, although the edifice is very small.

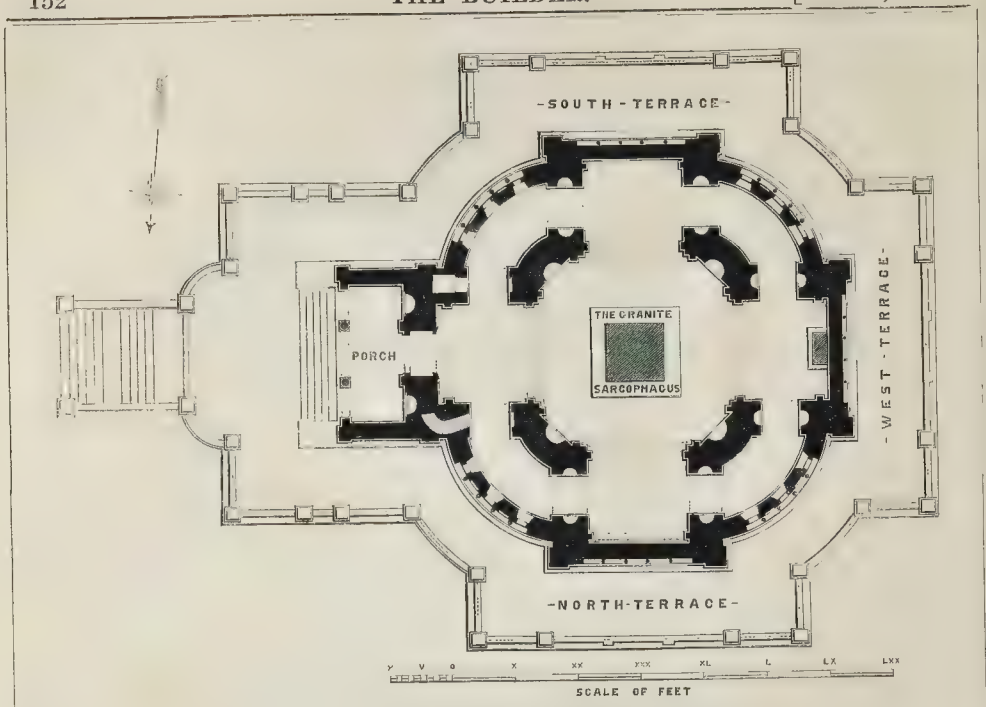
Wolverhampton.—Photographs have been prepared of the model of the intended military equestrian statue of the Prince for Wolverhampton, which is to be erected on the pedestal now surmounted by the Russian cannon in High Green. Mr. Thorneycroft, the sculptor, has been intrusted with the work. This gentleman, after he had been instructed by the committee, informed the Queen of the nature of the commission, and her Majesty was pleased to express her gratification. The estimated cost, including the alteration of the present pedestal, will be 1,200*l.*, of which sum 400*l.* yet remain to be subscribed.

Newport.—A simple monumental tablet to the memory of His Royal Highness, and executed by the Baron Marochetti, has just been erected by public subscription in St. Thomas's Church, Newport, Isle of Wight, between the two stained-glass windows presented by her Majesty and the Prince. It occupies but a very little space, and consists of a white marble bust of the latter *in relievo*, on a crimson ground, surrounded by a framework in black marble, with a carving of laurel-leaves around it. A gilded German crown surmounts the whole, and his official bâton of office lies in front. Beneath appears, in letters of gold, the single word "Albert," an enlarged autograph of his usual signature. The cost is said to be 200*l.*

MANCHESTER ALBERT MEMORIAL.

THE question of a site for the Albert Memorial (which, it will be recollected, consists of a marble statue by Mr. Noble, presented to the city by the late mayor, Mr. Goadsby; and an ornamental stone structure, designed by Mr. Thos. Worthington, architect, to inclose the same, the cost of which is defrayed by public subscription) seems to have received a satisfactory solution, as briefly stated last week.

It had been proposed that the memorial should be placed in the Infirmary grounds, either immediately in front of the centre of the Infirmary, or at one side, near the Queen's Hotel, in Port-



THE ROYAL MAUSOLEUM, FROGMORE. — *Plan.*

land-street; but it appears that the trustees of the Infirmary were not able to give a title to the Memorial Committee to place the statue within the grounds unless pecuniary compensation were given. As the Manchester Corporation did not feel themselves justified in undertaking the responsibility of this compensation (which, we are informed, was equal to an annual rental of 100*l.*), it has been proposed by the Improvement Committee of the Corporation that the memorial be placed on the space in Bancroft-street. The Memorial Committee have accepted this offer of the Corporation, on the condition that the proposed square to be formed in Bancroft-street be kept permanently an open space. It is proposed to obtain Parliamentary powers to remove the block of building known as the Engravers' Arms, so that a square would then be formed 95 yards by 69 yards, in the centre of which the memorial would be placed. The advantages of the site now proposed, and which may be considered adopted, are stated by its advocates to be,—that it is central, being within a few minutes' walk of the Exchange; that the square will be so spacious that excellent views will be obtained on all sides of the memorial; that it will be approached by a number of excellent streets; that one side of the new square will be bounded by land belonging to the City Corporation, which may at a future time be used as a site for the erection of a new city hall, or other large public building, in front of which the ornamental memorial will be most appropriate; and that the formation of the square will afford another central breathing lung for fresh air to the city.

The Manchester Albert Memorial will be found fully illustrated and described at pages 804 and 805 in the last volume of the *Builder*, to which we refer our readers.

THE PROCESSION THROUGH LONDON.

The carpenters and gas men are hard at work in London preparing seats to view the procession of the Prince of Wales and the Princess Alexandra, from the Bricklayers' Arms Station towards the Great Western. The decorators' turn will come next. Under the direction of Mr. Bunning, a triumphal arch is being erected at the foot of London Bridge, and seats are being formed around St. Paul's and in front of the Mansion House. The decoration of Temple Bar is also in his hands. The construction in St. Paul's Church-yard is of great extent and corresponding strength. It is wholly roofed over, with a projecting roof in front, and will be fittingly adorned hereafter. Around the churches in the Strand also, and in every other available position, seats are being erected.

In Southwark, too, justly jealous of its ancient rights and duties as a borough, triumphal arches will be raised and suitable decorations provided.

As to the illuminations, some experiments have been made in Edinburgh with the view of marking out the architectural lines of buildings, and should be inquired into by those concerned with our public buildings here.

One correspondent suggests that every householder should light up the *interior* of his rooms, keeping the blinds up; and another that the dome of St. Paul's should be illuminated.

THICK AND THIN BEDS AND JOINTS IN BRICKWORK AND IN MASONRY.

The use of thin or of thick beds of mortar, in brickwork and in masonry, must, in a great measure, be governed by the character of the work and the quality of the materials. Marble, if moulded, carved, and even if plain, but polished, must have fine beds and joints. Ashlar masonry, as in the New Houses of Parliament; in the Reform Club, Pall-mall; in St. George's Hall, Liverpool; and, in all masonry of this class, must have thin beds and joints. The best class of brickwork and terra cotta work, plain or enriched and moulded, must also have thin beds and joints. As a general rule, it may be stated that buildings, whether of marble, of limestone, of sandstone, or of brickwork alone; or of brick and terra cotta combined; which are ornamental in character; enriched by carving and mouldings, or plain on surface, but polished or tooled, must all have thin beds and joints. Thick beds and joints of mortar would destroy the harmony of design, by deteriorating the appearance of labour bestowed on the marble, stone, or brick and terra cotta, in such buildings.

The Romans used "tiles." That is, Roman bricks are (many of them) square, like tiles, say 6 inches by 6 inches, or 9 inches by 9 inches, or 12 inches by 12 inches, and 1 inch, 1½ inch, or 2 inches thick. In many Roman buildings now existing such bricks or tiles may be seen, set in beds of mortar almost of equal thicknesses to the tiles. In the East generally (Constantinople), as also in Spain and in Italy, this class of work exists; in ancient buildings as likewise in those most modern. Tanks, towers, minarets, domes, arches, and walls, may be examined, in which bricks and mortar have almost equal proportions. Where the mortar is good, such buildings are sound after centuries of wear, neither the action of the elements nor the violence of man having wholly destroyed them.

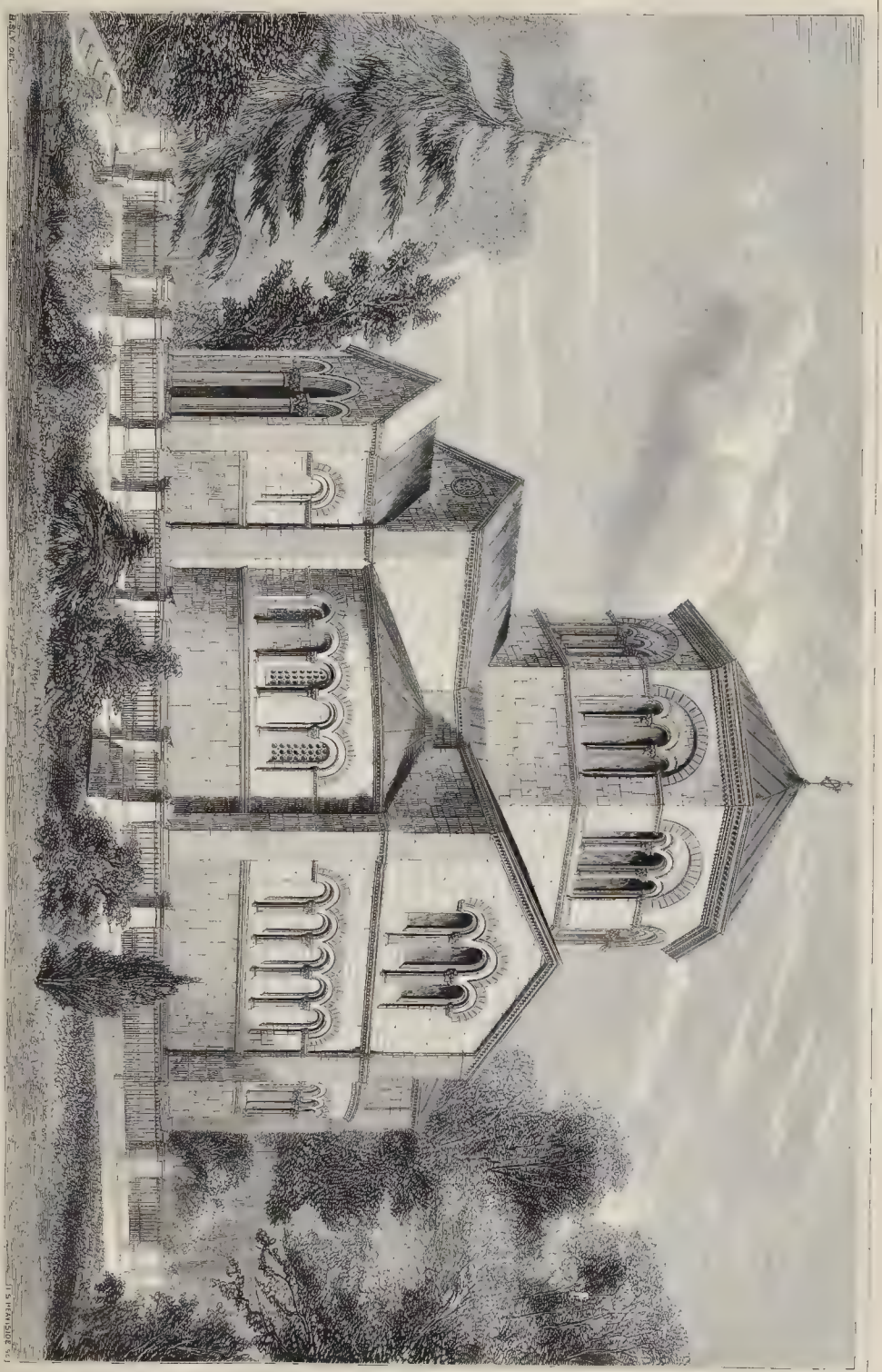
In modern practice, in all masonry and brickwork, where strength is required rather than ornament, thick beds and joints, of good mortar, will be useful. Thin bricks or tiles will also be better than thick bricks, as the material will be better burned, and consequently more enduring: more mortar can also be used, which in such work gives strength.

Mortar may be used safely, and even with advantage, in thick beds and joints in masonry, for docks, for railway-bridges, viaducts, and retaining-walls; as also for warehouses, goods stations, cotton-mills, tall chimneys, fence-walls, and all similar structures. Reservoir-walls, tank-walls, and covering arches for waterworks, ought most certainly to have thick beds of good mortar.

The proportion of mortar to rubble-stonework, should be about 1 to 3, that is, in 4 cubic yards of rubble-wall there should not be less than 1 cubic yard of mortar. In brickwork (ordinary bricks), the proportions will be 1 to 4. If thin bricks are used, or if very small stone is used for rubble-work, the proportions may be as 1 to 1, like some of the work to be found at this day in Italy and in the East, which ancient work is sound after centuries of time; and all the destructive agencies of the elements, of man, and even earthquakes, have failed to destroy such work in many instances.

Much may be said as to the disadvantage and danger of building hybrid work;—that is, injudicious mixtures of ashlar, rubble, brickwork, and concrete. But a treatise would be required, illustrated by many diagrams, fully to detail all that may be said on this most important part of masonry.

Robert Rawlinson, C.E.



THE ROYAL MAUSOLEUM, FROGMORE.—DESIGNED BY PROFESSOR L. GRUNER AND MR. A. J. HUMBERT, ARCHITECT.*

[* See p. 145, ante.

FRANCE AND BELGIUM.

THE Bank of France has just obtained from the town of Paris authority to dispose of all the site occupied at present by the Rue Baillif, containing more than 200 mètres, to construct necessary annexes for the service of that institution. An engagement is also entered into by which the bank authorities are to construct houses bordering the new street, which is to be 20 mètres wide, to replace the Rue Baillif, and place the Rue Croix des Petits-Champs in direct communication with the bank.

In examining the works of the Pont de Charenton, which we had not visited for several months, we remark that they have been vigorously carried on last season, the masonry being nearly up to the level of the roadway.

By means of a small tramway, worked by a locomotive and two iron cranes, heavy blocks are lifted out of the waggons and deposited with the greatest ease in their proper places.

This bridge, which crosses both the Marne and the Canal joining the Seine with the Rhine, consists of four arches, three for the river and one for the canal. The span of the latter is considerably greater than that of the others, and the design is one of surprising boldness. The species of promontory separating, below the old bridge, the principal branch of the Marne from the smaller arm (now canalized), has been lowered at its extremity, and serves as a base for the first right-hand pier of the new bridge. This tongue of land will be levelled evenly as far as the bridge which carries the Lyons line; and will form, throughout its length, a mole or jetty similar to that separating the Seine from the canal near the Monnaie Lock.

The reconstruction of the Pont de Charenton is one of the principal enterprises of this class undertaken in 1862. The other analogous works are the enlarging of the Pont du Saint-Esprit, over the Rhone; the construction of the Pont de Belle Croix and the Pont de Perinel, over the Loire at Nantes; and the Pont de l'Albi, over the Tarn.

In the department of Somme, the Minister of Public Works has authorized surveys to be made for a railway from Achiet to Ham, by Bapaume and Péronne. This branch line, intended to unite that from Arras to Hazebrouck, Calais, and Dunkirk, with the Chemin de Fer de l'Est, traversing a fertile and industrious country, will be of considerable interest, both as regards the international traffic and the development of the coal-fields of the Pas de Calais.

It is worthy of note that about the middle of December, 1862, gas made its appearance in the steeple of Saint Malo, at the greatest height to which that mode of illumination has been practically adapted in France to a building. It illuminates brilliantly the four dials of the Cathedral tower, which stands at a considerable elevation far above the town and roadstead, constituting a prominent object from the sea and roadstead.

The inhabitants of Brussels, justly proud of their fine promenade, *l'allée verte*, have lately been in great trouble about its being ruined by the passage of a branch railway through the middle of it. This celebrated promenade was even held sacred during the memorable siege, when deputations of ladies invoked the protection of the Maréchal de Villars to save their favourite pleasure-ground. It was on this occasion that Louis XV. decorated Mannekin with his order, and he was presented with a complete costume, still preserved as a relic. Owing to the numerous protestations against the encroachments of the railway, and the strenuous efforts made by persons of the highest influence to prevent this act of Vandalism, as the Brussels ladies called it, the several projects before which the promenade was to be sacrificed have been abandoned.

The works of the railway from Brussels to Louvain have been contracted for by M. Detiège, and are to be commenced forthwith. The project will be completed in two years hence.

The college of the burgomaster and councillors of the town of Brussels have issued printed instructions to prevent accidents that may arise from the use of mineral oils for the purposes of illumination.

The show of cattle, generally held at Brussels the Monday before Easter, will take place on the 20th March, at the Abattoir.

SOCIETY OF ENGINEERS, EXETER HALL.—The paper to be read on Monday, March 2nd, is "On the Relation between the Safe Load and the Ultimate Strength of Iron," by Mr. Zerah Colburn.

STATISTICS OF COMPETITIONS.

THE accompanying table of statistics has been prepared in order to test, as far as possible, the effect of the present system of competition upon the members of the architectural profession.

The years 1859 and 1860 are omitted, in consequence of imperfect information.

It cannot be denied that competitions now and then assist some few unusually fortunate men; but it is evident that every one of these acts prejudiciously to the interests of other members of the profession, since the outlay incurred by unsuccessful competitors is enormous; and their drawings, when returned, are worth little more than waste paper.

An individual chance in a competition is this:—

It is 20 to 1 against winning	first premium,	51*l.*	av. value.
10 to 1	,, second do	20*l.*	,,
20 to 1	,, commission	323*l.*	,,

To enter the lists, therefore, with a fair chance of success, we must be prepared to send in for twenty competitions: these will cost in cash 300*l.*, a sum nearly equal to the greatest amount we can calculate on obtaining in return. This is, indeed, a favourable view of the case, for in more than half the instances before us no hope was held out that the successful architect would superintend the work, so that perhaps 30 to 1 against obtaining the commission would be nearer the mark.

At present the members of the profession spend nearly the amount of the commission on every competition, so that the public gain the full amount of our services for nothing; and as a rule (although some few gain), the competitors sustain serious losses.

AUGUSTUS FREER, Architect.

Tabular View of the Values of certain Competitions, in the Years 1857, 1858, 1861, 1862.

	1857.	1858.	1861.	1862.
Total number advertised in the *Builder*	.. 40	.. 30	.. 43	.. 41
Number with premiums known (1)	.. 33	.. 31	.. 30	.. 28
,, premiums and outlay known (2)	.. 13	.. 20	.. 12	.. 10
,, no premiums offered	3 ..	5 ..	3 ..	0 ..
,, first premiums under 20*l.*	11 ..	15 ..	8 ..	13 ..
,, ,, over 20*l.* under 50*l.*	9 ..	8 ..	14 ..	5 ..
,, ,, ,, 50*l.* ,, 75*l.*	4 ..	2 ..	2 ..	0 ..
,, ,, above 75*l.*	6 ..	1 ..	3 ..	10 ..
	33 ..	31 ..	30 ..	28 ..
Total number of premiums	.. 56	.. 59	.. 57	.. 49
Number offering to employ the successful architect	.. 5	.. 1	.. 2	.. 2
,, may perhaps ,, ,,	.. 13	.. 7	.. 13	.. 7
(1) Total amount of premiums	£1,518 0	£1,669	£2,731	£3,793
(2) Premiums on those of known outlay	461 0	1,343	1,460	2,215
Amount of outlay	39,425 0	80,253	10,900	140,360
Average value of first premiums	50 0	38	53	63
,, ,, a premium taken on total number	32 10	28	48	75
,, ,, commission, 323*l.*	..	..	..	..

Analysis of the Four Years taken together.

Total number having premiums and outlay known		45
Total outlay		£291,838
Total premiums offered	£5,479	
To merge if employed	(deduct) 2,036	
	Premiums..	£3,443
Total commission due		14 565
Gross receipts		£18,008
Outlay on forty-five competitions, allowing twenty competitors in each, at a cost of 15*l.* each	£13,500	
Grand profit to the profession on forty-five competitions, representing an outlay of 291,388*l.*	5,508	
	£18,008	

An average receipt of £122, instead of average value of commission, £323 each.

BUILDERS' BENEVOLENT INSTITUTION.

WE saw with very great pleasure that the recent ball in aid of the Builders' Benevolent Institution was well attended, the rooms being more crowded than on previous occasions. Between five and six hundred assembled together, not only to enjoy a pleasant evening, but to increase the funds of one of our most deserving charities. The Right Hon. the Lord Mayor and the Lady Mayoress, with the Sheriffs, as also Mr. Henry Lee, the president of the Institution, and many of the leading builders of the metropolis, were present on this occasion, with the junior branches of their families.

The hon. secretary and the stewards deserve great credit for the arrangements made by them for the comfort of the assembled guests. The dancing was kept up to a late hour, and everything went off satisfactorily. We hope the funds will receive a large increase, so as to enable the directors to add to their number of pensioners in May next.

THE ARCHITECTURAL ASSOCIATION.

THE usual meeting of members was held on Friday evening (the 20th inst.), at the House, in Conduit-street; the president, Mr. Blashill, in the chair.

A letter was read from the secretary of the Nottinghamshire Architectural Association (Mr. Frederick Jackson), inclosing a copy of the following resolution, agreed to by that body:—

"That the Association, while fully appreciating the exertions of the Institute in the preparation of the valuable scheme of examination for the architectural profession, now submitted for their consideration, deems it due to the large body of architects of experience already in practice, and who cannot be expected to devote the time necessary to an examination, that they should receive from the Institute such a distinct recognition of proficiency, by diploma or otherwise, as will place them in a position not inferior to that of the younger practitioners, who may present themselves for the honours of the Institute."

The following gentlemen were on ballot elected members of the Association:—Mr. C. A. Long, 98, Bishopsgate-street; Mr. W. Roberts, 25, Parliament-street; Mr. H. M. Dunphy, 3, Dr. Johnson's-buildings, Temple; and Mr. Gassling, 4, Upper Gower-street.

Mr. E. L. Paraire moved a resolution to the effect—

"That the members of the Architectural Association suggest that copies of the report upon professional practice and architects' charges, bearing some distinct mark of the Royal Institute of British Architects, should be given to all applicants applying for the same."

He observed that the motion which he had ventured to propose was one in which he was sure they would all concur. He then called attention to the position held by the members of the Architectural Association, who, as students, were not supposed to know with any certainty what were the different matters an architect could legitimately undertake, nor were they competent to form any idea of the charges to be made. But here was the result arrived at by the senior members of the profession, offered them as their guide. Here they would find what they had to learn to enable them to practise, and they would also see what were the charges usual and recognized for such work. He was of opinion—now that the examination was no longer an idea, but an accomplished fact, and that candidates had passed through the ordeal, and had been found sufficiently well informed,—that these gentlemen, having gone so far, were, to an extent, entitled to ask for some guide, some tangible and acknowledged standard, towards which to direct their efforts; and that the document he then held was the very thing they needed. Mr. Paraire then called attention to the established architects, who, from pressure of business and

from other causes, had not time to prepare for or pass the examination. He alluded to legitimate architects; and he thought that they should have their practice clearly defined; and he asked who were the persons to accomplish this desideratum, unless it were the elder members of the profession, who not only could claim experience, but who, incorporated as a chartered body acknowledged and recognized by the public, had, after considerable trouble, framed the rules to which he was now calling their attention. He contended that the document issued by the Institute should be legalized by that corporation by affixing their common seal, or by the signature of the president, or by some other distinguishing mark, and be given to all legitimate architects applying for the same.

The motion was seconded by Mr. North.

Mr. T. R. Smith said he could not quite agree in all Mr. Paraire had said. He thought that it would be a matter of great difficulty to know who were the qualified persons to whom such a document should be given. Moreover, in case of dispute, the document issued by the Institute would not be received as evidence in a court of justice.

Mr. Harris said he thought the Association were exceeding their position in offering any opinion, and he should vote against the motion.

Mr. R. P. Spiers objected to the resolution as unnecessary. It seemed to him that, as it would do neither good nor harm, it would be a wise course not to pass it.

Mr. Fowler said that the question of who was entitled to be called an architect might be very easily solved. If a practitioner were a member of the Institute, or of the Architectural Association, he could no doubt support his charges, if necessary, in a court of law. He thought the Association was indebted to Mr. Paraire for having brought the subject under notice, and he quite agreed with that gentleman that it would be desirable that the seal of the Institute or the signature of its president should be attached to the rules and regulations issued and approved by the Institute.

The President said he doubted whether the rules and regulations could be received in evidence in a court of law.

Mr. T. R. Smith said it would be necessary to call a witness.

Mr. H. A. Reeves was of opinion that the Institute would not be indisposed to consider any suggestion that the Association might offer with reference to giving more direct official recognition to the rules and regulations; and reminded the meeting that in the case of architectural examinations, the Institute had ultimately adopted the views of the Association

Mr. Paraire, in reply, observed that the question for consideration was, not the difficulties that might arise, but the principle involved. If the principle was good, there could be no harm in saying so, and telling their seniors what were their opinions; but if every individual opinion was to be canvassed and discussed before agreeing on the principle, they would never arrive at a conclusion. The whole matter was simple, and resolved itself into the advisability of having some standard towards which they, as students, should steer their course.

A division was then taken, when the President declared the resolution to be negatived by a majority of one.

The President then brought under notice a subject which, he said, had been discussed by a sub-committee, which had been sitting on the affairs of the Association; namely, the advisability of forming a class with reference to architectural examination.

Mr. Spiers approved of the suggestion, and observed that the statement made in the *Builder*, that five of the gentlemen who had passed the recent examination, were members of the Association, was a very gratifying circumstance. He was not clear as to how the proposition could be carried out, as there might be some difficulty in obtaining persons to superintend the classes; but he was persuaded that the suggestion was a good one; and he hoped that the importance of out-of-door sketching in the summer would not be lost sight of.

On the motion of Mr. Harris, the further consideration of the subject was referred to the sub-committee now sitting.

Mr. G. B. New then read a paper "On Ventilation," illustrating his remarks by diagrams and models.

Mr. Battey subsequently explained his principle of natural ventilation in connexion with grates, which he urged provided an efficient and economical mode of ventilation applicable to private dwellings, hospitals, and all kinds of public buildings.

Mr. E. C. Robins also drew attention to Mr. Boyd's inventions and others, which he said were extremely useful, if architects could be prevailed upon to adopt them.

Some discussion ensued, after which a vote of thanks was awarded to Mr. New for his paper.

THE ARCHITECTURAL ASSOCIATION AND THE VOLUNTARY EXAMINATION.

OBSERVING the letter of "R. M." in your number of the 21st inst., which denies the assertion made by "T. R. S." that the Architectural Association has materially aided those of its members who have recently passed the voluntary examination; we, who are of that number, cannot refrain from bearing our testimony to the advantages we have derived both from the Class of Design and the ordinary meetings of the Association; and we feel it the more necessary to do so as the general tenor of the letter seems to suggest a desire on the part of the writer to depreciate the Association, which we cannot believe he entertains.

The argument used is of the weakest description; for while it is incidentally allowed that drawing and design are encouraged (to which, by the way, a quarter of the whole number of marks and one third of the time are devoted), an endeavour is made to show that the Association teaches nothing by pointing out those subjects which are more rarely brought before it, though no regular attendant would dare to say that they are never treated of. Questions in construction frequently occupy the Class of Design, and much general information is obtainable from the papers read, which, though necessarily discursive, are eminently calculated to lead to deeper study.

We cannot but feel that the remarks of your correspondent are extremely ill-timed, as he is aware that steps are being taken by the Association to form a class with the view of preparing students for the next and subsequent examinations.

(Signed) R. O HARRIS, LACY W. RIDGE, R. PHENÉ SPIERS, HENRY STONE.

CHURCH-BUILDING NEWS.

Wiggenhall, St. Germain's, Lynn.—Most of our ecclesiastical readers are acquainted with the four Wiggenhall Churches, each possessing interesting architectural remains, more especially the one to which our notice refers. This church, contains some very fine fifteenth-century bench-ends and seats. The whole fabric, which is a large one, having been allowed to fall into a very bad state of repair, is at last to be thoroughly repaired, and energetic means are now being used to collect the necessary funds for its restoration. The works had been placed in the hands of Mr. Withers, architect, who has prepared a report, accompanied by a set of drawings for a complete restoration. 2,500*l.* will be required to be expended, exclusive of all decorative art whatever.

Northill (Beds).—The restoration of the church of St. Mary, Northill, has just been completed. Exteriorly, the accumulated soil has been removed from the walls, drains made, the footpaths sunk to their proper level, the walls and battlements repaired and pointed, the stone-work of the windows cleaned and, where requisite, renewed, and the east gable crowned with a pierced stone cross. A dwarf spire of wood, covered with lead, has been taken off the tower, the decayed roof replaced by a new one, and the turret in the north-east angle inclosing the spiral staircase carried up some feet above the top of the tower, and finished with a parapet. The porch, with its groined roof, has been *decompoed* and restored, and also the south doorway of the church, which, as well as many other portions, says our authority, the *Bedford Times*, had been so "made up" with cement, that little of the original was left but disjointed fragments. Internally, the whitewash, which covered and disguised the walls, arches, and pillars alike, has been removed, and the arcade of sandstone stands out in its true colour and proportions, no longer obstructed by a ponderous gallery, which formerly cut in two one of the windows of the south aisle. The western arch, since the beginning of the century, had been blocked up by a thick wall, inserted with a view of lending support to the tower, which was in a defective state, and was at the same time braced up with iron stays. This wall has been now removed, and the arch, having been found much broken, reconstructed. The floor of the tower is thus opened to the nave, and the west window, with its tracery, displayed to view. The ringing-floor above has also been renewed. The whole of the nave is furnished with low oak benches, and paved with Staffordshire tiles in three colours. The inner parvise window, before blocked up, has been opened and glazed. The chancel arch it was also found necessary to take down and rebuild. The floor is laid with Minton's encaustic tiles in squares, those within the sanctuary being of richer design and colour, and arranged diamond-wise. The removal of a modern wainscot-screen from the east end disclosed the piscina and triple sedilia, which have been repaired. The east window, executed by John Oliver in 1664, has been cleaned and repaired, the upper compartments (previously glazed with common glass), filled with ecclesiastical emblems and devices by Willement, and the stone-work renewed. The other windows of the chancel have been filled with white cathedral glass in a green border. The chancel roof, entirely new, is divided internally into three bays by arched principals of oak cut from the solid tree, connected with the rafters by braces at the ridge and sides, and resting on corbels of sculptured angels bearing scrolls: the spandrils being filled with pierced tracery; the intervals between the purlins are also lined with oak. The rector has been assisted in this undertaking by a loan of 500*l.*, contracted by the parish, with subscriptions from the Harvey family and others; but a considerable proportion of the expense falls upon his own shoulders. The task of restoration was entrusted to Mr. Woodyer, of Guildford, whose designs and directions have been carried out by Mr. Conquest, of Kempston.

Halsted (Essex).—Bulmer Church, Halsted, has been restored and re-opened. Before the restoration the church was blocked up with high pews, a west gallery, and the chancel partly occupied by a large family pew, belonging to the Oakems estate. The pews (except the last-named one, which has been lowered), have all been removed, and open benches substituted: the gallery has also been removed, the tower opened, and the font placed there. The aisles and chancel have been paved with red and buff tiles, and the sacrarium or communion with rich encaustic tiles. The works are not yet completed, as sufficient money has not been subscribed, but decoration will be added when the funds are forthcoming.

South Collingham (Notts).—St. John the Baptist's Church, South Collingham, has been restored and re-opened. Both the chancel and the body of the church have been restored. In the chancel a new roof of polished pine has replaced the old one. All the stonework has been repaired and restored, and the windows re-glazed. A new floor of encaustic tiles has replaced one of stones and plaster—both in the chancel and nave. A recess, arched, has been built on the north side of the chancel for the organ. The organ has been enlarged and improved. All the old high pews have been removed both from the chancel and nave, and open benches substituted. The arches have been relieved of an accumulation of white-wash, and restored. The unsightly stove which used to obstruct the centre aisle has been removed, and the church is now heated by hot-air flues. The chief improvement is the removal of the gallery, which disfigured the west end of the building, and which, moreover, hid the arch at the entrance to the tower, and also the west window. Another improvement is the provision for exterior access to the ringing chamber. Mr. Hakewill was the architect employed. The tender of Mr. C. Fox, of Lincoln, was accepted; but in consequence of his being declared a bankrupt, the Building Committee took upon themselves the task of completing the work.

Southampton.—At a recent vestry meeting in St. Lawrence's Church, Mr. Beecheno, churchwarden, said he had received a letter from Mr. Frith, who offered to undertake the necessary work of repairing the top of the spire, regilding the vane, &c., for 30*l.*, including any extras that might be required. In a subsequent communication, he offered to execute the work described by Mr. Beecheno for 25*l.*, extras not included. It was agreed that the churchwardens be requested to collect the required amount in voluntary subscriptions, and to employ Mr. Frith to do the work on the last-mentioned terms.

Stone (Staffordshire).—The Roman Catholic church at Stone has been enlarged and re-opened. The church was commenced ten years ago, at which time the present nave and aisles were built. The additions were consecrated by Dr. Ullathorne, Roman Catholic Bishop of Birmingham. The external walls and buttresses are of Hollington stone, faced inside with stone of a much finer texture. The style of the church, which will accommodate about 700 people, is the second period of Pointed Gothic. It is divided into nave, side aisles, transepts, and chancel, with a nuns' choir to the north of the chancel, and a semi-circular apse containing the Lady altar to the south. In the north transept is a tribune for the *pensionnaires* of the school, and in the aisles are two small chapels enclosed in light open wood-work screens. That in the north aisle contains "the altar of the rosary," and that in the south, "the altar of St. Winifred and the martyr saints of Stone." A flight of seven steps leads from the nave to the

transepts, and the chancel is elevated three steps above the latter portion of the church. Of the whole number of windows ten are of stained glass. The principal of these are a rose window at the west end of the nave, and a five-light window with tracery at the back of the high altar, the latter the gift of Mr. John Fitzherbert, of Swynnerton. The roof is open, with stained panels, and gas is supplied to all parts of the building. The capitals of the columns from which the arches supporting the clerestory spring are finely carved, but it is in the chancel that the richest work is to be found. The high altar, in common with all the choicer parts of the building, is mainly composed of Caen stone, with columns and slab of polished marble. The frontal contains three pieces of carving—"The Sacrifice of Melchisedec," "The Sacrifice of Isaac," and "Elias fed in the Wilderness." The tabernacle is in polished alabaster marble, and the walls on either side of the altar are inlaid with diapered marble panels. At the back of the altar is a reredos, containing subjects from the life of St. Dominic, in high relief. On either side of the screen and in the centre are niches surmounted by canopies and pinnacles, of which the centre one is 25 feet high. The niche to the right of the altar is occupied by a life-size figure of Mary Magdalene, and that to the left by a corresponding figure of St. Catherine. The niches have pedestals, and the canopies columns of polished marble. In a recess in the nuns' choir, Messrs. Bevington & Son, of London, have erected an organ. The church was built by Messrs. J. & E. Bird, of Hammersmith, from the designs of Mr. Gilbert R. Blount, of London. The carving was executed by Mr. William Farmer, of London. The stained glass for the windows was supplied by Messrs. Hardiman, of Birmingham.

CONSECRATION OF ST. ALBAN'S, HOLBORN.

THE Bishop of London has consecrated this new church, which has been built and furnished at a cost of about 25,000*l.*, besides endowment, by Mr. John Gellibrand Hubbard, M.P. for Buckingham, and a director of the Bank of England. The building stands in a poor district, and is bounded on the east by Leather-lane, on the west by Gray's Inn-lane, on the north by Baldwin's-gardens, and on the south by Brook-street.

Lord Leigh gave a site at the end of Brook-street, and upon that the church stands, the parsonage being built on ground bought by Mr. Hubbard himself. Mr. Butterfield was the architect, and Messrs. Myers & Co. were the builders.

The whole buildings, outside and inside, are in the main of London ordinary bricks, relieved by stone, red and grey; the piers, arches, and windows of the church being of stone. There are a nave and aisles, chancel and aisles, and a porch at the west end, of unusually large dimensions, into which the principal doorways open. Over the chief door (in Baldwin's-gardens) is an inscription to the effect that the church is wholly free and unappropriated. The font, at the west end, is of Derbyshire marble, inlaid with white marble, and the shafts are of languedoc marble on a black base of Irish marble. The nave and aisles open from the font. The nave is 70 feet long and 32 feet wide, and measures 50 feet to the ridge. The aisles are 9 feet wide, and ornamented with an arcade on red clay shafts. The walls of chancel are of alabaster, inlaid with coloured marbles. Amongst the main features of the church are the frescoes executed by Mr. F. Preedy, from designs by the late Mr. Henry Styleman L'Estrange, of Hunstanton Hall, Norfolk. He designed ten frescoes for the east end. They illustrate the suffrages in the Litany—"By the mystery of Thy holy incarnation; by Thy holy nativity and circumcision; by Thy baptism, fasting, and temptation; by Thine agony and bloody sweat; by Thy precious death and burial; by Thy glorious resurrection and ascension; and by the coming of the Holy Ghost." They are painted in party colours by the water-glass process, like Mr. Maclise's picture in the Houses of Parliament. The reredos is of four arcades, surmounted with evangelistic emblems. The organ, by Mr. Holditch, is in the south choral aisle. The seats, to accommodate 800 persons, are of oak, as is also the pulpit, the base of which is stone, with red clay shafts.

A bell-frame for six bells has been erected by Messrs. Warner & Sons, and a bell, eventually to form the tenor, has been cast and hung by them, note E, about 18 cwt. 3 q. 20 lb.

There is a brass lectern and faldstool. A drinking fountain is attached to the railings of the church, in Baldwin's-gardens, and is supplied gratis by the Water Company.

A fine view of the interior of the church will be found in our last year's volume, p. 443.

SUBMARINE TELEGRAPHY.

THE ATLANTIC CABLE.

A PAPER on the subject of submarine telegraphy with especial reference to the Atlantic cable was read by Mr. Thomas Webster, F.R.S., at the Society of Arts, Adelphi, on the 11th instant. The paper gave rise to an interesting discussion. It went into the question of route for the Atlantic cable, as well as that of its construction. The merits of the Arctic route were rather more favourably regarded than we think they should be, particularly as regards coast damage by icebergs, and the difficulties generally of the Arctic winter. Mr. Webster rightly considered a light cable preferable to a heavy one, such as the last; but admittedly the best mode of constructing such cables is not yet a settled point. At the close of his paper Mr. Webster remarked that—

"On the best construction of the cable, whether a combination of insulated copper wire laid centrically and spirally, protected by the iron wires laid straight, or nearly so, with hemp, asphalte, and similar materials, or other of the various combinations suggested; also, on the best system of insulation or insulators, whether gutta percha or india rubber, or compounds thereof, or other substances now in existence, and already, or hereafter, to be applied, an inquiry conducted by competent persons may lead to the most important results.

In conclusion, I would suggest whether this society may not be able to promote and facilitate such an inquiry, and materially to contribute to the solution of the question of the best system of telegraphic communication with the great American continent."

The most general opinion as to the question of a light or heavy cable, elicited during the discussion which followed, seems to have been also in favour of a light cable. Mr. F. Jenkin very much defended the present unsatisfactory state of things, heavy cables inclusive, with spiral iron coverings and straight core. He ended, however, by remarking that he had no doubt that before long the problem of a permanent cable in deep water would be solved.

The meeting was also addressed by Mr. Thomas Allen and by Mr. Walter Hancock, who made some remarks on the limited supply of gutta percha and india-rubber, the importance of which were hardly appreciated as they ought to be; also by Dr. Collyer, Mr. C. F. Varley, Mr. C. W. Siemens, and others; but the most satisfactory remarks were made by the Right Hon. J. Stuart Wortley, the chairman of the Atlantic Telegraph Company, who stated that it was a mistake to suppose that the company had *settled* anything as to the construction of the cable, or were bound to any particular firm or form whatever: all they could be said to have settled as to the cable was that in the main the route would be the same as before, with certain exceptions as to its disposal on the coasts.

Rear-Admiral Sir Edward Belcher suggested the appointment, by the council of the Society of Arts, of a committee for the purpose of investigating the whole subject; a suggestion which the chairman, Mr. W. Hawes, the vice-president, said would be laid before the council.

In summing up at the close of the discussion, the chairman said the question now arose as to what was the proper quantity of insulating material to use, and what was the best material for that purpose; and when they had settled that question they had to decide which was the cheapest and best mode of laying down the cable. These were difficulties which no one could doubt the energy and enterprise of this country would overcome; because, in the words of their late Royal President, if a body of Englishmen said they would succeed, their energy and indomitable courage never failed in accomplishing success.

GAS.

THE Yarmouth gas consumers are urging a reduction of the price of gas from 5s. to 4s. 6d. and 4s., according to quality consumed; and threaten a strenuous opposition to a Bill which is being applied for by the company, unless these terms are agreed to.

The Ipswich Gaslight Company's directors recommend a dividend of 10 per cent., and a balance of 985*l.* to be carried to their reserved fund, at same time reducing the price of their gas.

The report of the Bury Gas Company's directors also recommends a dividend of 10 per cent. on old capital, and 7½ on the new, besides paying what is called arrears of dividends on years when the per centage was less, and also laying "a solid foundation for the reserve fund" of 3,000*l.* which the law allowed them to make. The report was adopted, and the price of gas reduced from 6s. 8d. to 6s. 3d.

The Tunbridge Company have declared a dividend of 7½ per cent., and the Tunbridge Wells Company have reduced their price from 5s. 10d. to 5s. 5d.

The Stafford Company have declared a dividend of 7 per cent., free of income-tax.

Endeavours are being made at Bristol to have the price of gas reduced to the Plymouth price of 3s., or even lower; and a gas consumers' company is being threatened by the Gas Consumers' Association.

The Malvern Link gasworks are reported to have cost 5,281*l.*, pipes, &c., inclusive; and the company have already declared a dividend of 5 per cent. per annum for the second half-year of their existence.

The Cardiff Gaslight and Coke Company have resolved to reduce the price of their gas from 4s. 3d. to 4s., in the hope of an increased consumption.

The Newport Gas Company's directors report a depression in consequence partly of the reduction made in the price of their gas, which, however, has not prevented them from dividing the usual 10 per cent. on class A shares, and 3¾ths per cent. on class B shares; nor from announcing even a further reduction in price, of 5 per cent.

The Liverpool Company have agreed to a dividend of 5 per cent. for the half-year, being the first since the last reduction of price; which, however, only shows the elasticity of gas dividends under the pressure of reduced prices.

RAILWAY MATTERS AND TOWN DISFIGUREMENT.

THE numerous railways and bridges projected for the metropolis are exciting anxiety in the minds of those interested in the architectural aspect of the metropolis.

Mr. Tite asked the First Commissioner of Works in the Commons last week, whether the Government intended to institute any inquiry into these various projects, or to subject to any control the architectural character and construction of bridges crossing the Thames or the streets and roads which were interfered with?

In reply, Mr. Cowper admitted that some of the great undertakings which had done so much for the convenience of the metropolis had done so at the expense of a very great disfigurement of some of their principal thoroughfares. With reference to the first part of the question, he could only refer to the report of the Board of Trade, which enumerated twenty-nine railway undertakings affecting the metropolis and its suburbs. With regard to the latter part of the question, the subject could not be in better hands than in those of the President of the Institute of British Architects. He thought it likely that members representing the metropolis would be prepared with some proposal on the subject.

Mr. Lewis recurred to the same subject next day in a question put to the President of the Board of Trade, as to what protection to the public was afforded by that Board.

Mr. Massey, for the President, replied that he did not propose any special mode of dealing with this particular class of railways. The metropolitan schemes would be submitted to the general committee of railways, and by them be classified; and after they had undergone the process of investigation to which such schemes were subjected, he thought it very likely that many of them would disappear. He certainly agreed with the hon. member for Bath (Mr. Tite) that it was desirable in a case of this peculiarity that the public interest should be protected by giving powers to some body representing the public interest to appear before those committees, and to watch their proceedings; and named the Metropolitan Board of Works as the proper body; and promised to prepare a revision of the standing orders to enable that Board to look after all such schemes. Sir George Grey said the Government need not have any special control over such undertakings.

Lord Derby has also since brought the subject before the House of Lords.

At the London Court of Common Council last week, it was stated that the 20,000 shares which were taken by the corporation for the promotion of the Underground Railway had yielded a profit of 32,000*l.* on the sale already effected of 18,000 of them; and as the purpose in view of promoting

the formation of the line had been effected, it was resolved forthwith to dispose of the remainder of the shares.

The Bill before Parliament for the extension of the Great Eastern Railway to Finsbury-circus is exciting considerable interest. The measure is meeting with strong opposition from the inhabitants of the neighbourhood of the proposed terminus; and it has been rightly remarked that although open spaces such as Finsbury-circus are no doubt tempting to the cupidity of railway companies for the saving of their funds, that is no reason why the public or the Legislature should submit to have the few open spaces in the metropolis filled up with brick and mortar simply to save such companies the cost of obtaining sites for their stations.

The abominable eyesores in the shape of girder bridges lately put up in Southwark and elsewhere (discreditable to all concerned), and the threat of what is to be erected across Ludgate-hill, ought to have immediate attention.

Speaking of a proposed Metropolitan Railway for Dublin, the *Evening Post* for that city says:—"This project is causing great dissatisfaction in this city. Petitions against the Bill are in course of signature; and a requisition is also in preparation, requesting the Lord Mayor to convene a meeting of the citizens to avert what it is considered would be a deformity and serious injury to this metropolis."

MONUMENTAL.

Wedgwood Statue, Stoke-upon-Trent.—We are empowered to contradict the statement of a correspondent quoted by us from the *Staffordshire Advertiser*, describing the pedestal of the statue as ordinary red sandstone, although it has the appearance of red sandstone at a distance. It is, in fact, of the compact gritstone, from Mansfield.

Jacob Memorial.—A design for a monument to the late Major Jacob, for Salisbury Cathedral, has been furnished by Mr. Street, architect. It will consist of a series of arches, supporting a slab and inclosing a tomb. These arches will be supported by short columns of Purbeck marble, resting on a base of yellow Mansfield stone, supported by a pedestal of gray Forest of Dean stone. Beneath the slab and inclosed by these arches will be a coped tomb of Caen stone, resting on a base of red Mansfield. The arches will be of alabaster, and between them mosaics will be worked. The slab at the top will be of Purbeck marble, and will contain a brass foliated Gothic cross, with Mediæval sword and spurs, to indicate the rank of the major in the volunteer service. The caps of the columns will be carved with Gothic foliage. The whole monument will stand on a platform composed of white marble, with a pavement of inlaid mosaic, red marble, and various coloured stones. The dean and chapter have approved of the design.

MILITARY AND MONASTIC ARCHITECTURE.

A lecture, profusely illustrated, was delivered at the Church of England Institute, Newcastle, by Mr. F. R. Wilson, architect, Alnwick, on the Military and Monastic Life of the Middle Ages in Northumberland, on Monday, the 23rd inst. He suggested that the remains of our Mediæval architecture are more indicative of the manners and customs of our forefathers than any other relic we possess of them; and that they should be preserved with the most dutiful reverence. It is not the life of kings and nobles, of abbots and monks, that should be seen reflected in the ruins of our castles and abbeys, more than those of the masons, joiners, plumbers, smiths, and artist-workmen who wrought the stones, carved the timbers, rolled the lead, welded the iron, and moulded the decorations of these structures; and these grades and trades are equally interested in the conservation of our national antiquities. One of the illustrations consisted of a large map of the country, dotted with red crosses and circles. These marks showed the sites of the numerous Northumbrian castles and peel towers, and of the most celebrated border battlefields. Black crosses and circles on the same map showed the sites of churches and monastic buildings. A large drawing of "Alnwick Castle besieged" represented the mode of Mediæval warfare; and numerous photographs conveyed to the audience a sense of the beauty of many neglected ruins. Mr. Wilson also exhibited a portion of his Lindisfarne survey,—a measured and drawn-to-scale delineation of the churches between the Tyne and the Tweed.

THE ARCHITECTURAL MUSEUM.

Our readers may be glad to hear of some movement here. We learn from the honorary secretary that cards for a course of lectures will shortly be issued. The session will be opened with an address from the President, Mr. Beresford Hope, and will include the following lectures:—"On Mediæval Studies in Palestine," by Mr. J. G. Wigley; "On the Ely Lantern," by the Dean of Ely; "On Construction and Ornament, old and new," by Sir Henry Dryden, Bart.; "On Architectural Mosaics," by Dr. Salviati; "On the Art Collections at South Kensington, considered in reference to Architecture," by Mr. J. C. Robinson; "On Architecture, its Purpose and its Place among the Arts," by Mr. T. Gambier Parry.

The prizes of 1863 will consist of two (20*l.* and 5*l.*) for a carved miserere, and two for coloured decoration (5*l.* 5s. and 3*l.* 3s.), the latter being offered, as usual, by the Ecclesiological Society and Mr. Beresford Hope. Full particulars of the competition will, of course, be made known without delay.

PREMIUMS FOR WOOD CARVING.

In consequence of a communication from the Society of Wood Carvers, the Society of Arts have arranged to hold an exhibition of wood carving, both modern and ancient, in the month of June next. The council have further agreed to offer the Society's silver medal and to make a grant of 30*l.*, the Society of Wood Carvers giving 15*l.*, as a fund for prizes to be awarded to the most meritorious exhibitors.*

Mr. S. C. Hall has liberally added three guineas, as an extra prize.

The first prize in the first division, human figure in alto or bas relief (animal or natural foliage may be used as accessories) will be 8*l.* and the Society's silver medal.

Employers or private owners may be exhibitors, but *bonâ fide* workmen only can receive prizes.

The judges will be selected, four by the council of the Society of Arts, and three by the Society of Wood Carvers.

COMPETITIONS.

Leicester.—Sir: I have enclosed you a circular received by us, soliciting a "sketch for a monument" for the late Mr. J. F. Hollings. I have also enclosed you our reply to the same, which we have sent to the various local newspapers. If you will kindly insert this we shall feel obliged. H. G.

THE HOLLINGS MEMORIAL.

Sir,—As the memorial to the late Mr. Hollings is a subject of considerable interest to the town, will you oblige us by inserting a word or two as to the proposed competition for its design?

The sub committee of the Memorial Fund have issued a circular "to the Architects and *Designers* of Leicester and the neighbourhood," invoking them to send in sketches for a "monument;" but as the word "designer" is so unlimited in its application, and in the sub-committee's reading of it includes persons who have actually applied to architects of the town *to make designs for them*, the architects beg to decline the honour of the competition, at the same time wishing the committee every success in their labours, from the respect we each entertain for the memory of the late J. F. Hollings, Esq.—We are, Sir, yours obediently,

Dain & Smith,
Goddard & Son,
Shenton & Baker,
William Millican,
W. Jackson,
R. J. Goodacre,
James Bird,
Jas. Frank Smith.

STAINED GLASS IN ST. PAUL'S CATHEDRAL.

Your correspondent "G. R." has written to ask me certain questions, and has requested an answer in your columns.

1. "Would the authorities of St. Paul's permit a painted memorial window to be put up over the altar, the lower central window of the six?"

2. "What would be the probable expense, to be done by the best artists? The design to be submitted to and approved by the authorities of the Cathedral."

The Dean and Chapter desire to see the six windows of the apse filled with stained glass, and have conceded the window spoken of by your correspondent to the Drapers' Company. They have further put the design in the hands of Professor Schnorr, in concert with the Cathedral surveyor; and the glass is to be executed at Munich, at the Royal Stained Glassworks. The cost will not, it is believed, exceed 600*l.* Professor Schnorr has also been desired to prepare, at the same time, on a smaller scale, designs for the other five windows of the apse, to be executed as opportunity shall offer, also at the Munich works.

Should your correspondent think proper to avail himself of these conditions, the Dean and Chapter would be very glad to concede one of the upper or lower windows; except, of course, that which has been given to the Drapers' Company. The subjects are, 1, "The Agony in the Garden;" 2, "The Crucifixion:" this is the window to be given by the Drapers; 3, "The Burial;" 4, "The Resurrection;" 5, "The Ascension;" 6, "The Day of Pentecost."

I may also mention, that all other windows which occur in the end walls of the nave or transepts are designated for stained glass, and the great west window is already given by Mr. Thomas Brown. The subject, "The Conversion of St. Paul." The design, likewise, is being prepared by Professor Schnorr, and the glass is to be executed at Munich.

A short inscription, of a memorial character, might form part of the window.

F. C. Penrose.

PREPARATION FOR THE ARCHITECTURAL EXAMINATIONS.

The result of the recent examinations at the Institute having been made known, together with the report of the examiners, will you permit me to make a few suggestions which, I think, will tend to give greater success to this new experiment? And, first, let me remark that, considering the very elementary character of the examination in the class of Proficiency, a larger number than eight out of nineteen candidates might have been expected to have passed. In "pass" examinations at the Universities, *one-third* or *one-fourth* of the candidates is considered a large number to be "plucked," but here we have more than *one-half* placed in that unenviable position. Having myself had much experience in the preparation for examinations, I know the difficulty experienced by persons in studying for them from books alone without aid from a competent instructor. It is the same as if a man were to attempt to drill himself for the army without a drill-sergeant to direct him. I would, therefore, suggest that either the Institute or the Association should form evening classes for the study of the particular subjects required in these examinations; each class to be presided over by some one who has given his attention more especially to that particular branch. This would give students of architecture the means of acquiring branches of knowledge which they have now but little opportunity of learning. For although there are classes for these subjects at the colleges in London, yet it is necessary, in order to avail oneself of them, to enter as a regular student, and thus trench upon the office work of the day, which but few are in a position to do.

I believe such classes, if under able direction would answer well, and would be self-supporting, the fees (after deducting expenses), to go to the teacher of each class. E. W. Tarn, M.A.

EXPLOSIVE BUSINESSES: NOXIOUS BUSINESSES.

Perhaps it may not be known to many persons carrying on the above-mentioned businesses within the metropolitan district that (in pursuance of the unrepealed sections of the Metropolitan Building Act, 1844), after August, 1864, no manufactu... of gunpowder, detonating powder, matches ignitable by friction or *otherwise*, or other substance liable to sudden explosion, inflammation, or ignition; or of vitriol, turpentine, naphtha, varnish, fireworks, or *painted table-covers;* nor any oth... manufacture dangerous on account of the liabili... of the materials or substances employed therein to cause sudden fire or explosion, will be allowed to be carried on, either in buildings or vaults, or ... the open air, within 50 feet from any other buil... ing, or any other vacant ground belonging to a... other person than the landlord of the manufa... turer, or within 40 feet from a public way, *whether it is an old-established business or not.*

Persons carrying on noxious and offensive bu... nesses nearer than 50 feet to a dwelling-house, 40 feet to a public way, if old-established bu... nesses, are left till August, 1874.

* The Society of Wood Carvers (Newman-street, Oxford-street) have also offered, as we are reminded by Mr. Lock, the honorary secretary, the sum of 15*l.*, in three sums, for the best work sent in to the Exhibition of the Society of British Sculptors, which opens in April next.

Gas-works seem to be included in the restriction to August, 1864, except in respect of works authorized by Acts passed before 1844, within the districts then lighted by them.

It would be well for persons carrying on any of the above businesses to read the sections 54 to 63 of 7 & 8 Vict., c. 84, carefully.

R. HESKETH.

ARCHITECTURAL SOCIETIES AND THE PRESS.

SIR,—I am sorry to see that the same illiberal, narrow-minded spirit which has been displayed at the Institute with regard to publishing the papers read there is spreading to the Association, having been introduced by a member of the Institute. Now, sir, I maintain that this is a movement tending greatly to the injury of the younger members, and ought, if possible, to be nipped in the bud, being wrong on the face of it. My own case will illustrate this. On the evening when the lecture referred to was read, I was engaged on business, and so looked forward to your report of the same, which, of course, was not forthcoming. There is another reason why the papers should be published, and that is the importance of educating the public in art matters; which these same gentlemen uphold, saying that it will further the interests of art and architects if the public taste be improved (and there is a large field for it), and yet they countenance a movement diametrically opposite: for I cannot conceive a better plan for attaining this object than by giving publicity to lectures on art in the *Builder*; whereas, if brought out as Transactions, they would be seen by a very limited number, who are perhaps already acquainted with their contents. I trust you will, with your known sense of justice, insert this. ARCHITECT.

A WORD FROM CLERKS OF WORKS.

SIR,—Will Mr. Rickman be good enough to explain his meaning a little more clearly when, in his paper on the position of measuring surveyors, he says,—"I would much rather be brought into contact with an intelligent builder's clerk than with a clerk of the works."

The words in their present form seem to cast a slur upon the abilities and intelligence of clerks of works in general; but, as a clerk of works, I would willingly hope this is not intentional: if so, surely Mr. Rickman's opinion is not generally shared by the profession to which he belongs? S. W.

Books Received.

Bruges et ses Environs. Description of the Monuments, Works of Art, and Antiquities; preceded with an Historical Notice. By W. H. JAS. WEALE. London: Barthé & Lowell, Great Marlborough-street. 1862.

MR. JAS. WEALE, who is known as an accomplished writer on art and archæology, has produced an admirable little guide (in French) to a knowledge of the history and antiquities of Bruges, a town interesting alike by its associations and contents. Until quite recently Bruges had preserved more than any other town in Belgium its Mediæval aspect; but this is now rapidly disappearing under the hands of modern Vandals. Mr. Weale denounces strongly the present course of restoration to which the old buildings of Belgium have been or are being subjected. At the Hôtel de Ville of Bruges he describes sad work. He says they have changed the character of all the sculpture; they have placed in niches statues the costumes of which are anachronisms, and which statues are too large for the niches they occupy; and have inserted tracery in the windows without connexion with the construction. There remain now in the façade only some rare morsels of the old work, easily to be recognised. The Guide is adorned with two maps, one of Bruges, the other of its environs.

Miscellanea.

BELL-CASTING, COLCHESTER.—On Monday, the 23rd instant, was cast at the foundry of Mr. Dearn, in Colchester, a small bell for the church of Furtwengen, in the state of Baden; this being the first church bell made in Colchester. The metal was the gift of Messrs. Peter & George Dold, of this town. The bell is decorated with crosses, inscribed in circles, and with suitable inscriptions in Latin, recording the names of the "founders" and benefactors; and will be "consecrated," according to our correspondent, at St. James's Church, next Sunday, the 1st March.

ARCHÆOLOGICAL DISCOVERY AT ROTTINGDEAN.—To improve the cricket-ground on "The Beacon," it became necessary to remove a low hillock or tumulus of a circular form, and about 30 yards in diameter. Near the centre of the tumulus the workmen met with a grave, of oval form, containing the skeletons of four adult persons, lying with their heads towards the north. Near the south side of this grave or vault was a small urn of sun-baked clay, and of sufficient capacity to have contained the remains of an infant. Four other oval graves were found.

SOUTH KENSINGTON MUSEUM.—During the week ending 21st February, 1863, the visitors have numbered 10,337.

THE FATAL ACCIDENT AT COAL DEPÔT, PADDINGTON.—The inquest in this case has terminated in a verdict of "Manslaughter" against John Edwards, the manager to Messrs. Smith & Knight, the contractors, and William Lester, the contractor for the removal of the soil and the sinking of a well; on the ground that they had not taken proper precautions for the prevention of such an accident as that which had occurred.

VENTILATION OF THE CELLS AT WESTMINSTER HOUSE OF CORRECTION.—At a recent general meeting of Middlesex magistrates, the Deputy Clerk of the Peace laid before the court a letter received by him from the Home-office, returning the plans of alterations for ventilating certain cells in the House of Correction at Westminster, as approved by Sir George Grey, Home Secretary. Mr. G. F. Franco then moved—"That the visiting justices at the House of Correction at Westminster be empowered to cause the old cells in the double wings of section A of the prison, containing 148 cells, and comprising about one-third of the total number included in the drawings laid before the court on the county day of the November session, 1862, when the same shall have been approved or modified by the Secretary of State for the Home Department, to be warmed and ventilated at an expense not exceeding 1,500*l*." Mr. Kemshead said he believed that they were going rather too far in their endeavours to make the prisoners comfortable; and the consequence was that the prisoners did not care about the punishment. It was his opinion that they ought, in the first instance, to let them have a taste of imprisonment without the luxury of a fire. After a short discussion, however, the motion was put and agreed to.

THE DANISH KING'S KEEPSAKE TO THE PRINCESS ALEXANDRA. — Dagmar, the "Darling Queen" of Denmark, died in 1212, and was buried in Ringsted church. She was carried to the grave adorned with a costly jewel, which lay on her breast. In the time of Christian V., when her tomb was opened, this cross was taken care of, and is now one of the most precious objects preserved in the Museum of Northern Antiquities. This golden cross, which is about 1¾ inch long and 1 inch broad, is covered with figures in enamel on both sides, and is supposed to be of Byzantine workmanship. It is the only enamelled cross which is known to be older than the year 1212. It is always beheld with veneration by the crowds who visit the museum, for it speaks of a lady beautiful beyond compare, who died in the bloom of youth, and who demanded neither goods nor gold, broad acres nor stones of price, as her morning gift, but only asked Valdemar the Victorious, her lord and master, to free the peasantry from their plough-tax, and the poor prisoners from their fetters. We learn from the *Danmark*, that the king has caused an exact copy of this cross to be made by the Court Jeweller, Mr. Diderichsen, as part of a rich diamond necklace given to the Princess Alexandra on her leaving the shores of her country.

TENDERS.

For works proposed to be done at Carpenden, near Watford, Herts, for alterations and addition to the mansion for Mr. R. R. Carrow. Mr. Bartlett, architect. Quantities supplied:—

Wood, Brothers	£7,777	0	0
Downes	7,720	0	0
Mansfield	7,550	0	0
Ryder	7,178	0	0
Conder	6,924	0	0
Piper & Wheeler	6,742	0	0
Chalk	6,400	0	0

For new church, roads, and fences, at North hill, High gate. Mr. A. W. Blomfield, architect. Quantities supplied by Mr. J. A. Bunker:—

Child & Son	£2,650	0	0
Broadbent	2,507	0	0
Browne & Robinson	2,496	0	0
Wheeler	2,445	0	0
Turner & Sons	2,399	0	0
Carter	2,390	0	0

For the erection of a public house at Wavertree, Liverpool, for Mr. Joseph Lace. Mr. William Paice, of London, architect:—

Stanley	£3,114	0	0
Bottom & Co.	2,890	0	0
West	2,760	0	0
Foster	2,500	0	0
Laws	2,320	0	0
Hill (accepted)	2,210	0	0

For residence, Buckhurst-hill, Essex. Messrs. John Young & Son, architects:—

	House.		Gardener's Cottage.		Total.
Hart	£1,855	..	£155	..	£2,010
Rivett	1,742	..	133	..	1,875
Patman	1,695	..	135	..	1,830
Salter	1,590	..	130	..	1,720
Chessum	1,390	..	125	..	1,515
Browton	1,265	..	89	..	1,354

For building three cottages in Albert-road, Bancroft-road, Mile-End, for Mr. W. Owen. Mr. W. P. Griffith, architect:—

Ebbage (accepted)	£395	0	0

For a pair of cottages at Pialstow, Essex. Mr. James Tolley, architect:—

Perry & Judson	£620	0	0
Watts	535	0	0
Fisher	514	0	0
Payne (accepted)	505	0	0

For building a public hall at Camden Town, for Mr. Ludbrook. Messrs. Sandall & Selway, architects. Quantities supplied by Mr. Gritten:

Mundy	£1,780	0	0
Gammon	1,695	0	0
Haward	1,650	0	0
Colls & Co.	1,644	0	0
Patrick	1,618	0	0
Sharpington & Cole	1,597	0	0
Arnold	1,378	0	0

For workhouse, Shoreditch. Mr. Wm. Lee, architect. Quantities by Messrs. Linsdell & Gliffard:—

Neill	£65,020	0	0
Scott	57,200	0	0
Pritchard & Son	57,000	0	0
Wood & Sons	53,975	0	0
Scrivener & White	53,917	0	0
Hack & Son	53,944	0	0
Dethick	53,917	0	0
Myers & Sons	53,749	0	0
Sawyer	52,853	0	0
Macers	51,165	0	0
Stap	50,750	0	0
Palmer	50,000	0	0
Hill, Keddell, & Robinson	48,855	0	0
Loft	47,346	0	0
Hart	46,768	0	0
Perry	46,750	0	0

The last four tenders being selected from the rest were voted for by the guardians, and resulted in favour of Mr. Perry, whose tender was accepted.

The tender of Mr. Macers has been accepted for building the Fine Arts Gallery, for Mr. E. Lloyd, at Vauxhall Bridge. Mr. Wm. Lee, architect.

The tender of Mr. Jarvis has been accepted for the five houses to be built for Mr. F. Powling, at Haggerstone. Mr. Wm. Lee, architect.

For the erection of one pair of villas, at Baker-street, Enfield. Mr. Thomas Joseph Hill, architect:—

Barker	£1,379	0	0
Cushing	1,375	0	0
Plowman	1,312	10	0
Field & Son	1,130	0	0
James & Ashton	988	0	0
McPherson	950	0	0

For the erection of three pair of semi-detached villas at Enfield. Mr. Thomas Joseph Hill, architect

Cushing	£4,115	0	0
Plowman	3,937	10	0
Field & Son	3,353	0	0
James & Ashton	2,888	0	0
McPherson	2,859	0	0

For new parsonage-house and stables, at Fogmore, Herts —

	House.			Stables.		
Simms	£1,500	0	0	£	0	0
Thompson	1,396	0	0	282	0	0
Jackson & Shaw	1,270	0	0	227	0	0
Rhodes & Roberts	1,242	0	0	215	0	0
Young	1,218	0	0	217	0	0
Bottom & Co.	1,218	0	0	210	10	0
Wells	1,212	0	0	212	0	0
Lathey	1,202	0	0	188	0	0

TO CORRESPONDENTS.

Birkenhead (the only paper on that account that has come to hand).—E. M. B.—W. P. G.—R. R. B.—C. B.—J. W.—W. P. (we print a letter to same effect).—W. & Sons.—G. T. W.—T. R. S. (too late).—W. A.—E. W.—T. W.—S. & C.—G. T. H.—W. F. P. (next week).—J. T. L.—M. P. G. W. R. (asks the result of the "Penrhyndeudraeth Competition").—W. S. (the charge was intended only on that the work was properly done).—T. H. (did not reach us in time).—H. G. & Son.—Lex.—R. H. M. D. W.—J. F.—P. H.—Ten Years' Subscriber (during the freezing).—H. D. (next week).—W. S.—G. L.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

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From these sources may be anticipated an immediate and ample return of profit, in the capital invested.
The patent concrete stone has been subjected to the most severe tests, and has not only withstood the ordeal, but obtained an unqualified testimonial from one of the most distinguished professors of chymistry in London, whose name has been thoroughly endorsed by eminent engineers, architects, and builders.
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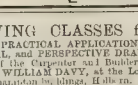
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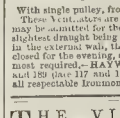
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These Ventilators are very simple in their action, and the quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 167 and 168 (late 117 and 118), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

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J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 40s. per 1,000.
,, Stock Bricks, at 25s. per 1,000.
,, Floor Bricks, do. per 1,000.
Mingled Kiln Bricks, at 20s. per 1,000.
Ridge Tiles, at 7½d. per 1,000.
Cash Prices. Delivered in London, or along the Line on the Great Eastern Railway. About 20,000 Bricks lying at Devonshire-street Station, at 24s. per 1,000

VICTORIA BRICK and LIME WHARF and DRAW-DOCK, NINE ELMS, S.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LAIRS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES AND RED GOODS,
TERRA COTTA,
SPLAY, JAMB, AND FACING BRICKS;
SUFFOLK AND OTHER PAVIORS,
RED AND WHITE FACINGS,
STAFFORDSHIRE BLUE GOODS,
MALM CUTTERS, TACKINGS,
AND BUILDING GOODS GENERALLY
A good Stock on the Wharf. Bricks, Stone, Ballast, &c. by barge alongside, where required.
JOHN DOWNEY, Victoria Wharf, Nine Elms, S.
Also Lime and Lias Merchant, of 11, Mitchell's-row, S.W.; and Lime and Lightening and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen and Pettitt, Ballingdon, near Sudbury.
The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.
The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.
The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Works at South Shoebury, Ingatestone, Essex.
The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.
The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Wood, Jun. sen., of Upton, near Tividale; and Messrs. Taylor & Co. of Cannock-near Walsall, South Staffordshire
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS and the EWELL and CHALFONT dark and bright RED RUBBERS
COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
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The usual commission allowed to merchants of the trade
N.B.—Every Description of the Building Goods of the Trade always in Stock.

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BRICKS for SALE. About 300,000 good RED BRICKS, lying within two miles of the Coke Green station on the Great Northern Railway (Hertford Branch); they can be delivered at King's Cross at per thousand, or at on the premises. For further particulars apply to Mr. DYBALL, the Steward of the Estate, Bedwell Park, Hatfield.

EXHIBITION, CLASS X, No. 2348.

SUFFOLK BRICKS, RED and WHITE, of best quality, at reduced prices. Also other Kiln Goods, as selected by the War Office.—For specimens and particulars apply to T. ALLEN, 7, Great Smith-street, Westminster, S.W.

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BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.

Price, including royalty and three dies, 85l.

Licences to Manufacture granted for certain districts.

For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C. where the Machines may be seen at work at a few hours' notice.

POLYTECHNIC. —"Burning to Death, and Saving from Death," New Lecture by Professor Pepper, commencing MONDAY evening next, the 2nd MARCH, at quarter-past 7, which will be followed with the Ghost Scenes from the "Strange Lecture." N.B.—The "Spectre Drama" every morning and evening this week, except Tuesday and Wednesday, at 3 past 1 and 4 past 7. Ye Faery Romaunte of Cinderella.—Know ye well that a certain jongleur (or menestrel) hight Lionel Brough, by much pryngo into ye legends, hath come ryghte clerkly to knowe ye historie of Ye Fayre Maydo, Cinderella, and that he will relate ye same unto all comers, at ye Polytechnic, each day, at 4 by ye dial after noontide, and ye hour of 9 after curfew.

FREEHOLD GROUND between the Forest Hill and Sydenham Stations TO BE LET on long Building Leases.—For plan and particulars, apply to C. F. REEKS, Esq. Architect, 12, Middle Scotland-yard, S.W.

TO BUILDERS and OTHERS.—TO BE LET, several PLOTS of BUILDING LAND, situate in the best part of Stoke Newington, where houses are in great demand. Bricks supplied on the estate at a low price. Sand may be raised on the ground for building purposes. Apply to Mr. RODDA, at the Estate Office, Bouverie-road, Church street, Stoke Newington.

CATERHAM, on the Surrey Hills, 17 miles from London.—LAND TO BE SOLD or LET, in plots of from 4 to 20 acres, for first-class residences, either on the hill or in the valley. Healthy soil. Ample supply of the best spring water to the tops of the houses.—Apply to Mr. R. MARTIN, Estate Office, Caterham.

PHILBROKE ESTATE, at Leytonstone, on the Woodford and Loughton Railway, twenty minutes from Fenchurch and Bank Jegular Stations.—This valuable FREEHOLD ESTATE (land tax redeemed), surrounding the Scats in, healthy locality, gravelly soil, excellent drainage, water and gas laid down, roads made, and can be let on the estate, it is proposed TO LET in Plots suitable for building detached and semi-detached villas. Repeated applications have been made for leases in this neighbourhood. For terms, apply to Mr. ATHEY, at the Surveyor's Office, Philbroke Estate, Leytonstone, Essex.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is only 5 yards only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Kingston; some very eligible SITES in the Grove-road, Mile-end, a few of which are adapted for shops, and large and very CHEAP PLOTS TO LET, at Ealing.—Apply to Mr. KNIGHTLEY, Architect, 26, Cannon-street.

ST. HELEN'S, Lancashire.—TO BE LET on LEASE, the extensive MANUFACTURING PREMISES known as the Ravenhead Copper Smelting Works, situate at St. Helen's, with a wharf on the canal, and a branch of the St. Helen's Railway running through the property. The entire site is about twenty acres, of which about five acres are occupied by the works, the remainder being ornamental pleasure ground. The buildings comprise a series of very substantially erected, light, and lofty ground floor factories, arranged for the purposes of copper and silver refining works, but they will be available for many other large manufacturing establishments, as they possess the advantages of direct communication by rail or water carriage with all parts of the kingdom. Coals can be obtained from pits in the neighbourhood at an almost nominal price, and labour is cheap and abundant.—For particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.; and Messrs. HARRISON & FINCH, 2, Gray's Inn, London.

BUILDING LAND TO BE LET, HACKNEY, close to the Railway Station, for small Dwelling Houses.

NORWOOD, close to the Crystal Palace, for Shops and Villas.

PERRY-HILL, SYDENHAM, for Shops. Advances in each case if required.—Apply to Mr. T. K. GREEN, 25, College-hill, Cannon-street, E.C.

LITTLE HEATH BRICKFIELD, Cobham, Surrey.—TO BE LET, for the season or for a term, this FIELD, situate about three miles from the Esher Station, where there is a store shed, and about 2½ miles from the Leatherhead Station. Excellent red bricks, for which there is a large demand, can be made with a small amount of firing. Also yellow, malm, and stock bricks, pipes, tiles, &c. If let only for the season, the proprietor would purchase any bricks left unsold at Christmas next, at a price to be fixed beforehand.—Further particulars can be had at Examples seen at Mr. ASHFIELDS, Builder, 3, Baynes-row, Coldbath-fields, London; or at the Esher Station.

WATERSIDE PREMISES.—WANTED, UP THE RIVER, COVERED SPACE, 10,000 square feet; UNCOVERED, 20,000 square feet. Well protected, and good shute. Lowest terms to be addressed to Messrs. WALLER & SCOTT, Solicitors, 75, Coleman-street, E.C.

FREEHOLD BUILDING GROUND.—To LAND SOCIETIES and OTHERS.—For SALE, TWELVE ACRES of FREEHOLD LAND (in whole or part), situate near a railway station, about five miles from Bishopsgate well adapted for the erection of an institution, villas, or dwelling houses. Price low.—Apply to Mr. JOHN M. DEAN, Architect, The Grove, Stratford, E.

TO ARCHITECTS.—OFFICES TO BE LET, fan ished or unfurnished. Two good ground-floor rooms with extensive lights, in the immediate neighbourhood of the British Museum.—Apply to Mr. C. J. BAKER, 65, Great Russell-street, Bloomsbury, W.C.

TO ARCHITECTS and OTHERS.—TO BE LET, THREE LIGHT ROOMS, on the First Floor. Suitable for offices.—Address, 19, Southampton-street, Strand. Rent, 30l. per annum.

ELIGIBLE BUILDING ESTATE, HORNSEY ROAD, UPPER HOLLOWAY, TO BE LET, at moderate ground-rents.—For plans and particulars apply to Mr. A. D. GOUGH, Architect, 10, Lancaster-place, Waterloo Bridge, W.C.

SHORTLY WANTED, on Lease, within a mile of Charing cross, SPACE for the erection of an Iron Building of about the size of a temporary church, with a good entrance. Frontage no object. Reply by letter, stating situation and extent of space in superficial feet, rent, length of lease, &c. to M. A. 1, Cornwall Villas, Kentish Town, N.W.

HOLME HEAD BAY.—TO BE LET, by TENDER, the BUILDING of a STONE BAY across the River Caldew, at Holme Head, near the City of Carlisle. Plans and specifications may be seen at the Office of Messrs. FERGUSON, Holme Head Works. Mr. SMETHURST, Assistant to T. I. Bateman, Esq. C.E. will be in attendance daily at Holme Head, and give all necessary information as to the Works.—Sealed Tenders to be delivered at the Office of Mr. GEORGE MOUNSEY, Solicitor, Friars Court, Carlisle, on or before the 5th MARCH next. The Proprietors do not bind themselves to accept the lowest Tender.

Carlisle, 19th February, 1863.

TO ARCHITECTS and SURVEYORS.—OFFICES in the House of a Solicitor, near the British Museum, are OFFERED. Mutual business arrangements might be effected, particularly with a Gentleman acquainted with Benefit, Building, or similar Societies.—Apply C. D. or personally, 6, Caroline-street, Bedford-square, W.C.

RICHMOND, Surrey.—Valuable FREEHOLD LAND TO BE LET for BUILDING.—1st. The substantial mansion known as Suffield House, capable of being divided into two residences; frontage 62 feet, depth 145 feet. 2nd. The frontage next Paradise road, 44 feet, depth 55 feet. 3rd. The frontage next Eton-street, 120 feet, and depth average 53 feet. 4th. The frontage next Marsh gate-road, 40 feet, depth 173 feet. The whole of the above lots are situated within five minutes' walk of the railway station.—To view, apply at the Mansion; and for particulars, to Mr. W. HUDSON, Architect, 19, Bennet's hill, Doctors' Commons.

TO BUILDERS, SPECULATORS, and OTHERS.—TO BE LET, on a long Lease, TWO HOUSES, possessing a frontage of 72 feet to the busy thoroughfare of Blackman-street, Borough, by a depth of 217 feet. One house has for many years been licensed as a tavern, and the other possesses extensive premises in the rear. There are likewise Warehouses, Carpenters' Shedding, and other useful Buildings adjoining, which readily command tenants and produce a good rental. Further particulars can be obtained of HENRY HYDE, Esq. Solicitor, 32, Elp-place, Holborn; and of Messrs. PRICKETT & SON, Land Agents and Surveyors, 62, Chancery-lane, W.C. and Highgate, where a plan of the property can be seen.

CLERKENWELL.—TO BE LET, by TENDER, on repairing lease, those eligible CORNER PREMISES known as 49, Turnmill-street, and 78, Clerkenwell-green, close to the Sessions House, and near to the Farringdon-street Station of the Metropolitan Railway. Tenders to be sent in on or before the 18th MARCH next, addressed to the Trustees of St. James's, Clerkenwell, and endorsed "Tender for Premises, Clerkenwell-green."—Further particulars may be had by applying at the Vestry Hall, 22, Upper Rosoman street, any day from TEN till FOUR.—By order,

February 25, 1863 ROBERT PAGET, Vestry Clerk.

CHELSEA.—BUSINESS PREMISES TO BE LET, situated No. 126, King's road, Chelsea, being the most commanding premises in the parish. Suitable for workshops, warehouses, and show-rooms.

TO CONTRACTORS. TO BE LET, in one or four Contracts, the EARTHWORK, CLAYING, and STONE-PITCHING required for the RE-CONSTRUCTION of 4,000 lineal yards of the SEA EMBANKMENT near Herne Bay, Kent. The whole Drawings and Specifications may be seen at the Office of Messrs. GARLICK & PARK, Civil Engineers, 23, Whitehall-place, Westminster, from the 25th instant to MARCH 9th.

FREEHOLD LAND TO LET on Building Leases, facing Reulah-road, Norwood, suitable for erecting three or four first-class Detached Villas. Ten minutes' walk of station on Crystal Palace line. Also Leasehold Land at St. John's Wood, for small Villas.—Apply on the Premises to Mr. HAMILTON FLETCHER, Architect and Surveyor, Bond Court House, Walbrook, E.C.

EALING, MIDDLESEX.—FREEHOLD BUILDING LAND TO BE LET (detached or semi-detached houses in the best part of Ealing, overlooking the Common, and within five minutes' walk of the Railway Station), communicating with the Metropolitan Railway. Roads made, Gas and Water laid on.—Apply to W. W. POCOCK, 45, Craven-street, Strand.

CONTINENTAL BANK CORPORATION.—PREMISES WANTED, in close proximity to the Bank of England, for this Corporation. Any one who can offer the Lease or Freehold of suitable premises, on reasonable terms, is requested to apply by letter, stating terms and full particulars, to the Secretary, at the temporary offices of the Corporation, 98, Cannon-street, E.C.

FREEHOLD SITES for BUILDING, and FREEHOLD HOUSES, can be obtained in the best part of Prince Albert's-road, near Kensington Gore, in front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's-road, N.W.

GUILDHALL, 26th February, 1863. The Committee for Letting the City's Lands will meet at GUILDHALL, on WEDNESDAY, the 11th MARCH next, at ONE o'clock precisely, to receive PROPOSALS for LEASES of a House, No. 6, Bricken-wharf, Upper Thames-street; a House, No. 29, Tabernacle-row; Two Houses, No. 46, Banner-street, and No. 25, Coleman-street; Twelve Houses, Nos. 1 to 12, in King's Arms-court, Windmill-street, Finsbury-pavement; Two Houses, No. 8, Old street, and No. 11, Bagged-row, St. Luke's. Plans of the property may be seen, and forms of Tender obtained, upon application at the Architect's Office Guildhall.

FERDINAND BRAND, Comptroller.

TO PLUMBERS, PAINTERS, and GLAZIERS.—WANTED, a small BUSINESS, in the suburbs of near London. Apply to Mr. SIMMONS, 13, Holywell street, Strand, London, W.C.

TO DECORATIVE HOUSE-PAINTERS. The Advertiser, who has most successfully carried on business in Edinburgh for forty years as a DECORATIVE HOUSE-PAINTER, now finds it necessary, from the state of his health, to RETIRE from Business. He is now most reluctantly compelled to DISPOSE of the GOODWILL of the BUSINESS and his STOCK IN TRADE, on reasonable terms. To a person of enterprise, so favourable an opportunity of entering upon a business of the highest class rarely offers. The premises in which the business is carried on are well known. They are most eligibly situate, square exterior, and complete. The purchaser of the Business can obtain them either on a Sale or Lease. Further particulars may be learned by addressing to X. Y. Z. care of Messrs. Robertson & Scott, News Agents, No. 13, Hanover-street, Edinburgh. Principals only will be treated with.

TO PLUMBERS, GLASS-CUTTERS, and SMALL CAPITALISTS.—TO BE DISPOSED OF, a first-rate CONCERN, in the above trade, situated in the most central and thoroughfare in South London, three miles from London Bridge, with an unexpired lease of ten years. As it is a genuine affair, and the most satisfactory reasons can be given for the present proprietor retiring, none but bona fide parties will be treated with.—Apply to E. CLARKE, Esq. Grove-road, Walthamstow, Essex, N.E.

TO PLUMBERS, PAINTERS, GLAZIERS, and GASFITTERS.—TO BE DISPOSED OF, through failing health of proprietor, a BUSINESS, established forty years, situate in one of the best thoroughfares out of London, S. The lease, fixtures, stock, &c. 700l. First-rate premises. A partner not objected to.—Apply, by letter, H. C. B., T. Kernot, esq. 13, Welbeck-street, W.

TO BUILDERS and CONTRACTORS.—TO BE DISPOSED OF, in a good town near London, an old-established BUSINESS, in full work, with considerable connexions, good yard, stable, and workshops, and a comfortable dwelling house, the present proprietors being about to retire from it. Apply to J. W. D. at Mr. Moore's, 223, Shoreditch.

FOR SALE.—An ENGINEERING and BOILER-MAKING BUSINESS TO BE DISPOSED of, by PRIVATE TENDER. The Works are situated at Corkickle, near Whitehaven; the Machinery, Tools, and Patterns are all modern, and in first-rate condition. The business is now in full operation, and has been increasing satisfactorily for the last few years.—All particulars may be ascertained on application to Mr. Peter Cameron, Banker; or Mr. John Whittle, Iron Merchant, Whitehaven; also from Mr. Nathaniel Caine, Iron Merchant, Liverpool.

Whitehaven, February 5th, 1863.

TO ENGINEERS, IRONFOUNDERS, &c. The Proprietor of an Old-established Engineering Concern in the Midland Counties, being about to retire from business, would DISPOSE of his PLANT and INTEREST on very moderate terms. This is a good opportunity for a young man with a small capital at command, as the stock will be reduced to suit his views, and liberal arrangements may be made.—Address, A. B. 367, Pershore road, Birmingham.

TO BUILDERS.—TO BE DISPOSED OF, the BUSINESS of a CARPENTER, BRICKLAYER, and BUILDER, now and for many years past extensively carried on in one of the best market towns in Hertfordshire, situate about twenty-four miles from London, and contiguous to a Railway station. The buildings, workshops, and sheds are compact and well arranged; and a comfortable Residence, with garden and meadow, are attached to the premises. The Stock, tools, &c. to be taken at a valuation, the amount of which would probably not be more than 700l. or 800l.—For further particulars apply, personally or by letter, to Messrs. GROVER & STOCKEN, Bencl Hempsted, Herts.

TO PLUMBERS, PAINTERS, and GLAZIERS.—TO BE DISPOSED OF, in consequence of the decease of the proprietor, an OLD ESTABLISHED BUSINESS in the above line, situate in the vicinity of Cavendish-square.—For particulars apply to Mr. BARNARD, 11, Wimsley street, Oxford-street, W. No agent can be treated with.

TO BRICKLAYERS, BUILDERS, &c.—TO BE DISPOSED OF, a genuine BUSINESS in the above line. The House and premises are in good repair, and every convenience for carrying on a large trade. Twenty-seven miles from London, three from a station on South Western Railway. For further particulars apply to R. B. Printing Office, Chobham, Surrey.

TO BUILDERS and OTHERS.—TO BE SOLD, with immediate possession, close to Kennington green, a desirable and increasing BUSINESS in the above line; returns between 5,000l. and 6,000l. a-year. Premium, 200l.; stock at a valuation.—For further particulars apply to Mr. BRAY, Estate Agent, 164, King's-road, Bedford row, W.C.

TO BUILDERS, &c.—TO BE SOLD, the GOODWILL (with the Lease) of an Old Established BUSINESS in the above trade. The premises are convenient for carrying on the same to a large extent. Distance within three miles of the four metropolitan bridges.—For terms and particulars, apply to Mr. PERKINS, Auctioneer, &c. 26, Tooley-street, corner of Hay's-lane, Southwark, S.E.

FOR SALE, an IRON CHURCH, with FITTINGS, Cambridge heath, Hackney. This first class structure, capable of seating about 600 persons, is now FOR SALE, part of the Building having been newly and partly erected only a few years than twelve months.—To view, and for conditions of sale, apply to Dr. LEONARD, 14, Critchill-place, New North-road, Hoxton, N.

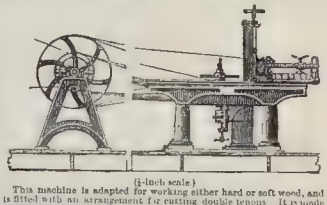
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D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

FOR SALE, a CAST-IRON TANK, 33 feet long, 18 feet wide, and 4 feet deep, capable of containing upwards of 1,000 gallons, with corrugated iron lid, delivery and outlet pipes; 7 iron girders, 30 feet long, 3 inches wide, and 12 inches deep; and 4 iron pillars, 14 feet long and 4 inches in diameter.—For price and further particulars apply to C. ROCHFORT, Secretary to the Newport Caerleon & Wales Railway Company, 151, High street, Newport, Isle of Wight.

February 25th, 1863.

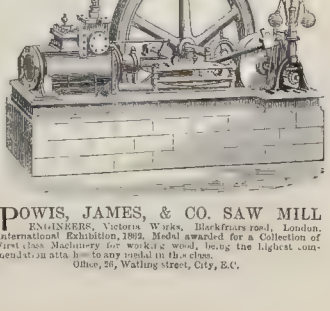
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100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
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SPRUCE DEALS, 2s. 6d. each.
FIR TIMBER 55s. PER LOAD.
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	White (not Spruce).	Yellow.
¾-inch Flooring	11s. 6d. to 12s. 6d.	13s. 0d. per Square.
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YELLOW DEALS, 3 by 9, from...£16 10s.

Yellow Battens ..... £11 10s. per 120
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½ Yellow ..... 16s. "

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SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

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OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

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SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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(LATE WATERLOO, DRAPER, & WEBB),
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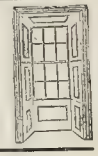
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by
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(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).
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CURSITOR-STREET, CHANCERY-LANE, E.C.

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Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air tight Wire Fittings, Glass Show Cases, &c.
Green-houses, Hot houses, and Conservatories, on the most improved principles.
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BUILDERS, AND CARPENTERS, AND OTHERS,

Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE-FREE.

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Three-quarter inch Flooring (well prepared), 11s. 6d. per square.				
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Spruce Deals.....	16	10	0 "	0 2½ "
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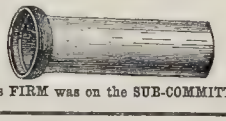
	15 oz.	21 oz.
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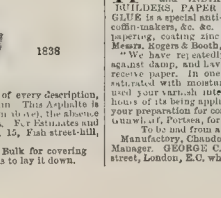
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YELLOW and PALE MALM CUTTERS, HOCKINGS, PAVIORS, SEPTONS, BLACK BRISTOLS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE OLDNAVY NAIL PAVING-TILES, in RED, BLUE, and BUFF, ALL OVER ENGLAND
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS
INDIA, RED, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, Hearths, Backs, Dados, Friezes, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE BRICKS, TUMPS and TILES, of every description and Size
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY-POTS.
TERRA-COTTA and CEMENT CHIMNEY TOPS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Rail or by with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH and LIAS CEMENTS of the BEST QUALITY

PORTLAND, ROMAN, and PLASTER
CEMENT MANUFACTORY, on the River Medway, Strood, Kent,
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B Shipping Merchants and Brokers Orders promptly executed.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable — Orders received at Great Scotland yard, Whitehall, and at the Works

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, Locks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

STRINGFIELD & BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD & BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works.—All communications to be addressed to the Company, at their Offices, 2, Winchester Buildings, Great Winchester-street, E.C.
N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and the Company received an "HONOURABLE MENTION" for the good quality of their Lime.

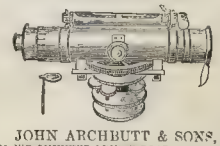
GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

STOURBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Bunny Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

JOHNS & CO.'S PATENT PERMANENT
STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 3, George-yard, Lombard-street.

SECOND-HAND MATHEMATICAL
INSTRUMENTS, by Elliott, Troughton & Simms, Dolland, and others. The Cheapest House in London is WM. LAWLEY'S, 73 Farringdon-street, City. Show Room, by Troughton & Simms, from 15s to each. Several hand Telescopes, Opera, Race, and Tourists Glasses, by Voigtlander, Dolland, and others. Instruments, Telescopes, &c bought or exchanged

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MENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.

JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre.
Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second Hand Instruments of all kinds, by the best makers, always in stock

INTERNATIONAL EXHIBITION, 1862.—CLASS 13. Only Medal awarded for "excellence of construction of Mathematical Instruments."
T SQUARES. — W. F. STANLEY, late STANLEY & ROBINSON'S IMPROVED. Recommended in "The Engineer," "Builder," and "Practical Mechanic's Journal." 42-inch, 5s; 36 inch, 7s 6d; 24-inch, 3s 6d, and 5s 6d; 20 inch, 2s 6d, and 4s
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c &c Every Article for Draughtsmen's Use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s 6d post free.
STANLEY'S IMPROVED DRAWING PEN.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS
CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, 

Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,
BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

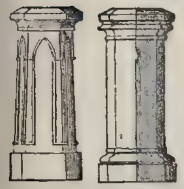
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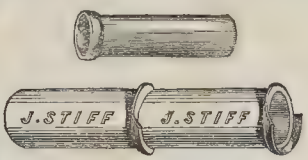
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

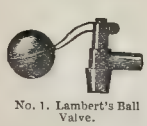
Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,







No. 57. Self-Regulating Pan Closet. | No. 1. Lambert's Ball Valve. | No. 6. High-Pressure Bib Valve. | High-Pressure Stop Valve.

FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH-PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves manufactured by them, have their NAME legibly marked thereon.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

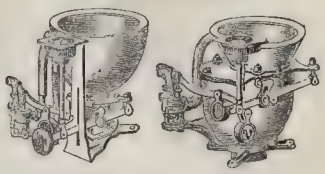
Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

TARPAULINS, MARQUEES, &c.
for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
39, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

J. TYLOR & SONS' PATENT
REGULATOR WATER-CLOSETS.



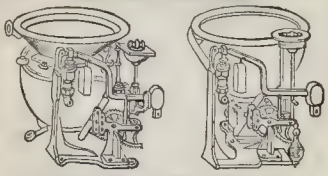
Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No cistern valves, cranks, or wires to attend to. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick Lane, Newgate-street, London.

OSLEY POTTERY WORKS,
GLASGOW.

Messrs. R. H. PENMAN & CO. from Staffordshire, Manufacturers of the best description of EARTHENWARE GOODS for Sanitary Purposes required in private and public buildings, supply the Trade, Wholesale, at the lowest possible prices for Cash. The Ware sent by their customers to the late Exhibition was highly spoken of.

GUEST & CHRIMES, FOUNDRY and GENERAL BRASS WORKS, Rotherham; and 37, Southampton-street, Strand, London, W.C.
London House, Mr. THOMAS BEGGS.



ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient and simple, free from all smell and requires no cisterns, service boxes, cranks, wires, or levers, but is complete in itself, ready for attachment to any ordinary house service pipes. It is supplied in three qualities, each equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet, alike dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary direct Service Main Cottage Water Closets.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—
WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price lists forwarded free on receipt of business card addressed to

R. METHAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE either in STOCK SIZES or CUT TO ORDER, at the exclusive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass on the receipt of particulars.

SHOWELL'S
WATER PROOF GLASS ROOFS.

For particulars apply to Messrs. SHOWELL, 17, Princess street, Manchester; or to Mr. T. ALLEN, 7, Great Smith-street, Westminster.

PAINTED and STAINED GLASS WINDOWS.—LAVERS & BARRAUD, Endell-street, Bloomsbury, London, and No. 3, Oxford street, Manchester. Prize Medallists, Class 34 A, 1862.

PATENT and BRITISH PLATE GLASS.

JAMES HEELEY & CO. beg to inform Architects, Builders and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho square, London.

WINDOW GLASS! WINDOW GLASS!

Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental, Rough, Rolled, and Patent Plate. Best in Glazier in the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at

GOLDSMITH'S CITY GLASS WAREHOUSE,
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PENCILS, BLACK LEAD, and COLOURED CHALKS.

A. W. FABER'S POLYGRADE LEAD PENCILS, sold by all Stationers and Artists' Colourmen.

Sole Agents, HEINTZMANN & ROCHUSSEN, 9, Friday-street, E.C.

WOOD PAVING.
MESSRS. THORN & CO.

CONTRACT to MANUFACTURE and LAY WOOD PAVING, of every description. It is particularly adapted for RAILWAY STATIONS, ENGINES, SHOPS, IRON BRIDGES, &c.

THORN & CO. STEAM SAW-MILLS, CREMORNE WHARF, CHELSEA, and GROSVENOR ROAD, PIMLICO.

Asphalte for Railway Arches and Iron Bridges.

SALES BY AUCTION.

TO STEEL, HARDWARE, AND CHAIN MANUFACTURERS, ENGINEERS, FOUNDERS, and OTHERS.—Swallwell Iron Works, Newcastle-upon-Tyne

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on THURSDAY, MARCH 12, 1863, and following day, at ELEVEN for TWELVE precisely each day, in lots, without reserve, the LOOSE TOOLS and IMPLEMENTS and remaining STOCK IN TRADE of Messrs. Bailey, Millington, & Co. at the WORKS, as above, including a powerful 8-inch open-end Otis hydraulic pressure steam-gun, nearly complete, powerful cast-iron planing machine, 15 inch punch and 2 powerful bending machines, foundry crane, 2 crane jibs, 2 and 3-ton weights, 10 cwt. flasks, loam rings and plates, shank and hand rollers, 5 tons patterns and castings, 12 cast trucks, 20 cwt. smiths' tools, 7 tons wrought blocks, rough turning chucks and bars, 2 cwt. new and part-worn new, 2 lines forge & blowers, 1 cwt. wrought iron in bars, 10 tons cast and shear and punching steel, 5 tons rough cast and turned iron, 10 tons malleable iron, 3 tons crane chain slings, 8 tons iron moulds, brass patterns and castings, 1 tons cast-iron wheels, core barrels, 20 tons scrap iron, rods, 2 cwt. keys, blocks, 4 fall, 1 railway trucks, 3 carts, scales and weights, large assortment of wood patterns, several lots of new timber, 40 dozen short and fork handles, fire engine, and numerous other effects.—To be viewed on Wednesday previous and morning of sale. Catalogues may be had on the Premises; at the Turk's Head Hotel, Newcastle; at the *Midland Counties Herald* Office, Birmingham; of Messrs. VANDERCOM CHAUNCY LAW, Solicitors, 8, Bank-buildings, London, E.C.; of Messrs. CHARLES BROWN & DUBOIS, Accountants, 19, Basinghall-street, London, E.C.; and of Messrs. FULLER & HORSEY, 11, Billiter-street, London, E.C. Approved bills at one or two months' date will be taken from purchasers to the extent of £50 and upwards

BEDFORD OLD LUNATIC ASYLUM.—To BUILDERS, STONE MASONS, and OTHERS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the Town, on the Ampthill-road, on TUESDAY, MARCH 10th, 1863, at 11 for 12 precisely, Portion of the excellent BUILDING MATERIALS of the late County LUNATIC ASYLUM: consisting of 50,000 stock bricks, a large quantity of well-seasoned timber, slates, rafters, boards, scantlings, quarries, &c.; deal boards, joists, rafters and beams, doors and frames, casements and drawers, the Retinaculum, quoins, string course, sill and corner, York paving; slate and other slabs for dados, and thick slate for paving; iron spouting, sash weights, grating and traps, strong iron girders, water-closet, firewood, &c. &c. May be viewed on the Saturday and Monday before the sale, and catalogues may be obtained of the Auctioneer, 14, Moorgate-street, London, E.C. and of the Foreman on the Estate.

LEYTON, ESSEX.—FOUR COTTAGES and ELIGIBLE FREEHOLD BUILDING LAND

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on FRIDAY, MARCH 6th, at TWELVE PRECISELY, FOUR FREEHOLD COTTAGES, with frontages to the Perkhill-road, and several lots of eligible Freehold Building Land, valuable for the erection of villa residences, situate in the Grange Park, within ten minutes' walk of the Low Leyton Station on the Loughton Railway, about a mile and a half from the Stratford and Lea Bridge Station on the Great Eastern Railway, and about five miles from the City. Nine-tenths of the purchase money may remain on mortgage of entire or part at 5 per cent. for 7 or 14 years, by equal half-yearly instalments, but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained at the Inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

CROYDON, SURREY.—EXCELLENT BUILDING MATERIALS.

MR. WHITTINGHAM is instructed to SELL by AUCTION on the PREMISES, close to the Town of Croydon, on MONDAY, MARCH 9th, 1863, at TWELVE for ONE o'clock precisely, the Thirty-fifth Portion of the excellent BUILDING MATERIALS of some of the buildings belonging to the Addiscombe College: comprising about 70,000 bricks, a large quantity of lath, paving stone, stone steps, large stone sink, paving tiles, iron tiles, large slate slabs, chimney pots; excellent 6 feet oak fencing, oak posts, rafters, doors, casements, sash frames, and flower stands; ornamental iron fence, strong gates, iron water piping, old iron, 7 tons paving, firewood, &c.—May be viewed on the Friday and Saturday before the Sale.—Catalogues may be obtained of the Foreman on the Estate, and of the Auctioneer, 14, Moorgate-street, London, E.C.

NEW BARNET, Herts.—Four Freehold Model Cottages, and valuable Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on FRIDAY, MARCH 13, at TWELVE for ONE, in lots, FOUR FREEHOLD MODEL COTTAGES and valuable FREEHOLD BUILDING LAND, land-tax redeemed. The lots are situate within a few minutes' walk of the Barnet Station on the Great Northern Railway, and the views of the surrounding country are extensive and beautiful. The Metropolitan Railway is now under contract, 5 per cent to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained at the Inns in the neighborhood; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

ACTON, Middlesex.—Valuable Freehold Building Land, Five Minutes from the City.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on FRIDAY, MARCH 13th, 1863, at TWELVE for ONE o'clock, THIRTY-THREE LOTS of eligible FREEHOLD BUILDING LAND, with frontages to Orbain, Enfield, and Rainbury roads, leading from Bolly-lane, close to the village of Acton. Nine-tenths of the purchase money may remain on mortgage or contract, at 5 per cent. payable in nine years by equal half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained at the Inns in the neighborhood; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

WIMBLEDON, Surrey.—Eligible FREEHOLD BUILDING LAND.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on TUESDAY, MARCH 17, 1863, at TWELVE for ONE o'clock, in fifty one lots, the valuable FREEHOLD BUILDING LAND, free from tithe and land-tax, with frontages to the high road to Merrow from Tithe and the new road called Hartfield-road, contiguous to the Wimbledon Station on the main line of the London and South Western Railway. The corner directly opposite the station is most eligible for a tavern. Nine-tenths of the purchase money may remain on mortgage or contract at 5 per cent to be paid in nine years by half yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained at the Inns in the neighborhood; of Messrs. RUSSELL & DAVIES, 59, Coleman street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, BROMPTON, S.W.

Notice of PRIVATE SALE of about 200 MARBLE CHIMNEY-PIECES, to be sold at very reduced prices to make room for a Stock removed to the Premises, in the following Marbles:—Statuary, Rouge Royal, Black and Gold, Black, Sienna, Bardilla, Dove, California, St. Anne's, Rouge Sapet, Jaune Piccare, Brocatello, Genoa Green, Irish Green, Blue Belge, Emperor's Red, Irish Fossil, Campaine Mottange, Vein, Sicilian, and various excellent specimens of British Marbles, varying in price from 1l. 10s. to 50l.; and for elegancy of design, workmanship, and quantity, not to be surpassed in England. Purchases to the extent of 30l. and 5 per cent. allowed if delivered from the Stock in the 14 days, less 2½ per cent. each. Purchasers from the country will be supplied with packing-cases, and the same packed and delivered to any of the metropolitan stations for 1 per cent. on the amount purchased.

NEW LAMBETH BRIDGE.—To Contractors, Builders, and Others.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Foster & Co. in consequence of the completion of their Contract, to SELL by AUCTION, near the new Suspension Bridge, Lambeth, on MONDAY, MARCH 2, at TWELVE for ONE, a quantity of surplus MATERIALS; comprising 150 loads of timber in piles, booms, braces, walings, &c.; 3,000 feet of 3-inch planks, 200 scaffold boards, and 150 scaffold poles, a very excellent iron traveller by sundry ladders, barrows, mortar boards, trestles, &c.; also two boats and other effects. The timber may be viewed on the shore, near Lambeth Palace, and the remainder of the lots at a shed in Cumberlow, Westminster, and catalogues had of PULLEN, HORNE & EVERSFIELD, 10, Parliament street, Westminster, S.W.; and 80, Fore-street, City, E.C.

GOVERNMENT STORES, WESTMINSTER.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Her Majesty's Works and Public Buildings to SELL by AUCTION, at the STORE YARD, Great Smith-street, Westminster, on TUESDAY, MARCH 3, at TWELVE for ELEVEN, on account of the number of lots, a large quantity of OLD STORES: comprising wood blocks, 10 Windsor chairs, 60 iron bedsteads, 100 bolt, lock, and wool mattresses; feather beds, bolsters, and pillows; Bath stoves, cast-iron troughs dragged, 50 couches, mahogany and other tables, window sashes and glazed lights, pressing and working vices, 2 cwt. of old copper, 1 cwt. of old lead, 1 cwt. of old brass, and other articles; counter desks, hat and coat pegs, 8 dining and other tables, window blinds, roller, and Venetian blinds; easy chairs, cane seat and other chairs, 2 cwt. of old iron, 1 cwt. of old pewter, 1 cwt. of old tinware, old pewter measures, fenders and irons, and numerous other effects. May be viewed two days previous, and catalogues had of the Foreman on the Premises; at the Office of the Board of Works, Whitehall-place; and of PULLEN, HORNE & EVERSFIELD, 10, Parliament street, Westminster, and 80, Fore-street, City.

BRIDGE WHARF, MILLBANK.—To Marble Masons, Builders, and Others.—Remaining Portion of the Stock, to clear the Wharf.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. F. Edwards & Co. to SELL by AUCTION, on the PREMISES, east of Vauxhall Bridge, on WEDNESDAY, MARCH 4, at ELEVEN for TWELVE, 60 BLOCKS of SICILIAN MARBLE, about 200 feet of MARBLE SLAB, and 2,000 MARBLE SQUARES on sale for paving, being the remainder of the Stock sold in consequence of the lease expiring at Lady Day. Approved bills at four and six months' date will be taken.—May be viewed one day, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 10, Parliament street, Westminster, and 80, Fore street, E.C.

THE NEW METROPOLITAN MEAT AND POULTRY MARKET.—FURNITURE, BAR FITTINGS AND UTENSILS OF A PUBLIC-HOUSE.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, MARCH 6, at TWELVE, in lots, the HOUSEHOLD FURNITURE, BAR FIXTURES, and UTENSILS, of the Hire Public House, Smithfield: comprising the usual bed, chamber and sitting room appointments, mahogany sofas and chairs, dining tables, bagatelle-table, useful china, glass and culinary; capital 8-day bar clock; enamel and metal top counter, pewter measures, 8 pint tap pitchers and cans, mahogany cob settee, 8-day clocks, drinking tables, gas fittings, and expensive cut-glass globes, 4 feet in repair, and other house and trade fixtures and effects. May be viewed the day previous. Catalogues had at the Architect's Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 10, Parliament street, Westminster, S.W.

METROPOLITAN IMPROVEMENTS.—South-wark and Westminster Communication.—Building Materials of Fifty Houses

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works, to prepare for SALE by AUCTION, on MONDAY, MARCH 16, at TWELVE for ONE, the valuable BUILDING MATERIALS of about fifty Houses, situate in Essex street, Parnham place, York-place, Price's-street, and Boar-lane, near Southwark-bridge-road.—Further particulars in New Day, when catalogues may be had of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, City, E.C. and 10, Parliament-street, Westminster, S.W.

PENTONVILLE.—MARBLE SLAB.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, at the Rodney street Marble Mason's Yard, on FRIDAY, MARCH 6, at TWELVE for ONE, to clear the premises, Five Thousand feet of VEIN and SICILIAN MARBLE SLAB, of various thicknesses, in equally Eighteen Lots, and a few pieces of Statuary Marble.—May be viewed the day previous and catalogues had at the Place of Sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, S.W. and 80, Fore-street, City, E.C.

MANSION HOUSE STREET, CITY.—CAPITAL BUILDING MATERIALS.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, MARCH 16th, at TWELVE o'clock, in lots, the whole of the capital BUILDING MATERIALS of the spacious Banking House and premises, No. 11, Mansion House-street, and No. 1, St. Mildred's Court, Poultry: comprising 180,000 Stock Bricks, several tons of lead in sheets, gutters, cisterns, and pipes, 1,000 feet of sash, glaziers, and other excellent timber; 15,000 plain tiles, slates, plate-glass, fronts and sashes; mahogany and wainscot doors, large skylights; marble and other chimney-pieces, partitions, gates, gilders, interior fittings up; 120 squares of sound floor boards; 25 squares stone paving and landings, coping and cills; mahogany and plate-glass lobby doors; fittings and fixtures; 3 iron safes, iron girders, 3 capital wrought iron doors, and the stone erection, and fittings of strong rooms, stoves, and numerous useful fixtures and fittings up. May be viewed the day prior, and Catalogues had of R. HARDWICK'S office, 21, Cavendish square; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, and 40, Parliament-street, Westminster.

FULSTON ROAD.—To BUILDERS, MASONS, AND OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, at the Show Rooms, Dyson-place, opposite Southwark-street, Fulham-road, on FRIDAY, MARCH 27th, at TWELVE for ONE, by order of the Proprietor, who is declining business, the whole of the premises and Machinery, the remaining STOCK: consisting of forty statuary and other marble chimney pieces, artificial stone figures, busts, tablets, vases, and regal ornaments; a quantity of statuary York and Portland stone, and other slabs. May be viewed two days previous, and Catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City, E.C.

CARVED OAK FURNITURE, in Library, Hall, and Dining Tables, Antique Cabinets and Book Cases, Pier Dwarf and High-backed Chairs of elaborate workmanship, Carved Screens, a handsome Oak Sideboard, a magnificent Oak Bedstead, a richly Carved Oak Chimney-piece, ditto Brackets (some of large size), numerous Figures of Saints and Angels, Cruciform and other Symbolical Carvings; Fluted Frames and Medallions; Jardinieres and Reading Tables, Ebony Cabinets, Marqueterie Tables and Fractures, with numerous Specimens of an Antique Character, such as Clocks, Candelabra, Utrecht Velvet Tapestry, &c. &c.

G. & H. BONHAM, Auctioneers, of Leicester-street, Leicester-square, will SELL the above importation of CARVED FURNITURE, by AUCTION, on FRIDAY, MARCH 13th, at TWELVE o'clock to the punctuality, in their Upper Rooms, and will forward catalogues to gentlemen who will favour them with their address.

LONDON, CHATHAM, AND DOVER RAILWAY.—The Stock of a Timber Merchant, removed for Public Sale to Thornton-street, Kensington-road, without time or bidding allowed on the Premises.

MESSRS. F. HALL & SON will SELL by AUCTION, on TUESDAY, MARCH 3rd, at TWELVE o'clock, on the PREMISES, as above, the Six Sided Small and Kite-3 Arms, Chester-street, Kensington-road, about 600 long yellow deals, white deals, 2 very dry clear pine plank, and various, 1,000 feet new quartering, 50 squares of yellow and white flooring boards, 2,000 feet of 2-inch and 1-inch elm boards, 2,000 feet of chestnut planks and boards, 500 feet of dry clean 1½-inch elm for chair-making, 5,000 feet of lunettes, sycamore, birch, ash, beech planks and boards, 5 large flat and round butchers' blocks, useful horse, spring cart and harness, marble slabs, old building materials, and other effects. For particulars see Catalogues on the premises and of the Auctioneers, Kensington, S.

DENHAM-COMMON, on the Wells-road, in the parish of Lewisham, midway between Sydenham Station and the Crystal Palace.—Valuable Freehold Land, divided into small plots for building purposes.

MESSRS. FAREBROTHER, CLARK, & LYE are instructed to SELL, at GARRAWAY'S, on WEDNESDAY, MARCH 11th, at TWELVE, in one or thirty three lots, several valuable FREEHOLD BUILDING LANDS, situate on Sydenham-common, in the parish of Lewisham, six miles from London, and about midway between the Sydenham Station of the London, Brighton, and Croydon Railways and the Crystal Palace; comprising three acres of land, with extensive frontages to the Wells road, opposite Wells-terrace; and also to Taylor's-lane, leading to the Longton Hotel. The whole is divided into small plots, with frontages varying from 20 to 50 feet. All the land contains valuable brick earth. Immediate possession may be had.—Part cash, with notes, may be had on the Property, at the ten-pound, Sydenham; of RICHARD TAYLOR, Esq. Solicitor, 3, Field-court, Gray's-inn-square; at Garraway's, E.C.; and at the Offices of Messrs. FAREBROTHER, CLARK, & LYE, 6, Lancaster-place, Strand, W.C.

THE CLIFF, SCARBOROUGH.—To BUILDERS and OTHERS.

EXTENSIVE SALE of BUILDING MATERIALS, &c.

MR. WM. TASKER HART has received instructions from the Scarbrough Cliff Hotel Company, Limited, to SELL by AUCTION, on the PREMISES, on THURSDAY, MARCH 5th, 1863, the whole of the BUILDING MATERIALS, except the bricks of the Building Houses, Nos. 1, 2, 3, 4, 5, 6, and 7, with the Five Cottages, situate on St. Nicholas Cliff, and which said buildings are to be pulled down, and the materials carried away on or before the 31st of March. Several of the houses have been built within the last eighteen years, and contain timber and other materials of the best description. Each house will be put up for separately. Sale to commence at ONE o'clock. The whole of the houses will be open for inspection four days prior to the sale. For further particulars apply to CUTHBERT BRODRICK, Esq., Architect, Leeds; or to Mr. WM. TASKER HART, Scarborough.

SOUTHGATE, MIDDLESEX.—EXCELLENT MATERIALS OF A CHURCH.

MR. A. RICHARDS will SELL by AUCTION, on THURSDAY, MARCH 5th, at ONE, by order of the Churchwardens, the whole of the MATERIALS of Weld Chapel: including a handsome stained glass window, the lead on the nave and church, ninety pews, sound timber of roofs and floors, oak story posts, 1,000 stock bricks, thirty squares of slating, York paving, doors, windows, and many other of materials.—On view the day previous. Catalogues obtained of the Auctioneer, Tottenham.

WELD CHAPEL, SOUTHGATE.

MR. A. RICHARDS will SELL by AUCTION, on THURSDAY, MARCH 5, at ONE, by order of the Churchwardens, a handsome STAINED GLASS WINDOW, 8 feet 6 inches by 8 feet, with finely executed figure of Christ in the centre.—View the day previous. Catalogues obtained at the Church, and of the Auctioneer, Tottenham.

CAMDEN TOWN, NEAR COLLEGE STREET NORTH.

MESSRS. LEREW & LEREW will SELL by AUCTION on the PREMISES, CAMDEN TERRACE, on MONDAY, MARCH 9, at TWELVE, the STOCK of Mr. TIMBER DEALER and BUILDER: comprising 8,000 feet dry yellow deal, 3,000 feet lath, 2,000 and pine, 1,500 feet dry pine mould, 1,800 planks, deals, and battens, 120 pieces of flooring, 2,000 feet quartering, large quantity of oak stuff, 18 doors, ladders, strong spring van, two carts, &c.—Auction offices, Cardington-street, Hampstead road, near the Euston Station.

MINTON, HOLLINS, & CO. Stoke-upon-Trent, beg to inform architects, the gentry, and others, that, in consequence of the increasing demand for their Encaustic and Mosaic Pavements, and with the view of facilitating the execution of orders, they have opened a NEW DEPÔT for the sale of their Establishment, No. 50, Conduit street, London, where experienced draughtsmen will be constantly in attendance, to afford all information required.

DRAWINGS and ESTIMATES, on the receipt of plans, will also be promptly furnished, on application at the Manufactory, Stoke-upon-Trent.

MINTON & CO. take the present opportunity of stating that they have always in stock a large and varied assortment of tiles, suitable for Hearths, Dados, Panels, and Borders of Halls, Churches, &c.

MINTON & CO. further give notice, that they have no special depôt in London for their general pavements, but keep in stock and execute orders, but the same may be obtained of all the principal dealers.

TERRA COTTA and FINE STONEWARE POTTERY, warranted to stand Frost.

JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and economised the manufacture of Fine Stoneware, and solicits ORDERS FOR ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to harmonize with Marble, Portland, and other Stones, and to equal in hardness to Granite.

A Medal at the International Exhibition was awarded, in Class 10, Section 1, Architectural Objects, for "Terra Cotta in manufacture and in the work so formed." A Medal was awarded for Terra Cotta.

Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusters, Capitals, Crosses, Terminals, Vases, Urns, Finials, Brackets, Consoles, Gargoyles, Gutterings, and Quarries, for Paving Purposes, &c. &c.

Also, Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

London Office, 377, Oxford-street, W.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Brosely colour. PAVING TILES in various sizes and weights.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, wareh use, &c.

Drain Pipes, Tiling BUILDING and SEWER BRICKS.

Architects, &c. may be supplied direct on the shortest notice.

Illustrated Price List forwarded on application.

JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent-road Bridge.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Patent Inlaid Tiles, designed by H. Harry Wyatt, Esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents W. B SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for the WARE is REMOVED to No. 21 Wharf, Meadow-road, Vauxhall, Surrey road, Bonner's Gate. It is hereby declared by Mr. Harry Wyatt, together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley.

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London Agents W. B SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

ELLIOTT, BROTHERS, Opticians to the Government, 70 Strand, beg to give notice that they have removed to No. 30, CHARING CROSS, immediately adjoining their late premises being suddenly required by the Charing Cross Railway Company.

London.—Printed by CHARLES WYMAN, Printer, at the Printing office of Love Wyman, No. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 11, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, February 28, 1863.

The Builder.

A JOURNAL FOR THE

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ARCHITECTS' BENEVOLENT SOCIETY.

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PRESIDENT.—Sydney Smirke, Esq. R.A.
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Charles Robert Cockerell, Esq. R.A. Philip Hardwick, Esq. R.A.
George Gilbert Scott, Esq. R.A.
TREASURER.—William Tite, Esq. M.P. F.R.S.

THE ANNUAL GENERAL MEETING of the Society will be held in the Rooms of the Royal Institute of British Architects, 9, Conduit-street, Regent-street, on WEDNESDAY, the 11th inst. The chair will be taken at THREE o'clock p.m. precisely.

After the General Meeting, a Special Meeting of the Society will be held, for the purpose of confirming any resolution that may be passed at the General Meeting.

Information relative to the Society may be had of the Hon. Secretary, or of Mr. ALFRED HILL, Collector, 38, Tonbridge-street, Euston-road, W.C.

JOHN TURNER, Hon. Sec. 15a, Wilton-street, Grosvenor-place.
March 4th, 1863.

ARCHITECTS' BENEVOLENT SOCIETY.

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place; or by Mr. ALFRED HILL, 38, Tonbridge street, Euston road, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

ART-UNION of LONDON.—Subscription One Guinea. PRIZE-HOLDERS SELECT from the PUBLIC EXHIBITIONS.—Every subscriber has a chance of a valuable Prize, and in addition receives an Impression of a Line Engraving, by R. C. SHENTON and C. H. JEENS from the original picture by T. F. DICKSEE, "A Labour of Love," together with a set of Sixteen Designs in outline, by F. PRIOLO, illustrating Tennyson's poem, "Idylls of the King," now ready for delivery.

444, West Strand. GEORGE GODWIN, } Hon. Secs.
LEWIS POCOCK, }

ARCHITECTURAL EXAMINATION, 1864. A STUDENTS' CLASS has been formed in connexion with the ARCHITECTURAL ASSOCIATION. Gentlemen desiring to join are requested to give in their names at the Meeting of the Association this (FRIDAY) evening, when the arrangements will be announced. The Paper is on the Architecture of Napoleon III. by Mr R. P. SPIERS.

THOS. BLASHILL, President, A.A.
9, Conduit street, Regent street.

BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1863, be open to public competition.

A Competitive Examination will, accordingly, be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which candidates will be admitted to the Examination, and also respecting the nature of the appointments to be competed for, may be obtained at the Office, on application, either personally or by letter. (Signed) T. G. BARING.

India Office, 28th June, 1862

N.B.—All communications to be addressed to the "Under Secretary of State for India."

TROUGHTON & SIMMS.—For SALE, THEODOLITES, LEVELS, CIRCUMFERENTERS, PENTAGRAPHS, EIDOGRAPHS, a Lean's Mining Dial, a colonial surveyor's Circumferenter, with transit Telescope, a Schmalcalder's Prismatic Compass, Protractors, &c. by the above-named eminent makers, at JOHN ARCHBUTT & SONS', 20, Westminster Bridge-road, Lambeth, London, S.

BILLING'S PATENTS. CHIMNEY TERMINALS, THROAT VALVES.

NOTICE to ARCHITECTS. The Proprietors of the late Mr. Billing's Patents have secured the services of Mr. H. H. COLLINS, M.I.B.A. of No. 10, Poultry, E.C. as the Consulting Architect, from whom full particulars and the reduced prices may be obtained; or from the Manager, Mr. TYLER, 13, Abingdon-street, Westminster, S.W.

COMPETITIONS.

TO ARCHITECTS.—The Town Council of Gateshead invite DESIGNS for the PROPOSED NEW TOWN HALL and CORPORATE BUILDINGS. A premium of 100l will be paid to the author of the designs to which the Town Council shall award the first place, and a premium of 50l. to the author of the designs to which they shall award the second place. The designs are to be delivered, free of cost, at the Office of the Town Clerk, on or before the 1st of MAY next; and the two designs to which premiums shall be awarded will become the absolute property of the Town Council, without any condition whatever. A copy of the conditions of competition, settled by a building in designs, and a lithographic copy of the plans and sections of the ground will be supplied to competitors on application to the undersigned, and on payment of a charge of 5s.—By order,

J. W. SWINBURNE, Town Clerk.

Town Hall, February 13, 1863.

THE LANCASHIRE INSURANCE COMPANY.—To ARCHITECTS.—The Directors of the Lancashire Insurance Company are desirous of RECEIVING DESIGNS for OFFICES, for the Company, and other BUILDINGS, to be erected on the plot of land at the corner of Exchange street, St Ann's-place, and Red Lion-street, Manchester. The following premiums will be given for the best designs:—First, the sum of 50l. for the work, or 200l. at the option of the Board of Directors; second, 100l.; third, 50l.—A plan of the site, and full printed particulars, may be obtained, on application to the General Manager, with whom the designs must be left, on or before the 1st day of MAY.

GEORGE STEWART, General Manager.

Exchange street, Manchester,
20th February, 1863.

MEMORIAL to the late J. F. HOLLINGS, Esq. of Leicester.—The Sub-Committee invite DESIGNS for a MONUMENT to the above Gentleman, to be erected in the Grounds of the Town Museum. The cost must not exceed 200 guineas. A premium of 5l. will be awarded to the best design, whether selected for execution or not. Mr. Hollings had been Mayor of the Borough, and President of the Literary and Philosophical Society; and was admired by his fellow-townsmen for his exertions on behalf of all educational institutions, for his literary and scientific attainments, and for his kind-heartedness and liberal spirit. Designs, marked with a motto in the usual way, and accompanied by a sealed letter containing the address, may be forwarded to W. CHARLESWORTH, Esq. 27, New Walk, Leicester, not later than the 23rd of MARCH.

CONTRACTS.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Shingle End, near Southend, in the County of Kent, may inspect the Drawings and Specifications at the Custom House, Basingstoke, or at this Office, between the hours of TEN and FOUR, from MONDAY, the 2nd, to SATURDAY, the 14th day of MARCH now next ensuing, and both inclusive (Sunday excepted).

Tenders to be sent to this office not later than TWELVE o'clock at NOON on MONDAY, the 16th MARCH, under seal, and addressed to the Commodore Controller General of Coast Guard, and endorsed "Tender for Shingle End."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 20th day of February, 1863, at the Admiralty

Coast Guard Office, 12, Spring Gardens, London, S.W.

LONDON and NORTH-WESTERN RAILWAY.—To CONTRACTORS. The Directors are desirous of receiving TENDERS for the CONSTRUCTION of the RAILWAY from Acton, through Runcorn, to Ditton, with Branch from Runcorn to the Duke's Dock, in the counties of Cheshire and Lancashire, a distance of eight miles, or thereabouts. Parties desirous of Tendering may see the drawings, and obtain a statement of the quantities, upon application to Mr. WILLIAM BAKER, Engineer, Euston Station, on TUESDAY, MARCH 3rd, between the hours of TEN and FOUR o'clock. Tenders addressed to the Secretary, at this Office, to be sent in on or before WEDNESDAY, MARCH 18th, at FOUR o'clock p.m. The Directors do not bind themselves to accept the lowest Tender.—By order,

Euston Station, February 23, 1863.

CONTRACTS.

EXTENSION of TIME for receiving TENDERS, CITY of LONDON, BARBERS' HALL.—Important SITE for WAREHOUSES or MANUFACTURING PREMISES in the immediate vicinity of Wood street, Cheapside.—The Committee of the Worshipful Company of Barbers will meet at their Hall on THURSDAY, the 26th day of MARCH, 1863, to receive TENDERS for LETTING, on a Building Lease for 99 years, the Extensive PREMISES known as Barbers' Hall, situate in Monkwell street, Wood-street, comprising three houses fronting Monkwell street, Nos. 32, 33, and 35, part of the courtyard in the rear thereof, the passage leading thereto, and the greater portion of the Company's Hall, together with the kitchen, scullery, and outbuildings, having a frontage towards Monkwell-street of about 84 feet by an average depth of about 118 feet, and an extreme depth of about 134 feet. Full particulars, with a plan of the property, elevation and section of street-front, also conditions of letting, may be obtained on application to the Clerk of the Company; to Mr. CHARLES JOHN SHOPPEE, the Company's Surveyor, No. 61, Doughty street, W.C.; or to the Beadle at the Hall. By order, HENLEY GROSE SMITH, Clerk.

4, Wantford-court, Throgmorton street, E.C.

TO BUILDERS.—Builders disposed to CONTRACT for BUILDING a DWELLING-HOUSE, containing ten rooms and offices, at Box, near Bath (about a quarter of a mile from the Station, on the Great Western Railway), may see the drawings and specification at the Offices, from 10 to 12 on the 10th of MARCH, except on TUESDAY, the 10th. Tenders either for the whole of the work, or for one or more of the several trades, to be sent in to me on or before TUESDAY, the 24th inst. endorsed "Tender for House at Box." The lowest Tender will not necessarily be accepted.

MANNERS & GILL, Architects.

1 Fountain-buildings, Bath, March 4, 1863.

TO GAS ENGINEERS, CONTRACTORS, and OTHERS.—The Directors of the Cardigan Gas and Coke Consumers' Company, Limited, are prepared to receive PLANS, SPECIFICATIONS, and TENDERS for the ERECTION of GAS-WORKS for the town of Cardigan, about 2,000 inhabitants, twenty-seven public lights. The lowest offer will not necessarily be accepted. The plans rejected will be returned to the respective owners. Plans, &c. to be sent to the Chairman of the Board of Directors, THOMAS DAVIES, Esq. Bank House, Cardigan, on or before SATURDAY, the 21st of MARCH next.

L. LOWTHER, Secretary.

Cardigan, Feb. 19th, 1863.

CIRENCESTER CORN HALL.—To BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of NEW PUBLIC BUILDINGS, and PRINCIPAL ENTRANCE to CORN HALL, in Dyer-street, may see the working drawings and specifications at Messrs. MIDLAND, MABERLY, & MIDLAND'S Offices, Gloucester, on and after 2nd MARCH.—Sealed Tenders to be addressed to Mr. R. K. HAGOOD, Hon. Secretary, Cirencester, on or before 12th MARCH.—The lowest Tender will not necessarily be accepted.

R. K. HAGOOD, Hon. Sec.

Cirencester, February, 1863.

PERSONS desirous of TENDERING for the ERECTION of a DOUBLE VILLA at Darlington, may inspect plans and specifications at the Offices of THOMAS SIMPSON, Architect, Northgate, on and after WEDNESDAY, the 4th day of MARCH, until WEDNESDAY, the 18th; or at the Offices of JOSEPH PEASE, Esq. Darlington, on THURSDAY, the 19th day of MARCH, until THURSDAY, the 2nd of APRIL. Sealed Tenders to be addressed to JOSEPH PEASE, Esq. and delivered at the Offices last named, not later than MONDAY, the 6th day of APRIL. The lowest or any Tender not necessarily accepted.

MIDLAND RAILWAY.—The Directors are prepared to receive TENDERS for the REPAIRS and MAINTENANCE of the whole of the WEIGH-BRIDGES and WEIGHING MACHINES on the Midland Railway, for a term of three years, from the 1st day of MARCH next. The form of Contract may be seen, and further particulars obtained on application at the Engineer's Offices, Derby Station, on and after the 2nd of MARCH; and the Tender can be received after TEN a.m. on TUESDAY the 17th day of MARCH next. The Directors do not bind themselves to accept the lowest or any Tender. By order,

Derby, February 24th, 1863. G. N. BROWNE, Secretary

TO MASONS and PAVIORS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City on TUESDAY, the 10th of MARCH next, at TWELVE o'clock precisely, to receive TENDERS for the execution of such MASONS and PAVIORS WORKS as may be required by them to be done within the City, for a period of THREE YEARS, from the 25th day next, upon the terms contained in their specifications, printed copies of which may be obtained at the Office upon payment of the sum of 1l. 1s. each, which will be returned to such persons who shall send in a bond fide Tender. Persons Tendering are required to state the names and addresses of at least two substantial householders as their sureties to enter into bond with the Contractor for the due performance of the Contract. The Commissioners do not pledge themselves to accept the lowest Tender, and no bond required satisfactory; and no Tender will be received after TWELVE o'clock on the day of treaty. The party sending in proposals must attend personally or by duly authorised agents, on the day and hour mentioned.

JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, 23rd February, 1863.

ROYAL SEA BATHING INFIRMARY MARGATE.—Persons wishing to CONTRACT with the Court of Directors of the above Hospital for certain REPAIRS and PAINTING required to be done in the Spring season of the Works on and after the 9th instant, either at the Building, on application to Mr. SAVORY, the Superintendent, or at the Office of the Architect, Mr. POPE, 8, King's road, Gray's-inn, London.—Tenders to be delivered at the Hospital, Margate, not later than the 21st instant, addressed to the Executive Committee, and endorsed "Tenders for Repairs, Paintings, &c. Royal Sea Bathing Infirmary." The Directors will not bind themselves to accept the lowest or any Tender.

L. BACON, 5th March, 1863.

[For remainder of Contracts see next Page.

CONTRACTS.

VESTRY of ST. MARY, NEWINGTON, SURREY.—CONTRACTS for PAVING, CURBING, BROKEN GRANITE Guernsey, Dunbar, and Port Phillip), FLINTS (Kentish Rag, Gravel (with Screen Work), PUMP MAKERS' WORK, and WHEELWRIGHTS' WORK.—The Board of Guardians of the Parish will meet at the Vestry Room of the Parish, on MONDAY, the 9th MARCH next, at SEVEN o'clock in the evening, to receive TENDERS from Persons willing to CONTRACT for the SUPPLY and delivery of PAVING and CURBING to the several Parish Paving. Tenders must be sent in sealed, and endorsed "Tender for Paving," and must be delivered before the hour of SEVEN o'clock on the day of meeting. The Contractor will be required to enter into a Bond with two sufficient Sureties in the sum of £500 for the due performance of the Contract.

H. & W. CHESTER, Joint Clerks to the Vestry.

1, Church-row, Newington-butts.

TO BUILDERS and CONTRACTORS.—SHEPPEY GAS CONSUMERS' COMPANY (Limited).—TENDERS are invited for BUILDING a BRICK GAS HOLDER TANK, a METAL HOLDER, SMITH'S PLANT, and for certain ALTERATIONS and EXTENSIONS of the WORKS of the Company at West Minster, Sheppey, in all the plans, specifications, and forms of Tender may be inspected daily at the Office of Mr. JOSIAH HALL, Surveyor, Queenborough, Sheppey, Kent, between the hours of TEN and FIVE (but not on SATURDAY), the 14th day of MARCH next. Tenders are to be delivered at the Office of the Company, at Queenborough, on or before SIX o'clock p.m. on MONDAY, the 16th day of MARCH next, addressed to "The Secretary of the Sheppey Gas Consumers' Company (Limited)," at the Office of the Company, 14, Edward's-road, Banks Town, Sheerness, endorsed "Tender for Gasholder Tank," &c.—By order of the Board of Directors. A. W. MARKS, Secretary

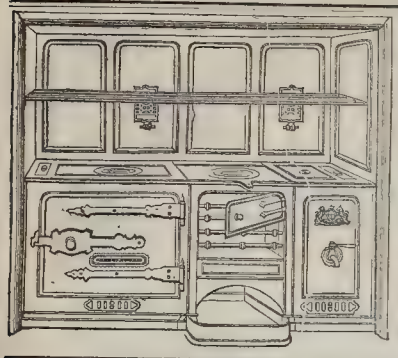
Company's Office, March 3rd, 1863.

TO PAVIORS, MASONS, and OTHERS.—Notice is hereby given, that the Board of Works of St. Saviour's District will hold a meeting at their Offices, Emerson-street, Southwark, on WEDNESDAY, the 11th of MARCH, 1863, at SIX o'clock in the evening, to receive PROPOSALS for PAVING the STREETS, and the PASSAGES and PLACES, within the Parish of Christchurch, and the Liberty of the Clink, within the district, under Contract for Three Years from Lady-Day next, with power for the Board to determine the same at the end of the first or second year, at their own option; also to receive PROPOSALS for REPAIRING the PAVEMENTS of the streets and Places within the said Parish on Lump Contract. Separate Tenders for either of such Works will be received, the specifications of the Works required to be done, and the drafts of the Contracts, may be seen, and all particulars obtained, at the office. All persons Tendering must fill up one of the printed forms to be obtained at the Office, and deliver the same, sealed up and endorsed "Tender for Paviors" or "Masons' Work," to the Board, at their meeting, before SIX o'clock in the evening, as no Tender will be entertained after that time, unless the responsible persons as sureties. No other Proposals but those contained in such printed forms will be received, and the parties must be in attendance. The Contractors will have to execute Contracts, and they will have to enter into Bonds for the due performance of the same, and they will have to commence the respective works of each Contract immediately after the completion of the Deed. The Contractors will have to find Stamps for the Contract, and for the Bond. The Board do not bind themselves to accept the lowest or any Tender.—By order of the Board.

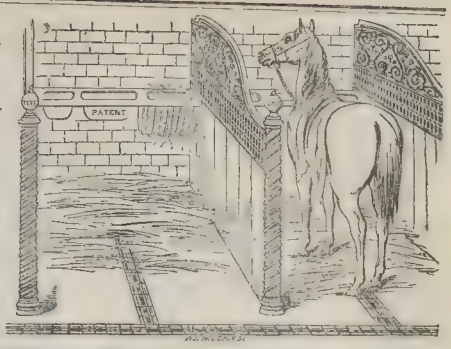
HERBERT STURMY, Clerk.

Offices, 3, Emerson street, Bankside, Southwark, March, 1863.

TENDERS for GUERNSEY GRANITE.—The St. Saviour's District Board of Works hereby give Notice, that they are ready to receive TENDERS from persons willing to supply them yearly with from about 1,000 to 1,500 cube yards of the best quality of Guernsey Granite, for three years from Lady-Day, 1863, to Lady-Day, 1866. The granite to be sent to a 3-inch ring, and no stone to weigh more than four ounces, and to be clean sifted from small stones. The granite to be delivered at such of the Parish Drawing-dock Basins, Southwark, respecting Brewery within the Parish, as the Surveyor may direct, and at the Contractor's expense for boards, wharfage, &c. The Parish Drawing-dock Basins, Southwark, respecting Brewery within the Parish, as the Surveyor may direct, and at the Contractor's expense for boards, wharfage, &c. and the Contractor is to be responsible for the cost of the Board; payment for same to be made within twenty-one days after delivery to the satisfaction of the Board. Tenders will be received for the whole or any part of the above-mentioned quantity, but in the event of more than one Tender being accepted, the Tenders for the largest quantity will be preferred. Tenders must be sent in sealed, and endorsed "Tender for Guernsey Granite," and must be delivered before the hour of SEVEN o'clock in the evening, on MONDAY, the 9th MARCH next, at the Board-room, Emerson-street, Bankside, Southwark, at which time and place the Tenders will be opened by the Board. Tenders must be delivered at the Office of the Board, at



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST.
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT.



TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS
Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.
Orders requiring Despatch and Punctuality can be executed in a few days.

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS
SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—
That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,
The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.
These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS
Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.
ILLUSTRATED LISTS ON APPLICATION TO

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PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

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The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES, was awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Public to his
IMPERIAL PATENT FLAX SASH-LINES
of which he always makes four qualities, and are strongly recommended that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They are now in use of all the Builders, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.
ESTABLISHED 1774.



THE PRIZE MEDALS,

LONDON, 1851. PARIS, 1855. LONDON, 1862.

AWARDED TO

COTTAM & COMPANY,

No. 2, WINSLEY-STREET, LONDON, W.

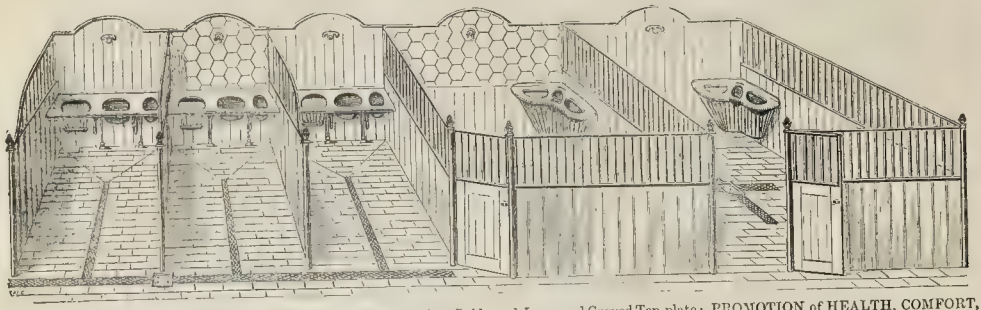
FOR PROGRESSIVE AND GENERAL IMPROVEMENTS IN

STABLE FITTINGS AND HARNESS BRACKETS.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.



SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

IRON GATES, FENCING, and HURDLES MADE by MACHINERY.

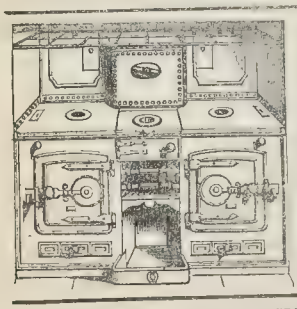
COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VENTILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.

COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

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N.B. WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 15*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates.

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PATENT CLIMAX DOOR SPRINGS,

FOR SINGLE AND DOUBLE-ACTION DOORS



PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,

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Builders', Cabinet, and Ship Brass Founders.

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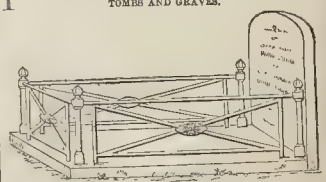
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Every description of Iron Work Galvanized.

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IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c.

Illustrated price catalogue, of numerous designs, in various styles (free), on application to

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CANNON IRON FOUNDRY 156, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

CUNDY'S

PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

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WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

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Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.

WALTER MACFARLANE & CO.

ARCHITECTURAL IRONFOUNDERS, SANITARY ENGINEERS, AND ART WORKERS,

GLASGOW, 1st January, 1863.

WE take the liberty of intimating our REMOVAL to New and much more Extensive Premises, 46, WASHINGTON STREET, where we shall endeavour to merit a continuance of that patronage with which we have been so long favoured.

We carry with us to our New Premises our old and well-known designation of "SARACEN FOUNDRY," and every Casting made by us bears our Trade Mark legibly impressed thereon, as follows:—

WALTER MACFARLANE & CO.



Trade Mark.

LONDON, 1st January, 1863.

WE have the pleasure of intimating that our New London Premises are open for the transaction of business, and now embrace the Architectural as well as the Sanitary branch of our Manufactures.

We shall therefore feel obliged by our friends forwarding all future orders, &c. to this our only London address, when the same shall receive our prompt attention.

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SARACEN FOUNDRY, 46, Washington Street, GLASGOW;

and 38, Bedford Street, STRAND, LONDON, W.C.

GEORGE SMITH & CO.

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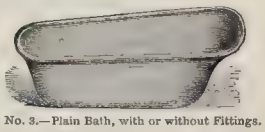
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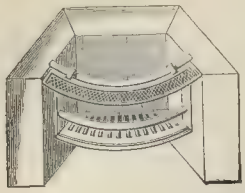
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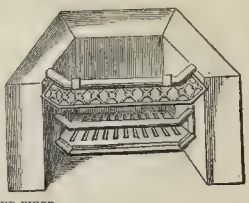
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21	,, 12 ,,	10 6		12 0
24	,, 15 ,,	13 0		15 0
27	,, 18 ,,	16 0		18 0
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35	,, 24 ,,	30 0	Extra strong.	
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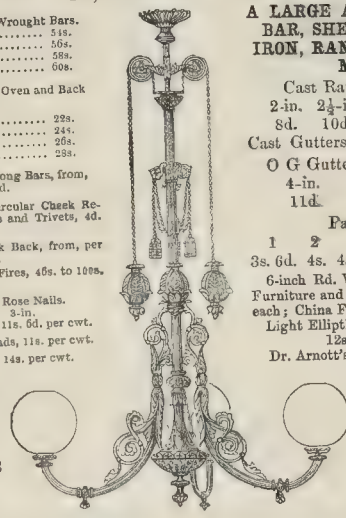
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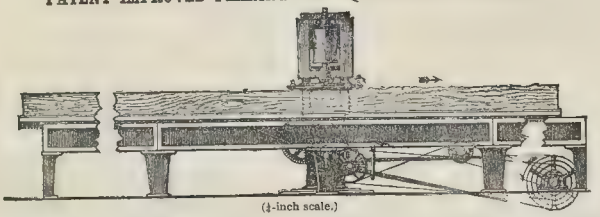
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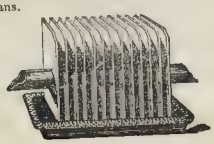
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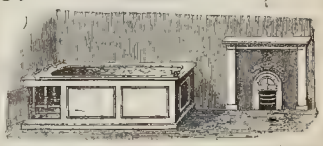
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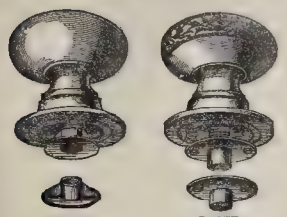
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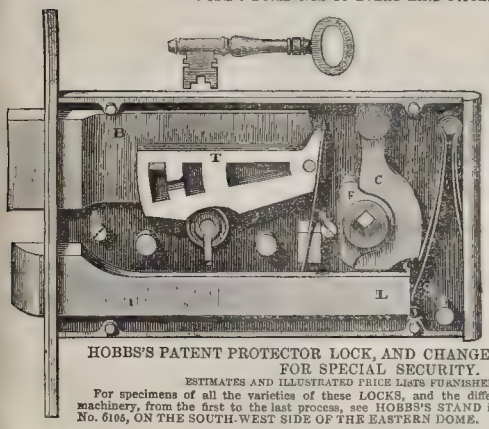
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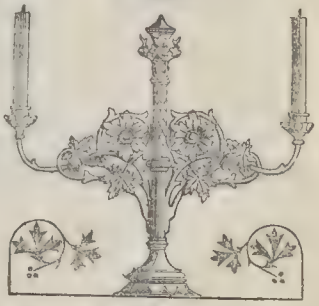
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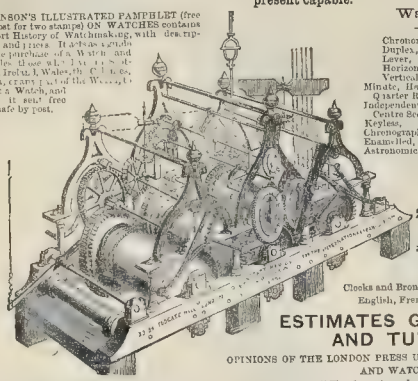
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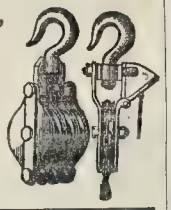
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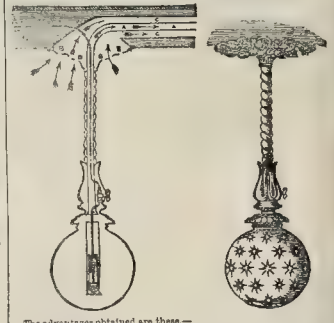
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The Builder.

VOL. XXI.—No. 1048.

History of the Modern Styles of Architecture.



IN the early days of railroad engineering, durable decorative character in the buildings was aimed at rather more, perhaps, than it has been since discovery of the fact that traffic is subject to expansion entailing changes, not only in stations, but in bridges, and other substantial features of a line. The quality of design, however, was not always good; moreover, certain principles which had not obtained recognition from architects, had still less dawned on the perception of the other branch of the profession. In a well-known work, published in the early days,—one, to the general value of which, slight exception after all need be made, —there are designs for several kinds of structures, including entrances to tunnels; and, as alternatives, or for the same purpose and object, designs may be found whereof one is described as Gothic, or "castellated," another as Grecian, and a third Egyptian, and so on. Not far from the Edge-hill tunnel of the Liverpool and Manchester Railway, we have recollection of a "Moorish arch," as built, spanning a cutting; and the somewhat more satisfactory principle of treatment, as in one or two of the London and Birmingham railway tunnel-entrances, was exceptional to the practice of engineers. Books of designs by architects, indeed, were at that time characterized by the error against which we have long contended, that seen in the contemporaneous practice of a plurality of styles; whilst there were railway stations erected, as the Euston-square *propylon*, the aim in which seemed to have been only to produce an imitation. Neither in the buildings of this class, nor in the designs, was there existent, the *art* that is now yearned for, nor much that was symptomatic of perception and appreciation of its essentials and conditions. Many of the present race of architects have either abandoned this fickle and purposeless course, or are conscious that the healthful condition and future progress of architecture, are dependent upon the previous attainment of a certain unity, which, as regarded by those in after ages, can be comprehended in like manner as what we call *style*, and which, "true" and not "imitative," is favourable to art and art-appreciation, and in no degree repressive of the desired working of the requisite element in art, invention. Some of the race, however, still remain ready to adopt any disguise; whilst many recent productions of engineers, would-be architects, are evidence of the like instability, or a want of apprehension of the conditions and requirements of real architecture.

The engineering branch of the profession, by giving chief attention to an expression of the structural, and by emphasizing features in a work, whilst avoiding imitation of whatever style, might, even though not rising to the rank of artists, be regenerators of our art. In his "History of Modern Styles of Architecture,"* to which we have already devoted two articles,† Mr. Fergusson, under the head "Civil and Military Engineering," perceives the opportunity open to engineers, and gives them the credit of having expressed in many of their productions, what are some of the chief attributes of good architecture; whilst he regrets the tendency to fall deeper than they have fallen, into the practice of imitation, of which architects and the public taste are accused, deepening the channel of error in which so-called *architecture* is moving.

Leaving out of the question such kinds of work as embankments and roads, and the permanent way of railroads, there is no real line of demarcation between the two branches of the profession; and art should be the produce of one and the other. Alluding to tunnel-entrances and the like, Mr. Fergusson says, "a collection of these objects, classified as they belonged to the true or imitative styles of Art, would be as correct an illustration as could well be found, of the two principles of design prevalent in ancient and in modern times, and a fair test of their relative excellence." Unfortunately, he says, engineers generally do not appreciate the value of the principles on which, in many of their works, they have been unconsciously acting. Therefore, more especially on the Continent, there are Grecian Doric stations, and others which are Byzantine, or Gothic, or Pompeian, so designed merely to save thought and trouble.

Three classes of design in existing works, such as railway stations, are recognized by our author. The first he would call Engineering Architecture, the second Artists' Architecture, and the third Architects' Architecture. The King's-cross station, the roof of which is contrasted with the artistic architecture of that of Westminster Hall, is given as example of the first,—though it is the truthful and not the unornamented character of the former structure that the author approves of: the façade of the Strasbourg Railway Station in Paris is given as of the second; and that of the Newcastle Station, with "intended portico" (now in progress), of the third. As regards stations generally, he thinks it may safely be asserted that they are "good and satisfactory in the exact proportion in which it is difficult to name the style in which they are erected."

Before reverting to his views on the subject of style, we should mention that a subdivision of this concluding portion of his book, relates to what he characterizes as "Ferro-Vitreous Art." On the merits of the Exhibition building of 1851, his views are known, having been first published through the medium of the *Builder*. The building at Sydenham, in his opinion, possesses "three of the great elements of architectural design," greatness of dimension, truthfulness of design, and ornamental arrangements; whilst he allows that it is deficient in two others.

> "It has not a sufficient amount of decoration about its parts to take it entirely out of the category of first-class engineering, and to make it entirely an object of Fine Art. But its greatest defect is, that it wants solidity, and that appearance of permanence and durability indispensable to make it really architectural in the strict meaning of the word."

No doubt he is here considering chiefly the *apparent* solidity. Those who would pursue the question of the actual permanence and durability, may do well to read what has been said on that subject by Mr. Mallet in the "*Practical Mechanics' Journal* Record of the Exhibition of 1862," where with other points in the question, the destruction of one of the wings of the Sydenham Crystal Palace, by a gale of wind, is referred to. Mr. Fergusson however admits it is questionable whether the requisite strength could be imparted to any building wholly composed of glass and iron. He advises the introduction of a third material, as coloured brick and terra-cotta. He thinks that stone would be "too solid and too uniform," and that the designers of the Paris Palais de l'Industrie seem to have thought so when they avoided all attempt "to amalgamate the two elements at their command," and hid their Crystal Palace in an envelope of masonry; whereas in the new building at Auteuil (which we illustrated lately), stone is used for accentuation, but not concealment. Brick, he says, "would probably have been better" in this latter case; whilst at Sydenham, if the whole of the lower story in the garden front up to the floor-line, the angles of all the transepts, and to a certain extent the screen-walls, had been of brickwork, the design would have been improved. The "real difficulty in adopting such a mode of treatment," he says, is, besides "skill and judgment," the "immense amount of thought" required to work out details, thought which he perceives throughout his book, architects will not, or at least are not allowed to, give. But if the work were well done, he conceives it would be equivalent to invention of a new style, which would be applicable for many purposes, though not all; and that if the development were to take place in this "one of the few branches of the art on which a future of progress seems to be dawning," men would soon perceive that Classic columns and Gothic arches are hurtful as well as useless, and it would come to be believed that men of the nineteenth century could be constructors and artists as much as their forefathers in the thirteenth. Then the battle would be gained; and architecture becoming a truthful art, would recover the place "from which she has been banished for centuries."

We must say that very much will indeed have to be done before the "Ferro-Vitreous" manner of building can take high rank as art. The view in the nave of the Sydenham structure is one of the finest effects of perspective that can be found; but the external design of the building, with its tiresome columns and openings, repeated of the same dimensions, and everywhere telling of labour-saving and money-saving; the square-box like appearance of the aisles without apparent roofs; the similar character of the stunted towers at the intersections of transepts with the nave, and which would have been improved by domes as suggested by Sir Charles Barry; the general appearance of flatness of the iron and glass casing, which the bolder masses do not succeed in correcting; and the lack of harmony between the building and the foreground,—besides the complete want of design in the detached chimney-towers, and of grouping with the main buildings,—show that "Ferro-Vitreous" construction is far from ranking as the *art* that is hoped for. The Palais de l'Industrie, charming in its details of the masonry, was not a step; and we apprehend the building at Auteuil will rather exemplify the disadvantages, as regards art, of the method of building, than register any important advance.

Belonging to "Military Engineering" our author shows that there are structures of many kinds,—exclusive of bastions, not more than one in a hundred of which is ever fired at,—which would be capable of artistic treatment. He gives one example, a granary at New Georgiesk or Modlin, where the Bug and Vistula meet. Standing in the centre of an important fortress, it was necessary to fortify it. Casemates on the lower floor, a projecting gallery above, and a bomb-proof roof, not one feature that can be called inappropriate, and an elegant style, go to form out of the granary of a fortress a building of considerable architectural merit, and in the case of any building in the world, a similar result might be obtained with the same amount of care and pains. This building is 550 feet long, by 100 feet high in the centre. We give (see next page) an elevation of the central compartment, and a diagram showing the façade, from Mr. Fergusson's book.

Coming back to the subject of style, we read in a concluding chapter of the book:—

> "It does not require a man or set of men, as some have supposed, to invent a new style; the great want now is self-control and self-negation. What we require is that architects shall have the moral courage to refrain from borrowing, and be content to think, to work, and to improve bit by bit what they have got. If some artistic Chancellor of the Exchequer would only lay a heavy tax on every Classic column erected after this date, and assess equally every mullioned window or every Gothic pinnacle employed in future buildings, we should soon arrive at a better state of things.
>
> "The demand however must arise with the public and cannot come from the profession."

* John Murray, Albemarle-street. 1862.
† See p. 99, *ante*, and p. 865, vol. xx.

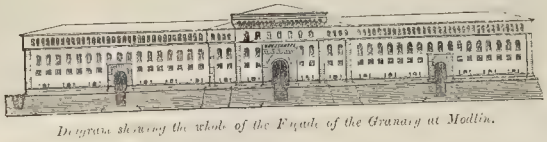
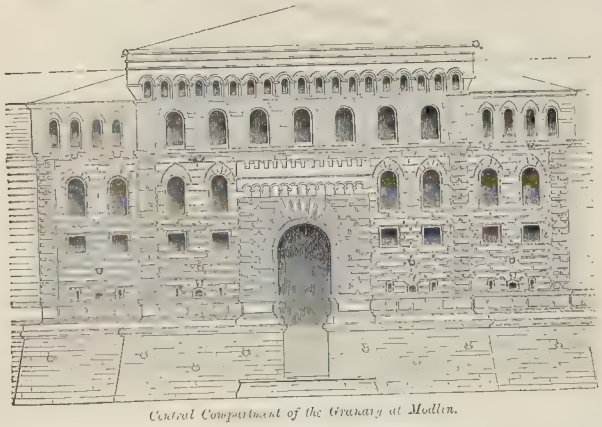


Diagram showing the whole of the Façade of the Granary at Modlin.



Central Compartment of the Granary at Modlin.

We so far agree with this, that we could readily point to numerous articles in these pages, especially those reviewing Exhibitions, in which we have counselled the "bit by bit" progress, and the practice of one general style. Novelty, we have written, is an essential in every work that would aim to present itself as an art-work; without this attribute, art is not: but mere novelty is not art: any one can with ease invent something that has not been seen before, or produce something with which the public eye has not become familiar in an original. We have shown that, far from the public being right in demanding particular styles as to be observed,—and attended with whatever inconvenience to the writers of newspaper paragraphs, who can now so easily describe a new church as in the style of the thirteenth century,—advanced or real art, at any time, must necessarily be such as the contemporary resources of nomenclature and language would not suffice to present an account of. It is here that is exemplified the value that such modes of representation as drawing and photography, have inherently, as compared with writing or speech, and here that we think Mr. Fergusson's demonstration of an identity as Phonetic Arts, between Writing and Painting, is defective. Resuming, it may be safely asserted that when a tolerably complete and accurate idea of the features and character of a new building can be given without aid of drawings, such building must be below the standard of art which was that of the "True Styles," and the standard which alone, we should set up.

Although the passage we have quoted from the work, is evidence to us that there are few points on which we are not really in common with Mr. Fergusson, we think his wording should have been somewhat different for the public understanding; moreover, seeing the necessity of both thought and an accumulation of it, we are not sure that it would be judicious or obligatory for architects to place themselves in the position of the builders of cromlechs and circles of stones. The brilliant picture of the last few centuries of art-thought, which our author has presented, —the "History" of the *imitative styles* themselves, which he could not write without finding *art* to appreciate, whilst bringing as he has, a capacity of appreciation such as in the case of many of the chief buildings described, had not before been shown,—the details of this picture, and the tonings-down of general assertion,—would show that it is not meant by him that anything which might be a resource should be sacrificed.

Where he says of a *true style*, if we are to have it, that it will not be Gothic, he gives us the opportunity of saying, the principle to be inculcated upon architects, after production of the beautiful, is only that of *avoidance* of any character of art or building which is one not of the country and time. There are many things, however, which are both at home in one period and place, and equally so over a wider range. If mullions interfere with the uses of a window: if they give the idea of a building erected in the Middle Ages rather than in our day,—an idea to Middle Ages rather than in our day,—an idea to which even when accepted by the proprietor or resident, every article of furniture as commonly procurable enters itself in protest and makes the taste a puerility,—banish the mullions, as architects who affect the Gothic character of design are now doing with advantage in some respects, but with something of the effect of the old "carpenter's Gothic" in others. Would a portico obstruct light to windows, have no portico; but don't lay a tax upon a feature which may be sometimes useful whilst beautiful and expressive. Either mullions, or orders, *can* be dispensed with; but we would have something corresponding to all such features *available* in any style of architecture that may be that of the future. In the style of Francis I., a valuable one for lessons, regular mullions are used with good effect, as in the House of Agnes Sorrel at Orleans, illustrated by our author, and transferred to our pages (see page 171), and in Elizabethan architecture, and such Jacobean as the house at Longleat, where they are evidently necessary to counteract what would otherwise have had the effect of a much too wide aperture. Something corresponding with them was common in every style; indeed they are the features of the so-called Venetian window, as of the real Venetian, and the Florentine; and are traceable in the French casement. The point is not to *forbid* the use of anything; but to inculcate the necessity of a whole design being not inconsistent with use and strength of the building, —and the use, modern use; the combination of as much decorative form and ornament as may be consistent with the expression of use, and procurable from the study of nature and works of all styles; and lastly, the addition of as much novelty as may be possible without going decidedly below a standard which is constituted in the average of the best works previously produced.

To justify the exclusion of even the "orders,"—just now suffering the misfortune common to things with a bad name,—Mr. Fergusson consistently should exclude much else that his thorough appreciation of art does not withhold approval of even in the "imitative styles." His generous perception of what there is of admirable in Palladio's work; even in the architecture of the Russian capital; in Munich, Berlin, and Paris; and in the granary at Modlin, the architect of which was evidently indebted to Florentine architecture, is not the less accurate that it leaves the question of the future and some use of these and all other examples and models, exactly where it was. We indeed do not believe in any "going back" as consistent with art. We should not believe in it, even in the case of to the Renaissance Italian which our author has indicated as "by no means worked out or perfected," and as having hardly yet had a fair trial of its merits. The question is,—Where is it that we are? We can advance from no other point than that; though starting thence, we can take lessons and suggestions of forms, and perhaps even derive features, from all styles. If we mistake not, few have better shown that such should be the course, than Mr. Fergusson himself.

But, as to the present value of some part of what our author calls the Imitative Styles. Speaking of the villa of Pope Julius, outside the Flaminian Gate, he observes that it "displays those peculiarities of design which produced such an effect throughout Europe that every detail of this building may be found repeated over and over again on this side the Alps." And he adds that though perhaps there is not much grandeur or any very remarkable feature about the design, "there is an entire absence of bad taste or of any false principles, which in that age is great praise." Surely, such exceptions to denunciation of the sixteenth-century Italian as imitative, go for something in the argument of our ability to do as much with Vignola, and with the materials he used, as he effected, especially now that repetition "over and over again" is condemned on every side.

One of the arrangements to which Mr. Fergusson objects in the later Italian, is that of pilasters which run through a height of several stories, or even two. Wherever such arrangement is at variance with demonstration of the fact of several stories, the objection has reason; and we might quote the façade of the Royal Institution in Albemarle-street as an example, added, no doubt, to others in London, of the sort of arrangement that should be avoided. But, provided horizontal lines make the actual division prominent, as they may where say two stories only are included in the order, condemnation of all designs of the class is too rigorous, and would tend to deprive us of one resource for grouping which may be of value where number of stories is great, or amounting to six or more. Such a number is scarcely ever very effective unless the composition divide itself into three, or at most four parts in the height, including something in the place of balustrade or attic. This may be seen by the greater portion of the recent and many-storied architecture of Paris, in which detail is everything, and grouping, except what results from the central and prominent feature of the entrance, is nowhere. Speaking of the Museum in the Capitol at Rome, by Michelangelo, Mr. Fergusson says that the Corinthian pilasters running through two stories "are used here with a vigour which goes far to redeem the impropriety of their introduction." Few architects, looking at the building itself, will consider the example as favourable to the author's general principle for such features as pilasters; and if the orders are elected to be used in a many-storied front, it may be well (although Mr. Fergusson would seem to think otherwise) to avoid a multitude of them superimposed; because, even with a *cornicione* proportioned to the whole height of the building, it is difficult to avoid an equality in the heights which is hardly reconcileable with good proportion, and the appearance imputed to such arrangement, that the decorative features are "stuck on." The object is that the perpendicular lines shall not be so prominent and so suggestive of temple-architecture, as to prevail over the testimony in favour of the existence of more than one story, which is given by the appearance of more than one tier of windows. The façade, with three-quarter columns, of the Royal Institution, and even the flank elevations of St. Martin's Church, with pilasters, tried by such a canon as is here suggested, may be condemned. But parts of Somerset House would show that either columns or pilasters including the height of two stories, can be used so that there shall be no want of harmony with the structural arrangement, whilst the decorative effect shall gain something. One of the best examples we know, of the use that may be made of perpendicular lines where there are several stories, is the front of the Imperial Fire and Life Office in Pall-mall, by Sir Charles Barry.

Objection to such use as he condemns, of an order, arises mainly in the uncouth detail of particular examples that he mentions, as the Corinthian of Vanbrugh's works. The Corinthian capital, as he has well shown, should not be used at all for pilasters on the large scale of those of St. Peter's at Rome; the Greeks at least, would have used, as indeed was their practice, capitals wholly different to those of columns. But the fault as in the case of St. Martin's-in-the-Fields, is in the treatment of the windows, and the omission of proper hori-

zontal mouldings; and that is sufficiently shown by the Roman work above mentioned.

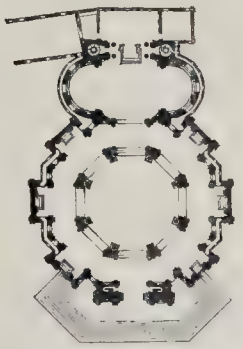
Mr. Fergusson, in the first chapter of the Italian division of his volume, traces the chief features of the progress of Ecclesiastical Architecture in Italy from the time of Brunelleschi, who returned from Rome to Florence in 1420, to the commencement of St. Peter's at Rome. He notes in Brunelleschi's churches, the block of entablature over a column, for the springing of arches, as "perhaps the most fatal gift of Classic Art to modern times," since, he says (we should hardly think correctly), "nine-tenths of the difficulties and clumsinesses of the revived art are owing to the introduction of this feature." The architects of the fifth and sixth centuries had allowed the arch to spring direct from the pier or pillar. He says,—"No single feature can more clearly mark the dawn of copying, to the exclusion of thought," than the "reproduction," as by Brunelleschi, of this feature. In a later part of his work, where he had been speaking of St. Martin's in the Fields, he says,—

"Had the architects only had the sense to turn the fragment topsy-turvy, it would then have been constructively correct. It would in fact have become the Moorish horse-shoe arch, and with a very slight modification of detail might have lost much of its offensive character, while it would have ranged as well with anything on the wall."

But it is allowed, any "feature invented for the place" would have been best.

Of the Church of St. Andrea at Mantua, by Alberti, Mr. Fergusson says that although the ornaments are secular rather than ecclesiastical, "there is probably no church in Italy, so entirely satisfactory as this." After Alberti's churches, he comes to those of Bramante. Of the church at Lodi, the plan of which (see page 171, where will be also found a section) may be described as a square with four apses, the apses being covered by semi-domes, whilst the four arches of the centre area carry a dome with tambour, on pendentives, he remarks that although 150 feet as the dimensions of width on plan, and 125 feet in height would have been better than the 125 feet and 150 which exist, the building has a merit in truthfulness, wherein it surpasses any Gothic building we are acquainted with, since there is no false roof or false construction of any sort. Bramante's Church of Santa Maria delle Grazie, Milan, is suggestive, like the last. The "dome," or polygonal crowning feature corresponding thereto, is carried by a square mass which rises from the ground. The opposite defective arrangement, where the dome rises from the roof of the church, is much too common, as our author shows. It is the capital blunder in St. Peter's at Rome; and it must be considered a defect of the design for St. Paul's which is shown in the model, though the different plan of the existing building allows more of the appearance of a dome rising from the ground. The last of the churches before St. Peter's which the author illustrates, is the Certosa, Pavia; but he ought equally to have mentioned San Zaccaria, Venice, placed under the head "Basilican Churches" in a later chapter. Its façade was completed about 1515, or when little more than Bramante's commencement of St. Peter's had been made. The chapter on St. Peter's, which includes illustrations of the principal designs, is an excellent historic sketch and critical review of the "largest" and "most magnificent temple ever raised by Christians in honour of their religion," which Mr. Fergusson says "was only prevented from being the most beautiful by the inherent vices of the school in which it was designed," and the study of which affords now "one of the saddest but most instructive examples in the whole history of architecture." The "world's greatest opportunity" was thrown away, because the building "happened to be undertaken at a time when architecture was in a state of transition, and when painters and amateurs were allowed to try experiments in an art of which they had not acquired the simplest rudiments, and did not comprehend the most elementary principles." Other chapters are given to "Churches subsequent to St. Peter's," "Domical Churches," "Basilican Churches—Exteriors," and "Basilican Churches—Interiors." He concludes, that on the whole, the Italians may not unjustly be regarded as having failed, after four centuries of labour, to produce a satisfactory style of ecclesiastical architecture.

Taking however, the whole style as we find it in examples scattered over Europe, it would be premature to say that we are thrown back to the lessons that may be got exclusively from Mediæval church-building. It is clear to us, that in church architecture for the Protestant ritual, we shall ultimately come to different arrangements of plan than those of which the chief features are columns obstructing the view. Enter a Continental church of the average class, and the use of aisles is obvious: they are passages, of scarcely more than necessary width, between the line of chapels on one side, and the space on the other, in the nave, which has the seats and is enclosed. But, for the Mediæval plan, in the majority of Protestant churches, which must be of such small size that the aisles are wanted for seats, we doubt whether there is much argument beyond that arising in association and tradition. In St. Stephen's, Walbrook, where even there are columns, it is remarkable how small is the quantity of obstruction to the view from any part of the building. However this question be regarded, we may say that Mr. Fergusson's book contains plans which will show many different arrangements. There are those of the Italian domical churches which include the church at Lodi, as well as the church Santa Maria delle Salute, at Venice, relative to which a happy



Plan of the Church delle Salute, at Venice. Scale 100 feet to 1 inch.

suggestion is offered for an improvement in the plan, making what is now the choir the entrance. Showing that there is no prejudice in the Roman Catholic priesthood for one form of plan, we have besides the circular and other churches mentioned, those of Spain, wherein the choir is placed in the nave, and sometimes as in the church of the Escurial, in the position with us at one time deemed best, that of an end gallery. Mr. Fergusson has scarcely touched upon the real cause of an unsatisfactory state of our *church*-architecture, want of agreement amongst the clergy in matters of ritual, and consequent absence of understanding of what are the requirements of plan. In his chapter on the German Renaissance, however, we find two or three forms of churches which are not without importance. The first of these is the church of St. Michael, Munich. It is ceiled by a great vault, and has no columns to interfere with the view. Mr. Fergusson says:—

"The real interest of this design consists in its illustrating, as clearly as any that can be quoted, what the early Renaissance architects were really aiming at in the changes they were introducing. They felt—whether rightly or wrongly may be questioned—that the pillars with which the Gothic architects crowded their naves not only occupied a great deal of useful space, but interrupted the view of the ceremonial at the altar, and interfered with the grandeur of the processions."

The Roman Thermæ showed them how vast spaces might be vaulted; they sought to emulate the greatness rather than the forms of the Roman structures; and had they adhered to this, we might perhaps, our author says, have hardly regretted the change. It was the second inspiration, the rage for classical details, consummated in the time of Palladio and his school, in the reproduction of plans and forms as the principal object of a design, that really ruined the art.

Another very noteworthy structure, though, perhaps not for details, is the Liebfrauen Kirche, Dresden (shown by a plan and view, page 171). A square church, 140 feet each way, exclusive of the apse, it has a dome 75 feet in diameter resting on eight piers. Its "great peculiarity" is "the perfect truthfulness" of the construction.

"Internally and externally it is wholly of stone; not only the dome, but the whole of the roof is shown, and all is constructively true—a merit possessed by no other Mediæval or modern church. The shape, too, of the dome is sufficiently graceful externally; and, with its four subordinate turrets, forms the most pleasing object in every view of the city."

The internal proportions, it is true, are not the best, from the height relatively to the other dimensions; and the fittings are like those of a theatre. But externally, notwithstanding the details and the time in which the church was built (1726—1745) "it is the most pleasing and suggestive of German churches, and with slight modifications it might be made very beautiful," and Mr. Fergusson adds:—

"Like the Jesuits' Church at Munich, it was an effort to do something that neither the Roman nor Gothic architects had achieved, and was only unsuccessful from its being a first attempt. Those who are aware how many hundreds—it may be said thousands—of repetitions were necessary before a really satisfactory Gothic church was built, should not feel surprised that this first essay to realize a novel form should not be quite successful; but if a second, or third, or fourth had been demanded, the last, or at least the twentieth, might have been all that could be desired. But it never was repeated. The next church was by a different architect, in a different style. The principle died with its author, as is the case with most modern designs; and all, consequently, fail in producing the effect that might easily have been attained by a more persistent system."

After a review of the secular architecture of Florence, Venice, Rome, Vicenza, Genoa, Mantua, Milan, Turin, and Naples, and in which the features and merits of each are described and appreciated, he finds that the Italians have not reached the second stage of the Renaissance distinguished by him as the Revival. They have not made such use as we have, of unmeaning porticos: the Greek Revival has not affected them; and they have not attempted such a thing as a Madeleine or a Walhalla. If they do not, by one of those caprices that are too common in art, take to copying something French or English, no nation has so fine a chance, Mr. Fergusson thinks, of attaining perfection in architectural art.

The whole of that division of Mr. Fergusson's book which treats of Spain, is full of interesting matter. It includes an accurate appreciation of that remarkable monument the Escurial, to which in the following division is added a notice of the Palace at Mafra, in Portugal, a building of the same class, palace and monastery on a vast scale of plan, with the dome and steeples of the church towering above all and binding the composition together. Mafra, the largest, is the finest composition of the two. It seems to be strangely unknown to architects.

Interesting features in the ecclesiastical architecture of Spain are the steeples, which are peculiar to the country as compared with Italy and France. One of them, that of the Seo, Zaragoza, is given, page 171. In speaking of the secular architecture of Spanish Renaissance, Mr. Fergusson notices the cloistered courts, and amongst details, the bracket-capital,—still a desideratum in architecture, but which the Spanish architects "were in a fair way of supplying when the Classical School of Herrera put a stop to progress in this or any other direction."

The account of the church of the Pantheon, Paris, in the division of the volume which treats of France, is another of the author's succinct and accurate reviews of the points and merits of one of the reputed grand monumental works of Europe. Similar appreciation, which cannot fail to be of value to readers of every class, characterizes what he has to say of Versailles (his plan of it however is incomplete, and therefore inaccurate); of St. Paul's Cathedral; St. George's Hall, Liverpool; the Houses of Parliament; the works in Munich and Berlin, and St. Isaac's Church, St. Petersburg. As to the last-mentioned building, he says,—"he must be a greater genius than the world has yet seen, whose passing thoughts are worth one thousandth part of the money that has been spent on them here," the result being that the Chevalier de Montferrand could "lay claim to the unenviable distinction of having been the author of the greatest architectural failure in modern times."

We are unable to follow Mr. Fergusson into Asia and America; but our readers will find much new and valuable matter in the divisions relating to those quarters of the globe. In the division on theatres, though it is valuable for what is not historical or descriptive, he chiefly states the difficulties of the case. He however makes a suggestion as to throwing back the ends next the stage, of each tier of boxes going upwards, till the top tier would be a semicircle,—so as to allow the occupants of the upper tiers, all to sit more directly facing the stage; but we do not see how construction would become much easier. For the improvement of music-halls of great size, he looks to lessons which may be got from experience at the Crystal Palace.

Though it would be scarcely just to regard all the existing schools of Anglo-Italian architects as under the belief that the "orders" are the only available "means of enriching a design,"—sup-

posing our author so to appreciate his fellows,—we should agree with him that the devices, appliances, and qualities, which he refers to as alternatives in composition, are to be found "more frequently" in Paris "than in any other city of modern Europe." He accurately says:—

"The great charm, however, is, that in Paris there are not three or four such designs as those quoted above, but three or four hundred—many, it must be confessed, of very questionable taste, and where the ornaments are neither elegant in themselves nor properly applied; but these are certainly the exceptions, and even they tend to produce a variety and richness of effect in the new boulevards and streets, which renders Paris the richest and most picturesque-looking city of modern Europe. It is the only town, in fact, that affords an answer to the reproach of the Mediævalists, who, when they single out the dull monotony of Regent's Park terraces or Edinburgh rows need only turn to the new Rue Rivoli, or the Boulevard Sebastopol, to see that the dulness of which they complain is not in the style, but in the architects, and that it must be as easy for us, if we had the wit to do so, to make our towns as picturesque, and far more beautiful than they were when filled with the rude and inconvenient dwellings of our forefathers."

He goes on however to say:—

"The best period of this peculiar style of Domestic architecture was the latter part of the reign of Louis Philippe, or the first two or three years of the second empire. Since that time, taste in these matters has declined with wonderful rapidity in Paris."

Here we think him in error. The three elevations which he gives, are taken from Calliat's "Parallèle," and we suspect from the first edition, which was published some years before the best works of the Champs Elysées, and what are now the chief quarters of the north and west, were built, and prior to the completion even of the Boulevard de Sebastopol. We should quite agree with him in thinking that designs have suffered by the pressure of the demand upon the architects, and said as much in 1861; but although some poor designs were carried into effect in the Boulevard de Strasbourg and the Rue de Rivoli, and others have been produced since, including now the Grand Hôtel de Paris, Boulevard des Capucines; and although flatness and deficiency of grouping are yet characteristics; the most recent works manifest no falling off in those qualities which our author has discovered in so many of their predecessors. This, if not shown in later books by Calliat, than that named, is shown by M. César Daly, whose work, giving the most recent buildings, illustrates each subject with a completeness to which the faint outlines of Calliat's elevations have no pretension. We cannot, however, more than our author, say much in favour of the present French ecclesiastical art.

We will not conclude this present reference to Mr. Fergusson's volume without expressing our thanks to him for what cannot but be an aid to architectural progression.

THE ENCLOSURE OF THE CROWN LANDS IN THE NEIGHBOURHOOD OF THE METROPOLIS.

DURING the ten years, from 1851 to 1861, the population of the metropolis has increased 18 per cent., and in all directions the houses and the population are stretching into the country. Before another half-century has passed, if the same increase be continued, the suburbs of the metropolis will have grown to an extent which it is difficult now to imagine.

Year after year an immense space is being covered with streets and houses. Hyde Park, the Regent's Park, and Primrose-hill, have become surrounded by dwellings which contain a large population; and soon Hampstead Heath, if it should fortunately remain uncovered, will be in a position similar to the spots to which we have referred. In Islington the green fields are rapidly vanishing, and in the east of London the builders are equally busy; so that in that direction, by means of new streets on the Isle of Dogs and Cubitt Town, Whitechapel will be joined to Blackwall. In many other parts similar operations are going forward; and each year the value of clear open spaces for the recreation of the multitude will become greater, not only in the heart but also in the outskirts of the metropolis.

When we glance at all the changes which have taken place in this vast capital, even since the beginning of the present century, the great benefit which is derived from the open breathing spaces which have been wisely kept is apparent; for, independent of the advantages which the parks offer as places of exercise and recreation, the public health is improved to a considerable extent by the air which comes ventilating from them into the narrow streets and courts of confined neighbourhoods. These benefits have been conferred by generations which have passed away. Our appreciation of the great advantage of these provisions ought to make us in our own day careful for the health and recreation of those who are to succeed us; and in order to perform this duty properly, we must look ahead, and not only preserve those rights in connexion with the common and Crown lands which we at present possess, but also secure other necessary open spaces which can be reserved at a comparatively moderate cost for the future use of the public.

The plan of metropolitan railways, which is being rapidly carried forward, will effect important changes; and amongst other benefits will afford facilities for the pent-up Londoners to visit pleasant places near the bustling and smoky town; and in connexion with this important subject, the fact should not be lost sight of that it is probable that before the close of the present century we shall have upwards of four millions of inhabitants in the metropolitan districts.

London, to a greater extent than most other capitals, is immediately surrounded by places of much beauty. The Thames, eastward, has its charms and interest; and westward there are Richmond, Hampton Court, and further away Windsor, &c., &c. There are many other places which are pleasant to behold; but few of those spots which can be easily reached by numbers of Londoners are more picturesque and suitable for recreation than Epping Forest,—a district to which we have before directed attention in the *Builder*. At that time we mentioned the encroachments which were constantly going forward there and in the neighbouring forest; and expressed a fear that, in consequence of the carelessness of that branch of the Government which had the care of the extensive Crown lands, the right of the public to rove there was in danger of being lost altogether.

To the dwellers of the eastern and northern districts of the metropolis, Epping Forest will become yearly of more importance, and soon there will be a cheap and ready means of conveyance from Clerkenwell and other parts, which will communicate with the North London and Loughton line: many thousands even now go to the forest by excursion trains, independently of the large numbers who travel by the ordinary trains and the road.

Taking all the circumstances into consideration, it seems most unwise and very wrong to dispose of any public rights, or to aid in the enclosure of these lands, and part with privileges which have been enjoyed for a period of about 800 years; and yet we find it reported by Mr. Peacock in the House of Commons, that large tracts have been parted with for a very trifling sum. This gentleman, who is deserving of thanks for having brought this matter under the notice of Parliament, tells us that he had moved for a return with respect to Hainault and Epping Forests, but that the Commissioners had been very chary of their information; but he gathered from their return that the Crown had disposed of its rights in these forests for a most inadequate price. He found that in August, 1856, the Crown rights had been sold over 434 acres for 1,891*l.* [this is at the rate of a little more than 4*d.* per acre]: on the 25th November, 1858, the Crown rights over 695 acres had been sold for 3,349*l.*; and in June, 1860, the Crown interest in 1,377 acres was disposed of for 5,468*l.*

Mr. Peacock estimates the extent of forest land here at about 10,000 acres; and it is sufficient to cause alarm for the remainder when we find that in such a short space of time the large extent of 2,508 acres has been disposed of. These transactions, in which the public are so much interested, have been privately negotiated; and we do not know what other sales may be in contemplation. We are glad, therefore, that Mr. Peacock has carried a motion, by a large majority, "that an humble address be presented to her Majesty, praying that her Majesty will be graciously pleased to give directions that no sales, to facilitate inclosures, be made of Crown lands or Crown forestal rights, within fifteen miles of the metropolis.

Mr. F. Peel, on the part of the Government, explained that the Crown did not possess any part of the soil of the Forest: that belonged entirely to the lords of the manor and their grantees. The only right the Crown ever possessed was a forest-right—a right to range and feed deer over the lands. The right was of no value to the Crown for revenue, for it would not be possible to make a deer-forest of Epping without the greatest inconvenience to the owners of the soil and to the general public. Sir C. Grey also made some remarks which were very little to the point, for it is clear that the maintenance of the rights which the Crown possesses would serve to keep this space open for the free use of the public. If, however, either now or at a future time, the rights in the soil should require compensation, the matter ought to be carefully taken into account and fairly settled.

There is no doubt that besides the wholesale disposal there has been a considerable encroachment in other directions; and, as we before stated, little huts have given place to substantial buildings; and, by a persevering process, the enclosed parts of the surrounding ground have grown to a wonderful extent.

Mr. Locke expressed a doubt of the rightful tenure of property acquired in this way, and suggested that these squatters might be liable to removal. The Chancellor of the Exchequer thought that it was no doubt important that the recreations of the people should be considered; but it was quite another question to propose, by resolution of the House and by action of the Crown, to part with no forestal rights whatever. To this Mr. Henley replied, that if Mr. Peacock's proposal was likely to operate as the Chancellor of the Exchequer had supposed, he would not readily support it; but all that he understood by the motion was, that no forestal rights were to be surrendered without the consent of the Crown. The consequence of this would be that, if the case proposed were a proper case for enclosure, and one that could be defended in that House by the advisers of the Crown, the enclosure would seem proper, and the Crown would get its full value, which would be turned into money. There would then be security that no dealing with those lands would take place without consent of the Crown and the responsibility of the Crown's advisers. He should therefore support the motion.

We have no doubt that, in connexion with these forest lands, the motion which Mr. Peacock has carried will have a beneficial effect; and that we shall have no more of this forest disposed of at any price. As years roll on the value of this open space will be so great that it will not be estimated by pounds, shillings, and pence. In connexion with the subject, the rights of the lords of the manor must be fairly and justly respected; but, at the same time, it must not be forgotten that to the Government are entrusted the interests of the multitude; and that they should strenuously cling to those possessions on which to a certain extent even at present,—and it will be far more so hereafter,—the health and pleasure of large multitudes will depend.

In making these observations, it must not be supposed that we advocate the preservation of desert wastes, or wish to stop the progress of the cultivation of tracts of land in certain quarters when they may add to the extent of the production of human food; but in great cities,—not only in London, but in Manchester and other large places,—the provision of breathing spaces, where men, women, and children may exercise their limbs, and inhale pure air, is as necessary for the preservation of health and life as daily food.

NEW THEATRE ROYAL, BATH.

OUR readers will recollect that the old Theatre Royal, Bath, was burnt to the ground on April 18th, 1862; and that designs for a new theatre being advertised for, this call was responded to by several architects. The choice eventually fell on one by Mr. C. J. Phipps, whose design, with motto, "A Midsummer Night's Dream," has been carried into execution.

The workmen first began operations, such as clearing the ground of rubbish, &c., the first week in October, 1862, and the theatre is now finished.

The frontage in Beaufort-square remains intact, that part being devoted formerly to wardrobe and dressing-rooms outside the main walls of the theatre proper; and being of good stone, well and solidly built, was little injured. The theatre itself, including auditorium and stage, stands on an area of ground 117 feet long by 55 feet wide, surrounded by box corridors, staircases, scene-rooms, workshops, and dressing-rooms, forming a block of building averaging 190 feet by 128 feet. The theatre is approached by six distinct entrances, thereby affording ample means of ingress and egress.

The box entrance and *porte cochère* are in the Sawclose, with an elliptical vestibule (on one side of which is the box-office); and a straight corridor leads past the money-taker, by a short flight of steps, 7 feet wide, at once to the dress-circle corridor. The staircase to the upper-boxes, of stone, 6 feet 6 inches wide, branches off to the right, immediately after passing the money-taker; and at the foot of this staircase is a corridor, 8 feet

wide, leading to another entrance in Beaufort-square, for wheelchairs, serving also as a second exit way from the upper boxes. The pit entrance is in Beaufort-square, about 3 feet below the level of the street, with an inclined way.

The pit will thus have two exit corridors, almost immediately opposite the doors into the pit itself, which are placed on either side of the house, adjacent to the orchestra. There is a stage-entrance in St. John's-place; the manager having a separate one in the Beaufort-square or pit side.

The plan of the house is totally different from that of the old theatre. The diameter of the circle is 36 feet, with a depth of 46 feet from the proscenium wall to the back of the pit, or front line of the box tiers. The diameter diminishes to 33 feet, in a straight line to the proscenium pillars (28 feet wide), opening by a convex curve to 35 feet, in a line parallel to the diameter; the space between the pillars at this part and the proscenium opening being devoted to private boxes, which are terminated by carved capitals at the level of the gallery front, third tier. An arch spans the opening of the same curve and depth as the private boxes. The ceiling takes the exact line of the box fronts, meeting the outer edge of the proscenium arch, and is 36 feet diameter, measured inside the cove. The stage advances about 6 feet into the house from the curtain line. The orchestra occupies the usual position, dividing the stage from the pit, the floor being 4 feet 4 inches in depth from the front part of stage. The floor of the first pit seat is 9 inches above this, rising at an incline of seven-eighths of an inch to a foot to the front of the dress-circle tier, the floor there being 6 feet 6 inches to the top of the box front. The dress-circle has a depth of 18 feet in centre, with seven rows of seats, gradually diminishing to two rows only at the sides. The angles from the stage are very sharp.

This tier is approached by three wide doorways from the back corridor, and two on either side, the passages being 3 feet 6 inches wide.

The circular corridor is paved with stone, and is 7 feet 6 inches wide: from it opens a spacious saloon, with cloak and retiring rooms for both ladies and gentlemen; also treasury, royal room, and manager's room. The side passages in all the tiers are inclined as you proceed towards the stage, instead of having steps. At the extremity of these side passages are circular staircases, 3 feet 9 inches wide, from the level of the pit corridor, to the top of the building, with communications on every tier. These staircases are intended to be used principally by the occupants of the dress-circle tier, communicating with the private boxes and stalls (which can be made) on the pit level, and to the private boxes on the upper box tier, with doorways communicating with the corridors of pit to upper box tiers, the stage, and also entering on the gallery.

The upper box tier is supported by eight iron columns, thrown back to the second row of seats, the height being 9 feet from floor of front row of dress circle to the ceiling, and 9 feet again from floor of upper boxes to soffit under gallery; there being a height of 12 feet from floor in front of gallery tier to soffit round the cove of the ceiling. The upper box tier is similar to the tier below, except that two private boxes are taken from it on either side: these, with the six in the proscenium, make in all ten private boxes, accommodating respectively four, five, and six persons. The corridors to the upper box tier have similar saloon and retiring-rooms to those below.

The gallery recedes a considerable distance, being continued over the box corridors and saloons to a depth on the incline of 51 feet from the front. It takes in the whole width of the building, the staircase being external, and though more than usual height to the soffit of the ceiling at the gallery part, enables those at the top to see clearly to the back of the stage, and also the foot-lights. The sides of gallery are formed by arches at the same springing as the proscenium—what is usually known as slips, but which in this case is called amphitheatre, and takes in the first three rows of the gallery, and can be filled at either pit or upper box price, at the option of the manager; the circular staircases at the sides of the proscenium being made available in the latter case, while the staircase to the gallery would be used in the former.

The ceiling itself is a flat dome, 36 feet in diameter, rising about 3 feet in centre. The ventilator—a circular shaft, 6 feet diameter, runs directly through the roof, with a second tube inside it from the sun-burner. There are also large and effective ventilators, with separate shafts in the gallery ceiling. The height from centre of the ceiling to floor of the pit is 42 feet.

The numbers accommodated upon each tier are as follows:—Dress-circle, 230; upper boxes, 220; private boxes, 50; pit, 350; amphitheatre, 200; gallery, 600; total, 1,650. In both tiers of boxes each person has a separate seat, with stuffed arms and back, the backs inclining 4 inches, and the seats being hinged so as to allow greater facility in passing. The whole are covered in a crimson cloth. There are no divisions in the boxes, but wide gangways are left from each door, which are left free from seats. The seats in the pit have raking backs, and seats sloping towards the back, stuffed, and covered with American cloth.

The stage has been constructed by Mr. W. Jones and Mr. S. Sloman, of London, aided as to consultations and occasional supervision by Mr. D. Sloman, machinist of Her Majesty's Theatre. The stage measures 55 feet wide, by an uninterrupted depth of 52 feet from the foot-lights, and 46 feet from the back of the proscenium wall.

The wall dividing this part from the auditorium is of stone, 18 inches thick (the proscenium pillars and capitals being of freestone, moulded and carved, and left its natural colour, free from paint or any decoration, except occasional gilding). The opening is 28 feet, and the height to apex of arch 30 feet. The stage entrance, as before mentioned, is on the left side, facing the stage, adjacent to a spacious magazine for scenery.

The stage staircases, two in number, of Pennant stone, 3 feet 6 inches wide, lead respectively to actors' dressing-rooms and wardrobe on the O. P. side, and actresses' rooms on the P. side, also below to the mezzanine floor. On a level with the stage is the green-room proper. Close by the prompter are property, furniture, and stage manager's rooms, and three dressing-rooms for principal performers. On the mezzanine floor, which is 8 feet high, are machinist's room, two store-rooms, armoury, kitchen, musicians' room, large room for supernumeraries, and numerous conveniences, with doors at back, just below the level of a large yard, belonging to the theatre. The whole of the mezzanine floor is boarded over, on level with stage, and a pair of folding-doors, 15 feet wide, opening into a yard, and street at back, so that scenery can be brought in and out with great facility. The beams supporting the fly floors are 22 feet from the stage on underside, the fly floors being 2 feet higher, and are 10 feet wide. The floors are cradled down to 18 feet, which is the height of the wings and flats.

The painting-room occupies the whole of the end wall of the stage the whole width, as at Covent Garden; the beams being supported on trussed girders. The fly floors are partly supported by iron rods from the main tie-beams of roof. The construction of the roof is simple. There are nine main tie-beams with framed principals and collars, and four iron queen-posts, dividing the strain upon the tie-beams into five equal parts. The purlins and rafters support a moderately flat roof, boarded and slated.

On the tops of the main beams over the stage are longitudinal pieces, which principally support the bridges and the machinery of the gas battens. The stage floor rises half-an-inch to the foot, and is composed entirely of sliders;—alternately two and three narrow cuts at the wings with wide ones at the entrances. They are all worked off by windlasses on the mezzanine floor. There are also the Corsican trap, four large traps in centre, and four smaller ones at sides in first and third entrances. A large bridge, 12 feet long by 4 feet wide, rises in the fifth entrance. The whole depth under the working part of the stage sinks to a depth of 16 feet, with a cement floor.

Fire-plugs, always charged from the city mains, are taken inside the building, with hose, spanner, and jet always attached. In fact, every precaution has been taken to prevent a recurrence of fire. To all open fire-grates throughout the building stone fenders are provided, with iron guards to all dressing-rooms. The warming of the house has been adapted so that the artists who minister to the public amusement shall have the benefit of it. A large apparatus is provided on the basement, level with mezzanine floor, and the hot air rises at the side of the stage, not far from the prompter, causing the draughts and cold air which usually congregate on the stage to be warmed, and so enter the house through the proscenium opening, equalizing the temperature.

The lighting of the house is by a sun-burner in the centre of the ceiling, with outer ring of lights, and covered with crystal decorations, which, together with part of the stage gas work, have been executed by Messrs. Jones & Son, of Covent Garden. Several experiments were tried to adopt a new mode of lighting the float, in accordance with suggestions in our pages. A sunk channel was made with continuous reflector, which answered well so far as the one light was concerned, but the difficulty was how to work the mediums, which, unless they came a considerable height from the stage, would not sufficiently mask the light from the sky border; and to get them to do this effectually, required a height equal to the ordinary reflectors of the old float lights. Time being very short, and the manager urgent that the old principle should be followed out, an improved form of reflector has been constructed, which masks the light all round, and is of less height than usual.

The decorations of the theatre are, as already mentioned by us, by Messrs. Green & King, of Baker-street, London, and were chiefly designed and executed by their artist, Mr. Devilder. The mode of treatment throughout has been in flat oils; the ceiling and proscenium arch being painted upon canvas, and pasted on. The former is divided into eight compartments, with allegorical figures representing comedy, tragedy, opera, ballet, pantomime, spectacle, farce, and melodrama; and medallions of Shakspeare and other dramatists of his date and style. The other ornaments are rather eclectic in character, principally taken from early thirteenth century illuminations and ornament.

The proscenium arch represents the "Seven Ages of Man," by a series of figures painted in outline, with strong black lines and slight shadow, on a pale blue ground, the parts of the arch at springing being filled with spandrils assimilating to the ornament in ceiling.

The box fronts are executed in carton pierre, by Messrs. White & Parlby, of Marylebone, London, from the designs of the architect.

The dress-circle front has a series of twenty-four panels, filled with subjects from the principal of Shakspeare's plays, painted in colours, upon a gold ground, alternating with the heads and heraldic devices of the English kings introduced in the historical plays. The colour of the box linings is a light grey green, perfectly dead, so as to prevent reflection. The hangings of the private boxes are of rose-coloured satin, with gold fleurs-de-lis. The contractor for the work has been Mr. James Dymond, of Bristol, with Messrs. Mann, Kerslake, and Colley, of Bath, as sub-contractors, respectively for the mason's, plumber's, iron and gas work. The general foreman has been Mr. G. Tasker, and the clerk of the works Mr. H. J. Elmes; the carving having been executed by Mr. H. Ezard.

The act-drop and a portion of the scenery have been painted by Messrs. Grieve & Telbin, of Drury-lane, and the remainder by the Messrs. Gordon, and others. The whole cost of the building, not including the site or main walls, which, with few exceptions, have been made available, has been about 7,000*l*.

The whole has been designed by and erected under the superintendence of Mr. Phipps.

CONSTRUCTIONS IN WOOD.

ENGLAND.

WOOD possesses all the qualities to make it a most important building material. The art to use it is called carpentry and joinery. The latter is part of the former, and is limited to the more delicate and skilful shaping of the wood. As far as one may judge from the ancient monuments, the art of joinery was not developed until the thirteenth century. Previously to that period the constructions denote that they were executed only with the saw, the axe, the plane, and jointer: afterwards the chisel and gouge were used in addition.

When man in his primitive state sought shelter from wind and weather it was natural that he would resort to trees, forming the branches into a roof. Gradually he cut the timber; and up to the twelfth century we find that the carpenter timbered the house, and the owner next filled out the space between with thick clay or rubble stone, to the best of his ability. An exception from this were the palaces and mansions of kings and nobles, whose habitations were built of stone since the ninth century.

The Greeks and Egyptians knew the use of wood, and we still see works of the latter; wooden coffins, for instance, in the British Museum.

The Romans were good and clever carpenters, and they had great experience. Some of their writers, like Pliny the elder, display a knowledge of wood in their works which would do credit to a builder of our times.

During the Middle Ages a noble creating spirit

brought architecture to such a high development that even now we go back to those times for examples and information.

Mediæval art received a serious check through the great Reformation, which shook every European state. The blow must have been severe, for only within the last sixty years has it begun to recover and again to step forward, producing happy results.

It is my intention to bring before your notice such monuments as I met with in my researches, in order to illustrate the progress of timber construction.

There is no doubt that an extended history of wood architecture would be a valuable addition to our literature. My notes must only be regarded as an attempt, with the hope that a more able person will before long do justice to the subject.

Much it is to be regretted that many wooden structures have been destroyed, and that even now they disappear gradually more and more to be replaced by masonry; but we must take what we have, and begin at home with England, which above all deserves our best attention.

It appears that the houses in our earliest domestic architecture had but one room, which is evident from the fact that the roof was supported by pillars. The sides were entirely filled out with wood, and the interior was divided by tapestry into apartments. The roofs were thatched, as it is recorded to us in the instance when the roof of the Royal mansion at Kennington was destroyed by fire: it was renewed and covered with straw. Subsequently the thatch was abandoned and replaced by wood, which has been transmitted to us with the name of shingles.

The roofs of the thirteenth century had a considerable pitch, and in many cases they were covered with shingles of stone, tiles, or slates. The open timber framing was generally very plain, and only seldom did it occur that the woodwork was painted. The latter was the case in the chapel built by Henry III., at Windsor, where the wooden roof was painted in imitation of another of stone at Lichfield.

The first attempt at ornamental wainscoting was made under King Henry III., in the twenty-third year of his reign, when he ordered his clerk of works at Windsor to work day and night at wainscoting a chamber in the castle, with boards radiated and coloured, so that nothing might be found reprehensible on that wainscot.

The furniture of this time was limited to tables either fixed or dormant, and resting on trestles, which latter were removed when not in use.

Every article appears to have been made on the spot for its purpose. Of this we find an account of Richard I., during his stay at Portsmouth, having trees sawn into planks and forming them into tables. The seats were also made of planks; and, in fact, the buildings of that time appear not to have had any moveable furniture. There is, however, the coronation chair, which is still preserved in Westminster Abbey. It is an elaborate piece of workmanship for that time. The lions on the lower portion are not in strict accordance with the upper part, and it is possible they may have been added at a later period. Similar specimens may have been in use amongst ecclesiastical officials in churches; but of these none are left to record. This assertion is based upon the fragments which at the present day may be seen in good condition. For instance, the reading-desk at Bury, in Huntingdonshire, which was made in the early part of the fourteenth century; and it is further proved by the interior decoration of several old churches.

Previous to the Reformation, the naves of churches which were occupied by the congregation were usually fitted with fixed seats, divided from each other by wainscoting. The ends of these were panelled or carved, and some are found with straight heads and others with carved poppies. Findon church, Northamptonshire, is one of the oldest and most perfect examples.

The ecclesiastical monuments bear the most prominent signs of the actual development of the age; and we must therefore refer to such remaining structures to guide us for information.

Although the Norman roof offers nothing worthy of imitation, the chancel of Adel Church, Yorkshire, is an example of that period. Next we have the simple roof over the porch of Heckington Church, Lincolnshire, which is a trussed rafter roof, too stiff to be pleasing. Long Staunton Church, in Cambridgeshire, is a similar example, with the addition that the roof is extended over the aisles. The roof covering the nave of Lympenhole Church, Norfolk, exhibits a different construction, much more pleasing than the two preceding ones, the difference being that in Lympenhole Church the braces traverse the collar-beam. Stove Bandolf Church, Norfolk, has a similar roof to the latter, with additional second collar-beam. The old roof of a house at Charney Basset, Berks, retaining its original feature, is of plain but good design: it has seven cants with tie-beams, king-posts, and struts. The king-post is octagonal, with square abacus and base. An example by far more interesting is afforded by the Hall at Stoke, Sey, Shropshire: it has principals which rest upon projecting stone corbels, and these are framed together with collar-beams. In the same building is a staircase of solid timber leading into a room, which is also built of timber. This building is a most perfect remainder, dating from the thirteenth century. In Kent we see apparently the original roof of the ancient manor-house of Soar, with tie-beams and king-posts: the latter have moulded caps. A roof of plain construction is to be seen over the hall in the Priory at Winchester: each pair of principals is supported by a wooden arch, which springs from corbels about 2 feet below the wall plate, with the collar beam at the point of the arch. A rather singular remnant may be seen in Oxfordshire. It is the wooden doorway to a barn, the ornaments of which are all cut in wood.

Under the sway of King Edward I. and King Edward II., and after 1272 to 1377, architecture was much promoted and made great progress; and with the appearance of the Decorated style we notice a feeling for improving the appearance of roofs by carving and moulding the principal timbers. An interesting illustration of this period we have in the church at Wimbotsham, Norfolk. The roof is boarded beneath the timbers, and is divided into panels by small moulded ribs, which have well-carved bosses at their intersections. In the roof over the chancel of St. Mary Magdalen Church, Norfolk, we find the introduction of principal rafters and purlins.

The roof over the south aisle of St. Martin's Church at Leicester, dates from the Early Decorated period; the circular principal of which rests on carved angels, the spandrils filled in with tracery, and the wall plates are all well-moulded. In its detail it is, however, not satisfactory, and produces less good effect than the originals from which it was re-constructed.

The roof of Trinity Chapel, Cirencester Church, Gloucestershire, is very similar to the preceding one. It has principal rafters and intermediate trusses into which the purlins are tenoned, and every part susceptible of enrichment has received it in the highest degree: the short height, however, imparts a depressed appearance on the design.

In 1364, letters patent were granted by Edward II. to take away the wooden shingles from the roof, which needed repair, and to replace the same with stone, slate, or tiles.

A portion of ancient shingle roofing is still in existence under a roof of later date at Igtham, Kent.

In the illuminated manuscripts of this century, we notice carved barge boards, and also in the representation of a projecting wooden bay window.

The houses in Scotland, during the fourteenth century, were mostly of wood, as may be read in the Chronicles by Froissart; and, considering the foregoing, we draw the conclusion that wood architecture was in a great state of perfection at an early period.

Owing to constant improvements and alterations, it is impossible to determine exactly the various periods, because old timbers and productions in wood were used in the construction of new houses. For the same reason it is difficult to say whether examples were new in design or copies from earlier buildings. Such an instance we have in the ceilings of Neworth Castle, which is richly carved, and bears the character of the fourteenth century, although the structure was almost entirely rebuilt towards the close of Queen Elizabeth's reign.

Up to those times the common place of assembly or meeting was in the hall of the houses, which also formed the principal room: part of the hall was screened off at the lower ends by a wooden partition, above which was the gallery. In churches these screens were used for various purposes, and in most instances their lower portion is close panelling with open work at the top.

The oldest piece of screenwork is in Crompton Church, Surrey. It bears a transitional character from the Norman to the Early English period.

Of Early Decorative character we have the one in the north aisle of the choir in Chester Cathedral. The roof, as already mentioned, was generally open timber work, and sometimes richly decorated; as, for instance, at Malvern and Baggiley. We find cases where a stone arch was thrown across the room to support the principals, as at the Mote, in Igtham, Mayfield, &c.

During the fourteenth century glass was introduced into most of the domestic buildings, but only in the upper portion of the openings; whilst the lower one was was still closed with a wooden shutter. Such an example is to be seen in the window of the hall at Marne, in Somerset. With regard to furniture, it is mentioned that during the time of Edward II. a large oak table was bought for use in Westminster Hall, at the price of 1*l.* 13*s.* 4*d.* The celebrated oak table at Windsor was made in 1356; and during that century many luxuries came into use, which may have resulted from the intercourse of this country with France. The luxuries served principally as an interior accommodation of the rooms. In the wardrobes of this period we find some remnants in the shape of lockers or chests: most of these are preserved in churches; but whether they were originally made for them remains an unsettled question.

Chests seem to have been very important furniture in olden times, for they served for the safe keeping of all valuables. The oldest chests known in England are at Climping Church, Sussex, and at Stoke, D'Abernon, Surrey: next follow those at Graveney and Saltwood, in Kent. The latter is richly ornamented with carvings not deeply cut, and decorated with ironwork.

The chests of the Decorated period are mostly panelled, and ornamented with carvings, which are confined to the fronts. A fine example of these is still to be seen at Grimmingham, Norfolk.

The perpendicular style is little different from the former. An interesting specimen is to be seen in the Court of Chancery at Durham, which was made from 1333 to 1345. It is strongly bound with iron; the latter a little ornamented on the top. The inner side of the lid has heraldic paintings, of which the colours are still visible. The roof of St. Andrew's Church, Norwich, is a very pleasing example. Little Welnetham Church, Norfork, although a late specimen, is a very good one of the hammer-beam roof: two intermediate trusses occur between the main ones. An exceedingly plain roof is over the nave of the chapel of St. Mary's Church, Suffolk. Hammer-beam roofs of a steeper pitch are seldom met with. The whole of the timbers are well moulded, and the cornice is very effective.

The engineering feature of this age, such as wind and water mills, are spoken of in Doomsday Book; but we have no specimens to refer to.

About this epoch guilds began to establish themselves, and they were in the habit of building their halls close to churches, owing to their connexion with that establishment. Few of such interesting structures have been preserved. The Town Hall at Ashburton, in Devonshire, is a curious and early building, entirely of timber.

In the timber roof over the nave of Wimbotsham Church, Norfolk, the collar-beams are placed low down, so as to equalize the sides and angles of the polygonal soffit: these are boarded over and divided into panels, by mouldings which have carved bosses at the intersections. These, as well as the mouldings, bear traces of having been richly coloured.

The roof over the chancel of St. Mary Magdalen Church in Pulham, Norfolk, shows a bold construction; and the one over the south aisle of St. Martin's Church, Leicester, is very interesting, and dates probably out of the Early Decorative period. The tie-beam, with the braces, form nearly a semicircular curve. This arch is beautifully moulded, and the spandrils are filled in with tracery. Similar to this is the roof at Sparsholt, in Berkshire. The roof over the chancel in St. Martin's Church, Leicester, has a tie-beam, but no principal rafters: the purlins and ridge are supported by struts, the intermediate spaces having tracery, and the tie-beam is supported by curved braces.

From the end of the fourteenth century we have still the roofs over the nave and transept in Ely Cathedral. The large curved truss in this is of one piece.

The triangular corners are filled out with joists, which firmly combine the trusses with the rafters. The great strength of this roof consists chiefly in the large timbers used, and in the extreme pointed curves, by which the greater part of the thrust is brought upon the struts downwards.

This combination in the Anglo-Norman style has led to clever and bold constructions.

As the most developed must be looked upon, the roof in Westminster Hall, which is 239 feet long, 68 feet wide, and 90 feet high: it is a mag-

nificent example, almost unique: I do not know anything equal to it. The timbers are all well arranged: the roof is formed on the common pitch: the length of the rafters are about three-fourths of the entire span; and to provide against lateral pressure, there are, throughout the length of the hall, principals at about 18 feet distance from each other. These abut against the wall between the windows, and have arch buttresses in the outer wall. Every truss comprehends one large arch, and springs from corbels, 21 feet below the base line of the roof, and at nearly the same height from the floor. The ribs forming the arch are framed into a beam connecting the rafters in the middle of their length. A smaller arch is turned within the larger, springing from the base line of the roof, and supported by two brackets, which rest in the springers of the main arch. Smaller timbers are placed to bring the weight and pressure upon the principals. By this arrangement and by having the springers so far below the top of the wall, a firm abutment and great security have been obtained.

The quality of wood used in this roof was so well selected, that, after withstanding the ravages of four centuries, it remains to this day in perfect condition. The hall was built under William II.

The Preceptory of the Hospitallers at Chibburn, rebuilt towards the end of the fourteenth century, has some interesting specimens of old wood work, such as the partitions, and the lower floor, which is entirely of oak. The beams are moulded, and the planks, which are very small, were planed on the lower side, and had an ornament in red painted on them.

In Castle Neworth, Cumberland, we admire the massive ceiling over the library. The wall-plates, principals, and rafters, have characteristic mouldings of the fourteenth century; and the intersections are dressed with extremely well executed foliage carvings of the same period. The bosses immediately on the crossings of the timbers have been lost or destroyed, but the panels between the rafters are filled with tracery of considerable variety.

Trunch Church, Norfolk, has a hammer-beam roof: the hammer-beams project too far; but the tracery in the spandrils has a most pleasing effect. In the same church are to be seen the remains of a beautifully-carved and coloured screen, also old open seats.

The roof of the church at Worsted is very similar to the one just described; but the nave being wider, and as the hammer-beams do not project so far, it gives a far grander impression.

One of the most beautiful roofs of this period is in Wymondham Church, Norfolk, the carving being exquisitely executed.

Marston Church, in Bedfordshire, retains its old roof, partially coloured, and also a portion of the rood-screen, richly carved and coloured, as well as a few old seats.

The old seats of St. Mary, the Virgin, Wigenhall, Norfolk, have a profusion and a variety of carving.

Burton St. Lazarus, in Leicestershire, has a tie-beam roof, which, though of low pitch, is not without merit.

Next we come to Baggily Hall, Cheshire, which is a very old timber edifice. The only part now remaining is the great hall. The roof is carried upon wooden arches and pillars, standing a few feet from the side walls, and the space is filled in with open trefoils.

At Maxstoke Castle we also find remnants of timber edifices from the fifteenth century in some richly carved doors.

In the walls of an inn at Coventry are wooden windows richly decorated with tracery, which no doubt have come from an earlier and more important building.

The Templars' Hall at Balsall is a wooden structure mantled with brickwork. It is of considerable size, and the interior is divided into nave and aisles, by massive wooden pillars: also worthy of notice is the former timbered hall of the Abbot of Malvern.

Turning our researches into Berkshire, we find in Bisham Abbey, over one wing of the house, a fine timber roof of the time of Edward I., with tie-beams, king-posts, arched braces, and moulded wall-plates.

At Sutton Courtney is a house from the middle of the fourteenth century, at which there remains the original timber roof over the hall. It is very lofty, canted, and supported by king-posts, with struts resting on wooden arches, which rise from stone corbels. The arches and purlins are moulded. The solar also retains its original roof.

The Hall at Penshurst, in Kent, possesses excellent woodwork; amongst which is a richly-carved screen. The roof of the hall is also a fine specimen of timber work: the king-posts and collar-beams are well moulded, and grotesque full-length figures are carved into the wood.

The moat house at Igtham, Kent, is interesting for its wooden doors. The chapel has a wooden barrel ceiling and seats; and considering its condition of perfection it forms one of the most important chapels of that period.

At Gouldhurst, in Kent, is a remarkably fine doorway to a cottage, worked in oak and well moulded.

Wingham has some good timber houses of the time of Edward III., but most appear to have had their origin at a later period.

Broadstoke Priory has retained part of its domestic buildings. In the refectory is the ancient roof.

A timbered house of this period, with barge boards, is found at Salisbury.

In the Close at Winchester, in Hampshire, may be seen a timber hall from the time of Edward II.

Somersetshire retains a singular example in the now termed "Fish House," at Mearne, built during the reign of Edward III. Shrewsbury contains some good timbered houses of the same period: also the small town of Welsby, in Herefordshire. The latter are remarkable for their barge-boards and panelling, in flowing tracery patterns.

At Brecon, in Wales, we have in the old refectory of the Convent of St. Nicholas (at present Christ College) a fine roof left. The principals are cut into foliations, and the wall-plate shows a moulding of Early Decorated character.

The succeeding period, with the beginning of the fifteenth century is marked with a decided advance in the application of wood for various purposes; and such remains as are still in existence we look upon as favourite subjects.*

JOSH. JUSTEN.

THE ALBERT NATIONAL MEMORIAL.

THE Prince Consort Memorial Committee held a meeting on Saturday last, when it was resolved that, provided permission from the proper authorities can be obtained, the designs for the memorial submitted by the seven selected architects shall, for the convenience of members of Parliament, be exhibited in the Royal Gallery at the Houses of Parliament. The proposed exhibition may not take place immediately.

It is not at first sight obvious that "members of Parliament" have any special concern with the design; unless indeed it be proposed to obtain a Parliamentary grant in aid of the sum subscribed by the public. Doubtless, however, the committee fully understand what they are about.

Some esteemed correspondents inquire, not without pertinence, whether or not the designs have yet been seen by the Mansion House Committee, appointed by the public to erect the memorial, and by whom the funds have been collected.

NEW MATERIALS FOR THE LIFE OF JOHN BACON, R.A.

JOHN BACON is a great name in the history of English sculpture. Many statues have been erected in St. Paul's in the sixty and four years that have passed since Bacon's death, but with the two exceptions of Flaxman's Sir Joshua Reynolds and Chantrey's General Gillespie, there are no standing statues in our metropolitan cathedral that can be named in the same breath with Bacon's Dr. Johnson and Bacon's John Howard. They were cheap enough. My father, in his "Life of Bacon," has omitted to mention what they cost: I now supply his omission. For the "Johnson" he received 600*l.*; for the "John Howard" one thousand three hundred guineas, a difference of price which the "Howard" bas-relief will hardly account for: the "Johnson" has no bas-relief.

Let our sculptors contrast the "Johnson" *six hundred pounds* with the sums received by the elder Westmacott, by Chantrey, by Baily, and others. I remember very well when (1841) a suggestion was publicly made that the whole of the money raised for a statue to Sir David Wilkie was too much for a statue, and that a portion of the subscription should be funded for an annual "Wilkie Medal" for excellence in painting. Sir Robert Peel was in the chair when the suggestion was made. Sir Robert appealed to my father, who was near him, "Don't starve the statue," said my father. I think I see once more the smile of full conviction which pervaded the face of our great statesman. The medal suggestion was no more heard of; and the late Mr. Joseph received for the "Wilkie" nearly *three* times the sum that Bacon received for the "Johnson." The smaller sum produced the better statue.

Bacon has had *two* biographers,—the Rev. Richard Cecil, vicar of Bisley, in Surrey, who died in 1810; and my father, who died in 1842. With respect to what Bacon was "as an artist," Cecil's work is valueless; with respect to "what," in the words of his epitaph, "he really was as a Believer in Jesus Christ," his work is of importance. As "a man," Bacon was handled severely by my father, and, from all I can learn, too severely. In the autumn of 1844 I was at Worthing, on the coast of Sussex, with my family. In the same house (5, Bath-buildings), on the drawing-room floor, was lodging a staid, demure, elderly gentleman of the name of Bacon. Who Mr. Bacon was I never asked—certainly it never occurred to me that I was living in the same house with the son of the great sculptor of the Chatham, John Howard, and Johnson monuments: I sincerely wish that I had known who my fellow-lodger was, for most assuredly I should have sought his acquaintance, for the courtesy of his manner and the "new materials" his conversation was sure to supply for a new edition of my father's "Lives." The following interesting letter first made known to me the pleasure and instruction I had missed:—

To Mrs. Peter Cunningham.

"Charnock-place, Winchester,
25th September, 1851.

Dear Madam,—A word dropped by yourself, while I was taking leave, on the subject of the late Mr. Cunningham and my late father, signifying, as I understood you, that they had known each other, induces me to trouble you with this note; as I am quite sure there could be no personal acquaintance that enabled Mr. Cunningham to estimate my father's character. It is now a quarter of a century since my father's name appeared in the 'Family Library.' The writer has given him credit for eminent genius and ability in his profession, but has thrown out very ungenerous insinuations against his character; which, I grant, ought to have been refuted at the time; but I thought that I should only be brought into a profitless paper warfare, and that new statements, as foreign to truth as the first, would be put forth; and I therefore allowed all to pass, without even a remonstrance.

I am willing to believe that the biographer, not knowing my father personally, was satisfied in taking much of his description from the sculptors in the Royal Academy, all of whom, at that time, were actuated by envy and disappointment at my father's celebrity and success in his profession. But for this, no such statement could have been printed for the public eye as that he made an 'audacious proposition to the Government to do all the national monuments at a certain per-centage below the Parliamentary price.' All this I pronounce to be, with much more introduced at the same time, *a gratuitous unqualified falsehood.* I well recollect when the order came to my father to prepare designs for all the public monuments which the House of Commons had voted for five of our naval commanders; which order was, in like manner, sent to the other sculptors who were Royal Academicians. It is true that *two* out of the *five* were adjudged to my father, but quite unexpectedly to him; nor would he have prejudiced his name by 'daring,' as the biographer calls it, to ask for more than his share.

I need not advert to the contempt which is cast over his religious opinions and habits. He was unfairly dealt with in this respect; and if the world were not too ready to join in such scandal, it would be labour spent in vain.

Believe me, &c., J. BACON."

It is impossible to read this letter from a clever son in defence of his father's memory, written five-and-fifty years after his father's death, without a respect and regard for the filial reverence of the writer. What defence of my father, if any, I made, beyond a letter of acknowledgment, courtesy, and compliment, I cannot now remember.

The history of prices in art is instructive. For the Westminster Abbey "Chatham" monument Bacon received *six thousand pounds.* I have seen the agreement, dated 8th March, 1779. The monument was to be erected before the 25th

* Read at Liverpool Architectural Society. To be continued.

December, 1783, and Bacon fulfilled his engagement. This, at the time, was the highest sum ever given for a monument; nor do I believe that it has been since exceeded by any public grant or subscription for a monument *in marble*. Larger sums have since been received by sculptors *in bronze*. The late Matthew Cotes Wyatt had close on fifteen thousand pounds for the West End Wellington; Chantrey had, with money and gratuitously given gun-metal, something like seven thousand pounds for the City Wellington. What did Mr. Foley receive "in all" for his Calcutta Lord Hardinge? Was Bacon's two thousand pounds, minus the much canvassed two and a half per cent., a large sum for the bronze King George III. and the bronze Father Thames in the courtyard of Somerset House? and was not Sir Richard Westmacott's alleged *ten thousand pounds* pay for "the Hyde Park Achilles" the highest sum ever given for the mere reproduction in metal of any statue? The present able Professor of Sculpture in the Royal Academy of Art—Sir Richard Westmacott's son—will perhaps kindly enlighten us on this point.

There are very few busts by Bacon; but the few are fine in conception, and very fine in execution. His King George III., at the Society of Antiquaries, has an indescribable excellence in it,—unlike Nollekens and unlike Chantrey. There are duplicates of his "What George, what Third" equally fine. The "carving" I can compare only with the die-sinking of Simon in the far-famed "Petition Crown" of Charles II.:—that crown—the envy of all collectors of coins. My old friend Joseph Theakstone, of whom I have already made mention in this series of articles for his unequalled skill in making marble look like satin or ermine, wrought under Bacon, and from his conversation while at work in Chantrey's studio, my father derived all he knew from "men" of Bacon as a man.

That Bacon should die worth "sixty thousand pounds," *without* making busts, seems to me inexplicable, and that Flaxman should die worth only "four thousand pounds" (equally unproductive as he was of busts), seems to me incomprehensible. The money amassed by Nollekens and Chantrey, married, but childless (one greedy, the other grasping) I can understand; but I cannot see how Bacon acquired, by sculpture alone, the large sum he was unable to take with him. And here I will observe that the English sculptor who should have amassed the most money from what physicians and lawyers call their "practice," was the elder Westmacott. Sir Richard flourished in the great era of Parliamentary votes for soldiers, seamen, and statesmen, and had *more* than three sculptors' shares of the monuments voted by Parliament. What was Sir Richard Westmacott's property "sworn under" at his death?

"*Si monumentum requiris*" is Sir Christopher Wren's best monument; a like inscription should have served for Guy, the founder of the noble hospital in London which bears his name. There were Guy governors, however, who, when Bacon was alive, thought otherwise; and Bacon, at the cost of one thousand pounds (prices of labour, skilled or otherwise, I like to quote and see quoted) made a monument to Guy, that,—"shouldering God's altar," as it does,—adds nothing to Guy's munificence of soul, or Bacon's fame as one of the greatest sculptors England has produced.

PETER CUNNINGHAM.

LECTURE ON SCULPTURE: ROYAL ACADEMY.

THE subject of the fourth lecture delivered by Professor Westmacott, was the great importance to sculptors of practising their art strictly according to those conditions which enable them to develop its special resources. It was explained that, though painting and sculpture have a common object in addressing themselves to the senses, they have totally distinct means of doing this; the one affecting its purpose through colour, the other through form. In like manner, the mode of using these means differs according to the capabilities afforded by the language belonging to each art. The success of each depends upon the right use of its own means; and the attempt to appropriate what is essentially an element of success in one with the view of assisting the other, must result in weakening, instead of strengthening, its effect. To give positive substantial form to any object in a picture, would inevitably destroy the effect of all other flat parts of the work; because the raised object would not only impede the view of other objects, but it would, of course, carry its own proper lights and shadows, which latter would obtrude themselves in the place of the picture to the detriment of the painted portion; and if the picture should happen to be so placed that the natural light should fall from the right hand, while the painter's simulated light falls from the left, the real shadow of the relieved object would cross those of the picture.

Again, on the other side; treating sculpture—an art strictly confined to form—in the same category as painting, with respect to subjects chosen for representation, and to the arrangement of extended compositions, involves the danger, nay, the certainty, of similar contradictions and anomalies.

The question of colouring and tinting sculpture is not necessarily connected with the present inquiry, which is addressed rather to design and composition. Nor will it be expedient to enter upon the best mode of designing single statues or groups. Being seen all round, these must always produce their own natural effect. They will have true light and shadow wherever they may be placed; differing in this from a picture, inasmuch as the painter, whose composition is independent of natural effects, may arrange his simulated *chiaro 'scuro* in any way he pleases. It is not intended to say that composing a statue or group is not a matter of great importance and difficulty, requiring study, and calling for the feeling and judgment of a true artist; but the object of the remarks here offered is to show how much more is required, in the case of sculptors, in choosing such subjects as shall come within the possibilities of their art when they have to do with such complicated or extended design as may be attempted in *rilievo*.

One of the greatest dangers, in sculpture, is the fascination of the picturesque; by which term is meant here the temptation to arrange a design on the principle of a picture; with a variety of objects, on different planes, with middle distance and background. They are thus induced to introduce accessories, quite forgetting that what the imagination is supplying while they work is absolutely unproduceable in fact, and it is with fact only that a sculptor has to deal. Whatever impression he means to produce upon the spectator must be effected by the only means at his command, the form of the object. It becomes, then, a question of the highest importance to him what subjects allow of formal presentation and what do not.

An artist may sketch in mere outline, in black chalk, pencil, or with pen and ink, a fancy subject, and may clothe it, in imagination, with every fascinating accompaniment; the gorgeous brilliancy of sunrise or sunset, or the lurid effects of night, and storm, and darkness; but this is not yet a work of art: these effects are only supposed by himself, not represented to the sense of others. But if our artist be a painter he may do this. He may at once make his sketch day or night, light or dark, as he pleases. He may enrich his work with all the hues of the rainbow, and force the spectator to participate in his invention and fancy.

But suppose the artist to be a sculptor. Let him have made his pencil sketch, preparatory to the execution of the work itself. Let him try to supply by means of his art what the painter has done by his. How will he succeed with his sunrise or his sunset? How is he to express day or night, light or darkness? Can he render light at all, so as to give any character to a composition? No, and to pretend to do it is extreme folly. A sculptor's sun can only look like a flat disk or counter, and his rays of light, if he should have the boldness to attempt to make rays of light palpable, will assume the form of a carefully arranged bundle of matches, radiating from counter aforesaid. The painter has also another power denied to the sculptor. He can, at least apparently, throw distant objects into perspective. Sculptors have attempted this also by the incomplete devise of making some objects very small compared with others, as if taking one condition of receding lines would supply all that is necessary. The effect of the interposition or air tints is quite as essential here as diminution of size, and perspective without atmosphere is an anomaly in a completed work of art. But every object in sculpture must have or should have its proper form, and how would a sculptor prevent the shadow of any figure falling right across his sun, be it rising or setting, or his clouds, or against the top of a tree meant to be, perhaps, miles off? A work, whether in *basso* or *alto-rilievo*, depends upon its position, as regards positive light, for its effect; and the sculptor should always remember that a shadow, naturally cast, is as strong in colour from a small object as from a larger one, though there may be less of it; so that the shadows thrown from the rays before alluded to would be in their colour as intense as those cast by any foreground object. The doctrine here laid down was enforced by a reference to various interesting examples exhibited on the walls, from Ghiberti, B. Cellini, and others, showing the effect of disregarding this principle, while Mr. Westmacott observed that there scarcely is an instance, if one, in the sculpture of the best schools of Greece where the subject is represented in different planes. This is a valuable fact if any stress is to be laid on the lessons afforded us by the greatest masters of the art.

The sculptor may ask what he is to do when he is called upon to represent buildings in perspective, backgrounds of landscape, and similar subjects. From what has been said it would seem his reply should be a very simple and a very sensible one. If his art cannot do it, as he knows it cannot satisfactorily, let him say so, and refuse to weaken the power he really has by frittering away his time and talent on what never can do him credit. A painter would not accept a commission in which he should be required to represent his foreground groups in relief; and still less would he undertake to expressing the rolling noise of thunder, or the sounds of harmony. The sculptor's sunset, or tempest, with its lurid clouds and pelting rain, are in precisely the same category. They are beyond his art, and he must leave them alone. Though in the case of such works as medals and coins, some modification of the rule might, perhaps, be allowed, even the great skill of some of the medallists of the sixteenth and seventeenth centuries cannot altogether reconcile us to the infringement of a law founded on reason and sound principles.

Having thus shown the conditions by which the sculptor is bound in the exercise of his art, the lecturer said it followed, of course, that there must be a class or character of subject more or less fitted for sculpture. It did not at all imply that sculpture was an art without sufficient force and power because it could not safely adopt the special qualities of another art. On the contrary, using its own means judiciously, and not challenging comparison where none can properly exist, it is an art capable of most powerful appeal to the sense. Nor does the limitation insisted on necessarily make it tame or ineffective, nor does it deprive it even of the element of picturesqueness up to a certain point. This was exhibited in the case of the frieze of the Parthenon, representing the busy crowding, the variety of character, and the lively movement of the various personages engaged in the Panathenaic procession. No work we are acquainted with gives so valuable a lesson for the guidance of the sculptor, in extended design, as this. He will have no reason to think humbly of his art when he sees, as here, how one of the most difficult complicated subjects may be treated by true genius submitting itself at the same time to wholesome laws.

The great principle the sculptor should keep steadily before him is that, as his means are of the simplest,—form only,—so the spirit of his designs should be under that influence. He must remember that the subjects he is to represent by his art can only be effectively prosecuted when they enable him to expend upon them all his own great resources. In the preceding lectures, on form, the value of simplicity and breadth was strongly urged, against the opposite of cutting up the masses by unimportant details and small parts. In selecting subjects for sculpture the same rule should be obeyed, and those should be preferred that will allow of a mode of treatment which will give force to these essentially-valuable qualities; for what applies as an objection to small parts in form, applies equally to introducing too great variety and multiplicity of materials in design. The object the sculptor should try for is, to fix attention at once on his work, and by concentrating and intensifying the motive of his design, to incite all the interest of the spectator. Attempting various effects, and employing means out of the legitimate pale of his art, can only distract the attention, invite unfavourable comment and criticism, and weaken the impression intended to be made.

FALL OF AN ARCHWAY AT LEEDS.—An arch which has just been completed in the basement of a building in Commercial-street, about to be transformed into a bank, has given way, burying two men beneath the ruins. One was taken out dead, and the other lies at the Infirmary in a precarious condition.

THE LATE DUCA DI SERRADIFALCO.

OLD members of the Institute of Architects, or those whose travels extended to Palermo, can scarcely be ignorant of the name of the Duke di Serradifalco, an honorary and corresponding member of the Institute, whose death has recently been recorded.

Domenico lo Faso Pietrasanta; Duca di Serradifalco, e Principe di Sto. Pietro, under the influence of the lessons of Cagnola of Milan, manifested early in life a taste for archæology, which in the course of later years developed itself in the investigation of the architecture of the ancient Greek and Siculo-Norman periods in Sicily. His chief work, in five folio volumes, "*Le Antichità della Sicilia*," was undertaken prior to 1834, in which year the two first volumes were published at Palermo; and the subsequent volumes appeared in the years 1836, 1840, and 1842. The work relates to the remains of Segesta, Selinus, Girgenti, the ancient Agrigentum; Syracuse, Catania, and Taoromenia, and others; each volume comprising from about 100 to 300 pages of letterpress, and about twenty to forty illustrations—some of which are lithographed, but the bulk of them engraved. Amongst the matters of detail which these illustrations present, are many concerning polychromy. These, however, may be serviceable chiefly to those who read the text,—many of the illustrations belonging rather to restoration than to representation of fragments in the broken and half-obliterated state in which they must have been dug up or found. In 1838, or prior to the completion of the work above mentioned, the Duke published a folio volume on the Church of Monreale and other churches of the Siculo-Norman period,—"*Del Duomo di Monreale, e di Altre Chiese Siculo-Normanne*,"—containing eighty-nine pages and twenty-eight lithographs and plates, besides vignettes. This work, along with the illustrations of the churches of Monreale and Cefalu, which illustrations, unfortunately, are wanting the colour, gives plans of many Eastern and Western churches on the same sheet, so that features of the leading examples of different countries can be compared.

The Duke di Serradifalco, during many years, was the head of the Sicilian cabinet; but his opposition to the anti-constitutional measures of the Bourbons in 1812 to 1814, threw him into the different sphere in which his taste for antiquarian pursuits found occupation. In 1848, however, prior to which time we recollect his attendance at a meeting of the Institute, he directed, with Ruggiero Settimo, the insurrectionary movement in Palermo, when he took a seat as an hereditary peer, in the Senate, of which he was chosen president; and he soon afterwards accepted the mission to offer the Sicilian crown to the Duke of Genoa. The result of the Sicilian movement procured him the honour of exile at the hands of Ferdinand II. He took up his residence in Florence, where even subsequently to the liberation of Naples and Sicily, he continued to reside; and, there, he lately died, aged eighty-two years. The Duke di Serradifalco was a member of all the chief academies and societies of Europe, including the Institute of France (Académie des Beaux Arts), the Archæological Institute of Rome, the Lombard Institute, academies of Naples, Palermo and other Italian capitals, the Historic Academy of Sweden, and others. He was also we believe, a doctor of the University of Oxford, and a commander in the French Legion of Honour. He is said to have left a large fortune to his only daughter, who is married to the Marquis de Torrearsa. A lithographed view of his villa at Palermo, heading a letter written presenting one of his volumes to the Institute, which letter is in the copy of the work, may bring back pleasing recollections to some of those we have alluded to, to whom this learned and excellent Italian nobleman showed hospitality and attention.

MARLBOROUGH HOUSE, LONDON.

FOR a long time past works have been going forward in this—so far as the exterior is considered—unsightly palace. Indeed, we are not fortunate in our metropolitan palaces generally, and few things are more disappointing to the stranger who comes "lion hunting" to London than the sight of Buckingham Palace and St. James's; notwithstanding, the former has some good points, seen from the garden, but the parts which are presented to the sight of the public are unsatisfactory. Two or three picturesque peeps at St. James's may also be obtained, but upon the whole, both as regards it as an architectural feature of the metropolis and a place for court ceremonials, it is unsightly and most inconvenient for the purposes to which it is at present applied.

Little can be said in favour of the external appearance of the future residence of the Prince and Princess of Wales, notwithstanding that it was designed by Sir Christopher Wren. Even its best front, which faces the park, is heavy and dull, and the effect has been still further damaged by the removal, at some time, of the sculpture from the niches and some other parts, which we meet with in the old views. A raised terrace next the park screens a garden of considerable extent from the view of passengers that way, and in the grounds there are some very fine trees, which, in the summer-time, have a pleasant look. Even now the birds are singing pleasantly amongst the branches, to an extent which few would think likely so near the bustle of a great city. The whole surface of this garden has been recently drained with care, but the spot has suffered some neglect since the late Queen Dowager's residence here. With skilful and tasteful gardening, and the judicious introduction of fountains, fit pieces of sculpture, and plants and flowers, it may soon be made an agreeable spot. Towards Pall Mall, adjoining Marlborough House, are seen part of St. James's Palace and the German Chapel on one side, and on the other some curious groups of the backs of old houses which front towards the street; these are, however, partly hidden by the new stables, which are of considerable extent, and promise to be good specimens of their kind of construction.

Those who remember Marlborough House when it was occupied by the schools of art and the Vernon pictures, would be surprised at the change which is wrought in the interior. Skilful decorators have been engaged on it; and, as the late lamented Prince Consort planned, and for some time superintended, the arrangements, we have no doubt that, when the furniture and pictures come into their places, the apartments, if not grand or striking, will present an appearance of much elegance and comfort. The painted staircase is spacious; and some of the chief apartments are of good proportions; but in other parts the accommodation needed for so large a household will be found with difficulty. Some of the rooms will need care as to ventilation.

When all is complete, the decoration of this house will form a useful study; and it will be seen that, although various kinds of ornamentation have been used, these are made subservient to the preservation of the general good effect.

The Pall-mall entrance to this house is inconvenient, and even of poorer appearance than the garden frontage. The duchess of the great Duke of Marlborough formed a new entrance, and was busy making the necessary purchase of the adjoining property, when Sir Robert Walpole, wishing to vex her, stepped in and bought the leases she was looking after. Respecting Marlborough House Pennant says,—"To the east of St. James's Palace, in the reign of Queen Anne, was built Marlborough House, at the expense of the public. It appears by one of the views of St. James's, published before the existence of this house, that it was built in part of the Royal Gardens, granted for that purpose by her Majesty. The present duke [Pennant writes in 1793] added an upper story, and improved the ground floor, which originally wanted a great room. This national compliment cost no less than 40,000*l*."

As regards the site, Pennant's account is corroborated by other authorities, who say that the mansion of the famous John Churchill was built on ground "which had been used for keeping pheasants, guinea-hens, partridges, and other fowl, and on that piece of ground taken out of St. James's Park then in possession of Henry Boyle, one of her Majesty's principal Secretaries of State." But as regards the building of the house the Duchess of Marlborough gives an account very different from Pennant. She says, "The next grant of which by my Lord Godolphin's means I obtained the premises of the Queen [Anne], after the Queen Dowager's death [Catherine, Queen of Charles II.], was the ground in St. James's Park, upon which my house stands. This has been valued by my enemies at 10,000*l*.,—how justly, let any one determine who will consider that a certain rent is paid for it to the Exchequer, that the grant was at first but for fifty years, and that the building has cost between 40,000*l*. and 50,000*l*., of which the Queen never paid one shilling, though many people have been made to believe otherwise."

In 1817 Marlborough House was purchased by the Crown for the Princess Charlotte and Prince Leopold, the present King of the Belgians, and after the death of William IV. was the town residence of the Dowager Queen Adelaide. In 1850 the mansion was settled on the Prince of Wales, on his attaining his eighteenth year, and meanwhile the building was granted, as we have already said, to the Department of Practical Art.

We do not meet with many historical associations in connexion with this place worth mention. The Great Duke, however, died here in 1722, and a pompous funeral procession issued from the plain, ill-fashioned gateway. Afterwards the duchess, in bed as usual, received the Mayor and Corporation of London when they came to thank her for the present of a fat buck. On such occasions the rather querulous lady loved to talk of her neighbour George the king, at St. James's Palace. It is asserted that Wren was employed to design this building for the purpose of mortifying Vanbrugh. It cannot be said, however, that the result was satisfactory.

At one time the Prince Regent had an idea of connecting St. James's Palace with Marlborough House and Carlton House, for the purpose of forming a gallery of Royal and other eminent personages. This plan, it is reported, gave place to some other proposed by Mr. Nash.

OTTAWA (CANADA), WITH ITS PARLIAMENT BUILDINGS.

A VIEW has been published, which gives a good idea of the magnitude and importance of the Parliament Buildings, now in progress of construction in the new capital of the Canadas; the selection of which, it will be remembered, was made by the Queen on its being jointly referred to her Majesty by the colonial legislature. The foundation-stone was laid with great ceremony by his Royal Highness the Prince of Wales on the occasion of his visit to the British North American provinces in the year 1860. The works, although stopped in the winter of 1861, have progressed considerably since their commencement; the masonry of the Government offices on the eastern and western blocks of buildings being now completed, excepting the towers. The Parliament Houses, or central building, with the legislative halls, cannot be reported in so forward a state; but it is said, should building operations be commenced vigorously in the spring, that the edifices will be ready for the occupation of the Canadian Government, with the various departmental suites of offices connected therewith, early in next year; so that the perambulating system hitherto adopted, with the accompanying heavy expenditure, it is hoped will be terminated with this last removal to Ottawa. There seems no longer any doubt but the decision of her Majesty will be carried out in good faith by her loyal Canadian subjects; all opposition and conflicting interests having now effectually died out on this long vexed question between the colonists.

The grounds will be laid out, having raised terraces, and walls terminated with drinking fountains, forming the quadrangle, in the centre of which it is proposed to place a statue of her Majesty; the whole to be inclosed with dwarf boundary walls and ornamental wrought-iron railing. The heating of the buildings will be effected by means of steam pipe coils throughout; the system being that generally known as the vault system. These vaults, with the cold air ducts and the various ramifications for ventilation, communicating with the external atmosphere, terminating in the retaining walls facing the river, have been constructed at great cost to meet the necessities of the climate.

The works are being carried out by Mr. McGreevy and Messrs. Jones, Haycock, & Co., contractors, under the direction of the architects, Messrs. Stent & Laver, and Messrs. Fuller & Jones.

THE PRINCE CONSORT MEMORIAL, HASTINGS.

IN April last a premium was offered by a committee, consisting of the mayor, Dr. Cross, and several other influential gentlemen of Hastings, for the best design of a memorial of H.R.H. the Prince Consort. Thirty-seven designs were sent in. After they had been exhibited, one by Mr. Edward A. Heffer, Liverpool (a pupil of the late Mr. John Thomas), was selected, the committee appointing him to carry out the work of erection at once. This he is now doing.

The accompanying engraving represents the north-west view of the chosen design, which takes the form of a clock tower, 65 feet in height. The style is Perpendicular Gothic.

The memorial, now considerably advanced, is



THE PRINCE CONSORT MEMORIAL, HASTINGS.—Mr. Edward A. Heffer, Architect.

situate at the Priory, at the junction of seven streets. The borough arms will be carved upon a shield in panel above the doorway; "Albert the Good" being inscribed in bold raised letters on ribands.

A polished red granite drinking-basin will be fixed in a panel on the east side of the tower.

The capitals of the octagonal shafts at the angles of basement will be richly carved with oak, vine, and other leaves.

The statue, of Portland stone, will represent the Prince Consort in the robes of a Knight of the Garter, and will be supported by an octagon pedestal of elaborate design.

The cornice below the clock chamber, 2 feet 5 inches deep, will be supported by eight carved corbels, and the capitals of angle columns, the caps being 9 inches in diameter at necking, and carved.

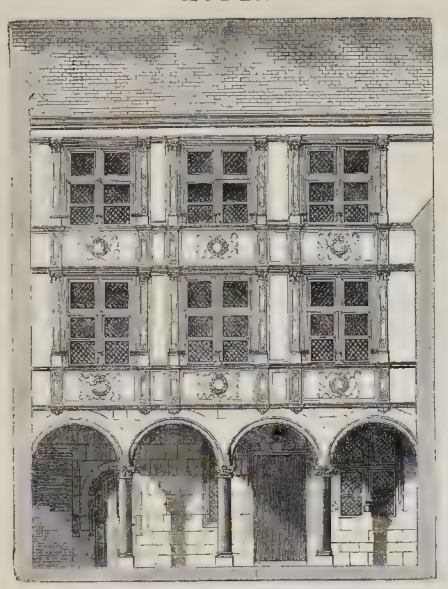
The dials, 4 feet 6 inches in diameter, are intended to be illuminated at night. The panels below will be filled in with the arms of his royal highness.

The bell-turret, with louvres of stone, rises above the clock chamber, and is surmounted by spire and vane, the latter having the royal initial "A" pierced through, and gilded.

The staircase, of forty-four steps, is of Yorkshire stone; the rest, excepting the statue, entirely of Bath stone. The door is of oak: the ironwork is wrought and painted. The diameter at base is 15 feet; the height, as already mentioned, 65 feet.

The contractors are Mr. Edwin Stirling, of Liverpool, and Messrs. Cowley & Pattenden, of Hastings.

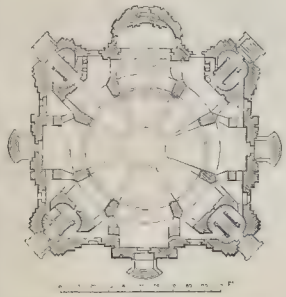
MODERN STYLES OF ARCHITECTURE.*



House of Agnes Sorel, at Orleans.



Tower of the Seo, Zaragoza.



Plan of the Liebfrauen Kirche, Dresden.



Plan of Church at Lodi. Scale 100 feet to 1 inch.



Section of Church at Lodi. Scale 50 feet to 1 inch.



View of the Liebfrauen Kirche, Dresden.

[* See p. 161, *ante*.

THE INTENDED PUBLIC OFFICES.

Correspondents are expressing their astonishnt at the slow progress made with the works for intended public offices at Whitehall, and the ence of information on the subject. No one ows what is proposed, or *when* it will be done. e, "An Official," writes—"The public look to , Mr. *Builder*, to enlighten them on the subject, to press on the works, that the rents now paid the country for insufficient, shattered, and ly-situated offices, may stop. Is Mr. Scott crastinating in hopes of Lord Palmerston's ng "out" sooner or later? or does he set his life inst his lordship's? The architect's heart not be in the work!"

THE LATE MR. CHARLES WILSON, ARCHITECT, GLASGOW.

At the last meeting of the Glasgow Architecal Society, Mr. Salmon gave some particulars of life of Mr. Charles Wilson, late President of t Association. He said,—The eminent position ich Mr. Wilson occupied as an architect, not y in this city, but in Scotland, would of itself e insured, in the contemplation of his decease, liveliest interest. But when to his eminence an architect we add the unassuming kindness his disposition, the willingness with which he ered into every proposal for the elevation of hitecture, and the prominent part which he k in the establishment of the various architecal societies of Glasgow, we truly feel the greats of the loss which, in his death, the profession sustained. So far as I have learned, Mr. lson commenced his studies as an architect in office of the late Mr. David Hamilton, someere about the year 1827 or 1828. His progress a student may be gathered from the fact that in or three years after serving his apprenticeship commencing business for himself, he had uired sufficient talents and information to alify him for undertaking some of the most imtant works in this city and neighbourhood. e Lunatic Asylum, with so many marks of ture thought and knowledge in its composition, one of his earliest works, having been comnced about the year 1842. Following this, in id succession, when his youth is considered, we d him engaged in the erection of Lewis Castle, sgow Academy, Shandon House, the Southern cropolis, St. Peter's and St. Stephen's Free urches, Royal Bank Buildings, Buchanan-eet; Nelson Institution, Paisley; West End rk, with its stairs and terraces; Faculty Hall, een's Rooms, Free Church College and College urch, Rutherglen Town Hall, and Eastwood rish Church, not yet finished. Besides this , however, which embraces only a part of . Wilson's more important works, we know t he erected in all parts of the country a very at number of churches and first-class mansions, ry one of which exhibits some mark of his hly-cultivated taste and good advancement sthetic feeling and constructive skill. With ard to the merits which may be justly claimed his works individually, this is scarcely the e to refer. The memory of our departed bror has, for the time, too strong a hold upon our ctions as a friend to permit our thinking or aking of him in almost any other light. His tle manners, his readiness to help and advise, entire freedom from professional jealousy or le, and his other amiable qualities enlist our pathies far too deeply to permit us, with the so recent, to take up with sufficient calmness cooler work of critical animadversion. Let it fice in the meantime that I remind you that talents, naturally of high order, had been cultated and refined by great research and unusual ustry;—that to readiness of conception and ility of hand, he joined a correctness of taste ich has imparted a decidedly pleasing aspect to great majority of his works;—and that, as a eral reflection, we cannot but allow, in one en away so comparatively young, that there e been few architects whose productions will ter stand the investigations of the critic. Mr. lson does not seem to have been wed too exclu-ly to any one style; though, if there was a bias, was probably in favour of Free Roman Italian. this style we find some of his best works, such he Faculty Hall, the Queen's Rooms, and the e College. On the other hand, however, we d him with equal success producing the Gothic rches of St. Stephen's and St. Peter's, and t Scotch baronial edifice, the Rutherglen Town-. The younger members of the profession now ent may advantageously take a lesson as well from his great success in the profession, as from the equally great industry by which it was accomplished. Without a metropolis to encourage his energies, or titled friendship to open the doors of patronage, we find our deceased brother, year after year, rearing new trophies of his skill, trophies—as they should do—increasing as much in number as in excellence, and indicating by no means faintly, what a still higher position he would have attained had he lived to develope the fuller maturity of his talents.

PROPOSED DESIGN FOR THE BENEVOLENT ASYLUM, DUNEDIN, OTAGO, NEW ZEALAND.

The design selected is by Mr. R. A. Lawson, architect, Dunedin. It is Late Tudor in style, to be built with red bricks and stone dressings. The wing to be presently erected is to cost 2,000*l.*; the whole building complete, 8,000*l.* The wing is to accommodate fifty persons; the whole building, 150, with suitable offices, yards, and accommodation.

The site overlooks Dunedin Harbour and town, and is a Government grant to the institution.

ALDEN'S TYPE SETTING AND DISTRIBUTING MACHINE.

The Americans seem determined to supersede the present mode of type setting and distributing. Another new machine is described in the *Scottish American Journal* of New York. This machine is said to be superior to Mitchell's, Young's, or any other. Eighty machines have already been sold,—the *New York Herald* and the *New York Times* each ordering twelve, and several other New York papers having it now in use. The type setting and distributing are both carried on by one machine, and can be both worked at one and the same time. Ordinary types can be adapted to the machine by merely being nicked in a particular way, and the proper types are said to be cheaper than ordinary types. The machine is said to almost do away with proof reading. The cheapening and improving of papers and books is contemplated by our go-ahead cousins rather than the throwing of compositors out of work; and indeed, if a really practicable machine be got, the whole history of machinery proves that the number of compositors employed may largely increase instead of being diminished. Alden's machine is said to do the work of twelve compositors by means of two; and all the different characters and spaces required in both book and newspaper work can be set up or distributed by the machine. The general appearance of it is that of a large semicircular table with horizontal wheels in the centre, surrounded by radiating grooves and other apparatus, with key-boards at the straight end of the table, which seems to admit of the compositor being comfortably seated.

MAPS OF METROPOLITAN RAILWAYS.

Maps have been published by Mr. Sandford, of Charing-cross, and Messrs. Vacher, of Parliament-street, showing the various proposed railway and other plans brought before Parliament in the present Session; also the railways sanctioned and in operation. Mr. Sandford's lines are marked on a plan of London, showing all the town; Messrs. Vacher's on a skeleton map, showing only the leading streets. They must interest a large number of persons. Public attention is now awakened to the damage with which the metropolis is recklessly threatened, and it may be hoped that careful consideration will be given to the various schemes, so that a satisfactory result as a whole may be obtained. An officer of the Board of Trade has been instructed to inquire into the various schemes and report on them, and this report will be brought before the House. A committee for the purpose would have been better.

FRANCE.

One of the most interesting modern edifices, of Paris, in an historical point of view, the barracks of the Rue de Tournon, is undergoing a thorough repair externally and internally. This mansion was built in the seventeenth century by Concino-Concini, who, coming into France with Marie de Medicis, was all-powerful after the death of Henry IV.; and became, as Voltaire has remarked, a minister without knowing the laws of the kingdom, and a marshal of France without ever having drawn a sword. At that period the "Hôtel de Tournon" was the most sumptuous residence in Paris; thus, in April, 1617, when it was given up to pillage after the death of Concini, who had been assassinated at the Louvre by the king's order, 200,000 crowns' worth of jewels were found in it. Falling then into the hands of the new favourite, M. de Luynes, it was, from its proximity to the Luxembourg, inhabited by Louis XIII., who wished to be near his mother. Under Louis XIV. this residence was used as a house of reception for foreign extraordinary ambassadors during the three first days which followed their reception. Before being presented to the king they alighted at the Folie-Rambouillet, a country seat then situate *extra muros*, and of which some vestiges remain in the Rue de Charenton: after the official introduction they were conducted to the Hôtel de Tournon, with all the court ceremonies and the *cortége* of welcome in those times. Thus there were lodged from time to time many notable personages and representatives, such as the ambassadors of the king of Siam, of the Czar of Moscow, those of the Order of Malta, &c. In the time of Louis XV., Mancini-Mazarini, Duc de Nevernay, obtained this residence in exchange for the Hôtel de Pont Chartrain, and died there. Under the Empire it was occupied by the Councillors of State controlling the national domains. At the restoration, it was given to the Duchess Dowager of Orleans, widow of Philippe-Egalité. In 1830 it was converted into barracks for the Municipal Guard.

The French administration, convinced that the cheap transport of merchandise can only be effected by water conveyance, have started in all parts of France, we learn from French journals, works of importance to ameliorate all the navigable channels of communication; and those lines in contact with the capital have received every attention. Among these we may mention the great canal uniting the Seine with the Rhine, from Strasbourg to Havre, and consequently between Mulhouse and America—a most important commercial enterprise. The works of this canal, which is principally formed by the canalisation of the Seine and the Marne, in the fraction lying in the communes of Saint-Maurice and Charenton, have met with delays, occasioned by the presence, at the junction of this part with the Seine, of a subaqueous boulder, of formidable dimensions, which it was necessary to remove by breaking it into small fragments before the piles could be driven: at length this obstacle was removed and the concrete foundation was enabled to be laid for the last lock of the canal. The height to which the waters of the Seine have now risen has prevented the works from making further progress.

In order to facilitate the execution of this canal through the midst of the several islands in the river Marne, above the Pont du Charenton, it has been deemed necessary to throw into it the portion below the bridge of the smaller arm of the stream. As to its upper part, through the village of Saint-Maurice it was proposed to fill it up, but that could not be done on account of the several mills worked by it; therefore it has been left untouched as far as the lower part of the Moulin Saint-Maurice, the point where it turns to the left into the Marne by passing under the canal; and the rest has been filled in. An aqueduct here carries the canal over the river.

This fraction of the Seine and Rhine canal forms a portion of the section comprised between Charenton and Dizy, near Epernay. The surveys for another section between Vitry-le-François and Saint-Dizier have been partly approved, and the first lot was contracted for last summer.

On the Haute Seine, between Paris and Montereau, twelve weirs furnished with sluices are being constructed, in order to substitute a regular navigation on a constant level of water to that intermittent service, by numerous locks, which has subsisted for a great many years. Three of these barrages are completed, and the remaining nine are far advanced. On the Yonne eleven similar works are to be established, in order to continue as far as La Roche, the point of affluence of the Burgundy canal, the system of navigation adopted in the Haute Seine.

In the Lower Seine, between Paris and Rouen, the works of the Andresy dam are terminated: those of the Marlot supply canal are being actively pushed forward; and below Rouen, the prolongation of the *digues* of the Basse Seine, between Tancarville and Larogue, has been attended with satisfactory results.

Considerable works have also been undertaken to improve the state of existing canals in France. They are now being carried on at the Canal du Centre, that from Nantes to Brest, those of L'Ille

to Rance, Blavet, the Ardennes, Calais, the Somme, Les Etangs, and from Arles to Bouc. They consist principally in deepening, widening, &c. Indeed, it would appear that all the grand aquatic lines of communication in France are likely to be now brought to perfection by the application of all modern improvements; and to this end considerable sums of money are to be devoted.

COMPETITIONS.

Freemasons' Hall.—Sir: Last week your journal contained an advertisement offering premiums for designs for the improvement of the Freemasons' property in Great Queen-street, Lincoln's-inn-fields, for which I felt disposed to become a competitor, on the assumption that the architect of the best design was to superintend the work.

But, to my great surprise, I found on inquiry that the architect would have to be satisfied with the premium offered, as the committee have no power to employ any one but the massive officer known as the "Grand Superintendent of Works;" in proof of which I was referred to the following extract, taken from folio 39 of the "Book of Constitutions:"—

"The Grand Superintendent of Works is to advise with the board of general purposes on all plans of buildings or edifices undertaken by the Grand Lodge, and furnish estimates; he is to *superintend their construction*, and see that they are conformable to the plans as approved. He is, at the first meeting of the board of general purposes in every year, to report on the state of repair of the edifices of the Grand Lodge, and make such further reports from time to time as he may deem expedient."

I would, in conclusion, state that the office of "Grand Superintendent of Works" is filled by an architect of considerable ability and standing in the profession; and that the "Book of Constitutions" contains the laws by which the Masonic body is governed.

A. B.

Hall, Tunbridge Wells.—The shareholders of the new Public Hall, at Tunbridge Wells, have selected, from many others, the design of Mr. Jas. Wilson, F.S.A., of Bath. The building is to cost 6,000*l.*

Florence Cathedral Façade.—The first three premiums have been withheld. The three minor prizes have been given, in order of merit, the first to No. 42, the design of Signor Carlo del Conte Lorenzo Cappi, of Turin; the second to No. 25, by Signor Mariano Falcini, of Florence; the third to No. 38, by M. Wilhelm Peterson, of Denmark. The designs numbered 28, 29, 34, 22, 31, 37, have obtained honourable mention, and the judges await the consent of the architects to make their names public. The judges consider the competitive prizes as failures; but they promise to do their utmost to promote a future competition for the purpose of obtaining a worthy design for the completion of the Duomo.

PROVINCIAL NEWS.

Hertford.—The New Waterworks at Hertford have been opened. They have been completed at a cost within the amount of the original estimate. Mr. Gravatt and Mr. Bailey, the engineers; Mr. Bugbird, the contractor; and Mr. Horne, the maker of the steam engine, were present, with members of the Corporation, at the opening. The engine-house is at Port-hill. The reservoir contains a depth of between nine and ten feet of water, contrasting pleasantly with the river water, which for so many years has been supplied to the town. The experiments made with the hydrants at various points of the town, according to the local *Mercury*, were satisfactory.

Sedgley (Staffordshire).—A temperance hall has been erected here. The building is intended, when fully completed, to combine, in addition to a large room, accommodation for a ragged school, library and class-rooms for the purposes of a Mechanics' Institute and a Working Men's Club. At present, only the lecture-hall is completed, but a room on the ground floor for ragged schools will soon be ready for use. The erection of the remaining portion of the building is to be deferred until the necessary funds can be raised. The architect of the building, which, so far as the works have gone, is of plain construction, is Mr. W. Bourne, of Dudley, and the contractor is Mr. John Hilton. The site is a piece of land adjoining Townsend House, facing the Wolverhampton and Sedgley Turnpike-road. The now vacant space in front of the hall will be occupied by a building proposed to be used as a Working Men's Club. Some spare land at the back of the hall will be available as a recreation ground.

Bristol.—A lofty chimney-stalk has been run up in the rear of Redcliff-street, for Messrs. Baker & Sons, the extensive millers and corn-factors. The firm have also erected for their steam flour-mills a massive block of buildings which now forms one of the prominent objects on the banks of the harbour. The structure is built on an area of 83 feet by 57 feet; and in order to get a foundation, the builders had to sink 27 feet below the water level, and consequently the edifice rests on a foundation of concrete 27 feet deep. It has been built of Hanham stone, and runs up to a height of 85 feet, the walls being about 3 feet thick. The large warehouses are capable of receiving and storing 10,000 quarters of corn; and running through each story are huge beams, secured at each end by stout iron bars. Through the centre of the structure the massive chimney-stalk has been reared to a height of 130 feet. It is built nearly square, the base being 11 feet by 11 feet 6 inches, and the top 10 feet 6 inches square. Round the summit a freestone facing has been fixed by iron bars and stanchions, and the surface is capable of seating eighteen persons. The first 30 feet of brickwork are 2 feet 3 inches thick, and for the remaining 100 feet the brickwork is 2 feet thick. The architect was Mr. Hirst, and Mr. John Harry acted as foreman of the works.

Swansea.—The scheme to provide a large public hall for Swansea has virtually succeeded, according to the *Cambrian*. The committee have already received 2,400*l.*, or rather have allotted 2,400 shares of 1*l.* each, and the remaining portion has been promised. The transfer of the ground is being legally prepared, and some five or six plans of the building have been received. Most of the designs, it is said, fulfil the requisite conditions, viz., a large room capable of containing about 2,000 persons, with refreshment rooms, orchestra, &c., complete. The cost being limited to 3,000*l.*, of course no very great architectural display has been aimed at.

SCHOOL-BUILDING NEWS.

Loughton (Essex).—These schools, with teacher's residence, of ornamental and pictorial character, in Early English, are to be carried out at once, at a cost of about 1,300*l.* Mr. Thomas Henry Watson is the architect. Enlarged schools have long been wanted in this now populous neighbourhood.

Peckham. — The Collyer's Memorial Schools, Peckham, are now roofed. The architect is Mr. J. G. Stapelton, jun. The contract for the works was taken by Mr. Thomas Rudkin, builder. The school is a parallelogram, 65 feet by 32 feet, proposed to be divided by a movable partition; at one end there is a raised platform at a level of 3 feet from the floor, surmounted by a brick niche. At the back of the school there are an infant school, two class-rooms, and a waiting-room between. One side of the school fronts to the high road. In the centre of this front there is a transept with two porches, one on each side. The details are worked in stone, and red and black bricks.

Wheathamstead (Herts).—The national schools have been opened. The Dean and Chapter of Westminster, lords of the manor, granted the piece of waste ground called Bury-green, adjacent to the rectory and the church, for the purpose of building the schools thereon; and it was resolved to make the building to accommodate 200 children, with residence for a master and mistress. The estimate of Mr. Browning, of Stamford, architect, amounted to 1,000*l.*; and a contract was entered into with Mr. E. Young, of St. Alban's, builder, who has completed his contract. The building is faced with black flintwork, contrasted with white Arlsey bricks. Extra charges beyond the contract raised the sum to 1,200*l.*

Stafford.—Two additions have been made to the Grammar-school building recently erected near the Newport-road. The first consists of cloisters erected at the west end, which will afford a place for shelter in wet weather. At the back of the school, with an entrance from the cloisters, a temporary chapel has been erected. It consists in the framework of iron pillars, and is lined with wood outside and inside to a certain line, above which canvas forms a sort of panel between the ribs. The space between the inner and outer skins of the building is to prevent the rapid radiation of heat. Outside, the building is not very attractive. All the fittings are of deal, stained. The chapel and its fittings were designed by Mr. Robinson, architect.

Southampton.—The Peninsular and Oriental Company's new schools, at the junction of Albert-road with Anglesea-terrace, are now completed, and consist of schools, class-rooms, recreation-grounds, &c., for children, with residence for the master and mistress, and reading-room and library for the *employés* of the company. The building is of Domestic Gothic character, and is built of red bricks, with black mortar joints, Bath stone dressings, coloured brick cornices, and string courses. It is inclosed by an ornamental iron fence, with white brick piers and stone moulded caps. The boys' and girls' schools are situate at the two extremities of the building, each being 65 feet by 30 feet, and having open timber roof of light design. Connected with the girls' school is an infant school, 40 feet by 20 feet; also a class-room for pupil teachers. The master's house is situate between the schools, having ready access with either, and also with the reading-room, 40 feet by 20 feet, situate on the first floor, and approached by a staircase from the principal entrance, connected with which is the library; also, a lavatory and other offices. Each school has a separate entrance, with cloak-rooms and lavatories attached, distinct from the principal entrance under the tower, giving access to the house and reading-room. The porch has stone moulded arches, and shafts supported on carved masked heads, representing art, science, trade, and navigation, and is paved with encaustic tiles, from the Architectural Pottery Company, Poole. The whole has been executed by the contractor, Mr. S. Stevens, from a design by Mr. W. H. Mitchell; the superintendence of the work having been intrusted to Mr. D. Geddes. The building is heated by hot water, and lighted with gas, the arrangements having been made by Mr. Geddes, and the work executed respectively by Messrs. Kent & Dain and Mr. George Hornsey. The clock has been supplied by Mr. A. Pegler, and the ground in front laid out, turfed, and planted, by Mr. A. Oakley.

Manchester.—St. Margaret's Church Schools, Whalley Range, erected in Cornbrook-street, Chorlton-road, have been opened. The two schools can be thrown into one. They were built from the plans of Mr. W. W. Whitaker, of Manchester, and are intended for Divine service on the Sunday, as well as for educational purposes during the week. The boys' room forms the nave, and the girls' the transept. There are also two class-rooms, and a third room, which will be used as the library and vestry. At the upper end of the building is a good-sized chancel, in which is a stained window, the gift of Mrs. H. B. Jackson and her daughters, from the design and workmanship of Mr. Edmundson, of Manchester.

STAINED GLASS.

East Dereham Church.—A memorial window to his father and mother has been erected in this church by Captain H. Gillett Gridley. The subject of the window, which is in the south side of the chancel, is the "Te Deum." In the tracery are the figures of St. Withburgha, to whom the church is dedicated, St. Augustine, St. Edmund the Martyr, St. Witham of the Wood, St. Thomas of Canterbury, St. Woolstan, St. Ethelberga, and St. John the Baptist. The inscription below is on freestone, inserted into the wall, the letters being deeply incised and filled in with coloured cement. The work was done by Messrs. Heaton, Butler, & Bayne.

Dartford Church (Kent).—The chancel of this church has recently been restored by Mr. Blomfield, and the large east window filled with stained glass by Messrs. Heaton, Butler, & Bayne. It has five lights, and the Crucifixion occupies the three centre ones. Around this are the beatitudes illustrated by the following subjects:—Blessed are the Poor in Spirit; Angels appearing to the Shepherds; "They that mourn;" the Holy Women at the Tomb; "the Meek;" Nicodemus "Hunger and Thirst;" the Adoration of the Magi; "the Merciful;" the Good Samaritan "the Persecuted;" Peter released from Prison "the Pure in Heart;" the Annunciation. The ornamental parts of the window are richly coloured, and on white grounds. The back grounds of the subjects are a subdued grey blue. The reredos, also by Heaton, Butler, & Bayne, is alabaster, incised with emblems of the Evangelists, and with a cross in coloured marbles in the centre.

Southwater Church.—A stained glass window has been placed in the middle compartment of the last or chancel window of this church by the incumbent, the Rev. A. H. Bridges; and it is hoped that, with assistance, the entire window may be converted into stained glass. The part already done is commemorative of the institution of the Last Supper, and the Crucifixion of our Saviour; the work has been intrusted to the same artist that executed the front window.

Wilmslow Church.—Messrs. Lavers & Barraud, ys the *Manchester Courier*, have on view a five-ht stained-glass memorial window for Wilmslow urch. The centre light represents our Saviour; d the other subjects are Joseph and Mary; St. hn, with the emblem of the eagle; St. Agnes, th the lamb; and the dispute with the doctors. e panels and canopies are filled with foliated nament. By the side is shown a small window Eccles church, representing in an emblematic le the text, "The righteous shall flourish like a m-tree."

CHURCH-BUILDING NEWS.

Ipswich.—Some important alterations to St. ry's Tower Church are in progress. The chancel he only portion of the present structure which l be allowed to remain, and even that will be siderably improved at the points of junction h the other portions of the church, by the noval of some semi-arches on each side, and by reconstruction of the principal arch dividing chancel from the nave. In all other parts of the lding, changes, restorations, and improvements l be made of such an extensive character that n they are entirely completed the church will almost renewed. All the windows in the north south aisles will be renewed in the Decorated le of English architecture, and the walls will rebuilt in hammered flint and stone in alter-e squares. The tower will be rebuilt, carried ew feet higher, and surmounted by a spire feet high. In the interior, except the columns pointed arches which separate the nave from aisles, nothing will remain in the body of the rch as at present. The pews will be replaced benches, and the present roof will be renewed ak. The design of the roof is of the Decorated od, and it is divided into compartments by beams which stride the nave and rest upon ed stone corbels on each side. The edges of e principal timbers and of all the beams are cut mouldings of an elaborate character; and d the roof of the clerestory, just below the lows, runs an oak cornice of considerable h and bearing an elaborate pattern. This cor-will be one of the most noteworthy features he church. These extensive alterations will mmenced immediately, and will occupy about years. The new designs are by Mr. R. M. son, architect, and Mr. Robert Smith will be uilder.

Idershott.—A new church for the accommoda-of the troops is fast approaching completion. imensions are 140 feet by 70 feet, and it is lated to seat 1,200 persons. It is constructed ick, with Caen stone dressings, and the cost ection is estimated at 16,000*l.* The architect . Hardwick, of London, and the builders are rs. Myers & Sons.

uth Collingham.—With reference to the allu-n our last to the necessity there was for the mittee to take the work into their own hands, nsequence of the bankruptcy of the builder, Fox; Mr. J. H. Hakewill writes,—"I think it justice to Mr. Fox to say that the works almost entirely completed before this neces-ccurred; and they have been, on the whole, executed."

ulton (Somerset).—The church here has been ed. The whole aspect of the building has changed, and, under the direction of Mr. n, it has assumed an appearance more in ng with what a parish church should be. nterior has been redecorated, the old pews ed, and open seats provided. A new chan-d organ chapel take the place of the old , and the gallery is now devoted to the modation of worshippers. The chancel is ratively small. It is paved with Minton's stic tiles, and the steps are of Kilkenny e. The chancel has an open-timbered roof, rted by six arches. The chancel has not yet completed, and it is intended to illuminate eredos in a manner which will harmonise he stained window above it, and the other ws in the church. The chancel was origi-lighted by a window of stained glass, of a imple pattern. This has been removed and at the opposite end, although its effect is by the gallery. The east window of the has been provided by the vicar and his , and was done by Messrs. Harwood, of . It is a three-light window, the lower presenting the sufferings of Christ, depict-e Crucifixion, the Entombment, and Resur-, with many minor figures. The upper represents the Ascension and Glorifica-the Son. There are many other subjects vices introduced. On the north side of the chancel is a small stained glass window, by Mr. Bell, of Bristol, representing the Nativity and Presentation. The window was presented by young men who had been educated in the Paulton schools, and the contributions were sent from all parts of the kingdom. Three stained windows have been placed in the north side of the building. These windows represent six of the Apostles—St. Paul, St. Peter, St. Luke, St. John, St. Mark, and St. Matthew; and it is hoped to provide three windows for the south side, which will represent the remaining six Apostles. These windows were presented by Mr. Hill, Mr. Joseph Hill, Mr. Evans, and Mr. Thomas Hill. One is a memorial window. The organ is placed in the chapel on the south side of the chancel, and it has been redecorated, and some carved work added. The pulpit is of freestone, octagonal in shape. The work, with the other carving, was given to Mr. Clarke, of Wells, but he died before it was completed, and the task was finished by his brother. Mr. Durke, of Chew Stoke, was the general contractor; the mason's work being executed by Mr. Hinks, of Paulton, and the iron-work by Mr. Singer, of Frome. The estimated expenditure is about 1,000*l.*, a portion of which is still to be provided for.

Yarkhill.—The parish church of Yarkhill, about six miles from Hereford, having undergone a restoration, at an outlay of 1,000*l.*, under the superintendence of Messrs. Ainslie & Blashill, of London, architects, has been re-opened for divine service by the Bishop of the Diocese. The builders were Messrs. Niblett & King, of Gloucester. New open seats have been provided, and accommodation for 216 persons, being sixty-one additional seats, one-half free. On each side of the communion-table is an oak abbot's chair. These, the pulpit, and the reading-desk, are made out of some very fine old oak, at least 600 years old, taken from the ancient church at Coaley, which Mr. Niblett restored some years ago. The style in which the alterations have been carried out is consistent with that of the latter part of the thirteenth century. The work is generally plain and massive, the ornaments being obtained chiefly by chamfered piercings in the woodwork, and by carved corbels and terminations to the label mouldings; these were executed by Mr. Henry Frith, of Gloucester.

MEMS. OF THE MOMENT.

An Arch Compliment.—For the decoration of the central arch of Lendal Bridge, York, the head of an angel has been needed; and delay ensued in consequence of the difficulty of obtaining a model which sufficiently came up to the idea of what the head of an angel must be. A model was sent from London, but the contractors did not like it, and asked leave to "wait a little longer." The other day the solution of the difficulty flashed upon them. They called in Mr. Tweedy, of York, and sent him a photograph of the Princess Alexandra to model from. The work is now complete, ready for casting, and seems to please everybody. A lucky thought, Messrs. Hawks & Crawshay!

"The Norwich Gates."—A subscription has been commenced in Norfolk to purchase the "Norwich Gates," which formed a prominent object in the International Exhibition, in order that they may be presented to the Prince of Wales, and placed at the entrance of Sandringham-park. General Knollys, accepting the gift for the Prince, says,—"Such a mark of loyalty and respect from a county which his Royal Highness considers himself fortunate to belong to, in regard to his property, cannot but tend to cement the bond which already exists between the Prince of Wales as a landed proprietor and his neighbours and the inhabitants generally of the same county."

Bust of the Princess Alexandra.—Mrs. Thorneycroft, of Wilton-place, Belgrave-square, has just completed an excellent bust of the Princess Alexandra, for which her Royal Highness lately gave sittings to Mrs. Thorneycroft. This bust, which is the more interesting as being the only work of art for which the Princess has sat in England, displays both vigour and delicacy. The right to the reproduction of the bust in Parian has been accorded, with her Majesty's gracious permission, to the Art-Union of London.

St. Paul's Cathedral.—The suggestion made in our pages and elsewhere, that the dome should be illuminated on the 10th inst. is to be carried out by means of Professor Pepper and the electric light. An enterprising firm in the "Yard" will, at their own expense, light up the west end of the Cathedral by similar means.

Fittings on the Line of Procession.—Intending occupants on the 7th should turn up the red calico and see what carries the seats. The "district surveyors," on whom the *Times* calls for protection, have no power in the matter. The decoration of London Bridge promises to be very effective. Of this, however, hereafter.

ALBERT MEMORIALS.

Bath.—The Albert Memorial Fund was to be closed on the 28th of February. The sum collected it is hoped will be sufficient for erecting the additional building to the Bath United Hospital.

Yeovil.—The inhabitants of Yeovil subscribed last year nearly 500*l.* towards the erection of a memorial of the Prince Consort. The subscribers decided that it should be in the form of a stained-glass window, which should be fixed at the west end of St. John's Church. The gentlemen to whom the carrying out of the wishes of the subscribers was deputed, have succeeded in obtaining a handsome window fixed over the new western door. The work has been executed by Messrs. Hardman. The following are its inscriptions:—"To the Memory of the Prince Consort Albert, this Window was set up by the inhabitants of Yeovil, A.D. 1862." "Whatsoever things were true, whatsoever things were just, whatsoever things were pure, whatsoever things were lovely or of good report, he thought on those things, and had grace to perform them.—Phil. iv. 8." There is also a tiled floor, by Minton, immediately underneath the window, in the centre of which are displayed the Arms of the Prince.

SANITARY CONDITION OF GIBRALTAR.

We observe from the *Gibraltar Chronicle* that this subject is exciting local attention. The editor, in a leading article, commends it to the attention of his readers as one of literally vital interest. A city with a death-rate of 31 per 1,000, and the inhabitants of which are not engaged in occupations which necessarily shorten life, must be a very dirty one. And Gibraltar is, in truth, a dirty place, with many disease-producing nuisances, and with an atmosphere which is often foul, and seldom so clean as it should be. With a considerable population closely packed on one side of a steep and high rock, and with houses constructed on the Moorish-Spanish system of the *patio*, thorough and satisfactory ventilation must always be difficult, and, indeed, impossible. Still a great deal might be done, the doing of which would, as a matter of absolute certainty, reduce the death-rates of future years. Attention is especially pointed to what might be done in improving the water-supply, and trapping and ventilating the drains.

THE METROPOLITAN SEWAGE AND THE ST. OLAVE'S DISTRICT BOARD OF WORKS, SOUTHWARK.

The following important resolution was *unanimously* agreed to at the meeting of the Board, on Tuesday, the 3rd inst.:—

"That this Board, recognizing the fact that the sewage of the metropolis is the property of the ratepayers, and is of enormous value as a source of agricultural manure, desire to press upon the Metropolitan Board of Works the importance of the mode in which it is dealt with.

The evidence taken before the select committee of the House of Commons upon town sewage having established that the greatest results follow from its moderate application over an extended area of land, the Metropolitan Board of Works should, in the opinion of this Board, contemplate and provide for its future utilization in that manner, or both the return to the ratepayers and the advantage to agriculture would, according to that evidence, be jeopardized or lost."

And that a copy of this resolution be presented to the Metropolitan Board of Works by our representative; and that copies be also sent to the various local boards or vestries of the metropolis, requesting their co-operation in this important social question.

THAMES EMBANKMENT COMMISSION.

The Commissioners appointed to

"consider plans for making a communication between the embankment at Blackfriars Bridge and the Mansion House, by means of a new street in a north-easterly direction from the termination of the embankment roadway near Blackfriars Bridge, or of an extension of the embankment to the eastward of Blackfriars Bridge, or otherwise; and also plans for uniting the intended embankment at Westminster Bridge with the existing embankment at Millbank, and also to consider the advantages and cost of the different plans that may appear to them to be calculated to relieve the over-crowding of existing thoroughfares, and to conduce to the convenience of the public and the embellishment of the metropolis,"

have made their report. At the close of it they thus recapitulate its several recommendations:—

"1. That the road from Blackfriars Bridge to the Mansion House, as proposed by the Commission of 1861, be carried into effect.

2. That it is not desirable to enlarge the embankment in front of the Houses of Parliament.

3. That the space between the Victoria Tower and a parallel line with Wood-street be opened out, an embankment to this extent of the river formed, and a row of houses of first-class character erected at right angles with the river, and looking upon the open space between them and the Palace, Millbank-street being widened and improved.

4. That all the houses in front of the Chapter-house and Chapter residences be removed, as shown by the plan of Mr. G. G. Scott, attached to this report.

5. That the approach from Victoria-street to the Houses of Parliament and law courts be carried through the inclosed ground to the north-east of St. Margaret's Church.

6. That the plan for widening King-street be carried into effect."

The estimates of the various improvements recommended are previously stated thus:—

"New street to the Mansion House and Blackfriars Bridge, 460,015*l.* net.

Widening and improving Millbank-street and the road beyond, 157,986*l.* net.

Improvements in New Palace-yard and Abingdon-street, 214,182*l.* net.

Widening King-street and improving the southern approach, 78,552*l.* net.

These estimates show the ultimate cost of the various improvements; the first outlay will be much larger, as will be seen in the evidence and reports.

With regard to the mode of defraying the cost of these several improvements, we are of opinion that the removal of the houses adjoining the Abbey, and of Abingdon-street, as well as the purchase of the wharfs and houses south of the Victoria Tower, and the embankment of the river, being for the convenience, embellishment, and safety of that national edifice, the palace of the Imperial Legislature, as well as the approach to the Houses of Parliament from Victoria-street, ought to be a charge upon the Imperial Treasury; but that the other recommendations of our report, viz., the new street from Blackfriars Bridge to the Mansion House, and the widening of King-street and Millbank-street, may fairly be considered metropolitan charges, as they are required for the accommodation of the metropolitan traffic."

The report is signed William Cubitt, Joshua Jebb, John Thwaites, Douglas Galton, Edward Barstal, Henry A. Hunt, John Robinson McClean, William Tite. Henry Kingscote, Secretary.

SIR,—I have read with perfect astonishment this day the report signed by Mr. Tite and other commissioners, respecting the approaches to the Houses of Parliament and Westminster Abbey, &c., wherein they recommend, instead of pulling down the island of houses at the end of Whitehall, that Old King-street shall be widened, so as to give a second street from Whitehall southwards. Now, in every improvement commission that we have heard of, and in the plans of all the architects who competed for the new Public Offices in 1857, it was taken as a leading fact that this island of houses should be removed, so as to give a fine view of the Abbey from Whitehall, and a good frontage to the new offices to be erected. It need hardly be pointed out that, as now proposed by these commissioners, the new public offices will look upon the old decayed and dirty houses in King-street, the smoke of whose chimneys will of course be very agreeable to those members of the civil service who will occupy the upper stories of the new buildings. It seems to me, nothing can be more petty, and at the same time more preposterous, than this project, and I for one trust that, before any action takes place in the matter, it will be treated by the House of Commons and the public as it richly deserves.

A BUILDER.

BAZAAR BRIDGES.

As though actuated by spasmodic uneasiness from long forbearance of privation of free intercourse in a city which is becoming every year more populous and wider in extent; architects, engineers, and surveyors have by a common impulse projected and published no less than twenty-four schemes for railways, and others for bridges, within the bills of mortality.

The commentaries of the press on the congested condition of traffic and the frequent allusions to the subject in the *Builder*, have exercised no small influence on the public mind in these particulars; therefore, now that so many schemes have been launched "*ad un tratto*," the restraining power of printing monitors has become not only a necessity, but a duty.

There can be no question but that the majority of lately-projected railways from all sides and through the heart of the metropolis, will prove a relief to travellers and an incalculable benefit to commerce at large; but there are some strong and palpable points of objection to several of them which have been resisted by residents of the quarters threatened with subversion and mutilation, by the remonstrances of Parliament, and by the leading journal of England.

As intercommunication by rail has now become an irrepressible necessity, so in the plethoric condition of London increased facilities for free traverse of the river can no longer be delayed. Often has the *Builder* referred to the vital importance of throwing open the existing toll bridges free to the public. Now, it appears that several additional toll-bridges are to be built, while as yet there is no movement towards that emancipation and easement which our social condition stands so much in need of.

The liberation from toll of *one bridge only* (Waterloo) would be a greater boon to the multitude than all these projected novelties summed together. Take the numbers who cross the two bridges at the extreme ends of the metropolis: compare these with the few stragglers who daily cross Waterloo Bridge, in the very heart of population and commerce: they will not be one for every hundred. This proves to demonstration that, by however short an approach the way may lead to business or home, the community will not frequent it; but that they will rather waste time and labour in taking a circuit of two or more miles; besides that the imposition of ever so small a charge, even one halfpenny, has the effect of depressing, depopulating, and reducing a whole quarter (and that the most vicinal and important one) to comparative desuetude. What may be the value to the State of only one hour per diem abated from the active occupation of say 200,000 daily passengers by a bridge?

The traversers may not see it in this light, and it may be said that they are the best judges of the value of their own time and labour. But this is not a just test, for the industry of the people constitutes the wealth of the nation; and it is the first duty of the Legislature to strike off any fetters that may appear to restrict the commercialist, the artisan, mechanic, or even the wanderer. The resuscitation and immediate improvement of the wide and now uninviting district of Southwark and East Lambeth would soon reimburse one hundredfold, in a national sense, the remission of some 5,000*l.* a year which is now collected *in mites reluctantly paid*. This is not a joint-stock, but a State question. It is by the Strand, four miles from Westminster to London Bridge, and yet in this space there is but one free bridge (Blackfriars)! No other kingdom, no other capital of the universe, exhibits anything analogous to this absurd system of disseverance.

It may be permitted with great respect to remark, as touching the bazaar bridge shown in the *Builder*, that however meritorious the design, or however remunerative as a paying project, such a structure on any part of our noble river must prove an eyesore that will pervert the beauty of landscape in the country, and obscure and mar the effect of architecture in the city. As an instance, take the Waterworks Bridge at Putney, and that is but a miniature tube or trunk as compared with the two ranges of stalls designed by Mr. Alcock for the purpose of clearing the expenses of foot passengers! Such a structure would present a continuous trunk of at least 14 feet diametrical depth, right across the field of vision. It is hardly necessary to say that this would shut off the varied views of river banks, of spires, or of buildings, as a drop curtain. But take it as pictured: there are to be, say seventy-six stalls on either side: each compartment might afford space for a newsvender, or petty fruiterer: it might pay 10*l.* a year,—or the whole (if let), 1,520*l.* a year. Would this pay? Taken seriously, however, it is not likely that 152 stall-keepers could be found as secure tenants for such a rental, having to confront the weather of our variable climate, *without a fire*, as well as the continuous stream of traffic which such a free causeway would be sure to attract. Whether there is a requirement for the location of so many petty dealers or higglers on the highway is a matter that could be more properly decided by one of the Guildhall magistrates.

The deformity of tubular bridges generally is the great objection to their adoption in the metropolis, where the correlative position and aspect of structures ought always to be taken into account, and the too close propinquity of even the best models is highly objectionable; but the obtrusion of a barrier like the bazaar bridge must impose upon any location a fixed deformity. Old London Bridge, if any of the present generation can remember it, typifies pretty fairly what the bridge of chaffering on the footway might be.

QUONDAM.

"LONDON ARCHITECTURAL SOCIETY."

THE "DINING ARCHITECTURAL CLUB."

A SECOND volume of the London Architectural Society's Essays was published in 1810. The preface tells us it was the society's intention to engrave a selection of designs, but the great expense of the undertaking had deterred them, and they contented themselves with the publication of Mr. Aiken's interesting comparison of the Grecian Dorics, in imperial folio, price 1*l.* 5*s.*, with seven plates.

The second volume contains the following essays:—"On Modern Theories of Taste," by Joseph Woods, jun.; "On Bridge Building," by James Savage; and "On Foundations," by James Elmes. Like vol. I. it contains four plates. The two volumes are not scarce, and are often to be seen moderately priced in sale catalogues.

Can any of your readers inform me if the Dining Architectural Club ever published a volume of essays? It was proposed by them that their members should occasionally furnish the society with essays on subjects of architectural interest, or on some branch of antiquity connected with domestic economy, or the fine arts; and that when a sufficient number of these essays to form a volume had been read, a committee should be appointed to arrange them for publication.

The society met on the 1st day of November, the anniversary of the birthday of Sir Christopher Wren, and dined together at the Freemasons' Tavern; likewise, on the first Tuesdays of the five following months. Among the names of the members were Edward Cresy, Goldicutt, Joseph Gwilt, Thomas Jeans, David Laing, A. Pugin, William Purser, J. Sanders, and G. L. Taylor, architect. I have their card,—a clever etching representing a group of ancient Classic and Gothic buildings, together with a copy of an address read before them at the first meeting of their third session, 1821, by John Britton, their honorary secretary and treasurer.

C. J. B.

THE PNEUMATIC DESPATCH.

ON Thursday, 26th ult., I was called upon by a friend of mine to ask me to go with him to view the "Pneumatic Despatch." I did so; and finding that he was bent upon a trial trip through the tube, I resolved to accompany him, having in my mind that it was almost tantamount to taking my place in the breech of a cannon, and being shot out straight to some "butt" at the opposite end. My first inquiry when I arrived at the station was as to the "buffer" which should protect me from being dashed to pieces on my arrival: this I found by the engineer also to be pneumatic; and satisfied on that head I felt no hesitation to proceed.

On entering the building which inclosed the terminus, and was approached by some descending steps, I had noticed the sloping aperture of the tube: it suggested the idea of a huge iron serpent, the mouth of which was open to receive what it might be presented to its maw; and two small trucks, one for occasional "tourists," and another for luggage, or letter-bags. In a few moments the mail-cart arrived, and its contents were deposited in one of them. This was no sooner done than both were gorged by this metallic leviathan, which immediately shut its upper jaw, and I only heard the whizz of the great fanner that was propelling this double "bolus" on its way.

In about three or four minutes the trucks were heard on their return; and just before their arrival, the monster jaw was again uplifted, and disgorged the now empty receptacles.

It was now our turn to become the food of physic, of this insatiate cormorant; and it seemed to be in effect the latter. My friend stepped into the iron-cradle or truck, lying down and placing his feet towards the head of the carriage, I followed, putting myself in the opposite direction, so that we lay head to foot (a most convenient position for kicking each other's brains out

had any). We were then threadled down by a light cord, the ends of which we were desired to hold in our hands, a most ingenious and simple contrivance adapted to the journey we had to go.

Gently we departed, and in a second or two exchanged remarks on (to our surprise) the *divergence* of the passage from a straight line, and before many more seconds there arose a roar and rumble, the speed increasing, and the passage winding now right, now left, now descending, now rising as if the monster were put to pain in his bowels, and was resolved that, if we could not *see*, we should *feel* it was no light matter to become the proxy of "Her Majesty's Leather Mail."

Well, arrived at our destination at Camden Town, knowing the worst that would befal us, we desired to return as soon as possible, thinking the sooner it was over the better. The officials signalled, and off we set to retraverse the tortuous and rough gullet of this new "Boa *Districtor*," the hurricane which bore us along increasing more and more until within earshot of the station, when the mouth opened at our approach, and we were peacefully restored to "the upper air."

J. T.

PEALS FOR LIVERPOOL.

IN a late number, Haydn Wilson has a letter on the want of peals of bells in various churches in London; written, as I suppose, with a view of inducing architects and others to provide those necessary adjuncts to a church, which, as he justly says, is incomplete without them. Perhaps you would also remind intending builders of churches in Liverpool and neighbourhood, that we are also short of "steeple music," there being only three peals in all Liverpool; and the want might be supplied in any new churches to be built. It certainly does seem very strange that out of about sixty churches there are only these three peals, while there are many towers capable of containing peals of six, eight, or even ten, without in any way being detrimental to the stability of the building.

The people of Liverpool are always ready to come forward with their money for building a new church; and I think if architects and builders were to call their attention to the necessity of having a peal of bells, their efforts would be seconded, and the means provided; as it is probably more from want of thought than apathy in the matter.

MUSIC.

THE PROPOSED BRIDGE AT LUDGATE HILL.

THE great number of new bridges now erecting, or in contemplation, in the metropolis, cannot fail to have been noticed by the most casual observer. You, as editor of the leading architectural journal, have already noticed not only their number, but in many cases their unsightliness.

I would particularly enlist your attention and your aid in the matter of the new railway-bridge, which must, in due course, span the bottom of Ludgate-hill.

A few letters have appeared upon this subject; but their writers do not grapple with the evil, which you, as well as myself, must see will accrue, unless great care be taken with regard to a bridge on the spot in question.

The real point, I think, is, that as a bridge there is inevitable, and that *once there, it is there for ever*, it should be pressed upon the promoters of the scheme, that they should put up a really good structure, worthy of the situation. The small extra cost of such a work would be a mere bagatelle in the entire undertaking. The view of St. Paul's Cathedral, as approached from the West, is fine,—almost beyond comparison,—and is one of the most splendid effects in London.

Is it not, therefore, possible to erect a bridge—as there must be one—worthy of the site? It should be a real work of art; and, I think, of stone. It need not be *very* elaborate.

It might span the entire roadway and paths, and be so treated above, as to be an ornament to the spot, and form a fine foreground to the cathedral beyond.

Surely, when railway companies have so much granted to them, it is not too much to ask them, *for once*, to erect a really fine work, at one particular point. When a line is carried by huge girders over some twenty back streets in Walworth, no one cares very much; but it is or should be a matter of interest to every one, if there is any chance of spoiling, perhaps, the finest and most artistic street view in London. I am sure, sir, I do not go too far when I express my belief that these sentiments, or such as these, must be yours in common with all who take any interest and pride in the appearance and adornment of London.

At all events, I must beg you to pardon the zeal of a

CONSTANT READER OF "THE BUILDER."

*** Is the bridge inevitable? It ought not to be there at all.

REBUILDING OF TUAM CATHEDRAL.

SIR,—My attention has been drawn to a correspondence which has appeared in the columns of your paper relative to Tuam Cathedral. Without at all entering into the controversy whether the building now used for cathedral purposes is an ancient one, or merely a modern building formed out of materials belonging to some ancient structure, I beg to state that there is no intention of taking it down. On the contrary, with the view to the preserving of the windows, piscina, &c., &c., it is intended only to remove the tower,—an ultra disproportioned pile, raised in 1688,—and, by building a suitable western gable, to preserve the present cathedral in its integrity, so that all that any antiquarian can desire will be accomplished, and the church, in addition to a beautiful cathedral, will possess a splendid room for ecclesiastical purposes, which may be also used as a chapel of ease for extraordinary parochial services.

CHAS. H. SEYMOUR, M.A.,
Provost of Tuam, and Hon. Secretary to the Building Committee for Restoration of Tuam Cathedral.

ARTESIAN WELLS IN SOUTH AFRICA.

VIEWED in connexion with what I sincerely hope may now be called the *late* drought in the Northern Section of the colony of the Cape, the question of ARTESIAN WELLS, both in the Cis- and Trans-Gariepine territories, becomes a matter of increasing interest. Dr. Livingstone was the first to call attention to the practicability of these deep wells in certain favourable localities; and little doubt can be entertained that such wells would be successful and a great boon in some parts of South Africa.

Arid Damara and Namaqua land, and the Kalahari, destined some day, I hope, to send, despite their drought, a considerable quantity of alpaca wool and mineral products into the market of the world, seem excluded from the idea that artesian wells can ever be practicable in them; but in the neighbourhood of the Quathlamba, Drakensberg, Megaliesberg, and other tolerably well-watered mountain ranges north and south of the Orange River, there is every reason to believe such wells could be made.

In one of the late numbers of *Chambers's Journal* an article, entitled "The Home of the Gazelle," asserts that, south of the Atlas mountains, in the Algerian Sahára, the French have, within the last few years, made a series of successful artesian borings, much to the astonishment of the Arabs. As the author of the above article derived his knowledge of this fact from private information merely, I should be under great obligation to any of your scientific readers who could, in correspondence with me, substantiate the assertion from French colonial documents. Such information would materially assist in the solution of a question of no little concern to the emigrant English and Dutch, and the native tribes.

JAMES WILSON.

2, Market-terrace, St. Leonard's-on-Sea.

STREET IMPROVEMENTS IN BRADFORD.

No town in England, probably, more needs street improvement than Bradford; the crooked turns and jutting corners of which are a disgrace to the chief town in the worsted manufacture. It is said to want a "back-bone," and well it may; or, at least, if it has one, "rickets" of the worst description must have crooked it out of all similitude to what it ought to be. That any scheme for the street improvement of Bradford should be projected, therefore, is an auspicious circumstance; and this, it appears, is actually the case. A scheme has been brought forward by the corporation; and Mr. Ranger has just been sent to Bradford by Sir George Grey, at the request of the local board of health, in order to institute a preliminary inquiry on the subject. At this inquiry Mr. C. Gott, the borough surveyor, Mr. Lockwood, architect, and others were examined. The surveyor did not give any explicit estimate of the cost of the proposed improvements, but entered into details as to the plans which had been prepared for the widening and improvement of Market-street and other thoroughfares. Mr. Lockwood, in his evidence, said:—It is a great peculiarity of Bradford that there are many lines of street, as in the case of Lower Cheapside, and also of Darley-street, the ends of which abut on buildings. I am reminded of one instance in which a vehicle and horse entered the window of Mr. McCroben; and another in which a carriage and pair entered the adjoining yard, and were stopped at the bottom of a flight of steps. I think it exceedingly important that Market-street should be widened and extended as proposed. This is the only mode by which you can obtain what may be called a "back-bone" for the town. By this you will open up a line of communication from one side of the town to the other, and also relieve the thoroughfares by which you cross the town. If this improvement cost 100,000*l.* it would be well laid out, though still an imperfect one.—The mayor concurred entirely in the evidence of Mr. Lockwood; and agreed with him that it is an imperfect scheme, and that, if he had the power, the scheme should be more comprehensive; but so far as it went it was a good one.

The local *Observer*, in a leading article on the subject, states that the estimate handed in to the Home Secretary is 70,000*l.*; and thinks that this estimate may be under the mark; but adds that, surely this will not deter Bradford from following out a plan which, as far as it goes, is good. Of course there are objectors to it: these, however, while affecting to desire a more complete and thorough improvement scheme, are believed to be really bent on preventing any scheme at all from being carried out.

As being connected with the improvement of Bradford, we may here add that a majority of the subscribers to the Oastler monument have decided by ballot in favour of Bradford, from among other towns that were competing for the honour of giving a site for this monument.

CLERKS OF WORKS AND BUILDERS' CLERKS.

SIR,—In answer to your correspondent, "S. W.," I would remark that the words to which he objects were not used by me in the paper lately read at the Architectural Association.

In the course, however, of a desultory conversation which ensued after reading my paper, some one threw a slur upon the class of builders' clerks which I thought unmerited; and in answering this observation at the conclusion of the discussion, I mentioned what I presume is alluded to by "S. W.," that I should much prefer generally to meet a builder's moneying clerk than the ordinary run of clerks of works in cases of measurement and valuation of works.

Far be it from me to disparage the clerk of works who really understands his business. I am myself indebted for a large part of the instruction I received during my articles to such a one. But I can only repeat that I find too frequently in clerks of works, as they are, young men placed on a building to learn, or old men who take the situation because they cannot satisfactorily fulfil the duties (often more remunerative) of first-class builders' foremen; and who, being in such situation, where they ought to represent the architect, find it more to their interest, from time to time, to take the part of the client or of the builder.

The clerk of works may *have had* more experience than the builder's clerk, but the latter *has* more practice than the former, since he is not confined to one building at a time for his present information. Hence I have found, (and I believe that other profes ional men will back my impression), that a question from a moneying clerk will often throw more light upon a subject than several answers to questions put to a clerk of works.

THOS. M. RICKMAN.

EVERGREENS IN DECORATION.

WE may hope the forthcoming event of the Prince of Wales's wedding will furnish many examples where temporary decoration has been successfully accomplished with inexpensive materials. In many instances this has been anything but well done on former occasions: even the illuminations present too often sameness, bordering, I might almost say, on meanness; stars and crowns succeeding each other with scarcely any diversity. In the decoration of public rooms I would suggest a more liberal display of evergreens than has hitherto been used in the greater number of town houses. Mouldings, gildings, as well as drapery of all kinds, are much relieved by a judicious admixture of foliage. A few bunches of evergreens tell more than flags or a profusion of coloured and white calico. Certainly there are rooms not adapted for wreaths of evergreen, as oak panelled ones. These, of course, show off light drapery to advantage; but in all rooms where the walls and roof are of a light colour, a series of festoons of ivy, or something of that kind, neatly and carefully arranged, present a more cheerful appearance than can be well imagined by all but those who have seen it used. While a plain cornice or angle may be wreathed with flat boughs of common laurel partially overlying each other, the stiffness of the leaf-stalk of the evergreen enables it to retain its freshness some time. Nevertheless, when it can be done, let the branches point downwards rather than the reverse way. All evergreens, we may remark, are not alike useful. Those which wither soon are not suitable, and some have an unsightly appearance on the reverse side.

These ought to be avoided. The best we have seen to form a continuous rope of festoon work are box, ivy, phillyrea, laurestina, alaterius, arbutus, and some others, and Irish yew for stiff upright work. Most of these could be had in tolerable quantity, and would add a richness to the other decoration not to be gained by anything else. J. R.

Books Received.

VARIORUM.

"Crime and Criminals: Is the Jail the only Preventive? By A. Pulling, Esq., Barrister-at-Law. London: Stevens & Haynes. 1863." The principle of the suggestions contained in this tractate is, that certainty of punishment, or of ultimate discomfiture, is a more effectual preventive against crime than any amount of risk; that this certainty would be in a great degree insured if the penalties for crime were made more directly to attach on the property, as well of actual offenders as of those without whose aid or connivance crime could not be carried on with any hope of advantage; and that the chance of escape for criminals would be less if we had a more effective Register of Offenders, and greater surveillance over them when discharged from custody. Some of the suggestions formed the subject of a paper read by the author, before the Law Amendment Society, in December last. Such suggestions as these are well worthy of grave consideration, although there would, we fear, be both complexity and difficulty, as well as often much hardship and suffering to the innocent, in strictly carrying out such a system for the prevention of crime. If the jails were made much more repulsive to the criminal, in the systematic way whereby the workhouses are, and rightly, too, in the main, made repugnant to the feelings of the guiltless poor, a very efficient preventive of crime would thus alone be readily and cheaply secured. As it is, the relative superiority and attractiveness of prisons above workhouses is most injurious. To such an extent does the abominable sympathy for criminals rather than for paupers extend, that if such an order as that lately carried out by the Poor-law Guardians of a northern town, as to doucing in cold and wintry water, clothed or unclothed, every poor wretch who sought the refuge and the tender mercies of the workhouse, man, woman, and child, were ventured on in any of our jails, we do believe that those who ordered so cruel a punishment to the criminals would be dismissed the Government service. When hanging was abolished for so many crimes, corporal punishment ought to have been in many instances substituted, at least in cases of criminal personal violence. Whether it be right or wrong to flog British soldiers who are not criminals for mere breach of discipline, it cannot be far wrong so to punish British garotters and women kickers. By the way, the outbreaks of garotting *at specific times only* is a notable circumstance. The reason why garotting has not been a gradual process, one year with another, but suddenly manifests itself, as it has done on two distinct and separate occasions, ought to be inquired into.——"The Decimal System, as applied to the Weights and Measures of Great Britain. By H. Taylor. Groombridge. 1851." Why a pamphlet of so old a date has been sent to us for review we can only explain by the fact that some of our own remarks on the absurd confusion in which our metrical system is involved have been extensively quoted, and must have been noticed by the author of this well-written and thoughtful pamphlet, who appears to have been an old pioneer in the way of metrological improvement. ——"Report of the Weather for 1862. By Thomas Plant. Birmingham: Smith, Union-street, and railway stations." These meteorological reports originated in a series inserted in the *Birmingham Journal*, *Ariss's Gazette*, and other local papers. They are useful records. In the present report Mr. Plant gives a "caution to architects, builders, &c.," as to the "immense destruction of new and unsubstantially built property" during the gales of the past year; an ugly list of which he gives together in detail, such as we have ourselves given peacemeal, as the occasion required, in the *Builder*.——"The Cotton Famine and the Steam Plough. By John Giles. London: Stevenson, Paternoster-row. 1863." Our readers will recollect of Mr. Giles in the *Builder*. He urges his views ably, though a little eccentrically, in the present little pamphlet; denouncing the military oligarchy of India as an obstacle to agriculture and general progress; and the newspaper press, as the chief instrument of modern governmental despotism (was *Giles's Sydney Review* a newspaper, by the way?); and rightly says:—

"It is of the utmost importance to all the legitimate interests of the British empire that *agriculture*, the supplier of the first elements of every species of property, and the abundance of whose products sets, necessarily, a limit to the expansion of every other branch of industry, and which also defines the consuming capabilities of the great bulk of society, should be possessed of *an efficient industrial system*, and one whose expansive capabilities are equal to the demand made on it by the various branches of manufacturing industry; without the establishment of any systems of social servitude. What the steam-engine has done in *commerce* and *manufacture* it can do in *agriculture*; and by its aid fresh fields for capital enterprise, of unlimited extent and variety, will be opened up, which are now shut up from access to the capitalist through the absence of a reliable and efficient system of industrial power. It is not surprising, therefore, that the requirements of manufacture and commerce, stimulated as they are by the steam-engine, should be short supplied, as well as a limit set to the profitable embarcation of capital in them.

It is only necessary, therefore, to furnish an efficient instrument of agricultural labour to the British capitalist, in order at once to place the manufacturing interests of the country beyond the possibility of short supplies, and at the same time to open up fresh fields of unlimited wealth and enterprise in the development of the vast and now useless agricultural resources of the British dependencies."

——"The Canadian Naturalist and Geologist, and Proceedings of the Natural History Society of Montreal. Vol. VII., December, 1862. No. 6. Montreal: Dawson. London: Bailliere." This appears to be a very useful periodical to all interested in minerals, mines, and geological progress. The present issue contains a long paper on the Acton Copper Mine and various others.——The new number of the *Gentleman's Magazine* contains, amongst other interesting matters, a continuation of the correspondence on "Buildings of the Tenth Century."——The *Art-Journal* for March is a capital number, the steel engravings alone being worth more than its cost. The Illustrated Catalogue of the International Exhibition is continued, with notes on the Raw Materials used by Artists, by Professor Archer. The Cavaliere Migliarini, Mr. Dafforne, Mr. T. Wright, and others, contribute articles.——Laxton's "Builder's Price-Book for 1863," is the forty-third edition of that work,—no small testimonial. The decisions under the Metropolitan Building Act in the Superior Courts are inserted in this edition.

Miscellanea.

SURVEY OF WEST DERBY, LANCASHIRE.—The Local Board of Health have accepted the tender of Messrs. Gotto & Beesley, of Westminster, to make the survey and plans of this district for the purposes of the Local Government Act. The district comprises 6,000 acres and 3,000 houses, and will be shown on two plans—a general plan to a scale of 2 feet to the mile, and a detailed plan to a scale of 10 feet to the mile. The work is to be completed in twelve months.

ANTIQUITIES IN SYRIA AND CYPRUS.—The French Government has caused recent operations and inquiries as to ancient history and relics to be made in Syria and Cyprus, and the results have been published. The island of Cyprus, a most interesting field of inquiry, has not been altogether neglected by our own countrymen. So long ago as 1849, Commander Leycester, R.N., made a surveying excursion in the island, and brought away many copies of inscriptions. Three of these are in an unknown character, which may be called the Cypriote: many others were in Greek. In a recent volume of the Transactions of the Royal Society of Literature, some of the inscriptions are published by Mr. Hogg from Commander Leycester's copies. The Cypriote characters seem to bear some resemblance to the Lycian.

THE CARRIAGE ROAD THROUGH HYDE PARK.—In reply to a question put in the House of Commons by Viscount Enfield, Mr. Cowper said some time since (it may be well to note), that he had long felt that the want of communication between the populous districts of Bayswater and Paddington on the north of the Park, and South Kensington and Chelsea on the south, did absolutely require a public road to unite those districts. He felt it was only a question of time as to when that road would be given, the urgency of it was so great. He was prepared now to say, that it was his intention, when the repairs were completed on the Serpentine bridge, which was being asphalted, in order to prevent the wet percolating through the stonework, to renew the public road in the same direction in which it passed last year. The surface of the road had not been changed. It would be necessary to put up the same kind of fence as was used in the other parts of the park. The road would then be open to cabs and carriages, but not to omnibuses or carts or other heavy traffic.

LIGHTING NEW YORK CHURCHES.—Trinity Church (the principal Episcopal church in New York) is soon to be lighted with gas, instead of candles, as heretofore. Orders have been sent to this country for appropriate fixtures. Two standards, 14 feet high and each bearing forty burners, are to be provided for the chancel, while the rest of the church will be lighted by circles of jets around each column.

BURFORD'S PANORAMA.—In consequence of the decease of the late Mr. Burford, and the termination of the lease of the premises, the present proprietor announces the last season of the panoramas, during which it is intended to reproduce some of the most popular of the late Mr. Burford's works. The capital picture of Rome has consequently been re-opened, and will be followed by Athens, and others at short intervals.

FALL OF SHOP PREMISES.—At Hereford some workmen have been engaged in putting in shop-fronts, and altering the interior, &c., of premises facing Gomond-street. The whole of the interior of the house in question, however, has fallen completely in. The chimney-stack in the centre also fell to the ground. The cause of the accident is believed to have been the removal of supports, which, according to the local *Times*, had been taken away according to the orders either of the builder or the architect.

SANITARY REPORT ON PRESTON.—The report of the borough engineer, Mr. J. Newton, C.E., on the sewerage, improvements, and mortality of the borough of Preston for 1862, has been printed for the corporation. The upper main has been the chief sewerage work for the year, during which, also, 1213 houses have been drained by the local board of health, and 556 by owners. The mortality, however, is still no less that 28·43 per thousand. There were 2,411 deaths and 3,522 births. For the 25 years from 1838 to 1862 inclusive, the mortality was 29·59 per thousand. Infant mortality constitutes a dreadful item in the black list: 49 per cent., or almost one-half of those born, die within five years after birth; 32 per cent. under one year. The factory labour of mothers, who neglect their infants in consequence, leaving them to the charge of miserable hirelings, who probably often feed themselves on the food designed for the infants, is well known to have been one of the chief causes of this dreadful mortality at Preston.

TOWN SEWAGE: RUGBY. — As to whether sewage will pay to apply as a dressing to land, Mr. Campbell, of Rugby, says:—"If water or liquid sewage can be distributed, as has been stated, at a cost of less than a farthing per ton, it ought, under ordinary circumstances, to be remunerative. At Rugby the receiving-tank and engine-house cost 450*l.*; the engine, 300*l.*: instead of 2,350*l.* for laying iron pipes, &c., over 400 acres of land, which it did actually cost, allow 250*l.* for leading it to 100 acres of land; total, 1,000*l.* Population of Rugby, 6,700, connected with sewerage—say 25 gallons of water per head per diem, including rainfall—gives about 750 tons per diem, which at ½*d.* per ton for 300 days—equals 468*l.* per annum; cost of working engine, repairs, &c., &c.—say 250*l.*,—leaves 218*l.* for interest on 1,000*l* 750 tons per diem will give for 300 days 225,000 tons, or 2,250 tons for each acre of the 100. I would expect from this an increased produce of about 10 tons to the acre, which at 10*s.* per ton equals 5*l.*"

THE RAILWAY BRIDGE AT BLACKFRIARS.—At the half-yearly meeting of the London, Chatham, and Dover Railway Company, held last week, Sir M. Peto, M.P., denied an allegation made by Mr. Hartridge that the bridge had been long enough in the possession of the contractors to have had it half completed. With all the engineering talent in the kingdom, he said, and all the force of their own firm combined, the bridge could not have been completed in twelve weeks. The contractors had not had the plans from the City approved more than four months He could give them the assurance that the bridge would be completed and ready for opening with four lines of rails in May of next year. Some misapprehension existed as to the cost of the structure. The cost of it, with two lines, would be 120,000*l.*; but if two more were added, making a double line, it would probably amount to 180,000*l.* The tunnel near Sydenham, 2,200 yards in length, was nearly completed, and they would be in possession of the whole by the 1st of July. They were now in possession of all the land required at Blackfriars Bridge, with the exception of 180 yards, which they would have next week, and there would be no difficulty in completing the line to Blackfriars, including the goods station there, by the 1st of September.

DRINKING FOUNTAIN MOVEMENT.—The authorities at Northampton have accepted an offer, made by Mr. Samuel Isaac, to erect a fountain and lamp, at his own expense, in the centre of the market square. The design is not yet settled.

LEAKAGE OF A RESERVOIR AT SHEFFIELD. — A leakage in the embankment of Dunford Bridge reservoir, says the *Sheffield Independent*, has been discovered. It has arisen from a sinking of the puddle beneath the pipes. Mr. Bateman, the engineer, has taken steps to prevent the extension of the mischief, and to remedy it as soon as possible.

CAN WORK BE DONE WITHOUT BEER?—Paul Bartlett is employed as a labourer at Tudhall Iron Works, Durham, says a correspondent of the *Mining Journal*, and has been a teetotaller fourteen years. His employment consists in wheeling iron to the furnaces. He works nine hours per day, and five days per week. He wheels 24 tons of iron each day, 4 cwt. at a time. The distance traversed is nearly nine miles per day. He thus walks 45 miles per week of five days, wheeling in the same time 120 tons of iron. During the fourteen years, Paul has driven his barrow, with its 4 cwt. of iron, not less than 630 miles, and has wheeled in the same time 87,360 tons. He can on a "pinch" place a ton weight on his barrow and wheel it several yards.

VENTILATING A CELLAR.—"E. C.," in the "Scientific American," says:—In my sitting-room, immediately over the cellar, I have a small cast-iron, air-tight, wood-burning stove, with 3½ feet of 6-inch pipe connected through a thimble with the chimney-flue at about 1 foot from the stove. I have made a ⊤-connection with the stove pipe with pipe of the same size, passing through the floor, and reaching to within 1 foot of the cellar floor. At the top of this pipe, close to the connexion with the stove pipe, there is a valve which regulates the draft of cool air taken from the cellar. The opening in the floor is ½ inch larger than the pipe. The vacuum produced in the cellar by the draught in the chimney-flue draws air down from the chamber through the space around the pipe in the floor. My cellar, which was before damp, is now as dry and pleasant as any room in my house. Formerly, articles placed in my cellar soon became mouldy, and were spoiled for want of ventilation.

FREE LECTURES, BRISTOL SCHOOL OF ART.—On Thursday, 26th ult., Mr. Hammersley delivered his fourth lecture of the afternoon series, on "Art Literature," and in the course of his remarks the lecturer endeavoured to excite in his pupils a love of art reading, that so hand and head might proceed in harmonious progression—the industry of both having a far higher influence than that of mere occupation in tending to the elevation of the whole character. He has since delivered a lecture on "Cement and Manufactures," forming a sequence to his former discourse on "Ornament." In this lecture the application of the principles then laid down was shown as subservient to the comforts and elegancies of life, when judiciously adapted to the various manufactures, without which our houses could not be furnished nor our clothing prepared. From noticing what the practice of the ancients was in this matter, the lecturer went on to point out our duty in relation to the subject, showing that acquiescence in a prevailing taste or fashion was no guarantee for the correctness of that fashion, and that commercial success was no proof of its being right.

OFFORD-ROAD LITERARY INSTITUTE, ISLINGTON.—Among the numerous institutes in the northern parts of the metropolis this one is entitled to special notice, if we are to judge from its recently published programme. A new session commenced on Wednesday evening last, by a lecture "On Art, especially the Artistic Side of Christianity," by the president of the institute, the Rev. John Pulsford, author of a devotional work, titled, "Quiet Hours." The course for the forthcoming quarter also includes a lecture by Mr. John Bennett, on "The Watch, What to make, and How to make it;" an essay by Mr. Gunn on "Church Music and Architecture in their Relation to Public Devotion," to be followed by a discussion among the members; also an original scientific paper on "Light and Colour under different Aspects," by Mr. Bradley; besides a concert of sacred and secular music. It is by attending such institutions and listening to and discussing such subjects as these that both old and young may become mentally improved, and the fine arts and music properly appreciated. If all our towns and villages had their "literary institutes," the inhabitants would have something better to occupy their minds with than local gossip or village scandal.

CHEAP TELEGRAPHIC GOSSIP. — The Electric Telegraphic Company propose to establish a wire communication between individual and individual, at any distance apart, in the metropolis, so that they may gossip, or comfort each other, *ad libitum*, for 15*l.* a year.

A PAPER COFFEE-CUP.—Some ingenious German, says a contemporary, has invented a paper cup, which will completely hold a draught of the hottest liquid, and can be bought for a farthing. By means of this invention the good people of Berlin take up and drink at their ease, as they go along the railroad, the cups of coffee which comfort-loving Englishmen find it impossible to swallow without scalding their throats.

PROPOSED NEW THEATRE, FOR BIRKENHEAD.—At a preliminary meeting held in Birkenhead, it was unanimously resolved that a limited liability company be formed for the purpose of erecting a theatre on a piece of land situate in Grange-lane, near to Charing-cross. Plans and estimates were laid before the meeting, which were approved of,—the estimated cost of land and building, which will be unusually convenient and complete, holding 1,400 persons, not to exceed 8,000*l.*

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.—At the society's rooms, in Conduit-street, Dr. C. Dresser delivered an interesting lecture "On applied Art as exemplified in the International Exhibition, 1862." The lecturer went to show that an object might be said to be in good taste in view of several considerations—first, through being perfectly adapted for the purpose intended; secondly, through the thoughts and associations it awakens; thirdly, through the abstract beauty of its forms and colours. The lecture was illustrated by a numerous collection of objects of Japanese and Chinese manufacture, and also by a series of sketches prepared by the lecturer.

DISCOVERY OF A SCULPTURED BULL AT BURGHEAD.—Considerable interest has been excited among local antiquarians, says the *Banffshire Journal*, by an important archæological discovery, made the other day at Burghead, where there has been brought to light another curiously sculptured bull. One of the workmen engaged in excavating the south pier for railway purposes came upon a sculptured stone, which unfortunately did not attract attention until it had been partially destroyed. As a work of art, it falls short of any of the bulls hitherto discovered; while the task of deciphering is rendered somewhat difficult by the loss of the head. The only other two bulls now known to exist, though others are spoken of, are in possession of Mr. George Anderson, Inverness, and Mr. Thomas Milne, Elgin.

BOOK FORM OF "NAPIER'S BONES" FOR EASY CALCULATION. — An ingenious application of Napier's rods or bones to paper and the pocket-book form, has been invented by Mr. R. Dunlop, accountant to the Copper Miners' Company, at Cwm-Avon, Taibach, Glamorganshire, and published, with provisional protection for the invention (Whittington, printer, Post-office, Neath), under the name of "Dunlop's Calculator (No. 1), for performing multiplication and division." By its use the results of calculation from 1-32nd of any weight, number, or measure, to upwards of 99,999, can readily be obtained, for prices varying from 1-32nd of a penny to twenty shillings and upwards. This convenient and curious ready-reckoner must be a useful assistant in warehouses, shops, and sale-yards, especially for fractional calculation.

PUBLIC WORKS AT CHATHAM. — The public works now in progress at Chatham, as well as those intended to be carried out at that garrison during the next financial year, will involve an outlay of close upon 20,000*l.* The most important of the works contemplated is the erection of a gymnasium, the cost of which will be upwards of 5,000*l.*, exclusive of site. The Army Sanitary Commissioners have recommended the erection of such a building at all our large garrisons. The additional buildings now in course of erection include a bakery, in which the bread required for the troops will be baked; a brewery, barrack-rooms, officers' quarters, and other buildings. The various blocks of buildings occupy a portion of the Government land on the outskirts of the garrison. The hospitals for the wives and children of the troops at Chatham, now in progress, will involve an outlay of upwards of 3,000*l.* The estimated expense of re-appropriating Fort Pitt as a hospital for the entire garrison on the removal of the medical school and invalid depôt to Netley Hospital, is 1,000*l.* Upwards of 6,000*l.* will also be required to enable the Royal Engineers to carry on their works during the present year.

"THE HOLINESS OF BEAUTY."—We understand that his Royal Highness the Prince of Wales has been pleased to accept a copy of Mr. Cave Thomas's thoughtful work, "The Holiness of Beauty," reviewed in our pages some time since.

PALL-MALL.—The Marquis of Ailesbury has built a fine ball-room adjoining his residence in Pall-mall (Mr. T. H. Wyatt, architect), and it is proposed to open it on the occasion of the Prince of Wales's marriage, on the 10th inst., with a ball. The floor is laid with Arrowsmith's solid parquetery.

METROPOLITAN ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.—At a meeting held on the 21st ult., at Richmond-terrace, Whitehall, a communication was read from the Secretary of the Epidemiological Society, respecting the proper registration of sickness amongst paupers. Mr. Chadwick then made a proposal in reference to an application to Parliament on the sanitary requirements of public schools. Dr. Murchison read a paper on continued fever, which led to a discussion which was adjourned.

THE LIVERPOOL LABOURERS' DWELLING COMPANY.—At the annual meeting of this company the directors' seventh annual report stated that the average number of houses unoccupied during the year continued larger than they would wish, though not exceeding the average of former years. The directors recommended that a dividend of 3½ per cent. be paid. The chairman said the question might be raised whether it was desirable to continue the company in its present form; or whether they should wind it up. The report was received and adopted. Mr. Muir, of Glasgow, gave some details of the successful experiment of cooking depôts at Glasgow, by Mr. Corbet. A dinner, consisting of a basin of soup, a plate of meat and potatoes, and another plate of plum-pudding, could there be had for fourpence half-penny. The system was doing great good. In Manchester four similar establishments had been started, and they were all successful. Mr. Muir said a duke and duchess had dined and spent a day at the Glasgow establishment, and they expressed their high approval of the general arrangements, the duchess stating that she had had an excellent dinner.

NORWICH SCHOOL OF ART.—The annual *soirée* of the students of this school has taken place in the local Free Library, and was well attended. The school-rooms in the Library were hung with pictures. The chairman said the entire results of the examination could not be known at present, but it appeared that the school had earned thirty-two medals, which was a far greater number than it had ever had before; the greatest preceding number being twenty or twenty-one. But as no school could take more than thirty medals, two would have to be dropped. He then read the names of the medallists, and distributed the prizes. Mr. Keith, in responding to a vote of thanks, congratulated the city on the improvement that was apparent in the school, and expressed a hope that in future the citizens would take greater interest in it. Looking at the population of Norwich, and the many objects of art-interest it contained, he thought the committee ought to be able, after all the trouble they took, to obtain a subscription list of more than 100*l.* a year. He thought it a reflection on the city that it had not taken a greater interest in the school of art.

UNHEALTHY STATE OF EDINBURGH CASTLE.—The report of the commission on barracks and hospitals states that the situation of the barracks at Edinburgh Castle is an exposed, though a healthy one, but the barracks themselves are not amongst the most healthy in Scotland. The mortality in them during the last five years has been 14 per 1,000 per annum; a death-rate considerably above the army average for Scotland for the same five years, which has been 9 3 per 1,000, and much greater than in the other barracks in the city and neighbourhood. The annual mortality from chest diseases and fevers has in Edinburgh Castle been in the ratio of 10 per 1,000 strength. At Piershill Barracks, about two miles distant, it has been under 3 per 1,000, and at Leith Fort about 2½ per 1,000 strength. The greater part of the troops are in the "New Barrack," which is styled a very unfavourable specimen of barrack architecture and arrangement. The means of ventilation afforded by the construction are quite inadequate for the number of inmates. The overcrowding throughout the building is excessive. The improvements suggested by the commissioners are a reduction in the number of inmates; shafts and remodelled grates; removal of ash-pits, and improvement of the washhouses. The commission also recommend various improvements in the hospital.

MR. JAMES DREDGE.—The death of this gentleman, so long known as the inventor of the suspension bridge system which bears his name, recently occurred at his residence, Gothic Cottage, Sion-hill, Bath, after a long illness.

BLASTING POWDER. — Some improvements in the manufacture of blasting powder have been patented by Messrs. Killow & Short, of Delabole; according to which the ingredients used are nitrate of potash, chlorate of potash, nitrate of soda, sawdust, tan, and sulphur. Sometimes they dispense with the potash, and they sometimes substitute turf or peat for the sawdust, or for both sawdust and tan.

LAMBETH BRIDGE. — At the ordinary half-yearly meeting of the Lambeth Bridge company, the directors reported that with their bridge and the proposed new express omnibus the distance from Pimlico to the City will be considerably lessened, and that the receipts enabled the directors to recommend a dividend at the rate of 9 per cent. per annum for the three months. The report of Mr. Barlow, the engineer, was satisfactory.

ACCIDENT ON THE METROPOLITAN RAILWAY. A train which left Farringdon-street, by some unhappy mistake in the working of the points, was sent on to the wrong or western line while the train from Paddington was coming in to the Farringdon-street station, and met it going out near the Clerkenwell Sessions-house. The trains were fortunately running at a slow pace, but several passengers were severely shaken, and others were cut about the face, but no person was killed.

PETROLEUM UNDER A NEW ASPECT. — Not only, it seems, is petroleum destined to be one of the cheapest and most brilliant agents for illuminating purposes, but there are many more applications to which it is suited. It is considered to be a superior lubricator, a powerful heating agent, and an economical and effective substitute for turpentine, benzine, naphtha, &c.: it is used for the manufacture of candles and soap; and it has just been discovered, it is said, that it produces a beautiful varnish, at one half the cost of manufacturing the varnish now generally used. This result, it seems, has been obtained at a refinery at Birkenhead, and the requirements for this cheap article are expected to be very large.

RAILWAY TRAFFIC RETURNS.—The traffic receipts of railways in the United Kingdom amounted for the week ending the 14th of February, on 10,588 miles, to 496,778*l.*, and for the corresponding week of last year, on 10,217 miles, to 457,824*l.*, showing an increase of 371 miles, and of 38,954*l.* in the receipts. The increase on the Great Eastern amounted to 2,698*l.*; on the Great Northern, to 1,082*l.*; on the Great Western, to 2,894*l.*; on the London and North-Western, to 5,569*l.*; on the London, Brighton, and South Coast, to 2,175*l.*; on the London and South-Western, to 1,811*l.*; on the Midland, to 2,330*l.*; on the North-Eastern, to 2,452*l.*; and on the South-Eastern, to 2,062*l.* There was a decrease of 175*l.* on the Great Southern and Western.

THE POLYTECHNIC, REGENT STREET. — On Monday evening Professor Pepper gave a lecture for the first time, entitled "Burning to Death and Saving from Death," illustrating it in his usual agreeable and effective manner. As a close to some well-meant and valuable observations, a young lady, in ample white robes, prepared with the patent incombustible starch, walked with impunity up and down through flames, emulating the Mediæval lady on the plough-shares. The "Spectre Drama," which holds its place, is the most extraordinary illusion ever seen. The images produced by mirrors look more solid and real than the living man standing beside them. Mr. Lionel Brough gives a very entertaining version of "Cinderella," illustrated by dissolving views; the whole forming a wonderful shilling's-worth.

THE LARK NAVIGATION. — The river Lark seems likely to be again pressed into the service of the people of Bury St. Edmund's. The idea has originated from the employment of a peculiar class of steamboat on the Grand Junction and other canals, by means of which a cargo of 50 tons may be carried between seven and eight miles per hour, the depth required being no more than 4 feet. These boats could take in coal at Newcastle and bring it up to Bury at a cost with which no other means of transit could compete, effecting a difference of 4s. per ton in the price of coal. The project, it seems, will very shortly be before the public. A survey of the river has been made for the purpose; and we understand that Mr. Burns, the engineer, employed at present upon the town sewage, has given his opinion that there is no difficulty in obtaining 10 feet of water, if necessary, near the railway station.

PAPIER MACHE CHURCH.—According to the *Critic*, it is said, that in Bergen, a town of Prussia, there is an elegant church, capable of holding 1,000 persons, constructed entirely—statues and all—of papier maché.

A NEW THEATRE IN LONDON.—Arrangements are now in active progress for the construction of a new theatre in the metropolis, the site chosen for which is in the Haymarket, nearly opposite the Haymarket Theatre, and being the ground on which stood the Anglesey Tavern and the livery yard and stables attached.

CITY SUB-WAY.—The Bill authorising the Metropolitan Board of Works to make a new street from Chatham-place to the Mansion House contains a clause, providing that the Board may make under the new street a sub-way, and permit it to be used for the purpose of laying down gas or waterpipes or telegraph wires, "or for any other works or purpose."

INAUGURATION OF THE WEDGWOOD STATUE.—The statue by Mr. G. Davies, of Wedgwood the Potter, at Stoke-upon-Trent, has been inaugurated in presence of a large concourse of people from all parts of the Potteries and North Staffordshire. The Earl of Harrowby, K.G., delivered the inaugural address.

"RECENT ARCHITECTURE IN BIRMINGHAM."—The writer of the article under the above title is glad to find that the elegant building, designed by Mr. Naden, at the corner of Bishopsgate-street, is of brick and stone work, and that the effects are not produced merely on the surface by means of painted stucco. The artificial colouring of the columns and other portions of the work, combined with information from a seemingly reliable source, had led the writer to believe that Mr. Naden's design was open to the objections urged. He is further informed that the preparation used on the stone work, &c., is the invention of Mr. J. W. Ingram, of Birmingham, by whom it has been elsewhere applied for some time.

PUBLIC PARK FOR ASHTON-UNDER-LYNE.—At a recent meeting of the Ashton borough relief committee, the question of providing manual labour for the male adults, in the place of attending educational classes, was discussed, as the latter mode of employment was becoming very irksome to the men. It was suggested that a public park having been long talked of, a deputation should wait upon Lord Stamford to ask him to grant a piece of land for such a purpose, the first sod of which should be cut on the 10th of March, the wedding-day of the Prince of Wales. The suggestion was very favourably received; and ultimately a deputation was appointed to wait upon Lord Stamford's agents to request his lordship to make the desired grant.

ANTIQUARIAN DISCOVERY AT TARSUS.—A correspondent of the *Levant Herald*, writing from Tarsus on the 24th ult., says:—"A very interesting piece of antique sculpture has just been brought to light in the course of some excavations now in progress close to this town. It is a large and splendidly-carved sarcophagus, of white marble, containing a skeleton in a state of excellent preservation, with a funeral stone lamp at its feet. The sides and top of the sarcophagus are thickly covered with beautifully-chiselled hieroglyphics and bas-reliefs of deities, the whole as fine in their outlines as if cut a week ago. Unhappily, our local archæological lore is too scanty to enable us to obtain any reliable clue to the age or connexions of this fine remnant of antiquity; but it is pronounced by the few who do pretend to a smattering of hieroglyphic skill to be at least 3,000 years old. A speculative enthusiast has offered 1,000 liras for it as it stands, but his offer has been refused by the finder."

THE MONTROSE WATERWORKS.—At the Royal Scottish Society of Arts, in Edinburgh, a paper was recently read on this subject by Mr. John Reid. The town is now supplied from the Northesk river by pumping; but the water is first filtered through the strata adjoining into a well which was sunk for the purpose 20 feet, when fine pure water was got in abundance, there being a steady delivery of nearly 180,000 gallons per day before a driftway or conduit was extended towards the river from the bottom of the well, which latter was enlarged to 25 feet diameter, with driftway 3 feet high, 2 feet wide, and 80 yards in length. A gain of nearly one gallon per minute for each yard in length of the drift was got after reaching 50 or 60 yards from the well. The cost of the new and extensive waterworks at Kinnaber was 8,242*l.* The town was first supplied, in 1857, from this source, and the supply continues to be satisfactory.

THE EGLINTON STATUE.—Mr. Matthew Noble has received the commission for executing a colossal bronze of the late Earl of Eglinton, for the town of Ayr.

TENDERS.

For brick sewer in Bow-road and pipe sewers on the British Land Company's estate at Bow. Plans, &c., by the company's surveyor:—

Taylor & Wright	£760 0 0
Ennor	586 0 0
Pound	550 0 0
Hayward	550 0 0
Porter	542 4 0
Kent	515 0 0
Rogers	469 10 0
Horn	455 0 0
Pearce	454 0 0
Brock (accepted)	452 15 10

For forming the roads, yards, &c., at the Stepney Union Workhouse, Bromley, Middlesex. Mr. Henry Jarvis, architect:—

Parker	£845 0 0
Rutty	793 0 0
Johnson, jun.	765 8 0
Sharon	750 0 0
Winn	740 0 0
Pearce	625 0 0
Rogers	619 10 0
Kent	545 0 0
Potter	475 0 0
Brock	465 0 0
Marshall	339 0 0
Harrison	325 7 0
Porter	320 6 0

For schools and residence for teachers. Mr. Thomas Henry Watson, architect:—

Perry & Judson	£1,687 0 0
Dove, Brothers	1,637 0 0
Carr	1,586 0 0
*Longmire & Burge	1,539 0 0
Wiggs (accepted)	1,320 0 0

For repairs and alterations at No. 30, Arundel-square, Islington. Mr. Evan Christian, architect:—

	House.	Porch.
Newman & Man...	£664 0 0 ..	£28 0 0
Bowdon	647 0 0 ..	31 0 0
Dove, Brothers	553 0 0 ..	32 0 0
Rhodes & Roberts	505 0 0 ..	25 10 0
Glenn	449 0 0 ..	30 0 0

For the erection of national schools and teacher's residence at Newhall, Derbyshire. Messrs. Spragg & Joyce, architects, Stafford:—

Clarson	£1,063 0 0
Gadsby	1,000 0 0
Brassington	997 0 0
Wileman & Wigley	985 0 0
Bullock	970 0 0
Thompson	955 0 0
Brunt	937 0 0
Hextall	935 0 0
J. Lilley & Co.	934 0 0
Smith & Fish	886 0 0
G. Lilley (accepted)	849 0 0

For erecting seven villa residences at Hampstead-lane, Highgate, for Mr. W. Piper. Messrs. Wales & Sparks, architects:—

Jacobs	£10,991 0 0
Condor	10,962 0 0
I'Anson	10,900 0 0
Ryder	10,780 0 0
Henshaw	10,648 0 0
Brown & Robinson	10,355 0 0
Foster	10,100 0 0
Hack	9,882 0 0

For Messrs. Rutherford & Jemmett's stables, Phœnix-yard, Oxford-street. Mr. Charles Poland, architect. Quantities supplied:—

Axford	£6,245 0 0
Longmire & Burge	5,995 0 0
Little	5,978 0 0
Tarrant	5,888 0 0
Macey	5,862 0 0
Keyes & Head	5,736 0 0
Adamson	5,695 0 0
Browne & Robinson	5,594 0 0
Sharpington & Cole	5,277 0 0

For supply and delivery of 1,100 yards lineal of 6-inch cast-iron pipes, for the Sherborne Local Board of Health Waterworks, 1863. Contract C. Mr. C. S. Newman, C.E.:—

Spittle	£357 10 0
Reed	316 5 0
Penny	316 5 0
Stothert & Pitt	299 10 0
Parker	294 0 0
Hannan & Gillett	290 17 0
Brymbo Iron Company	290 0 0
Bugbird	288 15 0
Vickary	264 0 0
Cochrane & Co. (accepted)	256 11 0

For excavating for laying and jointing 1,100 yards lineal 6-inch cast-iron pipes for the Sherborne Local Board of Health Waterworks, 1863. Contract D. Mr. C. S. Newman, C.E.:—

Baker	£119 3 4
Major	105 8 4
Spittle	100 16 8
Chinchen	94 19 2
Stothert & Pitt	92 1 6
Hayward	85 0 0
Bugbird	82 10 0
Parker	82 10 0
Bow	77 0 0
Hopkins (accepted)	75 0 0

For 1,000 feet brick sewer for Metropolitan Board of Works, Denmark-hill, Surrey :—

Day	£2,527	0	0
Legg	2,159	0	0
Thirsk	1,799	0	0
Hill	1,689	0	0
Blackmore	1,680	0	0
Pearson	1,471	0	0
Bottom & Co.	1,466	0	0
Roe	1,326	0	0
Dowell	1,298	0	0

For floor-cloth factory, Mitcham, for Messrs. Harvey & Knight. Mr. Danby, architect :—

Elliott	£3,523	0	0
Penlington	2,835	0	0
Thompson	2,790	0	0
Rudkin	2,642	0	0
Manley & Rogers	2,595	0	0
Simms	2,513	0	0
Bond	2,589	0	0
Stevens	2,479	0	0
Ward	2,295	0	0
Bottom & Co. (accepted)	2,285	0	0
Dover	2,069	0	0

For reinstating the "Star of the East," Commercial-road East. Mr. James Harrison, architect :—

Ennor	£257	0	0
Shepherd	240	0	0
A. & J. Smith	203	0	0

For the Newhaven and Seaford Railway (London, Brighton, and South Coast) :—

Sawyer	£17,435	0	0
Pickering	13,048	0	0

North London Railway.—Tenders were opened at Euston Station on Tuesday. The following amounts (being a portion of the tenders) have reached us : the rest are not yet made public. A correspondent states that Messrs. Waring & Co. are accepted :—

Simms	£261,000	0	0
Hill & Co.	255,000	0	0
Sawyer	244,000	0	0
Jackson	240,000	0	0
Waring & Co.	235,000	0	0

For a villa residence, stabling, &c., Winburn Hill, for Mr. C. Morgan. Mr. C. Clark, architect :—

	House.		Stabling.		Total.
Lads	£1,431	0	£416	0	£1,847
Mansfield & Sons	1,400	0	400	0	1,800
Ashby & Sons	1,335	0	427	0	1,762
Lawrence & Sons	1,400	0	342	0	1,742
Bow & Gull	1,320	0	415	0	1,735
Patman & Co.	1,307	0	391	0	1,698
Cushing	1,287	10	407	10	1,695
Strap & Co.	1,238	0	375	0	1,613

TO CORRESPONDENTS.

Iron Girders.—W. J. M. writes,—Will any of your readers inform me where a simple formula may be obtained for calculating the strength of "wrought-iron girders," and for determining the resection? Most of the works which treat on this subject contain formulæ for "cast-iron;" but I have searched in vain for the particulars I require.

R. W.—K. A. J.—F. S.—H. H. C. (declined).—J. T.—F. H. & F.—F. T. M.—W. C. T.—J. T.—C. H. S.—C. J. P.—W. S.—Italy (the magistrates will know their claim to the plans. Lawyers differ as to the right).—T. R. S. (letter having appeared elsewhere, has been cancelled). Circular Communications (correspondents who forward communications that have been sent to other journals also, are requested to state the fact).—J. T. L. (It is not a question of support for the roof. A central row of columns in a church would be unsatisfactory). F. B. W—R. R. (already referred to). T. N. R. Veritas.—G. B. N—H. M.—J. D.—J. D. S. (next week).—A. T.—Messrs. T.—J. H.—J. G. H—J. W. I.—T. N.—R. T. S.

We are compelled to decline pointing out books, and giving addresses

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than FIVE o'clock, p.m., *on Thursday.*

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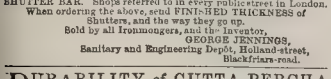
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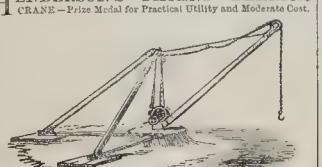
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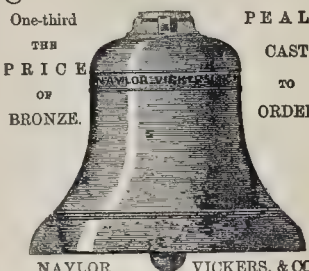
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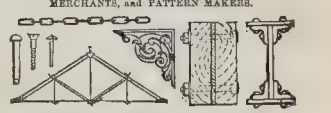
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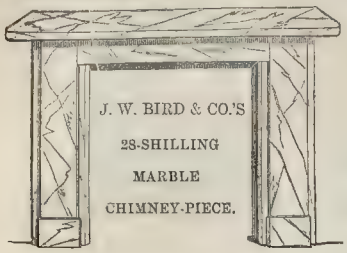
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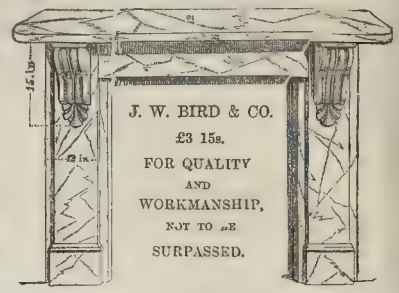
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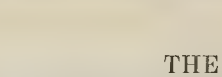
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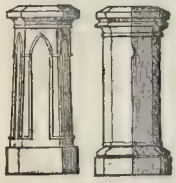
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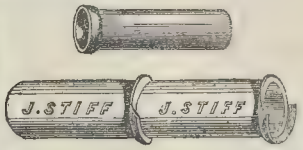
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The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required) without breaking a pipe, or disturbing the flow of sewage.

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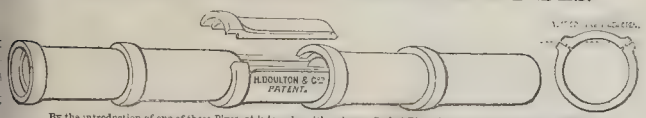
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FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

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THE ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacture of BAILES PATENT INLAND MOSAIC TILES; also superior PRESSED TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs, &c.; as also for external decoration, as plinths, friezes, string courses, pilasters, &c. and white glazed tiles for baths, dairies, &c.: also, the Architectural Pottery Company's patent orange tree Boxes. Various specimens of the above may be seen, and every information obtained at the Offices of the Company, No 36, Parliament-street, S.W. Specimens also on view at the Galleries of the Architectural Exhibition, 9, Conduit-street, Regent-street; Kensington Museum, the Fine Arts' Academy and the Crystal Palace, Sydenham.—Address, The Architectural pottery Company, 36, Parliament-street, S.W.; or Poole, Dorset

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UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

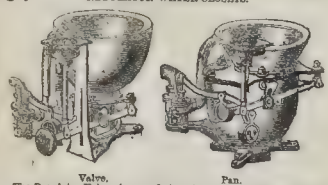
In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

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Now manufactures on HIS OWN ACCOUNT his Patent Regulator Water Closets, Valves Gas Meters, &c. on the same premises.

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J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cistern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate street, London

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OSLEY POTTERY WORKS, GLASGOW.

Messrs. R. H. PENMAN & CO. from Staffordshire, Manufacturers of the best description of EARTHENWARE GOODS for Sanitary Purposes required in private and public buildings, supply the Trade, Wholesale, at the lowest possible prices for Cash. The Ware sent by their customers to the late Exhibition was highly spoken of.

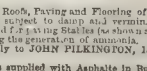


TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revolved, as well as removed and WARRHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. The Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 19, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

SALES BY AUCTION.

TO STEEL, HARDWARE, AND CHAIN MANUFACTURERS, ENGINEERS, FOUNDERS, and OTHERS.—Swallwell Iron Works, Newcastle-upon-Tyne.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on THURSDAY, MARCH 12, 1863, and following day, at ELEVEN o'clock precisely each day, in lots, without reserve, the LOOSE TOOLS and IMPLEMENTS and remaining STOCK IN TRADE of Messrs. Crowley, Millington, & Co. at the WORKS, as above, including about 50 new overhead horizontal high-pressure steam engines, nearly complete, powerful rivet-making machine, 15 lever punching presses, powerful boring bar, foundry crane, 3 crane ladles, 8 and street cash, 15 tons chains, loam rings and plates, shank and hand hooks, 3 tons patterns and castings, 3 sets trucks, 20 tons smiths' tools, 7 tons swage blocks, rivet-making blocks and look rests, 11 tons anvils, some nearly new, 20 pairs forge bellows, 1 ton wrought iron vices, 10 tons cast and shear and 4 cut steel, 5 tons scrap steel and old files, 5 tons rod and bar iron, 3 tons chain and chain slings, 8 tons iron pivots, brass patterns and castings, 10 tons coalings, various, core barrels, 30 tons scrap iron, crab, 2 timber-jacks, blocks and falls, 2 carts, scales and weights, large assortment of wood patterns, several loads of saw timber, 40 dozen shovels and Lyle-handles, fire engine, and numerous other effects. — To be viewed on Wednesday previous and morning of sale. Catalogues may be had on the Premises; at the Turk's Head Hotel, Newcastle; at the *Midland Counties Herald* Office, Birmingham; of Messrs. VANDEROOM, CREE, & LAW, Solicitors, Bush-lane, London, E.C.; of Messrs. CHARLES BROWN & DUBOIS, Accountants, 10, Bridge-street, London, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C. Approved bills at three months' date will be taken from purchasers to the extent of 50*l.* and upwards.

BUILDING MATERIALS.—Near Rye-lane, Peckham

MR. C. F. SMYRK is instructed to SELL by AUCTION, on the PREMISES, as above, on MONDAY, MARCH 9th, at TWELVE, the sound MATERIALS of several HOUSES, taken down for improvements; also the fixtures of both builders and others.—Descriptive catalogues on the Premises; or of Mr C. F. SMYRK, 168, Fleet-street, and 18, Newington place, Kennington-road, S.

FOR SALE by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, 18th day of MARCH, 1863, at ONE o'clock precisely (Luncheon at Half past Twelve o'clock). For account of Importers.

25,000 Spruce Deals, Battens, Scantling, and Ends
6,000 Quebec Pine and Spruce Deals
6,000 St. Petersburg Red and White Wood Deals
4,000 Onega Red Deals, Battens, and Boards
2,000 Fresh Gothenburg Deals and Battens
5,000 Fresh Nyhamn Red Deals
300 Loads Quebec Yellow Pine
100 Loads Quebec Red Pine
300 Loads Quebec Board Pine
26 Loads Quebec Oak
10 Loads Quebec Ash
10 Loads Quebec Birch
200 Loads Fresh Memel Timber
300 Loads Dantzic Fir Wood Timber
100 Loads Dantzic White-wood Fir
50 Loads Dantzic Oak
300 Loads Swedish Timber
300 4 to 6-inch Fresh Norway Spars
50 Fathoms Hemlock, Dantzic, and St. Petersburg Lathwood
20 Logs Mexican Mahogany (Box log)
Flooring

With other Goods.

Catalogues will be issued in the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, March 3rd, 1863.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, BRIGHTON, S.W

Notice of PRIVATE SALE of about 200 MARBLE CHIMNEY-PIECES, to be sold at very reduced PRICES, on the expense of removal to the Brighton road), in the following Marbles, viz.:—Statuary, Rouge Royal, Black and Gold, Black Sienna, Bardilla, Dove California, St. Anns, Ronge Langue, Jaune Fleurt, Brocatella, Genoa Green, Irish Green, Blue Belge, Emperor's Red, Irish Fossil, Campane Mixange, Vein, Sicilian, and various excellent specimens of British Marbles, ranging in price from 1*l.* 10*s.* to 50*l.*; and for elegancy of design, workmanship, and quality, not to be surpassed in England. Purchases to the extent of 30*l.* and 50*l.* approved bills of three and four months will be taken, from 50 per cent. each Purchasers from the country will be supplied with packing-cases, and the same packed and delivered to any of the metropolitan stations for 1 per cent. on the amount purchased.

SYDENHAM-COMMON, on the Walls-road, in the parish of Lewisham, midway between Sydenham Station and the Crystal Palace.—Valuable Freehold Land, divided into small plots for building purposes.

MESSRS. FAREBROTHER, CLARK, & LYE are instructed to SELL, at GARRAWAY'S, on WEDNESDAY, MARCH 11th, at TWELVE, in one or thirty-three lots, very valuable FREEHOLD BUILDING LAND, situate on Sydenham-common, in the parish of Lewisham, six miles from London, and about midway between the Sydenham Station of the London, Brighton, and Croydon Railways and the Crystal Palace, comprising three inclosures of land, with extensive frontages to the Walls road, opposite Wells-terrace; and also to Taylor's-lane, leading to the Longton Hotel. The whole is divided into small plots, with frontages averaging from 30 to 40 feet. All the land contains a valuable brick earth. Immediate possession may be had. Particulars, with plans, may be had on the Property, at the Greyhound, Sydenham; of RICHARD TAYLOR, Esq. Solicitor, 3, Field court, Gray's Inn square; at Garraway's, E.C.; and at the Offices of Messrs. FAREBROTHER, CLARK, & LYE, 6, Lancaster-place, Strand, W.C.

CITY OF LONDON Freehold Building Site, comprising the large Area of about a Quarter of an Acre.

MESSRS. WILSON & SCOBLE will SELL by AUCTION, at GARRAWAY'S, on THURSDAY, MARCH 12, at TWELVE precisely, a Highly valuable and important FREEHOLD PROPERTY, comprising the extensive premises upon which the works of Messrs. Swinburne, Plate Glass Manufacturers, have been carried on for many years, known as "Red Bull Wharf," Upper Thames-street, in the best position between Southwark and London Bridges, and opposite the range of warehouses of Messrs. Hunt and others for many years. Messrs. "Red Bull Wharf," Upper Thames-street, in the best position between Southwark and London Bridges, and opposite the range of warehouses of Messrs. Hunt and others for many years. Messrs. Swinburne have been carried on for many years, known as

The Builder

AN ILLUSTRATED JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XXI.—No. 1049. MARCH 14, 1863. PRICE FOURPENCE. By Post, 6d.

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Just published, in 4to.

ROYAL INSTITUTE of BRITISH ARCHITECTS. Sessional Papers, 1862-3."

Part I. price 7s. containing: Opening Address, by W. Tite, M.P. President—Memoir of Monsieur Charles Frederic Nepveu, Architect, of Versailles; by Professor Donaldson, Ph. D. Fellow—Some Researches on Colour and Coloured Decorations, with Illustrations; by E. Hayter Lewis, Fellow—The Restoration of St. Michael Penkevil, Cornwall, with Illustrations; by C. E. Street, Fellow—Some Remarks on Rungeford Market; by C. Fowler, Fellow—On the Conventual Arrangement of Canterbury, with Illustrations; by the Rev. M. E. Walcott, M.A. F.S.A. &c.

Part II. No. 1. Sundry Sanitary Arrangements, with Illustrations; by John Taylor, Jun. Price 1s. 6d. No. 2. price 2s. containing—1. Report of Voluntary Architectural Examination; 2. Paper read by J. H. Parker, F.S.A. "On the Abbey Churches at Caen," Illustrated. London: Sold by J. H. & JAS. PARKER, 377, Strand; and Oxford.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM W Session 1864

The following Lectures will be delivered in the Theatre of the South Kensington Museum.

Tuesday, March 24, "On the Condition and Prospects of Architectural Art," by A. J. B. BERESFORD HOPE, Esq. M.A. D.C.L. President.

Tuesday, April 7, "On Mediæval Studies in Palestine," by G. J. WIGLEY, Esq.

Tuesday, April 21, "On the Fly Lantern," by the Very Rev. the DEAN of ELY.

Tuesday, May 5, "On Construction and Ornament, Old and New," by SIR HENRY DRYDEN, Bart.

Tuesday, May 19, "On the Wrought-iron Work of the Great Exhibition of 1862," by WILLIAM WHITE, Esq.

Tuesday, June 2, "On the Art Collections at south Kensington, considered in Reference to Architecture," by J. C. ROBINSON, Esq. F.S.A.

Tuesday, June 16, "On Architecture, its Purpose and its Place among the Arts," by T. GAMBIER PARRY, Esq.

The Chair will be taken on each Evening at Half past Seven o'clock precisely.

The following PRIZES are now offered to Artist Workmen:—

For WOOD CARVING, Prizes of 20l. and 5l.

For COLOURED DECORATION, Prizes of 5l. 5s and 2l 2s

Artist-workmen may obtain Cards of Admission to the Lectures, and full particulars of the Prize Competitions, of the Attendant in the Gallery of the Architectural Museum; at the Office of "The Builder," York street, Covent-garden; or by letter, addressed to the Honorary Secretary, at 13, stratford place, W.

A. J. B. BERESFORD HOPE, President.
GEORGE GILBERT SCOTT, Treasurer.
March, 1863. JOSEPH CLARKE, Hon. Sec.

ROYAL ACADEMY of ARTS.—NOTICE to ARTISTS.—All works of Painting, Sculpture, Architecture, or Engraving, intended for the ensuing EXHIBITION at the Royal Academy, must be sent in on MONDAY, the 6th, or TUESDAY, the 7th of APRIL next, after which time no Work can possibly be received, nor can any Works be received which have already been publicly exhibited

FRAMES.—All Pictures and Drawings must be in gilt frames. Oil Paintings under glass, and Drawings with wide margins are inadmissible. Excessive breadth in frames as well as projecting mouldings may prevent pictures obtaining the situation they otherwise merit. The other regulations necessary to be observed may be obtained at the Royal Academy JOHN PRESCOTT KNIGHT, R.A. Secretary.

Every possible care will be taken of Works sent for exhibition; but the Royal Academy will not hold itself accountable in any case of loss, nor can it undertake to pay the carriage of any package.

The Prices of works to be disposed of may be communicated to the Secretary.

ARCHITECTURAL ASSOCIATION, 9, Conduit street, W.—The Adjourned DISCUSSION on the subject of "VENTILATION" will take place on FRIDAY Evening next, MARCH 20th, 1863, at the Rooms of the Association, to commence at EIGHT o'clock precisely. Visitors will be admitted by giving their names to the Hall Porter,

CHARLES J. ADAMS, }
H. A. REEVES, } Hon. Secs.

ART-UNION of LONDON.—Subscription, One Guinea.—First Prize, "The Dancing Girl Reposing," marble statue, value 700 guineas. Also Parian Busts of H.R.H. the Princess of Wales, besides the right of choosing a work of art from 100 to 500l. Every subscriber has an impression of a Line Engraving from the original picture, by T. F. Dicksee, "A Labour of Love," together with a set of Sixteen Designs in Outline, illustrating Tennyson's poem, "Idylls of the King," now ready for delivery. The lists close MARCH 31st. GEORGE GODWIN, }
444, West Strand, March, 1863. LEWIS POCOCK, } Hon. Secs.

BILLING'S PATENTS. CHIMNEY TERMINALS, THROAT VALVES.

NOTICE to ARCHITECTS.—The Proprietors of the late Mr Billing's Patents have secured the services of Mr. H. H. COLLINS, M.I.B.A. of No 10, Poultry, E.C as the Consulting Architect, from whom full particulars and the reduced prices may be obtained; or from the Manager, Mr. TYLER, 12, Abingdon street, Westminster, S.W.

COMPETITIONS.

TO SCULPTORS.—The Executive Committee of the Oastler Monument will be glad to receive DESIGNS and PROPOSALS from sculptors, for a MONUMENT to the late Richard Oastler, which is to be erected in Bradford. The statue is to be placed upon a pedestal, in a speaking attitude, and to have at the base, small figures of factory children supplicating the great philanthropist to redress their grievances. The cost of the statue, which is expected to be colossal, is not to exceed 1,000l. and the design must be approved and have the preference of the committee. The committee are open to receive a DESIGN for a FIGURE, in marble, under a Gothic canopy, with groups of factory children in bas-reliefs on the pedestal.—Communications may be addressed to W. WALKER, Esq. Bolling Hall, Bradford, the Chairman of the Executive Committee

Bradford, March 4, 1863.

EXTENSION of TIME.—To ARCHITECTS.—A PREMIUM of 25l is offered for the best PLAN for LAYING out EIGHT ACRES of LAND at Ripon, in building sites, with the elevations of detached and semi-detached villas of from 30l. to 50l. rental. Plans to be sent in by the 23rd of APRIL.—For further particulars and to view the ground, application must be made to ROBERT WILLIAMSON, Jun. }
Ripon, March 5th, 1863. JOSEPH STEVENSON, } Hon. Secs.

A BERYSTWYTH CEMETERY.—The Burial Board being about building TWO CHAPELS and a LODGE, upon the new Cemetery, provided for the parish of Aberystwyth, Architects are invited to submit PLANS of such Chapels and Lodge, to cost the cost of which not to exceed 800l. One of the Chapels is to be built on the consecrated portion of the Cemetery, and the other on the unconsecrated portion thereof, and are to be detached, and each Chapel is to contain sittings for one hundred persons. The Burial Board will award 5l as by way of premium for the plan selected.—Further particulars may be obtained from the undersigned, to whom the plans are to be sent, free of expense, on or before the 2nd day of APRIL, 1863.

HUGH HUGHES,
Clerk to the Burial Board, Aberystwyth.

CONTRACTS.

WAR DEPARTMENT CONTRACT.

NOTICE to BUILDERS.—Tenders are required for the supply at the Verne Fortifications, Portland, and the Nothe Fortifications, Weymouth, of TOOLS, timber, iron, steel, rails, castings, and other PLANT which may from time to time be required for the War Department Works, in the Portland District, from 1st APRIL, 1863, to 31st MARCH, 1864, inclusive.

Parties desiring to Tender for the above must leave their names at this Office on or before the 23rd day of MARCH, 1863, and pay the sum of 10s. 6d. for the printed schedule of prices.

The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders, and does not bind himself to accept one Tender for both places

C. H. NUGENT,
Captain and Major commanding Royal Engineers.
Royal Engineer Office, Weymouth, 11th March, 1863.

EXTENSION of TIME for receiving TENDERS—CITY of LONDON, BARBERS' HALL—Important SITE for WAREHOUSES or MANUFACTURING PREMISES in the immediate vicinity of Wood street, Cheapside.—The Committee of the Worshipful Company of Barbers will meet at their Hall on THURSDAY, the 26th day of MARCH, 1863, to receive TENDERS for LETTING, on a Building Lease for 99 years, the Extensive PREMISES known as Barbers' Hall, situate in Monkwell street, Wood street, comprising three houses fronting Monkwell street, Nos 31, 34, and 35; part of the courtyard in the rear thereof, the passage leading thereto, and the greater portion of the Company's Hall, together with the kitchen, scullery, and outbuildings, having a frontage towards Monkwell-street of about 83 feet, by an average depth of about 116 feet, and an extreme depth of about 135 feet.—Full particulars, with a plan of the property, elevation and section of street-front, also conditions of letting, may be obtained on application to the Clerk of the Company; to Mr. CHARLES JOHN SHOPPEE, the Company's Surveyor, No. 61, Dorset street, W.C.; or to the Beadle at the Hall.—By order,

HENLEY GROSE SMITH, Clerk.
4, Warnford court, Throgmorton street, E.C.

PERSONS desirous of TENDERING for the ERECTION of a DOUBLE VILLA at Darlington, may inspect plans and specifications at the Offices of THOMAS SIMPSON, Architect, Nottingham, on and after WEDNESDAY, the 4th day of MARCH, until WEDNESDAY, the 18th; or at the Offices of JOSEPH PEASE, Esq. Darlington, on THURSDAY, the 19th day of MARCH, until THURSDAY, the 2nd of APRIL. Sealed Tenders to be addressed to JOSEPH PEASE, Esq. and delivered at the Offices last named, not later than MONDAY, the 6th day of APRIL. The lowest or any Tender not necessarily accepted.

TO MASONS and PAVIORS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City on TUESDAY, the 17th of MARCH next, at TWELVE o'clock precisely, to receive TENDERS for the execution of such MASON'S and PAVIOR'S WORKS as may be required by them to be done within the City, for a period of THREE YEARS, from Lady Day next, upon the terms contained in their specification, printed copies of which may be obtained at this Office on payment of the sum of 1l. 1s. each, which will be returned to such persons who shall send in a *bona fide* Tender. Persons Tendering are required to give the names and addresses of at least two substantial householders as their sureties to enter into bond with the Contractor for the due performance of the Contract. The Commissioners do not pledge themselves to accept the lowest Tender or any unless deemed satisfactory; and no Tender will be received after TWELVE o'clock on the day of treaty. The party sending in proposals must attend personally, or by duly authorised agents, on the day and hour mentioned

JOSEPH DAW, Principal Clerk.
Sewers' Office, Guildhall, 23rd February, 1863.

TO BUILDERS and CONTRACTORS.—SHEPPY GAS CONSUMERS' COMPANY (Limited).—TENDERS are invited for BUILDING a BRICK GAS HOLDER TANK, a METER HOUSE, SMITH'S FORGE, and for certain ALTERATIONS and EXTENSIONS at the Works of the above Company at West Minster, Sheppy, Kent. The plans, specifications, and forms of Tender may be inspected daily at the Office of Mr. JOSIAH HALE, Surveyor, Queenborough, Sheppy, Kent, between the hours of TEN a.m. and FOUR p.m. up to SATURDAY, the 14th day of MARCH next. Enclosed Tenders to be delivered on or before SIX o'clock p.m. on MONDAY, the 16th day of MARCH next, addressed to "The Secretary of the Sheppy Gas Consumers' Company (Limited)," at the office of the Company, 14 Edward street, Banks Town, Sheerness, endorsed "Tender for Gas-Holder Tank, &c" by order of the Board of Directors A. W MARKS, Secretary.
Company's Office, March 3rd, 1863.

CHELTENHAM CEMETERY.—To BUILDERS.—Notice is hereby given, that the Cheltenham Burial Board intend to enter into a CONTRACT for ERECTING the CHAPELS and other BUILDINGS at the Cheltenham Cemetery, according to the specifications and drawings, form of contract, and bond, which may be seen at the Office of the Architect, Mr. W. H. KNIGHT, The Old Farm, St. George's place, Cheltenham. Proposals or Tenders to be delivered to Mr G. E. WILLIAMS, Clerk to the Burial Board, on or before WEDNESDAY, the 1st day of APRIL next evening, at the Office of the Burial Board, in Hatherley-road, known as the Public Offices, between the hours of TEN a.m. and FOUR p.m. endorsed Tender for Buildings &c at the Cheltenham Cemetery," and such Tenders to contain the names, residences, and descriptions of two sureties for the due execution of the contract. The Tenders may be for the whole of the Works, or separately for the chapels and lodge. The Board will not be considered pledged to accept the lowest or any Tender.—Dated this 2nd day of March, 1863.

GEORGE EDMUNDS WILLIAMS,
Clerk to the Cheltenham Burial Board.

TO ENGINE and PUMP MAKERS.—The Uxbridge Local Board of Health is prepared to receive TENDERS for the SUPPLY and DELIVERY of NEW PUMPS, and raising the same, at the Waterworks in Waterloo road, Uxbridge. The specification may be seen and orders for the Works may be obtained, upon application to Mr. GEORGE EVES, Surveyor to the Board, High street, Uxbridge. Tenders, on Lithographed forms only, which will be supplied, to be sent in, under cover, to me before TWELVE o'clock, noon, on THURSDAY, the 2nd day of APRIL next. The Board will not be bound to accept the lowest or any Tender.

CHARLES WOODBRIDGE, Clerk to the Board.
Uxbridge, March 5th, 1863.

WEAVER NAVIGATION.—To CONTRACTORS.—The Trustees of the River Weaver are prepared to receive TENDERS for the CONSTRUCTION of four WASTE WEIRS, to be executed according to plans and specifications, which may be seen at this Office on and after the 16th instant. Sealed Tenders, marked "Tenders for Waste Weirs," to be delivered at the Office of the Trustees, Northwich, on or before the 31st instant. The Trustees do not bind themselves to accept the lowest or any Tender.

E. LEADER WILLIAMS, Jun.
Engineers' Office, Northwich, 5th March, 1863.

TO BUILDERS and CONTRACTORS.—Persons desirous of CONTRACTING for the ERECTION of CEMETERY CHAPELS, LODGE, and FENCE WALLS, for the Ringwood Burial Board, are requested to apply at the Office of Mr. CLARKE, Architect, Corn Market, Salisbury, where plans, specifications, and conditions may be seen, and blanks of quantities obtained.—Sealed Tenders to be delivered to the undersigned, on or before SATURDAY, the 21st day of MARCH inst. The Board do not pledge themselves to accept the lowest or any Tender. The Contractor must, if required, find sureties for the due fulfilment of his contract. RICHARD BROWN, Clerk to the Board.
Ringwood, March 3, 1863.

TO ENGINEERS and OTHERS.—TENDERS WANTED for 100 feet of BORING THROUGH CLAY, with the insertion of a Bore Pipe, from the Bottom of an Excavated Well, in Northampton. The process to be tube Pipe.—Full particulars given on application to C. C. IRESON, Esq. Northampton. Estimates wanted by MARCH 21st next.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a BAILIFF'S COTTAGE and FARM HOMESTEAD, at Early Wood, Sunning hill, Berkshire, may see the plans and specifications on and after MONDAY, the 16th instant, at the House on the Farm. Tenders to be forwarded under cover to me on or before MONDAY, the 30th instant, to Mr. J. BAILEY DENTON, 72, Parliament-street, Westminster. Quantities not supplied. The lowest or any Tender not necessarily accepted.

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS and OTHERS.—A Gentleman wishes to find somebody who will BUILD FIFTY or more COTTAGES on one frontage or other land belonging to him, not far from Portsmouth Dockyard, fifty or sixty miles from Exeter, if required. The tenants to be always members of the Church of England. Power over the whole or part of the house-built area to be agreed upon beforehand, or settled by after arbitration.—Apply, in the first instance, to Mr. TELFER, Agent, 20, Arthur street, New Oxford-street, London.

TO COAL MERCHANTS, GAS and COKE COMPANIES.—The Commissioners for Public Baths and Wash-houses for St. George, Hanover-square are ready to receive TENDERS for the SUPPLY of WELSH or MERTHYR TYDVIL COALS, Newcastle Wall and Large Coals, and Newcastle Wallsend SMALL Coals of the best quality, at per ton, and COKE at per chaldron, for twelve months, from the 31st MARCH instant to be delivered free of expense, at the respective establishments in Davies street, Berkeley square, and Lower Belgrave-place, Pimlico, as and when and in such quantities as may be ordered. The Tenders to specify the name of the Pit or Works, Coke to be tested, and delivered. "Tender for Coke," and "Tender for Coals" and Tenders for the said sent in to meet the Board for Coals, at Grosvenor-house aforesaid, before TEN o'clock on THURSDAY, the 26th MARCH instant. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

W. H. BANISTER, Clerk to the Commissioners.

March 11th, 1863

TO PAVIORS and MASONS. The Vestry of the Parish of St. James and St. John, Clerkenwell, will meet on THURSDAY, the 19th inst. at Half-past SIX o'clock in the Evening precisely, at the Vestry Hall, Upper Rosoman-street, to receive TENDERS for PAVING and REPAIRING the several STREETS and WAYS as they may be required to be paved and repaired during the term of one year, from the 25th of March inst. with new York stone, 24 inches thick, properly squared, and laid in cross courses with best Kyle, at per foot superficial; new Aberdeen or Guernsey Kerb, 6 in. by 12 in. best Kyle, 12 in. by 7 inches, and ditto 12 inches to 8 inch, at per foot run; new Aberdeen or Guernsey Cubes, not less than 9 inches deep, grouted with Dorking lime and sharp Thames sand; ditto dressed for crossings; and new Half-sovereign stones, at per yard superficial. Also for Re-squaring and Re-laying of York landings, at per foot superficial; per foot run; and per setting of Kerb. Also for new rough paving granite and pebble carriage ways, and channels and Purbeck steps with gravel, at per yard superficial; and for other Works, as specified in the form of Tender. The Vestry do not bind themselves to accept the lowest or any Tender. The Contract to be for a term of two years, in the sum of £500 for the performance of his contract, and must send in his Proposals, for each and every separate "Paving Tender," by FOUR o'clock on the day at or previous to which they will not be received. Printed forms of their Agents may be had at the Vestry at the time of making up the Contract. Further particulars may be learnt, at the Vestry Hall, where printed forms of Tender may be obtained. The Contractor will be required to find sureties, if required by public call put down on account of the Vestry, who will not be allowed in any case to charge more than the usual rate.—By order,

ROBERT PAGET, Vestry Clerk.

March 12th, 1863.

BALLAST FLINTS and HARD CORE.—The Vestry of the Parish of St. James and St. John, Clerkenwell, will meet on THURSDAY, the 19th MARCH inst. at the Vestry Hall, Upper Rosoman-street, at Half-past SIX o'clock in the Evening, to receive TENDERS for supplying, during the ensuing 25th MARCH, 1864, of the best PIT BALLAST and HARD of the finest, and good HARD CORE, of the best Kyle, to average 9 inch cube, and no good HARD CORE of the best Kyle, to average 6 inch cube, and no good HARD CORE of the best Kyle, to average 3 inch cube, and no good HARD CORE of the best Kyle, to average 2 inch cube, and no good HARD CORE of the best Kyle, to average 1 inch cube, and no good HARD CORE of the best Kyle, to average ½ inch cube, and no good HARD CORE of the best Kyle, to average ¼ inch cube, and no good HARD CORE of the best Kyle, to average ⅛ inch cube, and no good HARD CORE of the best Kyle, to average 1/16 inch cube, and no good HARD CORE of the best Kyle, to average 1/32 inch cube, and no good HARD CORE of the best Kyle, to average 1/64 inch cube, and no good HARD CORE of the best Kyle, to average 1/128 inch cube, and no good HARD CORE of the best Kyle, to average 1/256 inch cube, and no good HARD CORE of the best Kyle, to average 1/512 inch cube, and no good HARD CORE of the best Kyle, to average 1/1024 inch cube, and no good HARD CORE of the best Kyle, to average 1/2048 inch cube, and no good HARD CORE of the best Kyle, to average 1/4096 inch cube, and no good HARD CORE of the best Kyle, to average 1/8192 inch cube, and no good HARD CORE of the best Kyle, to average 1/16384 inch cube, and no good HARD CORE of the best Kyle, to average 1/32768 inch cube, and no good HARD CORE of the best Kyle, to average 1/65536 inch cube, and no good HARD CORE of the best Kyle, to average 1/131072 inch cube, and no good HARD CORE of the best Kyle, to average 1/262144 inch cube, and no good HARD CORE of the best Kyle, to average 1/524288 inch cube, and no good HARD CORE of the best Kyle, to 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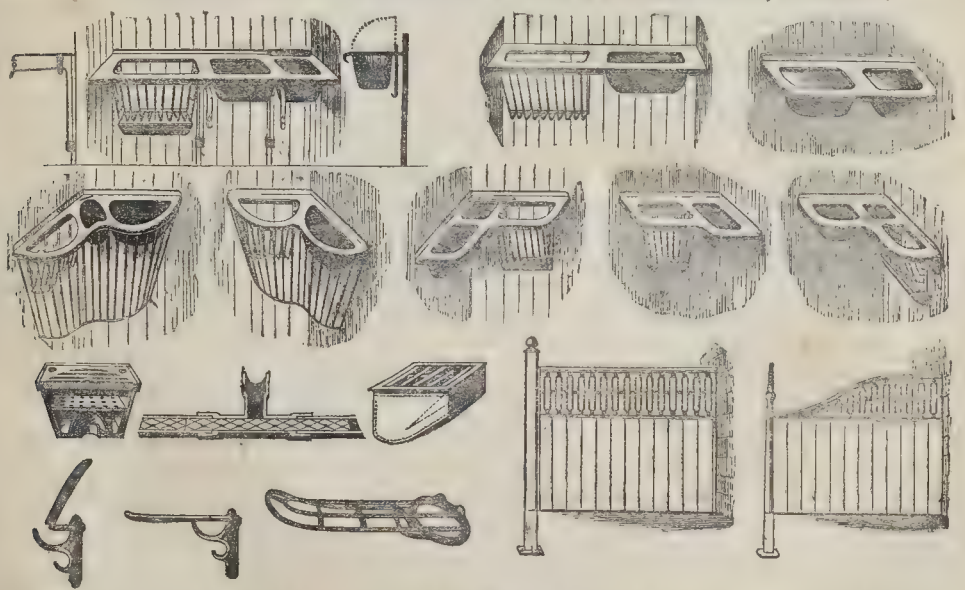
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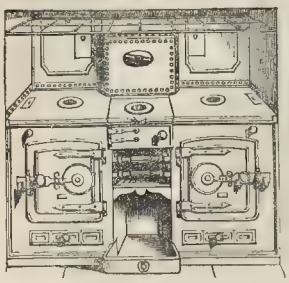
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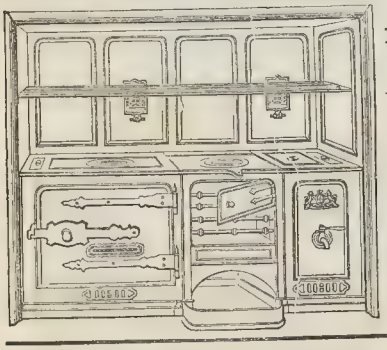
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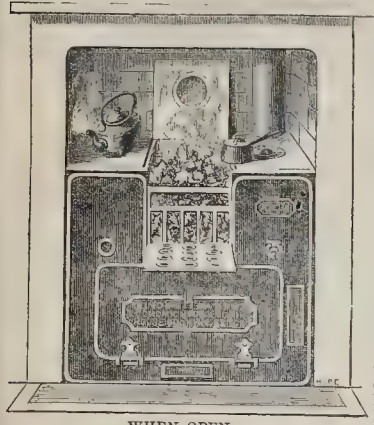
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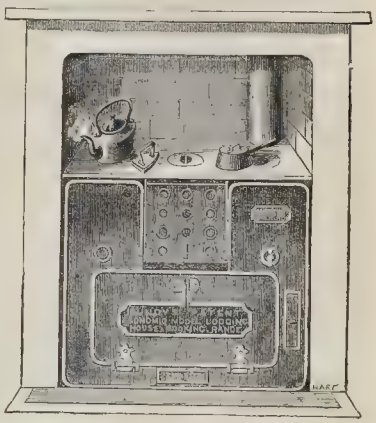
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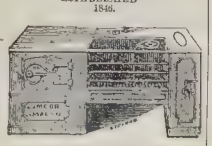
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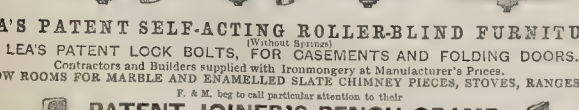
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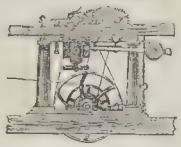
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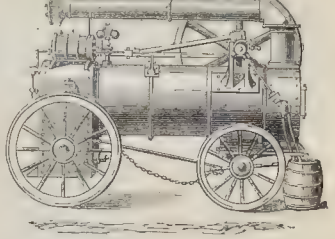
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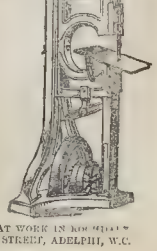
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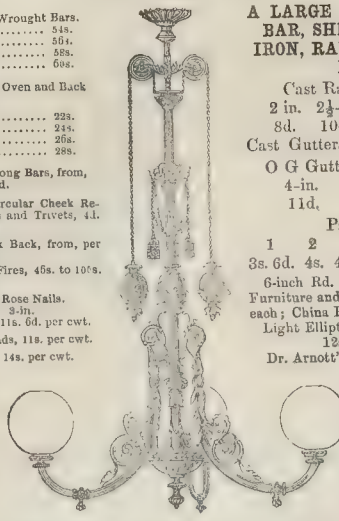
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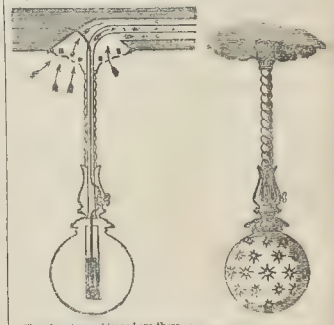
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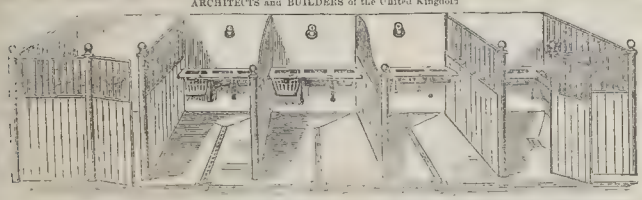
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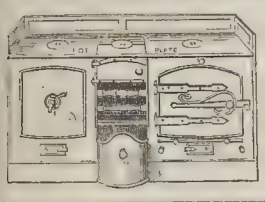
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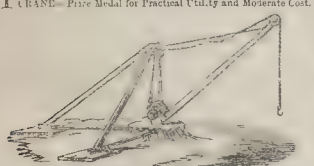
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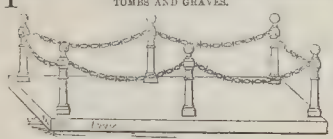
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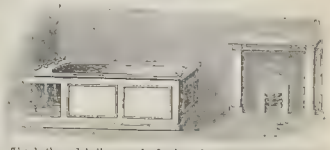
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The Builder.

VOL. XXI.—No. 1049.

Windsor and London decked and illuminated.

NOTHING has been spoken of or thought of since our last but the marriage of the Prince of Wales and the Princess of Denmark. London, not to say England, has displayed its loyal and loving enthusiasm in a manner unexampled, and has bowed itself before the frank winning smile of the Princess who is to make our Queen's son happy:—

> "More potent that fair Danish bride,
> In spring-tide joy and charms,
> Than all her valiant sires of eld,
> Who sought our land in arms."

Money has been spent lavishly and gladly. London decked for its holiday was a sight to remember. In parts the decking was far better done than has been heretofore the case. The Corporation architect, as we will point out more particularly presently, was specially successful. Temple Bar would cry when it is undressed, and London Bridge refuse to take off its fine clothes and give up its arch ways, if they had a full perception of the improvement made in their appearance.

It is a pleasant thing to see a people happy, and a good thing to make them so. Without saying absolutely and unqualifiedly,—

> "The greatness that would make us grave
> Is but an empty thing.
> What more than mirth would mortals have?
> The cheerful man's a king;"—

we are quite ready to assert that mirth is a valuable thing, and a necessary thing. The multitude need these occasional jollifications and outbursts of feeling to balance sad realities; and as to the cost compared with the numbers amused, lightened, made more contented, and raised in self-esteem, it is not to be talked of. Divide the amount that has been spent in the United Kingdom on the present occasion amongst the millions who have been pleased and benefited, and 6d. a-piece would fully cover it. Moreover, five-sixths of this is not spent: it is but circulated. But why talk of cost at all? The nation, as a nation, is advantaged to an extent beyond price, by thus bringing together the people in sentiment, and their common action under guidance of kindly feeling;—uniting, refining, and consolidating. Our gracious Sovereign has reason to be proud of her people. She knows very well the people are proud of her.

Amidst the harmony one discord makes itself heard. The chorus of praise is disfigured by one strain of condemnation. The City police broke down; broke down so thoroughly, quite irrespective of the doings of the Volunteers, that if the gentleman who had control that day should be a candidate for the office of Chief Commissioner, care should be taken to prevent him having it. Nor can we say much for the cleverness of the Metropolitan police in some parts. If we knew the name, for example, of the inspector who had command in the Strand, at the end of Villiers-street, we would gibbet him, *pour encourager les autres*. The unnecessary, disgraceful, and dangerous crushings which took place there, caused by the constant arrivals by steam-boat, and otherwise, behind, might have been remedied in the easiest manner, as was pointed out to him on the spot. The advice, however, was pooh-poohed and disregarded. Arrangements for the traffic on Tuesday night there seemed none, excepting on the handbills. At half-past seven in the evening there was a dead lock in the wide road leading to Hyde Park Corner, and it took one hour and a half to reach Park-lane. In short, movement was impossible. The police were impotent. Surely there must be minds in the kingdom capable of arrangements to meet such circumstances if they were sought for.

Something should be learnt from what was seen on Saturday and Tuesday night, when the crowding was such that lives were lost and the limbs of thousands were placed in jeopardy. It was a wonderful sight to view this vast multitude; to see how the heart of the metropolis became choked by the people who, in this fever of loyalty, flocked from all directions towards the points of interest;—from Islington, St. Pancras, Marylebone, Westminster, Whitechapel, and all the large eastern districts. Streams, and in some thoroughfares rivers, of people moved towards London Bridge, King William-street, the neighbourhood of the Royal Exchange, Cheapside (for ages famous in connexion with the pageantry of one of our most important and ancient corporations), St. Paul's-churchyard, Ludgate-hill, and so to Fleet-street and the obstruction at Temple-bar.

To these narrow and insufficient arteries for such an extent of traffic, the people on the Saturday's holiday for the most part wished to come, owing especially to the circumstance that in the City the best sight was to be seen.

If the City part of the procession—which might with advantage have been shortened—had been allowed to pass to Paddington, with the addition of the Westminster and Middlesex authorities, the dangerous crowding which took place between London Bridge and Temple Bar would have been avoided. At some points the pressure was dreadful, and it seems wonderful that there did not happen some dire and fatal accident. Not only were the streets along the line of route densely packed, so that it was, in parts, almost impossible for carriages to pass, but in all the side streets, as far as the eye could reach, surged countless multitudes. This Royal Progress was an exceptional case; but to a great extent the congestion of the City arteries is a matter of almost every-day occurrence, and the evil, we fear, will not be much abated at certain points when the system of City railways has been carried out.

It was a curious sight to witness the dispersal of the sightseers after the procession had passed,—to see in the narrow avenues which lead from the central road the scenes of over-crowding and stoppage renewed. On the illumination night the crushing at Temple-bar was terrible, and clearly showed how necessary the removal of this barrier without delay has become: it is always in the way, and on ordinary days causes the blockade of Fleet-street sometimes for an hour together.

It is not our province, fortunately, to chronicle the week. This has been done already by the daily press in a marvellous manner,—showing strikingly as well their good organization as the amount of talent engaged in this department of literature. Some of its incidents, however, call naturally for notice in our pages. Thus it is but right that the *Builder* should give praise for the manner in which the temporary Reception-hall at the west-end of St. George's Chapel, and the various rooms opening out of it for the Bride, the Bridegroom, the Bridesmaids, and so forth, were erected, decorated, and furnished in less than four weeks,—praise that belongs to the officers of the department under whose direction the works were executed (Mr. Starie, head of the department; and Mr. Turnbull, clerk of the works); Mr. Myers, the constructor; and Mr. Arthur, the decorator. The hall, decorated with emblazonments, on an oak paper, the best we have ever seen; the woodwork stained, and the walls hung with a chocolate green and gold paper, had no aspect of haste or slightness about it. The retiring-rooms were charmingly fitted up; especially the Bride's, with its hangings of pink and lace; and the whole were pleasantly warmed with an apparatus by Price. It was a great fight against time, but no traces of the struggle were visible. The nave of the chapel was fitted up with seats covered with red, tier above tier; and, when these were filled with elegantly-dressed persons, the floor occupied by the procession into the choir had a magnificent aspect. It was in the choir, however, that the effect culminated; every person in it being splendidly attired. Clayton & Bell's new window, already described, accords well with the old building, without displaying outrageous archaicisms. It is rich without being garish, and grave without being dull. The expense of this window, as well as that of the reredos below, which forms part of the memorial of the Prince Consort, will be borne by the Dean and Canons. The reredos is as yet in an unfinished state, the portion at present undertaken being, as far as relates to its width, a continuation to the floor of the central division of the window above. We have engraved a view of it as it appears.* Its principal features, it will be seen, are three niches, containing subjects in alto-relievo. The central niche, which agrees in width with the three middle lights of the window, contains a relief of the "Ascension;" and the other two (agreeing each in width with two lights of the window), contain respectively representations of the *noli me tangere*, and of our Lord appearing to His disciples. The remaining four niches are not as yet undertaken. The reredos is executed in alabaster; and the details are of great richness; agreeing in character with the architecture of the chapel. The portion at present erected is not yet quite perfect, the plaster models only of the two smaller reliefs being at present erected; and the central relief, though executed in alabaster, not being quite complete. The whole has been carried out by Mr. J. Birnie Philip, under the direction of Mr. Scott. Above the table mosaics are introduced; and hereafter gilding will be used to heighten the effect. The groups are very good. In the canopy work the natural markings in the alabaster interfere considerably with the mouldings and carvings, and serve to confirm an opinion we have long entertained, that alabaster of this kind is not a good material for such works.

The "Queen's Closet," we may mention, on the north side of the altar, was opened to some extent, the floor being raised so as to render Her Majesty visible. A private covered way to it from the north terrace and through the deanery had been constructed, by means of which the Queen quietly took her place.

The Wolsey Chapel is being proceeded with: the vaulting between the groins is formed with layers of tiles ready to receive plastering.

Externally, the Curfew tower has been restored, and on it a lofty roof, containing dormers, is being erected. This will materially improve the general outline of the castle, as seen from the Great Western Railway and other approaches.

The decorations in Windsor were of course very extensive, including festoons from poles on each side of the road from Eton-bridge, for a considerable distance; an arch at the entrance to the town, designed by Mr. Croydon; and a much larger arch close to the entrance to the Castle, erected by Messrs. Wellman & Hollis, under the direction of Messrs. Edginton & Tait. The latter includes Corinthian columns, a very high attic of all sorts of forms, vases, flowers, banners, and paintings. It has been stated positively that the Prince of Wales was so much pleased with this arch, that his Royal Highness had expressed his intention of having one erected in stone after the same model. We take for granted this is not

* See p. 189.

correct. The arch as a temporary erection answered its purpose well enough; but, perpetuated in stone, it would be a lasting eyesore and discredit. The arch at Eton was designed by Mr. Evans, of that place, a well-known member of the Old Water-Colour Society, and was very satisfactory. At Slough, too, there was a handsome floral arch: in fact, every step of the way from Gravesend to Windsor, and thence to Osborne, there was but one desire evident; so that the Princess will readily believe that the Laureate shadows forth the universal feeling in singing,—

> "For Saxon or Dane or Norman we,
> Teuton or Celt, or whatever we be,
> We are each all Dane in our welcome of thee,
> Alexandra!"

Whatever may be said of the aptitude of our race in work of art, the demonstrations of Saturday and Tuesday last were sufficient to show that efforts in the line of decoration and ornament are means of expression of the feelings, which are means as natural as words and noise. That it should be necessary for us to often reassert that such efforts are to be considered thus, and of the nature of things which therefore are to be taken into account, as well by public men and governments, as by inquirers into the constitution and operations of the human mind, and seekers of the public good, is one of the curious points in the British organization and system, which are anomalous, or hard to be accounted for, contrasted as the feature is yet, and markedly, with the system in many of the continental states. It is however necessary to assert that if a people like the English, estimating them as we may, be unable to produce good art, such people will exhibit something that is bad, and which will not merely render us the laughing-stock of foreigners,—the only point, beyond the newly discovered commercial value of the thing, which we seem to care about,—but which will involve the deprivation to us of a large amount of something that was beneficently meant, like everything that presents itself to us as beautiful in the natural world, and like every faculty that we possess and use, that is to say meant for our advantage and even gratification. It is a mistake to suppose that the public *fêtes* to which we have alluded as those in which art habitually assists, are only devices of despotic governments to occupy the popular mind, or that the enormous cost of them is justifiable on no other ground. We are persuaded that beyond any art-hints that the particular decorations on each of these occasions may afford directly, the combined spectacle assists in creating and keeping up that singular aptitude and fertility which certainly form a characteristic of the French in their art-manifestation, and an essential of art everywhere that is good.

The demonstration of Saturday last, with one or two signal exceptions, was characterized by quantity rather than quality of the effort in the way of art. The popular voice; the work of British hands, done at the dictation of British hearts; the multitude; and the effort to display something figurative of abundant "Welcome" to one, and the heartfelt wish for the happiness of both, were everywhere; but the beautiful in form and colour, or taste, contributed throughout the line of route on Saturday, distressingly little. We did not, indeed, see the arrangements at Gravesend, which the newspapers have praised. The Gravesend decorations were not quite complete at the moment of the arrival of the Princess; but, if not as designed, from having been *designed*, they started with an advantage constituting one point at least in success. The decorations within the Bricklayers' Arms Station we were not allowed to see, by the discourtesy of the officials of the South-Eastern—a Company whose system our readers have before heard of as peculiar. The arrangements at the Paddington Station were directed chiefly, as they were very efficiently, to affording a large number of persons a view of the departure for Windsor.

Between the London stations, the whole seven miles' line followed by the procession, exhibited, if we except London Bridge and Temple Bar, in the decorations, everywhere profusion, but scarcely anywhere, taste. Out of the two or three thousand houses that must have been passed in such a journey, very few of which did not attempt some visible form of demonstration, and including the clubs, scarcely six of the number were not rather shocking to the eye, than in any degree beautifully adorned. Passing with the procession along Great Dover-street, and through the Borough, with the recollection of scenes of public rejoicing on the Continent, and making every allowance for assertion that what is done in the former case is the people's work and spontaneous, and in the latter case, is the work of the Government, we could not help being saddened at a difference, and an inaptitude of our countrymen after now some years of home teaching, and of the opportunity for comparison which extended intercourse with foreign nations affords. For, it is observable amongst the class of French workmen, who might correspond with that inhabiting such streets as lie adjacent to the Bricklayers' Arms, that the aptitude for art, if not success, is always manifested. As the procession passed through the city of London, and beyond Temple Bar, difference from the preceding streets was perceptible chiefly in the number, size, and prominence of the flags, which in our recent demonstrations we have learned to hang over the middle of the street, and observable in the mottoes and other forms of expression of good will. Throughout the route to Paddington, the want of harmony of colour in every decoration, except some three or four, would have furnished argument such as we confess we never before credited the existence of, to those who say that the perception of such harmony is not in our race. For the red which is one of the Denmark colours, was usually substituted a dirty Indian red; and blue was indigo, or telling almost as black; whilst these colours were exhibited generally in *glazed* calico; the whole showing that there had not been the smallest idea that the sort of red or blue that might be proper in one place, would be otherwise in another; or that colours with glaze, and the same dyes in non-reflecting stuffs, are different things. The end and aim seemed to be, the exhibition of red, white, and blue,—if the national hues, good,—if the right ones were not at hand, any others that might be. It did not seem to be suspected that effect of colours depended upon their combination, or upon the dexterous introduction of white and black. Great sinners in this matter of colour were the authorities of St. Paul's School, a case which we notice because that of a school, and because some of our contemporaries who may have been engrossed by efforts to protect themselves from the dangers of the route through the City, have spoken of it in language of praise which would be by no means deserved. The principal exceptions amongst the very limited number that we have alluded to, of instances of tasteful arrangement, were those of the premises occupied by persons habitually engaged in furnishing and decorating. Messrs. Banting's premises, in St. James's-street, may be quoted as one of the chief of these examples; although the blue, in this case light-blue, was somewhat too great in quantity, and the design was best in the arrangement of the festoons of leaves. The premises of a well-known firm of decorators at the corner of Jermyn-street, also might deserve to be indicated as successful in colour; and a small front lower down, where the banners were grouped with some degree of taste, was almost the only instance of variation from the form of a flag flying from a pole or from a cord stretched across the street. In Paris, on the occasion of the Emperor's *fête*, the Hôtel de Ville is usually most beautifully decorated with flags, some of which may be flapping in the wind, but of which a majority are festooned, and crossed or grouped in the window openings. With the Paris municipality, however, matters of this kind connected with the *fêtes*, are the duty of a constituted department to which an architect is attached, as always such an officer is in France to the direction of matters in which art is concerned. Indeed, ample professional assistance is brought into use; whilst trades exist devoted to the furnishing and carrying into effect of the designs of those who are truly artists.

We must applaud the City of London for the effort that they have made this year, and Mr. Bunning has shown now and previously, ability in the department just now under consideration, of his profession. His work has, however, been limited to four sites, which though important, became small in proportion to the attempted effects of the whole line of route. The galleries along the east and south sides of St. Paul's Cathedral were not amongst those of which the strength might have proved inadequate, and they were cleverly contrived so as to be removable easily, and with as little loss as possible from cutting of the timbers. The cornice, however, should have been more effective, and the flags might have grouped with an effect that was not realized from number. Numerous indeed they were. The medallions and Prince of Wales's feathers, here and at the Mansion House, and used elsewhere, were but coarsely modelled. The decorations on the bridge were well designed. The sculpture supplied what is wanting to London Bridge as to other bridges in our metropolis; and the effect of the group of figures on each of the end pedestals will, we trust, point the way to a completion of this and other bridges by the addition of groups of some kind, in the case of the pedestals at the ends, if not those which are over intermediate piers. The figures represented Fame, according to descriptions of the sculpture and decorations; but wanting the trumpet, each figure resembled Peace rather than Fame. These figures, which were only casts, were creditable to Mr. Brucciani, who supplied them with other sculpture. Left white, the shadows told in them in a manner to show that plaster, when quite new, has a particular advantage; one, however, which we are not certain would be admitted by sculptors as pertaining to it. It may seem by no means possible to preserve the white or render the plaster durable in the open air; but such casts might, we think, be hardened, so as to preserve the effect, and fit them to play an important part in the decoration of interiors, where casts which have been painted for their preservation certainly fail to produce anything like the same result.

Each pier of London Bridge on the occasion of the reception on Saturday, was surmounted by a tall pedestal, similar to those at the ends of the bridge round which the figures were grouped, partly backed by crimson cloth covering the dado. The pedestals of the intermediate piers, had however only one figure in each case, instead of four figures. Consequently, as the cornice of all the pedestals was the same, and was broken into four bold projections which had the appearance of being intended to correspond with four heads of figures, the pedestals were not all so satisfactory as they would have been, had some been treated differently. Each pedestal bore the figure of a Danish warrior in armour holding the "Danebrog," the national flag of Denmark. Without the standards that were fluttering in the wind, these figures might have been too small for the pedestals. They were in plaster, coloured, or some material representing metal. The cornices of the pedestals were furnished with numerous gas jets and globes, for the purpose of the illumination; but, on Tuesday, this part of the arrangements did not prove very successful so far as the bridge itself was concerned. Between the pedestals were lofty poles covered with red cloth, and surmounted with gilded ravens and elephants, the national emblems, and bearing large pennons, red with the white cross. Each of these staves carried moreover at the foot, a portrait of a king of Denmark in a circular frame. The painting, which resembled sepia, was too cold. Between the flags were bronzed tazzæ or tripods, in which a perfumed substance like incense, prepared by Mr. Rimmel, was burnt on the occasion of the reception, and in which *lampions* were lighted on the night of the illumination; but these last did not burn very well. The decoration was completed by flags and shields grouped on the lamp-standards. The arch at the north end of the bridge was a simple arrangement of three openings, with eight Corinthian columns attached on each face to the piers, and a centre rising higher than the sides, affording space for a painting, and surmounted by a curved pediment, on which was a large group of Britannia, in a chariot with four horses, and sedent figures, representing each Fame with a silver trumpet. The painting facing the bridge represented Britannia, surrounded with sea gods and goddesses, escorting the Princess to England; and on the night of the marriage this was replaced by a transparency symbolizing the riches of earth, air, and water, and representing the Princess in a chariot drawn by animals, somewhat after the manner of Rubens's paintings. Both these works were very well painted, as also was one which appeared on the other face of the arch on the illumination night, and which appeared to represent Canute on the sea-shore. A crowd of allegorical figures were floating on the waves. This space was occupied on the previous occasion by a painting, representing a portrait of the Queen, with a crown above, and figures of Wisdom and Strength as supporters. The general structure was white, whilst the capitals and mouldings were gilt, rich draperies were suspended from the entablatures, which last also carried medallions, replaced on the illumination night by transparencies, portraits of the Prince and Princess; and upon the entablature and columns were the arms of England and Denmark, and figures of the Danes, Saxo-Grammaticus, the historian; Holberg, the poet; Thorwaldsen, the

sculptor; and Juel, the painter; whilst in the tympanum of the pediment facing south, was the motto slightly adapted from Shakspeare:—

> "Honour, riches, marriage, blessing,
> Long continuance and increasing,
> Hourly joys be still upon you:
> England showers her blessings on you."

The words were not so legible by day as at night, when the whole structure was illuminated by globular lights along the cornice, and by the light around, and when the whole had certainly a good effect. Besides Mr. Brucciani, Mr. F. Fenton and Mr. Absolon have contributed to the realization of Mr. Bunning's designs.

The decorations of Temple Bar, though not wanting in taste, were chiefly, rich and novel. The structure was entirely concealed, though the curved form of the pediment was repeated. The mouldings painted of light colour, were encircled with gilt ornaments, in which the letter A was repeated, and the tympanum was filled with a rich mauve-coloured stuff. On the pediment was a small figure of Hymen, and tripods. From the entablature, a rich tinsel or tissue material, having the appearance of cloth of gold,—and *semé* with hearts crimson,—was suspended, leaving a slight opening, so that it appeared somewhat as the hangings of a tent. At the sides, altars; and figures, outstretched, holding orange-blossom, completed the upper part of the arrangement. The lower part afforded little space for decoration on the piers: the passages were, however, lined with red cloth, whilst hangings were suspended from a cornice or entablature. Medallions and coats of arms occupied central positions on this entablature, and that in the upper part of the composition.

A large arch, of classical design, with columns, spanned the High-street in the Borough, but the details were inelegant; and not much more, that we know, can be said of one that the procession passed under in Grand Junction-road, Oxford and Cambridge Terrace; though, as we had to hurry through it, the details which were "nondescript," have faded from our recollection. Yet another arch was there: it was in the Edgeware-road: it was exceedingly simple in form, composed of little more than rough boarding, on the framework, with perhaps some addition of evergreens. It was most remarkable for the ornamentation, which had evidently been quickly stencilled on, and must have "hailed" from somewhere in the temporary portions of the buildings occupied and decorated by the Department of Art at Brompton.

The decorations of the Mansion House consisted chiefly of a covering of crimson cloth to the shafts of the columns, which rose from the temporary gallery; of similar coloured drapery, with chrome-yellow bordering and ornaments covering the pilasters and suspended from windows; of medallions and feathers placed upon the columns, and of festoons of green leaves with red flowers and chaplets suspended from the capitals. By night the effect of light and colour was fine. The architraves of the upper ranges of windows, the cornice and raking lines of the pediment, and two of the lines of mouldings of the attic, were marked by gas; whilst the City griffins on the angle pedestals of the attic, and tripods on the intermediate pedestals containing *lampions*, that were of little use, however, in the damp night, added an element of effect in form, to the building, which should show the necessity, artistically speaking, of placing something of similar form on these pedestals, and to be permanent.

The illuminations in this part of the City, displayed an amount of taste which certainly was not surpassed by those at the west end of London; though perhaps the principal structures were not very differently treated from what they were on the night of the Peace commemoration. The effect of the Bank, arising from a line of gas along the main cornice, insignia and letters appropriate to the occasion as a centre, and the symmetrical disposition of several large and small stars along the upper portion of the front, was remarkably fine. So was that of the Exchange, with the columns spirally encircled by small oil-lamps, a small festoon of light to each capital, the inscription of the pediment reproduced as a frieze, and the raking lines of the pediment lighted. The sculpture, however, did not stand out; so that the chance of a more beautiful effect than that of the sculpture in the Mansion House pediment, was lost.

Some days before Saturday last, the porticos of the Royal Exchange and the Mansion House were greatly improved by washing them by the steam fire-engine, a method of cleansing previously in use for many years at the Bank, and to which we have sometimes referred. If the method would be as successful generally as it has been in the cases mentioned, the sooner it is applied to other buildings in London, the better for architecture, and the public perception and appreciation of that art. We cannot see how there can be injury from the syringing, to any stonework but that in which decay has previously commenced, and from which the first action of weather would detach the particles; and one to whom we first owed the suggestion, Mr. C. H. Smith, an authority, has not, that we have heard, changed his opinion on the subject.

Amongst the buildings near the Bank, deserving to be mentioned for the effect produced, were the Bank of London, formerly the Hall of Commerce,—where outlines of the windows and the panels, the line of the cornice, and the angles of the building, were marked by gas,—and the Sun Fire Office, which had a line of gaslight along the base of the order that forms the upper part of the building, festoons of light from the balconies, and small stars repeated symmetrically on the balconet railings. This symmetrical arrangement of points of light becomes itself a beauty, and combined as in the chief examples quoted, with the illumination of the lines of the architecture, is far more successful than the tiresome repetitions of stars, or even initial letters. Guildhall was lighted in this way; all the window-openings, and even the angle-piers, being lined out, and producing a singular though not unpleasing effect in the peculiar architecture.

An attempt somewhat similar in principle, was made to illuminate the dome of St. Paul's Cathedral; though in this case oil-lamps, ship lanterns, were used. Twenty-four red lights, on the balustrade of the order, appeared to encircle the base of the dome, and sixteen others, white, were placed at the golden gallery. Other lights were below the order; but they did not contribute much, and did not appear to be at regular distances. The electric light, which was to shine from below the ball, and upon the dome and western towers from other convenient positions, and which seems to have cost 200*l.* for the night, was not well managed when we were at either end of the cathedral, except for a moment, when it was apparent how beautiful might be the effect of architecture thus lighted. The other most important effort for the illumination of a public building, was that in the case of the Victoria Tower, where the roof and cresting were surrounded by rows of *lampions* burning luridly, but not successfully as to the effect of the tower itself, or the general illumination. The electric light from the Monument, if exhibited, failed to attract our attention. The Fitzmaurice light from the York column shone as on previous occasions, and the arches at Hyde Park Corner and Constitution Hill were surmounted by *lampions*. The Government Offices, and the clubs, were all lit up, but not very differently to their illumination on previous occasions. The Post Office and the Admiralty were remarkable rather for the quantity of gas they burnt, than for anything that here calls for notice. The window-openings and other lines of architecture were marked out in the front of Somerset House. But the best effect produced on this system was in the case of the Treasury Buildings. Here, however, in addition to the line of light along the cornice, there were three devices in cut glass of various colours. These, along with numerous other examples of the same kind of illumination, were executed by Messrs. J. Defries & Son. All were perfect works of facet-cutting, in glass, and putting together of lustres. Although the black box or border in which the light is generally placed, is sometimes unsightly, and art might be made to govern this sort of illumination more, the sparkling light is very beautiful, especially where as in some cases the electric or the oxyhydrogen light is the source of illumination. In most of the stars and other devices coloured glass was introduced. The most considerable effort was made at the portico of the National Gallery. Here there was a large quantity of coloured glass, besides white, and all of great beauty. The general design, however, might have been much better; and there was great difficulty in lighting up the whole. Some portion of the woodwork at one time caught fire. The supporting construction had involved much contrivance. The Trafalgar-square fountains were illuminated by Messrs. Defries, by the electric light, to which coloured effects were added. Amongst the Government buildings, as they appeared on the Saturday, the War Office would have deserved to be mentioned for its decorations. They consisted of lines and hangings of drapery forming architraves to the windows. In connexion with some private establishments, paper lanterns were used profusely, and sometimes with effect, as intersecting Regent-street, between the premises of Messrs. Herbert Watkins, and Houbigant; and in the case of Mr. Beeton's premises, St. Clement Danes, Strand, where they were pleasingly grouped with evergreens and flowers.

Although we believe that demonstrations of the character of those of Saturday and Tuesday, may be worth considering in a different point of view from that of national rejoicing, we must repeat that if police arrangements cannot be such as to prevent great loss of life, and accidents such as have been more numerous and serious than those which the public have heard of, like attempts had better be abandoned, at least until London may possess thoroughfares better adapted in width, and otherwise better planned, for the movement of vast multitudes. Scanty as must be particulars which can be given in the space which we can devote to our subject, our notes were not procured without danger, not merely on the night of Tuesday, but on the previous Saturday through the City, and within the very line that should have been kept free for the procession. Even by the *metropolitan* police, representatives of the Press complain of having been rudely treated rather than protected. On Tuesday night however, women and children were trodden down in the narrow ways of Temple-bar, Ludgate-hill, the Poultry, and other parts of London, or were crushed by the carriages at such crossings as that of Bridge-street, Farringdon-street. The "good humour" moreover, in the crowd, which the journals praise, becomes often brutality: it means the worst conduct of the lowest mob, and the worst aspect under which *men* can be presented, that of selfish indifference to suffering, and injury done, to the weak and defenceless portion of humanity. A French author, Paul Féval, in a recently-published novel, "Jean Diable," describing the crowd and crush of Fleet-street at ordinary times, assumes to take the British view in saying, — No matter if some weak woman be *terrassée*, and trodden upon, you have to get on; "time is money," and you must keep your appointment in the City. It is matter of fact, that an illumination night in Paris can be passed through almost without accident, without crushing, and with perfect politeness and real *good humour*. There is more order there, and more real politeness and deference for others shown, on such occasions, than on any public occasion, whatever the class present, in England, and till we can do away with the justice of such an accusation as that of Paul Féval, we shall not rank as the nation that we ought to be and claim to be considered.

EXCAVATIONS IN ROME.*

WITHIN the last six months have been progressing the excavations begun about seven years ago, under St. Anastasia, at the north-western base of the Palatine. The subterranean remains here found belong to several quite distinct classes, some apparently connected with the Circus Maximus, others with the Imperial Palace, but most interesting are the massive remnants of fortifying walls in lithoid tufo. On descending we first see, by the custode's torchlight, an extent of outer building correspondent to the eastern side of the Circus, in compact brickwork for the most part, but on one side partly formed of immense blocks of the same tufo, evidently spoils removed from the ancient walls, and here pierced together without regularity. On the same side open several doorways with horizontal lintels and small square windows above: between the inner and outer fronts are remains of a pavement in very large stone blocks, probably enclosed by a more modern arrangement within the two lines of building when no longer serviceable. Entering through one doorway, we are in a suite of lofty chambers, mostly spacious, in different styles of brickwork from the earlier to the later imperial; in some places this contrast found on the same wall-surface, the immense scale of the tiles used in constructive archways, the length and perfect smoothness of the bricks, and narrowness of the cement strata being details noticeable in the best examples. These halls communicate by arched doorways, all in perfectly preserved brickwork; and below the imposts of the arches project, at each side, rows of marble brackets, regularly squared, as if to support brows or some species of ornament—a feature not common in Roman ruins. In some places we have glimpses of inner walls, divided by very narrow intervals from the outer; and one gap in the side of a chamber enables us to see three

* See p. 125, *ante*.

such parallel curtains of masonry in which more antique have evidently been sacrificed to later structures. At two different levels we reach those portions of the stupendous walls in lithoid tufo, the most valuable discovery yet made to throw light on the topography and justify the traditions of the "Roma Quadrata"—if we except, indeed, those discoveries yet incipient obtained through the works ordered by the French Emperor in the Farnese Gardens.

First is reached an enormous fragment, partly concealed by a double curtain of walls raised in front, one brick, the other travertine, in large quadrate blocks; and here the antique, the inner structure, is pierced by a doorway, only the upper part visible, with a horizontal lintel. Hence descending to the lowest level accessible, by a ladder, we see the principal extent of these fortifications, crossing one side of several small chambers thrown up against them, but not exposed down to their base, probably at considerable depth under the soil here accumulated. At regular intervals advance, at right angles with the principal line, other similar walls, perhaps belonging to square towers, raised in this system of defences as in that still surrounding Rome, the walls of Aurelian restored by Honorius. The perfect preservation of these newly-discovered walls, in every part compact, without one stone dislocated, and the enormous size of their tufo blocks, cannot be considered without admiration. Like other such Roman constructions without cement, their courses are placed in alternate layers of square and oblong stones, presenting in one course their sides, and in the next their ends, as seen in the extant remains of the Servian walls also; and the lithoid tufo used is that of reddish-brown hue, one of the three species mentioned by Vitruvius, found near the banks of the Arno, in the more immediate neighbourhood of Rome, and within the city, in quarries on the Capitol, the Cœlian, and Aventine hills. In another part of these excavated ruins we entered a lofty and ample chamber, opened by the labourers that very day; and the proximity of the other Palatine ruins may lead to the inference that here, as in other parts of the excavation under St. Anastasia, we are treading the halls of the imperial residence. A broken column of giallo antico, lately dug up, supplies an example of splendour of decoration which, now lying in a yard outside the church, has been destined by the Pope to serve for incrustations in the new confessional at S. Maria Maggiore.

The excavations on the Palatine, commenced November 1861, have been promoted with the activity we might expect in whatever is ordered by the Emperor of France; and since the discoveries on this site by Bianchini in 1720, by the Abbé Raucoureuil (owner of the Spada villa on this mount) in 1775, no antiquities have been found here to compare in importance with any one of those recently brought to light under the intelligent direction of Signor Rosa, who resides in the restored villa raised, with other decorative buildings, in the Farnese Gardens by Paul III. These gardens were long possessed by the Neapolitan Bourbons, without any step being taken towards promoting archæologic interests; nor could the Papal Government initiate anything on ground not its own. Within but a few days after the commencement of the new works was ascertained the precise limit between the region occupied by the imperial palaces and that covered by public or private buildings of various epochs; and from vestiges soon found it was assumed that the apartments preserved by the Cæsars for domestic uses could be distinguished in ruin from those for public and ceremonial purposes; the former on the more elevated ground towards the Forum and Velabrum, the latter ranging from the mount's centre to the south-eastern slopes opposite the Cœlian Hill. The areas immediately above the Forum and Velabrum are supposed by Signor Rosa to have contained no part of the imperial residence; but several other edifices, some sacred in character, belonging to the primæval Rome, whose vestiges, it may be hoped, will be brought to light by farther research. Towards the western side are two contiguous quadrangular halls of considerable dimensions, now represented only by substructure walls and inlaid marble pavements, each with an apse at the centre of its western boundary, and remains of niches at regular intervals along the brick-work walls; the portions of pavement still left in the finest porphyry, serpentine, and Phrygian marbles; and a variety of sculptured fragments in white marble, capitals, cornices, colonnettes, busts, are now seen on brick pilasters thrown up to display them; among these being noticeable two colonnettes with spiral fluting,—one double-shafted, supporting the funereal pine-cone; and two double-headed busts with male and female faces looking in opposite directions. In one of the uncovered halls is an elliptical fountain, with marble incrustations and vestiges of two orders of niches for statuary or reliefs, whose lower rank would have been partly immersed in the water; presenting effect beautiful indeed, as may be imagined. Near this was found the life-size statue of a winged Cupid, with quiver and arrows, apparently engaged in shooting from his bow, but unfortunately headless, and with all the limbs imperfect; still, however, in poise and general outlines, most graceful, and deemed worthy of restoration, for which the Emperor has commissioned a well-known German sculptor in Rome, named Steinhauser. Beyond these walls, which were ranged round a peristyle still recognisable, and which altogether covered a surface of 3,016 square mètres, opens, near the ridge of the mount above the Circus Maximus, a semicircular chamber, surrounded, like the others, by ample niches, which Rosa supposes to have served for those declamations of poets to courtly audiences often alluded to by classic writers; and another hall contiguous, of greater dimensions, he believes, may have been one of the several libraries in the imperial buildings, the latter being divided from the range behind it by a portico of Cipollino (Carystian) marble columns, now being restored with Corinthian capitals, and shafts rising 6 mètres. From the threshold of this graceful colonnade we look down into two spacious chambers, opening to considerable depth below this spot, built partly in *opus reticulatum*, but for the greater extent of massive squared stones, without cement, perfectly compact and uninjured, resembling the structure of the Tabularium on the Capitol, whose extant remains are of the year of the city 675, but not, like the latter, in *lapis Gabinus*, these walls being of the dark-grey stone found on the Cœlian Hill, and of antiquity at least higher than the time of Sylla (as Rosa infers); belonging, therefore, to some edifice anterior to all the imperial foundations. They are supposed to have stood, with other buildings, along a valley which cut through the mount in direction corresponding to that of the Via Sacra, and with the heights bounding it at each side formed an *intermontium* similar to that of such historic note on the Capitol.

Interesting, for topographic illustration of the Palatine antiquities, is the discovery of the road ascending from the Via Sacra, called Clivus Palatinus, part of whose pavement has been long visible near the Arch of Titus; and following its curving direction up the Mount, Signor Rosa came upon vestiges of the imperial gateway, on the site of the Porta Mugonia, in the fortifications of "Roma Quadrata," a discovery that may enable to determine the position of the celebrated temple of Jupiter Stator, known to have been in its vicinity. The site of the temple of the Palatine Apollo is now clearly shown to have been not, where former theories placed it, on the ground occupied by the halls and peristyle recently uncovered, but quite apart from this group of buildings,—perhaps, as Rosa conjectures, where the Villa Mills (now a convent of French nuns) raises its hideous front, nearly at the central terrace of the Mount. Important in the highest degree is the discovery of the Porta Romanula, identified in the gateway disencumbered near the north-eastern angle, above the Forum, which, hitherto placed by conjecture more towards the west, belongs also to the cincture walls of that "Roma Quadrata," certainly the primitive city. This we see, and may descend to, at a depth formerly covered by soil and ruin, the jambs and archivolt of brick masonry, well preserved, without any stonework, and to be regarded in its present state as a restoration, probably of the Claudian period. The ingress is still blocked up by earth not yet removed from the outer side; and the buildings referred to Caligula cross this gateway in oblique lines of wall, leading us to infer that its use had discontinued before those additions to the palace arose. Within, passing into the midst of these chambers, advances a road paved with large polygonal stones, recognized as the Clivus Victoriæ, which ascended the Mount from the Via Nova, skirting its base from the north-east to south-west. Above these disinterred buildings of Caligula, who first extended the palace to this side near the Forum, rises a series of vaulted parallel halls, referred to Nero, all entered from the open fronts, but without other orifice for light or communication, their floors still retaining the mosaic pavement, black and white marble, inlaid without any figured design; and at one end the wall, now serving as buttress to the garden-terrace above, has an ornamentation in painting and stucco relief, with female figures and arabesques, in style reminding of the Pompeian. The beautiful, though much-injured painting and gilt stucco works in the vaults of the two subterranean chambers, long erroneously called "Baths of Livia," may now be seen by daylight, instead of the taper of the custode whose escort was formerly necessary; and it is intended to excavate farther here, where, like this dwelling-house of sumptuous character, other edifices may have stood below the present level of the Mount, reduced to mere subterraneans by the imperial buildings above. It is also intended to isolate the Cæsarian Palace on the north-western side, by disencumbering a series of vaulted cells hitherto filled with soil and obstructed by modern walls, in the works begun for which object have been found remains of stucco ornament and painting,—among other relics a well-executed statue of Venus Genetrix, headless, wanting the arms and feet, draped so as skilfully to display the forms of nature under the finely-folding vest. The most curious epigraph yet brought to light, is on a colonnette of Alban stone, in archaic characters, but supposed of date not earlier than Claudius, referring to the Jus Fecialis,* and already illustrated in the admirable work of Mommsen, who cites it in the Addenda to Vol. I. of his "Roman History." May we not admit that the scepticism of that able writer as to all reliable memorials or traditions of the Rome anterior to Servius Tullius and his celebrated fortifications around the Seven Hills, receives some check, if not absolute refutation, from the very significant monuments discovered by these excavations, as also from the results of contemporary researches under St. Anastasia?

The excavations, begun 1858, under S. Clemente, have supplied proof that the primitive building, now subterranean to the later church (which was rebuilt after the Norman conflagration in 1084), had been adorned throughout in polychrome, with numerous groups of sacred and legendary subjects, divided by ornamental bordering; and though obviously of different dates, these paintings possess high value as beyond doubt the most ancient series, out of the Catacombs, among works of the same class in Rome.

Next in finish and complex composition to the scenes from the life of St. Clement are those illustrating the story of St. Alexius. We see him, an unknown pilgrim, returning from the Holy Land to the house of his patrician father in Rome; again, just before death, receiving the Sacrament from Pope Boniface, and revealing the secret of his birth by means of a scroll, after having spent years as a mendicant supported by alms at his father's gate; finally recognised on his death-bed by his father and destined bride, to whom the Pope has discovered his identity: the heads in these groups expressive, some not without beauty, the costumes rather Classic than Mediæval, but the Pope appearing mitred and vested almost like an officiating prelate at the present day. Above is the Saviour enthroned with Saints Michael, Gabriel, Clement, and Nicholas; but all these figures headless. Another series is in several compartments, and of evangelic subjects: the Crucifixion, with the Mother and St. John standing beside the cross (probably the very earliest picture of this subject in any Roman church); the two Marys at the sepulchre—here like a narrow archway; within which hangs a lighted lamp, the angel seated on the other side, as if answering to their inquiries, "He is not here;" the descent to Limbo—the Saviour's figure floating downwards, and extending one hand to an aged man, beside whom stands a female, probably Adam and Eve, though both are fully clad, contrary to early art-traditions; the marriage at Cana; in the background a perspective of architecture drawn with some skill, and over one of the several figures the name, written vertically, *Architriclinius*; also, on another surface of wall, a large picture, whose subject is either the Ascension or the Assumption of the Virgin: from the comparatively late introduction of the latter in art we might rather decide for the former, the Saviour appearing above seated in a rainbow within an elliptic aureole, supported by floating angels; in the centre Mary, with long mantle and veil, her arms outspread in attitude of prayer; below, on each side, the Apostles, whose action and countenances express various degrees of astonishment and awe; and at the extremities of this group, St. Leo and St. Vitus, with names written below, the Pope's head having a *square*

* The Fecialis were a priesthood empowered to declare war or make peace. When any native had offended the Roman State, one of their body demanded redress; and after the lapse of thirty-three days, if no satisfaction had been given, the Fecialis buried a bloody spear into the hostile territory, to announce the war resolved on.

nimbus, proof that this Leo (whichever of the name) still lived when the picture was painted. The grotesque character of the heads and coarseness of outlines, in its figures, as also in the Crucifixion, leading us to infer for both a period of hopeless decline in art. Superior, but less perfectly preserved, is a group of a funeral procession, led by a Pope Nicholas, whose head has the circular aureole, and two Latin inscriptions below explain the scene, not giving the name of the person interred with such honours, though supplying that of another, "*Maria Macollaria pro timore Dei et remedio animæ meæ*," some pious lady who ordered this picture. Another subject, on the lateral wall of a niche, is St. Blasius healing a boy of disease in the throat, for cure of which maladies that saint is still invoked at Rome. The "Baptism of Constantine" and the "Crucifixion of St. Peter" are on another wall, but recognizable only in a few remnants of faded figures, apparently, indeed, of superior style, and referable, with the best among these very unequal works, to a primitive antiquity. A portion of inlaid pavement in rich marbles, disposed quite irregularly, is believed to be certainly as old as the time of Constantine, to which some critics have referred the best among the paintings here, though others suggest the seventh or eighth century. The commission of sacred antiquities for a period carried on their excavations at this church, but the responsibility and expenses have been mainly sustained by the Prior of the Dominican convent here, whose zeal in the cause has constituted for him a claim to public sympathies. As this community of Irish Dominicans at S. Clemente is by no means among the wealthier bodies of regular clergy in Rome, their superior has been obliged to appeal to the English public for assistance in an undertaking of heavy cost, for which he has sacrificed much; and some amount of offerings has flowed in, the Prince of Wales having been among liberal donors. On behalf of the Rev. Joseph Mullooly, who may be addressed at the St. Clement convent, the claims for this object, so interesting to archæologists, may be recommended to readers of the *Builder*.

Another late discovery of early Christian painting may perhaps assist in throwing light on those above mentioned. At S. Lorenzo, beyond the walls, a restoration was begun about eight months ago, with a view principally to laying open the half-buried area of the church's oldest part; and at the east end, below the choir, were uncovered two fresco groups, long hidden, of the Virgin and Child, with several male and female saints,—Laurence, Sixtus, Cosmas, and Damian; Agatha, Agnes, &c.; bearing some analogy with the figures at S. Clemente, and supposed of the tenth or eleventh century. Whoever has visited Rome will remember the severe simplicity of this fine old church, on the road to Tivoli, retaining the early basilica type, and with an aspect, as its grey pile and time-worn square tower are seen against the distance of gracefully-swelling mountains, full of quiet and most characteristic dignity. The original edifice, raised by Pelagius II. towards the end of the sixth century, still stands, but reduced to a tribune and hitherto partly buried under the construction of Honorius III., who built a much larger one between 1216—1227. Fortunately the restoration ordered by Pius IX. does not tend to any detriment of the olden features, hitherto intact, but merely to the repairing of masonry and woodwork of atrium and attics, and the entire roof, whose enormous beams are left exposed without any ornament; besides—indeed, the best object in view—the isolating of several beautiful fluted columns, spoils from Classic edifices, and the restoring of the area below the high altar and tribune, that the primitive temple of Pelagius may again serve for worship. For some years labourers have been daily at work to enlarge the great public cemetery adjacent to S. Lorenzo, where an arcaded portico is now rising around the quadrangular court first entered; several monuments (not all, indeed, in good taste) stand on the terraces and slopes beyond; and two years ago was opened a conspicuous chapel, in the centre of the same outer court, with an Ionic colonnade on steps, and a lower story of light vaults,—a showy, inappropriate building, out of keeping with all accessories around, and most especially with that venerable basilica near,—one more proof, in fact, how Rome's modern architects have lost all feeling for Christian antiquity, and for those high proprieties that should cause the old and new to harmonize. We are sorry to see a sacrifice of one class of sacred monuments that we might expect to see most jealously guarded *here* at least, by these works for the cemetery, in the cutting-off or breaking-open of corridors and chapels connected with the primitive catacombs that diverged from below St. Lorenzo, extending far through the Ager Veranus, where the first chapel to St. Laurence was raised by Constantine. Paintings in some of these chapels exposed to the day, but now inaccessible, deserve a better fate.

THE PROPOSED WEDGWOOD INSTITUTE

CERAMIC ART IN ARCHITECTURE.

A CONFERENCE has been held at Burslem to forward the erection of the proposed Wedgwood Memorial Institute. Money has been subscribed, it will be remembered; a site purchased and cleared; and a design for the building by Mr. G. B. Nichols selected. The amount in hand, however, is at present insufficient, and the conference was held to see how more could be obtained. The estimated outlay is 4,000*l.*, and of this about 2,500*l.* are yet wanting. Mr. J. S. Hill presided.

The secretary said Mr. Beresford Hope had proposed to give a prize of 25*l.* "for the best coloured sketch for an artistic treatment of the block façade of the adopted plans for the Wedgwood Institute, to be designed with a view of introducing the ceramic art of the Potteries in connexion with architecture, in the form of terra-cotta mouldings, tile mosaics, Della Robbia panels, &c., any or all capable of being gradually carried out independently of the completion of the fabric itself, for all practical purposes."

Mr. Hope, who was present, gave his reasons for the proposition. In commemorating Wedgwood they commemorated ceramic art; they commemorated, if he might so speak, the father of ceramic art in the Potteries; but they did not wish that commemoration to be a mere monumental record of something which had reached its climax, and would henceforth stand still for ever: they wished it to be a monument for ever growing, ever increasing in power. He should like that monument not merely to be a record of Wedgwood, but a fructifying germ which would develop art to an extent beyond what Wedgwood ever dreamed, or beyond what any one in that room would ever dream of. Their manufacturers had developed ceramic art to a very wonderful extent. Vases, statuettes, and the like, were produced in the Potteries with a perfection which made Europe aghast and envious. But there was another more solid and more eternal sort of pottery he should like to see taken up in this district, and that was architectural pottery. He was not propounding any vague dream of his own. If they travelled in Italy they would see pottery architecture there, of which they had no idea in these northern climes, but which they ought to have, inasmuch as potters' ware was more fit to stand the atmosphere of manufacturing districts than any kind of stone. He referred in illustration to the hospital at Milan, with its beautiful mouldings in terra-cotta, and to the specimens of Della Robbia ware in the South Kensington Museum; and remarked that he should like to see the manufacturers of the Potteries coming forward to develop this ceramic architecture as it had not yet been developed in England. If they would do so he was sure they had as much chance of success as they had when they tried to rival Sèvres and Dresden, or as Wedgwood had when he attempted to model the Barberini vase; and although there might appear practical difficulties in the way, he believed they could be overcome; and they could not have a more appropriate or fitting opportunity than in connexion with the Wedgwood memorial to make such an effort. He complimented the architect on the skill he had displayed in the arrangement of the interior as shown by the plans; and urged that there was nothing disparaging to his position in what he proposed. He merely desired to give the building a decorative coating outside, as others would inside. Thornhill painted St. Paul's, but it did not detract from the fame of Wren. What he proposed was to decorate the building with decorations of pottery: they might be mouldings in terra cotta: they might be Della Robbia panels; or they might be mosaics. There were various means by which ceramic art might be made available in architecture, all of which had their merits; and in that competition he wished for architects to have the opportunity to try all or any of them.

Mr. J. E. Heathcote offered a second prize of 15*l.*; Mr. J. Edge a third of 10*l.*; and Dr. Armstrong a fourth of 5*l.*

The architect of the proposed building fully approved the proposition, and it appears probable that this step will be taken.

At first sight this seeking for a second architect to decorate a first architect's work would seem to be a step in an entirely wrong direction. We should much regret to find it made a precedent. The circumstances, however, are certainly special, and may serve to defend the proposition. The result sought for is very desirable.

Several who were present doubled their former subscriptions, and the chairman offered to supply some of the external decorations when they had obtained the designs.

CONSTRUCTIONS IN WOOD.

ENGLAND.*

WE notice the introduction of the custom to overhang the upper stories. This may have had its cause in all instances where, with the increase of families, it became necessary to enlarge the houses,—that is to say, the roof was taken off, and another story was added, which was extended over the open sides of the lower house. Further we observe, on the ground-floor, an open arcade. Such houses often represent very interesting features, the posts and struts being richly carved, and the panels filled in with ornamental tracery. The more prominent, on frame timbers, being also painted dark. In the churchyard of St. Peter's, Derby, we have one of these corner posts, the stem of which has a fluted panelling, moulded base, and capital, with a row of Tudor flowers. The spandril of the arch is covered with a diaper pattern. Another example is at Great Chesterford, Essex: also one at Salisbury, which is rich with panelling, mouldings with flowers, and the spandrils are filled in with flowing tracery. At Bury St. Edmund's is a very curious example.

The one in Northgate-street, Gloucester, is remarkably rich, with the figure of an angel in a niche, and smaller niches on its sides. The canopies are carved with crockets and finials.

The doorposts of such timber-houses were, no doubt, equally decorated; as the doors and such like may still be found in Welsby, Herefordshire; in Sherbourne, Dorsetshire; and in York.

Besides these, we meet often with windows enriched with mouldings and panelling; for instance, at Saffron Waldon, Essex. In some cases the entire front of a house is a continuous series of panelling, either plain or richly carved. Of the former there are examples at St. Mary le Wigford, Lincoln, and at Tamworth, in Staffordshire.

In illustration of the latter, we have part of a house in Eastgate-street, Bury St. Edmund's, and another at Dunster, Somersetshire.

The front of a house in the market-place at Newark is a mixture of timber with plaster ornaments. It has a long series of niches; and figures in plaster, are inserted into the wooden panels. As a splendid example of this period must be mentioned the roof of Crosby Hall, in London; and a fair specimen of a small tradesman's house is seen in St. Mildred's, Canterbury.

In the double butchers' row, at Shrewsbury, we also have a good example of a house of this period, with carved corner-post. Looking at the roofs of domestic halls, it is evident that they retained their form; but they have, further, some improvement in the arrangement of the louvre, to carry off the smoke.

The roof of Christ Church Hall, Oxford, is a well-preserved example; so are those of Hampton Court and Eltham Palace.

The hall of Trinity College, Cambridge, also retains its roof and louvre; and the roof of St. Mary's Guild, at Coventry, deserves to be mentioned, owing to its excellent condition.

South Creek Church, Norfolk, has a good roof of the Perpendicular epoch, also a beautiful screen.

Another, with rich tracery in the spandrils is in Worsted Church, Norfolk: the screen dates from 1524. Martham Church retains some interesting woodwork of this time, which is worthy of mention.

One of the most costly roofs is over Woolpit Church, Suffolk. It is a double hammer-beam, and the rood-screen and seats also remain.

The roof of Palgrave Church, in Suffolk, has colouring, which is still very perfect, and it is a good example for a small church. The roofs of Outwell Church, in Norfolk, show a few peculiarities, and the one over the north transept retains its original colouring. The roof over the nave of Brinton Church, Norfolk, is similar to the one just described, with the difference that the principals terminate somewhat abruptly on the wall pieces.

The woodwork which forms the lower decoration of the wall is generally found in carved panels, and in some instances they bear traces of colours.

* See p. 107, *ante*.

About this period plaster was introduced into the ceilings, and the main beams were only left to view: these were richly moulded, and had bosses at their intersections.

The furniture of this time was still scanty, and can hardly be considered to have made equal progress with other utensils for domestic purposes.

However, we have a good specimen at Come St. Nicholas, Somersetshire, in the remains of a table, and bench with the poppy-head.

Some of the strong iron-bound chests, the woodwork of which is richly carved, also date from this time.

The Guildhall of the city of York has its original timber roof. It is supported by a double row of octagonal pillars, with moulded capitals and bases. It was built in 1446.

St. Anthony's Hall, erected anno 1440, retains its fine open timber roof, supported by posts. Among other specimens of this period, we have the corner house at the end of the pavement: the curved spurs and brackets, which carry the overhanging story, are remarkably rich.

A very flat-pitched roof is over the nave of St. Mary Magdalen Church, Pulham, Norfolk: still its effect is very pleasing: the various timbers are moulded: the spandrils next the ridge are filled in with tracery; and there are traces of its having been coloured.

A plain roof, with good details, can be seen at Starston Church, Norfolk.

Preslingfield Church has a single hammer-beam roof: although of low pitch it produces a good effect by a high degree of finish.

The roof of Islip Church, in Somersetshire, is richly decorated; but it creates a heavy impression.

The chancel and nave of St. Stephen's Church, at Norwich, are covered with a magnificent roof, which is very carefully wrought.

The nave of Bacton Church, in Suffolk, is covered by a double hammer-beam roof: the abundance of carvings imparts to it a most rich appearance, which at one time was enhanced by the colouring. In the interior of the church are to be seen some fine examples of screen-work and of open seats.

The roof of Bolton Hall was also erected in the fifteenth century.

Selby, in Yorkshire, retains a good example in the upper part of a house: the walls are of timber stud-work, with coved eaves: the windows, of seven lights each, have rich tracery.

In Agecroft Hall, Lancashire, is to be seen a fine oriel window of carved timber, which was erected during the reign of Henry VIII.

Buckshaw Hall, near Kirby, is a beautiful timber house, probably from the time of Queen Elizabeth.

Some interesting details may be seen in Middleton Hall, from the time of Henry VIII. A portion of Ords Hall, in Manchester, is of the same date: it has good windows and panelling.

Peel Hall and Redscar Hall are elegant timber structures of the Elizabethan period; also Salisbury Hall, near Blackburn, the upper part of which is of timber.

The double hammer-beam roof over the nave of Knapton Church, Norfolk, is most beautiful, owing to its carving, colouring, and its general state of perfection.

Mattishall Church, Norfolk, has some timber roofs, decorated with colours; and also richly coloured is the roof of Oldenham Church, Herts.

The roofs over Walsingham Church, in Norfolk, are examples of good timber framing: the open tracery is of excellent design and workmanship.

Bramford Church, Suffolk, has a good hammer-beam roof over the nave, also timber roofs over the aisles. Ixworth Church, Suffolk, has a hammer-beam roof over the chancel, and lean-to roofs over the aisles. The tracery is of excellent design. A very interesting specimen, with exquisite carvings, is at Halsingfield, in Cambridgeshire. Bishop Layland's church, in Somersetshire, retains its old seats, and a beautifully-carved screen.

Samlesbury Hall deserves our special attention, having been erected, in 1545, by John Southworth: the timber framing is very massive. The roof has the appearance of an earlier period, but it was erected at this epoch. The music-gallery is of fine timberwork, with richly-carved posts, which are connected with the beams of the roof.

Smithell's Hall is another specimen of a fine timber house of Henry VIII.'s time: it is a copy of the one at Baggily.

The greater portion of Speke Hall was built during the reign of Queen Elizabeth. Little Moreton Hall, erected in 1559, is a very fine timber structure; so is Bramhall; the greater part of which dates from the Elizabethan period.

At Derby we find an interesting corner post, richly carved, and some details of ancient woodwork are left at Haddon Hall.

The old mansion of the De Burgh family, at Gainsborough, is a very fine example of a half-timbered house of the fifteenth century.

In the parish of St. Mary le Wigford is a good timber house of the fifteenth century, having two overhanging stories.

At Tamworth, in Staffordshire, several structures remain of the Elizabethan age. Wigston Hospital, in Leicester, is partly built of timber, with wooden porches, carved doors, barge-boards, &c.

Some remains belonging to 1414 are in the Town-hall at Coventry; amongst which the roof of the kitchen with its louvre is very original. There are also in Coventry, of the same period, a few wooden windows with rich tracery.

Apthorpe, in Northamptonshire, is an Elizabethan mansion, but it was finished during the reign of James I.

Rushton Hall, in the same county, retains a fine open-timber roof of high pitch, with hammer-beams and two collars; and the spandrils are filled in with elaborate tracery, and there is also a wooden screen, of the Elizabethan period.

In Gloucestershire, we have a good open timber roof at Broadway, in the so-called Old Workhouse, belonging to the Decorative style. At Droitwich we have the George Inn, an old timber house of the fifteenth century. The open timber roof in Berkeley Castle is of the Decorative period. In the city of Gloucester, at the corner of Northgate-street, stands a timbered house of the fifteenth century, with a very rich corner-post. In the same street is also a magnificent gateway of oak, with carved spandrils and brackets.

Little Sudbury Manor-house, of the time of Henry VIII., possesses a roof and some carved heads of the same period.

Ockwell's House, in Berkshire, is nearly a perfect timber house of the time of Henry VII.: the barge-boards are remarkably rich. This building is used at present as a farmhouse.

The magnificent hall in Hampton Court Palace, on the north side of the middle quadrangle, measures 106 feet by 40 feet: the rich Gothic roof is ornamented with the arms and cognizances of Henry VIII. It was finished in 1536 or 1537, as appears from the initials of the king and Jane Seymour, joined by a true-lover's knot, amongst the decorations which may be considered as the finest in England.

The ornamented woodwork in the Guildhall at Norwich (1534) illustrates the arms and crests of the guilds of the city.

There are a few ancient timber houses in Bury St. Edmund's, Suffolk: in one of them we notice a good corner-post of Henry VII.'s time.

The hall in the Middle Temple at London, 100 feet long, 42 feet wide, and 47 feet high, is covered with one of the finest wooden roofs now in existence. It was built in 1572. It is of Elizabethan character, with a tendency towards the Renaissance. The elaborate carved screen is apparently of later date.

At Lavenham are excellent remains of a timber house from the time of Henry VII. to Henry VIII., with a square projecting window and a richly carved corner-post.

In Layer Marney House, built about 1530, the roof of the dormitory is original, and there is also some carved oak panelling.

At Waltham also may be seen some old timber houses.

Eltham Palace, in Kent, dates from the last half of the fifteenth century. The hall only remains, and its roof is in a good state of conservation, though it is to be regretted that no better arrangements are made to preserve it from the destructive visitations of visitors. This roof has hammer-beams and pendants with carved braces: it springs from stone corbels; is 100 feet long, 35 feet wide, and 55 feet high. It resembles Westminster Hall, and is now used as a barn.

A considerable portion of the works at the Moat, Igtham, belongs to the time of Henry VII. and Henry VIII.

At Rainham there is some oak panelling and a doorway, in Bloor's-place, of the time of Henry VIII.

Wingham has also several timber houses of the fifteenth and sixteenth centuries.

The Archbishop's Palace at Croydon retains its original roof over the hall, which was probably finished under Henry VIII. It has a fine appearance, and is similar to the one over the hall of Christ Church, in Oxford.

The kitchen in the episcopal palace at Chichester, Sussex, has a grand open timber roof. In the hall of St. Mary's Hospital, in the same town, we have an excellent specimen of Decorated woodwork, most probably executed in the latter half of the fourteenth century.

At Lewes, and at Steyning, some timbered houses are met with; also at West Tarving is a house seemingly built before the time of Elizabeth.

Beadenstoke Priory, Wiltshire, retains over the hall, which is now divided into several apartments, a very fine roof of the fourteenth century, with rich carvings on the oak beams. A good timbered house of the fifteenth century is at Pottern.

In Salisbury, the hall of John Halle has an excellent roof of the fifteenth century.

Place House, near Tisbury, has also a perfect timber roof of the fifteenth century, with tie-beams and queen-posts. The latter are chamfered. The barn attached to this building has a good plain roof of the same time.

South Wraxall Manor House has a roof over the hall of the time of James I.; and also, of the same period, a rich panelled screen.

At Pottern remains a timbered house of the time of Queen Elizabeth, with carved barge-boards and panelling.

Among the timber antiquities of Bristol, Somersetshire, must be enumerated the roof of a house in Redcliffe-street, erected in the fifteenth century. It has a high pitch, louvre in the centre, and the principals are richly foliated. In Small-street we have an original roof high-pitched, and a very fine specimen of the trefoil form.

In Butleigh also may be seen an interesting timber-framed house. Dunster has a good example of Henry VII.'s time.

The George Inn, at Norton St. Phillips, is a half-timbered house of the fifteenth century. A few oak window-frames of this period are still to be seen in the parsonage at Stanton Drew.

The Manor House at Twickenham Court retains its plain roof over the hall.

Bradfield Hall, in Devonshire, has a roof of fine obtuse arches, of timber, with angels at the springings. The adjoining drawing-room has a panelled ceiling, richly ornamented with pendants. The pillars are decorated with carvings. The dining-room is executed in the same character, probably in the earlier part of the sixteenth century. A house on the north side of the cathedral close retains a fine wooden ceiling from Henry VII.'s time. There are also some good timbered houses of the Elizabethan period.

In the hall at Cothele, in Cornwall, is an open-timber roof of Henry VIII.'s time, and also some furniture of the same period.

The chapel of Trecarel House has a cradle roof. The fine cradle roof of the hall is also still to be seen.

Some Elizabethan timber-work is still found in Langley Hall, Shropshire.

Plush Hall has an open timber roof of the time of Henry VIII.

In Shrewsbury, on the corner of Butcher-row, stands a fine example of a timber house of Henry VII., fifteenth century. It may be considered as unique in England, with its series of open arches, which have very good details, and the overhanging stories, barge-boards, &c. In this city are many picturesque buildings of the Elizabethan and of later periods.

Wenlock Abbey has a good timber roof over the abbot's hall: the purlins are connected by cuspings, which produce an excellent effect. The carvings of this roof belong to a later period.

The Shire Hall, at Hereford, is a remarkable structure, of the seventeenth century, in imitation of earlier work, and it was probably the most extensive of its kind: the hall, 84 feet by 34 feet, is supported by twenty-seven oak pillars, which rest on stone bases in these rows. The former have a shaft attached to each face: the spandrils of the arches are carved, and have pendants hanging from them, all of excellent design. The hall was erected by John Abel, who also built the market houses at Kingston and Brecknock.

In Coventry we have from the earlier part of the sixteenth century, houses in Wells-street, Bond's Hospital, and Ford's Hospital, all of which have very interesting details. One house in Wells-street retains its original timbered gable, with neatly covered barge-boards. Another gable in the same street has still richer carved barge-boards. In Bayley-lane also are to be found some examples of this as well as of the Elizabethan age, in a good state of preservation. Hay-lane and Butcher's-row offer two more examples, with excellent carved barge-boards.

Good barge-boards are also to be seen on the hospital in Warwick.

A gable at New Brentford, Middlesex, dating

from the beginning of the sixteenth century, shows details contemporary with the last epoch, of the Gothic, or Pointed style. In High-street, Rochester, is a similar example to the foregoing.

At Eltham Palace, Kent, we have three gables, which probably date from the same period as the old hall: the barge-board is edged with tracery.

From the latter part of Henry VIII.'s time there is a picturesque house at West Bromwich.

Elmley Lodge, in the parish of Elmley, was built at various periods: its front portion bears the date 1635, and was finished at the beginning of King Charles I.'s reign. The details of the later portion built, partake of an Italian character.

The Old House in Preston, Lancashire, was erected in 1629, according to an inscription which it bears. It is a beautiful and commanding specimen of wood architecture: its lower portion has been modernised.

The village church at Huddington retains a wooden porch, which dates apparently from the fifteenth century.

Bramall Hall, near Stockport, a timbered structure of the Elizabethan age, has lost much in appearance during the last fifty years. From the hall, which is 36 feet square, leads a solid oak staircase to the drawing-room situate over it, and which is of equal size; the ceiling being studded with ornaments.

Pitchford Hall, Shrewsbury, with its richly-carved barge-boards, dates from the end of the sixteenth century.

Salwarp Court is an old half-timbered Manor-house, with a good door, and barge-boards.

Meet Hall, near Droitwich, dates partly back to 1535, according to the carved inscription; but its main portion has a decidedly later character.

The Hall in the Wood, near Bolton, is one of the finest which we meet with; and the gable of a cottage at Worsbrough is also a very interesting example.

The main portion of Ince Hall, near Wigan, dates from the same period, although there may be some older relics. It has a richly carved oak ceiling.

Park Hall, near Oswestry, built about the middle of the sixteenth century, presents many peculiarities in the decoration of the exterior, especially in the form and arrangement of the principal timbers. The interior has also retained its original adornments.

Moreton Hall, Cheshire, probably executed in the first half of the fifteenth century, possesses many peculiar features.

The Town Hall at Leominster, erected in the sixteenth century by John Abel, is at present in a very perfect state.

The principal entrance to the old hall or Court-house at Welsby displays some beautiful carvings with appropriate devices. The details are of pure Gothic character.

Another structure by John Abel is the Ley, near Welsby, the front of which offers many striking features. By the same architect are some specimens left, which show the adaptation of timber to more humble habitations. These are the Alms-houses in Hereford, and the School House at Welsby. The porch of the latter is very interesting.

Ludlow has a fine example of street architecture in timber, which is remarkable for its variety of style. The same house has a handsome ceiling.

Turning to Chester, we have a house in Whitefriars-street: the panels of the gable are filled in with ornamental plaster work. More interesting is a house in Lower Bridge-street. In Watergate-street is "God's Providence is mine inheritance," having the date 1652. A fine specimen is the old palace of the Stanley family, with a prominent Elizabethan aspect, erected 1591. Also Bishop Lloyd's house in Watergate-street, 1615.

Amongst the most recent structures in wood which deserve notice are the oak decorations in the interior of the House of Peers in Westminster Palace; also of merit is the woodwork by Mr. Rogers, in St. Michael's Church, Cornhill, London.

With these remarks I conclude my notes on wood constructions in England. The books to which I am indebted for much information are;—Brandon's "Timbered Roofs of the Middle Ages," Clayton's "Ancient Timber Edifices of England," Habershon's "Ancient Half-timbered Houses of England," Parker's "Domestic Architecture of England," and Pugin's "Ornamental Gables."

JOSH. JUSTEN.

SOCIETY OF ARTS.—On Wednesday next, Mr. C. B. King will read a paper on "The Suppression and Extinction of Fires." The Earl of Caithness will take the chair at eight p.m.

A NOTE OF WEDDING-RINGS.

ALL thoughts just now are running connubial-wise. In the accounts which have been given of the preparations for the wedding of the Prince of Wales and the Princess Alexandra, the public have been told that the wedding-ring, which, "of course," is of plain gold, is remarkably massive, and that its accompanying keeper is set with six precious stones, selected and arranged so that the initial letters of their names shall form the word "Bertie," an affectionate variation of "Albert." The stones of which this happy combination is effected are a *beryl*, an *emerald*, a *ruby*, a *turquoise*, a *jacynth*, and another *emerald*. A plain gold ring has likewise been made to be worn by the Prince himself.

The "plain gold ring," so often referred to by modern poets, and which is so familiar to all the present generation, is but of comparatively recent introduction. Formerly these rings were ornamented in various ways, and some were remarkable for their cunning device and beauty of workmanship. The wedding-rings of the Romans, who originated them, displayed joined hands, intaglios, and inscriptions. Later the "gimmel" or double ring, which opens into two and yet cannot be separated, was used, and rings ornamented with filigree and enamel. It was also the goodly custom to inscribe wedding and betrothal rings with appropriate mottoes. In Germany and Italy finger-rings seem to have been more elaborate during the Middle Ages, and more recently, than has been common in England. There is the betrothal ring of Martin Luther with Catherine Von Bora, which is composed of an intricate device of gold work, set with a ruby,—the emblem of exalted love. The gold devices represent all the symbols of the "Passion." In the centre is the crucified Saviour; on one side the spear, with which the side was pierced, and the rod of reeds: on the other is a branch of hyssop: beneath are the dice with which the soldiers cast lots for the garment without a seam, and below are the three nails. The whole is arranged so as to make a large cross, surmounted by the ruby. Inside the ring, are the names of the betrothed pair, and the wedding-day in German,—"Der 13 Junij, 1525." This ring was presented to the intended wife at the betrothal, and worn by her after marriage.

The ring used at the marriage ceremonial was worn by Luther after the wedding. This is a "gimmel" ring, an emblem of the married state. There is a motto engraved within, in old German. On one hoop is a diamond, the emblem of power and duration; and on the inside of the hoop, which is concealed, are the initials of Martin Luther, followed by a "D," denoting his title of doctor. On the corresponding surface of the mounting of the gem of the hoop are the initials of his wife—"C v B." The gem on this side is a ruby, the emblem of exalted love. These rings are doubtless the design, and probably the handiwork, of Lucas Cranach, the friend of Luther, who was one of the three witnesses to his betrothal: and it is no doubt owing to the combination of artistic knowledge with practical skill in this kind of art-workmanship, that we are indebted for these beautiful productions.

So far as we have been able to learn of the use of the plain gold ring at weddings, it became common in the reign of George II. or George III., when taste in this country was in a deplorable condition; when chairs, tables, and every description of furniture, and houses, were made plain and heavy; so the finger-rings and other articles on which both skill and good design had been formerly bestowed, were made to correspond.

There is a great need for improvement in the designs of rings. There are in this country, in the possession of eminent personages, rings of both historical and artistic interest: there are also some examples in the British Museum: a collection of these for exhibition, on a more extensive scale than was arranged at South Kensington, would be useful both to the makers and wearers of rings.

THE PLANS FOR MUSEUM, CAMBRIDGE.

ON the 5th instant a meeting of the senate was held in the Arts School to discuss the subject of new museums and lecture-rooms. A syndicate was appointed in December, 1862, to consider what liabilities had been incurred by the University for the plans and specifications which were rejected. It appears that Mr. Salvin's charges are 1,828*l.*, which sum must be paid, or the University must go on with the plans. The syndicate suggest the proceeding with the erection of the less ornamental part of the plan. Any attempt to erect costly buildings must either lead to a postponement of the work for some years or to the curtailment of the accommodation supplied. They recommend neither of these alternatives; for the want of museums and lecture-rooms now stands seriously in the way of teaching many of the branches of science. Mr. Blore, of Trinity, was opposed to the report of the syndicate, and questioned the justice of Mr. Salvin's claims. He was of opinion that some attention should be paid to the exterior design of the buildings, and for these reasons he should oppose it in the senate. The Master of Christ's thought that the two alternatives of the syndicate placed before them ought to be well considered. The senate must either go on, or pay Mr. Salvin's bill. But what was to be gained by rejecting these plans? Did any one expect to obtain better? The University ought to consider well what they would gain by thus throwing away nearly 2,000*l.* Mr. Williams, of King's, hoped that, in consideration of the ugliness of the building, there would be security for the best possible arrangement as to its interior. After some further discussion the matter dropped.

We annex the accounts as reported by the syndicate: they may be useful as precedent:—

A. The Senate of the University of Cambridge, in account with Anthony Salvin.

	£.	s.	d.
To designs (consisting of plans, elevations, and sections) for the proposed Lecture-rooms, Museums, &c., prepared in conformity with the Report of the "Lecture-room Syndicate," dated December 31st, 1833, at 2½ per cent. commission on the estimated cost (23,160*l.*)	579	3	0
To designs for the proposed Lecture-rooms, Museums, &c., prepared in conformity with instructions received in May, 1861, and subsequently; and consisting of plans, elevations, sections, &c. Specifications for same, and obtaining tenders, 3 per cent. commission on 26,944*l.* (the lowest tender)*	808	6	0
Travelling expenses in six journeys	15	0	0
	£823	6	0
* NOTE.—If the design is carried out under my superintendence, this charge will be deducted from the usual commission of 5 per cent. as money paid on account. Add charge for first set of designs as per account A	579	3	0
	£1,402	9	0

Inclosure. Letter from Messrs. Smith to Mr. Salvin.

"South-street, Grosvenor-square, 23 Dec., 1862.

Dear Sir.—The surveyor's charges in reference to the Cambridge Museums will be 426*l.* It is not our intention to make any claim for our trouble, but we shall be much obliged by early attention to the above, as the surveyors naturally now expect payment.—We beg to remain, &c.,

GEO. SMITH & Co."

Summary.

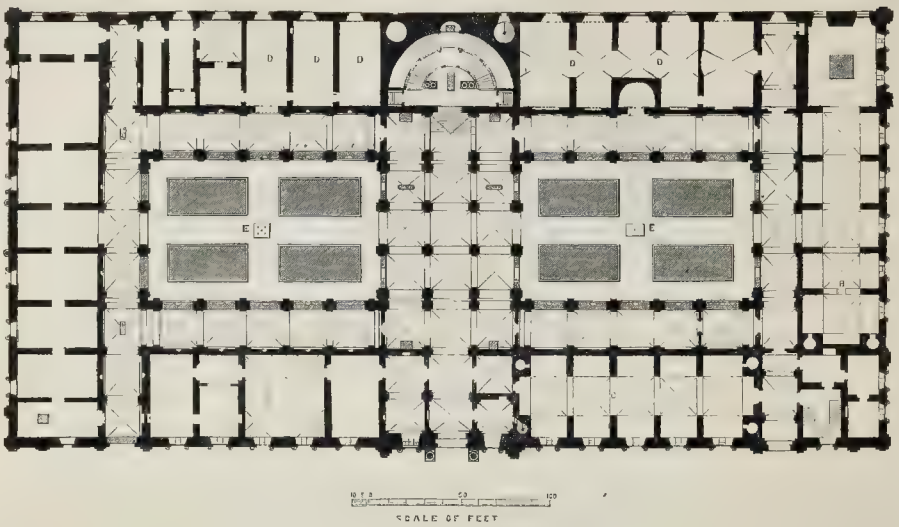
	£	s.	d.
Mr. Salvin's claims	£1,402	9	0
Surveyor's charges	426	0	0
	£1,828	9	0

ON THE INTRODUCTION OF STEAM NAVIGATION.

AT the last ordinary meeting of the Manchester Literary and Philosophical Society, Mr. Dyer read a paper entitled "Notes on the Introduction of Steam Navigation."

Mr. Dyer stated that this subject, being of great importance, had engaged many able pens in tracing the origin of the several inventions and experiments that preceded the final triumph of steam power over that of wind for navigating ships; each writer claiming the honour of priority for his own country. It may be useful to give the order, he went on to say, in which, and the parties by whom, the principal attempts were made to realise that object. Several letters lately appeared in the *Times*, and were thence transferred to the pages of the *Engineer*, giving a graphic account of the "first steamer in English waters," the "*Margery*, built at Dumbarton, by the late William Denny, for William Anderson, of Glasgow, and passed through the canal to the Forth, and thence to the Thames, where she arrived on the 23rd January, 1815." On the authority of Mr. Anderson, then, this date is fixed when the first steamboat was seen on English waters. The first steamboat, the *Claremont*, was started as a regular packet on the Hudson River, in the spring of 1807; so that the first steamer seen on the American waters was fifty-five years ago, a lapse of time that should now insure a calm view of the steps that led to this first actual success in steam navigation. It will be shown that, by a long course of persevering labours, the honour of that success must be conceded to Robert Fulton, by whom it was achieved.

Whilst admitting the merits of other ingenious men long engaged in the same pursuit, it is clearly



THE ROYAL MUSEUM AT NAPLES.

proved that, either from good fortune, or by the exercise of superior judgment and skill, the race was won by eight years' priority of steam navigation, by Fulton, on the Hudson River.

In 1793, Mr. Fulton sent his plan for a steamboat to Lord Stanhope, who approved of, and thanked him for, the communication. Shortly after, Fulton went to Paris, and made experiments on the French waters, with the chain floats, the duck's-foot paddles, the screw or smoke-jack propellers, and with the paddle-wheels, to which latter he gave the preference, and constructed a boat with them in 1803, which was the model adopted in building the *Claremont* in 1806.

Mr. Dyer had sailed in the *Claremont*, and remembers the sensation created by her appearance, and the high admiration bestowed on the author of so great an enterprise. That sensation in 1807 was precisely the same as the *Margery* created among the vessels on the Thames in 1815.

All attempts at steam navigation were fruitless before the invention of Mr. Watt's steam-engine, his engine being the *first* that could be usefully applied to rotative machines on *land*, and therefore for propelling ships. The principal claims put forth by other inventors of steamboats, are the following:—

In France, the Marquis de Jauffroy constructed a steamboat at Lyons, in 1782, "with paddle-wheels;" but that this boat did not succeed is obvious, because she was not heard of until 1816, when the first Fulton boat was started to run on the Seine.

In 1783, Daniel Bernoulli proposed a plan which consisted of forcing water, through a tube, out at the stern of the boat. This scheme has been tried many times since, but fails on account of the defective principle of applying the force. *Endless chains*, with float propellers, have been many times tried, and have failed on the same ground.

In 1795, Lord Stanhope made experiments with a boat on the Thames, using the reciprocating or "duck's foot" paddles, which also failed, from the loss of time and power by the return stroke.

In 1785, James Rumsey, of Virginia, tried a boat on the Potomac, and afterwards in London, both without success; and about the same time Mr. Fitch, of Philadelphia, tried one with paddle-wheels, on the Delaware, but this boat also did not succeed, and was given up as a failure. J. C. Stephens, of New York, made experiments in 1804, with a "boat 25 feet long and 5 feet wide," which of course did no good, and was stopped as a failure, though again brought to notice as preceding Mr. Fulton's.

In 1788 and 1789, William Symington, in conjunction with Patrick Millar and James Taylor, made experiments with their patents for navigating by steam, and in 1802 commenced running a boat on the canal at Glasgow which made three miles an hour; but after many changes of her propellers and trials, the scheme was given up, and no more was heard of the steamboat of Mr. Symington until long after those of Fulton were widely spread over the American waters.

In 1816, the Marquis de Jauffroy complained that the Fulton steamboat on the Seine had taken the "paddle-wheels" invented by him and used at Lyons thirty-four years before, but also abandoned by him. To this charge M. Royou replied in the *Journal des Débats*, thus: "It is not concerning an invention, but the means of applying a power already known. Fulton never pretended to be an inventor in regard to steamboats in any other sense. The application of steam to navigation had been thought of by all artists, but the means of applying it were wanting, and Fulton furnished them."

The first ocean steamer was the *Fulton*, of 327 tons, built in 1813; and the first steamer for harbour defence was built under Fulton's direction, 2,470 tons, launched in 1814. This became the model ship for the iron-clad batteries and rams since constructed with many changes. It will be seen, by the drawings of Fulton's plans, that he had tried the several other kinds of propellers—the chain float, duck's foot, and the screw fan—before adopting the paddle-wheel; for, though the *screw* was good in principle, it was many years before it could be constructed to act efficiently. The *James Watt* was the first boat with the screw running between London and Havre, about ten years after the advent of the *Margery*.

In 1811 I endeavoured to introduce steam navigation into England, but I found a strong conviction that it would not answer in this country; our most eminent engineers saying, "We don't doubt the success of steamboats in the wide rivers and harbours of America, but in our comparatively small rivers and crowded harbours they will never answer." Even such scientific engineers as the late John Rennie, sen., and Peter Ewart, a vice-president of this Society, both advised me to relinquish the attempt to introduce steamboats, as sure to prove a waste of time and money to no purpose. However, when conviction came over the public mind that steam navigation would answer here—but not until after more than 5,000 tons of steamboats had been launched on the Hudson in 1816, did it so come—then began the spread of steam navigation, since extended with such marvellous rapidity and perfection as to atone for the sluggish beginning. Since nations are indebted to the genius of Watt for success in using steam power, to that of Fulton for its successful application to navigation, to Stephenson for the like success on railways, the meed of praise due to each of their names should be cheerfully awarded by all who are so largely benefited by the result of their labours. In doing this we should bear in mind, that *inventions* do not spring into existence perfect from their birth, like Pallas from the brain of Jupiter, but they come from the prior labours of many brains, and he is the true inventor who first collects the essence of and gives the stamp of vitality to those labours. In this sense the invention of steam navigation will for ever illustrate the name of Robert Fulton.

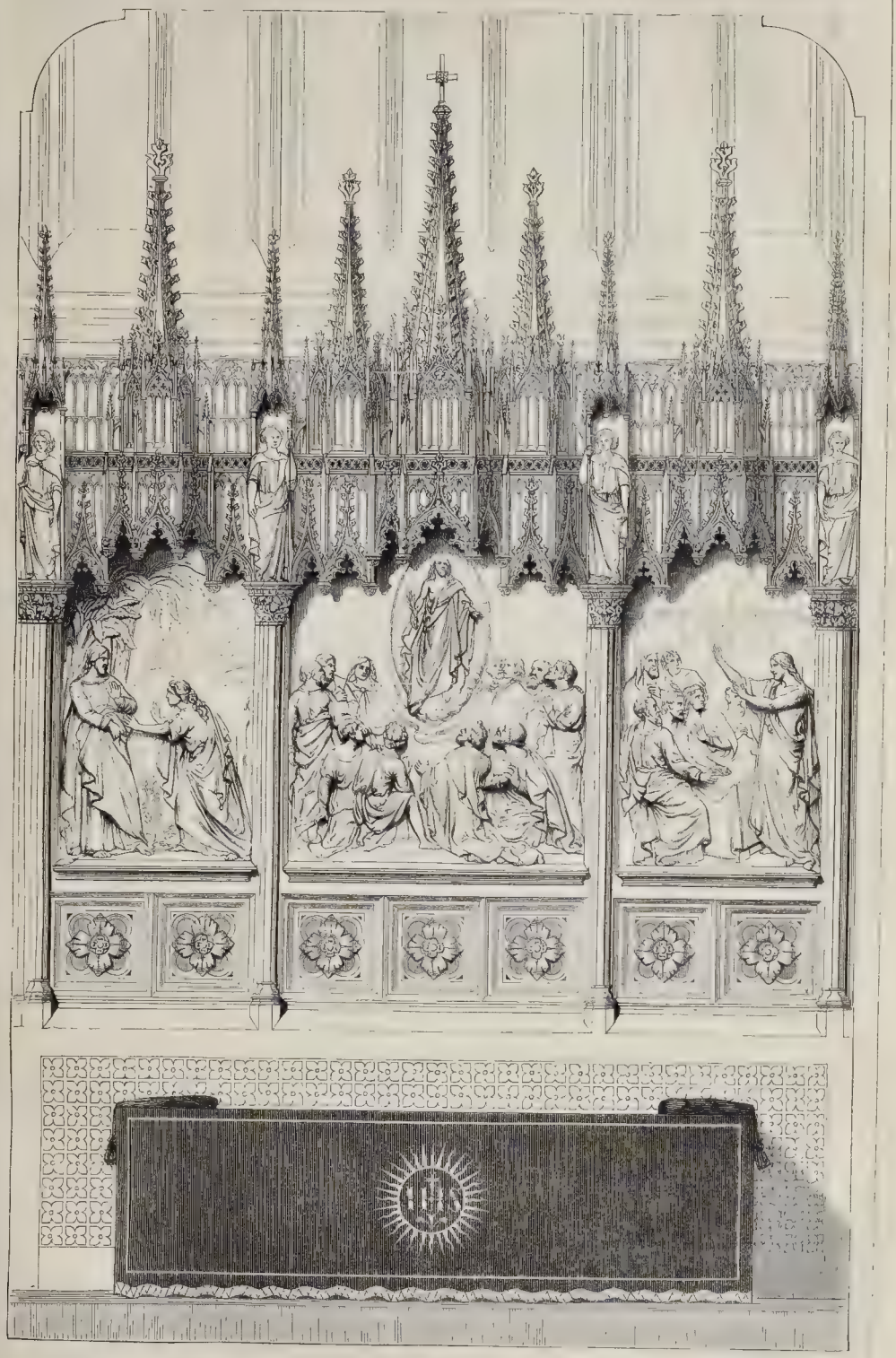
THE ROYAL MUSEUM AT NAPLES.

ANNEXED is a ground-plan of the Royal Museum at Naples, which was carefully measured by Mr. S. Loat (travelling student of the Royal Academy) and myself in 1829. Never having seen a plan of this building in print, I conceive a publication of it would be interesting to the subscribers and readers of the *Builder*. The edifice is immense, being some 490 feet long by 240 feet wide. It is built with vast solidity, and the floors are vaulted in brick. It lays no claim to architectural merit as to details. Carriages can freely enter and circulate in the central vestibule, the arcades being nearly 20 feet wide. The top light to the staircase is a semi-ellipse, whose larger diameter is about 20 feet. The principal staircase is lighted from the top. The rooms on the ground-floor are chiefly devoted to statuary. The celebrated Farnese Bull (group) is at A, and the Hercules at B. The apartment C is filled with wall frescoes, removed from Pompeii. The apartments DD at the rear of the building are casting shops. The courts EE are filled with antique fragments. Above the central vestibule is the library, about 170 feet by 70 feet. The remaining rooms contain the bronzes, fictile vases, and pictures. The height of the ground floor cannot be less than 40 feet, and the same may be said of the next. I think there is a third floor, but I was never in it.

As my information relates to a period of upwards of thirty years ago, when I was pursuing my studies in Naples, I can hardly say what changes have taken place in the interim. The building, however, struck my friend, Mr. Loat, and myself, so much as to induce a careful measurement. I need not comment or dwell upon the very large and interesting collection contained within its walls.

JNO. B. ATKINSON, Architect.

THE OTTOMAN NATIONAL EXHIBITION.—In consequence of the undry state of the paint inside the building, the opening was postponed till 27th of February, when "it was hoped," the sultan would inaugurate the exhibition. Many of the internal fittings, however, still remained to be placed, and goods to be exhibited were actually not yet in the building.



REREDOS, ST. GEORGE'S CHAPEL, WINDSOR.—*Mr. G. G. Scott, Architect. Mr. J. B. Philip, Sculptor.**

[* See p. 181, *ante*.

FREEMASONS' HALL COMPETITION.

WE have received a letter from Mr. John Havers, chairman of the Committee, denying that our correspondent "A. B." could have received his information from any competent authority. Mr. Havers says, and we are very glad to hear it, that,—

"The Committee are fully aware that well-employed architects will not be at the trouble and expense of preparing designs for the purpose of obtaining only the premiums offered; and they entertain the most confident impression that such arrangements will be made as will be satisfactory to the successful competitor.

"I cannot believe that any architect would intentionally impose upon you or do aught to prevent or stifle competition; but as the statement in the letter must, if not contradicted, be injurious to us and prejudicial to the object in view, I have to request that you will give this letter as prominent a place in your next Number as that accorded to the original statement."

The Grand Lodge has, by special resolution, enabled the Committee to put aside the law quoted.

"THE WORLD'S DEBT TO ART."

UNDER this title Mr. Beresford Hope, who, as will be seen in our present number, has been exerting himself in the cause of industrial art at the Potteries, gave a lecture in the Town Hall, Hanley, on the 24th. In the course of it he urged that the simplest arrangement of materials, the simplest arrangement of flowers, might be artistic. In Kent there was a traditionary way of building chimneys, by a simple variation in the arrangement of common bricks, but the effects produced were most picturesque. Any common labourer could do that. It was true art. He would take a row of houses in Hanley, Birmingham, Manchester, or Bradford. There were so many houses put up—no outline, no skyline, which was a most important element in design—the same dread, dreary, uniform, colourless square block, the same square doors, brass knockers and door-plates, the same sash windows, the same stone slabs under the windows, the same chimneys—and, when they went inside, the same rhubarb-coloured oil-cloth in the passage, the same rooms, with the same paper on the walls, the same Brussels carpet, with the same flowers represented, put where no man would think of putting real flowers, the same mixture of oil-cloth and carpet on the stairs, the same chimney-piece. This was a type of the ordinary English house. It was built by the builder, and the artist was called in, if at all, only at the last moment to decorate. If they went into it they saw the gentleman who had the honour of owning it in his chair, having upon him that most extraordinary and uncouth dress, which he would venture to say no Feejee Islander or any savage in the world had ever invented the like of,—the swallow-tail coat. On his head, when he went out, he wore a chimney-pot hat. By his side sat the partner of his joys and sorrows, in a shawl that had been bought one day and a gown bought another, and not bought to match. And over her crinoline and over these unmatched colours she put a coal-scoop bonnet. With this type of house, this gentleman with the swallow-tail coat and this charming lady—charming if it were not for her crinoline,—had they not got to the bottom of art, had they not chalked up a most ruinous debt to art which was difficult to pay? How could they pay it? Their houses were of brick—they could give them a little variety by using different-coloured bricks, by the insertion of the initials of the person who built it, or some other trifling memorial, which would give it a character and identity. Instead of rhubarb-coloured oil-cloths in the passage, if they had oil-cloth at all, they could have it of good pattern, or could have tiles, or inlaid wood to cover the floor. If they had paper they could have papers with some design and colour. Even a few lines on the plaster ceiling would make that dreadful Sahara a cheerful place;—a few prints and engravings on the walls, real wood furniture which was innocent of the veneerer or the grainer, a little carving of the balusters. They might say those were trifles. They were the halfpennies and shillings to pop into the world's box to pay the world's debt to art. There was no more improving and more refining art in the world than that of good dressing, particularly of female dressing. Every girl who stuck her ribbons in front of her gown either wiped off a part of the world's debt to art or added to the burden. Ten years ago the women dressed well, but they would not let well alone. In these small matters the world's debt to art was to be paid. It could also be paid lump sums by the promotion of the fine and industrial arts; but when he saw painters, instead of entering into open competition with their brethren, painting pictures which were advertised a long time, ordered by some engraver, placarded about like a sensation drama at the Victoria Theatre, then hung up in a green-room with false lights, and exhibited at 1s. a piece, each person being expected to put down his name as a subscriber for an engraving of the picture,—when he saw this, he felt there was reason to fear that fine art would fall below applied art. Standing there as they did in the centre of a manufacture which was pre-eminently artistic, it was for each one of them to put his shoulder to the wheel to pay the world's debt to art.

AMERICAN TIMBER BRIDGES.

INSTITUTION OF CIVIL ENGINEERS.

AT the meeting on the 24th ult., Mr. Hawkshaw, president, in the chair, the first paper read was on "American Timber Bridges," by Mr. J. R. Mosse. It was stated that the early common road bridges, for spans of 100 feet and upwards, were generally built on the lattice plan. The sides and the top and bottom chords were formed of planks, usually 12 inches wide by 3 inches thick, fastened together by oak treenails 2 inches in diameter. For road traffic, with moderate spans, this kind of bridge answered tolerably well; and several of the early railway bridges were constructed in a similar way. But this structure, having been found insufficient for heavy trains, had long since been abandoned; though it was sometimes, but erroneously, thought in England to be the general style of American bridges.

The next design noticed was the Howe bridge, a detailed description being given of one on this principle on the Danville railway, over the James river, at Richmond, Virginia. This bridge consisted of eleven openings, each 121 feet span, the total length being about 1,800 feet, with a width of 18 feet. For each span there were two trusses, the greatest depth of which was 20 feet. Each truss was divided into several panels 11 feet wide, and the bottom chords were so arranged that there should be only one joint in the chord pieces in each panel. The sectional area of the upper chords was 396 square inches, and of the bottom chords 528 square inches; the greater area of the latter being on account of the numerous joints. There were four main braces at the ends of each truss, and by means of three vertical iron tie-rods in each panel, any required camber could be easily given. Counter-braces were also introduced, by which, when keyed up, the bridge could be so stiffened, that a passing load was said to produce no additional strain. These bridges were always built of the best white pine; and the ordinary price for a single line, including erection, was from 4*l.* to 5*l.* per lineal foot. The usual quantity of timber employed was about 30 cubic feet per lineal foot, and the weight, including iron work, a little more than half a ton per lineal foot. Assuming a load of 3,000 lb., including its own weight, to be uniformly distributed over the bridge alluded to, the strains would be, by the ordinary calculation,—

On the upper chords, compression,	729	lb. per square inch.
" bottom chords, tension ..	547	"
" end braces, compression	735	"
" end tie-rods, tension ..	15,125	"

The ordinary dimensions of a bridge on this principle having a span of 150 feet, as built on the Portland railway, were then given, from which it appeared that, the lower chord pieces of the two trusses had together a sectional area of 676 square inches, and of the upper chord pieces of 520 square inches. Assuming the same weight of 3,000 lb. per lineal foot, to be equally distributed over this structure, the strains would be,—

On the upper chords, compression,	901	lb. per square inch.
" bottom chords, tension ..	694	"
" end main braces, compression	750	"
" end tie-rods, tension ..	18,750	"

These strains were greater than in the first example, and the compression of 901 lb. per square inch on the upper chords was the limit of safety; but it was not probable that the bridge would ever be loaded to the amount assumed.

Owing to the increased weight of the trains, and the greater span of railway bridges, it was afterwards found necessary to strengthen this form of bridge, by the addition of arches on the sides of the trusses. This "Improved Howe Truss," as it was usually called, came into general use. A bridge on this plan was described, which was built for a double line on the Philadelphia and Reading Railway, where it was subject to the heaviest traffic in America, the coal conveyed over it alone exceeding 5,000 tons daily, besides the ordinary passenger and goods trains. This bridge had a clear span of 160 feet. There were three trusses, each 23 feet deep, and six arches. The sectional area of the three upper chords was 1,215 square inches, of the bottom chords 1,620 square inches, and of the six arches 1,530 square inches. The arches were formed of the best pine, in pieces about 24 feet long by 4½ inches wide and 15 inches deep. Timber arches had not unfrequently been built of pieces 6 inches square; but very rarely of laminated plank in the manner formerly practised in England. Supposing a load of three tons per lineal foot, including the weight of the structure itself, to be equally distributed over this bridge, and to be borne both by the upper chords and the arches; then the compressive strain per square inch would be 292 lb. on the former, and 237 lb. on the latter; while if sustained by the arches alone, the pressure would only amount to 468 lb. per square inch. As American engineers usually considered 900 lb. per square inch as the safe limit of compression on timber framing, the strength of this bridge appeared, by calculation, to be greatly in excess of what might be deemed necessary.

The approximate quantities of materials in this bridge, exclusive of the roof, were, per lineal foot, 58 cubic feet of timber, 270 lb. of wrought iron, and 76 lb. of cast iron; and the cost of the superstructure amounted to 10*l.* 3*s.* per lineal foot.

These bridges were usually built with a camber of about 1 foot; but owing to decay at the joints, and the unseasoned state of the timber when framed, they soon deflected, and did not last in good condition longer than from twelve to fifteen years. When, however, they were roofed in and boarded at the sides, and were properly cared for, their duration might be taken at twenty-five years.

Some American engineers did not approve of the arch in combination with the truss, believing that a structure composed of two systems, neither of which was strong enough by itself, was wrong in principle, and that it was almost impossible so to proportion the strains, as to make each system bear its due share. These engineers thought it better, either to add to the truss the material used in the arch, or to depend entirely upon the arch, and to have a light truss merely to stiffen the roadway.

Timber-bridge building had become a special branch of engineering in America, and one firm alone—that of Mr. D. C. McCallum,—had constructed 15 miles on length of bridges upon different railways, in spans varying from 30 feet to 260 feet. These bridges were built on what was termed the "Inflexible Arched Truss" principle; and a description was given of a bridge, for a single line of railway, 200 feet span, of which several had been erected in the States of New York, Ohio, and Mississippi. The principal dimensions were, total length, 210 feet; span, 200 feet; depth of truss in the centre, 26 feet, and at the ends, 21 feet. The arched tops of the two trusses had together a sectional area of 814 square inches, and the two bottom chords of 468 square inches. There were four main braces, which projected 32 feet from the piers, having a sectional area of 704 square inches on each side. The posts, of which there was a double row, inserted between the chords, varied from 9 inches by 13 inches at the abutments, to 9 inches by 6 inches at the centre; the counter braces being 9 inches by 6 inches throughout. Special attention was directed to the manner in which the bottom chords were scarfed, by long splicing pieces and combination keys, so as to prevent them, as much as possible, from stretching. The spur arch braces also transferred the load directly on to the abutments, by which the span was directly reduced to 136 feet, so far as the strain on the truss was concerned. This bridge contained 7,360 cubic feet of timber, 6,958 lb. of wrought iron, and 5,997 lb. of cast iron. Its total cost was 5*l.* 4*s.* per lineal foot; the rough timber being delivered on the site of the works at one shilling per cubic foot. The total weight, including the permanent way, was 109 tons, and with an additional load of 205 tons, equally distributed, the pressure on the arched top would be 862 lb., and the tension on the bottom chords would be 1,500 lb. per square inch. With an actual load of nearly one ton per lineal foot, this bridge deflected nearly three-quarters of an inch, previous to the adjustment of the counter braces: these were then screwed up, and the load was removed, when the permanent deflection was found to be nearly five-eighths of an inch.

Several railway swing bridges of 120 feet span had been constructed of timber by Mr. McCallum,

and the principal dimensions, as well as detailed drawings, of one on a similar plan, proposed to be erected over the Mississippi river, at Clinton, Ohio, were given. A McCallum common road bridge, of 150 feet span, was then described; and it was stated that the quantity of timber in such a bridge, 29 feet in width, did not exceed 23 cubic feet per lineal foot, its entire cost amounting only to 3*l.* 2s. 6d. per lineal foot, the rough timber delivered on the ground being estimated at ninepence per cubic foot.

As an illustration of the adaptation of the Howe Truss for large roofs, a description was given of that erected at the Dunkirk station of the New York and Erie Railway, the span of which was 80 feet. This roof was chiefly remarkable for the lightness of the scantlings, only two pieces of timber being as large as 6 inches by 7 inches, and most of them were about 5 inches by 7 inches. A principal of this roof contained 280 cubic feet, and would cost, at the ordinary price for timber framing, including erection, about 36*l.*

In conclusion, the author expressed the hope that these specimens of timber work, the result of many years' experience, and the adaptation of the only available resources of a new and comparatively poor country, would be found interesting, as, whatever their merits or faults, the bridges had undoubtedly produced good practical results, and would bear investigation.

The second paper read was "On the Reconstruction of the Dinting and the Mottram Viaducts," by Mr. W. Fairbairn, F.R.S.

On the 3rd inst., the paper read was on "The Perennial and Flood Waters of the Upper Thames," by the Rev. J. C. Clutterbuck, M.A.

TO CALCULATE STRENGTH OF WROUGHT-IRON GIRDERS.

IN reply to our correspondent "W. J. M.," who asks for a formula to determine the strength of wrought-iron girders, and the intimation may be useful to others also, we may point out that the subject is fully investigated in the eleventh vol. of the *Builder*, for the year 1853, at pages 646, 677, 729, by Mr. E. W. Tarn, M.A.

All who seek information on matters connected with architecture and construction should look to the back volumes of the *Builder*, which contain, we may venture to assert, an immense amount of such information absolutely essential.

In reply to "W. J. M.'s" inquiry, I beg to refer him to "Fairbairn's Treatise on Wrought and Cast Iron," where he will find the following formulæ, and much other matter of great value —

"Multiply the section of the top flange, the depth of the web, and the width of the bottom flange by the constant 75, and divide by the distance in inches between the supports. The product will be the breaking weight in tons. This applies to web girders. For box girders, the constant 80 is used. The formula for trellis girders is nearly the same as for tubular beams (or 'box' girders), and will generally serve." GEO. T. ROBINSON.

P.S. Will some correspondent kindly favour me with the composition of the black and coloured cementitious inlay now much used in incised stones, and inform me if it may be relied upon to stand out of doors.

THE SANITARY CONDITION OF ROMSEY.

AT a recent meeting of the Town Council and the Guardians of the parishes of the Romsey Union, the mayor read a letter from Lord Palmerston on the sanitary state of the town, urging the desirableness of adopting "Mr. Taylor's patented plan for the preventing of nuisances," or of some other, which might be found to be most desirable.

The chairman of the board of guardians (Mr. May) said the sanitary state of the town was not such as justified the sending of such a letter by Lord Palmerston; but it was evident (though by what means he would not pretend to say) that Lord Palmerston knew more of the private affairs of this town than they did themselves. The extraordinary weather we had had this winter fully accounted for the cases of illness which had occurred; but he fully believed that Romsey would bear comparison with any town in England as to its general healthiness. The chairman afterwards said there had been a disposition to lessen the number of cottages near the town; and this step, of course, drove the labourers into the town. In one district he knew that thirty-two cottages had been pulled down and only six built; mainly, he believed, for the protection of game. As to Mr. Taylor's plan, he (Mr. May) would engage that in such a place as Church-court, at a very small expense, *if* the inhabitants would just throw ashes into their closets, these places would be perfectly free of any noxious vapours. As to the cottage accommodation, he could undertake to say that throughout the Romsey Union there were not more than two-thirds of the accommodation that the labourers ought to have.

Mr. Arnold said he thought perhaps Lord Palmerston's impression of the state of the town was gathered from its appearance last autumn, when the canal was dry, and accumulations of filth to be seen in many parts of the old canal watercourse; but now, as the water had been turned into its old channel, the whole of the Hundred could be well flushed, and accumulations of dirt were no longer to be seen.

After further discussion, the following resolution was passed:—"That the town clerk do inform Lord Palmerston that the council, having conferred with the guardians of the Romsey Union on the subject of his Lordship's communication of the 12th ult., respecting the sanitary state of the town, is, with the guardians, unanimously of opinion that bringing the Public Health Act, 1858, into operation in this town, is unnecessary, the powers of the Nuisances Removal Act being already in efficient and satisfactory working."

THE SANITARY CONDITION OF ROTHERHAM.

THIS unfortunate town had just made its escape from a deadly typhoidal attack, under which it had of late been suffering from well-known causes connected with its defective supply of water, and its hence uncleansed and filthy drains and sewers; when a new and worse form of illness has manifested itself in an epidemical form. This new infliction is what an intelligent medical man, who is resident in the town, declares, from his experience in tropical countries, to be a mild form of the terrible yellow fever. It is called epidemical jaundice.

From a remarkable letter which this gentleman, Dr. Reed, has written to Dr. Ord, medical officer of the Metropolitan Board of Health, at the special request of Dr. Ord, who had visited the town, but failed to see Dr. Reed, with whom he was anxious to have a consultation on the subject, it appears that the general health of the community at Rotherham is deplorable. Dr. Reed speaks of "the extraordinary prevalence of severe neuralgic affections, dysenteries, liver complaints, and numerous distressing and incurable dyspeptic diseases, besides that obscure continuance of ailment which is called 'ill-health,' and from which no resident is exempt." All of these he attributes to one and the same cause.

The very complexion of the "healthy," if they can be so called, he describes as "sallow, or of a peculiar insipid tawny white, which presents to a stranger a very striking and singular appearance," strongly resembling the general aspect of the inhabitants of unhealthy tropical towns. Sometimes the visage is stained of different hues; and in some few cases it is even livid, while the flesh is found to pit on pressure; the muscles being soft, yielding, and elastic, with often an appearance of unhealthy fat, containing water in the cellular membrane. The young in years are old and wrinkled, and even children have an aged appearance. The general mortality of Rotherham is shown from the official returns to be no less than 44 in 1,000; and the deaths are more numerous than the births, which are falling off; so that it is only by immigration that the population is kept up. The havoc committed by epidemic cholera, says Dr. Reed, "is as nothing compared with the slow and gradual destruction from our poisonous sewers in their work of depopulation here."

Dr. Reed conceives that besides a fuller supply of water, and a thorough cleansing of drains and sewers, "a sweeping alteration in the whole of the sanitary police" is requisite to the establishment of an improved state of health in Rotherham.

HANLEY SCHOOL OF ART.

THE annual meeting of this institution was held on the 23rd ult., in the Town Hall, Hanley. The productions of the advanced students, and of those who gained prizes in the recent examination, were exhibited as usual, and attracted a good deal of attention. Among the articles exhibited was a collection of modelling designs, including the models of the jugs and cups and saucers which won the prizes offered by Alderman Copeland. The report expressed the satisfaction of the committee with the advancement made by the students under the able teaching of the master, Mr. Carter. The trustees had become personally responsible for the paying off of the mortgage debt of 1,000*l.* this month, although from 300*l.* to 400*l.* deficient in funds. The master's report stated that, on examination of the works executed during the year, twenty-eight medals had been awarded; and that twenty works had been selected for the national competition. The receipts, according to the financial report, amounted to 130*l.* less than the expenditure, which was 387*l.* Alderman Copeland occupied the chair, and he and various other gentlemen addressed the meeting, including Mr. S. Child, who, in reference to the special manufactures of the district, said:—Perhaps no manufactures could be traced back to so early a period as works in clay. No doubt other manufactures were also of ancient date: they had heard of workers in metals, forgers of swords, and makers of musical instruments; but they had passed away with the fashion thereof; whereas even the sun-dried bricks of Egypt existed to this day. The records of Assyria were brought to light; and Layard and others had found in the palace of Sennacherib 2,000 examples of clay books, giving the history of Assyria. He believed that in China the manufacture in clay could be traced back 2,000 years, but in this country it was of comparatively recent introduction. After a brief allusion to Brindley, whom the speaker said he might almost term the inventor of canals, he remarked that not many years ago articles of earthenware were imported into this country from France; but a change took place; a man of genius arose, who was born at Burslem. That man had great talents: he could see perhaps further than his neighbours: he made great discoveries in the chemical composition of the materials; and no doubt had a taste to see that a great advance might be made in the artistic form and the quality of the articles produced in this neighbourhood. That man sought for the best talent the country could produce. After Flaxman failed in obtaining the gold medal of the Royal Academy, he was employed by Josiah Wedgwood, who greatly extended the fame of the Potteries; and whose memory he trusted would be honoured by all then present attending the inauguration which was to take place on the following day. Wedgwood well deserved his fame: he prospered in his undertaking; and in his prosperity that of the neighbourhood had largely participated. But, he might observe, however intelligent Wedgwood might have been, whatever plans he might have had, he could not have stood alone. He might have had a head to conceive and a desire to execute the works which had made his name famous; but without such men as Flaxman, intelligent artists and clever workmen, they should not have had to celebrate such an occasion as they were about to do on the morrow.

CHURCH-BUILDING NEWS.

Ipswich.—The church of St. Lawrence, Ipswich, has been re-opened. This is the second time within a few years that the parishioners have effected improvements in their church. The first alteration consisted in the removal of the gallery which blocked up the chancel arch, in replacing the high pews of the chancel with benches, and in inserting the east window, given by Mr. F. Fish, in memory of his wife. Those just completed by the builder, Mr. H. Luff, from the plans of Mr. R. M. Phipson, the architect, are much more extensive. The former alterations were confined to the chancel. The nave has now been divested of its plaster ceiling, and a roof of stained fir takes its place. This roof is supported by principals which spring from stone corbels, executed by Mr. Frewer, of Ipswich. The old pews have been supplanted by pine benches merely varnished and polished. A passage has been made on either side of the centre benches, which take up the greater part of the nave; and parallel to the north and south walls are two rows of stall benches, ornamented at intervals with carved poppy-heads. The organ-gallery has been done away with, and the new organ has been placed on a platform raised a foot or two above the floor of the church; in front of it being the choristers' benches. The nave is lighted by gas branches of blue and gold. The chancel is lighted by two brass standards, each with twenty lights, to match the altar-rails. The vestry has been enlarged, and an entrance made from the churchyard. The brickwork of the east gable of the nave has been faced with flint, and a stone cross surmounts it. The whole alterations have cost something like 1,000*l.*

Bungay (Suffolk).—The first portion of the contemplated restoration of St. Mary's Church is now completed. On examination it was found that the north side, which is of about the fourteenth century, had suffered much from the ravages

of time; and the mullions of the window, being chiefly of a soft stone, had been in many places so much worn away as to become almost dangerous. The mullions and tracery of these windows have been restored with Bath stone. The old glass also has been removed, and the centre light of each window has been filled in with painted glass: the subjects of five of them illustrate the leading events in our Saviour's life; viz., the Birth, Baptism, Last Supper, Crucifixion, and Resurrection; the side lights being filled in with cathedral tinted glass, with a white border. The tracery of the windows contains in each of the compartments separate designs; these being the flowers of different nationalities, and intended to commemorate the Industrial Exhibition of 1862, at which the subjects before named were purchased. The sixth is a memorial window, the painted glass for which was presented by Mr. Richard Mann, of Bungay, and other members of his family. The subjects of this window illustrate the acts of mercy—"Hungry and ye fed me," "Thirsty and ye gave me drink," "Naked and ye clothed me," "A stranger and ye took me in;" and the compartments are filled in with monograms and varied designs. Two windows in the north porch which had been blocked up for many years have been restored and glazed, as also the stone seats, the bases of the columns, and the four columns supporting the four corners of the porch. The north side of the interior of the church was covered with a thick coating of white plaster, the accumulation of several years; and round the mural tablets, which are numerous and ancient, the old-fashioned plan of painting a deep black line, to make the monuments stand out more prominent, also existed. This and the plaster were removed, and in doing so some discoveries were made. Around each of the windows was discovered an arch of stone, very deeply moulded, and terminating at the basis in hexagonal stops, with splays running the whole width of the window: these arches were much disfigured and broken. They have been restored. A gallery has been removed, thus exhibiting the whole proportion of the aisle; and open seats for about thirty persons occupy the place where the stairs leading to this gallery stood. The north and west approaches to the church have also been lowered, and the accumulation of soil against the walls has been removed. The total cost of the repairs, &c., has been about 400*l.*; and the work has been carried on by a committee, with the incumbent and the churchwardens. The painted glass in the five windows was executed by Mr. Gibbs, of London; and the stonework was entrusted to Mr. Henry Nursey; and the glazing to Mr. S. Redgrave, both of Bungay.

Nottingham.—St. Luke's Church has been consecrated. The edifice has been erected from the plans and under the superintendence of Mr. R. Talland, of Nottingham, architect. It is a plain, unpretending structure, built of Bulwell stone, having Derbyshire stone dressings to the doors, windows, buttresses, and strings, and carved into heads and bosses at the springing of the arches. The style is Early English. The roof internally is in open one, exhibiting timbers stained and varnished. The internal dimensions are in length 62 feet 6 inches, exclusive of the apse: it has a vestry and a steeple at the east end; and the width of the church is 55 feet 6 inches. The aisles are paved diamondways with black and red tiles; and the seats, which are of deal, stained and varnished, contain sittings for about 900 persons, half of which are free. The sum of 4,500*l.* has been expended upon the site and building. Mr. Dennett was the contractor.

Prior's Marston (Warwickshire).—A faculty has been obtained for restoring and reseating the parish church by subscription. At present it is contemplated to reseat the body of the church, re-roof of the nave, and partially rebuild the south wall and porch with new windows. If sufficient funds are provided the north aisle will be rebuilt. The chancel is new, having been erected at the expense of Earl Spencer. Messrs. Elliott & G. Lilley are the builders, and Mr. N. Joyce (Spragg & Joyce), of Stafford, is the architect.

Old Whittington (Derbyshire).—The new church for the parish of Old Whittington has been opened by the Bishop of Lichfield. The accommodation for the old church having been found inadequate, a new church was proposed; and a fund having been raised in 1861, several architects were invited to furnish designs in competition; and that by Messrs. Giles and Brookhouse, of Derby, was finally adopted. The tender of Mr. J. W. Thompson, of Derby, builder, was accepted for the erection of the edifice. The church consists of nave, north and south aisles, with chancel: on either side is a vestry and organ chamber with arches, the former being enclosed with a rich traceried wood screen. The tower, situate at the south-west angle, forms a porch containing the principal entrance, and is surmounted by a broach stone spire about one hundred feet in height. The walls are faced with Wingerworth stone, relieved by white stone dressings. The high-pitched roofs are formed with principals containing traceried spandrils and curved ribs supported on stone corbels, the whole of the exposed wood-work being stained. The sittings (600) are all open and free: they are of deal stained and varnished, and formed with sloped backs and seats. The chancel floor is laid with ornamental tiles, made by Mr. Whetstone, of Coalville, Leicester: those of the aisles are laid in red, blue, and buff tiles, in diamond pattern. The church has been warmed with hot water. The style of the edifice is Geometrical Gothic, and the cost is not expected to exceed 2,200*l.* The east window has been filled with a design in stained glass by Warrington, of London, presented by Miss Smith, of Beauchief Hall, who laid the first stone, and Miss Smith of Leek (late Dunston Hall).

Birmingham.—The new Congregational Chapel in the Lozells has been opened. The chapel, which is built of brick, is situate in Wheeler-street. The general style is Italian. In front there is a portico formed by four pilasters, which, surmounted by Corinthian capitals, support a semi-circular arch. In the interior there are two galleries, one of which is ten and the other twenty feet from the ground floor. Each end of the chapel is circular, thus giving it the appearance of being oval. The internal dimensions are 80 by 53 feet. Seats are provided for 1,200 persons, 400 being on the ground floor, 500 in the lower gallery, and 300 in the upper gallery; but with standing room, there is accommodation for 1,500. In the arrangement of the ground floor chairs are substituted for pews, and the floor is covered with carpet to facilitate kneeling during prayer. Owing to the circular form of the chapel, and the absence of columns, there is in every part an uninterrupted view of the pulpit. The building is supplied with Muir's patent four-point ventilators; is heated by Haden with warm air; and is lighted by twelve small gaseliers pendant from the ceiling, and by brackets under the galleries. There is no organ. Messrs. Poulton & Woodman, of Reading, were the architects: Mr. F. D. Johnson, of Birmingham, was the local and superintending architect; and Mr. Bennett, of Lozells, was the builder. The cost of the building is about 3,500*l.*, of which there have been raised upwards of 2,500*l.*

Liverpool.—St. John's Wesleyan Chapel, situate in Prince's Park, has been opened for Divine service. The chapel is in the Early English style. The stonework is principally of Yorkshire shodders, with Cheshire dressings. In extreme inside length the chapel is 89 feet long by 39 feet 6 inches wide; and consists of a nave, two transepts, an organ gallery, and transept galleries. The roof is an open timber one, stained and varnished. There is an organ, made by Willis, of London; and at the west end there has been placed a stained glass window, the gift of Mr. Farnworth, of Liverpool, commissioned by that gentleman from France. The chapel is capable of holding 1,000 persons, 250 free. The foundation stone was laid in October, 1861; and the entire cost of the edifice, it is understood, will amount to nearly 7,000*l.*——The extensive cemetery at Anfield Park comprises about 87 acres, besides 43 acres outside, which also belongs to the burial board. The principal entrance-gate is situate at the angle of junction of Mere-lane with Priory-road, Anfield-road, and close by Leigh-terrace. This gateway, says the *Albion*, in describing the cemetery, is divided in the middle by a tall clock-tower, of Gothic architecture. On each side there is a gatehouse, which, as well as the posts and clock-tower, are constructed of red sandstone, and all of them present kindred architectural features. From this entrance-gate a straight, wide, level avenue leads east to the chapel belonging to the Church of England. In almost immediate proximity to this gate, a wide level avenue curves off to the right hand, which, sweeping past the registrar's house and offices, leads south-eastward to the Non-conformist burying-ground and its chapel. Starting from the same point, in an opposite direction, a similarly-curved avenue leads north-eastward to the Roman Catholic burying-ground and chapel. The group of building which constitutes the registrar's house and burial-board offices is Tudor in style. Each of the three chapels externally presents features of a similar character. They are all of the Pointed Ecclesiastical style, and each is ornamented by a tall spire, all of them being built of the red sandstone already spoken of. At each end of the Church of England chapel workmen are busy in the building of a range of catacombs, which, when completed, will group less or more in combination with the chapel, and so, in a great measure, change the architectural arrangement of the composition. The chapel here referred to is larger than either of the other two. It is seated for the accommodation of 400 persons. The ranges of catacombs, which contain a ground and a sunk story, are capacious and well arranged. Each range is divided into two portions, those nearest to the Church of England chapel being designed for the reception of the bodies of members of that church; while the northern half of the north range is intended for Roman Catholics, and the southern half of the south range for Non-conformists; the different divisions of these ranges of catacombs being thus placed in nearest contiguity with the chapels to which they respectively belong. The cemetery has been acquired and laid out at a cost of nearly 100,000*l.*; of which between 50,000*l.* and 60,000*l.* were expended on the site, inclosing, and draining; 20,000*l.* to 30,000*l.* in preparing and laying out the surface; and 13,000*l.* in building the three chapels.

STAINED GLASS.

St. Alban's Church.—A stained glass window has been erected in the north aisle of St. Alban's Church, in memory of the late Mrs. Nield. The window consists of three lights and tracery, and is of the Decorated period. The subjects represented are "The Resurrection of our Lord," "The Raising of Dorcas," and "The Raising of Jairus's Daughter."

Powick Church.—Some windows have just been erected in this church; one at the east end of the chancel, also a south Decorated window and two north Early English lights, all within the altar rails. The windows are by Messrs. Lavers & Barraud, of London. Seven incidents in the life of our Lord are the subjects of the east window. The south and north lights contain respectively the calling of St. Peter and his release from prison, and the figures of St. Peter and St. Paul. The ground-work of all is of mosaic character. The tie-beams of the chancel interfere considerably with the effect of the window, but it was found impossible to remove them, except at greater cost than that of a new roof.

Bath Abbey.—The proposal to place a stained glass window in this abbey, in memory of Bishop Carr, formerly rector of Bath, has been favourably received, and the committee have already received encouraging promises of support.

Battlefield Church, Salop.—The old window at the east end of the choir of this church was, at the re-opening, filled with ordinary house glassing, with some few fragments from an old window, long demolished, interspersed. Of the old glass sufficient remained to show that the life of St. John the Baptist was the subject treated. As it was impossible from such slight materials to restore the window, the subject of it being also inappropriate, a new window, illustrative of events in the life of St. Mary Magdalene, to whom the church is dedicated, was decided upon, and the commission was intrusted to Messrs. Lavers & Barrawd, of London, by Lady Brinckman. As the window is of five lights, and like the church of Perpendicular character, five principal events in the life of St. Mary Magdalene have been selected for illustration; viz., "Mary at the Feet of Jesus," "Washing the Saviour's Feet with her Tears," "Following Jesus bearing His Cross," "The three Maries going to the Sepulchre," and "Jesus appearing to Mary in the Garden after his Crucifixion." These subjects are surmounted by canopies, and the space above and below is filled with varied compositions of emblematic floriated work. The centre picture, that of Christ bearing his cross, is relatively elevated. The small compartments in the head of the window are filled with figures of prophets and evangelists, on blue ground, and floriated work on ruby. This completes the series of stained glass windows in the church; twelve large and one smaller windows having been previously filled at the expense of her ladyship by the same artists. Lady Brinckman continues her restoration work, the latest advance being the restoration of the tower parapet and pinnacles. She has added a stained glass window, by Mr. Evans, of Shrewsbury, to the mortuary chapel, adjoining the church. A parsonage has also been erected, and improvements generally effected.

Bosley Church.—A memorial window has just been inserted in the south side of Bosley Church, executed by Messrs. Edmundson & Sons, of Man-

chester, for the late Earl of Harrington, of Elvaston Castle, near Derby, the landed proprietor. The expense of it has been contributed to by personal friends and the tenantry of Gawsworth and Bosley. The window is disposed in four pictorial spaces, the centre and principal of which is occupied by an illustration of the parable of the "Good Samaritan." The four minor pictures illustrate four acts of Christian charity, namely, "Feeding the Hungry," "Clothing the Naked," "Visiting the Sick," and "Giving Drink to the Thirsty." In the spaces above the pictures the sacred monogram, "I. H. S." is introduced with the "Alpha" and "Omega,"—the First and the Last; and in the apex of the window is a figure of an angel bearing a scroll, inscribed "Gloria in Excelsis Deo." At the base of the window the armorial bearings of the deceased are emblazoned with the inscription.

PROVINCIAL NEWS.

Sevenoaks.—A public meeting has been held, and a provisional committee appointed, with the view of forming a water company for the supply of Sevenoaks.

Worcester.—A new recreation-hall has been erected and opened at the County Lunatic Asylum at Powick. The old hall, which was formerly used as the chapel, was so confined in its proportions that it had become quite inadequate to the accommodation of a largely-increased number of patients to participate, at the same time, in that diversion of the mind by amusements, which has so beneficial an influence in alleviating and promoting the cure of insanity. In consequence, Mr. Rowe, the county surveyor, was instructed to prepare plans for the erection of a new one, which should provide the increased amount of accommodation necessary. Messrs. Wood & Son have erected the building. The room is about 70 feet by 43 feet wide, having a semicircular ribbed roof proportionately high, the springings of which are supported by pilasters. At one end is a recess, fitted up with a stage and other appliances, for the purpose of giving dramatic or other entertainments; and at the opposite end is a gallery, which affords additional accommodation if required. About 500 can be conveniently seated.

Aberystwyth.—A new company is being formed for the purpose of erecting a promenade and landing pier. The Local Improvement Commissioners have unanimously agreed to give every facility to the carrying out of the project. The next step is to obtain the consent of the Admiralty; and the company will be then registered under the provisions of the Limited Liability Act, and the works proceeded with. The proposed pier will be constructed of iron, and the design is ornamental. At the lower end of Pier-street an entrance will be erected, having a pagoda roof, surmounted by a flag-staff. The roadway will be supported by cast-iron pillars fastened in the rock below and the whole will be surmounted by a light iron balustrade. At the extreme end another small building is to be erected. It will be built exactly in a line northward with Pier-street, about 250 yards to the sea, and will be 15 feet wide and 12 feet 4 inches above high-water mark. It will be similar to the one lately erected at Deal. The Company's engineer is Mr. E. Birch, of Westminster. A similar scheme is in contemplation at Llandudno, North Wales, planned by Messrs. Wyatt & Metcalfe, of Westminster.

Turnditch (Derby).—Through the exertions of the incumbent and inhabitants a fund is being raised to erect a new parsonage. A sum having been collected, it was determined, says the *Derby Advertiser*, at once to proceed with the building; and the contract of Messrs. W. & C. Bridgart, of Derby, was accepted, from designs furnished by Messrs. Giles & Brookhouse, architects. Half an acre of land has been given by the Right Hon. Lord Scarsdale for the site, which commands an extensive view. His lordship has also laid the foundation stone.

Burton.—The foundation-stone of the new bridge in place of the very old one built by the monks of Benton Abbey in Saxon times, has just been laid. The new bridge is to be a stone structure, consisting of thirty-two arches; and the width of the carriage road is to be 20 feet, besides two footpaths.

Sheffield.—In their report, the directors of the new Victoria Hotel state that the building is completed. The special foundations, which the nature of the site had rendered necessary, had been put in by Messrs. Craven, under the direction of Mr. Hadfield (the company's architect), who previously took the advice of Mr. John Fowler, C.E. The hotel has been built by Messrs. Chadwick. The stables, which it had been decided to erect, would be completed by the end of March. The cost of the hotel and stables had involved an outlay larger than the subscribed capital.

Doncaster.—The Town Council have at length taken a decisive step towards a further improvement in the markets. The vacant space lying between the Corn Exchange and the road known as the Back-lane, comprising an area of 1,870 square yards, is forthwith to be converted into a covered market for the sale of wool during the season, and at other times for the sale of sheep, for which purpose portable pens will be provided. The roof will be similar to that of the Corn Exchange, supported by cast-iron pillars and girders, and glazed at the top. The side next the Back-lane, and also the one adjoining the property of Mr. Rhodes, will be built up; the others being left open, with the exception of an iron palisade and a gate fronting the Corn Market. The cost of the whole is estimated to approach nearly 2,000*l.* When completed, it is purposed to have pens for the sale of cattle and sheep in the Parsonage-yard; and other works affording extended accommodation will be commenced.

Rotherham.—At the usual meeting of the local board, a letter was read from Mr. James Yates, of Oakwood House, in reference to the proposed supply of water to the town, in which he observed that as many difficulties arose in reference thereto he would suggest the following scheme for the consideration of the board:—That a filter should be formed in the bed of the river, or in land now unoccupied and partially excavated near the works, with such arrangements as to allow the present pumps to lift the water from it, and at the same time force it through the present pipes into an additional reservoir at Boston Castle or at Moorgate. This letter had been forwarded to Mr. Lawson, C.E., who, reporting upon it, expressed an opinion that the plan proposed by Mr. Yates would be exceedingly inconvenient, complicated, and unsatisfactory in its working. The board decided to inform Mr. Yates that his plan was considered impracticable.

Wearmouth.—A loan of 100,000*l.* has been granted by the Loan Commissioners for the contemplated dock extension on the Wear.

Leith.—The new graving dock, just finished at Leith, has been publicly opened. This dock is of large dimensions, being 380 feet in length and 70 feet in breadth, and is spacious enough to accommodate vessels of the largest tonnage.

THE ARCHITECTURAL ASSOCIATION.

THE usual meeting of members was held on Friday evening (the 6th inst.), at the House, in Conduit-street.

The chair was taken by the president, Mr. Blashill.

The following gentlemen were, on ballot, elected members of the Association:—Mr. Parsons, Admiral-terrace, Pimlico; Mr. B. Fletcher, jun., 28, Great George-street, Westminster; and Mr. H. A. Reeves.

The President announced that, since the last meeting, arrangements had been completed for forming a class in connexion with architectural examination; and that certain rules had been agreed to by the committee for its government. Members joining the class would be called upon for the payment of a small fee (five shillings each), to defray the necessary expenses, which it was hoped would not be objected to. The class would be conducted under the president and vice-president, and the secretaries would be the honorary secretaries of the class of design (Mr. E. J. Tarver and Mr. L. W. Ridge). It was considered by the committee most desirable to invite the assistance of Mr. Tarver, whose experience in the class of design was considerable. The President concluded by expressing a hope that a large number of members would avail themselves of the class, which he believed would be found most useful, especially to those who desired to pass the architectural examination with advantage to themselves and credit to the Association.

Mr. R. Phèné Spiers then read an elaborate notice, illustrated with diagrams, entitled "The Architecture of Napoleon III.," and which had mainly reference to the rapid development of Parisian improvements since the accession of the present Emperor.

At the conclusion a brief discussion ensued, which terminated in a vote of thanks to Mr. Spiers for his paper.

It was announced that the next drawing in the class of design would be an oriel window, or bay window with shutters; and that, at the meeting on the 20th inst., a paper would be read by Mr. R. O. Harris; the subject Gothic Woodwork.

Books Received.

The Law of Art Copyright: with Introduction, Notes, and Appendix. By E. M. UNDERDOWN, Esq., of Inner Temple, Barrister-at-Law. London; Crockford, Wellington-street, Strand. 1863.

THIS is a useful and trustworthy compendium of the various Acts relating to engraving, sculpture, designs, paintings, drawings, and photographs; and copyright, national and international. The appendix contains the evidence communicated to the Society of Arts on piracy of works of art, and forms for the use of artists, &c. There is also a table of cases cited. The work is dedicated, by permission, to the Lord Chancellor.

The Act protecting painters, draughtsmen, and photographers, is that which has just been added to the statutes securing to the authors and originators of works of art the copyright in their productions. This is a new and important step towards the completion and perfection of the series of parliamentary enactments on the subject of art-copyright. From the time of Hogarth, who caused the first Bill to be proposed, as remarked by Mr. Underdown, these statutes had gradually extended and facilitated the remedies of engravers, designers, and sculptors, against piracy, but had strangely omitted the right of painters as such, and only affected them as designers or painters of dioramas. Nor did they, on the other hand, secure the public from the frauds of copyists and imitators; nor from the results of some questionable practices of artists themselves in *repeating* works already disposed of, and of signing those which they had not executed. The criminal law also gave but little protection, as it had been decided that the affixing a false name to a picture was not a forgery.

The Act which forms the foundation of the present work seems to provide against most of these frauds; but the whole question cannot yet be considered settled. What is wanted is that the numerous Acts now in existence should be made to give place to one clear and comprehensive Act in which, moreover, the claims of architecte, as we have before now urged, should not be overlooked. Mr. Underdown's volume is opportune.

Evidence as to Man's Place in Nature. By T. H. HUXLEY, F.R.S. Williams & Norgate, Covent Garden. 1863.

MR. HUXLEY, with an enthusiasm which every one must admire, however much differing from him in some of his conclusions, styles his present and favourite subject "the question of questions for mankind,—the problem which underlies all others, and is more deeply interesting than any other,—the ascertainment of the place which man occupies in nature, and of his relations to the universe of things." But admitting that the "*Nosce teipsum*" is the most important of all subjects to man; this significant emblazonment on the gates of ancient temples, when comprehensively and rightly understood, comprises much more than Mr. Huxley appears to accord to it. The origin of man, whether from apes or from dust, is a minor question altogether by comparison with the capabilities and destinies of his nature; and the author of the "Vestiges of Creation" took a more comprehensive view of this great question when he included within its limits, not only man's origin, whether in the womb of nature, or in that of his own more immediate parent, but *also his prospects*, as an inhabitant of the planet which, *at present*, he is the head. That author, at all events, did not overlook the possibility that man, as he at present exists, is not the highest form of human development,—that just as it has been supposed that the ape tribe are, as it were, the fœtus of mankind, still unborn into manhood, so may man be but the maturing infant on the way to a second birth, into a higher life upon the planet even than human life,—a life, may it be, of such Divine grandeur that we can as yet have little or no conception of its glory, as the crown of all creation? These, let us hasten to observe, are not quite the terms in which the author of the "Vestiges" speaks of such a possibility; but what he suggests is indicative of just such a splendid destiny for man, even upon the principles of development which are so repulsive in their nature to the minds of many. That there is good ground in Scripture for this prospect

phase of the "Vestiges" doctrine, whatever there may be as to the retrospective, seems to be evident enough, in many such passages as those allusive to "the whole creation groaning and travailing together in pain until now," that a new birth is to be accomplished, at "the restitution of all things," from a lost state of perfection which once existed on this planet, and which is again to exist, at the second and final coming (in man) of Him into the likeness of whose "glorious body" those who are alive at his coming shall "suddenly" have their "vile bodies" changed. Here is an organic and physiological "development,"—and by a special law of spiritual *election*, at least, if not by that of natural *selection*,—of which Mr. Huxley, perhaps, has little dreamt as yet; and this, let us suggest to him, is far more like "the question of questions for mankind," than the particular phase of it which alone he has yet discussed. The Lord of Life can raise up "sons" from the "dust,"—from the very "stones,"—far less from the inferior or fœtal orders of animal life; but the grand and prospective question is, what *are* these "sons of God," for whom "the creature waiteth," and who are to be "manifested" on the face of this very planet, which they are destined to "inherit" as "heirs," and no longer to pass from as "pilgrims?" and how may we attain to such sonship, or "hasten" its coming?

Reverting, however, to Mr. Huxley's support of Darwin's doctrine, we may quote a passage or two, from his present work, which shall more or less summarise his ideas to such of our readers as may not as yet know much of these crude germs, as we must call them (and as we doubt not Mr. Huxley himself regards them), of this peculiar doctrine of the origin and nature of man.

"On all sides I shall hear the cry,—'We are men and women, not a mere better sort of apes, a little longer in the legs, more compact in the foot, and bigger in brain than your brutal chimpanzees and gorillas.* The power of knowledge, the conscience of good and evil—the pitiful tenderness of human affections, raise us out of all real fellowship with the brutes, however closely they may seem to approximate us.' To this I can only reply that the exclamation would be most just, and would have my own entire sympathy, if it were only relevant. But it is not I who seek to base man's dignity upon his great toe, or insinuate that we are lost if an ape has a hippocampus minor. On the contrary, I have done my best to sweep away this vanity. I have endeavoured to show that no absolute structural line of demarcation, wider than that between the animals which immediately succeed us in the scale, can be drawn between the animal world and ourselves; and I may add the expression of my belief that the attempt to draw a psychical distinction is equally futile, and that even the highest faculties of feeling and of intellect begin to germinate in lower forms of life. At the same time no one is more strongly convinced than I am of the vastness of the gulph between civilized man and the brutes; or is more certain that whether *from* them or not he is assuredly not *of* them. No one is less disposed to think lightly of the present dignity, or despairingly of the future hopes, of the only consciously intelligent denizen of this world."

This last remark we must, in justice to Mr. Huxley, specially allude to, as indicative of something like a prospective glance after all, as well as a retrospective; but we are not aware that he has ever contemplated anything like such a distinct organic and physiological development of man's whole nature on the face of the earth as we have just indicated.

In respect to the much-mooted "hippocampus minor" question, we may here observe that there is a circumstance in connexion with the organization and development of the great brain which no one seems to have kept clearly in view in course of the discussion on this question. The great brain, as Tiedemann and other anatomists have demonstrated, is developed from before backwards; and what is called the middle lobe in fact originates in a great fold forward, from behind, of the cerebral membrane; so that the middle or lower lobe is in one sense the true posterior extremity of the great brain: a rough idea of this (apart, of course, from the crural radiations) may be had by folding a pillow, for example, so that one end shall underlie the remainder: this underlying end is comparable to what is called the middle lobe, which is, therefore, the true posterior extremity of the great brain, as opposed to the anterior extremity. It is not for us here to point out how such a fact may be brought to bear upon the great hippocampus minor question: we would merely suggest that it ought to be kept more distinctly in view than it appears as yet to have been.

Mr. Huxley's opinion as regards the antiquity of man may be gathered from the following passage: "The fossil remains of man hitherto discovered do not seem to me to take us appreciably nearer to that lower pithecoid form by the modification of which he has, probably, become what he is." The exceedingly ancient skulls lately found, in other words, he thinks, do not indicate anything like the discovery of "the missing link" between man and the ape tribes. And indeed, if the doctrine of the "Vestiges" be taken, that nature can retrograde as well as progress, how are we to know, even had these skulls denoted the existence of a race decidedly lower than the human, that that race was not a degradation or a retrogradation, or falling away, from a still more ancient state of higher development, such as even the most highly civilized of modern human beings have not as yet re-attained? Moreover, as one may legitimately argue, *ad homines*,—or taking the Vestigian and the Darwinian doctrines for granted,—why may not the ape tribes themselves be immediate or direct degradations or retrogradations of the human form, rather than immediate or nascent developments of still lower organisms? There has been plenty of time, *ex hypothesi*,—there have been millions, billions, trillions of years, during which mankind *may*, on this hypothesis, have come to maturity, fallen off, or retrograded, and again progressed; and such cycles may, on such an hypothesis, have even been over and over again accomplished. In short, if we are to be allowed to open up the question of man's origin at all, in the way the Darwinians and Vestigians have done, it is hard to say where we should, could, or must stop; especially since the facts and inferences as to the geological origin of granite seem to show that we have no trace whatever of the actual foundation and origin of the solid crust of the globe; the most ancient of all strata having probably been long since melted down into fluid granite on which the still remaining strata float.*

The Management of Steel. By GEORGE EDE. London: W. Tweedie. 1863.

THE best answer we can give to a "Working Man" who asks us how to temper without warping the tools he makes for himself is to point attention to this shilling's-worth of information on the subject. It is written by a practical man, and gives the result of personal experience in forging, hardening, tempering, and shrinking; also as to the case-hardening of iron.

VARIORUM.

"THE Six Standards of Arithmetic: Standard 2nd; containing a Graduated Course of Exercises in Numeration, Addition, and Subtraction; with Methods of Solving the Questions. By Walter McLeod, London: Longman & Co., 1863." Mr. McLeod is Head Master of the Model School and Master of Method at the Royal Military Asylum, Chelsea, and author of several other arithmetical works. The series under notice is designed for the use of schools and families; and from the simplification effected, it seems well adapted to the purpose in view. In an appendix is a note on the Roman notation which so much bothers the memory of every one, and for the refreshment of which memory we shall quote this note, with the exception of a table connected with it:—

"In the early periods of the Roman Notation, *four* was written IIII, instead of IV; *nine* was written VIIII, instead of IX; forty was written XXXX, instead of XL, &c

Five hundred was originally written Iↀ, instead of D, and a *thousand* C Iↀ, which was changed into M. The number Iↀ is increased in value *ten times* for every ↀ annexed. Thus, Iↀ = 500; Iↀↀ = 5000; Iↀↀↀ = 50,000, &c.

The number C Iↀ is increased in value *ten times* for every C and ↀ prefixed and annexed to it. Thus, C Iↀ = 1,000; C C Iↀↀ = 10,000, &c. The letters Iↀ are not now in use.

Among the Romans each I represented a finger; the whole hand spread out represented *five*. This character was afterwards written V. The letter X is merely two fives written one above the other; thus, (V/Λ)

C, the initial of *Centum*, the Latin for one hundred, was often written [: this character, cut in two, will leave L, fifty, for its lower half.

M, the initial of Mille, the Latin for one thousand, was originally written C Iↀ. The right hand portion of this character is Iↀ, which represents five hundred, and is now expressed by D."

Without recollection of this notation the dates on some Italian monuments are illegible.——"Reports of the Inspectors of Factories." The reports of Mr. R. Baker and Mr. A. Redgrave for the half-year ending 31st October, 1862, to the Home Secretary, have been issued in the shape of a small blue-book. It contains some interesting information as to the factory people of Lancashire and the relief fund distribution. In reference to the employment of women in the factories, Mr. Baker says:—

"We complain of the low state of morality amongst the working classes, without remembering to what late hours the sexes are congregated, and to what influences they are exposed in going to and returning from work; and that they are almost without moral supervision, and we will not see that female labour in factories, even though it may be necessary, is at variance with domestic teaching, and that for the sake of the wages which it brings everything that is good and holy in the female character is too often sacrificed. Happy, indeed, will it be for the manufacturing districts of England when every married woman having a family is prohibited working in any textile works at all; for it is contrary to the course of all nature that mothers should have to deposit their nurslings with some friend or neighbour, or perhaps in some institution established for that purpose, whilst they go out to work for the family living. We should then have less infantile convulsions, less of disease from Daffey's Elixir and Godfrey's Cordial, and perhaps fewer deaths to record. And happy will it also be when no females shall labour in any such works after six o'clock at night, and when every child in them shall be educated as a matter of course in conjunction with employment; when our young men may have leisure to betake themselves to night schools, and our young women to female guidance and instruction. We could lay these propositions down as a broad principle to be kept, without violating any shred of class liberty, and without in any way interfering with the spirit of commercial enterprise, and society would be endlessly the better for it. They are the great and sacred principles of the Factory Acts, which, whilst they have conferred the highest benefits on the working classes, have neither diminished production nor lowered wages, but have increased both; and thus they commend themselves not less for their beneficial than for their practical excellence."

Both Mr. Redgrave and Mr. Baker appear to do their work well.

Miscellanea.

DESTRUCTION OF A CHURCH BY FIRE.—The fine old parish church at Westerleigh is now in ruins, from a fire which commenced, after Sunday service, in the roof, and communicated to the interior. The tower and west end are comparatively uninjured. The cause of the fire is supposed to be the overheating of the pips of one of the stoves, or the firing of some soot which had gathered near the roof, and the consequent ignition of some of the timber. We are indebted to the mildness of the winter much rather than to any teaching of experience for the comparative infrequency of such accidents this last season.

* By the way, in the dread procession of skeletons which constitutes the frontispiece to Mr. Huxley's book, it is quite clear that neither the skeleton of the gorilla, nor that of the chimpanzee, is by any means so like that of man as the skeleton of the gibbon which he places at the tail of the procession.—ED. B.

* It is interesting to observe, as we have done since the above was written, that the idea of Retrogression, to which we pointed attention in 1860, has just been started in the Ethnological Society, at its last meeting; when it was suggested, in reference to the two ancient skulls which Mr. Huxley treats of in the work under notice, and also in reference to the vestiges from the drift, that, "so far as such evidence goes, it might be inferred that there was a retrogression to apes from man, rather than a development of that from apes." As this idea of retrogression is likely to react signally on the Darwinian and other theories of development, we hope we shall be excused for quoting from what was said on this subject in the *Builder* on 24th March, 1860 (p. 199), especially as we there showed clearly that the theories both of development and retrogression are of exceedingly ancient origin:—

"Few are aware, we dare say, that the doctrine of Lamarck and the 'Vestiges,' is as old as the time of Plato and the ancient Egyptians: yet the fact is easily proved. Let us first of all just glance at what the 'Vestiges' theory comprises. In the first place, it comprises the idea of a progression from lower to higher animal forms, not ending, probably, upwards, even with man, but ascending to some god-like shape not yet 'developed.' Thus the author speaks of 'preparations for, and causes of, the possible development of higher types of humanity;' the mundane economy being 'very well as a portion of some greater phenomenon, the rest of which has yet to be evolved;' the present system being 'but a part of a whole, a stage in a Great Progress;' and 'the Redress is in reserve.' Again, the 'Vestiges' doctrine comprises retrogression as well as progression: thus the author speaks of certain facts indicating 'an unequivocal retrogression towards the type of the lower animals;' adding that 'we see nature alike willing to go back and to go forward.' Keeping these points in view; and also what is said generally of man—of 'the adult Caucasian, the highest point *yet* attained in the animal scale,'—that 'his organization *passes through* conditions generally resembling a worm, a fish, a reptile, a bird, and the lower mammalia, before it attains its specific maturity;'—let us now turn to the ancient books ascribed to Hermes Trismegistus, which the sages of the Theocratic Egypt, possessed; which Iamblichus respectfully alludes to; and which Plato not only speaks of having seen, but appears to have been indebted to for some of his ideas in relation to the hermaphroditic or twofold nature of man, human and divine. An English translation, of old date, of some of these same books, exists in the National Library; and it is from one of these, on 'Regeneration,' that we quote:—

'They which are of creeping things [worms?] are changed into those of watery things; and those of things living in the water to those of things living upon the land, and airy ones, and are changed into men and human souls, that *lay hold* of immortality, and are changed into daimons [genii, not "devils"]. And so THEY GO ON into the sphere or region of the *fixed gods* .....And *this is the most perfect glory of the soul.* But the soul, entering into the body of man—for from one soul of the universe are all these souls,—if it continue evil [if it do not progress into the region of the fixed gods, and there *abide*], *shall neither taste immortality*, nor be partaker of the Good; but, *being drawn back the same way, it returneth into creeping things.* And this is the condemnation of an evil soul. And the wickedness of a soul is its ignorance.'

Here is much more than a mere disjointed trace of an ancient doctrine of metempsychosis, more vast in its comprehensiveness than any other we have ever yet seen or heard of."

ARCHITECTS' BENEVOLENT SOCIETY. — On Wednesday afternoon this society, established in 1850 for the relief of distressed members of the profession, held its annual meeting; Mr. Sydney Smirke, R.A., in the chair. We will give particulars next week.

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.—At the meeting last week, Mr. F. Y. Hurlstone, President of the Society of British Artists, delivered an interesting lecture on satire and satirists. The lecturer gave a luminous account of the genius of satire and the works of the great satirists of all countries, from the earliest times to the present; as Horace, Juvenal, Terence, Swift, Byron, &c.; illustrating his remarks by numerous examples.

THE DRINKING FOUNTAIN MOVEMENT.—Two drinking fountains are to be erected, one at Peckham-rye-common, and the other in High-street, Peckham.—Mr. Joseph Betteley, of Stapeley, near Nantwich, is about to present the inhabitants of Nantwich with a drinking fountain, manufactured at A. McDonald's Polished Granite Works, Aberdeen, to be erected at the front of the Town-hall. The fountain is of polished granite, and was to be opened to the public on the 10th instant, the day of the Prince of Wales's marriage.

A PARK FOR FINSBURY.—At a special meeting of the Metropolitan Board of Works on Wednesday in last week, Mr. Savage described the steps taken by the inhabitants of Finsbury in order to obtain that which they considered a public necessity. The original estimate had been 216,000*l.* for 300 acres: this was thought too much, and was afterwards reduced to 230 acres. Having failed in getting even this, it was proposed to have a park of 130 acres; but on looking at the map he found that buildings had been erected on about twenty or thirty acres which, to save expense, he proposed to leave out, reducing the area to from 86 to 100 acres, which could be had at a cost of under 100,000*l.* He then moved to the effect that the necessary proceedings should be taken by the board towards the formation of a public park in the northern suburbs, and defining the boundaries of the ground to be purchased. After a considerable discussion, on a division there appeared —for the original motion, 10; against, 10; the casting vote being given in favour of the original motion.

LIGHT-HEADED LADIES.—A new feature in the application of gas to domestic purposes is said to be on the point of introduction here, says the *American Gas-Light Journal*. "Fire-flies of gold and brilliants already sparkle upon the graceful white feathers and fresh green leaves that adorn the brows of some of our youthful queens. Clusters of diminutive gas-lights are now to spring from the elaborate tresses of beautiful matrons: the jets will issue from burners measuring a twentieth of an inch per hour, within transparent shades exquisitely cut, not larger than a cherry. The tubing is to be of solid gold, connected with a reservoir [a gasometer, we presume] of the same valuable metal, which is to lie concealed in the meshes of luxuriant hair behind the head! The pressure will be applied to the golden tank, which is supported by an elaborate back comb, the top of which forms a row of little gas-lights. Before entering the ball-room, the husband will 'turn on the gas;' light up his blushing bride; and usher her into her sphere of conquest; revolving, like her prototype, the moon, among the lesser lights around!"

SCULPTURE AND THE ROYAL HORTICULTURAL SOCIETY.—Our readers will recollect that not long previously to his lamented death, the Prince Consort suggested opening this society's garden at South Kensington for the reception and exhibition of works of sculpture, in the belief that, while for the time it would contribute to the decoration of the garden, it would also give a permanent impetus to this branch of art. The council, in following out the course thus indicated, have made arrangements for holding an exhibition of sculpture in the garden during the months of May, June, and July in the present year; and have invited the Sculptors' Institute to take the charge of the exhibition, with full power to decide upon the reception or rejection of the works, and all other details relating to the management. The Sculptors' Institute have accepted the duty, and have appointed the following gentlemen to be a committee for the purpose, viz.:—H. Calder Marshall, R.A., H. Weeks, R.A., T. H. Foley, R.A., W. F. Woodington, and Edward B. Stephens. The Royal Horticultural Society have devoted a sum of 500*l.* for the purchase of one or more approved works of high art which may be shown at the proposed exhibition.

THE BARRY MEMORIAL.—Mr. Foley has completed the life-size model, in clay, of the late Sir Charles Barry, to be placed, when in marble, in the Houses of Parliament. The architect is sitting, dressed in a loose wrapper, and contemplating a drawing-board held in the left hand, nearly upright, and resting on his knee. The right hand, hanging down in repose, holds a pencil. The statue is broadly treated, and those who knew Sir Charles best are said to be well satisfied with the likeness.

INTERESTING DISCOVERIES AT POMPEII.—We lately gave an account of the discovery of a mould, in the solidified ashes, of an ancient citizen of Pompeii, whose "statue," in all its natural proportions, and its native garb, was afterwards got by pouring plaster of Paris into the mould. A discovery of even greater interest has since been made, in the moulds of two women, apparently a mother and daughter, in postures which mournfully record the anguish of their last moments. Here the texture of the dress is more faithfully preserved: the arms were covered with sleeves, reaching to the wrist, and the feet were encased in embroidered shoes. In the neighbourhood of the bodies were found two pairs of earrings, a golden finger-ring, two iron keys, and a hundred pieces of money, probably the household valuables which the unhappy victims were endeavouring to save from destruction. M. Fiorelli has been quite as successful in his casts of these figures as in that of the man previously discovered.

PRINCESS'S THEATRE.—A dramatic version of Miss Braddon's "Aurora Floyd" was produced here on Wednesday evening with considerable success, Miss Sedgwick playing the heroine with delicacy and force. The chief honour, however, in respect of acting, belongs to Mr. G. Belmore, who, as *Stephen Hargreaves*, "Softy," displayed a power which few have given him credit for. It was a remarkable piece of acting, justifying the expectation we expressed not long since. Mr. Herman Vezin, as *John Mellish*, Mr. Seyton, as the dog-stealer *Harrison*, and Mr. Roxby as *Conyers*, the scoundrel author of all the after-sorrow, contributed to the success of the piece. The part of *Talbot Bulstrode* wants an actor of more experience than its present representative. The scenery, without making any great claims for admiration, is good and appropriate, especially the Exterior of Felden House by Moonlight, the interior with its lamps and furniture seen beyond; and that of the North Lodge with the park gates.

COMMITTEE OF FINE ARTS; SOCIETY OF ARTS. The council have appointed committees under several heads. The committee on fine arts met on Tuesday, the 3rd; Sir Thomas Phillips, chairman of the council, in the chair. The chairman having invited the committee to suggest any subjects connected with fine art in which they were of opinion that investigation could be usefully made through the agency of the society, it was resolved to recommend the subjects of frescoes, mosaics and glass-painting, and pigments, as matters to which the attention of the society might be advantageously directed. The committee were further asked to assist in the preparation of the new list of premiums about to be issued by the society, by recommending any subjects bearing upon the fine arts for which premiums might be offered; and it was arranged that a circular for this special object be sent to each member of the committee.

REPORT OF SURVEYOR TO CITY SEWERS COMMISSION.—The usual report (for 1862) of Mr. Haywood, the engineer and surveyor to the City Sewers Commission, has been printed. The total length of new sewers built during the past year was but 888 feet, of which 396 feet were reconstructed upon the line of old sewers. The total number of premises drained was 171, and the approximate number known to be drained at end of 1861 was 13,184, leaving 2,645 about the drainage of which nothing is known. Various improvements have been effected during the year in setting back fronts of premises and otherwise. The gas question occupies some share in the report, but of this we took note in separate reports of Mr. Haywood and Dr. Letheby. No additional drinking fountains have been erected in the City during the year, and indeed there are but five within the jurisdiction of the commission; and some, if not all of these, we may remark, appear to have been stopped running for the winter; why, we cannot understand; for it is not during summer alone that there are "thirsty souls" who might be induced to prefer a pull at the fountain to one in a public-house. We are glad to observe, by the way, that two fountains are being erected in the King's Cross Railway Station.

THE HOUSES IN BRIDGE-STREET, WESTMINSTER.—In answer to Sir J. Shelley, in the Commons, Mr. Cowper states that all the houses on the south side of Bridge-street will be cleared away before the close of next year. All the tenants had been agreed with except two, one of whom was the leaseholder of Fendall's Hotel.

LOCKS. — The Prince of Wales has appointed Messrs. Chubb & Son, of St. Paul's Churchyard, as "Lock Makers and Safe Makers" to his Royal Highness. In connexion with this we are asked to mention, that Messrs. Chubb & Son manufactured the locks for the mausoleum of the late Prince Consort, an engraving of which appeared in our pages recently.

RAILWAYS IN SWEDEN.—The official Swedish Telegraph Report informs us, that the Swedish telegraph net has advanced from 10 geographical miles in 1853 to 689 in 1861; the total amount of wires being 983 geographical miles, while the number of stations has increased from two to sixty-eight. In 1861 the number of telegrams was 169,038, the income 513,044, and the clear gain to the State 69,142 Swedish dollars.

A NEW USE FOR SAWDUST. — We have heard of bread being made of saw-dust; but to dye it into a similitude of manure beats wooden nutmegs hollow. In a recent case at the Clerkenwell police-office, in which two women had poisoned themselves with copperas in the house of a sweep; one of the witnesses said the copperas was used by the man Clark "in his business" as a sweep. A police constable explained that Clark told him he used it for dyeing sawdust to sell to the farmers as soot!

MIDDLE-ROW, HOLBORN.—A deputation from the Holborn District Board of Works, accompanied by their surveyor and clerks, recently waited upon the Hon. W. Cowper, chief commissioner of public works and buildings, at the office, Whitehall-place, to represent to him the desirability of making the cost of the removal of Middle-row a charge upon the coal and wine duties, for the continuance of which a Bill is now being prosecuted in Parliament. Sir S. Morton Peto, bart., M.P., introduced the deputation. Mr. Cowper said the present Bill simply proposed to continue the duties for a specified period, and that it would be for a subsequent Bill to determine the precise localities in which the revenue should be expended. He quite concurred with the deputation in thinking that the bridging over the Holborn valley would be incomplete without the removal of Middle-row, especially when the traffic from the new station to be erected by the London, Chatham, and Dover, and Metropolitan, Railway Companies was taken into account. He should have much pleasure in assisting the deputation to the attainment of their views at the proper time.

GAS.—It having been deemed necessary to add a third gasholder to the two already existing at the Kettering Gas Works, tenders were sought per advertisement for the erection of the same, the following being sent in by contractors:—J. & W. Horton, 530*l.*; W. Mabon & Co., 516*l.*; Stride & Aitken, 505*l.*; S. Cutler & Co., 500*l.*; R. Whitehouse, 498*l.*; Geo. Cutler & Co., 480*l.*; J. Cliffe, 478*l.*; J. H. Little, 460*l.*; J. Wooler, 444*l.*; C. & W. Walker, Salop (accepted), 444*l.* Tank and Works:—Butlin & Barlow, 239*l.*; J. Margetts, 208*l.* 10*s.*; Wm. Henson, Kettering (accepted), 199*l.*; J. Birkett, 189*l.*——The price of gas is to be reduced at Abergavenny from 6*s.* 10*d.* to 5*s.* 10*d.* per 1,000 feet; the 10*d.* also to be deducted as discount for prompt payment.——The Howden Gas Company have reduced their price from 7*s.* 6*d.* to 6*s.* 8*d.*, and declared a dividend of 6 per cent., free of income-tax.——The Bromley Gas Company have declared a dividend of 10 per cent., leaving a balance of 305*l.*,—150*l.* for the formation of a new reserve fund, and the remainder to the credit of the profit and loss for the current year. They have also largely extended their mains, and increased their consumption.

TENDERS.

For road-making, Yensing Station, Eversfield Estate, St. Leonard's. Mr. F. H. Fowler, architect:—

Sawyer	£694 0 0
Kenwood	585 0 0
Burchell	551 0 0
Hughes	545 0 0
Wright	494 0 0
Word	475 0 0
Howell (accepted)	474 0 0

For rebuilding part of Nos. 23 and 24, Philpot-lane, for Mr. Hinckcliff. Messrs. Tress & Chambers, architects:—

Brass	£997 0 0
Axford	900 0 0
Hardman & Sandon	890 0 0
Macey	878 0 0
Ashby	620 0 0

For house and stabling, at Winchmore-hill. Mr. T. C. Clarke, architect. Quantities supplied:—

Ladds	£1,847 0 0
Mansfeld & Sons	1,800 0 0
Ashby & Sons	1,763 0 0
Lawrence & Sons	1,742 0 0
Browne & Robinson	1,735 0 0
Patman & Fotheringham	1,698 0 0
Cushing	1,695 0 0
Sharpington & Cole	1,613 0 0

For a house to be built at Gainsborough. Messrs. Bellamy & Hardy, architects:—

Wilson	£2,984 0 0
Huddleston	2,903 15 0
Taylor (accepted)	2,873 1 0

For the erection of a pair of houses, at Hornsey-rise, for Mr. Joseph Spawforth. Mr. Edward Low, architect. Quantities not supplied:—

Newman & Mann	£1,686 0 0
Langtree	1,678 0 0
Sale	1,525 0 0
Sleap	1,519 0 0
James & Ashton (accepted)	1,517 10 0

For building National Schools, Abergwill, Carmarthen. Mr. Withers, architect.

David	£1,631 0 0
Howell, Morgan, & Williams	1,433 0 0
Williams, Richards, & Williams	1,351 6 0
Davies & Son	1,295 10 0

For finishing a villa in Wimbledon Park, for Mr. E. O. Coe. Mr. Charles Lee, architect. Quantities supplied:—

Adamson & Sons	£843 0 0
Aviss & Son	800 0 0
Aries (accepted)	799 0 0

TO CORRESPONDENTS.

Protestant Church, Montpellier.—Some competitors are inquiring the result of the competition.

C. B. K.—E. B. (it appears to be postponed *sine die*).—G. B. (We have before now stated it).—G. B. B.—E. D. & Co.—J. R. N.—A Builder (apply to a qualified land surveyor).—A Constant Subscriber.—R. L. (exempt).—G. W.—Subscriber from Commencement.—J. D. S. (Trebnavl).—F. R. N. H.—J. B.—Mr. B.—W. F. P.—E. L.—E. R.—A. T. (next week).

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than FIVE o'clock, p.m., *on Thursday.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No.* 1, *York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

THE *Times*, May 7th, speaking of Benson's Watches in the Exhibition, says:—"Undoubtedly, however, the finest show in this respect is made by Benson, who offered prizes for designs for watch-cases at the South Kensington Museum, and who by this means has secured some of the most exquisite ornamental details for watch-cases that are shown in the building." Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch, from the plainest to the highest quality of which the art is at present capable, and adapted to all climates. Benson's Illustrated Pamphlet on Watches (free by post for two stamps), contains a short history of watchmaking, with descriptions and prices. It acts as a guide in the purchase of a watch, and enables those who live in Scotland, Ireland, Wales, the colonies, India, or any part of the world, to select a watch, and have it sent free and safe by post. J. W. Benson, Prize Medallist, 33 and 34, Ludgate-hill, London.—Established 1749.—[Advt.]

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WANTED, a First-rate WORKMAN accustomed to Gothic work.—Apply by letter, with references, &c. to Messrs. SKIDMORE & CO. Alma-street, Coventry.

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By order,
ROBERT PAGET.
Vestry Hall, Clerkenwell, March 12th, 1863.

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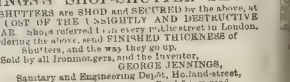


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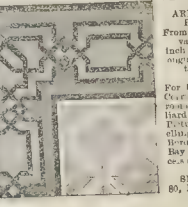
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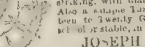
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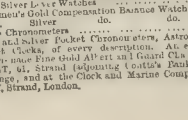
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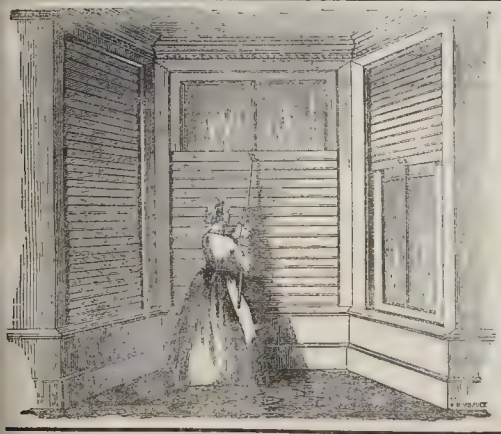
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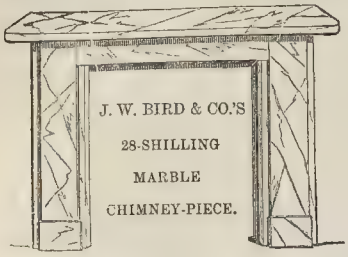
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WELL-BORING TOOLS,
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INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.
The only MEDAL for "STONEWARE PIPES" has been awarded to
HENRY DOULTON & CO., LAMBETH.
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"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
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Manufactured by
CARLESS, BLAGDEN, & CO
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Samples, Testimonials, &c. may be had on application, or by letter to "The Works;" or of KENWAY & CO. 19, Mark-lane, City, E.C.
Every cask or can sent out bears the registered Brand of the Firm, without which they will not guarantee it to be of their manufacture.

TO REMOVE or CLEAN OLD PAINT, VARNISH, &c. use
NAENIARE & CO.'S PATENT LETHICIUM,
which does it in twenty minutes. Sold at 2s. per gallon. Also Brushes to apply and remove, 2s. per pair.—For particulars, apply at 11, St. Andrew's-hill, London, E.C. Stamps guaranteed.
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No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' and Graiuers' Tools
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

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One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his own interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 35, High street, Marylebone, London, W.
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Is continued by his Successors,
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Where the TRADE is supplied with the same superior quality that made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa Nut Matting, Mats, &c. See Catalogue.

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And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W.
Established 1777.
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Linseed Oil, 3s. 6d. per Gallon; Boiled Oil, 3s. 10d. per Gallon.
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Fine Pale Oak Varnish, 8s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Chichester-street, Pimlico, S.W.
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OXIDE of IRON PAINT, patronized by all the principal engineers, has a greater body than lead, and is 20 per cent. cheaper; prevents corrosion of iron. Warranted genuine. Sold by T. ALLEN, 7, Great Smith-street, Westminster. Particulars forwarded on application.

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WHOLESALE AND FOR EXPORTATION.
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CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.

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PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

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GREY STONE CHALK, PLAIN, and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
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GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
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Goods forwarded by Rail or Barge with despatch
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PORTLAND, BATH and LIAS CEMENTS of the BEST QUALITY.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,
Messrs. LARK, FLETCHER, & CO.
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Manufacturers only of first-class quality, for the Home and Foreign Trade
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THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

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Plaster of Paris, Bricks, Lime, Hair, Laths, sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
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STOURBRIDGE FIRE-CLAY WORKS,
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Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
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Moulded Bricks, string Courses, Copings, Cills, Tracery, Pilasters, Capitals, Crosses, Fermanah, Vases, Statues, Brackets, Consoles, Garden Edging, Guttering, six, nine, and twelve inch Paving Tiles, &c. &c.
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HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.
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DESIGNS AND ESTIMATES PREPARED.
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STAFFORDSHIRE RIDGING and ROOF-ING TILES, Plain and Ornamental, in Blue or Broseley colour.
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IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern book, designed by M. Digby Wyatt, esq. together with special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
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Very Simple and Efficacious.
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SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

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100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
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SPRUCE DEALS, 2s. 6d. each.

FIR TIMBER 55s. PER LOAD.

Scaffold Poles ..... 1½d. per foot

YELLOW DEALS, £16 PER 120.

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FLOORING, DEALS, MOULDINGS, &c.

	White (not Spruce).	Yellow.
¾-inch Flooring	11s. 6d. to 12s. 0d.	13s. 6d. per Square.
¼-inch "	12s. 6d. to 13s. 6d.	13s. 6d. to 14s. 6d. "
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YELLOW DEALS, 3 by 9, from...£16 10s.

Yellow Battens ..... £11 10s. per 120
½ White Matched Lining ..... 12s. per square.
½ Yellow ..... 16s. "

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At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

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SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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(LATE WATERLOO, DRAPER, & WEBB),

MANUFACTURING JOINERS,

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THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

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JOINERY OF EVERY DESCRIPTION.

STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

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110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET

(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

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WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing shutters, Doors, Staircases, Hand rails, and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Gloss blow Cases, &c

Green-houses, Hot houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
¼ by 7 "	13s.	13s. 6d.	14s. 6d. "
¼ by 7 "	15s.	15s. 6d.	16s. 6d. "
1¼ by 7 "	17s.	18s. 0d.	19s. 6d. "

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S

BUILDERS, AND CARPENTERS, AND OTHERS,

Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE-FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d per square				Lathe, 28s. per Load.	
Yellow Deals, sound and good	£13	10	0 per 120, or	0 2½	per foot.
Spruce Deals	16	10	0 "	0 2½	"
Yellow Battens, excellent quality	11	10	0 "	0 2	"
Pine Planks, dry, 12 feet 3 inches by 11 feet	21	0	0 "	3 6	each.

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

JOINERY WORKS.

21, HARRINGTON-STREET, HAMPSTEAD-ROAD, N.W.

NEWIL SIMMONDS,

SHOP FRONTS, SASHES, DOORS, &c.

Price Lists and Estimates on receipt of Stamp.

JOSEPH & ALFRED ROSLING beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.

Southwark-bridge Wharf, Bankside, S.E.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d ; Spruce, from 2s. 8d ; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 9x4 Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1 inch Yellow, from 13s. 3d.; ¼ White, from 11s. 6d. Carriage free to any part of town.

F. FORMAN,

1, Walnut-tree-walk, and 1 Walnut-place, Lambeth.

SEASONED WAINSCOT OAK, 30,000 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER YARD, MANCHESTER.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the River Thames.—For further particulars apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic Wharf, Pimlico, London, S.W. five minutes' walk from the Victoria Station.

WINDOW GLASS! WINDOW GLASS! Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental, Rough, Rolled, and Patent Plate. Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at

ORIST'S CITY GLASS WAREHOUSE,

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PAINTED and STAINED GLASS WINDOWS.—LAVERS & BARRAUD, Endell-street, Bloomsbury, London; and No. 3, Oxford street, Manchester. Prize Medallists, Class 34 A, 1862.

PATENT and BRITISH PLATE GLASS.—JAMES HETLEY & CO. beg to inform Architects, Builders and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

STAINED GLASS and WALL PAINTING

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Adjoining the Polytechnic Institution.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price-lists forwarded free on receipt of business card addressed to

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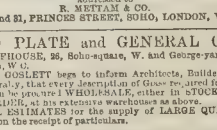
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

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Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second hand Instruments of all kinds, by the best makers, always in stock

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Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for Draughtsmen's Use, Illustrated Price List post free on application.

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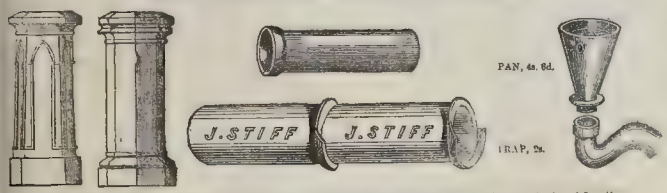
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MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

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STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



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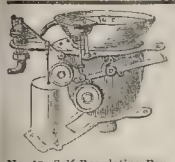
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HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE ON APPLICATION.



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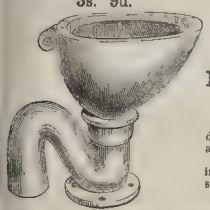
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INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

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Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

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ENCOURAGE COUNTRY MANUFACTURE.

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SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,

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From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

BARTLETT, BROTHERS, & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

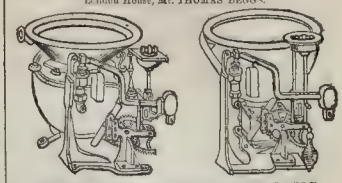
For the Preservation of Stone, Cement, &c.;

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Specimens of the Silicates and Aluminates, and of their applications, may be seen at the CONSTRUCTIONAL DEPARTMENT, SOUTH KENSINGTON MUSEUM.

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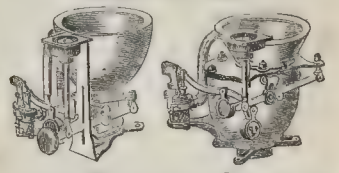
London House, Mr. THOMAS BEGGS.



ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient and simple, free from all small, and requires no cisterns, service boxes cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipes. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet, alike dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulators is supplied separately, as well as connected to ordinary direct Service Main Cottage Water Closets.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No cistern valves, cranks, wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate-street, London.

OSLEY POTTERY WORKS, GLASGOW.

Messrs. R. H. PENMAN & CO. from Staffordshire, Manufacturers of the best description of EARTHENWARE GOODS for Sanitary Purposes required in private and public buildings, supply the Trade, Wholesale, at the lowest possible prices for Cash. The Ware sent by their customers to the late Exhibition was highly spoken of.

EXHIBITION, CLASS X. No. 2349.

SUFFOLK BRICKS, RED and WHITE, of best quality, at reduced prices. Also other Kiln Goods, as selected by the War Office.—For specimens and particulars apply to T. ALLEN, 7, Great Smith-street, Westminster, S.W.

VICTORIA BRICK and LIME WHARF and DRAW-DOCK, NINE ELMS, S.

BRICKS, TILES, SLATES,
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AND BUILDING GOODS GENERALLY.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

JOHN DOWNEY, Victoria Wharf, Nine Elms, S.

Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS, By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Lidgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Tamnock, near Walsall, South Staffordshire

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS, IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.

The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, offers

Red Pantiles, at 50s. per 1,000.
" 8-inch Pavings, at 37s. 6d. per 1,000.
" Floor Bricks, 40s. per 1,000.
White ditto ditto, 45s. per 1,000.
Ridge Tiles, at 75s. per 1,000

Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. About 20,000 Bricks lying at Devonshire-street Station, at 28s. per 1,000.

PENCILS, BLACK LEAD, and COLOURED CHALKS.

A. W. FABER'S POLYGRADE LEAD PENCILS, sold by all Stationers and Artists' Colourmen.

Sole Agents, HEINTZMANN & ROCHUSSEN, 9, Friday-street, E.C.

SALES BY AUCTION.

WESTMINSTER BRIDGE.—SALES DEFERRED of the PLANT and MATERIALS.

PULLEN, HORNE, & EVERSFIELD beg to announce that the SALES of the SURPLUS MACHINERY, PLANT, and MATERIALS, advertised to take place on the 17th, 18th, and 20th MARCH, are DEFERRED for the present.—40, Parliament street, Westminster, and 80, Fore-street, City.

MANSION HOUSE STREET, CITY. — CAPITAL BUILDING MATERIALS.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, MARCH 16th, at TWELVE o'clock, in lots, the whole of the capital BUILDING MATERIALS of the spacious Banking-house and premises, No. 11, Mansion House-street, and No. 1, St Mildred's Court, Poultry: comprising 180,000 Stock Bricks, several tons of lead in flats, gutters, cisterns, and pipes; stone rafters, joists, girders, and other excellent timber; 15,000 plain tiles, slates, paste glass, fronts and sashes; mahogany and walnut doors, large skylights, marble and other chimney-pieces; useful doors, partitions, and interior fittings up; 120 squares of sound floor boards; 25 squares stone paving and landings, coping and sills; mahogany and plate-glass lobby doors; fittings of lavatories; fine stone columns, iron girders; 15 capital wrought-iron doors; and the stone erection, and fittings of strong rooms, stoves, and numerous useful fixtures and fittings-up.—May be viewed. Catalogues had at Mr HARDWICK'S Office, 21, Cavendish square; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, and 40, Parliament-street, S.W.

EUSTON ROAD. TO BUILDERS, MASONS, AND OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, at the Show Rooms, Diana-place, opposite Southampton-street, Euston-road, on FRIDAY, MARCH 20th, at TWELVE for ONE, by order of the Proprietor, in consequence of his giving up the premises at Lady Day, the remaining STOCK: consisting of forty statuary and other marble chimney-pieces, artificial stone figures, fonts, pedestals, vases, and royal arms; a quantity of useful marble, York and Portland stone, and other effects. May be viewed two days previous, and Catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City, E.C.

TO ARCHITECTS, BUILDERS, AND OTHERS.—Valuable Stock of Chimney Pieces and other goods, the property of the Executors of the late GEORGE BRACE, Esq. the late Lessee of the Lizard Serpentine Quarries.

PULLEN, HORNE, & EVERSFIELD have received instructions to SELL by AUCTION, on the PREMISES, being the Show Rooms of the Lizard Serpentine Company (Limited), No. 20, Sa ley street, Strand (permissive entrance Laving been obtained for a few days), on TUESDAY, MARCH 31, at TWELVE for ONE, a selection of SERPENTINE CHIMNEY PIECES, executed in all the most approved and modern designs, which much taste has been displayed; also, a variety of clock cases, paper weights, table tops, and other manufactured stock, presenting a favourable opportunity of securing, at a moderate cost, many beautiful specimens of workmanship. The whole may be viewed one week previous, and Catalogues had at the Offices of Messrs BRACE & LEATHES, 9, Chancery-street, Cavendish-square; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City

GROSVENOR ROAD, PIMLICO.—TO SCULPTORS, MASONS, BUILDERS, AND OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION on the PREMISES Lloyd's Wharf, 5 feet South Bridge, on FRIDAY, APRIL 3, at TWELVE for ONE, about 100 blocks of MARBLE, consisting of statuary, vein, Sicilian, black and gobi, Breccilla, emperor's red, vert-vert, Rhondorm, Sienna, &c.; also about 10,000 feet of slate slat, including most of the choice varieties, various Sicilian figures and monuments, groups, statuettes, &c. in the best statuary marble, chimney pieces, tables, inlaid slabs, &c. and a variety of other effects. May be viewed two days previous, and catalogues had on the premises, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

BEDFORD LUNATIC ASYLUM.—To BUILDERS, STONE MASONS, and OTHERS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the Town, on the Ampthill-road, on MONDAY, MARCH 16th, 1863, at TWELVE for ONE o'clock in the afternoon, the Seventh Portion of the BUILDING MATERIALS of the late County Lunatic Asylum, consisting of 50,000 stock bricks, a quantity of brickdust, fine Ketton stone quoins, string course, sills, &c.; York paving and coping, slates for roofs, and slate for ditto, slate paving, a large quantity of oak, consisting of staircases, joists, principals, floor-boards, rafters, beams, &c.; deal joists, rafters, boards, sash and other windows, doors, eight frames, firewood, &c.; geometrical stone staircases, with iron rails, girder and large landing slabs, dry gas-meter, for eighty lights by Grill & Graver, service-pipes and connexions, gas-piping, &c.; excellent force-pump, may be used horse power,—works with three cranks; fine wrought Ketton stone piers and entrance-gates, &c. &c.—May be viewed on Friday and Saturday preceding the sale. Catalogues may be obtained of the Foreman on the Estate; and of the Auctioneer, 14, Moorgate-street, London, E.C.

WIMBLEDON, Surrey.—Eligible FREEHOLD BUILDING LAND.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on TUESDAY, MARCH 17, 1863, at TWELVE for ONE o'clock, in fifty-one lots, the valuable FREEHOLD BUILDING LAND, free from tithe and land tax, with frontages to the high road to Merton and the new road called Hartfield road, contiguous to the Wimbledon Station on the main line of the London and South-Western Railway. The corner directly opposite the station is most eligible for a tavern. Nine tenths of the purchase money may remain on mortgage or contract at 5 per cent to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained about ten days before the sale of Messrs. RUSSELL & DAVIES, No. 59, Coleman street, E.C.; of the Auctioneer, No. 14, Moorgate street, London, E.C.; and at the Place of Sale.

TO BUILDERS, STONEMASONS, AND OTHERS.—Re H. W. WILLIAMSON, a Bankrupt.

MR. BOYES is instructed by the Assignees to SELL by AUCTION, on the PREMISES, Upper and Lower Tooting, Surrey, on THURSDAY, the 26th instant, at TWELVE precisely, the GOODWILL of the old-established BUSINESS; also, the Stock and Plant and Materials of a Builder, useful grey horse, two spring, five tumbril, and other carts, in good condition, timber carriage, nearly new, and a variety of trade business effects. Particulars and catalogues may be had on the Premises; of Messrs. HARRISON & LEWIS, Solicitors, 24, Old Jewry; and at the Auctioneer's Offices, 32, Aberdeen-lane, Lombard street.

TO BUILDERS, DECORATORS, EXECUTORS, UNDERTAKERS, &c.

MR. EDWIN WHITE will SELL by AUCTION, at 12, Holborn-bars and 1, Castle-street, Holborn-hill, on TUESDAY next, the following goods:—8 sets pieces of French and English PAPER HANGINGS in very handy lengths for bed or gilt room use, 20 excellent waterclosets, 2½ gallons of deal, carriage, and oak varnish, 50 gallons of turpentine, 2 cwt of white lead, 1 cwt stationary, ropes, royal, Brocatelle, Rouge Royal, Sienna, Belgian grey, and other marble chimneypieces, a few stone chimneypieces, and a rich sculptured statuary marble monumental tablets.—View and catalogues Monday and morning of sale

FROGMORE, WANDSWORTH.—TO BUILDERS AND OTHERS.

MR. NEWBURY BALL is instructed TO SELL by AUCTION, on the PREMISES, as above, on THURSDAY, MARCH 19th, at TWELVE o'clock, a long Range of WAREHOUSES and WORKSHOPS, in convenient lots, comprising nearly a thousand good stock bricks, pantiles, and slates, sound fir joists, rafters, and flooring, fir beams and supports, several hundred feet of York stones, slate and other paving, and other effects. On view. Catalogues had at the Auctioneer's Offices, High-street, Wandsworth, S.W.

n THURSDAY NEXT, at GARRAWAYS—CITY of LONDON—Freehold Building Site, comprising the large Area of about a Quarter of an Acre

MESSRS. WILSON & SCOBLE will SELL by AUCTION, at GARRAWAY'S, on THURSDAY Next, MARCH 19, at ONE o'clock precisely, a highly valuable and important FREEHOLD PROPERTY: comprising the extensive premises upon which the works of Messrs Swinborne, Paste-glass Manufacturers, have been carried on for many years; known as "Red Bull Wharf," Upper Thames-street, in the best position between Southwarke and London Bridges, and opposite the range of warehouses of Messrs. Humphrey on the Surrey side; having a clear frontage to the river of 65 feet, by the great depth of about 180 feet. The property is bounded on the west by the premises of the City of London Brewery Company, and on the east by a wide-paved passage and the open iron wharf of Messrs Thorney-croft, and has an excellent carriage-way to Upper Thames-street. The site is in every way most eligible for the erection of very high first-class business warehouses, with extensive vaults, now so much in demand in the neighbourhood, from the demolition of the very many warehouse properties taken for railway and other public requirements. The buildings at present comprise a four-tier warehouse, one story wood, and brick erections, and an excellent dwelling house of modern construction, the whole of good, sound materials. Plans for can be had at Mr Summer-day next—May be viewed, and particulars, with plans, had of J. H. STANTON, Esq Solicitor, Newcastle-upon-Tyne; of Messrs HAYES, TWISDEN, PARKER, & CO. Solicitors, 80, Russell-square; at Garraway's; and of Messrs. WILSON & SCOBLE, Auctioneers and Estate Agents, 114, Leadenhall-street, E.C.

By order of Trustees.—To first-class Builders and Ironmongers

MESSRS. CUTTEN & DAVIS will SELL by AUCTION, on the PREMISES, No. 18, Wilson street, Finsbury, on WEDNESDAY, MARCH 18, at HALF-PAST for TWELVE o'clock precisely, the whole of the very superior STOCK of STOVE-RANGES, and FENDERS, including forty-five polished steel and black stoves, with ormolu mounts (of the most expensive character), twenty Elizabethan Gothic sarcophagus and half register stoves, thirty bed room, hall, and shop stoves; six best ranges, a large Gothic church stove, 5 feet high; fifty polished steel and bronzed fenders and sets of fire-irons, stove castings, tools, and other effects.—May be viewed three days prior, and catalogues had of the Auctioneers, No. 9 and 10, Basinghall-street, E.C.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, BROMPTON, S.W.

Notice of PRIVATE SALE of 6,000 MARBLE CHIMNEY-PIECES, to be sold at very reduced prices (to save the expense of removal to the Brompton road), in the following Marbles, viz.:—Statuary, Rouge Royal, Black and Gold, Black Serpentine, Dardilla, Dove, California, St. Ann's, Rouge Jasper, Jeune Fleure, Brocatella, Genoa Green, Irish Green, Blue Belge, Emperor's Red, Irish Fossil, Campania Melange, Vein, Sicilian, and various excellent specimens of British Marbles, varying in price from 3l. 10s. to 50l.; and for regularity of design, workmanship, and quality, not to be surpassed in England. Purchaser to the extent of 3 0l. and 50l. approval bills of three and four months will be taken, less 2½ per cent. net. Purchasers from the country will be supplied with packing cases, and the same packed and delivered to any of the metropolitan stations for 1 per cent. on the amount purchased.

145, Old Kent road, near Bricklayers' Arms Station.—Remaining STOCK of BRICKDUST to be sold on the Premises

MR. JOHN R. FOWLER will SELL by AUCTION, on WEDNESDAY, MARCH 18th, at TWELVE for ONE the remaining STOCK: comprising planks, deals, battens, quartering, cut stuff, flooring, pantiles, slating battens, feather edge and match boards, and useful materials, to clear the premises.—Auction Offices, 24, St. Switchin's-lane, E.C.

BY ORDER of the EXECUTOR.—To BUILDERS, TIMBER DEALERS, FIREWOOD CUTTERS, CONTRACTORS, and OTHERS. Second Portion of the STOCK of the late Mr. W. Thomlinson, Timber Merchant, Wednesbury.

FHALL & SON will SELL by AUCTION, on MONDAY, MARCH 16, 1863, at TWELVE, on the PREMISES, adjoining the Baptist Chapel, Romney street, Westminster, the SECOND PORTION as above, consisting of 10,000 feet of cut oak and fir scantling and quartering, long girders and bressummers, fir sleepers, iron piles, wheeling planks and boards, 10,000 feet of flooring and other boards, partitions, framing, rooms, sash, and other doors, gates, sashes, frames, shop-fronts, skylights, 20 stacks of firewood, work benches, small quantity of useful brickgoing, and other useful effects.—May be viewed; and catalogues had on the Premises; at the "Telegraph," Regent-street; and of the Auctioneers, Chester-street, Kennington, and 1, Hamilton-terrace, Wandsworth-road

N.B. The very desirable PREMISES TO BE LET on Lease.

Apply to the Auctioneers.

NORTH LONDON RAILWAY.—Clearance Sale for City Termini

MESSRS. KENNEDY & BONNY are instructed by the Directors of the North London Railway Company to SELL by AUCTION, on the PREMISES, early in APRIL, the very excellent MATERIALS of about EIGHTY HOUSES, in Broad street Buildings, Liverpool street, Half-Moon-street, Foster street, Peter-street, and Sun-street.—For further particulars see future advertisements.—Auctioneers' Office, Camden Town.

Valuable Freehold Building Land, immediately in the rear of the Bank of London, Cashion court, and Old Broad-street, in the City of London

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer FOR SALE, at the MART, on FRIDAY, MARCH 27th, at TWELVE, a very important and valuable FREEHOLD PROPERTY, situate in the rear of the Bank of London, in the parish of St. Peter-le-Poer, forming the vacant site behind No. 1, Cashion court Old Broad street, near to the Stock and Royal Exchange, in the heart of the city of London. It comprises between 9 and 10 hundred superficial yards, and is most eligibly adapted for the construction of offices, or exceedingly valuable in connexion with the adjoining premises. The importance and value of the situation may be seen by the splendid buildings, the Ocean Marine, the National Bank, and the Imperial Insurance office, which have been recently erected in Old Broad street, and the difficulty of acquiring land at any price in the immediate neighbourhood.—May be viewed, and particulars had of Messrs. DESBOROUGH, YOUNG, & DESBOROUGH, 5, Size-lane, Bucklersbury; Messrs. UPTON'S, JOHNSON, & UPTON, Austinfriars; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Good gravel, situation healthy, and water excellent. The Snaresbrook Station is 400 yards only from the Estate, and the City is reached in twenty-five minutes. The Lessee will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Kingston; some very eligible SITES in the Grove road, Mile-end; a few of which are adapted for shops, and large and very CHEAP PLOTS TO LET, at Ealing.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

SUTTON, near the Station.—PLOTS of FREEHOLD BUILDING LAND FOR SALE. Land-tax redeemed, conveyance free. Also, PLOTS TO BE LET, on a Building Lease, for terms of years. For particulars apply by post, per paid, to Mr. TRIBE, Builder, Sutton, Surrey, S.

EXTENSIVE MANUFACTURING PREMISES, SOUTHWARK.—TO BE LET on LEASE, extensive MANUFACTURING PREMISES, occupying a very large area situate in the Borough-road, Southwark. The buildings, which are very substantially erected, comprise a very large factory, of three lofty floors, with basements, a smaller factory of four floors adjoining, a very spacious and lofty ground-floor factory, yard, a capital family residence and offices, two gateway entrances, and three dwelling-houses, fronting the Borough road, Nos. 77, 78, and 79, which can be readily let off if desired.—For further particulars apply on the Premises; or to Messrs. FULLER & HORSEY, Billiter-street, Fenchurch-street, E.C.

TO CAPITALISTS, BUILDERS, and OTHERS.—Persons willing to ERECT two small detached VILLAS on Leckhampton Hill, adjoining the Birdcage road, may obtain Plots of Land for that purpose, in the best part of this picturesque locality, commanding extensive views of the Vale of Gloucester and surrounding country, on Building Leases at a very low ground rent, with power to purchase the freehold. A lease for ten years, to pay 7½ per cent per annum, will be guaranteed for one house.—Full particulars and every information will be given on application to Mr GEO. W. SADLER, Architect and Surveyor, 407, High street, Cheltenham.

FREEHOLD GROUND between the Forest Hill and Sydenham Stations TO BE LET on long Building Leases.—For plan and particulars, apply to C. F. REEKS, Esq. Architect, 12, Middle Scotland-yard, S.W.

PHILBROKE ESTATE, at Leytonstone, on the Woodford and Loughton Railway, twenty minutes from Fenchurch and Bishopsgate Stations.—This valuable FREEHOLD ESTATE (land-tax redeemed), surrounding the Station, healthy locality, gravelly soil, excellent drainage, water and gas laid down, roads made, sand can be dug on the estate, it is proposed TO LET in Plots suitable for building detached and semi-detached villas. Repeated applications have been made for houses in this neighbourhood. For terms, apply to Mr. ATHEY, at the Surveyor's Office, Philbroke Estate, Leytonstone, Essex.

TO BUILDERS, &c.—A PLOT of FREEHOLD BUILDING LAND for SALE, near the New Church, Cottenham Park, Wimbledon; also a PLOT fronting the Merton-road, Wandsworth. Two Semi-detached Villas now here each. For plans, &c. apply to Mr. W. C. POOLE, 11, Great Smith street, Westminster, S.W.

EXTENSIVE MANUFACTURING PREMISES, Whitechapel.—TO BE LET or SOLD, together or separately, the extensive and important range of PREMISES, recently occupied as the Whitechapel Distillery, with land adjoining if required. The building, many of which are of great extent, are most substantial and recently, principally in 1845, and are very conveniently arranged for any manufacturing purpose. There are large distinct gateway entrances, and the buildings on all sides are surrounded with paved yards. The total area is about three acres, exclusive of six acres of accommodation land, which may be had if required. There is an Artesian well which affords a constant and unlimited supply of pure water.—Further particulars, and cards to view, may be had of Messrs. PENNANT & DARLEY, Solicitors, Raymond's buildings, Gray's-inn; and of Messrs. FULLER & HORSEY, Billiter-street, E.C. where plans of the property may be seen.

WALTON-ON-THAMES.—TO BE SOLD or LET, on lease, a handsomely-finished VILLA RESIDENCE standing in an acre and a half of land, within half a mile of the Walton Station. Apply to W. SMITH, 61, Tabernacle walk, Finsbury, E.C.

FREEHOLD GROUND TO BE LET, for a term ninety-nine years.—A most desirable frontage of about 160 feet, for good shops, in a first-class situation, near to the Lark Hall Tavern, Clapham, at a low ground rent. Apply to Mr J. THOMAS, Architect and Surveyor, 10, Dennark street, Camb well.

SAINT HELEN'S, LANCASHIRE.—TO BE LET, on Lease, the extensive MANUFACTURING PREMISES known as the Ravenhead Copper Smelting Works, situate at St. Helen's, with a wharf on the canal, and a branch of the St. Helen's Railway to the works. The buildings are of the most substantial character, and cover about 20 acres, of which about 5 acres are occupied by the works, the remainder being arable and pasture land. The buildings comprise a range of very substantial brick and slated buildings, 3 tall chimney shafts, arranged for the purposes of copper and silver smelting and refining, with all the necessary machinery, and every convenient establishment to, as they possess the advantages of direct communication by rail or water carriage with all parts of the kingdom. Coals can be had at a reduced rate from the neighbourhood almost the usual price, and labour is cheap and abundant.—For particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.; and Messrs. HARRISON & FINCH, 2, Gray's-inn, London.

TO CONTRACTORS, BUILDERS, and BRICKMAKER.—Near to Morden, Old Malden, Worcester Park, and Sutton Railway Stations. TO BE LET, about EIGHTY ACRES of very fine BRICK-EARTH LAND, which may be worked (without brickmaking plant) at a moderate royalty. Specimens of various articles manufactured from the clay may be inspected, and further information obtained, at the Offices of Messrs. WIGG, SON, & OLIVER, 7, Bedford row, W.C.

TO CEMENT MANUFACTURERS.—TO BE LET, the extensive PREMISES known as the Ebley Cement Works, in the Isle of Ebley, near SITTINGBOURNE, Kent. They consist of Sixteen Acres of Ground, with Six Kilns, and all the necessary buildings and appliances for the Manufacture of the finest Roman or Portland Cement, on a large scale; also Eighteen substantial LABOURERS' COTTAGES. There is excellent dock accommodation, and water carriage to London direct. The mail for manufacturing the cement is contained on the premises, and with a small outlay the works may be rendered very productive.—For terms and particulars apply to Mr. J. H. EVANS, Solicitor, 59, Lincoln's-Inn-Fields, W.C.

TO BE LET, on Lease, THREE OLD HOUSES, with large Back Yards, being Nos. 196, 197, and 198, Kent street, Borough.—For particulars apply to Mr. ROBERT PARRIS, No. 5, Wolsingham-place, Lambeth.

FREEHOLD SITES for BUILDING, and FREEHOLD HOUSES, can be obtained in the best part of Prince Albert's-road, near Kensington Gore, in front of the Royal Horticultural Gardens. Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's road, W.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For Particulars apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras. 24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. &c. Established by Messrs. HYDE, SMITH, & LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural Engineering, and Mechanical Drawing, Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. Plans are to extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

London: Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen street, Lincoln's-Inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, March 14, 1863.

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THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON.

On TUESDAY Evening next, at 7 30, a LECTURE will be delivered in the THEATRE, on the Condition and Prospects of Architectural Art, by A. J. B Beresford Hope, esq. M.A. D.C.L. President.

PRIZES £20, and of for Wood Carving, and 5/ 5s ac. At 3s. for Coloured Decoration, are now offered to artist workmen, who may obtain full particulars, at also cards for the Lectures, of the Attendant in the Museum; at the Office of "The Builder;" or by letter to the Hon. Sec. at 13, Stratford place, W.

A. J. B BERESFORD HOPE, President.
GEORGE GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec

LEGAL NOTICE.—To RAILWAY COMPANIES, CONTRACTORS, LANDED PROPRIETORS, SHIPBUILDERS, IRONFOUNDERS, WIRE FENCE MAKERS, and OTHERS.

Whereas, FRANCIS MORTON, of James-street, Liverpool, in the County of Lancaster, Engineer, having obtained Letters Patent for Improvements in the Construction of Posts or Pillars for Wire and Iron Fences, which are dated the 31st of March, 1858, as I amended by Disclaimer 4th July, 1861, and having ascertained that imitations of those improvements had been attempted and advertised by various parties in the United Kingdom, brought an action before the Court of Session, in Scotland, against ROBERT MIDDLETON, Commission Agent and Wire Merchant, of No. 3, Greenside street, Edinburgh, for an Infringement of said Letters Patent, in which action issues were adjusted and tried before the Lord President and a jury, on the 22nd, 23rd, and 24th days of December last, and a unanimous verdict upon all the issues raised was returned in favour of the said FRANCIS MORTON, thereby establishing the Patent.

And further, the said ROBERT MIDDLETON having by his counsel moved the first division of the said Court of Session for a new trial, on the ground of the said verdict being contrary to evidence, in support of which it was pleaded that the aforesaid specification was a defective specification, and also that the invention had partly been in use before the date of the Patent; the Judges of the said division, after hearing a full argument upon the legal objections to the specification and the Patent, and having made avizandum, they on the 6th of March, 1863, unanimously refused the motion, thereby sustaining the validity of the Patent.

Notice is therefore hereby given, that all persons who have manufactured, sold, bought, contracted for, or used any imitation of the said Posts or Pillars, have been guilty of an infringement of the said Letters Patent, and have rendered themselves liable in damages therefor; and that all persons who may hereafter manufacture, sell, buy, contract for, or use any imitation of the said Posts or Pillars, shall be guilty of an infringement of the said Letters Patent, and will be prosecuted accordingly.

PARKER, ROOKE, & PARKERS, 17, Bedford-row, London,
GIBSON CRAIG, DALZIEL & BRODIES, 9, Thistle-street, Edinburgh.
D. & T. FITZGERALD, 20, St. Andrew-street, Dublin,
Law Agents for FRANCIS MORTON & CO. of James-street, Liverpool.

IN CHANCERY.—Between Joseph Foster Lloyd, Wilson Lloyd, and William Henry Lloyd, Plaintiffs, and Daniel Pearson, Defendant.

NOTICE is hereby given that an ORDER for an INJUNCTION has this day been made in the above cause, by his Honour the Master of the Rolls, to restrain the above-named defendant, Daniel Pearson, from drawing, accepting, endorsing, giving, or negotiating any Bill of Exchange or Promissory Note in the name of "The Madeley Coal and Iron Company," or in the name of "Lloyd, Pearson, & Lloyds," or in any other name or names by which the above-named plaintiffs, or their partnership effects, are or may be rendered liable to pay the same, or from otherwise charging the credit of the partnership in any way; and all persons are hereby cautioned against discounting, receiving, or negotiating any such Bills of Exchange or Promissory Notes, or having any dealings with the said Daniel Pearson whereby he may attempt to pay or to engage the credit of the plaintiffs or their partnership effects.—Dated this 11th day of March, 1863.

S. F. MILLER & SON,
Sussex Chambers, Duke-street, St. James's, London, Agents for JOHN HUNT THURSFIELD, Wednesbury, Staffordshire, Solicitors for the abovenamed Plaintiffs.

NOTICE is hereby given, that the PARTNERSHIP heretofore subsisting between DANIEL PEARSON and us, the undersigned, JOSEPH FOSTER LLOYD, WILSON LLOYD, and WILLIAM HENRY LLOYD, in the business of Coal and Iron Masters, carried on by us at Madeley, in the county of Stafford, under the style or firm of "The Madeley Coal and Iron Company," or under any other style or firm whatsoever, was DISSOLVED by us as to the said DANIEL PEARSON, on TUESDAY, the 10th day of MARCH instant, by virtue of a power contained in our partnership deed; and from that date the said DANIEL PEARSON has ceased to be in partnership with us.—Dated this 11th day of March, 1863.

JOSEPH FOSTER LLOYD.
WILSON LLOYD.
WM. HY. LLOYD.

BILLING'S PATENTS.

CHIMNEY TERMINALS, THROAT VALVES.

NOTICE to ARCHITECTS.—The Proprietors of the late Mr. Billing's Patents have secured the services of Mr. H. H. COLLINS, M.B.A. of No. 10, Poultry, E.C. as the Consulting Architect, from whom full particulars and the reduced prices may be obtained; or from the Manager, Mr. TYLER, 19, Abingdon-street, Westminster, S W.

COMPETITIONS.

TO SCULPTORS.—The Executive Committee of the Oastler Monument will be glad to receive DESIGNS and PROPOSALS from Sculptors, for a MONUMENT to the late Richard Oastler, which is to be erected in Bradford. The statue is to be placed upon a pedestal, in a speaking attitude, and to have, at the base, small figures of factory children supplicating the great philanthropist to redress their grievances. The cost of the Statue, which is expected to be colossal, is not to exceed £1,000 and the design most approved will have the preference of the Committee. The committee are open to receive a DESIGN for a FIGURE, in marble, under a Gothic canopy, with groups of factory children in basso-relievo on the pedestal. Communications may be addressed to W WALKER, Esq Bolling Hall, Bradford, the Chairman of the Executive Committee.

Bradford, March 4, 1863.

ABERYSTWYTH CEMETERY. — The Burial Board being about building TWO CHAPELS and a LODGE, upon the new cemetery provided for the parish of Aberystwyth, Architects are invited to submit PLANS of such Chapels and Lodge, the entire cost of which not to exceed £600. One of the Chapels is to be built on the consecrated portion of the Cemetery, and the other on the unconsecrated portion thereof, in lieu to be detached, and each Chapel is to contain sittings for one hundred persons. The Plans will award of £5, by way of premium, for the plan selected.—Further particulars may be obtained from the undermentioned, to whom the plans are to be sent, free of expense, on or before the 2nd day of APRIL, 1863.

HUGH HUGHES,
Clerk to the Burial Board, Aberystwyth.

CONTRACTS.

WAR DEPARTMENT CONTRACT. NOTICE to BUILDERS.—Tenders are required for the supply at the Vern Fortifications, Portland, and the Nottle Fortifications, Weymouth, of TOOLS, timber, iron, steel, nails, coal, and other PLANT which may from time to time be required for the War Department Works, in the Portland District, from 1st APRIL, 1863, to 31st MARCH, 1864, inclusive

Parties desiring to Tender for the above must leave their names at this office on or before the 23rd day of MARCH, 1863, and pay the sum of 10s. 6d. for the printed schedule of prices.

The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders, and does not bind himself to accept one Tender for both places.

C. H NUGENT,
Captain and Major commanding Royal Engineers.
Royal Engineer Office, Weymouth, 11th March, 1863.

EXTENSION of TIME for receiving TENDERS.—CITY of LONDON, BARBERS' HALL.—Important SITE for WAREHOUSES or MANUFACTURING PREMISES in the immediate vicinity of Wood street, Cheapside. The Committee of the Worshipful Company of Barbers will meet at their Hall on THURSDAY, the 26th day of MARCH, 1863, to receive TENDERS for LETTING, on a Building Lease for 99 years, the Extensive PREMISES known as Barbers' Hall, situate on Monkwell street, Wood street, comprising three Houses fronting Monkwell-street, Nos. 33, 34, and 35; part of the courtyard in the rear thereof, the passage leading thereto, and the greater portion of the Company's Hall, together with the kitchen, scullery, and outbuildings, having a frontage towards Monkwell-street of about 83 feet, by an average depth of about 116 feet, and an extreme depth of about 135 feet.—Full particulars, with a plan of the property, elevation and section of street-front, also conditions of letting, may be obtained on application to the Clerk of the Company; to Mr. CHARLES JOHN SHOPPEE, the Company's Surveyor, No. 61, Doughty-street, W.C.; or to the Beadle at the Hall.—By order,

HENLEY GROSE SMITH, Clerk.
4, Warnford-court, Throgmorton-street, E.C.

NEW GENERAL INFIRMARY at LEEDS.—CONTRACT for WORKS.—The Committee invite TENDERS for the EXECUTION of the various WORKS required in the ERECTION of this Building. Plans, specifications, and general conditions may be inspected in the Public Prosecutor's Room, in the Town Hall, Leeds, on and after MONDAY, the 16th of MARCH, between the hours of NINE and SIX, after which date the conditions of competition may also be had on application personally or by letter to Mr JOHN DIXON, Secretary, General Infirmary. Persons desiring to Tender who have sent in their names to the Honorary Secretary before the 22nd instant, will be entitled to make such arrangements as they consider best as to the taking out of quantities, and such arrangements will be binding upon those who may apply at a later time. The Committee do not bind themselves to accept the lowest or any Tender.

ROBT BARR, } Honorary
T. P. DIBB, } Secretaries.
Leeds, March 4th, 1863.

CONTRACTS.

CHELTENHAM CEMETERY.—To BUILDERS.—Notice is hereby given, that the Cheltenham Burial Board intend to enter into a CONTRACT for ERECTING the CHAPELS and other BUILDINGS at the Cheltenham Cemetery, according to the specifications and drawings, form of contract, and bond, which may be seen at the Office of the Architect, Mr. W. H. KNIGHT, The Old Farm, St. George's-place, Cheltenham. Proposals or Tenders to be delivered to Mr. G. E. WILLIAMS, Clerk to the Burial Board, on or before WEDNESDAY, the 1st day of APRIL next evening, at the Offices of the Burial Board, in Cheltenham, known as the Public Offices, between the hours of TEN a.m. and FOUR p.m. endorsed "Tender for Buildings, &c at the Cheltenham Cemetery," and such Tenders to contain the names, residences, and descriptions of two sureties for the due execution of the contract. The Tenders may be for the whole of the Works, or separately for the chapels and lodge. The Board will not be considered pledged to accept the lowest or any Tender.—Dated this 2nd day of March, 1863.

GEORGE EDMUNDS WILLIAMS,
Clerk to the Cheltenham Burial Board.

SOUTH-EASTERN RAILWAY.—CONTRACTS for WORKS.—The Directors of the South-Eastern Railway Company invite TENDERS from competent contractors for the CONSTRUCTION and MAINTENANCE of the first and third sections of the Company's NEW LINES to TUNBRIDGE and DARTFORD; and they will also be prepared to receive further Tenders for the construction of the second section between Tunbridge and Halstead. Plans, sections, and specifications of the works may be inspected at the Engineer's Office, London Bridge; and copies may be had on payment of £1 1s. for set for each contract, or £31 10s. for the whole, on and after MONDAY, the 16th of MARCH, instant. The Directors also invite separate Tenders for the supply of about Forty Millions of Bricks, required for the construction of the Tunnels at Sevenoaks and Polehill. Tenders to be delivered to the Secretary not later than TEN, a.m., on THURSDAY, the 26th of MARCH next, when the Directors will meet to consider the same, in connection with the Tenders already sent in in answer to the Company's advertisement of the 16th January last, for the construction, &c. of the second section from Tunbridge to Halstead. The Directors do not bind themselves to accept the lowest Tender, and reserve the right of letting the contracts as a whole, or separately, as may be determined. In any case ample security will be required.—By order,

S. SMILES, Secretary.
London Bridge Terminus, 12th March, 1863.

WOOD FENCING.—TENDERS Wanted for the supply and fixing of a quantity of FENCING, at "The Retreat," Clapham, according to Specification lying at the office of "The Builder," York-street, Covent Garden, until THURSDAY next, 26th instant, on or before which day Tenders are to be sent to JOHN BUSH, Esq "The Retreat," Clapham. The lowest Tender will not necessarily be accepted

CONSERVATIVE LAND SOCIETY.—WOODHOUSE ESTATE.—TENDERS are invited for the EXECUTION of ROADMAKING and DRAINAGE WORKS on the Society's Estate in Cann Hall Lane, Wanstead, Essex. The following rough quantities are stated in order to give an approximate the extent of the proposed works; but parties tendering will have to take out quantities for themselves.

1,230 Feet run of New Road, 36 feet wide, including Footpaths.
600 Feet run Widening Old Road, including Footpaths.
800 Feet run Footpath, and making good to existing Road.
815 Feet run 9-inch Pipe, for Road Drainage.
295 Feet run 12-inch Pipe, for Road Drainage.
238 Feet run 12 inch Pipe in course of Ditch.
278 Feet run 15 inch Pipe in course of Ditch.
96 Feet run 9 inch Branch Drains from Gulleys.
11 Gulley Grapnels, in Rolling Gratings.
3 Absorbing Wells, including Gratings.

The plans, sections, details, and specifications will be seen on and after MONDAY, MARCH 23rd, at the Office of the Society's Surveyor, Mr. JAMES WILSON, 61, Norfolk-street, Strand, W.C. Tenders to be sent in on or before SATURDAY, MARCH 28th. The Committee do not bind themselves to accept the lowest or any Tender.

33, Norfolk-street, Strand, W.C. March 19th, 1863.

BOARD of WORKS for the HACKNEY DISTRICT.—Notice is hereby given that the Board of Works for the Hackney District, will, at their meeting to be held at the Town Hall, Church-street, Hackney, on THURSDAY, the 26th day of MARCH next at ELEVEN o'clock in the FORENOON, consider TENDERS for the SUPPLY and LAYING DOWN of about 150,000 feet superficial of the best YORK PAVING, not less than 3 inches in thickness, to be laid in various streets within the District, under contract No. 2; also for a like quantity under contract No. 4; also for Jobbing Masons' and Paviors' work within the District for the period of twelve months. Forms of Tender and further particulars may be obtained at the Office of Mr. JAMES LOVEGROVE, C.E., Surveyor to the Board, Town Hall, Church-street, Hackney, between the hours of NINE and TEN o'clock a.m. Tenders to be sealed and endorsed accordingly to the respective contract, and addressed to the Clerk, Town Hall, Church-street, Hackney, on or before WEDNESDAY, the 25th day of MARCH next. The parties tendering, or their representatives, must attend the Board on THURSDAY, the 26th day of MARCH next, at ELEVEN o'clock a.m. Persons tendering will be required to enter into a Bond or Contract at their own expense for the due performance of the contract, and the Board do not bind themselves to accept the lowest or any Tender.

RICHARD ELLIS, Clerk.
17th March, 1863.

TO TIMBER-MERCHANTS and OTHERS. The Directors of the London, Chatham, and Dover Railway Company are prepared to receive TENDERS, on or before the 22nd instant, for the SUPPLY of 10,000 creosoted rectangular SLEEPERS, 10 inches by 5 inches, to be delivered free, on their Wharf, at Faversham. The specification and form of tender may be had on application at the Office of Mr. WILLIAM MILLS, the Resident Engineer, 34, Castle-street, Canterbury. The directors do not bind themselves to accept the lowest or any Tender.—By order,

G. F. HOLROYD, Secretary.
Victoria Station, March 11, 1863.

[For remainder of Contracts see next Page.

CONTRACTS.

PARISH of ST. GILES, CAMBERWELL.
To CONTRACTORS for ROAD and STREET WATERING.—Notice is hereby given, that the General Purposes Committee will meet at the Vestry Hall, Camberwell, on WEDNESDAY, the 25th day of MARCH instant, at FOUR o'clock in the Afternoon, to receive TENDERS for WATERING certain ROADS and STREETS of the said Parish, for the season 1863. The Parish is divided into six Watering Districts, and separate Tenders will be required for each District. The security of two responsible persons will be required for the due performance of the Contract, and the names and addresses of the parties proposed as such sureties must be delivered with the Tender. Parties Tendering are required to be in attendance at the time and place above named. The Vestry do not bind themselves to accept the lowest or any Tender. For further particulars apply to Mr. J. REYNOLDS, at the Vestry Yard, in the Office of Works, Wells-street, Southampton-street, from ELEVEN to THREE o'clock.
By order, GEORGE WILLIAM MARSDEN, Vestry Clerk.
Vestry Hall, Camberwell, 16th March, 1863.

NEW QUAY, CARDIGANSHIRE.
To BUILDERS and OTHERS.—Persons willing to submit TENDERS for TAKING DOWN and REBUILDING the PARISH CHURCH of Llanllwchaiarn, New Quay, Cardiganshire, are informed that the Drawings and specification will be for inspection at the Black Lion Inn, New Quay, from MONDAY, 23rd inst. to SATURDAY, 4th of APRIL, inclusive. Tenders, to be completed, to be sent by post, prepaid, addressed to the Architect, Mr. R. J. WITHERS, 51, Doughty street, London, W.C. on or before MONDAY, 6th APRIL, and of whom further particulars may be obtained. The lowest or any Tender will not necessarily be accepted.
D. EVANS, B.D. Rector of Llanllwchaiarn.
Llanllwchaiarn Rectory, 13th March, 1863.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of TWO FOURTH-RATE HOUSES, in Wansloe-street, Plaistow March, in the Barking road, Essex, can see the Plans at that station, on MONDAY, 23rd inst. And Four following days, at JACKSON'S COFFEE HOUSE, 5, Christ-street, East India road, Poplar.

TO PAINTERS and OTHERS.—
TENDERS required for the EXTERNAL PAINTING and COLOURING of TWENTY HOUSES at Poplar. Labour and Materials.—Apply at H. M. RAMSAY'S Workshops, Randall road, as above.

METROPOLITAN BOARD of WORKS.
The METROPOLITAN BOARD of WORKS hereby give Notice, that on FRIDAY, the 8th of MAY next, they will receive TENDERS for the DISPOSAL by SALE, under the Main Outfall Sewer. All Tender must contain full description of the works proposed, and must be accompanied by a plan and section showing their exact details. The Board will further require full information as to the manner in which the sewage is to be treated and employed, and, if by irrigation, as to the distribution of the sewage, the quantities and locality of the land over which it is to be distributed, the points at which the sewage will be put, or will daily require to be emptied, for the purpose of effecting junctions or communications with the Board's sewers, the provisions against floods, failure of machinery, or other default in the company's works, the mode of discharge of the sewage preventing the sewage from becoming a nuisance or injurious to health, the amount of capital to be invested, whether any interest or dividend is required, the estimated annual receipts expected to be paid to the Board. The Board will not enter into any contract, or make any concession of sewage to any parties, unless they take all steps necessary for carrying their project into effect within a time to be named by the Board; and in the event of failure to do so, any agreement or concession on the part of the Board shall be void and of no effect; and in any contract provision must be made to secure to the Board the return of the sewage works, and the full power to re-let and deal with the same, and no further or other compensation than the value of the materials or the amount expended by the company, as it will seem, cost to the Board. No Tender must contain more than one proposition, to be approved by the Board, but shall specify the terms upon which the Tenderer will be bound in a competent sum, for the due performance of the contract, and for the efficient execution of the Works in accordance with the provisions and subject to the limitations of the Metropolis Local Management and Main Drainage Acts, and for indemnifying the Board against all loss, damage, or injury, claims for compensation, or otherwise, in any manner arising out of the said Works or other operations of the contractors. The Board will not bind itself to accept the highest or any Tender. The plans and sections of the sewers can be seen, and all general information obtained at the Office of the Engineer of the Metropolitan Board of Works, at their office in Spring gardens, between the hours of NINE a.m. and FOUR p.m., or on SATURDAYS between NINE a.m. and TWO p.m. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office before FOUR o'clock on THURSDAY, the 7th of MAY next, and no Tender will be received after that hour. By order,
JOHN POLLARD, Clerk of the Board

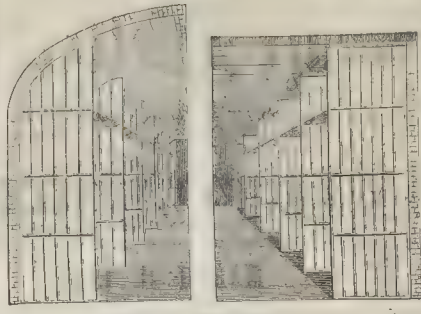
AYSGARTH CHURCH, Wensleydale.—
The Master and Seniors of Trinity College, Cambridge, and the Parishioners of Aysgarth, having determined to REPAIR and RESTORE the above Parish Church, are desirous to receive the names of persons willing to UNDERTAKE the Works connected with the same, which may be addressed to J. GREEN, Architect, Perth-street, near Todmorden, on or before the 25th instant. Drawings and specifications will in a short time be ready for inspection, of which due notice will be given. Quantities will be supplied.

TO BUILDERS.—Persons desirous to TENDER for the ERECTION of new Presbyterian CHURCH and SCHOOLS at Aberdeen, are invited to call at Mr. TILBURY'S, Royal Hotel, Aldermanbury, or at the MARK Hotel, Leith. Copies of the plans will be supplied on application at the above Hotels, for the sum of 5s. per copy. Tenders to be sent to me on or before the 31st day of MARCH next. Neither the lowest nor any Tender will necessarily be accepted.
C. B. MUSSELWHITE, Architect, Basingstoke.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a MANSION, at Saltburn-by-the-Sea, may see the plans, specifications, &c. and obtain bills of quantities, at the Office of Mr. WILLIBRAND RODRICK, 7, Park-place, Leeds, on and after WEDNESDAY, the 25th instant. Each of the contractors may also be obtained at the Office of Mr. BALAM, Surveyor to the Board, 3, Basinghall-street, Guild, London, W.C. Tenders are to be delivered to the Clerk of the Board of Guardians, Guisborough, on the 2nd day of APRIL next. The lowest tender will not necessarily be accepted.
Saltburn is about five miles from Redcar, in the North Riding of Yorkshire.
14, Buckingham-street, Strand, London, March 11th, 1863.

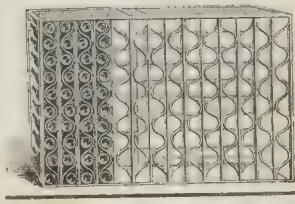
BOARD of WORKS for the HACKNEY DISTRICT.—Notice is hereby given, that the Board of Works for the Hackney District will meet at the Town Hall, Church-street, Hackney, on THURSDAY, the 26th day of MARCH next, at ELEVEN o'clock in the forenoon, for the purpose of CONTRACTING for the SUPPLY of ENGINEERING MATERIALS and WORKS and MATERIALS for the period of ONE YEAR, ending the 25th day of MARCH, 1864, for the supply of Bricks and Bricklayers' Work — STONEWARE PIPES for the Supply of Glazed Stoneware Sewer and Drain Pipes — BALLAST—For the Supply and Delivery of Ballast, Shingle, and Gravel — GAS FITTINGS—For the Supply and Fixing of Lanterns, Lamp Brackets, Pipes, and Service Pipes, Retorting, Altering, and Fixing Lamp Posts — IRON CASTINGS—For the Supply of Fifty Cast Iron Lamp-Posts (to patterns).
Forms of Tender and Specification may be obtained at the Office of Mr. JAMES LOVEGROVE, C.E. Surveyor to the Board, Town Hall, Hackney, between the hours of NINE and TEN o'clock, a.m. The Tenders are to be sealed, and addressed to the Clerk, and delivered at the Town Hall, Hackney, on or before the 25th day of MARCH. The parties tendering, or their representatives, must attend at the Board, on THURSDAY, the 26th day of MARCH, at ELEVEN o'clock precisely, when such tenders will be required to enter into a contract and bond, at their own expense, in sufficient surety for the due performance of the contract, and the Board do not bind themselves to accept the lowest or any Tender.
RICHARD ELLIS, Clerk.
March 17, 1863.

WROUGHT IRON WINE BINS.



FARROW & JACKSON
Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.
The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.
Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



WITH
SEPARATE REST FOR EACH BOTTLE,
Peculiarly adapted for Private Cellars.
No laths are required, and all trouble of Binning is avoided.
FARROW & JACKSON,
18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.
FACTORY, 57 and 58, MANSELL STREET.

TO BUILDERS and MASONS willing to TENDER for BUILDING a DETACHED VILLA at Bletchingley, near the Regalia Station. Can inspect the drawings and specification at the Office of the Architect, who reserves the right, on behalf of the freeholder, of rejecting the lowest or any Tender. Persons tendering will have to be provided with security for the fulfilment of the works. Tenders to be delivered on TUESDAY, the 7th of APRIL, at FOUR o'clock precisely.
HENRY McCALL, C.E. Architect,
Offices—Seaside road, Eastbourne, Sussex, and
25, Westbourne-place, Eaton-square, S.W.

TO BUILDERS.—POLICE STATION, SLOUGH, BUCKS.—Persons willing to CONTRACT for PULLING DOWN the existing Building, and for ERECTING a New POLICE STATION, at Slough, in the county of Buckingham, are invited to inspect the plans and specifications of the works, and to transmit Tenders, on or before TEN o'clock of the morning of the 2nd day of APRIL next. TENDERS for executing the work. The plans, specifications and conditions may be seen at the Office of Mr. W. WILKINSON, the Architect, in Oxford, and copies of the same may also be seen on application to the superintendent of Police, at the present Station at Slough. Builders desirous of competing for the work are requested to make application to the Architect, who will be authorized to supply copies of the bills of quantities upon payment of £1. for each copy. The Magistrates of the County do not bind themselves to accept the lowest or any Tender; and the person whose Tender may be accepted will be required to enter into a contract for the due performance of the works.
ACTON TINDAL, Clerk of the Peace for Bucks.
County Hall, Aylesbury, 19th March, 1863.

TO CONTRACTORS. — CONCRETE BRICKWORK and MASONRY.—The Oxford Paving Commissioners are prepared to receive TENDERS for CONSTRUCTING a BRICKWORK OPEN INVERT and Footpath on the North Side of Thames Street, from the point where the present Invert ends, at the Tan Yard, St. Ebbe's, to Swan Island, in the City of Oxford. The plans, section, drawings, and specifications of the required Works, and the general conditions of the Contract under which the Works are to be done, may be seen daily between the hours of TEN and FOUR, at the Office, No. 7, St. Aldate's street, Oxford, of Mr. GALPIN, the Surveyor to the Commissioners. Tenders are to be made on a printed form, which may be had of the Surveyor, or the Clerk to the Commissioners, and are to be delivered sealed, at my Office, No. 3, St. Giles-street, Oxford, on or before MONDAY, the 6th of APRIL next. The Commissioners do not bind themselves to accept the lowest or any Tender.
FREDERICK J. MORRELL, Clerk to the Commissioners.
St. Giles's, Oxford, 13th March, 1863.

BURNHAM GAS COMPANY, Limited.
Persons willing to CONTRACT with the Directors of the Burnham Gas Company, Limited, for the ERECTION of the GASWORKS at Burnham, in the County of Essex, may see the plans and specifications on application to the Secretary, or at the Office of Mr. JABEZ CHURCH, the Engineer, Cannon-street. The work is to be Tendered for in the two following Contracts, viz.—
CONTRACT No. 1. The Builders' Work.
CONTRACT No. 2. The Ironwork, Mains, and Apparatus.
Sealed Tenders for the respective Contracts are to be delivered at the Engineer's Office, Cheltenham, on or before the 2nd day of APRIL, 1863. The Directors do not bind themselves to accept the lowest or any Tender. By order,
W. HAWTHORN, Secretary
Gas Company's Office, Burnham, March 20th, 1863.

The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES, was awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862.

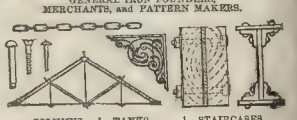
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CABINETMAKERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES
of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction. It is economy.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.
ESTABLISHED 1774

PERIN'S PATENT BAND SAW BLADES.
E. WORMSAM & CO. beg to announce that they have purchased of Mons. Perin, of Paris, the exclusive right to SELL his celebrated BAND SAW BLADES, the superiority of which is universally allowed in the United Kingdom. S. W. & Co. have always a large assortment of these Saws at their Works, 304, KING'S-ROAD, CHELSEA, S.W. where also the Band Saw Machine exhibited by Mons. Perin in the Western Annexe, International Exhibition, is now on sale.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

COOMBS & McCALL, Dover Iron Works,
Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS), 17, Union-street, and 39, Great Guildford-street, Borough, S.E. inventor of the Rotary Shoe Front, Patentee of the Tubular Railings, new Compensating Garden Trees, &c. &c.
GENERAL IRON FOUNDERS,
MERCHANTS, and PATTERN MAKERS.

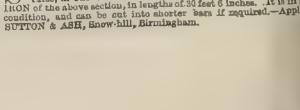


COLUMNS, GIRDERS, ROOFS. | TANKS, DOORS, RAILINGS. | STAIRCASES, MACHINE-CASTINGS.
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

LIGHTNING CONDUCTORS.
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and attachments, complete for fixing, at the following prices:—
Three eighth inch diameter ..... 1s. 0d. per foot.
Half inch diameter ..... 2s. 0d. "
Five-eighths inch diameter ..... 3s. 0d. "
R. S. Newall & Co's Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.
Offices—130, Strand, London.
" 2, Dale street, Gateshead-on-Tyne
" 27, Dale street, Manchester.
" 68, Anderston quay, Glasgow.
" 17, South Castle street, Liverpool
" Exchange Landings, Dublin.
" 7, Frederick-street, Aberdeen.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBYER, at the Great Exhibition 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc. Patent Locks of all descriptions China, Glass, and Wood Furniture of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.
J. H. BOOBYER (late STURGE & BOOBYER), established nearly 30 years, for the supply of GOODS of the BEST MANUFACTURE at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.



SASH IRON.—TO BE SOLD, at a Low Price, in One or more Lots, about Twelve Tons of 2 in 5/8 IRON of the above section, in lengths of 30 feet 6 inches. It is in good condition, and can be cut into shorter bars if required.—Apply to SUTTON & ASH, Snow-hill, Birmingham.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



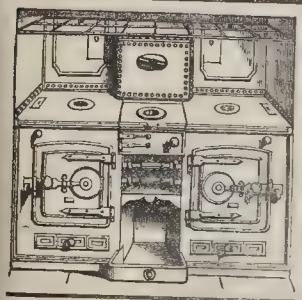
ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS, SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

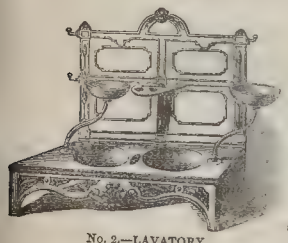
WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 2*l.* 2*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.



No. 2.—LAVATORY.

GEORGE SMITH & CO.

IRONFOUNDERS AND SANITARY ENGINEERS,

SUN FOUNDRY, GLASGOW;

AND 37, SOUTHAMPTON STREET, STRAND, W.C. LONDON.

LONDON HOUSE.—MR. THOMAS BEGGS.

Manufacturers of Rain-water Goods, and all kinds of Cast-iron Fittings for Architectural Purposes:

Patentees of GEORGE SMITH & CO.'S Patent Baths, Bath Stands, and Lavatories;

DRY DEODORIZING CLOSETS, COMMODES, STREET URINALS;

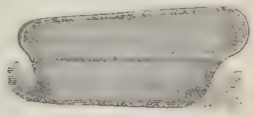
Patent Grave Monuments and Tablets; also Cast-Iron Plain and Ornamental Fountains; Cattle Troughs; and their

REGISTERED STABLE FITTINGS,

Which were selected by the late Prince Consort for Holyrood Palace Stables,

and for which First Premium was awarded by the Royal Highland and Agricultural Society.

Drawings, Descriptions, Prices, and Testimonials, will be forwarded per post on application as above.



No. 3.—Plain Bath, with or without Fittings.

FURNER & MINN,

WHOLESALE AND EXPORT IRONMONGERS,

7, BISHOPSGATE WITHOUT, E.C.

ARE THE APPOINTED AGENTS FOR

LEA'S PATENT LUBRICATING IRON COCKS,

Which are much cheaper and more durable than Brass, offering no inducement to theft.



LEA'S PATENT SELF-ACTING ROLLER-BLIND FURNITURE,

LEA'S PATENT LOCK BOLTS, (Without Springs).

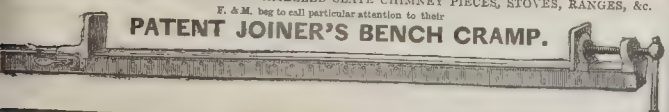
FOR CASEMENTS AND FOLDING DOORS.

Contractors and Builders supplied with Ironmongery at Manufacturer's Prices.

SHOW ROOMS FOR MARBLE AND ENAMELLED SLATE CHIMNEY PIECES, STOVES, RANGES, &c.

F. & M. beg to call particular attention to their

PATENT JOINER'S BENCH CRAMP.





PATENT CLIMAX DOOR SPRINGS,

FOR SINGLE AND DOUBLE ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,

GOTHIC, DROP, AND OTHER DOOR HANDLES.





PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,

BRASS AND IRON LOCKS OF EVERY DESCRIPTION.





Builders', Cabinet, and Ship Brass Founders.

WILLIAM GREENWAY & CO.

MANUFACTURERS, BIRMINGHAM.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, [illegible], Nos. 68, Charles-street, City-road, E.C. [illegible] Canal Bridge.

E. GOLLOP, SOLE PROPRIETOR.

A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of [illegible] Gate Hinges, Rising Sticking Butt Hinges, Centre Hinges, Double-acting Spring Hinges, Rising and Sweeping Door Backspring &c.

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BAKERS' OVEN WORK, Fancy Backs and Troughs, Rain water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

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TO CIVIL ENGINEERS AND CONTRACTORS.

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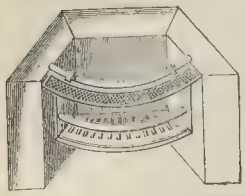
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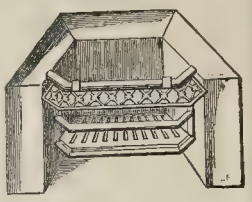
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FOR BED-ROOMS, COTTAGES, SERVANTS' OFFICES, BARRACKS, SCHOOL-ROOMS, WAREHOUSES, CHARITABLE INSTITUTIONS, &c.



			With hanging trivet.	
			s. d.	s. d.
18 inches wide, 10 inch bars			7 6	8 6
21	"	12 "	10 6	12 0
24	"	13 "	13 0	15 0
27	"	18 "	16 0	18 0
30	"	21 "	20 0	—
36	"	24 "	30 0	Extra strong.
33	"	27 "	36 0	
42	"	30 "	42 0	

These Stoves give a considerable heat with a small consumption of coal.

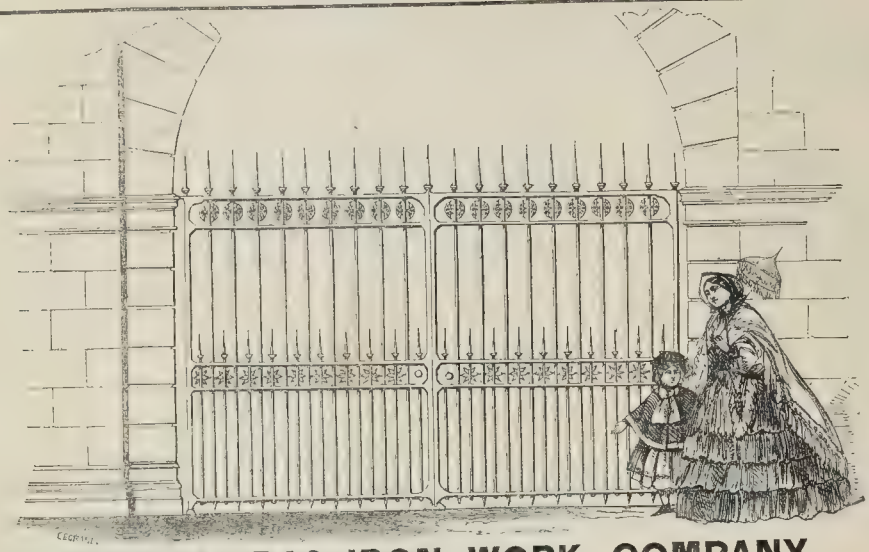


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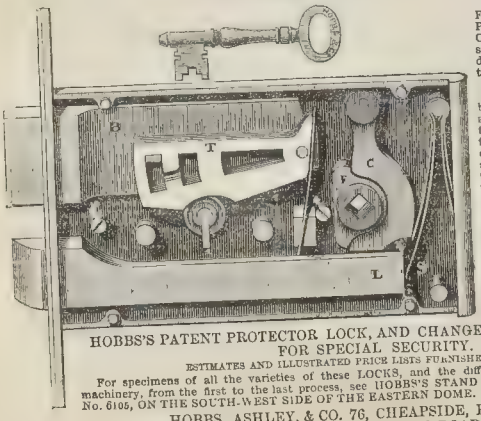
INTERNATIONAL EXHIBITION, 1862.—CLASS 31, LOCKS, &c. No. 6105.

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SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.

PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR LEVER MORTISE LOCK, Price 8s.

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HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.

ESTIMATES AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.

For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 13, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.

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Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.

CHUBB'S LOCKS,

with all the recent Improvements,
STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.
Complete Lists of Sizes and Prices may be had on Application

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FOX & BARRETT'S PATENT.

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Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling houses and domestic buildings, within the reach of every one.

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LAMBERT, BROTHERS, Manufacturers

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Wrought Iron, principal Roofs covered with Slates, Iron Bridges Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.

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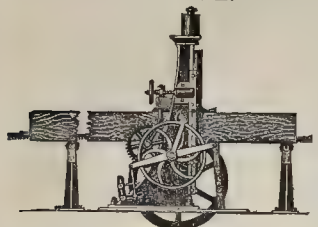
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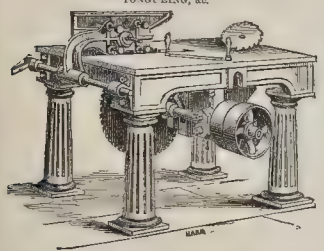
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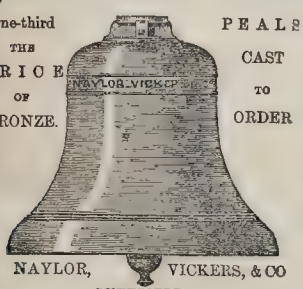
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For Cutting out Sweeps and Circles.
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Drawings sent on application.
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CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



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NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

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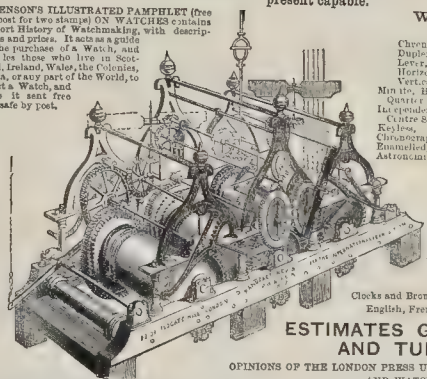
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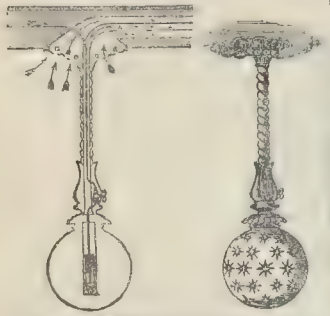
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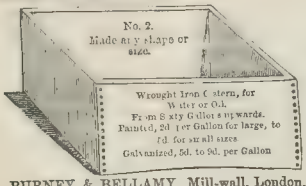
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combining an agreeable method of lighting, with convenient simple, and efficient ventilation.



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A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
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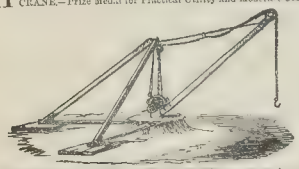
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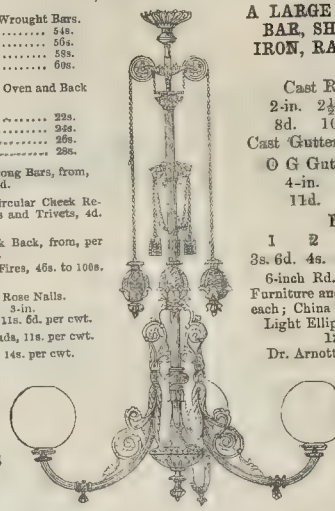
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Self-acting, with Bright Wrought Bars.
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Self-acting Cottage, with Oven and Back Boiler.
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Register Stoves, with Strong Bars, from, per inch, 4d.
Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from, per inch, 5d.
Bright Stoves, with Two Fires, 45s. to 100s. each.
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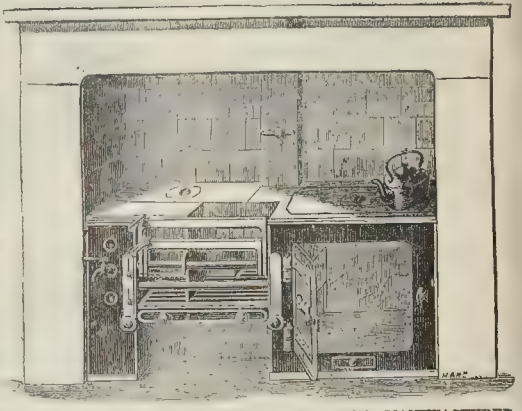


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8d. 10d. 1s. per yard.
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1 2 3 4 5 6
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BRICK MOULDS KEPT IN STOCK.
Any Size made to order.
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CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.

This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.
The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.
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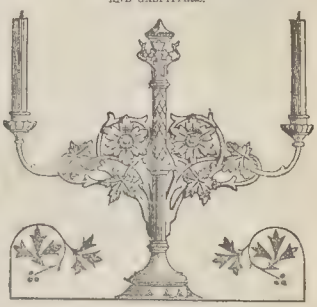
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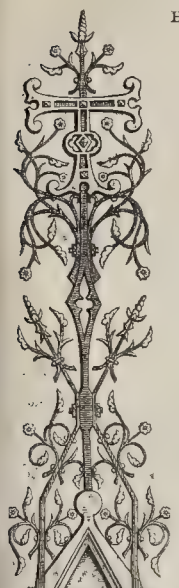
444, West Strand, W.C. February, 1863.

GEORGE GODWIN, LEWIS POCOCK, } *Honorary Secretaries.*

The Builder.

VOL. XXI.—No. 1050.

Copyright in Architecture as in other Works of Art.



THE advisability of copyright in artistic productions is quite a modern—indeed, a very recent — question, and has proved itself a very difficult one. The growing demand for protection produced eventually an Act of Parliament, which, by means of registration, professed to insure protection, for a certain period, to manufactured articles of original design; especially those in which a decorative character is an essential feature. The protection thus afforded has already shown itself to be precarious and incomplete; but it has nevertheless proved a great incentive to the production of original designs, in the course of the elaboration of which the taste of the manufacturers themselves has improved as much as the artistic character of their wares. Yet the protection provided by the Act is continually breaking down when put to the test. This is partly the case in consequence of the imperfect and insufficiently stringent wording of the Act itself, but principally in consequence of the artistic ignorance of the tribunals that have to be appealed to. What can a Chancery Judge be expected to know about the æsthetic qualities of a design for a carpet, its peculiar fitness in an artistic point of view, and those nice divergencies from former patterns which are the secrets of its novelty? What can such a Judge know of the peculiar freshness of aspect which gives it a superior value with the trade, and causes it to be strenuously recommended by the dealers, to the ultimate purchasers and consumers? Neither these men of parchment and precedent, nor those similarly educated who conduct the cases of plaintiff and defendant in an Infringement of Design Case, can be expected to know anything about the real artistic merits of the cause before them. They, in fact, do not know anything about it; and the matter in dispute is decided according to the most plausible drawing up of the affidavits on one side or the other. To show what would be the difficulties likely to occur in architectural cases, it may be useful to describe a case concerning an ornamental design. Very recently an injunction was applied for to prevent the infringement of a carpet pattern. The design had been most successful. Something felicitous about the play of its main lines, and the proportions of the principal features, had at once captivated carpet-buyers. It was found, too, that furniture looked well upon it, and that a drawing-room with a carpet of that pattern received at once a certain air of elegance that most other carpets failed to impart. In short, it sold largely, and formed so important a source of income to the manufacturers, that a piracy of the pattern was soon attempted by a rival house. In the piracy the placing of lines, the size of the main features, and their form, and *apparently* even their smallest details, were all so closely imitated, that a carpet might have been made of alternate breadths of the original pattern and the imitation, without attracting the notice of a casual observer to the fact that they were, in truth, distinct patterns. The defendants pleaded that, whereas in the pattern of the plaintiffs the main compartments were formed of a purple twisting *ribbon*, in theirs they were formed by a purple twisting *lace*; and that, while in the pattern of the plaintiffs the object in the centre of each compartment was formed of a group of fern-leaves, the corresponding object in the defendant's pattern was formed of a group of moss. The general effect was strikingly similar; and, at the distance at which a carpet is generally seen, the effect may be said to have been identical. The learned Judge, however, decided that, because one designer had used a *ribbon* in his design, it did not prevent another from using a *lace*; and because fern-leaves had been used in one pattern, it could not equitably prevent another man from using moss. All this was, of course, quite beside the real question at issue. No designer would have quarrelled with a brother artist because, while he had employed ferns in his design, the other had had the temerity to enter also upon the domain of vegetable forms, and not only seize one of them, but even one of the cryptogamia. Nor would such a designer imagine, that because he used a twisted *ribbon* as a portion of his ornament, another man was precluded from the use of lace as a decorative feature. No artistic designer would for a moment put forth such an argument; but he would see what the Chancery Judge did not see, that if he used a combination of ribbons and ferns in a very particular way to produce an especial effect, no one had a right to reproduce that especial effect, and attempt to evade the consequences of piracy by changing the ribbon into a lace occupying precisely the same form and space in the design; and the fern-leaves into a group of moss presenting precisely the same general outline. These are points which could only be estimated in their true light and force by a jury composed half of manufacturers of the article in question and half of ornamental designers. Therefore, until cases coming under the Registration of Designs Act be brought before a fittingly constituted tribunal, no hope of a really intelligent protection of copyright in works of art can be indulged in.

The artist's copyright in sculpture, and in a picture, is much more simple. No artist wishes to prevent another artist from treating an historical subject because he has treated it himself; nor could he be allowed to do it even if so disposed. His individual treatment of the subject must form his protection. It is true there are subjects which seem almost the invention of the artist, and, therefore, deserve protection; as, for instance, Mr. Frith's "Railway Station," or Mr. Hunt's "Light of the World." But these subjects, in such hands, form their own protection; and an imitator would only expose himself to general ridicule in an attempt to copy their general effects. It is not, however, in the production of a single statue or picture that the value of the copyright lies, but in the right to multiply copies by means of casting, engraving, or lithography. It would seem that, in this case, no difficulty could arise. The value of the engraving would consist in its being an absolutely literal copy; and, therefore, only to be obtained by the consent of the possessor of the picture, who has no legal right to give his consent without that of the artist. Nevertheless, simple as the law appears on this point, a difficulty has arisen. Photography, as a means of producing a number of accurate copies of works of art, did not exist when the Act in question was framed; so that an artist has, at present, no certain redress for the reproduction of his works in that form; and even engravings may be copied in photography, by means of which absolute fac-similes can be obtained; and the publisher, who has invested perhaps 1,000*l.* in the engraving of the plate, has, in the present state of the law, no redress.

These facts, connected with the present state of the law concerning artistic copyrights, are only brought forward to show the difficulty of framing a form of legal protection which shall be effective, and which can be enforced before a fitly constituted tribunal. With regard to copyright in architectural design, however desirable the establishment of such copyright may be, it is evident from what has just been stated, that the difficulties must necessarily, in the present state of the art, be still greater than in the branches of art above referred to. For instance, an architect practising in the modern Gothic style, and having a new parish church to erect, may have made a tour in Cornwall, and have marked the grand lines and proportions of the tower of St. Probus, enriched with its broad and highly decorative string courses, as very adaptable to modern purposes; especially as containing a certain amount of Gothic novelty not yet worked out. He may, therefore, have made a design entirely based upon that of this noble tower. His work is, perhaps, much admired; and a builder in the next parish determines, without the aid of an architect, to send in a design for competition for a new church, his competition design being a literal copy of our architect's adaptation of the Probus tower. The architect in question naturally feels aggrieved that his clever adaptation should be thus, as he would say, "pirated." But the builder who had copied the design would not consider it a piracy. He would most likely have heard, through the clerk of the works, or some other channel, that the church and tower which he was accused of copying were themselves but copies,—copies of the tower and church of St. Probus, and he could claim an equal right to recopy them. This would not be an honest defence, as there would, doubtless, be much ingenious adaptation in the work of the architect which might be fairly considered original; and yet, as being but a modified (however cleverly modified) reproduction, it could scarcely claim the protection which ought to be obtainable for architectural design as well as any other class of design.

A case has just occurred, however, in a large provincial town, showing the want of a law to protect the architect of a fine stack of buildings, of very original character, from having his design literally copied in an extensive series of adjoining buildings without the payment of any kind of fee or royalty to the originator of the design. The case stands thus. The houses in a well-situated street having lost their prestige, from the widening of adjacent thoroughfares, and the erection in them of a superior class of buildings, of good design, had become comparatively valueless; one cause of the depreciation being the extreme narrowness of the street at the most important end. Our architect proposed to the owner of the houses on one side of the narrow end of the street to purchase some property lying at the back,—to pull down the houses which had become depreciated in value, and rebuild them further back; thus using part of the ground they had stood upon for the purpose of widening the street. The new houses were built upon a greatly enlarged scale as to height, and the design of the three or four fronts was made to form a connected façade of imposing aspect. The upper portion of the building was planned to let out in chambers, and the lower portion for spacious retail shops. The speculation, thanks to planning and the attractive style of the building, has been entirely successful. But the success does not appear destined to bring any additional benefit to the architect in the way of having to erect other buildings in the same style for the benefit of other owners of property in the street. It is true that his building has been admired for

the beauty of its design, and for its adaptation to its purpose. But, then, the model being made ready to hand, there is no longer any necessity to employ an architect at all. A spirited builder has, in fact, sent in a proposal and contract for rebuilding all the rest of the street after the precise design of the portion just described; and the architect—there being no such thing at present as architectural copyright—will have to stand passively by and see his morally legitimate property in his design absorbed by others, without the remotest prospect of obtaining any redress.

Seeing the present unprotected condition of the architect, it would seem, as we have before now urged, that some steps ought to be taken by the profession to establish some kind of copyright to such an extent as might be found just to the real originator of a new feature or new combination, and yet not such as would hamper freedom of design in others. It is but just that efficient protection should be given to legitimate originality, either in the application and use of material; or in the main structure or forms of façade or roof; or in the character or manner of distribution of the general system of ornamentation. The kind of protection here proposed seems, indeed, the direct road towards the more original treatment of architectural materials with regard to the purpose they are applied to, both structurally and decoratively. While our "classical" buildings are allowed to consist of so many yards of the Doric, Ionic, or Corinthian orders; and while our modern Gothic churches are but slightly varied reproductions of favourite Mediæval originals; how can a copyright be proposed? How are we to have a copyright in copies? Is the gentleman who first makes a servile copy of the façade of Chartres to be considered as having established the sole right of reproducing that model for so many years? or is the first who gives an adapted copy of the Antonine Column, as a national monument of some kind, to consider himself as possessing a vested right in the Antonine Column pattern?

Passing by such claims as these, however, the question may be fairly mooted as to whether a certain amount of ingeniousness in adaptation, if unmistakeably stamped with the impress of individual treatment, may not be considered as entitled to some kind of protection, though not to the same extent as should be accorded to works of a more entirely original character. If such a system were adopted, a great impetus would doubtless be given to efforts of a legitimate character in the direction of a generally fresher treatment of architectural design. Styles in art must grow: they are never the work of one man—nor of one generation.

DWELLINGS FOR THE INDUSTRIAL CLASSES, FINSBURY.

MR. ALDERMAN WATERLOW has built for 2,000*l.*, in Mark-street, Finsbury, for the industrial classes, a pile of "chambers" of middling quality and not agreeable forms, from which he expects to receive 9 per cent. for his money; and on Saturday last Lord Ebury, Lord Radstock, Mr. Samuel Morley, Mr. A. Kinnaird, M.P., Mr. Gregson, M.P., Mr. W. Hawes, Mr. Roberts, Mr. E. Chadwick, and many more, assembled on the roof of the building to express with somewhat overloud trumpets the debt the community owed to him. Stated thus barely the celebration seems ridiculous enough; and some who have laboured long years in making known the necessity that exists for healthful lodgings; in creating public opinion on the subject; and in devising and setting forth plans by which it was hoped these could be obtained, might think making 9 per cent. of their money an easier road to fame. In truth, however, if Alderman Waterlow has actually hit upon means by which healthful and convenient lodgings, in towns, where land is dear, can be provided for the struggling classes and made to pay a fair return for the money invested, he has done a good thing which deserves acknowledgment.

The frontage is 56 feet 3 inches; the depth of the main building, 27 feet 1 inch; with a back building projecting for each of the four "lettings," 11 feet by about 7 feet 6 inches. The balcony system for entrance is adopted, as in the Prince Consort's model cottage; and a flat roof, to be used for recreation by the children.

The two centre sections are set back about 3 feet from the line of frontage, for the purpose of giving space for the balcony of that width on each of the upper floors. Each section comprises one suite of rooms, to which access is obtained from the passages leading (on all the upper floors) direct from the balcony. The balconies are reached by a fireproof staircase, having a semi-elliptical form, the entrances to which are by two doorways in the centre of the building. This staircase is continued, and gives access, to the roof. The larger lettings, consisting of three rooms and a washhouse, occupy the end sections of the building. Leading out of the living-room is the washhouse or scullery, which contains water-cistern, sink, a small fireplace, washing-copper, dust-shoot, water-closet, &c.

The centre sections, comprising the smaller lettings, consist of two rooms and a washhouse. Close to the ceilings of the rooms a ventilator is placed, which communicates with air-shafts running through the centres of the chimney-stacks.

Considering the pile 50 feet in height, the cost would seem to be about 5d. per foot cube. The most is made of the area by planning the rooms without any reference to squareness, the result being apartments of very unpleasant shape.

The main cause of their cheapness is said to be the adoption of a concrete or artificial stone for lintels, arches, chimney-pieces, stairs, balconies, the floors of the wash-houses and passages, and the roof. The use of ordinary materials, the builder states, in the place of the artificial stone, "would have increased the cost of the building by *at least twenty-five per cent.* (?) and so rendered a good return on it impossible." The material is composed of clinkers, culm, hard broken coke, and similar rough porous calcined substances, in the proportion of four parts of these to one part of Portland cement. Sufficient water is added to these materials to bring the composition, when well mixed up, to the consistency of ordinary mortar. It is then placed in moulds or troughs, for the purpose of giving to it any desired form. In making the flat roof, it was applied in the following manner:—"Bars of 3-inch by ½-inch iron are stretched edgeways across the building, from front to back, at distances of 2 feet apart, and carried into the brickwork of the walls, so as to form ties, and bind the building into a solid mass. Half-inch iron rods, 2 feet apart from each other, pass through the iron bars already described; and beneath the network of iron thus formed a temporary layer of boards is placed, and then the patent material is filled in to a thickness of about 4 inches. In the course of a day or two the whole mass sets with sufficient hardness to allow of the removal of the boards; and after a week or ten days' exposure to the air it becomes so hard and firm that it will stand any amount of pressure."

Another reason given for the cheapness, if we understand rightly, is the non-employment of an "architect." Of course, it is unnecessary to remind the owner that in the erection of a structure of any kind there must be a director,—a "chief worker," whether called architector not; so that the question in commencing a building is, not whether there shall or shall not be an architect, but whether there shall be a cultivated and instructed chief worker, or an uncultivated one,—a professed architect, so called, and paid for his services, or an amateur acting under no name, and gratuitously. From which of these the most satisfactory and really cheapest building might with the greater certainty be looked for, we leave the reader to decide. A successful venture, it is claimed, is sometimes made by the merely practical man, which a Professor would shrink from. No doubt of it: but, in the long run, the course would not pay. We can believe that an architect with a reputation to lose might have hesitated before constructing a roof as this is described as being constructed if aware that it would be used as a meeting-place for sixty or seventy gentlemen round a table. However, it appeared to stand the test perfectly well; and, if it continue to be water-tight, will afford good evidence, amongst other things, of the goodness of the foundation.

The rents expected are,—Four families at 7s. per week; six families at 6s. 6d. per week; four families at 5s. 6d. per week; and six families at 5s. per week,—rather high after all, as it seems to us, considering the insufficient accommodation offered for a family even in the dearest lettings. We shall look anxiously to the condition of the houses a couple of years hence; and meanwhile, with a modification of the trumpet-blowing, add our acknowledgment of the importance of the object the owner has in view, and the excellence of his intentions.

NORTHUMBRIAN PELES.

ON the Border, between England and Scotland, are found, scattered over the country in great numbers, square towers, which, to a casual observer, are as enigmatical in their character as the round towers, or *lanternes des morts*, of Ireland. On knolls rising out of valleys, on rocks cropping out of hill-tops, in villages, near churches, and in towns, these curiosities of Mediæval military architecture may in turns be found. Their grey stones are patched with brown and amber lichens, and are marked with green and black weather-stains. Some are isolated; others adjoin more modern fabrics, as we shall show. No comprehensive survey of them has been made. We step in, as pioneers, to pick out this new path in archæology.

The subject is of national interest. The *lais* of troubadours and chronicles of the monks are interwoven with the bright hues of fancy and embroidered with beads of legendary lore, and might appertain to any land; but the rugged, storm-beaten masonry which centuries have not been able to uproot, can belong to no people but our own. In the same way a jewelled chalice may have been imported in old times, or wrought and chased by one of our own craftsmen: there can be no certainty on the subject; but concerning our ancient castles, pele-towers, bassle-houses, town-gateways and burgages, our ancient churches, and other ecclesiastical edifices, there can be no doubt. They were upreared by the skill, industry, valour, and reverence of our ancestors. Ecclesiastics of rank and barons of "high degree" did their share in bearing the costs of these grand old works, and they may have occasionally employed a foreign artist, as in the case of William de Sens, at Canterbury; but the hands that wrought so skilfully, the shoulders that bore the heavy burdens to and fro, the figures that so deftly placed the head corner-stones, were those of the honest English workers of yore,—forefathers of the honest English workers of to-day. On the Border especially we may read history in stones. Who could pass fifty castles, encompassed about with walls, in their turn defended by towers, and the towers subdefended with turrets,—upwards of a hundred peles, and perhaps half as many bassle-houses, all within the limits of a county,—without realizing that he was journeying in a part of the kingdom that had been the scene of continuous conflicts? There are, unfortunately for posterity, many military and feudal edifices on the Border whose remains are gradually disappearing. Year by year they become less and less. This is brought about as much by mischief as by abandonment. The diminishing remains of Dunstanborough, Edlingham, Norham, Etal, Mitford, and Tynemouth castles, are cases in point. Berwick Castle has disappeared to make place for a railway station. The site of Wark Castle is shown only by a mound. It is so, too, with peles: many are in decay. The pele of Heslayside was ruthlessly pulled down during the minority of the late owner. The remains of Bewick Pele have been removed within remembrance.

Early mention of the term pele (*pela*) was made by King Henry IV., in granting the citadel or castle, in the Isle of Man, to Sir John Stanley. It signifies a pile or mass of building, and is used as a distinctive appellation of fortified buildings of less consequence and extent than castles. A previous mention of the same term, but used as a compound, was made, in 1386, by Edward, Duke of York, when he granted Stawarde-le-peel, in the Vale of Allen, to the Friars Eremites of Hexham, in consideration of the nominal rent of five marks. Northumbrian peles are strong, stone, quadrangular towers, of various dimensions, containing sometimes two, sometimes three, chamber-floors, one above the other, covered with a flat roof, which is fortified with embrasured parapets. The period of their erection appears to have extended over three centuries, the earliest examples being Edwardian. In many instances, in fourteenth and fifteenth century peles, there are projecting parapets resting on corbels. At the angles of some of them are turreted machicolations, supported on corbels trebly and polygonally notched. There are also instances in which the towers are ornamented with panels, sculptured with heraldic bas-relievos—the arms of the owner,—and others in which the window openings are cusped, but the rule is severity of treatment. The lower chambers are groined—in several examples, barrel-groined. With the exception of the entrance on the ground-floor, there

are no openings below the height of a man larger than *crenaux*. The entrance was defended by a portcullis. The dimensions of the plans differ materially. Halton tower measures 33 feet by 22½ feet: Shilbotell measures 22 feet by 18 feet: many are much larger. No two peles are alike in details; the district in which they are situated, the actual site they occupy, the period in which they were erected having exerted their varying influences; but the leading generalities are those mentioned.

It is a remarkable circumstance that several of these peles belonged to neighbouring monasteries: thus the tower at Whittle was the property of the Prior of Tynmouth, who also owned the castle of Tynmouth, and a tower on Coquet Island. Rytton Tower belonged to Newminster monastery, as did the two bassle-houses at Felton and Carrecoates. A pele at Hexham belonged to the Archbishop of York, and the Prior of Hexham built a pele with a stone house adjoining it at Carrow. The Bishops of Durham owned Norham Castle and Shoreswold pele, geographically, in Northumberland. And the hospital of Kepeyeare owned "a lytle tewre," at Tweedmouth. There is reason to believe that these were all in military occupation, or held ready for occupation upon any surprise. There are also fourteen peles, which have been from time immemorial the residences of the vicars of the respective parishes in which they were situated. Additions have been made to them; sometimes a wing added; sometimes a house built adjoining, with communications made from one to another; sometimes a story added; in other instances the upper story, being, perhaps, in decay when the additions were making, has been replaced by a modern superstructure. There is a pele incorporated at Chatton vicarage; another in Alnham vicarage; others in the vicarage houses of Shilbotell, Ponteland, Embleton, Whitton, near Rothbury, Elsdon, and Ford. Whittingham pele is used as a school. Corbridge pele stands in the churchyard. There were, too, "lytle towers" at Ingram, Stanwardham, Symondburn, Kirk Whelpington, and Aldwinton, all of which were the "mansions of the vicaredges." It takes an experienced eye to detect some of these peles. That at Ponteland could not have been more ill-used by the Scots than it has been in our own day. The ancient window openings have been all blocked up, and large modern sashes inserted to correspond with the regular order of those in the new portions of the vicarage, and one vast coat of plaster and shingle daubed over all its antiquity. Shilbotell vicarage looks, externally, like two small stone houses thrown into one, with a red tile roof divided between them; but enter it, and it will be perceived that the ground chamber of the house adjoining the church-yard is barrel-groined and lighted by a splayed loophole through walls 4 feet thick. The upper chamber has been more modernised; but from its windows can be seen the sweep of sea and country that Ducis de Bedford and his retainers saw from it when in their occupation, *circa* 1460. Embleton tower has been patched and repaired, and made to suit the requirements of the day without regard to its associations. And Alnham pele has been enlarged into a mock castellated vicarage.

Other peles have been incorporated in the residences of the county families, several of which are called castles in virtue of this conservation. Chipchase Castle is a noteable instance. This, when in the occupation of Alexander Heroun, in the fifteenth century, was known only as "Turris de Chepchasse." Haggarstone Castle, at the same date, was "Turris de Hagarston;" and Featherstone Castle, in 1542, was a "towre at Featherstonhaugh." Craister tower stands at an angle of a large modern mansion occupied by the representatives of the original owner of "Turris de Craister." Cockle-park tower, with additions made in Stuart times, and alterations in Georgian times, is used as a farm-house. Crawley pele occupies a site successively chosen by the ancient British and Romans as an encampment on an eminence whence the vale of Whittingham can be scoured by the eye. This is a large tower. A farm-house, with the roof on it, is formed inside it on the ground floor, the chimneys of which rise up among the jagged edges of the tall ruin, and farm buildings and piggeries hem it in on all sides. Farm buildings are built up against the decaying pele at Kyloe. The market-place at Hexham has a pele; and a pele stands in the market-place at Corbridge. There is an Edwardian pele at Ancroft, in a most curious position. It is built over the west end of a small Norman church. The Norman walling, pierced with its Norman doorway, remains up to the height of the corbel tabling, and upon this the low, square, sturdy tower, with walls 4 feet thick, has been planted and treated in every way as an ordinary pele—save its remarkable site.

Heaforlawe pele is a notable specimen of an isolated pele. It stands on high ground about three miles north-west of Alnwick, as grim and sturdy, as passively defiant, as a prickly gorse-bush on a patch of moorland. Not a tree, scarcely a hedge, obstructs the sweeping view it commands on all sides. It would be difficult for a hare to escape observation, and impossible for the boldest Scot. From its summit could be seen and signalized Dunstanborough Castle, Bamborough Castle, Holy Island Castle, Embleton Pele, and Coquet Island Tower. Eastwards the country slopes downwards to the sea; northwards and westwards, some ten miles in the distance, uprise the Cheviot Hills and brown moorlands, some 100,000 acres of which yet resist cultivation; and between the pele and the windings of the river Alne, before it flows past Alnwick Castle, lie the remains of Hulme and Alnwick abbeys. A green and brown and black and purple country, with clusters of dark fir trees here and there, and low sandstone fences edging the roads, with hares or rabbits darting past, moor-birds on the wing, and the air ever vibrating with the distant melancholy cooing of wood-pigeons. The tower is roofless, but not ruined. It had three stories; but the third story no longer retains its full height; and grass and weeds are growing in the chinks on the wall-tops. There is no opening on the ground-floor, save the doorway. On two sides of this tower there are small panels which contain a sculptured representation of the badge of one of the ancient Percies who was abbot of Alnwick Abbey—thus indicating that this pele was also church property. On the east side, close to one of the panels mentioned, is a cusped-headed niche. The window-openings are few and small—single and double lights irregularly placed.

The pele, now forming part of Chipchase Castle, has preserved its portcullis and the machinery with which it was raised; and is in many respects a most interesting example.

In examining these ancient fortlets the question that arises is, do they form one continuous system of defence, in which priest and knight must have alike joined,—one continuous network of towers from the tops of which the whole Border country laid under observation, and signals could be made by beacon, or otherwise, from one to another, announcing danger and demanding assistance, or are they simply the fortified residences of the gentry of the country, built in an age when every man's house may have been, literally, his castle?

If an Englishman sowed an acre of the "batable" land on the extreme border the Scots would lay it waste; and if a Scot so ploughed and sowed a field in the same contested ground, his industry was immediately cast to the winds by the English. The fierce character that these and similar destructive forays gave to the Borderers required centuries to subdue. Every able-bodied man had to give his services in pursuing the enemy whenever called upon to do so, and a habit of pursuit and reprisal became a second nature. And if the Border legends concerning fair Maiden Lilliard and the lady who, in derision, wiped with her handkerchief a part of her castle-wall that had just been struck by a stone thrown from an engine of the besiegers, be true, their help-mates were as brave and scornful as they were themselves. From joining together in self-defence, an easy transition was made to aggression, and the honest men left on the border lived in equal fear of Scot and moss-trooper. Special legislation was resorted to to meet these delinquencies. Henry V. singled out the "felons" of Tyndale and Hexhamshire for especial severities, and before his death included the "murderers and offenders" of Reedsdale in the same penalties. The social peculiarity of the Northumbrians appears to have been that instead of becoming more and more orderly and well behaved, like the natives of the southern counties, they became less and less so. Outlawry and forfeiture had no terrors for them. Their hearts and hands were too imbrued with deadly feuds, too familiar with deadly retaliations, their ears and eyes too expectant of pursuit with hue and cry, bugle and bloodhound, and a lighted piece of turf carried on a spear, hot-trod, to care for the mild threats of the law. And again these knots and companies of men, well mounted and strong and lithe of limb, had in reality but little to fear; for, although ostensibly frowned upon by the legislature, they were made use of by the ruling powers as weapons against the Scots. The Earl of Northumberland wrote to Henry VIII., ten years after the battle of Flodden, that he meant "to lett slippe secretlie them of Tindaill and Riddisdaill for th'annoyance of Scotlande.—God sende them all goode spede!" With this secret encouragement their enormities were unabated by the accession of Queen Elizabeth. They frequently took people prisoners, and detained them till they were ransomed, and were constantly carrying away cattle, setting fire to barns and corn-stacks. They took the town of Haltwhistle twice, and carried away a great many persons and their goods. Elizabeth endeavoured to keep them within bounds by an enactment which set forth that "whoever shall, without lawful warrant, take any of her Majesty's subjects against their will, and carry them out of the counties of Cumberland, Northumberland, Westmoreland, and Durham, or to any other place within the said counties, or detain and imprison them against their wills, to ransom them or to make a prey or spoil of their persons and goods upon deadly feud, or otherwise; or whoever shall be privy or assisting unto any such taking, or whoever shall take or carry to the use of himself, or wittingly to the use of any other, any money, corn, cattle, or other consideration, called *black mail*, for the protecting of them or their lands or goods from such thefts and robberies; or whosoever shall give any such black mail, or shall wilfully and of malice burn or cause to be burned, or aid or consent to the burning any barn or stack of corn within the said counties, shall be adjudged felons." The names of outlaws were to be proclaimed by sheriffs in their county courts and chief towns once a month till they gave themselves up. The mayor, bailiffs, aldermen, and other chief officers were to proclaim them at every fair, and once in every six weeks at their markets. And if any one relieved, entertained, or conferred with any of these outlawed persons, he was to be imprisoned for six months, and bound in two securities for his good behaviour for one year after. Elizabethan severities were of no avail; for Charles II. found the Borderers in need of further special enactments; and George II. thought it expedient to confirm the Acts of Charles. This evasion of the law, through the reigns of so many monarchs, gives us insight into the need there was of strong places of defence in every district.

There is one fifteenth century MS. and one sixteenth century MS. extant relating to Northumbrian peles. The first-mentioned was in the possession of Mr. Robert Surtees, F.S.A., of Mainsforth, and the latter among the Cotton MS. in the British Museum, when the Rev. John Hodgson compiled his "History of Northumberland." They were transcribed for him that he might weave their contents into his work; but he ultimately decided upon printing them in their integrity.

The Surtees MS. is simply a list of the names of all the castles and towers in Northumberland, with the names of their proprietors. There are thirty-seven castles enumerated. The peles, seventy-eight in number, are called *fortaliciorum* in the heading, and then indicated one by one, as Turris de Thropton, Turris de Ottirbourne, Turris de Nesbette in Glendale, &c.

The sixteenth century MS. is fuller in its information. It bears date 1542. It is a report of an inquiry into the condition of the frontier and its defences, by Sir Robert Bowes and Sir Rauph Elliker. It is curious to note that whenever they and their party came to a "lyttle parcell of grounde plowed by the Scots with the corne growynge thereupon," they painfully destroyed the same. They appear to have traversed the boundary line of the two kingdoms before they examined the defences. This is but indefinitely marked in some parts of its length; in one place by a dyke only, which the Scots were continually defacing, filling in and ploughing over; in others by a boundary stone, a watercourse, a hill, a hanging stone, a mountain, a brook, &c. The Tweed was less "batable." After describing these features and the places in which the Scots had crossed the border and ploughed the land, and the manner in which he and Sir Ralph had left everything waste, Sir Robert proceeds to enumerate so many of the frontier defences as are on their route, and to mention briefly whether they are in good reparation or not; whether they possess a barmekyn or protection for cattle, and, when they did not belong to the "king's majestie's inheritance," the names of their owners. This "viewe" relates to the east and middle marches only, but it tells of as many as 108 fortlets. In all fairness to the prowess of the Scots, we must admit that Sir Robert found very many of them "oute of reparacions," "defaced in the wars," "in extreme ruin," and "caste downe." Sir Robert was not so magnanimous: he traces the decay of so many of the peles to the fact that "the owners thereof for their more easye

quyetness and savynge of expences did withdrawe themselfes in fermes or other smaller houses within the countreye further distant from the said borders to the great decay of the same. And also not regardinge their said uttermost fortresses or houses at the fyrste made for defence and strengtheninge of the said borders for lacke of necessary contynual rep'acons have suffered them by lyttle and lyttle to fall in extreme ruin and decay." By virtue of his commission Sir Robert sent a letter to every such owner, complaining of their negligence, and of many of them suffering their decaying fortresses to be used and inhabited by herds and hinds, many of whom were "Scottes borne," and desiring that without further loss of time they would cause the said tower, with its fortifications, to be put in able and sufficient repair; and that either the owner or some other "apte and able person" was to inhabit it, by whom the tenants and other inhabitants of the neighbourhood might be led forth "to fraye and followinge for the defence and savegarde of the said borders and m'ches against the incourses of Scottes and theves as ofte as nede shall requyre. Fail ye not hereof as ye will avoyde the King's ma^tie^s most dredful dyspleasure and at y^r further p'yll. And thus hertely farewell."

Nearly thirty years had elapsed since "the flowers of the forest were a'wed away" at Flodden; and fresh rumours of war were afloat. Sir Robert, as well as urging the rebuilding of the various fortresses, proclaims the necessity of providing every tower with a barmekyn to protect the cattle. In his estimate of the cost of rebuilding some of them, he quotes 200 marks as the price of a barmekyn; and a hundred pounds as the price of a tower, provided always that the king's majesty orders the timbers to be cut in the lengths required at Holy Island and Tweedmouth, so as to spare as much carriage as possible as "the beastes be so small and weake in these parties." He further intimates that the able-bodied men of the district should be apportioned off in such a manner that about forty of them should be ready to defend each tower. Sir Robert's observations lead up to the inference that these towers had a systematic connexion with one another, although the inheritance of private individuals; for, in urging the rebuilding of two peles out of reparations he says, "No Scot could pass but one of those houses might discover them. And so by burning of beacons or shote of a gun to give knowledge and warning from one to another, whereby they might assemble to resist, repulse, and annoye the enemy as occasion might serve them."

The terms pele and pile are applied to the same building in this Tudor document. Thus, in the text, Sir Robert says, "At a place called the Hare Clewgh one Rog' hangingeshawes hath lately buylded upon his owne inherytaunce a strong pele house of stone in a convenient place for resystence of the incourse of theves of Ryddesdale, and he ys not able in defaulte of substance to p'forme and fiynshe the same;" and in the compressed marginal reference, says, "Hare Clewgh, a stone pile not finished." Again, "At the Sawnes is a lytle pele house or castell of the inherytaunce of the said Sir John Fenwyke in measurable good rep'ac'ons only," which is called in the margin "a little pile;" and "at Elybourne p'cell of the lordshippe of Rotheberry is a strong pele house of the kinges ma^tie^s inherytaunce as of thaugmentac'ons of his graces crowne and p'cell of the late erle of Northumberlandes landes," which is called in the margin "a strong pile."

We have been at some pains to furnish a list of the places which possessed peles in the Middle Ages in Northumberland. There are but few of them that have altogether disappeared — the thickness of the walls and the excellence of the workmanship resisting the obliterative tendency of alterations as well as the effects of the elements. They will be found fringing the rivers and skirting the coast, and thick in central Northumberland, from north to south, where, if once safely across the Tweed or the Cheviots, the Scots might have, otherwise, made rapid advances upon English ground. The sites are arranged alphabetically, rather than geographically, for the convenience of reference:—Adderstone, Alnham (2), Alleynton, Blenkinsoppe, Brankestone, Barmoor, Bewick, Belsay, Beufront, Bambrough, Biddlestone, Burroden, Barrow, Babington, Berrington, Bukton, Carrow, Carran, Cheswick, Chatton (2), Crawley, Cockley, Callalye, Cartington, Corbridge, Chipchase, Cornhill, Craister, Coquet Island, Duddo, Denton, Downeham, Embleton, Elsdon, East Newton, Eslington, Elibourne, Elwick, Featherstonehaugh, Fowberry, Ford, Fenton, Fenwyke, Flotwayton, Goodrich, Great Ryle, Great Tosson, Gunnerton, Haltwhistle, Howtell, Haggarstone, Horton, Holborne, Hesleyside, Hepburne, Hepbell, Hareclough, Harehambale, Hoppale, Hethepool, Heselrigge, Hexham (2), Halton, Ilderton, Ingram, Kirkwhelpington, Kyloe, Kirklaw, Little Harle, Little Swinburne, Langton, Lowick, Lilbourne (2), Linnebrigg, Lemerton, Mickle Swinbourne, Meldon, Middleton (2), Newbrough, Nesbitt, Newtown in Glendale, Newtown near Edlingham, North Middelton, Newstead, Otterbourne, Pawston, Preston, Ponteland, Rotheley, Roddam, Stanwardham, Shilbotell, Symondburne (2), Sewingshelles, Satlingstones, Scrimmerstone, Shoreswold, Shawden, Sawnes, Staward-le-peel, Scranton, Shortflatte, Seaton Delaval, Sighale, Thirlwall, Tilmouth, Tweedmouth (2), Thornby, Tharnam, Trewhit, Thropton, Trowhen, Whitton, Wawtoun, Willimoteswick, Wooler, Wetewood, Whittingham (2), Whittle near Tynmouth, Wallington, Westherle, Werk in Tyndale, Widdrington, Whitfields, Witteslade.

The Northumbrian bassle-houses, occasionally mentioned, should be also numbered among the curiosities of architecture. There is a fine and apparently little-known example at Doddrington, within ten miles of the Cheviot. It is a large, plain, strong stone house, built on a parallelogramical plan, three stories high. It is used as a store-house. The southern elevation is probably untouched. There are no window-openings on the ground-floor; and this portion of the edifice is strengthened by enormous buttresses. Immediately under the parapet there is a wrought stone bearing this inscription:—

T. C. MILES
HUJUS STRUC
TURE SUPTUM
FECIT. A.D. 1584.

Sir Robert Bowes mentions "bassle-houses" at Hatherton, Hawicke, Swetehope, Felton, Carrecoates, Hallbarnes, Symondburn, Aykeld, Newbriggen, Green Leighton, Tekett, Bradley, Bellister, and a "strong stone house in Tyndale—Tarset Hall." The latter was burnt by the Tyndale men in Tudor times, and its stalwart ruins, covering nearly an acre of ground, and ashlar walls 4 feet thick, impressed the inhabitants of the scattered houses in the deep and narrow glen, formed by the lofty hills in the surrounding mountainous district, with the belief that it must have been the habitation of a dreaded giant. As with pele and pile, the terms "bastell-howse" and "castell-house" are used alternately in reference to the same building. They are the latest of Mediæval fortlets.

Our "viewe" of Northumbrian fortifications would not be complete without passing reference to the large number of castles the country possesses; although those edifices do not come within the compass of the present writing. They are too vast, too varied, too important to be treated summarily. Their number, however, and situation may be dwelt upon in contrast with those of the peles. There were castles built at Alnwick, Berwick, Heton, Warke, Norham, Etal, Ford, Chillingham, Harbottle, Haughton, Langley, Lambley, Bamborough, Dunstanborough, Warkworth, Tynmouth, Newcastle, Prudhoe, Ogle, Morpeth, Mitford, Eshett, Twisell, Edlingham, Aydon, Thirlwall, Horton-in-Glendale, Roxburgh, Bothal, Belforth, Dichante, Showdon, Capheaton, &c. &c.

Thus is Northumberland inlaid with strong towers. Looking at them, and thinking of the service they have done, of those they have defended, and of those who have defended them, the heart-beatings of those who first saw the distant signal-beacons, the rapid kindling of others, the heaping-on of dried whins and woods, the breathless coming to and fro of messengers, the hurried entrance of women and children, the driving in of cattle to the barmekyns, the brave sallies of armed men, we would that every stone was spared. Grey with age, as they may well be with memories, they are radiant with the associations as with the lichens with which Time has sealed them. They give to a district the choicest interest. And yet many of them are abandoned to cattle and jackdaws; others are so metamorphosed as to lose their identity; and in occasional instances, as at Hesleyside and Bewick, some are quite obliterated. The wisest of men wrote,—"Remove not the ancient land-mark which thy fathers have set," and the lapse of thousands of years has not lessened the value of the aphorism—it is yet "more precious than rubies."

THE MARBLE STATUE OF LORD LYONS IN ST. PAUL'S CATHEDRAL.—Mr. Noble, it appears, has received in payment the sum subscribed for the Lyons Memorial, which amounted to 1,114*l.* 15s. 7d.

PRINCIPLES OF DESIGN IN ARCHITECTURE.*

THE system in dating books, and in the publication of fresh editions, needs amendment. Changes are now so rapid in the light received by any subject, that it is necessary to know more about the time of promulgation of the facts and opinions than is comprised in a date that applies to an entire period of twelve months. As to the practice of affixing to books published at the end of a year, the date of the year following, it is simply a very stupid practice, which we have known to operate to the deprivation of the credit of prior publication of statements, and to the gain of the credit by a book published at a date later than the actual publication of the first. We have, however, now to concern ourselves only with the course which should be taken, for the convenience of inquirers, and in justice to authors as well as purchasers of books, in the case of new editions; and we cannot notice all the points connected with such publication even, except by saying that our literary contemporaries are strangely indifferent to the whole subject. But we have to say, that where, as in the case of the book now before us, there is no information given of the date of publication of the first edition, and no indication of the author's sanction of the opinions as his in 1863, inconvenience, to say the least, to all parties results. It is not always indeed that second thoughts are best; and we are not sure that we should accept what Mr. Garbett would say now, as better than what he wrote in the first edition of his "Principles of Design," which was published somewhere about the year 1850. What is the duty of those who have obtained copyrights, however, is plain; and a couple of lines of prefatory advertisement to the new edition, would answer the purpose; whilst authors desiring to supplement and complete their statements, or modify opinions, would stipulate for the right over second and later editions; although we must add, that nothing but the progress of time, and the fact that the new information would not have come to the author without the first publication, can excuse incompleteness of the original work.

The publication of Mr. Garbett's work as one of Weale's Rudimentary Treatises, occasioned something like a sensation in the small *coterie* which is the architectural literary world; and we hope that the present republication may be accepted as evidence that the book has been extensively read, outside the profession. We have taken the opportunity to go through its pages a second time, and with advantage. There are crotchets in it, as there might be found in any other of the books that have characterized the last twenty years of writing on the class of subjects; but we know no work that we would sooner recommend to an attentive reader desirous to obtain clear views of the nature of architectural art. Mr. Garbett came after the appearance of Mr. Fergusson, Mr. Ruskin, and Mr. Hay, in their earlier works; and he derived advantage from them no less than from Burke, Reynolds, Price, and Alison, even where he differed in conclusions.

In the scheme of subject-matter, the first chapter of the work was devoted to the question, "What is architecture, and what are the objects at which it aims?" In three succeeding chapters of Part 1, the author endeavoured to deduce from the works of nature, and from consideration of the "objects" referred to, "some rules and principles which might be expected to conduce to their attainment," as well as to show that those principles had "actually presided in the most successful productions of the art." In the second part, he examined "the two architectural systems, by general consent called *pure* and *complete* styles," to show "that their purity consisted in the observance of these principles" and to elicit other principles peculiar to each; and he concluded with some remarks on the state and prospects of our art.

The objects of *architecture proper*, that is architecture comprising whatever perfections a building may possess besides convenience and stability, he regarded as fourfold; or, *first*, the exhibition of a courtesy due from every one who builds, to humanity, on whose ground and in whose sight he builds; *secondly*, a further refinement into positive beauty; *thirdly*, expression, the conveyance of definite emotions to the mind, suited to the character of the work, though not descriptive

* "Rudimentary Treatise on the Principles of Design in Architecture, as deducible from Nature and exemplified in the Works of the Greek and Gothic Architects," by Edward Lacy Garbett, Architect. Second Edition. 12mo. pp. viii. and 241; cuts. London: Virtue, Brothers, & Co., 1863.

of its uses to the extent sometimes asserted as within the province of architecture; and, *lastly*, poetry in building, or the means not only of affecting, but of exalting or improving. He said :—

"The architecture which attains only the first of these objects is no more than a *polite* art; when it reaches the second, it becomes an *ornamental* art; by attaining the third (and not otherwise) it gains a title to be considered a *fine*, that is an *expressive* art; in those very few of its productions in which the last purpose has been accomplished, does it deserve to be called a *high*, a *poetic* art. As the first, its aim is to *conciliate*; as the second, to *please*; as the third, to *touch*; and as the last, to TEACH."

One of the author's main points was the demonstration of the existence of a class of beauty between the "mere æsthetic" without expression, on the one hand, and the phonetic on the other, and of the similarity of architecture and music (instrumental) as arts. To both these arts he allowed the power of expression, but not of *meaning*, properly so called; for,—"an overture without words can express nothing more than a building without phonetic sculpture or painting." Music, he said, acts more strongly on us than architecture, but then it addresses us through a sense which is completely at its mercy. Expression *acquired*, however, must not be mistaken for that which is *natural* and permanently true. As an instance of what is merely local prejudice, the idea of a *club-house style*, which grew by a singular force of association from the erection of two buildings in Pall-mall, was alluded to. The great utility of travel to the architect, our author wrote, "is not to show him much of the world, but to teach him how little of it he has seen." If you want to distinguish between the destinations of buildings such as mansions and club-houses, he said, the best way is by writing up their names.

The beauties of building which are of the lowest class in the author's division, are colour,—which the love of it by children and savages shows to be a matter of sense;—repetition and uniformity, beauty of form apart from expression, beauty of curvature, unity with variety, and gradation and contrast, that is to say, without reference to destinations or to the beauties of expression, definite character, or fitness. They are the beauties to which Mr. Fergusson gave the term æsthetic, restrictedly, or sensuous. In strictness, Mr. Garbett said, these beauties would include only those of colour, those of mere form being always addressed to the mind, though making no attempt at definite expression or emotion, and so not entitling the art in which they are found to the appellation of a Fine Art. Afterwards comes the consideration of different kinds of expression, as the gentle or delicate sort of beauty, and sublimity,—results from the opposite effects of contrast and gradation,—contrast being calculated to *excite*, and gradation to *soothe*; and forms were divided according to the degrees of contrast or gradation, into five classes. The chapter treating of "some higher attributes in architecture" showed the difference between copying natural objects, and imitating nature, or in the latter case generalization; it showed also very clearly the difference between decoration and picture, distinction which we believe had been shown in these pages previously, and at a time when it was far from being understood. He next came to speak of Constructive Truth and Constructive Unity, as indispensable in any attempt to rival or even understand the Greek and the Gothic systems, but attached perhaps too much importance to the vaulted ceiling in the latter, when he said that applied to a building not so ceiled, the style must be useless and meaningless. Taking a hint from a portion of the late Alfred Bartholomew's "Specifications of Practical Architecture," he found that there were three styles of construction, which were mixed indiscriminately in every modern building, whilst it had been the peculiar merit of the Greek and the Gothic systems to exhibit only one of the modes of construction, each thereby possessing constructive unity. He saw in the Greek system, the architecture of cross-strain and vertical pressure, and in the Gothic, and arcuated systems generally, the architecture of compression, and oblique direction of forces; whilst he looked forward to an architecture of tensile strain, comprising the various kinds of truss, as "the destined architecture of the future." These speculations are the least satisfactory portion of the book; and it is worthy of note that instead of progression during the last ten years in the direction speculated upon, predominant use has been made of the girder system or that of cross-strain, as exhibited not merely in railway bridges, but in roofs such as the roof of Covent Garden Theatre. Still, the second part of Mr. Garbett's work was not less interesting than the first. The contrasted sketches of the arrangement of the roof, gutter, and wall, in a modern English building, and in a Greek; of the cathedrals of Salisbury and Amiens, with particulars; and of different sorts of vaulting; and his restorations of the Mausoleum, and the tomb of Porsenna, are useful features in the work; whilst the general examination of the Greek architecture and the Gothic, is of some value. Portions of the concluding remarks and of the section on Post-Gothic Architecture, seemed in the first edition needlessly discouraging, and that is still more the impression produced now. There is a greater resemblance between in some cases the very words of Mr. Garbett and Mr. Fergusson, than the latter was probably aware of when he last wrote. The former thinks, or thought, that the age of *styles* ceased with the great change, the invention of printing, and that then the age of *individual artists* commenced, that "there will never again be a period of pure taste," that art is now for the many and of the many, who are "vulgar, gross-minded and thought-sparing," and that we become more and more degraded; yet he accurately perceives that architecture is a part of the nature of man—a thing which must be had, good or vile; although he believes that "fickleness, low cunning, hollow affectation, simulation, servility, and thought-flying hurry," are characteristic of the *many*, in every nation; and that "we are as yet the only nation that have a style of the many." He appealed to all who had ever returned to our shores after a long absence, as to the effect upon them of our architecture, and certainly did not overstate the case as to the disgust therewith. But he did not discover the entire reasons of this, some of which have to do with the smoke-nuisance. The architecture of the few, thinking and truth-seeking, he continued, is hidden by the mass; and the danger is that this will be falsified by the general corruption. To obviate such a result "*is now the office of true architecture.* The general taste can never improve. Pure taste can never again prevail; but it can *fight*." It need never be extinct, but it can exist, he said, only by fighting every inch. Its "glorious destiny" was "to wage a perpetual war against falsehood," &c. Those enlisting on the side of Truth, in this conflict, must bear in mind, said Mr. Garbett, that there is no substitute for thought, and that nothing can increase the value of a design which does not increase the labour of the designer; and also in mind, points (those we have ourselves taken pains to set forth) regarding novelty and precedent. On the question of a new style, the author concluded that the requirement to invent one for ordinary buildings was preposterous. No inventive architect would wish for a new style; though "in another point of view, one is indispensable." He spoke of a class of buildings, without designating it however, as approaching a new style of construction in the use of *tensile* covering: in such style the treatment would be of necessity new. A new *principle of unity* would have to be kept in view, and of the three such principles of constructive statics,—the depressile, the compressile, and the tensile methods,—the beam, the arch, the truss,—the third, he said, was ours to be used as the others have been.

There is much in all this, written some thirteen years ago, to justify our view first expressed, that it should have come to us with either the author's *imprimatur* or his latest corrections and additions. Still as we said, the book is as it was, a valuable one; and we would chiefly claim for it, as would its author, that it should be read intelligently.

THE HOLIDAY DECORATIONS AND REJOICINGS.

SUCH a holiday time as not only London but the whole country has just had can only happen once in a generation, if even so often. The display at the close of the Crimean war was as nothing to it. The newspapers which we receive weekly from all parts of the country were last week of themselves a curiosity, such as many years' experience in journalism has never till now presented. Each and all, supplements inclusive, were literally stuffed full of reports from town, village, and hamlet, as to the grand proceedings of the 10th instant in the respective localities; besides lengthened details of the reception of the Princess and the Prince in London, and their marriage at Windsor. As for the illuminations throughout, from the Land's End to John O'Groat's House, the star-gazers resident on our planetary neighbour Mars, if any such there be, may literally have witnessed the grand flare-up, through their telescopes, if they have any; and perhaps may have been in hopes of it ending in the interesting phenomenon of a whole planet on fire.

Any general account of the decorations, either in town or country, besides what we have already given, is out of the question; but, as an example or two may indicate what was everywhere going on, we may just note briefly that,—

At *Bristol*, there was hard work for all from morning till night in celebrating the marriage of the interesting couple, with review, banquet, ball, decoration, and illumination; and the poor were not forgotten here nor elsewhere: about 4,000 children were treated to the Zoological Gardens, where they sang the National Anthem; and, as they left the gate, that good soul, Alderman Proctor, gave every one of them two bran new penny-pieces, to go their ways with (to the confectioner's) rejoicing.

At *Brighton*, besides the whole day's proceedings, and the illuminations at night, there were fireworks, boats on fire at sea (rather an odd form of rejoicing, by the way), and a grand torch-light procession. As to which, a reporter says,—

"Amidst innumerable torches with very beautiful coloured lights, at intervals marched a heterogeneous concourse of fancifully and fantastically-dressed persons, under the guidance of about twenty captains, each of whom was distinguished by bearing a lantern for lighting torches. Early in the procession came a body of fifty members of the United Ancient Order of Druids, in long flowing gowns, belted round the waist, with the cowls drawn over their heads, and having their faces ornamented with the Druidical grey beards (this being their first public appearance in Brighton); forcibly reminding the spectator of Lorrequer's 'Monks of the Screw.' The railway men were interspersed with the line; and, with their red Garibaldi shirts and white trousers, greatly enhanced the picturesque spectacle. Altogether, the ruddy glow of the torches, fanciful dresses, regalia of members of different societies, inspiriting music, vociferous cheers, and immense concourse of followers and spectators, combined to form one of the most striking effects of the day, and one that will prove most tenacious in future years, when recalling memories of the 10th March, 1863.

On the procession returning to the level, a small quantity of firewood in the centre was ignited, blazed up, and into the fire thus speedily made the remainder of the torches were thrown, and a right glorious bonfire was formed."

At *Sheffield*, besides all the other decorations and proceedings, no less than sixteen triumphal arches were erected in various parts of the town, through which, too, there was a grand procession.

In *Ipswich* the decorations were particularly numerous, and in some instances very tasteful. In more than one street nearly every house displayed an elaborate piece of adornment. A procession, including from two to three thousand persons, was organised and passed through the streets: the Volunteers were reviewed; and at the Arboretum in the Henley-road an oak was planted by the mayor, with ceremonies, in commemoration of the occasion; Mr. T. Shave Gowing, who has given much time to the formation of the Arboretum, invoking his muse and reciting as follows :—

"We plant thee, forest king,
Upon this grassy mound,
In hope that ages hence,
Thou still may here be found,
Echoing to after times
Our Prince's wedding chimes.

May he, like thee, grow on,
With many branches graced,
To be the stem and stay
Of his right Royal race!
He and his blooming bride,
The people's hope and pride!

Let's pray that Heaven may bless
The work that now we do,
As Heaven alone can bless
The good, the right, the true!
May God the youthful pair
Keep in His special care!"

A dinner, a ball, and good illuminations ended the day.

At *Bradford*, too, the mayor, Mr. M. W. Thompson, who is winning golden opinions, planted two memorial trees in Peel Park, the "Albert Edward Oak" and the "Alexandra Elm;" and then declared the park free from debt, making himself liable for a considerable sum in order that he might do so. In the evening the mayor and mayoress gave a ball in St. George's Hall, to which nearly 1,000 invitations had been sent out. The people and press of Bradford have properly recognised Mr. Thompson as the right man in the right place.

In *Windsor*, itself, we should note as a novelty (in addition to what we said last week), a verandah, formed by Mr. W. G. Johnson, in front of his house in High-street, which consisted of specimens of Moorish and Saracenic window tracery of early date,—similar, indeed, to some known to be of the ninth century, but whether actually of that period or not we are not in a position to say.

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At *Edinburgh* there was a review, a banquet, a people's demonstration, day and evening theatrical and other amusements, with innumerable illuminative and other decorations. The city was full of country people. The dome of St. George's Church was illuminated at one end of George-street and the shaft of the Melville column at the other, while St. Andrew's-square was illuminated on all sides. The Scott Monument, in Prince's Street-gardens had its prominent and architectural features also brought out at night by gas jets, and the Queen's Statue on the top of the Royal Institution was illuminated by the electric light brought to bear upon it from a distance.

In short, the illuminative and other decorations were universal; and the 10th was observed as a general holiday throughout all England, Scotland, and Ireland.

As an incident connected with the royal marriage, we may note, before concluding, that Mr. George Robert Stephenson, C.E., has presented the sum of 500*l.* to the town of West Cowes on the occasion of the marriage;—300*l.* to be devoted to the acquisition of the "Green" in that charming locality; 150*l.* to be invested by the authorities of the town, the interest accruing thence to be expended in painting and keeping in repair the seats on the "Green;" and the balance of 50*l.* in providing the destitute poor men, women, and children with a substantial dinner on the auspicious occasion of the arrival of the Prince of Wales and his bride on their way to Osborne, where they spent "the honeymoon," or at least a portion of it.

THE PHONETIC AND TECHNIC THEORY CONSIDERED.

IT is difficult to note the effect of Mr. Fergusson's recent work, "The History of Modern Architecture," upon the reading and writing architectural public, without being amused. Statements, assertions, and even logical arguments, previously exciting the utmost animosity, which but a few weeks ago were fiercely combated, are now gulped down without a wry feature or a word of complaint. If others have said hard things of architects and architecture, Mr. Fergusson may with justice claim the credit of having surpassed them all. This change, while being satisfactory in one respect, is far from being so in another, as showing that it is not so much due to internal conviction, as deference to a high authority. The giant has beaten the conviction into them, and the fear of hard knocks perhaps restrains the recalcitrant.

While agreeing with much that Mr. Fergusson has advanced, and giving him credit for great earnestness of purpose, I may perhaps be excused for pointing out what appears to so humble an individual as myself to be defective theory, fallacious argument, and incomplete illustration; but previously, for safety, would deprecate the Titan's apprehended blows.

An attentive perusal of the "History," from the title-page to the conclusion, will leave the impression upon any unprejudiced mind that the author has been suffering from a bilious attack, aggravating the action of the most acutely critical of critical minds. As it is much easier to find fault than to propose a remedy, it is, perhaps, questionable if any one is justified in making such wide and sweeping assertions without having previously proved the truth of his theory by some practical application of it, or being prepared with some well-digested scheme of regeneration.

Mr. Fergusson points out clearly—and, indeed, the whole of his writing is a model of diction and clearness—the inconsistency of employing two or more separate styles, in the same age, founded upon opposite principles; contending that, if one be right, the other must of necessity be wrong; but this is, we may see, an expedient resorted to merely from want of a style which will suit all classes of materials and objects. It is well known by all who have had any experience, or possess any taste, that Gothic is more suited to rude materials than any quasi-Classic style. We, in fact, labour under the disadvantage of having no suitable style to work with; and in lieu of this, we take the most natural course open to us, and adopt that style which meets the local wants most readily. That, at least, is the only *rational* way of using different styles in the same age.

Truthfulness is the one quality insisted upon which is to reform our art; but truthfulness was also insisted upon by Pugin and as strongly by Garbett, to whose theory of art the one adopted by Mr. Fergusson, divested of Garbett's eccentricities, bears a strong family likeness. But what is truth? The three authorities differ even on this point; and it may be asked, what has any of these theories produced? We are now fully as far off the wished-for goal as ever. If we are to judge of what this system alone can produce, we may take the examples quoted by Mr. Fergusson as being eminently truthful, such as the Federal Palace at Berne and the station at King's-cross;* and we find they are also eminently gloomy, heavy, insipid, and devoid of artistic qualities. Like most people who believe they have discovered a great truth, he pushes his theory too far; and to account for the want of natural progression and growth in architectural art which cannot be reconciled with the existence of true art, he makes a prominent distinction between what he terms the technic and phonetic arts, and hinges his whole theory upon it. To see a great analogy between *cookery* and architecture, and no analogy between *painting* and architecture, an analogy felt, seen, and expressed over and over again for some thousands of years, a man must wear a curious pair of spectacles, and look at the question through the medium of but one idea, in addition to possessing those qualities of mind attributed by Mr. Fergusson to the Aryan race. Strangely inconsistent with this statement is the counter one, that in the Italian style lies our only hope; a style by his own showing emanating from the hands of *painters*, who, one would suppose, would be most likely to be true to their own principles. By terming architecture the æsthetic form of the purely technic art of building, he slurs over the artistic difficulty; and though such may be the case, the inference he would have us draw from it conceals half the truth, nor can it be readily admitted that *any* useful art may be developed into a fine art. Shipbuilding is not a fine art, nor will it ever become one; for it does not possess the innate capacity for it. The form and beauty of a vessel are governed by purely mechanical laws, and the exquisite curvature of its lines is determined by the stability — carrying-power required, and the curve of least resistance. The less ornament about a vessel the better, and where such is adopted it is usually confined to the saloons, cabins, and other parts correspondent with the purposes of architecture on land. Undoubtedly any work of utility or mechanical arrangement may be decorated; but such decoration, so far from bringing it into the category of a work of the fine arts, in many cases, would only prove that taste was absent. Mr. Fergusson seemingly confounds *refinement* of mere contrivance with fine art, whereas fine art is dependent upon the æsthetic element being present. By his theory, a sugar-mill would belong to the technic class, and the works of a watch to the æsthetic form of the technic art of watch-making—or, at all events, would be classed with the fine arts. Probably he may not be prepared to go so far as this, for there are discrepancies in his theory difficult to surmount; nor is it possible to reconcile the whole of his statements with each other. The very division of the arts into technic and phonetic contains a fallacy, for the classification is not the most marked or obvious, being little more than a verbal distinction. What connexion can there possibly be between a map and an epic poem? Yet both of these must, by his theory, be classed in the same category; for the map represents the country in the place of *words*, quite as much as an historical picture does that of the incident it represents. Again, on the other hand, the technic, which comprise all the useful arts ministering to man's wants, are widely divergent. The art of butchering is a useful one, and demands skill, yet the most insane man would hardly compare it with the manufacture of porcelain or Minton's encaustic tiles, or pretend that both must be followed on the same principles and demand the same qualities of mind. There is one point of resemblance between all arts, whether it be poetry, painting, or pottery; and that lies in their progress being by a tentative process, though in different degrees. To confine, step by step, bit by bit, progress to the technic or useful arts, is opposed to all we know of the development of the human mind; for it is no less true that painting follows, and has followed, a law of development not unlike that of architecture. That painting may bear the impress of individual character in a greater degree than other arts, proves nothing, and is due to the execution being by the painter's own hand, when, on the contrary, an architect's conceptions are carried out by others. Between arts demanding the possession of similar qualities of mind there is a natural and close union; and whether it be painting, poetry, sculpture, architecture, or the potter's art, imagination, fancy, and invention are equally demanded.

The useful arts become fine arts only when the imagination and fancy are called in for their adornment, when the useful and the beautiful become blended. Progress in the mechanical arts is certain; and taste, though not subject to such rigid laws, should adapt itself to, and keep pace with, them. True architecture consults utility first, construction next, and beauty last. There is a certain measure of truth in the accusation that architects design *ab externo*, and without much reference to constructive exigencies; but such is not always the case. Architecture can never be developed upon *precisely* the same principles as mechanics, but upon compound principles; partly those of artistic composition, and partly those of utility and contrivance.

Fine art phonetic and fine art technic is rather a curious subdivision, which no one ever conceived before Mr. Fergusson brought it to light; still less the classification of painting by form and colour, light and shade, with word painting, or poetical narrative, in preference to cognate arts, which also depend upon form and colour, and possess other striking resemblances in their lineaments. The sister arts of painting, sculpture, and architecture cannot be practised upon principles identical in all respects, for the former are purely imitative, and the latter only so in a small degree, and that in the subordinate and decorative portions; but I maintain that the laws of composition, grouping, and disposition correspond in a most remarkable manner, and it is only from a knowledge of these that the architect becomes something more than the constructor or builder. Ornamental arrangement is nothing more nor less than artistic distribution disguised in another name, and founded upon principles identical with those that govern the picturesque in painting. Then, again, in alluding to the Reform Club House, he remarks that a grouping of the windows would improve it, showing plainly that whatever be his notions, the eye of the painter is still his guide, for in that remark lies the very essence of painting. In what he terms the technic arts, architecture, so far has sailed parallel with them as to have adopted constructive and utilitarian expedients in consonance with the age, such as the employment of wrought and cast iron as ties, girders, and columns, large sheets of plate glass, sash-windows, and a thousand minor expedients for promoting comfort and affording strength; but on this point, in which lies the only analogy between architecture and shipbuilding, machine-making, &c., he is silent. Agreeing with him, and, at the same time, lamenting the shortcomings and falsities of most modern art, I maintain that it does not proceed from the adoption of painters' principles, or lack of desire for truthfulness, but from a deficiency of artistic power and fancy, and general impotence of design, arising from several centuries of copyism. He shows very plainly the faults of modern buildings, and points out where they transgress the limits of good taste, and also the folly of applying ornament to purposes for which it was never designed, and is not applicable now. So far, this is good and satisfactory; and undoubtedly the "History" will have a highly beneficial effect in showing that a man may devote a whole lifetime to the study of ancient art without advising us to copy it. His work will make students more self-reliant and thoughtful, and go far towards upsetting that adherence to antique styles thought so necessary for the perfection of a work in the present age.

The recommendation to design in the most natural and obvious manner would be a great blow to that affectation of Mediævalism so rampant at the present time, which merits all the adverse criticism so ably bestowed upon it. Indeed, what Mr. Fergusson recommends in the *practice* of architecture, as far as it goes, though he deals rather largely in dicta, it is not my object to find fault with. I believe him to be right in the object he is contending for, but that his theory is wrong; that it is incomplete and inconsistent; that it is based upon a certain measure of truth, but wanting in warmth and vitality, and, if followed strictly, would lead to nothing but barren meagreness. From the manner in which he reiterates the same ideas, continually following one circle of thought without arriving at a thoroughly comprehensive system, he himself seems to feel the incompleteness of his theory, which would lead one to conclude that it is deduced more from the investigation of other men's work than an innate conviction, the result of his own practice.

A noticeable omission in the "elements of design," as expounded in his lecture to the Royal

* Can it be considered truthful to terminate a couple of light iron roofs in a fashion to suggest the notion that they are the mouths of two immense tunnels?

ngineers, is the little prominence he gives to de-
ail. We are presented with the mere skeleton of
rchitecture, and told to clothe it with flesh and
lood ourselves; being simply directed to design
etail for the place it is to occupy, and we cannot
o wrong. This is a very easy way of dismissing a
ery great difficulty, for upon detail the reputa-
ion of an architect must depend more than upon
ny other point, the character of a building being
lue to it. We have numerous buildings that are
vell disposed in their parts, truthful and propor-
ionate, but fail from lack of consistent charac-
eristic and appropriate detail.

The great obstacle that meets modern architects
s the want of a class of detail suitable for modern
wants, for the decoration of door and window
openings, cornices, strings, and chimney-stacks,
that will possess great plasticity and admit of an
infinite variety of treatment; and the sooner we
set about inventing it the better. Such a class of
detail, I contend, is only to be obtained, in the
first place, by a combination of the forms we
already possess; for invention must of necessity
take that course before entirely original forms are
produced or developed. Such a course as this to
many minds appears fitted to destroy *character*
altogether; but never was there a greater mis-
take. I boldly affirm that it is the most direct
way to obtain character, which is dependent upon
the skill and intelligence of the designer, and re-
quires, in the first place, the selection of a few
strongly-marked features, and the subordination
of the minor parts to them. A combination of
Gothic and Classic forms would improve both;
would strengthen the former and soften the lat-
ter; would give us command of a much larger
field of selection; would compel original design,
and the thoughtful application of principles. Such
a course would soon place in our hands details that
we could use naturally and apply tastefully.
Architecture would not then require a continual
fighting with forms, the rigidity of which resists
every effort of amalgamation. It would then
be no longer necessary to veneer our buildings
over with columns and entablatures useless
and unnecessary, performing no function in
the building, but merely serving to block out
the light, and make that difficult which would
otherwise be easy. Neither should we re-
quire pointed arches or inconvenient mullions,
unnecessarily tall roofs, monstrous gargoyles, or
other antediluvian treatment imperative in modern
design. While, on the one hand, with rude mate-
rials, the Gothic element might predominate; on
the other hand, with finished masonry, a more
Classic treatment would be judicious; the range
of art would be widened; and invention, guided
by judgment and good taste, would be easily read
and appreciated by all who possessed even a latent
feeling or responsive sympathy with the *true and
beautiful*.

T. MELLARD READE.

PROPOSED ESPLANADE AND TRAMWAY FOR LONDON.

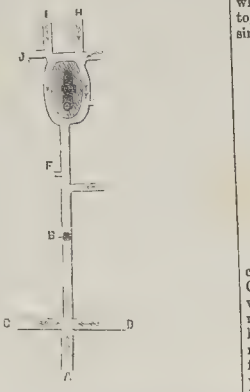
A COMPANY is in the course of formation to make a new street or esplanade through the metropolis, and to lay down trams thereon for the conveyance of passengers. The length of the line is four miles, and the width of the roadway is 70 feet, or the width of Regent-street. The line runs nearly midway between the Strand and Holborn, which is one of the poorest districts of London. Commencing at the Marble Arch, it passes to the south of Lincoln's Inn-fields, and the north of the Post-office, Guildhall, the Bank, and Gresham Chambers, until it reaches Aldgate, which is to be the terminus of the tramway. No carriages are to be allowed except on the trams.

The estimate for the land is 575,000*l*. per mile, but the promoters assert that the greater part of this will be returned from the sale of ground-rents.

THE ILLUMINATION CALAMITY.

SERIOUS as the accident proved at Ludgate-hill, when the circumstances are considered and the place examined where the calamity happened, we do not feel surprise at such an event occurring, but rather that a much greater loss of life did not take place, not only there, but in other directions.

The accompanying rough sketch will help to explain how the Ludgate-hill accident was brought about. A is Fleet-street, which was so densely crowded that a strong man who was examined at the coroner's inquest mentioned that it took him from between three-quarters of an hour to an hour to pass from Temple-bar to near La Belle Sauvage-yard, where the death took place. This is marked B in the sketch. Fleet-street was crowded to a dangerous degree; notwithstanding, from Farring-don-street, C, pressed thousands of people from Islington, Clerkenwell, and other northern parts of the metropolis. At the same time an immense mob was coming from Blackfriars Bridge along Bridge-street, D; and from the Old Bailey, F,



crowded many from the densely-populated neigh-bourhood of Smithfield, Barbican, &c., &c. Be-sides, from Cannon-street and Cheapside, through the two lines of way into St. Paul's-churchyard, there came a strong and struggling tide of human beings. In all directions the multitude were thronging to the narrow and already choked passage of Ludgate-hill. Moreover, this street ascends by a somewhat steep gradient from the Fleet valley to St. Paul's, and this would have the effect of giving an increased force to those who were coming from the eastward.

There is a strong and generally expressed opinion that no carriages should have been allowed on the illumination night to pass through the narrow streets of the City. The Mansion House might have been reached by other routes. So far, however, as our observation enabled us to judge, the single line of carriages which passed through the City seemed to act as a means of dividing the currents from the east and from the west; and but for them there would have been, without the least interruption, far larger masses of people coming into collision. Once in the City line, it was almost impossible to escape from it, for every opening was pouring people into the usually frequented road from Temple-bar to London Bridge. On this point there seems to have been great neglect, or rather want of management, in the arrangements of the City police. If barriers had been placed at the Holborn end of Far-ringdon-street and Bridge-street, and no pas-sengers allowed to go in those directions except from the City, the crushing at Ludgate-hill might have been much relieved. At other points the means of outlet should have been provided. In this instance, as well as on the day of the Royal entry into London, the City police seemed to be powerless. Nor is this to be wondered at when it is, perhaps, under the mark to state, that there were nearly a million of persons in the streets within the City boundaries; that the police force only amounted to 600 men; and that many of these would be required in various other quarters besides along the principal line.

There has been mismanagement in the City, both on the part of the police and some other authori-ties; but it must be remembered that there was in connexion with these rejoicings much indecision and want of co-operation on the part of Govern-ment officials; and there are other matters which may be taken, on the part of the Corporation, into favourable account. Still we cannot agree with many of the remarks made by the Lord Mayor when this subject was brought under the notice of the House of Commons. For instance, his lord-ship says: "There was a great pressure of people, no doubt; but if people will go in such enormous masses into places which are not large enough to contain them, it does not require great philosophy to see that two men cannot stand in the place of one. The accidents which have happened were very lamentable; but I do not see that any pre-cautions could have prevented them." The loss of life might, in all probability, have been prevented by better regulations; by stopping the flow of the people in certain directions; by a greater power of police force; but more particularly by widen-ing the chief thoroughfares of the City. People, especially when in great multitudes, will rush into danger; and it is decidedly the duty of the police and magistrates to prevent this.

We trust that, sad as this accident has been, it will have a good effect, and lead to improve-ment; and, as occasions are looming in the distance when immense crowds are likely to be brought together, that measures will be taken to prevent similar disasters hereafter.

REFERENCES.

A. Fleet-street.
B. Ludgate-hill—the entrance to "La Belle Sauvage" Yard, opposite which the accident happened.
C. Farringdon-street.
D. Bridge-street, leading from Blackfriars Bridge.
F. The Old Bailey.
G. The area of St. Paul's Cathedral.
H. Watling-street and Cannon-street.
I. Cheapside.
J. Aldersgate-street.

HARRISON OF CHESTER, ARCHITECT.*

To Mr. Thomas Harrison, the architect of the castle and the bridge, Chester owes much of the Classical beauty of its architecture. Mr. Harrison was a man of great modesty and diffidence,—shy, reserved, and abrupt in his manner; and never put himself before the world in the light which his real merit deserved. He ever followed his pro-fession from a mere love of the art, and not with a view to the pecuniary emoluments of it. His personal qualities in some measure hindered his popularity with the world, and prevented him from becoming the public man which his genius and talents certainly entitled him to be. He was, in truth, a great man in his day; almost, if not quite, the first architectural genius in the kingdom; with a more clear apprehension of the principles of the art, and a more accurate know-ledge of the structural department of it than, perhaps, any man of his day. The designs which he from time to time submitted for competition, though not all executed, placed him in the first rank of architectural inventors; and yet most of those designs have passed into oblivion, and with them almost the name of the author of them.

The reason which induces me to offer a few re-marks on Harrison's career is the fact of his being ignored in the observations which Mr. Fergusson has made, in the third volume of his "History of Architecture," on the New Bridge at Chester. He has given to the bridge its full meed of praise as a work of engineering skill, though he severely criticizes the architectural details. But he ascribes all the credit of it to Mr. Hartley, without any mention of Mr. Harrison. Mr. Hartley, of Liver-pool, was the surveyor who took charge of the execution of Mr. Harrison's plan, upon the ex-press condition that it was not to be deviated from, Harrison himself being at that time disabled by infirmity and age. He never assumed to him-self the credit of the original design. Lest, there-fore, this mistake of Mr. Fergusson's should throw the name of Harrison wholly into the shade, it seems desirable to give some account of his history and his works.

It is right to remind you, in the outset, that the taste of Harrison as an architect must not be judged of by the taste of the present day. As he was born a hundred and twenty years ago, he commenced his career in a period of architectural taste and science wholly different from those which prevail in the present age. Whether that age was right, or this age is right, perhaps a succeeding age will be competent to decide; but, at any rate, the taste for the Classic style had possession of the public mind then, as that for the Gothic style has at the present time. In the early days of Harrison, Gothic architecture was deemed by most people to be characteristic of a barbarous age, the result of a rude uncultivated taste. The word Gothic was then only known as a slang term, not admitted by Johnson, to describe what was barbarous and uncivilized. We have lived to see it assume its proper position and to acquire a reputation, in this kingdom at least, above that of the Classic styles of Greece and Rome.

Mr. Fergusson has traced the course of the modern history of architecture from its revival in the Renaissance period to the present day, and reference should be had to that gradually descend-ing course from the period of Inigo Jones to the period of the Wyatts and Nash, in order to under-stand the disadvantages under which Harrison

* By the Rev. Canon Blomfield. The Substance of a Lecture delivered at a meeting of the Chester Archæ-ological and Architectural Institute.

first entered upon his career as a student of architecture.

He was born in the year 1744, ten years before the death of Gibbs, the author of the church of St. Martin's-in-the-Fields and the Radcliffe Library; when Sir W. Chambers was eighteen years old, and the brothers Adam were even younger; long before the period when Holland, Burton, Nash, Soane, Wyatt, and Smirke, became known to the world. His birth-place was Richmond, in Yorkshire. His parents were of humble condition, but managed to give him a good education, as we gather from the varied knowledge which he displayed in after-life. He was at all times an excellent arithmetician, and had a thorough knowledge of the science of mechanics.

Nothing, however, is known of his early life at Richmond until the year 1768, when he was twenty-two. He had a great friend, a native of the same place, and a fellow student of art, named Cuitt, who happened to be a *protégé* of Lord Dundas, Chief Baron of the Exchequer in Scotland. Cuitt was a landscape painter, and Lord Dundas, thinking that his talent might be more successfully cultivated by a tour in Italy than by painting the scenes near his own native town, offered to bear the expense of a tour for two years. Harrison was unknown to Lord Dundas, but Cuitt, aware of his genius, was anxious to give him a share of the advantage, and offered to make the allowance do for both. When this became known to Lord Dundas, he doubled the amount of the allowance, and sent both these youthful aspirants to study the masterpieces of art in Italy in the year 1769.

Harrison established himself at Rome, and made such good use of his opportunities that, in 1770, when Pope Ganganelli (Clement XIV.), who was a great patron of genius and a lover of art, desired to have some plans sent in to him for the decoration of the cortile of the Belvedere, in order to make it a receptacle for the Apollo and other antique sculptures, Harrison ventured to submit a design for surrounding the interior of the court with a rich cloister or arcade, 100 feet long each way, and covering the inclosed space, about 54 feet square, with a noble circular dome. The idea was much approved of by the Pope, and many other competent judges, amongst whom was Piranesi the elder, so well known as the author of the splendid series of etched views of the Antiquities of Rome. It is scarcely necessary to say that Harrison's design was not executed, for it was not likely that the Italian architects would submit to be superseded by a young and unknown student from England. They had been rendered especially jealous of foreign rivalry by the success of Allen, the Scotch painter, who had, in the previous year, carried off the first prize for painting in the Academy of St. Luke.

That academy had been founded by Pope Clement XIV.; and when, a year or two after, he proposed to alter and embellish the square, or open space, near the Porta del Popolo, he desired plans for the purpose to be sent in to the Academy, the merits of which were to be determined by certain judges selected from the leading members. Amongst these was Piranesi, and another was an Englishman named Byres. When the various plans were examined, Piranesi and Byres selected one, and the other judges selected another. The latter proved to be the design of a relative, or *protégé*, of the president: the former was the work of young Harrison. The final decision was of course in favour of the president's friend; but Piranesi and Byres were so much dissatisfied with it that they appealed to the Academy; and, that failing, to the Pope himself. Their representation to him was supported by the influence of Mr. Jenkinson, afterwards the first Earl of Liverpool, who was at Rome at that time. The Pope desired that all the plans which had been sent in to the Academy should be exhibited in their great hall, and the judgment of the public at large taken upon them. A great rush to see these plans took place, and the unanimous decision of the public was in favour of that of Harrison. Upon this the Pope sent for him, and presented him with two medals—gold and silver—in testimony of his approbation; and ordered the governing body of the Academy to elect him a member, and to give him a seat in their council. These medals, and the design for the architectural embellishment of the Piazza del Popolo, are now in the possession of Mr. Harrison's daughter, in Chester.

The Pope subsequently desired Harrison to give him a design for an alteration which he then purposed to make in the sacrista of St. Peter's; but the purpose was never carried out.

It should be stated that circumstances connected with the adjudication of the plans for the Piazzo del Popolo made so strong an impression in Harrison's favour on the mind of Piranesi, that he drew up an elaborate statement of them, highly laudatory of Harrison, from which this narrative is drawn.

Harrison remained in Rome for seven years, and returned to England in 1776. At that time designs were wanted for building a bridge over the river at Lancaster. Harrison sent one in, which was accepted; and the bridge stands now as the first work of his executed in England. It is said to be the first bridge ever erected in this country with a level surface.

The success of this bridge induced the magistrates of the county of Lancaster to select Harrison as the architect for rebuilding the castle at Lancaster, which comprised the gaol and court-house, and appurtenant offices. His design for this was of a Gothic character, foreign to his taste and experience, but adopted on account of the Mediæval character of the place; and considering the age at which it was built, it was a great effort of genius, still commanding the respect of the public on account of its massive and good proportions. After this, or during the progress of these works at Lancaster, he built the bridge over the Derwent, at Derby, and some others in different parts of the kingdom.

But we go on to the next great effort of his genius, the building of the Castle of Chester. Mr. Harrison had no connexion with Chester at this time; but the magistrates of the county, whether envious of the success of the Castle of Lancaster, or tempted by the wealth flowing in from the River Weaver dues, or finding that the old buildings of Hugh Lupus were wholly inadequate to modern uses, determined to pull down the old castle and build a new one. They put forth advertisements for plans, and of those sent in Mr. Harrison's were selected as the best. In these plans he gave vent to his peculiar taste, and produced the result of his studies at Rome in a building, or rather series of buildings, designed in a pure Classic style of Grecian Doric. And, taking it as a whole, the Castle of Chester, even at the present day, stands unrivalled in the chaste and Classic beauty of its style, and in its ingenious adaptation to the varied purposes for which it was designed. If a man builds a castle to live in, he knows how to arrange it accordingly; or if it is to be a gaol, or a court-house, or a barrack, or an armoury; but Mr. Harrison had to provide for all these objects in one block of buildings, and excellently well he has done it. It has sometimes been a subject of regret that the ancient buildings of the Castle of Hugh Lupus have disappeared; but it must be remembered that nothing remained of a very early date, except what still remains under the name of "Cæsar's Tower." There was, indeed, in the year 1788, when the alterations commenced, a fine old hall of the date of the fourteenth century, with a smaller one adjoining, called the Exchequer Chamber, in which the assizes were usually held; but these were not the halls in which the earls of Chester once held their Parliaments; nor had they any special character of beauty or early association to render them worthy of preservation; but be this as it may, the fashion of the day, as well as the genius of the architect, favoured the Classic style; and it may be deemed a fortunate circumstance that the building was committed to the care of one who so thoroughly understood the principles of his art. There were two Acts of Parliament obtained for the building of the Castle of Chester, the first dated 1788, in which power was given to borrow money for the purpose, and certainly money was liberally expended in rendering the structure of the main building, consisting of the gaol and the court-house, as substantial and solid as masonry could make it. Probably there is no gaol in the kingdom of so solid a structure, being built wholly of stone; no iron or timber being used in any part of the walls, ceilings, floors, or staircases. It is also said to have been the first *panoptic* prison erected in this kingdom. With regard to the Classic character of the exterior, it may be mentioned that the late Lord Lansdowne, on visiting Chester many years ago, did not hesitate to pronounce it the most classical building in Europe of modern erection; and that nothing of the real utility of the building was sacrificed to effect, may be gathered from the Report of the committee appointed by the corporation of London to examine all the prisons in the kingdom previous to the building of Newgate, of which Dance is said to have been the author. It pronounces "the castle of Chester to be one of the best-constructed gaols in the kingdom." Subsequently, M. Dupin visited Chester for a similar purpose; and he says, "The Sessions House and Panoptic Prison of Chester are united in the same building, which is most assuredly the handsomest of this kind that is to be seen in Europe. The interior arrangements are well contrived, and bespeak much regard for humanity. The architecture is equally simple and majestic." To this may be added the words of Richard Cumberland, the well-known dramatic author, who wrote in the "Observer" (vol. IV. p. 12), in 1790, "I indulge myself in a prediction upon which I am willing to stake all my credit with the reader, that when the modest genius of Harrison shall be brought into full display, England will have to boast of a native architect which the brightest age of Greece would glory to acknowledge."

We come now to an interesting fact in the history of Harrison's career. His early patron, Lord Dundas, had brought him under the notice of the Earl of Elgin, for whom, about the year 1796, he designed and erected a mansion, Broom Hall, in Fifeshire. This brought the two into frequent intercourse and considerable intimacy. When Lord Elgin was appointed ambassador to the Porte, in 1799, Harrison urged him to avail himself of the opportunity of obtaining drawings, measurements, and, if possible, casts of the remains of statuary and other works of art which existed at Athens and other places in Greece. The use which Lord Elgin made of Harrison's suggestions will be best understood from the following letter, addressed to him from Constantinople, by Lord Elgin:—

"Constantinople, Nov. 22, 1802.

My dear Sir,—Although you may scarcely recollect the advice and opinion you gave me at Broom Hall, in 1799, on the means to be employed for deriving what benefit I might have the opportunity of securing for the arts from the ruins of Greece; yet you will now learn with pleasure that I have not only used every exertion to act up to that advice, but have the satisfaction of assuring you that my success has exceeded every expectation which could possibly have been formed. Your advice was, to endeavour to obtain casts of all the architectural and sculptured ornaments which remain, in so far as they are descriptive of the orders of architecture or are in themselves remarkable. It was supported by the best judges I had occasion to apply to in England; so that I actually recommended the pursuit to Government in the view of extending the plan beyond what an individual could attempt. Circumstances not having made that possible, I resolved upon undertaking it, as far as my powers would admit; and I was confirmed in the resolution by Sir Wm. Hamilton, at Palermo, who approved of it in the highest terms. Accordingly I was so fortunate as to meet with Don Tito Lusieri, a painter of science as well as of brilliant professional talents; and on finding him enthusiastic in favour of your plan, it was agreed that he should go to Rome for assistants; and in fact he followed me soon to Constantinople with two formators, two architectural draughtsmen, and one figure-painter; himself having the direction of their operations, and carrying on the landscape and general drawings.

I had infinite difficulties in bringing all this to bear at Athens, where I naturally wished to concentrate their occupations. I had also very great difficulties to prevent the effect of intrigues and opposition when they had got there; but by the indefatigable zeal of Signor Lusieri, and great assistance from the gentlemen with me, we have succeeded in obtaining moulds of all the ornaments of the Temple of Minerva, of the Temple of Theseus, of the Portique, and of the Temple of Erectheus and the Pandroseum, and of the monument of Lysicrates. There are also moulds of a number of *bas reliefs*, and some metopes, of the Temple of Minerva, and of one of the caryatides attached to the Pandroseum. In several instances I have procured detached specimens, in good preservation, of the different ornaments of architecture, and in particular a series of capitals of the Doric order, and some Ionic and some Corinthian capitals and vases. The enclosed list of things already sent to England will best explain to you what has been done. Since that list was made out, several *bas reliefs*, dug out of the ruins of the Parthenon, and other ornaments, have been added to my collection, which of course is now drawing to its conclusion.

The architectural draughtsmen have, during this time, not been idle or ill-employed. I have now by me all the drawings of the whole of the temples at Athens, with most detailed and accurate measurements of every part, however minute; a work the more essential, as they had permission and the means of working without molestation or restraint, erecting scaffolding, &c. &c.; and I may venture to say, there never appeared more beautiful drawings of the kind. The principal architect's name is *Balestra*; his assistant, *Iltar*.

The figure-painter, of the name of Theodore (a native of Astrachan), a man of uncommon talents, has filled into the architectural drawings the frieze and metopes, and, in short, all the figures of the temples, with a degree of taste and execution which is, I am confident, unparalleled. He has, besides, made a great number of most valuable drawings from the *bas reliefs* and figures which are still to be traced at Athens.

I cannot ascertain exactly what Lusieri may terminate: he has begun two general views of Athens, several views of the Parthenon and the Temple of Theseus, besides other objects at Athens; and he is now busily employed with these works.

This is, as far as I can recollect at this moment, the outline of my operations at Athens. It has, of course, engaged our principal attention, both from the interest it creates and the benefit it may ensure. Meanwhile we have not neglected the rest of Greece. Mr. Hunt, and subsequently Mr. Hamilton, two gentlemen of great zeal and erudition, have, as well as myself, gone over great parts of that country, following up the same pursuits. And I have this summer sent Iltar, the architect, on a tour, which we had traced for him, to measure and draw every remnant of architecture which can have claims to attention from merits or renown; and as he has the means and the habit of excavating, and has already been four months thus engaged, I hope he will have observed

many interesting details. Besides, a Mr. Squire, of the engineer department, has lately been with Mr. Hamilton, principally employed in surveying the fields of battle of Marathon, Platæa, and Thermopylæ; and what is not the least of the valuable works, Lusieri has made the tour of the Peloponnesus with Mr. Hunt, sketching every object on his route, and has thereby a complete series of everything curious there.

Many of my acquisitions have, thank God, reached England. others are on their way on board of king's ships; and I have reason to hope the remainder will be soon properly embarked. I have lately, however, had the severe misfortune of losing a brig of my own, which had on board seventeen cases, marked on the list (B), though I am not quite without expectation of being able to recover them.

This undertaking has cost me an immense sum of money. It has given me endless trouble, and a degree of anxiety beyond what can be conceived by people not acquainted with the almost impossibility of advancing in such a place as this country and with these inhabitants. Still I feel a peculiar delight in acknowledging that I retain the greatest obligation to you, for having enabled me to do what has been done. For, I repeat it, you and you alone gave me the idea, and a notion of its importance.

I am on the point of quitting Turkey; and on my way home I hope again to see Athens. I shall probably then carry away all the artists who have not already left it, except Lusieri, who remains for some time. He knows your interest in these operations, and I wish very much that you would write to him, while he is on the spot, any observations, inquiries, or hints, to which his attention might be beneficially directed, and which may occur to you on examining what has been done. He is a man of great candour, and with such enthusiasm in this undertaking, that he would be equally thankful with me for any suggestions which might enable him to make his work more complete.

I send this letter to Mr. Nisbet, who will forward your answer to Lusieri.

Adieu, my dear sir, in the hopes of seeing you soon, and with every wish for your welfare, I remain, your very faithful humble servant,

ELGIN.

Thomas Harrison, esq."

Our possession, therefore, of these valuable treasures of art, now in the British Museum, is the result of Harrison's appreciation of the beauty of the works of the Classic age of Phidias and Pericles, which he could only have seen in the illustrations of Dodwell's Greece; and to him the real credit is due for their preservation. It is said that Lord Elgin spent nearly 30,000*l.* in acquiring and transporting these marbles, and they were purchased by the Government in 1816 for 35,000*l.*

It is not necessary to enumerate all the minor works executed from Harrison's designs, such as the commemorative columns of Lord Hill, at Shrewsbury, and Lord Anglesea, at Plas Newydd; the grand and massive obelisk, or pile of obelisks, on Moel Vamnau, the Church of St. Nicholas and the Athenæum, at Liverpool, &c.; but it is right to say that he was as successful in the construction and arrangement of private houses as he was in the design of public edifices. Broom Hall, in Fifeshire, and Clackmannan, in Argyleshire, are well-known instances of this,—as is the house which he erected for Mr. Potts, in Chester, the arrangements of which are exactly copied by Lord Ashburton in the house which he built for himself in Piccadilly. Harrison also prepared a plan for a magnificent mansion, to be erected in Russia for Count Woronzow, but it was never executed. The plan is preserved.

We come now to the last great work of Harrison's genius. After the completion of the Castle of Chester, it had ever been his ambition to procure a good approach to it and to the city, by a new bridge over the Dee. Bridge building had always been a point of interest with him, as enabling him to exercise his skill both as an engineer and as an architect. The architects of his early days were seldom competent engineers, and some of the bridges built by them—by Smirke at Carlisle, by Nash in Somersetshire, by Penson at Oberton, in Flintshire, and others—fell down after a few years' use, from defect of scientific construction.

When Harrison first submitted his design for the Chester bridge, the unusual width and flatness of the arch (being a small segment with a chord of 200 feet of a circle of 140 feet radius), it was objected to, as not likely to stand. To convince the objectors of their mistake, he had an exact model made of small pieces of stone of the same proportionate size as those of which the intended bridge was to be built, and set it up in the Exchequer Chamber of the castle, where it still stands. Even while the bridge was in course of building, considerable suspicion was entertained of its stability, after the framework of the centres should be removed. But in point of fact it did not sink 1 inch, and has remained to this day without the slightest deflection. Though Harrison had formed the design for the bridge many years before, the building of it was not commenced until 1827. At that time he was no longer able to superintend the erection of it; and it was intrusted to Mr. Jesse Hartley, an eminent civil engineer, residing at Liverpool. He stipulated, upon undertaking it, that Harrison's plan should in no point be deviated from; and, with the slight exception of raising the water line of the two side piers about a foot, the original plan was exactly carried out. The work was completed in 1831, two years after Harrison's death. The dimensions of the bridge are these:—The span or chord, 200 feet; the height from the spring of the arch to the centre, 40 feet; and from low-water mark to the top of the central parapet, 66 feet. The length of the roadway, 340 feet; the width, including footways, 35 feet 6 inches. The stone used in the construction is not all of one kind. That of the springing is Scotch granite; the outer course of the arch of Welch limestone; the remaining portions being of hard red sandstone from the Brotton hills. No one can view this noble arch, either from the cemetery on the east, or from the Roodee embankment on the west, without admiring the light and graceful curve with which it spans the river, like a rainbow arch, with the concentric lines of the curve, resembling those of the prismatic hues, and forming a noble frame to the large and picturesque landscape seen beneath and within it. Mr. Fergusson (p. 475), objects to the structure of this bridge, that "no one can by mere inspection believe that it is more than half its width." This is true, if seen from a distance, but hardly so when inspected from either of the places mentioned above. He ascribes this diminished effect to the use of an architrave moulding proportionate to the magnitude of the arch, and of spandrils and niches of a like proportion. He says "the builder has failed on every point of this bridge, and by the same process which ruined St. Peter's, by *exaggerating the details*." It might be possible to question whether the effect which he objects to being due to unity of proportion is not in itself an element of true architectural beauty. It is, as he admits, a marked quality of St. Peter's; and if Harrison has only failed in a point in which he has Michelangelo to support him, he can hardly on that account be thrust down from his position as an architect to that of mere building engineer. Mr. Fergusson's judgment on the bridge, and on its designer, will not, probably, be sustained by that of the public who inspect the work for themselves.

It has been already stated that the natural shyness and diffidence of Harrison kept him back from public notice; but he was well known in his own profession, and his taste and judgment highly appreciated. He was chosen arbiter in several cases of rival plans, where he was not himself a competitor, and consulted in many important undertakings. He was the first to suggest the idea of an embankment and roadway along the Thames from London Bridge to Whitehall, the detailed proposals for which are still in existence. He also made a splendid design for a triumphal bridge over the Thames where Waterloo Bridge now stands; and when the building of the present bridge was in agitation, finding that a plan had been adopted by the committee which appeared to him to be a mere copy of the bridge over the Seine at Neuilly, he addressed a remonstrance to them with so much effect, that they renounced the plan, removed the engineer, and employed Rennie to build the bridge which is now the ornament of the river.

Mr. Harrison died at his house in Chester in 1829, aged 85, and was buried in the churchyard of St. Bride's. No monument has been erected to his memory, and no memorial of him exists except in his works. He lies buried close to the castle and the bridge which were favourite objects of his interest while alive.

COMPETITIONS.

Birmingham.—Spring-hill Baptist Chapel and School Rooms.—The committee met on Thursday to select a design from the various plans submitted in competition for the above school-rooms; and Mr. F. D. Johnson, of Birmingham, was chosen as architect.

Freemasons' Hall, London.—We have received another letter on this subject, reiterating the belief that, referring to the Regulation already mentioned, the committee are not likely to employ any other architect than their own Grand Superintendent of the Works. In the face, however, of Mr. Havers' statement in our last, we do not think it necessary to print our correspondent's letter. The writer says, on another point,—

"I would respectfully remark to Mr. Havers that architects invited to send in plans, &c., and incur considerable expense, have a right to inquire into the merits of the proposition made, and a right to express an opinion without their endeavours to elicit the truth being qualified as *an attempt to impose on any one*. It is the duty of every architect to stifle unjust, unfair, and unprofessional competition; and I consider the present instance as a case calling for the particular attention of my brother architects. I for one shall not send in."

New Baptist Church, Worcester.—Invitations to submit designs for this building were addressed to twenty architects. The design by Messrs. Pritchett & Son, Darlington, has been selected, and is to be carried out by them.

RAILWAY MATTERS.

On the Great Eastern (new metropolitan station and branches) Bill being brought before the Lords last week for second reading, Lord Shaftesbury presented a number of petitions from the inhabitants of Coleman-street Ward, Finsbury-circus, and the neighbourhood, against the Bill, and a strongly condemnatory petition from medical officers and subscribers to the Royal London Ophthalmic Hospital, which is in contiguity with the proposed new works. His lordship said that unless the Government were prepared to take the whole subject of metropolitan railways into consideration, with the view to the introduction of a comprehensive and intelligible measure, he should move that the Bill be read a second time that day six months. The neighbourhood into which it was proposed to carry this line was densely populated, and as a breathing-place, and as a means of resisting contamination, Finsbury-circus was a great boon. The course of legislation for a number of years had been to give open spaces in every possible direction; and here, where there was an open space which was more than ordinarily beneficial, he urged their lordships not to permit the encroachments of a railway. He understood that the various metropolitan railway schemes now before Parliament involved the destruction of no less than a thousand houses, and would turn about 12,500 persons out of their homes.

Earl Granville said the Railway Department of the Board of Trade was preparing a report upon the whole subject; and perhaps the better way would be to postpone the Bill for a week, when he hoped that that report would be in their lordships' hands. It would be quite open to their lordships to appoint a select committee to consider the matter, after taking the evidence of witnesses which the Board of Trade would bring before them; and that course would guide their lordships in coming to a sound decision when the Bill came before the House again.

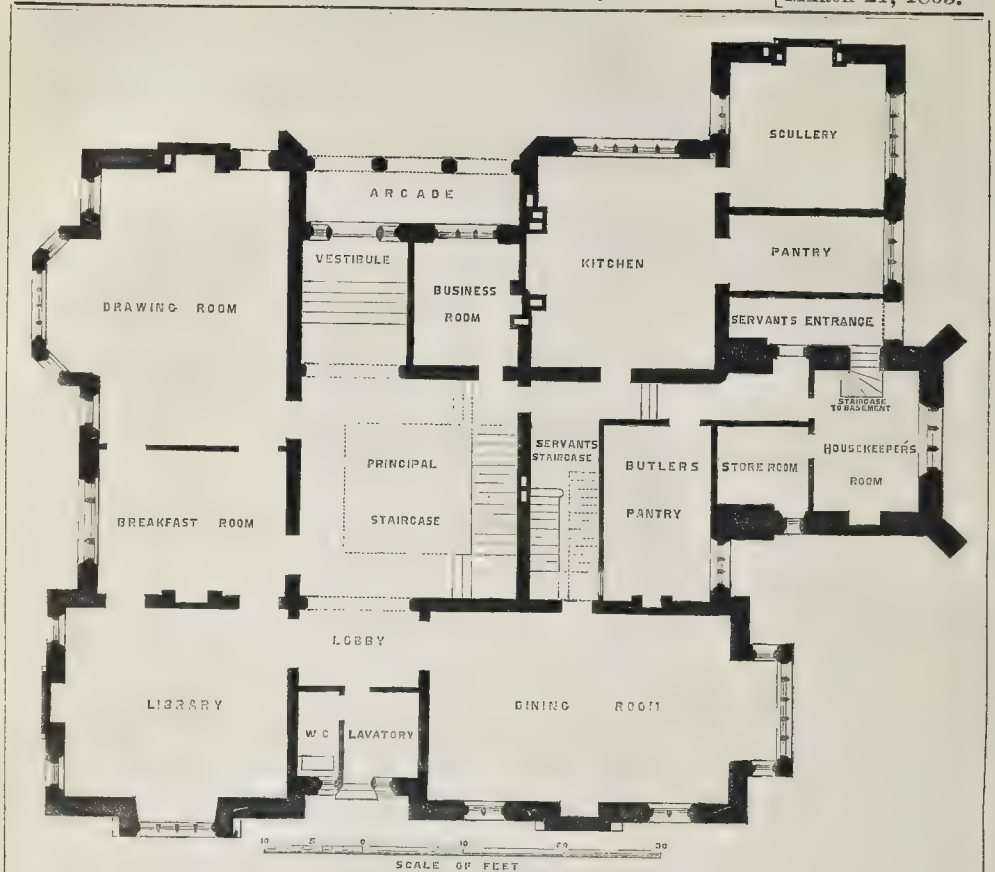
After some further discussion the debate was adjourned for a fortnight.

The Dublin Metropolitan Railway, though a small, is one of the most important undertakings that Ireland has seen since the introduction of the railway system into that country. Its object is to connect all the great lines which centre in the capital, and to make extensions to the shipping quays, along which tramways will be laid. The present isolation of the existing lines is thus removed: the interchange of traffic, now difficult and expensive, is facilitated and cheapened; and a thorough communication established for passengers and goods. The project has the support of all the existing railway interests. The capital required is 556,000*l.*, divided into 10*l.* shares.

A French newspaper states that some of the most distinguished engineers in France have approved a plan of a railway from Paris to Marseilles, which would resolve a problem hitherto considered impossible. They assert that the journey from Paris to Marseilles, 510 miles, may be accomplished in an hour and a half, with more economy and security than it is at present performed in eighteen hours! They are so decided in their opinion that several of them have demanded permission for the construction of the railway. The plan has been submitted to the Emperor for his approbation. The hydraulic system invented by M. Girard, in which he is said to substitute sliding for running on wheels, is the basis of the new plan.

If sliding be *substituted* for running on wheels, M. Girard's plan must indeed be a new one; but is it not possible that both wheels and sliding are intended to be used?

The Paris correspondent of the Brussels *Indépendance* says:—"On Sunday last the scheme for the passage of the Alps by railway over the Simplon was submitted to the Emperor, at the Tuileries. About forty agents, divided into two brigades, one turning to the north, and the other to the south of the Alps, under the leadership of two engineers, have, during four months, explored the mountain, and traced the plan of the future railway, which is to pass over rocks, cross torrents, fill up valleys, gorges, and precipices, before which



MR. JOHN CROSSLEY'S HOUSE.—*Plan of Ground Floor.*

science does not hesitate. It was frequently necessary to lower by ropes down the precipices the men who had to prepare the plans amid empty space, and the snow and avalanches more than once threatened to stop them summarily in their work. The result has been to put before the Emperor 80 kilomètres of ironway in the Helvetic Alps, 44 of which will be covered over, 23 in tunnels, and 21 in galleries. All these passages are ventilated either by shafts for the tunnels or lateral openings for the galleries. These openings, cut at different points into arcades, have a startling appearance. The execution of the plan, according to the authors, would occupy less than five years.

The estimated cost of this great project, including the fixed and rolling material, the interest of the capital employed, &c., is 72,000,000 francs.

MR. JOHN CROSSLEY'S HOUSE AT HALIFAX.

THIS mansion was erected some time ago for Mr. John Crossley, at Manor Heath, about a mile from the town of Halifax, Yorkshire, from the designs and under the superintendence of Mr. Alfred Smith, of the Adelphi (one of the architects of the Army and Navy Club House in Pall Mall). Mr. Smith's designs were originally chosen by Mr. Crossley from the competition drawings (all in the Italian style) of six selected architects, all of whom received a moderate premium for their trouble: afterwards, at Mr. Crossley's request, the chosen architect prepared the design in the Gothic style, which we have engraved.

The whole of the external walls are built with "Stainland" or "Park Spring" stone quoins, dressings, &c., filled in with self-faced, narrow York landings. These walls are battened internally, and the other walls are of brick. The carcass was built by local tradesmen, and Mr. Thomas Risley (a provincial architect) rendered valuable assistance as clerk of works. The windows are all on the sash principle, with the division of the upper and lower sashes immediately behind the stone transoms. The rooms were all fitted up and furnished under the direction of the architect. The ornamental portions of the ceilings, &c., were executed in Carton-pierre by Jackson & Sons, of Rathbone-place; and Messrs. Jackson & Graham, of Oxford-street, supplied the furniture and hangings.

ARCHITECTS' BENEVOLENT SOCIETY.

THE annual general meeting of this Society was held at the house in Conduit-street, on Wednesday, the 11th instant, as briefly mentioned in our last. Mr. S. Smirke, R.A., presided. The Honorary Secretary, Mr. J. Turner, read a report from the council, showing progression of the society. The report went on to say:—

"The number of cases relieved during the past year up to the present time has been 12, and the amount distributed during that period has been 213*l.*

The past year has furnished several remarkable illustrations of at once the usefulness of this Society, and the uncertainties that never fail to attend the architect's professional career.

Three instances have occurred during the year of gentlemen who have enjoyed at one period of their life a considerable practice, and who have, nevertheless, been compelled by adversity to appeal to the Society for aid. Sickness is an evil which the utmost caution cannot wholly secure us against, and is one of the most ordinary causes of that pecuniary distress to which the cultivated artist sinks into the humbled recipient of charity.

No doubt these sad reverses are not always, exclusively, the result of bad fortune: a want of worldly prudence, and a forgetfulness of the uncertainty of all professional incomes, are not unfrequently found to characterise the man of real genius; and charity bids us to deal leniently with these weaknesses of character. Who is there, indeed, so bold as to assert that he needs not the extenuating indulgence of his neighbour?"

The report further urged that the funds entrusted to them are miserably inadequate and unworthy of the profession. The following is the balance-sheet:—

Dr. 31*st December*, 1861.					
To balance at the bankers'		£93	7	11	
To donations to be invested		6	6	0	
To cash on deposit at bankers'		100	0	0	
					£199 13 12
To subscriptions for the year 1859	£1	1	0		
,, ,, 1860	2	2	0		
,, ,, 1861	8	8	0		
,, ,, 1862	92	8	0		
,, ,, 1863	1	1	0		
					105 0 0
To donations made in the year 1862					67 12 6
To interest on cash deposited at the bankers' to August, 1862					1 6 6
To dividend on 1,065*l.* 19*s.* 3*d.* Stock to 10th August, 1861	£14	10	6		
To dividend on 1,080*l.* 8*s.* 6*d.* Stock to 9th April, 1862	15	11	11		
To dividend on 1,166*l.* 9*s.* 10*d.* Stock to October, 1862	16	16	1		
					46 17 5
					£420 10 5
The amount of cash at bankers'					£139 9 9
The amount of stock New Three-per-Cents					1,160 9 10
Subscriptions due for the years 1859, 1860, 1861, and 1862					121 16 0

Cr. 1862.			
By advertisements, printing, &c.		£25	12 8
By collector's commission		6	9 6
By gifts to applicants		175	0 0
By cash invested in the Funds		73	18 6
		£281	0 8
Balance at bankers' of Society's funds		139	9 9
		£420	10 5

Votes of thanks were passed to the president, council, honorary secretary, and other officers; and the meeting separated.



MR. JOHN CROSSLEY'S HOUSE, NEAR HALIFAX.—Mr. Alfred Smith, Architect.

THE CITY ARCHITECT; LONDON.

MANY of our readers will be much concerned at hearing that the health of the City architect has broken down under the severe pressure of business recently put upon him, and that he has for several days been confined to his bed, suffering from fever and depression, the result of the long over-strain upon his nervous system. As it is so lately that we offered our sincere praise of Mr. Bunning's services in connexion with the decoration of the City on the entry of the Prince and Princess, and in which view the whole press have been of one accord, we shall now only add our sincerest hope that the valuable services of this excellent officer may long be retained by the Corporation; and to effect this they will, no doubt, act with judicious liberality, and allow him, on his recovery, a prolonged leave of absence. We would venture to suggest, also, that Mr. Bunning's services should be limited, as architect only, to the buildings, improvements, and public institutions of the City. There is quite work enough for one head in that capacity alone; and let the harassing business of settling claims for compensation for houses and "goodwills"* be conducted by some competent surveyor, to be specially appointed. The duties are so divided by all the railway companies. The joint labour for one man, however industrious, is too much, and the imposition of it as impolitic as "working a willing horse to death."

THE ARCHITECTURAL EXHIBITION.

A GLANCE in the galleries in Conduit-street, at the drawings now nearly all hung in readiness for the Architectural Exhibition which is to open to the public on Thursday next, shows that the collection is much larger and better than might have been expected; and although some of the drawings were in the International Exhibition, the present gathering is a considerable advance upon the Conduit-street exhibition of last year. The general effect of the two principal rooms is much improved by some fine cartoons from foreign hands. The Society of Sculptors seem to be represented by busts or works of small dimensions. The *conversazione* will take place on Wednesday evening.

A VISIT TO THE PRINT-ROOM, BRITISH MUSEUM.

IT seems strange that the Print-room of the British Museum, which contains a rare collection of engravings after the works of the best masters of the various schools of painting, should be so little visited as it is, considering the multitude of students in painting, architecture, and engraving, and the large number of amateurs and persons of taste who are either residents in or visitors to the metropolis. At a vast expense, by the intelligent labour of many years, a collection has been formed which is not only a credit to the country but also of the greatest value as a means of art education. Nevertheless the number of visitors is so surprisingly small that it is difficult to account for the circumstance. The attendants are remarkable for their care in providing the various works which are required by those who call there, and the right of admission is as easily obtained as it is to the Reading-room.

It may be, however, that a different opinion prevails, and that persons are prevented from availing themselves of the Print-room by an idea that it is an exclusive place; or perhaps the extent of the treasures which are stored there may not be so generally known to the artistic part of the public as it should be. A glance at its general contents may make it more so.

On passing through the Egyptian Gallery, on the ground-floor, and ascending to the top of the first flight of steps which leads to the upper part of the building, the entrance to the Print-room will be found on the left hand. It is in no way marked, and many thousands of visitors pass by without being aware of the matters of interest which are to be found there. The initiated, however, pull a bell, and speedily the door is opened, and admission is given to a long passage, lined with cases, in which there are large volumes containing prints and drawings. Beyond is the Print-room, a large, well-lighted, and handsome apartment. In the central space there are tables and seats for the use of the visitors. Handsome cases are fixed around, which are occupied by large and richly bound volumes. On the top of the cases are capital busts of poets, painters, architects, engravers, and distinguished royal and other patrons of art.

Besides this principal apartment, there is the sanctum of Mr. Carpenter, the keeper of the prints. It is seldom that more than half a dozen strangers will be found in the room, and for the most part the three assistants are engaged in mounting drawings and prints, and making a list; we hope in connexion with a future and very complete catalogue. The performance of this duty does not, however, prevent the most prompt attention to those who have the privilege of admission.

It is necessary to explain to one of the attendants what is wanted. Perhaps we wish to look at engravings after the great Italian masters, or those of the Flemish, French, and other schools; or, it may be, to refer to the works of a particular painter,—and soon on the table before us we have the choicest etchings, by and after Rembrandt, or prints and sketches illustrative of the productions of Michelangelo, Titian, Rubens, and other artists, both foreign and British. On mentioning what is wished for, we can see in successive volumes or folios the best impressions of the engravings after Reynolds, Lawrence, and others. The pleasure of looking at the prints thus systematically arranged is of itself great, but their use to the student is more important, for thus are afforded rare opportunities for the youthful painter to study the expression of great minds, the principles of composition, and light and shadow. Indeed, few engaged in any of the various departments of art can fail to gather from these stores useful hints.

In other ways the collection is available; for instance, a painter might chance to be engaged with an historical picture of a particular period. Here, with very little delay, he may have placed before him examples of the costume of the period, or if he require an authentic portrait of some famous personage of ancient or modern date, he has the chance, by the guidance of the attendants of finding it, for in folios arranged according to the respective dates, are portraits of eminent personages. We have here English portraits of kings, queens, princes, and princesses, statesmen, philosophers, divines, and persons of eccentric or notorious character.

As regards foreign countries, such as Spain, Portugal, France, we find portraits of their famous men and women collected under the respective heads of French portraits, Spanish portraits, and so on. There are also historical English prints, each set of which is contained in a folio marked with the date which each is supposed to illustrate. It is very curious to examine this part of the collection, to see the engravings of doubtful historical drawings and pictures, and note the dawn of English art as exhibited in the prints of architectural monuments, the illuminations of manuscript volumes, and the introduction of artistic skill from abroad. Here are the matter-of-fact, impressive, and vigorous works of Holbein, and we have an opportunity of judging of the beneficial effects of the presence in this country of Rubens, Vandyke, and others, who may in some measure be considered the heralds of our own school of painting. Many curious matters of information may be gleaned from this part of the Print-room; and amongst other things may be noted the large amount of traffic which seems to have been carried on between the Dutch and English print markets during the time of James I., Charles I., the Commonwealth, the reign of Charles II., and for some years afterwards. Many of the maps, plans, and views of Old London are executed by Dutch engravers, and it is often troublesome to correct the mistakes of the names. The various important current events are also chiefly illustrated by Dutch artists and engravers. Some of the representations of scenes such as the Gunpowder Plot, the leading events of Oliver Cromwell's life, and the execution of Charles I., are worth notice. On careful examination of several of these prints which have an historical character, and which should be matter-of-fact representation, we fear that but little respect can be paid to their truthfulness. For instance, in the views of the execution of Charles I., which took place near the Banqueting Hall, Whitehall, Inigo Jones's building is made to appear like the town-hall of some Dutch town. The figures have also the Dutch stamp.

Amongst the lions of the Print-room is the "Illustrated Pennant," which consists of from thirteen to fourteen huge volumes; and in this instance we are greatly assisted by a clear and well-arranged catalogue of the multitude of prints and drawings which have been collected at so much expense and trouble in illustration of Mr. Pennant's account of London. Days might be usefully spent here by those who take interest in studying the rise and progress of the metropolis. In the various volumes will be found all the known maps and plans, from the earliest date at which these can be relied upon. There are also ancient views of places which have long since passed away; and representations of events of the greatest interest. The portraits of persons connected with the history of the metropolis which are to be found here are most valuable.

The collection of Flemish etchings and engravings in the Print-room is very fine, very large sums having been expended at one period of the management in obtaining rare and curious impressions. Some think that this large expenditure might, in part, have been more usefully made in other directions; however, we should not grumble at being in possession of those rare gems of art.

We might usefully devote space to a notice of the drawings, sketches, and engravings of the Italian artists, the works of Holbein, the drawings and sketches by Lawrence, Stothard, and many other English painters. But our present object is only to give a general notion of the value of this collection in connexion with which a complete catalogue is much wanted. The task will be a laborious and difficult one. The value of the catalogue would be great.

The care taken by Mr. Carpenter of the matters which are here intrusted to him is worthy of commendation. The chalk drawings and sketches are mounted in such a way that, while they are seen to advantage, it is impossible that they can be rubbed. Glazed cases are provided to prevent damage from dust, &c., during the process of copying; and year after year, this collection is being brought into better condition. Spite of all the attention, we notice to a considerable extent a sort of mildew on several of the large prints after Reynolds and his contemporaries. Light-coloured spots appear on the dark tints. Steps should be taken to arrest the evil.

* We understand that these claims, connected with the Smithfield improvements for example, are at this moment especially onerous. One firm alone claims 20,000*l*., and another, in the paperhanging trade, 30,000*l*.

CHURCH-BUILDING NEWS.

Newark (Notts).—The attention of the Newark Burial Board has lately been directed to the state of the entrance lodge of the cemetery buildings, the residence of the sexton; and some fears of its giving way being felt, they employed Mr. Allen, architect, to examine it. This gentleman has found that the foundations go a very little way below the surface of the ground; that the floors are rotting in consequence of the timbers being laid upon the bare soil; and that the building is wholly unsafe for habitation. In addition to these defects the house is a very poor one, all the rooms being inconveniently small. The supports and alterations required to put it into a substantial state of repair would cost about 60*l*. The expense of erecting a new lodge on a larger scale and of a better class, he estimates at 200*l*., using the old materials. It has, therefore, been determined to raze the old lodge and build a new one.

Bassingbourne.—Some restorations have recently been carried out in the Lady Chapel of Bassingbourne Church. The work done consists in the renewal of three windows; the restoration of the buttresses, base mouldings, and string mouldings; stripping the walls of the old plastering, and repairing with stonework after the manner of the original; removing the decayed timbers from the roof, and putting in new oaken ones, and new leading the whole; thus getting rid of the two unsightly props that for the last thirty years have disfigured that portion of the church. The sunken floor has also been taken up and laid to its former level. The side windows are square-headed, three lights: these, together with the east window, are renewed in accordance with the original work. The remains of several niches were brought to light during the progress of the works, some of which are now to be seen; and some specimens of old carved stonework were also taken out of the walls. The restorations have been done by Mr. Whitehead, of Royston.

Minster (Thanet).—The parish church restoration is slowly progressing. Pointed Gothic windows are being placed in the south aisle. A new clock is to be placed in the tower. The fine old trees that surround the church have been cropped, the loss of their limbs giving them a painfully prim appearance.

Lyndhurst.—Workmen have been busily employed at the parish church in removing the remaining portion of the old structure, which presented an unsightly appearance in connexion with the new part of the church. The south aisle, to

be built entirely at the expense of Mr. W. Williams, will render the interior of the building complete. The tower and spire are, however, still wanting to make the exterior an object of attraction.

Cardiff.—The new church, named St. Andrew's, at Crockherbtown, has been opened. In 1857 it was proposed to erect a church capable of accommodating 800 persons; the proximate estimate of the cost to be 4,000*l.* After much delay plans were submitted, and the work entrusted to Messrs. Prichard & Seddon, the diocesan architects. On June 21st, 1860, the foundation stone was laid, and the work progressed rapidly; but after a short time it was found that the erection of such a building would far exceed the sum intended, and the work was stopped for want of adequate funds, and so remained for a considerable period, when Mr. Roos, the architect to the Bute estates, received instructions to reduce the cost to the limits originally intended by the committee. The building, according to the local *Guardian*, bears the marks of two different hands; and the chancel, instead of being the most ornamented, is the plainest part. The arcades, as high as the clerestory, being the first built, are the most ornamental. A tower and spire were contemplated in the original design, and foundations and wall of a proper thickness have been put in to support them. Externally Bath stone bands are used alternately with bands of a blue sandstone, locally known as Newbridge stone. The walls are thus divided into compartments, and these compartments are filled with popple stone of various colours. The internal surface of the walls, and as carried out in the nave as high as the clerestory, consists of yellow brick face work with bands of Bath stone. The rest of the building is plastered in the ordinary way. The nave is 80 feet long by 63 feet wide, and is filled with two rows of seats, half of which are free. The style of the building is Gothic. The cost, it is hoped, will exceed but little the sum originally proposed. The *Guardian* notices the assistance rendered by Mr. Grierson and the Freemasons of Cardiff, for the carving of the capitals of the pillars. Much yet remains to be done in ornamentation. The church is fenced with a temporary rail. A large number of lime trees are planted.

Manchester.—The grand organ at St. Peter's church, by Messrs. Kirtland & Jardine, which has been furnished with a fourth manual for the solo stops, recently added to complete the original specification, has now been re-opened. It was expected that the whole of the stops would be completed; but, owing to some hinderance, it was found impossible to finish the solo tromba and the voix humaine: with these two exceptions, however, the whole of the instrument was playable. The *Manchester Courier* says of this organ,—"From a list of the thirty-six largest organs in existence it appears that only five organs in the United Kingdom, and only twenty-six organs in the world, exceed St. Peter's in number of sounding stops; and that as a church organ it ranks in England third, being exceeded only by the instruments in York Minster and Doncaster parish church; neither of these organs, however, having so complete a choir or solo organ."

Hulme (Manchester).—The first stone of St. Michael's Church has been laid. Mr Hugh Birley is the founder of the new church, which is to be erected on a nearly square plot of land in Lavender-street, adjoining the brewery of Messrs. Lord & Lomax. The new edifice will consist of a broad nave, 40 feet wide, with north and south aisles, chancel with double aisles, those on the north containing the vestries and organ. The whole width of the church will be 65 feet. There are also a tower, 100 feet high, at the south-west corner, with a square pyramidal slated capping; an octagonal baptistery projecting from the north aisle, and a porch on the north side. The material will consist of bricks in two colours, and stone dressings: marble will be used for some of the internal decorations. The total length of the church is 97 feet; but its square form has the advantage of bringing the congregation more within range of the minister's voice. Open seats will be provided for between 800 and 900 persons; and most, if not all, will be free. The architect is Mr. J. M. Taylor. The land is said to have cost 2,000*l.*, and the building will cost about 5,000*l.* A parsonage will also be erected, under the same contract, in harmony with the architecture of the church.

Eccles (Lancashire).—For twelve months great improvements have been in progress at the parish church at Eccles, and the restored structure has been re opened. A gallery, which formerly filled the east end, has been removed. There are now seats for 1,400 persons. The alterations have cost 6,000*l.*, including 800*l.* for stained glass windows. Most of the money has been raised by donations. St. Catherine's Chapel has been restored, and a large new organ (made by Hill, of London) has been placed in the south nave. There are several large and fine stained glass memorial windows by Messrs. Hardman, of Birmingham, and Ward & Hughes. That on the south-east side is the gift of Alderman Bennett, of Manchester, in memory of two of his children, and depicts scenes from the life of our Saviour. The other windows are the gifts of Mr. C. Smith, Sir E. Armitage, Mr. R. Chadwick, Mr. T. Cooke, the Heywood family, and the Vicar of Eccles. Messrs. Minton & Co. supplied the mosaics for the flooring of the chancel, &c., and the carved seats near the altar were by Hodson, of Manchester. On the new roof are painted the armorial bearings of the bishop, the vicar, the Archbishop of Canterbury, the Royal Arms, the Abbey of Whalley, and some others. On the panels of the pulpits there is some moulded Gothic tracery, to match the moulded and glazed screen which separates the chancel from the side aisles. A large window has been put into the west gallery, to throw light into the belfry. The vestry is a new erection, and built on the north side of the church. The whole of the renovations, alterations, and improvements, have been made from designs by Mr. Holden, of Manchester, and worked out under the direction of Mr. J. Lawton, of Manchester, as clerk of the works. The contractors for stonework were Messrs. H. & J. Paterson; carpentry, Mr. J. Bradburn; plastering and painting, Mr. J. Kerr; plumbing, Mr. B. Helsby; slating, Mr. John Brittain.

Sheffield.—The Attercliffe new Congregational Chapel has been opened. It has cost about 2,300*l.* and will seat 1,000. The chapel is in the form of a cross, has a curved (interior) roof, and is surmounted by a spire. A stained-glass window surrounds the arch within which is the organ loft. The pews are open, and a platform is substituted for a pulpit. The builders were Messrs. Craven, Brothers. The plumbing and stained-glass windows were by Messrs. Pitt & Son; the painting, staining, and gilding, by Mr. Kirby; the gasfitting by Mr. George Cropper. Mr. James Taylor, architect, designed the plans and superintended their carrying out.

Norton (Sheffield).—A portion of the northern wall of the old church of Norton having given way at the foundation, a meeting was convened for the purpose of deciding upon the steps to be taken for its restoration. The churchwardens produced a report from Mr. Frith, of Sheffield, architect, showing what was necessary to be done, and also offering suggestions for additional improvements, such as draining a certain part of the churchyard, &c., the probable cost of which would amount to about 170*l.* Whatever improvements may be agreed upon, it was the general opinion of the vestry that the cost should be entirely defrayed by voluntary subscriptions.

Burntisland (Fife).—The improvements on the church here which have been in progress for some time, at a cost of several hundred pounds, are now completed. The church was built at the expense of the inhabitants in 1592, and is of peculiar architecture, copied, it is said, from a church in Holland. The tower rises from the middle of the church, and is supported by four massive pillars with arches passing between them, and by abutting arches stretching diagonally from each corner. The tower was surmounted by a wooden belfry till 1715, when it was taken down and replaced by the present stone building.

Derry.—The first Presbyterian church in Derry has undergone extensive alterations and repairs. The expenditure, according to the *Coleraine Chronicle*, is estimated at 1,500*l.* Mr. C. Douglas, of Glasgow, was the architect; and Mr. A. M'Elwee, the contractor.

STAINED GLASS.

Bicester Church (Oxfordshire).—A large five-light memorial window is being erected in the east window of Bicester Church, in memory of Sir Gregory Osborn Page Turner, bart. The subject is the Ascension. The artists are Messrs. Cox & Son, of London.

Beverley Minster.—The tall three-division window above the entrance door of the south transept of this minster is now finished. The late Mr. Thomas Clarkson was the donor of this window. He caused the central division of the window to be filled with stained glass some half-a-dozen years ago, at his own expense; and some time before his decease he resolved to glaze the whole of the window with the same material, and at his own cost. Some delay took place on the part of the stained-glass manufacturers (Messrs. Hardman, of Birmingham), and Mr. Clarkson died before the work was done. But the window is now complete. A transom divides it into three large and three small compartments or lights, and the general design of the three larger designs is the Tree of Jesse, in medallions. The medallion at the bottom of the centre light contains Jesse; and branching up from him in other medallions are figures of the principal personages in the race of our Lord. In the principal part of these lights is our Saviour upon the cross, with the Virgin Mary and St. John on either side. The ground-work of the whole is foliage connecting the different medallions. The three upper lights are also treated in foliage work preserving the medallion form. In the centre of these the Holy Ghost is represented in the form of a dove.

Glasgow Cathedral.—The filling of the windows of Glasgow Cathedral with painted glass is advancing rapidly. Four windows, the production of a British artist, have just been inserted in the chapter-house. Mr. Henry Hughes, of London, had been commissioned with the execution of these windows. As compared with those of the Munich artists, they are very deep in colour, and by the employment of a rich, soft glass, made in imitation of that used by the old masters, Mr. Hughes is thought to have succeeded in producing effects similar to those which gave value to early specimens of the art. The subjects of the windows are the acts of mercy—feeding the hungry, clothing the naked, &c. The windows have been subscribed for by various persons, the Marquis of Tweeddale being among the number.

Greenock Mid-Parish Church.—Several stained glass windows have been put up in this church. The windows have been designed and executed by Messrs. Wailes, of Newcastle-on-Tyne, and are twelve in number, and of Roman architecture. Each measures upwards of 7 feet in height and 4 feet 6 inches in width. Five are placed in each of the east and west sides of the church, and two at the south end. The treatment adopted is that of a medallion group, set upon a mosaic ground, the whole inclosed with a border. Some of the windows are memorials of former pastors of the parish, and the remainder are gifts from parishioners and friends. With the exception of the two in the end of the church, the mosaic groundwork and floriated border are varied in each alternate window to give greater variety, and all of them are protected externally by strong galvanised wire-screens.

PROVINCIAL NEWS.

Harwich.—The extensive additions which have been making to the fortifications of Harwich and its harbour within the last twelve months are now on the eve of completion. At Walton-ferry, in Suffolk, is a martello tower, with moat and draw-bridge, the former communicating with the harbour, so that it can be flooded at a moment's notice. The tower is heavily armed; and is defended by a counterscarp, with earthwork battery, mounting guns of heavy calibre, and containing magazines, shell-rooms, &c. This battery commands the roadstead and also the entrance of the river Orwell, while on the opposite side of the river, at Shotley Point, commanding the entrance of the Stour, is another martello tower, heavily mounted, surrounded by a dry moat, and flanked by earthworks similar to those at Walton Ferry. Further up the river is a third fortress of the same description; and at Harwich, to the south of the town, is a circular redoubt armed with ten guns of the heaviest calibre, with barrack, dry moat, draw-bridge, counterscarp, and glacis extending to the water's edge. The works command the entrance to the harbour on the Essex side, while Landguard Fort performs the same service on the opposite or Suffolk side. The guns of this formidable cluster of batteries cross fire into each other, and can be concentrated upon a single object in the roadstead. Harwich offered the most favourable landing-place on the eastern coast for an invading enemy. The Government contractor for the new works, including the earthwork batteries, &c., is Mr. G. Tyrrel, of Great Yarmouth, who is also executing extensive fortifications in the Isle of Wight.

Boston.—A scheme is on foot for providing a spacious hall for concerts and general entertainments in Boston. The site is in South End, and occupied at present by a large granary. The property belongs to Mr. Chas. Seely, M.P., and it is thought it may be purchased for about 1,500*l.* It is proposed to raise the means of purchase and

erection by 250 shares of 10*l.* each. The ground space measures something like 40 yards by 20 yards.

Wick.—The new Court-house committee, Sir John Sinclair, Bart., in the chair, have considered the various estimates for the erection of the building and Mr. Rhind's report. The report was unanimously adopted. Mr. John Brims is the lowest offerer for the mason work, and Mr. Swan, Leith Walk, for the joiner, &c. The total cost will amount to about 5,000*l.*

FALL OF A CHURCH AT SHEEN.

ABOUT eighteen months since, in consequence of a want of church accommodation in the parish of Mortlake, the inhabitants of that vicinity determined to erect, at East Sheen, a new church, capable of holding some 500 persons. An approved design was furnished by Mr. Blomfield, and the contract of Mr. Carter, of Holloway, was accepted. It had been intended to carry up the tower only 40 feet at first, leaving its completion to a subsequent date. The building had been so far finished by October, but in consequence of some dissatisfaction expressed at the effect of this portion of the edifice, the principal subscribers determined the work should be continued at once; and during the last two months the tower has been completed to the height originally designed, 72 feet, with a lantern termination.

On Sunday morning, about twenty minutes after six o'clock, the masonry of the tower rising immediately over the altar fell with a tremendous crash, carrying with it a portion of the roof, and destroying the main arch at the altar end of the building. Of the tower scarcely one stone is left upon another, and the body of the church will require rebuilding at the altar end. No clerk of the works was employed; and it is stated to us that the walls of the lower part, which are 3 feet 6 inches in thickness, were, in the absence of the architect, packed with small stones and rubbish instead of being formed of solid masonry. The committee, with the full concurrence of the architect, have called in Mr. I'Anson, to report to them on the cause of the accident.

HALTING PLACES.

ALTHOUGH much has been done in providing places of accommodation since the *Builder*, some thirteen years back, first introduced the subject, still very much of the evil remains unredressed. There are miles of the most crowded thoroughfares without any places of resort; and the central City, where the walking population most converges, is perhaps of all the most neglected.

Lately, a motion was made in the Court of Chancery to restrain the parish authorities from erecting a suitable place of resort in Grosvenor-place: as this matter is still *coram judice*, no allusion is now made to it, further than to point out, that at a short distance from the proposed site, which is in the widest part of Grosvenor-place, there is an entry or passage by steps ascending to the Green Park, where without offending any householder or resident, a reserve might be inclosed, *within the wall, and actually under the level of the Park*, which might amply meet the palpable requirement: the *retiro* might be constructed on either side of the passage, and would be wholly out of view!

In another quarter, and where of all others such accommodation is most needed, there has been for years a licensed recess, which is as little suitable to its object as it is offensive to the crowds which constantly pass in review, within ten yards, as well as of the continuous line of busy commercial men who have to jostle through the court. At this juncture the interminable rolling stock of the streets discharges and takes up the greater part of the passengers; and here, in a recess formed in a basement window of the Mansion House, just 3 feet by 4 feet, and 7 feet high to the top of the arch, there are two compartments: outside there are constantly candidate expectants, and generally four or even more. Now, a little farther on, at the corner of the court, there is a wall of St. Stephen's ground—not being a place for sepulture—an angle of the court is here spiked off, and there is a length of 18 feet between the church and the doorway: could this space be better dedicated than to the sanitary purpose in question? The fence wall is 16 inches—18 inches in width in addition might be excavated from the interior space, and covered over with flags; taking in, say 1 foot, from this the widest part of the court, for a slate or iron screen, open at the top for ventilation.

The niche in the Mansion House must be a nuisance under the living-rooms: in fact, it is so; and the worthy occupant of the civic chair would certainly not object to its removal; nor can we anticipate any opposition from the clerical proprietary of St. Stephen's, Walbrook, to the establishment of so important a sanitarium upon church grounds.

The drinking-fountain movement has received much laudable support from the City magistrates. Although the blazonry of arms and names may not be affixed to places of refuge such as these, the benefits conferred by such easements are of even greater value: health, decorum, and morality are all promoted by them.

The impossibility of dealing with the question through private remonstrance or suggestion, *which has been tried*, necessitates an appeal to the *Builder*, as of old, by QUONDAM.

INCORRECTNESS OF THE ORDNANCE MAPS.

SIR,—Is anything to be done to bring the question of the Ordnance maps before the notice of the House of Commons? So inaccurately are most of the 25-inch scale sheets drawn, that I have not been able to find two that will join together so as to form a continuous map. As an example, I will quote Sheet LXXXIX, 13 and 14, in which there is a difference on the line of junction of more than 50 feet by the scale. I trust that you will, through the medium of your journal, place the question before the profession.

DUNELMENSIS.

THE GRATE STOVE.

IT occurred to me some time ago that it would tend much to the convenience of the rooms of the sick, and to the economy of heat and fuel, when such was desired, if an ordinary grate could be converted at will into a close stove; and this I have effected in a way, apparently, in principle, the simplest imaginable, which is as follows:—

I had two openings made into the arch of the chimney of a sitting-room: the first is the usual register-opening; and the second, a little in front of the other, is an opening only a few inches long and a couple of inches wide. The first of these openings, for distinction sake, I will call the register flue; the second, the stove flue. When a common fire is to be used, the register flue is opened, and a common fire of coals is lighted in the grate. When these coals have burned bright and the fire is getting somewhat low, in case the change to a close stove be wished for, the stove flue is opened and the register flue closed. Then, a close-fitting screen or plate of sheet-iron is placed in front of the fireplace; and this screen is sufficient to close up the whole front against the admission of air, with the exception of a hole, between one and two inches in diameter, which is left in one corner of the screen, so as to admit air sufficient to maintain the slow combustion of the stove-form. Should the stove fire require any fresh fuel, smokeless coal must be used, as coke, cinders, &c.

Thus, I can convert my open grate, in a few seconds, into a close stove; and, when tired of the stove arrangement, back again, in the same time, into an open grate.

JAMES KENNEDY.

WOOD PRESERVATIVE PROCESSES ABROAD.

I HAVE read with much interest the article in your journal entitled "Notes on the Properties of Wood." Noticing the importance you attach to the different processes for preserving wood, I make so bold as to offer you some data which have been arrived at in Belgium, Holland, and France, concerning their relative merits. It is quite true, as you say, that the continental engineers esteem the processes of English origin the most highly, and especially Mr. Bethell's creosoting process. The efficacy of the creosoting process has for some years been admitted in the most absolute manner by the engineers in the Netherlands, and no other wood-preserving process is used by them. It has been proved in an equally absolute manner in Belgium by a series of experiments upon the principal wood-preserving processes, made by the Belgian Government engineers. These experiments have lasted through a period of twelve years, and were conducted with the greatest care and vigilance. In the course of these experiments there were laid down creosoted sleepers, 223,654; sleepers prepared with sulphate of copper, 199,061; sleepers prepared by other processes, 25,730. And in 1860, "Compte Rendu des Opérations des Chemins de Fer Belges, 1860," page 28, the Minister of Public Works published his determination to prepare in future all railway sleepers with creosote, except the oak sleepers, which are not to be prepared at all. M. Crepin, a Belgian Government engineer, who has tried experiments upon the relative advantages of creosote and sulphate of copper for the preservation of timber in marine constructions from the attacks of worms, &c., has lately published a report, "Annales des Travaux Publics de Belgique," tome 19, in which he states that creosoting is the only process he has found to succeed for this purpose. Indeed, he states that sulphate of copper affords no protection whatever against the action of salt water and marine insects.

As regards France, I must add that although immense quantities of timber prepared with sulphate of copper have been used by the French railways; nevertheless, there also, experience points to the condemnation of this preservative. At the end of the last year, the committee of the Belgian engineers being unable to reconcile the facts they had observed in Belgium with the opinions of the French railway engineers, and fearing lest the failure of sulphate of copper in their experiments had been occasioned by some imperfection in their mode of employing it, the Belgian Minister of Public Works asked permission from the Nord and other railways of France for a committee of Belgian Government engineers to inspect the sleepers prepared with sulphate of copper and placed on the said railways in France. The result of the inspection made by the committee proved to them that no better results had been obtained in France than they had obtained in Belgium; and that consequently they had not to blame themselves for any want of skill in their application of the sulphate of copper process. It was quite by chance, through my being in London for a few days, that I came to read your article; and it is in the interest of truth alone that I send you the above facts, which I hope you will kindly place in your next number.

The Belgian Government now require that all the wood sleepers used in the state railways should be creosoted; and the Government of Holland have also made the same resolution; and upwards of 300,000 sleepers per annum are now being creosoted for the Dutch Government, and more by the Belgian Government. A. T., Antwerp.

THE STUDY OF WOOD CARVING.

SIR,—Although sincerely interested in the progress of art industry, I am, nevertheless, ignorant as to the best method of advancing it, even in what appears to me, its simplest application, namely, the carving of wood. I shall feel obliged to any of your correspondents who will inform me whether it would be practicable in a small town, seventy miles from London, to form a class in which this branch of industry might be cultivated in boys who may evince a natural aptitude for such education. I will not at present trouble you with other questions on this subject, as I hope that an answer to this one inquiry will anticipate many of the difficulties which oppose the establishment of a small school for wood carvers, on other than a costly foundation. F.

PATENTS CONNECTED WITH BUILDING.*

IMPROVEMENTS IN THE CONSTRUCTION OF ELECTRIC TELEGRAPH CABLES.—*A. J. Paterson.* This invention consists in the employment of a flexible or jointed pipe or tube, or series of tubes, within which the insulated conducting wires are placed. The pipes or tubes possess great tensile strength, and may be made water-tight by gutta percha, india-rubber, tarred hemp, or any suitable material or combination of materials, with or without wire, as circumstances may require. This flexible jointed tubing may be protected from corrosion, when made of metal, by galvanising or by being coated or covered with gutta percha, marine glue, or any other like protecting agents.

IMPROVEMENTS IN THE MEANS OF PRODUCING IMITATION MOSAICS (a communication).—*G. H. Birkbeck.*—Here the model of the design is first executed on paper, and coloured, to give an idea of the general effect ultimately required. This model design is cut into sections of the various parts of the design. These several sections, composing the picture or other work of art, are then placed separately on plates or surfaces of baked or unbaked earthenware, metal, or other substance suitable for enamelling upon, which is then cut or shaped to the exact contour or shape of the particular part of the design under treatment. When

* Selected from the lists in the *Engineer*, &c.

all the parts are thus arranged they are placed together to ascertain if they fit correctly, so as to represent the original design. The various parts are then covered with enamel, either separately or combined, the enamel being so applied to each part as to produce, when "fired" or baked, the various colours required in the complete design. When baked the parts are combined and cemented or secured together in any convenient way.

TILES.—*L. Faconnet.*—These improved tiles offer several advantages. One is that on a roof covered with them no overlapping will be apparent: thus, if covered with scale or shell-shaped tiles, no discontinuity will be presented, and it will appear as one whole, and if of even tiles it will form a perfectly plane surface, and as if made of one single piece. This is effected by giving to tile several real or apparent thicknesses, making it, for example, thinner at top and bottom than in the intermediate part—that which is alone visible when the tile is placed. These thicknesses might always be real, but in such case the weight of the tile would be considerable, and its strength unnecessarily great.

BUILDING A BONFIRE.

THE mode of forming the bonfire at Aldershott, which, in all probability, was the largest in England, may be usefully recorded, as it proved very satisfactory. During the preceding week a strong party of the Military Train had been constantly employed in conveying to the brow of Cæsar's Camp waggon-loads of furze, fir-branches, old refuse, and wood of every description, which were built up in the form of a cone, having a base whose circumference was 180 feet, and a height of 50 feet. First, a very stout fir-tree, 35 feet long, was reared on end, 5 feet being let into the ground, and supported by four struts. Around this were stacked the stouter timbers and materials to a height of about 10 feet, and to these succeeded fir-branches, raising the whole to 15 feet. Five full tar-barrels were now secured round the pole with wire, and the stocking of fir and furze bavins was continued to a total height of above 25 feet, the whole being pinned vertically with stakes. Four more full tar-barrels were here secured round the pole, and the top of the pile covered with a layer of hurdles pinned with stakes, forming a sort of staging from which to take a fresh departure. A topmast of 27 feet in length was now hoisted, and 7 feet of its length secured by wire to the lower pole. Again was the stacking continued, the material being passed up a series of stages erected all round the pile, and occasionally tar-barrels were hoisted to the top by means of a purchase secured to the topmast. These were emptied, and their contents allowed to trickle through the interior. 300 gallons were used for this purpose. When the pile had reached a total height of about 45 feet it was carried in, after the manner of the top of a sugar-loaf; an empty tar-barrel was placed on the topmast-head; and a topgallantmast, with a Royal Standard nailed to it, was fixed to the topmast-head, the flag waving proudly at a height of 70 feet from the ground below, and at a total height above the sea of 670 feet. Seventy stout fir-trees, about 35 feet long, were placed all round the cone, forming, as it were, an outer casing to the bonfire: these were secured in their places by wires passing all round the pile, each pole being secured to the wire by holdfasts. It is calculated to have contained upwards of 42,000 cubic feet of material. A number of men armed with portfires were stationed at intervals around the pile at a few moments before the appointed time for lighting up, and precisely at eight o'clock they plunged their portfires into the mass, which was instantly alight, and, the flames rapidly running up the outside, the whole pile was a sheet of flame in less time than it has taken to describe the event.

Books Received.

Sussex Archæological Collections, relating to History and Antiquities of the County. Vol. XIV. Sussex: G. P. Bacon, Lewes. 1862.

THE new volume of transactions issued by the Sussex Archæological Society is not inferior in interest and value to its predecessors,—a value we have often acknowledged. Petworth, by Dr. Turner; Hastings and its Municipal Rights, by Mr. W. Durrant Cooper; Eastbourne, by Mr. Geo. F. Chambers; Maresfield, by the Rev. Edward Turner; and Chiddingly, by Mr. Mark Antony Lower, are the most important communications. The volume contains a considerable number of engravings, some of them not quite so good as the text deserves.

Petworth is a place to be seen. Some of Gibbons's best work is here, added to with great skill by Jonathan Ritson, a native of Cumberland, who died in 1846. Dr. Turner, who knew Ritson well, speaks with regret of his intemperate habits and obstinacy. He would work only when he felt disposed to do so, and remonstrance had no effect on him. Had it been otherwise he might have attained to great eminence; but as it was he died in a back street of that town, worn out both in mind and body, and supported entirely by the liberality of the owner of the estate.

Transactions of the National Association for the Promotion of Social Science; London Meeting, 1862. Edited by GEORGE W. HASTINGS, LL.B., General Secretary to the Association. London: Parkers & Bourne. 1863.

THIS goodly volume of 900 pages and upwards contains an immense mass of matter connected with Social Science: even the table of contents would fill several of our columns. Besides the introductory addresses by Lord Brougham, the President, in opening the session; by Sir F. Kelly, on Jurisprudence; the Dean of St. Paul's, on Education; the Common Serjeant of London, on Punishment and Reformation; Dr. Fairbairn, on Public Health; Mr. Monckton Milnes, M.P., on Social Economy; and Mr. T. Twiss, Q.C., on Trade and International Law; the volume contains a long series of select papers, notices of papers, &c., on Jurisprudence, Education, Punishment and Reformation, Public Health, Social Economy, and Trade and International Law; with an Index to the whole. Seventy pages are devoted to papers and discussions on the Convict Systems of England and Ireland alone, including papers by Sir Joshua Jebb, Professor Mittermaier, Sir W. Crofton, Mary Carpenter, Catharine Fraser, and various others, the whole forming a highly important study at this precise moment for our legislators and others interested in the proceedings of Parliament on this question. On the subject of Public Health there are many valuable papers, including various contributions on the site, construction, and management of hospitals, by Drs. Turle, Sanderson, Steele, Markham, and Ballard, &c., with a summary of the discussions and minor papers on the same and other cognate subjects; papers on overcrowding in London, by G. Godwin; on the influence of occupation, by Dr. E. S. Thompson; on health and mortality in Birmingham, by T. Green; on the health of the army and navy, by Dr. G. Milroy; on the health of the London postmen, by Walter Lewis, M.B.; and various others. In the branch of Social Economy, besides papers on statistical science, on employers and employed, on co-operation, the condition of the working classes, and others, there is a summary of proceedings containing various contributions by ladies, chiefly on the condition and occupations of women. Various foreign gentlemen contributed papers on trade and international law, and on other subjects.

The volumes issued by the Social Science Association form a highly-important and valuable compendium of social science in all its branches.

We may here remind our readers that the next meeting of the Association will take place in Edinburgh, still under the presidency of Lord Brougham.

Advertise. How? When? Where? By WILLIAM SMITH, Acting Manager, New Adelphi Theatre. London: Routledge, Warne, & Routledge.

THE safe answer to Mr. W. Smith's queries, for the benefit of those who would sell their wares or draw audiences, is—By any means: Now; and Everywhere. For anything like a satisfactory article, wide and continuous advertising will insure a sale. There is always some one who wants what you wish to get rid of; some one desiring to sell what you want. The difficulty is to bring the two parties together. Our author is nearly right when he says "no trade or calling at the present time can afford not to advertise." Mr. Smith seems a master of the art, and gives many useful hints to those he addresses. Moreover, he has made his book very amusing, so that it will be read by hundreds who do not care about the subject, and thus the book itself is a capital advertisement for those who are named in it. Mr. W. McConnell and Mr. J. H. Swan have illustrated the work very efficiently; and Mr. T. Thompson, the scenic artist of the Adelphi Theatre, has provided a clever cover.

Miscellanea.

THE MUSEO BORBONICO.—With reference to the plan of the Royal Museum at Naples, given in our last, a correspondent, J. H., says there are very fair plans of the two principal floors of the Museum in "Murray's Handbook of Southern Italy," page 108, 2nd edition, 1855. "The plans in Murray are not quite correct with regard to thicknesses of walls and minor details, but the vestibule, grand staircase, and general subdivisions, are accurately drawn."

LIVERPOOL ARCHITECTURAL SOCIETY.—At the meeting, on Wednesday, the 11th, Mr. Weightman in the chair, before the paper was read, some discussion took place relative to the statue on the dome of the Town-hall. Mr. Boult contended that the statue was a representation of Britannia and not of Minerva; but Mr. Picton asked, if that was so, why the figure held a spear and not a trident. Mr. Huggins then read the first part of a paper, entitled "The Renaissance and Italian Styles, and the varied Offshoots of each in Transalpine Europe."

ROYAL HORTICULTURAL SOCIETY.—The second of the early flower shows of the season was held at these gardens on Wednesday. The flowers were, as before, arranged in a portion of the refreshment department of the Exhibition buildings. There were not a very great many, but some of the varieties were remarkably fine, especially the roses, which were of a size, beauty, and fragrance that would have done honour to a rose show in the midst of summer. Some good specimens of azalias and camellias were also exhibited.

HER MAJESTY'S THEATRE.—This theatre is at present undergoing re-embellishment at the hands of Messrs. Green & King, the decorators of the new Bath theatre. The decorations are being cleaned and restored, many parts having to be entirely repainted owing to the discoloration from the gas, and the damage caused by exceptional entertainments, such as those provided by the late M. Jullien. The method of lighting, too, is receiving attention, and several other improvements are being introduced with the view of improving the comfort of the spectators and the elegance of the house.

OFFORD ROAD LITERARY INSTITUTE, ISLINGTON.—The Rev. John Pulsford commenced a recent lecture on "Art, especially the Artistic Side of Christianity," by defining art to be that which enables us to make beauty out of matter, music out of sound, and poetry out of words. It was thus that the Great Artist created the world out of chaos. He created man in his own image: man is, therefore, the perfection of art; and he would defy any one to produce anything so beautiful and so touching as a sleeping babe. We may *study*, but we must not copy: art is not copyism. No matter how clever we may be in copying, we cannot call it art; for when it is copyism it ceases to be art. The great aim, therefore, of artists is to study nature and Scripture, and he who does so most successfully is the greatest artist. It was thus Handel produced his "Messiah," and thus are we led away by Dante's poem. The lecturer compared Greek art with Christian art, and urged that the object of both was to elevate religion.

A COMMENDABLE STOKER.—An exciting incident, eventuating in the saving of many human lives and limbs, on the Caledonian Railway, on the 26th ult., merits notification. While a mail train was on its way from Carlisle northwards, at the rate of forty miles an hour, an engine at the Beattock station was quietly engaged in taking in water, while the stoker was on the platform and the driver on the engine. Suddenly the driver (who must have been either drunk or mad) put on his steam, and instantly started for the south, on the line of rails which the mail train was at that moment traversing northwards. The horror of the stoker must have paralyzed him for a moment, but as instantly he regained his self-possession, leaped upon another engine which happened to be ready, put on all steam, and started in chase on the proper or up line adjoining. "After a race of thirteen miles," says the *Carlisle Journal*, "he overtook the truant engine near Lockerby; and, on getting alongside, leaped from one engine to the other; both going at the rate of fifteen or twenty miles an hour at the time. He had just time to reverse the engine, wake up the driver, who was asleep, and then run to the adjacent signal-post, when the limited mail came thundering along from Carlisle at forty miles an hour. It was fortunately stopped in time by the signal, within a few yards of the runaway engine." The stoker's name is not mentioned; but he deserves not only reward, but promotion to the engine which his driver has forfeited.

CLIFTON SUSPENSION-BRIDGE.—A portion of the chains of Hungerford Suspension-bridge has been received at Clifton. The contract for the carriage, hauling, and delivery has been undertaken by Mr. John Bland; and the bulk will amount to about 1,500 tons, viz., 1,000 tons from London, and about 500 tons of new chains from Dudley. The works at Clifton have been commenced, and are making steady progress.

MEXICO.—At 68, Newman-street, a number of cleverly-modelled figures, by native Mexican artists, representing the inhabitants of Mexico, are on view. These show people of all classes, and range from members of the Indian tribe who held Mexico at the time of the arrival of the Spaniards in 1518, to specimens of cultivated Mexicans of the present day. Apart from their interest in an artistic point of view, they serve to show the progress of development as it proceeds from the intermixture of the blood of distinctive races.

DISPOSAL OF THE METROPOLITAN SEWAGE.—The Metropolitan Board of Works have announced by advertisement that on the 8th of May next they will receive tenders for the disposal of the sewage discharged by the main outfall sewers. They require full information as to the manner in which the sewage is to be treated and employed; and if by irrigation, as to the distribution of the sewage, the quantity and locality of the land over which it is to be distributed, the points at which the sewage is to be intercepted, the daily quantity to be employed, the mode of effecting junctions or communications with the sewers, provisions against floods, deodorization or otherwise preventing the sewage from becoming a nuisance or injurious to health, and royalty to be paid to the Board, &c. The Board do not bind themselves to accept the highest or any tender.

THE ROMAN HOUSE, LEADENHALL STREET.—At the meeting of the Society of Antiquaries, last week, Mr. Tite, vice-president, in the chair, read a short paper, giving an account of the recent discovery on the site of the old portico of the East-India House, in Leadenhall-street, of the remains of a Roman room, *in situ* 19 feet 6 inches below the present surface of the street, and 6 feet below the lowest foundations of the India House, to which we have before alluded. Mr Tite stated that, until this discovery, though everything had been examined with the greatest care, no remains of any importance were found in these extensive excavations, except broken fragments of Amphoræ and Samian ware, until this spot was reached. The room was about 16 feet square; the walls built of Roman brick and rubble; the floor paved with good red tesseræ, but without any ornamental pattern; the walls plastered and coloured in fresco of an agreeable tint, and decorated with red lines and bands. He gave it as his opinion that this was a small room, attached to the atrium of a large house, of which, near the same spot, a large and highly-ornamented pavement was found in 1804, and the central portion of that pavement was now preserved in the Indian Museum at Whitehall. The paper was illustrated with an account of fifteen other pavements of the same kind, which had been found in the city from the year 1680 downwards.

OPENING OF ANOTHER TUMULUS IN ORKNEY. A tumulus in Burray has been opened, and a large number of human and canine skeletons discovered in it. The labourers first laid bare a strong-built stone wall, and they found that it was of circular formation. They stumbled upon a doorway, similar to that of the Maeshowe tumulus, which led to the inside of the building through a narrow passage. At the termination of this passage they came upon a small compartment, about 4½ feet square, which contained ten human skeletons and the skulls of some three or four dogs. They found in all seven compartments of small dimensions, each separated from the other by a large flagstone standing on end, and each containing the skeletons of human beings and dogs. There were also a number of fishbones. One skull measured three-eighths of an inch in thickness, and another one-fourth of an inch. The features appeared to have been of the Esquimaux type—stout and broad. These Esquimaux-like skeletons, with those of their dogs, and fish-bones, indicate, we think, a time and state of matters such as might have prevailed before the era of ice and flood,—or of glacier, iceberg, and drift,—had fairly shrunk to its present Arctic dimensions; and it goes far to corroborate the suggestions we made in connexion with the discoveries in the Orcadian "Sorcery hall" at Maeshowe; where, it may be recollected, an Ogham inscription was found which closely resembled one seen in a barrow of Arctic America, and attributed to progenitors of the Esquimaux.

CLOTH WORKERS' HALL. — Mr. Herrick has been commissioned by the Cloth Workers' Company, to paint two whole-length portraits of her Majesty and the late Prince Consort, for their hall.

WORKING MEN'S COLLEGE, GREAT ORMOND-STREET.—The new term has commenced. The usual classes, preparatory, elementary, and advanced, have been formed in arithmetic, algebra, conic sections, geometry, trigonometry, book-keeping, botany, geology, English history, grammar, and composition, the physical and historical geography of Italy, French, Latin, and German, music and drawing; also special classes in French literature and conversation, and précis writing.

THE GLACIER TRADE.—Glaciers have become an important article of commerce! A great ice traffic is springing up in Switzerland, and the orders already received are enormous. At Grindelwald hundreds of workmen are employed in cutting ice into blocks for sale. At the glaciers, after penetrating several layers, the labourers arrived at a natural grotto, 160 feet long, 8 feet wide, and 65 feet high. The men who first entered were lost in admiration at the magnificent spectacle. The grotto has since been lighted up with torches and illuminated with Bengal fire, and the light reflected from these walls of crystal, it is said, produces quite a dazzling effect.

THE SANITARY CONDITION OF ROTHERHAM.—On Friday evening in last week Mr. Childers in the Commons questioned Sir George Grey on the subject of the alarming state of things at Rotherham, to which we had called attention in our issue of that day; and in reply Sir George explained that the Medical Department of the Privy Council sent last year two inspectors to inquire into the cause of the great disease and mortality which prevailed at Rotherham, and they made a report stating that the principal cause appeared to be not only a deficient supply of water, but the polluted source from which it came. He believed that the corporation of the town had now a Bill before Parliament, the object of which was to give the town an unlimited supply of pure water.

GAS.—The Crystal Palace District Gas Company's report for the past half-year states that "the working during the half-year being in every way satisfactory, the directors have thought it but just, and in strict accordance with the principles always supported by the shareholders, that the consumers should participate in the success of the company: they have therefore made a reduction in the price of gas throughout the district, the reduction commencing from the 1st of January, 1863." The profits for the half-year are 3,180*l.* 18s. 10d., which, together with 467*l.* 7s. 9d., the balance brought forward from last account, makes the available balance 3,648*l.* 6s. 7d. Out of this sum the directors recommend the declaration of a dividend after the rate of six per cent. per annum on the preference capital; and a dividend after the rate of ten per cent. per annum on the ordinary capital of the company, both free of income-tax; the balance of 428*l.* 16s. 2d. to be carried forward to the profit of the succeeding half-year.——The Boston gas company's directors propose a dividend at the rate of 8½ per cent. for the current year.

NEW WATER-PRESSURE ENGINE. — "STEAM SUPERSEDED."—At the Water-works office, in Wolverhampton, according to the local *Chronicle*, a hydraulic engine is doing the work of a steam engine in the most complete and satisfactory manner. It is the invention of Mr. Henry James Lewis, a practical engineer. Its mechanism in appearance is much the same as that of the steam engine, with the exception that it has two globes or air-vessels upon the cylinder. The action is very simple. The water is supplied to the engine from the main by means of an ordinary pipe, and can be turned on or off by means of a common stopcock at pleasure. When the engine is about to be set to work the water is allowed to pass into a chest or nozzle, within which is a slide-valve, the same as is used in a steam engine. The water, having filled the nozzle, rushes through the passage that is not covered by the slide-valve into the cylinder, forcing the piston along with it, at the same time compressing the air in one of the globes or air-vessels until the slide-valve shuts the passage; when the air that is now compressed in the one globe, by giving a certain amount of elasticity to the water acting on the piston, enables the crank to continue its motion. After the valve has covered the one passage, preparatory to opening the other passage for the return stroke of the engine, the same process is repeated. The rectilinear motion is converted into a rotary motion by means of a connecting rod and crank, and applied to the purpose for which it is required by ordinary pulley bands.

NEW PIERS.—The Board of trade has under consideration applications for provisional orders allowing the construction of piers at Llandudno, Blackpool, Rhyl, Ilfracombe, Dartmouth, Exmouth, and Bray.

MUSEUM OF ART AND INDUSTRY FOR VIENNA.—The Emperor of Austria has just addressed a letter to the Archduke Regnier, ordering the foundation of an Austrian museum at Vienna for the arts and industry. The collections of the Court, the Arsenal, the Belvedere, the University, the Polytechnic School, and other public galleries, are to contribute to form this museum. A provisional gallery will in the mean time be formed in a hall of the palace. A committee, headed by the Minister of State, is charged with the preparatory arrangements.

MUSIC-PRINTING MACHINE.—A machine which, if all be true that is said of it, would have delighted the hearts of our great musical composers could they have relieved themselves of the drudgery of writing down the results of their inspiration by its means, has been invented and patented by Mr. J. B. Fenby. It is worked by electricity, and will print the music performed on any instrument having keys like a pianoforte. A piece of blank paper is put into the machine; and, as the tune is being played, it is said to print distinctly the staff, time, notes, and movements, such as *andante, allegro*, &c., with strict accuracy.

COAL MINE EXPLOSION NEAR NEWCASTLE-UPON-TYNE.—Nineteen lives or more have been lost by an explosion at the Coxlodge Colliery. It is believed that a fall of coal freed a volume of explosive gas to which the lights, which were uncovered, set fire; but most if not all of the deaths appear to have been caused by the after-damp generated by the explosion, the workpeople having taken the most dangerous course out because it was the nearest. In the part where the explosion occurred, it is said the pit was supplied with 11,000 cubic feet of air per minute, and so pure and "clean," as the pitmen call it, was the pit believed to be that the naked lights were uniformly used without any apprehension of danger.

THE MIDDLE-LEVEL SYPHONS.—The report read at the half-yearly meeting of the commissioners states that the works at the dam and syphons have been so far completed that they have dispensed with the services of Mr. Leather and his staff. The total expenditure under him, including the syphons, has been 53,321*l.* The report from the engineers had not been received; but Mr. Hawkshaw was believed to be of opinion that a new sluice would not be required, although the syphons had not all been set in operation. The chairman stated that he thought it very probable that they would not only serve for temporary use, but might perhaps render the construction of a sluice unnecessary. Since they had got to work it was found that their loss of fall was limited to one inch; so that, so far as fall was concerned, the syphons were as nearly equal to the old sluice as possible. But they had seen the water already three feet higher on the Level side of the syphons than on the sea side.

THE CITY BRIDGE OF THE CANNON-STREET EXTENSION OF THE CHARING-CROSS RAILWAY.—The sanction of the Admiralty and of the Conservators of the Thames having been obtained for the erection of the large iron girder bridge over the Thames, between London and Southwark bridges, which is to carry the extension of the Charing-cross Railway to Cannon-street, the first operations for the construction of this great undertaking were commenced within the last few days, a number of piles having been already driven on the Southwark shore, opposite Cory's Wharf, and immediately facing Steel-yard Wharf, on the City side of the river. The bridge, which will be constructed of iron girders, supported on cast-iron cylinders, will extend from Bankside, on the south shore of the river, to the north or City side, near Steel-yard Wharf. Its total length will be about 645 feet, and the width of the roadway, which latter will carry five lines of rails, will be about 60 feet. It will not be provided with a footway for passengers. The roadway of the bridge will be carried over the river on cylinders 12 feet in diameter, filled with solid brickwork. Between these there will be five openings or waterways, each about 130 feet wide, thus leaving plenty of space for the passage of vessels; while the distance between high-water mark and the girders of the central span will be 25 feet. The engineer of the new bridge is Mr. Hawkshaw; and the contractors for the ironwork are Messrs. Cochrane, of Dudley Woodside. The estimated cost of the City bridge, which is about half the length of that at Charing-cross, is about 120,000*l.*

THE BRISTOL SOCIETY OF ARCHITECTS.—The ordinary meeting for this month was held at the Acadamy of Fine Arts, on Monday evening, the 9th. Mr. Gabriel having taken the chair, Mr. Ponton read a paper on "Expression in Art." An interesting debate followed.

BRISTOL SCHOOL OF ART.—On Thursday, the 12th, Mr. Hammersley, head master, delivered a lecture on the "Ancient Schools of Painting, and on Styles of Engraving;" and on Friday evening, another lecture on "Bristol Manufactures." Both discourses were well attended. In the first lecture, the lecturer gave a rapid review of the schools of painting in the Italian states, in Germany, Spain, and France, showing the modes of practice, tenor of thought, and inner purpose of the most representative of the artists, including Michelangelo, Raffaelle, Julio Romano, Titian, Giorgone, the Bellinis, A. Dürer, and others.

THE INCLOSURE COMMISSION.—The report of the inclosure commission states that, since the passing of the Acts for the "inclosure, exchange, and improvement of land," 3,977 applications have been made to them, 2,997 of which have been confirmed, 461 otherwise disposed of, and 519 are in progress. The applications in the present year were 321. The greater portion of the applications are for exchanges; the total being 2,746, of which 251 were during the present year. In all, the acreage of inclosures confirmed is 424,971, and in progress 207,109.

SOUTH ENTRANCE TO PARK LANE.—In reply to a question put by Mr. Goddard, in the Commons, Mr. Cowper stated, that although Park-lane was not the property of the Crown, and was not in any respect under his jurisdiction, there was an authority who could deal with the subject, namely, the parish of St. George's, Hanover-square. By the Act of last year parishes and district boards had the power of expending the rates in widening the streets, such as Park-lane, with the consent of the Metropolitan Board of Works; and they had also the power of raising money for that purpose on the security of the rates. The parish of St. George's, Hanover-square, was a very wealthy one. Its affairs were managed by men of business and experience, and he hoped their attention would be drawn to the very great obstruction and inconvenience to which the hon. member referred.

THE BOSTON SCHOOL OF ART.—The committee of this school, in presenting their second annual report to the friends and supporters, and to the public generally, again express their gratification in recording its successful progress. The receipts for payments of the pupils have been sufficient to maintain the current expenditure. The gross number of students has been 130 against 106 in the preceding year. Both these numbers are exclusive of the Grammar School pupils and the children in the five public schools. The ladies' morning class and the Saturday morning teachers' class, however, have diminished this year; but the general day and evening classes have largely increased. Local medals were awarded to eight of the students; and three were selected by the inspector for national competition, and forwarded to the department. The committee express their renewed thanks to Mr. W. Simonds, for granting a better access to the school for the morning and afternoon classes; and also to Mr. Vernon Howard (the master), and Mr. Wm. Gane (honorary secretary), to whom the success of the school is in a great measure attributed.

MANUFACTURE OF IRON AND STEEL.—Messrs. Williamson, of Parliament-street, and Picard, of Lyons, have provisionally specified an invention, the object of which is to run molten iron or steel directly from a converting vessel, capable of rotating motion, into moulds or receivers. For a large casting they pour into one mould, or into a receiver placed over it, the iron or steel produced in several converting vessels by means of conveying gutters, which gutters are in communication with the converting vessels. Sometimes they make the converting vessel portable, and remove several to the mould.——An invention which relates to ball, mill, and puddling furnaces employed in the manufacture of iron and steel has been provisionally specified for Mr. Thos. Wright, of Coldbrook Ironworks, New Brunswick. The improvements consist in building such furnaces in pairs, with a stove formed in the neck, to receive the metal preparatory to its being passed forward into the body of the furnace, and in applying a blast of atmospheric air to such furnaces, either hot or cold, as required, whereby he obtains a more uniform heat, producing a better quality of the manufactured metal, with a larger yield also, effecting a saving in fuel, and a diminution of manual labour.

FREEHOLD LAND IN SOUTHAMPTON.—The Conservative Land Society has just made its forty-sixth purchase of estates (in twenty counties), being its first acquisition of building land in Hampshire. The property is called the Benois Mount Estate, with a frontage in the popular part of Southampton, well known as the picturesque promenade, called "The Avenue," on the London road.

TOWER OF ST. MARY'S, TAUNTON.—Mr. R. L. Boulton has completed the four remaining life-size statues to the Magdalen tower, Taunton, Somerset, viz., SS. George, Michael, James the Great, and Andrew; and for south porch of the same church, viz., over doorway in a triple niche, the three crosses; that is, Our Lord and the two thieves; and on each side a little below, in niches, the Virgin and St. John, half life-size. Under the pedestals of the triple niche are carvings of the emblem of the Passion, restored some years since. Inside the porch, in a niche, there is a figure of John the Baptist, in all seventeen statues, which complete the exterior. There are twelve niches in the nave, proposed to be filled with statues, and a life-size statue near the font, which will complete the interior, excepting statuettes, which are wanting to complete the reredos, the niches being empty.

FOG SIGNALS.—At the Royal Institution, a lecture "On Fogs and Fog Signals" has been delivered by Dr. J. H. Gladstone. The efficacy of different kinds of fog signals has formed the subject of investigation by a parliamentary committee, and the British Association having taken up the inquiry into the character and prevalence of fogs, they commissioned Dr. Gladstone to collect information and to report the results, some of which he stated in the course of his lecture. The only means yet known of giving warning at sea during fogs is by sounds of various kinds, and a question to be determined is, what kind of sound best answers the purpose. Bells, whistles, the firing of cannon, gongs, horns, and trumpets have been tried, and a recent invention by Professor Holmes of a signal trumpet was exhibited and sounded. Though only on a small scale, the noise it made in the lecture-room was so loud and discordant as to be almost stunning; and it was stated that it could be heard at a distance of two or three miles, while the report of a cannon is not heard during a dense fog much farther than 300 or 400 yards. The kind of fog signal, however, which Dr. Gladstone said he considers will be found most effectual is the transmission of sound under water, which is a better medium for sound than air, and is not affected by the state of the atmosphere. He exhibited a water "siren," which emits a very shrill sound, when put in rapid rotation, that might be heard through water at a great distance. By having a suitable ear-trumpet immersed in the water, Dr. Gladstone conceives that not only could the exact direction of such an instrument, but some approximation to its distance, be ascertained.

TENDERS.

For house, Wimbledon Park, for Mr. F. J. Pollock Mr. Francis H. Fowler, architect. Quantities by Mr. William Harris:—

Fish	£2,679 0 0
Aries	2,527 0 0
Carter	2,499 0 0
Rider	2,480 0 0
Nixon	2,447 0 0
Brown & Robinson	2,400 0 0
Avis & Sons	2,356 0 0
Wilson	2,350 0 0
Sawyer	2,344 0 0
Hill, Keddell, & Co.	2,326 0 0
Adamson & Sons	2,297 0 0
Saunders	2,245 0 0
Little	2,208 0 0
James & Ashton	2,225 0 0
Hart	2,190 0 0
Jackson & Shaw (accepted)	2,125 0 0

For house for Captain Kirkpatrick, at Monks Horton, near Hythe. Mr. H. Baker and Mr. Wm. Arthur Baker, architects:—

Dove, Brothers	£4,185 0 0
Patman & Fotheringham	4,179 0 0
Wilson	4,153 0 0
Colls & Co.	3,997 0 0
Hughes	3,859 0 0
Scrivener & White	3,819 0 0
Fry & Pepper	3,734 0 0
Anscomb	3,699 0 0
Stiff	3,687 0 0
Simms (accepted)	3,489 0 0

For erection of warehouse, Colchester, for Messrs. H. E. & M. Moses. Mr. N. S. Joseph, architect:—

Newman & Mann	£935 0 0
Macers	855 0 0
Lee & Baker	795 0 0
King & Sons	795 0 0
Everett	744 0 0

For detached villa, Beulah Hill, Norwood, for Mr. Major Agate. Messrs. Waring & Blake, architects:—

Buck	£1,086 0 0
Glover & Thompson	1,037 0 0
Gammon	977 0 0

For the erection of a new Crown Inn, at Bromley, Kent, for Messrs. Nicholls, of Lewisham. Messrs. Waring & Blake, architects:—

Ledger	£1,182 0 0
Penny	937 0 0
Gill	899 17 6
Thompson (accepted)	755 0 0

For the erection of a Rectory House and Offices, at Ulcombe, Kent, for the Rev. Pierce Butler. Messrs. Waring & Blake, architects:—

Davis	£2,025 10 0
Shadget	1,995 0 0
Wood	1,870 0 0
Naylor	1,843 0 0
Sutton	1,785 0 0
Anscomb (accepted)	1,668 0 0

For the new entrance buildings to the Corn Hall, Cirencester. Messrs. Medland, Maberly, & Medland, architects:—

Sims	£2,997 0 0
Collins, Cullis, & James	2,510 0 0
Wall & Hook	2,223 0 0
Bridges	2,094 0 0
Niblett & King	2,067 0 0
Randal Stap	2,023 0 0
Jones & Sons (accepted)	1,990 0 0

For building two houses at Croydon, Surrey, for Mr. Sandell. Messrs. Newman & Billing, architects:—

King, Burton, & Co.	£1,200 0 0
Dale	1,187 0 0
Pollard	1,029 15 0
Deacon	1,015 0 0
Pendington	899 10 0
Newman & Mann	850 0 0
Peak	840 0 0
Thompson	840 0 0

For alterations to house, and building new stables at Cedar Cottage, Streatham Hill, for Mr. C. Swainscon. Messrs. Tress & Chambers, architects:—

Anley	£1,166 0 0
Macey	1,083 0 0
Cunningham	988 0 0
Hardiman & Sandon	987 0 0
Deacon	950 0 0
Brown	910 0 0

For building a mill and dwelling, Commercial-street, Spitalfields, for Messrs. J. Collier & Son. Mr. Bartlett, architect:—

Ashby & Sons	£6,492 0 0
Downs	6,280 0 0
Rider	6,248 0 0
Conder	5,930 0 0
Piper & Wheeler	5,885 0 0
Wood	5,579 0 0
King & Sons	5,499 0 0

For pair of semi-detached houses, Orpington, Kent. Mr. Harris, jun., architect:—

Milstead	£1,924 0 0
Brown	950 0 0
Townsend	947 18 0
Rivett	938 0 0
Wood	897 0 0
Chapman	894 0 0
Todd	795 0 0
Potter	789 0 0
Clark	781 0 0
Bond & Co.	777 0 0
Windred	570 0 0
Gray	448 0 0

(How is this to be explained?)

For villa residence at Romford, for Mr. Joseph Smith. Mr. J. Harris, jun., architect. Quantities supplied:—

Davey	£1,759 15 0
White	1,735 10 2
Forrest	1,637 0 0
Rivett	1,633 0 0
Curtis	1,619 0 0
Ashmole	1,598 0 0
Withers	1,580 0 0
Perry & Jutsum	1,567 0 0
Hammond (accepted)	1,562 0 0

For new shops, Piccadilly, Hanley, for Mr. Rock. Mr. R. Scrivener, architect. Quantities by Mr. E. E. Scrivener:—

Watkin	£787 10 0
Steele	748 0 0
Harley & Desu	749 0 0
Hammersley	709 11 0
Leonard	698 0 0
Matthews	697 0 0
Collis & Hudson	667 0 0
Brearton	620 0 0

For a pair of semi-detached villas at Farnboro', Hants, for Mr. Wm. Snell (exclusive of stabling and boundaries). Mr. Wm. Brown, architect:—

Edwards (accepted)	£1,050 0 0

For three houses, High-street, Marylebone:—

Henshaw	£4,334 0 0
Brown	4,080 0 0
Axford & Co.	3,988 0 0
Piper & Wheeler	3,776 0 0
Longmire & Burge	3,769 0 0
Hart	3,723 0 0

For new shop-front, Kingsland-road. Mr. Cæsar Long, architect:—

Nagle	£150 0 0
Larke	148 0 0
Skinner, Brothers (accepted)	138 10 0
Bird	120 0 0

TO CORRESPONDENTS.

C. J. R.—W. G. J.—F. D. W.—W. J. M.—J. T. (thanks. Not suitable).—T. S. G.—A. A.—W. & B.—J. F.—R. C. H.—A Busy Man.—A Competitor (write to Montpellier).—Mr. K.—W. H. & Son.—C. B.—E. C. R.—B. (too long ago to return to).—J. F.—R. S.—J. A. —J. M. C.—Intended Competitor.—J. P.—A. T. (next week).—F. W. (ditto).

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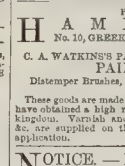
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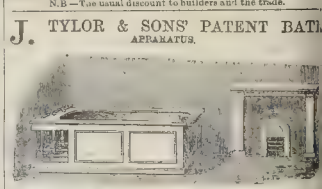
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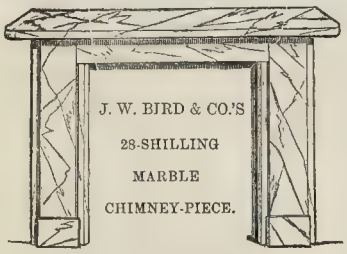
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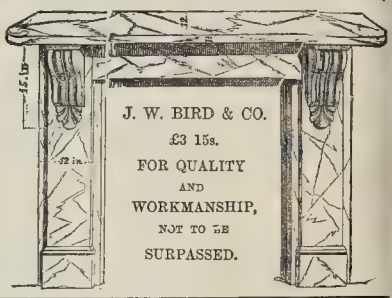
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20 by 12 (per 100 ft.)	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13 (per 100 ft.)	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14 (per 100 ft.)	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15 (per 100 ft.)	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets,	10d.	per foot.
Green do.	10d.	do.
Blue do.	6d.	do.
Orange do.	6d.	do.
Purple do.	6d.	do.
Yellow do.	6d.	do.

Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead	30s. (per cwt.)	Fine Oak Varnish	(per gallon.)
Anti-corrosian Paint	28s. to 34s. (per cwt.)	,, Carriage ...	(per gallon.)
Linseed Oil Putty	7s. 6d. (per cwt.)	Linseed and Boiled Oil	(per gallon.)
Patent Dryers	28s. to 42s. (per cwt.)	Turpentine	(per gallon.)

Milled Lead in Sheet and Pipe of all sizes.

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Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

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CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

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CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

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THE MOST APPROVED INTERNAL STUCCO.
CAN BE PAINTED IN TWELVE HOURS.
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186 and 181, DRURY LANE, LONDON; and at DERBY.
THE BEST PLASTER OF PARIS. ESTABLISHED 1784.

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WHOLESALE AND FOR EXPORTATION.
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Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

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By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
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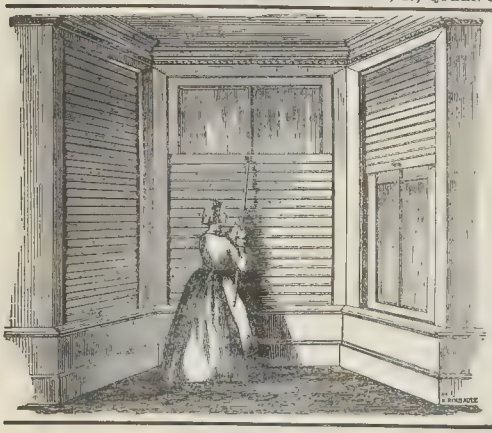
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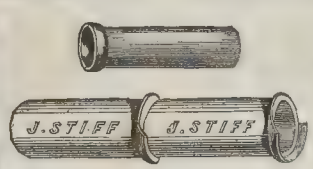
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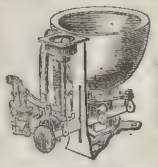
The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

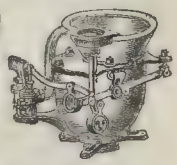
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve.

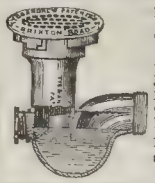


Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No intermediate valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogue had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

OSLEY POTTERY WORKS, GLASGOW.

Messrs. R. H. PENMAN & CO. from Staffordshire, Manufacturers of the best description of EARTHENWARE GOODS for Sanitary Purposes required in private and public buildings, supply the Trade, Wholesale, at the lowest possible prices for Cash. The Ware sent by their customers to the late Exhibition was highly spoken of.



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

MINTON & CO.

Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE-UPON-TRENT.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.

PAVING TILES in various colours and designs.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.

Dressed Blue Facing BUILDING and SEWER BRICKS.

Architects' designs carried out on the shortest notice.

Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent-road Bridge.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq., together with a special design and estimates of cost, adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

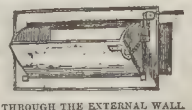
May be seen at the Exhibition of Building Inventions, &c now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 450, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City road Basin, N. Only, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and lastly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufacture as known as long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 6s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

SALES BY AUCTION.

TO ARCHITECTS, BUILDERS, AND OTHERS.—Valuable Stock of Chimney Pieces and other goods, the property of the Executors of the late GEORGE BRACE, Esq. the late Lessee of the Lizard Serpentine Quarries.

PULLEN, HORNE, & EVERSFIELD have received instructions to SELL by AUCTION, on the PREMISES, being the Show Rooms of the Lizard Serpentine Company (Limited), No. 29, Surrey street, Strand, a picturesque general assortment of chimney pieces, comprising about 100 lots, on TUESDAY, MARCH 31, at TWELVE for ONE, a selection of SERPENTINE CHIMNEY PIECES, executed in all the most approved and modern de signs, in which much taste has been displayed; also, a variety of clock cases, paper weights, table tops, and other manufactured Stock, presenting a favourable opportunity of securing, at a moderate cost, many beautiful specimens of workmanship in this material.—May be viewed one week previous, and Catalogues had at the Offices of Messrs. BRACE & LEATHES, 9, Chandos-street, Cavendish-square; and of PULLEN, HORNE, & EVERSFIELD, 46, Parliament street, Westminster, and 80, Fore-street, City.

Building Materials, Mincing lane.

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on TUESDAY, MARCH 31, at TWELVE, in lots, the capital BUILDING MATERIALS, FIXTURES, and FITTINGS, of the spacious house and offices, No. 27, Mincing-lane: comprising excellent stock bricks, lead flat, gutters, casteins and pipes, stout rafters, joists and girders, bressummers and story posts, plain tiles, sashes, doors, wainscoting, marble and other chimneypieces, partitions, closet fronts and interior fitt ings up, sound floor boards, stone paving, coping and slab, stoves, and useful fixtures.—May be viewed the day prev o s. Catalogues had, of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, and 46, Parliament-street, Westminster.

GROSVENOR ROAD, PIMLICO.—TO SCULPTORS, MASONS, BUILDERS, AND OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION on the PREMISES Lloyd's Wharf, foot of Vauxhall Bridge, on TUESDAY, APRIL 7, at TWELVE for ONE, about 100 Blocks of MARBLE, consisting of statuary, vein, Sicilian, black-and-gold, Bardilla, emperor's red, vert-vert, Rhondone, Sienna, &c.; also about 10,000 feet of marble slab, including most of the above varieties, various Sicilian figures and monuments, groups, statuettes, &c. in the best statuary marble, chimney pieces, tables, &c.—Approved Bills at four and six months. May be viewed two days prior, and catalogues had on the premises, and of PULLEN, HORNE, & EVERSFIELD, 46, Parliament-street, Westminster, and 80, Fore-street, City.

LOMBARD STREET.—Extensive Sale of BUILDING MATERIALS.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Royal Insurance Company to SELL by AUCTION, on the PREMISES, on FRIDAY, APRIL 10, at TWELVE, all the valuable MATERIALS of the BLOCK of BUILDINGS at the corner of Lombard-street and Clement's lane, being Nos. 27 and 28, Lombard-street, and Nos. 1 and 2, Clement's-lane: comprising a large quantity of brickwork, several tons of lead, plain and pan tiling, useful timber, floor-boards, shop-fronts, sashes, doors, and interior fittings, and a great variety of useful materials and fittings up, further particulars of which will appear in a few days, when catalogues may be had of J. BELCHER, Esq. Architect, 5, Adelaide-place, London Bridge; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 46, Parliament-street, Westminster, S.W.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, BROMPTON, S.W.

Notice of PRIVATE SALE of about 200 MARBLE CHIMNEY-PIECES, to be sold at very reduced prices (to save the expense of removal to the Brompton-road), in the following Marbles, viz :—Statuary, Rouge Royal, Dove, Black, Sienna, Bardilla, Dove, California, St. Ann's, Rouge Jasper, Jeune Fleure, Brocatella, Genoa Green, Irish Green, Blue Belge, Emperor's Red, Irish Fossil, Campanie Melange, Verd-antique, and other excellent specimens of British Marbles, varying in price from 1l. 10s. to 50l.; and for elegancy of design, workmanship, and quality, not to be surpassed in England. Purchasers to the extent of 30l. and 40l. approved bills of three and four months will be taken, less 2½ per cent. cash. Purchasers from the country will be supplied with packing cases, and the same packed and delivered to any of the metropolitan stations for 1 per cent on the amount purchased.

ISLEWORTH, Middlesex.—Extensive LEASEHOLD PREMISES, for Investment or Occupation.

MESSRS. EDWIN FOX & BOUSFIELD will SELL by AUCTION, at the MART, opposite the Bank of England, on WEDNESDAY, MARCH 25, 1863, at TWELVE o'clock, by order of the Mortgagee, valuable LEASEHOLD PROPERTY, situate in the town of Isleworth; comprising a roomy and convenient dwelling-house, with coachman's residence, adjoining Messrs. Kidd's mills, with large workshops, stabling, carthsheds, &c. approached under an arched gateway, and affording a rare opportunity to any builder of succeeding to premises in which a successful trade has been for many years carried on, or to the investor of insuring a remunerative rental. Held direct from the Duke of Northumberland, for a term of which about twenty years are unexpired, at a ground rent of 14l. per annum, and of the value of 60l. per annum. May be viewed; and particulars had at the Mart; of A. C. HOPE, Esq. Solicitor, 60, Cornhill; on the Premises; and of Messrs. EDWIN FOX & BOUSFIELD, 41, Coleman-street, Bank, E.C.

TO BUILDERS, STONEMASONS, AND OTHERS.—RE H. W. WILLIAMSON.

MR. BOYES is instructed by the Assignees to SELL by AUCTION, on the PREMISES, Upper and Lower Tenby, in the county of Pembroke, on THURSDAY, the 26th instant, at TWELVE precisely, the GOOD-WILL of the old established Business and the Agreement for the Premises; also, the STOCK, PLANT, and MATERIALS of the Builder, useful grey horse, two spring, five tumbril and other carts, in good condition; timber carriage (nearly new), and a variety of miscellaneous effects.—Particulars and Catalogues may be had on the premises; of Messrs. HARRISON & LEWIS, Solicitors, 24, Old Jewry; and at the Auctioneer's Offices, 33, Abchurch-lane, Lombard-street, City.

THE STOCK OF A TIMBER DEALER AND BUILDER.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Landen-terrace, Camden-town, near the Eagle Tavern, on MONDAY, MARCH 23rd, at TWELVE for ONE, upwards of 9,000 Yellow, Pine, and White Planks, Deals, and Battens, and 400 cut dillo 100 squares of flooring, 6, feet of deafening, 1,000 feet cube square, 1,0 feet of bandsatty, feather edged and match boards, 2,0 feet of moulding, pantle ends, slatting battens, brick arches, &c. Auction Offices, 2, Carlington street, Hampstead-road, near the Euston Station.

TO BUILDERS AND OTHERS.—Statuary, Vein, Sicilian, and Coloured MARBLE CHIMNEYPIECES.

MR. WAGSTAFF will SELL by AUCTION, on the PREMISES, 91, Chalton-street, Euston-road, on MONDAY, APRIL 6th, at TWELVE, about 100 MARBLE CHIMNEYPIECES, being the entire Stock of a Marble Mason, of excellent quality and in great variety. On view Saturday prior.—Auctioneer's Offices, 176, Upper street, Islington.

THE LISCOMBE ESTATE, SOULBURY, within easy distance of Leighton Buzzard Station, on the London and North Western Railway.

MR. GOTTO will SELL by AUCTION, on THURSDAY, APRIL 2nd, 1863, about FOUR HUNDRED MAIDEN OAK TREES, of magnificent proportions, with their Lop, Top, and Bark standing on the estate. Catalogues obtained at the Offices of Mr. GOTTO, "The Cross," Leighton Buzzard.

HIGHFIELD PARK, WINCHMORE HILL.—82 FINE PARK GROWN TREES.

MR. A. RICHARDS will SELL by AUCTION, on the PREMISES, Winchmore Hill, Edmonton, on WEDNESDAY, MARCH 25, at TWO, Forty Excellent OAK TREES, mostly of very large dimensions; Seven ELMS; and Forty ASH. May be viewed two days previous. Catalogues obtained at the Lodge, and of the Auctioneer, Tottenham.

TO BRICKMAKERS, BUILDERS, AND OTHERS.

MR. J. Y. GIBBS is favoured with instructions from the Proprietors, who are giving up the business, in consequence of the lease expiring, to SELL by AUCTION on WEDNESDAY and THURSDAY, the 15th and 16th APRIL, at ELEVEN for TWELVE o'clock each day, on the ground, the BRICK FIELD, Clapham-street, and Guildford road, Brandley, Middlesex, about Two Millions of capital STOCK and PLACE BRICKS, 30,000 feet of Dantzic Timber, Joists, and useful Scantling, 250 squares of Flooring, 50,000 4-inch Boards, Mahogany in all thicknesses, Fir Slabs suited for fencing, &c. &c.; together with the various PLANT of a BRICKMAKER; consisting of wash-mills, chalk-mills, pug mills, pumps, barrows, wheeling-gates, shoots, harrows, dobbin-carts, harness, and numerous other effects. May be viewed two days before the Sale, and catalogues had at the Bull Inn, Barking; Anchor and Hope, Mill wall, Poplar; The Salutation, Greenwich; on the Ground; and at the Auctioneer's Offices, 61 and 85, High-street, Poplar.

TO BUILDERS, PLUMBERS, PAINTERS, OWNERS OF HOUSE PROPERTY, COUNTRY GENTLEMEN, FARMERS, MACHINISTS, AND OTHERS.—ABSOLUTE SALE.

MR. WM. HOLLINGSWORTH will SELL by AUCTION, at the SALE ROOMS, 13, High Holborn, on MONDAY next, at TWELVE precisely, the STOCK IN-TRADE of a BUILDERS' IRONMONGER, 12-regular and 1 pit stoves, kitchen ranges, furnace pans, gutters, piping, sash weights, &c.; brass foundry goods, in hinges, locks, latches, taps, door and bell furniture, two tons of nails and screws, two tons of paints and white lead, various colours, and varnishes, three valuable lathes, anvils, files, smiths' and other tools, flooring cramps and screw jacks, iron stable fittings, tramelled mangers, sashes, joists, rafters, iron bars, brackets, &c.; patent shafts, a 2-horse mowing machine, patent plough, 500 iron cattle hurdles, a 3-horse power stationary engine, 3,000 pieces of marble chimney-pieces, tastefully marble and enamelled slate chimney-pieces, and other builder's effects.—On view and catalogues ready to-morrow.—Auction Offices, 13, High Holborn.

Valuable Freehold Building Land, immediately in the rear of the Bank of London, Cushion-court, and Old Broad-street, in the City of London.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer FOR SALE, at the MART, on FRIDAY, MARCH 27th, at TWELVE, a very important and valuable FREEHOLD PROPERTY, situate in the rear of the Bank of London, Threadneedle-street, and comprising the valuable site (which has a frontage of 100 feet) to Cushion-court, Old Broad-street, near to the Stock and Royal Exchange, in the heart of the City of London. It comprises between 9,000 and 10,000 superficial feet, and is admirably adapted for the construction of offices, or exceedingly valuable in connexion with the adjoining premises. The importance and value of the situation may be seen by the splendid buildings, the Consul Marine, the National Bank, and the Imperial Insurance office, which have been recently erected in Old Broad-street, and the difficulty of acquiring land at any price in the immediate neighbourhood.—May be viewed, and particulars had of Messrs. DESBOROUGH, YOUNG, & DESBOROUGH, 6, Size-lane, Bucklersbury; Messrs. UPTON & JOHNSON, & UPTON, Auctioneers; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad street, Royal Exchange

TIMBER.—To TIMBER MERCHANTS, BOATBUILDERS, and SHIPBUILDERS.—TO BE SOLD by AUCTION by

MR. LANCASTER, at the house of Mr. Chattain, the CROWN INN, in Rotherham, on THURSDAY, the 9th day of APRIL next, at THREE o'clock in the afternoon, subject to such conditions as shall be then declared, the following standing TIMBER and OTHER TREES:—

Lot 1.—In Ecclesall Wood, near Sheffield; 393 numbered oak trees, 806 oak poles, 44 other poles, 240 oak rails, with the bark, cordwood, and underwood.

Lot 2.—In Edlington Wood, near Doncaster; 196 numbered oak trees, 4 numbered ash-trees 2 numbered elm-trees, 163 oak poles, 64 ash poles, 2 elm poles, 93 oak rails, with the bark, cordwood, and underwood.

Lot 3.—In Tinsley Park, near Sheffield; 40 numbered oak-trees, 407 oak poles, 16 other poles, 296 oak poles, with the bark, cordwood, and underwood.

In Scholes Coppice Wood, in the township of Kimberworth, near Rotherham:—

Lot 4.—213 Oak Trees of large size, numbered from 1 to 100, with the tops and bark.

Lot 5.—125 Oak Trees, and 2 Beech Trees, of large size, numbered from 101 to 227, with the tops and bark.

Lot 6.—103 Oak Trees of large size, numbered from 228 to 330, with the tops and bark.

All the trees set to be sale in Scholes Coppice Wood are marked and numbered with white paint

Mr. SAMUEL SMITH, the Woodman, will show the timber in Ecclesall Wood; Mr. FRANCIS ATKIN, the Woodman, that in Edlington Wood; Mr. JOHN ATKIN, the Woodman, that in Tinsley Park Wood and Mr. COWTRES, the Woodman, that in Scholes Coppice Wood, which are well adapted for naval purposes. This wood is at a convenient distance from the Masbrough station, on the Midland Railway, and from Swinton station, on the South Yorkshire, Doncaster, & Selby Railway. Further particulars may be had on application to Mr. NEWMAN, of Darley Hall, near Barnsley; Messrs. E. NEWMAN & SONS, of Barnsley; Mr. JOHN COBBAN, of Wentworth; or of Mr. LANCASTER, of Barnsley, Auctioneer.

N.B. The sale will commence precisely at THREE o'clock.

Darley Hall, near Barnsley, March 2nd 1863.

ADDISCOMBE, CROYDON.—Excellent Building Materials.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the town of Croydon, on MONDAY, MARCH 30th, 1863, at TWELVE for ONE o'clock, the fourteenth portion of the excellent BUILDING MATERIALS of some of the Buildings now being taken down by the Corporation, consisting of about 100,000 stock bricks, a quantity of bats, stone window sills, &c. 2 inch, window sashes, doors, frames, flooring and rooling boards, &c. May be viewed the Saturday prior, and catalogues had; and catalogues may be obtained of the Foreman, on the Estate, and of the Auctioneer, 14, Moorgate street, City, E.C.

In Chancery (without reserve).—About 3,500,000 Bricks, the Plant of Three Brickfields, Ten Horses, Seventeen Waggons and Carts, Harness, Four Ricks of Oats, a Piece of Freehold Land, &c.; Wood-lane, Hounslow; and Halliford, near Sunbury, Middlesex; and Egham, Surrey.

MESSRS. HERON & SONS will SELL by AUCTION, pursuant to directions with which they have been favoured by George Whiting, esq., Chief Clerk to the Master of the Rolls, in causes pending in the High Court of Chancery between James Bennett, plaintiff, and Alice Bennett, widow, and others, defendants; and Ann Elizabeth Burchett, plaintiff, and James Burchett, defendant, on the PREMISES mentioned, on MONDAY, MARCH 30th, 1863, at THREE o'clock precisely, in FOUR LOTS, of about 3,000,000 fine BRICKS, the PLANT of THREE BRICKFIELDS, ten strong and useful horses, seventeen waggons and carts, harness, together with other useful brickmaking implements, four ricks of oats, some farming implements, piece of freehold land, containing about 1a. 1r. 32p. and the leases of the Hallsford and Egham brickfields, which will be sold on the respective premises. The leases may be inspected at the offices of the Auctioneers seven days before the sale, when catalogues of the whole and separate lots, and particulars of the estate, can be had; and may be had of the respective Brickfields; of THOMAS MITTON, Esq. Solicitor, Lincoln's-inn-fields; of Messrs. BINDOW, TUCKER, and HALLETT, Solicitors, No. 1, Bedford-row, London; and of Messrs. HERON & SONS, Auctioneers and Valuers, Uxbridge Middlesex.

NORTH LONDON RAILWAY—CITY TERMINUS.

MESSRS. KENNEDY & BONNY are instructed by the Directors of the North London Railway Company to SELL by AUCTION, on the PREMISES, Liverpool street, E.C. on MONDAY and TUESDAY, MARCH 30th and 31st, at TWELVE o'clock, the first portion of the excellent MATERIALS of about eighty Houses, situate in Broad street Buildings, Peter street, and Sun-street, E.C.: comprising, capital stock bricks, stone, oak and other timbers; great quantities of excellent panelling, cast lead cisterns, and several tons of other lead; office fittings, street and other doors, sashes, battens, floors, ranges, stoves, iron railings, and other valuable and useful items.—May be viewed SATURDAY previous, and Catalogues had at the Offices, 14, Broad-street Buildings, 23, Kingsland road, and Camden Town.

N.B.—The SECOND PORTION will be sold on the 7th and 8th APRIL.—See future advertisements.

BANBURY, OXON.—To Builders, Contractors, Agriculturists, and Others.—Highly important Sale by Auction of first-class Portable Steam-engines, &c.

MESSRS. CLARKE & BARROWS have received instructions to SELL by PUBLIC AUCTION, on THURSDAY next, the 26th day of MARCH (in consequence of a dissolution of partnership, and in contemplation of new and extensive arrangements by Mr. Barrows, the remaining partner), TWENTY valuable and highly-finished PORTABLE ENGINES for Ploughing, Thrashing, Builders' and Contractors' Work, &c.; a 4-horse power fixture engine, six valuable thrashing machines, a set of valuable steam plough tackle, several useful second-hand portable engines and machines, from 2 to 8-horse power, by eminent makers, in perfect working order; saw benches, two patent self-acting mop and brush stall turning machines, to turn stalls up to 13 feet 4 inches diameter, complete; a rounding machine for turning the ends of stalls, capital saw tables, and other useful effects. Luncheon at ELEVEN o'clock, sale to commence precisely at TWELVE o'clock. Catalogues may be had of T. W. BARROWS, at the Works; at the London Depôt, 76, Cannon-street West, E.C.; or of the Auctioneers, 14, Temple-street, Birmingham.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION

Incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance by instalments. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or premiums to pay in advance, and no deduction from the loans. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.

EDWARD HARPER, Secretary.

MONEY TO LEND, at 4½ or 5 per cent.—Mr. GREENWOOD (Firm of Greenwood, Leah, & Co. Surveyors, 30, Great Ormond-street, Bloomsbury, London), can negotiate LOANS for respectable parties, at the above rates, upon personal and other security. Terms moderate. Also large sums may be obtained upon good mortgages.—Apply as above. All transactions are confidential.

TO BUILDERS, WHEELWRIGHTS, and CARPENTERS.—In consequence of the death of Mr. Samuel Terry, the old-established BUSINESS of BUILDERS, WHEELWRIGHTS, and CARPENTERS, hitherto carried on by the firm of "Terry & Son," in the rapidly improving town of Hailsham, in Sussex, is now to be DISPOSED OF. The purchaser will have to take the stock by valuation, and may purchase the premises where the business is carried on, as the same must now be sold. A person of ability and some little capital would be certain to command a first-rate business, as the neighbourhood is excellent, and the business premises are very commodious and handy to the railway terminus.—Application to be made to Mr. H. C. SINNOCK, Solicitor, Hailsham.

TO BE LET, with immediate possession, an Old-established CARPENTER'S BUSINESS, in Surrey. First-rate trade, premises, and references.—Address, A. R. W. Post office, Dorking, Surrey.

TO BRICKLAYERS, BUILDERS, &c.—TO BE DISPOSED OF, a Genuine BUSINESS in the above line. The house and premises are in good repair, and there is every convenience for carrying on a large trade. Twenty-seven miles from London, three from a station on the South-Western Railway.—For further particulars apply to R. B. Printing Office, Chobham, Surrey.

WANTED to PURCHASE, a SHARE of an ARCHITECT'S or any other genteel BUSINESS, which would yield the Advertiser 600l. per annum.—Direct, Full particulars of letters, to Mr. RICHARDS, 91 and 92, Piccadilly. Strict confidence may be relied on

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

TARPAULINS, MARQUEES, &c.
for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following extract FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE OF WIGHT.—Second Testimonial:—"March 14th, 1863.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much pleasure, its answers perfectly. Many builders and other persons have lately examined it, and there is not the least doubt in their minds of its being shortly brought into general use, and I am myself about to be adopted generally in the houses that are being erected here."

N.B. For the 1st testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

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TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

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The Builder

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ROYAL ACADEMY of ARTS. — NOTICE to ARTISTS.—All works of Painting, Sculpture, Architecture, or Engraving, intended for the ensuing EXHIBITION at the Royal Academy, must be sent in on MONDAY, the 4th or TUESDAY, the 5th of APRIL next, after which time no Work can possibly be received, nor can any Works be received which have already been publicly exhibited.

FRAMES.—All Pictures and Drawings must be in gilt frames. Oil Paintings under glass, and Drawings with wide margins, are inadmissible. Excessive breadth in frames as well as projecting mouldings may prevent pictures obtaining the situation they otherwise merit. The other regulations necessary to be observed may be obtained at the Royal Academy. JOHN PRESCOTT KNIGHT, R.A. Secretary.

Every possible care will be taken of Works sent for exhibition; but the Royal Academy will not hold itself accountable in any case of loss, nor can it undertake to pay the carriage of any package.

The Prices of works to be disposed of may be communicated to the Secretary.

THE EXHIBITION of ALUMINIUM and ALUMINIUM BRONZE will OPEN APRIL 1st, 1863, with 2000 SPECIMENS, illustrating the application (Ornamental and Useful), of these interesting Metals will be Exhibited on the Opening of MAPPIN BROTHERS' New Rooms, 222, Regent-street. Admission by Card.

COMPETITIONS.

TO ARCHITECTS.—100*l.* PREMIUM.—A PLAN and ESTIMATE of BUILDINGS to accommodate 300 Pauper Lunatics, of the counties of Cavan and Monaghan, from 220 to 230 in a main building, from 70 to 80 in detached cottages containing accommodation for from 35 to 40 patients each; suitable INFIRMARIES contiguous to the main building, a HOUSE for a Medical Superintendent, the necessary Offices for the building, and for a Farm of 40 statute acres, Workshops, &c. walls or a ha-ha to the exercise ground, yards and garden, and a boundary wall or other suitable fence to the farm grounds, for the lowest sum compatible with neatness of style and thorough attention to the most approved details in workmanship and fittings. One Hundred Pounds will be given for the Plan which shall be judged to be the best by the Committee, unless the Architect whose plan it is shall be employed to carry out the work. The Plan to be the property of the Committee. The Committee will not bind themselves to employ the designer of the best plan to carry out the Works, though their desire will be to do so. The law vests the final decision as to the adoption and the carrying out of any Plan with the Board of Control. This body may naturally, however, be expected to yield to any reasonable wishes on the part of those locally interested, and it has already waived its right of appointing an Architect in favour of the Committee, provided he be a person of acknowledged ability and standing in his profession. Papers setting forth more fully the views of the Committee, the building resources generally of the neighbourhood, and a description of the site, with a plan and sections of the grounds, will be sent by post to applicants, and every information given on the ground to those Architects who may wish to inspect it, by the Secretary to the Committee. Plans must be sent for consideration, to the "Secretary to the Building Committee of the Lunatic Asylum, Monaghan," on or before the 25th day of JULY next. An invitation will be sent to those Architects whose plans are most approved of to attend, if they should wish to do so, on a fixed day, for conference with the Committee.

9th March, 1863.

TO SCULPTORS.—The Executive Committee of the Oastler Monument will be glad to receive DESIGNS and PROPOSALS from sculptors, for a MONUMENT to the late Richard Oastler, which is to be erected in Bradford. The statue is to be placed upon a pedestal, in a speaking attitude, and to have, at the base, small figures of factory children supplicating the great philanthropist to redress their grievances. The cost of the Statue, which is expected to be colossal, is not to exceed 1,000*l.* and the design must approved will have the preference of the committee. The committee are open to receive a DESIGN for a FIGURE, in marble, under a Gothic canopy, with groups of factory children in bas-relievo on the pedestal. Communications may be addressed to W. WALKER, Esq. Belling Hall, Bradford, the Chairman of the Executive Committee

Bradford, March 4, 1863.

BILLING'S PATENTS.
CHIMNEY TERMINALS, THROAT VALVES.
NOTICE to ARCHITECTS.—The Proprietors of the late Mr. Billing's Patents have secured the services of Mr. H. H. COLLINS, M.I.B.A. of No. 10, Poultry, E.C. as the Consulting Architect, from whom full particulars and the reduced prices may be obtained; or from the Manager, Mr. TYLER, 19, Abingdon-street, Westminster, S.W.

CONTRACTS.

TO BUILDERS and MASONS willing to TENDER for BUILDING a DETACHED VILLA at Bletchingley, near the Reigate Station.—Can inspect the drawings and specification at the Office of the Architect, who reserves the right, on behalf of the freeholder, of rejecting the lowest or any Tender. Persons tendering will have to be provided with security for the fulfilment of the works. Tenders to be delivered on TUESDAY, the 7th of APRIL, at FOUR o'clock punctually.

HENRY McCALLA, C.E. Architect,
Offices—Reside-road, Eastbourne, Sussex, and
25, Westbourne-place, Eaton-square, S.W.

TO CONTRACTORS. — CONCRETE BRICKWORK and MASONRY.—The Oxford Paving Commissioners are prepared to receive TENDERS for CONSTRUCTING a BRICKWORK OPEN INVERT, along the portion of Trill Mill Stream, from the point where the present Invert ends, at the Tan Yard, St. Ebbe's, to Swan Island, in the City of Oxford. The plans, section, drawings and specification of the required Works, and the general conditions of the Contract under which the Works are to be done, may be seen daily between the hours of TEN and FOUR, at the Office, No. 7, St. Aldate-street, Oxford, of Mr. CALPIN, the Surveyor to the Commissioners. Tenders are to be made on a printed form, which may be had of the Surveyor or the Clerk to the Commissioners, and are to be delivered, sealed, at my Office, No. 4, St. Giles-street, Oxford, on or before MONDAY, the 6th of APRIL next. The Commissioners do not bind themselves to accept the lowest or any Tender

FREDERICK J. MORGELL, Clerk to the Commissioners.

St. Giles's, Oxford, 18th March, 1863.

BURNHAM GAS COMPANY, Limited. Persons willing to CONTRACT with the Directors of the Burnham Gas Company, Limited, for the ERECTION of New GASWORKS at Burnham, in the County of Essex, may see the plans and specifications on application to the Secretary, or at the Office of Mr. JABEZ CHURCH, Civil Engineer, Chelmsford. The work is to be Tendered for in the two following Contracts, viz.

CONTRACT No. 1. The Builders' Work.
CONTRACT No. 2. The Ironwork, Mains, and Apparatus

Sealed Tenders for the respective Contracts are to be delivered at the Engineer's Office, Chelmsford, on or before the 3rd day of APRIL, 1863. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

W. HAWTHORN, Secretary.

Gas Company's Office, Burnham, March 20th, 1863.

PLUMSTEAD, Kent.—To BUILDERS.—TENDERS are required for the ERECTION and COMPLETION of a detached DWELLING-HOUSE, to be built at Whitworth-road, near Shooter's-hill, Plumstead, Kent, for Mr. STONE. Drawings and specifications may be seen at the Offices of Messrs. W. GORING & SON, Surveyors, 82, Wellington street, Woolwich.—Tenders to be sent in on SATURDAY, 4th APRIL. Mr. STONE does not bind himself to accept the lowest or any Tender.

ROADS. — TENDERS are wanted for MAKING a ROAD at Ealing. Plans and specifications to be seen at Mr. WINTER'S House, Castlebar hill, Ealing. Tenders to be delivered to F. F. MARSHALL, Esq. Architect, Tottenham, N. by FRIDAY, APRIL 3rd, 1863.

EXTENSION of TIME for RECEIVING TENDERS.—To BUILDERS.—Persons desirous of TENDERING for the ERECTION of a MANSION, at Saltburn-by-the-Sea, may inspect plans, specifications, &c and obtain bills of quantities, at the Office of Mr. CUTHBERT BRODRICK, 2, Park-place, Leeds, on and after MONDAY, APRIL the 6th. Bills of quantities may also be obtained at the Office of Mr. BALAM, Surveyor, 10, Buckingham street, Strand, London, W.C. Tenders are to be delivered to the Architect, to the above address, not later than MONDAY, APRIL the 13th. The lowest Tender will not necessarily be accepted, Saltburn is about five miles from Redcar, in the North Riding of Yorkshire

14, Buckingham-street, Strand, London, March 11, 1863.

STOCKTON and DARLINGTON RAILWAY.—To BUILDERS and GAS CONTRACTORS.—The Stockton and Darlington Railway Company will receive TENDERS for the CONSTRUCTION of GASWORKS for Saltburn and Marske, including the excavations for, and erection of retort house, chimney, gasholder-tank, and the laying of the mains, &c. Plans and specifications may be seen on application at Mr. JOHN DUNNING'S Office, Bath-street, Middlesbrough. Tenders to be delivered at the Railway Office, Darlington, on or before THURSDAY, the 9th day of APRIL, 1863. The Company do not bind themselves to accept the lowest or any Tender.

THOS. MAC NAY, Secretary.

Darlington, March 21st, 1863.

CONTRACTS.

TO BUILDERS willing to TENDER for doing sundry REPAIRS and ALTERATIONS to a HOUSE near Victoria-gate, Hyde Park. Can inspect the drawings and specification at the Office of the Architect, on and after WEDNESDAY, the 1st of APRIL. Tenders are to be delivered on MONDAY, APRIL 6th, at FOUR o'clock punctually. A right is reserved of rejecting the lowest or any Tender. HENRY McCALLA, C.E. Architect.

Office, 25, Westbourne-place, Eaton-square, S.W.

TO CONTRACTORS and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the CONSTRUCTION of the following SEWERS, in the parish of Clapham, viz.:—About 4,620 feet of 3 feet 9 inches by 2 feet 6 inches Brick Sewer, 3,155 feet of 3 feet by 2 feet Brick Sewer, and 1,370 feet of 2 feet 3 inches Brick Barrel Sewer; and also for the EXCAVATING for, and LAYING of, about 5,150 feet run of STONEWARE PIPE SEWERS, of various sizes (the pipes for which will be supplied by the Board). The specification, plans, and sections, may be seen, and all further information obtained, at the Office of Mr. JOHNSON, Surveyor, Manor Cottage, Larkhall-lane, Clapham, between the hours of NINE and FOUR.—Tenders are to be sent in under seal to the Board as below, on or before TUESDAY, the 21st APRIL next, and are to be endorsed "Tender for Sewers." Persons tendering must be in attendance at the Offices of the Board, on WEDNESDAY, the 22nd APRIL, at FOUR o'clock p.m. when the Tenders will be opened. Security will be required for the due performance of the contract. The Board do not bind themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District,

ARTHUR ALEX. COBB-ELLIS, Clerk to the Board.

Battersea-rise, Wandsworth, S.W. March 23, 1863.

TO BUILDERS.—Persons desirous of giving in TENDERS for the ERECTION of a RECTORY HOUSE at Titchwell, in the county of Norfolk, may see the plans and specification at the Globe Hotel, King's Lynn, from APRIL 6 to APRIL 11; and at Titchwell Rectory from APRIL 13 to APRIL 18 next.

Cheltenham, 1863 JOHN MIDDLETON, Architect.

TO BUILDERS, MASONS, and OTHERS. The Edmonton Local Board of Health will be prepared at their meeting, on the 17th day of APRIL next, to receive TENDERS for the execution of the undermentioned WORK, viz. To provide, square, and properly lay down in Portland Cement, about 50 square yards, best 2½ inch thick York Stone Paving, of the width required, and as and where directed by the Surveyor, Mr. ROBERT GOSSET, F.R.I.B.A., of whom further information may be obtained.—Tenders, sealed, and indorsed "Tender for Paving," to be addressed to the Clerk to the Board, Edmonton, not before the 13th day of APRIL next. The party contracting will be required to give sufficient security, to be approved by the Board, for the due performance of the contract. The Board do not bind themselves to accept the lowest or any tender.—By order of the Board,

WILLIAM PULLEY, Clerk to the Board.

Edmonton, March 24, 1863.

TO STAIRCASE HANDS. TENDERS are required for the STAIRCASES and RAILS to two houses at the Kings-road end of Oakley-street, Chelsea, labour and materials.—Apply to the Foreman. The lowest Tender will not necessarily be accepted.

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Drawings and specifications, with forms of Tender, may be inspected and copied, on and after the 6th APRIL, at the Station Master's Office, Bricklayers' Arms Railway Station, Old Kent-road, London, and any further information may be obtained, on application to the Company's Carriage Waggon Superintendent, Ashford, Kent. Sealed Tenders, endorsed "Tenders for New Carriages or Waggons," to be delivered to the undersigned, on or before TEN a.m. on WEDNESDAY, the 22nd APRIL next. S. SMILES, Secretary.

London Bridge Terminus, March 26, 1863.

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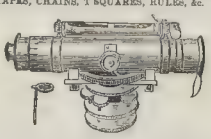
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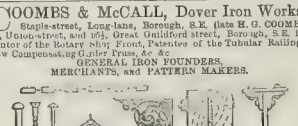
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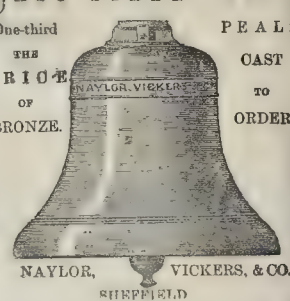
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J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES
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JOHN POLLARD, Clerk of the Board.
Spring-gardens, 26th March, 1863

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

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These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

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Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

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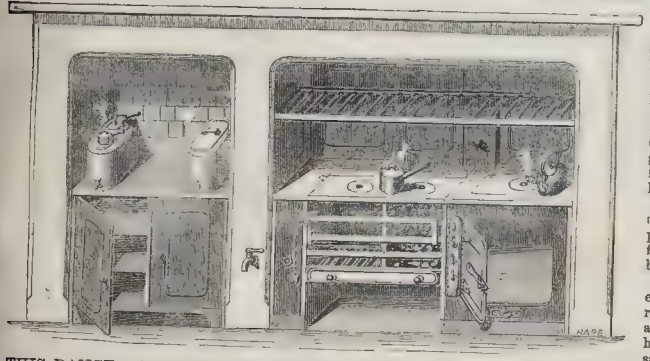
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This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

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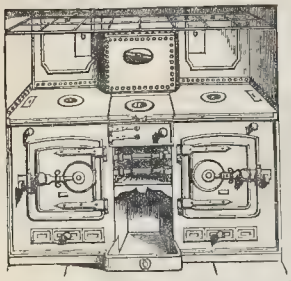
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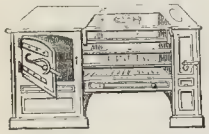
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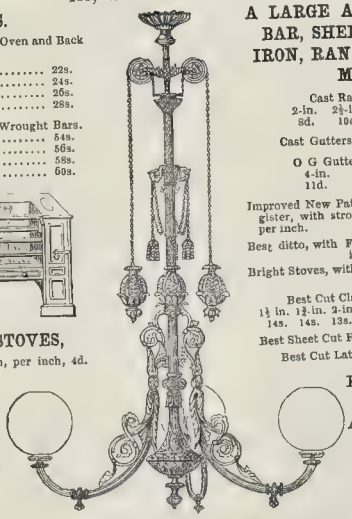


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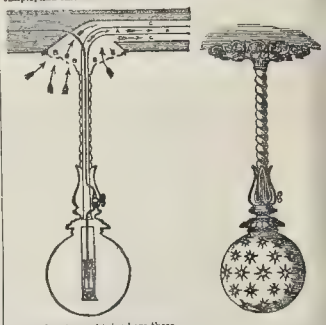


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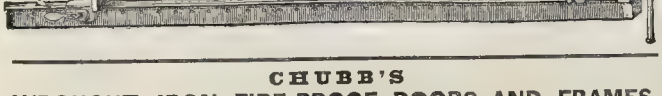
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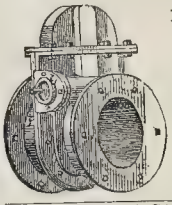
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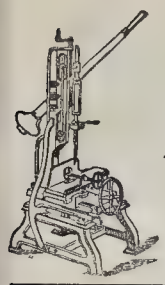
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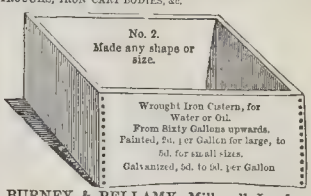
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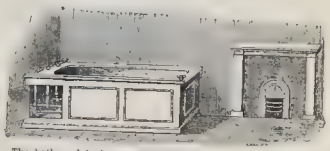
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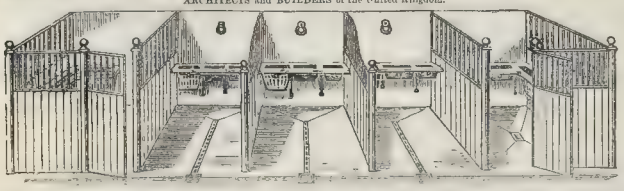
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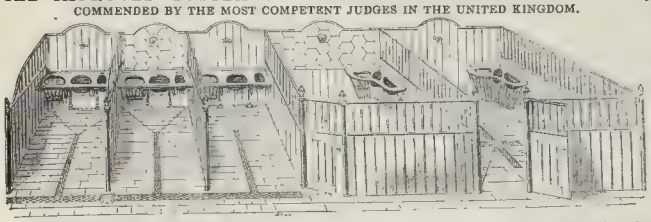
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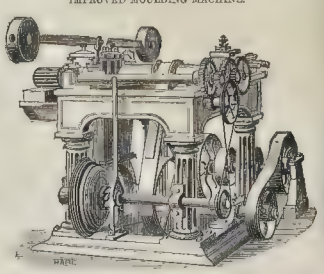
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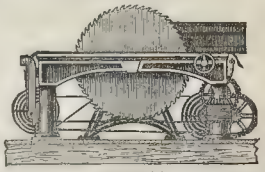
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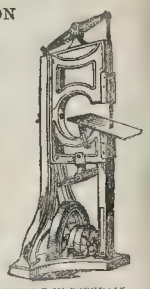
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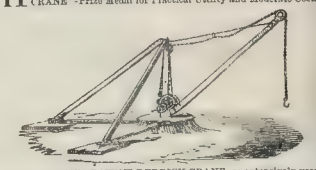


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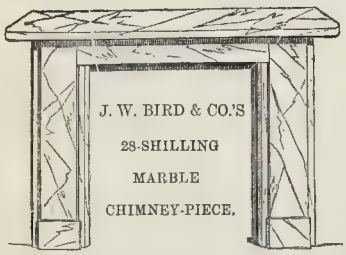
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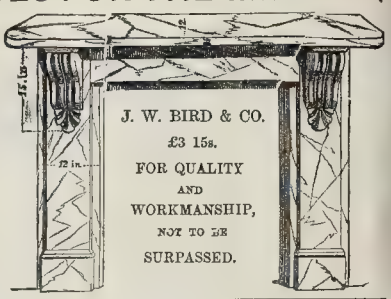
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The Builder.

VOL. XXI.—No. 1051.

The Architectural Exhibition; and Conversazione.

ON Wednesday evening, the galleries of the architectural societies in Conduit-street were opened for the conversazione; and the Exhibition may now, and till the 30th of June, be visited by the public. The announcement being somewhat late, attendance of the leading members of the profession was not equal to what it has been on previous occasions, but included as many ladies and gentlemen as the space, somewhat crowded by the screens and additional objects exhibited, could conveniently accommodate. In the course of the evening, the claims of the Exhibition on public notice were advocated by Mr. Ashpitel, who also drew attention to the lectures, the first of which, by Professor Kerr, will be given on the 8th of May. The drawings on the walls and screens amount to 424 numbers in the catalogue; but many exhibitors include in a single frame a large number of their works, such as they have designed and superintended during a period of years. Several of these drawings were in the International Exhibition; but generally, all of this class are better seen in Conduit-street; and they materially assist an object that hitherto has been pursued under difficulties, that of making the collection representative of the actual state of architecture: albeit still, the pursuit is kept up with a considerable interval of distance; whilst it is not less obvious than hitherto, that the architects who are doing most, are precisely those who find it most difficult to have exhibition drawings prepared. Perhaps, however, those architects do not take the view of the importance to them of exhibition, that they should take; and we certainly contend that they ought to co-operate towards awakening the public attention, and familiarizing the eye and mind with the art which may be in architecture as practised, even whilst the capabilities of *drawing* are at a long distance in the rear of those of the thing itself—architecture as in positive building. Besides the drawings in the Exhibition, there are the average number of specimens of materials, building-contrivances, and art-manufactures. To these, the north and east galleries are devoted exclusively. In addition to the works of the kinds ordinarily composing the Exhibition, the Society of Sculptors of England, a society for the promotion of exhibitions of works of sculpture, display 167 busts, statuettes, and other works in their branch of art, including several by Foley, Gibson, Munro, Marochetti, Durham, Monti, Marshall, Bell, Armstead, Weekes, Thrupp, Behnes, and other well-known hands. These are arranged chiefly in the West Gallery, and the recesses of the principal gallery. In the course of the evening, the testimonial address of the members of the Institute of British Architects to Mr. Cockerell was exhibited. The lettering and ornamentation of the pages are altogether charming work of the art in which Mr. Owen Jones excels.

The organ or orchestrion which occupies so much space, without improving the appearance of the galleries, should not be allowed to remain; and ere long, something should be done to the galleries and lecturer's rostrum, in the way of cleaning and repairing; if not also to the improvement of the details of the architecture, which, originally produced in haste, are now really not worthy of the architects of Great Britain. The structure of the ceiling and ventilating apertures, and the arrangement of the entrances, in reference to draughts, also must receive attention; at present any drawings exposed on tables are liable to injury in a single day, by soot that finds admission: the contrivance of such galleries in towns, however, is exceedingly difficult. Modifications to improve the ventilation were made on one occasion last year; and attaining one object, they seem to have injured the galleries in other respects.

Writing on the day on which we go to press, we must defer much of our notice of the collection, to future opportunities of publication. The hanging and preparation of the catalogue have been attended with the usual difficulties; and, besides that certain drawings are farther from the level of the eye than is suited to *architectural* drawings especially, works that more than others are characterized by minuteness of detail have a curious propensity for seeking the most elevated or the lowest positions. We allude to this matter, as we are aware that several practising architects who, on previous occasions here and in the International Exhibition, have found their drawings hung in too distant situations, have this year refrained from risk of useless trouble and expense. The improvement needed in Conduit-street might be effected, could the materials and inventions be kept for the autumn exhibition. The North Gallery is particularly well adapted for drawings.

A dozen designs for the Cathedral at Cork, out of those which were in the recent competition, fill most of the space in the West Gallery of the Exhibition: but several of them are not displayed in the requisite number of drawings; and as generally happens, however unavoidably in Conduit-street, the proportion of works exhibited to those which were in the competition, is small; whilst the "successful" design is not of the number. The catalogue leaves visitors uninformed on all the objects, stipulations, and "instructions" in the competition; so that we are left to cudgel recollection of the event, to know whether the building proposed was one for the Protestant or the Roman Catholic form of worship. We never had the expectation, that some of the original promoters of the Architectural Exhibition had, of much value in that instance, from a re-assemblage of designs, in testing justice of decisions,—seeing that the display would be a partial one; but there would be advantage in a case such as that of the Cork designs exhibited, in printing a dozen lines prefatory to a section of the catalogue, and setting forth the points which were intended to be observed by all competitors. The information could of course be obtained from the exhibitors. Difference in plans of Protestant and Catholic churches, indeed, as they have been designed during recent years, has not been very remarkable. It has been almost confined to number of altars. Credence-tables, piscinæ, and rood-screens, may be found in one and the other, just as may the arrangements of nave and aisles, long chancels, and transepts. Several of the plans which are exhibited, however, seem to show that the change commenced in many buildings erected for the forms of worship among Dissenters, by diminishing the bulk of obstructing piers, is making way where planning is concerned with the ritual of the Protestant or Catholic Church. Other evidence of the progress could readily be adduced. In the plans that we refer to in the Exhibition, each aisle is reduced in width much below the sometime common proportion, namely half the width of the nave, and is not seated, unless with one line of bench along the wall: it becomes in fact, a passage only,—that down the nave in the centre being still retained. The "well-developed" chancel of the ecclesiologists, without which it was at one time deemed there could be no salvation and no good architecture, has now slight length externally: the screen is generally no higher than the seats; and where stalls are required, and there are bulky piers, as for the support of a central tower, the western portion of the chancel and the lantern-area of the tower are one; and the desks for the reading of the prayers and lessons are, like the pulpit, entirely within the nave. Transepts are marked features only in the upper portion of the building, having no projection or very little, from the aisles, in the ground plan. At length, in these Cork designs, we find the improved arrangements which include the complete utilization of the nave, prevailing in designs for a cathedral church.

The design for the Cork Cathedral, in the Exhibition, shown in the drawings numbered 1 to 5 inclusive, and 245, may be quoted as example of the progression in planning, referred to. The nave is 35 feet in width, whilst each side aisle is but 7 feet. The total length of the interior, in this case is 173 feet; and the eastern division, or choir, is about 73 feet of the whole. An apse, with ambulatory, is the eastern termination of the plan; and an octagonal chapter-house is a feature of the group, as in most of the designs. There is a strong family likeness decoratively, in several of these Cork designs, which are of the very Early quasi-Geometric character that preceded the use of tracery proper, or having window-heads simply pierced with various forms of cusping. The tower in the design mentioned, is terminated with one of those high-pitched and hipped roof-coverings that have been lately run upon, and which however worthy of notice in old Continental churches, scarcely deserve to be often reproduced. Mr. C. H. M. Mileham's design (Nos. 6 to 14) however has broad aisles, and a long choir which terminates westerly, at the eastern arch of the tower,—which last is so much westward of a central position, that the nave appears short. The plan agrees with most of the others by the adoption of the apsidal termination, with an ambulatory. The general character may be called Early English; and there is a slated spire, somewhat too short. Mr. E. W. Godwin's design (26 to 31) is most remarkable externally, for the treatment of its two straight-sided and lantern and spire-capped towers, which are placed with considerable effect, transeptwise in reference to the plans; and internally for the pleasing proportion and decoration of both nave and choir, as shown in the sections. Certain details however would require revision. Thus, the finial to the spire-capping should be more prominent, as also should be the cornice-moulding of the lantern from which the capping springs. Moreover, the cusped ornamentation, or plate-tracery, in one of the windows, is inelegant and not equal to that of Gothic examples. In this design, there are wide aisles. The Chapter-house, octagonal, is placed eastward of the apse, one of the public footways passing obliquely under it. The Chapter-room is reached by a staircase which starts within the "Ambulatory" of the apse of the main building. Mr. J. P. Jones's design is represented only by a perspective view (33), which shows that the plan was cruciform, that there was a central tower with pinnacles, and an octagonal lantern and a spire, and that the style was Geometric Decorated. In a recent review of an important book, we adverted to our position taken some time back, that where language, and appellations of styles, serve to convey a complete idea of the appearance of a building, it must be that the design has not entirely the *art* which should be maintained as ever a requisite in architecture, by those who practise it.

In the design set forth by Nos. 36, 37, and 41 to 43, we again fall in with the narrow aisle,—in this case there is a single bench along the wall,—and with the transepts scarcely noticeable in the ground-plan. The people would look almost entirely in one direction; and there is little obstruction to the view. There is

no ambulatory to the apse, excepting in the wall, which, to allow space, has thickening-out, terminated on the exterior by a deep weathering. The Chapter-house, which exceptionally to most of the designs is oblong in plan, is joined by a passage, not to the choir end of the church, but to the south aisle of the nave, close to its western end. The decorative character of this design is Early English. A square central tower carries a slated spire. The group in the perspective view is sufficiently effective. May it not be questioned whether the distinctive character which we have come to think that of a *cathedral* church, is given by any design in which there is but one tower? Nearly all cathedrals, unless one or two with domes, have had, or seem to have been intended to have, the more than one such feature. Mr. C. H. Driver's external view and internal view (44 and 45), show that the design is Early Decorated in character. A metal rood-screen appears in the interior. The angles of the belfry-stage have an appearance of weakness for the massive spire-capping above them. Mr. W. Lightly's design (53 to 61) has a long nave, and the features of a cruciform plan, but without great width in the aisles, which, however, are appropriated for seats. The piers at the cross, seem more bulky than necessary for strength; and they would be obstructions. The tower is at the south-west angle of the nave; and the chapter-house is placed correspondingly with it, at the north-west. There are aisles to the choir; the apse is semi-hexagonal; a triforium is a feature of the interior; and the design generally is Early English. Small photographs of his drawings, showing a design of "Decorated" Gothic character, are exhibited by Mr. W. A. Carter (63). The design by Mr. C. M. Beazley (73, 74, and 79 to 84), again, has the narrow aisles as passages only, and the eastern arm but slightly projecting externally, whilst internally the choir extends westward under the cross. Mural decoration is substituted for a triforium. The nave piers are each of four shafts, separate but clustered.

In this part of the gallery, is a design for a different building, Masbro' Church, Rotherham, by Mr. W. White (76 to 78), which may be usefully contrasted with some of those of which we have spoken. It is described as having been chosen in a competition. It is an example of retrogression, rather than of any step to the attainment in modern church architecture, of plan adapted to the uses of the structure, and of decorative character which may be something more than mimicry of Mediævalism. The general area including all portions where seats are shown, is nearly a square. There are broad aisles, each with seats on each side of a central passage in the aisle; and there are transepts, the seats in which would be most inconveniently placed with reference to the pulpit, which projects from one of the western piers of the cross. It is clear that such a plan neither has the advantages as sometimes regarded for an auditorium, of a square or octagonal unobstructed area, nor answers to the demands as otherwise regarded, for the house of prayer, of arrangement of seats facing in one direction, where the oblong plan might well serve the different objects, provided only none of the seats were too distant for hearing. For a Catholic church, where the aisles, we might say, *must* be kept free for moving crowds and for confessionals, if not for subordinate services, and where the transepts would have altars and be as separate chapels, such a plan as this proposed for Masbro' Church, if seats were removed from the aisles and transepts, might be a defensible one, at least from the Mediæval point of view; but, as an entirely seated area, and for Protestant ritual,—where hearing (whatever they may say of the decline of preaching in the Church) is of importance,—surely the plan is ill adapted to the objects in view. The enduring opacity of the clergy in the matter of the purposes of a church, and on the logical course for answering the purposes through building and decoration, is the most deadening of the influences under which our art rests. The preliminary question to church-building having never been raised, and work having proceeded as though there were no such question,—fear possibly having been felt at entering upon it,—imitation has been the almost necessary leaning of the clergy, and the excusable course of those architects who *must please, to live*. Our duty is greater; and we do not hesitate to say that if good church-architecture of the future is to be, and is to owe anything to the Gothic, as it will, the channel that we have evidence in *some* of the Cork competition designs, is being just opened out, is the right stream on which to sail.

Before dismissing this subject of plan, and noting any points in other designs that were sent to Cork, we should say that mixed up with the question of aisles is that of galleries. None of the authors of the Cork designs have attempted these latter features,—unless triforia are to be taken as the same thing; and they would probably denounce any attempt to introduce them. Yet most practising architects of churches have had to manage such features; and some have three-parts come to the conclusion that if galleries increase accommodation, introduction of them cannot be opposed. We have often referred to the attempts that have been made,—mostly by architects of Dissenters' chapels,—to arrange galleries with due regard to general effect, as to the non-interference of either arch-spandrils, or columns, with the view of the pulpit. Scarcely any of these attempts have been successful; but they have been suggestive; and were we quite settled on terms of the statement of the problem, the solution might ultimately come out of the attempts. Curious it is, but it is the fact, that the pioneers, if such they be, in this path, and the recognized ecclesiastical architects, are neither one nor the other, endowed with more than half the requisites for the solution. The first-named may be open to receive new lights, but they so lack the knowledge of precedents, that their work is always in danger of being compared to its disadvantage with old work: the others have the precedents, but dare not, or do not (scarcely even "bit by bit"), go away from them. We trust however that the different signs which rise above the Conduit-street horizon, are evidence of an ulterior advance.

We have remarked that question not only has been raised as to galleries, but that there are some persons who conclude that they should be features in our churches. It is evident however that the features could be produced advantageously, only with areas under them equal or nearly equal to the widths which we have spoken of as abandoned by many competitors in the Cork competition. In the case of the greater width, the area below, wider than necessary for a mere passage, would be too valuable to lose. But some would say, with galleries, people sit facing one another, instead of all facing the east. If the clergy, not the mere Mediæval-architecture-loving section of them, would only show logically that there are objections to galleries, and say plainly that they ought not to exist for increase of sittings, there would be plain sailing. In the early *triforia*, which were very important features, and which seem to be reproduced by Mr. Cuypers, in his church at Eilendort, Rhenish Prussia (19 to 25) there must have been all the objections that are brought against the modern gallery, so far as seeing and hearing are concerned.

Certainly we have yet to see a design having iron columns not obstructing the view, where the effect, both from apparent weight of the arches and other reasons, is not vastly inferior to that of the interior of a stone-built church, say one with narrow aisles. Mr. Digby Wyatt, in conjunction with Mr. T. H. Wyatt, has made one effort or more to produce an effective interior with galleries and slender columns, using bracket-capitals; but his works in the present Exhibition do not include any of that character. There is however a design, No. 206 in the collection, wherein there is an effort in the direction referred to. The arch-springing there, though not ill-combined with the shaft, however would neither have the strength nor conduce to the propriety of effect comprised in the bracket-capital arrangement; whilst the question of effect with consistent use of galleries at all, would in any case be left still to be settled. The drawing No. 206 represents the interior of St. Mark's Church, Notting Hill, and is by Mr. E. B. Keeling. The shafts are decorated spirally in colour, and consistently. The voussoirs of the arches are in red and black bricks, which are much too glaring, in the drawing at least. The gallery-fronts are peculiar, as being filled in with open-work of tracery, an arrangement well adapted to the boxes of a theatre, but which would tend to fortify the arguments used against galleries. There is an external view of this church (213), but the grouping of the features is not very satisfactory.

Amongst the designs for the Cork Cathedral, we may name one by Mr. F. Wallen (86, 87, 90, and 91). The plan has great length, and there are two apses—one of them at the west, serving for a baptistery. The style is Early Decorated; and the details are elaborate, rather studied. The alternate ridges of the roof-hipping, east, rise from points borne by those of arches of the windows, and the tracery seems to be curved on the plan. This arrangement giving an effect of weakness, would be objectionable. Messrs. Vaughan & George contribute three external perspective views, and an internal view of the baptistery (numbered 94, 95, and 97), of their design for the same building, but nothing in the way of plan or other illustration. The character is Geometric Decorated, like that of Lincoln Cathedral. The drawings, in brown ink, are effective. Mr. W. M. Fawcett's design (98 and 99), is remarkable rather as to plan than decorative character, which latter is a species of Romanesque Early English. Besides the aisles without seats, there is a large area at the cross, surmounted by a lantern, the principle of the plan of St. Paul's Cathedral. An apse, western towers with slated capping, and transepts which are features only externally, complete a very plain design.

Effort to accommodate large congregations, already referred to as made by many sects of Dissenters, is exemplified in one of the designs for rebuilding St. James's Chapel, Westminster, which is by Mr. R. R. Bayne (106 to 108). The plan is the shape of the letter L, excepting that the lines make an acute angle. At this angle the pulpit is placed. It must be impossible with such an arrangement, to make the building more than a preaching-room. Indeed, where a preacher or lecturer has to turn much to right and left, the plan is as unfavourable considering him alone, as looking into one another's faces is deemed objectionable in the house of prayer. The decorative part of the design externally, in a sort of Gothic,—Italian Gothic of course, like most of the bad work that is done,—and showing two stories, would not justify criticism. Messrs. Lander & Bedells, who show no plan, have adopted for the exterior of their design for the same building, one of those modern arrangements of the portico that have brought discredit upon the feature, which is so valuable and effective properly treated. Their portico obstructs light to windows; it is wedged between towers, so that wet would apparently run against walls rather than off the roof, and the ridge does not continue backwards either any great distance, or as the crowning line of the building. The design required a porch or arcaded cloister to the doors: why then try for more, to a disadvantage in other respects entailed? In a third design (101) by another hand, there are as many as four stories above the ground.

We must continue our notice next week.

ODD WORDS.

FROM ugly surnames, about which so much has been said lately—the impropriety of changing them, notwithstanding the precedents among the upper ten thousand for doing so, as in the case of the Percies late Smithsons, the desirability of making such unfortunate cognomens honourably distinguished above better-sounding names as in the case of the numerous Bacons and Jones's—the transition to stringing odd words in common use is irresistible. We have many words in every-day wear that appear to have no connexion, either by derivation or association, with the objects they represent. Some of these have been formed from derivations that are forgotten; others from associations of idea that are now unknown. Before running over a few odd words used especially in relation to architectural subjects we will mention others of a general nature to illustrate our meaning in a wider range. We have all dealings with an individual represented by the word *cordwainer*. How can we connect this name with his trade of boot-making? It might apply satisfactorily to a rope-maker (from the French root *cordon*); but how comes it to represent a bootmaker? This is a word sprung from a remote association of ideas. Boots or shoes were once most esteemed when made of goat-skins from Cordova, in Andalusia, in Spain. Cordovan leather is the source from which the term Cordwainer has come into use. In the Stuart period this leather was used for gloves, and discarded as a material for boots; the word must, therefore, have been formed at a still earlier date. *Grocer* is another eccentric word. The French term for the same trade is *épicier*. This we can understand, because the goods dealt in are spices: but whence grocer? It appears this was the name given in early English times to all wholesale merchants, that is, all dealers in vendable merchandise in the *gross*; but as commerce developed, the term was assigned to one of the twelve chief companies of London. Whence, too, the term *hawkers*? This has a most far-fetched significance. Hawkers are supposed from the earliest times to have been deceitful dealers, ever ready, like the birds of that name, to prey upon their fellows, going to and fro for this purpose. It is

almost like framing a conundrum to ask by what transmutation of terms a necktie has come to be called a cravat. The answer comes laden with the dignity of antiquity: cravats were a kind of neckcloth worn by the *Croats*. The word *gooseberry* is another of the hundreds that require explanation to make them comprehensible to the etymologist. This fruit was in old times used as a sauce to *green geese*. At the beginning of last century it was as well known among country people by the words *feahs* and *fea-berries*.

The names of localities are sometimes far fetched: to give one example only,—What stood upon the site of Crooked or Crutched Friars? Doubtless a Friary; and then we recollect the connexion between crouch and cross, so antiquaries will say the name comes from the word *crucifieri* (cross-bearers).

Referring to words used in the building trades, we know *mason* to be of French derivation (*maçon*); *plumber*, of Latin derivation (*plumbum*); *glazier*, of Saxon derivation (*glæs*); *smith*, of Saxon derivation; *painter*, of French derivation (*peindre*); but whence *slates* and *slaters*, to say nothing of their curious names for different sized slates—ladies, countesses, duchesses? Why *éclater* is French for "to split," so here we get near it. *Carvers* (from *ceorfan*) and *gilders* (from *gildan*), are of Saxon origin; *carpenters* are of French connexion (*charpentier*); and *bricklayers* are of Dutch nomenclature. *Painters* (*peindre*) and their brushes (*brosse*) are both of French derivation. Building operations being of antediluvian antiquity, we would naturally look into the very early languages for their names; but we should look in vain. To *build* takes us to the source of to establish and make firm; to bore (*borian*), and to dig (*dic*), have Saxon parentage. The names of tools in every-day use are derived from many languages:—tool (*tol*), hammer (*hamer*), awl (*ale*), axe (*acse*), file (*feol*), are Saxon; saw comes from the Danish *sawe*; plane from the French; but whence bradawl and gimlet? The Saxons named our streets (*straet*), lanes (*lana*), and lands. Alleys, roads, places, terraces, entries, and passages are French introductions. Rotten-row is thought to be a corruption of *Route au roi*, the king's road; and it may not be difficult to guess how we got Amen-corner, near St. Paul's.

Other words, again, are most oddly prolific in their sorts and elastic in their adaptation. Take two words in constant use—circle and cross. There are at least a dozen distinct circles and at least a dozen different crosses. We speak of a wedding-ring as of a magic circle. Then there is the geometrical circle. Besides these there are circles of declination (on the globe), on which the declination or distance from the equator of any planet or star is counted; circles of longitude, which pass through the star and the pole of the ecliptic where they determine the star's longitude; circles of position, where the horizon and meridian bisect one another; the circle of inclination, a great circle about the sun in the sphere of the fixed stars; the circle of the equant, described on the centre of the equant, the use of which is to find the variation of the first inequality; then further varieties of astronomical circles—the circle of perpetual apparition, the circle of perpetual occultation, circles of altitude, and the circles of the empire, being the ten provinces into which Germany is divided.

The perplexities of crosses arise principally from their heraldic differences. These are of the greatest importance in reality, and therefore not to be confused with one another. There are, besides the plain cross, the cross avellane, the ends of which are like the husk of a filbert; the cross fitchee, so called from being, as it were, fixed in the coat with a sharp end; the cross fleury, having a fleur-de-lys at each end; the cross fourchet, forked; the cross milrine, the ends being treated like the milrine of a mill-stone; the cross patee, whose ends are broad and open; and the cross potent, the ends of which are like a crutch. Of compound crosses there is scarcely any end—cross batteries, cross bar shot, crossbills, crossbites, only leading the count-up to cross marriages and a long vista of other crosses too numerous to mention. Box, for another example, suggests dozens of things, from a coat to a cuff on the ear.

Referring again to names, though this time to Christian names, we have certainly cause for congratulation, and scope for augury in the baptismal names of the Prince of Wales. The first, Albert, England will evermore associate with every virtue; and the second, Edward, has been already borne by nine English kings, most of whom have been worthy of the title. It signifies "happy keeper."

"ON ARCHITECTURAL ART."

MR. HOPE'S ADDRESS: ARCHITECTURAL MUSEUM.

AN address was delivered on Tuesday evening last, at the theatre of the South Kensington Museum, on "The Condition and Prosperity of Architectural Art," by Mr. A. J. B. Beresford Hope, M.A., D.C.L., president of the society. He said, that it had heretofore been the practice to commence the session of the Architectural Museum by an evening devoted to conversation and to the distribution of prizes. On that occasion they would deviate from that custom, without, however, ceasing to uphold architectural art in the various forms in which the Museum existed to promote it. They were met at a time of considerable interest to the architectural world. Last year was a kind of saturnalia of art, with its Great Exhibition held in that neighbourhood and its little exhibition held in the building in which they were assembled. They had had an autumn to collect their senses, and were now, he hoped, wiser and better instructed than before. The present was a year of unusual interest, but there was nothing like a crisis in art to be apprehended. They were long warned against the prophet who cried, "Peace! peace!" where there was no peace; and they should be also on their guard against the equally false prophets who cried, "Crisis! crisis!" when there was no crisis. Everything with respect to the Museum and to architectural art was going on as heretofore, but with the great impulsion which it had received. He selected the term "architectural art" not without due consideration, but with a special view to the functions of the Architectural Museum. Architectural art was not architecture. Architecture might be an art, it might be a science, or it might be a business. It was a business in many senses; it was a science so far as it dealt with obscure and naked rules of mechanics. To set things on end so that they would not tumble down was the first and simple function of architecture; but it became an art when it dealt with the consideration of how to make things so set up on end beautiful without the elaboration of their beauty interfering with their stability. If it did so interfere, it might be art, but it was not architecture. The Museum did not deal with architecture as an art,—it dealt with architectural art. The difference between architecture as an art and architectural art was very simple. The former dealt with the mass—the outline, the skyline, the vista, the relation of one apartment to another; it dealt with proportion; in fact, with the building as a whole; and for the development of architecture as an art many societies were in existence. Architectural art, however,—of which the Museum took special charge,—consisted in the fringing, the flouncing if he might so say, of architecture as an art; it dealt with delicate details, with the manipulation of form,—the carvings, the colourings, and all the other accessories which are to architecture what the glazing, which painters apply as a finishing to their works, is to the picture. That was the special work of the Museum, and it was right that such a body should exist in order to supplement that which might be forgotten in the grand scramble for big effect. They existed, as he had specially defined it, for architectural art, which was something more minute than architecture itself as an art. How did they exist for that? There had been of late years a great movement in this country, in respect to what were called "Schools of Design,"—schools that should teach people the art of drawing, and of elementary forms. Was the Museum a school of design? No, for they had no systematic teaching. What, then, were its functions? He would give them a very practical answer. Such of them as had mixed in public life knew that there were no such useful people as those who filled offices to which no assignable line of duty could be allotted, for it was universally found that there were a great many things which fell out of the category of cut-and-dried official duties, but which must be done, and of course required somebody to do them, and these duties were fulfilled by the people to whom he alluded. The persons who filled those offices were the odd men of the administration. There was a deal of odd work to be done, and somebody must do it, and odd men were found to do it. The Architectural Museum was the odd man of the architectural and artistic world, and did a great deal more than was a return in money's worth for the money invested. If their income reckoned by thousands as it reckoned by hundreds—if they had a grand palace of their own, and had a subsidy guaranteed by Parliament, they might effect a good deal more than the odd man's work; but with their limited income their exertions were also limited, but they had a very hearty zeal, and a determination to do their best within their own limits. Under other circumstances they might do more; but, standing in the position they occupied, they fulfilled a very useful function in the artistic movement of the day. In the first place, they had collected a museum of specimens, which, to say the least, exemplified many phases of Gothic art of the thirteenth, fourteenth, and fifteenth centuries; these they distributed, of which he would say more hereafter; and they gave a course of lectures, of which they commenced the session that evening. These lectures were not and could not be intended as a systematic teaching. The idea of systematic teaching by lectures was a fallacy. The lecturer might generalize truths, and might set folks a-thinking; and in that way lectures possessed a marked value; but beyond this they did not pretend to go. The Society then provided a museum for people to study in; for the art-workman to copy the best models that could be provided; for the architect quietly to work out those details which he had already conceived, but to complete which it was necessary for him to resort to ancient models. Those whom he addressed had not attended that evening to support the Government institution in which they were assembled, and to which they owed a great debt of gratitude. They were not assembled to support one of those many excellent schools of design which now existed in various parts of the country; but they were come to take part in an association which existed for itself and by itself, and with a view to supplement certain great elements that were found to be wanting, and which, until they were supplied, would leave the machinery of art defective. Before he came to speak of architectural art he would dwell for a moment on architecture as an art. Without being exclusively or bigotedly, they had been always consistently, supporters of the Gothic, rather than the Classical side of the architectural movement. Had they been worshippers of a past antiquity—had they been archæologists purely and simply—had they been looking to the thirteenth century as an Elysian age, as a kind of millennium, which began and ended in that century? Far from it. They, of course, respected antiquity, for without it they would remain perpetual children in art; but he appealed to all who had taken an intelligent part in the operations of the society to testify whether they had not, with one united and strong voice, declared that they had taken up the Gothic movement because it was the movement most practical for the material and the social and the political and the religious needs of this progressive and agitated century. He did not speak of what architecture might be in 1963; but this he did say, that whatever it might be, it would have drawn more of its life from the principles which they upheld than from those of the antagonistic school of classicists. The architecture of which they claimed to be advocates had been triumphant. It was called, to be sure, Gothic; and they adopted the term. Was it because they had any special respect for the Goths or the Vandals, or for the Huns either? Was it because they looked upon the Pointed Arch as the only line of beauty, as if they did not see any beauty at all in the semi-circular line, or in the horizontal beam of the Greeks? No. But it was because Gothic was a term of reproach that they had adopted it. He had stated that their principles were triumphant; and it needed but a morning's stroll through the metropolis to prove that they were so. Look at the improvement in street architecture. Look at the points that had been gained since the Exhibition of 1851. Formerly the ideas that existed in the mind of the London builder were cement mouldings run, and capitals cast. Now, however, materials were changed. Colouring was introduced, not only into public buildings, but into private dwellings. Carved stone was used for shop-fronts, sometimes grotesquely, more often beautifully. He could point, as an instance of the great advance that had been made, to the Renaissance house in Upper Brook-street, in the occupation of the well-known jeweller, Mr. Emanuel; to the Grosvenor Hotel; to the London Bridge Hotel; to the gigantic structure of a similar class about to be erected in Langham-place; and to many others. Not that these were Gothic buildings, but they were equal evidences of their victory in the reality of the materials, the carefulness of the carving, and above all in the sky-line. What they had always insisted on was the pre-eminent necessity of the sky-line not being forgotten. That was a point which the London architect ten years ago did not care about—did not understand, or if he did, repudiated. There

was no design, no taste; but now the necessity for attending to the sky-line had been recognized, the pyramidising of the sky-line now formed a constant element of artistic conception. That showed the growth of educated feeling in architectural art. He would avoid speaking on that occasion of ecclesiastical architecture, although in that, also, there were triumphs to be recorded—triumphs of composition—of materials—of form—on which he might dilate, but the field was too wide; he should content himself with pointing to the advances which had been made, and the victories that had been achieved in secular architecture, as a proof of the success of the principles for which they had contended. What was now the special function of architectural art in the sense in which the Museum applied it—he meant the art specially of the stone-carver, the wood-carver, the decorative painter, and the manufacturer of indestructible coloured material in tiles? The Museum started some ten years ago, when the condition and position of the workman had begun to excite the attention of those who had emancipated themselves from the trammels of pedantic architecture. Up to that time the workman was looked upon as little better than an intelligent machine. Certain forms were put before him for the purpose of following. Those he had to hew out, but there was no invention developed in what he did. The carefulness of his works was very little considered. There was a certain rough conventionality which was required of him, and which he had to comply with, but more was not expected. Invention was nowhere. It was not necessary for him to have a knowledge of art; of the play of the human figure; of the expression of the human face, and of those various forms into which animal and vegetable nature throw themselves, and that are producible by a plastic art. These were beyond his scope. They were not thought of much by any one, but with the development of free art the necessity of a wider field of decoration came to be recognised on all sides. The architect had seldom time to compare, and still less time to superintend the elaboration of his designs, and so the responsibility fell upon the operative class,—the art-workmen,—to whom the details of the structure were confided. This was a wholesome thing; it taught these people the dignity of their own vocation, that they were not merely executives of certain pre-existing diagrams, but ministers of beauty and gracefulness,—active contributors to the whole artistic effect of the structure on which they were engaged. It was only by bringing this home to them that anything like a real artistic movement in the people could be consummated, and accordingly the Architectural Museum was established. It was not, however, set up to teach men anything, but for the purpose of furnishing examples in the shape of models and casts, to which those who had been elsewhere taught might resort with a view to carry out the spirit of their teaching. For that reason the Museum had been brought together; but it had not been so without forethought; for, true and wholesome as the doctrine he had stated was, the art-workman ought not to be enslaved by example, but encouraged to cultivate originality; to take the flower of the field as it grows; the human face as he found it; the passing animal as he saw it, and to draw his inspiration from them. True and wholesome as the doctrine to which he had alluded was, as to giving the workman an idea of the dignity of his position, and that he was not a mere machine, incapable of thought, yet, like all other doctrines, it had its vicious side: and the greater the success that was attained, the more that was seen of the good fruits which it produced, the more they ought to avoid that vicious development which would lead to the springing up of a crop of weeds around the goodly plants. The whole system of mere bookwork, mere imitation of a model without feeling thrown into the details, without originality evidenced in the lines and curves, was deadening, and might lead to a rapid recoil from free invention on the part of the art-workman. But, on the other hand, was it true that mere instinct was sufficient to develope the principle of free invention? Was it sufficient to set before the art-workman a group of animals or a bouquet of wild flowers, and to tell him to imitate them, and take them as his model? Could a man, in short, imitate without education? He could not. In art, as in politics and religion, the doctrine of the perfectibility of the human animal was at fault. There must be training and education. There might be the germs of the beautiful in human nature; but he did not believe in its instructive existence, for any practical purpose, without training. It was one thing to feel, it was a totally different thing to reproduce. The principle of putting the art-workman in possession of ability to copy nature as it is should be adopted only on the condition that that workman had received such instruction as made it possible for him to analyze beforehand, to follow out and to combine those elements of beauty which lay veiled in the material forms before him. They should not run wild after originality, with the idea that the human animal is capable of unknown degrees of perfection. The principle of turning the art-workman loose, and giving him full scope at his work, was good, but if carried too far it was dangerous. Originality should be kept within due bounds. First-rate imitation was far better than second-rate originality. The Architectural Museum held up examples to be copied, and it also distributed prizes. How far had these prizes carried out its principles? It might be said that they gave the rein too much to invention, and led to a sort of feeble originality. He did not think there was any ground for such apprehension. In last year's exhibition, the wood carvings were of a high order of merit. Carvings in stone came next. The other work, he was sorry to say, disappointed them all. This year they had thrown their strength upon wood-carving. They had offered few prizes, but these were of considerable value, and a long year had been given for the completion of the works intended for competition. They did so thanking those who co-operated with them in other branches, and acknowledging great merits in the works sent in; but they thought that a higher degree of merit was now required. They wanted, in short, to abolish the art-workman, and to create instead the working artist. He might be a man who only carved foliage or mouldings; but he might rise higher, and carve the human form. He should, however, work in the spirit of an entire conception of the work on which he was engaged as an artist. Much might be taken out of books; for the scholarly work of a working artist would involve more or less of originality, and more or less of copying. There was another branch of architectural art of which he should say a word. He alluded to the movement in the matter of colouring. It was in a state of transition; but it should go on and become much more extensively developed. The craving of the eye for beauty of colour in our buildings was increasing. True they had to contend against an adverse and malignant climate,—an atmosphere overcharged with smoke and with gases which greatly deteriorated and interfered with the effect of colouring. What was required was something that would give outlines of beauty in colours, and which would at the same time resist the atmosphere and the smoke. And had they not that in the vitreous materials which retained the colours which were imprinted on them, under any circumstances of fog or haze, in March winds and November clouds, and whose surface only required the pelting shower to cleanse it again and restore its beauty. They should make use of the opportunity thus afforded, and grasp at the growing appreciation of the truth, that colour, no less than form, was one of God's good gifts. The world of colour was co-extensive with the world of form. Great study should be devoted to the working out of detail. The day was going when strips of colour stuck up and down at hap-hazard were considered sufficient. Something bolder—something bigger—something more constructional, was now required. Architecture in burnt earth should be as completely architectural art, as architecture in carved stone. Here also originality and copying should go hand-in-hand. The materials might be original, but the principles of design were old and immutable. So it was, also, with architecture in iron, in which there was great scope for the exercise of invention and originality, but in which much might be acquired by existing precedents. It might be thought that he had spoken more against than for the purposes of the Museum, for, as he had stated, the Museum had no systematic teaching of its own; it had no classes; it had merely its collection of casts and models; but it was in the consciousness that these materials would work together for good that they had adopted that line of action. They held strong convictions—prejudices, some might consider them,—but they proclaimed what they believed to be the truth in art, leaving all others to fight their own way, and knowing that truth was great and would prevail. They believed in reality of materials, playing with the sky-line, attention to symmetry of form, and infinite variety in dealing with wood and stone, and now with pottery and iron. They believed that architecture had produced its most glorious development in the Gothic of the thirteenth and fourteenth centuries. Much had been light and beautiful in the centuries since. Many mechanical inventions had been produced; many new forms of beauty and infinite resources in design had been developed; a new world with its flora and fauna had been thrown in; the revival of Classical art, which seemed to deal a death-blow to the Gothic, but which, if properly handled, would have been the font of its regeneration; all these were consistent with the free architecture of Europe. We have everything the thirteenth and fourteenth centuries could give to us, together with all that is our own and all that the invention of printing and the spread of literature have opened up. Art is in a transitional state; the minds of men are in a transitional state; politics are in a transitional state; we live in a century that some years since we used glibly to say was an uneventful age, but it has, on the contrary, proved to be a century of revolutions—of which even the sixteenth or seventeenth century produced no similitude. Empires are crashing, new worlds are forming—the strong are being made weak, and the weak are becoming unexpectedly strong. And in the midst of all this zeal and turmoil, there is the grand figure of Christian, progressive, European, and especially English art, rising higher and higher from the dark and surging waves of the ocean; and we shall in the future be noted with a good or bad mark according as we perform well or ill our sworn service to that good, majestic mistress of ours.

A vote of thanks to the president, moved by Earl Powis, seconded by Lord John Manners, terminated the proceedings.

STUDIO ETIQUETTE.

THE present wide-spread fashion to have a taste for the Fine Arts, and to express a lively interest in painters and sculptors, is of so comparatively recent and rapid growth in England, that the public may very fairly be forgiven some unintentional uncouthness of manners towards artists; manners which, nevertheless, should be corrected. We therefore propose to render the public and the artist a service by exposing the "gaucheries" which offend the somewhat sensitive nature of the profession, and by directing the uninitiated in studio etiquette to practise those amenities which may lead to a more cordial fraternisation of the *atelier* with the outer world. These observations may be the more opportune as the days are close at hand on which a portion of the inquisitive art-public is permitted to enter the mysterious painting-room, wherein it is to be hoped that it will never hereafter forget that it has been invited to the "private view" of certain works previously to their being exhibited, and not to launch into general topics of conversation, nor to pry into nooks and corners uninvited.

The public often offends against good taste and good manners, in the studio of, in entertaining, and criticising, the artist. First, then, of its want of politeness in the painting-room. It is, perhaps, scarcely necessary to premise that it is not complimentary to the artist if gentlemen wear their hats or if ladies remain veiled during their inspection of works of art, however rough and of workshop appearance the artist's study may happen to be, for the amount of skill required to produce a very inferior picture is such as to entitle it to very great respect; but it does not appear to be so generally known that pointing with the foot to a lower portion of a picture is discourteous, nor that touching a picture with the finger or glove is not only irritating to its producer, but often positively injurious to the picture; nor that it is an impertinence to turn canvasses which have been purposely faced to the wall, or to pry into portfolios unbidden. It is not considerate to the artist, when inspecting the pictures he has invited you to see, to describe in florid terms the merits and beauties of others you have just seen, before remarking upon or commending his own, for in this case he supposes them to be so eclipsed by those described that his own fail to produce any agreeable effect upon you. It is particularly offensive to remark, when you do commence your observations, that his style resembles that of some other painter, ancient or modern, or that his pictures have qualities which the art sect to which he belongs professes most studiously to avoid. But it is the very poignancy of torture, if, superadded to these inflictions, you inquire if the picture be sold. The frequenter of the studio should never ask the price of a picture unless he be a known purchaser, for he may rest assured that if the picture is sold, the artist will not forget to inform him of the

fact; and if it is not, that the artist is too painfully conscious of the circumstance to desire to repeat the same. If you know nothing about the principles of art, praise those portions which you honestly feel are well done. The most grateful praise which an artist can receive is a recognition of those qualities in his works of which former efforts have been accounted deficient; but this requires considerable knowledge of art and artists. Fault-finding, unless the finder is able to suggest a remedy, is useless; but if fault must be found, pick out those, if you have the capacity, of which the artist is not aware; for the most offensive form of fault-finding in the studio, as in other phases of life, is to point out those of which men are perfectly conscious.

When the artist is thoroughly absorbed in some favourite work he dreads being disturbed. His whole vital energies stream, as it were, to his work. Any sudden intrusion checks this current, ruffles his temper, and perhaps spoils his day's work. It therefore exhibits a good feeling and politeness, which the artist will thoroughly appreciate, if, in calling upon him, you show yourself acquainted with this peculiarity, and hesitate to enter his study till you are thoroughly assured that so doing will not be an interruption: having the slightest suspicion to the contrary, good humouredly defer broaching the subject of your call until some fitter moment.

In the entertainment of artists, it is a common fault to address them in reference to their art; to ask them if they have been to such and such an exhibition; and what they think of such and such pictures of their contemporaries? This is always annoying to artists of high feeling, who, however strong may be their rivalries and partizanship, are reluctant to disclose them before non-professionals. As there is no class of men better informed on general subjects, there is no excuse for this frequent piece of ill-manners. If the artist's attention is called to his profession in mixed company, it should be for some information, or for his judgment in respect to some general art question of the day. The grossest form of ill-manners towards the artist is to engage with him in some argument on the principles of art with a manifest consciousness of equality, forgetful of all that deference which would be paid to the members of any other profession in conversing with them upon those topics which have been their life's study. Artists are perhaps themselves to blame for very much of this, as it was formerly of very common occurrence, when two or three were gathered together in the same company, to fall to upon art, and carry sharp and flaming tongues into their own camp, to the confusion of the entire host, and of a deeper respect which otherwise might have been won for the profession.

The third class of bad taste and ill-manners manifests itself in printed criticism. It too frequently happens that the men who are inducted into the office of art critics, from their facile use of the pen, "cram" for this particular calling without having any real taste for or deep study of the subject. They take up art for a season or two, make and mar reputations, and then drop the subject, perhaps for ever. An exhibition of pictures presents to these worthies a herd of competitors, some of whom are to be decorated, many maimed, and more slaughtered. They, for the most part, know nothing of the antecedent works of the painters they criticise, or of their aspirations or aims. All pictures are huddled together in their minds, to be commented upon on one plan, to be judged of as they exhibit success or failure in the imitation of objects. The historical painter and the painter of still life are tried by the same standard. This sort of critic will cruelly refer to some veteran painter as incapacitated from age, and anatomize every sign of failing powers in his works. He compares with and disparages one contemporary reputation to exalt another, or deduces the style of a picture from the personal peculiarities and weaknesses of the painter, which he describes with evident relish. It is not gracious to assume, as is often done, that the tendencies of the style and the faults of a picture were seen in the same light, to be heinous offences, by the painter as well as the critic. The artist, as a role, either tries to do what he believes to be right, or the best that he is able. If he err, it is not with the spirit to awaken or defy the malignity of critics. Another form of offensive criticism is to pronounce the style of art of this or that work "not wanted," when it does not fall in with the popular and limited taste for familiar subjects;—to decide that historical and imaginative art ought not to be, because it never hitherto has been wanted in this country. Imagine the comfort which the remorseless critic carries to the heart of the painter who has been devoting his life to high art, when, prompted by the overbearing voice of the low-art devotees, he declares that historical paintings are not and should not be required. Neither does the critic confine his prejudices and ill-manners to his reviews of the works of his own countrymen, but speaks and writes lightly of all foreign art, making use of this tone of depreciation of foreigners as a foil or background to throw out some flagrant, fulsome laudation of his English favourites.

W. CAVE THOMAS.

GEOMETRICAL PROBLEM IN GOTHIC ARCHITECTURE.



LET ABC be an equilateral arch, and the springing, AB, divided into three equal portions, AE, EF, FB.

Take EX and FY, each equal to AB, and with centres X and Y draw the arcs EH and FG.

It is required to find the centre of the circle which shall touch the four arcs AC, BC, EH, and FG.

Of course, this centre must be on the centre-line CD. Take EK, equal to one-sixth of EA, and, with centre B and radius BK, draw an arc, cutting the perpendicular CD in O, then O is the required centre; and by drawing the radius AON, we get ON, the radius of the circle required.

I inclose a demonstration of the above problem, but before publishing it I should like some of your student readers to attempt a solution, as it requires a very moderate knowledge of geometry.

E. WYNDHAM TARN, M.A.

RAILWAY SCHEMES FOR THE METROPOLIS AND SUBURBS.

COLONEL YOLLAND, R.E., at the request of the Board of Trade, has just issued his report on the railway schemes of the present session proposed for the metropolis and its suburbs. After referring to the report of 1846, he describes the present condition of things, and the various schemes now before Parliament. The report goes on to say (and this is the gist of it), that in many instances the schemes brought before Parliament were prepared in a very hurried manner; and as regarded the metropolis lying north of the Thames especially, the plans did not generally show the position of the sewers, nor give any information respecting the drainage, which was so important in examining the merits of any scheme, or in judging of its feasibility. The construction of many new lines of railway in so limited an area as that of the metropolis by a considerable number of independent companies would probably fail to afford the public all the advantages which would result from the construction of thoroughly considered schemes in the hands of a limited number of companies—the fewer the better,—with proper facilities to each other for the interchange of traffic at the various junctions. This interchange would not be possible if the termini of any two lines placed in close proximity to each other were in one case on a viaduct and in another in a subway or tunnel, or on such different heights above the same datum plane that a junction could not be effected between them. A large number of the schemes affecting the metropolis had already fallen through, from failing to pass the standing orders, or been rejected or withdrawn. Possibly some of the best schemes might thus be shut out from view; and he thought it seemed well deserving of consideration whether the true interests of the public and those of the railway companies would not be best consulted by postponing the consideration of all railway schemes which proposed to establish new lines, entering, approaching within narrow limits of, or passing across the metropolis proper, until a future session, when all the schemes to be then brought forward might be considered together, and those of them sanctioned which should appear to best meet the public requirements.

The public have already arrived at that opinion, and we hope it will be acted on. Mischief enough has been done by bit-by-bit legislation. The report, it will be seen, contains little that we have not already said.

Touching the Ludgate Station and Junction Railway, the report says the bridge over Ludgate-hill is 40 feet span and 10 feet in height.* The line descends from Ludgate-hill to Skinner-street by a steep incline of 1 in 40. No open space is interfered with, except a small portion of Smithfield. Provision should probably be made, says Colonel Yolland, for a bridge of such dimensions as would provide for any future widening of the main thoroughfare along Ludgate-hill; and the nature of the bridge, in an architectural point of view, should be subject to the approval of some public Board.

We must reiterate our own opinion that the bridge should not be permitted there at all. Fortunately the House have it in their power to prevent it. A memorial has been presented to the Court of Common Council, begging them to take such steps as they may consider most advisable to prevent the construction of it. The powers granted by Act of Parliament to the London, Chatham, and Dover Railway Company for works northward of Earl-street, Blackfriars, expire in August next, and a Bill is now before Parliament to extend the time, and to transfer these powers to the Ludgate Station and Junction Railway Company. The memorialists therefore think an opportunity is thus afforded of making arrangements with the new company to carry out the proposed railway without constructing the obnoxious viaduct. It is to be hoped every effort will be used to prevent the threatened nuisance.

THE BANE AND THE ANTIDOTE.

AMID the host of varied opinions which are expressed by men who have studied the important question of punishments, the public is fairly bewildered. It is, however, clear that the present management of convicts is faulty, and does not act as a check to crime in the case of hardened criminals.

The opinions of men like Sir Joshua Jebb, Mr. Hill of Birmingham, and others who have written on the subject, deserve the most careful consideration; and however much these authorities may differ as regards the means of punishment, all agree on the point that *prevention* is better than any means of *cure* at present at our disposal. The Bishop of London spoke very impressively on this point at the opening of the new Islington Ragged School and Refuge.

In connexion with both great and smaller evils, it is a valuable aid towards improvement to have exact particulars of their nature and extent. Unluckily as regards our criminal statistics, we seem to be in a vague and uncertain condition. On this point Mr. John Frederick Stanford, a justice of the peace for Middlesex, who seems to have bestowed much care on this matter, says, "There is still great difficulty in obtaining data on crime and criminals. The judicial returns are, instead of being prepared under one system for the United Kingdom, only for England and Wales; those for Ireland and Scotland being very meagre, and differently tabulated. The English judicial statistics, though of late years (the last five) much improved on the old system, are still very deficient; for the list of the dangerous classes at large known to the police throughout England and Wales, or of persons following crime habitually, is so evidently incorrect that I felt it a duty to

* The secretary of the company says 18 feet.

make a representation to the Home Office on the subject, as it is upon this return that Sir Joshua Jebb materially grounds his defence of 'the penal servitude and ticket-of-leave system.'" According to the report referred to, there were in 1859, 135,763 known depredators at large; in 1860, 131,024; in 1861, 123,045.

"This return," says Mr. Stanford, "would lead us to conclude that crime is steadily decreasing each year, there being a diminution of more than 12,000 of the criminal class in the short period of two years, or a decrease in the number of known depredators at large of nearly ten per cent. in the two years. There is scarcely any reliance whatever to be placed on these returns. It is self-evident, that while from 135,000 to 140,000 convicted criminals of one kind or another are annually discharged from our gaols and prisons, the number of known depredators at large, *i.e.*, of persons following crime as a trade, cannot decrease or even remain stationary, but clearly must be augmented—and very largely so—unless you assume that every one of those 140,000 discharged convicts follows, after his discharge, an honest life; a supposition in which Sir J. Jebb does not himself indulge, for he gives a proportion of 1,000 out of 1,400 who have not returned to crime, leaving more than a fourth as falling back into the class of known depredators at large, or rather of those who ought to be known by the police under that head. Now if the same per-centage applies to the discharged prisoners from county and borough gaols as from the convict prisons, we should have to take, instead of 400 out of the 1,400 for the year 1861, as the proportion added to the existing known depredators by a single year's discharge, 4-10ths of 131,869, or 52,744. This is, of course, also an evidently erroneous calculation; for if the above proportion of the discharged criminals returned to crime, the re-committals would show a much higher average, and the number of depredators at large would soon swell to gigantic and fearful numbers. The fact is," continues Mr. Stanford, "the judicial statistics fail here altogether." This is a serious matter, which is well worthy of inquiry. It is, moreover, stated that in one year—the year 1861—479,723 crimes and offences were committed in the United Kingdom, out of which followed 308,115 convictions.* These figures indicate an immense amount of evil, against which it is necessary to contend. In order to show more clearly the extent of the cost of our pauper and criminal population, we give the following numbers as they have been marked out by Mr. Stanford. The population of the United Kingdom in 1861 was 29,036,508, and the number of paupers relieved in 1861 was 945,269, at a cost of 5,778,943*l.* for England and Wales; 164,000 paupers, Ireland, at a cost of 584,348*l.*; and the number for Scotland, 97,000, at a cost of 618,000*l.* The numbers and cost, according to these figures, would be as under:—

Paupers.		Cost.
945,269	England and Wales	£5,778,943
164,000	Ireland	584,348
97,000	Scotland	618,000
1,206,269		£6 980,291

In England and Wales, in 1861, there were committed 50,809, indictable offences: persons apprehended numbered 27,174; persons tried, 18,326; persons convicted, 13,879; offences determined summarily, 394,717; convictions, 263,200. The number of charges and convictions in Ireland and Scotland being the grand total of crimes in Great Britain to the immense numbers above given; viz., crimes and offences, 479,723; convictions, 308,115.

In England and Wales—1861—there were 10,876 convicts in prison; 3,753 convicts discharged; 1,645 convicts discharged on tickets-of-leave; 1,350 convicts discharged, expirees; 610 convicts discharged, sent to W. Australia [we should like to have particular account of these]; 147,971 prisoners in county and borough gaols; 130,571 prisoners discharged; 5,414 prisoners in reformatories, schools of industry, &c.; 1,298 prisoners in reformatories, schools of industry, &c., discharged; 28,649 prisoners in confinement; and 123,000 known depredators at large (according to the Home Office statistics).

In 1861, for the suppression of crime there was an army of 20,760 police; and the cost of the police alone, in this year, was 1,579,200*l.*; and of gaols, prisons, prosecutions, &c., 2,768,500*l.*: altogether, 4,347,700*l.* for the suppression of crime; and this, added to the cost of pauperism, would amount to 11,327,991*l.*

* It should be noted that these figures include committals for debt, drunkenness, and various trifling offences.

When we think of this enormous outlay for one year, only for pauperism and crime, and that as regards the latter (if we may except the industrial and reformatory schools to which the younger class of offenders are sent), how little actual permanent good has been done, we look with anxiety to means for the prevention of crime which are far less expensive, and more sure in their good effect than those to which we have referred. Amongst those which in many instances need it, there are no institutions more worthy of support than those into which so many poor children are gathered from the streets, and the Homes where forlorn boys, on the verge of vice and crime, are sheltered and put in the way of earning an honest livelihood; and our object in directing attention to the cost of pauperism and crime is to induce the comparison of this with the far cheaper and more satisfactory institutions which are working, to a considerable extent, in the prevention of crime. We fear that during the present session of Parliament an attempt will be made to withdraw the very small grant which is made by the Government in aid of some of those Homes and schools, and on which, in several instances, the continued existence of the national and some other schools depends. Our public expenditure has grown to such a vast extent, that naturally a general wish has been expressed for its reduction, and there will in the House of Commons be much scraping and paring at comparatively small items, while larger ones will be likely to escape without attention; but in all attempts at saving, it should be carefully considered—if the grants for assisting destitute children and those establishments for the advancement of general national education, and the increased progress of artistic taste, be not money well invested and which will eventually return a rare amount of interest.

The good results of Ragged Schools and Industrial Homes, which are branch establishments connected with them, have been proved beyond a doubt, and we feel certain that a large extension of the system in the metropolis and other chief towns would check a great amount of crime.

The good effect of these institutions is evident to all who will take the trouble to look. Go to those dens to which we have often referred, where vice is bred, and then pass into one of the schools that, amid struggles and difficulties, have been opened in the midst. Go, for example, through some of those courts to the south of the Clerkenwell Sessions House, and after seeing the state of the children in their homes and gutters, which cannot be described, pass into Lamb-and-Flag Court, to the well-known Ragged School there, recently rebuilt, and within the walls of which all is order and peace. In the large school-room under the care of the master, Mr. Sayer, we found more than 100 boys in attendance, and it is satisfactory to learn that the numbers are greatly increasing. The master, who seems to be devoted to his business, tells us that many of the boys who are here so decent-looking and well-conducted, obtain their living in part or entirely in the streets, by selling watercress, radishes, lettuces, and fruit, according to the season, and are thus deprived of the benefit of proper instruction, excepting at broken intervals. There are other causes and difficulties which prevent regular attendance; still much good has been effected. There is an idea held by some that in such schools as this the children receive a degree of education beyond that required by their station, and that a class of children attend here for whom such schools were never intended. These fears are groundless. The children are of the lowest class. In the greatest poverty, often hunger,—it is an extraordinary sight to witness the anxiety of many to learn, and the ready answers which they give to questions. Many boys come to school without having food to eat, and often, to satisfy the cravings of hunger, they are fed with bread and treacle, for which they are very thankful. Many instances might be related of the kindly nature of those boys who are of the class of City Arabs. On one occasion the master sent for half-a-quartern loaf and some treacle to feed three boys. In the afternoon Mr. Sayer asked them if they would finish the food before they went home. "No, thank you, teacher, we will save it till to-morrow," was the reply, although neither of them, the master believed, had the prospect of anything to eat till he came to school next morning.

Above are the girls' school and infant school; the former managed by Miss Morris, and the latter attended to by Miss Ryder. We are tempted to go into detail in connexion with these excellent schools, but forbear. Still we would say that no lesson could possibly be more valuable to those members of the legislature and other persons of influence who reason from theories than a visit to such a neighbourhood as this, and then to the schools. "Look on this picture and on that." See the evident advantage of the schools, and compare the small cost of this and other kinds of teaching with that of crime.

VENTILATION AT THE ARCHITECTURAL ASSOCIATION.

THE usual meeting of members was held on Friday evening (the 20th inst.), at the House in Conduit-street. The chair was taken by Mr. Blashill, the president.

The following gentlemen were, on ballot, elected members of the Association:—Mr. J. H. Birch, Haleford-street, Islington; Mr. Frederick Judge, Grafton-street, Somers Town; Mr. William Cooper, jun., Bickley, Kent; and Mr. B. Wilkinson, of 17, Store-street, Bedford-square.

The President announced that the first meeting of the class for voluntary architectural examination had been held on the previous Tuesday, and that more than twenty gentlemen were present. This, in his opinion, was a very encouraging commencement, and he hoped that so good an attendance would be maintained.

The Hon. Secretary read a communication which had been received from Mr. T. R. Smith, accompanied by specimens of Chadwick's patent Archimedian Ventilator and Smoke Conductor. The invention consisted of lifting-vanes, acting as a screw, suspended within a circular tube or shaft upon an imperishable substance, moving without noise, and surrounded by a diagonally-formed wind-vane, hung so as to rotate by the slightest action of the air. They were constructed for chimneys, from 10 to 13 inches in diameter, and for buildings from 14 to 30 inches.

The President observed that, at the meeting before the last, a discussion had taken place on the subject of ventilation, and that as it was felt that it had not been exhausted, it was proposed to resume the debate that evening: Mr. Harris, who had promised a paper on Gothic Woodwork, had not been able to furnish it.

Mr. Atkins then called attention to the great desirability of architects, engineers, and others making themselves acquainted with the elementary laws and first principles which governed the air and its component parts, and without which all theories and mechanical details were, in his opinion, useless. He suggested the foundation of a college, to be built upon true principles of construction; and explained, by means of a drawing, the manner in which he proposed that the building should be supplied with air. He also exhibited the drawing of a chimney, or shaft, "from 1,000 to 1,500 feet high," which he said would be a magnificent method of furnishing an inexhaustible supply of pure air to a crowded city like London! When asked how he proposed to get the foundation for such a structure, and when reminded that the highest factory chimney in England was only 400 feet, Mr. Atkins said it could be easily done in iron if not in brick.

Mr. Fowler observed that it was matter of regret that the discussion on the subject of ventilation in the Royal Institute of British Architects had led to no practical result. In his opinion the questions raised by Mr. Atkins were altogether of too theoretical a character for a practical age like that in which we had the privilege to live. On the last evening of meeting the question had been put as to whether the stove invented by Mr. Batty was such as they as architects could recommend. It seemed to him that the theory of combustion, as laid down by Mr. Batty, was, in the main, correct. By his principle the air for combustion was brought in at the back of the grate. In existing houses the supply could be brought by a pipe carried behind the skirting-board, while another division would convey it into a box at the back of the flue. He had tried the principle, not only in large hotels containing hundreds of rooms, but in small dwellings for the poor, and it had given the utmost satisfaction.

Mr. Pierce, of Jermyn-street, took issue with Mr. Fowler as to the merits of the system alluded to, which he contended was false in principle *ab initio*, and at variance with the known and admitted truths of science. He contended that the only true principle of ventilation was realized in the fresh-air fire-lump stove-grates which he himself had adopted after a protracted series of experiments before the Board of Health. The grate of Mr. Batty was in fact a furnace, and not a stove, adapted to ordinary use. By his (Mr. Pierce's)

principle he kept the air always changing, so that no impure air could possibly be breathed in the room. It was important that every fresh-air grate should have a separate air-shaft brought directly from the external source, and having no communication with other shafts. The air being thus brought to the back or side of the chimney, for which the grate is intended, and below the back hearth of the chimney-piece, it would be discharged into the warm chamber at the back of the grate. The effect of building good solid work close up to the projecting ribs of fire-lump would be that the fresh air entering at the back of the grate would rise and be stopped by the first detaining rib of clay. Passing round this rib it would enter the second chamber and be detained by the rib above, and thus traversing in a serpentine form the various ribs of hot clay the air would be quite warm as it reached the top of the chamber. The air which entered the room would thus be slightly warmed, and it would keep constantly traversing the apartment and always pure.

Mr. Langstaff then explained Mr. Boyd's process of ventilating houses by a series of divided flues, and also explained the properties of Mr. Boyd's stove, which admitted the air by an exterior opening, and subsequently warmed it in a chamber behind the stove, bringing it into the room through an ornamental valve carried along the front of the stove over the arched opening, and which could be opened or closed at pleasure.

Mr. Pierce, in somewhat excited language, declared that this invention was pirated from him. He was called to order by the chairman.

Mr. R. P. Spiers explained a mode of ventilation which, he said, had been found to answer. It consisted of an aperture over the chandelier, communicating with a flue carried into an old chimney, in which, at some elevation, a gas-burner was turned on when necessary. The air was admitted to the room from the staircase, through an opening over the door, into the wall, and the latter was warmed with a gas stove.

Mr. Adams pointed out the defects which in his opinion existed in all the modern systems of ventilation. With regard to Mr. Batty's plan, of which Mr. Fowler had spoken, it seemed to him that it could not be introduced into existing buildings without violating the Building Act, and that no district-surveyor would allow it.

Mr. Fowler said he had put up several, and in no case had a district-surveyor objected.

After some further observations from one or two speakers, the President, in closing the debate, observed that the Association was indebted to the gentlemen who had attended to explain their inventions.

The illustrations for the next class of design will consist of "Chalice, Flagons, and Paten." In consequence of Good Friday falling on the 3rd of April there will not be any meeting that evening; but on the following Friday evening the class of design will meet (subject, "Market Buildings for a small Town"); and on the 17th proximo the annual *conversazione* will be held, when the prizes offered by Mr. Tite, M.P., and others, will be awarded.

THE "HALLES CENTRALES," PARIS.

THE works of the new pavilion of the Halles Centrales, undertaken immediately after the demolition of the Marché des Prouvaires, suffered, during the time of the excavations, a considerable drawback from the presence of subterranean springs, which it was necessary to stanch: now, these difficulties having been overcome, the foundations have been raised on a solid bed of concrete, for the outer walls of the cellars, and the walls carried up as high as the ground-floor. The surrounding wall of these cellars is provided with six flights of stairs, two on each of the three faces: as to the fourth side of the quadrilateral, it consists of galleries formed under the transept which separates the new pavilion from that of the "boucherie."

These underground portions of the Halles constitute not the least interesting part of the establishment: each of the cellars, equal in extent to the market above it, is divided into compartments by iron treillage, on which are placed numbers corresponding with the stalls under which they are situate. Of these cells, called *cabines*, all thoroughly ventilated, there are no less than 1,200 for the six eastern pavilions. Under some of these pavilions they are devoted to a special purpose: one is an abattoir for poultry: another contains all appliances for washing and preparing butter: farther on is a reservoir of fresh running water for the preservation of fresh-water fish: opposite there is a cellar for the inspection of eggs, which takes place every morning by the aid of artificial light: in fact, the whole of these depositories merit the attention of the observer.

These cellars of the Halles have been carried out with the prevision of the establishment of a railway which at some future period will place them in communication with the "Ceinture" railway, by means of the great subterranean thoroughfare of the Boulevard de Sebastopol: three lines of way, two for arrival and one for returning, will communicate directly with the terminus of the "Est."

The eastern body of the Halles Centrales, composed of six pavilions, was commenced in 1854 and terminated in 1857: that of the West, although only consisting of four pavilions, was less rapidly executed; for, since the first pavilion of this second group has been commenced, almost as long a period has elapsed as was necessary for the completion of the six of the opposite group. Moreover, this western pavilion is not even yet completed: in fact, only one-half of it is occupied.

BIRKDALE DRAINAGE.

THE works connected with the construction of a main outlet drain at Birkdale, near Southport, have just been brought to a completion.

Considerable difficulty has been experienced in draining this locality; two previous schemes having been carried out which have failed entirely; principally (as is stated) from want of judgment in the selection of the site of the outfall, and the system of construction being ill adapted to sandy soil, in places 15 and 20 feet deep. The present outfall drain is situate about the centre of Birkdale, and carried in a direct line from Weld-road to a point below high-water mark. The foundation of the drain is formed of invert blocks laid upon a bed of puddle 6 inches thick, to keep out the running sand, and having a 3-inch socket around the bottom and sides, connecting them in a continuous substructure. The work has been kept free from water by drainage through the cells of the blocks into a sand-pit 4 feet below the bottom of the drain, kept constantly pumped out; the water during the time of working never rising higher than the bottom of the invert block. By the adoption of this plan the contractor has been enabled to get the whole of the brickwork in perfectly dry.

From the end of the brick sewer cast-iron pipes are laid, discharging on to an apron constructed with a kerb of sheet piling driven into the beach, filled in with concrete, and paved with 6-inch setts, laid herring-bone fashion.

The contractors for the work are Messrs. J. & G. Boyson; the iron pipes being supplied by Messrs. J. & J. Cliff, of Bradford; and the invert blocks by Messrs. J. Cliff & Sons, Wortley, near Leeds. The whole has been carried out under the superintendence of Mr. Alfred Taylor, C.E., of Liverpool.

CRINOLINE AND COMBUSTIBLE DRESSES.

A GUERNSEY correspondent, "H. D. M.," addressing us on this subject, on the ground that "the *Builder* has often, in various ways, been the means of greatly benefiting England; and that only lately the adulteration of oil was in part suppressed through the exposure of its frauds in our columns," asks us if nothing further can be done to put an end to the fearful sacrifices of life arising from the often unsightly as well as most perilous distension of women's inflammable dresses by crinoline.

In respect to "English Suttee," as it has been significantly called,—only it is not widows alone who sacrifice themselves, nor is it to a deceased husband's manes, but to a senseless variety of fashion, after which they flock like sheep, whatever ditch or pit of destruction it may lead them into,—all we can say is, that not only the *Builder*, but many other members of the press have done their best, over and over again, to mitigate at least, if not to put an end to it, so far as the substitution of uninflammable for inflammable materials on the "funeral *pile*" are concerned; but hitherto apparently without the least avail. Her Majesty referred the matter to eminent chemical authority; and the result was that several methods of rendering combustible dresses at least uninflammable though not incombustible were pointed out; but it would appear that neither laundresses, manufacturers, nor ladies themselves, have taken much advantage of the results of her Majesty's thoughtfulness and good feeling in this matter; and that dresses are worn just as inflammable as ever; and not a week, scarcely a day or two, indeed, passes without a record of some new case of burning to death from the use of crinoline with inflammable dresses.

We would suggest to the weekly press an addendum to their lists of births, marriages, and deaths, under the head of "Deaths from Crinoline," in which a cumulative record of all such cases might be briefly given; only we fear that at the end of each year the accumulations would be far too great for longer continuance or further publication.

The chief difficulty in rendering muslins and cottons uninflammable, we presume, is that they must be frequently washed; and even though manufacturers were to render them uninflammable at the outset, washing would, in all probability, remove that which rendered them uninflammable. Could some process uninjurious to the material be discovered which washing would not counteract or undo, the difficulty might thus be obviated; but there is not much hope of this, we fear, with such materials to work upon. Ladies ought to dispense with muslins and cottons as long as their crinolinian mania lasts; but what they *should* do is not exactly what they *will* do.

The process for rendering ladies' dresses uninflammable, the result of which is exhibited by Professor Pepper at the Polytechnic, and to which we have already drawn attention, appears to be one of the most effectual yet tried; and it is to be hoped the ladies who witness the exhibition, at all events, will benefit by it.

TO CALCULATE STRENGTH OF WROUGHT IRON GIRDERS.

OUR correspondent, Mr. Robinson (p. 192), appears to have quoted Fairbairn in a hurry, and so fell into a mistake. The formula runs:—Multiply the area of the bottom flange, the depth of the web, and constant, 75 or 80, as the case may be, and divide by the distance in inches between the supports. Or:—$W = \frac{a\,d\,c}{l}$, where W, is the breaking weight in tons; a, area of *bottom* flange; d, depth of girder; c, constant = 75, for plate girders, or 80 for box girders; l, length. All dimensions in inches. The sectional area of the top flange should be to that of the bottom flange, as 12 to 11.

PREVENTION OF FRAUD ON BANKS.

SOME time ago, a fraud was perpetrated upon the British Linen Company's Bank, Glasgow, by altering the value of a letter of credit from 22*l.* to 72*l.* Mr. Robert Climie, C.E., suggests to us a plan to prevent this: it is on the same principle as perforating the paper used for postage and receipt stamps. The banks, by using small punching machines, could mark in perforated figures the amount of the cheques and orders: the figures marked in ink and the perforated figures always agreeing. The simplicity of the invention should recommend it.

THE GRAMMAR-SCHOOL, NEWCASTLE.

THIS institution dates from the reign of Queen Elizabeth, and has experienced vicissitudes. Now, however, a new building is to be erected. The designs are by Messrs. Johnston Hogg & Son, of that town. The building will be erected on ground to the west of the almshouses of the Virgin Mary Hospital. It will form a rectangle, 134 feet 9 inches by 122 feet, and include the residences of the principal or head-master, and his assistants, besides accommodation for a certain number of resident pupils. There are six school-rooms, all on the ground-floor, occupying two whole sides of the building. Three of the school-rooms, by a removal of the partitions, can be thrown into one, when it is desirable to have all the pupils together, as at the annual examination. The three largest school-rooms will be 38 feet 6 inches by 25 feet; the other three not quite so large. The boys' refectory will be 27 feet 9 inches by 20 feet. The sleeping apartments form the upper story. There is a vacant space in the centre, suitable for a playground, with conveniences adjoining, and a covered corridor traverses the building, and communicates with all the apartments on the ground-floor. The new building will accommodate 500 boys. It is proposed to lay the foundation-stone in the month of August. A more appropriate event could not signalise the second meeting of the British Association in Newcastle.

"EMIGRATION INTELLIGENCE SOCIETIES."

MR. BARUGH ALMACK suggests in a published paper (Dorrell & Son, Charing-cross) the establishment of societies under this title, to collect and afford reliable information with respect to emigration. It is a good idea.

"If," says Mr. Almack, "a great 'Emigration Intelligence Society' were thus established in each county of England, one of the first results would be the general knowledge of the fact that (instead of there being merely the limited acreage of England, for which the tenant-farmers of England are competing with each other, to the great injury of their own class and of the public, without any permanent benefit to landlords as a class) there are thousands and ten-thousands of 'land estates' in each of several different colonies, to be purchased at mere nominal prices; and that in those colonies large families have decided advantages over small ones. As such new estates or farms in the colonies would be their own freeholds, there would be no difficulties in arranging with others as to their 'modes of cropping,' &c. They would have to bear in mind that, if they improved their new farms, they or their own families would enjoy such improvements; and if they injured the land, they or their own families would as certainly suffer the loss or damage thus caused. Thus the equitable covenants so necessary for tenants in England would be unnecessary for them as yeomen or owners of the land they cultivated in the colonies."

We quite agree with Mr. Almack in believing that with really good arrangements and good agreements between landlords and tenants, England might (with the present knowledge of agriculture possessed by many of the best tenants) produce at least half as much more, in corn and stock, as England produces at present. It is scarcely necessary to point out any of the many beneficial effects which this great increase of agricultural produce would have on other classes of the population of England, but it may be as well to state that such increase would greatly exceed all the importations which have yet been received from foreign countries. We are inclined to think that the societies suggested might greatly promote the general welfare of England and her colonies.

BAD ACCOMMODATION FOR HUMBLE TRAVELLERS.

WITH reference to the very poorest class of wayfarers enactments have been made for the safety of their health and for their general comfort. Unless the drainage be efficient, cleanliness attended to, and a sufficient amount of breathing space and accommodation provided for each poor traveller, no house is licensed for their reception. There are, however, a very large number of persons whose means are not great, and who, in these railway times, are driven from home by business and other occasions. These persons would not for a moment think of going amongst strange bedfellows in the common lodging-houses; and it is to be regretted that in many large towns there is not to be found equal accommodation for them at four or five times the cost of those places.

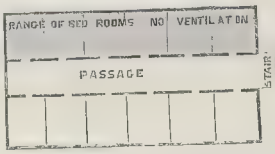
In most of the large towns there are modern hotels, which are fitted with every convenience after a fashion; but the cost and arrangements of these establishments put them out of the thought of most second and third class travellers, to whom we are referring. In many of the old-fashioned towns, particularly in the north of England, there are inns which have now become of a second and even lower rate, which are execrable in their sanitary arrangements, but which, for miserable accommodation, charge what is really an exorbitant price. For instance, a traveller whose means compel him to be economical may, at the end of his railway journey, call at an inn whose glory seems to have declined, but whose somewhat snug exterior appearance induces him to think he may be able there to take his ease, without being charged more than he can conveniently pay. He finds, however, in the morning, that although the attendance has been of the worst, his bedroom most unwholesome, the hangings of the old-fashioned four-post bedstead and the paper of the wall faded with time and mildew, the whole interior fittings falling into "the scar and yellow leaf,"—the bill next morning is:—

	s.	d.
Supper	2	0
Bed	2	6
Breakfast	2	0
Attendance	1	0
	7	6

The writer had been more fortunate than some other travellers staying in this hostelry in the selection of a bedroom, and was asked to inspect the "dog-holes" in which some of the travellers who had come later had been placed. One of these opened from a passage in which there was no light except from a window at the further end. There was a dark narrow staircase, which led to this passage. In the bedrooms on the right-hand side, there were no fireplaces or means of ventilation at the back, and the only opening in the front was a door with a small window which was lighted by the passage-window: on the opposite side were other bedrooms which, although small, were better circumstanced, for they had windows which looked into the street in front of the premises; although unfortunately, in most instances, the windows were not allowed to open properly. We made a sketch of the place, removing a partition to show the inside of one of the rooms, and here it is, with a plan:—



PACKING AND POISONING.



The rooms are very small; and, without taking into account the impurities which usually exist in the parts surrounding buildings of this description, it is very clear that travellers are worse off for accommodation in places like these than the poorest person is who seeks for shelter in the licensed common lodging-houses. In such situations as this, in buildings chiefly of wood, persons may be fearful of a sudden outbreak of fire. On mentioning this to an elderly lady who kept an inn in Lancashire, constructed somewhat in this way, she candidly confessed that she had been more than once in actual danger. "One night," she said, "I slept in a room which had no window outward, but looked into a passage. When I awoke I smelt fire, and was nearly suffocated with smoke. With difficulty I came down-stairs, and found in the kitchen that two maidens had been left in front of a blazing fire, and by some chance one of them had fallen into it and was completely in flames. The other was also partly on fire. As quickly as possible, I took the clothes off and pushed them up the chimney; and fortunately this was all the damage which was done." We wondered at the slight manner in which the burning of a *maiden* was mentioned, and it was a relief to learn that in this district the wooden stands—which in other parts of England are called "horses"—used for airing or drying linen, are in Lancashire called "maidens."

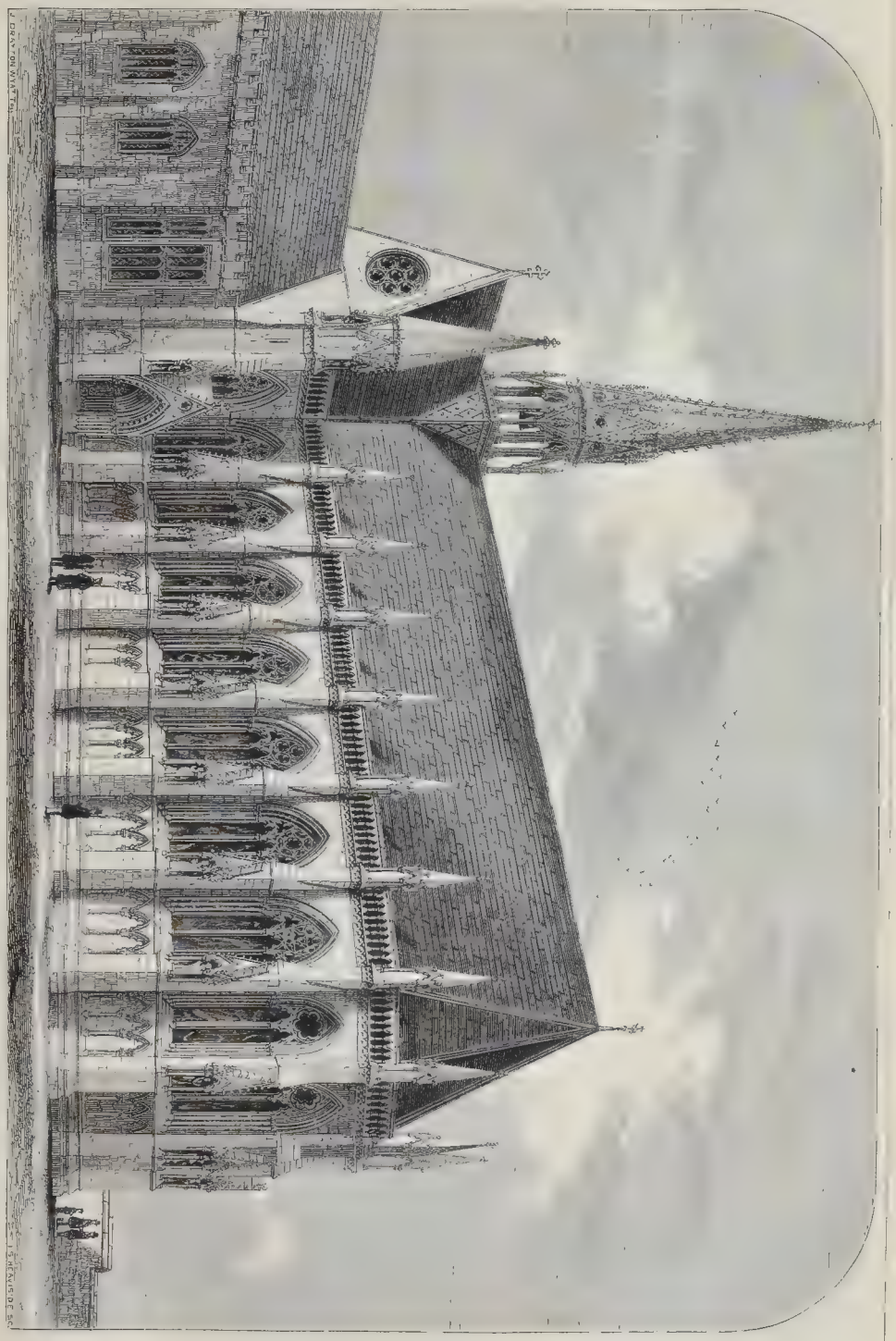
Believing that there is a very great necessity in many provincial towns for accommodation for second and third class travellers, we have taken some trouble, from time to time, to examine the rooms which are provided for their use. In some very large towns—Manchester, for instance; and the same will be found to be the case in many other places—a stranger who requires to stop for a few days at limited expense might wander long before he met with a place suitable for his purpose. There are but few coffee-houses with sufficient bed accommodation; and in the centre of Manchester and in other towns you might go over long distances without seeing respectable places, with cards in the windows, labelled, "Furnished Lodgings to be let." There are, however, publichouses—still called *inns*—in which a bedroom can be had for 1s. a night; but the arrangement of these establishments is most unsatisfactory. In one part of the ground-floor is a tap-room, into which rough people are admitted, who drink, sing, and quarrel until a late hour of the night,—often until early morning. There are other rooms in which better men assemble, and these parties are not silent; and from all, the fumes of tobacco ascend to the upper floors: for hours the basement part, and perhaps a large club-room above, are densely crowded with people, and there is no thought of ventilation below and but little provision for it above. In some of these places it is not unusual to make up upwards of fifteen beds each night: this would give a revenue, independently of other profit, of more than 270*l.* a year.

In some instances, near railway stations, large houses have been taken, and, although unfit in their internal arrangements, have been extemporized into coffee-rooms, dining and sleeping places. In these every morsel of space, regardless of health, has been turned to account. Beds are placed in closets and small rooms barely sufficient for one person, divided by thin partitions into two or three sleeping apartments, in which there is scarcely room to move or breathe. These rooms, bad as they are, are eagerly sought for by persons coming by the late trains, or who may require to start early in the morning. The profits of some of these houses must be enormous.

There is certainly need of interference in connexion with many of the establishments where second and third class travellers are forced to stop, and we see no reason why such places should not be inspected and made wholesome before they are let in this manner; or if this is not to be done, it is worth the consideration of speculative persons if it might be the means not only of doing good to others, but of benefiting themselves, to erect wholesome buildings near railway stations. They need not be costly, but should be neat and respectable in their external appearance, thoroughly ventilated, and comfortably fitted within, furnished with plenty of water and light, and where beds could be had at the rate of 1s. a night, and a good breakfast at a moderate price. There seems little doubt that if places of this description were opened and well managed, and their merits sufficiently known, they would be well appreciated by the classes of travellers for whose benefit we have put together these tap-room notes.

THE NEW CHAPEL, ST. JOHN'S COLLEGE, CAMBRIDGE.

THE new building which is about to supersede the present chapel of St. John's College, Cambridge, and of which our illustration presents the approved design, by Mr. G. G. Scott, will be on an unusually important scale, both as regards dimensions and proportions generally; and this, with the advantage of an excellent site, will render the structure a noteworthy addition to the public edifices of the town. It will form the northern side of the quadrangle nearest the street, having its apsidal east end brought forward in that direction to within a suitable distance of the college boundary. At the west end it will communicate through a spacious ante-chapel with the present venerable hall, which it is proposed to extend one bay, we believe, so as better to suit the conveniences of arrangement. Leading out from the ante-chapel, and close to the end of the hall is the entrance doorway seen in the view, with its shallow groined porch and crocketed gable. The plan of the chapel itself is a parallelogram, terminated by a polygonal apse, the total internal length being about 138 feet, and its breadth 34 feet. The several bays are divided externally by massive buttresses and pinnacles enriched with niches and sculpture, while, within the divisions are marked by groining shafts, which carry a ribbed and vaulted ceiling of oak, portions of which it is proposed additionally to enrich by means of inlay, &c. The side windows are of three lights each: those to the apse are of two; and a continuous arcade encircles the exterior below the window string, and also the whole of the interior of the apse. In the north wall two of the bays are pierced into arches, behind which is placed the organ chamber. The seats are all ranged longitudinally, those against the north and south walls being divided into stalls. Tenders for the erection of the building (which is a part only of the work contemplated at this college) have not as yet been received, but there is every probability of the undertaking being commenced forthwith, the preliminaries being very nearly completed.



PROPOSED CHAPEL, ST. JOHN'S COLLEGE, CAMBRIDGE.—MR. G. G. SCOTT, R.A., ARCHITECT.

MEDALS OF ARCHITECTURAL INSTITUTE OF SCOTLAND.

THE council have awarded the following premiums for the drawings sent in competition:—

I. *Geometrical Drawings.*

1st. Medal.—Andrew Dewar, apprentice to Mr. Robert Paterson, architect, Edinburgh.

Honourable Mention.—Thomas M'Mahon, apprentice to Mr. John Lessels, architect, Edinburgh; Andrew Scobie, apprentice to Mr. Robert Hay, architect, Dunfermline.

II. *Perspective Drawings.*

1st. Book.—Hip. John Blanc, apprentice to Mr. David Rhind, architect, Edinburgh.

III. *Drawings for Ecclesiastical Buildings.*

1st. Medal.—James Rhind, apprentice to Messrs. A. & W. Reid, architects, Elgin.

2nd. Book.—Edward F. C. Clarke, apprentice to Mr. David M'Gibbon, architect, Edinburgh.

IV. *Original Design.*

1st. Medal.—Edward F. C. Clarke.

2nd. Book.—William Dothie Dobson, apprentice to Mr. Patrick Wilson, architect, Edinburgh.

PREMIUM FOR WOOD CARVING.

THE prize (7*l*.) offered by the Society of Wood Carvers, Newman-street, London, for the most meritorious carving in wood contributed by any of its members to the Exhibition of Sculpture in the Conduit-street galleries, has been awarded to the bas-relief described as "The Nymphs of Immortality, attended by the Loves, crowning the bust of his late Royal Highness the Prince Consort." The executant is George Bridge, in the employ of Messrs. Wright & Mansfield, cabinet-makers. The bas-relief was worked without any model, in the hours of the morning and evening, before and after workshop hours. The judges appointed by the Society were Mr. Bayliss, of Judd-street; Mr. Anstey, successor of Mr. John Thomas, sculptor; and Mr. George Lock.

THE DRAINAGE OF TOWNS.

INSTITUTION OF CIVIL ENGINEERS.

AT a meeting on February 17th, the discussion upon the two papers, "On the Drainage of Dundee," by Mr. J. Fulton, and "On the Sewerage of Newport, Monmouthshire," by Mr. A. Williams, reported in our pages, occupied the whole of the evening. It was remarked that, although the author of the first paper had stated, that no ventilation whatever had been applied to the sewers in Dundee; yet, with apparent inconsistency, he spoke of the gases of the sewers being prevented from escaping into the streets and houses by trapped gullies. It was urged that it was dangerous to lay down a system of sewers over an entire town, without in the first place providing, as part of the scheme, for the fullest and freest ventilation, particularly at the higher levels; and that care was specially necessary in towns presenting naturally steep gradients. Disease had broken out in well-sewered districts, which was traced to the connexion of the house-drains with unventilated sewers; the highest portions of the towns suffering most severely. If the sewers of Dundee were sweet, it would lead to the inference that they must have been badly constructed, and that there were joints and crevices which let out the gases; for with a perfectly tight sewer, the gases must rise to the upper extremity, and escape into the houses through the house-drains.

It was thought that the sections of the Newport sewers were of the most approved forms, and that the bricks employed there were admirably adapted for the construction of such sewers with economy. But it was contended that there was no advantage in building brick sewers sufficiently large for a man to pass through, unless those dimensions were required to discharge the sewage flowing into them. In every instance where there were two rings of brickwork in the invert, there should be two rows of "headers" at or about the springing, so as to bond and tie the work together where the arch commenced.

In a hilly town the whole system of sewers should not be so connected together as to allow of the accumulation of the sewage gases in the higher parts of the district. Where the gradient was steeper than 1 in 200, and a sewer was one mile in length, it should be divided by steps or falls, and there should be a flap valve upon the upper or discharging end of the sewer, and at least two street grates at this point, so as to insure thorough ventilation. Where the sewage was discharged into a river, having a low summer level and a high flood level, it was not always practicable, or desirable, to carry the whole of the sewage in flood down below the summer level. In such cases the arrangement adopted at Windsor Castle might be followed. Formerly a large brick sewer discharged itself into the Thames, close to the Queen's private walk, and was a source of nuisance. By fixing a cast-iron pipe at the bottom of the sewer, and putting a slight dam in front of the junction, all the ordinary sewage was discharged by the iron pipe below the summer level. The brick sewer took away all the storm waters, which could be passed into the river with impunity, as they would be in extreme dilution, and the river itself would be in flood.

It was stated that the invert of the main outlet sewer at West Ham, which was 4 feet 6 inches in height by 4 feet in width, was laid for about half a mile at the level of low-water of spring tides, and then for 2½ miles with a fall of 3 feet per mile. The surface of the ground was from 10 feet to 12 feet below high-water in the Thames, and the subsoil was so porous, that when the trench was excavated, the water could not be pumped below a certain level. A cast-iron invert was therefore devised, and upon it cement blocks were laid to above the water line, the other portions of the sewer being built in the ordinary way. About three miles of that sewer had been in use for nearly two years, and no difficulty was found in keeping it clean, although the velocity of discharge was mainly that due to the surface gradient, or head.

As the question of town sewerage was of daily increasing importance, the principles which should be adopted might be briefly stated. Every sewer should be straight from point to point, and at every change either in the line or the gradient, there should be a manhole or a lamphole, affording means of access to the sewer, as well as providing ventilation. A cesspit should be formed at the side of each of these ventilating shafts, to catch the detritus from the roads; and the gully grate and entrance should be over it, and not directly above the crown of the sewer, as was the case in some parts of the metropolis. Between the side chamber and the shaft charcoal filters should be fixed, so as to deodorise the foul gases before passing into the streets. Sewers of unequal dimensions should never be level at the inverts: it was safer, as a rule, that they should meet at the crown. In the former case the larger sewer would dam back the sewage in the smaller tributary, and prevent its being flushed out. At Carlisle the main sewer had a fall of 1 in 700 for a mile and a quarter. It was frequently liable to be flooded, and at times the water-line was from 18 feet to 20 feet above the level of the invert. That sewer had been in operation for six or seven years without requiring any outlay for cleansing. At every manhole there was a groove in the brickwork to receive a stop-plank, by which the sewers could be flushed out in sections, either by accumulated sewage, or by the admission of water from the Water-works.

The fouling of rivers, by allowing undiluted sewage to pass into the nearest available watercourses, was a question of serious importance. It was believed that the cheapest element to remove soil refuse was water, and that the readiest method was by a proper system of sewers. If it was not worth while commercially to pump the fluids and solids, for the purpose of appropriating them to agricultural uses, then the solids should be removed by deposition and filtration, and the liquids be deodorised, before entering the rivers and water-courses. The land was the proper place to which the soil refuse should go; and if the authorities of a town could not dispose of it at a profit, they ought to be compelled to incur the necessary expenditure for carrying it to some place where it could be beneficially applied, without creating a nuisance.

It was remarked that the sewers on the south side of the River Thames were all provided with ventilators, having side catch-pits which prevented stones and mud from entering the sewers. In confirmation of the statements, as to the advantage of a supplementary pipe outlet to discharge at low water, it was mentioned that a similar arrangement had been carried out at Battersea eight or ten years ago, and subsequently at four or five other outlets of the main sewers on the south side of the River Thames. With reference to the question of cleansing sewers, it was thought that the method adopted at Dundee was complicated and expensive; and that if a greater fall had been given to the sewers, and a supply of water had been obtained occasionally, as required, from the Water Company, both the first cost of the works, and the working expenses, would have been reduced. The plan pursued in the metropolis was simpler and cheaper. In the pipe or sewer a flap valve was fixed, which could be kept closed until a head of water accumulated: when this valve was opened, the rush of water cleared away any deposit, including macadamised matter and stones.

It was contended that no system was perfect which permitted accumulations in the sewers; for if the velocity of the flowing sewage was insufficient to prevent the deposit of sand, grit, or other insoluble substances, such matter ought not to be allowed to enter the sewers; and by suitable gully traps this could be easily prevented. Street gullies should be so constructed as to prevent the entering of road detritus into the sewers, and to arrest the escape of noxious effluvia, while at the same time they should provide for the admission of a downward current of air, to aid in the ventilation of the sewer. With reference to the direction of the air passing through sewers, experiments showed, that it was sometimes with and sometimes against the sewage flow, and that it was not governed either by the velocity, or the temperature, or the direction of the sewage, but appeared to be determined by the various points of ingress and egress, and by the number of gullies and ventilating shafts.

There was still a diversity of opinion as to the proper size of sewers; but it was believed that, in ordinary town districts, calculating upon a maximum fall of rain of 1 inch in half an hour, and that it all passed directly into the sewers, the following proportions would prevent silting, if the district was thickly populated, and the house-drains were connected with the sewers:—

Diameter of Sewer.	Inclination.	Drainage Area.
6 inches.	1 in 50	240 square feet.
9 ,,	1 in 100	400 ,,
12 ,,	1 in 150	650 ,,
15 ,,	1 in 200	1,000 ,,
18 ,,	1 in 250	1,400 ,,
21 ,,	1 in 300	1,800 ,,

To this it was replied that no specific rules could be laid down which would apply to every town in the United Kingdom, each of which must be dealt with according to the local circumstances and peculiarities of the case. The character of the outlet, the rate of inclination and the nature of the surface of the ground, the rate and amount of the rainfall, the number of houses draining into the sewers, the extent of the population, and other things, all required consideration.

In reply upon the discussion it was remarked that, at Newport, the cost of a brick sewer 14 inches diameter, at a depth of 10 feet, was only 7s. 7d. per lineal yard, including junction-pipes for house-drains; and that, in the same locality, the cost of a pipe sewer 12 inches diameter would have been as much, if not more. Brick sewers sufficiently large for a man to pass through had also been built there for 11s. per lineal yard; whilst, at Dundee the average prices were stated to have been for tubular drains, 13s., and for brick sewers 33s. per lineal yard.

In conclusion, the necessity for the thorough ventilation of sewers was insisted on; and, as the only way to render sewer gases innocuous was by a large admixture of atmospheric air, there should be frequent inlets for the admission of air, as well as numerous outlets for the escape of the foul gases. With regard to the fouling of rivers, no doubt, by vastly increasing the local burdens upon trade and manufacture, means might be provided for depositing the heavy matters, and for deodorizing and disinfecting the fluid portions of sewage; but such nuisances were, to some extent, the penalty incurred for concentrating the population in dense masses; and it was hopeless to expect that the rivers in the neighbourhood of large manufacturing towns could ever be restored to the former clearness.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION.

ILLUSTATIONS OF WELLS CATHEDRAL AND PRECINCTS.

THE object of the Architectural Photographic Association, under its present rules, is to procure and issue to subscribers photographs of subjects strictly illustrative of architecture, or of its subsidiary arts. A certain number of negatives from selected subjects are taken each year; and prints from these arranged in sets or groups, on mounts of a uniform size, inclosed in a wrapper, are issued to the subscribers, each subscription of one guinea entitling the member to one set of photographs. The subscriber may select whichever he pleases of the sets issued; or, by increasing his subscription, may take all or any number of them; but the sets cannot be divided.

Thirty-six negatives of sculpture in the west front of Wells Cathedral have been taken for the association by Messrs. Cundall & Downes, of New Bond-street; and the subscription for 1862 entitles each member to eleven prints from these negatives, mounted, and done up in a wrapper; and a descriptive account extracted from Mr. Cockerell's work on the west front of the cathedral. The two extra sets may be obtained by subscribers by extra payment.

The set before us, as issued to a subscriber, consists of a view of the west front and ten of the quatrefoils containing sculpture which occur above the lowest tier of canopies. The latter include "The Creation of Woman," the "Temptation," "St. John" (fine), "Christ amidst the Doctors," and the "Last Supper," in which the texture of the stone work is rendered in a very remarkable manner. Looked at through the hand or a roll of paper, the effect of the last is marvellous.

Subscribers for 1863, we learn, will have the right of selecting from several sets, two at least of which will contain each ten subjects from the churches of the South of France. Names should be sent in early, as the quantity of matter issued is regulated by the number of subscribers. The photographs may be seen at the Architectural Exhibition.

We have also before us a Supernumerary Publication by Messrs. Cundall & Downes, consisting of forty photographs from the same cathedral and precincts, purchasable by members of the Architectural Photographic Association at a less price than that charged to the public. It includes details from the Vicar's Close and the Deanery. An aspect of sameness at first sight is given to this collection by the fact that sixteen of the plates are devoted to the triforium and clerestory of the cathedral, and are alike in the general lines. Examination, however, shows that the details (the capitals and terminations of the vaulting shafts, and the foliage in the spandrils and the heads of the clerestory arches) differ in every plate, and form a magazine of Early English ornament.

The best plates as photographs in the particular volume before us are details of sculpture in north porch; sculptured figures from east side of north tower; some of the carvings from *misereres*; south view of entrance gateway to Close and Vicar's Hall over; and the oriel window of deanery.

These collections taken together constitute the most complete attempt yet made to illustrate the details of a building by means of photography, and deserve attention.

WORKING MEN'S CLUBS.

IN the notes which we gave on the social and sanitary condition of Manchester, as well as previously, mention was made of a working men's club which had been most successfully established in one of the Salford districts; and we have often advocated the necessity which exists for resorts in the metropolis where working men and youths connected with this class might have an opportunity of meeting for the purpose of mutual instruction and innocent amusement.

We suggested that places of meeting might be arranged in connexion with the national schools of districts, and in some instances attempts have been made in this way, but generally without any great amount of success. There are many difficulties in London. One of the chief is that want of mutual acquaintance which exists to a considerable extent in provincial towns. But the failure may also be attributed to want of fitness of the national school-rooms for this particular purpose. At Salford a permanent and constantly-increasing library is formed: there are comfortable rooms for readers, supplied with newspapers and periodicals; lectures and classes; and even the top of the premises has been made convenient for those who have been in the practice of smoking a pipe while reading their book.

There can be no doubt that the general establishment of places of this kind throughout the metropolis would be attended with great advantages; and we are glad that the experiment is being tried in various directions. Something of the kind has for some time been in existence at the Colonnade, Clare Market; and in Duck-lane, Westminster, there is a club supported by working men. Institutions of this description will always need assistance in the first instance; and in order to advance the movement, the Working Men's Club and Institute Union, as our readers know, has been formed. It has recently held one of its meetings at the Beaumont Institute, Mile-end, to promote the formation of working men's clubs and institutes in the eastern part of London. Mr. Ayrton, M.P., who took the chair, looked upon the present movement as designed to take the working classes forward; and, after the Rev. H. Solly had explained the object and plans of these institutions, the Rev. Thomas Scott, chaplain of the London Hospital, moved—"That, in the opinion of this meeting, the establishment of Working Men's Clubs and Institutes in the Tower Hamlets, on the principles of the Working Men's Club and Institute Union, is highly desirable as a powerful means of promoting the social, moral, and intellectual welfare of the working classes of the district." The resolution was seconded by the Rev. H. Rylance, and carried; and an influential committee was appointed to collect information as to suitable premises, and to report at a future meeting.

Other clergymen announced their intention to found clubs in their respective districts,—Whitechapel and elsewhere,—and expressed themselves willing to render every assistance to the provisional committee.

"OF MORALITY IN ART."

THE International Association for the Promotion of Social Science offer a medal in gold, value 300 francs, for the best essay on this subject: and M. Wiertz offers to paint the portrait of the author gratuitously. The subject is thus stated:—

"By what signs does moral decline manifest itself in literary productions?

What are the causes of this decline, and what are the results of it?

By what means can this mental deviation be corrected? The causes stated are to apply to art in general, but to literature more particularly."

METROPOLITAN BOARD OF WORKS.

AT a meeting of the Board on the 20th instant addresses of congratulation to the Queen and to the Prince of Wales, moved by Mr. Tite, were determined on. The latter says:—

"Entrusted with the external improvement of this great city we are nevertheless profoundly impressed with the high value of moral influence in effecting material ameliorations: we therefore hail with peculiar satisfaction the bright prospect of a continued display of those domestic virtues which lend additional lustre to the majesty of England by your Royal Highness's union with a lady so richly endowed as the fair Princess whom you have brought from the cradle of our race to reside among us. May your Royal Highness for long years enjoy Heaven's choicest gifts; and may you transmit to a remote posterity the teachings and example of your parents. The adornment of the chief city in Her Majesty's dominions, and the moral and physical welfare of its inhabitants, were ever subjects of deep and increasing interest to your illustrious father; and may your Royal Highness continue the development of his wise and beneficial efforts, and may you occupy and enlarge those fair realms of science and art which it was his princely ambition to promote and advance by any measure at his command. Finally, may you, like him, by the practice of every noble quality, found for yourself a deep root in the hearts of the people."

The Subway in Southwark-street.—Tenders for constructing the subway, &c., along Southwark-street, between Great Guildford-street and Blackfriars-road, were opened, and were as follow:—Pearce & Porter, 28,010*l.*; William Downes, 26,474*l.*; Hill, Fennell, & Robinson, 27,400*l.*; W. H. Roe, 25,879*l.*; W. Dethick, 26,850*l.*; Joseph Diggle, 30,000*l.*; J. W. Sawyer, 26,950*l.*; W. Moxon & Co., 27,235*l.*; Edward Thirsk, 26,669*l.*; W. Laver, 30,500*l.*; Thomas Pearson, 24,950*l.*; and Hickerston & Bailey, 26,960*l.* Mr. Thomas Pearson's tender was accepted, subject to the usual securities.

District Surveyor for St. George-in-the-East.—The board then proceeded to elect a district surveyor for the district of St. George-in-the-East, St. Botolph Without, Aldgate, and St. Paul, Shadwell. There were eleven candidates, besides three whose names were struck out of the list in consequence of their non-attendance. The choice ultimately fell upon Mr. Markham.

CHURCH-BUILDING NEWS.

East Ham (Essex).—The consecration of the church of St. John the Baptist, East Ham, took place on the 19th inst. The church is cruciform in plan, consisting of nave, transepts, chancel, and central tower, with vestry at side of chancel. It is built of Hassock, with facings of Kentish rag, and Bath stone quoins. The roofs are covered with slate, and internally plastered below the rafters, showing only the principals and chamfered ribs. The sittings are open, and fixed 2 ft. 10 in. from back to back, except those under the tower and some in the transepts, which are 3 feet. These and the other fittings are of stained deal, excepting those within the altar-rails, which are of oak. The character of the church is massive and plain throughout. The accommodation is for 486 persons, including children, and the total cost, with warming, was about 2,760*l.* The builders were Messrs. Turner & Sons, of White-street, Little Moorfields. The architect was Mr. Blomfield.

Worcester.—The great east Window of Worcester Cathedral, by Hardman, of Birmingham, which was shown at the International Exhibition, is now being inserted in its place. The whole of the ten lights are now completed, the artists having done so at their own risk, the fund not being as yet sufficient to pay them. The scraping of the Lady Chapel is nearly finished, and an effort is to be made to open the choir for divine service by Easter. The nave will now take its turn, and be overhauled completely, and the whole is to be ready by the Musical Festival of the Three Choirs, which will be held this year in Worcester.

Bolton.—The Wesleyan Chapel in Park-street, Chorley-road, has been opened for divine service. The buildings comprise the chapel and school-room, large vestry, ministers' and choir vestry, also four class-rooms in the second story over the vestries; the whole of these being grouped together; the side wall of the vestries and the north gable of the school forming a continuous line with the transept gables. Detached from these and standing at the north-west corner of the plot, will be a residence for the chapel-keeper. The total length of the principal group of buildings is 141 feet 4 inches, and the greatest breadth externally, 80 feet 4 inches. The chapel is calculated to accommodate 950 persons, and the school 260 scholars. The style adopted is Decorated Gothic, of the later period of the thirteenth and the beginning of the fourteenth centuries. Externally, the walls are faced with Yorkshire pierpoints, and the dressings of Wrexham stone. The plan of the chapel is cruciform, and comprises nave, with north and south transepts, and a chancel, in which the organ is placed. The roof of the nave is separated from those of the chancel, front of gallery, and transepts, by pointed arches, springing from carved Caen stone corbels, supported by polished pillars, those to the front gallery being granite, and the others Devonshire marble. The internal dimensions of the nave are 84 feet long and 42 feet wide, each transept 17 feet by 28 feet, and the chancel 13 feet by 26½ feet. The height from floor line to top of ridge in the nave is 56 feet 9 inches, and in the transepts and orchestra 46 feet 2 inches; the height to the wall-plate in all being 23 feet 6 inches, and the spring of roof inside about 2 feet higher. The whole of the roofs are supported by trusses springing from carved Caen stone corbels, and are open, with the exception of the upper portion of that to the nave, which has a flat ceiling at the level of the ridge to transept roofs. There is a gallery over the front vestibule. The central portion of the nave in front is separated from the south porch and staircase on the north by buttresses, those to the latter surmounted by an octagonal turret, pierced by arches on each side, supported by pillars with carved capitals, having carved cornice over, from which springs a spirelet, divided into two stages. A lightning conductor of patent copper coil, ¾-inch diameter, descends from the platina point. The height from the ground to the top of the cross is 93 feet. The large vestry is 23 feet by 16 feet, on the north side of the chancel. The ministers' vestry, 18 feet by 12 feet, with lavatory and closet attached; and the choir vestry, 11 feet by 10 feet, are on the south side of the chancel. The school-room is on the west side of the meeting vestry and chancel, 52 feet by 53 feet wide inside, with a recess 27 feet by 5 feet against the end of the latter, in which will be placed the library, with a small gallery over for a school choir. The height from floor to wall-plate is 12 feet, and to the top of ridge of roof 36 feet. The roof is open, supported by trusses springing from stone corbels. The contractor for the stonework was Mr. A. Pilling; joiner and carpenter's work, Messrs. J. B. Statham & Sons, Pendleton; plastering, painting, and varnishing, Mr. W. H. Lomas, Manchester; glazing, Mr. Edmondson, Manchester; carving, Messrs. William & S. Green, Manchester; gas-fittings and wrought-iron work, Mr. Skidmore, of Coventry. The tiles for the front vestibule, from Messrs. Minton's, have been supplied through Mr. T. Oakden, of Manchester, who also procured the granite and marble pillars. The gas-fittings and ornamental metal-work were furnished through the same agency. The heating apparatus has been

set up by Messrs. Redfern. The clerk to the works was Mr. Jepson; but Mr. George Woodhouse, the architect, has exercised a general supervision over all the works. The total outlay for the whole, exclusive of land, is about 9,500*l.*

Pendleton.—The Bethesda Chapel, Pendleton, lately re-erected by the Methodist New Connexion, on the site of an older one, has been opened. The chapel has been erected from designs by Mr. Scrivener, Hanley, and executed by Messrs. Metcalf & Waterson, Manchester. The style is Italian; the material, red bricks, with Hollington dressings and Yorkshire parpoints. In front is a portico of Hollington stone, raised some 4 feet from the road level upon a landing inlaid with encaustic tiles, approached by York steps; the capitals of the columns being Corinthian in outline, with natural foliage, supporting an entablature with cornice and balustrade, pedestals and vases. Above this are two double windows with circular heads and enriched keystones, supported by carved brackets; the spandrils being filled in with ornamented cast iron on glass. There are also single windows on each side, with keystones and scrolls, and a stone cornice, with carved cantilevers and panels run round the building, rising into a pediment in front, with carved acroteria. On each side are vestries projecting 6 or 7 feet, in the same style as the portico. The total cost has been 2,500*l.*

Stockport.—Steps have been taken to enlarge the capabilities of St. Thomas's Church—Lord Egerton of Tatton (the owner of the land required) having acceded to the proposition, and forwarded a cheque for 100*l.* towards the expense of carrying out the arrangements. These arrangements embrace a new stone chancel, one gentleman having promised to furnish it with a stained-glass window, at a cost of 500*l.*

Hollingworth (*Manchester*).—The foundation-stone of St. Mary's Church, Hollingworth, has been laid. It originated in a circular headed "A Shilling for a Church." This is the sole and simple means by which Mrs. Page (wife of the Rev. J. A. Page, incumbent of Tintwistle, in which parish the new church is situate) has already raised 1,000*l.* The church, when complete, will have cost 1,500*l.* The architects are Messrs. Clegg & Knowles, of Manchester. The church, which is in the Early English style, will consist of a nave, chancel, vestry, and porch, with a turret at the north-west angle. Accommodation is provided for 405 persons. It is hoped that the 10,000 shillings required to complete the work will soon be on their way to the lady, who has persevered in the enterprise for the last four years.

Bungay, Suffolk.—The memorial window set up in this church, and mentioned previously (p. 192), was executed by Messrs. Cox & Son, of London.

PROVINCIAL NEWS.

Shanklin.—This place, says the *Hampshire Independent*, has made another move in the way of sanitary reform. For some years past this little village has been sadly neglected in the matter of cleanliness; and as, during the last few years, the nuisances have rapidly increased, the necessary steps have been taken to remedy the evil, by first obtaining from the proper quarter a definite boundary for the district; and the villagers have also decided to adopt the Local Government Act of 1858.

Faversham.—The new almshouses are approaching completion. The chapel, which intersects the building in the centre, has already been pewed. The carving is the work of Messrs. Nettle & Sansom, architectural sculptors, Lambeth.

Leeds.—In the design first proposed for the laying out of the ground-plan of the new infirmary, says the *Intelligencer*, the building would stand with its front in the very oblique line to that of Great George's-street, turning partially towards the closely approaching row of houses in St. George's-place. A second method was proposed, by which the front of the building would be brought more nearly to a full southern aspect, and so far less oblique to Great George's-street, and the inclosure surrounding it would be a parallelogram, with rounded corners, instead of the irregular form at first assumed. This plan was opposed in public vestry on the ground of certain slight diversions of streets; and upon this the surveyor, Mr. Fox, designed a third scheme, which, while it avoids any increase of distances between different streets, appears to secure many important advantages. It places the building with its front due south, in a line with St. George's Church, and parallel with Great George's-street, leaving a space between it and the south side of the latter as deep as that in front of the Townhall, and about 100 feet longer. The whole inclosure assumes a regular elliptical form, containing about 17,000 square yards, of which the area of the building, with its internal courts, according to the architect's designs, occupies 11,000 square yards.

Carlisle.—The new workhouse plans have now arrived, says last week's *Journal*, and will be on view at the Board-room.

COMPETITIONS.

Carlisle Bridge, Dublin.—Inquiries reach us as to this competition, but we have nothing satisfactory to state in reply. The committee seem to disregard public opinion. One correspondent says:—

"I am told there is a civil engineers' college in Dublin, where everything they can lay their hands upon is copied by the pupils. Now it has occurred to me that possibly the drawings sent in for this bridge may have found their way there, and have met with the same treatment."

Plymouth Wesleyan Chapel.—After what was said on this matter, correspondents are asking how many designs were sent in?

SCHOOL-BUILDING NEWS.

Yarmouth.—The new grammar-school, now in course of erection on the Trafalgar-road, is nearly completed. It is a simple building in the Tudor style. It is built of red brick, with white brick quoins at angles, stone dressings to windows and entrance-door, projecting eaves, moulded bargeboards and finials, and with bell-turret on roof. The slating is in courses alternately plain and ornamental, finished with crested ridge. The school-room is 40 feet in length by 20 feet in width, with open timber roof stained and varnished. The building also contains entrance-porch, class-room, and the necessary offices.

Darlington.—The foundation-stone of a new school, in connexion with the Wesleyans, has been laid in the North-road, which is a rapidly-increasing part of the town. The estimated cost of the school, including land for a chapel, is 500*l.*, towards which subscriptions have been received and promised to the amount of 470*l.*

CHICHESTER CROSS, ILLUMINATED.

AMONG the illuminations in celebration of the marriage of their Royal Highnesses the Prince and Princess of Wales, none could have possibly been more effective for delicacy and magical appearance than the illumination of the interesting old Market Cross of Chichester, one of the rarest specimens of its kind in the country. On the night of the 10th of March the building presented the most enchanting appearance; indeed, it looked like a design delicately cut in the purest glass as a specimen for a building to be erected on some fairy land.

On the four faces fronting the principal streets the architectural details were minutely marked out, each being terminated by a star. The intermediate sides were less elaborated. Each pinnacle was surmounted by a fleur-de-lis. The flying buttresses were lighted with coloured lamps, and also the main pillar in the interior, the lanthorn being surmounted by a plain cross. The illumination required 15,000 jets of gas, and 2,000 feet of pipe were called into requisition. The design to represent in light the outline as well as the tracery of the principal fronts of this building, was carried out, and in a good style, by Mr. Charles Dixon, whose services for the delicate undertaking were secured by the committee of management. The Market Cross is a venerable ornament of the city, and is now one of the very few which have resisted the ravages of time and injury, or have been preserved from the demands of the modern spirit for improvement. This description of Gothic building is not frequent in England prior to the close of the fourteenth century. They answered the double purpose of piety and convenience to the inferior tradespeople, and to those who brought provisions from the farms in the neighbourhood for the supply of the city. For this benevolent purpose Bishop Edward Storey purchased of the dean and chapter and the corporation the vacant area in the centre of the city which was formed by the intersection of the four principal streets. It appears from a deed still extant that the cross was finished in about 1500. It is an octagon, with an open arcade, and buttresses with finials at the angles; and above the centre of each arch was placed a niche, which contained an effigy,—effigies of the founder and other bishops, and St. George, the patron saint of the city guild. When the Parliament army gained possession of the city, the effigies were torn down from the niches, but the escutcheon bearing the arms of Henry VII. and the founder were left undefaced. At the restoration a beautiful bronze bust of Charles I. was placed in the niche once occupied by the figure of Bishop Storey; and a clock was given by Dame Farrington, as the inscription expresses, "as an hourly memento of her good will to the city," in 1724.

The total height of the building is 50 feet. In the years 1562 and 1574, we are told, this interesting structure required repair. In 1724 the Duke of Richmond defrayed the expense of a complete restoration. It was disused as a market cross on the erection of a new market house in North-street, about sixty years ago. F. W.

THE BRIDGE OVER LUDGATE HILL.

SIR,—As the public are becoming at last aware of the intended perpetration of a bridge *over* Ludgate-hill, may I be permitted at this, the eleventh hour, to draw your attention to the fact that one of the designs recently submitted to the Corporation committee for a new bridge at Blackfriars provided against this contingency by taking the railway by tunnel *under* that thoroughfare.

There can be no question that not the slightest necessity exists for a bridge *over* it. I would add that other important features in the same design were, that it rendered the proposed new street from Blackfriars to the Mansion House totally unnecessary: it saved the bridge now to be built in close contiguity to Blackfriars Bridge for railway traffic only: it saved the ascent of Ludgate-hill to all traffic passing over the new bridge to the City: it provided against the ascents of Fleet-street, Holborn-hill, and Snow-hill, at an early or future date, as might be deemed desirable; and, in short, it combined the interests of the railway shareholder, the Thames navigation, and the public.

Then why, you will ask, is it not adopted? The reply is—Because those most interested, *i.e.*, the shareholders and the public, are entirely unacquainted both with the simple merits of the design and with the comparatively very trifling reason assigned for not carrying it into execution. METROPOLIS.

PATENTS CONNECTED WITH BUILDING.*

SHADES OR BLINDS FOR WINDOWS.—*Rev. G Scratton.*—This invention relates to improvements in shades or blinds for keeping the sun's direct rays off windows; the object being the obtainment of an improvement in the appearance of such blinds; whilst they admit a great amount of light through the windows, and permit of an agreeable prospect outwards. The improved shade or blind is composed of a series of narrow frames, covered with any suitable blind or shade material, each frame being disposed vertically, and at a shorter distance asunder, somewhat less than the width of the frame, the set forming a row in front of the window to be shaded.

IMPROVEMENTS IN APPARATUS FOR INSPECTING SMALL SEWERS AND DRAINS, AND FOR FACILITATING THE REMOVAL OF OBSTRUCTIONS THEREIN.—*J. Lovegrove.* Dated 9th June, 1862. For these purposes, in constructing, ventilating, inspection, or flushing shafts at intervals over small drains and sewers, they are constructed from the top of the sewer to the surface of the ground partly vertical and partly curved, and also in two divisions for a double shaft, so as to admit of the passing of a bamboo cane (screwed together in short lengths) down one division of the shaft, turning into and along the sewer towards the outlet for any distance, and thus to effect the removal of any obstruction that may have formed between the shaft and the distance reached; also down the second division of the shaft turning into and along the drain towards its terminal end for any distance, and thus remove any obstruction that may have formed in this portion of the sewer. In the construction of ventilating and inspection shafts over house drain-traps, they are constructed partly vertical and partly curved, and also in three divisions, so as to admit of the passing of a bamboo cane down one division of the shaft towards the outlet of the drain, or down the second division towards the terminal end of the drain, and down the third division forming a triple shaft (into the syphon dip-trap), and thus in each of the places reached to remove any obstruction that may have formed. A dip-trap and box-valve seal the foul air from the sewer.

APPARATUS FOR BURNING AMERICAN ROCK OIL, PARAFFINE OIL, &c., &c.—*J. Crisp & J. W. Elliott*, South Shields. Dated 2nd July, 1862.—The object of these improvements is to obtain security in the burning of American rock oil, paraffine oil, oil of petroleum, and other inflammable oils, spirits, or essences. The material to

* Selected from the lists in the *Engineer*, &c.

be burned is placed in a cistern or reservoir through a feed-hole, which may be closed by a screw or other plug, having an air-hole in it, which, when required, may be protected internally or externally by wire gauze. From this reservoir a pipe conveys the fluid to another tube or chamber, which is closed partially at its lower end by wire gauze, perforated lead, or other suitable substance, and is of size sufficient to receive the wick and burner. For convenience of cleaning the parts of the tubes the patentees connect them together by screw connexion. The passage at the connexion of the lower tube with the wick tube (any part of the lower tube will do) is by preference partially closed by having only a very fine perforation or perforations through it of some length, or by the application of a coil of fine wire gauze, or a bundle of wires or otherwise, through which the oil is regulated or filtered in its passage to the wick. The part of the tube occupied by the filtering media may be considerably varied to the form or construction of the apparatus. That part of the tube which holds the wick and burner is partially closed at its lower end by some perforated substance, and is made of such a depth as to allow of only a portion of the oil contained in the tubing or apparatus being consumed. By these means the interposition of a column of oil between the flame of the burning oil and the explosive vapour of the reservoir is secured.

MANUFACTURE OF GAS FOR LIGHTING AND HEATING—*F. M. Parkes*, Plumstead, Kent. Dated 14th July, 1862.—This invention consists in the manufacture of gas by the combination of the gas obtained from petroleum or rock oil (which is also known by various other names) with the gas commonly termed hydrocarbon gas, or water gas; and further in the peculiar apparatus or retort represented in the drawings.

APPARATUS FOR VAPOURIZING AND AERATING A LIQUID HYDROCARBON TO BE BURNT FOR ILLUMINATION, &c.—*O. P. Drake*, Massachusetts. This invention cannot be described without reference to the drawings.

VENTILATING AND HEATING ROOMS, TURKISH BATHS, HOTHOUSES, &c. — *J. Walton* and *J. Moore*. Dated 28th July, 1862.—This invention consists of two parts, which may be used separately or together, for ventilating and heating rooms, carriages, huts, and buildings of all kinds. When required to heat buildings, the patentees generally combine the heating arrangements with the arrangements for ventilation. The apparatus for carrying off vitiated air from a room or other building is placed at the ceiling or upper part of the room or building, and is composed of a conical tube, the larger and lower end of which opens into the room, and the smaller end either opens directly into the outer atmosphere, or communicates with it by a pipe. Through this conical tube the vitiated air escapes from the room or building. Around the conical pipe is a cylindrical pipe of larger diameter than the bottom of the conical pipe, so that there is an annular space between the bottom of the conical pipe and the bottom of the cylindrical pipe. The upper end of the cylindrical pipe also communicates with the outer atmosphere, and as vitiated air passes away from the room through the conical pipe, fresh air enters the room through the space between the bottom of the conical pipe and the bottom of the cylindrical pipe.

IMPROVEMENTS IN CEMENTS.—*C. M. Westmacott*. Dated August 12th, 1862.—For the purposes of this invention, lime is combined with unburnt limestone or chalk suitably ground or reduced to powder. The proportions may be varied; but when using very good lime, it is preferred to use at the rate of two measures of unburnt chalk or limestone to one measure of lime. This compound may be employed alone or combined with sand, plaster of Paris, clay, or other materials, according to the circumstances under which it is to be used.

BRICKS.—*R. Bell*.—A communication.—Dated 23rd July, 1862. This invention consists in certain improvements in the manufacture of bricks, by means of which they are enabled to register with each other in the process of building, and to bind the work in such manner that it shall form a mass incapable of being riven asunder or cracked. The bricks are to be formed with projections or tongues across or along one surface, and with grooves or recesses of corresponding size on the opposite side, whereby they may be laid down one on the other, with the aid of a small quantity of mortar or Portland cement, in such order as to fit or bind together, the upper layer with the lower layer, and to tie each other longitudinally and crosswise, so as to prevent any lateral or transverse deviation or fissure occurring in the work. With regard to bricks for arches, a similar system of construction is adopted, by means of which centres will not be required in the construction of arches and vaults, for as soon as one single layer of bricks has been thrown across the arch, the series may be continued by inserting the second layer into the first, into which it will register and be self-supporting, and so on with the entire length of arch or tunnel or vault.

Books Received.

Heat considered as a Mode of Motion; being a Course of Twelve Lectures delivered at the Royal Institution of Great Britain, in the Season of 1862. By JOHN TYNDALL, F.R.S., &c. With Illustrations. London: Longman & Co. 1863.

NOTWITHSTANDING the general merit of this volume, we cannot help stumbling at the threshold, over the author's definition of heat, as "a mode of *motion*." Heat, we would with diffidence submit, is more correctly definable as a mode *of force*, productive of repulsive and other forms of motion. Let us take the force of steam for example. How can the heat which actuates the steam, which fills to bursting a hermetically sealed glass tube, be, with strict propriety, called "a mode of motion," at all events till it do issue forth in actual motion? It is a kind of repulsive force which tends on certain occasions to burst out into various modes of motion; and so soon as it becomes more strictly entitled to be called a mode of motion, it at that very moment, in fact, begins to cease to be entitled to be called a mode of force; being on the way to expenditure and exhaustion as a force. Heat is an active power, force, or energy, productive of motion; and even latent heat, though a latent force, cannot very properly be merely regarded as a mode of motion till it be expelled from its latency, and made salient and exhaustive. Professor Tyndall himself, in the body of his work, not unfrequently calls heat a force, a power, &c., and connected with the ultimate particles of matter; and in doing so we think he is more correct than he is in his title-page, which ought to be indicative of what his subject most strictly speaking is. Moreover, such a title, we think, scarcely does justice to Professor Tyndall's ingenious exposition and experimental proof, that heat is not only a mode of force—repulsive force,—but is *producible by* other modes of mere force, on the one hand, and *productive of* other modes of force on the other: nor does it do justice, on the whole, to the theory on which the entire work is based,—a theory much of the credit of which the author ascribes to Mr. Mayer, a German, of whose ideas, as rendered by Professor Tyndall, we gave an abstract at the time one of the Professor's lectures on the subject was delivered. But whether heat be regarded as a mode of motion or a mode of force or energy, its real natnre cannot be thoroughly understood until we ascertain its precise relationship to the interior organism of matter. Since it is a repulsive force connected with the minuter and more substructural forms of matter, and not a mere material fluid as it was once regarded; and since men of science find that to a satisfactory explanation of chemical, crystallographic, and other natural phenomena, they must necessarily admit the existence of a series of correlated and interdependent regions interior to masses, such as they call atoms, molecules, crystlets, particles, &c.; an interesting and momentous question immediately presents itself, so far as regards heat as *one* form of repulsive force interior to the masses composed of such particles, crystlets, molecules, or atoms: that question is,—does heat, as a repulsive force, belong more especially to the atomal form, to the molecular form composed of these atoms, to the crystletular form composed of these molecules; or in fact, *is* heat the repulsive force of atoms in molecules? is it the repulsive force of molecules in crystlets? or is it the repulsive force of crystlets in the grosser particles subject, also, to the attractive force of cohesion? It is useless to object that the repulsive force of molecules in crystlets is just another form of the repulsive force of atoms in molecules: so is it with light, heat, and actinic force: the one may be said, and has been said, to be just a form or mode of the other; but here we have hold of precisely those very reasons which, we do believe, afford us the true explanation of the correlation of powers or forces: that correlation is so associated with the correlation of substructural and superstructural forms in nature, that the one is dependent on the other; so that some have maintained, like Leslie, that light and heat were one and the same thing; but if one and the same thing, that is, radiative or repulsive force, why are they so different in manifestation? Simply because the one is radiative or repulsive force manifesting itself in one substructural region of matter, and the other is repulsive or radiative force manifesting itself in an adjoining and interdependent region of matter.

The forms and the powers of nature are mutually correlated, just as the forms *per se* mutually are, and just as the powers *per se* mutually are. We cannot here enter farther into this highly important and interesting question; but we may refer our readers to an article in the *Builder* of 11th November, 1854, on Electricity, in which the writer's ideas will be found to be already more fully developed. Meantime, we would wish here to add, that until the precise relationship of heat to the atomal, molecular, and other interior forms of matter *be* ascertained, the precise laws of its action, and its equivalents in mechanical or other force, are not likely to be very satisfactorily worked out.

Apart from any profound theoretical or philosophical discussion of the question "What is heat?" Professor Tyndall's new volume is a most valuable one, in which a vast array of facts, old and new, in regard to heat, are experimentally and popularly illustrated, in such a way as to be not only clear and easily understandable, but highly instructive.

Miscellanea.

MR. JAMES CRAIGG, an Englishman, has been appointed civil engineer in the service of the Sultan of Morocco, with a salary of 800*l.* a year.

THE FINE ARTS IN BRISTOL.—The private view of the Academy of Fine Arts and the Graphic Conversazione are reported in last week's Bristol papers. The *Mirror* says,—This year the exhibition has exceeded in every respect any of its predecessors. The works of great painters are numerous and important, and our local artists have contributed a collection which establishes, if such were necessary, their claim to consideration and regard. We will, however, allude first to the graphic room, which was the main attraction on Tuesday evening's conversazione. The vestibule leading to the rooms, as also the entrance-hall, were adorned with a choice collection of plants, kindly lent by Mr. W. Tothill, of Stoke, other persons contributing. The visitors to the graphic room had their attention arrested by some remarkable paintings, which were placed in the vestibule. One was the celebrated work of Noel Paton, entitled "Hesperus." There are many works by local artists which indicate great skill and ability. The conversazione was most successful, and attended by a large and fashionable company.

THE FRESCOES IN THE HOUSES OF PARLIAMENT. In reply to Mr. C. Bentinck, in the Commons, recently, Mr. Cowper explained that the fine arts committee having been intrusted last year with an inquiry into the decay and unaccountable deterioration in the frescoes in the house, and more particularly those in the upper waiting-hall; the commission had committed the inquiry to eminent connoisseurs, who united a practical acquaintance with fresco painting with the general cultivation of the arts; Mr. Ruskin, Mr. L'Estrange, Mr. Gambier Parry, and Mr. Hoffman, being on this committee. These gentlemen had examined very minutely into the state of the wall-paintings in the building, and also examined the artists who painted them. Many causes for the decay were suggested to them, such as the influence of the gas on the paintings, and the possibility of the artists having painted on the lime after it was dryer than it ought to have been to receive the paint. But the committee were unable to arrive at any satisfactory conclusion. The fine arts committee had brought their labours to an end, and had made their final report, which would be submitted shortly to the House, and therefore they would not be able to assist further in the solution of the difficult problem. He might say, however, the money voted for fresco painting would not, in future, be spent upon the same method of painting as that in which the decay had hitherto occurred. It would be employed in painting according to the water-glass method, which had been found to lead to no deterioration.

PROPOSED WET DOCK AT WHITEHAVEN.—The trustees of the town and harbour of Whitehaven have received a report from Mr. A. M. Rendal, C.E., in reference to their projected wet dock. Mr. Rendal calculates that the various items of the cost of the plan, which he describes, will amount to a sum total of 154,000*l*. From this has to be deducted the value of old materials, estimated at 5,000*l*., still leaving 149,000*l*. to be raised to carry out the provisions of his scheme. This is for dock space of six acres.

THE HOLBORN-VALLEY NUISANCE.—A correspondent says,—"In your journal of October 18th, 1851, 'Architecturus' writes, alluding to the Holborn valley, 'How much longer is this gigantic nuisance to disgrace the metropolis of the greatest city in the world? A tenth-rate railway company would have solved the question twenty times over.' Twelve years have elapsed since this was written, and the gigantic nuisance not only exists, but increases year by year with the increase of traffic; and the question which a tenth-rate railway company would have solved twenty times over still defies the combined powers of the Board of Works and the corporation of the city of London."

THAMES EMBANKMENT, SOUTH SIDE.—The bill defines the works authorised as follows;—An embankment from Gunhouse-alley, near the London Gas-works, to Bishop's-walk, with an enlargement of the bed of the river by excavation of the land and removal of the wharf walls from Gunhouse-alley to Broad-street; a new street from the embankment to Vauxhall-row; a viaduct from Bishop's-walk to Westminster Bridge; a new street from Bishop's-walk to Palace-new-road. A clause authorises the construction of barge beds and basins, with entrances from the Thames under the embankment, for the purpose of diminishing the inconvenience that may be caused to wharfingers.

IMPROVEMENTS IN THE REGENT'S PARK.—By direction of the Chief Commissioner of Works floral decorations and garden walks are being introduced in the smaller or inner park, running between the road from the Welsh Lodge to the Park-crescent and Portland-place. On either side of the continuation of the broad walk in this (the lesser) park there existed four rows or avenues of trees. The two centre avenues have now been removed, and between the outer rows there is in course of construction, on the western side of the broad walk, an arrangement of flower beds and walks. In the centre of this floral avenue, which from its extreme points south and north is upwards of a quarter of mile in length, is erected a vase, supported upon the shoulders of griffins. Throughout the whole line, at intervals, other vases and flower-beds are introduced.

FAILURE OF A DOCK WALL IN LIVERPOOL.—Last week, the workmen engaged in the arrangements to complete the communication between the Canada Dock and the one immediately to the north of it were alarmed by observing that a considerable fissure had taken place along the line of the east wall of the dock named. They immediately communicated the fact to Mr. Lyster, the engineer to the Dock Board, who attended to see what was the cause of the fissure referred to, and to take means, as far as possible, for counteracting its extension. The stonework which had been put up to effect the separation between the dock and basin had been removed, and the stones—large masses of masonry—piled along the east quay—of the Canada Dock. Either owing to the superincumbent weight thus placed on the quay, or through the withdrawal of the counter-balancing weight of the water in front of the breast wall, the wall began to bulge towards the west: portions of the earth immediately behind the wall began to crack, crumble, and fall down; and to meet the emergency water was at once let into the dock, and steps were taken to lighten the superincumbent weight on the quay. Investigation showed that a sewer which ran along the dock wall, which, in fact, was made a springer for the sewer arch, had given way, the crown of the arch having fallen in in several places. A cesspool connected with the sewer was found to be torn and distorted, and large cracks, as well as a sinking of a quay wall, were evident in the centre, extending for a length of 100 feet. Further investigation showed that the falling portion of the wall was built originally on a treacherous foundation of clay, it is said, on shifting sand, and that on a previous occasion indications of failure in the wall had been manifested. Measures are now being adopted to remedy the defect.

GAS IN PORTUGAL.—The contract for lighting the city of Lisbon with gas will terminate in 1866, and the municipal authorities wish to open a competition for the public lighting, in order to have the service performed at a lower rate than at present. By the existing contract the city pays 28 dollars per annum for each of the three thousand two hundred lamps. This price they hope to reduce at least 20 per cent.

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.—At a meeting of this society, held on Monday evening last, Mr. Henry Ottley read a lecture upon "The Present Position of the Royal Academy." The appointment of the Royal Commission to inquire into that institution, he said, was a great fact, whatever might be its results; but whatever those results were to eventuate in, the promotion of the welfare of the arts and of its professors solely depended on the artists themselves, who must take the lead if the public were to take up the question.

FATAL FALL OF MACHINERY AT MILLWALL.—A man has been killed at the Millwall Iron Ship Building Company's Works, Ferry-road, on Monday last, under the following circumstances:—He was raising an iron caisson for the abutment of a bridge by means of large shears. The shears had three legs, two of which were of iron and the third of wood. When the great weight came on the shears, the wooden leg, which proved to have been decayed, gave way, and the whole machine fell over upon a building behind it, and crushed in the roof. When the iron fragments were removed, part of it was found resting on deceased's face. Deceased was a smith. He died in the hospital to which he was removed. The inquest has been adjourned in order to have the machinery and premises in question examined by a competent civil engineer.

INTERESTING DISCOVERY IN THE CASTLE OF NORTHAMPTON.—In the course of the excavations going on within the area of the castle, at the east end of the inner ballium, inclining northwards, the excavators have come upon the remains of a very early Norman building. A circular pier, 3 feet 10 inches diameter and 4 feet 6 inches in height, has been cleared. It is in excellent preservation, and is wrought of the red native ironstone. The shaft is in parts of a bright red, as if it had been subjected to the action of violent heat. Heaps of stones, some of which were evidently the voussoirs of an arch, were turned up in the immediate neighbourhood, red also with fire. Great quantities of stones, wrought and unwrought, are unearthed in these excavations, and the evidence is strong that large buildings on the site were destroyed by fire and by violence. When the survey of the castle was made in 1323, the commissioners appear to have found it in a generally dilapidated condition. The local *Mercury* thinks that it can scarcely be doubted that these excavations open again to daylight the scene of the identical destruction by Richard de Lemesey, described upwards of five hundred years ago.

SCHOOL STOVES.—A correspondent of the *Dumfries Courier* calls attention to a brick stove for equably and economically heating a schoolroom or country church or mansion. It is the same in material and principle as a German stove. Being constructed of brick, and no iron required excepting for the furnace bars and doors, it is not expensive. For a good sized schoolroom the dimensions may be about as follows:—Length, 4 feet 8 inches; breadth, 3 feet 8 inches; height, 3 feet 8 inches. The principle of it is by sending the flame and hot air from the furnace through a continuation of small flues to arrest the heat before it escapes by the chimney; and, being so arrested and detained in the brickwork, it is given off gradually to the air that comes in contact with the heated material, and continues to be given off long after the fuel is consumed. There are three flues in the length of it, the first crossing, the second recrossing, the third crossing again. The flue current then ascends to an upper set of flues of similar construction; and by repeating a similar course of crossings, terminates in the sixth flue which is above the first, and from which sixth one it escapes into the chimney by an opening in the brickwork by which the fireplace is built up. The stove stands clear of the wall, also of the floor, being set on brick feet; and there are, as far as can be, vertical vacant spaces between the three double sets of flues in order to admit the air as much as possible to contact with the heated brick. The side walls are built of common fire-bricks; the tops and bottoms of the flues of fire-brick flags. The whole cost for the above size, he says, may be from 6*l*. to 8*l*.

INACCURACY OF THE ORDNANCE MAPS.—Half a dozen correspondents confirm the assertion of this in our last. One says: "I have procured dry impressions from the plates, to obviate the shrinking from the damping of the ordinary impressions, and in the large scale, *sixty inches*, the sheets will not correspond by many feet."

JOINT-STOCK ENTERPRISE.—A return just issued shows that in 1862 no less than 465 new companies were formed in the three kingdoms under the Act 18 and 19 Victoria, c. 133, and the Companies Act 1862, with a total nominal capital of 27,306,200*l*. Except in one or two instances, however, there is no return of the paid-up capital of these companies. Of this total of 465, ten were dissolved or otherwise ceased to be in operation during the year.

VISIT TO THE MIDDLE LEVEL MAIN SEWER.—On Wednesday, the vestrymen and other gentlemen connected with the parish of St. Leonard, Shoreditch, were afforded the opportunity of inspecting the Middle Level main sewer, by the courtesy of Messrs. Brassey, Ogilvie, and Harrison, the contractors, with the sanction of the Metropolitan Board of Works. This sewer forms part of the works now being carried on by the Metropolitan Board of Works for the main drainage of the metropolis, and extends from Kensal-green, through Norland Town, and along the Uxbridge-road, Oxford-street, King's-road, and Liquorpond-street, near which it intercepts the Fleet, and thence proceeds through Clerkenwell to Old-street, St. Luke's, and through Shoreditch and Bethnal-green to Old Ford, and thence to the Thames at Barking Creek, receiving in its course the sewage of an area of 17 square miles.

NEW ADELPHI THEATRE.—The arrangement of "Aurora Floyd, the Banker's Daughter," made by Mr. B. Webster, jun., and produced here under the direction of his father, is much more in keeping with the novel than the version of it produced at the Princess's. Miss Avonia Jones, notwithstanding her unhappy mouthing, presents the self-willed, energetic *Aurora* of the authoress; and Mr. Billington is really the rough, honest, hearty *John Mellish* described, which cannot be said in respect of the very clever actress and actor at the other house. The great part of the piece here, as elsewhere, is that of "The Softy," made up and played by Mr. Webster in a very remarkable manner, and as more knave than fool. The assumption is perfect. Mrs. Billington plays the crafty and malevolent housekeeper remarkably well. Some of the scenery is effective and clever, particularly the Wood by Moonlight, showing also the interior of the Trainer's Lodge. It is to be wished, however, that the scenic artist here would sometimes paint with less than a "pound brush." A little more refinement is greatly to be desired. The piece as a whole is very successful, and will fill the house for some time to come.

LONDON GENERAL OMNIBUS COMPANY.—The directors of this company state in their report that the debts and liabilities of the company on the 31st of December, 1861, were 96,070*l*., and at the close of the year 1862 they were 64,025*l*., showing a decrease of 32,045*l*. The amount of borrowed money on the 31st of December, 1861, was 38,131*l*., and during the year the sum of 18,981*l*. was paid off, leaving a balance of 19,150*l*. The number of horses possessed by the company on the 31st of December was 6,630, or 239 in excess of the stock at the close of the previous year. During the time of the Exhibition traffic the service employed about 600 horses more than were required for the ordinary business of the company. The cost of the maintenance of horse stock amounted to 38,806*l*., whereas, in 1861, the cost was 39,767*l*., showing, notwithstanding the heavy work of the Exhibition season, a reduction of 960*l*. The revenue account shows that the gross receipts from all sources during 1862 were 681,553*l*.; and in 1861, 597,013*l*., showing an increase of 84,540*l*. The gross expenditure of the company in 1862 was 609,050*l*.; and in 1861, 583,789*l*., showing an increase of 25,261*l*., leaving a difference in favour of the year 1862 of 59,278*l*., and a net profit for the year 1862 of 72,503*l*. The number of passengers carried last year was 42,768,248, and miles run 12,331,715. The average number of omnibuses working daily was 602, and the number of horses 6,680. The receipt per mile run was 1s. 1d. against 11¾d. in 1861, and the fare per passenger 4d. against 3¼d. The gross earnings per omnibus per day were 3*l*. 2s. 1d. against 2*l*. 15s. 5d. in 1861. The directors propose to declare a dividend of 3s. per share free of income-tax, amounting to 22,279*l*., and leaving 606*l*.

"HINDERANCE."—With reference to the spelling of this word an esteemed correspondent writes,—"Is not *hindrance* now spelt *minus* the central *e*? and yet you retain it, see page" so and so. It certainly is now often spelt without the central *e*, but it is wrong to do so for all that, and the sooner the vulgarism is abandoned the better. *Hindrance* may have something to do with hind, or hindmost, but certainly does not spell hin-derance, a good Saxon word of three syllables, which ought not to be maimed.

THE GERMAN HOSPITAL, DALSTON.—A meeting of the governors of the German Hospital has been held at the London Tavern, the Duke of Cambridge presiding, to consider a plan for the building of a new hospital, drawn up by Professor Donaldson, the architect appointed to erect the new building. Professor Donaldson explained the plan of the proposed new building, which would accommodate some 100 patients, and would probably cost 14,000*l*. The plan was unanimously accepted, and a resolution was passed empowering the committee to carry it out without delay, the meeting pledging themselves to use their utmost exertions to collect the sum still wanting (less than one-half the sum), to avoid the necessity of encroaching upon the funded property.

DRINKING-FOUNTAIN MOVEMENT.—At Leamington, on the 10th inst., the foundation-stone of a drinking-fountain, to be erected by public subscription, was laid by Dr. Jephson, in commemoration of the marriage of their Royal Highnesses the Prince and Princess of Wales, and to be called the "Prince's Fountain." It will be for the supply of both fresh and spa water, being placed against the abutment of the London and North-Western Railway Viaduct, which crosses one of the principal streets in the town, beneath which there is a saline spring. The erection will be of polished granite, black marble, and different coloured stones from Derbyshire. The design was presented by Mr. A. Morgan, C.E., under whose superintendence the work is being carried out.

TELEGRAPHING WITHOUT WIRES.—It is said that a "Mr. H., of Kensington Park-gardens East," has tried the experiment between Brighton and his town house, and between Limerick and London; and that Messrs. Masterman & Uppill, the solicitors of the patentees, declare they have accomplished the same feat. Whether the method be the same with that some years since successfully tried across Portsmouth Harbour, and at Dundee across the Tay, we do not know; but, at all events, the *Court Journal*, which speaks of these new experiments, is not quite correct in the boast that *it* was the first to startle the world with an intimation of the alleged discovery. There is this difference, however, between the Dundee and Portsmouth experiments on the one hand, and the *Court Journal's* announcement on the other, that in the former case the *modus operandi* was known, and not limited to mysterious paragraphs which explain nothing.

THE WALNUT TREE.—There is no tree grown in this country so valuable, and I am sorry to say so neglected, as the common walnut. Before the introduction of mahogany the walnut was the cabinet-maker's tree in Britain, and no tree was better adapted for his purpose, being tough and strong in proportion to its weight, beautifully variegated, admitting of a fine polish, durable, and obtained of sizes sufficiently large to be used solid or cut into veneers: in fact, there is no introduced tree that bears the climate so well that is so valuable to the manufacturer of fine furniture. It is grown in immense quantities in the east of France and the south of Germany, and in Switzerland. There is hardly any other timber tree in the plains of Bergstrasse, which run parallel to the Rhine between the Nekar and Mayn; and notwithstanding its abundance, it is so prized by cabinet-makers and manufacturers of firearms for gun and pistol stocks, for which it is preferred to all other woods, that it fetches in our markets a much higher price than mahogany. In sheltered situations and in good land it grows rapidly, and is, under ordinary circumstances, of a fit size for felling when from sixty to seventy years, just about the age when other deciduous trees are fit for use. I had four trees blown down by a storm a few years ago, for which I received 100*l*., being at the rate of 25*l*. each. At the same time I sold forty larch and twenty spruce of the same age as the walnut for 105*l*., being only a shade above 1s. per foot for the larch, and a little more than 6d. per foot for the spruce. I have planted 700 walnuts within these three years.—*A correspondent of the Scottish Farmer.*

THE COPPER TRADE.—It appears that, with copper at its present price, a large number of mines which were paying cost have been compelled to resume their position in the list of calling mines; and from the appearance of the market, and the continually increasing supply of copper, that materially higher rates than those at present ruling cannot reasonably be looked forward to for some time. Extraordinary discoveries of copper in sandstone, it is said, have recently been made at New Jersey.

ATLANTIC TELEGRAPH COMPANY.—The annual report just issued states that the directors have advanced from their private resources such sums as have been necessary in order to keep intact the privileges and concessions of the company, and provide for other expenses incidental towards the subscription of a new capital. The latter consists of a maximum nominal amount of 600,000*l*., divided into shares of 5*l*. each. It is guaranteed 8 per cent. per annum by the British Government on the completion and during the working of the cable. The board believe that the 600,000*l*. guaranteed by the Government will be in excess of the sum actually needed to make and lay a suitable cable. When the subscriptions reach 300,000*l*. an allotment will be made. The capital account shows that 474,226*l*. have been expended, leaving a balance in hand of 615*l*.

BRICK-KILNS A NUISANCE.—At York a case, Shaw *v.* Underwood, has been tried on the Northern Circuit before Mr. Baron Martin, in which the declaration alleged that the defendant caused to issue from a brick-kiln on his land smoke and noxious fumes, which occasioned damage to adjoining land of the plaintiff's. According to the plaintiff's account the fumes from the kiln destroyed the grass in the field, stripped his hedges, and turned his white cows black. On cross-examination the plaintiff admitted that he had a brick-kiln of his own about 500 yards from the spot in question, and that there were eight or nine brick-kilns belonging to other persons in the immediate neighbourhood. He had been obliged on some occasions to pay compensation for injuries done by the fumes of his own brick-kilns. The Judge told the jury that a recent decision in the Exchequer Chamber had made it quite plain that the existence of other brick-kilns in the neighbourhood did not justify the defendant in creating a nuisance. The main question for them to consider was, the amount of compensation to which the plaintiff was entitled. Verdict for the plaintiff.—Damages 3*l*., in addition to 3*l*. paid into court.

MONUMENTAL.—A bust of the Prince of Wales, in plaster, has recently been executed by Mr. Marshall Wood. It is proposed that four copies shall be made in marble, to be supplied to the Guildhall of London, and the Town-halls of Manchester, Liverpool, and Montreal respectively. The bust stands about 3 feet 3 inches in height. It has been executed from sittings given by the Prince, and is, we believe, the only bust for which his Royal Highness has sat in this country.——Mr. Earle has just finished a seated statue of her Majesty in Sicilian marble, which is to be placed in the People's Park, at Hull.——A full-length statuette in wood of Mr. John Clayton, town clerk of Newcastle, has been executed by Mr. Gerrard Robinson, and has been on view in the Central Exchange News-room. Mr. Clayton is represented standing clad in his official robes, with the right arm raised and extended, and the head thrown back as if in the act of addressing an assemblage.——The King of Prussia has laid the foundation stone of a monument to Frederic William III. The site chosen is on the Lustgarten. The Princess Royal of England was present.——The Berlin architect Diebitsch, according to the *Parthenon*, has received an order, from Said Pasha's successor on the throne of Egypt, to execute a most splendid mausoleum for the late Viceroy.——Fraucis Joseph of Austria is going to erect a statue to Maria Theresa in Vienna, and its site is to be the outer Burgthor. The sketch, already finished, shows the Empress sitting in a carriage drawn by four horses.——We hear with regret that the proposition to erect in London a counterpart of the equestrian statue of Lord Hardinge by Mr. Foley, R.A., sent to India, has been given up, the subscription not proceeding favourably.

TENDERS.

For additions to house, Wray Park, Reigate. Mr. Reddall, architect.

Holdsworth	£727 10 0
Macers	698 0 0
Thornton	695 0 0
Scott	695 0 0

For St. Bees' Catholic Church, Whitehaven, for the Very Rev. E. G. Lynas. Mr. E. Welby Pugin, architect:—

Nelson	£7,144 0 0
Simpson	6,582 5 6
Cousins	5,300 0 0
Glaister	5,250 0 0
Davies	5,130 0 0

For the addition of a north wing to the St. Pancras Almshouses. Mr. H. Baker, architect. Quantities supplied by Messrs. J. C. & G. Lansdown.—

Nutt & Co.	£3,543 0 0
I'Anson	3,137 0 0
Conder	3,078 0 0
Dove, Brothers	3,075 0 0
Baugh & Bryant	2,819 0 0
Tracey & Co.	2,798 0 0
Scrivener & White	2,590 0 0
Walton	2,487 0 0
Rowe (accepted)	2,400 0 0

For warehouse, Milk-street, Cheapside, for Messrs. Charles & Thomas. Mr. Herbert Ford, architect. Quantities not supplied:—

Masey	£1,693 0 0
Fish	1,524 0 0
Henshaw	1,498 0 0
Anley	1,442 0 0
Brass	1,438 0 0
Coleman	1,289 0 0
Simms	1,247 0 0
Lark	1,187 0 0
Rawlings	1,037 0 0

For Model Lodging-houses, Golden-lane, St. Luke's. Mr. J. Taylor, architect:—

Anley	£1,325 0 0
Parkiss	1,277 0 0
Perry	1,250 0 0
Henshaw	1,228 0 0
Richardson	1,190 0 0
Green	1,140 0 0
Meers	1,083 0 0

For Spring Hill New Schools, Birmingham. Mr. F. D. Johnson, architect:—

Hardwick & Son	£480 0 0
Showell	471 0 0
Heywood	459 0 0
Barnsley & Son	449 10 0
Partridge	435 0 0
W. & B. N. Smith	398 0 0
Bennett	398 0 0

For alterations and repairs for Lieut.-Col. Wheatley, at 16, Wilton-street, Eaton-square. Mr. H. Lester, architect.—

Hardiman & Sandon (accepted)	£690 0 0

For pulling down and rebuilding 38 and 39, Eastcheap, Messrs. Young & Son, architects:—

Meyers & Son	£5,123 0 0
Mansfield	5,059 0 0
Little	4,867 0 0
Lawrence & Son	4,840 0 0
Lark	4,829 0 0
Ashby & Son	4,757 0 0
Carter & Son	4,687 0 0
Conder	4,645 0 0
Coleman	4,549 0 0
Hardiman & Sandon	4,464 0 0
Axford	4,356 0 0
Piper & Wheeler	4,319 0 0

For cabinet show-rooms, for Messrs. Goodehams, of Tonbridge Wells. Mr. W. Bond, architect:—

Perigoe	£842 0 0
Pink	815 13 0
Noakes	787 11 0
Mercer & Camfield	780 0 0
Elliott	773 10 0
Edwards	765 0 0
Jeffery	716 0 0
Strange (accepted)	692 16 3

For three houses at King-street, Covent Garden. Mr. John Wimbeard, architect. Quantities supplied by Messrs. Jarvis & Barrett:—

Axford	£3,975 0 0
Turner	3,887 0 0
Foster	3,758 0 0
Macey	3,749 0 0
Colls & Co.	3,733 0 0
Browne & Robinson	3,695 0 0
Simms	3,694 0 0
Jackson & Shaw	3,665 0 0
Thompson	3,375 0 0

For the erection of new buildings at Chelmsford, Essex, for Messrs. W. & J. Beach. Mr. George Elkington, architect:—

Thorn	£3,344 0 0
Moss	2,676 0 0
Roper	2,510 0 0
Wood & Munn	2,530 0 0
Wells	2,520 0 0
Brown (accepted)	2,490 0 0

For alterations and additions to house, Market-place, Reading, for Mr. J. T. Stransom. Mr. Wm. Brown, architect:—

Sheppard	£229 0 0
Dunn	227 15 0
Woodroffe	225 0 0
Matthews (accepted)	220 0 0

TO CORRESPONDENTS.

J. T. D. (next week).—E. S.—J. M. D. (address, Norwich).—J. D. (pamphlet was mentioned some time ago).—C. & Son.—W. C. T.—F. F.—W. G.—J. H.—Surveyor.—J. H. C.—J. D. P. (declined with thanks).—F. B. (ditto).

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

The "*Daily News*" of May 29th, in its description of Benson's Great Clock, says: "The entire finish is of the highest cast." Benson's new Show Rooms contain clocks designed by the first artists of the day, and include clocks for the drawing-room, dining-room, bedroom, library, hall, staircase, bracket, carriage, church, turret, railways, warehouse, counting-house, with musical, astronomical, and every description of clock, from the plainest to the highest quality of which the art is at present capable. Church and turret clocks specially estimated for. Benson's illustrated pamphlet on clocks and watches (free by post for two stamps), contains a short history of clock and watchmaking, with descriptions and prices; it acts as a guide in the purchase of a clock or watch, and enables those who live in Scotland, Ireland, Wales, the Colonies, India, or any part of the world to select a clock. J. W. Benson received a Prize Medal and honourable mention. 33 and 34, Ludgate Hill, London. Established 1749.—[Advt.]

ADVERTISEMENTS.

CAUTION.—To BANKERS, BILL BROKERS, and OTHERS.—Whereas Bills of Exchange or Promissory Notes have been and may be put in circulation by Mr. Daniel Pearson, purporting to be accepted or made by Messrs. "Lloyd, Pearson, & Lloyds," or "The Madeley Coal and Iron Company," of Madeley, in Staffordshire. And whereas the Partnership between Messrs. Lloyds and Mr. Daniel Pearson has been duly dissolved, and an injunction has been granted by the Court of Chancery to restrain the said Daniel Pearson from drawing, accepting, endorsing, giving, or negotiating any Bill of Exchange or Promissory Note in the name of "The Madeley Coal and Iron Company," or in the name of "Lloyd, Pearson, & Lloyds," or in any other name whereby the Messrs. Lloyds might be rendered liable. All persons are therefore cautioned against dealing with any such Bills of Exchange or Promissory Notes; and it is requested that any attempts to negotiate the same may be immediately given to Messrs. R. & S. MULLENS, Solicitors, No. 7, Poultry, London, E.C.; or to Messrs. S. F. MILLER & SON, Solicitors, 10, Duke-street, St. James's, S.W.
London, 18th March, 1863.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

MR. G. NEWENHAM (Pupil of G. G. Scott, Esq. R.A.) PREPARES Sets of Competition Designs, Working and every description of Architectural and Artistic Drawings. Perspectives Outlined in a superior manner (and coloured by the best artists), with punctuality and despatch, and on reasonable terms.—Offices, 30, Parliament-street, Westminster, S.W.

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Competition and every description of Architectural, Working, and Detail Drawings prepared.

JOINT-STOCK COMPANIES.—CONFIDENTIAL ADVICE and (if required) PROFESSIONAL ASSISTANCE given to any bonâ fide undertaking, by Mr. LEE STEVENS, 36, Cannon-street, E.C.

TO MASTER PAINTERS, DECORATORS, &c.
PARTNERSHIP.—WANTED, by a Young Man, as JUNIOR WORKING PARTNER, having a small capital at command, and thoroughly acquainted with the general business.—For further particulars, address, ARTISAN King's Head Inn, Grendon, Atherstone, Warwick.

AN energetic BUILDER'S CLERK WANTED. One who can measure and value work, and can keep the books in a Builder's Office.—Apply first by letter, stating where last engaged, age, and salary required, to A. T. M. Post-office, 98, Jermyn street, S.W.

CLERK of WORKS.—WANTED, by the Guardians of the Poor of the Parish of Saint Leonard, Shoreditch, Middlesex, a Thoroughly-practical and Experienced CLERK of WORKS, to superintend, under the direction of the Architect and Surveyor, Mr. WM. LEE, the erection of the new Workhouse for the said Parish. Salary, £1 per week. Candidates must attend personally, with written applications, stating their age and the works they have been engaged on, and also testimonials as to ability and character, at the Workhouse, Kingsland-road, London, N.E, on WEDNESDAY, the 8th of APRIL, 1863, at SIX o'clock in the evening precisely.
By order of the Board, WM. NIGHTINGALE, Clerk.
Clerk's Offices, Workhouse, 26th March, 1863.

FARRINGDON UNION, BERKS.—To ARCHITECTS and SURVEYORS.—The Board of Guardians of the above Union having decided to make rather extensive alterations in their Workhouse, desire the SERVICES of a competent ARCHITECT to advise them on the best mode of effecting such alterations. Architects willing to inspect the workhouse, and furnish the Board with a plan and estimate, are invited to apply for information to the Clerk to the Board. The Architect whose plan is selected will be paid the usual commission; but no remuneration will be allowed to unsuccessful competitors, nor do the Guardians pledge themselves to the acceptance of either of the plans submitted. The plan and estimate to be sent, under seal, to the Clerk, on or before the 14th of APRIL next.—By order of the Board,
Farringdon, 17th March, 1863. GEO. J. HAINES, Clerk.

WANTED, an ACTIVE PARTNER in an Old-established Plumbing, Glazing, Painting, Paperhanging, and general Decorating Business. From two to three hundred pounds required. A first-rate writer and grainer preferred.—Apply, E. F. G. Post Office, Bury St. Edmund's.

WANTED, a FOREMAN to superintend the ERECTION of a BRIDGE abroad. Must be well acquainted with iron and stone work, and also with boring.—Address, enclosing copy of testimonials and stating salary required, to L. M. Office of "The Builder."

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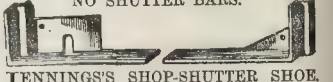
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F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,
Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSIONERS OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland, at where great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for underslates at the Royal Agricultural Society's House in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses, and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and in lengths best suited to their roofs. The original works were the above roofing is made are F. McNEILL & CO'S Manufactories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER, upwards of Three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, of nearly One Million Feet. A Liberal Discount allowed to the Trade.

1851. **TERRA-COTTA WORKS,** 1862.



BLACKFRIARS ROAD,
LONDON, S.

MARK H. BLANCHARD & CO.
SUCCESSORS TO COADES.

Original Works established 1769. Terra cotta Manufacturers to Her Majesty, the Commissioners of 1851, the Board of Works, the Trinity House, the Admiralty, the Royal Horticultural Society, and the Departments of Science and Art, South Kensington, and the Recipient of the Prize Medal at the 1851 Exhibition for MATERIAL and WORKMANSHIP in TERRA-COTTA, and the only Recipient of Two Prize Medals at the 1862 Exhibition for TERRA-COTTA and POTTERY, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this imperishable and invaluable Material in Sculptural and Architectural Embellishments, suitable to the Palace, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment have stood the test of time.

A beautiful variety of Statues, Statuettes, Vases, Panels, Fountains, Flower-pots, Balustrade Terminals, and other Adornments, suitable for the Conservatory, Flower Garden, and Grounds, at prices unprecedented. Estimates furnished.

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By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent which they sell under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for the finest work.

CHEAPNESS. Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASE IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

BUILDING LAND.—Some valuable FRONTAGES to high roads can be had on most advantageous terms, offering unusual opportunities for persons of energy and small capital to quickly realize large profits.—Apply to Mr. PEACHEY, Surveyor, 4, Pall-mall. Advances will be made.

PREMISES WANTED, on Lease, with spacious Yard, suitable for a Builder and Mason. In the neighbourhood of West Smithfield preferred, or a PIECE of GROUND on building lease.—Address stating lowest terms, and all other particulars, to Messrs. MALLCOTT, BROTHERS, Masons, Builders, &c. 51, West-street, West Smithfield.

TO ARCHITECTS and SURVEYORS.—OFFICES in the House of a Solicitor, near the British Museum, are OFFERED. Mutual business arrangements might be effected, particularly with a gentleman acquainted with benefit building, or similar societies.—Apply to C. D. or personally, 6, Caroline-street, Bedford-square, W.C.

LAND TO BE LET for BUILDING, seven miles from London, on high ground, within ten minutes' walk of the Ealing Station of the Great Western Railway.—For particulars apply to GEO. LESLIE, Upper Mall, Hammersmith, W.

A SUBURBAN RESIDENCE WANTED, within ten miles of Charing cross, possessing easy railway communication with the Victoria, Waterloo, or Charing-cross stations. It is necessary that the house should stand upon a gravelly soil, that the front should face the north, and that it should be provided with a piece of ground at the back. Seven or eight rooms are required, and the rent should range between 50l. and 80l. per annum.—Address, stating all particulars, to J. W. O. 6, Charing-cross.

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BUILDING GROUND, near the Crystal Palace.—SITES for TWO VILLAS TO BE LET, within five minutes' walk of the Crystal Palace and Railway-station, commanding very extensive views. The above will be let on advantageous terms, and money advanced, if required, to a builder of respectability. For particulars apply to Mr. COLMAN, Surveyor, Portland Lodge, Canterbury-road, Brixton-road, S.

LAND TO BE LET, on Building Leases, at Woodgreen, fronting the high road from London to Southgate, near Woodgreen Station, Great Northern Railway.—Apply to Mr. DAVIS, Builder, Woodgreen; or S. HEWITT, Architect, 101, Great Russell street, Bloomsbury, W.C.

FREEHOLD SITES for BUILDING, and FREEHOLD HOUSES, can be obtained in the best part of Prince Albert's-road, near Kensington Gore, in front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's-road, W.

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FREEHOLD or LEASEHOLD LAND WANTED.—The Vestry of the Parish of St. Mary Abbotts, Kensington, in the County of Middlesex, require a DEPOT, situated in the said Parish, for STONE and other materials; the land to be from a quarter to half an acre in extent. All further information on the subject can be obtained on application to Mr. JAMES BROADBRIDGE, the Vestry's Surveyor, Vestry Hall, High street, Kensington. Proposals containing full particulars, and endorsed, "Tender for Depot," to be addressed to the Clerk, and delivered at his Office, by or before TEN o'clock, on FRIDAY morning, the 10th day of APRIL next.—By order, REUBEN GREEN, Clerk of the Vestry.
Vestry Hall, Kensington, 20th March, 1863.

WATERSIDE PREMISES WANTED, to Rent or Purchase.—The Vestry of the Parish of St. Mary Abbotts, Kensington, in the County of Middlesex, require Waterside Premises at the nearest point possible to the said Parish, having a River Frontage of not less than 80 feet, for the purpose of unloading road and other materials. All further information on the subject can be obtained on application to Mr. JAMES BROADBRIDGE, the Vestry's Surveyor, High-street, Kensington. Proposals containing full particulars, and endorsed "Tender for Waterside Premises," to be addressed to the Clerk, and delivered at his Office by or before TEN o'clock on FRIDAY morning, the 10th day of APRIL next.—By order REUBEN GREEN, Clerk of the Vestry.
Vestry Hall, Kensington, 20th March, 1863.

WATERSIDE PREMISES, on the Lea Canal near Bow, comprising two newly built Warehouses, of a total area of about 22,600 feet, with large yard, shaft, foreman's dwelling, stabling, &c TO BE LET, together or separately, with immediate possession.—Apply to Messrs. DEBENHAM & TEWSON, 80, Cheapside.

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Since the establishment of the Company in 1821, the amount of Profits allotted to the Assured has exceeded in Cash value 680,000l. which represents upwards of Reversionary Bonuses of 1,058,000l.

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MEDICAL FEES paid by the Company, and no charge for Policy Stamps.

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Losses caused by Explosion of Gas are admitted by this Company.

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Mercantile and Dock Insurances at the Reduced Rates.
The losses of the Company for the year 1862 were 76,000 less.
The duty paid to Government for the year 1861 was 83,076l. and the amount insured on farming stock 16,480,702
A bonus of three-fifths of the profits periodically made to parties insuring, who have thus from time to time received sums amounting in the aggregate to 491,200l.
The rates of premium are in no case higher than those charged by the other principal offices making no returns to their insurers.
For prospectuses, apply at the Society's Offices, Surrey-street, Norwich, and 6, Crescent, New Bridge-street, Blackfriars, E.C.

THE CITY of MANCHESTER PATENT BRICK & TILE COMPANY, LIMITED (EFFERTZ'S PATENT). Capital, 5,000l. in 10,000 shares of 5l. each. Deposit, 10s. per share on application, and 10s. per share on allotment. Registered under the Companies Act of 1862, with limited liability.
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The Directors having now completed their preliminary arrangements, and the Company being duly registered, are prepared to receive and execute orders forthwith, both for the machines (under royalty), bricks, tiles, and drain-pipes.

The Directors very confidently invite application for the remaining shares. A considerable number are already subscribed for, and an allotment will be shortly made.

The Directors reserve to themselves the right to limit the first issue of shares.

With machines made under this patent, bricks can be produced superior to hand-made, at one half the present prices.

The machines may be seen at work on application. Samples of bricks, tiles, and drain pipes, can also be seen at the Company's Offices, where forms of application for shares and further information may be had.

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ACCIDENTS
By ROAD, RIVER, or RAILWAY;
Accidents in the Field, the Streets, or at Home,
MAY BE PROVIDED AGAINST by taking a POLICY of the
RAILWAY PASSENGERS' ASSURANCE COMPANY,
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£140,000 have been already PAID as COMPENSATION for Accidents of all kinds.
In Seventy-five Fatal Cases, and 6,980 Cases of Personal Injury.
Rates and further Particulars may be obtained at the Railway Stations, of the Local Agents, or of the
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ESTABLISHED 1824.

Financial Results of the Society's operations.

The Annual Income exceeds	240,000l
The Assurance Fund safely invested is over	1,240,000l
New Annual Premiums for the last year	10,617l.
Bonus added to Policies at the last Division	276,077l.
Total Claims by death paid	1,241,750l.

The following are among the distinctive features of the Society:—
Credit System. On Policies for the whole of life, one half of the Annual Premium during the first five years may remain on credit, and may either continue as a debt on the Policy, or be paid off at any time.
Low Rates of Premium for Young Lives, with early participation in Profits.
Invalid Lives may be assured at Premiums proportioned to the increased risk.
Prompt settlement of Claims.—Claims paid thirty days after proof of death.
The Accounts and Balance Sheets are at all times open to the inspection of the Assured, or of persons proposing to assure.
Tables of Rates and Forms of Proposal can be obtained from any of the Society's Agents, or of
GEORGE CUTCLIFFE, Actuary and Secretary.

The Reversionary Bonus at the Quinquennial Division in 1862 averaged 48 per cent. and the Cash Bonus 28 per cent. on the Premiums paid in the five years.
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HAY'S PATENT WATERPROOF GLUE and INDIA-RUBBER VARNISH.—To ARCHITECTS, BUILDERS, PAPER-HANGERS, &c. &c.—The WATER-PROOF GLUE is a special anti-damp, and is suitable for contractors, joiners, coffin-makers, &c. &c. The VARNISH for damp walls, previous to papering, coating zinc verandahs, &c. &c. Copy of a letter from Messrs. Rogers & Booth, contractors, Gosport:—

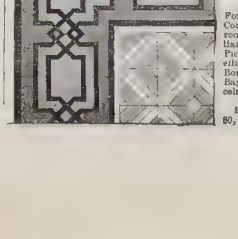
"We have repeatedly used your Waterproof Glue as a preventive against damp, and have found it in every instance in preparing walls to receive paper. In one instance, where the walls were thoroughly saturated with moisture from earth piled against the outside, we used your varnish internally, and papered the surface, within a few hours of its being applied, with complete success. We have also used your preparation for coating a large number of cast-iron piles, at the Gunwharf, Portsea, for her Majesty's War Department."

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Manufactory, Chandos-street, Portsmouth: Mr. GEORGE WEEKS, Manager. GEORGE C. WARDEN & CO. General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

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G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
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In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
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Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
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Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1¼	1½	2	2½
„ 2 ft. 6 in. sup.	1½	1¾	2½	3
4 ft. super...	1¾	2	2½	3½

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	15 oz.	21 oz.
20 by 12 } per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	2nds 18s. 0d.	2nds 28s. 0d.
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Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
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Green do. 10d. do.
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Rosettes, various sizes and colours.

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MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

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Genuine White Lead .....30s.
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Fine Oak Varnish ...
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GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

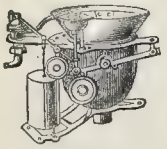
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THE BRITISH GOVERNMENT, THE RUSSIAN GOVERNMENT, | H.R.H. THE PRINCE CONSORT, MOST OF THE NOBILITY & GENTRY, | RAILWAY & CANAL COMPANIES, COLLIERIES, IRONMASTERS, &c.

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The Anti-Corrosion is a Powder, sold in all colours, and will keep any length of time.
OIL, TURPENTINE, AND BRUSHES.
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NO AGENTS THROUGHOUT THE UNITED KINGDOM.

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The largest and most superior Stock of Chimney-pieces in Europe on view at the above named Establishment.
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Estimates for every description of Marble Stone and Granite Work.

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The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.
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TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at
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JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
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PORTLAND STONE and MARBLE
MACHINE SAWING MILLS.
SAWS of the best quality, of any length, width, or thickness, to order.
Manufactured by ELI RICHARDS, 93, New Park street, Southwark.
The Trade supplied on terms as low as any house in the kingdom.

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Portland Slab, Paving, Landings, and Scantling of every size sawn by steam, always kept in stock; also York Paving and Landings, Steam, Stone, and Marble Saw Mills, Cremorne Wharf, Chelsea, and Grosvenor-road, Pimlico.
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FREEN'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality, Strength, and Colour, supplied to Shippers and the Trade.
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(coarse and fine), made at their Kingsland Works, and so universally known and approved of during the last half century, may be had (fresh ground daily) by Shippers and the Trade.
F. & CO.'S CHALK LIME, made at their Kingsland Works, of excellent quality and well burnt, may be had fresh from the Kilns as drawn daily
GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.
GREYSTONE LIME.
PLASTERERS' HAIR. LATHS.
PLAIN PAN RIDGE and FOOT TILES.
CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.
KEENE'S and MARTIN'S CEMENTS.
SAND, POTTERY WARE, &c. &c.
Orders and Letters addressed to 3, Canal road, Kingsland; or to City Offices, 79, King William-street, City, will receive immediate attention.

PAINTED and STAINED GLASS WINDOWS.—LAVERS & BARRAUD, Endell-street, Bloomsbury, London; and No. 3, Oxford street, Manchester. Prize Medallists, Class 24 A, 1862.

PATENT and BRITISH PLATE GLASS
JAMES HETLEY & CO. beg to inform Architects, Builders and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass by them manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

WINDOW GLASS! WINDOW GLASS!
Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and sheet Glass, Coloured and Ornamental, Rough, Rolled, and Patent Plate. Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at
GRISTS CITY GLASS WAREHOUSE,
47, Chiswell street, opposite Whitbread's Brewery, E.C.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
20 and 21, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 28, Soho-square, W. and George-yard, Cromwell-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars

WOOD PAVING.
MESSRS. THORN & CO.
CONTRACT to MANUFACTURE and LAY WOOD PAVING, of every description. It is particularly adapted for RAILWAY STATIONS, ENGINES, SHOPS, IRON BRIDGES, &c.
THORN & CO. STEAM SAW-MILLS, CREMORNE WHARF, CHELSEA, and GROSVENOR ROAD, PIMLICO.
Asphalte for Railway Arches and Iron Bridges.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED SANITARY GOODS.



FLUSHING CLOSETS, URINALS, CHIMNEY-FLUES, &c.

N.B.—No MEMBER of this FIRM was on the SUB-COMMITTEE of CLASS 10 or 35.

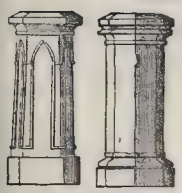
JAMES STIFF & SONS,

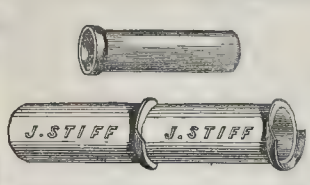
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

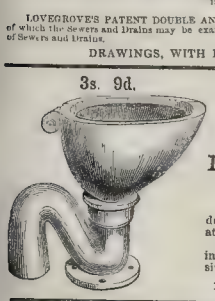
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

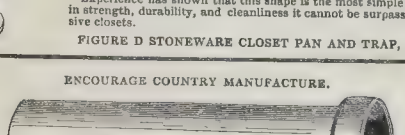
In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY,



Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE, BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF No 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

BARTLETT, BROTHERS, & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.;

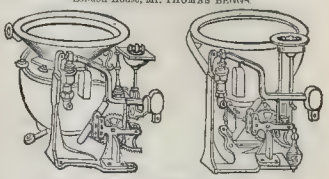
PATENT SILICEOUS PAINT, FOR COATING STONE, CEMENT, STUCCO, &C.

Specimens of the Silicates and Aluminates, and of their applications, may be seen at the CONSTRUCTIONAL DEPARTMENT, SOUTH KENSINGTON MUSEUM.

GUEST & CHRIMES, FOUNDRY and

GENERAL BRASS WORKS, Rotherham; and 37, Southampton street, Strand, London, W.C.

London House, Mr. THOMAS BEGGS

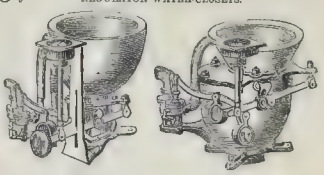


ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient and simple, free from all smell, and requires no cisterns, service boxes cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipes. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet, alike dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary direct Service Main Cottage Water Closets.

J. TYLOR & SONS' PATENT

REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No extra valves, cranks, or wires required. The Valve can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Patentees, J. TYLOR & SONS, Warwick lane, Newgate street, London.

MINTON, HOLLINS, & CO. Stoke-upon-

Trent, beg to inform architects, the gentry, and others, that, in consequence of the increasing demand for their Encaustic and Mosaic Pavements, and with the view of facilitating the execution of orders, they have opened an additional Show-room, at their Establishment, No 39, Cockspur street, London, where experienced draughtsmen will be constantly in attendance, to afford all information required.

DRAWINGS and ESTIMATES, on the receipt of plans, will also be promptly furnished, on application at the Manufactory, Stoke-upon-Trent.

MINTON & CO. take the present opportunity of stating that they have always in stock a large and varied assortment of tiles, suitable for flower boxes, stoves, and other ornamental purposes.

MINTON & CO. further give notice, that they have no special depôt in London for their general productions in china, majolica and earthenware, but the same may be obtained of all the principal dealers.

TERRA COTTA and Fine STONEWARE

POTTERY, warranted to stand Frost.

JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and economised the manufacture of TERRA COTTA and FINE STONEWARE FOR ARCHITECTURAL PURPOSES. He is able to make any of various new colours, so as to harmonize with Marble, Portland, and other Stones, and equal in hardness to Granite.

A Medal at the International Exhibition was awarded, in Class 10, Section C, Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra Cotta."

Moulded Bricks, String Courses, Copings, Cills, Trusses, Pilasters, Capitals, Crosses, Pennnales, Vases, Statues, Brackets, Consoles, Garden Edging, Coloured Six-inch, and twelve inch Paving Tiles, &c. &c.

Also, Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

London Office, 377, Oxford-street, W.

MINTON & CO.

HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE UPON TRENT.

STAFFORDSHIRE RIDGING and ROOF-

ING TILES, Plain and Ornamental, in Blue or Brosely colour.

PAVING TILES in various colours and designs.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.

Dressed Blue Facing BUILDING and SEWER BRICKS.

Architects' designs carried out on the shortest notice.

Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent road Bridge.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED

PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for the WARE is REMOVED to No 21 Wharf, Macclesfield-street North, City-road Basin, N. Sadly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and Sadly, that the "Reports of the Jurors," page 581, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

VENETIAN BLINDS

should have LEWTAS'S NEW PATENT ACTION which ENTIRELY SUPERSEDES the HOOKS and annoyance of winding the cords. Can be easily fixed to old blinds. Price, 2 cord actions 2s.; 3 cord do. 3s. A liberal commission to the trade. To be had of—

EDGAR PARKS, Ironmonger and Sole Agent,

140, Fleet-street London.

SALES BY AUCTION.

TO ARCHITECTS, BUILDERS, AND OTHERS.—Valuable Stock of Chimney Pieces and other goods, the property of the Executors of the late GEORGE BRACE, Esq., the late Lessee of the Lizard Serpentine Quarries

PULLEN, HORNE, & EVERSFIELD have received instructions to SELL by AUCTION, on the PREMISES, being the Show Rooms of the Lizard Serpentine Company (Limited), No. 20, Surrey street, Strand (seven doors from the Lyceum), by direction of the Executors of GEORGE BRACE, Esq., deceased, having been obtained for so doing), on TUESDAY, MARCH 31, at TWELVE for ONE, a selection of SERPENTINE CHIMNEY PIECES, executed in all the most approved and modern de gns, in which much taste has been displayed, also a variety of clocks, vases, paper weights, table tops, and other manufactured stock, presenting a favourable opportunity of securing, at a moderate cost, many beautiful specimens of workmanship in this material.—May be viewed, and Catalogues had at the Offices of Messrs. BRACE & LEATHES, 9, Chandos-street, Cavendish-square; and of PULLEN, HORNE & EVERSFIELD, Parliament-street, Westminster, and 80, Fore street, City.

Building Materials, Mincing-lane.

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on TUESDAY, MARCH 31 at TWELVE, in lots, the capital BUILDING MATERIALS, FIXTURES, and FITTINGS OF, of the spacious house and offices, No. 97, Mincing-lane: comprising excellent stock bricks, lead flat, gutters, cisterns and pipes, cast sash setters, joists and girders, bressummers and story posts, plain tiles, sashes, doors, wainscoting, marble and other chimneypieces, partition, closet fronts and interior fittings up, sound floor boards, stone paving, coping and tile, stoves, and useful fixtures. -May be viewed the day previous Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, and 30, Parliament street, Westminster.

GROSVENOR ROAD, PIMLICO. TO SCULPTORS, MASONS, BUILDERS, AND OTHERS

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION on the PREMISES Lloyd's Wharf, foot of Vauxhall Bridge, on TUESDAY, APRIL 7, at TWELVE for ONE, about 100 Blocks of MARBLE, consisting of statuary, vein, Sienna, black and gold, Bardilla, emperor's red, vert vert, Rhodonne, Sienna, Irish green blocks and black marble in blocks and slab; also about 10,000 feet of marble slab, including most of the above varieties, various Sicilian figures and monuments, groups, statuettes, &c.in the best statuary marble, chimney pieces, tables, a new travelling crane, and a wrought iron steam boiler, &c.— Approved Bills at four and six months May be viewed two days previous, and catalogues had on the premises, and of PULLEN, HORNE, & EVERSFIELD, 80, Parliament-street, Westminster, and 80, Lore-street, City

BUILDING MATERIALS, TOTTENHAM-COURT ROAD

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on THURSDAY, APRIL 9th, at TEN for ELEVEN, to clear the site for re-building, the MATERIALS and FITTINGS UP of two Houses and Shops, being Nos. 53 and 54, Tottenham-court-road: comprising capital brickwork, sound timber roofs and floors, floor-boards, partitioning, doors and sashes, slates and tiles, framing, bell and other effects.— May be viewed one day previous, and Catalogues had at the Offices of Messrs. CORDEROY, Architects, 17, King William-street, Strand; and of PULLEN, HORNE, & EVERSFIELD, 80, Parliament street, Westminster, and 80, Fore-street, City, E.C.

LOMBARD STREET.—Extensive Sale of BUILDING MATERIALS.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Royal Insurance Company to SELL by AUCTION, on the PREMISES, on FRIDAY, APRIL 10, at TWELVE, all the valuable MATERIALS of the BLOCK of BUILDINGS at the corner of Lombard street and Clement's-lane, Lombard street, 27 and 28, Lombard-street, and Nos. 1 and 2, Clement's-lane comprising a large quantity of brickwork, several tons of lead, plain tiling, useful timber, doors, sashes, plate glass shop fronts, iron columns, sashes, doors, and interior fittings, and a great variety of useful materials and fittings up -May be viewed the day previous, catalogues had of J. BELCHER, Esq., Solicitor, 3, Basinghall-street, London Bridge; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, City, E.C. and 30, Parliament street, S.W.

WESTMINSTER BRIDGE.—To Builders, Contractors, and Others.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of her Majesty's Works and Public Buildings to SELL by AUCTION, at the WESTMINSTER BRIDGE WORKS, Stangate, Lambeth, on TUESDAY, APRIL 14th, at TWELVE for ONE, about 40 BLOCKS of GRANITE, from the Cheesewring and Penryn quarries, in feet of granite curb, 5 to 12 inch terra cotta paving tiles, coping and other stone, York and other steps, cast iron sash, beach, and other piles; the materials of sheds, and other several out sheds, the two jibs, jibs ons, and chaldrons used at the effects.—May be viewed two days previous, and catalogues had at the Office of Works, &c. 15, Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 80, Parliament-street, Westminster, and 80, Fore-street, City, E.C.

WESTMINSTER BRIDGE—SURPLUS MACHINERY, PLANT, and MATERIALS.

PULLEN, HORNE, & EVERSFIELD have received instructions from the Commissioners of Her Majesty's Works and Public Buildings to SELL by AUCTION, at the Westminster Bridge Works, Stangate, Lambeth, and at the Government Yard, Battersea Fields, on MONDAY, APRIL 13, and two following days, at TWELVE for ONE each day (in consequence of the completion of the New Bridge), the very valuable SURPLUS PLANT and MACHINERY, consisting of nine efficient high pressure horizontal steam engine of 14 horse power, with 14½ inch cylinder, 2 feet 6 inches stroke, wrought iron, &c.; a tubular steam boiler, 14 feet long by 7 feet 6 inch diameter, with shafting, with tappets, cast brackets, plummer blocks, and brasses; three superior self-acting drilling machines, with bright bars, cut-head motions, &c.; an expensive sawing machine, with 15 feet bed and traversing table 9 feet by 3 feet 4 inches; a self-acting planing machine, by Gregson, capable of taking 3 feet by 2 feet 6 inches, with iron bed 22 feet 6 inches long; a 15 inch centre self-acting lathe, by Smith, Beatcock, & Tannett; two other lathes, capital screw machine, by W. Collier & Co; a powerful punching and shearing machine; a shearing machine, cut 9 inch plate, leather bands; drilling posts; four Haley's patent screw jacks; ten anvils, forges, vices, forge bellows, smiths' tools; Lloyd's patent fan; crab engine, three overhead travelling cranes, 5 ton span, with jenny equal to 15 tons; three Werrington travellers, 45 feet and 33 feet span; 3-post cranes, with crabs and chains, pile-engines and monkeys, six diving bells, bell pumps, small fire-engine, roofing tackle, contractors' rails, blocks and rails, trollies, skips, ladders, temporary offices, 50 tons of new and old iron, 30 tons of screw bolts, weighing machines, tile bolts, eight saw pits, small fire-engine, roofing tackle, contractors' rails, blocks and rails, trollies, skips, ladders, temporary offices, 50 tons of new and old iron, 30 tons of screw bolts, weighing machines, tile bolts, eight saw pits, &c.; also the materials of engineers and blacksmiths' shops, brickwork of double Lime kiln, &c. and other effects. -May be viewed on FRIDAY and SATURDAY previous, and catalogues had at the Office of Works, &c. Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, S.W. and 80, Fore-street, City.

NORTH LONDON RAILWAY.—CITY TERMINUS

MESSRS. KENNEDY & BONNY are instructed by the Directors of the North London Railway Company to SELL by AUCTION, on the PREMISES, Liverpool-street, E.C. on MONDAY and TUESDAY, MARCH 30th and 31st, at TWELVE o'clock, the first portion of the excellent MATERIALS of about eighty Houses, situate in Broad street Buildings, Peter street, and Sun-street, E.C.: comprising, capital stock bricks, stone, oak and deal timbers, great quantities of excellent panelling, cast lead cisterns, and several tons of other lead; office fittings, street and other doors, sashes, fastenings, floors, ranges, stoves, iron railings, and other valuable useful items May be viewed SATURDAY previous, and Catalogues had at the Offices, 84, Broad-street Buildings, 23, Kingsland-road, and Camden Town.

N B —The SECOND PORTION will be sold on the 7th and 8th APRIL —See future advertisements.

TO BUILDERS and OTHERS —Valuable stock of Statuary, Vein, Sicilian, and Colored MARBLE CHIMNEYPIECES.

MR. WAGSTAFF will SELL by AUCTION, on the PREMISES, 81, Chalton-street, Euston-road, on MONDAY, APRIL 13, at TWELVE, about 100 choice Trussed and Plain CHIMNEYPIECES, being the entire Stock of a Marble Mason, of excellent quality and in great variety On view Saturday prior.—Auctioneer's Offices, 176, Upper-street, Islington.

TO IRONMONGERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Mr. Robinson to SELL by AUCTION, on WEDNESDAY, APRIL 8th, 1863, at EIGHT o'clay, on the PREMISES, No. 16, College-hill, in lots, without reserve, the premises being let, the remaining STOCK of IRONMONGERY, 100 bags wrought and cut nails, hobs, bills and brads, 20 pairs B.C. arm moulds, 3 pairs patent cart arms, 10 dozen spades and shovels, 10 dozen fry-pans, hollow ware, ship and house anchors, bits, locks, latches, shutter bars, door springs, hinges, bolts, screws, bracket bell works, iron furniture, fireoils, hay and chaff knives, scythes, ladles, counting house furniture, capital iron safe, desks, counters shelves, weighing machine, scales and weights, and other effects —To be viewed on MONDAY prior to the Sale, when Catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

CITY OF LONDON. — Valuable Freehold Property, offering a fine Site for Warehouses or other Buildings, situate within a few minutes' walk of the Corn and Coal Markets.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on THURSDAY, APRIL 9, at TWELVE, in one lot, THREE brick-built FREEHOLD HOUSES, with yards and premises in the rear, known as Nos. 3, 4, and 5, Garden-street, within a few paces of Tower hill, in the direct thoroughfare to the docks The property is at present let to respectable yearly tenants at very low rent of rentals, amounting to 107 per annum. It possesses a frontage of about 58 feet by a depth of about 54 feet, and offers an important building site.—Particulars of T. S. ASHWIN, Esq., Solicitor, 4, Garden court, Temple; and of the Auctioneers, 81, Cheapside.

FOREST HILL.—Extensive PREMISES, close to the Station, now used as an Engineer's, but equally suitable for a Builder, or any Manufacturing purpose

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, APRIL 28th, at TWELVE, the capital FREEHOLD PREMISES, known as the Forest-hill Works, situate close to the goods and passenger stations at Forest-hill. The Premises comprise a dwelling-house of five rooms, store room or office, smith's shop and foundry, with fan-blast forge, and furnace below for brass casting; large press-room, engine-house with working gear, lathe room, and a large yard, with cupola for melting. The Premises are occupied as an engineer's foundry and manufactory, for which purpose they were expressly built They are fitted with plant of the best description, including a six horse power steam engine, lathes, &c. all by the best makers, modern, and in excellent condition (which can be purchased or not, as desired). Lot 2 will comprise a plot of Freehold Building Land, adjoining lot 1, and having a frontage of about 45 feet 6 inches to the main road from Forest hill Station to Lowerwood Sydenham, affording an eligible site for a pair of villas.—Particulars of J. HENRY JOHNSON, Esq., Solicitor, 47, Lincoln's-inn-fields; and of the Auctioneers, 80, Cheapside.

PECKHAM, opposite the Police Station, near Rye-lane. - Loose Building Materials.

MR. C. F. SMYRK is instructed to SELL by AUCTION, as above, on MONDAY, MARCH 30th, at TWELVE, in lots, the sound MATERIALS of SEVERAL HOUSES, SHEDS, and OUTBUILDINGS, taken down for improvements.—On view and catalogues two days prior, on the Premises, of Mr C. F. SMYRK, Auctioneer, Surveyor, and Valuer, Newington-place, Kennington-road, S. or forwarded per post.

TO BRICKMAKERS, BUILDERS, AND OTHERS

MR. J. Y. GIBBS is favoured with instructions from the Proprietors, who are giving up the business, in consequence of the lease expiring, to SELL by AUCTION, on WEDNESDAY and THURSDAY, APRIL 1 and 2, 1863, at BELVEDERE, Kent, about two miles from Erith, and 22 from London, the BRICK FIELD, Clay-street, and Gault-road pool, Bromley, Middlesex, about Two Millions of capital STOCK and PLACE BRICKS, 30,000 feet of Dantzic Timber, Joists, and useful Scantling, 250 squares of Flooring, and 500 feet of Elm Boards, with steam engine and boiler, 7 horse power, for pugging, &c. &c.; together with the various PLANT of a BRICKMAKER; consisting of wash mills, chalk mills, pug mill, pumps, barrows, wheeling planks, narrows, dobbin-carts, harness, and numerous other effects. May be viewed two days before the Sale; and catalogues had at the Bull Inn, Erith; Bower and Hope, Millwall, Poplar; The Saracen's Head, Greenwich; or on the Ground; and at the Auctioneer's Offices, 61 and 83, High street, Poplar.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, BROMPTON, S.W.

Notice of PRIVATE SALE of about 200 MARBLE CHIMNEYPIECES, to be sold at very low prices to make room for purchases at the Brompton roads, to the following Marbles, viz —Statuary, Rouge Royal, Black and Gold, Black, Sienna, Bardilla, Dove, California, Sienna, Pyrenean, Griotte, Belgian, Sudbury, Irish Green, Blue Belge, Emperor's Red, Irish Fossil, Campaine Melange, Vein, Sicilian, and various excellent specimens of British Marbles, numbered from 1 to 200; also 25 pieces of Paving, of the elegancy of design, workmanship, and quality, not to be surpassed in England. Purchases to the extent of 20l and 50l approved bills of three and four months will be taken at 2½ per cent. each. Purchasers from the country will be supplied with packing cases, and the same packed and delivered to any of the metropolitan stations for 1 per cent. on the amount purchased.

TIMBER.—To TIMBER MERCHANTS, BOATBUILDERS, and SHIPBUILDERS.—TO BE SOLD by AUCTION, by

MR. LANCASTER, at the house of Mr. Chattaun, the CROWN INN, in Rotherham, on THURSDAY, the 9th day of APRIL next, at THREE o'clock in the afternoon, subject to such conditions as shall then be declared, the following Standing TIMBER and OTHER TREES —

Lot 1.—In Ecclesall Wood, near Sheffield; 193 numbered oak trees, 808 oak poles, 14 other poles, 24 ash rails, with the bark, cordwood, and underwood

Lot 2 —In Edlington Wood, near Doncaster; 261 numbered oak trees, 4 numbered ash trees 2 numbered elm trees, 163 oak poles, 84 ash poles, 29 elm poles, 93 oak rails, with the bark, cordwood, and underwood

Lot 3 —In Tinsley Park, near Sheffield; 40 numbered oak trees, 407 oak poles, 18 other poles, 296 oak poles, with the bark, cordwood, and underwood

Lot 4 —In Scholes Coppice Wood, in the township of Kimberworth, near Rotherham :—

Lot 4 —100 Oak Trees of large size, numbered from 1 to 100, with the tops and bark.

Lot 5.—125 Oak Trees, and 2 Beech Trees, of large size, numbered from 101 to 227, with the tops and bark.

Lot 6 —146 Oak Trees of large size, numbered from 228 to 330, with the tops and bark.

All the trees set for sale in Scholes Coppice Wood are marked and numbered with white paint.

Mr. SAMUEL SMITH, the Woodman, will show the timber in Ecclesall Wood; Mr. FRANCIS ATKIN, the Woodman, that in Edlington Wood; Mr. JOHN ATKIN, the Woodman, that in Tinsley Park: and Mr. COBBAN will show the trees in Scholes Coppice Wood which are well adapted for naval purposes. This wood is at a convenient distance from the Masbrough station, on the Midland Railway, and from the Grange lane Station, on the South Yorkshire Railway —Further particulars may be had on application to Mr. NEWMAN, of Darley Hall, near Barnsley; Messrs. E. NEWMAN & SONS, of Barnsley; Mr. JOHN COBBAN, of Wentworth, or of Mr. LANCASTER, of Barnsley, Auctioneer.

N.B.—The sale will commence precisely at THREE o'clock.

Darley Hall, near Barnsley, March 2nd, 1863.

ADDISCOMBE, CROYDON.—Excellent Building Materials.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the town of Croydon, on MONDAY, MARCH 30th, 1863, at TWELVE for ONE o'clock, the fourteenth portion of the sound BUILDING MATERIALS of some of the buildings belonging to the Addiscombe College, consisting of about 100,000 stock bricks, a quantity of bats, stone window sills, &c. doors, windows, joists, beams, flooring and roofing boards, &c. May be viewed, the materials prior and on the day of sale; and catalogues may be obtained of the Foreman, on the Estate; and of the Auctioneer, 14, Moorgate-street, City, E.C.

FREEHOLD GROUND between the Forest Hill and Sydenham Stations TO BE LET on long Building Leases.—For plan and particulars, apply to C. F. REEKS, Esq. Architect, 12, Middle Scotland-yard, S.W.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LENT for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 400 yards only from the Estate, and the City may be reached in twenty-five minutes The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Kingston; some very eligible SITES in the Grove-road, Mile-end, a few of which are adapted for shops, and large and very CHEAP PLOTS TO LET, at Ealing.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

SUTTON, near the Station. —PLOTS of FREEHOLD BUILDING LAND FOR SALE. Land-tax redeemed, conveyance free. Also, PLOTS TO BE LET, on a Building Lease, for ninety-nine years —For plans, &c. apply by post, pre-paid, to Mr. TRIBE, Builder, Sutton, Surrey, S.

EXTENSIVE MANUFACTURING PREMISES, SOUTHWARK —TO BE LET on LEASE, extensive MANUFACTURING PREMISES, occupying a very large area situate in the Borough-road, Southwark. The buildings, which are very substantially erected, comprise a very large factory of three lofty floors, with basement, a smaller factory of four floors adjoining, a very spacious and lofty ground-floor factory, yard, a capital family residence and offices, two gateway entrances, and three dwelling-houses, fronting the Borough-road, Nos. 77, 78, and 79, which can be readily let off if desired.—For further particulars apply on the Premises; or to Messrs. FULLER & HORSEY, Billiter-street, Fenchurch-street, E.C.

PHILBROKE ESTATE, at Leytonstone, on the Woodford and Loughton Railway, twenty minutes from Fenchurch and Bishopsgate-streets. This valuable FREEHOLD ESTATE (land-tax redeemed), surrounding the Station, healthy locality, gravelly soil, excellent drainage, water and gas laid down, roads made, and can be dug on the estate, it is proposed TO LET in Plots suitable for building detached and semi-detached villas. Repeated applications have been made for houses in this neighbourhood. For terms, apply to Mr. ATHEY, at the Surveyor's Office, Philbroke Estate, Leytonstone, Essex.

TO BUILDERS, &c.—A PLOT of FREEHOLD BUILDING LAND for SALE, near the New Church, Cattenham Park, Wimbledon; also a PLOT adjoining the Dunsford Villas, fronting the Merton-road, Wandsworth, Surrey, containing nearly one acre each —For plans, &c apply to Mr. W. C. POOLE, 11, Great Smith-street, Westminster, S.W.

EXTENSIVE MANUFACTURING PREMISES, Whitechapel —TO BE LET or SOLD, together or separately, the extensive and important range of PREMISES, recently occupied as the Whitechapel Distillery, with land adjoining if required. The buildings, many of which are of great extent, are most substantially erected, principally in 1845, and are very conveniently arranged for almost any manufacturing purpose. There are three distinct gateway entrances, and the out buildings on all sides are surrounded with paved yards. The total area is about three acres, exclusive of six acres of accumulation land, which may be had if required. There is an Artesian well which affords a constant and unlimited supply of pure water —Further particulars, and cards to view, may be had of Messrs. TENNANT & HARLEY, 3, Union, Raymond's-buildings, Gray's inn; and of Messrs. FULLER & HORSEY, Billiter-street, E.C. where plans of the property may be seen.

FREEHOLD GROUND TO BE LET, term ninety-nine years.—A most desirable frontage of about 160 feet, for good shops, in a first class situation, near to the Lark Hall Tavern, Clapham, at a low ground rent —Apply to Mr J. THOMAS, Architect and Surveyor, 10, Denmark-street, Camberwell.

SAINT HELEN'S, LANCASHIRE.—TO BE LET, on Lease, the extensive MANUFACTURING PREMISES known as the Ravenhead Copper Smelting Works, situate at St. Helen's, with a wharf, and a branch of the St. Helen's Railway running through the property. The entire site is about 20 acres, of which about 5 acres are occupied by the works, the remainder being available for future use The buildings comprise a series of very substantially erected, solid, and lofty ground-floor factories, arranged for the purposes of copper and silver smelting works, but they would be suitable for many other large manufacturing establishments, as they possess the advantages of direct communication by rail or water carriage with all parts of the kingdom. Coals can be obtained in this neighbourhood at an almost nominal price, and labour is cheap and abundant —For particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.; and Messrs. HARRISON & FINCH, 2, Gray's inn, London.

LARGE MANSION WANTED, to Rent or Purchase, containing from 30 to 40 rooms, surrounded by a few acres of ground, within 10 miles of London, and near a railway station.—Apply, stating terms, to A. A. care of Davies & Co. Advertising Agents, Finch-lane, Cornhill.

TO BUILDERS and OTHERS.—TO BE LET, several PLOTS of BUILDING LAND, situate in the best part of Stoke Newington, where Leases are in great demand. Bricks supplied on the estate at a low price. Sand may be raised on the ground for building purposes.—Apply to Mr ROBDA, at the Estate Office, Rowsome-road, Church-street, Stoke Newington.

GREENWICH. —TO BE LET, by the Drapers' Company, BUILDING GROUND and HOUSES situate near the Railway Terminus, at Greenwich —Further particulars may be had on application to Mr. at the Clerk's Office, Drapers' Hall, Throgmorton street; or of Mr. HERBERT WILLIAMS, Surveyor, 62, Old Broad-street.

BUILDING LAND TO BE LET, Saville-row, Walworth, Surrey, within five minutes' walk of the Elephant and Castle, contiguous to the Chatham and Dover Railway station, and abutting on the high road leading from London to Camberwell —The Trustees of the late Mr. Saville are prepared to receive PROPOSALS for the whole or any part of their ESTATE, lying between Saville-row and Gloucester-row, for the ERECTION of DWELLING-HOUSES, SHOPS, or other BUILDINGS, on a building lease or leases, for eighty years, land-tax redeemed The estate having been laid out in sewers in the most approved and modern manner, and drained, so that the estate is now ready for immediate building operations —For part plans, in lots of Mr. W. M. TOWLE, Solicitor and Conveyancer, Falmouth-road, London Bridge; and at the Office of Mr. RICHARD SUTER, Architect and Surveyor, 23, Fenchurch street, where plans and conditions may be seen.

ELIGIBLE BUILDING LAND TO LET, on 99 years' Lease; some in Kentish Town, close to intended line of Midland Railway; other close to a railway station seven miles from town, cash Address Apply to THOMAS NUNN & SONS, 21, Lamb's Conduit street, W.C.

LAYHAM, near HADLEIGH, SUFFOLK. TO BE SOLD by PRIVATE CONTRACT, a BRICK KILN in full trade, with an unlimited supply of capital brick and tile earth, 8 acres of productive arable and 4a ditto of superior pasture land, with barn, shed, and two cottages, all in good repair, lying adjoining the high road, and within 1¼ mile of the railway station. To brickmakers desirous of a profitable business the above presents an opportunity not often offered Further particulars can be obtained on application to Messrs NEWMAN & HARPER, Solicitors; or to Mr. JOHN BOWLER, Auctioneer, all of Hadleigh.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 an 175, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No 1, York-street, in the Parish of St Paul, Covent garden, both in the County of Middlesex.—Saturday, March 28, 1863.

The Builder

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BY Order of the Secretary of State for India in Council. Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1863, be open to public competition.

A Competitive Examination will, accordingly, be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which candidates will be admitted to the Examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter. (Signed) T. G. BARING.

India Office, 28th June, 1862.

N.B.—All communications to be addressed to the "Under Secretary of State for India."

CAUTION.—To BANKERS, BILL BROKERS, and OTHERS.—Whereas Bills of Exchange or Promissory Notes have been and may be put in circulation by Mr Daniel Pearson, purporting to be accepted or made by Messrs "Lloyd, Pearson, & Lloyds," or "The Madeley Coal and Iron Company," or in the name of Madeley, in Staffordshire And whereas the Partnership between Messrs. Lloyds and Mr. Daniel Pearson has been duly dissolved, and an Injunction has been granted by the Court of Chancery to restrain the said Daniel Pearson from drawing, accepting, endorsing, giving, or negotiating any Bill of Exchange or Promissory Note in the name of "The Madeley Coal and Iron Company," or in the name of "Lloyd, Pearson, & Lloyds," or in any other name whereby the Messrs. Lloyds might be rendered liable All persons are therefore cautioned against dealing with any such Bills of Exchange or Promissory Notes; and it is requested that any attempts to negotiate the same may be immediately given to Messrs. R. & S. MULLENS, Solicitors, No. 7, Poultry, London, E.C.

London, 18th March, 1863.

ROYAL SCHOOL of MINES.—Notice.—The remainder of the Course of LECTURES on GEOLOGY (twenty-four), will be given by Mr. J. BEETE JUKES, M.A., F.R.S., on MONDAYS, TUESDAYS, THURSDAYS, and FRIDAYS, at HALF-PAST ONE, commencing on the 14th APRIL. During the Course Lectures will be given in the field. Fee 2*l*.

TRENHAM REEKS, Registrar.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON.

On TUESDAY Evening next, at 7.30, a LECTURE will be delivered in the THEATRE, on Mediæval Studies in Palestine, by G. J. Wigley, Esq.

PRIZES of 20*l*. and 5*l*. for Wood Carving, and of 3*l*. and 2*l*. 5*s*. for Coloured Decoration, are now offered to artist workmen, who may obtain full particulars, and also cards for the Lectures, of the Attendant in the Museum; at the Office of "The Builder;" or by letter to the Hon. Sec. at 13, Stratford-place, W.

A. J. B. BERESFORD HOPE, President.
GEORGE GILBERT SCOTT, Treasurer
JOSEPH CLARKE, Hon. Sec.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, W. NOW OPEN, from 10 till 6 Admission, One Shilling. Season Tickets, Half a Crown, admitting Mimes and to all the Lectures. First Lecture, by Professor KERR, on TUESDAY EVENING, MAY 5th.

JAS. FERGUSSON, F.R.A.S. } Hon Secs.
JAS. FERGUSON, F.R.I.B.A. }

Also, in conjunction with the above, the Exhibition of the Society of Sculptors of England. MORETON EDWARDS, Hon. Sec.

ARCHITECTS' BENEVOLENT SOCIETY.

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St Helen's-place; or by Mr. ALFRED HILL, 26, Tonbridge-street, Euston-road, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

ROYAL INSTITUTE of BRITISH ARCHITECTS.—The Committee appointed by the Council to consider the PROCESS of MANUFACTURING ARTIFICIAL STONE, will be happy to receive Prospectuses and other information thereon from Patentees, on or before the 18th APRIL, 1863. The question of the Incuration of Stone, or the Manufacture of Cements, will not form the subject of the present enquiry.

J. P. SEDDON, } Hon.
C. F. HAYWARD, } Secretaries.

9, Conduit-street, 2nd April, 1863.

THE METROPOLITAN BUILDING ACT, 1855, Section 33.—The INSTITUTE OF BRITISH ARCHITECTS hereby give notice, that an EXAMINATION of persons desirous of obtaining a Certificate of Competency to perform the duties of DISTRICT SURVEYOR, will take place at the ROOMS of the INSTITUTE, No. 9, Conduit-street, Hanover-square, W., on FRIDAY, the 24th day of APRIL, at TEN o'clock in the forenoon. Persons desirous to be examined must, on or before TUESDAY, the 14th day of APRIL, send an APPLICATION, which must be accompanied by a statement, according to a form to be previously obtained at the Rooms of the Institute.

JOHN P SEDDON. } Hon
CHAS FORSTER HAYWARD, } Secretaries.

Conduit street, 30th March, 1863.

REIGATE LOAN EXHIBITION.—The Committee for carrying out this undertaking beg to announce that this Exhibition will commence on EASTER MONDAY, APRIL 6th, and continue open during the week. The articles lent by the various Contributors include Pictures, both by ancient and modern masters, Sculpture, Bronzes, Enamels, Medallions by Wedgwood, Antiquities, Rare Specimens of Natural History, MSS., Missals, Valuable Books, and other objects of interest. The Exhibition will be held in the PUBLIC HALL, and Reigate is easily accessible from London, and the South-east Coasts. Detailed particulars of the arrangements are given in the programmes.

JOHN LEES, Hon. Sec

EXHIBITION of the SOCIETY of BRITISH ARTISTS, Incorporated by Royal Charter.—The FORTIETH ANNUAL EXHIBITION of the Society is NOW OPEN, from NINE a.m. until Dusk.—Admittance, 1*s*.

Suffolk-street, Pall-mall East. THOS. ROBERTS, Secretary

PRACTICAL GEOLOGY, KING'S COLLEGE, LONDON.—Professor TENNANT, F.G.S. will commence a COURSE of LECTURES, on WEDNESDAY, APRIL 15, at NINE a.m. having especial reference to the application of GEOLOGY to ENGINEERING, MINING, ARCHITECTURE, and AGRICULTURE.—The Lectures will be continued on each succeeding Friday and Wednesday, at the same hour. Fee, 1*l*. 11*s*. 6*d*.

R. W. JELF, D.D. Principal.

THE EXHIBITION of ALUMINIUM and ALUMINIUM BRONZE will OPEN APRIL 1st, 1863. 2,000 SPECIMENS illustrating the application Ornamental and Useful, of these interesting Metals are NOW ON VIEW at MAPPIN BROTHERS' New Rooms, 222, Regent street. Admission by Card.

ARCHITECTURAL COLOURING.—To ARCHITECTS DESIGNS intended for EXHIBITION or COMPETITION, PREPARED and COLOURED, by Mr. BURRIDGE, 28, Craven-street, Strand, W.C.

BILLING'S PATENTS. CHIMNEY TERMINALS, THROAT VALVES.

NOTICE to ARCHITECTS.—The Proprietors of the late Mr. Billing's Patents have secured the services of Mr. H. H. COLLINS, M.I.B.A. of No. 10, Poultry, E.C. as the Consulting Architect, from whom full particulars and the reduced prices may be obtained; or from the Manager, Mr TYLER, 12, Abingdon-street, Westminster, S.W.

COMPETITIONS.

TO STONE CARVERS.—Drawing Competitions.—Open to all of the above profession.—The Society of Ornamental Sculptors offer premiums for designs of a Capital in Natural Foliage conventionally treated. The dimensions of such to be on a ten-inch column.—1st prize, 2*l*.; 2nd, 1*l*. 5*s*.; 3rd, 15*s*. To be sent in under motto, accompanied by sealed letters, stating name and address, to No. 9, Bedwell street, corner of Esher street, Westminster, S.W. JAMES GARDNER, Secretary

N.B. No drawing received after the 1st of JUNE.

TO SCULPTORS.—The Executive Committee of the Oastler Monument will be glad to receive DESIGNS and PROPOSALS from sculptors, for a MONUMENT to the late Richard Oastler, and proposes to be erected in Bradford. The statue is to be placed upon a pedestal, in a speaking attitude, and to have, at the base, small figures of flying infants supporting the great philanthropist to receive their gratuities. The cost of the Statue, which is expected to be colossal, is not to exceed 1,000*l*. and the design not approved would have the preference of the committee. The committee are open to receive a DESIGN for a FIGURE, in marble, under a Gothic canopy, with groups of factory children in basso-relievo on the pedestal.—Communications may be addressed to W. WALKER, Esq. Bolling Hall, Bradford, the Chairman of the Executive Committee.

Bradford, March 4, 1863

India Office, 31st March, 1863.

DESIGN for COMPETITION. EUROPEAN GENERAL HOSPITAL.

The Bombay Government are prepared to receive DESIGNS for a new EUROPEAN GENERAL HOSPITAL, to be built on the Esplanade, Bombay.

Lithographed copies of the general plan of the accommodation required, with a schedule of measurements according to the arrangements of the building, which have been generally approved by the Medical Authorities and Government, together with plans of the proposed site, can be had on application at the Office of the Superintending Engineer, Presidency Circle, Bombay, and at the India Office, London.

The rates on which the work is to be calculated will also be furnished at those Offices, and the gross estimate is not to exceed Rupees 3,80,000.

Complete plans and estimates are also required for Residencies for the Surgeon and House Surgeon, and for Quarters for Eight Sick Officers, to be arranged in two or three blocks distinct from, but in the immediate vicinity of the main Hospital.

The designs of these buildings should harmonize in character and style with the main building.

The estimate for these, calculated on the same rates, should not exceed 1,35,000 Rupees.

There must be ample provision for through ventilation, which is obtained in Bombay by a sea breeze blowing generally from W. to S.W. during the months from May till September, and from various points from N.W. by N. to S.W. by S. during the rest of the year; provision should be made to exclude the N. and E. winds, which blow most frequently by night.

The walls must be protected as far as possible from the direct rays of the sun.

The designs are unrestricted as to style, provided it is suited to the climate and to the use to which the building is to be devoted, and as to materials, provided that they are procurable in Bombay at prices which will admit of their being used in the building as designed.

The designs must include—

1 Ground plan and plan of each story.

2 Elevation of each of the four faces.

The plans and elevations to be on a scale of not less than 10 feet to an inch; specification and estimate with sections, &c. in sufficient detail to enable the judges to decide whether the plan can be carried out within the sum allowed.

Prizes will be awarded for the two best designs Rs 2,500 for the best, and Rs 1,500 for the next in merit, provided the design fairly fulfils the above conditions.

If the best designs, in an artistic point of view, fail to fulfil any one of the above essential conditions, the Judges will be empowered to reduce or withhold the prize; and no prize will be awarded to a design merely because it fulfils the conditions, if otherwise conspicuously deficient in artistic merit.

The drawings and estimates, &c. should be sent in on or before SEPTEMBER 1st, in the usual manner with mottos, and envelopes containing the name and address of the artist, to the Superintending Engineer Presidency Circle, by whom the envelopes will be opened, in presence of the Chief Engineer and Secretary to Government Public Works Department, after the prizes have been adjudged.

All the designs received will be exhibited in the Town Hall, Bombay, for one month before the Judges make their awards, and, unless claimed and removed by the authors, for one month afterwards.

The envelope containing the name should state the author's wish whether the name should be appended to the design when exhibited after the adjudication.

The prizes will be adjudged by the Executive Committee of Port Improvement Commission and the Engineers of the Great Indian Peninsular and Bombay and Baroda Railways, who will be asked to aid Government in the adjudication.

In the event of any design being finally adopted by Government for execution without further modification than is made by the designer at the instance of Government, the prize will be made up to one per cent. on the amount of the estimate as revised by the Executive Committee.

It will be optional to Government to avail themselves of the services of the author in altering or executing any design which gains a prize or premium, any length which prize or premium is awarded will retain the absolute property of Government.

Unsuccessful designs will be returned to the authors if claimed by them, or by their authorized agents, within one month from the period of adjudication, during which period, if not claimed, they will remain exhibited in the Town Hall, Bombay

By order of his Excellency the Governor in Council,
H. RIVERS, Lieut. Colonel, R.E.
Secretary to Government.

Bombay Castle, 12th February, 1863.

CONTRACTS.

EXTENSION of TIME for RECEIVING TENDERS.—To BUILDERS.—Persons desirous of TENDERING for the ERECTION of a MANSION, at Saltburn by the-Sea, may inspect plans, specifications, &c. and obtain bills of quantities, at the Office of Mr. CUTHBERT BRODRICK, 2, Park-place, Leeds, on and after MONDAY, APRIL the 6th. Bills of quantities may also be obtained at the Office of Mr. BALAM, surveyor, 10, Buckingham street, Strand, London, W.C. Tenders are to be delivered to the Architect, to the above address, not later than MONDAY, APRIL the 13th. The lowest Tender is not necessarily accepted. Saltburn is about five miles from Redcar, in the North Riding of Yorkshire.

14, Buckingham-street, Strand, London, March 11, 1863.

STOCKTON and DARLINGTON RAILWAY.—To BUILDERS and GAS CONTRACTORS.—The Stockton and Darlington Railway Company will receive TENDERS for the CONSTRUCTION of GASWORKS for the Company, including the excavations for, and erection of retort house, chimney, gasholder-tank, and the laying on of the mains. Plans and specifications may be seen on application at Mr. JOHN DUNN'S Office, Bath street, Middlesbrough. Tenders to be sent to the Secretary's Office, Darlington, on or before THURSDAY, the 9th day of APRIL, 1863. The Company do not bind themselves to accept the lowest or any Tender.

THOS. MACNAY, Secretary.

Darlington, March 21st, 1863

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS, STONEMASONS, and OTHERS.—RE-TORATION of SAINT ANDREW'S HALL, Norwich. The Town Council of the City of Norwich are prepared to receive separate TENDERS for the undermentioned WORKS, which are required to be undertaken and completed within a limited time, under the direction of Mr. THOMAS D. BARRY, City Surveyor :—

No. 1 Taking down the east wall of nave, and the erection of new stone in its and such therein. Removing paint from the stonework, and thoroughly scraping and restoring the whole of the columns and responds, as well as the arches, caps, and bases of nave and the shafts clerestory.

No. 2.—Taking down, removing, and altering orchestra, with platform for organ and making boarded inclosure at back of organ.

No. 3.—Taking down the low buildings at west end, and the whole of the west wall and buttresses of the hall, including the rebuilding of the west end and south porch.

No. 4.—Restoring, refacing, and repairing the north and south walls and buttresses.

No. 5.—Reading new committee rooms and covered corridor.

No. 6.—Restoring the whole of the ground floor windows.

No. 7.—Plastering, &c., to the interior of hall.

No. 8.—Renewing the whole of the present roofs, and fixing and complete new roofs in lieu thereof.

The plans and specifications for the several works may be seen and further particulars obtained at the City Surveyor's Office, 24, Castle Meadow, Norwich, on and after TUESDAY next, the 31st instant. Sealed, endorsed "Restoration of St. Andrew's Hall," and describing the contract by numbers, as above set forth, to be sent to the Office, Guildhall, not later than ELEVEN o'clock in the forenoon of THURSDAY, the 9th of APRIL next.—By order,

W. L. MENDHAM Town Clerk.

Guildhall, Norwich, 26th March, 1863.

KINGSTON-UPON-HULL LOCAL BOARD of HEALTH.—To CONTRACTORS.—The Local Board of Health of Kingston-upon-Hull are prepared to receive TENDERS for the OUTFALL DRAINAGE of the WEST DISTRICT of the Borough of Hull, comprising the construction of upwards of four miles of brick sewers and other works in connection therewith. Trial shafts have been sunk on the proposed lines of sewers, the results of which may be seen, with the plans of the intended works, on application to Mr. J. FOX SHARP, C.E., Surveyor to the Local Board, at his Office, Scale-gates-hall, Hull, where also copies of the specification, forms of tender, and bills of quantities may be obtained on payment of two guineas (to be returned to parties tendering in accordance with the specification), on and after THURSDAY, the 26th inst. Sealed Tenders, endorsed "West District Drainage," addressed to the Chairman of the Committee of Works, Scale-gate hall, Hull, must be forwarded on or before THURSDAY, 30th APRIL, 1863. The Board do not bind themselves to accept the lowest or any Tender.—By order,

Hull, April 2nd, 1863. C. S. TODD, Clerk to the Board.

METROPOLITAN IMPROVEMENTS.—BUILDING LAND in the Parish of Mile-end Old Town.—The Metropolitan Board of Works hereby give Notice, that they will meet at their Office in Spring-gardens, Charing-cross, on WEDNESDAY, the 15th day of MAY now next, at TWELVE o'clock at noon precisely, and will be prepared to open TENDERS by parties who may be willing to take on Building Leases all, or any, certain PLOTS of GROUND situate on the east and west sides of the new street leading from Limehouse to the Bow road, and numbered from No. 10 to 89, inclusive, on the plan of the street—Particulars, conditions, and form of Tender, and every information, may be obtained in the Superintending Architect's Office, at the Office of the Board, any day between the hours of NINE in and FOUR p.m. The Tenders must be on the printed forms supplied at the Office of the Board, and be delivered, under sealed covers, endorsed "Tender for Land at Milend," and addressed to the Clerk of the Board, at the Office of the Metropolitan Board of Works, Spring-gardens, S.W. on or before TWELVE o'clock at noon, on WEDNESDAY, the 13th day of MAY now next, and no TENDER will be received after that hour. The Board do not bind themselves to accept the highest or any Tender.

JOHN POLLARD, Clerk of the Board.

Spring-gardens Charing cross, March 28, 1863.

ST. MARYLEBONE, MARCH 26th, 1863. TO SCAVENGERS, CARTERS, &c.—CONTRACTS for HORSES and SLOP-CARTS.—The Vestry of the Parish of St. Marylebone, in the county of Middlesex, hereby give notice, that they will meet in the Board-room of the Court house of the said parish, on THURSDAY, the 9th of APRIL, 1863, at ELEVEN o'clock in the forenoon, to receive TENDERS from persons willing to CONTRACT for CARTING AWAY the SLOP and SWEEPING from the streets of the said parish. The contractor finding and providing horses, carts, drivers, fillers, and slop-shed, and all other matters that may be requisite except sweepers, or to CONTRACT for the SUPPLY of HORSES and DRIVERS only to the PARISH SLOP-CARTS at per day; and also for the SUPPLY of SLOP-CARTS with HORSES and DRIVERS at per day, the vestry finding their own gear. The term of each tract to be one year from the said 9th day of APRIL, 1863. The parish is divided into districts for the purpose of cleansing particulars of which, and also the form of obligation, together with form of Tender, may be had of the Vestry's Surveyor, Mr. ROBERT SHACE, at his daily attendance at the Court house, or from TWELVE TO ONE o'clock. All Tenders for the whole or any district of the parish to be upon the printed forms only, and to be delivered to the Vestry Clerk, sealed, before ELEVEN o'clock in the forenoon of the said 9th day of APRIL, 1863. No Tender will be received after that hour, nor will any Tender be received unless it contains inclosed a 10l. Bank of England note as an evidence that the same is made bonâ fide, which will be returned to each person whose Tender is not accepted, but will be retained in the other case until the contract is duly signed, such 10l. to be forfeited to the Vestry if the Tender is not carried out, whether from mistake or otherwise. Satisfactory security will be required for the performance of the contract, and the contractor to pay six guineas as the expense of the bond and contract. The Vestry will require the parties tendering, or some persons on their behalf, to be in attendance at the time of opening the Tenders. The Vestry do not jedge themselves to accept any Tender, or any of the Tenders.—By order,

W. R. GREENWELL, Vestry Clerk.

Court-house, St. Marylebone, March 26, 1863.

TO BUILDERS.—TENDERS are required for the ERECTION of TWELVE HOUSES, in Devonshire and Stanley Roads, Hackney, for the Temperance Permanent Land and Building Society. The plans may be inspected, and a copy of the specification (for 5s.) obtained at the Offices of the Society, between the hours of TEN and FOUR o'clock, on and after APRIL 7th, up to APRIL 21st. Tenders, in the forms attached to the specifications, are to be left with or sent to the Secretary, sealed, and marked "Tenders for Houses at Hackney," at or before FOUR o'clock on TUESDAY, APRIL 21st. References and security may be required, and the lowest or any Tender will not necessarily be accepted.

HENRY J. PHILLIPS, Secretary.

Offices, 34, Moorgate-street, London.

TO BUILDERS, &c.—Notice is hereby given, that plans and specifications for BUILDING NEW SCHOOLS, at Little Heath, Aldborough Hatch, and a PARSONAGE HOUSE at Aldborough Hatch, near Ilford, in the county of Essex, will be lying at 5, South Park, Ilford, E. on MONDAY, the 13th of APRIL, and five following days, and all persons desirous of CONTRACTING for the Works must send in sealed Tenders, addressed to the Rev. ERSKINE KNOLLYS, Ilford, E. on or before APRIL 25th. The Contractors must be prepared to enter into the usual legal bond, with two good and approved sureties, for the due fulfilment of their Contract. Neither the lowest nor any Tender will necessarily be received

TO BUILDERS.—TENDERS are required for the ERECTION of a small CHAPEL at Belvedere, Erith, Kent. Drawings and specification may be seen, and all particulars obtained, at the Office of the Architects, WILLIAM & HABERSHON & PITE, 38, Bloomsbury square, W.C. The lowest or any Tender will not necessarily be accepted.

TO BUILDERS.—Builders willing to CONTRACT for the erection of a HOUSE and STABLING, in the Bow-road, E. may inspect the Drawings and specifications at the offices of Messrs. HAMMACK & LAMBERT, 29, Bishopsgate street, City. The contractor will be required to provide two sureties for the due performance of the works, and to pay the expenses of the Bond and Contract. TENDERS to be delivered on THURSDAY, the 9th instant. The Architects do not bind themselves to accept the lowest or any Tender,

TO BUILDERS. — Cornwall. — Penryn, Kegillack.—Builders desirous of sending in TENDERS for the ERECTION of a FARM-HOUSE and HOMESTEAD at Higher Kegillack, about two miles from Falmouth, the property of the Ecclesiastical Commissioners for England, can inspect the drawings and specification on application to Mr. PETTYGUTTE, the Tenant, at Higher Kegillack, or to Mr. ROWE, Truroseral, Penryn, on and after THURSDAY, APRIL 2nd. Tenders to be sent in under cover to Messrs. CLUTTON, Westhall-place, Westminster, S.W. on or before MONDAY, the 20th day of APRIL. The Commissioners will not bind themselves to accept the lowest, or any Tender

TO CONTRACTORS.—ROAD MAKING. TENDERS are required to be furnished for the CONSTRUCTION of a ROAD in the Town of Teddington, in the County of Middlesex. Total length, about 17 chains, more or less. Plans, sections, and specification of the required road can be seen on application to WILLIAM ALLAM, Manor House, Teddington, to whom sealed Tenders must be addressed, on or before the 11th day of April, 1863.

London, 4th April, 1863

TO CHURCH CLOCK MANUFACTURERS.—TENDERS.—The Rotherhithe Christ Church Committee invite TENDERS for a CHURCH CLOCK of the best description, with all the latest improvements. The Tenders, accompanied with a full descriptive specification, to be delivered not later than the 17th of APRIL, 1863, to Mr. SPURGEON, Churchwarden, 75, Paradise street, Rotherhithe, S.E. of whom the particulars can be obtained. The Committee do not bind themselves to accept the lowest or any Tender

BIDEFORD BRIDGE. — NOTICE to CONTRACTORS. The Committee of the Bridge Feoffees and Town Council for the long Bridge at Bideford, North Devon, hereby give Notice that TENDERS will be received for the WIDENING of the said BRIDGE, the plans, sections, and specifications for which can be referred to at the Office of THOS. PAGE, Esq. Civil Engineer, 3, Royal terrace, Adelphi, London, from the 2nd of APRIL to the 11th, both inclusive. The principal parts of the work will be in cast and wrought iron. Tenders to be delivered at Mr. PAGE'S Office, on or before the 21st of APRIL; but the Committee do not pledge themselves to accept the lowest or any Tender.

WRITTLE GAS COMPANY, LIMITED. The Directors of the Writtle Gas Company, Limited, invite TENDERS for the ERECTION of new GAS WORKS, at Writtle, in the county of Essex. Plan and specifications of the same may be seen on application to the Secretary, at the Office of Mr. JAREZ CHURCH, Civil Engineer, Chelmsford. The work is divided into two contracts. No. 1 contract comprises the builder's work, and No. 2 contract the ironwork, apparatus, and mains. Sealed Tenders for the respective contracts are to be addressed to the Secretary, and delivered at the Company's Offices on or before the 24th day of APRIL, 1863.

F. A. JONES, Secretary.

Writtle Gas Company's Office, High-street, Chelmsford, March 26, 1863.

TO BUILDERS.—TENDERS will be received for ERECTING ELEVEN SIX-ROOMED HOUSES, in rear of High street, Southwark. Cash advances made, but security required for fulfilment of contract.—Apply at Estate Office, 21, Walbrook.

TO ORGAN BUILDERS.—RESTORATION of SAINT ANDREW'S HALL, NORWICH.—The TOWN COUNCIL of the City of Norwich are prepared to receive TENDERS for removing the Organ from the present Western Gallery, and re-instating the same in the Orchestra at the East end of the Hall. Tenders endorsed "Restoration of Saint Andrew's Hall—Removal of Organ," to be sent to my Office, Guildhall, not later than ELEVEN o'clock in the forenoon of THURSDAY, the 9th of APRIL, next.—By order,

W. L. MENDHAM, Town Clerk.

Guildhall, Norwich, 26th March, 1863.

TO BUILDERS AND CONTRACTORS

TENDERS are required for BUILDING and COMPLETING the necessary WORKS for a LAUNDRY COMPANY, situate between Cambridge road, Upper Norwood, Surrey. Plans and Quantities may be seen at the Cambridge Hotel, Upper Norwood, Surrey, between the hours of TEN a.m. and FOUR p.m. on Tuesdays, endorsed "Tenders for Building for Laundry," must be delivered addressed to the Chairman of the Crystal Palace District and Croydon Railway Company, the Cambridge Hotel, Upper Norwood, Surrey, on or before the 13th of APRIL, 1863. The Company do not bind themselves to accept the lowest Tender.

CITY of LONDON.—TENDERS for LEASE.—Parties desirous to TAKE on LEASE the Premises No. 22, Lawrence-lane, Cheapside, from the Master and Fellows of Trinity College, Cambridge must make their application on or before the 21st instant. The Corporation will not bind themselves to accept the highest or any Tender. Forms of Tender may be obtained at Mr. MARSH'S Office, 2, Charlotte Row, Mansion House

Dated April 1st, 1863

TO BUILDERS, CONTRACTORS, and OTHERS.—Parties desirous of TENDERING for the ERECTION of a DETACHED VILLA RESIDENCE (the first of a pair intended to be erected) on the British Land Company's Estate at East Cowes, Isle of Wight, may inspect the plans and Specifications at the Office of the Surveyor for the British Land Company, 14, Moorgate-street, E.C. or at the House of Mr. James Moore, High street, West Cowes; and may obtain lithographed copies of Bills of Quantities on payment of 7s. at either of the above places from MONDAY, 6th inst. to SATURDAY, 11th inst. Tenders may be sent, not later than TUESDAY, 14th inst. addressed to the Secretary of the British Land Company, 14, Moorgate-street, London, E.C. endorsed "Tender for Villa Residence at East Cowes." The unsuccessful competitors may receive back the money paid for the Bills of Quantities on returning the same any day after Notice has been given in "The Builder" that a Tender has been accepted.

TO CONTRACTORS and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the CONSTRUCTION of the following SEWERS, in the parish of Clapham, viz.:—About 4,620 feet of 3 feet 9 inches by 2 feet 6 inches Brick Sewer, 3,135 feet of 3 feet by 2 feet Brick Sewer, and 1,370 feet of 2 feet 3 inches Brick Barrel Sewer; and also for the EXCAVATING the said, and LAYING of, about 9,150 feet run of STONEWARE PIPE SEWERS, of various sizes (the pipes for which will be supplied by the Board. The specification, plans, and sections, may be seen, and all further information obtained, at the Office of Mr. JOHNSON, Surveyor, Manor Cottage, Larkhall lane, Clapham, between the hours of NINE and FOUR. Tenders are to be sent in under seal to the Board as below, on or before TUESDAY, the 21st APRIL next, and are to be endorsed "Tender for Sewers." Persons tendering must be in attendance at the Offices of the Board, on WEDNESDAY, the 22nd APRIL, at FOUR o'clock p.m. when the Tenders will be opened. Security will be required for the due performance of the contract. The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District,

ARTHUR ALEX. CORSELLIS, Clerk to the Board.

Battersea-rise, Wandsworth, S.W. March 23, 1863.

PENCILS, BLACK LEAD, and COLOURED CHALKS.

A. W. FABER'S POLYGRADE LEAD PENCILS, sold by all stationers and Artists' Colourmen.

Sole Agents, HEINTZMANN & ROCHUSSEN, 9, Friday-street, E.C.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet street, London.

These Pencils are prepared in various degrees of hardness and shade.

H H H for drawing on wood.	F F light and shading
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching	B B ditto ditto.
H B hard and black for drawing	B B B ditto ditto.
	B B B B ditto ditto.
Medium.	

Sold by all the principal Stationers in town or country.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION Incorporated by Act of Parliament, 1850, 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or commutation for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.

EDWARD HARPER, Secretary.

OATES'S PATENT SOLID BRICK MACHINE. Persons who may be contemplating MAKING BRICKS by MACHINERY are requested to see the above Machines in operation before purchasing others. These Machines are warranted to make thirty perfect bricks per minute, stiff enough to be wheeled (as soon as made) to the kilns to be burnt, and from the time the clay is dug from the mine until the bricks are made and set in the kilns for burning, does not exceed five minutes.—Application to be made either to J. P. OATES, Bellington, near Birmingham; or to OATES & BAYLIS, Stourbridge, from whom drawings and every information may be had, with card to view.

BRICKS.—About 70,000 good sound RED BRICKS FOR SALE, lying at Cole green Station on the Hertford Branch of the Great Northern Railway.—Apply to J. B. HOWARD, on the spot.

VALUABLE PATENT RIGHTS FOR SALE.

BUNNETT'S SELF-SUPPORTING HOLLOW BRICK FIRE-PROOF FLOORS, ROOFS, &c. They are safer, lighter, an cheaper than any others, and have been successfully introduced in London and different parts of the kingdom, and most satisfactory testimonials received from eminent architects. Also,

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, AND SANITARY PIPE MACHINE FOR STEAM OR HORSE POWER.

Which will produce, of superior quality, one-third more in quantity than any other machine of the same cost and working expenses. The above Patents will be sold together or separate, and are suited for private enterprise or a public company.

For prospectuses and particulars apply to Mr. J. BUNNETT, Engineer, Deptford, Kent.

BRICK and TILE MACHINES, which have obtained ten Prizes from the Royal Agricultural Society of England; the Prize Medal at the Great Exhibition in London, in 1851; Paris, 1855 and 1856; also, Royal Agricultural Society of North Germany, 1858; and Universal Exhibition of Rotterdam, 1858; and obtained two Medals at the International Exhibition last year;—may be had from the Manufacturer, JOHN WHITEHEAD, Preston, Lancashire.

VICTORIA BRICK and LIME WHARF and DRAW-DOCK, NINE ELMS, S. BRICKS, TILES, SLATES, CEMENT, HAIR, LATHS, PLASTER, BALLAST, GLAZED DRAIN-PIPES AND RED GOODS, TERRA-COTTA, SPLAY, JAMB, AND COPING BRICKS; SUFFOLK AND OTHER FACINGS, RED AND WHITE FACINGS, STAFFORDSHIRE AND FIRE GOODS, MALM CUTTERS, PICKINGS, AND BUILDING GOODS GENERALLY. A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

JOHN DOWNEY, Victoria Wharf, Nine Elms, S. Also Licensed Lighterman, of 21, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS, By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF ILLICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY,

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at Shoeburyness, Essex.

The entire MAKE of BRICKS by Mr. William Lindgter, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Ottenham Quay, and Lower Bainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS and the EWELL and CHALFONT dark and bright RED RUBBERS

COWLEY, KENT, and ESSEX BRICKS, IN ANY QUANTITIES, BY BARGE ALONGSIDE.

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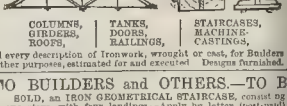
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Red Pantiles, at 50s. per 1,000.
" 8 inch Paviugs, at 57s. 6d. per 1,000.
" Bricks, at 40s. per 1,000.
White ditto ditto, 40s. per 1,000.
Rage Tiles, at 75s. per 1,000

Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. About 20,000 Bricks lying at Devonshire-street Station, at 20s. per 1,000.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS) 17, Union-street, and 93, Great Guildford-street, Borough, S.E. Inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.

GENERAL IRON FOUNDERS, MERCHANTS, and PATTERN MAKERS.

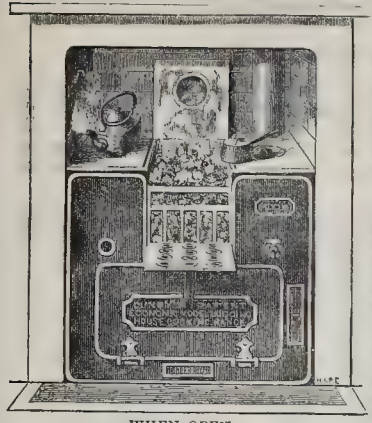


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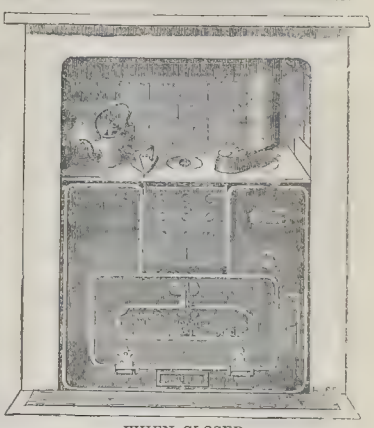
TO BUILDERS and OTHERS.—TO BE SOLD, an IRON GEOMETRICAL STAIRCASE, consisting of fifty-one steps, with four landings.—Apply by letter (post-paid) to FREDERIC H. JEWITT, Esq. Solicitor, 61, Coleman-street, City E.C.

CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of



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WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



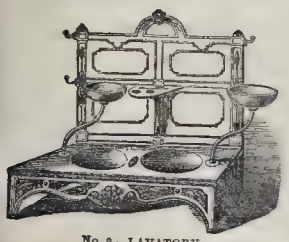
ROLLED WROUGHT-IRON FLITCH PLATES
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CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
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CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

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GEORGE SMITH & CO.

IRONFOUNDERS AND SANITARY ENGINEERS,

SUN FOUNDRY, GLASGOW;

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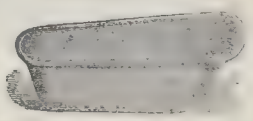
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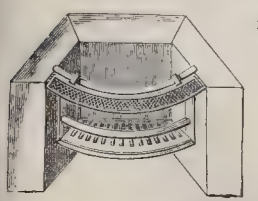


No. 3.—Plain Bath, with or without Fitting.

Drawings, Descriptions, Prices, and Testimonials, will be forwarded per post on application as above.

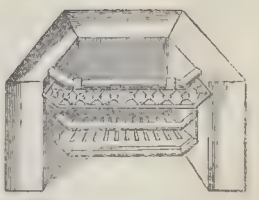
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21	,,	12 ,,	10	6	.....	12 0
24	,,	15 ,,	14	0	.....	15 0
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30	,,	21 ,,	20	0	.....	—
36	,,	24 ,,	30	0	} Extra strong.	
38	,,	27 ,,	36	0		
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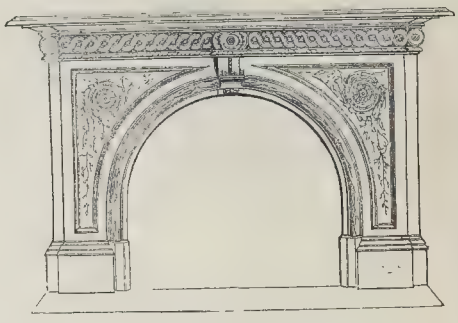
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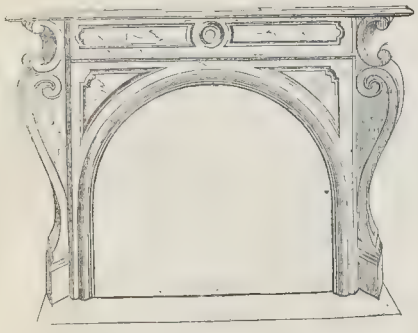
IS AT

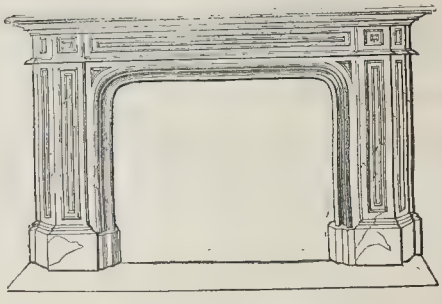
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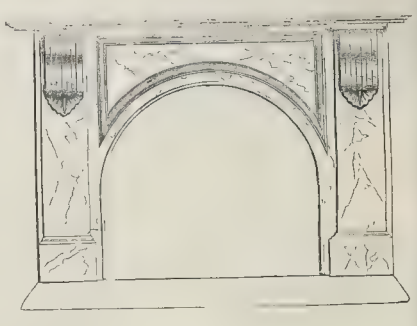












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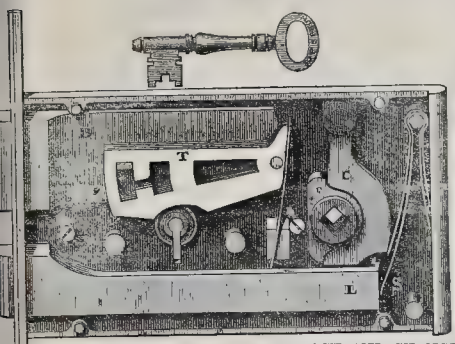
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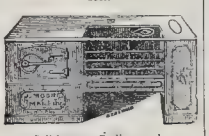
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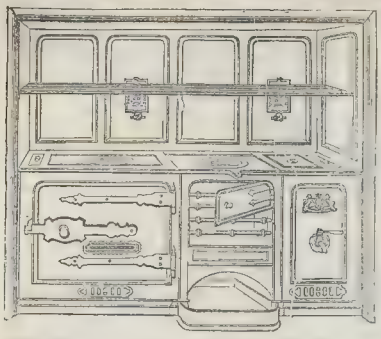
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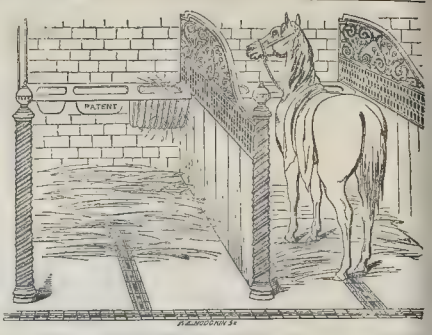
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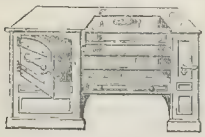
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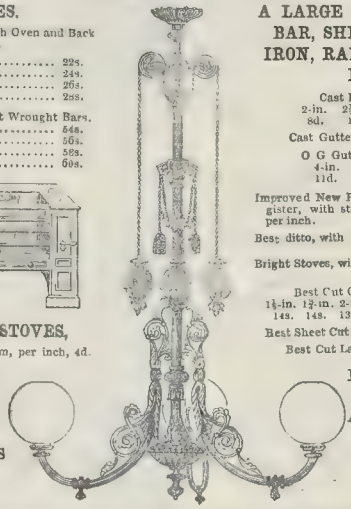
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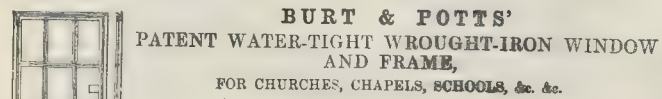
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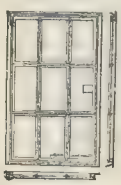
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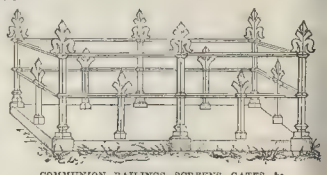
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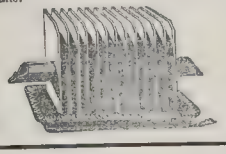
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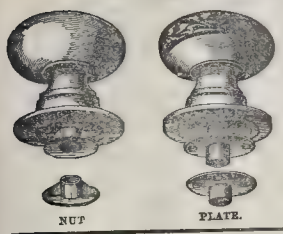
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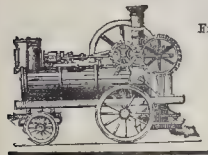
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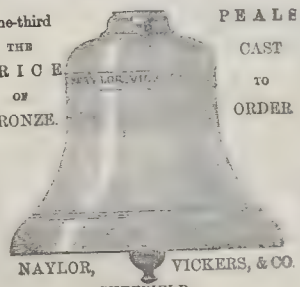
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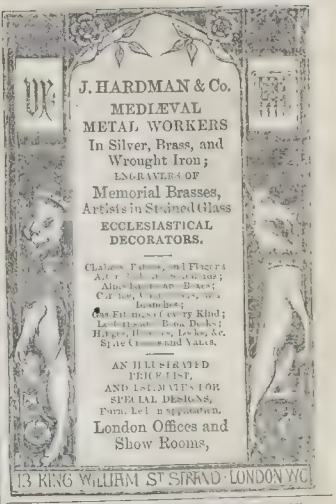
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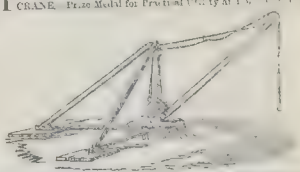
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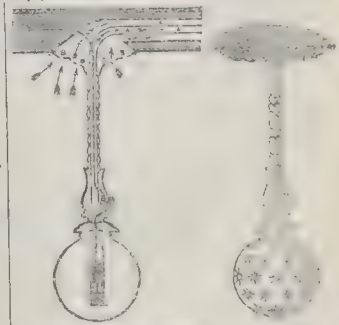
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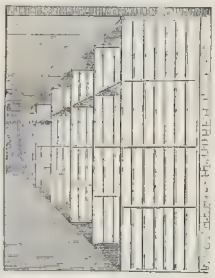
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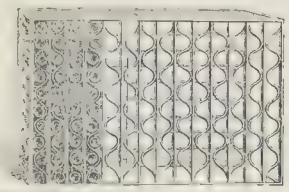
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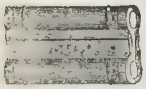
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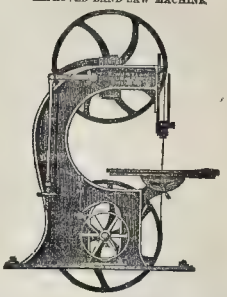
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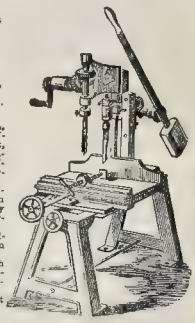


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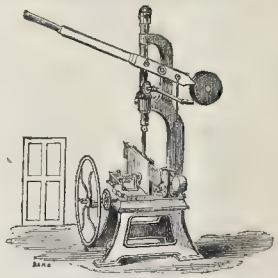
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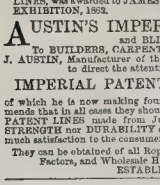
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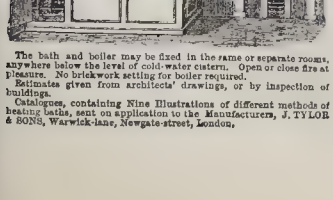


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Steam-boats from London Bridge call near the Factory.

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For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

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The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.
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WEBSTER'S SLATE DRILL BORING MACHINE.
The Patentee, in introducing this Machine to the notice of Contractors, Slate Merchants, Slaters and House Proprietors, has every confidence in recommending it as being an immense improvement upon the old-fashioned, slow and expensive mode of Boring or Punching House slates. Though admirably adapted for its purpose, this Machine is yet so simple that a boy may work it; it is so cheap that no tradesman need be without one, and so economical that, by its saving in breakage alone, its cost will be repaid in a few weeks.
The advantages and capabilities of the Machine may be stated as follows:—
1st. It will bore with ease the hardest slate.
2nd. The holes are drilled at once with sufficient countersink for the heads of the nails.
3rd. It economizes time, reduces labour, and saves expense, as one man by the Machine can accomplish the work of four by the knife or pick.
4th. There is no breakage.
5th. The full strength of the slate is preserved; the drill not causing any splinter as is done by the pick
From among the numerous testimonials which the Patentee has received from practical men as to its efficiency, the following selection may be considered sufficient:—
From Mr. John Mitchell, Slater, Arbroath.
"Panmure street, Arbroath, 1st July, 1862.
Dear Sir,—I have much pleasure in bearing testimony to the great usefulness of your Slate Boring Machine, which I have had working in my establishment for some time. It will bore any kind of Slate, and the work done by it is really perfect; the holes are struck or drilled instantly, and at same time are nicely countersunk for the nail heads. The economy in manual labour is considerable. By the Machine one man can accomplish the work of at least four men by the old mode, while what was formerly lost by breakage is entirely saved
I have no doubt that when your invention becomes known that it will be universally adopted.—I am, dear Sir, yours very truly,
JOHN MITCHELL, Slater.

Mr. Alexander Webster, Engineer, &c.
Lindsey-street, Arbroath."
From James Henderson, Esq. Slate Merchant, Aberdeen.
"24, Belmont-street, Aberdeen 6th Jan 1863.
Dear Sir. I have had your Patent Double Boring Machine in operation for a considerable time in my slate-yard, and find that it pierces the hardest kind of slate with ease, and produces a hole quite regular, and having just sufficient countersink to receive the head of the nail.
The slaters in this quarter are much pleased with the work done by the Machine, and they find a considerable saving by using it.—Yours, &c. (Signed) JAMES HENDERSON."
From Mr. James Gray, Slater, Keith, Aberdeenshire
"Dear Sir,—In reply to your note of inquiry as to how Webster's Patent Slate boring Machine pleases me, I have to state that it gives perfect satisfaction; doing the work much better, and in one-third of the time formerly required with the pick. I can confidently say that I have saved the price of the machine in time and breakage during the last six months. I can heartily recommend it to my brethren in the trade, as it will prove of very great advantage to them, and to slate merchants who sell slates drilled and ready for use.
You are at liberty to use this letter in any way you think proper
Yours, &c. (Signed) JAS. GRAY.
Huntly, 15th February, 1863."
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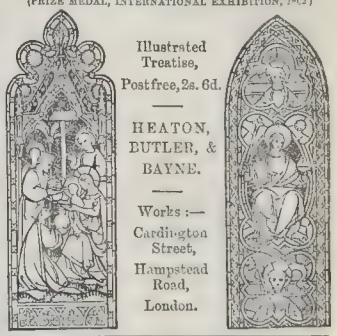
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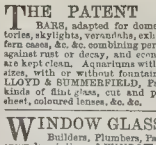


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VOL. XXI.—No. 1052.

Designs for the National Albert Memorial.



It is unnecessary to remind our readers of the past proceedings in respect of the national monument to Albert the Good;—how that a committee was appointed by a public meeting at the Mansion House to obtain funds and erect a fitting evidence of the nation's regard; how that committee, having raised funds, instead of obtaining a design and forwarding it, as directed by the meeting, to the Queen for approval, unwisely, as we have always thought, threw upon her Majesty the provision of the design; from which day the character of the movement was to a certain extent changed; how that the committee named by the Queen called in a certain number of architects to advise, and ultimately arranged with seven of them to prepare designs for a memorial. All this, with certain intermediate endeavours in respect of a suggested obelisk, is known to all, as it is also that the designs so prepared have been inspected at Windsor, and are now in the Palace of Westminster. The proposition, we should say, was, as will be remembered, to erect on the north side of the Horticultural Gardens, and between those gardens and the Kensington-road, a splendid Hall, to be devoted to meetings intended to promote the interests of Art and Science. On the other side of the Kensington-road the Hall was to be confronted by the memorial proper, the ground around being laid out ornamentally in terraces. Last Saturday the *Times* announced that this plan was about to be abandoned. Our great contemporary said:—

"The architectural and artistic advisers of her Majesty have adopted another, and, as it seems to us, a far better idea. The old plan is abandoned as a whole, and in each of its parts. The scheme of a double monument, one half on the one side of the Kensington-road, and the other half on the other side, exists no longer. The group of statuary is abandoned without remorse; and, instead of the two, a single monument is to be erected. We know not whether it is to be placed on the northern or southern side of the Kensington-road; but we believe we can speak with some confidence as to the style and nature of the structure. It is to be what is called an Eleanor Cross, something similar to the Martyrs' Memorial at Oxford, or the monument erected to Sir Walter Scott, at Edinburgh. The effect of the latter monument is much injured by its unfortunate position, about to slip, as it should seem, down the side of a steep hill, and much out of keeping with the very striking and romantic scenery by which it is surrounded. Still, no one can deny to it elegance of design, and much architectural beauty. The Eleanor Cross which it is proposed to erect to the memory of Prince Albert is to be a building of much greater size and of imposing height. It is said that it is intended to give it an elevation of nearly 300 feet, so that it will be a very conspicuous feature in any distant view of the metropolis. In the lower part is to be placed, properly secured from the effects of our moist climate and smoky atmosphere, a statue of the Prince. The whole structure is to be intrusted to Mr. Gilbert Scott, so that we doubt not that full justice will be done to the utmost demands of Gothic architecture."

In making this announcement the *Times* was, at any rate, somewhat premature. It is more than probable that the arrangement will be as stated; but we have authority for saying that at that time the report of the committee had not been sent to the Queen; so that the matter certainly was not settled, even if it be quite so now.

The series of drawings submitted by Mr. Scott are magnificent in execution; and, as pictures, far surpass all the rest. They show, too, as a matter of course, great talent and taste. We are disposed to think the height must be overstated. We do not hear that any drawing showing the cross to have an elevation of 300 feet was sent in. At the angles of two terraces around the base of it, groups of sculpture are introduced. He has four or five designs for the Hall of Science and Art (only one for the memorial), very fanciful and in their style very beautiful.

We do not propose here to criticise the design recommended (we do not know enough of it to be able to do so), nor to comment at this moment on the propriety of adopting the style of the fourteenth century for the monument. We cannot, however, resist asking whether it is exactly what all wish who are striving for the honour of nineteenth century advance, that wanting an Albert Memorial we should be forced to take an "Eleanor Cross." There is surely something humiliating in the admission.

A few words as to some of the other designs, and without any intention of instituting comparisons.

When the intention to erect a memorial was first mooted, at the commencement of last year, we said,—"For our own part, we desiderate a grand union of the arts in honour of one who knew and loved them all. We see in the mind's eye a magnificent Temple enshrining a noble statue of the Honoured One. Upon and around the pedestal are groups and *relievi* illustrating his character; while other *relievi* and paintings, in the entablature and elsewhere, set forth the incidents of his life. The worker in metal, the glass painter, the mosaicist, have co-operated with the architect and sculptor: marbles of all sorts join with the richest materials of their several kinds and the cunningest art; and we have at once a fitting monument for the Hero of the family-life, and an evidence of the position to which the arts have attained amongst us."*

Most of the designers have followed out this idea.

Mr. Charles Barry submitted two designs; one of them for a highly-decorative building, to contain a sculptural group, in white marble, in which the statue of the Prince would, of course, be chiefly conspicuous; the other for an equestrian statue without a building. He advocates, however, the former kind of memorial, for many reasons; among the chief of which are these;—That the feeling with which the nation (no less than the Queen) regards the Prince we have lost is one of profound and affectionate regard, respect, and sorrow; and that therefore any memorial to be satisfactory to the national feelings in these respects should comprise a *portrait* statue, whereby his familiar presence shall be perpetuated to all the present generation of men, while the attributes with which that statue is surrounded shall evidence, not only to us, but to all future times, the many ways in which the Prince's daily efforts were directed to all those acts and processes whereby mankind were to be made socially and materially happy, self-reliant, peaceable, and Christian. That any such portrait statue cannot be had satisfactorily, in point of art, except in such a material as white marble, and would be unattainable in metal, whether dark as bronze or lustrous as gold. That consequently the *portrait* statue, with its attendant illustrative adjuncts, must in this country be *in a building*, and not be exposed wholly or partially (as, for instance, under a colonnade or loggia) to the influence of our climate, especially in London. Moreover, that quiet and instructive contemplation of any such statue and accessories can only be *in a building*, where the spectator is at ease and protected from disturbing influences. Lastly, that in a building there are numberless opportunities in the ceiling and wall spaces for additional illustrations of the Prince's life and labours, for the development of high art and decorative art, by means of paintings in oil and fresco, by bas-reliefs, mosaics, and otherwise.

* Vol. XX., p. 75.

The style and character of the building which he proposes is, externally, unique in this country; which he considers a point of great importance, in that it shall not be liable to be mistaken for, or confounded with, any building in common use. He has therefore chosen that period of North Italian Renaissance which is exemplified in the Certosa at Pavia and Giotto's architectural works in Florence. The building is in plan a Greek cross, with semicircular vaulted roofs, and with a cupola at the intersection of the arms of the cross. The material externally of stone and inlaid marble, with niches for marble statues, panels for marble or metal bas-reliefs, spaces for mosaics, in which last material the archivolts, friezes, and other like spaces have dedicatory inscriptions—the roofs of metal, gilt. This building occupies the centre of the site appropriated for the memorial by the Royal Commissioners, with the approval of Her Majesty. It is flanked by two imposing fountains, and the whole plateau is levelled and raised above the level of the high road some 10 feet, and is approached therefrom by broad simple flights of steps.

Internally, the walls and ceilings are occupied and decorated as above named; the prevailing effect being that of simple gold and full rich colouring, which is intended to give full effect to the memorial group, itself of pure white marble. This group is of very large size, from the number of figures it comprises. Immediately surrounding the statue of the Prince, but on a lower level, are emblematical figures of Religion, Truth, Purity, and Constancy; while on a still lower level are figures representing Architecture, Sculpture, Painting, Music, Manufactures, &c., expressive of the objects of usefulness which the Prince had so much at heart.

The alternative design is a figure of the Prince on horseback, on a pedestal of marble and stone, for the sake of variety in colour; the pedestal having niches and projections from it, to be occupied, as in the former design, by emblematical figures of the Christian virtues, and of the above different branches of art and science. The equestrian statue is proposed to be in different metals; the horse being in bronze, while the figure of the Prince himself is proposed of the new metal aluminium, for the reason that its light grey tint and dead unburnished surface would, Mr. Barry thinks, be more fitting and effective than either bronze or gold for a *portrait* and for the display of the highest sculptural art. The statue is necessarily colossal. The accessories as fountains, terraces, and steps, are the same in each design.

His design for the Hall seems founded on that of the Chapel at Versailles.

Mr. M. D. Wyatt sent in three designs for the memorial proper; an open four-porticoed Classic temple for the statue of the Prince, with other statues around under flat canopies, with steps, rich adornments, and water; a "cross," so to speak, Italian Gothic in style, highly decorated; and thirdly, a separate sculptural group, consisting of a figure of the Prince, seated, with a standing figure of Fame crowning him, on a richly carved pedestal of a sarcophagus outline. For the Hall, a large circular building, he also sends alternative designs, Italian and Gothic, the latter suggesting that he had Pisa in his recollection when he drew it. The drawings are effective and admirable.

Mr. Hardwick contents himself with a design for a group of sculpture and pedestal.

Professor Donaldson submitted a shrine with hemicycle for the statue. Statues and elegant arrangements prevail around. To the Hall, an apartment 150 feet by 80 feet, the Professor, true to his traditions, has an octastyle Corinthian portico, completed with sculpture. The interior of the Hall, very elaborately decorated, is set forth in a fine pencil drawing.

The matter will doubtless come more formally before us in a short time.

KNIGHTHOOD.

The celebration of the marriage of the heir to the throne with all the heraldic magnificence —with *fanfare* of silver clarions, with processions of yeomen of the guard in their scarlet doublets barred with gold, gentlemen-at-arms with their white plumes, state drummers and trumpeters in coats of cloth of gold, heralds in their tabards, and pursuivants, kings-at-arms, and garter king-at-arms with collar, badge, tabard, and scarlet satin mantle—has awakened a national interest in all the insignia of chivalry which has long reposed in the minds of a few antiquaries. All England has just seized heraldry as a voice with which to speak welcome to the beautiful daughter of sea-kings whom the Prince of Wales has chosen for his bride. Seldom have quarterings been so assiduously studied; never have the heraldic emblems of a foreign nation been so multitudinously displayed in our streets, as in the decorations of our houses, bridges, and public buildings, not only along the line of route through which the procession was expected to pass, but in every town in the United Kingdom—north, south, east, and west. Heraldic Latin and heraldic colouring have been diligently searched to find full and faultless expression of the public gratification. England has been one broad-spanned rainbow—one vast pageant. Much of the magnificence attained was due to the insignia of the different orders of knighthood, both in the civic decorations on the route of the entry of the Princess into London and in the ceremony of the marriage in St. George's Chapel, Windsor. We may follow up the interest thus awakened by an enumeration of the different orders of knighthood of European fame.

The word knight is derived from the Saxon *cnight*. It originally signified a soldier or horseman of war; but, in the Middle Ages, referred to a vassal that held his lands by serving his lord on horseback. In modern times it has become a title of distinction conferred upon persons whom the sovereign deems it fit to honour. There have been upwards of fifty orders of knighthood established in Europe. Of these the oldest in the world is that of the Round Table,—the almost mythical companions of which are best known as King Arthur's Knights.

It is scarcely needful to say that the order most in esteem is that of the Garter. The knights of this order, in their robes, collars, and stars, and blue garters decked with gold, pearls, and precious stones, formed the brilliant background of the marriage ceremonial in the Chapel at Windsor. They are personages of great rank, having for a sovereign guardian her Majesty the Queen. The Prince of Wales is a knight of this order. It will be remembered that over a general's uniform he wore the gorgeous robes of a knight of the garter at the celebration of his marriage. The husband of the Princess Royal and the brother of the late Prince Consort are both knights of this order. It is said to have been founded by Edward III., as every one has heard, after picking up the garter of the beautiful Countess of Salisbury, with whom he had been dancing; in confirmation of a remark he made to the smiling lords present, that he would make that garter of world-wide reputation. This most chivalrous society is a college or corporation, having a common seal belonging to it, and consisting of twenty-five companions, who are noblemen of the realm or princes of foreign countries, besides the sovereign. There are also attached to the order twenty-six poor knights, who are supposed to have no other means than an allowance given them. They are called the Poor Knights of Windsor, because the seat of this order is Windsor Castle, and the consistory of the order is St. George's Chapel. The officers belonging to the order are the prelate of the garter, the chancellor of the garter, the register (who is always Dean of Windsor), the principal king at arms, and the usher of the garter.

The order of the Knights of the Temple, though now extinct, was once too powerful to be placed lower in the list. It is uncertain whether this order was founded by Pope Gelatius or by Baldwin II., king of Jerusalem, circa A.D. 1117. These monkish knights at first dwelt in part of the building that belonged to the Temple of Jerusalem, not far from our Saviour's sepulchre, where they charitably entertained Christian strangers and pilgrims, and, clad in armour, led them through the Holy Land to view the different points of interest connected with the mission of the Messiah. Growing too rich, too powerful, and less religious in their lives, their order was abolished by Pope Clement V. in 1309; and their possessions divided among the knights of St. John of Jerusalem and other religious orders.

The order of St. John of Jerusalem had its first foundation and abode in the Holy City. Thence the knights removed their residence to the Isle of Rhodes; but, being dispossessed of this by the Turks in 1523, the Emperor Charles V. allowed them to make Malta their chief seat, on condition that they would send him a falcon every year as an acknowledgment. The property of this order was also very large; but it was not forfeited till the reign of Henry VIII. Up to this period the prior of the knights of this order in England and Scotland had a right to a seat in the House of Lords.

The Knights of the Holy Sepulchre were a very ancient body, instituted by Helena, the mother of Constantine the Great, who, at the age of eighty, journeyed to Palestine, and assisted in the finding of the holy cross.

Knights of the Bath were formerly a religious order. They were obliged to bathe themselves on the eve preceding their creation, and observe several other religious rites.

The order of the Rue, or of St. Andrew, is of well-known Scottish origin.

James I. instituted the order of Nova Scotia in the West Indies, the knights of which were to wear a ribbon of an orange-tawny colour. And the same monarch divided the hitherto combination of title, knight-baronet. A "plantation" was in formation at Ulster, and the persons making disbursements in furtherance of this object were advanced to the distinct dignity of baronet,—a rank that was henceforward to take precedence in all writings, sessions, and salutations of ordinary knights, knights bannerets, and knights bachelors.

A knight-banneret (from the Dutch *bannether*) is a knight made on the battle-field, under the standard. In several centuries successive sovereigns marked their approbation of individual valour on the field of battle by the ceremony of cutting off the point of the standard of the person they wished to honour, thus making it a banner, and the person so distinguished a knight-banneret.

Knights bachelors are of the lowest order of knighthood, yet of very ancient origin. The foundation of the order is traced back to a custom of the Germans, who, as soon as the State considered a young man fit to manage arms, furnished him with a shield and javelin before a large assembly or full council. In less remote ages part of the ceremony of investing a young man with the girdle of knighthood consisted in his solemnly entering a church, and placing the sword, which had been presented to him with the girdle, on the altar, and vowing his services to the glory of God. Eventually it became customary to receive the honour of knighthood, not in public assembly, but at the hands of a prince; kings sending their sons to neighbouring princes to be thus distinguished. To the sword and girdle of this period the development of chivalry added gilt spurs. Henry III. made an order called the Knights of Christian Charity, for the benefit of poor captains and maimed soldiers.

The terms carpet-knight, and knight of the chamber, used sometimes in a depreciatory sense, signify a knight created in times of peace by the sovereign in a carpeted palace, in distinction from a knight who has won his spurs upon the blood-stained battle-field.

Of foreign orders we must make first mention of the Danish knights of the Elephant, reminding our readers that the Danish castellated elephants and ravens, surmounting the Venetian masts on London Bridge, formed an especial decoration of significance on the route of the Royal procession.

The French have numerous orders of knighthood:—

The knights of Saint-Esprit, or Holy Ghost, created by the French king Henry III., at his return from Poland, who was born and crowned king on Whit Sunday.

The knights of the order of the Virgin Mary in Mount Carmel were appointed by Henry IV., in 1607, consisting of 100 French gentlemen.

The Knights of St. Michael the Archangel, whose order was established by Louis XI. in 1469, to consist of thirty-six knights, of whom the sovereign was to be chief.

The Knights of St. Magdalen appointed by St. Louis to prevent duels.

The Order of the Thistle, a Bourbon order of knighthood. Motto: *Nemo me impune lacessit*, i.e., None that provokes me goes away unpunished.

The Order of the Porcupine, whose motto was *Cominus* and *Eminus*, till Louis XII. crowned the Porcupine with another, *Ultus avos Trojæ*.

The Order of the Lily in Navarre.

The Order of the Crescent, created by René, Duke of Anjou, A.D. 1462, when he conquered Sicily. Motto: *Los*.

The Order of the Jar, made by Don Garcia, king of Navarre, in remembrance of a vision he saw in a cave, when out hunting, of a pitcher of lilies on an altar before an image of the Virgin.

The Order of the Golden Shield, founded by Louis II. Motto: *Allons*.

The most ancient Order of the Genette, or Horse-bit, founded by Charles Martel after the defeat of the Saracens in the great battle of Tours, A.D. 783.

The Knights de l'Epi, or ear of corn, or of the Ermine, established by Francis I.

The Knights de l'Etoile, or of the Star. Motto: *Monstrant Regibus astra viam*, The stars show a way to kings.

Spain has instituted several orders of knighthood:—

The sovereign of Spain is chief of the Order of the Golden Fleece appointed by Philip, Duke of Burgundy, upon his marriage with Isabel of Portugal. Motto: *Ante ferit quam flamma micet*.

Alonzo VIII., A.D. 1118, founded the Order of San Salvador in Arragon.

The Knights of St. Maria de Mercede are a Spanish order, as are those of Montesia.

The Knights of the Pear-tree, created A.D. 1179, were subsequently known as Knights of Alcantra in Leon.

The Portuguese own the startling Order of the Knights of Jesus Christ.

Poland can boast two orders,—that of the White Eagle, founded by Ladislaus V., A.D. 1325; and that of the Militia Christiana.

Venice owns two orders,—that of St. Mark and that of La Calza, or the Stocking.

Sweden possesses an order entitled the Knights of the Sword and Baudrick.

The Duke of Savoy was confirmed Grand Master of the Order of St. Maurice and Lazaro by the Pope, A.D. 1119.

Cosmo, Duke of Florence, instituted the Order of St. Stephen, A.D. 1591.

It is an instance of the Mediæval alliance between priesthood and knighthood to find Pope Alexander III. instituting an order of knighthood in which the Rule of St. Augustine was to be observed. It was called the Order of St. Jago or St. James.

As an instance of the services rendered by knights, we would point to the Teutonic Knights, upon whom the Emperor Ferdinand II. bestowed Prussia, A.D. 1226, on condition that they would subdue the infidels, which they succeeded in doing; and although this bravery may seem a species of knight-errantry when associated with times so remote, we have an order instituted in our own day, by our most Gracious Queen, as a recognition of scarcely less chivalrous service—the Order of the Star of India. This is a curious chapter in the history of this age of commerce, iron and steam power, akin to the largesse so bountifully bestowed upon Lancashire at need. St. George may be proud of England still.

CONSTRUCTIONS IN WOOD IN FOREIGN COUNTRIES.

In *Norway* we still find traces of some good ancient wood architecture, for which I refer you to the illustrations by Mr. Dahl. There are six alluding to the church at Borgund, near Bergen: six refer to the church at Urnes; and nine illustrate the church at Hittendal. When we carefully examine the style which these structures bear, we notice various elements. Above all we have Christian motives in the ornamented capitals. These are accompanied with motives from the old Norsk mythology; and we have, further, some signs of Byzantine art. The latter was introduced into Norway after the Waring expedition to Constantinople, in the year 1078; and it is chiefly displayed in the mouldings round the doors. The church at Urnes is not so remarkable as the other two, because it has lost many of its original features by subsequent alterations. From the pillars in the interior it is seen that, originally, the whole church was carved in relief, and it bears a strong Byzantine character.

It was customary, at the beginning of the Middle Ages, to vary the ornamentation as much as possible, such as the door mouldings, cornices, &c.; and we have instances where hardly two are alike in length and breadth. The light enters into these churches through small bow-windows; hence they are dark; which is further caused by smaller interior constructions, such as prayer-rooms, infringing to some extent upon the whole

design. The church at Borgund was erected in 1073: the bell in the belfry bears the inscription, "St. Laurentius, 1663," which leads us to suppose that, at the beginning of the seventeenth century, some alterations were made, which is further proved by the remaining fragments of painted glass, grey in grey, as executed in the sixteenth century.

In consequence of a church conflagration the Norwegian Government issued an order that all church doors should be altered to open towards the outside. This destroyed in most cases the original character in the design of the portals. An original side-entrance may still be seen at the Hittendale Church, from which we may infer the skill of the northern forefathers. The columns in Hittendal Church and the ceiling of the choir were originally painted in water-colours: at present they have a coat of plain oil-paint.

On the left door-post of the church in Find is a Runic inscription, in two lines, of which the following is a version:—"Bishop Rainar consecrated this church. He was followed by the following gentlemen:—Chaplain Thord, and Einar Naf, and Thrond Mok, and Thorstein Rand, and Thrond Kin, and it was he who carved these runes." Now Bishop Rainar occupied the see from 1180 to 1190, consequently this church is about 670 years old.

Besides the foregoing we find a few very early pedestals of baptismal fonts in the churches at Find, at Bö, and at Gaara. These were originally painted, as may be seen from the one at Bö. In the church at Bö remains also an interesting old pew.

Passing south from Norway into *Denmark* we meet with a very important altar in the cathedral at Schleswig. It was carved in oak by Hans Brüggemann in the year 1521. The numerous representations chiefly illustrate the life and death of Christ. The conception is true to nature and full of life.

From Schleswig we come to *Germany*. In the north of this country we have an interesting church at Smorgraw, in Silesia. It dates from the year 980: the tower is of a more modern reconstruction. The church is built of larch, and only trimmed with the axe and saw. It is 25 feet long, 23 feet wide, and 13 feet high. Adjoining the altar recess, 20 feet long, 17 feet wide, and 11 feet high. This structure has lost much of its novelty by numerous coatings of whitening.

Next are the churches at Syrin, 1204, and at Kubom, 1205, which are constructed of oak in blockbond. The roofs of most are made to project, by which a hall or arcade is formed round the enclosed room, and this may be the cause of the wood being so well preserved. Similar structures are found at Jedlownik, Muschana, Rupten, Hagan, and at Bauerwitz. The latter is decorated with colours. Of great interest are a few wooden seats in the church at Ratzeburg, which are presumed to date from the twelfth century.

A house at Hildesheim has important details, and of similar character examples exist in Halle, Halberborn, and in the Alt-Mark.

The door of St. Mary, in the capitol, Cologne, has carved wooden nails which project. In the town of Geseke can be seen interesting details amongst various timber structures. There is at Bruna a beautiful timbered gable, and of plainer character is a house in Thüringen.

An interesting early building from the thirteenth century was a chapel, dedicated to St. Jodocus, the son of Juthalus, King of Brittany (France), and the remains were still to be seen in 1846, near Mülhausen, in Thuringia. It had a vaulted roof, and the vaulted ceiling was painted illustrating the life of St. Jodocus and other Biblical subjects. A good and full account of this example may be read in Mr. Silesius von Henau's work upon this chapel.

A curious article from the thirteenth century is the state chair of Count William of Holland, whose coat of arms is carved on the same. It is at present in the possession of the King of Bavaria.

In the Church of the Cross at Coburg are the remains of an altar-screen dating from 1401. Coburg Castle has several interesting specimens of woodwork, amongst which is most prominent the Prince's Chamber. It was built in 1425. From the same period dates a richly-carved table in this building, and of further value are the wooden doors.

Here I must mention that St. Sebald's monument in that church at Nürnberg, must have existed in wood previous to its being cast, and in that material it formed a masterpiece of conception and execution.

The splendid pews in the Minster at Ulm date from 1468. The most perfect masterpiece in Germany is undoubtedly the prayer pew, made in 1472, for Count Eberhard, of Würtemberg. It has been illustrated in seven plates by Heideloff. The abbey Church at Laach, on the Rhine, retains fragments of an altar-screen carved in 1480, which bear traces of colouring.

A most beautiful altar-piece from the end of the fifteenth century is in the church of St. Wolfgang, in *Upper Austria*. It rises from a pedestal 2 feet 9 inches high, and 4 feet 8 inches wide, decorated with carvings and painted wings, by which it may be locked. Above this is the headpiece, 15 feet high. The carved figures are a little more than natural size. The scene in the centre, representing the consecration of the Virgin by God, is wonderfully executed. On the right is St. Wolfgang, and St. Benedict is on the left. The paintings relate to the life and death of Christ and the Virgin. The figures in the upper portion are Christ, Maria, St. John, St. John the Baptist, St. Michael, St. Ottilie, &c. Upon one doorway the following inscription is carved:—"*Benedictus abbas in manse hoc opus fieri fecit ac complevit per magistrum Michaelem Pacher de Prawneyk, A.D.* 1481." (Benedict the Abbot had this work made and completed by Master Michael Pacher, of Brunecken (Tyrol), in the year 1481.) In the Hospitallers' Church at Salzburg is a highly-elaborate shrine in the shape of an oblong square, carved in wood, gilt and painted. It dates from the second half of the fifteenth century, and the conception and execution are very artistical. It serves to keep the relics of saints. Of high merit are also the twelve pews in St. Barbara's Church at Kuttenberg, in Bohemia. The seats are partitioned, and have a canopy at the back. These were worked by Meister Jakob, and are certainly one of the finest specimens of Gothic art from the fifteenth century.

Near Ishel, in *Austria*, lies in a picturesque situation, the small market-place, Hallstadt. In the parish church of the same is an elaborate altar-piece, of high artistic conception, executed in limewood. It is decorated with gold and colours, and dates from the end of the fifteenth century. The carved groups and the paintings refer to the life of the Virgin Mary. The height of this altar from the stone pedestal is about 26 feet. In the course of time it has suffered much; but its original form and details have been gathered and published by Jobst and Leimer in their work, "Mittelalterliche Kunstwerke aus Oesterich, 1862."

The same artists furnish also a view of an altar-screen in the church at Waldburg, Upper Austria. This bears the date of 1521, and has many beautiful features.

From the fifteenth century are the wooden doors in St. Gereon's, at Cologne, very striking by their peculiar carvings. The figures project very little, which the artist, no doubt, purposely determined in order to avoid the heavy weight of the wings. They were originally painted in harmony with the character of the whole building. In this same church are also some old pews of romanesque character, worthy of notice.

Of the same period exists, at Nürnberg, a piece of furniture serving as a cupboard, with stand. It was entirely covered with colours. In the same town is a coat of arms, carved in 1481, illustrating the union of two families. In Kidrich is a fine prayer-stool; and a reading-desk frame, 1496, is in the church at Pappenheim, where also portions of old pews are remaining.

The abbey church at Blaubeuren retains some good woodwork, more especially the magnificent altar-piece, richly carved, and noble in appearance. Of good character are also the pews in St. George's Church, at Altenburg.

The doors at St. Laurentius's and at St. Sebald's, Nürnberg, are both examples from the end of the fifteenth century.

Some excellent pews are preserved in Seidelfingen, in Würtemberg; and a number of doors appear in Nürnberg, Ober Kranichfeld, and Denkendorf.

In the cathedral at Halberstadt is a splendid example of carving over a tabernacle, and some curious poppy-heads from the time of Bishop Ernest of Saxony.

The Townhall of Nürnberg occupies the attention of every visitor by its ancient woodwork, from the fourteenth and fifteenth centuries. Amongst the most important is the large ceiling over a room 80 feet by 60 feet, which was, however, not finished until 1613, by Mr. Behain.

Prettily carved flowers are seen in the pews in St. Laurentius's Church, Nürnberg. In the domestic buildings attached to this church are wooden ceiling and doors, with interesting details. In the former nunnery church at Löwenthal, on the lake of Constance, we find fragments of an altar-screen and pews which are neat and manifold in their design.

The pews in St. Clara's Church, at Nürnberg, are very good, and were made in 1515. Similarities are found in Tübingen, in Stuttgard, and in Bebenhausen.

In a private house at Nürnberg are two columns, supporting galleries, with carved railings. A house in the Burgstrasse, in the same town, retains a very interesting door; and one similar to it is at Castle Salzburg. In the armoury at Nürnberg is an old chair from the time of the Emperor Maximillian I.

The woodwork in Castle Hohenstein, Würtemberg, is also worthy of attention. Plate 6 represents a magnificent door, made between 1535 to 1540, and a richly-carved table from the beginning of the fifteenth century is on plate 67.

In the church at Herrieden is a reading-desk from the end of the fifteenth century, and a very rich table with carved and inlaid decorations is in the Abbey Kaisersheim, in Swabia.

In domestic architecture we find interesting features in Salzwedel, Brunswick, and Halberstadt. In Hildesheim are very good carved transoms. A door in Salzwedel deserves more special attention. In Gosslar is a fine door, with richly carved frame: the wings seem to be of later origin. Wardrobes of this time are met with in Salzwedel, Nordhausen, and Calcar, on the Rhine.

From the middle of the sixteenth century are the ceiling and wainscoting in Castle Füssen. The former is a most remarkable production of the period, and partly decorated with colours. In Stendal is a bay window, supported by a column, bearing the date 1650. Similar details are found in Gosslar, Brandenburg, and Magdeburg.

Doorways of this period are seen in Salzwedel, Taugermünde, and on St. Martin's Hospital, Nordhausen. Some of these bear the date 1530.

In St. Catherine's Church, at Brandenburg, is a wooden floor under the organ, which is painted in the character of the seventeenth century. Ceilings in the same style are those in St. Anne's, at Stendal; in the cathedral at Brandenburg; and in the town-hall at Nordhausen.

Open timber roofs, such as we have in England, are scarce in Germany. One reason for this may be that, in the latter country, they adhered more to the stone vault.

Before I conclude my remarks upon the wooden structures in Germany, I refer to the rustic habitations which are scattered through the Black Forest and through Switzerland. They are the result of study and of experience, from the fifteenth, sixteenth, and seventeenth centuries. Many of them are really charming, and display happy motives. It will be seen that a great similarity exists in these structures; but each canton (or county) bears a character of its own. All those who wish to get information about this style of architecture will find it in Eisenlohr, "Holzbauten des Schwarzwaldes;" Hochstetter, "Schweizerische Architectur;" Varin, "L'Architecture Pittoresque en Suisse."

In Spalatro, in the kingdom of Dalmatia (Austria), the visitor's eye is attracted by a fine wooden door at the cathedral. It was made by A. Guvina, a native of that town, in 1214. This door has two wings, each divided into fourteen panels, in ornamented frames. In the centre of the panels is the relief, 1½ inch deep, 13 inches high, 16 inches wide. The ornaments are fastened with wooden pegs. The total height of the doors is 16 feet 3 inches by 10 feet 6 inches, and 2½ inches thick. The twenty-eight carved reliefs refer to the birth, the life, and the death of Christ. The technic is very remarkable, and it is one of the most ancient that we know of.

In the parish church at Arbe, in the same kingdom, are seen some fine pews, bearing the date 1445. The style in which they are executed denotes them to be Venetian workmanship. They are bold and energetic in design, and create a good effect. (*Jahrbuch yur Erhaltung der Baudenkmale im Oesterreischischen Kaiserstaate. Band* 5.)

Italy.—A beautiful construction in wood was seen in former years in the cathedral at Messina, in Sicily. It is much to be regretted that this fine work was destroyed during the late revolution, 1859, and we have in future only to look for it in the illustrations by Messrs. Morey & Rous, "Charpente de la Cathédral de Messine."

In order to understand the various features displayed in this edifice, it is necessary to call to our memory a few historical facts. The original inhabitants of Sicily were Pelasgians. It became

a colony of the Phœnicians and of the Greeks. The latter founded Messina, and the traces of Hellenic art are to be found in all the remains of the old monuments throughout the isle. In the third century before Christ, Sicily became the battlefield where the Carthagenians disputed to the Romans the supremacy of the world. Since then it belonged to the Romans, who were conquered by the Goths under Theodoric. In 827, after Christ, the Saracens invaded Sicily; and towards the end of the eleventh century it was conquered by the Normans. The character of these various tribes is traceable in the Cathedral at Messina, but the Grecian style is predominant. The carpentry itself is of plain construction, and it is the decoration which occupies our attention most. The paintings must have been made after earlier examples, introduced by the Greeks. The cathedral itself was erected under the Norman King Roger II., in 1130, at the time when the country was in full prosperity. It shows the form of a Christian basilica, combined with the richness of Grecian decoration, and some limited features of Saracen architecture. The Roman basilica is displayed in the shape of the edifice. The Pointed arch refers us to the Pelasgians, and the Byzantine style we see in the painted figures. Besides these, we notice the Mauresque in the Arabesque ornaments. The domineering Grecian character is displayed in the correction and in the arrangement of the ornamentation of the carpentry. Although this monument was erected during the Middle Ages, it must be looked upon as a copy of antique art.

From the sixteenth century dates the fine and most elaborate wainscot in the vestry-room in St. Maria's in Organo, at Verona. The author of this beautiful piece of workmanship was Fra Giovanni. It is certainly the finest in Italy, and its effect is more heightened by the paintings above on the vaults which were made by Moroni. In this same church is also preserved a reading-desk by Fra Giovanni. In its general appearance it looks a little heavy; but it has one peculiarity: the carver has represented through inlaid work an antiphonary, which I have not met with elsewhere.

The seats in Santa Maria Gloriosa de Frari, at Venice, are from the fifteenth century, and are a mixture of German and Italian art.

From the sixteenth century remain pews in St. Peter's Church, at Perugia. The artist who produced these had, no doubt, made his studies in Rome, as the example displays much of ancient Roman art, and as such is very fine.

From the end of the fifteenth and from the beginning of the sixteenth century are the pews, decorated with marquetery work, at Sienna and at St. Assise, near Florence.

A fine specimen of Italian Gothic is the wooden reading-desk which stands in the apsis in St. Ambrose's, at Milan. Jos. Justen.

THE ARCHITECTURAL EXHIBITION.

Our notice, last week, of the Exhibition now open in Conduit-street, referred exclusively to ecclesiastical architecture; but many of the drawings of recently executed or designed works in the branch of our art, were left unmentioned. It has been remarked to us, that writers who make question of the appropriateness of the Mediæval plan with broad aisles and long transepts, for the Protestant form of worship, do not recollect how many churches have been built of late years, quite without aisles; and that the old examples, indeed, are numerous. Instances of the latter arrangement, however, are almost exclusively those of small churches; and efforts to do away with the obstructions to the view of that portion of the interior where the service is conducted, and to hearing, may really be considered as limited to the case of the designs that we described, where the aisles are intended to serve merely as passages, or to the Dissenters' chapels that we noticed, where iron columns are substituted for massive piers. The growth of the latter class of structures,—nourished, perhaps, by the decided course taken on the occasion of the competition for Mr. Spurgeon's chapel,—shows that the importance attached to preaching is not lessened since the eighteenth century, the latter half of the seventeenth century, the period especially comprising, with that of the construction of galleries in churches. Meanwhile there are many who, considering that the importance of preaching should be recognized in the plan of the structure for the Reformed Church, whilst that galleries, or any arrangements of seats not facing in one direction, are unsuited to a house of prayer, point to the existence of models in some of the churches of the preaching friars, which would be more in harmony with the Protestant form of worship, than the arrangement usually adopted. To the subject of these models, possibly we may advert at some future time.

To see what has been the usual arrangement of plan, we may not unfairly take the evidence as we find it in the works that are shown in one drawing (No. 188) by Mr. John Norton. These include many of domestic architecture, and amount to seventy or eighty in number; whilst in the frame, we find clearly shown the plans of ten churches. The smaller buildings, four in number, have no aisles: the six others are designed with those features of plan; and have them of width sufficient for the reception of seats. All the plans have long chancels, unless with one exception; whilst two of the designs have also transepts in the rear of the position of the reading-desk and pulpit. The erroneous course that some architects are following as to uses that some architects are following as to uses of a class of buildings, leads them to a similar course in the decorative part of their architecture. This part, as in the case of the works just now noticed, has every good quality but that which memory alone does not supply. Of that, novelty, we demand very little, and we even dread its dominance; but that it is an essential in art nevertheless, we have often shown. But, can any architect under the prevalent fears of employers about deviating from thirteenth and fourteenth century precedents, produce a multitude of works in ten years, without danger of getting worse at every fresh case? Two designs (280, 290) for the new church at Hertford, by Messrs. Thos. Smith & Son, Geometric Decorated in style, and one of them certainly not a bad production, are yet behind the requirements, if we are right that something is required in art-architectural beyond details that are those of the "Decorated" period, and something in plan distinct from the arrangements of the Roman Catholic church in the Middle Ages.

In certain architects' works, indeed, we excuse what is left of Mediævalism, for the sake of an unusual amount of freshly-designed detail. Amongst such works are those of Mr. Street, which are represented in Conduit-street, though rather less forcibly than heretofore. His principal drawing (152), "Interior of St. Peter's, Bournemouth, now in course of erection," is more remarkable for its workmanship than for those piquant bits in which the architect usually indulges; whilst in the "Elevation of the Font, Font-cover, and Metal Baptistery, about to be erected in the church of St. James the Less, Garden-street, Westminster" (216), there are details which along with the general form, are very questionable. Such are those of the shafts. When decoration is added to members of the sort in question,—unless it be ornamentation of a mere necking, or of the whole shaft,—it is usually applied to the lower portion of the shaft. There should be argument other than that of novelty, for deviating from an arrangement which is so general; and we do not discover it from the design before us. The design for the proposed church of St. John, Torquay (233), where the tower has a lantern-terminated capping, and four corner pinnacles, each lead-covered and square on the plan, is the best of the works that Mr. Street exhibits. His "Chapel of School-room, &c., now in course of erection at Uppingham, Rutland" (287), is rather tame, from his hand. His "Prospect of the Church of St. Michael, Penkivel" (235),—like the last, a coloured drawing,—shows a building "now being restored" under his care. Beneath a lich-gate, in the centre of the way, appears a block of masonry, slightly decorated at the sides, the use of it being to rest the coffin upon. But we can recognize little effort in this architect's works to solve the problem we have adverted to; indeed, some of his interiors are remarkable for massiveness of their piers. Similar remark might be made of Mr. Slater's works; though there is always something noteworthy in them. His "Burntisland Church," of which an exterior and an interior view (204, 205), are exhibited, is built on sloping ground, which gives the chancel considerable height on one side; and it has a lofty straight-sided, and very blank-looking tower, surmounted by a short spire. Internally, the church is remarkable for the arrangement of the chancel. A flight of steps, broken only by a landing, occupies the middle of the chancel, starting from the usual position of the screen and terminating at the commencement of the polygonal apse. Within the apse, stands the altar, a *baldacchino* or canopy on four shafts, quite detached from the wall at the back. A low screen-wall, similar to that now generally substituted for a roodscreen, is returned as parapet to the steps, and appears also to serve as the front and desk to the stalls. We cannot discover whether the structure is for the Protestant or the Roman Catholic ritual; but if the arrangement of stalls in a choir or chancel, and the custom of conducting part of the service at a distant table or altar, are to be maintained, this disposition of the eastern portion of a church may have some advantages. The cubical form which Mr. Slater has adopted for the upper part of his pulpit, appears, as he has it, very inferior to forms which are of the circle or octagon on plan. In the same architect's Honolulu Cathedral (213, an interior view), he has relied almost entirely on painted decoration. The piers are simple parallelograms on plan, and carry pointed arches, which are without chamfers or mouldings. The colour consists of occasional bands and rosettes, very plain in treatment, with more elaborate ornamentation in the place of imposts. This latter forms the termination to a subject, on each pier, presenting figures of the saints. Spandril-trusses, boarded over and perforated, are placed beneath the tie-beams, dividing the length of the nave into the bays, by a succession of pointed arches; whilst the timbers above the tie-beam appear to be plastered over on the upright face,—the triangular compartment thus formed, being treated as a space for painting. The figures represented have an archaic, not to say deformed, manner; but, in several respects, the architect's work has merit. Form, at least, is not thrown away for the sake of colour. The whole design should be judged whilst recollecting the class of mind to which, in this particular cathedral, decoration will be addressed. The same architect exhibits a view (265) of Mr. Beresford Hope's house, Bedgebury Park, as altered by the late Mr. Carpenter. It is a building of Italian character, with two stories of dormers in the roof. To the church adjoining, Mr. Slater has added a spire. Had he looked no further than some of the Italian churches of Wren, he might have found out how to produce a spire more worthy of himself as a Gothic architect, than this one is, at Bedgebury. Amongst the numerous works that are exhibited by Mr. E. B. Lamb, is (in No. 159) a sketch design for a church, "proposed to be erected near New York, America, a plain building, to accommodate 5,000 persons;" but there is no plan; otherwise it might have been interesting to see how the architect proposed to deal with so large a number. We observe, however, that the main portion of the building is a square on the ground, terminated by a pyramidal roof-covering and a square lantern; whilst that projecting east and west, are narrow portions of the plan, one of which is flanked by two towers in the re-entering angles. Mr. C. H. M. Mileham exhibits sketches (242) of a design for a church to hold 2,000 people. It has no piers or galleries; and the plan is a square, with side recesses, and a shallow recess as chancel, from the middle of which projects an apse. The central area is domed over on pendentives; whilst the sides are vaulted. Externally the design is plain, showing only the angle portions and centre surmounted by pyramidal roof-coverings, and the doorways and other apertures arch-headed; whilst a band of sculpture encircles the lower portion of the building.

Several works in ecclesiastical architecture, by Mr. Goldie, are in the Exhibition; but one of them, the Conventual Church of St. John of Jerusalem, Great Ormond-street, erecting for Sir George Bowyer (72), is, so far as we are able to judge from the elevation that is shown, the least satisfactory of the works by the architect that we have seen. A very plausible argument might be put forward to the effect that those who are known as Gothic architects,—who are not ignorant of the principles of design in general, or of history of architecture in its varied examples,—would be those to whom, if the Gothic were forbidden, we should look for the regeneration of architecture. For not having power or temptation then to adopt the features of the Gothic which are not those of our civilization and time,—and which by their own account, they are striving to eliminate from the Gothic,—these architects would supply to the other style which they would have to take up both the originality in features, and the full measure of correction, which are within the scope of the Gothic, and are all that the Italian style has wanted,—substituting spirit for tameness, and imparting that propriety and truth of structure which have been too often subordinated to supposed effect. In this way, it might reasonably be argued, that the last selection of the architect for the Government Offices, with the stipulation imposed upon him,—far from being, as has been said on both

sides, an unwise measure,—was the most judicious step that could have been taken with the aim at a future grand era in our art. Surely this ought to be the result, if the present men are artists, and not merely clever compilers. Unfortunately, here in the Exhibition is a case where such reasoning is pulled up short: and, referring to Reynolds, where we find that *invention* is nothing more than a series of images previously gathered and deposited in the memory, we are brought to a conclusion that the modern Gothic art must ere long be worn out, if its professors are able to devise no greater amount of new material than they here give. Mr. Goldie in this conventual church, has produced so spiritless a design, that his presentation of Italian architecture must be repudiated by all who are aware of the capabilities of that particular style, as by many others who regard taste as favoured by neither style exclusive of the other, or especially. An arrangement of four Ionic pilasters below, and four Corinthian with a pediment above; an ordinary doorway, and a window with broken pediment; certain emblems which have little of ornamental character; and a dome appearing in the distance, are the features. Mr. Goldie must have tried to make the Italian repulsive. His other works in the Exhibition include a view (187) of the "Interior of St. Peter's Church, Phibsborough, near Dublin,"—an excellent drawing, showing the chancel and transepts, with many altars,—a "Prospect of the Priory of Our Lady, Richmond, Yorkshire" (310), one "of the Convent of Mercy, Ballina, county Mayo, Ireland" (311), and "St. Wifred's Church, York" (364). He also exhibits an "Elevation of Principal Front for Hôtel de Ville, Brussels" (318), and "Sketches for Portions" of the same building (348), which were submitted in competition in 1861.

Amongst the drawings of works in ecclesiastical architecture, are certain "Studies" (374, 377, and 378), by Mr. Henry Clutton, referring to buildings designed and executed during the last three years; and Messrs. Willson & Nicholl, besides a drawing of "St. Charles Borromeo's Church" (162), and one of metal-work (241), display in one frame (266) designs for schools, cottages, chapels, altars, and other works, which have considerable merit. With these is a drawing of the Chesapeake Memorial, Southsea, Hants, a monument of the columnar form, and which is neither a large-scale copy of Doric or Corinthian, nor a bad thing in the main. However, the pedestal is sadly deficient in base-moulding. Mediæval structures, with which the architects are familiar, invariably have the base spreading and boldly marked, as requisite for the idea of support. Could we generalize from such instances of inaptitude to grasp principles that may be learned in any good style,—principles which are those of universal architecture,—and to apply them universally, we should be in danger of arriving at a low opinion of the merits of some of our architects as artists. The study of models, even those of a single style, should teach something more and better than the imitation of them, or of their style restrictedly and alone. Amongst the designs for churches, in the Exhibition, should be named the design by Mr. Ashpitel for the "New Church for Oamaru, New Zealand, to be built of wood, plastered between the timbers, and covered with shingles," of which "the idea is taken from an old chapel near Pershore, Worcestershire." The design here is very simple, though ecclesiastical; but it is suggestive of works that might receive a considerable amount of decoration from native hands, and preserve records of ornamentation that may shortly become extinct. The wooden will should have been placed on stone, both for durability and effect.

Without attempting a classification of the structures represented in the Exhibition, and the designs, comprised in the secular division of buildings and architecture, we will now mention some of the principal works of that division. Amongst them are two designs for completing the International Exhibition building decoratively. One, by Mr. J. Giles (234), would make very great alterations in the course of "improving" the building, the most important being the removal of the domes, and the reconstruction of one of them in the centre of the plan. Besides this central feature, there would be three domical roof-coverings to each angle-block, and many additions in details, the general result being a somewhat better effect than that of the existing structure. The other design (256), "A Suggestion," by Mr. H. B. Garling, certainly does not seem to us as it is described, in the same *motif* as "the arcades of the Horticultural Gardens." Its regular bands of colour, and its domes, as well as certain features like minarets, make the whole design Mediæval-Egyptian or Saracenic; and because the design is markedly of that character, it is not as the author considers it, "in an appropriate style." Mr. Giles also shows a photograph (34) of his accepted design for the Langham Hotel. The details of the windows too closely resemble those of the Grosvenor Hotel. A tower with domical roof-covering is added. Two of the competition designs for Malvern College, are shown. One of them (121 to 123) has some good details of Early English character, modified by the introduction of sculpture in *tympana* of arches; but certain window-mullions would be weak, of the length they are shown.

Some good drawings for the decorations of the Bath theatre, by Messrs. Green & King, as proposed in the second premiated design by Messrs. Green & De Ville (116, 117), are hung side by side with others for the decorations of the Hartley Institution, Southampton (93, 96, 100, and 105), bearing the same names of architects and decorators. These drawings deserved to be better placed, not only on account of their merits, but because every opportunity should be taken to demonstrate the importance of interior decoration as a subject for the attention of architects themselves. All decoration is part of architecture; coloured decoration is predominantly concerned in the effect of most interiors; and architects should never have allowed the study and control of it to escape them. Photographs from plans of the Bath Theatre, the building by Mr. Phipps, lately completed and opened, are shown (177), but at too great a distance for examination.

One of the most important drawings in the collection, from the subject, and the drawing itself, is the View of London from the Victoria Tower, Westminster (179), which helps to show Mr. H. R. Newton's proposition for the embankment of the Thames, and the general character of buildings that might line the new roadways. Without a plan, and elevations of the two lines of quay, it is impossible to understand all that the project included. It is only plain that the author was in favour of a high-level line, with descents from it, to pass under the bridges, in addition to the junctions with the bridges at their level; but we are left in doubt as to the mode of passing the Houses of Parliament, as well as Somerset House, and whether there would be sufficient headway under the Charing-cross Railway-bridge; what would be done with the barges, and floating timber, and as to the goods at present craned into warehouses; how the arches designed to carry the roadway would be kept free of filth and silt, and how they could be properly watched by the police, as well as how the sewer would be provided for. But there is reason, beyond what is shown by Mr. Newton, for apprehension that the design carried into effect will be far from that which the public convenience demands. Mr. C. Henman also exhibits a design (198) for embanking the river, but only in a view. It is evident, however, that on the north side he would contemplate two roadways—a high-level and a low-level, the latter passing under the bridges, and the former intersecting their causeways at the ends. The low-level roadway would be lined, of course on one side only, by shops or other premises, forming the substructure of the high-level way. But, we must repeat, views are of no use without drawings to measured dimensions; and how exhibitors can omit to give the information that plans, elevations, and sections alone can afford, is inconceivable in an exhibition addressed to architects.

Perhaps the best illustration of the decorative character of a recently-erected building is comprised in the two views (143 and 147), and the photographs of details (144), of the seat of Mr. Manners Sutton, Kelham Hall, Newark, Nottinghamshire, by Mr. Scott; though no plan is attached. The general character of the Gothic, which is expressed in red brick and stone, might be anticipated by those who are familiar with Mr. Scott's recent manner, which may be said to have started with his Hamburgh Town-hall design, moulded on the architecture of Mediæval works of the class in Flanders, Belgium, and the Netherlands, and to have culminated in his competition designs for the Government Offices, which came subsequently to the commotion raised by Mr. Ruskin about Italian Gothic. Assertions made about the time of the competition, touching a want of scope in the Gothic style for the expression of modern ideas, put Mr. Scott on his mettle to prove the contrary; and he has ever since proceeded as though the object of designing were to exhibit the greatest possible variety of details, yet to show that those of common or vulgar use could be dispensed with at will. Such variety, along with good carving, for which some of the credit is due to exertions which he has made in connexion with the Architectural Museum, are very marked in this design, in which we find pointed-arched windows of Early "Decorated" character and cusped sub-arcuation, other windows with horizontal lintels below the arch, and the *tympana* pierced,—arrangements always reviving the question whether rooms are properly lighted and ventilated in the upper part,—windows of the Venetian Gothic type, or square-headed with tracery; parapets and balconies filled in with diminutive shafts and trefoliated arches; dormers, oriels, window architraves of Renaissance character; and a clock-tower, straight-sided, and finished with some form of gabled roof or pyramidal capping, and with a lantern. Such is the style that Mr. Scott has formed and may be recognized by; though we might wish some features of it otherwise than they are. But we do not know that the architect has used the general features with better effect decoratively, than in the design for Kelham Hall. Mr. Scott also exhibits several views (197) of the Westminster Chapter-house, showing the proposed restoration; and the "Reredos—Lichfield Cathedral" (305); whilst from the hand of Mr. J. D. Wyatt, we find (239), the chapel about to be erected for St. John's College, Cambridge, (designed by Mr. Scott), the subject of our illustration last week.

Mr. Truefitt exhibits a large drawing (226) which includes views of numerous buildings that he has designed and superintended in thirteen counties, and representations of sundry monuments, fittings, and articles of furniture. Amongst the objects that are of minor dimensions, are the Manchester Cathedral font and cover; and amongst the houses are several, in the neighbourhood of Holloway, in which whilst mullions are abandoned, some of the best features of the Gothic are retained, the result being works that help to prove, what many even have to learn, that plain and cheap construction, and good effect, are not inconsistent with one another.

We have not yet finished.

BRITISH SCULPTORS.

THE FAMILY OF "THE CURES."

A CATALOGUE of English sculptors exhibits a succession of sculptors in the same family:—Thus we have the family of "the Cures," *temp.* Queen Elizabeth and James I., the family of "the Stones," in the reigns of James I. and Charles I.; the large family of "the Christmases," in the same reign; the elder and the younger Bacon in the long reign of King George; two "Theeds," two "Wyons," and a long generation of "Westmacotts;" and yet our sculptors have in many remarkable instances been childless of any progeny beyond men and women, and gods and goddesses, in marble and plaster. Roubiliac died childless, Nollekens died childless, Flaxman died childless, Chantrey died childless, and all four were married men. Cibber left a son, who took, not to his father's compasses and chisels, but to literature and the stage. Gibbons had a family of daughters; Wilton left a lovely daughter immortalized in "Boswell," and a son long remembered *out* of his father's calling, as "Beau Wilton," and nothing more. What I have to tell in my present communication will relate to "the Cures."

There was living in Southwark, in the City of London, when (1603) King James I., removing the Tudor griffin, brought the Scottish unicorn into the Royal arms of England, a certain *Cornelius Cure*, sculptor, and servant of Queen Elizabeth, holding and exercising the office of "Master Mason" to the Crown. *Cornelius* was continued in his office by King James, and dying in 1607, without a will, administration of his effects was granted to his son *William*. *William*, with his father's good luck (how unlike the Hanoverian dismissal of Wren for Benson), succeeded his father as master-mason. *Cornelius*, at the time of his death, was busy on the monument of Mary Queen of Scots for Henry VII.'s Chapel, in Westminster Abbey, and *William* Cure, his son, completed and erected the Mary monument; that monument which *alone* preserves to us (in spite of Mr. P. F. Tytler and Mr. Albert Way), the *true* portraiture of Mary Queen of Scots.

In Southwark, in St. Saviour's Church, the church immediately adjoining the parish of St. Thomas the Apostle, is a monument to Thomas Cure, saddler to Queen Mary and to Queen Elizabeth. The saddler died in 1588. What relative was this Cure, saddler to the Queen, to the Cure who was master-mason to the Queen? Mr.

Corner, F.S.A., who is "well up" in all Southwark matters, will, perhaps, assist a future historian of English sculpture with the information he requires. The records of Cure's College, in Southwark," will, in all likelihood, throw some light on the point.

With the metal work of the Mary monument Cure had nothing to do. Witness the following entry, to which some years ago I directed my friend Mr. Albert Way's attention.

"To *Thomas Bickford*, smithe for making and setting up an iron grate for the tombe sett up in Westminster Abbye for the late *Quene of Scottes*, conteyning in compasse 14 foote and in heighte five foote besides the garneshments being all well wroughte and the garneshments & pillars clene filled—CIIIJXV." [*i.e.* 195*l.*]*

Cure's "pay" for his portion (the marble work) of Mary's "tomb" was in all 825*l.* 10s., or two thousand pounds at least of the money of the present day. To this we must add 195*l.* to Bickford for the metal work about it, and 265*l.* to James Mauncy for the painting and gilding.—some 1,350*l.* of Queen Victoria money more. The "Issues from the Exchequer," printed by Mr. Devon, contain these entries: Mr. Wornum, Walpole's last editor, has entirely overlooked them.

Another example of William Cure's skill in his art is the Tomb at Cranford, in Middlesex, of Sir Roger Aston (Master of the great Wardrobe to King James I.), his two wives, four daughters, &c. Aston's agreement with Cure is in print;† and I the more readily refer to it here, as the "terms" "conditions" and "percentages" made with sculptors and architects, have been the subject of a curious and not very satisfactory correspondence in the columns of the *Builder*. In this agreement he describes himself as "William Cure, Esq., of St. Thomas the Apostle, in Southwark," and undertakes (4th January, 1612), for the sum of one hundred and eighty pounds (180*l.*), "well and sufficiently, and workmanlike, to the best of his power, art, and cunning, in good and artificial order, to hew, cut, work, carve, make up, and finish, of alabaster tutoh, rance, and white and black marble, one tomb or sepulchre for the said *Sir Roger Aston*, and his two wives and four daughters, with the seven pictures to be kneeling upon the same, and the same tomb to be of length, breadth, and fashion of a pattern drawn by the small sort, subscribed with the hand of the said Sir Roger Aston and William Cure, and remaining with the said William Cure in all points as comely and cunningly, and with as much work as the same pattern doth purport and signify, with all manner of arms, scutcheons, and superscriptions that shall be desired by the said Sir Roger Aston, his heirs, executors, or administrators, and the said tomb so to be made and finished as aforesaid, the said *William Cure*, his executors or assigns, at his and their costs and charges, as well in carving, as in and by all manner of stuff and workmanship, shall cause to be *set up, placed, fully finished, painted and gilded, in the parish church* of Cranford, at or before April 30 [1613]."

Let my readers who have not an opportunity of seeing the Cranford monument look at it as it is engraved in the "Environs" of Lysons. An experienced eye in estimates, with the monument itself before him, could doubtless calculate to a pound what the cost would be of a monument of a like description and size, and by a sculptor of a like reputation to Cure's, at the present day.

This same *William Cure* of ours worked under Inigo Jones at the Banqueting House at Whitehall. As master-mason to the Crown, Inigo as surveyor of the Works to the Crown was bound to employ William Cure. Nor will a mason of the present day find fault with the goodness of the work which Cure performed, viewed, as it is now to be viewed, after two centuries and a half of London smoke, and some coarse restoration and picking out. Cure's remuneration will excite a smile among our friends, in and out of the famous masons' strike. This skilled master-mason to the Crown, with Inigo Jones to look after him, was paid from the 1st of June, 1619, to the last of February, 1623, at the rate of eighteen pence per day, and for fees for the same period at twenty marks per annum. My father, as master-mason and foreman to Sir Francis Chantrey, was—taking the difference of moneys and the price of provisions into consideration, and Cure's wardrobe allowance withal,—no better paid, if indeed as well.

William Cure continued master-mason to the Crown until his death. He was buried in the church of the parish in which he lived, the register of St. Thomas the Apostle, in Southwark, containing the following entry, now first published (price to the writer for fees for searching, only five shillings):—

"1632, *Aug.* 4. *Buried William Cure, Esq., the King's mason.*"

I like the *esquire* of the entry,—*Sir* Inigo that "would be" was nothing more.

This "calling up" of the church of St. Thomas the Apostle, in Southwark, reminds me very pleasantly that the sculptor of Shakespeare's bust and tomb at Stratford-upon-Avon, in Warwickshire, was "Gerard Johnson, a Hollander, in St. Thomas Apostle's." This, Dugdale, a herald, antiquary, and the historian of Warwickshire, assures us. I regret to add that a long and costly attempt I made to unearth this Gerard Johnson in the registers of St. Thomas the Apostle was to no effect.*

Cure's successor in his office of master-mason to the Crown was Nicholas Stone, of whom there is an account in Walpole. To what Walpole has said of Stone I shall have something to add in a future communication.

Peter Cunningham.

* Works Accounts of the Crown in the years 1613–1614, formerly in the Audit Office, Somerset House, now at the Record Office, Chancery-lane, London (see a like entry in Harl. MS., 1583). Harley, Earl of Oxford's brother, was an Auditor of Imprests.

† *Gentleman's Mag.* for Feb, 1830.

* I have said in my "Handbook of London" (second edition, p. 493), under the head of St. Thomas the Apostle, Vintry Ward, that Gerard Johnson lived in that parish and ward. I am now convinced of my mistake, and feel assured that Gerard Johnson lived, like Cure, in St. Thomas the Apostle, Southwark, near to the Globe Theatre, and that he must have often *seen* Shakespeare. If I am right in this conjecture, the Stratford bust becomes additionally valuable as a *likeness*.

OPENING OF THE BAHIA AND SAINT FRANCISCO RAILWAY.

A correspondent writing, February 11th, from Bahia, says,—You will be glad to hear that the Bahia and St. Francieco Railway was opened for traffic on the 31st of January; Mr. Hutton Vignoles (the resident engineer) taking charge of the train which brought us down. We had the president of the province and a commission of engineers up from Bahia to examine it, who pretended to be very wise; but there was not a man amongst them who appeared to have any idea how the work had been executed; and they were continually making absurd mistakes and exposing their ignorance. Before you receive this, you will have known of the diplomatic breach between the Brazilian Government and the English minister Christie, which led to the seizure of Brazilian vessels by English men-of-war. There is a strong feeling against the English in Bahia; but as yet none has been molested or insulted; the precaution having been taken to send up an English frigate, the *Satellite*, the day the mail steamer brought the news from Rio. Mr. Dick, the superintendent, purposed inaugurating the opening of the whole line of railway by a dinner and a ball on the 4th inst., to which he, of course, invited the President. To his astonishment, the President said he would not be responsible for the safety of the guests, in case of a disturbance by the mob: so the affair was put off, and notice given in the public papers on the morning of the day on which it was to take place. Mr. Ogilvie gave a dinner to the workmen on the 6th inst., which was attended by the resident engineer and others, and went off well. The health of the engineer in chief, Mr. Vignoles, sen., was drunk enthusiastically.

ITALIAN ARCHITECTURE AND ITS VARIOUS EUROPEAN OFFSHOOTS.

At a meeting of the Liverpool Architectural Society on the 25th ult., the second part of a paper by Mr. Samuel Huggins was read. It was a Historical and Critical Survey of early Renaissance, Cinque-cento, and modern Italian Architecture, treated as one continuous style or connected series of styles, tracing its various mutations from its earliest dawn to the present century, and its varied branchings into all the countries of Europe, including its career in Spain, France, England, Germany, the Netherlands, Russia, and the Scandinavian lands, with a descriptive and critical account of the most noted and typical edifices in each style. It is to form the concluding part of a volume shortly to appear under the title of "The Course and Current of Architecture; being a History of its various simultaneous or successive Phases in all Times and Countries." In his introduction, the author remarked that Italy, the hotbed of art, which had witnessed the full development and application of the columnar system of Greek architecture, and its coronation by arch and dome, became the scene of its revival. The first awaking of antique art in the West was owing to the increased intercourse occasioned by the Venetian conquest of Constantinople in 1203, between the Italian and Byzantine artists, among the pupils of which latter was Nicolo Pisano, the father of modern sculpture. In his architectural works—for he was architect as well as sculptor—we saw the earliest dawn of modern architecture which first assumed that unique form which had received the name of Renaissance—a style distinct from the Gothic of Italy, which it superseded, and from the more purely antique, to which it led. He had placed the day-spring of the Italian style at an earlier period than it was generally referred to, and to an earlier period than might be at all supposed auspicious to such an event. It was a book-burning, heretic-hunting age: philosophers, and particularly mathematicians, were looked upon as dealers in the black art, or at least as of doubtful orthodoxy. Of mathematics and physics even the clergy were ignorant—so ignorant that, as Anthony à-Wood says, they knew no property of the circle but to keep out the devil, and thought the points of a triangle would wound religion.

But this thirteenth century witnessed a change in more than one department of intellectual inquiry. It was a significant fact that painting and sculpture and architecture became freed from their thraldom at the same time as physics and mathematics. Cimabue, N. Pisano, and Arnolfo, of Florence, the fathers of painting, sculpture, and architecture respectively, were contemporary with Roger Bacon, the founder of experimental philosophy, by which tyranny and persecution were doomed. The waters of barbarism still flowed over Europe, but they were abating. Italy, the Ararat of the intellectual world, was heaving her head above the floods; and art, like the dove from the ark, could not find rest for her foot. In the thirteenth century, the schoolmen, with Aquinas and Duns Scotus at their head, were still all potent in Europe; but on the threshold of the next appeared the three renowned fathers of Italian literature, Dante, Petrarch, and Boccaccio, whose contemporary was Giotto, one of the greatest names of which the art could boast. The next great architect to Arnolfo was Giovanni da Pisa, the architect of the Campo Santo, at Pisa, perhaps the most beautiful cloister in the world. This was an attempt at the new style, which was formed by a blending of the two styles, Gothic and Classic. Mr. Huggins entered into a full description of the general style and of its system of decoration, which had other sources than the Gothic and Antique, in the gorgeous styles of Byzantium and the Saracens through Venice and Sicily. This style he considered reached its perfection of beauty in the fifteenth century, at Venice and the Venetian cities, and in Lombardy. The Certosa, at Pavia, and the court of the great Hospital, at Milan, were transitional specimens conducting to the full Italian or Cinque-cento style. This Renaissance was the general style of Italy till the end of the fifteenth century, when it gave place to the Cinque-cento or full-grown Italian, which had first appeared in the works of Brunelleschi about 1430. It did not, however, cease to be practised on the introduction of the severer style, but continued in Italy, and was employed concurrently with it; and it was from this later development of the style that the various Transalpine versions of it were derived, and not from the earlier phases, the Tre-cento and earlier part of the Quatro-cento.

These Transalpine offshoots stand at different distances behind the parent style in Classic beauty as well as in consistency and truth, from the antique being less understood, and its charms less felt, in the West than in Italy. In each western country, too, what was derived from the Italian was greatly modified, not only by artistic disabilities and inferiority of resource, but by peculiar national feeling. As the same seed falling on different soil must produce different fruit, so these Renaissance styles of Europe, though they had their source in the same parent style of Italy, soon diverged very widely apart and became very different phases of art. They generally showed the same predilections as regards form and proportion, as well as decoration, which had been exhibited in the national Gothic. He entered into a full description of the complete Italian style which first appeared in tolerable perfection in the works of Brunelleschi and Alberti; and pointed to

everal edifices of the Italian peninsula which llustrate it, and to the leading architects who rought in it and by whom it was brought to erfection. Among the celebrated examples of he perfected Italian architecture he cited, a conderable difference might be observed in the mode r manner of applying the antique elements to nodern purposes, arising chiefly from local circumtances of different cities of Italy. Local disinctions had become visible at an early period of he Italian Renaissance; but now we had three listinct schools,—the Florentine, the Roman, the 'enetian,—founded respectively by Brunelleschi, Bramante, and San Michele. Mr. Huggins enered into a description of these schools, and ointed out their leading characteristics. It was o the Venetian was due the honour of having best ucceeded in adapting the antique architecture to nodern wants. The works of its founder, San lichele, at Verona, and Sansovino at Venice, hile they were among the most successful ever eared for harmony and beauty of form and proortion, and refinement and elegance of detail, xhibited the Classic style completely bent to nodern uses, and re-formed on modern ideas. 'alladio was their true disciple, and followed in he same spirit, enlightened and refined by the ractice and influence of contemporary schools nd further study of the antique.

After no great lapse of years these three schools ecame less definable. As the Florentine school rose earliest so it appears to have been earliest ost. It imbibed the spirit of the Roman, and t length lost its own distinctive character. The oman again assimilated to the Venetian, which pread throughout Lombardy and became the hief source of the succeeding style of Italy, and ainly supplied the various streams of art in ransalpine Europe; Spain, France, England, ermany, and Belgium equally following, in a anner characteristic of each particular country, n the footsteps of Venice. This style was somemes called Palladian from the fact of Palladio aving fully developed and absorbed into his own ystem the styles of his great predecessors of the hool, and from his having greatly amplified the esources of the school or sub-style by introducing nto it what would harmonise therewith of the oman school. He remarked that no style was er more bountifully aided by the sister arts of ainting and sculpture than the Italian; and fter describing the two great systems of ornaentation wrought out for it, the Arabesque and ie Pictorial, he entered into a defence of the mission of symbolism, by which this style differed om the preceding Christian styles. The æsthetic ornament replaced the symbolic of the Gothic ecause symbolism was felt to be no longer need-l; Architecture's office of teacher being superded by the printed page, on the invention of inting and diffusion of education among the eople; since which event doctrinal truths were st inculcated, and the will and the affections ould be most powerfully operated upon through e medium of literature. The modern Italian stem of architecture was carried on in tolerable rity till the time of Bernini and Borromini; and e latter half of the sixteenth century witnessed e creation of edifices of great merit, though not ual to earlier works. By the two last-named chitects, novelty being sought for its own sake, d with little regard to beauty, the style be-me corrupted; till at length, towards the latter d of the seventeenth century, it appeared quite legenerate variety of the original style. About e middle of the seventeenth century the singu-r style of ornamentation called the Louis aatorze was introduced from France, where it d been developed and perfected. It was succeded by the Louis Quinze or Rococo style, hich was little beyond a debasement of its pre-cessor. Improvement dawned in the eighteenth ntury on the manner bequeathed by Bernini d Borromini, and the style was pursued by dilei and Ivara, and by Vanvitelli, who designed Caserta Palace at Naples.

After tracing the parent style through all its ases, the author entered into a description of different branches in western and northern rope. Owing to Spain being more exclusively tholic and under the influence of the Roman rgy, it was the first country that received the lian Renaissance, which entered the peninsula the reign of Isabella, to pursue a very different arse from that it had run in Italy or was deined to run in France and England. The spirit d character of the Middle Age, which in Spain, oured by Moorish poetry and art, legend and mance, had attained to its utmost perfection, d reached its last exquisite bloom—which had nifested itself so vividly and beautifully in the preceding Romanesque and Gothic, Saracenic and Mozarabic styles—continued and survived longer in that country, embalmed in manners, ways of thinking, intellectual culture, and works of imagination and poetry, than in any other. It was to this,—to her escape from the convulsions of the Reformation, and to the enormous wealth that was poured into her lap at the close of the fifteenth century by the discovery of America, and to the direct and potent influence of the poetic art of the Moors,—were owing the extraordinary richness and beauty of the architecture of Spain, rather than to any superior aptness for architectural conception and design on the part of the Spaniards. Mr. Huggins went on to describe the style and to trace its mutations to the present time; and then proceeded to the French branch, an interesting one, and from that to the English, German, Dutch, Belgian, Scandinavian, and Russian branches; and concluded by remarking upon the folly of the present hankering after a new style, all the styles that had hitherto arisen having been the result of circumstances the like to which had not occurred in our age.

ON THE HISTORY OF ENGRAVING.*

The art of *chalcography*, or taking impressions from *copper-plate engravings*, is supposed to have been invented in Germany about 1450, and thus to be coeval with the art of printing with movable types. Some writers of high authority, however, affirm that we are indebted for the origin of this art to the ingenious Florentine sculptor, Masio Finiguerra, who discovered it accidentally.

Pure line engraving is the oldest mode of copperplate engraving. It is nothing more than drawing elegantly on metal. The design is traced upon the plate, which must be perfectly smooth and polished, with a sharp tool called a *dry point* or *etching needle;* and the strokes are cut or ploughed upon the copper with an instrument of an angular form distinguished by the name of *graver* or *burin*. In the first state of the art the lines are comparatively rude, and the value of those productions chiefly consists in the correctness of the drawing. As early specimens of line engraving, when compared with later ones, show the gradual progress of the art, and as the impressions are very rare, they are eagerly sought after and highly prized by collectors.

Like some of us, engraving wisely improved its state by a happy marriage, with the issue of Albert Durer. This immortal artist invented, about 1517, that species of engraving known by the name of *etching*, the process of which is as follows:—The plate is heated upon a stove with a charcoal fire, so that it may not be smoked: a piece of etching ground, which is a composition of virgin wax, asphaltum, Burgundy pitch, &c., incorporated by melting over a fire, and capable of resisting the action of aquafortis, rolled into the form of a ball and tied up in a little silk bag, is rubbed over the surface of the plate. The heat of the plate causes the ground to melt and come through the silk on the copper; then a small dabber made of cotton wool, tied up in a piece of taffety, is quickly dabbed all over the face of the plate while yet warm, in order to make the wax or etching ground which covers it of uniform thickness: the ground is then held over the smoke of a wax candle to blacken it, and the plate is left to cool: it is then ready to receive the design. This is traced with a black-lead pencil on a piece of thin paper, and laid with its face downwards on the etching ground covering the copper plate, and then passed through a rolling-press, which causes an impression of the outline to be transferred on the smoked ground. The design thus transferred on the etching ground is cut through with etching needles, and the strokes thereby produced are bitten or corroded into the copper with aquafortis. It was the happy union of line engraving with this discovery of Albert Durer's which, through skilful treatment, produced the masterly prints of Gerard Audran and others.

Next in point of age is the invention of engraving in *dots*, which was practised about the year 1510. The dots are effected in several ways, and are used either for the whole or certain parts of the engraving. Dots without strokes are executed with the dry point or etching needle, upon etching ground, bitten in with aquafortis, and are afterwards harmonised with the graver, by means of which instrument small dots are made. Sometimes the graver alone is used to express the flesh and the finer parts of the picture. In the print of Domenico Campagnola, about 1570, representing "St. John the Baptist holding a Cup, and looking upwards," the background is expressed by round dots, which appear to have been made with the dry point or etching needle. The outline of the figure is put in with a deeply graved stroke, finished within with dots, and the hair and the beard are expressed by strokes; whilst Agostino de Musis, pupil of Marco Antonio, expressed the flesh only in dots in several of his pictures. Though the art of copperplate engraving could now count its great masters by scores in Germany, Holland, France, and Italy, it made its way very slowly to England. As late as the year 1590 there was hardly such a thing to be found as an English copperplate engraving. Sir John Harrington, in his translation of Ariosto, published in the year 1591, informs us that he "never but once saw pictures cut in brass for any book except his own, and that book was Mr. Broughton's treatise on the Revelations."

Another important style of engraving is that which is distinguished by the appellation *mezzotinto*, invented about the year 1642. It is executed by raising a uniformly dark barb or ground on the plate by means of a toothed tool. The design is then traced upon the plate, and the bright parts are scraped off with instruments in proportion as the effect may require it. The invention of this style of engraving has commonly been ascribed to Prince Rupert. But whatever may be the doubts about his having originated this style of engraving, there can be no doubt that the honour of having first introduced it into England belongs to the Prince.

The last species of engraving we have to mention is *aquatinta*, which derives its name from its resemblance to water-colour drawing. As in etching, the design is first traced upon etching ground, and afterwards a sort of wash specially prepared for the purpose is laid on by the means of aquafortis. By this mode of engraving, which was originally invented by Le Prince, a French artist, about a century ago, drawings in Indian ink, bistre, and other washes are very successfully imitated. Such are the different styles of engraving which, as we shall hereafter see, are beautifully adapted by the skilful artist to different subjects. We shall now glance at the development of this art in the different countries in which it was practised.

Though the art of engraving in the common acceptation of the term is comparatively modern, not being older than the invention of printing in Europe, yet its progress must not be judged by its age. It grew into a giant almost in its infancy, as may be seen from the productions of the early masters in Italy, France, Germany, and Holland. To enable you to see this, as well as help you to enter into the peculiarities of style, and the distinguishing features of each school, we shall review some of the works of the most eminent masters, according to their countries, and in chronological order. As Germany is supposed to be the country where prints first made their appearance, we shall begin with it.

Of the earliest masters of Germany, viz., Michael Wholgemuth and William Pleydenwurff, who published, in 1493, the celebrated *Nuremberg Chronicle*, with woodcuts; and of Martin Schoen and Von Mechelu, who engraved on copper, I can show no specimens. Suffice it to say, that their works are more rare and curious than beautiful. Not studying from nature, and not having the advantage possessed by the Italians of being able to refer to the remains of Greek art, the early German artists are defective in drawing: their naked figures are incorrect in the outlines, meagre and emaciated, and look as if a few hearty meals of English roast beef and plum pudding would have done them good.

These were followed by the immortal Albert Durer, the inventor of etching (1471—1528), who created a new epoch in Germany both in woodcuts and in line engraving. Of his success you may judge for yourselves from the following specimens. So highly were his talents appreciated, that the Emperor Maximilian, who often visited his studio, after gazing with admiration and delight at the print of the "The Conversion of St. Eustachius," ordered that the copperplate should be filled with gold; anxious, ere its beauties should become faded, to enshrine for ever the wonderful work.

Next in rank are Lucas Cranach (1470-1533), the friend of Luther and Melancthon, who, through the influence which he exercised by his great skill in taking accurate portraits and in delineating birds and beasts, had numerous imitators; the brothers Bartel (1496-1550), and Hans Sebald Beham (1500-1555), who studied at Rome under Marc Antonio Raimondi, whose prints are deservedly held in very high estimation and greatly

* From a paper read by the Rev. D. C. Ginsburg, LL.D.

sought after by collectors, and who, together with the renowned Henry Aldegeever (1502-1565) are denominated the *little masters*, on account of their prints being generally small; and lastly, the brothers David or Daniel (born 1510), and Jerome Hopper (born 1535). These constitute the principal masters of the early German schools of engravers, to whom we may add Melchior Lorich, or Lorch (1527-1586), who engraved both on wood and copper in a bold, free, and neat style; and the exquisite etcher Jonas Umbach (1624-1700), whose works are very spirited.

Passing over the other masters, we come to the renowned James Frey (1681-1752), better known by his Italian name, Giacomo Frey, who studied in Rome, and who was the founder of a new school in Germany. Few artists have approached nearer the style of the painters from whom they engraved than he. Whilst Frey introduced into the German school the gracefulness of the Italian artists, Justus Chivellet (born 1729), who studied under the celebrated George Wilke, taught his followers the neatness of the French school. With equal success did James Philip Hachest (1737-1807) labour in the department of etching, as may be seen from the prints, which are executed with great fire and spirit. We must conclude this school with the two Mullers, father and son, of whom Germany may justly be proud. The father (1747-1830), who only engraved thirty-three plates, immortalised his name by his engraving of the Madonna della Seggiola, which is considered by many a superior print to that of the same subject by Raphael Morgheu. The son, Christian Friederick von Muller (1783-1816), who surpassed his father, engraved only sixteen plates, owing to the shortness of his career; for he fell a victim to the art he so fondly loved, when he was only thirty-three years of age. He was engaged by Rittner, a printseller of Dresden, to engrave the Madonna di San Sisto of Raffaelle, in the Dresden Gallery, and entered with heart and soul upon the execution of the work, which he finished in a manner worthy of himself and the sublime painter. But when he brought the first proof to his employer, the mercenary man shook his head, and told him that he must go over the whole plate again, and retouch it throughout, for that such delicate work would not throw off a sufficient number of impressions to answer the trade purpose. In vain did Muller remonstrate with the £. s. d. man, and he was compelled to rework the plate. At every touch he felt as if his life-blood were departing from him, and that he was sacrificing genius to gain; and by the time he completed his labour he was broken-hearted, and died on the very day on which the first proof was taken from the retouched plate. This proof impression, which he did not live to see, was suspended over the head of his bier as he lay dead; thus reminding the spectators of the similar untimely fate of the great master of the original.

We now come to *the Dutch and Flemish school*, which, though younger by nearly a century than the German, has surpassed it both in the number of artists and the handling of the graver. Passing by the oldest masters, who date from 1510 to 1550, such as Jerome Coch, Adriam Collaeret, Hans Bol, &c., of whose works the following are fair specimens, we notice Cornelius Cort, who went to Italy, resided at Venice in the house of Titian, and there engraved some of his finest works. He afterwards went to Rome, where he established a school, and executed many of the excellent works which are the delight of the judicious collector, and instructed Agostino Caracci in the masterly use of the graver. The galaxy of engravers which appears above the Dutch horizon from this time is almost innumerable.

The Italian school is almost contemporaneous with the German, or, as some will have it, is older than the German school; and in dignity of composition, in unaffected drapery, in simplicity and grace, is superior to all other schools, especially in its early age. This arises from the fact that the Italian artists had the remains of the masterpieces of ancient Greece. The superiority of the drawing of the human figure in this school is, moreover, to be ascribed to the fact that the Italians drew all their figures in skeleton, then clothed them with flesh, and lastly arrayed them in drapery. The oldest specimen of this school which I can show is a print by Andrea Montegua, who was born in 1431, and died in 1505.

SOCIETY OF BRITISH ATISTS. — The present exhibition in Suffolk-street consists of 893 paintings and drawings, and ten small pieces of sculpture, mostly by Messrs. Physick. It includes a number of very good landscapes. We shall return to it.

"RICHMOND HILL IN '62."

MR. CROPSEY, the American landscape painter, whose "Autumn on the Hudson" was the great adornment of the United States' department of the International Exhibition, sought for a corresponding view to show Summer in England, and finding it on Richmond Hill, "loved by the Muses," has painted a parallel picture of great size. He has chosen well. Every one knows Royal Richmond, the *Sheen* (from the shining river) of former time; where Edward III., Henry VII. (from whose paternal estate in Yorkshire it had its present name), and Queen Elizabeth all died; where Henry VIII. jousted; where the Queen of George II. received Jeanie Deans; where Reynolds and Gainsborough lived; and which has been sung by Pope and Thompson.

The wall of famous "Star and Garter" is on the left of the picture: beyond is Petersham, with the grounds of Ham House, where the great Duke of Argyll was born: in the centre, or rather to the right of it,—

> "Wanders the hoary Thames along
> His silver winding way!"

Though, as the time chosen is the afternoon (just before going in to that very pleasant dinner), and a rich, warm sky gives colour to the river, it becomes, rather, the "*gilded* stream" of Thompson's verse. In the distance, which is capitally painted, is seen Windsor: everywhere are the beauties with which Nature is there so affluent; and in the foreground is a group of many figures of varied classes, the costume marking the period. These figures are of large size, and very cleverly presented. We congratulate Mr. Cropsey on having produced a charming picture of a charming spot, the first view of which ever leaves with the impressionable observer,—

> "A bright remembrance ne'er to be destroyed."

The picture is now at Mr. Henry Graves's, in Pall-mall, and is to be forthwith engraved by Mr. Robert Wallis.

RAILWAY TUNNELS.

INSTITUTION OF CIVIL ENGINEERS.

AT the meeting, March 24th, Mr. Hawkshaw, president, in the chair, the first paper read was, "Description of the Lydgate and of the Buckhorn Weston Railway Tunnels," by Mr. J. G. Fraser.

It was assumed that the aggregate length of the tunnels now daily traversed by railway trains in the United Kingdom amounted to 80 miles; and supposing their cost to have been on an average 45*l.* per lineal yard, their construction must have caused the expenditure of six millions and a half sterling. Up to the present time this interesting branch of civil engineering had not been much discussed at the Institution, as the minutes of proceedings only contained accounts of a total length of about three miles, involving an outlay of about one quarter of a million sterling. Each tunnel had its own history, and its construction demanded peculiar treatment, according to the character of the strata, the springs of water, &c. If particulars of these works were transmitted to the Institution from time to time, more effectual measures might in many cases be practised, with advantage to public economy.

The tunnels forming the subject of this communication were both executed under the immediate superintendence of the author, as resident engineer for Messrs. Locke & Errington, the engineers-in-chief.

The Lydgate tunnel, on the Oldham branch of the London and North-Western Railway, was driven through the coal measures. A longitudinal section which accompanied the paper, prepared from actual measurements taken during the progress of the works, illustrated the geological details. Faults were common in this formation; sometimes severing it in the line of the dip, and at others in the line of the bearing. Several distortions were encountered, and at one point one-half of the tunnel was in strong shale and rock, and the other half in wet and loose shale. The total length of the tunnel was 1,332 lineal yards: of this about 1,046 yards were on a straight line, and 286 yards on a curve of 74 chains radius: its width was 25 feet at the level of the rails, with a height of 20 feet. Four permanent shafts, each 9 feet in diameter in the clear, were sunk at intervals of about 230 yards, of the respective depths of 53¼, 80, 75¾, and 53 yards. They were lined with 9-inch brickwork, or with 12 inches of masonry, except in the rock. An old colliery shaft, which had been closed for many years, was also re-opened, and a cross heading was driven from it into the tunnel, a distance of 13½ yards. When foul air was met with, a supply of fresh air was forced into the workings by means of fans, until a junction was effected between the headings. There was a considerable amount of choke-damp in the neighbourhood of the old coal workings. To overcome its effects, a bore-hole was sunk from the surface, which was lined with an iron pipe, and through this fresh air was forced into the tunnel. The sinking of the shafts was carried on in the usual manner, by excavating through soft material, and by blasting and drilling through rock. The average rate of progress was 11 lineal yards per month. After attaining a depth of 20 yards, the material was raised by engine power.

A bottom heading was driven from the faces worked from the cuttings at each end; but with these exceptions the tunnel was mined by a top heading, 6½ feet by 4½ feet, first being made for the full distance of each length. The crown was protected by larch bars and poling boards; and, after the ground was secured, it was gradually widened out to the shape of the tunnel, the same description of timbering being continued to about 10 feet above the formation level. The contract price for the excavation, including the timbering, was 4s. 6d. per cubic yard. In the construction of a tunnel, the masons, or bricklayers, should, as a rule, commence the lining as soon as possible after the ground was prepared for them by the miners. The lengths mined at each face varied according to the nature of the ground; averaging, in loose shale, 3 lineal yards; through stony shale, 5 yards; and through rock, 8 yards, or in some instances 10 yards. The prices paid to the miners ranged from 8*l.* to 18*l.* per lineal yard, one-half of the total length amounting to 12*l.*, or less.

The centres used were skeleton ribs, set about 1¼ yard apart; but at the leading ends two ribs were fixed close together. This description of centering was found to answer very well. The price allowed for setting each rib was 8s. The masonry of the side walls was of coursed rubble. The arch, for a length of 632 lineal yards was turned with fitted rubble; but, owing to the scarcity of good bedded stone, the remaining length was built of brickwork. The average quantity of masonry per lineal yard was 12½ cubic yards, and the contract price throughout was 20s. per cubic yard. The mortar was composed of Barrow stone-lime mixed with coal-ashes, in the proportion of 2 to 1, ground by heavy iron rollers, and used fresh. Its setting properties were most satisfactory. The spaces between the crown bars, called the mid-feather, were filled up with brickwork, and the bars themselves were left in where they had "sagged."

The first length of the tunnel was keyed in on the 27th of October, 1854, and the last was finished on the 21st of March, 1856,—a period of seventeen months, or equivalent to about 80 lineal yards completed per month, exclusive of the sinking of the shafts. The contract price for the tunnel was 26*l.* per lineal yard through rock, and 35*l.* 16s. per lineal yard through shale, the average price being about 30*l.* per lineal yard.

The Buckhorn Weston Tunnel, on the Salisbury and Yeovil Railway, was 739 lineal yards in length, 25 feet in extreme width, and 20 feet in height above the level of the rails. It was constructed through Kimmeridge clay, intersected with veins of loose rock. These veins acted as conduits for a large body of water, amounting to about ninety gallons per minute, which flowed in at the crown of the tunnel for nearly one-half its length. To remedy the evil effects arising from this volume of water a heading, 5 feet by 5 feet, was driven above the tunnel, and about 10 yards on the upper side of it, for a length of 200 yards. A pipe, 12 inches diameter, was laid in this heading, and the remainder of the space was filled in with loose stone. The water was thus intercepted, and conveyed away from the work. It was originally intended to execute this tunnel by means of a bottom heading, sufficiently large for ordinary waggons, from the cutting at the west end, and to sink two shafts. After the heading had been driven for a length of 200 lineal yards, it was found that the action of the atmosphere caused the sides to bulge in so much that this plan had to be abandoned. A smaller heading was then substituted, and three additional shafts had in consequence to be sunk. The shafts, which were only temporary, were 8 feet square, and were lined with timber. Their cost amounted to 1*l.* 10s. per lineal yard of tunnel.

The mining was performed in a similar way to that of the Lydgate Tunnel; a top heading being first driven from each shaft. The average price for mining and tipping was 4s. 6d. per cubic yard

and the quantity amounted to 80 cubic yards per lineal yard of tunnel. The lengths mined at each face ranged from 3½ lineal yards in heavy ground to 5 lineal yards in favourable strata. The average cost of mining was 30*l.* per lineal yard, exclusive of the shafts. The crown-bars were of larch, 18 inches diameter, and were fixed about 18 inches apart.

The centres were strongly braced, and were placed about 1½ yard apart. Each rib contained 35 cubic feet of timber, and 285 lb. of wrought iron in bolts and straps, and the cost of setting amounted to 6*s.* per lineal yard of the tunnel. As side pressure was anticipated at the commencement of the work, the first ten lengths were built with an invert, which contained 4 cubic yards of brickwork per lineal yard. Further experience showed, however, that this was not necessary. The tunnel was built throughout of brickwork, upwards of six millions of bricks being used, and the average quantity per lineal yard of tunnel was 20 cubic yards. For a length of 390 lineal yards, where the water occurred, the work was 2 feet 8 inches in thickness. The spaces behind the brickwork were filled in solid, and throughout the heavy ground three bars were left in, on an average, in each length. As there was no sharp sand in the neighbourhood, burnt clay, fine sand, and broken bricks were ground together, and mixed with Bridgwater hydraulic lime, in the proportions of 2 to 1. The result was perfectly satisfactory.

The first length of this tunnel was keyed in on the 6th of October, 1858, and the last was completed on the 17th of February, 1860;—a period of sixteen months. The total cost had amounted to 53,000*l.*, or 72*l.* per lineal yard; detailed particulars being given of the cost of the different items.

THE POLICE OF THE METROPOLIS.

It is satisfactory to observe that the Government appear to be inclined to "improve" the late "occasion" on which the shortcomings of the police were so fatally manifested. And as this is a subject which in more than one instance, previous to recent doings,—or deficiency of doings, rather,—on the part of the police, has engaged our own attention and that of our readers, the opportunity is a fair one for a few further remarks on the subject, *pro* and *con.*, as we would not wish to look exclusively to the defective aspect of the police.

In order to prevent the commission of much crime, we certainly require, amongst nearly three millions of people, and in such a wide district, a larger police force; and not in the City alone. Indeed, in the City, where the beats of the policemen are shorter, and the men are more constantly in the way, there are fewer robberies, &c., committed, than in the more neglected metropolitan districts.

The increase of the number of the detective police is a step in the right direction; and the number of the force might with much advantage be still further enlarged. But there is in this country a great jealousy of, and objection to, a secret police. It would, however, be impossible, in the present condition of society, without this aid, to discover and check a large amount of crime. Taking them on the whole, the detective police, both of the City and the metropolitan districts, are men of much intelligence, and very ably do a difficult duty. In the busy thoroughfares, in crowded assemblies, theatres, concert-rooms, auction-rooms, churches, and at railway-stations, at the chief roads by which persons arrive in and depart from the metropolis, and in hundreds of other situations, the London detective may be seen in the most varied disguises, so skilfully managed that a man's wife would often fail to recognize him. At the corners of streets; near the railway stations; on the chief points frequented by the omnibuses, these policemen may be seen, in the dress of navigators, bricklayers, countrymen, &c., in search of work: at religious meetings we have heard of them assuming the garb of clergymen; and in a much frequented roadway we have met with a well-known officer in the shabby black suit of a poor country school-master, who produced written verses of his own composition, and for which he pretended he would be glad to find a publisher: we have heard of detectives who in certain situations have sold baked potatoes, and in others where they have swept a crossing. In the waiting-rooms of the police courts, and in those of the courts of session, the detective chameleon, in varied hues, according to the circumstances, mixes with those whom business has brought there; and in this way needful information is often obtained from those connected with the parties who are in trouble. Many would feel surprise at the ability with which these officers assume a character, and the skill and perseverance with which they maintain it.

The wardrobes of the detective police departments would present a curious picture, and form a subject worthy of thought; but these secret London interiors are, we suppose, only accessible to the initiated.

Believing that as regards the discovery of crime the detective force, not only of the metropolis, but throughout the country, is most useful; nevertheless, we are of opinion that it should not be too much relied upon as a means of prevention, which is no doubt a matter to which police attention should be chiefly directed, quite independent of the detectives: the regular policeman should be much more readily found when required than he now is. In such a thoroughfare as the Caledonian-road, for instance, it has frequently happened that a policeman has not been found until after an hour's search.

In some respects, the plan formerly in use was of advantage; for, although, in the provincial towns, in the daytime, there was no regular patrol, there were numerous constables, who lived in convenient situations at a short distance from each other, who, on the payment of 1*s.*, could be called out when wanted. In the outlying metropolitan districts the police-stations are very wide apart. In order to remedy this defect, it has been suggested that small stations should be established at intermediate points.

As we have before said, the number of police in a district depends upon the amount of rate granted; and money employed in this way in suppressing or preventing crime, which the presence of policemen is sure to a certain extent to do, is well bestowed; and it is certain that even at present better arrangements might be made, particularly in the manner of changing the men, which often leaves most important neighbourhoods unprotected for an hour together. The thieves know this well, and gather in their harvest accordingly.

From time to time we hear complaints of the misconduct of some of the general police body; but remembering the large number of men who are employed in this duty, their behaviour is for the most part excellent: great care is taken, we believe, in the selection.

THE METROPOLITAN RAILWAY SCHEMES.

A report has been made to the Metropolitan Board of Works by their engineer, Mr. Bazalgette, on this subject, in which a few of the thirty-three schemes of the present session are reviewed. Of the thirty-three, already fourteen have been thrown out upon standing orders, or withdrawn; but still there remain no less than nineteen lines by means of which it is proposed to cut up the metropolis into slices, with little or no respect either to appearances or to vested interests, in the eligibility of districts for residence, or the value of property in such districts. The schemes which it is proposed to carry out above ground play havoc with whole streets: those underground destroy the sewerage and drainage,—so much so that in respect to one of the two or three reviewed in the report under notice, namely, "The Metropolitan, Tottenham, and Hampstead," Mr. Bazalgette says;—"The interference with the drainage of this district is so serious that the company should submit plans for the *re-drainage of the district* for the approval of this Board, and enter into an undertaking to defray the total cost of their constructing the new sewers, and for the supervision and other expenses, before their Bill is sanctioned." And in respect to one of the above-ground lines, the "London Railway, Victoria section," it runs through Chelsea and Brompton, knocking down streets and houses like an earthquake, only an earthquake keeps modestly underground, while the "London Railway, Victoria section," leaves its traces, or at least its viaducts and bridges, 18 and 19 feet high, as a permanent disfigurement, and a serious deterioration, of what remains.

"This railway," says the reporter, "which is not quite three miles long, and is to connect the London, Chatham, and Dover Railway, near to Victoria Station, with the West London Railway at Kensington, is about 18 feet above the general level of the surface, and passes over about thirty-two important streets and roads, the levels of most of which would be lowered, and the inclinations reduced to 1 in 30; and some of them, hereinafter mentioned, which are crossed twice by bridges close to each other and at different heights, would be rendered dark and very objectionable. The bridges would in some cases reduce the widths of the roadways, and this railway could not, in my judgment, be constructed without serious injury to the locality through which it would pass.

From Sloane square and the portion of Sloane-street near to Trinity Church and schools, there will be three lines of railway forming a triangle, one terminating at Milner-street; No. 7, running nearly parallel to No. 1, and crossing the same streets, and terminating at Smith-street; No. 6, commencing at the end of Milner terrace, and joining No. 7 at Smith-street. Dracott's-place would have two adjoining bridges: one would be 40·0 span and 19·0 high, the other would be 40·0 span and 18·0 high, and in the last case the road is proposed to be lowered 1·0. South-street would also have two bridges, being distant from each other only 50 or 60 feet; and, as in the last case, one bridge would be 18 feet high, the other 19 feet high. Cadogan street is crossed by two bridges about 100 feet apart: one is described as being 40 feet span and 18 feet high: of the other no particulars are given. Moore-street will also be crossed by two bridges about 200 feet apart: the upper part of the street is proposed to be lowered 3·0, and the lower part 3·6, and the railway will pass over it by the two bridges, each 18·0 high.

Other streets in this immediate neighbourhood are similarly situate with regard to the crossings. Green-street, from Henry-street to Milner-street, will be entirely destroyed; the railway running along the street for a considerable distance. The large extent of property within the limits of deviation would indicate that this neighbourhood might be required for station accommodation, or other purposes.

Nearly the whole of the streets and roads over which the railway will pass will have to be lowered from 1 foot to 5 feet.

The lowering of Gloucester-road would lay bare the Church-street main line of sewer, which would project above the proposed altered road about 3 inches."

The House of Lords, we observe, have postponed for six months the second reading of the "Great Eastern Railway (New Metropolitan Railway and Branches) Bill," although an endeavour was made to save it on the ground that parts of it related to the North London line, and might be proceeded with in the present session.

THE NEW WORKHOUSE, CARLISLE.

On the day appointed to open the tenders for the new workhouse proposed to be erected for the Carlisle Union, the members of the board of guardians, assisted by Mr. Mawson, accepted the following:—

C. & J. Armstrong (Carlisle), excavations, brick, and masons' work	£5,407	0	0
Court (Carlisle), joiner's and carpenter's work	3,111	0	0
Irving & Lowthian, plumbing, &c.....	698	0	0
Ditto, for extra lead work.....	156	12	0
Johnston (Carlisle), plastering	618	0	0
Clark (Carlisle), ironwork.....	429	5	0
Hill & Sutcliffe (Bradford), slating (Westmorland slate)	681	10	0
Stephenson & Company (Carlisle), painting, &c.....	259	0	0
	£11,352	7	0

Among the tenders for the whole of the work were the following:—

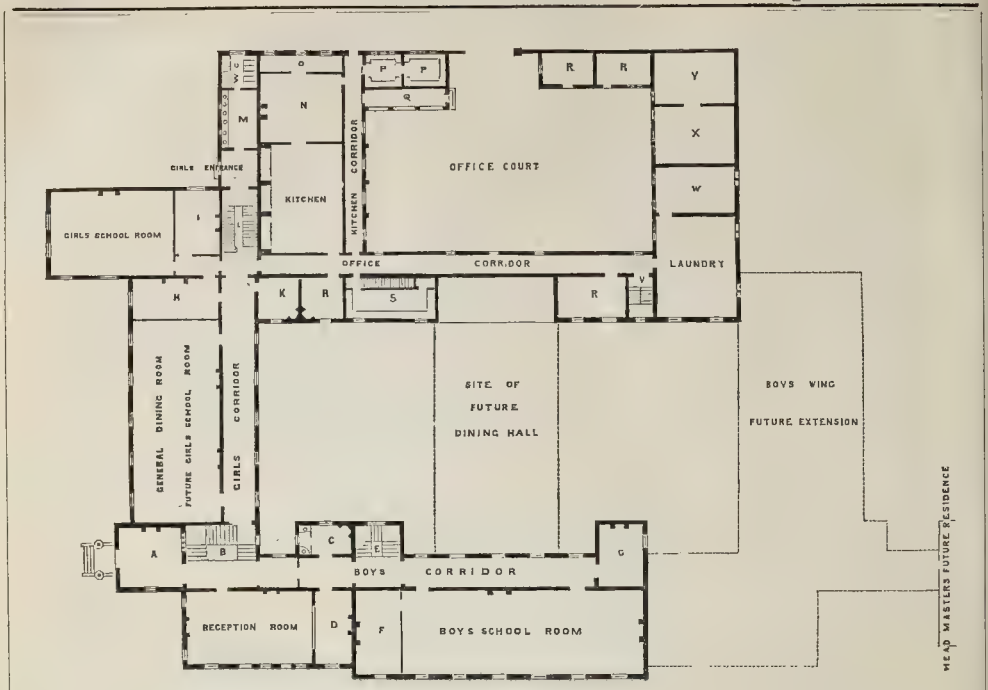
Black & Milburn (Carlisle).....	£12,374	0	0
C. & J. Armstrong (ditto)	12,477	0	0
T. Nelson & Co. (ditto)	13,968	0	0

PRIZES FOR ART-WORKMANSHIP.

A committee, consisting of Messrs. John Bell, Bowler, C. Minton Campbell, H. Cole, C.B.; J. G. Crace, W. Dyce, R.A.; F. Elkington, C. D. Fortnum, G. Godwin, Peter Graham, C. Hart, W. Hawes, W. Holland, M. D. Hollins, John Hunt, Owen Jones, Marsh Nelson, T. G. Parry, F. Pellatt, Sir Thomas Phillips, Messrs. R. Redgrave, R.A.; R. Riviere, Skidmore, F. G. Stephens, Godfrey Sykes, J. Webb, and M. D. Wyatt, has been appointed by the Society of Arts to report what prizes the Society should offer for the encouragement of art-workmanship applicable to manufactures; and, upon the recommendation of that committee, the council have decided to offer prizes for the successful rendering of designs in the undermentioned processes of manufacture:—

1. Modelling in terra cotta, plaster, and wax. 2. Repoussé work in any metal. 3. Hammered work in iron, brass, or copper. 4. Carving in ivory. 5. Chasing in metal. 6. Enamel painting on metal, copper, and gold. 7. Painting on porcelain. 8. Inlays in wood (marquetry or buhl), ivory, or metal. 9. Engraving on glass; and 10. Embroidery.

Designs by artists of great reputation will be named, to be translated into the various modes of workmanship; and photographs and castings of such designs will be sold at the Society's House, at cost price, to persons desiring to be competitors. The works to be executed will be considered to be the property of the producers, who will be required to state in each case the price at which their works may be sold. The awards in each class will be of two grades. The victors will probably be crowned publicly.



THE ASYLUM FOR MERCHANT SEAMEN'S ORPHANS.—*Plan of Ground Floor.*

THE MERCHANT SEAMEN'S ORPHANS' ASYLUM, SNAREsBROOK.

THIS building has been erected from the designs of Mr. G. Somers Clarke, to accommodate 130 boys and 75 girls, and is capable of extension to hold 400 children; pending which some of the arrangements are only temporary. The Institution provides for the support and education of the children of deceased and shipwrecked mariners. We give a view and plan of the building. It is externally of red bricks, made from materials on the ground; the fronts being relieved by black Ewell lacing courses, and the window heads and other arches throughout are also of black Ewell cutters and red Ballingdon cutters. The general stonework is from the contractor's quarries at Ancaster. The external walls of courts, and the internal walls of corridors, school-rooms, dormitories, kitchen, offices, &c., are faced with pale stocks made on the ground. The south front of the building is appropriated to the boys, and the west to the girls.

On the basement is arranged a covered play-room, 84 feet by 24 feet, facing the south front, and immediately under the boys' school-room: lavatories, urinals, water-closets, and a boot and shoe room are provided adjacent, and to which easy access is obtained by a corridor 8 feet wide, communicating by a staircase with the ground-floor of this wing. Under the kitchen offices are a range of cellars and store-rooms, with a distinct staircase from the girls' wing. The washhouse and engine-house are also on this floor, and have a separate staircase by which communication is maintained with the kitchen corridor.

The ground-floor has two main entrances; the principal one in the tower, and another in the girls' wing. The former has a porch designed after the type of those common to Northern Italy: the shafts are of Devonshire marble, with bases and slips of red Mansfield stone. The canopy surmounting the porch is designed for the reception of a group, in statuary, of Charity, or Britannia protecting young children of both sexes, emblematical of the objects of the Institution. A bas-relief of a shipwreck is already executed over the lintel of the doorway. The base of the south column of this porch was laid by his late Royal Highness the Prince Consort, in June, 1861. The entrance-hall is 17 feet by 17 feet, and is divided by an open arcade of two arches resting on three-quarter Devonshire marble shafts, and is vaulted with red hexagonal coffered bricks and Ancaster stone rib mouldings. The principal staircase is 21 feet by 17 feet, the steps of which are of Portland stone, and the floor of this and the hall is laid with Minton's encaustic tiles.

The girders of the ceiling of the reception or committee room are cased with pitch pine, and an ornamental screen across the room, supported on columns, is executed in the same material: the chimney-pieces are of alabaster and marble, inlaid with Majolica tiles. The boys' school-room is 84 feet by 24 feet, the floor being constructed of two half-brick rings carried on iron girders 12 feet apart, and the spandrils fitted in with concrete: upon this the floor is laid: the walls of all the school-rooms are faced with grey stocks, and the girders cased with pitch pine. Rooms are provided in this wing for the master, under-master, and secretary.

The corridors throughout are vaulted with hexagonal coffered bricks, the spandrils being filled in with concrete, and floated with Portland cement. In the west wing is the present dining-room, 60 feet by 24 feet. This will eventually be used as a girls' school-room, when the future dining-hall is built: the room used now for their school will then become a class-room. The girls' staircase is 17 feet by 11 feet, and constructed with York steps. Water-closets and a lavatory adjoin. The officers have a private dining-room, 24 feet by 12 feet, adjoining the present general dining-room. The kitchen is 30 feet by 21 feet, lighted from the roof by large lucarnes. The other rooms on the ground floor are scullery, girls' visitors' room, mending-room, china pantry, larders, laundry, and store-rooms.

On the first floor are two dormitories for boys, 31 feet by 21 feet, and 84 feet by 24 feet, overlooked from the master's bedroom. Water-closets and a lavatory are provided for them on this floor. The corridor is fitted with lockers that serve the purpose of a linen store. The matron has a bedroom and sitting-room in the tower.

The girls have a large dormitory 60 feet by 24 feet, and a smaller one for the elder girls 36 feet by 24 feet, lavatory 17 feet by 12 feet, mistress's bedroom 17 feet by 12 feet. The arrangement of the second floor is similar to the first, with the exception of temporary sick rooms in each wing, provided with nurses' rooms and lavatories complete, till a special building as an infirmary is erected.

The tower is used to contain water-tanks for the supply of the building and also for servants' bedrooms. Gas is laid on throughout the several floors.

Messrs. Kirk & Parry were the contractors: Mr. Earp was the carver; Mr. Jane, clerk of works; Mr. Wm. Kirk, contractors' agent. The gas fittings were by Strode & Hart; the kitchen apparatus and stoves by Jeakes; and the laundry fittings by Brown & Green.

A detached chapel, built at the expense of Lady Morrison, is just on the point of completion for the sole use of the inmates of the asylum, and at a cost of between 3,000*l.* and 4,000*l.*

REFERENCES TO PLAN.

A. Hall.
B. Principal staircase.
C. Secretary's room.
D. Head master's room.
E. Boys' staircase.
F. Boys' class-room.
G. Under-master's room.
H. Officers' dining-room. Future class-room.
I. Mistress's room.
K. Visitors' room.
L. Girls' Staircase.
M. Girls' bonnet-room and lavatory.
N. Scullery.
O. Knife-room.
P. Larders.
Q. Coal-stores.
R. Stores.
S. China-stores.
T. Staircase to cellars.
V. Staircase to Wash-house.
W. Mending-room.
X. Engine-house.
Y. Carpenter's shop.
Z. Tradesmen's entrance.

REIGATE LOAN EXHIBITION.

THE lovers of art, who are looking for a country excursion in the Easter week, will find much to interest them in an exhibition which is to be opened on Wednesday next, in the new Public Hall at Reigate. Pictures of the best masters, both old and of the present day,—rare china, enamels, some striking specimens of Wedgwood ware, bronzes, and various other objects, such as the public has been accustomed to see and to admire in our late Art Exhibition, will furnish material for a day's examination and enjoyment. Mrs. Hope, of Deepdene, Mrs. Forman, Mr. H. E. Gurney, Mr. John Lubbock, F.R.S., Mr. Leaf, Mr. Griffiths, Mr. Wilson Saunders, Mr. C. Davidson, Mr. Alfred Williams, Mr. Arthur Jaffray, the Rev. Jas. Beck, with other friends, both artist and amateur, have furnished important contributions to this collection; which has the additional merit of being placed in one of the prettiest and most accessible towns in Surrey.



THE ASYLUM FOR MERCHANT SEAMEN'S ORPHANS, SNARESBROOK.—Mr. G. Somers Clarke, Architect.

ON GEOMETRICAL AND OTHER SYMBOLS.

The beautiful geometrical symbol called the hexalpha, or interlacement of triangles,—



which lately appeared in the *Builder*, emblazoned on an engraved view of the Manchester Memorial of Prince Albert, has led me into a little hurried research as to the meanings attributed and attributable to this and other kindred symbols; and with your leave I would wish to record, in the *Builder*, a few of the more interesting results of these very limited researches; together with some ideas of my own on the probable original signification of such symbols.

So far as I have yet been able to discover, the materials for a disquisition of this kind are by no means abundant, although there is sufficient evidence that some of these symbols have been extensively and generally used, both in ancient and in modern times, and both amongst Eastern and Western nations, as well as amongst heathen and Christian communities. The original and true meanings embodied in them, therefore, form a subject of great interest and curiosity.

But here, at the outset, let me once for all remark, explanatively,—or, if you will, apologetically,—that, considering the close relationship in which all geometrical and other symbols used by the ancient Egyptians, Assyrians or Chaldeans, Greeks, and Hindus, or by the Buddhists, Druids, Zoroastrians, Hierophants, and all such magical religionists, must necessarily stand to magic and the oracles evoked during entrancement; we *cannot*, even in the *Builder*, altogether ignore these no doubt very wild and *outré* subjects in any serious and hopeful endeavour to get at the true and original meaning of their symbols: in fact, we must not only *know* something about both magic and the oracles, but must *say* something about them,—and cannot avoid doing so; far less about Freemasonry and Christian mysticism, with both of which such symbols have also much to do; and, as some of them are even used by architects themselves, as in the very case of the arch-masonic and arch-magical hexalpha which has initiated this inquiry;—mysticism, magic, and the oracles of entrancement, therefore,—with all of which, as can easily be shown, not only the hexalpha but many other geometrical symbols have been specially and peculiarly associated,—become, to this extent, at least, even a kind of professional subjects! In truth, entrancement, which is a definite though abnormal state, or series of states, of existence in the human body; and, as such, however mysterious for the present, still, quite capable of a sciential, if not of even a strictly physiological, and simple explanation, as I shall incidentally endeavour to show; will also, as I believe, be found to constitute the key to both magic and its symbols.

First of all I shall briefly, and without much additional comment, transcribe some of the notes I have taken from the several books into which I have dipped with the view of gleaning information; and afterwards I shall offer a few suggestions of my own on the subject.

Angles and triangles, single and variously connected, hold a distinguished place in religious symbolism. The cross itself is a duplex or even a quadrate congeries of angles; and, as we shall soon see, has been held sacred and significant in many forms of religion.

One of the simplest of angular symbols, however, was the ⋁, or ⋎, or bident, on the top of a symbolical staff, which is frequently held by female figures in the Egyptian sculptures, but which I have never seen in the hands of a male figure. The ⋁ or ⋎ of Egypt, therefore, has by some, and with seeming reason, been interpreted as a sexual symbol denotive of a feminine principle. Others, however, explain it differently; and indeed one notable result of my limited researches is that a like difference of interpretation exists in regard to many symbols; so that each interpretation must be taken *cum grano salis;* and we must look out for such of these or other interpretations as shall tend to less discordance and more harmony of meaning, if any such there were, in regard to kindred symbols, than is now very palpable amongst the various authorities consulted.

Dr. Oliver, a great authority among the Freemasons, says of the ⋎ symbol in his "History of Initiation" (p. 83, ed. 1841), while treating of what is called "the great triad of the Gentiles;" that "the mystical symbol ⋎ was also much esteemed from its allusion to the same triune God; the three distinct lines of which it is composed forming *one*, and the one is *three:* this was in effect the ineffable name of the Deity; the Tetractys of Pythagoras and the Tetragrammaton of the Jews."

The ⋎ or bident form may be seen among the ancient Egyptian sculptures, mounted thus on an equilateral triangle:—  but I have not met with any feasible interpretation of its supposed meaning, although it appears to be occasionally used by the Freemasons. Perhaps a little light may be shed upon it by the affinity which it seems to bear to another Egyptian symbol, in respect to which Dr. Barlow (see the *Builder* of March 31, 1860, p. 196), says,—"Beneath the tree [of life, the phœnix palm] are two herons, feeding from equilateral triangles,—extremely symbolical: we may sometimes see similar symbols of birds feeding from the equilateral triangle on Christian monuments: there is one such in the church of St. Maria, in Trastevere: I took a sketch of it when last in Rome."* It is probable, therefore, that whatever be the true meaning of the bident implanted on the equilateral triangle, that meaning may be also involved in the bird form feeding out of the equilateral triangle. Now just as the bident staff is always seen in the hand of a female, and never of a male, on the Egyptian monuments; so we find that female forms are often crowned with a bird-shaped head-dress, but never male forms; and, as I pointed out in one of two articles on Bird Symbols in the *Builder* [15th January, 1859], the wives of the Hindu gods, which gods and goddesses, in not a few points only, resemble the Egyptian, are described in the Brahminical books as being "in the forms of birds."

Hovering over a couched and prostrate, male, and even phallic, form, however, in one of the Egyptian sculptures [see the great French work, "Description de L'Égypte,"—division,—Antiquités, tome I] there is a bird-form (sometimes the same symbol is human-faced) which has been mistakenly, as I think, interpreted to signify the *Soul quitting* the *dead* body; whereas its face is turned *towards* a *living* body (in one case a female, though in another a male), as if about to descend upon it; so that it is much more likely to denote the descent of the divine oracular *Spirit*, invoked by or upon "him who reposes on the beautiful couch."

And here I may parenthetically remark,—although without special reference to the bident, except by way of inversion, which, however, is itself instructive,—that male phallic forms, on the Egyptian sculptures, are almost always accompanied by the flagellum or ascetic scourge, bent thus ⋀, or reversing the ⋁ or feminine form, and into the angle of which ⋀ form one hand is almost always pointed.

That the bird-form accords with the ⋁ or ⋎ as a feminine symbol, notwithstanding what I have just said, however, of the male form with the bird hovering over it; and although another male form even appears with a bird-shape behind, covering him as if it were by a robe; appears from the fact that Isis herself is frequently sculptured, as well as described, as a guardian angel standing behind and covering or overshadowing and protecting her husband-brother Osiris with wings, as the Hindu bird-goddesses, "with unclipped wings," are said to be "the protectresses of mankind;"† and that the guardian angel, or ferocher, of the Egyptians, also appears as a winged sun, sometimes symmetrical or geometrical, sometimes more freely treated, as if it were intended for a bird; and indeed occasionally as a bird itself, with the disc or sun on its head.‡

There is thus far, on the whole, at least, some degree of probability in the idea that the bident did denote a feminine principle, whatever that principle may have been; and indeed the bident may have been meant also for the yoni itself, as representative of that unknown feminine principle, seeing that phallic ideas do so unequivocally crop out in the Egyptian sculptures, as we have just observed, no less than in the Indian. I shall ultimately show quite a different *reason*, however, for the ⋁ form of such a symbol.

The St. Andrew's Cross ⤫ may be said to combine both the ⋁ or feminine form and the ⋀ or masculine form. It is also an ancient Egyptian symbol.* A large and conspicuous St. Andrew's Cross appears on the breast of a male and phallic figure engraved on plate 36th, fig. 5, of tome 3rd (Antiquités) in the French work "Description de l'Egypte." The figure is surmounted by the winged sun or Egyptian ferocher; and one hand, as usual, is raised into the angle of the agonistic scourge in its angular or ⋀ form; the whole seeming to indicate, as it were, that the *lower* part or ⋀ of the cross on the breast denotes the phallic or agonistic, masculine *soul*, or man, himself, while the upper part or ⋁ denotes his ecstatic, angelic, and oracular *spirit*, ferocher, pharaoh, fairy, peri, winged orb, or Light of the soul. Thus it appears, at all events, that the St. Andrew's Cross is not an exclusively Christian symbol. In tome i. of same series of volumes, plate 16th, there is also a figure on whose dress the St. Andrew's Cross appears.

The Tau (⊤), or, with a ring handle at the top, the Crux ansata, of ancient Egypt, is a duad of angles, and was used even by Christians, in early ages, as a form of the cross itself; as was the cross proper by the ancient Egyptians. The crux ansata is believed to have signified life, and especially the life to come, the life "in eternity," or the "eternal life;" and it has also been held to have denoted "the preserver."

From its occasional *reversal* on the sculptures; being sometimes, as in the Tombs, by the mystic Thmei, or Spirit of Truth, held by the stalk, though more generally by the ring, perhaps the ⊤ had one meaning and its reverse or ⊥ another; while the cross in what has been called its Greek form ┼ may, I think, have comprised both in one, as it were thus, ╪, in which case the lower might denote the life that now is and the upper the life to come, or the lower the Soul-life and the upper the Spirit-life, as in the St. Andrew's Cross.

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* The equilateral triangle surrounded by rays, and surmounted by a dove, must be familiar to many of your readers, especially as a subject for stained glass windows in churches, and also on the title pages of Bibles. The Holy Spirit is here clearly indicated.

† "The gates of the realms beneath and *the guardianship of life*, are placed in the hands of the goddess; and the initiation into her mysteries is celebrated as bearing a close resemblance to a voluntary death [by entrancement] with a precarious chance of recovery..... whom, through her providence, being after a manner born again [into life, a child, as it were, of the *guardian* goddess, after this "voluntary death"], she restores to the career of a new existence."—*Apuleius.*

‡ That the winged disc, which is so frequent and prominent a symbol in Egyptian temples, not only represents a winged *sun*, but the ferocher [pharaoh?], fairy, peri, or guardian angel, and protector or saviour, and Egyptian equivalent for "the *sun* of righteousness, with healing in his *wings*," appears to be corroborated by the peculiarities of the Persian and Assyrian ferochers; thus these latter hover over the protected, sometimes fighting his battles as it were, or shooting arrows at those whom the protected is shooting at, and otherwise simulating his actions; sometimes assuming the attitude of blessing the protected, as in one case of a Persian ferocher, that of Darius, represented in Rawlinson's Herodotus, vol. iv. p. 4, as a cruciform and feathered figure, and in which the protector and the protected evidently stand in a precisely similar relation to each other with that in which a sun with rays, also represented, stands to the sacrifice on an altar before the protected, and on which the solar light is beaming. The Egyptian ferocher itself, too, in the form of a bird on the wing, and sometimes with a solar disc on its head, may be seen accompanying warriors with weapons, just as the ferocher of Assyria does, plate 51, vol. i. (Antiquités) of Description de l'Egypte, for example. In some instances, at least, the sun-crowned bird seems clearly to be an owl, such as Hazelquist describes the supposed hawk to be which is so frequent on the Egyptian monuments; in which cases the sun-crowned bird is clearly identifiable with the goddess Isis, who, like Ceres, her Eleusinian equivalent, was the "midnight sun" as well as the ever suddenly-born, yet at once mature and full-grown, Minerva, or goddess of wisdom, and oracular counsellor, of the 'Noctis Societas,' or initiated, whose mysteries were always performed by night. Doubtless the human figures with a sun-head, or "lucid round," in the centre of one of which is a "single eye" (plates 63 and 79, vol. i.), were also denotive of this nocturnal Irradiater, who turns darkness into light—night into a peculiar and internal day—the translucid day of rest in the bliss or ecstacy of entrancement, during which, to those "brought to Light," as the Freemasons say, *external darkness is no hinderance to perception*, and the initiated are "in the Light," for "there is no night *there*, and they need no candle, neither light of the sun;" their "eye" being "single" and their "whole body" being "luciform" or a "glorious body," "full of Light, as when the bright shining of a candle giveth thee light." Such is the clear vision of the highly entranced; and blindfolding, as a test of the possession of such a faculty of the oracular Spirit, was well known and practised in ancient times, and among the Jews as well as among the Gentiles: hence the Jews even attempted, mockingly, to test our Saviour in this way: "they blindfolded him, and smote him on the face; and asked him, saying, Prophecy! Who smote thee?"

* There was a singular propriety, as well as expressiveness, in the affixment of the hexalpha, or interlacement of triangles, on a monument to the Prince Consort; inasmuch as the compound initial-symbol often used during his life,—an A interlacing with a V,—was almost the hexalpha itself; and the feminine, too, here happened, curiously enough, to be the V, and the masculine the A. I am almost persuaded it was a special inspiration of what we may call symbolic wit, rather than a mere happy coincidence, which led the architect of the Manchester monument to use the right royal and distinguished hexalpha in this instance.

Dr. Barlow (see *Builder* of 24th March, 1860), while speaking of the Indian, Greek, and other uses of this symbol, says:—"The T square [Indian] symbol, with a handle attached to it, became the Crux-ansata, the symbol of eternal life among the Egyptians. The lingam-yoni symbol of life [⊥] *reversed*, becomes the famous Tau or Cross [T], which was the symbol of life among the Greeks. . . . . We often see this symbol on Etruscan ornamental borders: there are several such in the Museum of the Vatican, occurring as the Tau and as the lingam-yoni,—that is, *alternately* upright and reversed."

By turning up Rawlinson's "Herodotus," vol. iv. p. 58, it may be seen that there are Egyptian sculptures which show that the Greek Cross, as it is called, as well as the St. Andrew's, was frequently used, both amongst Asiatics and Africans, in the time of the ancient Egyptians. Sometimes it was worn as a necklace, just as it still is among Christian nations; sometimes like a star, or order, on the breast; sometimes in a series, or alternating with a circle, in ornamenting dresses. Among the Scythian warriors, dresses were thus ornamented; just as the Thibetan Grand Lama's dress, according to Huc's "Thibet," is bordered with crosses to this day. "The Vaishnavas of India," says Higgins, in his Anacalypsis, vol. i. p. 223, "have a sacred jar which they mark with crosses, and with triangles thus ✡. The vestment of the priests of Horus is covered with these crosses. This is the same as the dress of the Lama of Thibet. These are the sectarian marks of the Jains." He also notes (p. 519) that "on the ruins of Mundore may be seen various mystic emblems, as the quatre-feuille, the cross, the mystic triangle, triangle within a triangle, &c."

The Greek cross was used as a staff symbol in ancient Egypt: see plate 9, from the Bembine Table, in "Warburton's Divine Legation of Moses;" vol. ii. p. 235; which contains a mummy dressed figure, with what has been called the staff of power, having a cross proper (not the mere Tau), surmounted by the head of a dove, which, in Egypt, as among Christians, appears to have been indicative of the divine, oracular Spirit, so that Egyptian priestesses, in whom the oracle was invoked, were called doves, as those filled with the Spirit among ancient Christians also were.

The cross, indeed, as Maurice, in his "Indian Antiquities," vol. ii. p. 350, remarks, "was one of the most usual symbols among the hieroglyphics of Egypt and India." In Montfaucon [Ant. Exp., vol. ii. pl.. 49], may be seen several medals of Anubis, or Noubis, where he is called X and T, probably also mystically indicative of the St. Andrew's Cross and the Crux-ansata. It is remarkable, too, that the Tartars call the St. Andrew's Cross, or at least the Freemasonic ⨉, *lama*, from the Scythian *lamh* a hand; and thus it became the name of their high priest,—perhaps, I may suggest, from his laying on of hands in blessing. Higgins, in speaking of this, says:—"In Irish, Luam signifies the head of the Church. It is singular that the name of Lama, in the language of Tartary, thus signifies the cross; and the Bogdoi, who conquered China in 1644, always called the cross Lama. The X, or ten, was said to refer to the ten fingers of the two hands, as a perfect number."

Higgins, from his propensity to twist everything to the disadvantage of Christianity, and to the advantage of his own often erroneous theoretical ideas, is not much to be trusted, to be sure, on such a subject; but he only contributes, in this case, a little towards evidence which unquestionably proves, quite independently of him, that the cross has been an almost universal symbol, which is found recorded even in the far West, on the temple sculptures of ancient America, no less than on those of ancient India in the far East, as well as on those of ancient Egypt, between these two extreme and opposite hemispheres of the world. We may, therefore, I dare say, safely enough make use of the immense research displayed in the Anacalypsis here a little farther on this subject.

Figure 14, in Higgins's plates, is a representation of Indra crucified; his hands and feet nailed to the cross, as in Christian crucifixes; but the body, legs, and arms, are covered with, or made up of, leaves; the whole looking like a head, hands, and feet, stuck on to a leafy cruciform body, and nailed to a cross. Such crosses, he says, are to be seen in Nepaul, especially at the corners of roads and on eminences. Indra is said to have been crucified by the keepers of the Hindu Garden of Paradise for robbing it (of a flower, was it not?). The cross is put up in Thibet to point the way; and Lamas, I may here observe, are, as it were, crosses, pointing the way to salvation, according to Buddhist principles,—that is, the way to Nirvana, which is believed by the Buddhists to be the grand fountain head of all salvation; and, in fact, equivalent to the attainment of bliss, by "crucifying" the flesh, or becoming "dead in the flesh but quickened by the Spirit."* "The cross," says Higgins, "denoted, among the Egyptians, Druids, and others, eternal life: it was also the form of the phallus, and hence the sign of the procreative power, in renovation or reiterated succession of life: hence the cross came to be regarded as significant of eternally renovating life." There is, doubtless, *some* truth here; but this passage affords merely a gross and fallacious idea of that "eternal life" of the second birth, or regeneration, whether according to Hierophants or according to Christians, with which, as I shall afterwards endeavour to show, the cross and various other geometrical symbols are most significantly connected in meaning, and even in form.

So deeply impressed with the symbolical meaning of the cross do the ancient Indians appear to have been, that some of their temples are said to be built on a cruciform plan, just as Christian churches are.

There is one way by which it might be said that the cross, as a symbol, may be supposed to have originated in India, although I shall hereafter show quite a different reason for it. The devotees of Siva, the "destroyer," as he has mystically been called, marked their foreheads with a horizontal bar or line, while the devotees of Vishnu, the "preserver," marked theirs with a perpendicular line; and there were devotees of both Siva and Vishnu, whose mark was one, therefore, composed of both lines; thus completing the cross, either as the tau, T or in what is called its Greek form, ✝ as a mark upon their foreheads. It is very questionable, however, whether such an origin would account for the mysterious and extraordinary prevalence of the cross, as a symbol, throughout the whole world.

Reference to the tau or the cross as a mark on the forehead reminds me of "Ezekiel's "visions of God," in which he saw "what the ancients of the house of Israel do in the dark, every man in the chambers of his imagery," and "every man his censer in his hand, and a thick cloud of incense went up;" together with other heathen "abominations," such as the Israelites "worshipping" the outward "sun towards the east," and the "women weeping for Tammuz." Then "the Glory of the God of Israel was gone up from the cherub, whereupon he was, to the threshold of the house; and He called to the man clothed with linen, which had the writer's inkhorn by his side; and the Lord ("the Glory of the God of Israel") said unto him, Go through the midst of the city, through the midst of Jerusalem, and set *a mark* (a tau) upon the foreheads of the men that sigh and cry for all the abominations that be done in the midst thereof." These were to be *preserved* in *life*, while all the others were to be smitten and slain. This "mark," as Wilkinson and others remark, was the Egyptian cross. The tau is also believed to have been the mark which the children of Israel, then in Egypt, made upon the door-posts of their houses, by command of Moses, who was "learned in all the wisdom of the Egyptians;" that, in the destruction of the first-born of Egypt, the Angel of Death might see it and pass over them.

The notion of many Christians that the cross, and various other Christian symbols, emblematical associations, and observances, common to Buddhists, Brahmins, and Christians, must have been all borrowed from the Christians, is quite untenable. It reminds one of the acute Yankee of the far West, who had the notion that an Englishman whom he happened to meet must have borrowed his extraordinary knowledge of "the American language" from the Americans. Those who imagine that the Thibetan, Chinese, and Indian crosses, in particular, were derived from Christian sources, are quite as far astray as the Yankee; these being evidently native Buddhist and Brahminical symbols; and far more ancient, probably,—as the Egyptian and American crosses must also be,—than Christianity itself. The Jews were already in the habit of crucifying malefactors on a cross when our Saviour lived; so that even among the Jews the cross was at least then a sort of grim symbol of a sacrifice; and no doubt the Chinese also crucified malefactors then, as they still do.

In the region of ancient Chaldea,—whence emigrated Abram the Chaldean "father" of the Jews,—Semiramis, the mystical queen of Babylonia, or more properly, perhaps, the oracular Spirit, or ferocher, fairy, peri, or guardian angel, and counsellor, of the king, was threatened with crucifixion;—a mystical threat which is explicable in connexion with the fact that the Assyrian and Persian ferocher itself was occasionally cruciform, or appears on a wheeled cross, watching over the king.

Here I may remark, by the way, as to Semiramis, that, on the idea that the king had, in his own person, no oracular power, or susceptibility of entrancement, she may be regarded either as the chosen priestess, in whom the God, Baal, "appeared" or was "invoked;" or who was "visited" by the God; every night, on the elegant oracular or state bedstead, or couch, which Herodotus tells us stood, for that purpose, in the sanctum of the temple of Belus or Baal, at the top of the tower, at Babylon; or, she may have been that oracular Spirit, or ferocher itself, in the chosen priestess. We cannot here wait to fully consider the curious and heretofore confused and inexplicable historical facts as to Semiramis, sufficiently to work out the problem now started; but it is quite explicable, I am convinced, on these ideas; *e.g.*, the difficulties as to whether she were a contemporary with, or a successor to, the king, with whom, and as if his double or counterpart, she is seemingly so inextricably mixed up. I may remark, however, that there is collateral evidence of the probability that the king had, in his own person, the ferocher, pharaoh, or oracular and protective Spirit. Thus Rawlinson sees reason to maintain that Nimrod, Zoroaster, and Orion, were one and the same; that Zoroaster was a Chaldean; that both Nimrod and Zoroaster were said to have invented magic and astrology; that the Arabic astronomy calls Orion el Jabbar—the Giant—the special epithet of Nimrod, and that Gibbur is the particular Hebrew title given to the Nimrod of Scripture; that mounds of ashes in Babylonia are called Nimrod, fire-worship having been instituted by Zoroaster or Nimrod; that there were Babylonian scyths, called "Namri;" that *Orion* being *invoked Zoroaster* was *consumed* with fire and *apotheosized*; and that Nimrod was himself *worshipped as Orion* by the Semites;—from all of which premisses, I should feel inclined to conclude that kings such as Nimrod were indeed, to a certain extent, or occasionally, supposed to be twofold, since they possessed, or could, as was believed, invoke, the ferocher, god, guardian angel, or divine oracular afflatus within them; so that while Orion, or "the God," was invoked in Zoroaster or Nimrod, the body of the king was of course God-possessed, or apotheosized, and the man Zoroaster no longer for the time existed: he was "consumed by (this inward solar) fire" of Baal, the god of fire, as a mystical sacrifice on the *internal* altar of this microcosmic "sun," or winged and celestial ferocher, and guardian spirit of magical entrancement.*

In truth, entrancement, and the quickening Spirit, which is *awakened* in high entrancement, and is the natural as well as the supernatural or ultra-natural "Light" of the soul, as I shall afterwards endeavour, briefly and scientially, to show, will be found to afford us the psychological and the only key to vast regions of mystery and magic, as well as symbolism, in ancient mythology. The life of all human beings,—as the two *alternating* states of waking and sleep, in themselves, though imper-

* I have already (see on Bird and Wing Symbols, in *Builder* of 15th January, 1859), shown the error of regarding Nirvana as a state of total and irredeemable destruction or annihilation.

* If Zoroaster "or any other man" really ever "became a god," and was then and thus "no longer man," as Iamblichus has it, it might become a very natural question what had become of his nature as a *man*; and the mystical reply to this would be that it was "consumed" like a sacrifice by altar fire,—like cold by heat—like the electro-positive by the electro-negative—in and by the God in possession, who is "a consuming fire," but still a redeeming and a saving one; so that though losing his own human life *while* "the God" possessed his body, the man would "find it again" so soon as the divine afflatus or Spirit or God passed off. The ancients had very different ideas of "a God" from what the moderns have: thus Plato calls wine an evil god, and water a more sober god; and we know that when even the apostles were filled with the truly divine Spirit, they had the outward appearance of men "filled with new wine:" hence, too, there is a singular and frequent antithesis in the Bible between being "filled with the Spirit" and "filled with new wine:" thus, "be not drunk with wine wherein is excess, *but* be ye filled with the Spirit:" John the Baptist "neither drank wine nor strong drink, *but* he was filled with the Holy Ghost: Eli the priest having charged Hannah the prophetess with being drunken, she said "I have neither drunk wine nor strong drink, *but* have *poured out my soul* before the Lord,"—who "is that Spirit."

fectly, imply,—is potentially, or by constitutional possibility, twofold,—human and divine, or soul and spirit,—as Plato and many others of the ancients tell us; and as the doctrines of the Druids, the Brahmins, the Buddhists, the Egyptian hierophants, and indeed all other ancient religionists, indicate,—a fact which I have already endeavoured to show forth in the articles on "Bird and Wing Symbols" in the *Builder* of 16th October, 1858, and 15th January, 1859. The ordinary waking life of the human soul and body, and the waking life of the divine Spirit of entrancement,—during which the body is dead to the waking soul-life of the flesh, or *human* nature, as any corpse in its coffin,—far more dead to all sense and all pain, therefore, in this "voluntary death" than it is in that depraved similitude of, and imperfect substitute for, entrancement, or ecstacy, called sleep,—are two antitheses yet images of each other, or as it were sexual counterparts, just as the positive and the negative electrical states of a body are two antithetical or reversed states of the one body, with the neutral state comparable to the neutral state of sleep, as it were between them.* The awakened or "invoked" Spirit of entrancement, or ecstacy, therefore, though the counterpart, is the complete "reversal" of the ordinary waking life, and its only full and perfect "rest;" and, to "this life" of ordinary waking, it may be said to be not only sleep but *more than* sleep, or *beyond* sleep,—a deeper "repose" than the alternative and shadowy state of sleep; beyond whose fantastic dream veil it lies normally dormant: hence, however, the strange association of the magical and oracular waking Spirit of entrancement with dreams, visions, and other phenomena in which the ancient magicians, whether Chaldean, Egyptian, or Indian, ever dealt; and without a philosophical or sciential understanding of which Spirit their magical and mystical symbols cannot be explained.

The cross, in its various forms, whether Greek, Egyptian, St. Andrew's, or Maltese, is not the only form in which angles have been symbolically combined; as, indeed, the hexalpha itself, at the outset, indicated.

By far the most extensive and curious collection of angular and other geometrical symbols ever brought under notice probably, or at least that I have ever seen, are described, with diagramatic illustrations, in the "Archæologia," vol. 30, in two letters "On certain Marks discoverable on the Stones of various Buildings erected in the Middle Ages." The letters are signed "George Godwin, jun.," and were addressed, in 1843, to Sir Henry Ellis, F.R.S., the secretary, at that time, to the Society of Antiquaries. In these letters, the attention of antiquaries and archæologists appears to have been, for the first time, drawn to the general and interesting subject of masons' marks, and their connexion with the craft and mystery of Freemasonry. At the close of an article such as this, however, I cannot do justice to the importance of these and other associate symbols; and must reserve them, therefore, to the opening of another communication; which I hope I shall have your permission to lay before your readers.

John E. Dove.

* "In a paradisical state, according to the primitive Fathers, *Sleep* was *voluntary* and holy: it was a mystical and *Spiritual* Repose, before God, in which the *Soul*, elevated by contemplation, entered into and *exercised the noblest functions* of its *Angelical* part [of its higher or upper part]: Sleep was not then, as now, a mere interval of frenzy, or as in some a total insensibility."—"The Philosophical Principles of Natural and Revealed Religion" (vol. I., page 372); by Chevalier Ramsay, a French Freemason, of Scottish extraction. This, in short, just means that at one time the death-like sleep of entrancement, in which Angelical functions were exercised, as in a corpse-like yet waking life, was substituted voluntarily and *nightly*, or *in the time and place of sleep*, as a more thorough and refreshing or restorative rest; and that this Angelic or Spiritual and blissful state of rest to Soul and body, thus nightly enjoyed, turned night and its "outer darkness" into the inward "Light" of a new and peculiar day,—the waking day of rest, "dead in the flesh, but quickened by the Spirit,"—a state which was in itself, in fact, the paradisical or Elysian state of beatitude, or "the ecstatic state," or state of "divine bliss," which mankind once enjoyed, as they still can, and will yet again do, *alternately with the waking life* of Soul and body. I need scarcely point to the light which this view sheds upon the "voluntary death" of the Eleusinian and other *nocturnal* mysteries, and upon the Coffin used in Freemasonic initiations into "the Light" of the "high noon" of *night*. This, says the quasi Hermes Trismegistus, in allusion to the ecstatic state of entrancement, as the "sober watchfulness of the mind, *in the sleep of the body*," and "the true sight," and "light" of him who has "*gone out of himself*, like them that dream in sleep,"—"this is the mystery that to this day is hidden and kept secret,—*life* the *Soul*, and *Light* the *Mind*,—My Mind,—*that is*, Pimander, the great Lord of the Word, whereby I am inspired,"—in fact, "the *Spirit*" which "brings all things to remembrance"—to *Mind*—in the *Soul*.

THE STRENGTH OF WROUGHT-IRON GIRDERS.

Permit me to direct attention to the results of the formulæ for computing the strength of wrought-iron girders, as given in the *Builder*, vol. xi., pp. 646 and 677, compared with the formula obtained from Fairbairn's work on cast and wrought iron.

The formula first alluded to for a girder of I form, with four angle irons, is thus stated:—

$$W = \frac{4f \times (CN)^2 \times (2t \times AB + \frac{2}{3}s \times CN + 4a)}{l},$$

where W = safe weight in tons applied in centre.
f = force exerted by the particles in a square inch of section, at the distance of 1 inch from the neutral line.
CN = the distance of neutral line from the top of the beam; in this case taken at the centre of the depth, the flanges being equal, and the resistance to compression and extension considered equal.
t = thickness of the top flange.
AB = width of ditto.
s = thickness of vertical web.
a = area of section of one angle iron.
l = length between supports.

All the dimensions are taken in inches. The value of f is found from the equation $f \times CN = 8$ tons, which is constant. Substituting this value of f, the equation becomes,—

$$W = \frac{32 \times CN \times (2t \times AB + \frac{2}{3}s \times CN + 4a)}{l}$$

and taking the first example as given at p. 677, vol. xi., where CN = 6 inches, AB = 5 inches, l = 120 inches, $s = \frac{1}{2}$ inch, $t = \frac{1}{2}$ inch, and a = 1 square inch, $W = \frac{32 \times 6 \times (5 + 2 + 4)}{120} = 17.6$ tons, = safe weight applied in centre.

On referring to Fairbairn's treatise on cast and wrought iron, at p. 77, I find his formula stated thus:—$W = \frac{adc}{l}$, when W = breaking weight in tons, a = area of bottom flange, d = depth of beam, l = distance between supports, c = constant, whose value is taken at 75, all the dimensions being in inches.

Using the same example again we have:—$a = 4{\cdot}5$ in., $d = 12$ in., $l = 120$ in., $c = 75$.

Whence $W = \frac{4{\cdot}5 \times 12 \times 75}{120} = 33{\cdot}75$ tons; and taking the safe weight at one-fourth, we have $\frac{33{\cdot}75}{4} = 8{\cdot}44$ tons nearly, a result nearly one-half of that obtained by the first rule.

This discrepancy between the results is so marked as to require further investigation. It will be observed that the former gives 17·6 tons as the "safe weight" applied to the centre of the girder, but it is not stated what proportion of the breaking weight that is supposed to be.

On referring to the Report of the Commissioners on the Application of Iron to Railway Structures, whence the first formula is deduced, it would appear by observations made by Mr. Hodgkinson at p. 171, that, although in computing the strength of the proposed tubular bridge across the river at Conway, he considered that it might be loaded so that the metal in the top of the tube would be subjected to a compressive strain of 8 tons per square inch (that is, $f \times CN = 8$ tons); yet, he says that, "the load above seems to be the greatest that the tube ought to be made to bear." And on p. 121, of the same Report, in treating of the weakness of wrought-iron to sustain compression, he states that, if the force of compression be greater than 8 or 9 tons per inch, "a considerable change takes place in the nature of the material, and beyond about 12 or 13 tons per inch of section, the metal, in most cases, cannot be usefully employed." Hence the assumption that $f \times CN = 8$ tons employed as a constant for computing the strength of beams will give the "safe weight," is manifestly erroneous.

The liability of plate beams to lateral flexure must not be lost sight of in considering their ultimate resistance to a transverse strain; also the danger of buckling of the plates forming the upper flange, if made of too thin material; and the loss of tensile strength consequent on the use of riveted plates. Much information on these and other points may be obtained from the Report before alluded to.

With regard to loss of strength by lateral flexure, it may be useful to point to the results obtained from some experiments given in Fairbairn's work at p. 102, where three rolled-iron beams are described as being severally loaded until they gave way, in each case, by lateral bending. Applying his formula $W = \frac{adc}{l}$ to the results, we get $c = \frac{Wl}{ad}$; and this gives, in the first case, $c = 52$; in the second, $c = 57$; and in the third, $c = 73$. Again, at p. 105, a plate beam is described whose strength computed by the formula $W = \frac{75ad}{l}$ should have been equal to 29 tons, but which being loaded with 11½ tons, when further loaded gave way to lateral flexure. Assuming that it gave way with 15 tons, and computing the value of c as before, we get $c = 38{\cdot}5$. In none of these cases does the value of c reach Fairbairn's standard of $c = 75$, whence the vital importance of guarding against lateral flexure is sufficiently apparent.

E. S.

THE GREAT INCREASE OF SMALL-POX IN THE METROPOLIS.

Since the preventive means suggested by Dr. Jenner have been introduced there has been a marked decrease in the number of cases and in the amount of deaths resulting from this loathsome and fatal disease; and this difference is the more clearly to be seen in proportion to the extent to which vaccination is carried out. Although these facts are so plainly shown, we have noticed with regret that, amongst a large number of the working and poorer classes, especially the women, there is a great deal of doubt as to the efficacy of vaccination, and a fear that the practice leads to the introduction of various other diseases. We will not, however, go particularly into this matter, but would say that it is of great consequence that every means should be taken to distribute such information amongst these people as will be necessary to induce them to protect their children from the ravages of this disease. Besides this, sanitary precautions are also needful; for we find that the small-pox, like certain other disorders, is materially affected by cleanliness, drainage, and ventilation. In Bemerton-street, Islington, the small-pox has been, and still is, very prevalent; and our readers know how many of the houses in this street are situate;—let into various tenements, thirty and even forty men, women, and children, in some instances, occupying a single house, which is in no way fitted for such a purpose. Neglect of ventilation, with dirty rooms and bed and other linen, are all causes for the introduction and spread of this dangerous sickness.

In a house in Little William-street, in the same neighbourhood, the inmates have been attacked by small-pox. On asking a person living there what sort of house it was, we were told that "it was a nice pleasant house, with a *cowshed at the back*." In this instance only three families occupied the dwelling; but, on making inquiry, we found that complaints had for some time been made of unpleasant smells, and the inmates thought that the house was not wholesome. There is no doubt that this cowshed, in which four cows are kept, is not only a means of poisoning this house, but also those in the neighbourhood. In this and in some other instances we fear that the necessary and useful precautions in connexion with these unwholesome places are not carried out with sufficient care or strictness. Near Argyle-square, King's-cross, there is a very large cowyard, which is inclosed on two sides by houses thickly inhabited by poor families. There is a narrow passage here, in which at times the smell from the cowyard is shocking. Is sufficient care taken in the inspection of this and other similar places by the officers of health? The keeping of pigs adds much to this evil, and is a practice which should not be allowed in populous neighbourhoods.

When recently in the Finsbury district, we heard of cases of small-pox happening in some of these cellar-dwellings, which are there still, in defiance of the law, inhabited; and in order to prevent this and other bad consequences, these places should be inspected by those who have the charge of the public health, and families be prevented from occupying dens in which there is neither light nor air,—places in which small-pox, fevers, and such like disorders are generated.

In the case of the poor, at a time when this contagious disease is prevalent in various localities, it is very necessary that the parish authorities should afford every facility to those in their district for carrying the sick (not in street cabs) either to the proper wards in their own infirmary, or to the general hospital. Unfortunately the latter place is filled with patients; but means should be taken to get those afflicted from their

unwholesome homes, and so give them a chance of life, and prevent the further spread of the complaint. It is also of much consequence that the bodies of those who die should be removed as soon as possible; and this might be done more frequently than is now the case if the relieving officers of parishes were to afford greater facilities, and, when necessary, promptly afford assistance.

TWO LONDON RELICS.

THERE are few if any of the antiquities that are particularly associated with the metropolis of this country which are so generally known by name as *London Stone*, and the stone which rests below the seat of the chair in which so many of the English kings and queens have been crowned; and yet there are few objects of antiquity the early history of which is so uncertain. So far as we know, no inscriptions or marks are to be found on either of these remarkable stones which would give evidence of their original purpose; yet there is a traditionary interest attached to both those relics which is only to be attributed to very ancient importance. Anything more singular than the legendary history of the coronation stone could not be well conceived,—that it was a famed and "prophetic," or "fatal stone," which tradition has termed the same whereon Jacob reposed his head when he saw the vision of the ladder and the angels of God ascending and descending. It would be well to sift the history of these stones, and determine where the traditionary matter ends, and where substantial history begins; but even the latter, in connexion with these venerable antiquities, is sufficient to make them of national importance. An accidental glance a few days ago at the coronation chair, an object which has been long familiar to us, showed us signs of decay in the ornamentation with which it was once richly covered; and it would seem desirable that means should be adopted to protect it from atmospheric influence. The coronation chair for the queens consort, which is put in close contrast with the ancient chair, is a work of ugliness corresponding with the taste of the times in which it was made.

SOMETHING OF ART.

AT the Bristol School of Art, last week, Mr. Hammersley delivered one of the two final lectures of his course. He said he had protested in the previous lecture against art being taught upon a system which meant simply to amuse people, for amateurs should understand art rightly to have the full, true, and thorough pleasure which it was calculated to impart. He had shown them that amateurs were bound to study art also as a domestic question. That question was one particularly affecting ladies; because, in the act of spending money, they committed one of two things—either the perpetuation of that which was beautiful or that which was sad and deformed. On the subject of "The School: how does it accomplish its purpose?" he had spoken chiefly on elementary art. He began by repudiating picture-making, it being too frequently the case that amateurs wanted to do great things before they had accomplished small ones. It had always appeared to him that making a drawing of any given object went for nought unless the literature which lay at the base of it was perfectly understood. In drawing landscapes, for instance, what a number of questions there were lying at the threshold of the subject, without which drawing landscapes was perfectly nonsensical. With reference to his lecture on "Schools of Painting or Engraving," he said there was an immense amount of real mobility in all schools of art. It was a matter of small consequence to him whether he was criticising "The Last Judgment" of Michelangelo, or a cabbage painted by a Dutchman. Both in their way, according to the stand-point of the men who produced them, should receive their fair meed of critical examination, honest judgment, and approval. If a man was a sham, and painted an untruth, condemn it, however much it might amuse; but they must be sure that they knew they were considering what possessed pestiferous qualities. The pupils were beginning to find that there was reason for everything; and they did not see any reason why they should not reason with him on the subjects. Just imagine what that must end in: just imagine what three or four years' questionings of him, and questionings of books, with all the theories and principles and practice which they might have, would result in. The result would be that the institution, instead of being, as it was some time ago, a mere drawing school, would be an institution the pupils of which would know that there were relations between the thing put before them and nature. He was pleased to find that a great number of the young men who came in the evening—decorative painters, glass stainers, workers in stone, architects, &c.,—were consulting such authorities as were accessible to them there, and were trying to ascertain principles. Speaking of the desire amongst ladies for sketching from nature, he said that nothing could be more wholesome or rational than that wish; and as a furtherance of it a great deal of landscape had been practised in the morning classes; and he now pointed out to them what was necessary to enable them to excel in that department. He urged upon them the superiority of landscape drawing as a pastime to ornamental needlework.

A WORKING MEN'S CLUB IN SOHO.

AN article on the Working Men's Club and Institute Union, which appeared in the *Builder* of December 27th, was read by several working men employed in the building trades, and residing in the neighbourhood of Soho-square; and they being convinced that a Working Men's Club was one of their chief wants, put themselves in communication with the Rev. H. Solly, the secretary of the society. After considerable correspondence and several interviews had passed, the council of the Union invited some of the men to meet several members of their own body; and accordingly a meeting was held at the offices of the Society, 150, Strand, on the 17th ult., Mr. Russell Scott presiding on the occasion. Details were thoroughly gone into, and information was duly noted down of the premises in Soho which could be obtained for club purposes. At the close of the meeting, which was of a deeply-interesting character, Mr. Scott engaged to provide a house, rent free for the first year, and arrangements have since been made to carry the promise into effect. The proposal to start a club has been largely canvassed among the working men of the locality, and a very large body of them have undertaken to become members. A printed form, mentioning the leading features of the Club, is being circulated, to obtain the names of persons who have not yet given in their adhesion to the scheme. The club-house is in Crown-street, Soho-square, and is being cleaned and repaired by the working men who originally proposed the effort. The materials for forms, tables, chairs, &c., will be purchased, and willing hands are ready to make the requisite articles of furniture. For bagatelle, dominoes, draughts, chess, skittles, and a number of other very necessary things, about 30*l.* will be wanted; but it is hoped that this sum will be subscribed by the employers of labour and the well-to-do residents in the locality. The heartiness with which these working men have set to work is equalled only by the spirit shown by the people of Scarborough, where quite recently a club was opened, the rich contributing money, the tradespeople wood, nails, screws, and supplying goods at cost price, besides providing refreshments for the workmen, who gave their labour in fitting up such premises as probably no other than the Scarborough Club can yet boast of possessing.

THE PLASTERERS' COMPANY.

IN the year 1501 King Henry VII., by his charter, dated March 10, incorporated the Worshipful Company of Plasterers, under the title of "The Master and Wardens of the Guild or Fraternity of the Blessed Mary of Plasterers, London." Their grant of arms by Thomas Hawley, Clarencieux, is dated January 15, 1546, while a confirmation of their charter of incorporation is dated June 11, 1667, which grants them the usual privileges of a guild, a livery, a master, two wardens, and thirty-two assistants. "Let brotherly love continue," is their motto, and the registered number of privileged voters is thirty-two. Their book of ordinances is an interesting volume. The *City Press* gives the following particulars of the company. In 1586 occurred one of those 'prentice riots so famous in the old time, and five of these rebels being taken they proved to be of the Company of Plasterers. By an Act of Common Council passed in the sixth year of William and Mary, 1694, it was ordered that, "Whereas the master and Wardens of the guild or fraternity of the Blessed Mary of Plasterers, London, are, and very anciently have been, a brotherhood or guild, and for conformation or strengthening of their privileges have obtained several royal grants, whereby and by their original constitution the said fraternity or guild ought to be and consist of all persons using the trade of a plasterer within the city of London and liberties thereof,"—a fine being inflicted on those practising the art without being a member. At present the guild stands the forty-sixth on the City list.

A statute was passed in the first year of the reign of James I., 1603, c. 20, which enacted that no plasterer should exercise the "art" of a painter in the City or suburbs of London; but an apprentice was exempt from the meaning of the Act. The penalty was 5*l.*, but a proviso allowed the plasterer to use whiting, blacking, and red ochre mixed with size, without oil. This was a very important statute, for it at once cleared up the several disagreements existing in 1575, between the plasterers and the painters, the latter retaining their privileges by becoming incorporated in 1581.

Plasterers' Hall is situate a few doors westward of Philip-lane, in Addle-street, Wood-street, Cheapside, and is now occupied as a warehouse. Malcolm, who wrote in 1803, tells us that the "rooms were much ornamented with work peculiar to their profession, and the best artists belonging to it were doubtlessly employed; but the company having thought proper to admit a variety of tenants, the embellishments suffered at different periods, and probably will continue so to do, as it is still in other hands." At the present time huge cases and chests often fill up the entrance-gateway of the building in Addle-street. "One of the rooms," continues Malcolm, "was undergoing a complete alteration when I visited it; but I have rescued a curious coat of arms from oblivion, which was in the east window," and which the author of these remarks engraved in his "*Londinium Redivivum.*" According to Chamberlain, who wrote in 1771, this building was formerly Pinners' Hall; but how or from whence he obtained the information we are at a loss to conceive.

Among the plasterers we find the name of Mr. Thomas Brewer, author of "The Life of John Carpenter," and "The Life of the late Alderman Kelly," citizen and plasterer of London, and Lord Mayor 1836.

SCHOOL BUILDING NEWS.

South Lopham (*Norfolk*).—The first stone of the South Lopham Parochial Schools was laid on the 24th ultimo, by Mrs. Fitz-Herbert Bateman, the wife of the rector. The honorary architect is Mr. C. Turner, of Southampton; and the builders are Messrs. Ward & Bishop, of Diss.

Maristow (*Plymouth*). —The foundation stone of a school-room has been laid at Maristow, on the estate of Sir Massey Lopes, Bart, M.P., in memory of his eldest daughter, who died last summer. Mr. W. F. Cross, of Exeter, is the architect; and Mr. Matcham, of Plymouth, the builder.

CHURCH-BUILDING NEWS.

Warwick.—The chief stone of a new chapel for the Wesleyans, in Avon-street, Emscote, has been laid. The building will be 46 feet long by 26 feet wide, in the Lombardo-Gothic style; and when completed will be capable of accommodating 200 people and school children, numbering about 100. The principal entrance will face Avon-street; and over the doorway will be a rose window, and on either side of it a small window. Externally the edifice will be composed of red and blue bricks, with Bath stone mouldings and mullions. On each side of the chapel it is intended to place four two-light windows. The roof is to be high-pitched, of stained timber, and covered with ornamental tiles. The end of the chapel will be partitioned off with a screen for the school-room, in the middle of which the pulpit will be fixed. The cost of this structure, exclusive of the site, is to be 350*l.* Mr. Cundall, of Leamington, is the architect; and Mr. Jeffs, of Leamington, the builder. Mr. Hyde, of Milverton, presented the ground.

Shrewsbury.—The building committee of the Congregational Church, Abbey Foregate, having solicited contracts for the erection of the proposed building, the following were sent in, and that of Messrs. W. Trow & Sons, of Wednesbury, being the lowest in amount, was accepted:—Messrs. J. Cross, Shrewsbury, 4,870*l.*; J. Barnsley & Sons, Birmingham, 4,462*l.* 9*s*; Everall & Morris, Shrewsbury, 4,266*l.* 7*s.* 9*d.*; Treasure & Son, Shrewsbury, 3,478*l.* 2*s.* 7*d.*; W. Trow & Sons, Wednesbury, 3,437*l.* 8*s.*

Peterborough.—Palebrook church is about to be re-pewed. A stained-glass window has been put up. Mr. Webb was the artist employed.

Whixley (*Yorkshire*). — In Whixley church,

which has been restored by Mr. Scott, and re-opened, the blank wall under the east window has had a reredos erected from a design furnished by Mr. Scott, and executed by Mr. W. Farmer, of London. The reredos extends the whole width of the chancel, and is composed principally of alabaster and Caen stone.

Rashcliffe (*near Huddersfield*).—The foundation stone of a new church, to be called St. Stephen's, has been laid at Rashcliffe. The site was presented by the proprietor of Rashcliffe estate, in the open space just below the school-room, and plans for a Gothic church, with a spire, to accommodate 600, have been obtained.

STAINED GLASS.

Minster Church.—The repairs of this church will be completed next week. A new stained-glass window has been erected in it by the liberality of Mr. W. Rogers, of Sheriff's Court, Minster. The upper part of the window has been filled with the Dove and other emblems, and the three large openings of the lower part have the subjects of the Israelites crossing the Red Sea, the Baptism of our Lord, and Moses smiting the Rock, under Gothic canopies, with texts of Scripture above and below them. The general groundwork of the window is a geometrical pattern, in bands of colours, and scroll ornament within painted borders; and at the bottom of the window is the following inscription:—"A thank-offering to Almighty God for the restoration of this church. Anno Domini MDCCCLXIII." The window is fixed over the font, and was executed by Mr. Willement, who, a short time since, filled the east windows of the church with stained glass, through the liberality of Mr. S. Hanson, of Ramsgate.

PROVINCIAL NEWS.

Stamford.—Plans for the erection of the new "Calais of All Saints," on the site of the old buildings razed some time ago, were submitted by Mr. Richardson, jun., to a meeting of the Charity Trustees. The design of the new calais is Elizabethan in character, and it is intended that there shall be three dwellings, of one story each, for poor widows. There is to be a covered lobby leading to each room, the entrance door being from St. Peter's-street. In the gable end facing St. Peter's-hill there will be an archway with dwarfed panelled wall inserted, forming a corridor from the end calais with iron palisading in front. The gable end facing St. Peter's-street will be similar to the one looking towards the hill, with this exception, that there will not be a corridor. In each of the gables there is to be a shield for the borough arms, and over the doorway a panel to contain an inscription of the name of the calais and the date of erection. The joint building will be of Clipsham and Casterton stone, and each room will be in extent from 150 to 180 superficial feet. The extent of frontage covered will be about 70 feet. The designer of the new buildings, Mr. Richardson (who is surveyor), stated that he was ready to undertake the work for 425*l.*, and for that sum complete the habitations; excepting, however, any extra depth that might be required below 12 feet for a cesspool, the palisading, and the laying on of water from the street to the cistern. He further undertook, if the trustees thought proper, to have the work inspected by a competent person, and replace any defective portions that might be found. The sum stated was considered a reasonable one; and it was resolved "That in consideration of the various gratuitous services performed by Mr. Richardson for a series of years, the erection of the new calaises be intrusted to him instead of being contracted for, he undertaking to execute the work for 425*l.*"

Lincoln.—It has been resolved to enlarge the County Pauper Lunatic Asylum, at an estimated cost of 15,000*l.*, and advertisements for tenders have been ordered to be inserted in the county papers. This outlay of 15,000*l.* has been forced upon the magistrates by the Lunatic Commissioners, who require that all the harmless imbeciles and idiots shall be placed in asylums.

WORKMEN'S HOUSES IN CONNEXION WITH THE EDINBURGH AND GLASGOW RAILWAY.

Some time ago, the directors of the Edinburgh and Glasgow Railway Company advertised for competitive designs and plans for several hundreds of workmen's houses, to be erected at Cowlairs, in the neighbourhood of Glasgow, and offered a premium for the best design. This offer brought into the field no fewer than one hundred designs, with accompanying plans, for the inspection of the directors. The directors brought their labours to a close last week, by approving of the designs and plans of Mr. Heiton, architect, of Perth. The site of this new town is immediately to the south of the Cowlairs station. The sloping nature of the ground admits of the series of blocks of houses being built in the form of terraces or crescents; and these blocks, it may be observed, are in four different styles of architecture. Each house will have from two to six apartments, and the rents will range from 4*l.* to 12*l.* In the centre of the ground is a large square, with a water-fountain in the middle; and, to give picturesque effect to the whole, at the corners of the square are shops, with pointed slate roofs, for a baker, butcher, grocer, and dairy. The buildings also include a school-house and library in the Tudor style, together with recreation grounds for workmen and their families. The outlay by the railway company for the buildings, &c., is estimated at about 30,000*l.*; and a portion of the work is to be immediately proceeded with.

WHAT IS A BEDROOM?

Prior to Ladyday, being in search of a house, I "viewed" a large number, both in the suburbs and near the stations on some of the lines converging to the City, but was much struck with the almost general deficiency in the bedroom accommodation.

I wanted, advertised, and sought for a house, with at least five bedrooms. In many houses stated to contain the number required, I found that what were termed bedrooms were frequently literally—cupboards. Houses described as containing five bedrooms, I have often found contained only two bed-rooms proper; the others being a dressing-room, an attic, and a large cupboard, with a window in it.

Can a small room, without a fireplace, or any means of ventilation, except the window or the door, be possibly adapted for a dormitory? Is not a sleeping-room as important to health as a sitting-room? Is it right or humane to place a servant or children in nooks and corners where their strength must inevitably be undermined?

In several new houses attics without fireplaces were supposed to be fit sleeping-rooms for servants, the only way to ventilate which was by opening a skylight. It is obvious that such windows must remain sealed ones in wet, damp, and cold weather.

Well may consumptive and bronchial ailments make the ravages they do if poor human frames are stowed away in such utter disregard of sanitary principles.

Inspectors are appointed to prevent overcrowding amongst the lower classes; but in too many cases I fear that evils commensurate with overcrowding exist in the dwellings of the middling classes.

As no limit can be placed upon the number that may be lodged in our houses, is it not essential to have a clear definition of what constitutes a bedroom, and at the same time incumbent upon all builders and occupiers to recognise the definition in its integrity?

Lungs.

THE CITY COURT OF SEWERS AND STREET ARCHITECTURE.

Sir,—I beg to direct your attention to a practice which is becoming a standing rule of the City Court of Sewers, and which is likely to operate very seriously on our street architecture. Every one knows that the plinth or basement of a building is a most important part of the structure. The handsomest building will look flat and poor, and even weak, if it have not a good basement. With ordinary shops the practice is to limit the projection of the shopfront to 3 inches; but difficulties are frequently placed in the way if the projecting parts be of cement, and all projections in stone are now disallowed. The reason alleged for this distinction is, that a projecting plinth, if of stone or even of cement, might be interpreted as constituting a right of soil; whereas a wooden projection might be removed at any time. The same distinction is, curiously enough, insisted on with respect to cellar flaps; the steps of which outside the frontage must be of wood, and not of stone, in order that they should not be considered permanent. But if the wooden shop-front is never removed—and who ever heard of a shop-front being removed by order of the Court of Sewers—there is no likehood of the cement or stone projection being required to be removed; and therefore it is manifestly unfair to the more important and more architectural public buildings and first-rate shop-buildings that they should enjoy a less privilege than the less important and less valuable shops in their vicinity. Why should the public building, when ground is so valuable in the City, and where an inch or two is sometimes of the greatest consequence, be set back behind the general line of frontage, or else be required to be built without a becoming plinth or basement? The argument that the stone plinth might be construed into a right of soil is specious; for the City themselves lay down the rule that the line of frontage is regulated by that of the first floor, and that no projections of shop-front or plinth beyond that line constitute any right of soil. The principle, therefore, now being established, is both unfair and unnecessary;—unfair, as giving one description of building an advantage which is denied to another; and unnecessary, because by the rule of the Court of Sewers the stone plinth could never be recognized as implying a right of soil. No doubt, it is very important in a crowded thoroughfare, like the streets of our metropolis, that the pavement be kept as clear as possible; but every one knows that the public building presents far less obstruction to the passer by than the shop: in the former there is generally but one doorway, and the windows are all private windows; whereas in the shop the whole frontage is a shop front, the goods displayed in which frequently cause a crowd along the entire front: goods, lamps, and sun-blinds frequently obstruct the passer-by, while the lifting-shutter not unfrequently causes a more serious inconvenience. Fairness, justice, public convenience, and a regard to our metropolitan architecture, therefore, alike require that this distinction between stone and wooden projections, which is now being carried out by the Court of Sewers in the City of London, should be done away with.

Palladio.

THE ANNULAR RINGS OF TREES.

STRENGTH OF TIMBER.

The following was quoted in a late number of the *Builder*, and has been copied into other periodicals; but as the article does not explain the cause of the want of uniformity in the annular rings of trees, you will perhaps allow me to append to the article a few facts which may be of some value to a number of your readers.

"Popular Error regarding the Want of Uniformity in the Thickness of the Annular Rings of Trees.—On reference to the cross section of a newly-felled tree, it will be observed that the timber has not formed of uniform thickness round the pith of the tree. This is uniformly the case towards the base of the spruce, Scotch fir, and larch. The popular belief is, that the wood forms faster towards the side most exposed to the light and the heat of the sun's rays. Were this the case, it would prove that we have more of these from the south-east than from any other quarter. The prevailing high winds in Britain are from the north-west or south-west, and they usually blow hardest in autumn, when the young wood is most liable to be permanently bent in any given direction. This makes the top lean towards the north-east or south-east, and, by one of the many admirable compensating operations of the Great Creator, the wood at the base grows fastest on those sides, so that it may act as a natural buttress, and maintain the centre of gravity."

The above is a very old-fashioned but very unsatisfactory method of trying to explain the cause of any effect that we do not understand: in fact, it is no explanation whatever. We know that the Great Creator is the first cause of every operation in nature, but He at the same time makes secondary laws to govern many of the operations of nature; and if we examine the powers operating upon the growth of trees we will find that it is by simple mechanical action that the annular rings grow thickest on the side opposite to the direction of the prevailing winds, because when the tree is bent it forms a bow or arch, and the fibres on the convex side of the arch undergo a tensile strain, which partially closes the pores of the wood on that side, while on the concave side of the tree the fibres undergo vertical compression, which has a tendency to open the pores on that side: consequently the sap rises more freely on the concave side than on the convex, and causes a more rapid growth on that side than on the other. At the same time the wood is much softer than on the convex side. In proof of this take the Scotch fir, larch, or spruce, and examine the cross section near the base with a microscope, and it will be found that the pores on the convex side are much finer and more compact than on the concave side. Again, take a longitudinal section of the tree: cut through the centre, so as to show both the convex and concave sides, and it will be found that on the convex side the fibres are hard,

and run nearly in straight lines, whereas on the concave side they are soft, and have a wavy appearance, caused by vertical compression. Again, cut equal portions from the convex and concave sides of the same tree, opposite one another, and dry them thoroughly, and it will be found that the wood cut from the convex side has a much greater specific gravity than that from the concave side. Again, the wood cut from the convex side is much stronger, and will sustain a greater transverse strain than wood cut from the concave side of the same tree. Again, the wood cut from the convex side is more durable than that cut from the concave side of the same tree. Where Scotch fir, larch, or spruce has been used for roofing, joisting, or flooring, I have always found that the concave side, with the large fibre, got worm-eaten and quite rotten long before the convex side. These facts I discovered many years ago. A knowledge of them is of great value to parties using that kind of timber, to enable them to judge in what direction to cut up the trees for certain purposes.

Wm. Burns, C.E.

ROTHERHAM WATER BILL.

Sir,—My attention has been called to the evidence of Mr. Hawksley, C.E., on this Bill, and I know of no more likely medium than your columns through which to express my regret that a man with his alleged reputation should have made a statement before the committee of the House of Commons without any data whatever on which to base his calculation. I allude to the consumption of water in Worksop, which he puts down at 18 gallons per head daily. I regret that Worksop is not so fortunate as to possess any water-works, the inhabitants being supplied throughout the town by pumps. How, therefore, can he undertake to say the consumption of water is 18 gallons per head daily? Surely this must be one of Mr. Hawksley's theories.

I will, for Mr. Hawksley's information, state that the deodorizing works in this town answer the purpose for which they were designed most admirably; that the cost was only about 1s. 6d. per head; and that the annual cost does not exceed 50*l.* per year. Mr. Hawksley's estimate of the cost of deodorising works, as stated in his evidence, is perhaps another of his theories.

For the credit of the profession, I trust there are few men who would risk their reputation as "Mr. Hawksley the theorist" has done in his evidence on this Bill.

Robert White,
Clerk to the Worksop Local Board of Health.

THE MASONIC BUILDINGS COMPETITION.

Sir,—In reference to various letters which have appeared in the *Builder* respecting the competition now going on for the new Masonic buildings in Great Queen-street and the position and powers of the Grand Superintendent of works in relation thereto, I beg to inform you that the appointment of Grand Superintendent of Works (like other offices in Masonry) is an annual one, is in the hands of the Grand Master, and will cease and determine this year on the 29th instant; and that, for the purpose of avoiding any question or embarrassment, the Grand Master, the Earl of Zetland, has, *upon my recommendation to that effect*, declared his intention not to appoint any brother to that office until the result of the competition is known.

S. W. Daukes, G. S. W.

GIRDERS OF WROUGHT-IRON AND FIR.

Sir,—In your last issue you publish a "rule for calculating the strength of wrought-iron, flanged, and box girders:" can you assist me to calculate the strength of combined wrought-iron plate and fir girders, now so much in general use?

Tuff.

PATENTS CONNECTED WITH BUILDING.*

Improvements in Stoves for Heating and Ventilating Buildings.—*R. Zimara.* Dated April 24, 1862.—One of the principal objects of these improvements in stoves is so to construct and arrange the flues and air passages thereof, that the air in its passage to the interior of the building may be heated by pressing through a series of pipes or passages composed entirely of earthenware.

The Construction of a backed Form or Seat capable of being converted into a level Table with Seat, or a Desk, either level or sloping, or at any angle.—*A. Williams.* Dated May 5, 1862.—This invention consists of an iron standard formed of two uprights, connected at the top and bottom by horizontal iron plates, at the upper front corner of which a tenon is inserted and secured by a pivot in the mortise of the other portion of the standard, to which is attached the board to form the back of the seat. Down upon the horizontal plates before mentioned, another board is secured, and forms the seat itself. By raising the back board before mentioned, and turning it forward upon the joint formed by the mortise and tenon before referred to, the back board of the seat forms a level table; or, by being secured by a screw through the cheek of the mortise to be turned forward against the tenon, the back board will be held in any sloping position required, and will form a writing-desk.

Improvements in Apparatus for Boring Slate.—*A. Webster.* Dated June 20, 1862.—This invention relates to certain improvements in the arrangement and construction of machinery for boring slate, more particularly in the form used for roofing purposes, so that each slate may be perforated at one or more places at a single operation, the perforations being much improved in form from those produced by the usual mode, and suited to receive countersunk-headed nails, whilst the loss from breakage of slates in boring is greatly reduced or wholly avoided. This invention consists, primarily, in applying a combined punching and drilling movement to the tools operating upon the slate, and shaping these tools and their matrices so as to produce countersunk or otherwise shaped holes. And, secondly, in certain arrangements of parts and mechanism for producing the necessary compound movement of the tools from a simple and intermittent hand action.

Improvements in Cocks, Taps, and Valves. *J. Endean.* Dated April 24th, 1862.—This consists in the following arrangement of parts:—A duct, or ducts, is or are formed with a cock, tap, or valve-shank, as it is termed, having a chamber or valve-box, provided with a solid or partially solid enlargement of the said duct or ducts, of conical or conoidial form, with the requisite apertures therein, and upon this conical or conoidal part is fitted a hollow cone or conoid correspondent thereto, provided also with apertures communicating with the ducts and ways, adapted so that the steam, gas, water, or fluid will enter the valve-box or chamber, pass over or against the said hollow cone or conoid, and out at the outlet or outlets, this hollow cone or conoid being provided with a stem, spindle, or handle, passing through the chamber or valve-box aforesaid, whereby the hollow cone or conoid may be turned, so as to bring the aperture therein upon, to, or away from the apertures in the aforesaid enlargement of the duct or ducts, and thus open and shut the same as desired. The patentee arranges the apertures that the inlet shall never be closed, and hence the hollow cone or conoid shall always be kept held to its seat with an equal pressure on its centre surface.

Arches.—*E. Clark.* A communication. Dated 29th April, 1862.—This invention consists in the peculiar arrangement and construction of arches for bridges, roofs, and similar structures, more particularly when the openings to be arched are of considerable span. These arches are composed of bars or plates arranged in the form of a single or double series of triangles.

* Selected from the lists in the *Engineer*, *Mechanics' Magazine*, &c.

Books Received.

Les Grandes Usines de France. Chez Michel Levy, Freres, 2 bis, Rue Vivienne, Paris.

This interesting work by M. Turgan, to which we have before referred, is now in its third volume. The last *livraison* before us contains an elaborate account of *La Foudre* Cotton-mill, constructed by Mr. Fairbairn, and is illustrated by a number of very careful engravings of the machines employed and of the building. In this establishment, one of the finest in France, the work is done by five steam-engines of 500-horse power in the whole, and 600 or 700 persons, including children.

From the *livraison* devoted to the St. Gobain manufactory of plate-glass, we learn that the annual production of glass there has increased in ten years from 95,000 square mètres to 200,000, without including the German establishments. The cost, especially of large sizes, has been greatly lessened: thus a glass of 4 square mètres, which now costs 264 francs, cost, in 1835, 1,245 francs, and in 1805, 4,000 francs. The price of a square mètre has varied thus:—1702, 165 francs; 1791, 174 francs; 1805, 226 francs; 1835, 127 francs; and 1862, 45 francs.

Miscellanea.

Manufacture of Gas Devices for Illumination.—The extent of this trade would surprise many. As an evidence one firm, we are told, Lambert, Brothers, of Walsall, drilled for the memorable 10th of March, considerably more than 400,000 jets, which they compute would burn more than 500,000 cubic feet per hour.

Street Illuminations and Decorations.—The council of the Society of Arts have appointed a strong committee to consider and report what awards may be offered by the Society for practical suggestions to improve street illuminations and street decorations for *fêtes*. The committee will probably recommend the offer of considerable premiums for the best examples of different systems of illumination, for new modes, and, perhaps, for the best essay treating of the subject as a whole. The various specimens sent in competition would be exhibited in some convenient gardens, and thus provide a brilliant *fête*. What is mainly wanted to improve public illuminations in London, for example, is *combined action under good direction*.

Poisonous Green.—The first representation of a new piece was given three nights back at Hamburg, in which the female dancers appeared in green costumes, to represent water-nymphs. The stuff of which these costumes were made contained such a quantity of arsenic that the needlewomen who made the dresses all fell ill, and the dancers were attacked with violent symptoms of poisoning whilst on the stage.

New Pier and Railway Extension for the Isle of Wight.—The Stokes Railway and pier have been inspected by Captain Tyler, R.E., the Government inspector, with the view of opening the same for public traffic on Monday next. These undertakings were commenced by Messrs. Brassey & Ogilvie, the contractors, in 1860, under Mr. Fulton, the engineer by whom the works were designed, and have just been completed. The site of the pier is immediately opposite Ryde and Osborne.

Ordnance Survey.—The grant of 85,441*l.* has been made, without opposition, for the Survey Topographical Department. The report of the Topographical Department states that the survey of England and Wales will be finished by the end of the present month, and the complete map on the 1-inch scale will shortly be published. Since it was begun, in 1784, surveys of various parts of the United Kingdom have been made, as is well known, on a larger scale; and ultimately the following scales were decided upon as the most proper for the national survey;—For towns with more than 4,000 inhabitants, 1-500th of the linear measurement, which is 126·72 inches to a mile; for parishes in cultivated districts, 1-2500th, equivalent to 25·344 inches to a mile; for counties, 6 inches; general map of the kingdom, 1 inch to a mile.

Colouring Glass.—We learn from further inspection and the comments of our guide, that there are two methods of colouring the bubbles we see all around us. The one is by using coloured "metal" entirely; the other by "flashing"—coating white glass with a thin film of colour only. All colour *may* be "flashed:" red *must* be; because the colouring matter used would render the glass blown entirely from red "metal," opaque. So in order to be inducted into the mysteries of "flashing," we seek out a workman who is about to blow a red bubble. The process, we find, is very simple. Having gathered, upon the end of his blow-pipe, a ball of white metal, the operator, before carrying it to the "marver," gives it a twirl in a pot of red metal, and then goes on with his blowing. The two colours retain their relative positions throughout every succeeding process; as the one grows thinner and thinner, the other grows thinner and thinner; and the final result is a sheet of white glass coated with red on one side. Passing on from one workman to another, we notice that though there are bubbles of every other colour, there are no yellow ones; and, on asking the reason, we are told that all the shades of yellow are produced, not out of yellow metal, nor by flashing, but by staining white glass.—*Once a Week.*

The City and the Prince of Wales.—Mr. Benson, of Ludgate-hill, has received from the Corporation the order to manufacture the casket in which they propose to present the freedom of the City to his Royal Highness the Prince of Wales. The approved design is in the Cinque-cento style, and will be executed in gold of various tints and enamel. The front is divided into three panels, on the centre of which, on a ground of royal blue enamel, are shields bearing the arms of the Prince and Princess of Wales: above this appears the Prince's crown of State in gold, enamel, and jewels. The casket is supported by four sea-horses. The whole is surmounted by a figure of Britannia.

Royal Italian Opera.—Mr. Frederick Gye has issued a programme of more than common promise. Eight new singers will make their first appearance in England: Mdlle. Patti will reappear with Mdme. Miolan-Carvalho, and Signors Tamberlik, Mario, Ronconi, Formes, and other known names. "La Forza del Destino," by Verdi, and "Stradella," by Flotow, will be produced for the first time; and Meyerbeer's "L'Etoile du Nord" and several other operas will be revived with new scenery. With Messrs. Beverley, Grieve, and Telbin to paint this, and Mr. Costa to conduct the music, there is every reason to expect a brilliant season.

Artists' General Benevolent Institution. The forty-eighth anniversary dinner of this charity took place on Saturday night at the Freemasons' Tavern, the Earl of Carnarvon occupying the chair. The company numbered more than 200 persons, and included;—the Earl of Carnarvon; Sir C. L. Eastlake, R.A.; David Roberts, R.A.; E. M. Ward, R.A.; W. P. Frith, R.A.; H. O'Neil, R.A.; T. Creswick, R.A.; H. Weekes, R.A.; H. Farrer; J. E. Millais, R.A.; Faed, A.R.A.; Dr. O'Connor, Carl Haag, F. Leighton, G. Godwin, P. C. Hardwick, J. Gibson, F. R. Pickersgill, R.A.; G. Plucknett, J. Jennings, C. Fowler, H. W. Phillips, hon. sec.; Heaphy, Dillon Croker, Stone, Flatou, Battam, &c. The object of the institution, which was established in 1814, is to extend relief to distressed meritorious artists, whether subscribers to its funds or not. The subscriptions amounted to 744*l.*, of which 480*l.* were contributed by members of the profession.

Proposed International Schools.—M. Barbier, a French Manufacturer, placed at the disposal of the French Committee of the International Exhibition, a sum of 5,000 francs, to be given in prizes for the best essays on the means of establishing international education in Europe. An international jury, of which, among others, Mr. Richard Cobden, M. Michel Chevalier, Sir James Kay Shuttleworth, and Dr. Johnson, were members, have examined the essays, and have just published a report, which shows both the object in view and the best means of carrying it out.* It is proposed to form a European company, including distinguished men in England, France, Germany, and Italy, for the purpose of establishing a college, or rather school, in each of the four great countries of Europe. Each of these colleges would receive children of the four nations, at an early age, in equal numbers. These children, thus living together, would very quickly teach each other their respective languages; firstly, by constant practice; secondly, by classes, which would be formed in accordance with a plan as ingenious as it is new. To each boy a book would be given, which would contain those sentences most frequently used in conversation, expressed in the four different languages. The boys would be divided into groups of four, each group being formed of one boy from each nation. The English boy would read aloud a sentence in English, after which it would be read aloud in the same language by each of the other boys—the English boy acting the part of a teacher, and correcting their pronunciation. The French boy then assumes the part of a teacher, the other boys acting as pupils: the same sentence is read over in French, and corrected in the same manner; and so on for German and Italian. In this manner children would acquire a great many words; and when just beginning to understand and speak—which would require only a few weeks—they would every day be made to speak a different language during their play hours. At the end of every year the pupils would change colleges, and consequently the country they inhabited. But in all these colleges, the discipline, direction, and rules would be exactly alike; so that a boy going from one college to another, would be certain to find there the continuation of the studies he had begun.

* Published by Dulau, Soho-square.

Wood Carvers.—The Wood Carvers' Society have found a generous friend in Mr. Vaughan, of the Regent's Park, who has presented ten guineas to the general funds, and offered 20*l.* a year for two years, to pay rent, or to aid in any way the society will point out in encouraging the members to establish in their rooms a modelling and drawing class; or to lead to their attendance at the Government or other schools. The Council of the Wells Street school have offered to forward these views by making special arrangements in the classes and accommodating the time and payments to suit the wants of the carvers generally.

Restaurants for the Working Classes.—A meeting of gentlemen took place on Saturday afternoon, the 28th ult., at the Working Men's Club, Colonnade, Clare Market, for the purpose of testing the practicability of a new movement, carried out under the auspices of an "Association for the Establishment of Dining and Refreshment Rooms for Working Classes," the object of which is to provide, in the poorer districts of London, restaurants roomy, clean, and well-ventilated, where the working classes can obtain well-cooked dishes, composed of wholesome food, at the smallest possible price. In order to test the matter practically, the company sat down to a substantial dinner, which included soup or broth, meat, vegetables, and pudding (varied at pleasure by fish), and could be served to the working man for the small cost of 4½d. The plan is to be carried out under the direction of Mr. Warriner, Inspector of Cookery to the Army; and Dr. Letheby has consented to act as food examiner.

The Royal Society.—General Sabine, president of the Royal Society, held his first *conversazione* for the present season, on Saturday evening last, at Burlington House. The reception-rooms were furnished with interesting objects of science and art, among which the most attractive were Professor J. Clerk Maxwell's apparatus for viewing the mixed colours of the spectrum, and his dynamical top; Dr. B. G. Babington's morphometer, an instrument invented in Austria for the firing of mines by frictional electricity; a portion of the Mediterranean cable, from a depth of 70 fathoms, between Sardinia and Africa, incrusted with corallines, and exhibited by Mr. Fleeming Jenkin, together with curious ova and moss-like vegetation from a thousand fathoms' depth; Dr. Cobbold's preparations showing the important advantage which naturalists may find in solutions of magenta, for rendering visible minute anatomical details; Mr. Olley's chromophotographs; a model of the shield ship designed by Captain Coles; and models of the double screw gunboats constructed by Messrs. Rennie for the service of the Spanish Government at the Philippines.

Competition may be Injurious.—In the *Penny Newsman* Mr. E. Chadwick, writing on the economic results obtainable by co-operation, says: "In the service of the baker, in London, the profit in the production and distribution of bread was, under ordinary circumstances, about 12*s.* per sack of flour, making ninety-four four-pound loaves, being at that time nearly one penny three farthings per loaf. A field of supply or sale of twelve or fourteen sacks a week, according to local circumstances, may be assumed to be a 'living profit' for a respectable baker in a moderate way of business in London, to pay the rent and taxes of a 60*l.* or 80*l.* house and shop, with its bakehouse. With the same bakehouse and shop, and nearly the same fixed establishment charges, he might produce and distribute double the quantity, but from this he is generally precluded by a competitor. Upon fields of supply so occupied with double capitals other competitors break in, until the share of the field is reduced, often to the distribution of six sacks a week, and sometimes to four sacks each, by an occupation by four capitals of a field in which competition would be better maintained by two. The sanitary condition of the small bakers and competitors in towns, whether masters or journeymen, is most wretched. The bakehouses are confined, miserable, and unwholesome. The little master, to pay his rent, lets off the upper portions of the house, and crowds himself and family in the lower apartments. The small capitalist who enters into this sort of competition is too frequently a man of small understanding, and of the smallest skill in working of his material, except when, under the pressure of his necessities, his ingenuity is excited in adulterating it. The only chance of relief for the consumers will, I apprehend, be found to be in removal of the producer's necessities and temptations by creating widened fields for supply and corresponding production on a larger scale."

A large Piece of Elm Timber.—A portion of a gigantic elm tree, probably the largest in Hampshire, the property of Mr. William Warner, of Botley, has just been placed in his timber-yard at Northam. Although not half of the boll, it weighs about 18 tons, is 33 feet in length, and, on an average, more than 4 feet thick. It was until lately standing in the grounds of Winchester College. The base is of exceedingly large circumference.

Prevention of Frauds on Bankers.—Since the suggestion was made in the *Builder* to insert sums in letters of credit with perforated stamping implements, we observe that another and very simple mode of obviating fraud is in practice among the mahajuns, or native bankers of India. They merely write the half immediately after the sum drawn, *e.g.*, "Twenty-two pounds, the half of which is eleven." Thus the word twenty could not be altered into seventy without necessitating the word eleven being changed into thirty-six, which would lead to instant detection.

The Inventors' Institute.—On Monday evening a meeting of the members of the Inventors' Institute was held at the Polytechnic, Regent-street. Sir John S. Lillie occupied the chair, and the subject for consideration was "Inventions for obtaining Aërated Fresh Water from Sea Water," which was introduced by Dr. Normandy. The doctor explained the system he had introduced for the purpose of getting aërated water from sea water. The water so obtained he described as being pure, sweet, wholesome, and immediately fit for drinking.

Manchester and Salford Sanitary Association.—At the annual meeting of the members of this association a report was presented by the committee, containing a summary of the committee's proceedings during the past year. The result of careful inquiries from all available sources respecting the state of the poor was the almost unanimous opinion that none of the effects of starvation could be traced, either directly or remotely, amongst the unemployed operatives: on the contrary, the belief was expressed that the very poor were never so well cared for, never so well fed. All the evidence pointed to the same conclusion, and declared distinctly that there had been no deterioration of health or strength amongst the operatives in consequence of the cotton famine. The rate of mortality in Manchester during the past year was 32¼ per thousand of the population, and the average rate of the last five years had been 32⅔; but when it was mentioned that the average death-rate in England was 22 in 1,000, it would be seen that much still remained to be done in Manchester. It was necessary to urge forward measures of sanitary reform; and to spread amongst the poor a better knowledge of the laws of health.

The Exhibition Building.—In reply to questions put last week in the Commons, the Chancellor of the Exchequer said the Government had entered into no negotiations with Messrs. Kelk & Lucas for the purchase of the building, either with a view to remove into it a portion of the collections of the British Museum, or for any other object. The disposal of the building depended upon a concurrence of parties, and not upon Messrs. Kelk & Lucas alone, and it could only be by an agreement in views of the Commissioners of 1862, the Commissioners of 1851, and Messrs. Kelk & Lucas, that any proposal on that subject could be made. He believed that the Finance Committee of 1851, which was in some sense the organ for such purposes of the Commissioners of 1851, had entertained the question, whether it would be expedient to make a proposal to the Government to take over the building. Having heard, unofficially, what were the views of the contractors, he did not think, so far as he was able to comprehend them, that those views would be compatible with what the Government would think due to the exigencies of the public service or to the justice of the case. He believed the Commissioners of 1862 had prepared their principal report, in which they gave an account of the transactions connected with the Exhibition. That report only awaited one or two necessary formalities in order to be laid before Parliament. He was not aware that the Commissioners had come to any absolutely final conclusion upon the subject of the removal of the building within six months after the closing, but he believed that directions had been given to issue to the contractors a notice requiring them to remove the building, so as to keep alive the full rights of the Commissioners as they stood under the original agreement.

THE CONCENTRATION OF THE COURTS OF JUSTICE.—In reply to a recent question in the Commons, Sir G. Grey said it was not the intention of Government to introduce a Bill on this subject during the present session, but the matter was under their consideration. He hoped at a future day to be able to give a more definite answer.

LIGHTING A CHURCH STEEPLE.—The steeple of the Sheffield parish church was illuminated on the 10th. On three sides of the octagon, says the *Independent*, the lighting was perfect, but on the other five sides it was found impossible to carry the lights beyond some taps which have been inserted about the centre of the tower. The result was very satisfactory, however, so far as the lighting was carried. The only things wanting were larger torches to reach above the taps. The mayor is determined to make the illumination a success, and the steeple will be lighted again on the first favourable opportunity.

MONUMENTAL.—A subscription has just been opened for the erection of a monument to the Scotch novelist, John Galt, author of "The Entail," "Annals of the Parish," "Ayrshire Legatees," &c. Mr. Galt lived and died in Greenock. It is proposed that the monument shall be erected in the Greenock cemetery. The design will be entrusted to Mr. George Mossman. The monument will have a bronze profile, and two or three reliefs illustrative of Galt's works. The cost will be about 50*l.*

GEORGE STEPHENSON IN A DRAMA.—It deserves to be noted that in a piece now being acted at the Victoria Theatre, entitled "The Engineer: Perseverance;" the early career of George Stephenson (called in the drama Geordie Evanson) is to a certain extent illustrated. Geordie himself delivers a number of speeches on the value of perseverance and the value of science, and what is more is listened to attentively. Put into his mouth the paragraph, for example, which went the round of the newspapers some year or so ago, pointing out that the heat we get from coal is due to the bottled-up sunbeams of centuries ago, gets a hearty round of applause. Some of the scenery and effects are very good, and the whole get-up of the piece highly creditable.

BRIGHTON PUBLIC BATH ASSOCIATION.—A public meeting has been held in Brighton to consider the desirability of establishing baths and washhouses; and a Brighton Public Bath Association has already been formed, "for the purpose of establishing hot-air, and hot and cold sea and fresh water baths in Brighton, at a scale of charges which will place the luxury of the bath within the reach of all classes." The undertaking is backed by several residents of influence; and the working classes are taking up the shares, of which it is intended there should be 3,000, at 1*l.* each. The local *Herald* states that a favourable site, in a central position, has been secured. Baths and wash-houses are much needed by the working classes of Brighton, and it is to be hoped it will not be long before some are established either by the town council or an association established for the purpose.

ACCIDENTS.—While a number of plasterers and their labourers, nine in all, were at work in a room on the third story of the cotton mill of a co-operative company, now nearly ready for the reception of machinery at Woodnook, Accrington, they suddenly heard a loud crash, and the floor on which they were standing, together with those above and below them, fell in; and they, together with the *débris*, were precipitated a depth of 50 feet. Six of the unfortunate men were completely buried in the ruins. Two others were partially immured while the third escaped altogether.——At Worthing, a new house that was being erected in Eastreet has fallen while the workmen employed in building it were all on the premises; but, fortunately, every one escaped without sustaining any injuries of a serious nature. The house had been about a month in erection, and was run up as far as the roof all round, with the exception of a little piece in front, which would have been completed on that afternoon; and the workmen were pursuing their labour unconscious of the slightest danger, when suddenly a part of the south-east corner gave in, and the whole of the south as well as great portions of the east and west walls, fell into the building, dragging down scaffold-poles, beams, planks, tools, and ladders, into a confused heap of *débris*. The house was being erected by Mr. Herbert, under a contract with Mr. Ward, builder, and on him the loss of labour and material will fall. Why *did* it fall?

AMERICAN SCULPTURE.—The Richmond papers record the death of Alexander Galt, the young Virginian sculptor, who was the first Southerner that has established a reputation in statuary. His full length figure of Jefferson, at the University of Virginia, won for him honour. His latest work was a bas-relief in plaster of Stonewall Jackson, which is in the possession of the Hon. A. R. Boteler. Mr. Galt died of the small-pox.

NOTTINGHAM SCHOOL OF ART.—On the 17th ultimo, the tenders for the proposed School of Art were received by Mr. Bakewell, the architect, and opened in the presence of the secretary. On the 24th they were presented to the committee, and reported upon by the architect. After some little discussion the tender of Mr. Acton was unanimously adopted. We understand that with the exception of three the tenders run very close together.

AN ADDRESS WOVEN IN SILK TO THE PRINCESS OF WALES.—The town-council of Coventry have given instructions to a committee to procure designs for an address to the Princess of Wales, to be woven in silk, at a cost probably of 100*l.*, exclusive of the expense of a loom, which would itself amount to 150*l.* or 200*l.*; but the manufacturer of the Godiva ribbon for the International Exhibition has offered the use of his loom, otherwise one would require to be built for the purpose.

NEW RAILWAY BREAK.—Mr. John Clark, of Glasgow, has patented a safety break, which is well spoken of by the Scottish papers, according to which it appears that while the speed of a train of five carriages on an incline was about forty miles per hour, the stoppage was effected in less than 300 yards; and that on the same incline, at less speed, the train was brought to a stop in about 150 yards; and on the level, at a speed of thirty miles per hour, a stop was made in about 100 yards.

RAILWAY MAPS.—The lines proposed throughout England, Scotland, and Ireland, by the Bills of Session, 1863, as well as all those already constructed and in course of construction, are shown on a series of three coloured maps,—one for each country, and brought up to 28th February,—which have just been published by Messrs. Day & Son, lithographers to the Queen. The interlacement of the country, and especially of England, by these iron arteries and veins, is an interesting subject of contemplation. The Continent and America are getting well covered; but few such sights present themselves over all the world as that of the railway maps of England. Of course in those now published by Messrs. Day, the network becomes thicker than ever.

THE BRIGHTON DRAINAGE QUESTION.—At a meeting recently held in Rottingdean, a resolution was passed to the effect that the proposed scheme of drainage for the parishes of Brighton and Hove under the turnpike road to an outfall in Saltdean, in the parish of Rottingdean, would be highly prejudicial to the health and prosperity of the inhabitants of Rottingdean; the cliffe above Saltdean being a favourite resort of the inhabitants and visitors of Rottingdean, and the bay at Saltdean much frequented by bathers; and that the town council of Brighton should therefore be made acquainted with the strong feeling of opposition to this proposed scheme of drainage, which prevails amongst the inhabitants and holders of property both there and in its vicinity.

NEW BRIDGE AT EBCHESTER.—A new bridge over the Derwent has been opened at the village of Ebchester, about two miles to the east of Shotley Bridge. The bridge is built entirely of freestone, from one of the Greenwich Hospital quarries, the use of which has been given gratuitously, in addition to a subscription of 200 guineas. The freestone is undressed, and the structure has been formed of three semi-circular arches. The span of the centre arch is 34 feet; and that of the other two 28 feet each. The arches are supported by four piers, about 4½ feet broad, which rest upon a foundation of concrete. From low water-mark to the keystone of the centre arch is 20 feet; and to the keystone of each of the other two is 17 feet 6 inches. The architect was Mr. J. Smith, of Medomsley; and the contract for the building work was given to Messrs. Lyness & Ayton, of Crook. The work in its progress has undergone the supervision of some of the magistrates; and also of Mr. Joseph Howison, surveyor for the county of Northumberland; and Mr. William Crozier, surveyor for the county of Durham. The contract price, including the approaches to the bridge, amounts to about 700*l.*

ALBERT MEMORIAL.—The Butchers' Charitable Institution are now erecting at Walham Green Almshouses in memory of the late Prince Consort. Last week the foundation stone was laid by Mr. Francis Healey, J. P. The architect is Mr. Henry M'Calla, and the builder Mr. Avery.

AGE OF THE YEW TREE.—But it was also the most important of our indigenous evergreen trees; and evergreen foliage is a type of immortality. This characteristic of the yew would not be overlooked by those who, having no other books, read the book of Nature the more studiously. Moreover, it is by very far the longest lived of all our trees. Some live still which have lived already 1,800 years. Why, a tree of that age—and they probably abounded in the primæval forests of the chalk downs, where they are still to be seen in every hedge-row—a tree of that age in British times must have dated back from near the Flood. To British minds such trees must have seemed deathless. The poetic half-barbarian mind would see in a tree which lived on age after age, keeping its foliage ever green, the fittest symbol, below the stars, of immortality.—*The Churchman's Family Magazine.*

A GLIMPSE OF LIGHT AS TO ANCIENT AMERICA.—Some glass beads of unquestioned Phœnician manufacture are reported to have been found at Beverley, Canada, in an "ancient ossuary of the copper age." May it not turn out, after all, that what Plato tells us of was true, that the Atlantic was once "navigable," or had been navigated, ages before his time, when warlike tribes from beyond the ocean invaded and overran all Lybia and other countries in what we call "the old world?" This would go far to explain the similarity of the ancient American temples and teacolis to ancient Egyptian, Babylonian, and other structures. And, by the way, the chronologies of the Egyptian priests in Plato's time, in which tens of thousands of years were treated as a mere bagatelle, and the Greeks were regarded as conceited upstarts of recent times, are likely now to be received a little more respectfully than heretofore, considering our enlarged ideas of the antiquity of man: perhaps, too, Chinese and Indian chronologies will be reconsidered, and a little less contemptuously treated than they have been by our own conceited but improving generation.

TENDERS.

For building Barrington Hall, near Hatfield Broad Oak, Essex, for Mr. G. A. Lowndes. Mr. Edward Browning, architect, Stamford. The estate to find materials of the value of 4,000*l.*:—

Brown	£11,583 0 0
Thoday & Clayton	11,479 0 0
Wilson	11,293 15 0
Timms	11,103 0 0

For a farm house, exclusive of excavations and concrete foundations, also for the brickwork and slater's work to the outbuildings, to be erected on the Wimpole estate, for the Right Hon. the Earl of Hardwicke. The clerk of works on the estate, Mr. Erant, architect:—

	House.	Outbuildings.
Bell & Sons	£894	£592 10
Genison	750	590 0
Thoday & Clayton	748	585 0

For building a house at Enfield Chase, for Mr. Nott. Mr. Donald Campbell, architect:—

Field	£475 0 0
Cushing	453 12 0
Greenwood	434 0 0
Patman	429 0 0
Harradine	407 0 0

For alterations to the King's Arms, public house, Moor-street, Soho. Mr. E. C. Wade, architect:—

Baguley	£620 0 0
Westrop	560 0 0
Sillock	450 0 0

For cottages at Riverhead, on the estate of the Right Hon. Earl Amherst. Mr. Mathews, Reigate, architect. The parties work out their own quantities:—

Pannett	£1,279 0 0
Wood	1,105 0 0
Henderson	1,026 0 0

For the erection of a rectory house at West Hackney, for the Rev. T. D. Lamb. Mr. Chester Cheston, jun., architect:—

Dove (Brothers)	£2,075 0 0
Macers	1,833 0 0
Stevenson	1,825 0 0
East	1,763 0 0
Bond	1,721 0 0
Perry	1,500 0 0*

For works to be done in erection of shed-building, &c., in rear of house, No. 55, Hatton-garden, for Mr. Fordham. Mr. H. Mawley, architect:—

Baker	£165 0 0
Newbold	125 0 0
Fearman	122 0 0
Wagstaff	110 0 0

* Stated to be in error for 1,600*l.*

TO CORRESPONDENTS.

B. H (Railing should be measured between the piers)—E. D. B. thanks. Not desired.)—J. C.—W. B. (in type.)—J. A. D.—S. W. D.—J.—E. B. R. W.—R. B. B.—H. M'C.—E. W. T.—J. H.—P. M. H.—D.—Visitor—A. & Co.—One who will not fee.—W. K.—Mr. S.

We are compelled to decline pointing out books, and giving dresses.

All statements of facts, lists of tenders, &c., must be accompanied by name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than FIVE o'clock, p.m., *on Thursday.*

NOTICE. — *All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and not to the "Publisher."*

THE *Art Journal* for August, speaking of Benson's watches in the Exhibition, says:—"We have selected for engraving three of the watch-cases, of which a large variety is exhibited by Mr. Benson, Ludgate-hill, in the large and prominent erection that contains his monster clock. To this department of art-manufacture Mr. Benson has paid especial attention." Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch, from the plainest to the highest quality of which the art is at present capable, and adapted to all climates. Benson's Illustrated Pamphlet on Watches (free by post for two stamps) contains a short history of watchmading, with descriptions and prices. It acts as a guide in the purchase of a watch, and enables those who live in Scotland, Ireland, Wales, the colonies, India, or any part of the world, to select a watch, and have it sent free and safe by post.—J. W. Benson, Prize Medallist, 33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

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ELLIOTT, BROTHERS, Opticians to the Government, 30 Strand, beg to give notice that they have been compelled to REMOVE temporarily to 47, CHARING CROSS, their late premises being suddenly required by the Charing Cross Railway Company.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL ROAD (opposite Spencer-street), LONDON, E.C.

VENETIAN BLINDS should have LEWTAS'S NEW PATENT ACTION which ENTIRELY SUPERSEDES the HOOKS and annoyance of winding the cords. Can be easily fitted to old blinds. Price, 2 cord actions 2s.; 3 cord do. 3s. A liberal commission to the trade. To be had of—
EDGAR PARKS, Ironmonger and Sole Agent,
140, Fleet-street London.

ASPHALT.—The TRINIDAD ASPHALT is recommended to Engineers FOR IRON BRIDGES, INSIDE OF IRON SHIPS, ROOFS, FLATS, and general Railway Work; also for FLAT ROOFS, FOOTWAYS, and BASEMENTS OF HOUSES.
THORN & CO.
GROSVENOR ROAD, PIMLICO, WOOD PAVING MANUFACTORIES.

ASPHALTE—GERVASE FOOTTIT, TRINIDAD ASPHALTE WORKS, Rotherhithe, London. Established 1834.—TRINIDAD, SEYSSELL, and BRITISH ASPHALTES, manufactured by Footte's only, and laid down in the best manner, or supplied on any quantity. Information for using forwarded with material. Post-office orders or reference in London promptly attended to. Estimates given for every kind of the above work.

NORWICH UNION FIRE INSURANCE SOCIETY.
Notice—LADY DAY RENEWALS.
Mercantile and Bank Insurances at the Reduced Rates.
The business of the Company exceeds 70,000,000l.
The duty paid to Government for the year 1861 was 33,976l. and the amount insured on farming stock is 10,936,762l.
A bonus of three fifths of the profits periodically made to parties insuring, who have thus from time to time received sums amounting in the aggregate to 1,160,0l.
The rates of premium are in no case higher than those charged by the other first-class offices making no returns to their insurers.
For prospectuses, apply at the Society's Offices, Surrey-street, Norwich, and 6, Crescent, New Bridge-street, Blackfriars, E.C.

THE CITY of MANCHESTER PATENT BRICK & TILE COMPANY, LIMITED (EFFERTZ'S PATENT).
Capital, 5[illegible] in 10,000 shares of 5l. each. Deposit, 10s. per share on application, and 1l. per share on allotment. Registered under the Companies Act of 1862, with limited Liability.
DIRECTORS.
W. NICHOLSON, Esq., Chairman.
(late Managing Director of the London and Manchester Glass Company).
W. Routledge, esq. (Messrs. Routledge & Cummaney).
F. Heasener, esq. (Messrs. W. F Higson & Co.).
E. Tomlinson, esq. (Messrs. Tomlinson & Jones).
E. J. Hughes, esq. (Messrs. Hughes & Bloodworth).
W. W. Wild, esq. C.E. Queen's Chambers, Market street.
Charles M'Dougall, esq. Market street.
Consulting Engineer—W. Wild, esq. C.E
SUPERINTENDENT ENGINEER.—Peter Effertz, esq C.E. (the Patentee).
SOLICITORS. Messrs. Atkinson, Saunders, & Co.
BANKERS. Messrs. Cunliffe, Brooks, & Co.
The Directors having now completed their preliminary arrangements, and the Company being duly registered, are prepared to receive and execute orders forthwith, both for the manufacture (under Effertz's patent) of bricks, tiles, and drain-pipes.
The Directors very confidently invite application for the remaining shares. A large number are already subscribed for, and a full allotment will be shortly made.
The Directors reserve to themselves the right to limit the first issue of shares.
With machines made under this patent, bricks can be produced superior to hand-made, at one half the present prices.
The machines may be seen at work on application. Samples of bricks, tiles, and drain-pipes, can also be seen at the Company's Offices, where forms of application for shares and further information may be had.
I. J. S. HUGHES, Secretary.
India Buildings, Cross-street, Manchester.

CLERICAL, MEDICAL, and GENERAL LIFE ASSURANCE SOCIETY,
13, ST. JAMES'S SQUARE, LONDON, S.W.
ESTABLISHED 1824.
Financial Results of the Society's operations.

The Annual Income exceeds	200,000
The Assurance Fund exceeds	1,330,000
The Assurances in force on the last year	10,00[illegible]
New Annual Premiums for the last year	275,0[illegible]
Bonus added to Policies at the last Division	1,731,7[illegible]
Total Claims by death paid	[illegible]

The following are among the distinctive features of the Society:—
Credit System.—On Policies for the whole of life, one half of the Annual Premiums during the first five years may remain on credit, and may either continue as a debt on the Policy, or be paid off at any time.
Low Rates of Premium for Young Lives, with early participation in Profits.
Rival Lives may be assured at Premiums proportioned to the increased risk.
Prompt Settlement of Claims.—Claims paid thirty days after proof of death.
The Accounts and Balance Sheets are at all times open to the inspection of the Assured or of persons proposing to assure.
Tables of Rates and Forms of Proposal can be obtained from any of the Society's Agents, or of
GEORGE CUTCLIFFE, Actuary and Secretary,
13, St. James-square, London, S.W.
The Reversionary Bonus at the Quinquennial Division in [illegible] Averaged 48 per cent. and the Cash Bonus 28 per cent. on the [illegible] Bonuses paid in the five years.
The next division of Profits will take place in January, 1867.

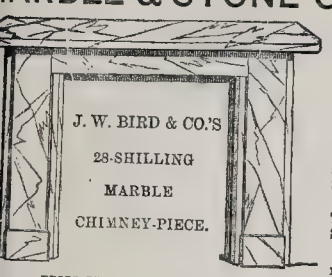
PHŒNIX FIRE ASSURANCE COMPANY, Lombard-street and Charing-cross, London. Established in 1782.

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James Alexander Gordon, esq.	Matthew Whiting, esq.
Edward Hawkins, jun. esq.	

AUDITORS.
John Hodgson, esq. — Peter Martineau, esq.
SOLICITORS.—Messrs. Freshfields.
BANKERS.—Messrs. Joseph Samuel Lescher, esq.
SECRETARY—George William Lovell.
ASSISTANT SECRETARY—John J. Broomfield.
Insurances against Loss by Fire are effected by the Phœnix Company upon every description of Property, in every part of the world, on the most favourable terms.
The promptitude and liberality with which its engagements have always met by this Company are well known; and the long experience of its relations with the public may be estimated from the fact that since its establishment it has paid more than Eight Millions Sterling in discharge of Claims for Losses by Fire.
Insurances with this Company expiring at Lady-Day may be renewed within fifteen days thereafter, or they will become void.
Receipts are now ready at the principal Offices, Lombard-street, Charing-cross, and with the respective Agents throughout the United Kingdom.

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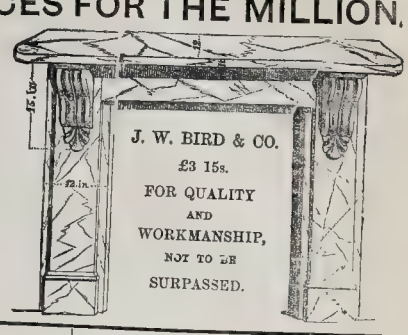
A Stock of 500 always to choose from at

J. W. BIRD & CO.'S,
THE EMPORIUM,
145 & 143½, EUSTON ROAD, N.W.

A Marble Box Chimney, with 8-inch piers, as Illustrated, for 28s. and fitted to any opening up to 3 feet square.

STONE DITTO, WITH BEAUTIFUL MOULDED CAPS, FOR SEVEN SHILLINGS.

Monuments and Tablets in great variety, equally low in price.
Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.
A VACANCY FOR AN OUT-DOOR APPRENTICE.



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IMPORTERS DIRECT FROM THE MINES OF

IZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL,

LONDON, **SEYSSEL ASPHALTE,** PARIS,

AND BY H.M.'S ROYAL LETTERS PATENT,

1851. MANUFACTURERS OF **METALLIC LAVA.** 1844.

FOR PRICE AND PARTICULARS APPLY AT THE OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.

ERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

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PATENT INDURATING SOLUTIONS,
For the Preservation of Stone, Cement, &c.;
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mens of the Silicates and Aluminates, and of their applications, may be seen at the CONSTRUCTIONAL DEPARTMENT, SOUTH KENSINGTON MUSEUM.

LBROKE ESTATE, at Leytonstone, on e Woodford and Loughton Railway, twenty minutes from ch and Bishopsgate Stations.—This valuable FREEHOLD (land tax redeemed), surrounding the Station, healthy gravelly soil, excellent drainage, water and gas laid down, se, sand can be dug on the estate, it is proposed TO LET in able for building detached and semi-detached villas. Re- pplications have been made for houses in this neighbourhood. , apply to Mr. ATHEY, at the Surveyor's Office, Philbrooke ytonstone, Essex.

LDING LAND, Wimbledon.—TO BE T, on 99 years' lease, a Plot of FREEHOLD BUILDING situate on the Ridgway, the high road to Kingston, com- extensive and magnificent views of the Surrey Hills, Wor- k, and the Valley of the Wandle. It is about one mile from n, and near a church.—Apply to Mr. W M. OGDEN, Land l Surveyor, Wimbledon, S W.

EHOLD or LEASEHOLD LAND ANTED.—The Vestry of the Parish of St. Mary Abbotts, n, in the County of Middlesex, requires a DEPOT, situate in arish, for STONE and other materials, the land to be from to ha. f an acre in extent. All further information on the an be obtained on application to Mr. JAMES BROAD- the Vestry's Surveyor, Vestry Hall, High street, Kensing- osals containing full particulars, and endorsed, "Tender " to be addressed to the Clerk, and delivered at his Office, by EN o'clock, on FRIDAY morning, the 10th day of APRIL order, REUBEN GREEN, Clerk of the Vestry. all, Kensington, 30th March, 1863.

TERSIDE PREMISES WANTED, Rent or Purchase.—The Vestry of the Parish of St. Mary ensington, in the County of Middlesex, require Water- es at the nearest point possible to the said Parish, having ontage of not less than 80 feet, for the purpose of unload- d other materials. All further information on the subject ained on application to Mr. JAMES BROADBRIDGE, the rveyor, High-street, Kensington Proposals containing full s, and endorsed "Tender for Waterside Premises," to be o the Clerk, and delivered at his Office by or before TEN FRIDAY morning, the 10th day of APRIL next.—By REUBEN GREEN, Clerk of the Vestry. all, Kensington, 26th March, 1863.

ODFORD RAILWAY.—The GROVE, ANSTEAD.—Portions of this beautiful Estate are now for Building purposes, and Villa Residences are much the locality. Soil gravel, situation healthy, and water The Snaresbrook Station is 400 yards only from the Estate, y is reached in twenty-five minutes. The Leases will tame entitling the Lessee to purchase the Freehold within time. LAND also TO LET at Blackheath, Tuleebam- some very eligible SITES in the Grove-road, Mile-end, a ich are adapted for shops, and large and very CHEAP LET, at Ealing.—Apply to Mr. KNIGHTLEY, Architect, street.

ON, near the Station.—PLOTS of HOLD BUILDING LAND FOR SALE. Land tax re- veyance free. Also, PLOTS TO BE LET, on a Building nety-nine years.—For plans, &c. apply by post, pre-paid, E, Builder, Sutton, Surrey, S.

ENSIVE MANUFACTURING MISES, SOUTHWARK.—TO BE LET on LEASE, exten- FACTURING PREMISES, occupying a very large area e Borough road, Southwark. The buildings, which are tially erected, comprise a very large factory of three lofty basement, a smaller factory of four floors adjoining, a s and lofty ground floor factory, yard, a capital family d offices, two gateway entrances, and three dwelling- ing the Borough-road, Nos 77, 78, and 79, which can be if desired.—For further particulars apply on the Pre- Messrs. FULLER & HORSEY, Billiter-street, Fenchurch-

TO BUILDERS, &c.—A PLOT of FREEHOLD BUILDING LAND for SALE, near the New Church, Cottenham Park, Wimbledon; also a PLOT, adjoining the Dunsford Villas, fronting the Merton-road, Wandsworth, Surrey, containing nearly one acre each.—For plans, &c. apply to Mr. W. C. POOLE, 11, Great Smith street, Westminster, S W.

WEST DRAYTON GRAVEL PITS. T. FERGUSON, sole proprietor of the above Pits, is now prepared to deliver any quantity of the very finest descriptions of GRAVEL, specially adapted for road making, garden paths, concrete, &c.—Orders received at the Offices, Nos. 11, 12, 13, Wharfe, Northside, Paddington Basin, W.

EXTENSIVE MANUFACTURING PREMISES, Whitechapel. TO BE LET or SOLD, together or separately, the extensive and important range of PREMISES, recently occupied as the Whitechapel Distillery, with land adjoining if required. The buildings, many of which are of great extent, are most substantially erected, principally in 1845, and are very conveniently arranged for almost any manufacturing purpose. There are three distinct gateway entrances, and the buildings on all sides are surrounded with paved yards. The total area is about three acres, exclusive of six acres of accommodation land, which may be had if required. There is an Artesian well which affords a constant and unlimited supply of pure water.—Further particulars, and cards to view, may be had of Messrs TENNANT & DARLEY, Solicitors, Raymond's buildings, Gray's-inn; and of Messrs. FULLER & HORSEY, Billiter-street, E.C. where plans of the property may be seen.

FREEHOLD GROUND TO BE LET, term ninety-nine years.—A most desirable frontage of about 160 feet, for good shops, in a first class situation, near to the Lark Hall Tavern, Clapham, at a low ground-rent.—Apply to Mr. J. THOMAS, Architect and Surveyor, 10, Denmark-street, Camberwell.

SAINT HELEN'S, LANCASHIRE.—TO BE LET, on Lease, the extensive MANUFACTURING PREMISES known as the Ravenhead Copper Smelting Works, situate at St. Helen's, with a wharf on the canal, and a branch of the St. Helen's Railway running through the property. The entire site is about 20 acres, of which about 5 acres are occupied by the works, the remainder being arable and pasture land. The buildings comprise a series of very substantially-erected, light, and lofty ground floor factories, arranged for the purposes of copper and silver smelting works, but they will be available for many other large manufacturing establishments, as they possess the advantages of direct communication by rail or water carriage with all parts of the kingdom. Coals can be obtained from pits in the neighbourhood at an almost nominal price, and labour is cheap and abundant.—For particulars apply to Messrs. FULLER & HORSEY, 13, Billiter street, London, E.C.; and Messrs. HARRISON & FINCH, 2, Gray's-inn, London.

TO BUILDERS and OTHERS.—TO BE LET, several PLOTS of BUILDING LAND, situate in the best part of Stoke Newington, where houses are in great demand. Bricks supplied on the estate at a low price. Sand may be raised on the ground for building purposes.—Apply to Mr RODDA, at the Estate Office, Bouverie road, Church-street, Stoke Newington.

ELIGIBLE BUILDING LAND TO LET, on 99 years' Lease, some in Kentish Town, close to intended line of Midland Railway; other close to a railway station seven miles from town, east. Advances made.—Apply to THOMAS NUNN & SONS, 27, Lamb's Conduit street, W.C.

LAYHAM, near HADLEIGH, SUFFOLK. TO BE SOLD by PRIVATE CONTRACT, a BRICK KILN in full trade, with an unlimited supply of capital brick and tile earth, 8 acres of productive arable and 4½ ditto of superior pasture land, with barn, shed, and two cottages, all in good repair, lying adjoining the high road, and within 1¼ mile of the railway station. To brickmakers desirous of a profitable business the above presents an opportunity not often to be met with.—Particulars can be obtained on application to Messrs. NEWMAN & HARPER, Solicitors; or to Mr. JOHN BOWLRE, Auctioneer, all of Hadleigh.

LEWISHAM HIGH ROAD.—BUILDING LAND TO BE LET. Frontage of 88 feet, depth of 140 feet, for the erection of three or four dwelling houses, upon a term of eighty years. Land-tax redeemed.—Apply at Leathersellers' Hall, St. Helen's-place, E.C.

BUILDING LAND, BAYSWATER.—A few remaining PLOTS, for Private Houses and Stables, well situated on an important estate within three minutes' walk of Westbourne-grove. Ground-rent moderate.—Apply to Mr HUKINS, Architect and Surveyor. Office, Westmoreland-road, Talbot-road, Bayswater.

HIGH STREET, BOROUGH.—The LONG LEASE of a large HOUSE in the Borough, with a BUILDING SITE for warehouses or workshops in rear, TO BE SOLD. It is a free licensed public house, but the lease would be sold for any suitable business.—Apply at the Estate Office, 21, Walbrook.

HENLEY-ON-THAMES.—BUILDING GROUND on the Banks of the Thames.—TO BE LET, on Building Lease, THREE PLOTS of GROUND, immediately adjoining the new road by the river side leading from Henley to the Great Western Railway Station. Two of the Plots have a frontage to the river of 117 feet and a depth of about 110 feet, and the other a frontage of 53 feet and a depth of 96 feet. The land is most beautifully situate, and commands extensive views of Park Place and the River, offering advantages for building first-class villa residences seldom to be met with.—Full particulars may be had of Messrs. COOPER, Solicitors, Henley-on-Thames; and Messrs. HEWS & SON, Estate Agents, Henley-on-Thames.

BARBERS' HALL.—No Tender for a Building Lease of part of the Hall and Premises in Monkwell-street, Wood street, having been accepted, the Company are willing to enter into negotiations for LETTING the same by PRIVATE TREATY.—Particulars and condit ons to be obtained from the CLERK, 4, Warnford-court, Throgmorton-street, E.C.

IMPORTANT SALE.—HENLEY-UPON-THAMES, Oxfordshire.—TO BE SOLD by PRIVATE CONTRACT, the valuable and beautiful ESTATE known as BADGMORE FARM, in the parish of Henley upon-Thames. The Estate comprises 169 acres of excellent Arable and Grass Land, and 21 acres of valuable Wood Land. If no acceptable offer is made for the entire property, the Proprietor will not object to divide it into four lots, in which case—

Lot 1. Would comprise a substantial brick-built Residence, with excellent farm buildings, and nine inclosures of arable and grass land, containing together about 106 acres

Lot 2.—Three valuable pieces of arable Land, containing together about 27 acres. Part of these lands have a frontage to the road leading from Henley to Greys, and adjoin the Park of Badgmore House.

Lot 3.—Two excellent pieces of arable Land, containing about 30 acres, and very valuable Wood Land containing about 17 acres

Lot 4.—Two pieces of arable Land containing about 10 acres

This Property, which lies on a beautiful slope near the town of Henley, overlooking the Fawley Court Estate, is admirably suited for the site of a mansion, the greater part of it being easily convertible into park ground; or, if divided, it presents many desirable sites for villas, to all which there are excellent roads. Lots 1 and 4 extend down to and have frontages the whole length of the Fair Mile, and the greater part of the Estate lies within a mile of the Henley Railway-station.—For further particulars and to treat for the same, apply to Messrs. COOPER, Solicitors, Henley-upon-Thames, at whose office a plan of the Property may be seen.

NEAR to LONDON BRIDGE and KING WILLIAM STREET.—TO BE LET, for 63 years, a valuable SITE for OFFICES. The ground has at present a building upon it. Light excellent.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street, City.

TO BE LET, a Capital WHARF and DRAWDOCK, known as "Searle's Wharf," most eligibly situated at the foot of New Westminster Bridge, and opposite the Houses of Parliament.

This Drawdock has been closed for some years, and is now about to be re-opened.

From its excellent situation and the probability of the Scotland Yard Wharfs being closed at an early day by the Thames Embankment, a very valuable business may no doubt be depended upon.

A Residence is attached, which may or may not be taken with the Wharf or Drawdock.

Apply to Mr. W. HEWETT, 84, York-road, Lambeth.

TO BUILDERS and OTHERS.—TO BE DISPOSED OF, with immediate possession, at an improving seaside town and watering-place, about forty miles from London, an old-established and lucrative BUSINESS, now in full work, the present proprietor having carried it on for forty years. Satisfactory reasons for leaving.—Terms and all particulars will be given by applying to Mr. THORN, Builder, 97, Down street, Piccadilly, W.

FOR SALE.—A TIMBER, RAILWAY-KEY, and TREE-NAIL ESTABLISHMENT, about sixty miles from London, adjoining a canal, and four miles from a railway station; fitted with suitable machinery; the whole in good condition, and now doing a profitable trade. Not more than 3,000l. would be required to purchase the plant, machinery, goodwill, &c.; a portion might be allowed to remain on mortgage. Some large contracts for keys, tree-nails, ferrules, and waggon scantling are now being executed. Satisfactory reasons will be given by the present proprietor for leaving.—Apply by letter, prepaid, to Box 30, Post-office, Northampton.

TO STONEMASONS.—TO BE DISPOSED of a BUSINESS, in consequence of the death of the proprietor. Amount 60l. the stock, &c. worth all the money.—Apply to Mr. JAMES WINTER, Builder, Brentwood, Essex.

TO PLUMBERS, PAINTERS, & OTHERS. TO BE DISPOSED OF, in Church-street, Hackney, an old-established BUSINESS in the above line, in consequence of the death of the proprietor. Small stock (to be taken at a valuation), with every requisite necessary for carrying on business. Lease of very desirable premises, with large workshop, stabling, &c.—Apply to Mr. ROSE, Solicitor, 19, Change Alley, Cornhill.

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" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

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Prize Medal, 1851. THE MOST APPROVED INTERNAL STUCCO. Honourable Mention, 1862.
CAN BE PAINTED IN TWELVE HOURS.
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Having greatly extended the above Works, is now prepared to supply MERCHANTS, BUILDERS and CONTRACTORS with PORTLAND CEMENT, of the best quality only, delivered to all parts of London. N.B.—Vessels loaded alongside.

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ROMAN CEMENT made at the above works may be had fresh from the kilns daily. A great advantage to dealers and sewer contractors, especially in wet weather.
PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. This cement will carry more sand than any of the best brands, much of which is now being put into the market and sold as Portland.
PLASTER OF PARIS, both coarse and fine, of very superior quality and colour.
LIME. Grey Stone, Chalk, and Blue Lias Lime, well burnt, by the barge or yard, and may be had fresh ground daily, by steam power, for concrete.
BRICKS from our fields in Kent, by the large alongside, in the river or canals, or by cart from the above wharf, of good quality and moderate price.
A large Assortment of Glazed Stoneware Drain-pipes, Yorkshire Plain, Pan, and Paving Tiles, Hair, Laths, Chimney pots, &c. always kept in stock.
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Wherein can be obtained, of the best quality:—
GREY STONE CHALK, PLAINE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KERNE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PITCHINGS, PAVIORS, SECONDS BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF, also GARDEN EDGINGS
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
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TERRA COTTA and VENICE CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
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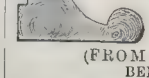
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IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses. BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

SNOXELL & CO.'S PATENT REVOLVING SHUTTERS IN IRON OR WOOD,

GUARANTEED;

AND BLIND MAKERS.

96, REGENT STREET, W.; MANUFACTORY, 35, OLD STREET, E.C.

JUROR—Class XXVI. GREAT EXHIBITION, 1851.

JUROR—Class XXX. INTERNATIONAL EXHIBITION 1862.

PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE PLACE, W.

GEORGE JACKSON AND SONS

(Established in 1750)

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Caps, Mouldings of all sizes, and in their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining Rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam-power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

DESIGNS MADE FOR ANY WORKS

PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE PLACE, LONDON, W.

FIRST-CLASS MEDAL, EXPOSITION UNIVERSELLE, 1855.

PRIZE MEDAL—Class X. (c) INTERNATIONAL EXHIBITION 1862.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.

AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
ourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
hirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
econds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
est do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

200 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
er 1 ft. super ...	1½	1⅔	2	2½
2 ft. 6 in. sup.	1½	1⅔	2½	3
4 ft. super...	1⅔	2	2½	3¼

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13 per 100 ft.	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14 per 100 ft.	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15 per 100 ft.	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

nine White Lead .....30s.	per cwt.	Fine Oak Varnish ...	per gallon.
-corrosian Paint 28s. to 34s.		,, Carriage ...	
eed Oil Putty .....7s. 6d.		Linseed and Boiled Oil	
nt Dryers .....28s. to 42s.		Turpentine	

Milled Lead in Sheet and Pipe of all sizes.

GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

ORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.

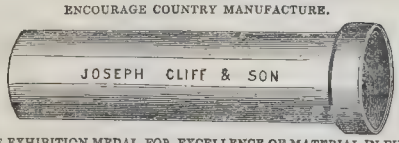


PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES **FOR HIRE** OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

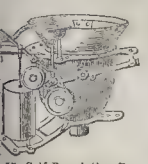
ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, 

Near LEEDS.

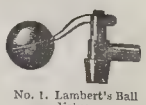
E AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,
BOTH ROUND AND EGG-SHAPED.
M. B. NEWTON, LONDON AGENT,
WHARF No 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.



57. Self-Regulating Pan Closet.

THOMAS LAMBERT & SON,



No. 1. Lambert's Ball Valve.



No. 6. High-Pressure Bib Valve.



High-Pressure Stop Valve.

UNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH-PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

& SON find it necessary to state that all the Ball and other Valves manufactured by them, have their NAME legibly marked thereon.

STAINING DEAL TO IMITATE ALL KINDS of WOODS. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Tint, 5s. per gallon; Dark Oak, 6s. per gallon; Mahogany, 8s.; Rosewood, 8s.; Walnut, 8s. Varnishes for NAYLOR'S Stains may be had at the Factory, No. 4a, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—
"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."
H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

CROWDEN and GARROD
(successors to THOS. KENT & CO.), the celebrated
PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
*** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT and CROWDEN & GARROD, are stamped on the Brushes.

TO REMOVE or CLEAN OLD PAINT, VARNISH, &c. use
NAENIARE & CO.'S PATENT LETHICIUM,
which does it in twenty minutes. Sold at 2s. per gallon. Also Brushes to apply and remove, 2s. per pair.—For particulars, apply at 11, St. Andrew's hill, London, E.C. Success guaranteed.
N.B. Country orders must contain a cheque or Post-office order.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

KENT'S PAINTING BRUSHES
are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 6d. per Gallon; Boiled Oil, 3s. 10d. per Gallon.
Turpentine, 9s. per Gallon.
Fine Pale Oak Varnish, 9s per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 20, Upper Ebury-street, and 45, Colshill-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

TURPENZINE.
A perfect Substitute for Turpentine. It is suited to all the purposes for which that article is used. For Painters' use it is found superior to ordinary Turpentine, and at less than one-third the price, and does not possess the rank odour of mineral Turpentine.
Supplied Wholesale by
CASSELL, SMITH, & CO.
No 80, Fenchurch-street, London.

TURPENTINE SUBSTITUTE,
Manufactured by
CARLESS, BLAGDEN, & CO.
HOPE CHEMICAL WORKS, HACKNEY WICK, N.E.



Samples, Testimonials, &c. &c may be had on application, or by letter to "The Works," or of KENWAY & CO. 15, Mark-lane, City, E.C.
Every cask or can sent out bears the registered Brand of the Firm, without which they will not guarantee it to be of their manufacture.

PRIZE MEDAL, 1862.
HAMILTON & CO.
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graiuers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND BARLOW, late VENTNOR, ISLE of WIGHT Commissioner Testimonial.—
"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, I answer positively. Many builders and other persons have lately examined it, and there is not the least appearance whatever since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected in."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO STREET, LIVERPOOL,
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.
The only MEDAL for "STONEWARE PIPES" has been awarded to
HENRY DOULTON & CO., LAMBETH.
Extract from Jurors' Report:—
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



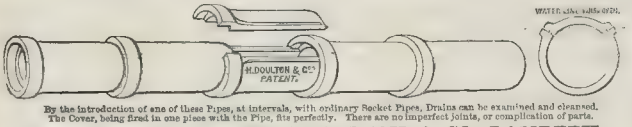
PAN, 4s. 6d.
TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of repairs, further connections.
Manufacture sets of
LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required) without breaking a pipe, or disturbing the flow of sewage
They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.
SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.
Every Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, S.; or from the WORKS, near POOLE, DORSET.
Illustrated Lists with full Particulars and Prices may be obtained of
WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.
A GOOD DRAWING-DOCK AND LANDING WHARF.
*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent-street, W.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fired in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.
Manufactured by HENRY DOULTON & CO. LAMBETH.
MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.

CHEAP, LIGHT, AND DURABLE ROOFING.
CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.
INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO'S PATENT FELTED SHEATHING, for Covering Ships Bottoms, &c and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

INTERNATIONAL EXHIBITION, 1862.
CLASS 35, NO. 6849.
3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to
DOULTON & WATTS, LAMBETH POTTERY, LONDON.
In expectation of a greatly increased sale, D. & W. have determined to introduce the advanced pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.
FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

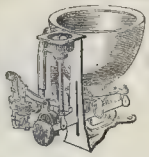
THE ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of ENCAUSTIC PATENT INLAND MOSAIC TILES; also superior ENCAUSTIC PLAIN TILES, 6 inches and 4 inches, &c; white, red, buff, black, blue, grey, &c for churches, entrance halls, corridors, conservatories, offices, vestibules, porticos, verandahs, &c; as also for external decoration, as friezes, fascia string courses, pilasters, &c and white glazed tiles for baths, dairies, &c; also the Architectural Pottery Company's patent orange-tree Boxes. Various specimens of the above may be seen, and every information obtained at the Office of the Company, No. 26, Parliament-street, S.W. Specimens also on view at the following Exhibitions, 3, Conduit-street, Regent-street, Kensington Museum, the Fine Arts' Academy, and the Crystal Palace, Sydenham.—Address, The Architectural Pottery Company, 26, Parliament-street, S.W.; or Poole, Dorset.



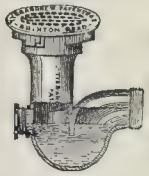


UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermittent supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.
Pan, Valve, Self acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.
TO ARCHITECTS, BUILDERS, PLUMBERS, &c.
In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,
F. G. UNDERHAY
now manufactures on HIS OWN ACCOUNT his Patent Regulator Water-Closets, Valves, Gas Meters, &c. on the same premises.
CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.
The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. Cistern valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the perpetual Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREWS, Brixton-road.
SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

HAY'S PATENT WATERPROOF GLUE and INDIA-RUBBER VARNISH.—To ARCHITECTS, BUILDERS, PAPER-HANGERS, &c. &c.—The WATER-PROOF GLUE is a special anti-dinic, also is suitable for contractors, plasterers, fire-bricklayers, &c. &c. The VARNISH for damp walls, previous to papering, coating zinc verandahs, &c. &c. Copy of a letter from Messrs. Rogers & Booth, contractors, Gosport:—
"We have repeatedly used your Waterproof Glue as a preventive against damp, and have found it most valuable in preparing walls to receive paper. In one instance, where the walls were thoroughly saturated with moisture from earth filled against the outside, we used your varnish internally, and papered the surface, within a few hours of its being applied, with complete success. We have also used your preparation for coating a large number of cast iron piles, at the Gunwharf, Portsea, for her Majesty's War Department."
To be had from all Ironmongers, Oil and Colourmen, &c.
Manufactory, Chandos-street, Portsmouth: Mr. GEORGE WEEKS, Manager. GEORGE G. WARDEN & CO. General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation, with Wrought iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.
Price Lists on application.
GEORGE ELL & CO.
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

CLINTON & OWENS, LATE
BENJAMIN FOWLER & CO. Whitefriars-street, Fleet-street, London,
MANUFACTURERS OF PUMPS AND HYDRAULIC MACHINERY OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DOMESTIC, AGRICULTURAL, OR MANUFACTURING PURPOSES, OR FOR CONTRACTORS' USE, TO BE WORKED BY HAND, HORSE, WATER, WIND, OR STEAM POWER.

Portable Steam Engines, Powerful Single and Double-Barrel Pumps, Centrifugal Pumps, and Boring Tools for Contractors' Purposes, ON HIRE.

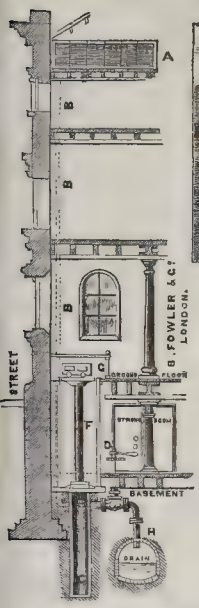


Fig. A.



THE LANDSCAPE SKETCH ABOVE SHOWS

THE IMPROVED HYDRAULIC RAM.

This is a simple Self-acting Machine for Raising a considerable Supply of Water for Use in Public or Private Establishments where a fall can be secured from a Stream Brook, or Springs. Messrs. FOWLER have fixed a great many Hydraulic Rams in various parts of the country, for raising from 600 to 6,000 or more gallons per day to elevations varying from 30 to 300 feet, and forcing through main pipes from 50 yards to several miles in length. The fullest particulars and estimates will be handed on application.

No. 37 SHOWS A SET OF

TREBLE-BARREL PUMPS WITH HORSE GEARING,

For Raising Water from DEEP WELLS for the SUPPLY of TANKS in MANSIONS and PUBLIC BUILDINGS. Messrs. FOWLER also Manufacture and Erect every other Form of Pump for Deep or Shallow Wells for Hand or other Power.

Fig. A SHOWS

A HYDRAULIC LIFT,

Worked by Pressure from a Cistern. Suited for Banks Warehouses, and other Buildings. Messrs. FOWLER also Manufacture such Lifts to be worked by Hand Pumps, where pressure cannot be obtained from a Cistern.

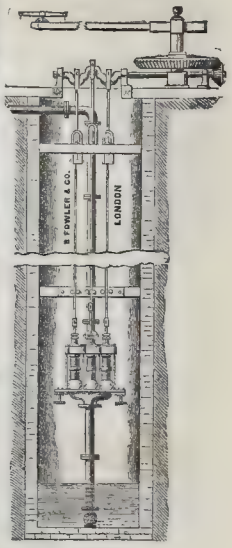
BENJAMIN FOWLER & CO.

MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

PUMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE, STEAM ENGINES, WATER-WHEELS, TURBINES, HOISTS, WARMING AND DRYING APPARATUS, BATHS, GAS WORKS, AND FITTINGS.

ESTIMATES WILL BE HANDED ON APPLICATION.



No. 37.

PRICE LISTS OF PUMPS FREE BY POST.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.
BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 "	2 15
4 "	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

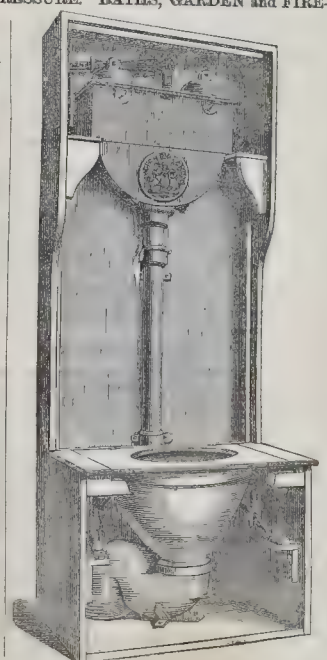
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan

2½ inch	£4 4 0	Larger sizes when required.
3 "	5 5 0	
3½ "	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 "	4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Diff. Work without Wood Case	1 2 0
Basin and Trap, W.	0 18

Further Description, with Sectional Drawings will be sent on application.

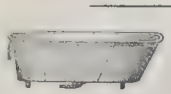


No. 1484.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0

Sunk Handle, extra	0 2 0
Blue Basin, extra	0 1 0

No. 1485. Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

GROSVENOR ROAD, PIMLICO.—TO SCULPTORS, MASONS, BUILDERS, AND OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION on the PREMISES Lloyd's Wharf, foot of Vauxhall Bridge, on TUESDAY, APRIL 7, at TWELVE for ONE, about 100 blocks of MARBLE, consisting of statuary, veut Sachan, black and gold, Bardilla, emperor's red, vert-vert, Brocatelle Sienna, Irish green blocks and black marble in block and slabs; also about 1000 feet of marble slab, including most of the above varieties; various Sicilian figures and monuments, groups, statuettes, &c. on the best statuary marble, chimney pieces, tables, a new travelling crane, and a wrought iron steam boiler, &c.

Approved Bills at four and six months. May be viewed two days previous, and catalogues had on the premises, and of PULLEN, HORNE, & EVERSFIELD, 47, Parliament-street, Westminster, and 80, Fore-street, City.—Note. Second-class fare to London will be allowed to purchasers above 30*l.* coming from a distance beyond 25 miles

TO CONTRACTORS, BUILDERS, AND OTHERS.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, at LLOYD'S WHARF, Grosvenor road, Pimlico (foot of Vauxhall Bridge), on TUESDAY, APRIL 7, at ONE, a very powerful upright travelling crane, capable of 2 tons at 25 feet radius, with double purchase, and worked by steam power, 150 feet long span, with bucks and chain and steam turning gear complete; also a very excellent upright pressure steam boiler, 12 feet 1 inch by 6 feet diameter, with furnace grate and flue, and other effects.

May be viewed two days prior, and catalogues had at the office of HORNE, & EVERSFIELD, 80, Parliament-street, Westminster, and 80, Fore street, City.

BUILDING MATERIALS, TOTTENHAM COURT ROAD.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION on the PREMISES, on THURSDAY, APRIL 9th, at TWELVE, the excellent BUILDING MATERIALS of a large STACK of WAREHOUSES, covering an area of 4,500 feet, and comprising sound brickwork, 50 squares of iron and plain tiles, 50 squares of slating, 120 squares of stock flooring, sound timber, roofing, and 50 spruce of paving, slating sound timber, roofing, and other sashes, loop hole doors, weather boarding, timber casting and other sashes, loop hole doors, weather boarding, timber casting stage, a steam wheel crane, and 5 jib cranes, several tons of lead in gutters, lengths, cisterns, and pipes, and other effects. May be viewed the day previous. Catalogues had of T. CHATFIELD CLARKE, Esq., Solicitor, 127, Leadenhall-street, and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament-street, Westminster, S.W.

LOMBARD STREET.—Extensive Sale of BUILDING MATERIALS.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Royal Insurance Company to SELL by AUCTION, on the PREMISES, on FRIDAY, APRIL 10, at TWELVE, all the valuable MATERIALS of the BLOCK of BUILDINGS at the corner of Lombard-street and Cheapside, being Nos. 27 and 28, Lombard street, and Nos. 1 and 2, Cornhill, comprising a large quantity of brickwork, several tons of lead, plain tiling, useful timber, floor-boards, plate-glass in squares, iron staircase, iron columns, sashes, doors, and interior fittings, and a great variety of useful materials and fittings; three patent copper & Iron pulleys, and a wrought iron steam boiler, &c. May be viewed the day previous. Catalogues had of J. BELCHER, Esq., Architect, 4, Adelaide place, London Bridge; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 40, Parliament-street, S.W.

WESTMINSTER BRIDGE.—SURPLUS MACHINERY, PLANT, and MATERIALS.

PULLEN, HORNE, & EVERSFIELD have received instructions from the Commissioners of Her Majesty's Works and Public Buildings to SELL by AUCTION, at the Westminster Iron Works, Stangate, Lambeth, and at the Government Workyard, Battersea Fields, on MONDAY, APRIL 13, and two following days, at TWELVE for ONE each day, the valuable SURPLUS MACHINERY, PLANT, and MATERIALS, which comprise engine of the completion of the New Bridge), the very valuable SURPLUS PLANT and MACHINERY consisting of an iron shaft 24 cranks, 10 inches horizontal steam engine, 14 inch cylinder, 10 feet 6 inches stroke, metallic pistons, &c.; a tubular steam boiler, 21 feet long; 170 feet of 2½ inch turned shafting, with riggers, cast brackets, plummer blocks, and brasses; three emperor self-acting drilling machines, with bright bars, over head motions, &c.; an expensive shaping machine, with 16 feet bed and traverse; 2 slide feet by 8 feet 4 inches; a self-acting planing machine, 11 inches by 8 feet capable of taking 4 feet by 2 feet 6 inches, with iron bed 22 feet 8 inches long, a 14 inch centre self-acting lathe, by Smith, Beacon, & Tanner; two double cylinder capital screw-cutting lathes, by W. Fisher & Co.; a powerful punching and shearing machine; a shearing machine, to cut 2-inch plate; leather bands; drilling posts; four Raley's patent screw jacks; iron anvils, forges, three large bellows, small tools, Lloyd's patent fan; crab engines; three over head travelling cranes, 54 feet span, with jenny equal to 25 tons, three Wellington travelling cranes, and 24 feet span, with crabs and chains, grappling irons and monkeys, an extra pair of 10 feet jibs, small fire engine, boiling tackle, contractors' rails, blocks and falls, trollies, chips, ladders, temporary offices, 50 tons of new and old iron, 30 tons of screw bolts, weighing-machines, life boats, eight day 1 in 30 tons of screw bolts, weighing-machines, life boats, eight day 1 in 30 clocks, &c. Blacksmiths', fitters', and blacksmiths' hand tools, engines of 4 horse power, &c. and other effects. May be viewed on FRIDAY and SATURDAY previous, and catalogues had at the Office of Works, Whitehall place; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and of PULLEN, HORNE, & EVERSFIELD, 47, Parliament-street, Westminster, S.W. and 80, Fore-street, City.

WESTMINSTER BRIDGE.—To Builders, Contractors, and Others.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of her Majesty's Works and Public Buildings to SELL by AUCTION, at the WESTMINSTER BRIDGE WORKS, Stangate, Lambeth, on TUESDAY, APRIL 14th, at TWELVE for ONE, about 400 BLOCKS of GRANITE, from the Cheesewring and Penryn quarries, 50 feet of granite curbs, 11 inch terra cotta paving tiles, granite and other paving, Yorkshire steps, several oak bench ends, oak roll-over desks, oak and other fittings—Angers of Gothic design, &c. and other effects. May be viewed on FRIDAY and SATURDAY previous, and catalogues had at the Office of Works, Whitehall place; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and of PULLEN, HORNE, & EVERSFIELD, 47, Parliament-street, Westminster, and 80, Fore-street, City.

TO CARPENTERS, BUILDERS, PACKING-CASE MAKERS, AND OTHERS.

MR. C. F. SMYRK will SELL by AUCTION, on the PREMISES, Grove-lane, Camberwell, on TUESDAY, APRIL 7th, at TWELVE, a large assortment of dry sawn white deals, battens, and mouldings; a quantity of prime yellow and red boards; sawn timber, in long lengths, and other effects.

May be viewed the day prior. Catalogues on the premises, and of Mr. C. F. SMYRK, Auctioneer, Surveyor, and Valuer, 18, Newington-place, Kennington-road, S.

BUILDERS' SALE, on EASTER TUESDAY, at TWO precisely

MR. EDWIN WHITE will SELL, by AUCTION, at his ROOMS, 19, Holborn-bars, and 1, Castle-street, Holborn, a valuable sale, nearly 10,000 PIECES of good modern English, French, and American PAPERHANGINGS, in every style and quality; 20 Dozen Sparkling Champagne, port, &c. 11 Room Mahogany, 24 Water-closet Apparatuses, 9 Cwt. White Lead and Colours, Stafford Marble Memorial Tablets, and 100 Marble and Stone Chimney-pieces ranging in value from fifty guineas to a few shillings.—View Easter Monday and Morning of Sale. Catalogues are now ready.

TO IRONMONGERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Mr. Robinson to SELL by AUCTION, on WEDNESDAY, APRIL 8th, 1863, at ELEVEN o'clock, on the PREMISES, No. 10, College-hill, in lots without reserve, the premises being let, the remaining STOCK of IRONMONGERY, 100 bags wrought and cut nails, hobs, bills and brads 20 pairs 8 C. scale weights, 2 pairs patent cart springs, 2 dozen spades and shovels, 10 dozen fry-pans, hollow ware ship and house augurs, bits, locks, latches, shutter bars, door springs, hinges, bolts, screws, brass bell works, coffin furniture, funnels, hay and chaff knives, scythes, 3 alike, counting house furniture, capital iron safe, desks, counters, shelves, weighing machine, scales and weights, and other effects.—To be viewed on TUESDAY previous to the sale, and Catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

BRENTFORD GRAIN DISTILLERY.—TO BUILDERS AND OTHERS.

MESSRS. FULLER & HORSEY will SELL by AUCTION, pursuant to an Order of the Court of Chancery, made in the causes of "Booth v. Coulton," "Booth v. Booth," and "Booth v. Nash," with the approbation of his Honour Vice Chancellor Stuart, the Judge to whom these causes are attached, at the AUCTION MART, in the City of London on THURSDAY, the 28th day of MAY, 1863, at TWELVE o'clock, in Four Lots, the highly important FREEHOLD and COPYHOLD ESTATE, lately occupied by Sir Felix Booth's Grain Distillery; comprising the buildings, the back yards, the three large dwelling houses, offices, yards, garden, and stabling, and a landing wharf on the Thames, situate at Brentford, about seven miles from London, on the western road, about midway between the two principal stations of the South-Western Railway. It is contiguous to the Kew station of the North London Railway, and also to the docks and wharves at Brentford; the whole forming a most valuable property for any large manufacturing establishment, or a most eligible site for building operations.—To be viewed till the Sale by cards only, which, with printed particulars, plans, and conditions, may be had of St. F. B. HOOK, Esq. Solicitor, 9, Lincoln's-inn-fields, W.C.; of W. H. DAVIS, Esq. Solicitor, 10 Golden square; of Messrs. KINGSFORD & DORMAN, Solicitors, Essex-street, Strand; of Messrs. CLARK & RUSTON, Solicitors, Brentford; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Messrs. Kelk & Lucas to SELL by AUCTION, on TUESDAY, APRIL 21, 1863, at TWELVE o'clock, at the PREMISES, Grosvenor-road, Thames Bank, Pimlico, adjoining the Railway Bridge and Grosvenor Canal, the Contracting Portion of the SURPLUS MATERIALS and PLANT used in the construction of the International Exhibition building; including 140 logs capital Baltic timber 40 loads Swede timber, 30 loads half balked timber, 4 inch scaffold poles, two mast screws 61 feet long, 100 fathoms fire wood, a partly hydraulic gutter proving machine, 10 tons contractors' rails, 12 iron turntables, 2 Pooley's weighing machines, pile engines and monkeys, navvies' barrows, contractors' patches, steam engine, capital iron timber saw frame, one batter frame, 21 four wheel trollies carpenters' benches and stools, 25 railway wheels, quantity of scaffold cords, ropefalls and slings, crabs blocks and falls; also 2½ contractors' earth waggons, side and end tip.—To be viewed, and catalogues had in due time of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

TIMBER.—To TIMBER MERCHANTS, BOATBUILDERS, and SHIPBUILDERS.—TO BE SOLD by AUCTION, by

MR. LANCASTER, at the house of Mr. Chatham, the CROWN INN, in Rotherham, on THURSDAY, the 9th day of APRIL next, at THREE o'clock in the afternoon, subject to such conditions as shall be then declared, the following standing TIMBER and OTHER TREES, in

Lot 1.—In Ecclesall Wood, near Sheffield; 193 numbered oak trees, 836 oak poles, 14 other poles, 240 oak rails, with the bark, cordwood, and underwood.

Lot 2.—In Edlington Wood, near Doncaster; 198 numbered oak trees, 4 numbered ash-trees 2 numbered elm trees, 163 oak poles, 84 ash poles, 29 elm poles, 93 oak rails, with the bark, cordwood, and underwood.

Lot 3.—In Finsley Park, near Sheffield, 40 numbered oak-trees, 407 oak poles, 18 other poles, 295 oak poles, with the bark, cordwood, and underwood.

In Scholes Coppice Wood, in the township of Kimberworth, near Rotherham.

Lot 4.—100 Oak Trees of large size, numbered from 1 to 100, with the tops and bark.

Lot 5.—125 Oak Trees and 2 Beech Trees, of large size, numbered from 101 to 227, with the tops and bark.

Lot 6.—393 Oak Trees of large size, numbered from 228 to 340, with the tops and bark

All the trees set out for sale in Scholes Coppice Wood are marked with a T, and lettered with white paint.

Mr. SAMUEL SMITH, of Ecclesall, will show the timber in Ecclesall Wood; Mr. FRANCIS ATKIN, the Woodman that is living in Wood; Mr JOHN ATKIN, the Woodman, that is living in Finsley Park; and Mr. COBBAN will show the trees in Scholes Coppice Wood, and are well adapted for naval purposes. This wood is at a convenient distance from the Sheffield and South Yorkshire Railway, and from the Grange Lane station, on the South Yorkshire Railway. Further particulars may be had on application to Mr. NEWMAN, of Darley Hall, near Barnsley; Messrs. E. NEWMAN & SONS, of Barnsley; Mr. JOHN COBBAN, of Wentworth; or of Mr. LANCASTER, of Barnsley, Auctioneer.

N.B.—The sale will commence precisely at THREE o'clock.

Darley Hall, near Barnsley, March 26th, 1863.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, BRIGHTON.

Notice of PRIVATE SALE of about 200 MARBLE CHIMNEY-PIECES, to be sold at very reduced prices to save the trouble and expense of removal to the Brompton-road, in the following Marbles, viz.:—Statuary, Rouge Royal, Black and Gold, Black, sienna, Bardilla, Dove, California, Sir. Ann's, Rouge Jasper, Jaune Fleuri, Brocatella, Brocatella Green, Italian, Rouge Griotte, Emperor's Red, Irish Fossil, Campanie Melange, Vert, Serpentine, and various excellent specimens of British Marbles, varying in price from 1*l.* 10*s.* to 6*l.*, and for elegance of design, workmanship, and quality not to be surpassed in England. Purchasers to the extent of 5*l.* and 5*l.* upwards (this of three and four months with 5 per cent. discount for cash. Purchasers from the country will be supplied with packing cases and the same packed and delivered to any of the metropolitan stations for 1 per cent on the amount purchased.

OLD ASYLUM, BEDFORD.—EXCELLENT BUILDING MATERIALS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the town on the Ampthill-road, on MONDAY, APRIL 13th, 1863, at TWELVE for ONE o'clock, the EIGHTH PORTION of the Excellent BUILDING MATERIALS of the Asylum, consisting of about 50,000 STOCK BRICKS, a large quantity of YORK paving, coping, and large landing slabs, FINE KETTON STONE quoins, string course, sills, &c. slates for roofs, quarries, slate slabs, stone steps, and sundry white and black marble CHIMNEY PIECES, a large quantity of WELL-SEASONED OAK, consisting of joists, rafters, beams, staircases, wall plates, purlins, boards, &c.; SUPERIOR DOORS AND FRAMES, cupboards, and drawers, sash and other windows, mahogany sash bar and other sashes two heavy deal beams, ornamental iron work, cast iron gutters, balcony railing, large cast-iron grating, register and other stoves, lead pipes, pumps, pulleys, house bells, &c., &c.—May be viewed on the Friday and Saturday before the sale, and catalogues had on the ground; of Mr. WHITTINGHAM, 14, Moorgate street, London, E.C.; and of the Foreman on the estate.

NORTH LONDON RAILWAY.—CITY TERMINUS.

MESSRS. KENNEDY & BONNY are instructed by the Directors of the North London Railway Company to SELL by AUCTION, on the PREMISES, Broad street Buildings, on TUESDAY to WEDNESDAY next, APRIL 7th and 8th, at TWELVE o'clock the second portion of the excellent MATERIALS of about eighty Houses, situate in Broad street Buildings, Peter street, and Sweetapple, E.C.; also, rising capital stock bricks, stone, oak and other timbers, great quantities of excellent paneling, cast and wrought iron, and every description of valuable building materials, and several tons of other lead; office fittings, street and other doors, sashes, battens, floor boards, slates, tiles, ridgings, and other valuable and useful items.—May be viewed MONDAY previous, and Catalogues had at the Offices, 34, Broad-street Buildings, 23, Kingsland road, and Camden Town.

MIDDLESEX.—Valuable and important Freehold Building Land.

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the Trustees of the late Samuel Martin, Esq. to offer for SALE, at the MART, on WEDNESDAY, APRIL 29th, at TWELVE, in one lot nearly 12 acres of exceedingly valuable FREEHOLD MEADOW LAND, beautifully situate at Great Stanmore, Middlesex, adjoining the estates of JNO. KELK, Esq. and — FORTNUM, Esq. having an important frontage of about 1,050 feet to the high road from London to Watford, immediately available for building purposes, and presenting to land societies and others an unusual opportunity for a profitable speculation. The land contains an abundance of fine gravel. May be viewed, and particulars early had at the Abercorn Arms Hotel, Great Stanmore; of Messrs. CARDALE, ILIFFE, & RUSSELL, Solicitors, No. 2, Bedford-row; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

LEYTON, ESSEX.—Valuable Freehold Building Land.

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the Devisees under the Will of the late John Masterman, Esq. to offer for SALE at the Mart, on WEDNESDAY, the 13th day of MAY, at TWELVE, in four lots, about 21 acres of exceedingly valuable FREEHOLD BUILDING LAND situate on the high roads from London and Stratford to Walthamstow, with an easy distance of the Lea Church and Railway stations at Leyton and Leytonstone, in the county of Essex, and about six miles from London, viz.—Lot 1. A valuable Plot of Meadow Land, with extensive frontages to the Lea Bridge-road, Low house, Stubbs, and Shed, having a very important frontage of about 582 feet to the high road, 300 feet to the Lea Bridge-road, and abutting on the Low House and Shed. Lot 2. Three Plots of Land, adjoining lot 1, having extensive frontages to Capworth street, leading from London to Woodford, and containing together 15a. 3r. 39p. The whole of the lands are well adapted for the erection of detached and semi detached villas. May be viewed, and Plans and particulars had of Messrs. HUGHES, MASTERMAN, & HUGHES, Solicitors, No. 17, Bucklersbury; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad street, Royal Exchange.

RED-HILL, SURREY.—Valuable Freehold Building Land, and a Brickfield and Pottery.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on WEDNESDAY, May 6th, at TWELVE, in one lot, a very valuable FREEHOLD BUILDING LAND, situate adjoining the estate of P. Hanbury, Esq. within an hour's journey of the metropolis, and only half a mile from the Red-hill Junction Station of the South-Eastern and Brighton Railways, in the county of Surrey. It has an extensive frontage to the high Road to and Brighton road, stands high, commands fine views over the beautifully timbered park of Hatton, and offers first-rate sites for the erection of several superior residences, or for a moderate-sized mansion; it presents also a rare opportunity for a profitable building scheme; let to a yearly tenant. Also a valuable Freehold Brickfield and Pottery, situate in the rear of the above land, having an extensive frontage to the road leading from Lickfold lane to Merstham, containing valuable brick earth, and adapted for building purposes. It comprises about seven acres, and is let to Mr. W. Thomas, for a term, which will expire in 1868, at a rent of 50*l.* per annum. May be viewed, and particulars, with plans, had at the hotels at Red hill, Reigate, and Croydon; of Messrs. CROWDER, MAYNARD, SON, & LAWFORD, Solicitors, 57, Coleman-street; of E. JENNER, Esq. Architect, No. 8, Laurence Pountney-lane; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad street, Royal Exchange.

NORTH LONDON RAILWAY.—KINGSLAND JUNCTION

MESSRS. KENNEDY & BONNY will SELL the MATERIALS of the Houses and Shops required for the Junction with the Line near the Tramway Cafe in the Kingsland-road, the last week in APRIL, or early in MAY. (See future advertisements.)

Camden Town, April 2nd, 1863.

IMPORTANT SALE OF OAK AND ELM TIMBER in the Parishes of Ash, Ightham, Wrotham, Meopham, Horton, Darenth, Hartley, Southfleet, and Farningham, Kent.

MR. WILLIAM HODSOLL will SELL by AUCTION, at the LION HOTEL, Farningham, Kent, on FRIDAY, APRIL 10th, 1863, at TWELVE, about 700 apparent OAK TIMBER TREES, and 1400 TIE TREES, together with the crop, top and bark, standing in the above and Parishes. Also 25 capital ELM TREES, and 1000 Ash Trees, and 3 ditto at Betson.—May be viewed, and particulars had on the Premises, and of Mr. ALLEN HARTLEY; and Mr. HODSOLL, Farningham.

LAND for MANUFACTORIES (Chemical or other), with good access by Water, TO BE SOLD.

MR. JOHN WALLEN has received instructions to SELL in large or small plots, about Nine Acres of FREEHOLD LAND, abutting on Barking Creek (navigable for vessels of 300 tons burden), and on the Tilbury line, and within half a mile of the Railway station. For particulars apply to Mr. JOHN WALLEN, 68, Old Broad-street, E.C.

VALUABLE BUILDING LAND, WITH BRICK EARTH.

MR. JOHN WALLEN is instructed to SELL FOURTEEN ACRES of peculiarly eligible FREEHOLD BUILDING LAND, within a quarter of a mile of the Kingsland Junction of the direct City Railway with the main North London Railway, and so placed as to afford the means of making the shortest route from thence to Upper Clapton, and from the Kingsland Junction (a few furlongs in the direct road), the brick earth being in great demand for the construction of the railway as well as for ordinary works.—Apply to Mr. JOHN WALLEN, 68, Old Broad street, E.C.

BUILDING LAND TO BE LET.—Savill row, Walworth, Surrey, within five minutes' walk of the Elephant and Castle, contiguous to the Chatham and Dover Railway station, and also to the Greenwich line, and within 20 minutes from London by rail. The Fishmongers' Company are prepared to receive PROPOSALS for the whole or any part of the ESTATE, lying between Savill-row and Gloucester-row, the same having been laid out into plots and frontages for the erection of dwelling houses, shops, or other buildings, on a BUILDING LEASE, or Leases for Eighty Years, at the option of the tenant. The roads are formed, the kerbs and sewers made, footpaths laid and drained, so that the estate is now ready for immediate building operations. For particulars apply to Mr. W. B. TOOKE, the Clerk of the Company, Fishmongers' Hall, London-bridge; and at the Office of Mr. RICHARD SUTER, Architect and Surveyor, 28, Fenchurch street, where plans and conditions may be seen.

BUILDING LAND TO BE LET, HACKNEY, close to the Railway Station, for small Dwelling Houses.

NORWOOD, close to the Crystal Palace, for Shops and Villas.

PERRY HILL, SYDENHAM, for Shops and Villas. Advances in each case if required. Apply to Mr. F. K. GLEEN, 25, College-hill, Cannon-street, E.C.

BUILDING LAND TO BE LET or SOLD, at Sydenham, near the Church, the Railway Station, the Crystal Palace and Park. It fronts a wide, handsome roadway, and has ample depth for garden grounds. All the houses on the estate are of a good class, and the roads studded over an average return of 12 per cent. on the outlay. The remaining frontage will be let at a low rent, to secure the good and best specimens covered.—Terms and plans, apply to Messrs. EDWIN FOX & BOUSFIELD, Land Agents, 11, Clement's-inn street, Bank, E.C.

FREEHOLD GROUND between the Forest Hill and Sydenham Stations TO BE LET on long Building Leases.—For plan and particulars, apply to C. F. REEKS, Esq. Architect, 1*a*, Middle Scotland yard, S.W.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of C. & W. Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields, and published at the said Church Vestry, at the Office of "The Builder," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex. Saturday, April 4, 1863.

The Builder,

Architect, Engineer, Operative & Artist.

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LE STRANGE MEMORIAL FUND.
Chairman of Committee, The Dean of Ely.
Bankers: Messrs Gurney, King's Lynn.
" Messrs Barclay, 54, Lombard-street, London.

Previous total	£540	11	0
Further sums	41	8	0

W. M. R. CHURCH,
Secretary.
Hunstanton, 6th April, 1863.

ARCHITECTURAL ASSOCIATION.—A CONVERSAZIONE will take place on FRIDAY EVENING next, APRIL 17th, at the Rooms of the Association, 9, Conduit-street, Regent-street, W. at EIGHT o'clock.
CHARLES J. ADAMS, } Hon. Secs.
H. A. REEVES, }

ROYAL MANCHESTER INSTITUTION.
The Council have determined that there shall be no SPECIAL and SEPARATE EXHIBITION of WATER COLOUR DRAWINGS in the present year.
THOMAS WORTHINGTON, Hon. Sec.
April, 1863.

ROYAL MANCHESTER INSTITUTION.
EXHIBITION of MODERN PICTURES and other WORKS of ART.—Intending contributors are informed that the Exhibition of Modern Pictures in Oil and Water Colours, specimens of Sculpture and Casts, and Architectural Designs, will be opened as soon as practicable after the closing of the Royal Academy, and that all Works of Art must be sent to or to arrive not later than the 17th of AUGUST.
Pictures, &c. from London will be forwarded by Mr. JOSEPH GREEN, 14, Charles-street, Middlesex Hospital, if delivered to him before the 3rd AUGUST, by artists who have received the invitation circular; from other places artists who have also received such circulars are requested to send them by the most convenient and least expensive conveyance. Works sent by other parties must be carriage paid.
Contributions to the Exhibition will not be confined to artists alone, but will be extended to the admission of works from private individuals, and from dealers.
The council offer a prize of Fifty Guineas to the artist of the best picture exhibited, provided it has been painted within three years, but they reserve the power of withholding the prize should there be no work of sufficient merit in the collection.
THOMAS WORTHINGTON, Hon. Sec.
Royal Manchester Institution, April, 1863.

CAUTION.—To BANKERS, BILL BROKERS, and OTHERS.—Whereas Bills of Exchange or Promissory Notes have been and may be put in circulation by Mr. Daniel Pearson, purporting to be accepted or made by Messrs. "Lloyd, Pearson, & Lloyds," or "The Madeley Coal and Iron Company," of Madeley, in Staffordshire. And whereas the Partnership between Messrs. Lloyds and Mr. Daniel Pearson has been duly dissolved, and an injunction has been granted by the Court of Chancery to restrain the said Daniel Pearson from drawing, accepting, endorsing, giving, or negotiating any Bill of Exchange or Promissory Note in the name of "The Madeley Coal and Iron Company," or in the name of "Lloyd, Pearson, & Lloyds," or in any other name whereby the Messrs. Lloyds might be rendered liable. All persons are therefore cautioned against dealing with any such Bills of Exchange or Promissory Notes; and it is requested that any attempts to negotiate the same may be immediately given to Messrs. R. & S. MULLENS, Solicitors, No. 7, Poultry, London, E.C.
London, 18th March, 1863.

A MORNING in MEXICO.—Magnificent and exquisite EXHIBITION of CERAMIC STATUETTES, illustrating Life, Manners, Customs and Costumes in Mexico. Open daily from Ten to Six. Gallery, 68, Newman-street Oxford-street. Admission, 1s. Saturdays, including Descriptive Catalogue, 2s. 6d. Visitors under fifteen, 1s.

REMOVED FROM 78, WELLS STREET.
MARYLEBONE and WEST LONDON SCHOOL of ART
(in connexion with the Department of Science and Art, South Kensington Museum),
PORTLAND ROAD, W.
Entrance, at present, 72, Bolsover-street.

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Sir Roundell Palmer, M.P., Q.C. D.C.L. F.R.S.
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R. Phillips, esq. (Firm of Messrs. Phillips, Bros.).

The School having been removed from Wells street to Portland-road, RE-OPENED there on WEDNESDAY, APRIL 8th, the present entrance being 72, BOLSOVER STREET.

MASTER.
C. Macdonald; Clarke,
Assisted by Teachers from the Training School of Art, South Kensington.

The Government course of instruction is the basis of that pursued in the School; but it is MODIFIED TO MEET THE PRACTICAL WANTS OF STUDENTS: the Committee hearing that this School may afford to Artist Workmen the means of entering, at once, upon the studies bearing most directly upon their several pursuits; avoiding, as far as possible, protracted courses of merely elementary work.
There are a few Vacancies for New Students, but immediate application is necessary.
Further information at the School.
C. MACDONALD CLARKE, Hon. Secretary.

ROYAL SCHOOL of MINES.—Notice.—The remainder of the Course of LECTURES on GEOLOGY (twenty-four), will be given by Mr. J. BEETE JUKES, M.A. F.R.S. on MONDAYS, TUESDAYS, THURSDAYS, and FRIDAYS, at HALF-PAST ONE, commencing on the 13th APRIL. During the Course Lectures will be given in the field. Fee 2l.
TRENHAM REEKS, Registrar.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, W. NOW OPEN, from 11 till 6. Admission, One Shilling. Season Tickets, Half a Crown, admit at all times and to all the Lectures. First Lecture, by Professor KERR, on TUESDAY EVENING, MAY 5th.
JAS. FERGUSSON, F.R.A.S. } Hon. Secs.
JAS. EDMESTON, F.R.I.B.A. }
Also, in conjunction with the above, the Exhibition of the Society of Sculptors of England. MORETON EDWARDS, Hon. Sec.

PRACTICAL GEOLOGY, KING'S COLLEGE, LONDON.—Professor TENNANT, F.G.S. will commence a COURSE of LECTURES, on WEDNESDAY, APRIL 15, at NINE a.m. having especial reference to the application of GEOLOGY to ENGINEERING, MINING, ARCHITECTURE, and AGRICULTURE.—The Lectures will be continued on each succeeding Friday and Wednesday, at the same hour. Fee, 1l. 11s. 6d.
R. W. JELF, D.D. Principal.

THE EXHIBITION of ALUMINIUM and ALUMINIUM BRONZE will OPEN APRIL 1st, 1863. 2,000 SPECIMENS, illustrating the application (Ornamental and Useful), of these interesting Metals are NOW ON VIEW at MAPPIN BROTHERS' New Rooms, 222, Regent-street. Admission by Card.

BILLING'S PATENTS.
CHIMNEY TERMINALS, THROAT VALVES.
NOTICE to ARCHITECTS.—The Proprietors of the late Mr. Billing's Patents have secured the services of Mr. H. H. COLLINS, M.I.B.A. of No. 10, Poultry, E.C. as the Consulting Architect, from whom full particulars and the reduced prices may be obtained; or from the Manager, Mr. TYLER, 15, Abingdon-street, Westminster, S.W.

COMPETITIONS.

ESTIMATES required for the ERECTION of a NEW CHAPEL, &c. in the Walworth-road. The drawings and specification can be seen, and any information obtained, at the Offices of the Architects, SEABLE, SON, & YELF, 4, Bloomsbury-place, W.C. The quantities can be obtained at a charge of one guinea per copy, half of which will be returned on the receipt of the Tender.—Applications to be not later than SATURDAY, the 18th instant.

HEATH-VILLE ESTATE, GLOUCESTER.
TO ARCHITECTS.—TWO PREMIUMS, of Thirty and Fifteen Guineas, will be awarded to the best and second selected DESIGNS for LAYING OUT the above Estate (consisting of 33 acres, within a few minutes' walk of the Railway Station) for the purpose of Erecting Villas and other Residences. A lithographed plan and full particulars may be had upon application to Mr. W. MATTHEWS, Solicitor, Gloucester, to whom the Designs must be sent not later than the 14th of MAY next.

India Office, 31st March, 1863.

DESIGN for COMPETITION.
EUROPEAN GENERAL HOSPITAL.
The Bombay Government are prepared to receive DESIGNS for a new EUROPEAN GENERAL HOSPITAL, to be built on the Esplanade, Bombay.
Lithographed copies of the general plan of the accommodation required, with a schedule of measurements according to the arrangements of the building, which have been generally approved by the medical authorities and Government, together with plans of the proposed site, can be had on application at the Office of the Superintending Engineer, Presidency Circle, Bombay, and at the India Office, London.
The rates on which the work is to be calculated will also be furnished at these Offices, and the gross estimate is not to exceed Rupees 4,80,000.
Complete plans and estimates are also required for Residencies for the Surgeon and House Surgeon, and for Quarters for Eight Sick Officers, to be arranged in two or three blocks distinct from, but in the immediate vicinity of the main Hospital.
The designs of these buildings should harmonize in character and style with the main building.
The estimate for these, calculated on the same rates, should not exceed 1,25,000 Rupees.
There must be ample provision for through ventilation, which is obtained in Bombay by a sea breeze blowing generally from W. to S.W. during the months from May till September, and from various points from N.W. by N. to S.W. by S. during the rest of the year; provision should be made to exclude the N. and E. winds, which blow most frequently by night.
The walk must be protected as far as possible from the direct rays of the sun.
The designs are unrestricted as to style, provided it is suited to the climate and to the use to which the building is to be devoted, and as to materials, provided that they are procurable in Bombay at prices which will admit of their being used in the building as designed.
The designs must include—
1. Ground plan and plan of each story.
2. Elevation of each of the four faces.
The plans and elevations to be on a scale of not less than 10 feet to an inch; specification and estimate with sections, &c. in sufficient detail to enable the judges to decide whether the plan can be carried out within the sum allowed.
Prizes will be awarded for the two best designs—Rs. 2,500 for the best, and Rs. 1,000 for the next in merit, provided the design fairly fulfils the above conditions.
If the best designs, in an artistic point of view, fail to fulfil any one of the above essential conditions, the judges will be empowered to reduce or withhold the prize, and no prize will be awarded to a design merely because it fulfils the conditions, if otherwise conspicuously deficient in artistic merit.
The drawings and estimates, &c. should be sent in on or before SEPTEMBER 1st, in the usual manner with motto, and envelopes containing the name and address of the artist, to the Superintending Engineer Presidency Circle, by whom the envelopes will be opened, in presence of the Chief Engineer and Secretary to Government Public Works Department, after the prizes have been adjudged.
All the designs received will be exhibited in the Town Hall, Bombay, for one month before the adjudication of the prizes, and, unless claimed and removed by the authors, for one month afterwards.
The envelope containing the name should state the author's wish whether the name should be appended to the design when exhibited after the adjudication.
The prizes will be adjudged by the Executive Committee of Fort Improvement Commission of the Engineers of the Great Indian Peninsular and Bombay and Baroda Railways, who will be asked to aid Government in the adjudication.
In the event of any design being finally adopted by Government for execution without further modification than is made by the designer at the instance of Government, the prize will be made up to one per cent. on the amount of the estimate as revised by the Executive Committee.
It will be optional to Government to avail themselves of the services of the author in altering or executing any design which gains a prize or premium, any design to which a prize or premium is awarded will remain the absolute property of Government.
Unsuccessful designs will be returned to the authors if claimed by them, or by their authorized agents, within one month from the period of adjudication, during which period, if not claimed, they will remain exhibited in the Town Hall, Bombay.
By order of his Excellency the Governor in Council,
H. RIVERS, Lieut. Colonel, R.E.
Secretary to Government.
Bombay Castle, 12th February, 1863.

TO ARCHITECTS.—100l. PREMIUM.—A PLAN and ESTIMATE of BUILDINGS to accommodate 300 Pauper Lunatics, of the counties of Cavan and Monaghan, from 220 to 230 in a main building, from 70 to 80 in detached cottages containing accommodation for from 35 to 40 patients each, suitable INFIRMARIES contiguous to the main building, a HOUSE for a Medical Superintendent, the necessary Offices for the building, and for a Farm of 40 statute acres, Workshops, &c. walls or a hahs to the exercise ground, yards and gardens, and a boundary wall or other suitable fence to the farm grounds, for the lowest sum compatible with neatness of style and their right attention to the most approved details in workmanship and fitting. One Hundred Pounds will be given for the Plan which shall be judged to be the best by the Committee, unless the Architect whose plan it is shall be employed to carry out the work. The Plan to be the property of the Committee. The Committee will not bind themselves to employ the designer of the best plan to carry out the Works, though their desire will be to do so. The law vests the final decision as to the adoption and the carrying out of any Plan with the Board of Control. The Committee may naturally, however, be expected to yield to any reasonable views on the part of those locally interested, and it has already waived its right of appointing as Architect in favour of the Committee, provided he be a person of acknowledged ability and standing in his profession. Papers setting forth fully the views of the Committee, the building resources generally of the neighbourhood, and a description of the site, with a plan and sections of the grounds, will be sent by post to applicants, and every information given on the ground to those architects who may wish to inspect it, by the Secretary to the Committee. Plans must be sent for consideration to the "Secretary to the Building Committee of the Lunatic Asylum, Monaghan," on or before the 15th day of JULY next. An invitation will be sent to those Architects whose plans are most approved of to attend, if they should wish to do so, on a fixed day, for conference with the Committee.
9th March, 1863.

COMPETITION.

TO STONE CARVERS.—Drawing Competitions.—Open to all of the above profession.—The Society of Ornamental Sculptors offer premiums for designs of a Capital in Natural Foliage conventionally treated. The dimensions of such to suit a ten-inch column.—1st prize, £2; 2nd, 1l 5s.; 3rd, 15s. To be sent in under motto, accompanied by sealed letters, stating name and address, to No. 2, Hollywell-street, corner of Esher street, Strand, W.C. JAMES GOUDER, Secretary
Westminster, S.W.
N.B. No drawing received after the 1st of JUNE.

CONTRACTS.

ARMY CONTRACTS.—Commissariat Office, Aldershott, 8th APRIL, 1863.—Sealed TENDERS will be received at this Office until NOON on WEDNESDAY, the 15th MAY, 1863, from persons who may be willing to enter into Contracts to supply FLOUR and MEAT in such quantities as may be required, from the 1st JUNE to 30th NOVEMBER, 1863, for the use of Her Majesty's Forces stationed at Aldershott Camp, and within the command.
Separate Tenders are required for Flour and for Meat.
Forms of Tender and Conditions of Contract may be obtained on application at this Office, by letter or in person, between the hours of TEN and FOUR o'clock.
Tenders on the printed forms must be properly filled up and signed, and delivered at this Office under closed envelope, marked on the outside "Tender for Commissariat Supplies"; and no Tender will be noticed unless made on forms obtained from this Office, and delivered by the hour appointed.

ARMY CONTRACTS.—Commissariat Office, Aldershott, 8th April, 1863.—Sealed Tenders will be received at this Office until NOON on WEDNESDAY, the 15th MAY, 1863, from persons who may be willing to enter into CONTRACT to supply FLOUR FOR HOUSEHOLD BREAD, in such quantities as may be required, from the 1st JUNE to 30th NOVEMBER, 1863, for the use of Her Majesty's Forces stationed at Aldershott Camp, and within the command.
Forms of Tender and conditions of contract may be obtained on application at this Office, by letter or in person, between the hours of TEN and FOUR o'clock.
Tenders on the printed forms must be properly filled up and signed, and delivered at this Office under closed envelope, marked on the outside "Tender for Flour for Hospital Bread"), and no Tender will be noticed unless made on forms obtained from this Office, and delivered by the hour appointed.

CHEAP CHURCHES, CHAPELS, and SCHOOL CHURCHES.—The Committee for the Church Congress, which will meet in Manchester in October next, are desirous of receiving Communications from Architects and others who have built cheap churches or chapels, with the view of exhibiting at the Congress the obtaining of such as they may approve, together with the statements of the cost accommodation, &c.—Address the Secretaries of the Church Congress, 2, Essex Chambers, Essex street, Manchester

KINGSTON-UPON-HULL LOCAL BOARD of HEALTH.—To CONTRACTORS.—The Local Board of Health of Kingston upon Hull are prepared to receive TENDERS for the OUTFALL SEWERAGE of the WEST DISTRICT of the Borough of Hull, comprising the execution of upwards of four miles brick sewers all their works in connexion therewith. Trial shafts are to be sunk on the proposed lines of sewers, the results of which may be seen, with the plans of the intended works, on application to Mr. J. FOX SHARP, C.E. Surveyor to the Local Board, at his Office, Saddle-street, Hull, where copies of the specification, &c., may be obtained, and forms of quantities may be obtained on payment of two guineas to be returned to parties tendering in accordance with the conditions, on or after THURSDAY, the 16th inst. Sealed Tenders, endorsed "West District Drainage," addressed to the Chairman of the Committee of Works, Local Board, Hull, must be forwarded on or before THURSDAY, 30th APRIL, 1863. The Board do not bind themselves to accept the lowest or any Tender.—By order,
Hull, April 2nd, 1863. C. S. TODD, Clerk to the Board.

TO BUILDERS.—TENDERS are required for the ERECTION of a small CHAPEL at Belvedere, Erith, Kent. Drawings and specification may be seen, and all particulars obtained, at the Office of Mr. JAMES WILLIAM HAIRRISHON & PITE, 56, Bloomsbury-square, W.C. The lowest or any Tender will not necessarily be accepted.

WRITTLE GAS COMPANY, LIMITED.
The Directors of the Writtle Gas Company, Limited, invite TENDERS for the ERECTION of new GAS WORKS, at Writtle, in the county of Essex. Plans and specifications of the same may be seen on application to the Secretary, under the Office of Mr. JABEZ CHURCH, Civil Engineer, Chelmsford. The work is divided into two contracts. No. 1 contract comprises the builder's work, and No. 2 contract the ironwork, apparatus, and mains. Sealed Tenders for the respective contracts are to be addressed to the Secretary, and delivered at the Company's Offices on or before the 29th day of APRIL, 1863.
F. A. JONES, Secretary.
Writtle Gas Company's Office, High street, Chelmsford,
March 26, 1863.

TO CONTRACTORS and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the CONSTRUCTION of the following SEWERS, in the parish of Battersea, viz.:—About 4,220 feet of 2 feet 9 inches by 2 feet 6 inches Brick Sewer, 3,153 feet of 2 feet by 2 feet Brick Sewer, and 1,370 feet of 2 feet 3 inches Brick Barrel Sewer; and also for the EXCAVATING for and LAYING of, about 5,150 feet run of STONEWARE PIPE SEWERS, of various sizes (the pipes for which will be supplied by the Board). The specification, plans, and necessary particulars of all Path Reinstatement obtained, at the Office of Mr. JOHNSON, Surveyor, Manor Cottage, Larkhill Lane, Clapham, between the hours of NINE and FOUR.—Tenders are to be sent in under seal to the Board as below, on or before TUESDAY, the 21st APRIL next, and are to be endorsed "Tender for Sewers." Persons tendering must be in attendance at the Offices of the Board, on WEDNESDAY, the 22nd APRIL, at TEN o'clock p.m. when the Tenders will be opened. Security will be required for the due performance of the contract. The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District,
ARTHUR ALEX. CHISELLS, Clerk to the Board
Battersea-rise, Wandsworth, S.W. March 23, 1863.

TO BUILDERS.—TENDERS are required for the ERECTION of TWELVE HOUSES, in Devonshire-road, Stanley Roads, Hackney, for the Trustees of Petherick Land and Building Society. The plans may be inspected, and a copy of the specification (price 2s. 6d.) obtained at the Offices of the Society, between the hours of TEN and FOUR o'clock, on and after APRIL 7th, up to APRIL 21st. Tenders, in the forms attached to the specifications, are to be left with or sent to the Secretary, sealed, and marked "Tender for Houses at Hackney," at or before FOUR o'clock on TUESDAY, APRIL 21st. References and security may be required, and the lowest or any Tender will not necessarily be accepted.
HENRY J. PHILLIPS, Secretary.
Offices, 34, Moorgate-street, London.

CITY of LONDON.—TENDERS for LEASE.—Parties desirous to TAKE on LEASE the Premises No. 23, Lawrence Pountney Chapelle, from the Master and Fellows of Trinity College, Cambridge, must make their application on or before the 21st instant. The lessors will not bind themselves to accept the highest or any Tender. Forms of Tender may be obtained at Mr. MARSH'S Offices, 9, Charlotte Row, Mansion House.
Dated April 1st, 1863.

TO BUILDERS.—Persons desirous of CONTRACTING for the RESTORATION of the CHANCELS of the PARISH CHURCHES of MARLDON and PAINGTON, in the county of Devon, may communicate their names to Mr. CHRISTIAN, Architect, 7a, Whitehall-place, London, before APRIL 16th. Mr. Christian does not bind himself to accept or reply to any such communications.

TO BUILDERS.—TENDERS are required for the ERECTION of TWENTY-FOUR COTTAGES (or any smaller number) for Gatekeepers, at Level Crossings on the Great Western Railway. Plans, bills of quantities, &c. may be seen at the Chief Engineer's Office, Paddington Station, and at the Offices of the District Engineers at Reading, Gloucester, Leamington, and Frome. Tenders to be delivered at the Secretary's Office, Paddington, not later than ELEVEN o'clock a.m. on the 13th of APRIL, 1863.

TO EXCAVATORS.—TENDERS for EXCAVATING for NEW BUILDINGS in Upper Thames-street and Knight Rider-street, City, and for removing the earth, about nine hundred yards or rubbish, to Paddington Station, and at the Offices of the District Engineers at Reading, Gloucester, Leamington, and Frome. Tenders to be delivered at the Secretary's Office, Paddington, not later than ELEVEN o'clock a.m. on the 13th of APRIL, 1863.

TO BUILDERS.—BUILDERS desirous of TENDERING for the erection of the NEW CHURCH in the parish of Witheycombe Raleigh, Exmouth, Devon, are requested to send sealed Tenders on or before the 21st day of APRIL, to the Rev. H. L. HUSSEY, Parsonage, Witheycombe Raleigh, Exmouth. Plans and Specifications may be seen on application at the Grange, Witheycombe. The Committee do not bind themselves to accept the lowest or any Tender.
H. L. HUSSEY, Incumbent.
HENRY CLARKE, } Churchwardens.
JOHN HALLETT, }
Architect, E. ASHWORTH, 10, Paris street, Exeter.

TO SCAVENGERS, CONTRACTORS, and OTHERS.—The Commissioners of Sewers of the City of London will meet at the Guildhall of the said City on TUESDAY, the 21st of APRIL, 1863, at TWELVE o'clock at noon precisely, to receive TENDERS for CLEANSING the STREETS, and for Removing Dust, Ashes, &c. from the Houses of the inhabitants; also for Watering certain Streets within the said City, for the term of one year from Midsummer Day next, agreeably to specification, a copy of which may be had at this Office. The City is divided for the purposes of these Contracts into five divisions. Each contract or will be required to enter into a bond in the two separate sureties in the sum of £— for each division for cleansing, and £— for each division for watering, for the due performance of the several Contracts; and the consent, in writing, of the parties proposed as such sureties must be inclosed with the Tender. The Commissioners do not undertake to accept the lowest Tender in any case, or any, unless deemed satisfactory. No Tender will be received after TWELVE o'clock on the day of Sealing, nor will any Tender be received unless it contains inclosed the sum of £20 in Bank of England notes for each division tendered for, in evidence that the same is made bond fide, which sum of money will be returned to each person whose Tender is not accepted, but will be retained in the other cases until the contracts and bonds shall have been duly executed by the parties tendering and their sureties; and in case of such contracts and bonds not being duly executed, the said sums of money will be retained by and forfeited to the said Commissioners.
JOSEPH DAW, Principal Clerk.
Sewers Office, Guildhall, 4th April, 1863.

CONSERVATIVE LAND SOCIETY.—PUTNEY COMMON ESTATE.—TENDERS are invited for the execution of ROAD-MAKING and DRAINAGE WORKS, on the Society's Estate, at Roehampton, parish of Putney, Surrey. The following rough quantities are stated, in order to indicate approximately the extent of the proposed Works; but parties tendering will have to ascertain for themselves the true quantities:—
660 feet run of new road, 40 feet wide, including two footpaths.
400 feet run widening old road, including two footpaths.
312 feet run filling-in water course
170 feet run 3 ft. 2 in. by 2 ft. brick sewer, 4½ in. thick, with invert blocks.
202 feet run 9-in. pipe drains.
8 gully cesspools, including gratings and branch drains.
The plan, sections, details, and specification will be seen at the Office of the Society's Surveyor, Mr. JAMES WYLSON, 53, Norfolk-street, Strand, W.C. Parties to send in their Tenders on or before SATURDAY, APRIL 18. The Committee do not bind themselves to accept the lowest or any Tender.
53, Norfolk-street, Strand, W.C. April 9, 1863.

TO CONTRACTORS, BUILDERS, and ENGINEERS.—The DUBLIN EXHIBITION PALACE and WINTER GARDEN COMPANY (LIMITED) The Directors of this Company are prepared to receive TENDERS for ERECTING the BUILDINGS of the EXHIBITION PALACE, CONCERT ROOMS, and WINTER GARDENS, on the Company's Ground, situate in Hatch-street, and Earlsfort-terrace, Dublin, according to the plans, elevations, and specifications of ALFRED JONES, Esq. Architect, which may be seen at the Secretary's Office, No. 112, Grafton-street, and at the Office of the Architect, No. 3, Molesworth-street on and after the 7th instant. Parties wishing to procure copies of the specification and quantities may have them on application at the Secretary of the Company, and for which a charge will be made. Proposals to be furnished in two parts, viz. one for the Main Building, and one for the Winter Gardens, &c. or either of them singly. The Directors will not necessarily accept the lowest Tender, or any of them, if none should be approved of. The Tenders to be sent under seal to the Secretary's Office, addressed to the Chairman of the Building Committee, endorsed "Tenders for Building," on or before the 4th day of MAY, after which hour no Tenders will be received.—N.B. The 4th of MAY, and not the 25th of APRIL, will be the last day for receiving Tenders. By order,
HENRY PARKINSON, Sec.

STRADBROKE, SUFFOLK.—To BUILDERS.—Persons desirous of CONTRACTING for making considerable ADDITIONS and ALTERATIONS to STRADBROKE VICARAGE, may see the Plans and Specifications at my Office, Museum-street, Ipswich, on and after MONDAY, the 13th instant; and all Tenders are to be sent in, and addressed to the Rev. J. C. HYLE, Stradbroke, on or before SATURDAY, the 25th instant. The Incumbent does not bind himself to accept the lowest Tender.
Ipswich, 9th April, 1863 R. M. PHIPSON, Architect.

TO BUILDERS.—TENDERS are required for the ERECTION of a DWELLING-HOUSE, in the Bowroad Plans, &c. at the Architect's Office, Mr. GREEN, 25, College-hill, Cannon-street. The Advertiser does not bind himself to accept the lowest or any Tender.

TO ENGINEERS.—The Directors of the Bath Gas-Light and Coke Company are ready to receive TENDERS for providing and fixing a WROUGHT-IRON ROOF over a Coal Store about 100 feet long by 31 feet wide.—Particulars will be forwarded on application to Messrs. MANNERS & GRAY, 1, Walcot-buildings, Bath. The Tenders to be delivered at the Company's Offices, Upper Bristol-road, Bath, on or before the 3rd of MAY next, endorsed "Tender for Iron Roof of Coal Store." The lowest Tender will not necessarily be accepted.

TO BUILDERS. — Persons desirous of TENDERING for the erection of the NEW CATHOLIC CHURCH, Stourbridge, Mr. E. WELBY PUGIN, Architect, can see the plans and specifications, and obtain copies of the quantities, by applying to the Rev. WALTER KEEN, Presbytery, Stourbridge, on or after the 21st INSTANT. The Tenders to be sent in directed to the Rev. W. KEEN, by the 28th INSTANT. The lowest Tender will not necessarily be accepted.

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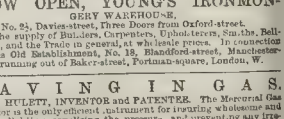
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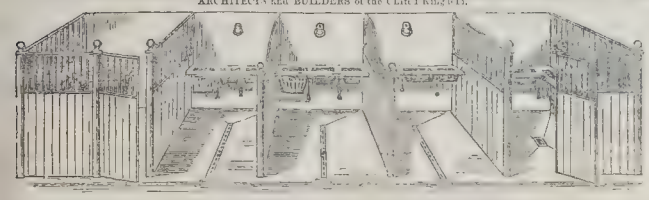
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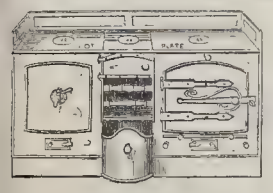
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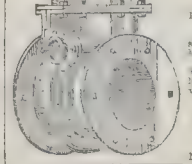
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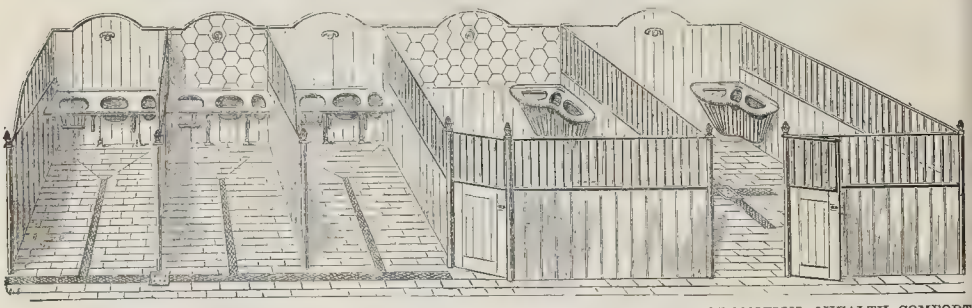
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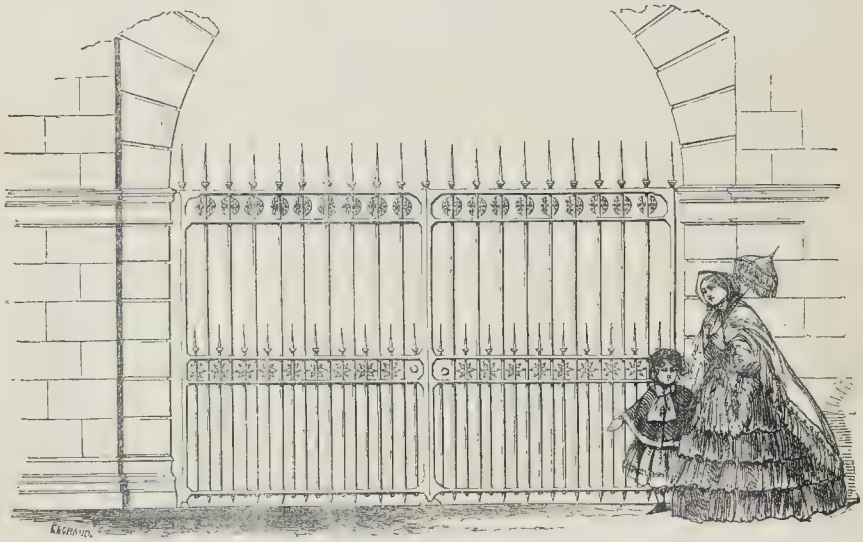
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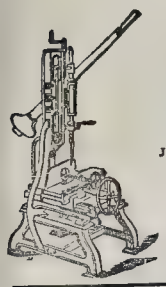
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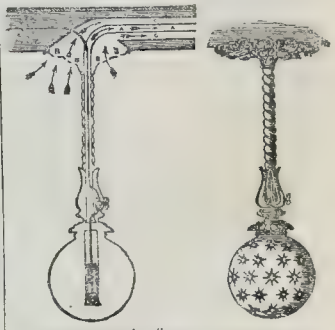
RANGES.
Self-acting Cottage, with Oven and Back Boiler.
30 inches ..... 22s.
32 ,, ... 24s.
34 ,, ... 26s.
36 ,, ... 28s.
Self-acting, with Bright Wrought Bars.
34 inches ..... 54s.
36 ,, ... 56s.
38 ,, ... 58s.
42 ,, ... 60s.
Best Cut Clasp and Rose Nails.
1½-in. 1¾-in. 2-in. 2½-in. 3-in.
14s. 14s. 13s. 12s. 11s. 6d. per cwt.
Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.



Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from, per inch, 5d.
Berlin Black, with Bright Bead, 35s. each.
Cast Rain-Water Pipe,
2-in. 2½-in. 3-in.
8d. 10d. 1s. per yard.
Cast Gutters, 4-in. 7d. per yard.
O G Gutters, with Clips on,
4-in. 4½-in.
11d. 1s. per yard.
GAS PIPES AND FITTINGS.
CHANDELIERS AND BRACKETS.

HART & SON
Ornamental Metal Workers in Iron, Silver, and Brass.
Chalices, patens, crosses, flower vases, lecterns, candlesticks, coronæ, standards, and brackets for lighting; gates, hinges, memorial brasses, &c., &c.
Catalogues on application.
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RICKET'S & HAMMOND'S
VENTILATING GLOBE LIGHT,
combining an agreeable method of lighting, with convenient simple, and efficient ventilation.



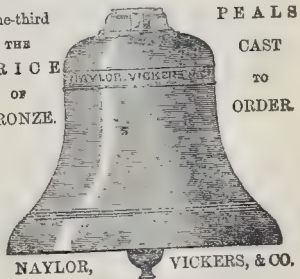
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A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 19 feet per hour.
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MEDIÆVAL METAL WORKERS AND GASFITTERS.



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CAST STEEL BELLS,
One-third THE PRICE OF BRONZE.



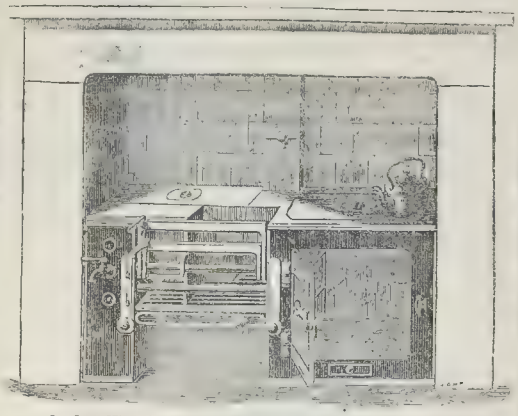
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Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.
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This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.
The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.
The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.
The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.
This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.
This Range, also Cundy's Mutum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK WARM AIR VENTILATING STOVE, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,



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PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.
THE NEW CRYSTAL STAR AND SUN LIGHT.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
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MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.
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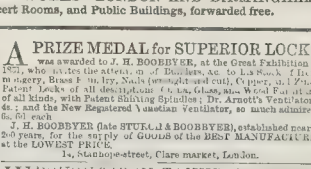
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" 17, [illegible]
" [illegible]
" 7, [illegible]

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They can be obtained of all Ironmongers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.
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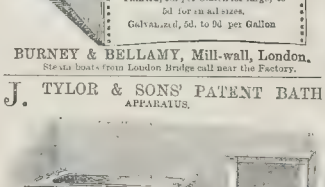
A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Furniture, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, Cocks, Glass, Wire Work, Fenders, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each
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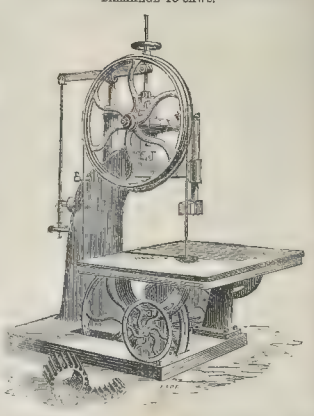
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Steam boats from London Bridge call near the Factory.

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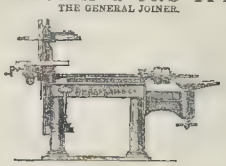
The bath and boiler may be fixed in the same or separate rooms anywhere below the level of the water system. Open or close fire at pleasure. No brewer's scullery to be required.
Estimates given from architects' drawings, or by inspection of buildings.
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(¼ inch scale)
This exceedingly useful and clever machine is adapted for sawing, circular sinking, grooving, tenoning, morticing, tenoning, moulding, and turning, and will be found invaluable to any joiners or builder's establishment. It is also specially useful for box making, and is fitted with a slide rule for sawing the sides of drawers, &c. For printed Illustrated Circulars, with full particulars, apply at the Works, Ann's Wharf-road, Chelsea, S.W.

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INTERNATIONAL EXHIBITION, 1862.
THOMAS ROBINSON and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
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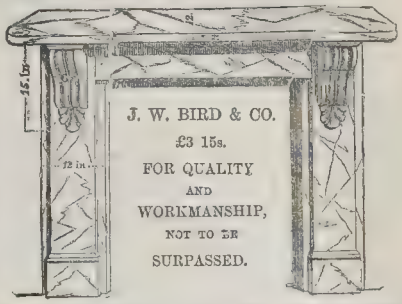
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20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
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Milled Lead in Sheet and Pipe of all sizes.

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HAS A GREATER BODY THAN WHITE LEAD,
and is 30 per cent cheaper, prevents corrosion of iron. Warranted genuine. Sold by T. HILLS, 7, Great Smith-street, Westminster. [illegible] forwarded on application.

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N.B. The [illegible] of T. KENT are [illegible] CROWDEN & GARROD, are [illegible]
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A perfect Substitute for Turpentine. It is suited to all the purposes for which that article is used. [illegible] It is found superior to ordinary Turpentine, and [illegible] the paint, and does not possess the [illegible] of Turpentine.
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Manufactured by
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PRIZE MEDAL, 1862.
HAMILTON & CO.
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
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VOL. XXI.—No. 1053.

Lancashire and Spitalfields.



HE condition of the Lancashire work-people is most unsatisfactory. The American struggle seems to be no nearer to a close than it was a year ago; and if even this terrible war were at once ended, it is not likely that we should have any immediate sufficient supply of cotton from the Southern States. In the twenty-one Unions in which the chief part of the cotton-manufacture has been carried forward there has been, in the fourteen weeks commencing with the second week of December last, a decrease of pauperism which, by the middle of last month, amounted to 59,720; but unfortunately there has been an increase of pauperism since that time; and it is important to remember that in the third week of March there were in those Union districts 220,050 persons receiving relief from the parish funds; while this multitude is but a part of the number of persons who are here destitute, and depending on the assistance of others for their daily food.

The sums which have been collected will, unless renewed exertions are made, be expended before many weeks have passed, and there will then be no other sufficient resource for this vast number of unemployed people than the poor-rates. Already many parishes are ill able to provide the money which is now needed, and the requirement will be largely increased in amount when the other resources are no longer available. The present position of affairs, in a monetary point of view, requires very careful consideration, not only by the Boards of Guardians of the Unions, but also by the Government and Parliament: the co-operation of all will be required to meet the trouble which is yet to come. Great, however, as is the difficulty in a pecuniary point of view, the forced and continued idleness, as we early said, of so many men and women, youths and girls, is a matter of even more serious import; for it is impossible, let the nature of the people be as good as it may, that this can be continued for any length of time without causing discontent and damage to that independent spirit which has heretofore distinguished the workman. Employment which will keep the minds and fingers busy is almost as necessary to mankind as food; but the puzzling question is, how is profitable work, under the present circumstances, to be obtained?

Emigration on an extensive scale has been suggested by many; and there is no doubt that a large number of the most intelligent of the Lancashire cotton hands would gladly take an opportunity of leaving the present distress, and trying to better their fortunes in distant lands, if it were afforded; but, in the hope of times improving, there is a numerous and influential class connected with the cotton manufacture who are strongly opposed to such plans, which they say would be the means of causing the loss of valuable workers in this branch of our national industry.

Touching emigration, there are several matters to be considered, such as the fitness of those who, for the greater part of their lives, have been accustomed to sedentary employment, for the description of out-door work which is needed in young and rising colonies. Strong, healthy young women, who have some turn for domestic management, would be gladly received in many homes far away over the sea; and the young members of Lancashire families would soon accommodate themselves to the altered conditions, and flourish in the new lands. But we have misgivings about the older hands, both male and female. Still the risk of partial failure in this respect would be but a small drawback from the amount of good that might be expected.

In connexion with emigration, we may mention that notice of motion has been given to the Canadian Assembly, to the effect "That an humble address be presented to the Governor General, praying that he may be graciously pleased to cause to be set apart not less than 500,000 acres of the public lands of this province, fit for settlement, and placed at the disposal of the Imperial Government, for the first settlement thereon of the distressed operatives of the mother-country; and that this House pledges itself to give effect to any legislation that may be required for the purpose of carrying out this resolution."

There is a hope for better days in future for Lancashire; but there is another district for more than two centuries past distinguished as the seat of an important branch of British industry, for which there seems no chance of future improvement,—we mean the silk district of Spitalfields and Bethnal-green, where there exists at the present time a far greater amount of real distress and actual starvation than (thanks to the relief funds) is to be found in the cotton districts. On this point we are convinced by a considerable amount of careful observation. In Spitalfields the distress which exists is intense, and every one, except a part of the silk-weavers themselves, sees that this must get worse instead of better. Years since attention was directed in the *Builder* to this numerous and worthy body of metropolitan workers; we showed how impossible it was that the hand-loom could continue to compete with profit to the weavers with steam machinery; and from time to time since then have felt it a painful duty to note the sure working of a certain social law. In order to compete with more rapid means of production, and with the cheaply wrought but tastefully-designed and well-coloured silks of foreign countries, the hand-loom weavers of East London called in the assistance of their sons and daughters, so that by their united exertions they might produce a weekly sum, barely equal to that which could formerly be earned by a single man or woman alone; and with extraordinary rapidity the Spitalfields weavers have fallen into such a state of distress that the most earnest exertions of a whole family are no longer (in the majority of instances) sufficient to provide the most common necessaries of life. The terrible condition of hundreds of these families can only be rightly conceived by those who have been called to move amongst them.

We look at the state of things which exists here with pity and alarm, for experience of the poorer classes of the metropolis assures us that without a helping hand there must in this district be a large addition made to the pauperism, vice, and crime of London. What is to become of all the young men and women, and boys and girls, who are here left without any present or future chance of working for their bread by that labour to which they have been accustomed? And so crowded are the paths of the various kinds of industry which do not depend particularly on skilled labour, that it is not easy to find an open one.

Already there are considerably more than one thousand inmates in the workhouse of Bethnal-green, and numerous weavers have applied for out-door assistance; for although some of them are in a complete state of starvation and destitution, they have the strongest objection to go with their families into the workhouse. To a certain extent, but only for a limited time, this aid has been allowed in very extreme cases. Some will blame the parish authorities for holding out inducements for perpetual pauperism rather than affording a little present relief but in this and the adjoining parishes the poor-rate is very heavy. Indeed, it would have been far more so if the past winter had been a hard one: as it is, many of those who pay the rates are almost in a state to claim relief themselves. It is, therefore, scarcely possible, under the circumstances, to treat the poor with that kind policy which in many cases would be of future advantage. Thoughts of this, and of what has met the eye in East London, show the necessity for an equalization of the poor-rates throughout all the parishes of the metropolitan districts. But the more particular question now is, what can be done to drag the families of the silk weavers from the pit into which they have fallen? And here, as in Lancashire, emigration suggests itself as a means of meeting the evil to a considerable extent. On a limited scale, and in a great measure by the bounty of a lady who is well known in this neighbourhood for her thoughtful kindness, this has been already successfully tried; and further pecuniary means are only needed to remove those starving people from all the chances of vice and degradation, ill-health or early death, which await them in their present situation. We have faith that, in this land, when the necessity is clearly understood, the generous minds of the possessors of wealth will not leave the means for carrying out such a purpose as we have hinted at unprovided.

There is one great advantage in emigration,—that it removes those who have been for long accustomed to particular pursuits, and from which they are unwilling to turn, even in adverse circumstances, to fresh scenes in which perforce they must direct the energies of both mind and body into fresh channels. The claims of the Lancashire people upon our care must not be overlooked by either the Government or by the public, but at the same time the sad state of the Spitalfields weavers should not be left without consideration; and if funds be raised to assist either of those classes to emigrate, economy in the use of the money will cause a greater amount of good. It might, therefore, be worth while to learn if the Government, without making a grant from the national exchequer, could be of much assistance by using some of the vessels provided for warlike purposes for a time for emigration purposes. We have great fleets upon the sea—huge and brave ships in harbours and dockyards—would it not be easy in a time of peace to spare a few of them to carry the distressed families from Lancashire and Spitalfields, where their labour is not just now in demand, to spots where it is in great request? While we were writing, inquests were held on the bodies of a poor man and poorer woman who died from destitution and fever in Bethnal-green; and evidence was given before Mr. John Humphreys, the coroner, of the awful state of things which exists in this district. The parochial medical officer said as to the house in which the family of the woman lived, twelve in number, it was his belief that if they were not removed at once, the whole of them would die from typhoid fever and starvation!!!

DISCOVERIES IN ROME.

The Church of S. Nicolo in Carcere has been closed for repairs during about seventeen years; but we are assured that the slow advancing works are, at last, near to completion, and that this ancient building amidst the quaint irregular streets near the Tiber, where once stood the Forum Olitorium (or vegetable market), beyond the line of the Servian walls, will be re-opened, restored in a style of splendour, but preserving

its leading features of basilica architecture, within six months hence. All are familiar with the story of the "Roman Daughter," and the prison consecrated into a temple of piety to commemorate the act by which she saved a parent's life,—one example of the reverence entertained for domestic virtue amidst whatever corruption of manners in ancient Rome. But archæologists have destroyed the claims once admitted for a spot supposed to be that story's theatre, the subterranean cell below a temple of the Republican period, included within the St. Nicholas church. That in this celebrated incident the relationship of the personages was different from that generally assumed, and often represented by art, a *mother*, not a *father* and daughter, being the real actors in the scene in which the life of one was saved by nourishment from the other's breast, must be admitted on the credit of the only reliable classic authorities by whom it is mentioned: Pliny, "Hist. Nat.," vii. 36, and Valerius Maximus, L v. c. 4. For the version which presents the subject, more pictorially indeed, as a *father's* life thus saved by a daughter, we have only the less trustworthy report of Solinus, "Polyhist.," and Festus, in "Pietate;" whilst Pliny states distinctly that the temple dedicated to Piety on that prison site (a *sacellum*, or chapel according to Solinus) was, among several edifices, swept away to make room for the theatre begun by Julius Cæsar and finished by Augustus, with dedication to Marcellus. The *other* Temple of Piety being in the immediate vicinity, we may understand how the two became confounded, and one at least positively mistaken for the other by ecclesiastic authorities, amidst the ignorance of Mediæval Rome in regard to all concerning her own antiquities. Till the fifth century of our era, it is supposed, this temple still remained entire; and in the ninth century was raised above its then ruined structure the church known as "St. Nicholas in the Prison," a name expressing the popular tradition,—source, no doubt, of a special privilege possessed by it from the time, it is said, of St. Damasus (who held this cure before becoming pope), namely, that all the prisons in Rome were subject to the jurisdiction of its clergy as pastors of their parochial centre. A benefactor and restorer of this parish church was the Cardinal Borgia, who became Pope Alexander VI.; and in 1599 was built the façade still standing, on an obscure piazza, from the design of Giacomo della Porta. Certain it is, that on this site stood the Temple of Piety, built, or at least founded, A.U.C. 573, in fulfilment of the vow made ten years previously by Acilius Glabro, on occasion of his victory over Antiochus, the Syrian king, at Thermopylæ; but *dedicated* by that conqueror's son, who placed before its front a gilt equestrian statue of his father, mentioned by Livy (l. xl., c. 34), as the first "*statua auratа*" seen in Rome. Earlier, about the end of the fifth century, a temple to Hope, near the same spot, had been dedicated by Attilius Calatinus, who triumphed over the Carthaginians in the year 497, and had twice been consul. This, first restored after a fire in 640, was rebuilt under Augustus, to be dedicated anew, after his death, by Germanicus; and in its extant ruins Canina points out one mutual feature, added on to the Ionic of the primitive building, in style evidently of the Early Imperial period (see *Esposizione Topog. di Roma Antica*). The third of the adjacent temples, here forming one group, was dedicated to Juno Sospita by the Censor Cornelius Cethegus, four years after he had vowed its erection, previously to engaging in battle with the Cisalpine Gauls and Insubrians, in the year of Rome 539. Of this last we have no further record, save in the catalogues of the Regionarics, Victor and Rufus, showing that it still existed, probably entire, about the end of the fourth century of our era.

The first excavations with the object of discovering these ruins under the church by which all these temples had been absorbed, buried beneath modern buildings, were, in 1808, directed by the architect Valadier; and the results led to establishing beyond all doubt the fact that the three fanes had stood parallel from east to west, the central being that to Piety, and of largest dimensions, approached from the Forum Olitorium by fifteen steps, its entire area measuring 105 feet by 50 feet. Surrounded by a Doric peristyle of fluted columns in peperino, with six in double file along the front and back, eleven in single file along each side, it was therefore a hexastyle-pseudodipteros. A portion of the pedestal for the equestrian figure of Acilius Glabro was dug up near its front, so placed that it appeared to have divided the first ten steps of the outer staircase into two branches; and along the remains of a projecting basement or socle, adorning the façade, were found several quadrate niches between pilasters, destined, as Nibby infers, for the bronze tablets of Fasti, here displayed to public view on the Forum. Opposite is supposed to have stood the Columna Lactaria, a pillar at which it was the inhuman practice of Paganism to leave infants exposed for the chance of being taken to nurse by some compassionate stranger. The church of St. Nicholas has arcades and columns, dividing nave and aisles under a flat coppered ceiling, the Corinthian capitals and marble shafts being unequal, and from their irregularity manifestly the spoils of some classic and splendid edifice. We descend into the *confessional*, an elliptic chamber recently constructed below the high altar, and thence pass through a spacious modern vault, under the sanctuary, into a long dark corridor, vaulted in modern brickwork, along each side of which runs a substructure in enormous square blocks of travertine, interrupted at irregular intervals by small quadrate cells, whose walls are of peperino, alike massive; all of the same dimensions; scarcely in any part ruinous, but without inclosure or any remnant of walls in front; and this absence both of masonry and doorways to guard the entrances, certainly does not consist with the theory of *imprisonment* being the destined purpose of these interiors. The old custode, whose one idea on the subject is continually dinged into our ears with repetition of the word, "*carcere, carcere*," improves, indeed, on the favourite version of the "Roman Daughter" story, by converting the *mother* not merely into a *father*, but a senator of Imperial Rome, who was undoubtedly confined here!

The above described travertine structure is surmounted at regular intervals by the basements and shafts of a peperino colonnade, here seen in very imperfect glimpses, the upper part of all the pillars being built up in the church walls above. Hence we pass into two other parallel corridors, each lined, but only along one side, with similar cells constructed in peperino, opening from a projecting front of travertine. At one end of the corridor running southwards we reach a flight of steps, antique, leading to a doorway, and this egress opens on a narrow winding passage now blocked up, at a short distance, by fallen masonry. The walls, each side of this doorway, are reduced to mere rubble-work, without any incrustation of hewn stone; and the custode sagaciously assures us that this mysterious passage leads as far as the basilica of St. Sebastian on the Appian Way, at least three miles distant! A large chamber, in masonry, similar to that of the cells, opens at the end of one corridor; and another, still larger, is now only visible through a gap in the modern walls, completely shut in by the restored vaults under the church's tribune. The shaft and Doric capital of one of the columns, imperfectly seen below, is recognized, half embedded in a niche, after we have returned to the aisle of the church; and opposite, in the southern line of walls, are partly visible some other peperino columns, of which seven may be fully seen from a narrow court external to the building on this side. In another court off the northern side are several fragments of architectural ornament, some in marble, now set into a wall for better display, their rich character in a few instances contrasted with the simplicity distinguishing all else in these ruins. More interesting is what we see after ascending to a platform immediately under the old belfry, where we stand between two files of walls and cornices,—to the north the Temple of Hope, to the south that of Piety, alike built in peperino, one loftier than the other, with cornice better preserved, the details of the egg-moulding still clear, though not unworn by time, with a frieze below, along which are numerous indentures, evidently the holes for nails by which were fastened letters of a vanished inscription. The opposite lower cornice is less perfect and less strongly marked in its relief details. Still higher, ascending to another terrace, we see several courses of the masonry belonging to the Temple of Piety; and these terminate in a broken arch of very massive structure, the complete span of which must have been considerable. Among antiques appropriated to sacred use in the church is a sarcophagus of the finest green porphyry, with two expressive Medusa heads in low relief on each front, this being destined for the relics under the high altar, to be surmounted by a canopy resting on four columns of Oriental alabaster.

The excavations on the height immediately above the Antonine Thermæ are continuing, as has been the case during the last six years; but now, apparently, rather in the object of giving employment to the youths of the reformatory for juvenile culprits located at this old convent than with any expectation of great results. Several brick constructions, in the style of the later imperial period, and a series of parallel arched chambers with entrances walled up, under one wing of the inhabited buildings, attest the foundation of some extensive edifice on this elevated ground. For some time archæologists were at a loss to divine further, still less determine, when the discovery, in '59, of a few words on a water-pipe, proved sufficient to identify beyond doubt:

ABI CHILONIS PRAEF VRB,

explaining the destination of this site for the palace of Fabius Chilo, the Domus Cilonis of the Regionaries, its master having been prefect of Rome, consul in the years 193 and 204, and at one time preceptor of Antoninus Caracalla, who was on the point of sacrificing him, together with the countless other victims put to death after the murder of Geta, as suspected friends of that higher victim. Some of the brickwork ruins have been swept away since the discovery here; and we were sorry to observe the dilapidation of a more important structure in their vicinity, described and engraved in Sir Wm. Gell's "Topography of Rome;"—a remnant of the Servian fortifications against the declivity on which this convent stands now built into the inclosure wall on the side overlooking the valley between this and the Palatine Hill. Only two courses, in large squared blocks of volcanic Alban stone, are left—considerably less than appears in Gell's pages.

Some time ago a proprietor of enterprise in such undertakings, Signor Guidi, began other excavations not far from this spot, immediately below the southern end of the Antonine Thermæ, outside the great inclosed area of those ruins, though within the quadrangle of porticoes and chambers once surrounding them,—now, indeed, almost entirely lost save on one side. Two stories of subterranean halls, apparently independent of the Baths, and belonging to some splendid residence, were here uncovered (for the most part within the last few weeks), both having pavements in black and white mosaic, of gracefully-designed floral and foliage subjects, but without figures or other representations. The walls are covered with colour, mostly deep red, divided by quadrate borders of different tints; and within these compartments are figures, some well preserved, others scarce traceable. Most of the mosaic pavement has fallen in from the upper story, encumbering the floor below, to which we can only descend by a ladder, no staircase remaining. But the principal extent of halls is still subterranean, there being in this part but one story under the ground cultivated as a garden immediately above. Here the wall paintings are more perfect, and cover almost the entire surface; but as they became inaccessible, owing to the influx of water from an inundation of the Tiber, shortly after their recent discovery, and the works have been in consequence suspended, we are unable to supply fuller report as to these interiors in their present state.

The activity within the sphere of sacred archæologic pursuits and research for their illustration under the present pontificate has demanded a special record of results; and this desideratum is promised satisfaction, with all possible advantages of intelligent interpretation, by a monthly issue from the pen of Di Rossi, first among living authorities on Christian antiquity in Rome. His "*Bulletino di Archeologia Cristiana*" began its welcome career last January, in pamphlet form of ample contents, with facsimile epigraphs and outline engravings occasionally interspersed over the text, and has hitherto proved indeed worthy of its distinguished editor. The first number gives a full account of the discoveries under his direction in the Catacombs on the Appian Way, begun in 1848, and resulting, two years later, in the opening of a crypt, at the foot of its ancient staircase, adorned by paintings, among the most important yet found in these Christian hypogees; also, the opening, in 1857, of another crypt belonging to the catacombs of Pratextatus, whose vaulted roof is covered with paintings of much beauty, ascribable, as here shown, to the period of the Antonine Emperors. The second number reports with full details on the subterranean church of S. Clemente, and its interesting archaic contents, some of its paintings being ascribed by Di Rossi to the ninth, others to the tenth and the latter years of the eleventh century. Elsewhere are described the frescoes lately found in the most ancient section of the S. Lorenzo basilica: the Virgin and Child, and the figures of five male and five female saints in this grouping, are allowed claims to antiquity at least as high as the tenth century. Besides this new periodical we have the Bulletin of the

Archæological Institute, conducted by the Germans, to whom that association pertains; also monthly, and very well compiled, but rather appropriated to classic than sacred antiquity; nor is there any other regular report of archæological researches in Rome save at the sessions of *Accademie*—amidst which deficiencies we have the greater reason to hail with pleasure the undertaking of Di Rossi.

The site of the ancient Aricia, but the highest point of which is occupied by the modern village of that name, is now being excavated by Signor Fortunati, to whose exploring energies we owe the discovery of the beautifully-painted tombs and the St. Stephen basilica, on the Latin Way. A private society for excavating purposes has lately found the remains of an antique villa on the Campagna, near a village named Prima Porta, on the Tiber; and close to the little port on that river, within the city, was recently disinterred a pedestal bearing the dedication, *Divo Antonino*.

Casts from all the reliefs referring to Trajan, on the Arch of Constantine, have been executed for the Emperor of France; and, thus reproduced, these noble sculptures may be far better appreciated.

THE ARCHITECTURAL EXHIBITION.

Continuing our notice, we come to a work by Mr. E. C. Robins, a "Design for the Ornamentation of Lambeth Bridge" (191). Two octagonal turrets on each pier, Gothic and "Perpendicular" in character, with pyramidal cappings, balconies, and panelling, and an ornamental railing, constitute the design, which, though calculated to improve the appearance of the bridge, has too much of the character of masonry, for work which would probably be executed in iron. Amongst several works by Mr. I'Anson, that have added something of value to the architecture of the City, we find illustrated in the Exhibition, the building No. 83, Lombard-street (272), that adjoins his Colonial Assurance Office, which latter is illustrated in the same drawing (276) with the Colonial Chambers, Fenchurch-street; the Royal Exchange Buildings, Cornhill; and the Argus Life Office, Pall-mall. The newer building in Lombard-street is a narrow and lofty pile, harmonizing in general character, and in the main lines, with the work next to it, yet plainly a different building. The lower story, which is a shop, presents a simple elliptical arch of polished red granite, and piers; the principal stories above, have the piers between the windows and at the angles finished with capitals; a peculiar balcony projects from a window in one story; and forming the top story, is an open loggia. Above the cornice is a dormer window, decoratively treated, and a Mansard roof. This work is very suggestive in a town like London, where narrow fronts are the rule, and horizontal cornices as terminations are usually ill-managed. The Colonial Chambers design is suggestive of architecture that may be made consistent with use of large surfaces of glass; whilst the Corn Exchange Chambers, Seething-lane (138), are remarkable in London for the attention paid to grouping of the windows, and the manner in which with the help of shields on the central piers, an appearance of symmetry is given, notwithstanding that the entrance doorway is out of the centre. Amongst the other drawings of London buildings which we have not been able to mention, are those of Mr. Morgan's barracks now nearly completed at Chelsea, near the Suspension Bridge, for the Guards (209, 210). The frame containing a plan is so badly hung, that we are not able to make out many of its features; so, we cannot tell whether the solutions of several problems discussed in our pages on the occasion of the original competition, have been made by a civil architect. We see however that each barrack-room is lighted by windows on opposite sides, causing the great length of the main building; but there are many blocks detached on the further side of the parade, and not seen from the road. The front range of building has well-arranged masses, but there is less taste in the management of the details of coloured materials; and the flanking turrets of the centre of the front are terminated very abruptly; and the whole front suffers in consequence. The "New Building in Paternoster-row, for Messrs. Longman," is shown in a drawing (286) by Messrs. J. Griffith & H. Dawson. Certain details, such as the chamfering to the architraves, we would rather have had different; but the work generally, deserved to be seen under better circumstances of site, than those of "the Row." Mr. Owen Jones contributes elevations of three of his buildings, including St. James's Hall, the Piccadilly front (323), the "Garden Front, No. 3, Kensington Palace Gardens" (333), and "Messrs. Osler's House, Oxford-street" (336), and eight of his original drawings for the Victoria Psalter (357 and 365). Mr. C. J. Richardson exhibits a view of "Queen's Gate Lodge, Hyde Park" (326). The portico has columns at the angles, coupled: one column of each pair is rusticated with blocks, whilst the other has the shaft plain. The effect is not good: a square pier for the angle, or one broad on the face, or an end of the wall with an *anta*, would any one of them have been better. The interior of a "New Music Hall to be erected in London," from the designs of Mr. H. H. Collins, is shown in No. 329. It will be remarkable as having two tiers of galleries, the upper tier apparently being formed into private boxes. Mr. J. W. Papworth's "Alternative Sketches for a School with Teacher's Dwellings" (111), Gothic, are less pleasing in appearance than his "Preliminary Sketch for a Pair of Houses at Kensington" (113), and his "Additions and Alterations at Streatham" (126); though the window-heads in one of these, might have been advantageously left without chamfering, and the finials could not stand as they are shown. The cornice (with *chenau*), and the dormer-window, are however managed in a manner to make the whole design productive of considerable effect.

Mr. Lamb's works (Nos. 155, 159, 160, 164, 165, 169, 170), whereof we have already referred to a design shown in one small sketch, include drawings of churches, schools, mansions, cottages, stables, and other buildings, besides studies. Most of the works are remarkable for a considerable amount of design, both in details and grouping. In some of the number however, as in the "New Wing, Nun Appleton, near Tadcaster," *repose* is lacking, and from the very quantity of detail in brickwork, that has been introduced. His "Aldwork Manor House," near York, in the same material, is more pleasing. The Ball-room at Montreal, Seven Oaks, is characterized by an arrangement of four segmental-arched trussed ribs, supporting the ceiling, and dividing it into nine equal compartments,—the room being square in plan. The compartments at the angles again are divided diagonally, by less prominent mouldings; so that there is an octagon within the square of the whole ceiling. The centre one of the nine compartments is made the most ornamental. Much might be got out of such an idea for a ceiling. In the Assembly Room of the Town Hall, Berkhampstead, a building Gothic in style, and very suitable in character for the chief public building of a small town, — the side compartments of the span of the ceiling, which are flat, are divided by spandril brackets, or cantilevers, to the tie-beam; but the middle compartments take the form of a waggon-headed vault; thus useful addition of height to a low room is got out of the space between the queen-posts, and novel and decorative character are made to result. One of the best of the designs, is one for the "Principal Entrance for the Public Garden, Oporto, to be erected." This work is Italian, and ornate in character, in both respects differing from the majority of the designs. Amongst Mr. Lamb's studies is one for an arrangement of window, novel and adapted to his variation of Domestic Gothic architecture. It is divided by a transom; but there is no mullion, except in the upper half of the window. The transom in fact takes partly the form of a low four-centred arch to the lower half, which is filled in with a sash. By the arrangement, there is no impediment to leaning out from the window, or to view of the country; and it has evidently become a favourite arrangement with its author. But we apprehend that the window would not open at the top. Now that it is generally felt that rooms cannot be ventilated unless the windows open both at top and bottom, a recurrence to the old system of hanging the lower sash only, cannot be viewed favourably.

A view of the interior of the Oxford Corn Exchange (271) is exhibited by Mr. S. L. Seckham. The most prominent feature, besides the open roof, is a gallery which is carried on segmental arches that spring from corbels, and from which depend the globular lights. Red, yellow, and black brickwork in piers, and some Gothic details, give the general character. The slopes of the roof up to the queen-posts are glazed; whilst a *plafond* or ceiling is formed on the collar, divided into panels, and having the chief parts enriched with colour.

A view (192) of the hotel which is in course of erection at Brighton, in the King's-road, for a company, is shown by the architect, Mr. John Whichcord, who we can hardly say has made the design very effective, or overcome the difficulty of combining verandahs and balconies with details of the structure itself. These latter are Italian, so far as they can be described. The building will have considerable height, there being six stories of balconies above the ground-line, or level of the esplanade, besides stories in end portions of the building, forming towers or pavilions; and there is a frontage on the beach to a story below the esplanade.

Efforts continue to be made to combine the use of coloured materials with Pointed arches and details more or less Gothic; but there is little mitigation of the harshness of the colours and forms that has so long characterized the attempts. Drawings indeed generally show the red, black, and blue, much too glaring, even taking the building as seen when new; and smoky atmosphere obscures the effect of brickwork even, with great rapidity. But judging from designs and works, the idea seems to prevail that arches need only be pointed, and black and colour in archivolts and courses, only introduced, to make *ipso facto* good architecture. Some of the works to be seen now-a-days, and for which we hardly know whether we ought to credit the copyism of Italian Gothic, or sheer want of art-feeling, would have been discreditable in the worst days of "Carpenters' Gothic," or of thirty to forty years ago. We will not name the worst of the productions which are in the Exhibition, that justify these observations; but one that we have in mind, is the case of a building in a very prominent position in London. If it should be said, as lately by some, that there is nothing in the form itself of the pointed arch, to recommend it, or not, we have more than doubt whether a form that is almost that of a lancet, should be used in a building having several stories, when the form has no office beyond what would be attained by that of a relieving arch of less rise, and beyond the framing-in of a space filled with red and black brickwork, or tiles, innocent of any beautiful or remarkable feature of interlacement or pattern. Much work of this class seems lately to have been produced in the northern and midland manufacturing towns; and doubtless, that has been with a view of answering to the demand for something that might not be discoloured by smoke. If any one will look, however, at the effect of decorative brick buildings in London that may have been admired at the time of their erection, and have had but half-a-dozen years' life and exposure, he may be surprised at the slight evidence that they afford of any very surpassing advantages of brick, as the material generally is and when applied decoratively. Glazed surfaces, if used, are the only parts that retain their pristine freshness: so that in point of fact, the original balance is destroyed; the contrast between the clean and the blackened surfaces becomes yearly greater and greater; and the building looks dirtier than otherwise it would. It would not be within the scope of the notice of an exhibition, to seek a remedy for this condition of things: the question of smoke-nuisance is forcing itself into recollection continually, and when we are treating many subjects: we here content ourselves in reiterating that it is almost hopeless to look for good art in architecture, so long as the nuisance continues, and in saying that the recourse to brickwork by no means purchases immunity from the difficulty. The subject arises in connexion with the Architectural Exhibition, only because of the evidence which the display of drawings in Conduit-street annually affords, not merely of partial failure in intended effect, such as we have spoken of, but also of prejudicial results on the art of those who, responding to such demands as we have seen expressed by newspaper writers and others who have supposed architects to be blind to the capabilities of brick, make great display of the coloured materials. In Birmingham especially, some of the architects are frequently aiming at effects through the medium of these materials, with Gothic details, and in buildings in the principal streets of the town. A drawing of a structure of the class at Birmingham, an ironmonger's shop, erected from his designs, is exhibited by Mr. J. G. Bland (289). It has some good features, but with them are others meant to be Gothic, which are harsh and objectionable. Such are the forms of the heads of the windows,—albeit here, curves with centres below the line of springing, and not lancet arches, are used. Whether the resultant effect be due to want of harmony with other and what is general street-architecture, we cannot exactly determine: but those who are making like attempts with this kind of materials, should be told that they have not yet succeeded in affording a sufficient substitute for stone, or the art which is demanded in architecture. The architect above named, exhibits a drawing (133) of another

building, but in a different style, in the same town, "The Gold Pen Manufactory," erected for Mr. Wiley. Altogether, in it, there is such an amount of work attempted by colour, or recesses and projections of brickwork, that we are offended when we come to the sky-line, and find a want of symmetry between one of the two pyramidal roof-capped towers, and a portion of an attic story, with tall chimney, in the same front. There are merits, however, that call for recognition, in the use of the arch-headed recesses in which the windows are placed, and in the treatment of the upper portion of the building as an arcade enclosing two tiers of coupled window-lights.

Several designs, all Gothic, and having a strong family likeness, are shown by Mr. J. P. Jones. Defects in them, are not of the style, and ought to be corrected, for the realization of full value from the features which the architect shows he can design. We apprehend it is a defect, as in the building in Essex (exact site not stated in the catalogue) to plunge a clock-tower into the angle of a structure, or without either corbelling, or lines rising from the ground. In the same work (drawing No. 65) a want of symmetry seems to be expressly designed. One half of the structure has an arcade on the ground story: the other half has no such feature; but has a loggia in the story above ground. These things *may be* right; but they are not according to teaching when we were young, and not yet abandoned. It is difficult, nay impossible, whilst undesirable, to put into words, rules for everything; but there must be something capable of enunciation on this matter of symmetry, to tranquillize the minds of perverts or of those who only may become such. The modern practice of providing for a multitude of objects or occupations in one building, however, creates great difficulty, and has no doubt tended to prevalence of a style in which want of the *classic* symmetry has not been thought a disadvantage. The present design seems from the title, to include more than one institution, besides an important residence. The "Proposed Municipal Offices for Stockport" (308) by the same hand, are better, because having at least a symmetrical arrangement of centre and wings, which the contrary treatment of the ground story does not overcome. The ends of the roof are carried up in the manner of pavilion roofs; but the architect appears to prefer with such roofs, the arrangement of an unbroken front, and the omission of lines rising from the ground. We would only say, we hope there are reasons for such variations, at least in the architect's own mind, other than the mere desire of doing differently. The same architect, contributes one to the large number of towers, which,—erected as memorials, or in market-places, where they carry a clock and bell,—have now sufficient resemblance to constitute a class in the buildings of this second half of the century. The design now before us, which, though plain, is not the worse for that, is for the "Albert Tower, to be erected near Eastbourne" (273). The "Prince Consort Memorial Design for Clock Tower, at Hastings" (68), by Mr. R. O. Harris, is of the same family: but the design, so far as we can see the drawing, appears more elaborate in its coloured brickwork, and its stone lantern. A design for a memorial to the late Prince, by a different hand (69), is not a favourable presentation of the obelisk form of monument. In this case, the base is surrounded by columns, each of the four fronts being concave on plan. Neither is another architect successful in a different treatment of the obelisk form, in a design (335) for a different memorial, in banding the obelisk (here made octagonal on plan), with horizontal red lines, no doubt of brick. There is much to be said on both sides of the question of the use of the obelisk form; but, should assent be given to the use, the æsthetic principle, as well as the structural, of the single stone, would be found correct. The pedestal in this design has Gothic details; a second design (207), by the same architect, is Classical.

Another article will conclude our series of notices of the drawings in this Exhibition.

ON MEDIÆVAL STUDIES IN PALESTINE.

A lecture on the above subject was delivered on Tuesday evening last in the Theatre of the South Kensington Museum, before the members of the Architectural Museum, by Mr. G. J. Wigley. He said that the latest illustrations of the interesting subject on which he was about to address them were the complete set of photographs by Salzmann, taken in the year 1854, during his (Mr. Wigley's) sojourn in the Holy Land, and which were afterwards publicly exhibited at the Crystal Palace. There was also a very beautiful set of photographs of some interesting Mediæval monuments in Palestine, taken by Mr. F. Bedford, who accompanied the Prince of Wales on his tour through the East, and which were then in the room. There was at the present day quite a constellation of authors who had written, not only about the Holy Land, but more particularly about the remains of ancient architecture which were scattered over it. Amongst these the work by the Rev. George Williams, of King's College, Cambridge, entitled, "The Holy City," was especially worthy of being noticed as containing a description of some of the Mediæval monuments in Palestine which possessed the greatest amount of interest for the student, the architect, and the antiquary. The crowning work, however, upon the Mediæval architecture of the Holy Land, was undoubtedly that of his (the lecturer's) fellow-traveller, Melchior de Vogüé; and the present lecture would be more or less a review of portions of that able and instructive work. First as to the architectural importance of the Holy Land. People who were not well acquainted with the subject were under the impression that it contained a great many ruins, but was a country that was of very little importance, architecturally speaking. That was a great mistake. It was in the Holy Land that the Christian school of architecture was first developed. From the time that our countrywoman, the Empress St. Helena, visited the Holy Places, in the beginning of the fourth century, until the conquest of Syria by the Mahommedans in the beginning of the seventh century, the Holy Land was jewelled all over with Christian churches; and if but few of them, comparatively speaking, were remaining, it was because the power of destruction possessed by the Turks was greater than the power of construction possessed by the Christians. At Bethlehem, the birthplace of our blessed Lord, there still stood a basilica, containing vestibule, transept, nave, and double aisles on both sides, with columns. An able writer attributed the basilica to Justinian; but on comparing the masonry, the style, and the details with the well-known church of Justinian at Jerusalem, there could be no doubt that the basilica of Bethlehem must be attributed to a much earlier period, and most probably, as was the almost universal opinion, to the reign of Constantine. The basilica possessed all the most admired features of the Roman school, with others which were peculiar to itself. Its columns were of the red marble found in that country. The length of the church was about 200 feet; and an additional proof as to the time of its construction was furnished by its straight cornice supported by columns, as was common in the time of Constantine, and not by arches, as in the time of Justinian. The basilica had been adorned in many parts with mosaics by Greek artists. The roof was originally open, as in the case of the basilicas at Rome. The roof had, however, been frequently renewed, the last time with the assistance of Edward IV. of England, who furnished the lead for the purpose, the Duke of Burgundy paying the residue of the expenses. The lead had long since gone into the melting-pot to make bullets for the Turks. It was last repaired in the year 1842. This was the first and earliest Christian monument in the Holy Land, and perhaps in the world. Of all the objects which are invested with a great amount of attraction for European travellers in the Holy Land, the foremost is the Holy Sepulchre. There was much reliable information extant as to the different churches that were raised on its site or in its immediate vicinity. It was stated by Eusebius that Constantine built there a large basilica, very much of the same charcter doubtless as that erected at Bethlehem. It had, according to him, double aisles on both sides, and also a magnificent gallery over those aisles, of which the triforiums in our cathedrals represent a feature, but on a very small scale. According to generally received opinion, the Holy Sepulchre must have been in the very centre of the basilica of Constantine. The basilica was destroyed in the seventh century. It was repaired subsequently, but with very much less means than Constantine could have devoted to the purpose, or than were necessary for its restoration; but it is believed that the semicircle marked out by the apse of the basilica was made into a circle in the reconstruction of the building. The first basilica is spoken of by Antoninus, of Piacenza, as having had its altar in front of the Holy Sepulchre; so that the latter was not left in a kind of churchyard, an opinion which some persons entertained. Such was its position at the time of Constantine, and for some centuries afterwards. After the destruction of the building in the seventh century, the Holy Sepulchre became the centre of a group of detached chapels, covering different sanctuaries. They were the small chapel over Calvary; the rotunda over the Holy Sepulchre; the little church of St. Helena, stretching out at a much lower level, and several others. So they continued until the eleventh century; but in the year 1010 many of the churches of Palestine were destroyed by order of the Caliph Hakem. The churches of the Holy Sepulchre were, however, afterwards restored very much to their former state. On the arrival of the Crusaders in 1099, the several churches underwent a complete renovation. The Crusaders did not destroy anything they found: on the contrary, they restored and completed that which had been wholly or partially destroyed. They used the rotunda of the Holy Sepulchre as the nave of their new church, and added a sanctuary and transept, which it might well be conjectured occupied the position of the nave and aisles of the basilica of Constantine. The Holy Sepulchre stood at the west end of the present church; and there was good reason for that arrangement. When Constantine built the church there, the whole of the rocks which surrounded the hill of Calvary, and the rock in the flank of which the Holy Sepulchre had been cut, after the fashion of Jewish sepulchres, was almost all carved away; and the Holy Sepulchre, in fact, remained merely as a shell of rock; and it was impossible that the excavation could have been carried farther westward for the purpose of placing the nave and aisles in that direction, as the level would have been much higher than the sanctuary itself. For these reasons the great body of the basilica of Constantine and of the present buildings was placed to the east of the Holy Sepulchre. The style of the church built there by the Crusaders corresponded with the European style of that date. It is conjectured to have been opened about the year 1140, and it possesses all the characteristics of the Romanesque style of that period, more particularly as it was adopted in the erection of French churches. It had, however, a marked characteristic, which distinguished it from the churches of Europe, namely, that its arches were pointed. This example of the pointed arch was not by any means unique, as pointed arches were to be found in almost all the churches of Palestine, even in those which were built at a very much earlier period than the time of the introduction of the pointed arch into Europe. There were, he believed, only two churches in Syria and Palestine in which semicircular arches were to be found; but in these cases pointed arches were also to be found. At the time of the Crusaders the pointed arch was universally used throughout the East; numerous instances of it were to be found, for instance, in the mosques of Damascus and Cairo. The Crusaders adopted the prevailing fashion, and in the carrying of it out they employed the workmen of the country; nor did they confine their adoption of the style of the country to the pointed arch; they extended it also to numerous details of ornamentation. On this subject of the pointed arch he was somewhat at variance with his author, M. Melchior de Vogüé, who evidenced in his work in this respect a little feeling of nationality, and had a leaning towards the Gothic of France, and he took him (the lecturer) to task for asserting that the Pointed architecture of the twelfth century proceeded from the Holy Land. It was admitted in the volume that all the buildings erected by the Crusaders had pointed arches throughout, but it was asserted that the pointed arch existed partially, at least, throughout Europe at the same period, and that even if it had not existed at all in the Holy Land, it would have grown up in Europe as it has done. It was much to be doubted whether facts warrant such a conclusion. The churches of the East built at the commencement of the twelfth century were filled with pointed arches,—in a whole series of churches to the number of sixty, that existed still of the time of the Crusades, they were to be found. At that period the attention of Europe was directed to the Holy Land, and the result was the introduction, to some extent at least, of Eastern customs, policy, and laws, and he (the lecturer) had also come to the conclusion that it resulted also in the adoption throughout Europe of the pointed arch. He was aware that the Gothic style, so far as it could be called a style, was chiefly made up from the Romanesque school. Its plans, arrangement, and outlines certainly proceeded from that school; but it seemed to have received from the Holy Land its finishing touch and impulse, namely, the pointed arch. The church of the Holy Sepulchre was not the only example of Mediæval architecture in Jerusalem. Count Beugnot mentioned in his work on the Assizes of Jerusalem that he found amongst the MS. of a French

library records of no less than twenty churches built by the Crusaders in Jerusalem, and the whole or portions of each of them could still be identified. The next in point of importance to that of the Holy Sepulchre was the Church of St. Anne, at the north-eastern extremity of Jerusalem. It is supposed to have been built very soon after the Church of the Holy Sepulchre, and is 120 feet long by 60 feet wide, the centre nave being 24 feet, and the aisles 18 feet wide. It had no triforium, which hardly existed in the case of any church of the twelfth century throughout the Holy Land. The vaulting was groined without ribs—with plain waggon vault in its transepts. It was only towards the end of the twelfth century that ribs were introduced in vaulting. Over the centre of the transept the church was lighted by a cupola. The cupola was to be found in many of the churches of the East; it was borrowed from the Arabs, and afterwards introduced into southern Europe. The adoption of terraced roofs allowed the architects to treat their space much more agreeably than was found to be the case in the churches of the West. It was seldom that any sign of a belfry was to be found. In the Church of St. Anne a tower or minaret now existed, which did not form part of the original structure. It was, in fact, built in the year 1842, while the church was used as a mosque. He was happy to say that it had ceased to be a mosque, as in the year 1856 it was presented by the Sultan to the Emperor of the French, and it was likely soon to resume its character as a Christian church. A French architect had been sent out with a view to its restoration, and it was to be hoped he would treat it in a conscientious manner, so that in truth it would be a complete restoration. After the Church of St. Anne, the building that attracted especial notice from all European visitors in Jerusalem was all that now stood of the Great Knights' Hospital of St. John. He regretted to say that very little remained of it. The church which was originally attached to it was nearly destroyed. There were a few arches still to be seen, but they were disfigured by being not only the ruins of a Christian church, but also of a mosque, into which it had been turned. The space occupied by the Great Hospital stretched right into the town. It now looked like a field covered with grass, which covered arches and architectural remains. The hospital was a large square double-storied cloister, around which the buildings extended; the entire occupying a very considerable area. It is said by historians to have afforded accommodation to 2,000 sick persons and to 400 knights. The only striking architectural features to be seen at present of the Great Hospital were a series of five or six arches that now formed a part of one of the streets of the bazaar, and also some curious arches, evidently belonging to the Great Hospital, but now forming a part of the little Greek church, called the Church of St. John the Baptist, which was erected, as the Greeks contend, on the spot where the town house of Zacharias stood. The Church of St. Mary the Great, so called to distinguish it from another church, called the Church of St. Mary the Less, is supposed to have been built by the community from which the Knights of St. John ultimately arose. Towards the beginning of the eleventh century, certain merchants of the town of Amalfi, in the kingdom of Naples, who were in a very prosperous position, rebuilt the hospital close to the Church of the Holy Sepulchre, and called it the Church of St. Mary the Latin. They built also a place of residence for female pilgrims, which was in the hands of a community at the end of the twelfth century. There still remains part of the north wall, and also of the cloister adjoining it, though it has been very much altered in character by the repairs which, from time to time, it underwent. The peculiar characteristic of that church, by which it is distinguished from the Church of St. Anne, is that, although the greater number of its arches were pointed, the side window on the north side, as well as the doorway, were semi-circular, and it also displayed a greater amount of ornamentation than any of the other churches of Jerusalem. The Church of St. Mary the Latin, which stood in the immediate vicinity of the Holy Sepulchre, consisted of a single nave and apse, of very plain kind of architecture, but not at all uncommon in the Holy Land. This was the case of one of the earliest churches in Jerusalem, where, according to local traditions, the faithful met, on the spot on which it stands, in the time of the Apostles — the church of St. John Mark. The word "basilica" included not only buildings used for public purposes, such as halls of justice, but it was also applied to the chief hall in Roman mansions, a fact which seemed to be forgotten when the basilica was spoken of as the type of all Christian churches in the East and throughout Christendom. The development of the type was mistaken for the type itself. At the outset of Christianity public worship was conducted in the houses of Christians. Afterwards, as the numbers increased, single-nave churches were built; and they were still to be found in many parts of the Holy Land and the East. With respect to the buildings which occupied the Temple area, very little remained to mark their use as Christian churches. The Church of the Presentation of Our Blessed Lady, erected by Justinian, consists at present of a nave and no less than three aisles on each side. Two hospitals were added to the church, which may be believed to have occupied the space of the two aisles erected by the Mahomedans since. The ruins of the hospitals probably suggested the erection of the two additional aisles. In the north-east part of the town stand the remains of a very interesting church, that of St. Mary Magdalene. It was very much like the Church of St. Anne, and was especially plain and without any display of ornamentation. It had the additional feature of a more prolonged choir, and also shows some remains of wall painting. In the same part of the town the remains of several small twelfth-century churches are to be found. Amongst them the Church of St. Peter, now a mosque, and also a tiny church about 20 feet square, but which, notwithstanding its diminutive size, contains nave and aisles, and all the features of a Mediæval church. It is said by the Greeks to have been erected on the spot where the Blessed Virgin was born. M. de Vogüé's volume contained not only a full and most interesting description of the churches inside, but also of those outside Jerusalem; as, for instance, the church which stood on the spot from which our Lord ascended, and full detail and accurate drawings of the churches are given. Following the Crusaders to Cyprus, most interesting remains of Mediæval architecture would be found there, in which the Eastern character was less mingled with European features. There were in Nicosia and Famagosta several examples of the churches of the thirteenth century, and also remains of the monastery of Lapais, containing cloister, refectory, with stone pulpit for the reader, chapel—consisting of nave and aisles—all most completely built. To this building there is a local tradition attached, to the effect that our blessed Lord resided there for some time. Very few buildings of a later date than the thirteenth century were to be found in Cyprus. The cathedral of St. Sophia at Nicosia was a magnificent specimen of European architecture. In Rhodes many remains of the architecture of the fourteenth century were to be found, not scattered at considerable distances from each other, but grouped in the immediate vicinity of the quarter where the knights resided. The Mahomedans have altered very little; they built very little, but what they found they allowed to remain as they found it. The Grand Hospital of the Knights consists of a large quadrangle with double cloister, beyond which is the street in which the knights lived. At the lower part of the street, which is paved with white marble, an interesting church—now used as a mosque—was to be found. It was dedicated to St. Catherine, and is in good preservation. The Priories of England, France, Spain, Portugal, &c., are also to be found in the same street, as well as the great Church of St. John, which was a very stately structure, although not so considerable as was afterwards erected by the knights in Malta. It was of Italian Gothic style, while the greater number of other churches were of French Gothic. The roof was open and plain. Unfortunately it and the buildings in the vicinity have recently been very much damaged by the explosion of several barrels of gunpowder, which had been stored in it by the Turks. Some of the old fifteenth century guns were still to be found standing on the ramparts, and he (the lecturer) saw, covering the touch-hole of one of them, a piece of a breast-plate which had been used during the last siege.

He had endeavoured to give some idea of the extensive and interesting architectural remains which were to be found in Palestine, Cyprus, Rhodes, &c., whereon the Crusaders settled. In a single lecture the subject could only be touched on; but if he had created in any of his hearers a desire to pursue the study, the end which he had in view would be accomplished.

Mr. Gilbert Scott said that the Mediæval monuments of the East furnished a most interesting subject of study, which would enable the student to see what Christian churches were from the introduction of Christianity, and how, at a later age, the architecture of the West acted upon that of the East; and also the manner in which that of the East reflected in its turn upon the architecture of the West. They would also see how both were affected and in part supplanted by contemporaneous Mahomedan architecture. The subject afforded ample scope for research—as to the identity of the Sacred Sites, and as to how far the pointed arch was the result of the natural development of the architecture of the West, or whether it was in any degree, and if so, in what degree, derived from the East. These and other branches of inquiry hung upon the subject which Mr. Wigley had ably treated, and he hoped that on some future occasion he would follow up the general facts he had laid before them in so interesting a manner, by dealing with some of the questions arising out of it, in detail.

A vote of thanks to the lecturer terminated the proceedings.

SOCIETY OF BRITISH ARTISTS.

ALL who have been accustomed to pay their annual visit to Suffolk-street, will look for their old favourites, and will be glad to find the President of the Society, Mr. F. Y. Hurlstone, giving, with little apparent labour, continued proofs of his ripened skill and talent. It may be supposed he has seen many such a dusky-complexioned coquette as he here presents to us in (207) "At Seville," with a thorough appreciation of the picturesque attitude and *physique* of the model; in this, as in (444) "Mezza Jorno," and (460) "Boy with Lamb," two powerful sketches, his innate taste for colour is convincingly pronounced. Mr. W. Salter, too, relies more upon colour than form, and deserves credit for the judgment with which he has selected his subject (196), "The Interview which took place at the Village of Caversham, near Reading, between King Charles I. and his three younger Children, the Duke of York, Duke of Gloucester, and the Princess Elizabeth, in the presence of Cromwell," and if he do indulge in a little latitude occasionally, it is not beyond the restriction of possibility, as in this case. Cromwell *might* have been a witness of the king's tenderness for his young, innocent, helpless children, and if the circumstance be somewhat apocryphal, we give Mr. Salter the benefit of the doubt. Hitherto Mr. Baxter has enjoyed a monopoly in his peculiarly fascinating adaptations from rural nature: so pearly and peachy-skinned is his ideal, that she must live in an atmosphere of her own, where the dew is kalydor; and in a neighbourhood where all feminine babes are born with a metaphorical parasol in their mouths, as well as the proverbial silver spoon with which they are nourished upon a normal aliment of strawberries and cream! This year only one of his agreeable creations graces the rooms, and this (51) "The Ballad" is not one of his best; so that Mr. J. J. Hill, who appears resolved to try a race with him for the possession of that same parasol and silver spoon, finds the running easier than he sometimes may do, and wins by a neck and shoulders, to say nothing of the pretty head that tops them under conditions,—to carry the figure a little further (and the artist does no more),—that leave identity more to the name than the colour of the painter: *vide* (491), "Contentment." Another exceedingly pretty work of his is (74), "Spring." Prettiness seems the chief end in view of Mr. E. J. Cobbett also, in (108), "Fern Gatherers," and the many other of his agreeable presentments of cleverly painted, cleanly washed children. (38) "The Proposal," by the same, shows that the nicety with which he finishes the draperies of ragged home-spun that clad his gleaners, is equally effective when employed upon other materials. The lady's head is not agreeable. Mr. Henzell, who may be classed with Mr. Cobbett as a delineator of peasant life, and with him leading the van of an innumerable retinue, sufficiently distinguishes himself by the interest with which he manages to invest (43), "Feeding the Calves," and similar little domestic incidents. More popular still is the speciality of Mr. W. Hemsley, because in addition to his manipulative skill, his emulation of the old Dutchmen extends to a considerable comprehension of humorous expression. (602), "A duet" is an admirable example of this. Mr. T. Roberts belongs to the same school, only, with the preference of truth to affectation which characterises it, he differs in selecting the more pathetic phases of every-day life, seldom using much above common-place. However, he manages to propound a moral worthy of recollection in (87), "Reading the Scriptures," and the good young lady so earnest in her solicitude for the poor cottager's mental comfort, is a fair type of those,—and there are

many of them!—who command the respectful admiration of all.

Of an almost extinct category, alas! Mr. J. Noble's "Incident from Mr. Pepys's Diary, 1662" (26), is satisfactory enough to excite regret for its decline, although like Mr. D. Pasmore's Alchymist (75), "The Elixir of Love," it scarcely exceeds a suggestion of something much better; and were it not for a far more appealing exponent, we should scarcely have had to refer to it. For this we have the pleasure of bowing our congratulations and grateful acknowledgments to Miss Edwards, who appropriately assists us in elucidating the capability of even old, worn materials being made acceptable by novel treatment. (407) "Catharine Glover and the Glee Maiden attempting to succour the imprisoned Duke of Rothsay: — Fair Maid of Perth," might be an extract from many an old catalogue, and numerous illustrations of the subject occur to a very general memory; but the strict propriety of costume and the elegance of the composition and production, with considerable brilliancy of colour, render it a very attractive performance, indeed, upholding classic romance as an inexhaustible source, at a time when a hat and bonnet, black coat and bo-peep fever promise to shut it up quite. To that dream-land of which Mr. A. J. Woolmer is the avowed "*genius loci*"—

"And *makes* a sunshine in that shady place,"—

he seems to have consigned most of his models too; for they are nearly all asleep, all enchanted in his mazy mysterious bowers, where their positions and cold-catching liability, conjoined with an ever-present mistiness, through the haze of which everything loses decision of form, hints a suspicion that they have suddenly succumbed to the influence of some narcotic incense, the secret, alike with the rest of his art, of the practiser. He is a genius who, if he sets at defiance ordinary laws and rules, can create others at his exigence, for without some such guidance it would be difficult to account for the perfect harmony that signalizes his most erratic conceptions. Confessing to an admiration for as much as we understand of all he does, (238) "The Bride," because she is so gracefully drawn (and, moreover, awake, up, and dressing), will serve for particular encomium.

The weight of the exhibition is borne by the landscape painters, and Messrs. Pyne, G. & V. Cole, Boddington, Clint, Gosling, Pettitt, Syer, Tennant, &c., are equal to the occasion. The prolific pencil of Mr. Pyne has furnished him with little short of a dozen exemplifications of his knowledge and executive facility. Mr. Boddington, scarcely less fecund, still delights in mountains, rivers, sedges, and brakes, stereotypes now of what was his early forte, and with Messrs. Tennant, Clint, and others, can evoke no remark that can add to repeated eulogy. Mr. G. Cole more emphatically asserts fresh study: his "Approaching Storm in Autumn—the last Load" (31) brings him prominently forward, and, allowing something for exaggeration, conveys a notion of a grand natural effect; Mr. Vicat Cole's "Road over the Heath" (95) is less likely to challenge question, and (295) "A Cornfield—Harvesting," just as little. Of Mr. Gosling's "Summer on the Thames" (202), the chief feature is its truth, and it is worthy of all commendation on that account, as most of his works are. There are so many other productions that claim examination and merit praise that we do the least and most we can for them, by designating some of them, such as Mr. Morgan's clever characteristic bits (5), "The Breach of Promise of Marriage," and (603) "Out of Work" (really admirable!); (20) "The West of Ireland, 1860," by G. W. Brownlow; (62) "The Look-out," P. R. Morris; (67) "The Woodhouse," J. S. Cavell; (101) "Fox and Goose," J. W. Haines; (128) "Dinner Time," W. Bromley; (146) "Summer Time and the last Magazine," W. M. Hay; (163) "Sugar," and (294) "Fresh Eggs," J. Hayllar; (245) "Still Life," Mrs. Anderson; (251) "Happy Hours," E. C. Barnes; (277) "The Village Pond—Winter," G. A. Williams; (285) "The Morning Call," G. Pope; (290) "The Valley of the Lledr, North Wales," an exceedingly fine landscape, by S. R. Percy, and (300) "At Oakham, Surrey," as beautiful in its way, by F. W. Hulme; (313) "Morning—the Mist clearing off," A. Gilbert; (326) "The Kaleidoscope," W. Bromley again; (328) "Fruit, Flowers, &c.," W. H. Ward; (336) "Juliet," T. F. Dicksee, and (443) "For the Opera," by the same; (385) "Labour's Sanctities," T. Heaphy (this deserves more than passing mention); (405) "On the look out," A. F. Patten; (505) "How do you like me?" (very well!) W. D. Kennedy; (575) "The Spring," C. Dukes, and (614) "Tuning up," F. G. Price.

There is much extra attractiveness in the water-colour room, in a great measure produced by Mr. T. F. Wainewright's superlative delineation of sheep compositions.

HOUSE-TOP AIRING GROUNDS.

At the suggestion of Dr. Horace Dobell, who is amongst those desirous to lead architects to make appropriate designs for the conversion of the tops of houses into private airing-grounds for the inhabitants of the houses, Mr. J. L. André has recently produced some designs and models which go part of the way. Some of these were exhibited at a late meeting of the National Club in Whitehall Gardens.

The following are the principal requirements of the plan to which Dr. Dobell has directed attention:—

"1. That the space now wasted at the tops of houses shall be made use of in such a manner as to provide for each house an *airing-ground* open to the sky (the extent of which shall be not less than three-quarters that of the ground on which the house stands), in which the inhabitants of the house can take the air and follow out-of-door pursuits, and in which children can engage in gymnastic exercises, free from the crowds of the streets and from the damp unwholesome atmosphere of back gardens, yards, or areas.

2. That the arrangements shall be applicable to low-rented houses suited to the working classes, as well as to others of a better class.

3. That the arrangements shall be particularly suited to streets, lanes, and closely-packed houses.

4. That protection of the house from wet shall not be interfered with.

5. That the airing-grounds shall be protected from the down currents of smoke from the chimneys.

6. That they shall not be visible from *the fronts* of the houses facing the public thoroughfares.

7. That perfect safety shall be secured from any danger of persons falling over while using the airing-grounds.

8. That the form of inclosure employed to provide against the danger of falling over shall not interfere with the free circulation of air within it.

9. That rooms shall be provided *on the level of the airing-grounds*, from the windows and doors of which parents can watch their children while they themselves continue their work.

10. That the airing-grounds shall be conveniently and safely accessible from the inside of the houses through the doors of the rooms on the same level with the grounds.

11. That the airing-grounds shall be separated from each other, but conveniently and safely accessible from those of the adjoining houses, and safely and conveniently accessible from the public thoroughfares, so that *a ready means of escape shall be provided* in case of fire, and also easy access to the upper parts of the houses by firemen."

Enough has already been done to show that there is nothing impracticable as to all that is good in this plan. It only requires endeavours on the parts of architects and builders to get over some of the first difficulties; and we might soon see it carried out on a very extensive scale in London and other large towns.

STRUCTURES IN THE SEA, WITHOUT COFFER-DAM.

INSTITUTION OF CIVIL ENGINEERS.

At the meeting on March 31st, Mr. Fowler, vice-president, in the chair, the paper read was on "Structures in the Sea, without Coffer-dams; with a Description of the Works of the new Albert Harbours at Greenock," by Mr. D. Miller.

It was stated that the immediate object of this paper was to treat of the various methods of constructing the foundations of quays, walls, piers, or breakwaters, for the formation of docks and harbours in deep water; and to describe works of this kind which had been carried out on principles different from those usually practised, and to point out the further application of these principles to other structures of a similar nature.

The plans which had chiefly prevailed were, founding on piling carried up to about the level of low water; constructing within caissons or coffer-dams; or building under water by means of diving apparatus. Instances of the failure of the first of these methods, which was believed to be inapplicable where there were marine worms, were given. The second was most effectual, but was generally expensive, and often attended with danger. The last was also costly, besides being subject to delay in the progress of the works. In bridge-building, of late years, the plan of forming inclosures of close piling of the shape of the pier, and filling in with hydraulic concrete, had been pursued by French engineers; and the substitution of iron for perishable timber piling, in the construction on this plan of the piers of the Chelsea and Westminster bridges, by Mr. Page, was considered to be a successful departure from stereotyped rules.

Although the value of béton or hydraulic concrete was now appreciated in this country as a substitute for masonry, and had been employed in some important works, yet its use was chiefly confined to forming a homogeneous and monolithic bearing stratum for foundations, and not, properly speaking, as a constructive material. The modes in which concrete had been applied for constructive purposes were, building it dry in mass, and allowing it to set before placing it in the work, as had been adopted in the construction of the walls of the Victoria and of the London Docks; preparing it first in blocks and allowing it to harden before being used, as employed at the Dover Breakwater, and for the new sea forts at Portsmouth and Plymouth; and depositing it in a liquid state, and allowing it to set under water, as practised at the Government graving-docks at Toulon. The facilities for making béton which had the invaluable property of setting under water, and of thus forming an artificial rock or stone, were very great; as it might be made either from the naturally hydraulic limes, the artificially hydraulic limes or cement, or from the rich or non-hydraulic limes, rendered hydraulic by the admixture of other substances, such as puzzolans, minion, or iron mine-dust. Various examples were adduced of the application of concrete, on a large scale, prepared from these different materials, especially at the mole of Algiers, at the breakwater at Marseilles, and at other French ports, as well as in the Pont d'Alma over the Seine, in which case both the arches and the piers were formed of rubble concrete.

As engineers-in-chief for the new harbour works for the port of Greenock, the author and his partner, Mr. Bell, had an opportunity of introducing a system of constructing sea walls and quays in deep water, without the aid of coffer-dams, diving apparatus, or other means equally expensive. These works were situate on the west side of the town, and had been projected almost entirely beyond the high-water line into the sea. The outer pier would ultimately be upwards of 3,000 feet in length and 60 feet wide at the top, with quays on both sides. Within this there would be space for two harbours, each 1,000 feet in length, 15 feet deep at low water, and 25 feet at high water, with entrances 100 feet wide, and ample room for the construction of graving docks, for the storing of timber, and for the erection of sheds. At present it was only proposed to erect about one-half of the sea pier, and to form one harbour or tidal dock. In the design of these works, it was suggested that the walls under low water should consist of a combination of cast-iron guide piles in the front, with a continuous stone facing, slid down over and inclosing these piles; timber-bearing piles being used in the body of the walls where required, and concrete backing being deposited in a soft state; and that the upper part of the walls should be built of masonry in the usual manner. The first operation, when the water was not sufficiently deep, was to dredge two parallel trenches to the required depth, 17 feet below low water, for the foundations. A staging of timber piles was afterwards erected in the line of the pier over its whole breadth, for carrying the tramways, travelling cranes, and piling engines. The cast-iron guide piles were then driven from the staging, with great precision, 7 feet apart in the line of the face of each quay wall. These piles were driven until their heads were near to the low water line, by pile engines furnished with long arms projecting downwards, strongly stayed by diagonals, and forming a trough into which the pile was placed, and from which it was shot, like an arrow from a cross-bow. The piles were connected at the top transversely by wrought-iron tie-rods stretching through the pier. When the piling was driven, a bed of hydraulic concrete, 3 feet thick and 20 feet wide, was deposited in the trenches to form a base for the wall, and to give a large bearing surface. Into the grooves formed by the flanges of the iron piles, large granite slabs, from the Ross of Mull, from 18 inches to 2 feet thick, were slipped, the bottom one resting on the concrete base, and on a projecting web cast on the piles. This constituted the face of the wall; and in each compartment between the piles, 16 feet

in height and 7 feet in width, there were only three stones. Behind this facing hydraulic concrete was lowered under low water in large boxes having moveable bottoms, and was discharged in mass to form the body of the wall. To confine this at the back before it had set, loose rubble stones were deposited. The hearting of the pier consisted of hard till, stones and granite, up to the level of low water. When the whole of this mass was consolidated, the heads of the iron piles and the granite facing blocks were capped by a granite blocking or string course, and the upper portion of the walls was built in freestone ashlar and rubble. The remainder of the hearting between the walls was then filled in, and the whole finished with a granite coping and causeway. The walls were 33 feet in height from the foundations, 11½ feet thick at the concrete base, diminished to 5 feet at the top. In the part of the work already executed, the outer flange of the iron piles was exposed to the action of the salt water. In future it was intended to reverse this plan, and to make grooves in the stone facing, so that it should overlap the iron piles, filling in the grooves from the top with cement. When the whole extent of the seaward pier was completed, the interior operations for the harbour would be proceeded with; this pier serving as the principal coffer-dam, and a short dam, about 100 feet in length, closing the entrance. It was stated that this mode of constructing walls in deep water without coffer-dams has been most successful, and that a sea pier of great solidity and durability had been formed in deep water at a comparatively moderate cost. The works of the Albert Harbour were being executed under the superintendence of Mr. John Thomson, as resident engineer, by Messrs. W. & J. York, contractors.

The application of this system to the construction of breakwaters and harbours of refuge, was then noticed; reference being first made to the principal modes of construction hitherto adopted, and to the peculiar phenomena by which such structures were affected.

THE PALACE OF THE UNIVERSAL AND PERMANENT EXHIBITION OF PARIS.

The works here have been steadily carried on without interruption. Several portions of the masonry in the outside walls have already reached the height of 35 feet: the rough work of the principal entrance is far advanced: the columns and flooring are being raised; and all the castings are ready to be put in place. We learn from French sources that a busy scene is presented in the workshops, where all the pieces of metal composing this edifice are being prepared. Powerful machines of all sorts, worked by steam, bend, plane, and shape the iron in a hundred different ways, according as the several pieces have been cut to the required form, sheared to the proper lengths, and drilled or punched ready to be put into the work: they are immediately transported to their destination in chariots moving on rails.

The columns are raised by means of pulleys, and the bases rest on cut-stone blocks, into which they are inserted: being hollow they will serve to carry off the rainwater from the roof to the drains. Two hundred columns are already up in their places. When all the columns have been erected, the framing of the roof will be carried on by means of scaffoldings of immense size, which will be moved on tramways by capstans worked by steam power. Two scaffoldings of this description, and of equal size, will start one at each end of the great nave, and will advance till they meet in the centre, where a gigantic dome will be reared.

On the exterior, besides the masonry being, as we have said, in a forward state throughout, the basement is completed; the two corner pavilions are carried up as far as the roof; and the piers of the recesses are, in many places, up to the height of the first floor, the separation here being only indicated by an open-work gallery of iron: the compartments of this gallery, including the grille which is to surround the whole of the exterior of the edifice, are ready. The quantity of iron upon the ground ready to be placed amounts to many thousand tons.

The building, of which we have already given illustrations, will be furnished with, in addition to two principal entrances, eight others of minor dimensions, for the exigencies of the service. Annexes are to be provided, each for some special purpose. In a few days excavations will be commenced for the foundations of one of these supplementary constructions, viz., that for machinery: it will be 492 feet in length, and 115 feet in breadth.

The prolongation of the Chemin de Fer de Ceinture, between the Porte d'Auteuil and the Pont-du-Jour, will pass at the north-western extremity of the Paris Exhibition Building. The cast-iron work for the edifice is supplied by Messrs. T. Edington & Sons, Phœnix Iron Works, Glasgow.

THE MARRIAGES OF ENGLISH KINGS AND QUEENS SINCE THE CONQUEST.

The following list, which for greater distinctness is arranged in a tabular form, has considerable interest, and shows that three of our kings and queens died unmarried; that the others formed 13 French alliances, 10 English, 7 German, 3 Spanish, 2 Danish, 1 Portuguese, 1 Flemish, and 1 Scotch:—

Never Married.

William II.	Edward VI. (died young).
Edward V. (died young).	Elizabeth.

French Alliances.

Stephen	married to	Matilda of Boulogne.
Henry II.	,,	Eleanor of Guienne.
Richard I.	,,	Berenquella of Navarre.
John (3rd wife)	,,	Isabella of Angoulême.
Henry III.	,,	Eleanor of Provence.
Edward I. (2nd wife)	,,	Isabella of France.
Richard II.	,,	Anne of Luxembourg.
Ditto	,,	Isabella of France.
Henry IV.	,,	Mary Bohun.
Ditto	,,	Joanna of Navarre.
Henry V.	,,	Catherine of France.
Henry VI.	,,	Margaret of Anjou.
Charles I.	,,	Henrietta of France.

Spanish Alliances.

Edward I. (1st wife)	to	Eleanor of Castile.
Henry VIII. (1st wife)	,,	Catherine of Arragon.
Mary I.	,,	Philip, King of Spain.

Portuguese Alliance.

Charles II.	to	Catherine of Portugal.

Danish Alliances.

James I.	to	Anne of Denmark.
Anne	,,	George, Prince of Denmark.

German Alliances.

Edward III.	to	Philippa of Hainault.
George I.	,,	Sophia of Zell.
George II.	,,	Wilhelmina of Anspach.
George III.	,,	Charlotte of Meck Strel.
George IV.	,,	Caroline of Brunswick.
William IV.	,,	Adelaide of Saxe Meiningen.
Victoria	,,	Albert of Saxe Gotha.

Flemish Alliance.

Henry VIII. (4th wife)	to	Anne of Cleves.

Scotch Alliance.

Henry I.	to	Matilda of Scotland.

English Alliances.

John (1st wife)	to	Earl Montague's daughter.
Edward IV.	,,	Elizabeth Woodville.
Richard III.	,,	Anne Nevil.
Henry VII.	,,	Elizabeth of York.
Henry VIII. (2nd wife)	,,	Anne Boleyne.
Do. (3rd wife)	,,	Jane Seymour.
Do. (5th wife)	,,	Catherine Howard.
Do. (6th wife)	,,	Catherine Parr.
James II.	,,	Anne Hyde.
William III.	,,	Mary, daughter of James II.

THE PROPOSED HULME FREE LIBRARY, MANCHESTER.

The local Free Libraries Committee have reported that they had considered the plans submitted to them for the branch lending library for Hulme, to be erected on the plot of land in Stretford-road, adjoining the new Town Hall. They recommended that the plans should be approved. The estimated cost would be 5,530*l*. A motion was made in the council last week that the committee be authorised to purchase the land and erect the proposed building, which would be a very handsome structure. A long and desultory debate ensued, the general opinion being against so large an outlay upon one branch library; and an amendment was carried referring the matter back to the committee for information as to the proposed outlay. In course of the debate one of the speakers, Alderman Neill, made the far-fetched observation that the building ought to be a plain one, like a workhouse, to which it was akin, being a charity. On which Councillor Rawson asked whether Mr. Neill felt at all like a pauper when he visited the National Gallery and British Museum reading-room, which were supported by the funds of the State. It was right, he remarked, and desirable that the working classes should assemble in places where some degree of art and skill had been expended; and he denied that they were incapable (as some persons asserted) of receiving therefrom æsthetic and moral influences. It was better to spend 6,000*l*. upon a free library than 20,000*l* upon a gaol, for prevention was cheaper than cure. Another councillor remarked that he thought the privilege of visiting fine institutions would induce in the people a desire to improve their own abodes.

OPENING OF THE WEST LONDON EXTENSION RAILWAY.

The West London Extension line of railway to the Victoria Station at Pimlico has been opened for public traffic. This is one of the most valuable connecting lines in the country, and it will also afford a large amount of local accommodation in the districts of Southall, Hanwell, Ealing, Kensington, Chelsea, and Battersea, at each of which a station has been erected. There will be three trains each way on Sundays. In addition to the local traffic there is a direct communication between the North and West of England, and Kensington, Brompton, Hammersmith, Fulham, Chelsea, Battersea, and Westminster, and with all the stations on the London, Chatham, and Dover, and the London, Brighton, and South Coast Railways. The West London line was laughed at for years: it became known as *Punch's* line. The late Professor Hosking was the original engineer. The conductor of this journal acted as the architect and surveyor of the line, and never lost faith in its value and importance. A really good thing lives down laughter and *makes* its worth felt. A recollection occurs to us not altogether *mal-àpropos*. At dinner one day, the late Charles Dance made a joke,—not an unusual thing with him,—but his listener was obtuse. After a time however, Thickhead said, "That's a very good thing, *now I see it.*" "Ah! and so it was before," replied Dance.

CITY IMPROVEMENTS.

According to the *City Press*, Messrs. Barclay & Co.'s Bank, Lombard-street, is shortly to be pulled down, to make way for a more modern building; and the firm are now fitting out a temporary banking-house.

The London Dock Company have taken possession of new and extensive warehouses in Lime-street.

Messrs. Spooner's Bank, 27, Gracechurch-street, is to be pulled down; also the adjoining premises, No. 26, and a larger ornamented structure is to be erected on the site.

The Corporation have in contemplation the removal of the houses Nos. 55, 56, 57, and 58, Great Tower-street, in order to widen the carriage way.

On the south side of Allhallows Church, Barking, Great Tower-street, a portion of stone and brick work which formed, it is supposed, a part of the Bell Tower in ancient times, is being removed, and a new porch is in course of construction.

The numerous buildings in course of erection on the site of the ground once occupied by the East India Company are progressing very fast.

A quaint-looking building, No. 2, Mincing-lane, once a blacksmith's shop, is to be pulled down. No. 3 in the same thoroughfare, an old dwelling-house of the early part of the seventeenth century, has been pulled down, and new premises erected by Messrs. Moses & Son, suitable for letting out as offices.

INTELLIGENCE FROM GUERNSEY.

Prince Consort Statue.—The spot on which the statue in memory of Prince Albert is to be erected has been decided on by the States of the Island. In consequence of the island granite not being found sufficiently thick for a pedestal, the committee appointed to conduct the raising of the statue have decided upon making it of English granite. Mr. Durham, the sculptor of the memorial, has informed the committee that he will undertake to procure, for 210*l*., a block of the same material as that used in constructing the Hanois lighthouse,* off the west coast of Guernsey. The tender sent in from the island was for upwards of 380*l*. This decision will disappoint the public, but sufficient reasons are put forth to silence opposition. The Lieutenant-governor, at a meeting of the States, said that Guernsey granite exposed to the air became spotted, and was utterly beneath the character of the work about to be erected. He also remarked that one of his friends had on his grounds some granite in the state alluded to, and upon inquiry he found that the defect could not be removed.

Beacon.—A beacon on the Rocque de Braye is about to be erected, the expenses to be borne by the harbours of the St. Sampson and the town.

Railway.—A committee named by the States has been formed for the purpose of examining and reporting whether it would be practicable to lay down a railway from the Vale and St. Sampson's Quarries to the Town Harbour, and the committee have had 100*l*. voted to meet the expenses of the survey.

* This lighthouse is now completed, and all masters of vessels agree in stating that the light is a fine one.



MONUMENT TO MRS. LANCE.—Mr. J. Forsyth, Sculptor.

MONUMENT TO MRS. LANCE.

This monument is erected to the memory of Mrs. Madelena Louisa Lance, the wife of the Rev. J. E. Lance, rector of Buckland St. Mary. Mrs. Lance died shortly after giving birth to a child: the infant died also, and they were buried together. The church of Buckland St. Mary, in which the monument is placed, was recently built from drawings by Mr. B. Ferrey. The monument is fixed in an ornamented recess within the sacrarium of the chancel, and the recess is backed with a slab of black marble. Upon one of the mouldings is inscribed, "I believe in the resurrection of the dead." The monument is executed in Caen stone by Mr. J. Forsyth, of London.

THE PROTECTION OF BUILDINGS FROM LIGHTNING.

The following remarks are taken from a communication in the *Scotsman* newspaper on this subject:—

Pieces of glass were attached to the more prominent points of Christ Church, Doncaster, in consequence of an idea, which is too prevalent, that their non-conducting properties would *divert* the lightning. A single flash laid the costly structure in ruins. On the other hand, buildings have suffered severely even when a conductor was used. One of the causes is, that in many cases comparatively thin *wires* are used instead of very thick ones or *rods*. If a conductor is not sufficiently thick, it will be fused, just as a thin wire will be fused by a voltaic current which cannot sensibly raise the temperature of a thick one. We have had many opportunities of observing this result; and in every case serious consequences would have probably followed had not different channels of escape presented themselves. Lounging one day at a railway station, a flash from a cloud in close proximity struck a thick wire, passed into the station, and set fire to it. On examination, we found that the only connexion with the ground was a thin wire, which had been melted. The fluid had therefore been dissipated throughout the room in its efforts to escape.

Another frequent cause of injury results from the fact that a conductor, made even on the most approved principles, is often regarded as affording absolute protection in *itself*. Apart even from the proof afforded by experience, a little attention to the phenomena of the thunder-storm would prove the fallaciousness of the idea. The spire of a church may be protected by a rod; but if, as is frequently the case, there are subordinate prominent points on the building, surmounted by gilt ornaments, not in metallic connexion with the ground; and here and there detached pieces of lead or of zinc; *absolute* protection will not be afforded, from the simple fact that a flash not unfrequently "bifurcates," or divides into two portions—one striking the rod, and the other striking some detached object. If the detached object is not in metallic connexion with the earth, it will probably be rent or displaced; and if the flash meets with obstructions in the shape of other non-conductors, it will commit the havoc which we so frequently hear of.

One writer has shown that the Temple of Solomon was lightning-proof, from the manner in which the metal employed externally was disposed. In the same way, most of our buildings are unintentionally provided with a kind of protector in the shape of the lead or the zinc sheathing and the metallic gutters on the roofs, connected with the rain-pipes, which terminate in the cesspools and drains. Why are those materials not always employed in conjunction with the conductor? Under certain conditions, they offer facilities for the escape of the fluid, which, if taken full advantage of, would in some cases greatly lessen the risk of danger; in most, render edifices lightning-proof. So far as houses are concerned, the desired object may be attained by simple means. Care should be taken that the whole sheathing on the roofs should be *metallically* united by nailing the different portions at their points of contact; and every *detached* piece of metal should be brought into connexion by means of a broad strap of copper, of lead, or of zinc. The whole should then be *metallically* united with the gutters which lead into the rain-pipe. Should a flash strike *any portion* of the sheathing, it will thus find a free passage into the ground, provided always that the rain-pipe is a metal one. The lightning-rod should be fixed to the sheathing at a distance of about 2 feet from the chimney-pots. Carbon is one of the best of non-metallic conductors; hence the reason why the soot of chimneys offers peculiar facilities for the passage of the fluid, and thus endangers both life and property.

The remarks which we have made in reference to the sheathing of houses are also applicable to lofty public buildings. In addition to their connexion with the rain-pipe, the sheathing and gutters should be united to the lightning-rod by two or three thick wires. Gilt ornaments and vanes surmounting isolated subordinate turrets, &c., should also be metallically united with the rod and the rain-pipe. In every case, indeed, the simple principle should be adhered to of making all the metal employed externally, whether usefully or ornamentally, practically *one conducting body* in good connexion with the ground. Twisted strands of copper, or of galvanized iron wire, are well adapted, on account of their flexibility, to the establishment of connexion between isolated portions of a building, and they may be easily disposed so as to prevent the marring of architectural features. Where rods are used, the risk of "bifurcation" will be greatly lessened by splitting them for a foot or so from the top, or by attaching two or three spikes obliquely, so as to present several points of attraction. Should danger be apprehended from a *lateral* stroke, we would suggest that spires and elevated monuments be girt *spirally* with a twisted copper or galvanized iron wire-rope—say of seven strands at least—protruding spikes being placed at an interval of every 2 or 3 feet. We are not aware whether any arrangement of this kind has been proposed hitherto; but we feel assured that, were it carried out, it would form a highly efficient conductor;—more efficient, perhaps, in some respects, than any which we have seen.

Experience has shown that wherever a system of protection based on sound principles has been adopted, no injury has resulted. But experience has also shown that where there is no system, or where only a partial one has been resorted to, the destruction of the most stately edifices may be the work of a moment.

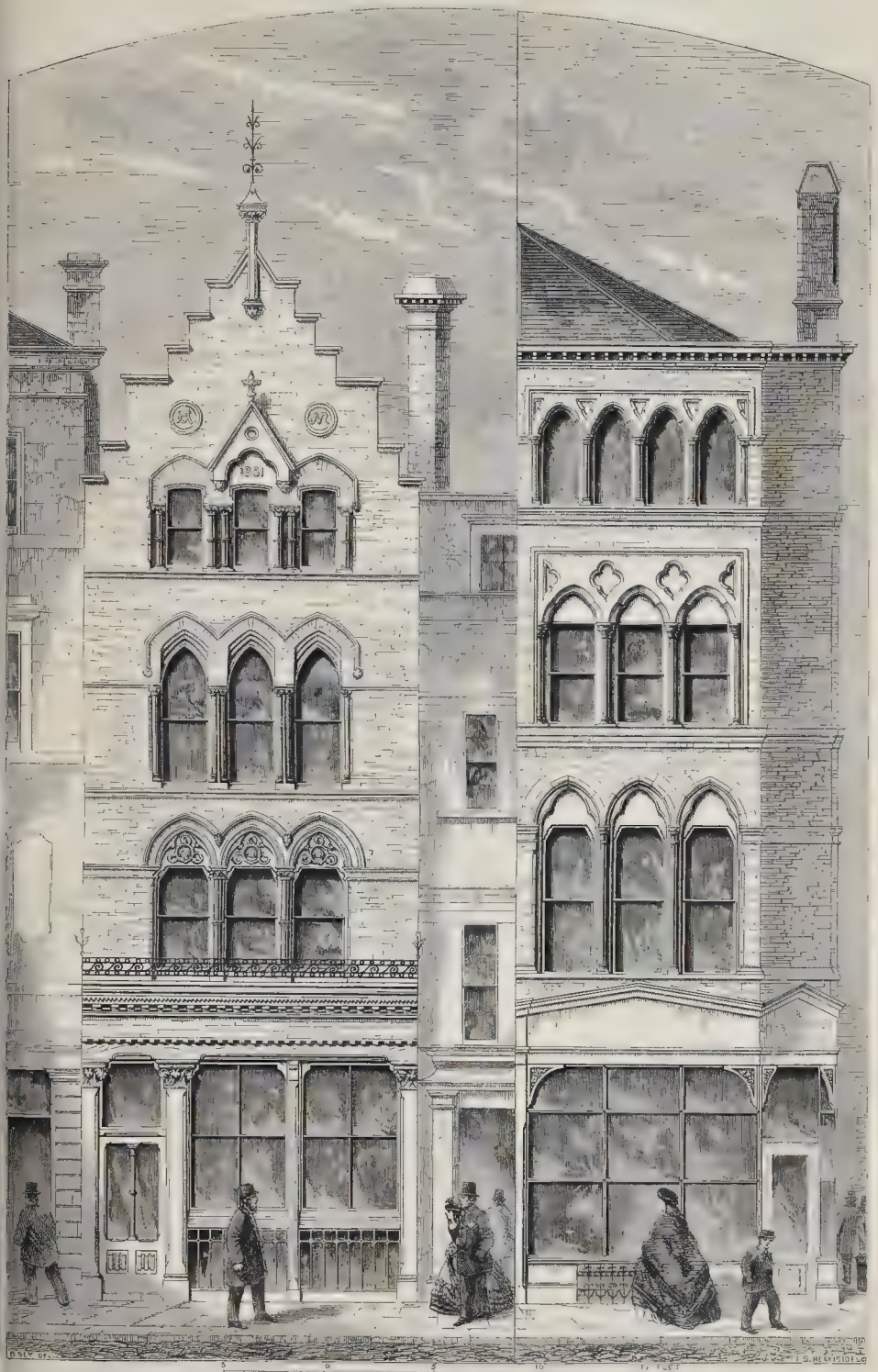
MODERN STREET ARCHITECTURE: LONDON.

Recording the varying architectural street fronts which are rising in all quarters of the town, we have engraved two houses erected from the designs of Mr. T. Hayter Lewis.

The house in *Cheapside* was built for Mr. H. A. Soames, according to the special requirements of the tenant (a silversmith). The cost was 1,313*l.*, the amount of contract, including stoves, &c. The builders were Messrs. Asford, of Coleman-street. The materials are white brick and stone. The design originally comprised an attic story in a high-pitched roof; but this was abandoned on account of the expense. In the foundations several old walls of rough chalk, &c., were found, following the present wall lines, but no Roman remains.

81, *Old Broad-street.*—This was built for Mr. J. Remington Mills, M.P., and Mr. A. Scrutton. The mouldings are partly in brick, but chiefly in stone. The total cost, including stoves, &c., was 1,002*l.* The builders were Messrs. Ashby & Horner, of Aldgate. The house is built entirely for chambers, as much light being given as possible. Several traces were met with (at a depth of 13 feet from the street) of an old Roman building on the site.

LONDON STREET ARCHITECTURE.—Mr. T. Hayter Lewis, Architect.



81, OLD BROAD STREET. HOUSE IN CHEAPSIDE.

THE FEMALE SCHOOL OF ART.

The students submitted this March 105 drawings in competition; and the Government inspector awarded the full number of medals,—thirty. Of these medalled drawings, fifteen were selected to be sent in competition with the other schools of art throughout the United Kingdom for national medallions. It is evident, therefore, that the school is holding its own. Some of the drawings showed considerable ability, especially those by Miss S. McGregor. Amongst the works, those which more particularly attracted our notice were by Miss S. Blake, Miss C. Phillott, Miss F. Seddon, Miss J. Fox Smith, and Miss E. Snellgrove. Miss E. Childe had a medal for a drawing on wood from nature. We are forced to say we desiderate a more vigorous description of art than at present exhibits itself in Queen-square. Flowers are all very well in their way, we delight in them: but from a world all flowers, deliver us!

FOUNTAINS, KENSINGTON GARDENS.

When care is shown in the endeavour to improve public places, and particularly when emendation is effected where neglect had formerly been but too palpable, it is hard to find fault with works of innovation; nevertheless, in respect to the new realization of an object of great interest in so popular and valuable a place of summer promenade, a hint may not be amiss.

For the large expenditure of Woods and Forests funds, and the good intentions of the Commissioner, all credit is allowed; still every one viewing the reservoirs first designed for filtering-beds, but now converted into squirt-basins, feels disappointed at the result, as well as at the want of finish in the marginal precincts, which are rude and shapeless as heretofore.

The large tazza fountain, with side figures, has certainly a good effect, as also that in the centre of the filter-beds; but the four slender squirts in these latter basins are ridiculed by all, especially by those who have seen Versailles and other foreign water-works. That it would materially improve and embellish the *ensemble* if these basins were *filled up and planted with flowers*, is the general opinion.

After all the expenditure of time and money upon the wells and mechanism, all that has been acquired to freshen the stagnant lake is the flow of 160 gallons per minute, *so long as one engine is in action*. The second engine is applied to the raising and circulation of the water in the Serpentine; and thus, by aëration and refluxion, most certainly a great improvement is effected.

After all the work of laying massive pipes at a sinking gradient along the whole margin of the lake, to take the water back to the engines, for filtration, these pipes and these beds are useless; so, to redeem the mistake, the four squirts were placed there. Better enlarge the central jet, and extend by 10 or 12 feet its basin, which at present scatters spray on the adjacent walk!

Much care and skill are lavished upon one portion of the Park borders,—that bordering Park-lane. Would not a little of the same taste and skill be applied appropriately in and around the favourite and beautiful dell of the fountains? We have but this solitary example of a public fountain in a really charming and suitable position,—the only one, too, within reach of hundreds of thousands who rarely emigrate farther. That example ought to be respectable, if not altogether incomparable; but the basin of the central fountain should be not only enlarged, but lowered in its margin, which actually conceals the spreading lotus leaves and lower falls! Then the vicinal borders ought to be laid out in beds of shrubs and rich flowers. This properly done, the effect in that forest nook would be indeed beautiful and solacing.

It is true that some trees have perished there, the roots having been cut in laying the futile pipes; still, there are trees enough: indeed, as before observed in the *Builder*, throughout the whole extent of the gardens, where one-half of the trees are deformed, and many dying off through too close propinquity, a number of them ought to be cut away, to allow the remainder a chance of surviving, and throwing out lateral branches. At present one full fourth part are little better than bare poles.

The value of this incomparable suburban park to all classes of oppidans is inestimable; therefore no outlay can be thrown away which might render it a source of health and enjoyment to the million. What has been accomplished towards obtaining a supply of fresh spring water, to redeem the disgusting and sickening state of the green and yellow melancholy lagune mis-called the Serpentine, has been done by Mr. Docwra, the contractor; and had he been allowed to carry out his views, when he sank 317 feet for the London basin spring, he could as easily produce 500 gallons per minute to create a perpetual cascade, at the tail of the lake, and over the present dry, rusticated falls; and there is one advantage in this fresh supply, that the element is of the clearest, softest, and purest.

It may be observed respecting the wells and mechanism formed by Messrs. Easton & Amos at Duck Island, St. James's Park, that some further works are meditated or are now in action there: the source of supply is, however, owing to the ooze of the Thames and the sluggish sewers of that level, far inferior in quality to that of Paddington (Spring-street) locality. The circulation and aëration of the same body of water may correct much of the fœtor and miasmata of a standing pool; but the infusion of pure, fresh "*de profundis*" is a more reliable source, besides that the numerous swimmers and bathers must acquire more vigour from immersion, whilst boating amateurs and nautical neophites would experience a more refreshing and invigorating exercise from their pastime.

Quondam.

VARIORUM.

RARE WORKS ON ARCHITECTURAL SUBJECTS.

A punning correspondent sends us the following catalogue of very odd volumes. They are, he says, uniform with Hood's list:—

Angell, On the Wings of Villas.
Ashpitel, On Stoke-holes.
Armstead's Handbook of Architecture.
Burnet's Effectual Cure of Smoky Chimneys.
Bell's Application of the Telegraph to Domestic Use.
Baker, On the Arrangement of Ovens.
Burn, On Fire-proof Construction.
Christian, On Churches.
Coxe's Antiquities of Enfield.
Deane's English Cathedrals.
Driver, On the Steam-Engine.
Eyre, On Ventilation.
Ferrey, On Bridges.
Fergusson, On Lodgings.
Fowler's Columbary.
Giles, On Rural Retreats.
Goldie, On the Abuse of Gilding.
Hall, On Pulleys.
Knowles, On Works in Theatres.
Kerr, On the Construction of Kennels. Also a new Tale.
Lamb, On Slaughter-Houses.
Lewis, On Weights.
Lightly, On the Principles of Modern Construction.
Mair's Stables.
Newall's Law of Dilapidations.
Nelson's Bird's-eye View of Trafalgar-square.
Mayhew, On Quarrying and the Qualities of Stone. Revised by Whewell.
Oliver, On Rolandsec.
Parker, On Landscape Gardening.
Pugin's History of St. Augustine.
Pearson's Artesian Wells.
Penfold, On Cattle Markets.
Porter, On Biers.
Richardson, On the Shows of the Ancients.
Rickman, On Farm Buildings.
Shout, On Sound in Rooms.
Self-Culture, by I. Reid.
Scott, On Everything.
Street's London and its Suburbs.
Slater, On Iron Roofs of Recent Construction.
Smith, On Mediæval Metal Work.
Smirke, On the Laughing Gas.
Tarring, On Fences.
Taylor's Account of Cleopatra's Needle.
Turner's Round Towers of Ireland.
Turnbull's Dairy Homesteads.
Tite, On the British Costume.
White's Polychromy.
Weale's Revolutions in Art.

SANITARY STATE OF HOLMFIRTH.

Many deaths have lately occurred at Holmfirth from scarlet fever, arising from the sanitary deficiencies which exist in that town and neighbourhood. The Medical Department of the Privy Council recently had their attention directed to the subject, and they sent a medical inspector down to investigate the circumstances of the increase in the mortality, and he has made a report, in which he describes the shocking state of filth in which many parts of the village are literally steeped. Notwithstanding an abundance of water, too, which the hills are capable of supplying, the inhabitants are badly off for water supply; and as for drainage there seems to be little or none, and scarcely any cesspools. In consequence of the inspector's report, the Medical Department of the Privy Council have addressed the usual letter, by their secretary, to the Huddersfield Board of Guardians, as to the bad condition of the registration district, and the local administration of the Nuisance Removal Acts, which is in the highest degree unsatisfactory. Their lordships also express their desire to know whether there is any reason why the village of Holmfirth should not be provided with such a system of house-drainage and water-service as would enable the inhabitants to substitute properly constructed water-closets for their present undrained and most offensive privies. The Board of Guardians have thus been forced into action, and it is to be hoped something effectual will speedily be done, especially as the summer is nigh.

ARCHITECTS' COMMISSIONS FROM TRADESMEN.

A correspondent, dating from Manchester, and signing "One who will not fee," asserts that several of the architects there give builders to understand that as a matter of course they expect to receive a commission on all the work done under them, whether by contract or by private arrangement. Further, that he fears the system is on the increase. We must have something more than general assertion before we can believe so injurious an assertion as this.

The writer says, "The evil is baneful in its results; destroying the independence of a class who, above all men, ought to be above being bought; and often, as a natural consequence, leading to the sacrifice of the interest of the proprietor."

Our readers do not require to be told our own opinion on the subject; but we must have proofs before we can admit the truth of the accusation.

SCHOOL-BUILDING NEWS.

Halifax.—New schools for St. Thomas's Church district, and a schoolmaster's house, will, in all probability, be erected during the summer months, as plans for the buildings have been prepared, and the committee intrusted with the matter are taking steps for obtaining contracts. The cost of the erection is expected to be about 1,400*l.* Towards this amount about 450*l.* have been subscribed, and 450*l.* promised in grants. The site, valued at 300*l.*, has been given.

PROVINCIAL NEWS.

Melton Mowbray.—The guardians of the Melton Mowbray Union having determined upon building a new house for the master and mistress in connexion with the present workhouse, plans were prepared by Mr. R. W. Johnson, and these having received the sanction of the Poor-law Board, will be carried out during the ensuing summer.

St. Neots.—The new Corn Exchange building is approaching completion. It is expected that the structure will be completed by May. Mr. Wildman is the builder; and Mr. Bellamy, of Lincoln, the architect.

Oxford.—The new Corn Exchange at Oxford, which has been erected at the cost of the town council, was to be opened on Wednesday with a grand banquet. The works have been ably carried out by Mr. Dover, of Oxford, builder, from the designs furnished by Mr. S. L. Seckham, architect and surveyor to the city of Oxford.

Chatham.—The Marquis of Hartington, one of the Lords of the Admiralty, has been inspecting the works in progress on St. Mary's Island in connexion with the extension of the dockyard. His lordship, who was accompanied by Colonel Godfrey Thomas Green, director of engineering and architectural works, was conducted over the island by Mr. Bernays, civil engineer, under whose superintendence the works are being carried out. He then proceeded to the Royal Marine Barracks, and was shown over the additional barrack-rooms which are now being erected by Messrs. Foord & Sons, of Rochester, the Government contractors. The first block of buildings, which will accommodate between 200 and 300 men, are now completely roofed in, and will probably be ready for occupation by the end of the summer.

Maidstone.—The Town-hall, which for so many years has needed repair, has at last been renovated and decorated. The substantial repairs,

the painting and the graining, have been executed by Mr. L. Ashdown, of Stone-street. The artistic decoration is in the Cinque-cento taste. The ceiling is decorated with bright lines, foliages, and medallions, the stucco work being slightly heightened by gilding. The walls are divided into panels by borders, from the tops of which hang trophies in allusion to arts and arms, and the natural products of the earth,—as birds, beasts, corn, fruits, flowers, &c., among one of the most conspicuous of which is the source of the wealth of the neighbourhood—the hop. The borders have small medallions containing heads, and in the cove of the ceiling are others of larger size, containing those groups of boys at play which the Italians call "puttini." The decoration has been executed under the direction of Mr. Arthur Ashpitel, by Signor Francesco Galli and Signor Cotti, of Edgeware-road. On the frieze over the windows and panels, in small letters are written a few of the names of those natives of Kent who have distinguished themselves by learning and science, or in arts, arms, jurisprudence, or philosophy. This practice, as the *Maidstone Journal* remarks, is not unusual abroad, particularly in France, as, for instance, at the Bibliothèque, near the Pantheon, at Paris (illustrated in our pages), on the frieze of which the names of their great men are placed.

Sheerness.—A new building has been erected by Government, at a cost of upwards of 3,000*l.*, for the accommodation of the troops in garrison. It consists of a day-room and reading-room, situate one over the other, each measuring 80 feet long, 23 feet broad, and 12 feet high. Adjoining the reading-room are a library and coffee-room, as also quarters for the librarian. The site of the building is at right angles with the eastern extremity of the soldiers' new barracks. The opening is expected to take place next month, when amateur theatrical performances and a series of concerts will be given. The erection of the building was executed under contract by Mr. G. Naylar, of Rochester.

Brighton.—The works committee of the local council have received a letter on behalf of Miss Clark, for permission to erect a drinking-fountain opposite the Bristol Hotel. The committee have resolved that permission be given to Miss Clark to erect a drinking fountain, of the design submitted, on the south side of the Marine-parade, in front of the steps leading to the beach opposite the Bristol Hotel, on condition that the sum of 100*l.* sterling be invested by Miss Clark, in 3 per Cent. Consols, as the council should direct, as a fund for the permanent supply of water for, and the painting and repairing of, such fountain. The council have confirmed this.——A letter was received by the council from Mr. E. Birch, on behalf of Mr. G. W. Simpson, with a tracing, showing the plan, elevation, and section of a proposed pier, opposite the west end of Brighton, and its contemplated junction with the Esplanade, for the sanction and approval of the council. Upon this the works committee recommended the council to consent so far as it lawfully can to the erection of the proposed pier opposite Regency-square, as shown by the plans and sections submitted, the works to be done under the supervision of the surveyor. Some 15,000*l.* or 20,000*l.* are to be expended on a structure in front of the west cliff. The committee's recommendation was confirmed.

Coventry.—From an authentic return just made of the number of empty houses, business premises, shops, public-houses, &c., in Coventry, it appears that there are vacant in this city, at the present moment, no less than 25 public-houses, 108 business premises, 681 front dwelling-houses, and 515 houses in courts, making a grand total of 1,329 houses and premises out of use. Emigration is actively going on.

Bradford.—A special meeting of the proprietors of St. George's Hall was held on Tuesday, to consider a recommendation of the directors for the enlargement of the present saloon of the hall. Mr. Lockwood, architect, laid before the meeting plans, showing how the room might be enlarged. He said it was proposed to take in the small anterooms at the ends of the saloon, by doing which they would obtain a room 76 feet in length, and to move forward the front of the patrons' gallery in the large hall, in order to increase the width of the room. By these alterations a room would be got which would accommodate 600 people, exclusive of the orchestra. Mr. Lockwood explained another alteration which it was proposed to make, for the purpose of improving the approach to the great west gallery of the large hall. The expense of these alterations, he said, would not exceed 1,200*l.* After a very long discussion, it was resolved, "That the directors be now empowered to make the alterations in the enlargement of the present saloon as suggested by the architects in the plans presented to the meeting, and that they be authorized to borrow the money for that purpose."

CHURCH-BUILDING NEWS.

Clifton (Beds).—The parish church of All Saints', Clifton, which is supposed to have belonged, as did the manor, to the Knights of St. John of Jerusalem, has been restored and enlarged at the expense of the present patron, Mr. Miles. The church consisted of a western tower, a broad nave, and north aisle; south porch, chancel, and chancel aisle; and possessed many interesting features, which have been carefully preserved and brought to light. The walls, piers, moulding, &c., have been denuded of whitewash, with which they were disfigured. Pews and galleries also abounded, but have entirely disappeared. Additional church-room having become necessary, it was decided to rebuild and enlarge the north aisle and chancel aisle, both of extremely late date, in preference to disturbing the south wall, which contains several good decorated windows, &c. The style of the new work is Geometrical. A "low side window" was discovered at the south-west angle of the chancel. The east window is of five lights. There are sedilia, and a double piscina; an alabaster tomb, with recumbent figures of Sir Michael Fisher and wife, who died in 1549; and remains of a rood-loft, of Perpendicular date, in the shape of sixteen panels, having painted full-length figures of the Apostles and Saints, which formed part of a gallery front, will be preserved in the church. Of the old font nothing was left but the thirteenth century bowl, which has been provided with a new base and cover. The roofs are entirely new, and covered with Staffordshire tile. Coloured marbles are used in the pulpit, and low stone screen between chancel and nave. The seats are open and uniform, and the stalls, lectern, and chancel fittings generally are of Baltic oak. Three of the windows have been filled with glass by Hardman. The rest are glazed with thick green glass in two colours. The chancel is paved with Minton's tiles. Bath stone has been used for the dressings, &c., and sandstone from the neighbourhood for the new walling. The works have been carried out under the direction of Mr. Haycock, jun., of Shrewsbury, architect, by Mr. Geo. Jeeves, and Messrs. Warren, of Hitchin, and Mr. Davies, of Ailsey. Mr. Dodwell, of Shrewsbury, supplied the hot-air apparatus; and the lighting is by Skidmore.

Billesdon (Leicestershire).—The roof, south wall, and chancel arch of the church being in a state of great danger and decay, the latter temporarily propped up with a wooden buttress, to permit the church being used for divine service, increased accommodation is absolutely needful. The estimate for the whole (including the rebuilding of the tower and spire, which has been completed at a cost of 740*l.*) is 1,940*l.*; of which 600*l.* have been subscribed by the inhabitants and landowners of Billesdon, and 400*l.* through friends, and two grants from the Church-building Societies of 80*l.* and 30*l.* each. A bazaar has also been held in order to forward the object in view.

Bray (Maidenhead).—The committee appointed with the view of carrying out the works connected with the restoration of the parish church have recently published a statement of the accounts, from which it appears that, including works contributed by the churchwardens, a total of 5,073*l.* 4*s.* 3*d.* has been expended on the restoration. In addition to these works the following stained windows, according to the *Windsor Express*, have been placed in the church:—East chancel window by Wailes, and west nave window by Lavers & Barraud, the gift of Mr. J. Hibbert; window at west end of north aisle, by O'Connor, the gift of Mr. J. J. Coney; window at west end of south aisle by Hughes, the gift of the relatives of the late Rev. Walter Levett; three windows in south chancel aisle, by Lavers & Barraud, the gift of Mr. E. H. Palmer; single window westward of the tower in south aisle, by Lavers & Barraud, the gift of Mrs. Palmer; three windows in north chancel aisle, all executed by Lavers & Barraud, viz., large east window, given by Mr. C. P. Grenfell, M.P.; window eastward of organ, by Riversdale, Mr. W. Grenfell; window westward of organ, by Miss Grenfell, of Ray Lodge, Mrs. Paget, and Miss Grenfell, of Taplow Court.

Woolston (Southampton).—The new church on the banks of the Southampton water is assuming shape, according to the local *Advertiser*. The exterior presents a nave, with transept and chancel. Over a low north aisle rises a clerestory, and a simple porch groups beside the base of the unfinished tower. The exterior is built of Swanage stone, with windows, gable copings, and other dressings of Corsham Down. A series of arches on the south side, temporarily filled in, shows the possibility of subsequent extension. The facing of the walls and arches is of bricks of several tints, arranged in regular order, in a variety of patterns and bands, according to their several positions. The windows are of varied tracery, and the pillars and capitals are of Bath and of Tisbury stone. The capitals are roughed out ready for carving. On either side of the chancel the arches which separate this from the narrow chancel aisle are carried by a single shaft of polished Devonshire marble. The architect is Mr. W. White, of London; and the builder is Mr. Bull, of Southampton. Funds are still wanted to help the completion of the building.

Wolverhampton.—The foundation-stone of the new Baptist Chapel, which is to be erected in the Waterloo-road, near its junction with Darlington-street, has been laid. Inclusive of the price of the land, the total cost of the new erection will be 3,000*l.* Of this sum upwards of 1,000*l.* have already been promised or subscribed. The new chapel will be a parallelogram, 70 feet by 44 feet, and will include entrance lobby, staircase, wings, and recess for the baptistery. The building will be erected on ground considerably below the road-way level, and facilities will be thus afforded for the conversion of the available space immediately beneath the floor of the chapel into a large school-room, to which access will be easy from the road, on a lower level at the rear. Internally the building is arranged with two side aisles and an eastern gallery, with provision for future side galleries. Externally the eastern front is to consist of a gable, having a central entrance, with small lights on each side into the lobbies, and a grouped triple light window in the gallery. The north wing will be semicircular, and at the south wing rises a tower of the height of 70 feet. At the rear of the chapel there will be a minister's vestry and lecture-room. The building is calculated to accommodate 650 persons. The architect is Mr. Bidlake, and the builder Mr. Burkitt, both of Wolverhampton.

Far Headingley (Yorkshire).—Mr. Edmund Denison, of Doncaster, formerly M.P. for the West Riding, and his eldest son, Mr. E. B. Denison, Q.C., have signified to the vicar of Leeds their intention to build and endow, with an income of 200*l.* a year, the church of Far Headingley, for which a subscription was begun last year; Sir Thomas Beckett, bart., granting the site.

Oxford.—A window has been placed in the south aisle of St. Mary Magdalene church, in memory of the late Bishop of Antigua, Dr. Rigaud, and two of his sisters, by surviving members of their family. The subjects are Faith, Hope, and Charity, with angels in the upper lights holding scrolls, on which are three of the beatitudes, "Blessed are the Merciful," "Blessed are the Pure in Heart," and "Blessed are the Peacemakers." The artist is Mr. Bell, of Bristol.

SCENERY AND THE STAGE.

The Haymarket.—The panorama illustrating the tour of the Prince of Wales in the East, introduced to the public by Mr. Buckstone on Easter Monday, has been some time in preparation. Our readers may remember that Mr. William Telbin, who, with his son, undertook a journey through Turkey, Syria, the Holy Land, and part of Egypt, to make sketches for the purpose, was stricken with fever, and thus the work was delayed. On the occasion of the Prince's marriage, and made to terminate with a view painted by Mr. Grieve, of St. George's Chapel, Windsor, during the celebration of it, the panorama, nevertheless is equally *àpropos*, and, indeed is of that character that it could never be out of place. It comprises Cairo, Philæ (the water admirably managed), Jerusalem, the Jordan, the Dead Sea (a picture of desolation), Nazareth, the Sea of Galilee (a beautiful work), Mount Hermon (f the Interior of a Turk's House in Damascu lighted up; Baalbec, Beyrout, and Constantinopl This beautiful set of pictures ought to draw thou sands. It would doubtless pay to show it by an by, in the morning, at a shilling, for the advantag of a large public who do not care for the theatr or dislike late hours.

The dramatic sketch which precedes the pan rama, "Buckstone at Home," by Mr. Stirli Coyne, is exceedingly well written, and introduc cleverly many of the favourites, together with

ew candidate for Haymarket favour, Miss Winter, ho as *Italian Opera* sings a *scena* with great ccess. "Much Ado about Nothing" has been ayed to introduce Miss Louisa Angel, a young stress from Newcastle, in the difficult part of *eatrice*, which was presented sufficiently well to ow that the lady is likely to be a valuable quisition. Mr. Walter Gordon, heretofore at the lympic, and who has the advantage of being a ntleman, acted *Claudio* with skill and intelli- nce. Mr. Howe is an excellent *Benedick*; Mr. arren very good as *Don Pedro*; and Mr. Compton born *Dogberry*, the immortal type of an ever- esent family.

The Princess's.—The Extravaganza here is ry amusing and very well played,—Miss Oliver, iss Murray, Miss Howard, Miss Hudspeth, Mr. elmore, and Mr. C. Seyton, sustaining the prin- pal parts. It is called "Beautiful Haidee," and compounded by its author, Mr. H. J. Byron, om "Don Juan," "Lurline," and "Lord Bate- an," an odd mixture enough. Mr. F. Lloyds, who rapidly taking a high place in his profession, s painted some remarkably good scenery for it;— e shore of a Grecian island after a storm, with lling sea; the Mermaid's Haunt; and the Floral all of the Caryatides. The second of these is pecially clever. Lord Bateman is seen in the ater, under the wrecked vessel; and this, gra- ally rising, terminates in the mermaid's haunt, fairy scene of great beauty. Some pretty ncing completes the success.

Another New Theatre.—Another new theatre talked of, in the neighbourhood of Chancery- ne. It is to be of iron, it is stated; and great re is to be taken to provide for the comfort of e visitors. If this point were considered, before be too late, by managers of existing houses, it ould be advantageous. A four hours' confine- nt in some of our theatres is simply insup- rtable. Try the upper boxes at the St. James's eatre, for example; and if you have long legs u will vow never to do it again. The box- epers here, by the way, are most importunate. rely 3s. a-piece is enough for the horrible con- ement, without being *forced* to hand over other sixpence or shilling to be allowed to get o a seat.

THE THAMES EMBANKMENT.

In a report to the Metropolitan Board of orks, Mr. Bazalgette says,—

"The total length of the embankment is about 7,000 t, but it is completely divided by the bridges into three ctions, each of which will be viewed by itself, and the e of vision will not ordinarily be continued from one ction to the other. The first section is from Westminster Hungerford Bridge, the second from Hungerford idge to Waterloo, and the third from Waterloo to ackfriars Bridge.

A continuous line of embankment wall would not in lf be productive of much architectural effect: the pre- at landing-places for steamboats are exceedingly ugly, d there would be much difficulty in connecting the er wall with the existing bridges, so as to produce an ective and consistent design.

At each of the bridges there are, and must be, landing- ces for steamers; and midway between the bridges re are landing-places of some description, which will ve to be maintained.

To meet these requirements it is proposed to treat each ngth of embankment from bridge to bridge as a com- te design, and to make the steamboat piers and land- g-places prominent and effective, as well as useful and cessary features.

At Westminster Bridge, the roadway, which rises at an dination of 1 in 80 to the level of the bridge, is set back ne 30 or 40 feet from the face of the embankment wall; d the intervening space would be preserved as a prome- de and steamboat-p er, having access from the bridge a wide and imposing flight of steps opposite the Houses Parliament. This will terminate without abruptness e varying styles of architecture at this point. Between estminster and Hungerford Bridges would be landing- irs for smaller craft; and here it is proposed to intro- ce the beautiful water-gate now situate at the end of ckingham-street, and erected after a design by Inigo nes. On either side of Hungerford and Waterloo idges would be steamboat landing-piers, the dummies which would be partly concealed within recesses med by projecting into the river, in front of the general e of embankment, massive granite piers with moulded destals rising about 30 feet above the roadway, and reafter to be enriched with bas-reliefs and surmounted groups of statuary.

Half way between Hungerford and Waterloo bridges it proposed to construct a flight of landing steps 60 feet de, projecting into the river, and flanked at each end th massive piers, rising to the level of a few feet above e roadway, and hereafter to be surmounted with colossal figures of river deities, or other appropriate oups. It is proposed to form an approach for foot pas- engers from the high level roadway to the river by a cond flight of steps, descending to the level of the lower embankment roadway, which would aid much to the ject of this central feature as viewed from the river. On ther side of this approach a line of shops could be ected on the land side of the embankment roadway, e backs of which would form a retaining wall to the ornamental crescent and promenade above them.

Between Waterloo and Blackfriars bridges, and in front Arundel-street, a steamboat pier would be constructed, idea of the present Essex-street pier, designed upon the ne principle as those adjoining the bridges.

The embankment wall itself has been enriched with mouldings of a simple character down to the level of high-water mark, the continuous line of moulding being broken by the introduction, at intervals, of massive blocks of granite to carry ornamental lamps, and by occasional recesses for promenade seats.

It is proposed in the first instance to construct the embankment wall and fill in behind it to the level of 4 feet above Trinity high-water mark, and afterwards to arrange for the laying out of the area reclaimed. I propose to divide the work into two contracts, the first, from Westminster to Waterloo Bridge, which may be let about the end of May or early in June; and the second, from Waterloo to Blackfriars Bridge, which may be let before August next."

The number of houses required to be taken for the construction of the Thames Embankment on the north side of the river, situate in Printer's-street, Huish-court, Currier-row, Jackson's, Canterbury, and Green Dragon courts, in St. Anne's, Blackfriars, amounts to thirty-two, consisting of tenements containing from three to eight rooms, and the number of persons to be displaced thereby 437, children included. The number of houses to be taken for the construction of the Southern Embankment in High-street, Vauxhall, Princes-street, Upper and Lower streets, and Stangate, in Lambeth, is 124, including seven model lodging-houses, and calculated to displace 1,175 persons, including children.

WIDE TENDERING AND BILLS OF QUANTITIES.

Sir,—Not unfrequently we see tenders for works varying in amounts, and, in some instances, specially noted by you. I take the liberty of annexing extracts from bill of quantities which I received during the past week;—the greater part of the quantities being but received by the morning's post of the day on which the tenders were to be delivered.

The quantities in question were furnished by the architect, assisted by a gentleman appointed by the architect. This latter gentleman was assumed to represent the contractors, but the contractors were never consulted or allowed to vote on the subject. A commission of 2½ per cent. is modestly charged by these gentlemen for the quantities, in addition to lithography expenses, and this commission is also charged on "*provided sums*," which amounts to one-sixth of the entire cost of the works.

To the outside public it is inexplicable how such large differences do arise; but I think you will agree with me that it is more a cause of wonder that greater differences do not arise under such circumstances as above narrated.

I am well aware that such a course is not in practice in London; but I am anxious that you should know how some gentlemen manage things in a large provincial town, and which boasts itself the metropolis of the Midland Counties.

A Provincial Contractor.

*** To show the insufficient and improper manner in which the quantities are prepared, it will be sufficient if we give two of the extracts sent:—

"No. 1 staircase, from 1st to 2nd floor, 3 ft. wide 13 ft. 6 in. total rise, 13 flyers, 4 winders, 1 quarter space and 1 riser, and nosing with 1½ red deal treads with rounded nosings and hollows mitred and returned; ⅝ in. risers mitred to 1½ in. outside, string beaded on the underside, 1½ in. moulded wall string framed carriages and bearers. Curtail steps and ⅝ in. beaded fascia and nosing to well, the handrail and balusters to be those from present staircase on 1st floor, re-used as far as they will go, and the deficiency made up with new of the same description.

No. 2 staircases, each 3 ft. 4 in. wide, 7 ft. 4 in. total rise, 9 winders and 1 riser and nosing, 1½ in. treads, with rounded nosing, 1 in. risers, 1½ in. beaded wall strings, 4 by 4 rounded central newel carriages and bearers."

ROTHERHAM WATER BILL.

Sir,—Permit me to inform your readers in general and Mr. "Robert White, clerk to the Worksop Local Board of Health," in particular, that I have NOT given any evidence "before the Committee of the House of Commons" relating to the Worksop Waterworks, or to the Worksop Sewerage Works, or to any of the affairs of the Worksop Local Board of Health; of which, indeed, I have no knowledge, and with regard to which I have certainly never "theorized."

Using Mr. White's own phraseology, I beg to "express my regret that a man" of Mr. White's "reputation" should have rushed into print, and made a *personal* attack "without any sufficient data on which to base" his statements; and, "for the credit of the profession, I trust there are few men who would risk their reputation" by making rash and unfounded statements without first communicating with the person intended to be assailed. Mr. White could very easily have addressed himself to me before venturing to propagate a manifestly slanderous imputation.

T. Hawksley.

WHEN IS A HOUSE COMPLETED?

In the case of Snell and Others *v.* Finch, tried at the Spring Assizes, Kingston, on the 2nd inst., the chief question raised was, when houses or buildings can be deemed to be completed.

In November, 1861, one Mead took from the plaintiff Snell a building lease of land, containing two covenants, one to complete the houses, so as to be habitable, by the 29th of September, 1862, and a "substantial fence" by the 23rd of May, 1862. Mead, the lessee, borrowed large sums of money from various persons; among others from Finch, the defendant, on mortgage; and he also made sixteen under-leases, and took mortgages from his sub-lessees. The property in question was a piece of land on which six houses were built. Mead had mortgaged the property in question to Finch, the defendant, and afterwards became bankrupt. Finch, who was assignee of his lease, had possession in March, 1862, but it was contended on his behalf that Snell's attorney had kept him out of possession for some time. Disputes then arose between Finch, the assignee of the lessee, Snell the lessor, and the other parties, mortgagees, as to the accounts and priorities of the securities, &c.; and on the 4th of December, 1862, Finch commenced a suit in equity against him for an account and for certain equitable relief. On the 22nd of December, 1862, Snell, the lessor, commenced this action against him to recover the premises, forfeited under the condition to complete the houses and the fence by the 29th of September, 1862.

There was a great deal of evidence on both sides as to whether the houses had been completed. It turned out in the course of the case that there had not been a continuous fence along and around the whole of the property, according to the covenant. But it was contended that the way in which the houses were built—quite flush with the foot-pavement,—precluded this, and made it impracticable; and that the lessor, having been constantly on the premises and tacitly assented to it, had waived the forfeiture; and in particular a conversation between the builder and the attorney of the lessor—who, it was said, had to a great extent the management of the property,—was relied on as a waiver of the forfeiture so far as regarded the fencing.

The chief conflict of evidence was as to the completion of the houses. On the part of the plaintiff (the lessor), witnesses were called to prove that on the 29th of September, 1862, the houses were not completed, stating that the papering was not done, that the sewers and waterpipes were not "completed," &c. On the part of the defendant, the lessee, the builders and workmen who had been employed on the houses were called to show that they had, in fact, been completed by the 29th of September, 1862, and that any work done after that date was in doing certain work over again, which had, in fact, been done in due time, though it turned out that it was desirable to do it over again. In particular, as to the sewer and waterpipes, it was contended that all that required to be done was to connect them with the main drain or pipes in the streets; and, as regarded the papering, it was admitted that parts of it required to be done again by reason of damp in the plaster work; arising, as was also admitted, from its not having been sufficiently dry before the paper was put on, so that it "sweated."

The Lord Chief Justice, in summing up the case to the jury, said the most important part of the question as to breach of covenant was as to the completion of the houses "so as to be habitable." They had been so completed in October: had they been so completed in September? Men, no doubt, had been at work in the houses after September: part of the papering had to be done over again; and certain other matters likewise were done after that time. The question for the jury was, whether all this had or had not been sufficiently explained. Had the houses been completed in due time—reasonably fit for habitation?

The result was a verdict for the defendant.

PATENTS CONNECTED WITH BUILDING.*

Machinery for Moulding Bricks, Tiles, Pipes, and Turf. — *E. Schlickeysen*, Berlin. Dated 3rd May, 1862.—This invention cannot be described without reference to the drawings.

Apparatus for Heating or Warming Rooms or Buildings with Steam.—*T. O. Dixon.* Dated 3rd July, 1862.—This invention consists, First, in arranging the steam-pipes, or the pipes for conducting and circulating the steam for heating or warming rooms, in such manner as that the condensed steam or water may be drawn off into a receiving-pipe at various points in the line or circuit, and being conducted thence to a "syphon-box" or steam-trap; steam being also conducted by a separate pipe thereto, from the end of the line or circuit, by which arrangement breakage of joints in the pipes is prevented. Secondly, in the employment of an equilibrium in combination with a float lever in the "syphon-box" or steam trap, by means of which the condensed steam or water is carried off, or is permitted to escape without allowing any steam to pass off.

Improvements in the Manufacture of Pigments or Paints from certain Refuse Materials.—*A. Warner.* Dated June 20th, 1862.—This invention has for its object the application of the refuse or slag obtained from puddling and re-heating or other furnaces used in the manufacture of pigments or paints. For this purpose the patentee takes the refuse or slag above referred to, and reduces the same to a fine powder by any of the well-known mechanical operations for grinding or pulverizing similar materials or other hard substances. The ground or pulver-

* Selected from the lists in the *Engineer*, *Mechanics' Magazine*, &c.

ized materials are then to be washed or otherwise treated, and combined with oil or other materials, and used as pigments or paints for various purposes, as is well understood in the manufacture of pigments or paints from other oxides of iron or other metals. For the purpose of producing the slag or cinder to a fine or impalpable powder, the patentee prefers to use grinding apparatus, such as is used for grinding flints for pottery purposes, the materials being ground in water. After being sufficiently ground, the materials are run off into a tank and allowed to subside, and then the water is run off from the surface, and the wet, slimy mass is spread upon heated flues, or the material may be dried by other means. The pigment or substance thus prepared must then be taken and made up into paint by mixing with water or oil, and may be used in combination with colours and with dryers, according to the purpose for which it is required.

IMPROVEMENTS IN SCREW CLAMPS OR CRAMPS FOR JOINERS AND OTHER WORK.—*H. F. Wells.* Dated April 29, 1862. This invention consists in the use of a notched or plain bar of metal of any desired length, according to the purpose to which the cramp is to be applied, with one or more sliding arms formed in the manner described. When one arm only is used, the end of the bar is turned up to form an abutment or pressing surface, against which one side of the material to be clamped, cramped, or compressed, is placed. The sliding arm is self-fixing by its peculiar form, and when placed in the proper position upon the bar forms the other abutment. An adjusting screw, fitted either in the head of the bar, or in the end of the sliding arm, or in both, completes the cramp. In place of twining one end of the bar up, a plain bar, notched in opposite directions, and two sliding arms, may be added. The sliding arms are formed with a hole or slot at one end, through which the bar can be passed. The arms can thus be moved along the bar to any required position.

A NEW COMPOSITION FOR CASTING TO REPRESENT MARBLE.—*A. Prince.* A communication. Dated April 30, 1862.—The patentee claims the composition formed of minerals and waterglass, or silicate of soda, or potash, or both, substantially in the manner specified, constituting a substitute for gypsum and marble, for the purpose of casting copies of figures, busts, relievos, and articles of sculpture of every kind, &c.

IMPROVEMENTS IN THE MANUFACTURE AND PRODUCTION OF MINIUM, OR RED LEAD.—*J. H. Johnson.* A communication. Dated May 6, 1862.—This consists in the conversion of the oxide of lead, when free or uncombined, and of certain base salts of lead, into minium or red lead, by mixing the same with either carbonate of potash or carbonate of soda, or mixtures of the same, and subjecting such mixtures to the action of an elevated temperature, whereby the oxide of lead is oxidized, and is converted into minium or red lead.

AN IMPROVEMENT IN MACHINERY OR APPARATUS USED IN THE MANUFACTURE OF MALLEABLE IRON AND STEEL.—*E. B. Wilson.* Dated May 5, 1862.—This relates to the vessel in which the molten metal is treated during its conversion into malleable metal or steel, and consists in providing such vessel with a central, or nearly central, exit for the gases, such exit or escape passage dipping at its lower lip into the molten metal, and extending to within a short distance from the bottom of the vessel, at or near the centre thereof. A space is left round the gas exit passage between its exterior sides and the inner sides of the vessel, with the exception of a portion on one side, which is left to form a convenient outlet for emptying the vessel. Provision is also made for hanging the vessel on centres or pivots at each side thereof. The molten metal having been run into the vessel, air is blown therein at one or more separate points of, or entirely round, the top space, which air, after passing under the lip, permeates the molten metal and escapes with the gases up the outlet.

FIRE-PLACES AND STOVES.—A communication. *F. C. Bakewell.* Dated 3rd September, 1862.—The patentee claims, 1st, the use of air passages or recesses in the back wall of the grate extending from below the fire-basket to any desired height above the grating on which the fuel is placed. 2nd, the use of flaps, or other equivalent device, for closing at pleasure the spaces between the grate bars on which the fuel rests, for the purpose of preventing the rapid combustion of the fuel. 3rd, the use of a screw placed over the smoke-flue for the purpose of preventing the fall of soot and dirt into the apartment, and for conducting these substances to suitable receptacles from which they may be removed from time to time. 4th, the combination of the air-flue, the dust-pipe, and screen described, or any of them, with a fire-place or stove, for the purposes set forth.

IMPROVEMENTS APPLICABLE TO THE BURNING OF BRICKS, TILES, &c. — *J. Platt and W. Richardson.* Dated 4th September, 1862.—This invention consists in a method of heating a filled kiln in a preparatory manner; and this the patentees accomplish by transferring thereto the heat from a separate kiln in which the burning of the bricks or other articles has been effected. For this purpose they employ a blast of air which passes from the top of the heated kiln to the lower part of that in which the articles to be burnt are placed.

PREPARATION OF CLAY FOR THE MANUFACTURE OF BRICKS, TILES, &c.—*J. Platt and W. Richardson.* Dated 4th September, 1862.—The apparatus for carrying out this invention cannot be described without reference to the drawings.

MACHINERY FOR CUTTING VENEERS.—*J. B. Childs.* A communication. Dated 12th August, 1862.—The log or block is firmly secured to a bed-plate by means of bolts which pass through the bed-plate and screw into the log or block. The bed-plate is perforated with holes at equal distances apart, and a sufficient number of them to receive a requisite number of bolts to hold the block firmly thereto. The bed-plate may be placed in a vertical, horizontal, or diagonal position, but it is preferred to place it in a vertical position. The bed-plate, together with the block carried thereby, has a motion up and down a distance somewhat over and above the width of the largest block to be cut; and this motion is, by preference, communicated to it by means of two cranks and two connecting rods, one at each end of the bed-plate. The knife, when making the cut, is stationary, but is capable of being moved towards and from the bed-plate by the action of the feed motion, which, by means of a double ratchet, causes it to recede immediately after the cut, and again to move forward immediately before the cut a distance depending on the thickness of the veneer next to be cut. The knife consists of a straight cutting edge, with one side bevelled off; and is firmly secured to a knife-block which is made to slide towards and from the bed-plate. A little before the edge of the knife there is a pressure bar, made adjustible by set screws, and bolted firmly in its required position to a pressure beam. The invention also consists in the method of feeding the knife, and of graduating the feed to the different thicknesses of veneers to be cut.

FOUNDATION OR GROUNDWORK FOR PLASTER FOR CEILINGS, WALLS, PARTITIONS, &c.—*J. Nickson & T. Waddingham, jun.* Dated 1st September, 1862.—This invention consists in the use of plates or slabs of slate, metal, earthenware, or other similar and suitable material, perforated with round, square, or other shaped holes, or with oblong slots, for the purpose of retaining the plaster; a space being left between the adjoining edges of the plates, when placed in position, for the same purpose. The said plates are nailed or otherwise attached to the joists, spars, or battens, and are made of a suitable size to cover the spaces between the same; or they are attached to studs projecting at suitable intervals from the surface of the wall to be covered, so as to leave a space between the wall and the plastering, which is more particularly adapted to the outer walls of buildings, or to walls exposed to damp.

Books Received.

A Vacation Tour at the Antipodes; in 1861-1862. By B. A. HEYWOOD, M.A., Trinity College, Cambridge. London: Longman & Co. 1863.

MR. HEYWOOD, being advised to take a long vacation and a thorough change of air, thought he could not more efficiently carry out the recommendation than by making a trip to the far end of our little planet; and certainly he was much more likely to obtain a thorough "change of air" in Australia and New Zealand than at Brighton or Margate. It constitutes an epoch in the history of the globe, and shows us rather startlingly how rapid are our advances towards a thorough exploration of all its nooks and corners, when we find a voyage to the antipodes selected as a hurried vacation tour for recruitment of health and energy by "change of air."

Mr. Heywood's volume contains a plain, sensible, and popular narrative of what he saw and heard in Australia, Tasmania, and New Zealand; and is valuable as a record of cursory and popular impressions of those thriving colonial countries. His volume is illustrated by views of the Parliament House at Melbourne, the University of Sydney, and other engravings and maps; including a pocket map of Australia and New Zealand, with one of a portion of the Otago gold-fields, near Dunedin, an engraved view of which New Zealand "city" is also given.

Every Man's Own Lawyer; a Handy Book of the Principles of Law and Equity. By a Barrister. London: Lockwood & Co. 1863.

"SIX AND EIGHTPENCE saved at every consultation," says the outside of this little volume; and there is no doubt that in many cases money *may* be saved by consulting its pages. This will chiefly be the case, however, when used to learn what may *not* be done; and if all knew what can be done and what cannot, many law-suits and much wasteful expenditure would be avoided. With some omissions (the Building Act, for example, is not referred to) this book contains a condensed account of the great body of English law,—no more of it, indeed, than every Englishman is expected to be acquainted with.

A Practical Treatise on Calcareous and Hydraulic Limes and Cements, compiled and arranged from the best authorities. By JAMES G. AUSTIN, Architect. London: Trübner & Co. 1862.

THIS little book, originally published in America, makes no pretensions to originality, and has none, consisting for the most part of extracts from the well-known works of Higgins and Pasley; chiefly from that of the former. They who have not these works will find Mr. Austin's compilation instructive and useful.

Hints on the Formation of local Museums. By the Treasurer of the Wimbledon Museum Committee. London: Hardwicke, 1863.

THE Wimbledon Museum has been based upon a village club which has been in successful operation at Wimbledon for some years, on terms which enable artisans, labourers, &c., to benefit by the privileges which the club enjoys. The present little volume cannot but be of considerable use in the promotion and establishment of local museums and clubs; and there is not a village in England which might not have an interesting museum solely made up of local objects of interest in geological and mineral, botanical and zoological, as well as antiquarian and other departments.

VARIORUM.

Experimental Essays, by Charles Tomlinson (Virtue, Brothers, & Co., Paternoster-row), treating of the motion of camphor on water; the motion of camphor towards the light; and the modern theory of dew. It is a delightful little book, and is evidently intended to find its way into the hands of young people, by whom most of the experiments may be performed without danger and with great advantage. The author says, truly, "Nature speaks so lovingly to the young, and they respond so willingly, that we may well take advantage of this circumstance to gratify a taste which encourages the order, method, and exactness of science."——The February number of the *Giornale dell' Ingegnere-Architetto ed Agronomo* contains a large outline engraving of the façade of the Church of S. Domenico at Casalmonferrato. Signor Pareto has brought to light an inscription showing the date of the front to be 1506.

Miscellanea.

ROYAL SOCIETY.—There are 45 candidates for whom the 15 to be elected are to be chosen. Of the 45, 16 are connected with the medical profession.

INSOLUBLE CEMENT.—A Frenchman has, it is said, discovered an insoluble cement in the common snail. At the extremity of the snail's body there is a little white bladder, containing a gelatinous, fat-looking substance. If this be extracted and the liquid applied to the edges of the broken glass or china, and time given for this natural cement to dry, the parts will hold together so firmly that the mended article is stronger at the united parts than elsewhere. You may break the article, but cannot separate the parts.

Building at Brechin.—Building prospects are in the ascendant here at present, says the *Montrose Review*. The coach-work in Clerk-street, and coach-houses and stables at the top of Bank-street, are progressing towards completion. Mr. John Baxter, has got the contract for the large additions and improvements at Brechin Castle. The plans are by Mr. Bryce, of Edinburgh, architect. The work will soon be commenced. The specifications for the new Farmers' Hall, or City Hall Buildings, are ready for being put into the hands of contractors. There is not likely to be much delay in carrying out this part of the projected improvements in Swan-street.

A Sub-draining Railway Pavement.—Mr. L. Stebbins, of Worcester, Mass., has invented a sub-draining railway pavement, with which he proposes to cover the entire area of streets. It is made of iron; each block about 2 feet square on the surface, and 2½ inches deep. There are four keys or square bolts to each square foot of surface. These keys rise three-eighths of an inch above the surface, and yield to the pressure of the horse's hoof. Each key rests on a rubber spring, which is secured in an iron tube. The inventor claims that it affords the best known surface for wheels to roll on; renders the slipping of horses impossible; and prevents, to a great extent, the accumulation of dirt, reducing the expense of cleaning streets.

Photographing Copyright Engravings.—In the action, Gambart *v.* Sclater, in the Sheriff's Court, London, Mr. Gambart, the well-known printseller of Pall-mall, sought to recover of the defendant, a shopkeeper at Canterbury, damages for selling photographs of Holman Hunt's "Light of the World," of which he had the copyright. The defendant did not plead, and the only question was the amount of damages to be awarded. Mr. Gambart stated that he gave Mr. Holman Hunt 200 guineas for the privilege of engraving the picture. He paid for the engraving over 300 guineas, and 130*l.* to the owner of the picture for allowing the engraving to be made. With other expenses, the print cost him about 2,000*l.* to bring out. It was the most successful he had ever produced, and for the first year his profits were upwards of 10,000*l.* For the last two years the sale had fallen off, and he found that photographers had copied the print, and he was for his own protection obliged to bring actions. His price was from two to eight guineas, and photographers could produce them for a few shillings: some could be sold for 1½d. The jury assessed the damages at 100*l.*

Treasure Trove: Druidical Antiquities.—Most people have heard, we dare say, of the recent turning up, in a ploughed field at Mountfield, in Sussex, of a weighty chain and rings of gold, worth 550*l.* as mere metal, being 11 lb. weight; but sold, by the labourer who found it, as old brass, for 6d. a lb., or 5s. 6d. in all, to a knowing blacksmith, who sold it at its full value to London gold-melters, who found it to be Barbary gold, but do not seem to have had any regard for its value as an antiquity. At the inquest held to ascertain the Queen's right to the treasure trove, the labourer thus described his five-and-sixpenny treasure: "I ploughed up a long piece of metal: it was in a hole a little deeper than a foot: it was about a yard long, with two 'trumpets' at each end, twisted in three grooves. We also found a great number of rings, some of which were larger than the others. The larger rings were round, but did not shut to." Two other pieces were afterwards dug up, and were produced before the coroner and jury. During the examination Knight's "Old England" was produced, and several witnesses who had seen the gold agreed in stating that portions of it corresponded with the ornaments round the neck of a Druid, as shown in plate 9; and that the rings, &c., corresponded with a group of British coins in plate 21. The jury decided that the whole of the treasure-trove belonged to the Queen. The coroner, as has often been done by the press, explained that if persons, on finding treasure of this description, gave notice in the proper quarter, it was the practice of the Crown, if the articles found were of much value from their antiquity, to reward the finding the treasure by its money worth, the articles themselves being appropriated to the public use, and placed in the British Museum. Nevertheless, we may add, the public do not seem to be sufficiently informed of this even yet; and it would be well were the press to repeat it prominently on every such occasion as the present. Surely the gold-melters can have no such excuse as that of ignorance, however; and if any one is to be made responsible in the present instance they ought.

The New Street from London Bridge to Stamford-street.—The contract for the completion of the new street, subway, and sewers from London Bridge to Stamford-street, Blackfriars-bridge-road, has been let to Mr. Pearson, and is now commenced.

The Royal Wedding Presents.—We understand that the exhibition of the wedding presents of the Prince and Princess of Wales will be opened to the public on Thursday, the 16th of April, in the Italian Sculpture Court of the South Kensington Museum. There will be a private view on Wednesday evening. The free and students' days will be kept as usual.

Testimonial.—The carpenters in the employ of Mr. R. Freeman, contractor for the extensive works now going on in Ely Cathedral, met, on the occasion of the removal of the present clerk of the works, Mr. R. H. Norris, at the Lamb Hotel, and presented him, according to the *Cambridge Chronicle*, with a handsome gold pin, with a diamond set in star, for the kind advice and able superintendence over the workmen during a residence of twelve months. The testimonial was presented by Mr. Bailey with some suitable remarks, appropriately replied to by Mr. Norris.

Coating Iron to Prevent Oxidation.—A proposition has been laid before the Admiralty by Mr. Walenn, a London chemist, to coat iron of any size, from a ship's bottom itself, as one whole, to a single bolt for the armour-plate,—extent of material or shape being no objection,—with a deposit of metal, such as brass or any other alloy, as thin or as thick in substance as may be wished, with a bright, hard, enamelled surface. This would prevent the oxidation of ships' armour and bolts, and the fouling of iron ships' bottoms. Mr. Walenn has been directed to proceed to Portsmouth Dockyard to inspect the existing arrangements of baths and batteries now adopted there, and to send in to the Admiralty a special report, with accompanying estimates of his proposed plan of electrotyping.

Sanitary State of Leeds.—The first case has just come before the Leeds magistrates in which the board of guardians have taken legal proceedings in conformity with the recent decision to co-operate with the town-council in carrying out the Nuisances and Diseases Prevention Act. Their complaint was that the owner of property in Poland-street, Leeds, permitted the existence of a drain containing foul and offensive matter prejudicial to health, and also suffered a privy to remain in a filthy state. Poland-street is a *cul de sac*. Smallpox, resulting in death, has taken place in the street, and a woman had died in the immediate neighbourhood that morning. The defendant had been served with a notice, and the other owners of property there had been willing to remove the offensive drain, but they could not get the defendant to assist. The defendant also had lately made himself liable to severe penalties by letting a house to a tenant who suffered twelve or fourteen persons to live together in one small room, and no less than three deaths occurred from that overcrowding. The magistrates ordered the privy to be cleaned out within twenty-four hours, and the nuisance from the drain to be remedied in seven days.

The Cawnpore Memorial.—The consecration of the monument erected over the well at Cawnpore, into which were cast the remains of those massacred there on the 15th of July, 1857, took place on the 11th of February last. Not one of the thousands of natives who crowded to witness the scene was admitted within the enclosure. Lord Elgin stood on the steps of the platform erected round the well. The monument consists of an octagonal Gothic screen, designed by Colonel Yule when Public Works Secretary, on a platform which encircles the well. The well itself within is vaulted over, and covered with a pedestal, which awaits the statue Lord Canning promised to order from Baron Marochetti. Round the rim of the well, and within the screen, is written—"Sacred to the perpetual memory of a great company of Christian people, chiefly women and children, who, near this spot, were cruelly massacred by the followers of the rebel Nana Dhoondopunt, of Bithoor; and cast,—the dying with the dead,—into the well below, on the 15th day of July, 1857." The Bishop, his chaplain, the Archdeacon, the chaplain of Cawnpore, and others, followed by the Viceroy and all the Christians present, went in procession round the grounds, chanting the service of consecration. Mr. Thornhill, commissioner of Allahabad, whose brother's bones lay below, was the architect, who superintended the raising of the monument and the laying out of the grounds.

The Royal Academy.—The statement which has been extensively circulated, to the effect that the Academicians had given up the right hitherto possessed by them of each hanging eight pictures, and that the number is now reduced to four, is incorrect. Some such arrangement, we are informed, has been come to with reference to portrait painters who are members of the Academy, but not to the general body, yet.

Copper.—In manufactured, says the *Cornish Telegraph*, nothing under fixed rates can be obtained, demand moderate. For raw there is rather more inquiry, some of the smelters still refusing orders at market prices. Foreign copper is quiet, quotations being comparatively in excess of English: buyers are not attracted to any extent. Burra Burra, 94*l.* 10s. to 95*l.*; Kapunda, 95*l.*; Spanish, 87*l.* to 88*l.*; Chili, 83*l.*

Proposed Guild of Art-Workmen, at Hanley, Staffordshire.—A numerous meeting of art-workmen has been held at the Mechanics' Institution, Hanley, at which Mr. Henry Sherwin, of Wolstanton, presided. Stoke and Burslem were represented as well as Hanley. The circular calling the meeting stated the object to be the establisment of a guild or association of art-workmen and others for mutual aid in promoting a knowledge of the principles of art in their application to pottery. It was resolved unanimously to establish such a society: it will meet fortnightly.

The Toronto Mechanics' Institute.—The secretary of the Toronto Mechanics' Institute writes a letter in the *Hants Independent*, stating that the institution has cost 10,000*l.*; that it has a library of 6,000 volumes, and a reading-room supplied with 100 newspapers and periodicals; and that the members number 1,000. Many of them attend classes for instruction in book-keeping, penmanship, English grammar and composition, mathematics, architectural and mechanical drawing, music, French, and ornamental drawing. The writer concludes by saying:—"Canada is a great country, and a good home for the industrious. I am sure that the starving thousands in England might make here a comfortable living."

A large Vat.—There has lately been finished, at the vinegar works of Messrs. Hill, Evans, & Co., in Worcester, a monster vat, which stands on a 2-feet dwarf wall of nine bricks in thickness: its height is 23 feet: it is 102 feet in circumference, 23 feet in diameter, and in its construction 325 staves of Dantzic deal, each 3 inches thick, have been used. The staves are bound by twenty-three hoops of Staffordshire iron, 3½ inches wide and three-eighths of an inch in thickness, and the vat will hold 114,643 gallons, or 3,184½ barrels. The largest known vat next to this is said to be at the porter brewery of Messrs. Guinness, at Dublin, which holds about 80,000 gallons, so that the Worcester vat exceeds it by upwards of 35,000 gallons. The total weight of this mammoth, when full, is 570 tons. If circular tables were placed inside it while empty, 100 persons might conveniently dine round them, and a tolerably numerous school might assemble to tea within its walls. Standing near to it are two other vats, holding upwards of 80,000 gallons each; and there are others of 70,000, 50,000, and so on down to 1,700, and making altogether 76. These monster vats have been built by Mr. James Oxley, of Frome, Somerset.

Royal General Theatrical Fund.—The eighteenth anniversary festival of this institution was celebrated on Saturday evening last at the Freemasons' Tavern, Great Queen-street, under the presidency of Mr. Charles Dickens. More than 200 persons sat down to dinner in the great hall. A numerous party of ladies honoured the entertainment with their presence, and were accommodated with seats at the top of the hall, and also in the gallery. Mr. Buckstone, in his address, made allusion to the usual position of ladies in such entertainments:—"Gentlemen," he said, "seeing the ladies still seated by themselves, and cruelly parted from our sides, I must tell you it is yet an undecided point whether in future they shall not sit down and dine with us. But as I have promised to be chairman next Ash-Wednesday, at another Dramatic Fund Dinner, where ladies do sit down, I shall have an opportunity of observing how the system works; and if I find it very comfortable, as I am certain I shall, I intend to recommend the directors of our fund to do the same thing; and then you can bring your wives and sweethearts; and, by your liberal donations, prove to them what noble and generous hearts you have to bestow upon them." The subscriptions announced by Mr. Cullenford, the secretary, amounted to nearly 400*l.*; her Majesty's donation being 100*l.*

MONUMENTAL.—Mr. Thomas Earle has just completed a colossal seated statue of the Queen for the People's Park, Hull; and another colossal statue (the figure in this case standing) of the late Prince Consort, to be placed before the Licensed Victuallers' Asylum, of which his Royal Highness was patron.——A fund is now being raised towards erecting a monument in Canterbury Cathedral to the memory of Archbishop Sumner.

DIAMAGNETISM AS A RESUSCITATIVE.—A contemporary says,—"Mr. Faraday has discovered that suffocated persons may be revived by passing a form of magnetism, known by his name, into what surgeons will understand as the phrenic nerve. The French physiologists have tried it on scores of cats and dogs suffocated, and call it, in compliment to England, the 'Faradisatian' plan."

NEW CHURCHYARDS.—A return has been compiled which shows that, in the last thirty years, new ground has been consecrated in 2,688 parishes of England and Wales to serve as churchyards. In 1,412 parishes, very nearly half the whole number, the ground was presented as a free gift, and in 229 it was purchased by voluntary subscription. Like most of the occasional returns made to Parliament, this is by no means complete or correct. No information has been received from the dioceses of Exeter and Lincoln, and a difference of opinion seems to have prevailed in reference to including cemeteries not belonging to any particular church.

"STEAM SUPERSEDED:" GUNPOWDER AS A SUBSTITUTE.—An invention has been provisionally specified by Mr. John Macintosh, of North Bank, Regent's Park. It consists in the rapid generation of power by the aid of oxygenous "fuel" in tubes, or inside the usual boiler, and composed either of coke or coal, and nitrate of potash, with, in some cases, sulphur and chloride of potash; and, if desired, the "fuel" is put into form with adhesive substances, such as mineral or vegetable pitch, resin, paraffine, gutta-percha, caoutchouc, or glue. The prepared fuel is put into closed tubes or furnaces, with valves for the escape of the gaseous products of the combustion, which may be used alone or in combination with steam, air, or other fluids, in giving motion to machinery. This oxygenous "fuel" may be put into ordinary steam-boilers; and when ignited, it instantly produces power to give motion to engines, or it may be used for other purposes where power is required as an auxiliary. How will it act on the metal of the tubes and boilers?

EUROPEAN VANDALS IN EGYPT.—Writing from Egypt, Mr. A. H. Rhind says:—M. Mariette complains, and justly, that the Vandalism of European travellers is as rampant as ever. The evidence of this is to be seen on all sides in the chippings and scratches and chiselled names which deface the monuments everywhere. I may mention, however, three special instances from among those related to me by M. Mariette, as having occurred since he entered upon his office, and they will illustrate what has been done by some visitors of the three nations from which come the greater number of travellers in this country. Let the first be an Englishman. He went up the Nile with a brush and a pot of coal-tar and wrote himself down all over the monuments in letters a foot long. [Cannot Mr. Rhind send us his name?] Take another case of two Americans. An attempt had been made by M. Mariette to secure the future safety of the celebrated Royal Tomb known as Belzoni's, which, notwithstanding the scientific mutilations of Dr. Lepsius and other accidents, is still a splendid relic. A door was made for it and a keeper appointed. But one morning these American travellers appeared at the spot, and not finding the keeper there, as he had not been warned, they beat down the door, burned part of it to boil their coffee, and thrashed the keeper when he arrived. At Edfoo, two Frenchmen showed similar or more aggravated contempt for the efforts at conservation. After the very perfect temple there was cleared out, a keeper was likewise appointed for it; and when he, on the French visitors beginning to possess themselves of a fragment, remonstrated with them, stating his orders on the subject, they simply abused him and his superiors, and proceeded to chip off and pocket the pieces they coveted. It might produce some effect if, in your own and other influential journals, it were prominently stated, that the Egyptian monuments are cared for; that foreigners are now practically their only defacers; and that it is as foolish and unjustifiable to break off fragments or cut names on them, as it would be to attempt to do the same in the Pantheon at Rome or in Westminster Abbey.

ARCHITECTURE AND SCIENCE.—Cardinal Wiseman, in his lecture "On Points of Contact between Science and Art," illustrated his argument by a matter relating to architecture which occurred in the history of St. Peter's at Rome. "Although," said the cardinal, "the architect, Michelangelo, had taken the greatest precaution for the security of the dome, yet in 1681 numerous cracks appeared in various directions through the cupola. Marble dovetails placed across the crack broke with alarming rapidity, and it was feared that in a few years the whole dome might fall in. Various remedies were suggested by architects; but the Pope Benedict the Fourteenth wisely observed that this was not the business of art, but that of science. A commission of three eminent mathematicians (Boscovich, Le Sueur, and Jacquier) was appointed to examine the case. In 1742 they issued their report, showing by their calculations, that the weight of the entire dome with its lantern came to 55,248 tons, and that there was a balance of 1,674 tons on the side of pressure against support; concluding with the remark, 'that irreparable ruin must be apprehended unless a timely and efficient remedy was applied.' The remedy they proposed was entirely scientific—to put six more solid iron girders round the huge periphery of 420 feet. No time was lost. In 1743 two girders were braced round the drum, and in 1744 three more were added. We have here a notable instance of Science coming to the rescue of Art in one of its most painful crises. The proposed cure fully answered; and now, after 120 years, no sign has been given of subsequent damage." Architecture, we must take the liberty of reminding the learned cardinal, is a science as well as an art, and its professors, to be entitled to be so called, must be themselves competent to construct edifices that will not fall, and to prescribe efficient remedies for those that seem disposed to do so. We do not look very patiently on the attempts which are being made in more quarters than one to represent the architect simply as the designer of pretty forms.

TENDERS.

For a warehouse, John-street, Crutched-friars, for Mr. W. T. Mackrell. Mr. John Whichcord, architect:—

Kirk	£3,349 0 0
Brown & Robinson	3,185 0 0
Macey	3,078 0 0
Ashby	3,037 0 0
Smoms	2,890 0 0
Sharpington & Cole	2,877 0 0
Piper & Wheeler	2,830 0 0

For two dwelling-houses, to be built on the Leas, Folkestone, for Mr. R. Offord, London. Mr. Joseph Gardner, architect. Quantities supplied:—

Petts	£2,721 10 0
Dunk	2,680 0 0
Andrews	2,617 0 0
Stiff	2,548 0 0
Pope	2,520 12 0
Ayers & Son	2,499 0 0
Hoad	2,499 0 0

For construction of four waste weirs, on River Weaver navigation, Cheshire. Mr. E. Williams, jun., engineer:—

Nowell	£3,034 3 5
Dewitt	2,494 6 0
Harley & Dean	2,445 13 0
Pilling	2,284 0 0
Dixon & Sleight	2,253 0 0
Dean	2,238 0 0
Oliver	1,895 0 0

For bailiff's cottage and farm buildings, on Early Wood Farm, Sunninghill, Berks, for the General Land Drainage and Improvement Company:—

Jenkins	£2,066 10 0
Bartlett	1,695 0 0
Rollings	1,598 10 0
Hall	1,475 7 3
Smith	1,351 0 0
Barnes	1,336 10 0

For additions to the Melton Mowbray Union Workhouse. Mr. R. W. Johnson, architect:—

Porter	£392 0 0
Morrison & Tinkler	353 4 9
Clifton	348 0 0
Masson	339 19 6
Hall	335 0 0
Chapman & Son	331 0 0
Hayes	326 5 0
Barnes & Weaver	319 8 0
Fast	310 0 0
Booth	288 15 6

For an addition to Evershed & Sons' candle factory, Eastern-road, Brighton. Mr. A. Anscombe, architect. Quantities not supplied:—

Cheesman	£960 0 0
Lynn	948 0 0
T. Anscombe	929 0 0
Winder	920 0 0
Fabian	877 0 0
Patching	850 0 0

For general repairs to the old vicarage, Battersea:—

Easton	£313 15 0
Thornton	273 10 0
Strong	266 0 0
Bass	185 0 0
Eastman	129 10 0

Accepted for a new manse, Greenock. Messrs. W. & J. Hay, architects. The quantities were not supplied:—

Steele (mason)	£369 0 0
Lang & Aitkin (joiners)	351 0 0
Burns (slater)	32 7 6
Foster (plasterer)	57 0 0
Brownlie, Buchanan & Co., (plumbers)	68 0 0
Barbour & Johnston (painters)	25 0 0
Chalmers (bellhanger)	6 9 0
	£1,108 16 6
Marbles and grates, say	50 0 0
	£1,158 16 6

For works to be done at Park-road Villas, Twickenham, for Mr. Robinson:—

Long	£599 0 0
Scott	544 0 0
Goodwin	519 0 0
Kinnimont	494 0 0

For building new offices in Austin-friars, upon site of old warehouses. Mr. R. L. Roumieu, architect. Quantities by Messrs. Welch & Atkinson:—

Mansfield & Son	£1,900 0 0
Mashman	1,797 0 0
I'Anson	1,780 0 0
Dove, Brothers	1,755 0 0
Browne & Robinson	1,734 0 0
Hill & Son	1,694 0 0
Burton	1,653 0 0

For general repairs to, and new buildings in rear of, No. 35, Finsbury-square, for the City of London Truss Society. Mr. Herbert Williams, architect. Quantities supplied by Mr. James Dudley:—

Axeford & Co.	£2,062 0 0
Patman & Fotheringham	1,949 0 0
Partridge & Crutch	1,737 0 0
Chessum	1,723 0 0
Adamson & Son	1,717 0 0

For making and draining Quarry-road Blacklands, Hastings, for Mr. C. H. Frewen. Mr. H. Carpenter, architect:—

Palmer	£760 0 0
Bridgeland	639 0 0
Smith	628 0 0
White	613 0 0
Kenwood	589 0 0
Harman	466 10 0
Bull	419 10 0
Howell	402 13 0
Ades	384 11 0
Ashton	329 0 0

For additions to villa, Hastings, for Mr. John Phillips. Mr. H. Carpenter, architect:—

Jones	£327 0 0
Kenwood	315 0 0
Vidler	312 0 0
Grisbrook	307 0 0
Harman	305 0 0
Howell	290 0 0

For the erection of a public-house, and dwelling-house adjoining, in Church-street, Hackney, for Mr. A. Manners. Mr. C. Humphreys, architect:—

Piper & Wheeler	£2,169 0 0
King & Sons	2,169 0 0
Ashby & Sons	2,154 0 0
Ennor	1,977 0 0

For repairs to the Orphan Working School, Haverstock-Hill. Mr. James Harrison, architect:—

	Inside.	Outside.	Total.
	£. s. d.	£. s. d.	£. s. d.
Cox & Cutler	52 12 6	44 10 0	97 2 6
Bates	30 0 0	65 0 0	95 0 0
Thurlow	42 15 0	45 10 0	88 5 0

The "*Art Journal*" of November, in its description of Benson's Great Clock, says: "It has attracted universal attention; its construction has, we believe, obtained general and strong approval; it is one of the largest chiming clocks as yet manufactured in this country." Benson's new showrooms contain clocks designed by the first artists of the day, and include clocks for the drawing-room, dining-room, bedroom, library, hall, staircase, bracket, carriage, church, turret, railways, warehouse, counting-house, with musical, astronomical, and every description of clock, from the plainest to the highest quality of which the art is at present capable. Church and turret clocks specially estimated for. Benson's illustrated pamphlet on clocks and watches (free by post for two stamps), contains a short history of clock and watch making, with descriptions and prices; it acts as a guide in the purchase of a clock or watch, and enables those who live in Scotland, Ireland, Wales, the Colonies, India, or any part of the world to select a clock. J. W. Benson received a Prize Medal and honourable mention. 33 and 34, Ludgate Hill. Established 1749.—[Advt.]

TO CORRESPONDENTS.

E. H.—H. de M. (asylum is already built).—W. A.—J. F.—F. & G. E.—J. H.—J. D.—H. E.—A. & R. D.—M. A. G.—X. Y. Z. (time enough, when published).—H. P. (action of a Diving Closet is given in one of our volumes).—A. W. T. (was in type)—Cheap Churches and Chapels (next week)

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

On MONDAY, APRIL 13th, at TWELVE, about 300 Lots.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, facing Priory street, Camden Town, near the Old Eagle and Railway Station, a large quantity of STOCK: viz 2,500 planks, deals, and battens; 300 loads ditto, 120 squares of flooring, 7,000 feet quartering, 4,000 feet the square 7,000 feet of wide pine, mahogany, mouldings, laths, slating, battens, forty-eight new doors, twenty six-inch square poles, old materials, stoves, &c. - Auction Offices, Cardington-street, Hampstead-road, N.W.

Important Sale of Timber, Deals, Mahogany, Wainscoting, Veneers, Beech, Elm, Sycamore, Chestnut, &c. &c.—The entire Clearance and Surplus Stock of a Saw mill and Contractor's and Builder's Premises.—To Builders, Contractors, Timber Dealers, Packing case and Fancy Box Makers, Cabinet Makers, Pianoforte Makers, Turners, Brush Makers, Masons, Butchers, Meat Salesmen, and Others.

MESSRS. F. HALL & SON will SELL by AUCTION, on WEDNESDAY, APRIL 15, 1863, at ONE o'clock, on the PREMISES, adjoining the Sir Sidney Smith and King's Arms, Chester street, Kennington, the STOCK; comprising a large quantity of DEALS and BATTENS, used in the recent procession erections; 10,000 feet of quartering; 1,000 pine yellow and white deals, cut various; 400 first quality white deals, cut in thicknesses from four to eight cuts, suitable for fancy box and packing-case makers; 500 long yellow and white battens, quantity of long 2½ inch battens, suitable for joists; 1,000 feet of Spanish veneers; 500 feet of 1-inch and 1-inch elm boards; 1,000 feet of 4 inch and 4 inch dry walnut boards; 300 feet of 1-inch and 4-inch dry wide Honduras mahogany board and plank; 10,000 feet of short Spanish mahogany, Honduras scantling, boards, and plank ends, suitable for cabinet makers, turners, and others; quantity of saw-mill slips and timber slabs, 10 loads of 3-inch and 4 inch dry bench plank, 1,000 feet of 1-inch and 1½ inch ditto, 2,000 feet of 1-inch dry sycamore and chestnut boards, three capital large sound butchers' blocks, about 150 new chimney-pots, new flooring boards and battens, large quantity of useful Portland stone blocks, and a quantity of other useful materials and effects.—May be viewed, and catalogues had on the Premises; the Sir Sidney Smith, and King's Arms, adjacent; the Telegraph, Regent-street, Westminster; and of the Auctioneers, 1, Thurloe-terrace, Wandsworth-road.

BRENTWOOD.—Valuable FREEHOLD BUILDING LAND, immediately contiguous to the Railway Station. Land-tax redeemed.

MR. MARSH will SELL by AUCTION, at the WHITE HART HOTEL, Brentwood, on TUESDAY next, APRIL 14th, at THREE o'clock, valuable FREEHOLD BUILDING LAND, situate within 300 yards of the Brentwood Station, on the Great Eastern Railway, possessing important frontages of nearly 1,200 feet to the Warley and New roads, and containing a valuable bed of sharp sand and gravel, suitable for building purposes. Also a corner Plot of Freehold Building Land, in an elevated position on the Warley-road, having a frontage of 157 feet thereto, with a return frontage of 200 feet to South-road, and within ten minutes' walk of the Station. Brentwood is a first class station, 17 miles from the metropolis, and reached within forty minutes. Honor-tickets are granted, at 10*l* per annum to first class passengers, and 8*l*. to second class.—Particulars of sale may be had at the Essex Arms and White Hart Hotels, Brentwood; of Messrs. BURDER & DUNNING, Solicitors, 27, Parliament-street; and at Mr. MARSH'S Offices, 3, Charlotte-row, Mansion House.

NORTH LONDON RAILWAY KINGSLAND JUNCTION.

MESSRS. KENNEDY & BONNY will SELL the MATERIALS of the Houses and Shops required for the Junction with the main line, near the Turnpike gate in the Kingsland-road, the last week in APRIL, or early in MAY. (See future advertisements.)

Camden Town, April 2nd, 1863.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, BROMPTON, S.W.

Notice of PRIVATE SALE of about 200 MARBLE CHIMNEY-PIECES, to be sold at very reduced prices (to save the expense of removal to the Brompton-road), in the following Marbles, viz.: Statuary, Rouge Royal, Black and Gold, Black, Siena, Bardilla, Dove, California, St. Ann's, Rouge Jasper, Jaune Fleuri, Brocatella, Genoa Green, Irish Green, Blue Belge, Emperor's Red, Irish Rose, Campaine Rouge, Vein, Sienna, and various excellent specimens of British Marbles, varying in price from 1*l*. 10*s*. to 50*l*.; for elegancy of design, workmanship, and quality, not to be surpassed in England. Purchases to the extent of 30*l*. and 50*l*. approved bills of three and four months will be taken, less 5*l*. per cent. cash. Parties sent from the country will be supplied with packing-cases, and the same packed and delivered to any of the metropolitan stations for 1 per cent. on the amount purchased.

TO BUILDERS AND OTHERS.—Valuable Stock of Statuary, Vein, Sicilian, and Coloured MARBLE CHIMNEYPIECES.

MR. WAGSTAFF will SELL by AUCTION, on the PREMISES, 81, Chalton-street, Euston-road, on MONDAY, APRIL 13, at TWELVE, about 100 choice Trussed and Plain CHIMNEYPIECES, being the entire Stock of a Marble Mason, of excellent quality and in great variety. On view Saturday prior.—Auctioneer's Offices, 176, Upper-street, Islington.

MR. G. NEWENHAM (Pupil of G. G. Scott, Esq. R.A.) PREPARES Sets of Competition Designs, Working and every description of Architectural and Artistic Drawings. Perspectives Outlined in a superior manner (and coloured by the best artists), with punctuality and despatch, and on reasonable terms.—Offices, 36, Parliament-street, Westminster, S.W.

MR. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLOURIST AND LITHOGRAPHER,
No. 21, MONTAGUE-STREET, RUSSELL-SQUARE, W.C.
Competition and every description of Architectural, Working, and Detail Drawings prepared.

TO ARCHITECTS.

A PARTNERSHIP is sought for, by entering into an established firm, or by joining in the succession to a connexion, by a married Gentleman, aged 37, who has had extensive acquaintance with architecture and business, of taste, a liberal education, and respectable connexions, and who would work. A share about 300*l*. looked for.—Communication may be made through and to solicitors optionally.—P. S. Post-office, Hounslow, Middlesex, W.

DISTRICT SURVEYOR WANTED, for the Stockport and Hyde Divisions of the Hundred of Macclesfield.—The Highway Board are prepared to receive applications from Candidates for the Office of DISTRICT SURVEYOR. Persons applying must be practically acquainted with the management and repair of highways; and preference will be given to candidates who have served as, or under, professional surveyors of highways. The district consists of twenty five townships or places, containing about — miles of highways. Applicants are requested to state the amount of salary they will expect, including travelling and all other expenses. Security will be required. The surveyor will have to devote the whole of his time to the performance of his duties, and to reside within the district. Applications and testimonials to be sent to Mr. JOHN LINGARD VAUGHAN, Clerk to the Board, at his Office, in Stockport, on or before the 1st of MAY next. Applications to be marked outside, "District Surveyorship."

JOHN LINGARD VAUGHAN,
Clerk to the said Highway Board.

Stockport, April 2nd, 1863.

OFFICE LAD WANTED.—Apply at Mr. WINDER'S Office, 18, Abingdon-street, Westminster, on FRIDAY next, between the hours of TEN and TWELVE o'clock a.m.

AN ENGINEER is WANTED for India (term, five years), to erect, work, and manage steam-engines with heavy machinery. If acquainted with building it might be to his advantage. State age, last employment, references, salary expected, and whether single or married.—Address, post paid to A. P. CO. care of Hopkins's Private Hotel, 13, Euston-road, N.W.

TO SURVEYORS.

AN ASSISTANT WANTED, who thoroughly understands the practical construction of buildings. Statement of qualifications and terms to be addressed to N. Bessborough Library Reclamation-street, Pimlico.

SIR JOHN CASS'S CHARITY.—SURVEYORSHIP.—The Trustees are prepared to receive APPLICATIONS from Gentlemen desirous of filling the office of SURVEYOR to this Charity, which will become vacant on the 24th day of June next. Applications and testimonials are to be forwarded to me, the undersigned, on or before the 13th inst. after which day the Board will meet to nominate for election a certain number of candidates deemed most eligible for the office. The election will take place at the School-house, Church-row, Aldgate, on TUESDAY, the 21st inst. at ELEVEN o'clock, at which time and place the candidates so nominated will receive notice to attend. Every information respecting the duties and emoluments of the office will be offered to any candidate on application to me. The successful candidate will be required to reside on the Charity Estate at Hackney.—RANDALL GLYNES, Registrar, 8, Crescent, America-square, Minories.

Dated April 4th, 1863.

TO ROAD SURVEYORS and OTHERS.—The Waywardens of the Wantage Highway District will, at their meeting, to be held at the Town hall, Wantage, on SATURDAY, the 18th day of APRIL, 1863, receive APPLICATIONS from persons wishing to be ELECTED to the Office of SURVEYOR for the Wantage Highway District, which comprises fourteen parishes, and between sixty and seventy miles of highway. The yearly salary will be 120*l*., and the person appointed will be required to devote his whole time to the duties of his appointment.—Applications and testimonials to be forwarded to my Office, at Wantage, on or before TEN o'clock, on the morning of the 18th day of APRIL.

EDWARD ORMOND, Clerk.

2nd April, 1863.

TO PAINTERS, &c.

WANTED, a Young Married Man, who can do Graining and Writing, for a Constant SITUATION, if found suitable, in the country, where a house would be provided for him.—Address, stating qualifications and wages required, N. P. Office of "The Builder."

WANTED, an Efficient and Practical MAN, with a knowledge of drawing and construction, to superintend the ERECTION of some first-class VILLAS on a estate a few miles out of London. Must have an unexceptionable character.—Application, with references, and stating salary required, to T. H. Office of "The Builder."

TO ROAD SURVEYORS.

WANTED, immediately, a SURVEYOR for the newly-formed Highway District of Chipping Campden, in the County of Gloucester. The Man appointed will have to keep all the necessary books relating to the repair of the roads, and to superintend and see that the roads are kept in a proper state of repair. Length of road, about 11 miles. He will have to provide his own office, and a horse for his own use, and he must not be engaged in any other business or occupation of any sort or description. Security to the extent of 200*l*. will be required. Salary, 18*l*. per annum.—Any letters and testimonials to be sent to the Rev. G. D. BOURNE, Weston Subedge, Broadway.

WANTED, immediately, in the Country, a Good GRAINER and WRITER, for a permanency. One who will not object to fill up his time with paint painting. A married man preferred.—Address, Mr. C. MILLS, 93, All Saints, Colchester.

WANTED, an active and intelligent Young Man, as FOREMAN in a SAW MILL. None need apply unless well acquainted with the business. The strictest references as to character required.—Address, stating age, previous occupation, and wages expected, to R. A. Office of "The Builder."

TO SIGN AND GLASS WRITERS.

WANTED, experienced MEN in the above line. Specimens of work required.—Apply to E. TAYLOR, 6, Commercial-street, Whitechapel, E.

TO ORNAMENTAL TILE MAKERS AND OTHERS.

WANTED, a Person to undertake the MANAGEMENT of WHITE ENAMELLED GLAZED BRICKS and TILES. To a Thoroughly Competent Party every encouragement and constant employment will be given.—Apply, stating terms, to Mr. Wm. LEE, Office of "The Builder."

TO WHOLESALE TIMBER, YORKSHIRE STONE, CEMENT, AND BRICK MERCHANTS.

WANTED, an AGENCY, by a Party with a first-rate connexion, in the CONSUMPTION of BUILDING MATERIALS.—Apply, by letter, to A. B. care of Mr. Wade, 15, Church terrace, Kentish Town.

TO BUILDERS OR PLUMBERS

WANTED, a JOB, by a good PLUMBER, or a Gasfitter. Three years' reference can be given. Can turn his hand to painting or glazing, &c.—Address, W. W., Plumber, 80, East street, Manchester square, Marylebone.

TO ARCHITECTS

WANTED, a RE-ENGAGEMENT, by the Advertiser, as CLERK of WORKS. First-class references.—Address, ACANTHUS, care of Mr Wiltshire, Walcot buildings, Bath, Somerset.

WANTED, by an energetic practical JOINER, a SITUATION as SHOP or GENERAL FOREMAN of WORKS. First-rate reference to present employer, who is now retiring from business.—Address, W. G. 24, Doris street West, Kennington Cross.

TO ARCHITECTS.

WANTED, a RE-ENGAGEMENT, by an efficient Assistant, who has a thorough knowledge of Gothic architecture. Would undertake the management of an office.—Address, P. Q Office of "The Builder."

WANTED, a SITUATION, by a Practical Man (Carpenter by trade), as FOREMAN. Accustomed to large works. Can prepare working drawings, take off quantities, bill, &c and measure up work. Has had long experience as above. References to principal London builders.—Address, R. J. 45, Clarendon-street, N.W.

WANTED, by a steady, respectable Young Man, aged 25, who is a good workman, a SITUATION as BRICKLAYER to an IRONMONGER. Travelling not objected to.—Address, H. G. care of Mr. Smale, 3, New-street, New-road, Whitechapel-road, E.

TO BUILDERS.

WANTED, by the Advertiser, a RE-ENGAGEMENT as TIMEKEEPER, the works where now employed being near completion. No objection to the country. Reference to present employer.—S. M. C. 7, Chapel Side, Moscow-road, Bayswater, W.

TO BUILDERS, &c.

WANTED, by a Young Man, a SITUATION as CLERK. Is a good penman, and quick at figures.—Address, A. B. Post office, Felix-terrace, Liverpool-road, Islington, N.

WANTED, a SITUATION, in a Builder's, Architect's, or Surveyor's Office, by a Young Man, aged 22, who is a neat draughtsman, good colourist, and also traces neatly and expeditiously, as well as understanding the usual routine of the above offices. Two years' good reference. Salary (for a permanency), 15*s*. per week.—Address, DRAUGHTSMAN, Mr. Lindley, 34*a*, Strand, W.C.

TO PLUMBERS, BUILDERS, AND OTHERS.

WANTED, a SITUATION, by a respectable Young Man, a PLUMBER. Can do hot-water work, and would not mind turning his hand to a little painting if required. Good references can be given.—Address, C. W. C. Office of "The Builder."

TO BUILDERS.

WANTED, a JOB, at the BENCH, by an experienced JOINER, and good STAIRCASE HAND, aged 35; or would TAKE CHARGE of a JOB, and do the stairs himself, or not object to constant work in a good jobbing shop. The north-east or the City preferred.—Address, J. N. Mr. Hunt's Coffee-rooms, 100, Old street road.

WANTED, a SITUATION, by a first-class PLUMBER, GAS-FITTER, and GLAZIER. Has no objection to make himself generally useful.—Address, H. LANG, 38, Regent-street, Marlborough road, S.W.

TO BUILDERS, PLUMBERS, PAINTERS, &c.

WANTED, by a highly respectable Man, aged 39, a SITUATION as FOREMAN over the Plumbing, Painting, and Glazing Departments, or either of them. Understands measuring and estimating. References given if required.—Address, H. N. Post-office, Slough.

TO CARPENTERS AND JOINERS.

WANTED, by a Young Man, aged 21, a SITUATION as IMPROVER, in the above. Town or country. Address, E. N. Royle's Library, 3, Blandford street, Portman square.

WANTED, by a PLUMBER, a permanent SITUATION. Thoroughly understands his business in all its branches, and is willing to work at other branches of the trade, if required.—J. C. Post-office, Acton, W.

TO PLUMBERS AND HOUSE DECORATORS.

WANTED, by a Young Man, aged 20, a SITUATION as IMPROVER. Three or two years. Good reference required.—Address, J. L. Vineyard, Abingdon, Berks.

WANTED, a SITUATION, by a Shop Foreman of Joiners, of good experience. Is used to Machinery, and can give good reference.—Address, C. W. 14, Gloucester-street, South Lambeth, S.

WANTED, a permanent SITUATION in London, by a thoroughly qualified Assistant. Understands geometrical and domestic work, details, specifications, quantities, perspective, land surveying and leveling. Salary expected, 150*l*.—Address, K. 45, Victoria-road, Lower-road, Islington, N.

TO BUILDERS.

WANTED, to APPRENTICE a YOUTH, aged 16, In-doors.—Apply to W. W. 13, Portland-road Villas, Notting-hill, stating premium and other particulars.

TO CARPENTERS AND JOINERS.

WANTED, to APPRENTICE a YOUTH (In-door), where he will have a thorough knowledge of the trade. Address, stating full particulars, to C. G. 92, Willow-walk, Bermondsey.

TO BUILDERS AND OTHERS.

WANTED, by the Advertiser, a SITUATION as SHOP FOREMAN of JOINERS, or to Take Charge of a Job within 30 miles of Town.—Address, Y. I. M. Office of "The Builder."

TO PLUMBERS.

WANTED, by a Young Man who has been three years in the Painting, a SITUATION where he can article himself to the Plumbing. No objection to fill up his time with painting.—Address, J. F. 5, William-street, Gravesend, Kent.

TO ENGINEERS AND CONTRACTORS.

WANTED, by a thoroughly practical man, of much experience in the FIXING of WROUGHT and CAST IRON BRIDGES, by the ton or otherwise, and iron building and machinery of every description; town or country. Suitable tackles supplied if required.—Address to W. S. at Deacon's, 154, Leadenhall-street.

TO PLUMBERS, BUILDERS, &c.

WANTED, by a First-class Plumber, Glazier, and Painter, a constant SITUATION. Town or country.—Address, H. Plumber, No. 2, Albion-place, Fulham-road, Walham green.

WANTED, by an experienced PLUMBER, aged 23, a Permanent SITUATION. No objection to make himself useful.—Address, W. LAMB, Office of "The Builder."

TO BUILDERS AND DECORATORS.

WANTED, a Constant SITUATION, in town or country, by a first-class Plain and Decorative PAPERHANGER and DISTEMPERER, late with a West End firm. No objection to fill up his time at Painting, &c. First-class references can be given.—Apply, by letter, to H. N. care of Mr. Wayside, Builder and Decorator, 214 and 216, Amelia road, Camberwell.

TO BUILDERS, PLUMBERS, PAINTERS, AND OTHERS.

WANTED, by an experienced Man, a SITUATION as FOREMAN, or to take charge of a business or a job, time-keeper, or otherwise. Good references given.—Address, J. D. 48, Gloucester-street, Queen-square, London, W.C.

TO BUILDERS AND OTHERS.

WANTED, by an experienced Man, a Carpenter, aged 40, a SITUATION as GENERAL or WORKING FOREMAN, or to take charge of a job, in town or country. Can prepare drawings, measure work. Good reference from last employer.—Address, J. M. 78, Lillington-street, Pimlico, S.W.

TO BUILDERS AND OTHERS.

WANTED, a SITUATION as GASFITTER, PLUMBER, and ZINC WORKER. Can turn his hand to glazing and painting.—Address, H. B. 17, Johnson place, Pimlico, S.W.

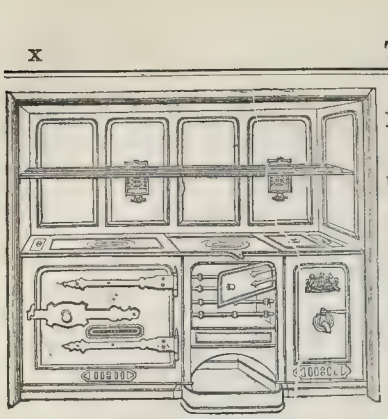
WANTED, a SITUATION as ENGINE-DRIVER. Capable of taking charge of an engine and doing ordinary repairs. Fourteen years' experience.—Address, W. B. 8, Temby place, Upper Winchester street, Caledonian-road, Kingscross, N.

TO IRONMONGERS, BUILDERS, &c.

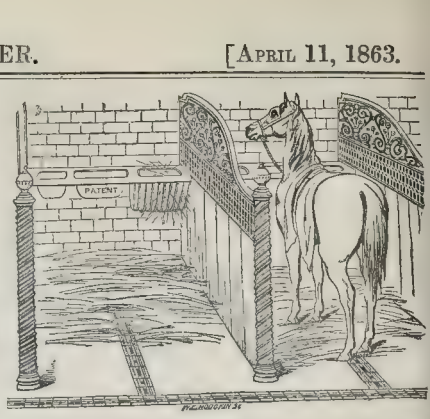
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Extracted from the "London Daily Telegraph," May 15th, 1862

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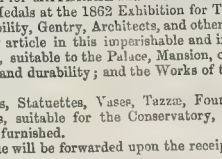
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To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall, and at the Works.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works.—All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.
N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and steer CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

ESTABLISHED, 1844.
JOHN BOARD & COMPANY,
Manufacturers of
PORTLAND, BATH, AND ROMAN CEMENT,
GROUND AND LUMP BLUE LIAS LIME,
Works, Dunball. Office, Queen-street, Bridgwater.

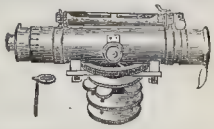
STOURBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non absorbent.
Shipments on the shortest notice.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT
STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into wagons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS. T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre.
Respectfully inform the Public that their Illustrated Price List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13.
Only Medal awarded for "excellence of construction of Mathematical Instruments."

T SQUARES.—W. F. STANLEY, late STANLEY & ROBINSON'S IMPROVED. Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23 inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, as before the Premises
Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s. 6d. post free.
STANLEY'S IMPROVED DRAWING PEN.

ELLIOTT, BROTHERS, Opticians to the Government, 30, Strand, beg to give notice that they have been compelled to REMOVE temporarily to 47, CHARING CROSS, their late premises being suddenly required by the Charing Cross Railway Company.

INDIA-RUBBER MILL BANDS,
WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

VENETIAN BLINDS
should have LEWTAS'S NEW PATENT ACTION which ENTIRELY SUPERSEDES the HOOKS and annoyance of winding the cords. Can be easily fixed to old blinds. Price, 2 cord actions 2s.; 3 cord do. 3s. A liberal commission to the trade. To be had of—
EDGAR PARKS, Ironmonger and Sole Agent,
140, Fleet-street, London.

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.

SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

KING & DUNGEY,

GREAT SAFFRON-HILL, HOLBORN,

OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

FLOORING! DEALS! MAHOGANY!

100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d each
5,000 Yellow Battens ..... from £11 10s. per 120
2,000 Spruce ditto ..... from £9 per 120

SPRUCE DEALS, 2s. 6d. each.

FIR TIMBER 55s. PER LOAD.

Scaffold Poles ..... 1½d. per foot

YELLOW DEALS, £16 PER 120.

SAMUEL PUTNEY,

ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	White (not Spruce).	Yellow.	
¾-inch Flooring	11s. 6d. to 12s. 0d.	13s. 0d.	per Square.
¼-inch "	12s. 0d. to 13s. 0d.	13s. 0d. to 14s. 6d.	"
1-inch "	14s. 6d. to 16s. 0d.	15s. 6d. to 18s. 6d.	"
1½-inch "	18s. 0d.	20s. 0d. to 22s. 0d.	"

YELLOW DEALS, 3 by 9, from...£16 10s.

Yellow Battens ..... £11 10s. per 120
½ White Matched Lining ..... 12s. per square.
½ Yellow ..... 16s. "

J. TERRY & SON, 109, BOROUGH ROAD, S.E.

JOHN EMERY,

SASH, FRONT, AND DOOR MANUFACTURER,

14, GRAY'S INN LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION.

STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

J. MILLS,

110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET

(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Work Rooms, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERY WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Plate Window Fittings, Glass Show Cases, &c.

Greek-houses, Hot houses, and Conservatories, on the most improved principles.

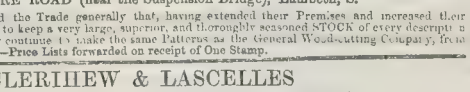
An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.





MOULDING WORKS.



SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES

(LATE WATERLOO, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.	
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d.	per square.
¾ by 7 "	13s.	13s. 6d.	14s. 6d.	"
1 by 7 "	15s.	15s. 6d.	16s. 6d.	"
1¼ by 7 "	17s.	18s. 0d.	19s. 6d.	"

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

BUILDERS, AND CARPENTERS, AND OTHERS,

Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.	Laths, 28s. per Load.			
Yellow Deals, sound and good.....	£19 10 0	per 120,	or 0s. 3½d.	per foot.
Spruce Deals.....	16 10 0	"	0 2½	"
Yellow Battens, excellent quality	11 10 0	"	0 2	"
Pine Planks, 1ry, 12 feet 3 inches by 11 feet	21 0 0	"	3 6	each.

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

LARCH FIR TIMBER.—RAILWAY CONTRACTORS and OTHERS.—FOR SALE, about 1,200 Scotch Larch Fir Timber Trees, averaging 20 feet in length, and many trees 25 feet in length. Well situated for land and water carriage.—For particulars apply to Messrs. LEANEY & CAREY, Timber Merchants, Tunbridge Wells.

FLOORING, MATCH BOARDS, DEALS.

	Spruce.	White.	Yellow.	
¾-inch, from 12s.	12s. 9d.	13s. 6d.	per square.	
¾ " 13s.	13s. 6d.	14s. 6d.	"	
1 " 15s.	15s. 6d.	16s. 6d.	"	
1¼ " 17s.	18s. 0d.	19s. 6d.	"	

180 feet run of 7 inches, 140 feet run of 9 inches to the square.

White Battens, 9/. 10s. per 120, 12 feet.

Yellow ditto, 11/. ditto ditto.

4-inch Match Boards, 13s per square.

¾ " 14s. "

1 " 16s. "

Venetian Blind Laths, 2s per 100 feet sup.

CHARLES CUTLER,

SURREY SAWING AND PLANING MILLS, CHURCH STREET, KENNINGTON.

JOINERY WORKS.

21, HARRINGTON-STREET, HAMPSTEAD-ROAD, N.W.

NEVIL SIMMONDS,

SHOP FRONTS, SASHES, DOORS, &c.

Price Lists and Estimates on receipt of Stamp.

JOSEPH & ALFRED ROSLING beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.

Southwark bridge Wharf, Bankside, S.E.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 9d.; Spruce, from 3s. 6d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; ¾ Yellow Battens, 11/. 10s.; 1-inch White Flooring, from 14s. 9d.; 1 inch Yellow, from 13s 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

SEASONED WAINSCOT OAK, 30,000 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER YARD, MANCHESTER.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all Railways in London, and alongside of any craft on the River Thames.—For further particulars apply to Messrs. J. & R. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic Wharf, Pimlico, London, S.W. five minutes' walk from the Victoria Station.

PAINTED GLASS WINDOWS and MURAL DECORATION.

LAVERS & BARRAUD,

ENDELL STREET, BLOOMSBURY, LONDON, and 48, JOHN DALTON STREET, MANCHESTER.

SHOWELL'S WATER PROOF GLASS ROOFS.

For particulars apply to Messrs SHOWELL, 17, Princess-street, Manchester; or to Mr. T. ALLEN, 7, Great Smith-street, Westminster

PATENT and BRITISH PLATE GLASS.

JAMES HEILEY & CO. beg to inform Architects, Builders and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 59, Southwark-street, London.

STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL,

311, REGENT STREET, W.

Adjoining the Polytechnic Institution.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price lists forwarded free on receipt of business card addressed to

R. METTAM & CO.

30 and 31, PRINCES STREET, SOHO, LONDON, W.

WINDOW GLASS! WINDOW GLASS Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Cathedral, Ornamental, Rough, Rolled, and Patent Plate Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at

GRIFF'S CITY GLASS WAREHOUSE,

47, Chiswell-street, opposite Whitbread's Brewery, E.C

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS

SHOP FRONT TRUSSES,

VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Pitcher, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,

242, EUSTON ROAD ST. PANCRAS

THE NEW STUDIO EASEL

Very Simple and Efficacious.

WINSOR & NEWTON, Manufacturers,

38, Rathbone-place, London.

WOOD PAVING

MESSRS. THORN & CO.

CONTRACT to MANUFACTURE and LAY WOOD PAVING of every description. It is particularly adapted for RAILWAY STATIONS, ENGINES, SHOPS, IRON BRIDGES, &c.

THORN & CO.'S STEAM SAW-MILLS, CREMORNE WHARF, CHELSEA, and GROSVENOR ROAD, PIMLICO.

Asphalte for Railway Arches and Iron Bridges.

JAMES STIFF & SONS,

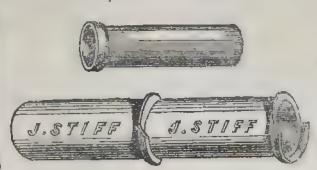
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







PAN, 4s. 6d.

TRAP, 2s.

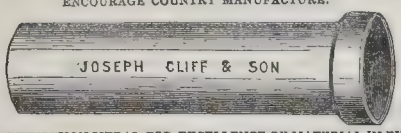
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufactures as above.

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground, adapted also for ventilation Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, 

Near LEEDS.

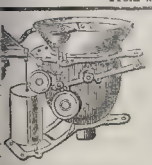
RE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE, BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

HARF Nº 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.



THOMAS LAMBERT & SON,







No. 57. Self-Regulating Pan Closet.

No. 1. Lambert's Ball Valve.

No. 6. High Pressure Bib Valve.

High-Pressure Stop Valve.

FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH-PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

MESSRS. L. & SON find it necessary to state that all the Ball and other Valves manufactured by them, have their NAME legibly marked thereon.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

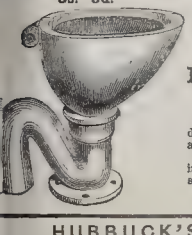
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. heretofore under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such materials. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

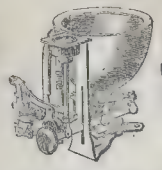
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve.



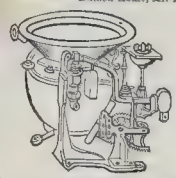
Pan.

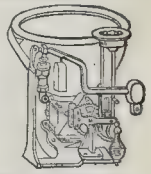
The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No intern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

GUEST & CHRIMES, FOUNDRY and

GENERAL BRASS WORKS, Rotherham; and 37, Southampton-street, Strand, London, W.C.

London House, Mr. THOMAS REGGS.

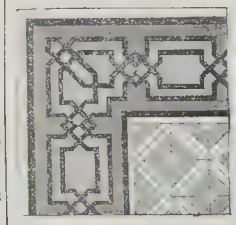




ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient and simple, free from all smell, and requires no cisterns, service boxes cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipes. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet, alike dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary direct Service Main Cottage Water Closets.

Chrimes's Patent High-pressure Single and Double Loose Valve and Screw Down Cocks; Improved Self-acting and Pull Water-Closet; Patent Anti-Lode Water Waste Preventer; Plumbers' and Gas-fitters' Brass Work of every description. Drawings, Descriptions, Prices, and Testimonials will be forwarded per post on application as above.



SOLID PARQUET FLOORS.

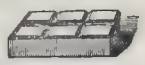
ARROWSMITH'S PATENTED,

From 1s. per foot, in various woods, inch thick, grooved, ongued, and keyed together, not veneered

For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

SHOW ROOMS, 80, New Bond-street, W.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of which prevents the generation of ammonia. For Estimates and Prices, &c. apply to JOHN PILKINGTON, 13, Fish-street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

THE VILLAGE CLOCK.—

A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.

A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,245.

JOSEPH FAIRER,

Turret Clockmaker to Her Majesty's War Department,

188, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and

CLOCK MAKER, by special appointment to Her Majesty and H.R.H. the Prince of Wales, and

MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,

Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 ,,
Ladies' or Gentlemen's Gold English Lever Watches	16 ,,
Strong Silver Lever Watches	5 ,,
Gentlemen's Gold Compensation Balance Watches	40 ,,
Do. Silver do.	20 ,,
Marine Chronometers	25 ,,

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

SALES BY AUCTION.

BRENTFORD GRAIN DISTILLERY.—TO BUILDERS AND OTHERS

MESSRS. FULLER & HORSEY will SELL by AUCTION, pursuant to an Order of the Court of Chancery, made in the cases of "Booth v. Coulton," "Brother Booth, and "Booth v. Nash," with the approbation of the Right Hon. Vice-Chancellor Kindersley, the Judge to whom those causes are attached, at the AUCTION MART, in the city of London, on THURSDAY, the 28th day of MAY, 1863, at TWELVE o'clock, in Four Lots, the highly important FREEHOLD and COPYHOLD ESTATE, late carried on as the Brentford Grain Distillery; comprising the maltings, the back room, the brew-house, the mill, dwelling-house, offices, yards, garden, and stabling, and a landing wharf on the Thames, situate at Brentford, about seven miles from London, on the western road, and about midway between the Kew and Brentford stations of the South Western Railway. It is contiguous to the Kew station of the North London Railway, and also to the docks and wharves at Brentford; the whole forming a most desirable property for any large manufacturing establishment, or a most eligible site for building operations.—To be viewed till the Sale by cards only, which, with printed particulars, plans, and conditions, may be had of St. P. B. HOOK, Esq. Solicitor, 9, Lincoln's-inn-fields, W.C.; of W. H. DAVIS, Esq. Solicitor, 10, Golden square; of Messrs. KINGSFORD & DORMAN, Solicitors, Essex-street, Strand; of Messrs. CLARK & RUSTON, Solicitors, Brentford; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

TO CONTRACTORS, BUILDERS, AND OTHERS

MESSRS. FULLER & HORSEY are instructed by Messrs. Kolk & Lucas to SELL by AUCTION, on TUESDAY, APRIL 21, 1863, and following day, at TWELVE o'clock each day, at the PREMISES, Grosvenor road, Thames Bank, Pimlico, adjoining the Railway Bridge and Grosvenor Canal, the CONCLUDING PORTION of the SURPLUS MATERIALS NOT used in the reconstruction of the International Exhibition building; including 100 logs capital Baltic timber, 40 loads sweet timber, 5 loads half-balked timber, 600 sets of 11 joists, two and three feet long, 10 fathoms brewers' costly hydraulic girder-proving machine, 10 tons contractors' rails, 12 iron turntables, 2 Pooley's weighing machines, pile engines and masks, 20 navvies' barrows, contractors' crabs and other gearing, capital iron timber saw frame, one batten frame, 21 four-wheel trollies, carpenters' benches and stools, screw jacks, sash weights, paints, oils, sash cords, ropefalls and slings, chain blocks and falls; also 50 contractors' earth waggons, side and end tip.—To be viewed the day previous to the Sale, when catalogues may be had on the Premises; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

Valuable Collection of Engineer's Tools, partly from the International Exhibition

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, APRIL 28th, at TWELVE, at the WAREHOUSES, Belvedere-road, Lambeth, removed for convenience of sale, a costly collection of ENGINEER'S TOOLS, principally manufactured by the eminent firm of Fox, Brothers, Derby, the whole of them highly finished, of the best materials and workmanship, and a portion exhibited at the International Exhibition, where they received honorable mention for general excellence; including two self-acting planing-machines, will take in a feet 6 inches wide and 4 feet high, with two tool-holders to each; three smaller planing-machines, to plane 1 foot 10 inches wide and 1 foot 8 inches high; three self-acting vertical drilling-machines, to bore from 12 to 2 inches diameter, and will take in work 32 inches diameter; a nut-shaping machine, with universal motion; one 18-inch self-acting and screw-cutting lathe, 18 feet bed, with break; one 16-inch self-acting slide lathe, with 18 feet bed; one self-acting, surfacing, and screw-cutting lathe, will take in a surface 5 feet diameter, and will cut screws up to 2 inches pitch; one 9-inch centre screw-cutting lathe, with 9 feet bed; two 9-inch centre self-acting slide lathes, with 9 feet beds; two back geared 7 inch lathes, with 4 feet beds, and tools; one highly finished 6 inch foot lathe, with 6 feet 6 inches bed; new engine worksmall size, engine and boiler; 4 tons Crowley and Millington's cast and shear steel; 20 chests, steel, tools, gauges, blocks and falls, steel tackle, hooks, bolts and nuts, spanners, two strong wheelbarrows, iron cranes, scales and weights, slotting and wheels, a new self-acting tee-cutting machine, by Mr. Nasmyth, two patents, and numerous other effects.—To be viewed on Monday previous to the sale. Catalogues may be had of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

IN CHANCERY.—Baines *v.* Baines.—Mottingham, near Eltham, Kent, two miles from the Blackheath Station on the North Kent Railway, and a short distance only from the proposed station on the Dartford line, now in course of formation.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions (pursuant to an order of the Court of Chancery made in the above-mentioned cause) to SELL by AUCTION, at the MART, near the Bank of England, on TUESDAY, 5th day of MAY, at TWELVE o'clock, in one or more lots, a most valuable FREEHOLD ESTATE, consisting of nearly twenty-seven acres of beautiful parkike meadow land well timbered, and having a large and substantial Mansion or Lodge which has been lately pulled down, stood upon this property; the excellent kitchen garden still remains. It is adapted for the erection of a mansion or several detached residences, the land rising to the south, and commanding extensive views over a very picturesque country, or for a building scheme, having a frontage on the whole of the east side to the high road from Mottingham to London, and being in a locality which will very shortly be particularly well circumstanced with regard to railway communication, and is a very favourite one for residence. The premises are in a ring fence, and possession may be had, if required, on completion of the purchase.—Particulars may be had at the Mart, E.C.; of Messrs. WALKER & MARTINEAU, 29, King's-road, Gray's Inn, W.C.; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo place, Pall Mall, S.W.

IN CHANCERY.—Baines *v.* Baines.—Esher, Surrey, three-quarters of a mile from the Railway Station

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions pursuant to an Order of the Court of Chancery made in the above-mentioned cause, to SELL by AUCTION, at the MART, near the Bank of England, on TUESDAY, the 5th day of MAY, 1863, at TWELVE o'clock, in lots, the following most valuable FREEHOLD PROPERTIES, admirably situate in the parish of Esher, contiguous to the noble domains of Claremont and Esher place, viz.:—

Lot 1.—A capital Mansion, called Esher Lodge with stabling, farm premises, two cottages in the farm-yard, excellent flower and kitchen gardens, lawn, shrubberies, and 7 acres of very fertile park like pasture land in enclosures adjoining

Lot 2.—A Cottage Residence, at present held by the gardener, adjoining the high road.

Lot 3.—A very valuable Tract of Freehold Meadow Land, park-like, and well timbered, about 20 acres, adjoining turnpike road, and opposite Claremont Park, adapted for the erection of one or more first class residences, or for an extensive Nursery ground

Lot 4.—Two well-built Residences, in the occupation of Mr. Davey and Mr. Edwin Smith

Lot 5.—Three Fields, held by Smithers, Derby, and Triggs.

Lot 6.—Three Cottages, adjoining the premises of the Bear Inn, held by Foster, Hedger, and Weller

Lot 7.—A Piece of Land, used as a drying-ground, at the rear of Lot 4

Lot 8.—A well built and well situated Residence in the village, occupied by the Rector.

Lot 9.—Littleworth Farm, with house and premises, and 35a. 2r. 12p. of capital freehold land.

Particulars with plans may be obtained at the Auction Mart; at the Bear Inn, Esher; of Messrs WALKER & MARTINEAU, 13, King's-road, Gray's Inn, W.C.; and of Messrs. D. SMITH, SON, & OAKLEY, Land Agents and Surveyors, 1, Waterloo-place, Pall mall, S.W.

DEPTFORD.—TO BUILDERS AND OTHERS.—TO BE SOLD BY AUCTION, BY

MR. ARMITAGE, by order of the Executors of the late Mr. William Grimmell, on TUESDAY, APRIL 14th, 1863, at TWELVE o'clock, on the PREMISES, corner of the Creek-bridge-road, Church-street, Deptford: the First Portion of the well selected and seasoned STOCK-IN-TRADE, of timbers, deals, rafters, joists; powerful crabs, jacks, blocks and fall, work-benches, ladders, scaffold poles and boards, strong truck, joiners' tools, ironmongery, pony, harness, chaise, cart, &c.—May be viewed, and Catalogues had on the premises, and at the Auctioneer's Office, 9, Florence-terrace, Deptford, S.E.

WESTMINSTER BRIDGE.—SURPLUS MACHINERY, PLANT, and MATERIALS.

PULLEN, HORNE, & EVERSFIELD have received instructions from the Commissioners of Her Majesty's Works and Public Building to SELL by AUCTION, at the Westminster Bridge Works, Stangate, Lambeth, and on the Government Yard, Battersea Fields, on MONDAY, APRIL 13, and two following days, at TWELVE for ONE each day, in one lot or more at the completion of the New Bridge), the very valuable SURPLUS PLANT and MACHINERY, consisting of an excellent high pressure horizontal steam engine of 14 horse power, with 14 inch cylinder, 2 feet 6 inches stroke, metallic piston, &c.; a tubular steam boiler, 12 feet long; 170 feet of 2½-inch turned shafting, with riggers, cast brackets, plummer blocks, and brasses; three superior self-acting drilling machines, with bright steel mandrils, and other improvements; one expensive shaping machine, with 16 feet bed and traversing table 9 feet by 8 feet 4 inches; a self-acting planing machine, by Glasgow, capable of taking 6 feet by 4 feet 3 inches, with cutter 22 inches by 6 inches long; a 14-inch centre self-acting lathe, by Smith, Beatock, & Tannett; two other lathes; capital screwing machine, by W. Collier & Co.; a powerful punching and shearing machine; a shearing machine, to cut 4-inch plate; leather bands; drilling posts; four Haley's patent screw jacks; ten anvils, forges, vices, forge bellows, smiths' tools; a Lloyd's patent fan; crab winches; three over-head travelling cranes, 4-ton span, with jenny to suit 5 tons; three Willington travellers, 45 feet and 33 feet span; 3-post cranes, with crabs and chains, jobbing cranes and trolleys; a quantity of iron, steel, small fire-grating, boring tackle, contractors' rails, blocks and falls, trolleys, skips, ladders, temporary offices, 2 tons of new anvil iron, 20 tons of screw bolts, weighing machines, lift bolts, eight-day chain, &c.; also the materials of engineers and blacksmiths' shops, brick work of double lime-kiln, &c. and other effects.—May be viewed, and catalogues had at the Office of Works, 6, Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, S.W. and 80, Fore-street, City.

WESTMINSTER BRIDGE.—To Builders, Contractors, and Others

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of her Majesty's Works and Public Buildings to SELL by AUCTION, at the WESTMINSTER BRIDGE WORKS, Stangate, Lambeth, on TUESDAY, APRIL 14th, at TWELVE for ONE, about 400 BLOCKS of GRANITE, from the Cleeve-wing and Penryn quarries, 5 to 6 feet of granite curb 9 to 11 inch rough, 6 to 9 inch paving flags, granite and other paving, Yorkshire steps, seventy oak, beech, and other piles; the materials of sheds, and other effects. May be viewed, and catalogues had at the Office of Works, No. 12, Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City, E.C.

LONDON, CHATHAM, AND DOVER RAILWAY.—METROPOLITAN EXTENSIONS.—Thirty-first Clearance Sale.—Capital Building Materials, Plant, and Machinery, Holland street, Blackfriars-road

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on TUESDAY, APRIL 14, at TWELVE, in lots, all the capital BUILDING MATERIALS and FITTINGS-UP of the extensive ranges of warehouses, sheds, and stabling, offices, and other premises, known as Northumberland Wharf as Nos 4 and 5, Holland-street (the whole built within a few years): comprising about 3,000,000 capital bricks (nearly equal to new), prime timber in roofs and floors, excellent slating, capital flooring boards, useful sashes, loop-hole and other doors, large plate-glass skylights, crane and lifts, cast-iron house gates and railings, lead pitters and pipes, a large quantity of granite pitching, two capital high-pressure steam engines, two wrought iron cylindrical slate and boiler, hoisting machine and gear, iron shafting, pulleys, and other wheels, and various other plant and machinery, chaff cutting machine, iron tank, large iron gratings, gasfittings, and a large mass of useful materials and fittings-up.—May be viewed the day previous by Mr. VIGERS'S Offices, 3, Frederick's-place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament-street, S.W.

GUILDHALL.—SURPLUS TIMBER AND MATERIALS.

PULLEN, HORNE, & EVERSFIELD are instructed by the Royal Reception Committee to SELL by AUCTION, at the GUILDHALL, on THURSDAY, APRIL 16th, at TEN for ELEVEN o'clock, a large quantity of Surplus TIMBER and MATERIALS, comprising die square, planks, deals, boards and quarter ing, stacks of useful wood, pedestals, gilt cornices, mouldings and pilasters, and various effects.—May be viewed the day previous. Catalogues had at the Auction Mart, and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

LONDON, CHATHAM, and DOVER RAILWAY.—Excellent BUILDING MATERIALS, at unreserved Sale.—Ludgate-hill

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, APRIL 17, at TWELVE, all the Excellent BUILDING MATERIALS of a large Factory, Workshops, Stabling, and Five Modern-built Houses adjoining, in Southwark Bridge-road; comprising a large quantity of excellent brickwork, tiling and slating, useful timber in roofs and floors, modern sashes, doors, skylights, marble chimneypieces, Portland stone paving, folding doors, fittings-up, counter and shop fronts, several tons of lead in gutters and pipes, cisterns, stoves, ranges, and useful fixtures and fittings up.—May be viewed the day previous. Catalogues had of ROBERT W. SHAW, Esq. Architect, Crooked-lane Chambers, Cannon-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, and 40, Parliament-street, Westminster.

VALUABLE LEASE, GOODWILL OF THE BUSINESS, AND STOCK-IN-TRADE OF A BUILDER.

MR. BRAY, Jun., is instructed to SELL by AUCTION, on the PREMISES, on WEDNESDAY, APRIL 22nd, at TWELVE o'clock, the valuable LEASE of the above BUSINESS PREMISES, in which the trade of a builder has been carried on successfully for upwards of fifty years. The premises are in every respect adapted for doing a good trade, and are held for a term of about eighteen years, at 61*l.* per annum. And the Stock in Trade, comprising yellow and stock bricks and planks, oak planks, posts, and rails, wainscot and mahogany, prepared doors, sashes, mouldings, doors, sashes, frames, brick, tiles, stone, cement, carpenters' benches, mortice pipes, ironmongery, &c.—Particulars and catalogues may be had on the Premises; of Messrs. PALMER, NETTLESHIP, & ELAND, Solicitors, 4, Trafalgar-square, Charing-cross; of Messrs. HOWDEN & HEATH, 6, Bedford-street-buildings, E.C.; and at the Offices of the Auctioneer, 16A, King's-road, Bedford-row, W.C.

HORNSEY, near to the Wood-green Railway Station.—The last Portion of the valuable FREEHOLD BUILDING GROUND, presenting a good opportunity for investment of capital in creating Freehold Ground Rents.

MR. BRAY, Jun., is favoured with instructions to SELL by AUCTION, at the MART, on THURSDAY, the 23rd day of MAY, at TWELVE o'clock, in all Lots, a Valuable ESTATE, being part of the "Lordship Lodge Estate," in Lordship-lane, one mile and a half to the Wood-green Railway Station, having 1,000 feet of building frontage to Acacia road Wakefield-road, and Lordship-lane, and presenting sites in this highly favoured locality for the erection of detached or semi-detached villas. The roads and sewers have been made at a considerable expense.—Particulars and conditions of sale may be had of Messrs. ROY & CARTWRIGHT, Solicitors, 4, Lothbury, E.C.; of Messrs. FORD & LLOYD, Solicitors, 4, Bloomsbury-square, W.C.; of JOSEPH IVIMEY, Esq. Solicitor, 8, Staples-inn, W.C.; at the Nag's Head and Jolly Butchers, Wood-green; the Ship, Tottenham; the Angel, Edmonton; and at the Offices of the Auctioneer, 16A, King's-road, Bedford-row, W.C.

BRADFORD-ON-AVON, WILTSHIRE.

MR. GRAHAM FOLEY will SELL by AUCTION, at the SWAN HOTEL, Bradford-on-Avon, on WEDNESDAY, the 22nd day of APRIL, 1863, at SIX o'clock in the evening, all that capital BUILDING SITE of the late Greenland Woollen Manufactory; also the two workmen's cottages, valuable land and garden, two water-wheels, shafting, &c.; capital 10-horse power steam engine, with the steam boiler and appointments thereto belonging.—N.B. The purchaser will be required to take the timber, steam engine, boiler, water wheels, shafting, and other fixtures, at a sum to be named at the time of sale. The Auctioneer begs to direct attention to the valuable building site (which is approached by a noble avenue of young thriving elms), and from its excellent situation on that noble stream, the River Avon, and its valuable and never failing supply; also the two workmen's cottages, offers a fine opportunity for the building of a Woollen Cloth, Silk, Paper, or Corn Mill, that only very rarely can be obtained.—For further particulars, apply to the Auctioneer, at his Offices, The Parade, Melksham bridge; or to GEORGE SPACKMAN, Esq. Town-hall, Bradford-on-Avon.

OAK, ELM, ASH, and LARCH TIMBER, at Gestingthorpe, in the county of Essex, comprising about 1,040 Trees, a considerable portion of large size and age.

MESSRS. DRIVER have received instructions to OFFER for SALE by PUBLIC AUCTION, at the Red and Swan Hotel, Sudbury, on FRIDAY, the 17th day of APRIL, at ELEVEN for TWELVE o'clock, in 78 lots, a selection of valuable TIMBER consisting of 573 superior oak trees, with their lop, top, and bark, standing in Wiggery, Leys, Ridleys, Hedingham, Stones, and Gages Woods, and in the hedge rows of New House, Moat, Mead, and Hall Farms, contiguous to the village of Gestingthorpe; also 320 elms, most of which are sound, well grown, and of large mettings; and 83 ash, chiefly of good quality, 1,042 pollard oaks, ashes, and elms, in adjacent hedges, together with 60 larch, standing in Tints Grove; and several parcels of faggots and topwood, in suitable lots, on various parts of the Estate.—The Timber is now being felled by Messrs. Mead Bates, Contractor, Builders, and others, and is divided into lots varying from 8 to 21 trees, for the convenience of small purchasers. It is mostly well situate for transit, being near to hard turnpike and other roads, and within four miles of Yeldham Station, and five of Sudbury Station, on branches of the Great Eastern Railway; also within four miles of the River Stour. The Estate on which the Timber is situate is from four to five miles from Sudbury, five miles from Halstead, five miles from Clare, and within sixty miles of the metropolis. The trees requiring to be barked in whole pond, as will be described in the catalogues, and may be viewed on application to Mr. DOWNS, of Gestingthorpe, the local Agent; or to the respective Tenants of the lots. Detailed catalogues be had at the Place of Sale, of J. BAILEY DENTON, Esq. No. 32, Parliament-street; of Mr. DOWNS, Gestingthorpe; at the Compasses Public House, Gestingthorpe; the Bell Inn, Castle Hedingham; at the George, Halstead; at the Moot, Clare; at the Auction Mart, London; and of Messrs. DRIVER, Surveyors, Land Agents, and Auctioneers, 9, Whitehall, London, S.W.

GOVERNMENT CONTRACT CART HORSES, and their Harness.

Broad and Narrow Wheel Carts, &c. TO NOBLEMEN, GENTLEMEN, AGRICULTURISTS, RAILWAY CONTRACTORS, WHARFINGERS, and OTHERS.—Messrs Wilson & Son's First Portion of the Depôt Works. THE LOT SOLD by AUCTION, by

MR. J. GOWER, at his REPOSITORY, Barbican, on FRIDAY, APRIL 17, 1863, at TWELVE o'clock, without reservation, THIRTY-FIVE young Town-cart or powerful Van HORSES, Broad and Narrow Wheel Carts, Harness, &c. having accepted a portion of their works.—Mr. GOWER begs to call the attention of the public to the above very useful young Stock, purchased direct from the Estate on which it was bred, consisting of Fifteen Upstanding Horses, by direction of the Proprietor, just off contracts in the country.—On view two days prior

FOR SALE by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Cotson' Marsh, Bristol, on WEDNESDAY, 22nd day of APRIL, 1863, at ONE o'clock precisely, (Luncheon at Half-past Twelve o'clock.) For account of Importers.

About Spruce Deals, Battens, Scantling, and Ends
Quebec Pine Deals
2,000 Petersburg Ed and White Wood Deals
6,000 Omega Red Deals, Battens, and Boards
1,000 4 by 11-inch Redwood Memel Deals, expected to arrive per Fortuna
200 Loads Best Yellow Pine
250 Loads Quebec Red Pine
250 Loads Quebec Board Pine
Lemon Deals
10 Loads Quebec Ash
250 Loads Prime Memel Timber
White Sea Timber
250 Loads Baltic Red Timber
250 Loads Baltic Whitewood ditto
Lemon Deals
Lemon Scantling Timber
20 Norway Masts
200 Hybla 4 by 4-inch Spars } Cargo, per Alice, from Christiana
200 Ditto 4 in. ditto } now discharging
150 22 feet Oak Rails
50 Petersburg Hemlock, Planks, and St. Petersburg Lathwood Bundles.

With other Goods
Catalogues will be issued in the Week of Sale.
F. K. BARNES & SONS, Brokers.

Cotsons' Marsh, Bristol, April 2nd, 1863.

FOREST HILL.—Extensive PREMISES, close to the Station, now used as an Engineer's, but equally suitable for a Builder, or any Manufacturing purpose

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, APRIL 28th, at TWELVE, the capital FREEHOLD PREMISES, known as the Forest-hill Works, erected on the ground-rent system of substantial Forest-hill. The Premises comprise a dwelling house of five rooms, store-room or office, smith's shop and foundry, with fan-blast forge and furnace, two lofty workshops, each 70 feet by 20 feet, engine house with workshop over, lathe room, and a large yard, with capital frontage. The Premises are now occupied as an engineer's foundry and manufactory, and are admirably adapted for the purpose. They are fitted with plant of the best description, including a six-horse power steam engine, cylinder 8 inches, &c. all by the best makers, modern and in excellent working order, and will be sold with the Lease, or Lot 2 will comprise a plot of Freehold Building Land, adjoining lot 1 and having a frontage of about 46 feet 6 inches to the main road from the station, and a depth of 100 feet, forming an eligible site for a pair of villas.—Particulars of J. HENRY JOHNSON, Esq. Solicitor, 37, Lincoln's-inn-fields; and of the Auctioneers, 80, Cheapside.

OLD ASYLUM, BEDFORD.—EXCELLENT BUILDING MATERIALS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the town of the Ampthill road, on MONDAY, APRIL 13th, 1863, at TWELVE for ONE o'clock, the HIGHER PORTION of the Excellent BUILDING MATERIALS of the late Bedford County Lunatic Asylum, comprising 400 STOCK BRICKS, a large quantity of YORK paving, coping, and large landing stones, FIRE BRITISH STONE goods, string courses, slates, plates, tools, large slate slabs, stone steps, and blue, white and black marble CHIMNEY PIECES, a large quantity of well-seasoned OAK, consisting of joists, rafters, beams, slating cases, wall plates, purlins, boards, &c., SUPERIOR DOORS AND FRAMES, cupboards, and drawers, sash and other windows, mahogany and oak sashes, about two hemp sash cords, quarries, Bywood &c; two iron girders, palisades, a large cast-iron grating, register and other stoves, lead-safe pan, pulleys, house bells, &c.—May be viewed the day before the sale, and catalogues may be obtained of the Auctioneer, 14, Moorgate street, London, E.C. and of the Foreman on the estate.

[*For remainder of Auctions see p.* ix.

London:—Printed by CHARLES WYMAN, Printer, at the Printing office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said Charles Wyman, at the Office of "The Builder," No. 1 York-street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, April 11, 1863.

The Builder,

Architect, Engineer, Operative & Artist.

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ART UNION of LONDON.—The ANNUAL GENERAL MEETING to receive the Council's Report, and to distribute the amount subscribed for the purchase of works of Art, will be held at the NEW THEATRE ROYAL ADELPHI, on TUESDAY, APRIL 28th, 1863, at Half-past ELEVEN for TWELVE o'clock, by the kind permission of BENJAMIN WEBSTER, Esq. The receipt for the current year will procure admission for members and friends.
GEORGE GODWIN,
No. 444, Strand. LEWIS POCOCK, } Hon. Secs.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON.
On TUESDAY Evening next, at 7.30, a LECTURE will be delivered in the THEATRE, on "THE ELY LANTERN," by the Very Rev. the Dean of Ely.
PRIZES of 20*l.* and 5*l.* for Wood Carving, and 5*l.* 5*s.* and 3*l.* 3*s.* for Coloured Decoration, are now offered to artist workmen, who may obtain full particulars, and also cards for the Lectures, of the Attendant in the Museum; at the Office of "The Builder;" or by letter to the Hon. Sec. at 13, Stratford-place, W.
A. J. B. BERESFORD HOPE, President.
GEORGE GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

MARYLEBONE and WEST LONDON SCHOOL of ART
The School having been removed from Wells-street to Portland-road, RE OPENED there on WEDNESDAY, APRIL 8th, the present entrance being 73, BOLSOVER STREET.
MASTER.
C. Macdonald Clarke,
Assisted by Teachers from the Training School of Art, South Kensington.
The Government course of instruction is the basis of that pursued in the School, but it is MODIFIED TO MEET THE PRACTICAL WANTS OF STUDENTS: the Committee desiring that this School may afford to Artist Workmen the means of entering, at once, upon the studies bearing most directly upon their several pursuits; avoiding, as far as possible, protracted courses of merely elementary work. There are a few Vacancies for New Students, but immediate application is necessary.
Further information at the School.
C. MACDONALD CLARKE, Hon. Secretary.

A MORNING in MEXICO.—Magnificent and exquisite EXHIBITION of CERAMIC STATUETTES, illustrating Life, Manners, Customs, and Costumes in Mexico. Open daily from Ten to Six. Gallery, 68, Newman-street, Oxford street, W. Admission, 1*s.* Catalogues, 3*d.* each; by book post, 4*d.*

THE EXHIBITION of ALUMINIUM and ALUMINIUM BRONZE will OPEN APRIL 1st, 1863. 1,000 SPECIMENS, illustrating the application (Ornamental and useful), of these interesting Metals are NOW ON VIEW at MAPPIN BROTHERS' New Rooms, 222, Regent-street. Admission by Card.

EVENING LECTURES.—ROYAL SCHOOL of MINES, Jermyn-street. The following COURSES of LECTURES are about to be commenced:—
Ten Lectures "On the First Principles of Physiology," by Professor HUXLEY, F.R.S. To be delivered on FRIDAY EVENINGS, at EIGHT o'clock, commencing APRIL 24th, 1863.
Ten Lectures "On Organic Chemistry," by Dr. HOFFMANN, F.R.S. To be delivered on MONDAY EVENINGS, at EIGHT o'clock, commencing APRIL 27th.
Eight Lectures "On Heat considered as a Mode of Motion," by Professor TYNDALL, F.R.S. To be delivered on WEDNESDAY EVENINGS, at EIGHT o'clock, commencing APRIL 29th.
Fee for each course, 5*l.* TRENHAM REEKS, Registrar.

ARCHITECTURAL EXHIBITION, 9, Conduit street, Regent street, W. NOW OPEN, from 10 till 6. Admission, One Shilling. Season Tickets, Half-a-Crown, admit at all times and to all the Lectures. First Lecture, by Professor KERR, on TUESDAY EVENING, MAY 5th.
JAS FERGUSSON, F.R.A.S.
JAS EDMESTON, F.R.I.B.A. } Hon. Secs.
Also, in conjunction with the above, the Exhibition of the Society of Sculptors of England. MORETON EDWARDS, Hon. Sec.

COMPETITIONS.

DESIGN for COMPETITION. India Office, 31st March, 1863.
EUROPEAN GENERAL HOSPITAL.
The Bombay Government are prepared to receive DESIGNS for a new EUROPEAN GENERAL HOSPITAL, to be built on the Esplanade, Bombay.
Lithographed copies of the general plan of the accommodation required, with a schedule of measurements according to the arrangements of the building, which have been generally approved by the medical authorities and Government, together with plans of the proposed site, can be had on application at the Office of the Superintending Engineer, Presidency Circle, Bombay, and at the India Office, London.
The rates on which the work is to be calculated will also be furnished at those Offices, and the gross estimate is not to exceed Rupees 3,50,000.
Complete plans and estimates are also required for Residences for the Surgeon and House Surgeon, and for Quarters for Eight Sick Officers, to be arranged in two or three blocks distinct from, but in the immediate vicinity of the main Hospital.
The designs of these buildings should harmonize in character and style with the main building.
The estimate for these, calculated on the same rates, should not exceed 1,25,000 Rupees.
There must be ample provision for through ventilation, which is obtained in Bombay by a sea breeze blowing generally from W. to S.W. during the months from May till September, and from various points from N.W by N. to S.W. by S. during the rest of the year; provision should be made to exclude the N. and E. winds, which blow most frequently by night.
The walls must be protected as far as possible from the direct rays of the sun.
The designs are unrestricted as to style, provided it is suited to the climate and to the use to which the building is to be devoted, and as to materials, provided that they are procurable in Bombay at prices which will admit of their being used in the building as designed.
The designs must include
1. Ground plan and plan of each story.
2. Elevation of each of the four faces.
The plans and elevations to be on a scale of not less than 10 feet to an inch specification and estimate with sections, &c. in sufficient detail to enable the judges to decide whether the plan can be carried out within the sum allowed.
Prizes will be awarded for the two best designs—Rs. 2,500 for the best, and Rs. 1,000 for the next in merit, provided the design fairly fulfils the above conditions.
If the best designs, in an artistic point of view, fail to fulfil any one of the above essential conditions, the judges will be empowered to reduce or withhold the prize; and no prize will be awarded to a design merely because it fulfils the conditions, if otherwise conspicuously deficient in artistic merit.
The drawings and estimates, &c. should be sent in on or before SEPTEMBER 1st, in the usual manner with mottos, and envelopes containing the name and address of the artist, to the Superintending Engineer Presidency Circle, by whom the envelopes will be opened, in presence of the Chief Engineer and Secretary to Government, Public Works Department, after the prizes have been adjudged.
All the designs received will be exhibited in the Town Hall, Bombay, for one month before the adjudication of the prizes; and, unless claimed and removed by the authors, for one month afterwards.
The envelope containing the name should state the author's wish whether the name should be appended to the design when exhibited after the adjudication.
The prizes will be adjudged by the Executive Committee of Fort Improvement Commission and the Engineers of the Great Indian Peninsular and Bombay and Baroda Railways, who will be asked to aid Government in the adjudication.
In the event of any design being finally adopted by Government for execution without further modification than is made by the designer at the instance of Government, the prize will be made up to one per cent on the amount of the estimate as revised by the Executive Committee.
It will be optional to Government to avail themselves of the services of the author in altering or executing any design which gains a prize or premium, any design to which a prize or premium is awarded will remain the absolute property of Government.
Unsuccessful designs will be returned to the authors if claimed by them, or by their authorized agents, within one month from the period of adjudication, during which period, if not claimed, they will remain exhibited in the Town Hall, Bombay.
By order of his Excellency the Governor in Council,
H. RIVERS, Lieut. Colonel, R.E.
Secretary to Government.
Bombay Castle, 12th February, 1863.

TO BUILDERS.—TENDERS will be received for ERECTING ELEVEN SIX-ROOMED HOUSES, in rear of High-street, Southwark. Cash advanced, but security required for due fulfil ment of contract. The owner does not bind himself to accept the lowest or any Tender.—Apply to WM. WALLEN, Esq. Dowgate-hill Chambers, City.

CONTRACTS.

CHEAP CHURCHES, CHAPELS, and SCHOOL CHURCHES.—The Committee for the Church Congress, which will meet in Manchester in October next, are desirous of receiving Communications from Architects and others who have built cheap churches or chapels, with the view of exhibiting at the Congress the elevations (if such as they may approve, together with the statements of the cost, accommodation, &c.—Address the Secretaries of the Church Congress, 2, Essex Chambers, Essex street, Manchester.

KINGSTON-UPON-HULL LOCAL BOARD of HEALTH.—To CONTRACTORS.—The Local Board of Health of Kingston-upon-Hull are prepared to receive TENDERS for the OUTFALL DRAINAGE of the WEST DISTRICT of the Borough of Hull, comprising the construction of upwards of four miles of brick sewers and other works in connexion therewith. Trial shafts have been sunk on the proposed lines of sewers, the results of which may be seen, with the plans of the intended works, on application to Mr. J. FOX SHARP, C.E. Surveyor to the Local Board, at his Office, Sculcoates-hall, Hull, where also copies of the specification, forms of tender, and bills of quantities may be obtained on payment of two guineas (to be returned to parties tendering in accordance with the specification), on and after THURSDAY, the 16th inst. Sealed Tenders, endorsed "West District Drainage," addressed to the Chairman of the Committee of Works, Sculcoates-hall, Hull, must be forwarded on or before THURSDAY, 30th APRIL, 1863. The Board do not bind themselves to accept the lowest or any Tender.—By order,
Hull, April 2nd, 1863. C. S. TODD, Clerk to the Board.

WRITTLE GAS COMPANY, LIMITED.
The Directors of the Writtle Gas Company, Limited, invite TENDERS for the ERECTION of new GAS WORKS, at Writtle, in the county of Essex. Plans and specifications of the same may be seen on application to the Secretary, or at the Office of Mr. JABEZ CHURCH, Civil Engineer, Chelmsford. The work is divided into two contracts. No. 1 contract comprises the builder's work, and No. 2 contract the ironwork, apparatus, and meter. Sealed Tenders for the respective contracts are to be addressed to the Secretary, and delivered at the Company's Offices on or before the 25th day of APRIL, 1863. F. A. JONES, Secretary.
Writtle Gas Company's Office, High street, Chelmsford, March 26, 1863.

TO SCAVENGERS, CONTRACTORS, and OTHERS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City on TUESDAY, the 21st of APRIL, 1863, at TWELVE o'clock at noon precisely, to receive TENDERS for CLEANSING the STREETS, and for Removing Dust, Ashes, &c. from the houses of the Inhabitants; also for Watering certain Streets within the said City, for the term of one year from Midsummer Day next, agreeably to specifications, copies of which may be had at this Office. The City is divided for the purpose of these Contracts into five divisions. Each contractor will be required to enter into bond with two approved sureties in the sum of 500*l.* for each division for cleansing, and 150*l.* for each division for watering, for the due performance of the several Contracts; and the consent, in writing, of the parties proposed as such sureties must be enclosed with the Tenders. The Commissioners do not undertake to accept the lowest Tender in any case, or any, unless deemed satisfactory. No Tender will be received after TWELVE o'clock or the day of treaty, nor will any Tender be received unless it contains inclosed the sum of 20*l.* in Bank of England notes for each division Tendered for, in evidence that the same is made bonâ fide, which sum of money will be returned to each person whose Tender is not accepted, but will be retained in the other cases until the contracts and bonds shall have been duly executed by the parties Tendering and their sureties; and in case of such contracts and bonds not being duly executed, the said sums of money will be retained by and forfeited to the said Commissioners. JOSEPH DAW, Principal Clerk.
Sewers Office, Guildhall, 4th April, 1863.

STRADBROKE, SUFFOLK.—To BUILDERS.—Persons desirous of CONTRACTING for making considerable ADDITIONS and ALTERATIONS to STRADBROKE VICARAGE, may see the Plans and Specifications at my Offices, Museum street, Ipswich, on and after MONDAY, the 13th instant; and all Tenders are to be sent in, and addressed to the Rev. J. C. RYLE, Stradbroke, on or before SATURDAY, the 25th instant. The Incumbent does not bind himself to accept the lowest Tender.
Ipswich, 9th April, 1863. R. M. PHIPSON, Architect.

TO BUILDERS.—Persons desirous of TENDERING for the erection of the NEW CATHOLIC CHURCH, Stourbridge, Mr. E. WELBY PUGIN, Architect, can see the plans and specifications, and obtain copies of the quantities, by applying to the Rev. WALTER KEEN, Presbytery, Stourbridge, on and after the 21st INSTANT. Tenders to be sent in directed to the Rev. W. KEEN, by the 29th INSTANT. The lowest Tender will not necessarily be accepted.

TO BUILDERS.—The Committee for the Erection of a New Chapel for the Congregation now meeting in Lion-street Chapel, New Kent-road, hereby give Notice, that they are prepared to receive TENDERS for the ERECTION of a CHAPEL, Lecture-room, Vestries, and Class rooms.—Drawings and specification can be seen at the Offices of the Architects, Messrs. SEARLE, SON, & YELF, 4, Bloomsbury-place, W.C. The quantities will be supplied upon the deposit of 1*l.* which will be returned upon the Tenders being opened. The Tenders to be brought to the Vestry of Lion street Chapel on WEDNESDAY, the 29th APRIL, at SIX o'clock in the evening. The Committee do not bind themselves to accept the lowest or any Tender.

TO BUILDERS.—TENDERS are required by Messrs. COURAGE & CO. for the ERECTION of TEN HOUSES near Jamaica Tavern, Bermondsey. Apply to Messrs. SNOOKE & STOCK, Architects, 8, Duke-street, London Bridge, S.E. where plans and specifications may be seen. The Promoters do not bind themselves to accept the lowest or any Tender.
April 15th, 1863.

[*For remainder of Contracts see next Page.*

CONTRACTS.

TO BUILDERS.—The Committee for the Restoration of St. James's Church, Bristol, hereby give notice that they are prepared to receive GENERAL TENDERS for the performance of the Works for the RESTORATION and ENLARGEMENT of ST. JAMES'S CHURCH. Drawings and plans can be seen at the Offices of Messrs. POPE & ERNDON, Guildhall Chambers, Broad street, Bristol, on and after MONDAY, the 20th instant. Tenders to be delivered on MONDAY, the 6th of APRIL. The Committee do not bind themselves to accept the lowest or any Tender.

Bristol, March 27th, 1863

LEEDS CORPORATION WATER-WORKS.—TENDERS WANTED for the ERECTION of an ENGINE HOUSE, BOILER HOUSE, COAL-BINS, WORKMEN'S COTTAGES, and other Works, at Farnley, near Leeds. Plans and specification may be seen after MONDAY, the 13th instant, by applying to Mr. EDWARD FILLIER, C.E. Borough Surveyor, Engineer to the Waterworks of this Office, Town Hall, Leeds. Sealed Tenders, addressed to the Waterworks Committee, Town Clerk's Office, Leeds, to be sent in not later than THURSDAY, the 30th instant.—By order

JOHN EDW. SMITH, Town Clerk.

Leeds, 4th April 1863

TO BUILDERS.—The Building Committee of the Baptist Church, Worcester, are prepared to receive TENDERS Separately or in one sum for the VARIOUS WORKS required in the ERECTION of a NEW CHAPEL at Worcester. The drawings, specifications, and bills of quantities may be seen at the Iron Room, Pierpoint street, in Worcester, between the hours of TEN to SIX, from WEDNESDAY, APRIL 22nd, until SATURDAY, MAY 2nd (both inclusive). Copies of the bills of quantities may be had on persons application to the person in charge of the drawings, or by letter addressed to us. Tenders, endorsed "Tender for Chapel," must be addressed to Rev. H. F. STURMER, Chesnut walk, and will not be received later than MAY 2nd

PRICHETT & SON, Architects.

Darlington, April 14, 1863

TO BUILDERS.—TENDERS are required for the RECTION of TWELVE HOUSES, in Devonshire and Stanley Roads, Hackney, for the Temperate Permanent Land and Building Society. The plans may be inspected, and a copy of the specification (price 2s. 6d.) obtained at the Offices of the Society, between the hours of TEN and FOUR o'clock, on and after APRIL 7th up to APRIL 21st. Tenders, on the forms attached to the specifications, are to be left with the Secretary, sealed, and marked on the outside "Tenders for Houses at Hackney," at or before FOUR o'clock on TUESDAY, APRIL 21st. References and security may be required, and the lowest or any Tender will not necessarily be accepted.

HENRY J. PHILLIPS, Secretary.

Offices, 34, Moorgate street, London.

TO CONTRACTORS. — LIVERPOOL CORPORATION WATERWORKS.—The Council of the Borough of Liverpool, desire to receive TENDERS for the CONSTRUCTION of TWO DISTRIBUTING RESERVOIRS, one near Wavertree village, and the other near Wavertree Park, both to be built of brick in Portland cement, and for the ERECTION of a PUMPING STATION, with Engine and other necessary Works at the proposed Reservoir, near Wavertree.—Plans of the Works may be seen, and Tenders in accordance with forms of Tender obtained from and after the 15th of April instant, on application to Mr. THOMAS DUNCAN, Engineer of the Liverpool Corporation Waterworks at the Waterworks Offices, Hotham street, Liverpool, on the payment of One Guinea for each copy. Sealed Tenders, addressed to the Chairman of the Waterworks Committee, must be delivered at the Townhall, Liverpool, not later than TWELVE o'clock, on MONDAY, the 27th day of APRIL instant. The committee do not bind themselves to accept the lowest or any Tender.—By order,

WM. SHUTTLEWORTH, Town Clerk.

Townhall, Liverpool, April 9, 1863

BOARD of WORKS, WHITECHAPEL DISTRICT.—A meeting of this Board will be held on MONDAY, the 27th day of APRIL, 1863, at SIX o'clock in the evening, at the Office, 15, Great Alie-street, Whitechapel, to receive TENDERS for the CONSTRUCTION of a BRICK SEWER in Princes street, Hackney, for the Parish of St. Dunstan, and parts in the Hamlet of Mile-end New Town, within the said District.—Plans, section and specification may be inspected, and further particulars, with printed forms of Tender, obtained on application to Mr. FREDERICK Surveyor, between the hours of TEN and FOUR, at the Office of the Board. Sealed Tenders, to which a ten-pound note is to be inclosed must be delivered at the Office of the Board previous to the time of meeting; and any Tender which is not upon the printed form prepared by the Board and signed by the person or persons tendering, will be rejected. The Board do not bind themselves to accept the lowest or any Tender.

ALFRED TURNER, Clerk to the Board.

15, Great Alie-street, Whitechapel 15th April, 1863

HORNSEY, near the Station.—TENDERS are required for the CONSTRUCTION and FORMATION of 1,300 feet run, or thereabouts, of ROAD and PATHS, in Crouch End road, Hornsey. Also for the Construction of Six Gullies. Specifications, plans, and sections may be seen at the Office of Mr. JAMES LOVERIDGE, Surveyor, Finsbury Lodge, Dalston rise, Hackney, N.E. on MONDAY and TUESDAY next, between the hours of NINE a.m. and ONE p.m. The lowest or any Tender not necessarily accepted. Tenders to be sent in on or before the 23rd instant, endorsed "Tender for New Road, &c." and addressed as above.

Apr. 14, 1863

TO STONE MERCHANTS and MASONS. 7, Red Lion-square, 16th April, 1863.—Sealed TENDERS will be received at this Office until noon on MONDAY, the 27th instant, from persons willing to TAKE the WIDENING of the PATH round the centre of Red Lion-square.—All requisite particulars supplied at this Office, between the hours of TEN and FOUR o'clock

TO BUILDERS & CONTRACTORS.—These designs of CONTRACTING for the ERECTION of a PAIR of SEMI DETACHED COTTAGES, New Wimbledon, Surrey, may see the plans and specifications, prepared by Mr. Thomas Darby, Albert place, Peckham, Surrey, by application to Mr. WARD, 33, Westminster Bridge-road, between 9 and 11 A.M. and 2 and 4 P.M. on THURSDAY, FRIDAY, and SATURDAY, April 23rd, 24th, and 25th, from TEN to FOUR o'clock. Sealed Tenders, addressed to Mr. WARD, are to be written or before the 27th instant.—Further information on application. The said Mr. Ward will not bind himself to accept the lowest or any Tender.

STOCKTON and DARLINGTON RAILWAY.—To BUILDERS.—The Stockton and Darlington Railway Company are prepared to receive TENDERS for the following WORKS, viz.:—

No. 1. For the ERECTION of FOUR COTTAGES, at Middlesbro'.

No. 2. For certain ALTERATIONS and ADDITIONS to the PASSENGER STATION, at Mr. Skilton one Row.

No. 3. For the ERECTION of a WATER TOWER, at Saltburn-by-the-Sea.

No. 4. For a large CAST-IRON TANK and GIRDERS, for the Water Tower at Saltburn-by the Sea.

Plans and specifications for the above may be seen upon application to the Architect at the Railway Offices Darlington, at the following dates, viz.:—Plans, &c. for No. 1, from WEDNESDAY, APRIL 15th, to WEDNESDAY, the 22nd. Plans, &c. for No. 2, from MONDAY, APRIL 20th, to WEDNESDAY, the 29th APRIL. Plans, &c. for No. 3, from WEDNESDAY, APRIL 22nd, to WEDNESDAY, MAY 6th. Plans, &c. for No. 4, from MONDAY, APRIL 27th, to WEDNESDAY, MAY 6th.

Tenders to be delivered on or before the last named date in each case, addressed to the Secretary, and endorsed "Tender for Works." No pledge is given that the lowest or any Tender will be accepted.

(Signed) THOS. MAC NAY, Secretary.

Railway Office, Darlington, April 11th, 1863

LONDON GENERAL OMNIBUS COMPANY, LIMITED. The DIRECTORS are desirous of receiving, on or before 22nd inst. TENDERS for MAINTENANCE of LAMPS, and GAS FITTINGS, at their several Establishments, for three years, from 1st MAY.—Specifications may be seen at the Offices of the Company.—By order,

A. G. CHURCH, Secretary.

31, Moorgate-street, 16th April, 1863.

BUILDERS desirous of TENDERING for the ERECTION of a Pair of VILLAS on land at Kentish Town, can see the drawing and specification, and obtain other information, on and after the 20th instant, at Mr THOMAS T. GREEN, Surveyor, 4, Duke-street, Adelphi, W.C. Tenders to be delivered at the Surveyor's Office by FOUR o'clock, on MONDAY, 27th instant. The lowest or any Tender will not necessarily be accepted.

TO MASONS and PAVIORS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City on TUESDAY, the 28th APRIL, 1863 at TWELVE o'clock at noon precisely, to receive TENDERS for RE-PAVING the CARRIAGE-WAYS of LUDGATE-HILL and STREET, and the FOOTWAYS of LOWER THAMES-STREET, respectively to specifications to be seen at the Office. Persons Tendering are required to give the names and addresses of at least two substantial householders as the sureties to enter into bond with the Contractor for the due performance of the Contract. The Commissioners do not pledge themselves to accept the lowest Tender, or any, unless deemed satisfactory; and no Tender will be received after TWELVE o'clock.

By the Court of Commissioners of Sewers, JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, 16th April 1863.

TO BUILDERS.—Persons desirous of supplying TENDERS for the REBUILDING and probable ENLARGEMENT of BODVARI CHURCH, in the Diocese of Saint Asaph, are hereby informed that the plans and specifications may be seen at Bodvari, on and after the 21st inst. The Tenders to be delivered at the Office of T. H. WYATT, Esq. 77, Great Russell-street, London, W.C. Architect, on WEDNESDAY morning, the 29th of APRIL. The Committee do not bind themselves to accept the lowest Tender, nor any of those submitted if thought unsatisfactory by their Architect

TO BUILDERS, &c.—HAILEYBURY COLLEGE, Herts.—Persons willing to TENDER for the EXECUTION of the several WORKS required in FORMING a LARGE SWIMMING BATH, 210 feet long, are informed that the contract, drawings, and specification will lie for their inspection at Haileybury College, near Hertford on and after WEDNESDAY the 22nd inst. until WEDNESDAY, the 29th APRIL inst. from TEN to FIVE each day, on which day Tenders will be received, endorsed "Tender for Bath," addressed to Rev. L. DERDES, the Hon. Secretary, Brantfield Rectory, Hertford. The Committee do not undertake to accept the lowest or any other Tender. Forms of Tender, copies of drawings, and specification, with quantities, may be obtained of ROBERT FORSTER FAIRBANK, C.E. 11, Adam's-terrace, Hampstead road, London, N.W.

London, 16th April, 1863

BROKEN GUERNSEY GRANITE.—MIDDLESSEX and ESSEX TURNPIKE ROADS.—Notice is hereby given, that the Trustees of these Roads are willing to CONTRACT for 4,000 yards of new blue GUERNSEY GRANITE, of the best and hardest quality, free from dust, by ken to a gauge of two inches and one half of an inch, to be delivered at the convenience of the contractor, between the months of MAY and NOVEMBER next.—Two yards of such Granite will have to be placed alongside the Wharf of Mr. TYLER, at Ilford Bridge, Ilford, Essex; and the remaining 3,998 yards at the Wharf of the Grays Chalk Quarries Company, adjoining Bow Bridge, Stratford, Essex, the Trustees bearing the expense of unloading the barges. Payment will be made for one half of the quantity of broken granite to be contracted for on the 25th of OCTOBER next, provided so much be delivered, and the remaining portion will be paid for in the latter part of the month of JANUARY following.—Forms intended to be delivered sealed and endorsed "Tender for broken Granite," are to be sent to this Office on or before MONDAY, the 27th instant, and therein undertaking to truly and punctually perform the conditions of such Tender under the penalty of 5s. per yard for liquidated damages. The Trustees do not bind themselves to accept the lowest or any offer.

GEORGE DARBY, Clerk to the said Trustees.

Turnpike Road Office, Bow, Middlesex, 16th April, 1863.

SHANGHAI GAS WORKS.—WANTED, TENDERS for the SUPPLY of the whole of the APPARATUS required for the above Works. Specifications and Drawings may be seen at Mr. ROLL'S Office, 71, Cheapside, City, London, on and after the 18th instant. Tenders must be delivered on or before the 30th instant, at the said Office, addressed to Mr. ROLL, 10, Coleman-street, City, London, on or before the 25th Instant.

TO BUILDERS.—Parties desirous of TENDERING for the ERECTION of a NEW WESLEYAN CHAPEL at Luton, Beds, can see the plans and specification at my Offices, on and after MONDAY, APRIL 27th, between the hours of NINE a.m. and SIX p.m. Tenders to be sealed, endorsed, and sent in on, SATURDAY, MAY 9th, at TWELVE o'clock at noon. The Trustees do not bind themselves to accept the lowest or any Tender.

GEO. HALTON, Architect.

Church-street, Luton, April 15, 1863.

TO BUILDERS.—Persons desirous of TENDERING for the erection of a new RECTORY HOUSE and PREMISES, at High Laver, in the county of Essex, are requested to send in their Names to Mr. CHARLES CHANCELLOR, Architect, Painters' Hall, Old Broad-street, London, and Chelmsford, Essex, before TUESDAY, the 28th of APRIL

HAY'S PATENT WATERPROOF GLUE and INDIA-RUBBER VARNISH.—To ARCHITECTS, BUILDERS, PAPER HANGERS, &c. &c.—The WATER-PROOF GLUE is a special and distinct article, available for carpenters, joiners, and cabinet makers. The VARNISH for damp walls, previous to papering, cutting zinc verandahs, &c. &c. Copy of a letter from Messrs. Rogers & Booth, contractors, Gosport:—

"We have repeatedly used your Water, roof Glue as a preventive against damp, as I have found it most valuable in preparing walls to receive paper. In one instance where the walls were thoroughly saturated with moisture from earth filled against the outside, we used your varnish internally, and papered the surface, within a few hours of its being applied, with complete success. We have also used your preparation for coating a large number of cast-iron piles, at the Gunwharf, Portsea, for her Majesty's War Department."

Tube-lead from all thicknesses, Oil, and Colourmen, &c.

Manufactory, Chandos street, Portsmouth. Mr. GEORGE WEEKS, Manager. GEORGE C WARDEN & CO. General Agents, 13, London-street, London, E.C. where specimens of its application can be seen.

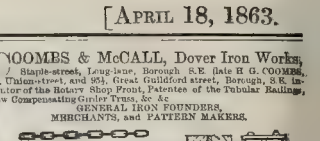
WEST DRAYTON GRAVEL PITS. T. FERGUSON, sole proprietor of the above Pits, is now prepared to deliver any quantity of the very finest descriptions of GRAVEL, especially adapted for road making, garden paths, concrete, &c.—Orders received at the Offices, Nos. 11, 12, 13, Wharfs, Northside, Pool-street Basin, W

BALLAST.—Builders may be supplied with well-burnt BALLAST, by applying to Mr. THURLOW, Builder, on the Maitland Park Estate, Haverstock-hill, N.W.

IMPORTANT to BUILDERS and OTHERS having circular saw tables.—The Advertiser, WILLIAM SKERCHLEY, having invented and perfected an IRON DISC for PLANING FLOOR BOARDS to any width and thickness required, calls the attention of builders and others to the importance of and immense saving effected by it. The Disc is attached to the spindle with as little trouble as the circular saw, and will prepare the surface of ten squares per hour.—To give orders, or for information apply to the Inventor, WILLIAM SKERCHLEY, 7, Tarton-street, Weymouth.

COOMBES & McCALL, Dover Iron Works, 7, Staple-street, Long-lane, Borough S.E. (late H. G. COOMBES, 17, Union-street, and 95A, Great Guildford street, Borough, S.E. Inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c

GENERAL IRON FOUNDERS, MERCHANTS, and PATTERN MAKERS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE CASTINGS,

And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE, No. 24, Davies-street, Three Doors from Oxford-street. For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 16, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Memorial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame

D. HULETT & CO. 55, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 69 Charles-street, City-road, E.C. near the Canal Bridge.

E. GOLLOP, SOLE PROPRIETOR.

A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor-springs, Gate-hinges, Rising-hinges, Rising Spring-hinges, Not-rising Spring-hinges, Double-acting Spring-hinges, Rising and Not-rising Door Rack-springs, &c.

Price List and Drawings on application as above.

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LIGHTNING CONDUCTORS. R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths-inch diameter..... 1s. 6d. per foot.
Half-inch diameter..... 1s. 6d. "
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" 68, Anderston-quay, Glasgow.
" 17, North Castle-street, Liverpool.
" Exchange-buildings, Dundee.
" 7, Frederick-street, Aberdeen.

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TO BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making four qualities, and he strongly recommends that in all cases the Imperial be preferred to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

ESTABLISHED 1774

TO IRONMONGERS, BUILDERS, &c.

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TO BE SOLD, a GREAT BARGAIN, About THIRTY CAST-AMERICAN, FLUTED, CAST-IRON COLUMNS, 12 feet 6 inches high, with base plates and turned bright CAPITALS, being a portion of those lately used in the machinery department, Western Annexe, GREAT EXHIBITION BUILDING.—For drawing, price, and further particulars apply to Messrs AMOS & BARFORD, Queen-street Iron Works, Peterborough; or to Mr. H. LAVINGTON, 69, Old Bailey, E.C. where at either places specimens may be seen.

WANTED, a BALLAST CRUSHING-MILL, to grind same for Mortar.—Send price, and where to be seen, to Mr. PAWLEY, Builder, Sydenham.

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Contractors' rails, 25 lb. per yard; assorted bar iron, bolts and nuts nails and spikes, cast and steel, cast-iron pipes for pumps, &c. iron work for carts and waggons.

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Boring tools, iron buckets for shafts, trolley hooks, crowbars, pickaxes, shovels, hammers, chisels, &c. and smiths' tools.

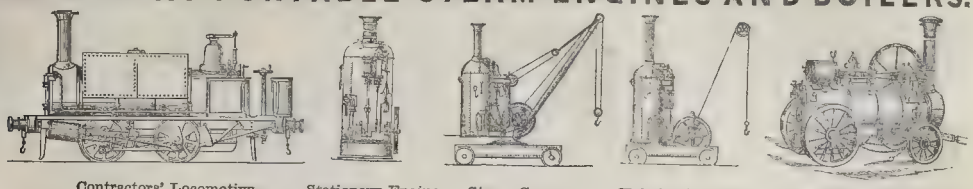
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Travelling cranes, quarry cranes (ship-jack's), crab cranes (single and double), lifting-jacks, pulley-blocks, sets of pulleys with spindles, &c. pumps, quick barrels in couples, 12-horse portable engines, brick making machines, mortar-mills, pile drivers, &c.

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One horse and Dobbin carts, one yard waggon, three yard tip waggons, wheelbarrows, and materials for sale, to be delivered, free on board, in Liverpool, London, Bristol, or Glasgow.—Prices and particulars to be sent to care of Mr. INGRAM, 12a, Bridge-street, Westminster, endorsed "Tender for Plant."

NEW PATENT PORTABLE STEAM ENGINES AND BOILERS.



Contractors' Locomotive. Stationary Engine. Steam Crane. Hoisting Engine. Agricultural Engine.

STATIONARY ENGINES.

THESE Engines require no Chimney-Shaft, nor Building whatever, a Cast-Iron Ash-pit forming the SOLE-PLATE, and they may be set up anywhere and started at once. Being very carefully made of the best materials, they may be perfectly relied on to work satisfactorily and, from their self-completeness, they may be erected and set to work by any ordinary mechanic to instructions supplied. These improved Engines have the great advantage of being applicable to a variety of purposes, the small space they occupy rendering them available where ordinary Engines cannot be used.

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Delivered Free in Glasgow, Hull, Liverpool, or London.

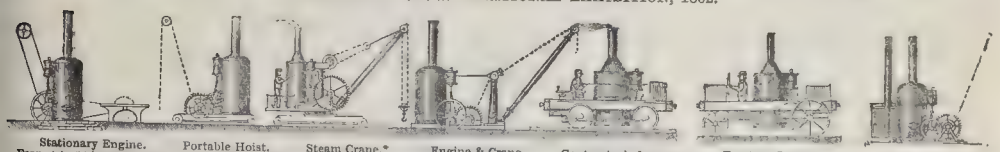
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2	„	„	4¼ „	×	9	„	...	...	65	11	„ „	10½ „	× 18 „ 210
3	„	„	5¼ „	×	11	„	...	...	85	13	„ „	11¾ „	× 20 „ 240
4	„	„	6¼ „	×	13	„	...	...	105	16	„ „	13 „	× 22 „ 275
5	„	„	7½ „	×	14	„	...	...	125	20	„ „	14½ „	× 24 „ 310
7	„	„	8½ „	×	14	„	...	...	150	25	„ pair Cyldrs.	11½ „	× 20 „ 370

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PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.



Stationary Engine. From 1 to 30 horse power. Portable Hoist. 1 to 30 horse power. Steam Crane.* 30 cwt. to 10 tons. Engine & Crane. 2 to 25 horse power. Contractor's Locomo. 6 to 27 horse power. Traction Engine. 6 to 27 horse power. Ships' Engine. Winding and Cooking.

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Designed and Guaranteed as to Strength.



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RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
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Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



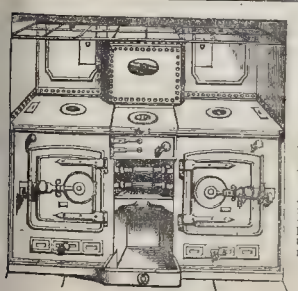
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They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces from 1*l.* 5*s.* to 100*l.*; Fire irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth plates.

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BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

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Foreign orders executed with despatch.

Chain for Slings, Cranes, and Blocks, in lieu of rope; equal to hoist any weight; warranted of the best iron and workmanship, and tested by patent machinery; on the lowest possible terms



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This improved system of fire-proof construction has been most extensively adopted, and its application extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines STRENGTH with great economy of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation, adapted to receive a finish, if required, either of the ordinary flooring boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

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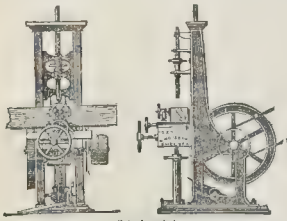
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STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.
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S. WORSSAM & CO. beg to announce that they have purchased of Mons. Perin, of Paris, the exclusive right to SELL his celebrated BAND SAW BLADES (the superiority of which is universally allowed in the United Kingdom). S. W. & Co. have always a large assortment of these saws at their Works, 304, KING'S ROAD, CHELSEA, S.W. where also the Band Saw Machine exhibited by Mons. Perin in the Western Annexe, International Exhibition, is now on sale.

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(¼ inch scale.)

Combines many improvements not to be found in any other mortising machine. A single machine, worked by a man, with a boy to assist in removing the stuff, will do as much work as ten joiners, or as four hand-machines.—For Priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's Road, Chelsea, S.W.

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PATENTEES,
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Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20l.



Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
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Self-acting Cottage, with Oven and Back Boiler.

30 inches	22s.
32 ,,	24s.
34 ,,	26s.
36 ,,	28s.

Self-acting, with Bright Wrought Bars.

34 inches	54s.
36 ,,	56s.
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Best Cut Clasp and Rose Nails.
1½-in. 1¾-in. 2-in. 2½-in. 3-in.
14s. 14s. 13s. 12s. 11s. 6d. per cwt.
Best Sheet Cut Floor Brads, 11s. per cwt.
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Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from, per inch, 6d.
Berlin Black, with Bright Bead, 35s. each.

Cast Rain-Water Pipe,

2-in.	2½-in.	3-in.
8d.	10d.	1s. per yard.

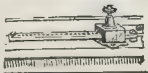
Cast Gutters, 4-in. 7d. per yard.
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4-in.	4½-in.
11d.	1s. per yard.

GAS PIPES AND FITTINGS.
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PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE-ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR HANDLES.



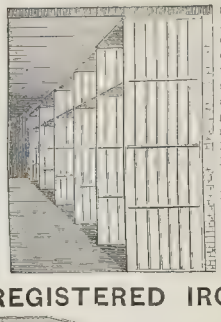
PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.



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MANUFACTURERS, BIRMINGHAM.

WROUGHT IRON WINE BINS.
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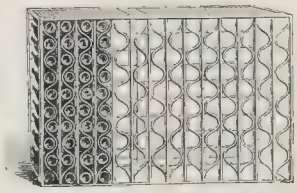


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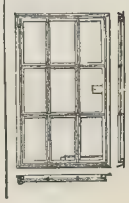
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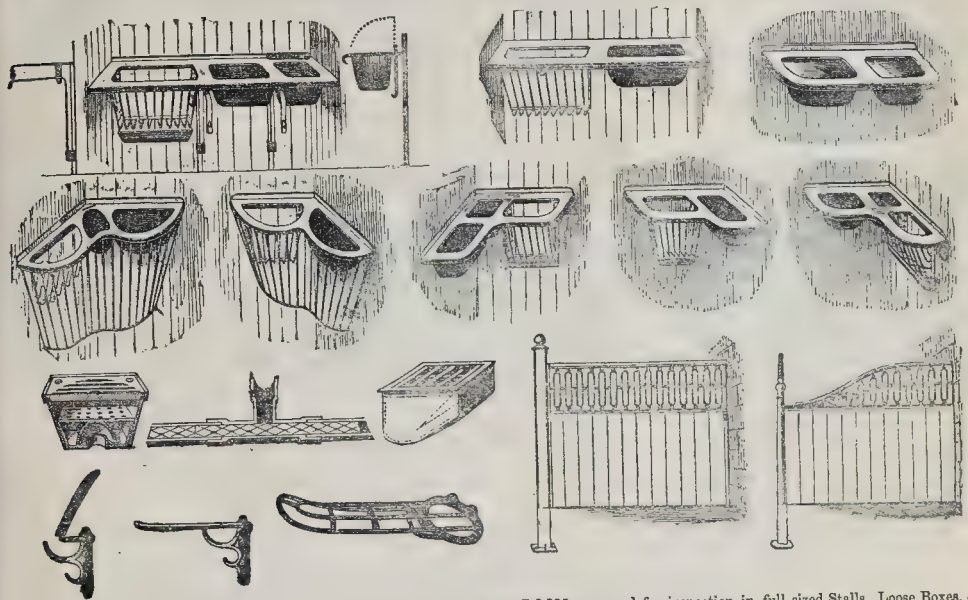
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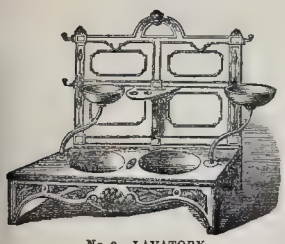
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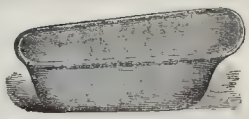
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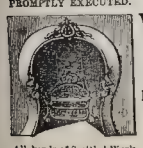
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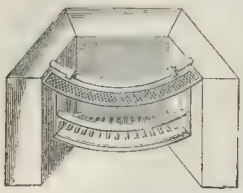
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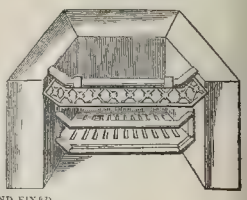
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21	,,	12 ,,	10 0	12 0
24	,,	15 ,,	1, 0	13 0
27	,,	18 ,,	11 0	18 0
	,,	21 ,,	2, 0	—
	,,	24 ,,	,, ,,	—
36	,,	27 ,,	36 0	Extra strong.
42	,,	30 ,,	42 0	

These Stoves give a considerable heat with a small consumption of coal.



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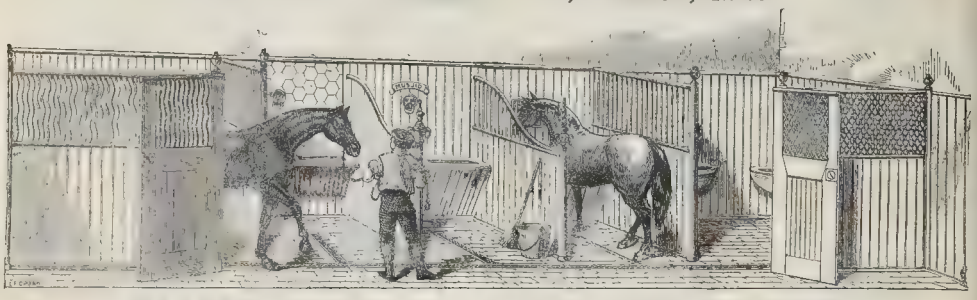
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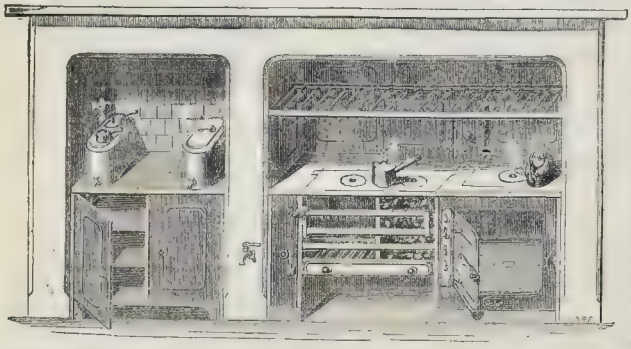
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The fall-down bar will be found useful for broiling purposes when the fire is low.

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The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

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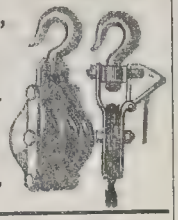
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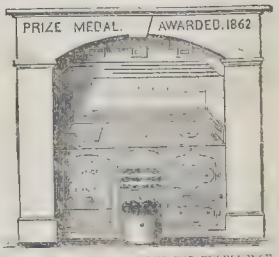
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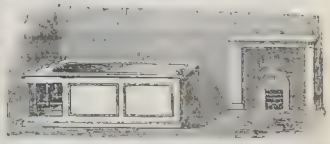
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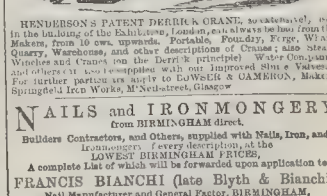
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The Builder.

VOL. XXI.—No. 1054.

Stopping and Starving. Bethnal-green.

NOTWITHSTANDING the cleanliness and order which are to be found in some of the Metropolitan workhouses, there are few sights which cause sadder feelings than a visit to one of those establishments which are amongst the necessities of the present state of our civilization. Here are lodged infancy and old age, the idle and those who would gladly work if they had the work to do. We have here the worthy and the worthless, the crippled or sick, and men and women in the prime and strength of life. In the Bethnal-green "Union," which is a spacious building, there are now considerably more than 1,000 inmates; and this is but a small proportion of the number who receive parish relief in this poor and now distressed district; and we fear that for some time, if measures are not used to avert it, the extent of pauperism will be greatly increased. There are various causes for this. The introduction of the sewing-machine is affecting the local tailors, needlewomen, and those engaged in the manufacture of boots, shoes, and many other articles. Steam-machinery and other introductions have made profitless various branches of industry. We live, indeed, in an age of wonderful change; and while measures are in progress for the general good, a large amount of suffering and distress falls on particular classes. Such being the case, we require new means for assisting those who are particularly affected by the present state of transition.

As we have often said, the amount of distress which exists in various parts of the metropolis can be understood only by those who have carefully examined such districts as Bethnal-green and similar parts of East London, where there are thousands of decent families in a state of hopeless destitution. Sickness and disease destroy many lives, but still there are many left who, without well-directed aid, will be likely to crowd our workhouses and prisons, and to be a source of trouble and difficulty. In the hope that publicity may be the means, in some measure, of preventing this, we will look again at parts of Bethnal-green and Spitalfields, and note the conditions of some of those who have been driven to seek help from the poor-rate.

The duty of a relieving officer in such a neighbourhood as this is a difficult one. He has in his hands matters of life and death, and when of a kindly disposition must find it no easy task to study the condition of the poor, act humanely, and give satisfaction to the board of guardians of a highly-rated parish. The experience of a gentleman engaged in this way in Bethnal-green confirms all that we have said of the great distress which exists in the place, and induces a feeling of admiration of the patience and worth of the chief part of the people. Going from house to house we hear the same tale told, and see half-famished and ill-clad children. We notice that, in nine cases out of ten, there is no chance for their future welfare without means are used which do not at the present time exist. At the corners of the streets may be seen groups of youths of the age of from sixteen to twenty (who are evidently not of the vicious class), lean, wan, and ragged. On speaking to these lads they will tell you that they are the sons of silk-weavers: they have no employment: some have tried to get into a man-of-war, but being over fifteen years of age, have been refused: they have tried to enlist into the army, but their chests or height will not pass inspection. *What is to become of such lads as these?* Many of them would do well in the colonies: good air, sufficient food, and employment, would soon improve their condition, and make them useful in those lands where labour is wanted, and the earth is fertile.

The relieving officer will only call at those houses where the people applying for assistance live: this seems in nearly every instance to have been a last resource; and who can judge of the great extent of the suffering which exists, and which has not been made known by any kind of complaint? The public has heard lately that some poor creatures have died of actual starvation. In the houses we find young women who have no employment, and who might, under proper care and guidance, be useful in the colonies, or they might be employed as domestic servants, or in some other way, at home.

The sanitary conditions of Bethnal-green have been before referred to, and it is pleasant to notice that many of the worst houses have been removed, and that better ones have been erected on the sites. In "Nova Scotia-gardens," and the parts surrounding, there is a marked improvement. There is, however, much to be done in this way, and it is to be hoped that, when the Main Drainage system is complete, care will be taken to make use of the sewer. Omitting just now, however, further reference to this matter, we will note the particulars of a few cases which, in the course of a walk, came under notice. The first was that of a young couple, the wife about to be confined for the first time. She had been a domestic servant before marriage. The business of the husband was that of brush-drawing, by which he had been enabled to earn 18s. a week. Work had become dull, and for some time he had been without his usual employment, and had sought work as a labourer at the docks. During the last fortnight he had had three days' work at 2s. 6d. a day (7s. 6d.). The rent of the room occupied by these people was 2s. 3d. a week. At times, but not as it appears driven to it by actual want, the wife had obtained work at a pickling warehouse, and could earn from 9d. to 1s. a day. Now she is unable to attend to this duty, and is obliged to apply to the parish for medical assistance. This is, in London, a bad beginning of life. We then found a man forty-six years of age, who had been formerly a plumber and glazier, but being unable, in consequence of lameness, to follow that employment, he now works at winding the cotton used for making fringe. In the course of a week, if the material were favourable, he could earn from 3s. to 3s. 6d.; at some times not more than 2s. 6d. The wife found occasional employment in washing: the whole income was not more on the average than 7s. 6d. a week; and there were, besides the man and his wife, two children to support.

Our next visit was to the home of a silk weaver, who occupies the top part of a house, every part of which is crowded with people. With difficulty we ascended the dark, narrow, and ill-constructed staircase. There were several hand-looms—all empty, except one, at which the daughter was at work, who, by long and hard labour, could earn 5s. a-week—a sum but little more than sufficient to pay the rent. The man and his wife had lived on the same spot for many years. "Forty years or so ago," said the weaver, "I could readily earn 2*l.* 10s. a-week; now I could not earn more than from 9s. to 10s., and work is not easily to be had. If a little present assistance be given, things will work round; times will mend—anything rather than go into the union." In several other instances, we noticed the same hopeful feeling: these people, seemingly, forget the regular decline of the prices, and that now, when they have fallen so low that they are not sufficient for support, work is still not easily to be found. With the exception of the looms there was no furniture of any worth. In such a case as this, the young daughters might emigrate with great advantage to themselves; but they would not like to leave their father and mother, who are getting old. And so they stop,—and starve.

In one miserable room was a woman with seven children: her husband appears to have left her. She worked at shoebinding. This business has become worse in consequence of machines having come much into use. She, with difficulty, could earn 4s. a-week, and 1½d. in each shilling was needed for thread, &c., thus reducing the wages to 3s. 7d. Three of the children are engaged,—when they are well enough to go,—at a lucifer match manufactory, and receive 2s., 1s. 6d., and 1s. a-week; so that, when fully employed, all that this family had for their support would be 8s. 7d., from which 2s. 6d. is to be deducted for rent, leaving 6s. 1d. for the food, firing, and clothing for eight persons. This woman would willingly get the elder girls into respectable service, instead of having them engaged as at present, but she has no influence, nor is she able, without assistance, to find suitable and decent clothing for them. This is often the case. In the workhouse we saw a woman and a girl, her daughter, between thirteen and fourteen years of age: they were dressed in the usual grey livery of the place: the girl looked modest, intelligent, and healthy: they were about to leave the house. On asking the mother if it was not possible to place the girl in some family where she would be well cared for, she said,—pointing to some dirty and tattered clothing which was airing by the fire,—"Who would look at her in these rags, and I can get no other?" The appearance of this young girl in her union suit, and that which she presented when turned into the street, formed a striking and painful contrast.

In the house of one weaver the children were ill with small-pox; one of them lying in a small, close, and stifling room. There the man was without employment, and had been nearly so since last Christmas; while before then for some time his work, and the help of some of the children at silk-winding, after the rent was paid, did not bring more than from 6s. to 7s. a week. One family earned 12s. by silk-weaving, the rent being 3s.; another 8s., rent, 2s. 3d.; another 9s. We called at the house of a weaver which was comfortably and tastefully furnished, but the man had been in business many years. He said:—"In better times I laid away for a rainy day. I could not manage, as you see, if I had done otherwise; but my son, who has the world to begin and a family coming about him, is sadly off. If you will call at his house you will see, notwithstanding what little help I can give him, to what a state he is reduced, and there is no hope for him to do better." The young man and his wife, for their children's sake, as they said, would gladly emigrate if they had the means of doing so. Many expressed a similar inclination; but on the part of others there seemed to be a listlessness, a patient suffering of the greatest amount of poverty, rather than willingness to seek for change. Many have an idea that those who have been enabled to emigrate from the district have been badly used; but although we made diligent inquiry for letters which would substantiate this, we were not able to see any.

Intelligent in many respects, it is a matter for regret that the people of this class should be so ignorant of social and sanitary laws as they are: they might with but a little trouble be readily taught. When, for instance, a silk weaver will gravely tell you that the present state of business is caused by the French or other foreign trade, or by "Gladstone,"—not mentioning that gentleman's name with particular favour,—if we lay our hand upon his old-fashioned loom and say, "It would be just as possible for the old stage-waggon to compete with the locomotive as for you to con-

tend with steam-power silk-looms:" "Well, at any rate," says the weaver, "it is very hard for us." When reminded, however, of the present price of bread and other necessaries of life in comparison with the uncertainty in this respect of other times, he comprehends the matter readily. Great good might be done not only amongst the silk weavers, but also those who are connected with other depressed branches of industry by the spread of information.

At the present time help is most needful in these districts; and it would be well for some of the influential dwellers in the west of the metropolis to go over to the east. If the case of these people were rightly understood, we should see the hard-working clergymen of Bethnal-green and Spitalfields assisted in their labours: we should have means provided for those who feel disposed to emigrate, and a monster evil to a considerable extent remedied. We will presently give some further account of the people here, and of the means which are available for improvement.

The general question of the health of London, as affected by the conditions under which thousands in it live, is again forcing itself on the minds of inquirers. While public attention has been directed to Lancashire in anticipation of a great outbreak of fever among the cotton operatives, an epidemic of fever has been silently raging in the metropolis far surpassing in extent any observed during the past fifteen years. According to the *Lancet* of this week the deaths from fever in the metropolis, which in 1860 did not exceed 1,392, rose in 1862 to 3,635! At the Fever Hospital, from whose reports the most accurate information is obtained, 391 admissions were the total for 1860; but in 1862 it rose to 2,699, being a thousand more than had ever been admitted in a year to the hospital. It is obvious that 3,635 deaths in twelve months must represent an enormous prevalence of sickness from typhus. It is important to know of what kind the fever is. From the records abovementioned it is shown that it is the true spotted typhus which is, and has been raging—the gaol fever of Howard; the "Irish typhus" of modern writers; the fever which decimated our Crimean army, and is now ravaging the Federal hosts. In the year 1855 the typhus admissions to the Fever Hospital did not exceed fifteen, and during seven months of that year only one case of genuine typhus was admitted; but during the year 1862 they have risen to the unprecedented number of 1,827, while the admissions for gastric or typhoid fever did not exceed 220, or about the average of the fifteen preceding years. The causes of typhus are not doubtful: they are overcrowding, destitution, and bad ventilation. It is our old, old story again and again.

BRITISH SCULPTORS.

THE FAMILY OF "THE MARSHALLS."

I AM pleasantly reminded by more than one "constant reader," of the *Builder*, that in my last communication to your columns ("The Family of the Cures"), I omitted "accidentally," in my catalogue of hereditary sculptors,—"The family of the Marshalls." That the omission was "accidental," my present communication, full of new and unknown materials for "The Family of the Marshalls," which I have had by me for many years, will, I trust, be at once apparent.

There were *three* Marshalls eminently distinguished in clay, in plaster, and in marble, living and "flourishing" in London between the accession of Charles I. in 1625, and the death of Charles II. (1684-5). Their Christian names were (I give them alphabetically), Edward, Joshua, and William.

I. Edward was master-mason to the Crown in 1662, and was succeeded in his office by his brother Joshua.* Edward lived in Fetter-lane, Fleet-street. This Aubrey assures us, and his information is confirmed by those curious MS. papers called "The Fire of London Papers," now happily preserved in the British Museum. There I read as follows:—

"EDWARD MARSHALL, mason, a parcel of ground with several tenements and yards thereunto belonging, lying on the east to *Fetter-lane*, on the north to the passage called Bond Stables, on the south adjoining to the buildings of one John Dawling, gent., and on the west butting on the garden of the Master of the Rolls."—*Addit. MS. Brit. Mus.* 5063, *fol.* 182.

This Edward Marshall made the bust in Westminster Abbey of Michael Drayton the poet,* erected at the expense of the *famous* Anne Clifford, daughter of an Earl of Cumberland, and wife *first* of Sackville Earl of Dorset, and secondly of Philip Herbert Earl of Pembroke and Montgomery, and who consequently, throughout a long final widowhood, was obliged by the rules of the Heralds' College to divide her titles as she had done her heart, between two dear defunct husbands, by signing herself "Anne Pembroke, Dorset and Montgomery," according to the peerage creations of her two lords; a case without parallel, I believe, in the history or romance of the English peerage.

Edward had, it would seem, a taste for poetry. He "wrought curiously in plaster" the bust of his "great friend," Francis Quarles, and "valued it for Quarles's sake." "'Tis pity it should be lost," Aubrey writes to old Antony Wood. Is its whereabouts at all known?

By *Edward Marshall* there are two white marble and well-executed monumental busts in Tottenham Church, Middlesex, representing Sir Robert and Lady Barkham, of Wainfleet, in the county of Lincoln. Sir Robert died in 1644. Their eight children kneel near to the busts. This monument should be seen by all who are curious in identifying the works of our early sculptors.

The editors of Walpole's "Anecdotes," Mr. Dallaway in 1826, and Mr. Wornum in 1849, have wholly overlooked a *printed* notice of Edward Marshall. I shall, therefore, transcribe it entire for insertion by all who are curious in perfecting and illustrating that delightful work:—

"Barn-elms House in Surrey, with orchards, gardens, coach-houses, stable, grazing for a couple of geldings or cows, spring-water brought to the house in leaden pipes, pleasant walks by the Thames side, and other accommodations, is to be let, or otherwise may be divided into two convenient dwellings, with garden, orchard, and water to each of them. Inquire farther of *Mr. Edward* MARSHALL, a *stone-cutter*, living in Fetter-lane."—*Mercurius Politicus, 5th May*, 1659.

Among *Edward* Marshall's other works—"Marshall of Fetter-lane,"—Walpole's editors should include the monument to Sir Richard Verney at Compton, and of the Earl of Totness at Stratford-upon-Avon. Sir William Dugdale, in his Pocket-book for 1653, records that they came from the chisel of "Marshall of Fetter-lane."

II. JOSHUA (whose best works are to be seen at Campden, in Gloucestershire, and Swansea, in Cambridgeshire) was employed on a well-known work in Westminster Abbey, as the following fragment (now first published) will convince my readers:—

"To the executors of *Joshua Marshall*, deceased, for making a monument at Westminster, for the bones of a Prince found in the Tower of London."—*Works Accounts of the Crown for* 1678 9.

The monument to the princes, King Edward V. and his brother, is a sarcophagus, neatly wrought in white marble. Sir Christopher Wren gave the design. And here I may ask, would my friend, the distinguished sculptor, Mr. William Calder Marshall, R.A., make a like sarcophagus for a like amount? I wish Mr. Marshall would look at his namesake's work, and let the readers of the *Builder* know what a like work would cost at the present time. A practical opinion of what a duplicate would cost would give us a further clue to the value of marble and labour in the years 1678 and 1863.

III. Of William Marshall I can give no further account than that he was born on the 7th of October, 1606, and that the star—the figure of his nativity ascendant in the skies that day—is preserved among Ashmole's MSS. at Oxford. This I have never seen. A sculptor's nativity cast by Ashmole might fitly find a place in a column of the *Builder*.

My last new *material* relating to the Marshalls is from the MS. vestry minutes of St. Martin's-in-the-Fields:—

"1658, Sept. 24.—Ordered that Mr. Marshall, stone-cutter, do pay twenty shillings per annum for the privilege he hath in laying stones in Hedge-lane: to which Mr. Marshall being present consented;—the twenty shillings per annum to be paid from Michaelmas now next ensuing."

Hedge-lane is a narrow but much frequented thoroughfare leading from Pall-mall East to Coventry-street. Let us contrast it in 1658, when Mr. Marshall was suffered to make a marble-yard of it, with the crowded and equally narrow Hedge-lane of 1863. PETER CUNNINGHAM.

* Audit Office Enrolments (MS.), vol. vi. p. 427.

* Aubrey's "Lives," art. "Drayton."

THE ARCHITECTURAL EXHIBITION.*

MESSRS. DEANE & WOODWARD exhibit a drawing (190) of the Staircase Angle in their design for the War Office, in which the raking lines of the interior are shown externally. The arrangement may have influenced subsequent designs for other buildings by various architects. Messrs. Deane & Woodward's works executed, or to be executed, are unfavourably represented; but it can be seen they are not all quite satisfactory. The "Dormer in the suggested New Roof of the Town Quadrangle, Oxford" (223) is very bad as Gothic. Where in Oxford, is the "quadrangle?" The "House for the Marquis Clanricarde, Portumna" (328) would we fear have some rooms badly lighted, from the adherence to the Gothic forms. Another drawing (344) represents "Portion of New Buildings, Oxford." The Hall of Cork College (306), by Sir Thomas Deane, has an open roof of the Westminster Hall class. Mr. E. W. Godwin, of those using the Gothic style, is one who best reconciles the observance of all that is good in it, with the infusion of new design. We need object only to the canopies of statues, which are *stuck on* to a building instead of being partly supported from below, as they should be, however slightly, in appearance. His Northampton Town Hall (171), has, besides numerous features of the version of Gothic that is in fashion for the class of buildings, and some good sculpture, a well-contrived and effective recessed porch or *loggia* of entrance, formed of three arches in front, rising from columns,—the centre archway being appropriated to steps, and the sides to look-out spaces. The same architect also shows two alternative designs for the Town Hall, Tiverton. One of them presents a capital Gothic elevation; and the other, with semi-circular arches and pierced tympana to the windows, is more novel, and is otherwise good.

Amongst the designs for works of art-manufacture, are two by Mr. A. B. Donaldson, a nephew of the Professor. One of them (183) "for a Mural Painting over an Altar" is archaic in style, and appears rather crude in colour through the contrast of brilliant blue sky, and red and gold ornaments, with the brown in which the groups of figures are outlined and shaded. The subject is "The Word of God," represented by three stages of figures, Christ delivering the Gospel being at the top, with angels swinging censers, the Evangelists with their symbols next, and the eight other Apostles at the foot. The other design (184), "The Mysteries of the Cross," whilst more elaborate, is better studied in every respect. It represents the head of a cross divided into many compartments, which contain subjects representing scenes connected with the Cross, or allegories from the Scriptures. The Saviour on the Cross occupies a central compartment; round this are subjects from the Old Testament; elsewhere are scenes from the Crucifixion, and from the history of the early Church, as the discovery of the true cross: at the foot, walk in procession, priest, king, knight, lady, and the poor and maimed, each one having taken up his cross, and following the Saviour; whilst in the top compartment is represented the proclamation of the Resurrection. Each compartment is treated in different tints of the same colour, as neutral green, violet, light red, or blue,—though some of the first-named colours have a blue background; and the colours are balanced symmetrically with reference to the centre of the general design. It is a very clever work. Mr. Burges exhibits a sketch (202) of "Designs for Secular Jewelry." Specimens of the Chevalier Salviati's mosaic appear on one of the screens: but they are not so well placed for judging of their effect, as they are for looking at them closely. Near them is a specimen of Messrs. Maw's mosaic, a head from a design by Mr. Digby Wyatt; Mr. Maw also contributes an excellent drawing of the mosaic pavement in front of the altar, Torcello (382), and one of that in front of the shrine of St. Thomas à-Beckett, Canterbury Cathedral; and from Mr. Lightly's sketches we have useful records of the pavement of a chapel in the church of S. Miniato, Florence (131), and of the "Opus Alexandrinum"

* See pages 217, 236, 255, *ante*.

of the nave (140); both the pavements being now removed.

A screen is filled with sketches contributed to the Class of Design of the Architectural Association during the session 1861-62. Amongst them are a "Village Railway Station" (392), by Mr. Wimbridge, and the "Chancel of a Church" (393) by Mr. W. L. Ridge. Some of the designs testify to the serviceableness of the class in aiding the practice of perspective drawing, and the study of perspective effect. The study is most essential; although it is strangely neglected in some Continental systems of teaching. Some of the designs of the "class" however do not afford evidence of the study of planning. The omission, in an exhibition, considering the purpose of exhibition and the announcement in such a title as "Church to accommodate 500 persons" (412), would be a blunder, even where plans securing the objects had been really made. The plan, which is cruciform, in one of the designs (394), may not secure the objects, if we are right in the views taken in our first article; and the tower in the same design is out of all proportion to the church. The "class" must not lost sight of uses of buildings, and of actual dimensions; for, recognition of such points it is, that constitutes the business of architecture and our special art. Some of the best of the designs are by Mr. R. P. Spiers: we may especially mention the "Fire-place" (414), albeit, we can trace some of its details to originals. Mr. Spiers is a contributor to departments of the Exhibition; his drawings include a sketch (180), "Design for an Observatory," and a frame of "Scraps from France" (136). Reverting to the points of convenience and practicability as least of all to be discarded in designs exhibited to architects, we may call attention to a pencil drawing which hangs in the south-west corner of the west gallery, and represents a design for a proposed building. Chimneys terminate certain gables, in which there are windows; and we cannot find out where the flues would be taken up in sufficient space.

Of sketches and studies from old buildings, the largest contributor is Mr. Digby Wyatt. His "Coloured Study made on the Spot, of San Benedetto Subiaco" (201); "Studies of the Mediæval Architecture of Germany" (230), which are numerous; "Twenty-one Studies of Mediæval Architecture and Sculpture of Northern Italy" (246); and "Outline Study, with the brush, of the principal Doorway of Naples Cathedral" (250), are of value; and they ought to be published. Mr. R. W. Mylne contributes three very interesting drawings (330 to 332) of steeples belonging to the same family as the St. Dunstan's in the East, and Newcastle-upon-Tyne examples. They are, in order of date, from the middle of the fifteenth to the middle of the sixteenth, the steeples of St. Giles's Church, Edinburgh; King's College Aberdeen; and the parish Church, Linlithgow. The last-named steeple was taken down in 1862. The first of the three was restored and partly rebuilt in 1648, by John Mylne, King's Principal Master Mason; and the second, originally built in 1509, was rebuilt, according to an inscription, by "George Thomson, Architect, 1634." The drawings are, we believe, copies of photographs, taken expressly for the purpose of the illustration. Professor Donaldson has sent a drawing (189), which is certainly not less valuable as a record, than the other works of the class. It shows an angle of the Parthenon, and is a study made, now many years ago, on the spot, "to retain a record of the tones and tints on the entablature and columns;" and, showing that his pencil of last year, or 1861, was not idle, he has also sent a drawing of the "Court of the Nubian Khan, Cairo" (195); one of "The Sphinx on the Plateau of the Gizeh Pyramids" (283), and one of a "Fountain with School over," in Cairo (284). The Rev. J. L. Petit, Mr. J. B. Waring, Mr. F. T. Rogers ("Sketches in Normandy" 124), Mr. G. L. Beetholme, and Mr. J. W. Wild, should also be named as contributors of drawings. In the same class of works will also be found a record (312), perfect as far as the state of the original admitted, of the design and construction of the "Wooden Spire at Chalons-sur-Marne, from measurements," by Mr. W. Burges, and a capital set of illustrative "Sketches" (295 to 300) of what is left of that still too seldom appreciated building, the Church of St. Mary Overy, Southwark.

Above the drawings in the principal room, which have formed the subject of our review, are works to which we referred in a preliminary notice of the Exhibition. They are the cartoons of the mural paintings executed by MM. Guffens & Swerts in the Chamber of Commerce, Antwerp, that were destroyed in August, 1858, when on the eve of their completion, by the fire that consumed the Exchange. They include scenes from the commercial history of Antwerp, portraits, allegorical representations of the four quarters of the globe, and of the products of commerce and agriculture. With them is a cartoon representing the St. George over the high-altar of the church of that saint in Antwerp, cartoons of paintings in the new church of St. Nicholas, East Flanders, and of a triptych executed for the castle chapel of Noisy. They show considerable ability.

We have made many suggestions, this year or previously, for the amendment of the catalogue and towards making the Exhibition representative of the actual state of architecture.* Let us now add, that it is still difficult in many cases to discover from the titles of drawings, whether the buildings are erected, are in course of erection, are merely proposed to be erected, or are simple designs. Contributors of drawings should, if possible, be induced to word their titles so as to leave none of the points in doubt; and designs made on a defined programme of requirements, areas and dimensions, and outlay, should be immediately distinguishable from those where these considerations have not constituted a basis.

Mr. W. White, who exhibits several drawings, deserves to be commended for the complete manner in which he has explained by plans and other illustrations, the nature of the works he has had in hand. We repeat, what we have been saying for years, that mere views, which are not explanatory of the actualities of arrangement of buildings, are valueless for the main purposes of an exhibition that is to be visited by architects.†

THE WEDDING PRESENTS IN THE SOUTH KENSINGTON MUSEUM.

On Wednesday evening, a well-dressed crowd filled the museum, in order to have a *private* view of the jewels, china, lace, plate, and dresses, which were presented to the Prince and Princess of Wales, on the occasion of their marriage. The use of some of these beautiful things must have been given up with personal inconvenience: the two or three empty compartments at the bottom of the very handsome toilet service presented by the members of Her Majesty's household, suggest this fact, and increase the pleasure with which we look at the collection. It was a kindly and admirable act on the part of their Royal Highnesses thus to take the people into their confidence; and is duly appreciated. The presents are elegantly arranged in the new North Court of the Museum, which was built for the exhibition of sculpture and monumental objects of Italian origin, especially such as were designed for being placed in the open air; and we may note that this occasion has been taken advantage of, to arrange the court to some extent according to the original intention, which was to provide a covered space with light as nearly as possible like that of the open air, so as to produce a general effect similar to that of an Italian cortile open to the sky and surrounded by cloisters in subdued light. The Waterloo vase and some other pieces of English sculpture are at present in the court; but, when the exhibition of the wedding presents is concluded, the general arrangement of objects will be continued with the view of ultimately devoting this court to the display of specimens of Italian origin only. Mr. Cole, Mr. Redgrave, Mr. P. C. Owen, and others, have been working hard in the arrangements. Mr. Crace has fitted to each of the well-known Venetian Standard-bearers (good specimens of electrotype, by the way), a gay gonfannon with appropriate mounting. The staff is of zinc, doubtless carefully secured, for the leverage is long. The total height is probably 50 feet.

Many of the works are of admirable quality. In some, however, a want of design is to be regretted. For example, the costly gift of the city of London (17) is simply a string of thirty-two brilliants without one touch of art for the 10,000*l.*; and that of the ladies of Liverpool is simply a string of pearls to carry a certain number of brilliants formed into a cross. The necklace given by the King of Denmark, carrying the cross of Dagmar, is of a very different character, and does credit to Jules Didrichsen, of Copenhagen. The *parure* of opals and brilliants given by the Queen, from designs by the Prince Consort, No. 1, is exquisitely beautiful; and, with the pearl and diamond necklace given by the Prince of Wales (3), earns praise for Garrard. The bracelet (15) contains miniatures of the eight bridesmaids, the donors, each in a separate compartment. The Danish gold ornaments (13, 16, and 24), by Michelsen and by Dahl, both of Copenhagen, although wholly imitative, reproducing the ancient torques and rings and patterns in filigree, are exceedingly interesting, and are good specimens of work. The city of Norwich sent their shawl (62) in a very fairly executed cedar box, mounted in metal and partly painted, in Mediæval style. The worked shawl and flounce from the ladies of Ireland; the Princess of Hohenlohe's fan-mount; Lady Buchanan's inlaid marble casket; the Duke of Buccleuch's vase (30); and the Bible given by the British and Foreign Bible Society, would each form topics for praise and comment.

The Museum authorities must look to have many visitors.

PICTURES OF THE FRENCH AND FLEMISH SCHOOLS, PALL-MALL.

If this, the tenth annual exhibition of foreign pictures that London has accepted as one of the customary events of the season, will do little in extending full knowledge of the schools represented, it will at all events assist in keeping up a very pleasant and desirable acquaintance with them; an acquaintance, by the way, that before the opportunities afforded by International Exhibitions infinitely improved it, was in a great measure brought about by the energy and enterprise of its director, Mr. E. Gambart, and maintained, how efficiently was best certified by the numerous instances wherein productions with which he had already made us familiar had been selected as adequately sustaining the reputation of their respective authors on these greater occasions. The more we learn of foreign art the better for those who think too much of it, to the detraction of our own; and for those who, more patriotic, err just the other way; and, better still, for others who, going their own way, like that best which pleases them most; and regarding art in its abstract light as a language common to all civilization, welcome alike anything that ministers to their enjoyment of its worth, whether home-grown or imported.

And the more we do learn the more strongly the evidence presents itself that, in all that constitutes its excellence, our share of possession is sufficient to absolve us of any reason to be envious; and when it is remembered that the most we see of our Continental neighbours' performance is the result of judicious selection from the mass, some significance attaches itself to the short number of contributions to this, the present collection of French and Flemish pictures, and others preceding it, as well as to the recurrence of the same names so constantly chronicled in their catalogues.

Further than this, if anything like a conclusion may be deduced from somewhat restricted premises, it is inevitable that the shortcomings evident in our own school are not confined to us,—that the same want of purpose, of earnest intention to interest any sense beyond that of seeing, is common to the English and French alike. Not to the Flemish, however! Historical depiction has become almost a tradition. The only exception here worth recording is the magnificent one furnished by Baron Henry Leys; and this would have been a centre of attraction amongst far nobler surroundings than it has.

With all its square simplicity of forms and rigid adherence to probability, the "Entrance of Archduke Charles, in Antwerp, 1514" (76), commends itself at once as the work of a great painter. The incident expounded has an extra grandeur imparted to it by its originality of treatment, so thoroughly in keeping with it in every detail,—that of "The Sovereign, before entering into the town, making oath before the Burgomaster to observe the existing laws, and to respect the privileges of his future subjects;" and something in it peculiarly adaptative shows that it is a finished study in oil of one of the series of pictures he has been commissioned to paint in fresco for the decoration of the town hall at Ant-

* With reference to this point we insert the following note:—"Would you kindly correct a misstatement which appeared in your number of April 4 respecting my drawing (No. 234) in the Exhibition? The error arose, not with your critic, but with the compiler of the catalogue. The drawing in question has nothing whatever to do with the improvement of the Kensington building, but was submitted, by myself in conjunction with Messrs. Hickes & Isaac, of Bath, in competition for 'the Dublin Winter Garden.'—John Giles."

† In one of our articles, page 218, the word "acute" was hastily written for "*obtuse*," in describing the angular form which is that of the plan in one of the Westminster Chapel designs; and in speaking of the designs numbered 98 and 99 for the Cork Cathedral, the transepts were erroneously described as "features only externally." And in the following article, where we were speaking of galleries, the printer slightly altered our words; which had alluded to the eighteenth century, and the latter half of the seventeenth, as comprising the especial period of prevalence of those features in churches.

werp, an undertaking for which few are so well qualified as he is. The composition embraces a numerous assembly of figures, each individualized by a quaint distinctive portraiture, that prevents the circumstance of their standing in rows and unvaried attitude from giving that appearance of repetition almost unavoidable in such an arrangement. The two figures of heralds, seated full-faced to the spectator, admirably contrast this, although they do convey rather a Gog and Magog flavour to our municipal apprehension of the subject, attaining their gigantic proportions, perhaps, from their proximity, at the foot of the stairs that lead to the platform on which the ceremony takes place. As usual Baron Leys marvellously identifies himself with the period he illustrates, and the power with which he realizes natural appearances (of technical dexterity he is singularly unconscious), is still a lesson that apparently few will try to learn, excepting those who learn nothing more.

Amongst the French works, the large and ambitious attempt of M. Grenier de St. Martin to render interesting a most uninviting theme—"Henri III. and his Minions, the Evening before the Barricades" (43), is even less successful than might have been expected, in spite of all obstacles: it does not tell the story, and the composition is in itself so scattered, and furthermore broken up by a singularly discordant arrangement of colour, that no one point has prominence over another: this, and the heavy, black, but cleverly-drawn "Procession in Paris during the League" (93), of M. Robert Fleury—an old specimen obviously, and not a favourable one—are the only other competitors in the historic arena.

But the gist of the exhibition subsists as usual amongst those who, if less pretentious in their object of attainment, are most perfectly successful in arriving at it. The wonderfully minute finish of M. Meissonier will still astonish in (79) "The Etcher;" and the exquisitely truthful grace with which M. Edouard Frere relates the commonest episodes of humble life, is thoroughly exemplified in the four scenes: (34), "Breakfast-time at the Farm;" (35), "The Widowed Mother;" (36), "The Arrival at School;" and (37) "Children overtaken by a Storm." These are all imbued with that charming poetry of expression that is autographic by this time, and quite indescribable: something of this quality is reflected in the "Young Boat-builders" (116) of M. Thom, pupil of M. Frere, and in a less degree in (115) "The Sledge."

The influence of tuition is more emphatically pronounced in the works of M. Ruiperez, pupil of M. Meissonier. His "Guitar Player" (96), and (97) "The Lecture of a Manuscript," are curiously close imitations, without that intensity of elaboration for which the master is famous. M. Plassan, whose characteristics are sufficiently designated for easy recognition in (90) "After Dinner," and (92) "The Last Novel," has produced a perfect gem in (91) "The Evening Prayer."

That M. Duverger follows in the footmarks of M. Frere with evident appreciation of such direction (23) "The Little Flower Girl," and his "Village School" (26), bear witness, though comparison will readily show that a want of delicacy is added to a want of that which is really inimitable.

M. V. Lagye timidly adopts something of the style of Leys in his "Toy-shop in Antwerp in the Fifteenth Century" (64), and stronger evidence of some such emulation having affected M. Tissot is very apparent, although in his "Faust and Marguerite" (117) he seems to have preferred Holbein pure and simple in his ultra crudity and contempt for the pretty. (118) "Young Luther at Church" might be mistaken for Ley's, with all the drawback of immaturity, although, putting aside this as an objection, it is praiseworthy and promising. Some professional slight induced the production of "Valuers and Appraisers" (16), by M. Decamps, but in the indulgence of his sarcasm it was impossible for the painter not to assert himself, so that his amusing caricature turned out, "*nolens volens*," a masterpiece. If it were to retaliate for an adverse judgment upon any such work as this that these sagacious monkeys were so wonderfully humanized, the universal suffrage, now, must be in his favour and justification.

Among the absent of those who have helped much to establish this Exhibition, Mdlle. Rosa Bonheur must be most generally missed; but this is to the advantage of M. Auguste Bonheur, who wins, in consequence, the more admiration for his really remarkable "Meadow Scene in Auvergne" (6), shared to a degree by another member of the family, Juliette, for a very faithful and true-looking study of "Sheep in a Meadow" (Spring Time) (7). Mdme. Jerichau's "Danish Girl going to Church" (53), and M. Schlessinger's well-painted fancy portrait, entitled "The Parasol," will attract attention; and for manipulative dexterity, even where so large an amount is visible of it prevails, (62) "The Church Porch," M. Koller; (135) "The Introduction;" and (136) "The Proposal," by M. Florent Willems, who seems specially addicted to "giving to airy nothing a local habitation and a name," relying entirely upon his executive proficiency, are conspicuous.

Far above these is to be cited "The Conversation at the Window," by M. Alfred Stevens, whose ladies are always ladylike and charming. It is a proof of the power of genius to exalt commonplace subjects. (42) "Camels at the Fountain" barely does justice to the position and claims of M. Gerome; nor the "Unloading Boats: Low Water," (123) of M. Troyon, whose ploughing scenes and others live long in the recollection, and create sanguine expectations. The landscapes are few, and not of the best description.

THE LIVERPOOL NEW CEMETERY, — ANFIELD PARK.

This extensive cemetery, of which we have already given some particulars, is now rapidly approaching completion, and the local Burial Board is about to open it to the public for interment. It is little more than twelve months since the contracts were taken.

The following particulars as to the building are gleaned from the local *Courier*.

On a piece of gradually rising ground, running round the north-eastern side of the central area, have been erected the three churches, and the catacombs, which impart a picturesque character to the surrounding district, the lofty spires of the three edifices marking the site of sepulture to the country around for several miles. The building intended to be devoted to the services of the Church of England stands in the centre, whilst the Roman Catholic edifice is on its north side, and that for the use of the Nonconformists on its south side, and near the Priory-road entrance. The style of architecture of the three churches is that of the Early English. They present much similarity to each other in point of exterior architectural design, the edifice in connexion with the Established Church differing from the others in respect of its being slightly larger and octagonal at each end, whilst the others are octagonal only at one end. The interiors of the Roman Catholic edifice and that for the Nonconformists are considered more strking as regards light, shade, and general effect.

There are two sets of catacombs, the one being between the Protestant and Roman Catholic edifices, and the other between the Protestant and Nonconformist churches. The catacombs are formed out of what may be termed excavations from the level of the ground on which the churches have been erected, and descend to a depth of several yards below. They are approached by flights of stone steps, leading from the surface, which is flagged over, and enclosed by walls (relieved by opaque windows) which rise to an elevation of several feet, the roof being partly formed of thick plate-glass in diamond form, to admit of light. Within the enclosure thus formed above the catacombs are constructed corridors, or arcades, for the reception of monuments and tablets. There is an avenue in the centre, where the monuments generally will be placed, and from the construction of the buildings the monuments may at any time be seen from the exterior at each end, but entrance to the interior will be necessary to inspect the tablets.

There are four entrances to the cemetery, the principal one being at the south-west corner, at the junction of Mere-lane and Priory-lane. At each side of this entrance there are two lodges, with a lofty clock-tower in the centre. On the east side of the main entrance, in Priory-road, are the registrar's residence, the board-room, and offices for the transaction of the business of the Board.

The whole of the grounds are enclosed by a stone wall, surmounted by ornamental iron palisading.

The cost of the buildings, including the churches, lodges, registrar's house and offices, clock-tower, and enclosure walls, will be about 30,000*l.*; whilst the expenses of laying out and planting will amount to 18,000*l.*; making, with the purchase of the land (75,000*l.*) a total expenditure of 123,000*l.*; but from this has to be deducted the sum to be received from the London and North-Western Railway Company, leaving the actual cost of the cemetery [140 acres, but limited to 100 acres in the meantime for cemetery purposes] about 120,000*l.*

The planting has been carried out with a strict regard to avoiding the appearance of too thick grouping in those portions where monuments are likely to be placed, and every attention has been paid in order to make the grounds attractive as a resort for innocent pleasure, whilst their peculiar character will at the same time inspire feelings of deep and silent contemplation.

Messrs. Lucie & Littler, of Tranmere, are the architects for all the buildings, including the three churches, the catacombs, lodges, and gates. Mr. Wortley, engineer, has had the superintendence of the laying out of the roads and grounds; Mr. Abraham Thomas being the contractor. During the time the works on the roads and grounds have been going forward, there have been, on an average, 600 workmen employed, and about the same number of horses and carts.

THE SUN PHOTOGRAPHING WITH PRINTER'S INK.

The discovery claimed by Mr. John Pouncy, of Dorchester, is a very remarkable one. By this process photographs are literally and at once imprinted directly from negatives with printer's ink on paper by the sun. Zincography was a notable enough step towards sun-printing with printer's ink; but in that more roundabout and indirect process *the sun* does *not* print upon paper with printer's ink; whereas, in this case, the ink takes the place of nitrate of silver and everything else whereby surfaces have heretofore been made sensitive; so that the process is a direct operation of the sun itself with printer's ink on paper. We have seen photographs done by Mr. Pouncy in this way; and really they are surprisingly clear and distinct, with good half tints; and, although we have seen finer photographs, the process is not only a promising but a highly important one, for hereby we obtain permanent solar imprints. Mr. Pouncy was the original discoverer of the carbon process, whereby this permanency of photographs was desiderated; so that his newer process is not a mere accidental hit, but is legitimately based upon his previous successful endeavours in the same direction, and excels them all in interest and importance. We have seen nothing, as yet, to convince us, we may add, that Mr. Pouncy's new process does not stand alone in the recent history of photographic science.

COMPETITION.

The New Public Library in Birkenhead.—The managing committee have chosen their design for a new building to be erected in Hamilton-square. Originally seven sets of drawings were sent in by local architects, which the committee reduced to three, viz.,—Mr. Lewis Hornblower's, Mr. Walter Scott's, and Mr. James Fisher's. The latter was eventually elected by a majority of eight to three votes.

SANITARY CONDITION OF GLASGOW.

The first of a series of quarterly reports by the recently-appointed medical officer, Dr. Gairdner, on the sanitary condition of the city, has been read at the Glasgow Police Board. In this report it is stated that, with one considerable exception, no epidemic disease has prevailed during the quarter to such an extent as to require special sanitary interference. Scarlet fever, measles, and whooping-cough, however, had all been more or less present in the city: cases of smallpox, though not numerous, had presented an evident tendency to increase in numbers; and diphtheria, although not prevailing to any appreciable extent among the poor, had been recognized in private practice with a frequency which demanded attention. The exceptional epidemic disease alluded to is typhus fever, which, whether as regards the number or the severity of the cases, has certainly been prevalent in Glasgow for several months past, to an extent greatly exceeding the average of the last ten years. The disease has been present in all parts of the city, with the exception of the western district, which has been nearly, if not quite, exempt. On the south side of the river, however, beyond the bounds of the Police Act, Govan has furnished no less than thirty-three cases to the Royal Infirmary during the quarter; and many more have been either treated within their own homes, or not reported as under medical treatment. A few fever cases have also been received from Partick, and some from Springburn.

ON GEOMETRICAL AND OTHER SYMBOLS.

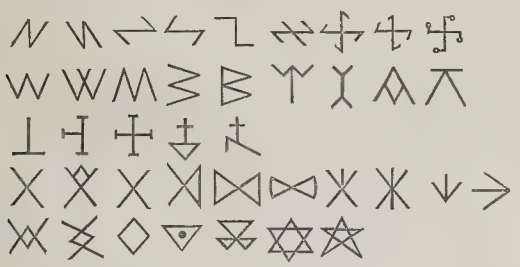
The geometrical symbols to which the attention of archæologists and architects was for the first time called by Mr. Godwin, in the *Archæologia* of 1843, are so numerous and diversified; and they comprise so many of the strictly religious or magical and mystical symbols among them; including the hexalpha itself, the pentacle, the tau, the V or Y, and the cross and symbolical N in all their various modifications; that we must look a little closely, if we can, into the true origin and nature of so rich a "find;" although the uses of these symbols, as masons' monographical marks, together with the rules of diversification which seem to have been practised by the working guilds of Freemasons in regard to these uses, have probably rendered such of the symbols as we cannot otherwise identify with those more strictly confined to mystical or magical ideas, of not very definite or unquestionable religious signification. There are quite enough of identifiable symbols and common principles of religious and magical symbolism in them, however, and more than enough, to justify a little close scrutiny as to the purposes and pretensions of that Freemasonry with which they are so intimately connected, and by means of a little knowledge of which pretensions and purposes we may be enabled to arrive at some definite idea of the original meaning of many of the symbols thus used as mason-marks.

In the first of the two letters to Sir Henry Ellis in the *Archæologia* for 1843 (vol. xxx.), to which I alluded at the close of my last communication, Mr. Godwin says:—

"About three years ago my attention was first drawn to the fact, that the stones both inside and outside numerous ancient buildings in England, bore, in many cases, a peculiar mark or symbol, which was evidently the work of the original builders. It immediately occurred to me that these marks, if extensively examined and compared, might serve to aid in connecting, and perhaps discriminating, the various bands of operatives who, under the protection of the Church, mystically united, spread themselves over Europe during the Middle Ages, and are known as the Free-Masons.

It, therefore, gave me some pleasure, during a recent visit to the interior of France, to observe, in several instances, at Poitiers, in the department of Vienne, similar marks, in great profusion; the more so, too, as, amongst them, were many exactly resembling some which I had previously found in England, although on buildings of a different date."

Some of these marks, both from English and French buildings, are then given; and from these, together with those afterwards contributed along with the second letter, I have made the following small selection, placed in a kind of affinitive, though necessarily not very consecutive, order of succession, and to which selection I shall have occasion hereafter to refer.



MASONS' MARKS.

Selected from Mr. Godwin's Collection, in the "Archæologia," vol. 30.

"Whether these marks," continues Mr. Godwin, "were made for the simple purpose of identifying the work done by particular individuals or sub-divisions of the band, or that they had a deeper signification and motive, I will not now inquire, nor even venture to remark on the origin of the signs themselves *per se*. My present purpose is simply to draw attention to these marks, in the hope that collections may be made in England, France, and Germany, so that they may be properly investigated and compared. No circumstance which promises to throw even the smallest light on the early history of those wonderful men to whom we are indebted for so many magnificent buildings can be deemed insignificant or unworthy of consideration."

One chief object of the letters related to the more strictly professional question of periods of architecture, and the relationship of the mason-marks to these as well as to the original builders of the edifices so marked, or the schools or lodges of masons who used them; but into this more strictly professional question I need not presume to enter. Although my present communications, however, may not "aid in elucidating the *history* of the Freemasons," as Mr. Godwin desired, they will, I hope, assist in giving us such a definite idea of their *tenets* and *pretensions* as shall contribute a little light of its own peculiar kind upon the original and general meaning of the geometrical and other symbols of which it is my object to treat.

In his second letter to Sir H. Ellis, the author points attention to certain notable customs as to tribrism and crosses which seemed to have a connexion with the subject of mason-marks: he then goes on to say, as to the general subject under notice,—

"The marks of which we are especially speaking, it can, perhaps, hardly be doubted, were made chiefly to distinguish the work of different individuals. At the present time, the man who works a stone, being different from the man who sets it, makes his mark on the bed or other internal face of it, so that it may be identified. The fact, however, that in the ancient buildings it is only a certain number of the stones which bear symbols—that the marks found in different countries, although the variety is great, are in many cases identical, and in all have a singular accordance in character—seems to show that the men who employed them did so by system; and that the system, if not the same in England, Germany, and France, was closely analogous in one country to that of the others.

Moreover, *many of the signs are evidently religious and symbolical, and agree fully with our notions of the body of men known as the Freemasons.*"

With reference to "the religious character of associated masons in early times," a curious circumstance is adduced in this letter from one of the Arundel MSS. in the British Museum, described as "*Sanctorum Vitæ, Miracula, et Martyria.*" At folio 218 is a narrative of four men "wonderful in the art of Masonry," who always "worked in the name of the Lord," after prayer and signing with the Cross; and whose skill, when employed by the Emperor Diocletian to carve some columns with foliated capitals out of a porphyritic mountain, was so marvellous as to excite not only the envy but the astonishment of "the philosophers," who attributed their skill to the "mysterious words" of "art-magical."

In the conclusion of the second letter, allusion is made to marks—apparently analogous to those of the Freemasons—on the faces of a monument at Baalbec, referred to in Lord Lindsay's work on Egypt.

These letters in the *Archæologia* contain other and cognate matter, especially with relation to the symbolical N, to which I must return, as well as to the other mason-marks; but, in the meantime, I may note some farther particulars, subsequently recorded, as to mason-marks, in the *Archæologia*.

Following up the interesting subject started by Mr. Godwin, there appeared in the *Archæologia* for 1852 a paper by Mr. Patrick Chalmers, F.S.A., with new examples of mason-marks: these were from Scotland, which has for centuries been a great stronghold and school of Freemasonry. In writing on the origin and use of mason-marks, this gentleman says:—

"These marks, in all probability, had their origin before the Christian era; and this would indeed be placed beyond all doubt if the marks observed by Colonel Howard Vyse and others, on stones in the pyramids of Egypt, were mason-marks, and not quarry-marks, as in some instances he has proved them to be; or if he could identify the secret societies of Egypt with those of Freemasonry as has been attempted. It is only reasonable to suppose that *mason-marks have been modified by and added to symbols connected with or illustrative of, facts and doctrines of the Christian faith.* A quarter of a century has barely elapsed since the rule that each mason should have his distinctive mark, and should affix it to every stone hewn by him, was strictly enforced in the district I have referred to (Scotland); and even now, when many men are collected together on a work, the rule is observed, though not with so much strictness. It was a law in St. Ninian's Lodge, at Brechin, that every mason should register his mark in a book, and he could not change that mark at pleasure."

In a paper on Mason-marks in Ireland, read before the Kilkenny Archæological Society, Mr. E. Fitzgerald, architect, who also follows up the subject started in the *Archæologia* (but, by the way, without acknowledgment except of Mr. Chalmers's paper in the volume for 1852), remarks, on the quotation just given, that,—

"The rule given by the Craft for the formation of the marks is, that they shall have at least one angle; that the circle must be avoided, and cannot be a true mason's mark unless in combination with some line that shall form an angle with it; that there is no distinction of ranks; that is, that there is no particular class of marks set apart for and assigned to master-masons as distinguished from their workmen: if it should happen that two masons, meeting at the same work from distant parts, should have the same mark; then one must, for a time, assume a different distinction; or, as heralds say, 'a difference.'"

He thinks that probably Mr. Chalmers was not aware that the system of mason-marks is still carried out in several parts of England among the operative stone-cutters, though not in connexion with the "Free and Accepted Masons;" as he was shown, in 1857, at Lismore, several stones, imported from England into Ireland, for the "Carlisle Tower," which were cut with mason-marks; and Mr. Brown, the Duke of Devonshire's architect, informed him that he had a book with hundreds of marks in it, and with the masons' and stone-cutters' names attached to them; and that, as a new hand or craftsman was put on a job, he added an additional nick, or score, to his master's or foreman's; so that, at once, every man's work was known by his mark.

As already said, I have no intention to inquire into the origin or history of Freemasonry itself, although I cannot well avoid looking a little into the mystical and doctrinal principles involved in the Freemasonic symbols, phrases, and allegories; but I may quote a brief passage from an ancient MS., given in the "Encyclopædia Londinensis;" as, in this veracious document, our old heathen friend Nimrod, the "mighty hunter before the Lord" (or rather, perhaps, the mighty seeker after the Lord the oracular Spirit, or "the oracles of God"), unexpectedly turns up in a highly-distinguished position, at the laying of the very foundation stones of Freemasonry itself:—

"The kinge of Babylon that height Nemrothe was a mason himselfe, and loved well the science, as it is said with [Freemasonic?] masters of histories. And when the citty of Nyneve, and other citties of the East should be made, Nemrothe, the king of Babylon, sent thither threescore masons at the rogation of the king of Nyneve, his cozen .....and this was the first tyme that ever mason had any charge of his science."

Perhaps the historical tile-tablets of Babylon may yet corroborate this very explicit account of the origin of Freemasonry. Meantime, there is little difficulty in discovering the foundation for the story itself in the following Scriptural passage, Genesis x. 8, "And Cush begat Nimrod: he began to be a mighty one in the earth. He was a mighty hunter before the Lord: wherefore *it is said*, Even as Nimrod the mighty hunter before the Lord [a very singular thing (for the heathen?) to say of a heathen; did we not recollect that Babylonia, or at least Chaldea, was the native country of Abram, the "father" of the Jews, as of all "the faithful;" and that the Chaldeans were magicians, as Nimrod himself was; and as, in after times, the Jewish prophet Daniel, the Grand Master of the Babylonian and Chaldean Magicians, also was; being full of "the Spirit of the holy gods," as Nebuchadnezzar the king himself admitted when he somewhat unreasonably commanded Daniel to tell him "the visions of the dream" he had himself forgotten]. And the beginning of his kingdom was Babel, and Erech, and Accad, and Calneh, in the land of Shinar. *Out of that land went forth Asshur, and builded Nineveh*, and the city Rehoboth, and Calah, and Resen, between Nineveh and Calah: the same is a great city."

Freemasons were of two distinct orders,—those of the leather aprons and those of the silk; or in other words, the working guilds and the mystical masons. So far as the brethren of the working guilds were more than mere craftsmen, they were of the mystical order, or associates of the nominal masons or "symbolical philosophers;" but it seems probable that, at one time, all Free-

masons were craftsmen; and those who were not so may have been afterwards introduced as honorary members, just as we have even the Prince of Wales made an honorary Fishmonger or an honorary Tailor by the City guilds of London. If so, however, the honorary class amongst the Freemasons appear to have at last completely swamped and ousted the modest craftsmen. But however this may be, that the craft and mystery of Freemasonry was of old especially connected with church or temple building, there can be no doubt; and neither can there be any that they allegorized the temple-building process: hence the mystical use of Solomon's temple and its builder.

Now the true temple, or church, of God is the human body itself: "What! know you not that your body is the temple?"—the "temple of the Lord,"—of "the Lord *for the body*,"—the "temple of the Holy Ghost,"—the "temple of God." And a church or temple, built and completed, or perfected, is therefore the human body brought to perfection, physical as well as mental, and illuminated by "the Light" of the Holy Spirit, shining within and upon it, as "a crown of glory" on its head. We can see, therefore, how, as is alleged, Freemasonry, though at one time essentially a church-building community of working masons, may have, quite relevantly, had secret and allegorical reference to religious or mystical doctrine relating to human perfectibility and reparadisement.

Thus we find it maintained, in an "Essai sur les Mystères, et le véritable Objet, de la Confrerie des Francs-Maçons," published at Amsterdam, as a second edition, 1774, that the end and purpose of Freemasonry is the

"*Restoring* to man his *primitive goodness* [in Paradise where he was perfected by the "creation" of the angelic "woman" out of "the man," and so made "very good"], and causing a revival in his heart of the laws of [his] nature in their *greatest perfection*. religion had the same end in view: . . . . it is *Freemasonry alone* which has understood *the best means* of accomplishing it."

And, in the same Essay, it is declared that the "allegory of Freemasonry" is this:—they propose to build a temple: the instruments of this building are symbols of the architecture of the heart,—the square, the triangle, the compass: the work is done "in the light"; and before being introduced or initiated into this glorious work, or made fit to work in and at this august temple, man is a wretch who *wanders in darkness*; and he must be cleansed and *purified*. "All Freemasons," we are also told, "are not capable of developing this allegory": I should rather think so! "The well-informed mason knows," however, "that the jewels, as they are emphatically called, of the Lodge, are only *ensigns of the inward man*." The line, says "brother" Jleans, in an old "oration" at Southampton, "points out the direct but narrow path which leads to a *glorious immortality*" [a physical or natural immortality on the face of this earth, with the re-enjoyment of Paradise, or celestial glory, as could easily be shown]. The "rough ashlar" is "the brute stone, without shape or form, as taken from the quarry; and is emblematic of the mind of man in its pristine state, rude and unfashioned like that stone." The "smooth or perfect ashlar" is "a polished stone, of a *true die square*, which has *undergone the skill of the experienced mason* [as a hierophant of the mysteries], and is emblematic of the mind of man in its *improved* state", and so on. Again, "Freemasonry deals in hieroglyphics, symbols, allegories; and to be qualified to reveal their meaning a man must know more than a mere nominal mason. The full interpretation of them, *like that of the mysteries of old*, is in select hands,—has been committed only to those of tried fidelity, who conceal it with suitable care; and those—if not deficient in intellect yet—wanting in industry or inclination to *explore the penetralia of the temple* are not qualified, if willing, to betray it: hence the secrecy which has so long distinguished the fraternity."

Freemasonry, then, was probably meant, in its secret rites of initiation, mystically to show forth *how* the human frame may be built up, finished, and perfected, as the true temple of the actual Lord and Master of it, who is not the human soul or the man himself,—erroneously conceived to be its master; but the divine Spirit, who, in the perfected and finished state of his temple, as it was in its "primitive goodness," shall illuminate it from within,—as the penetralia of the temple shone solely by the inward "Light" of the Divine glory."

Highly initiated Freemasons admit, and indeed they urge and insist, that Freemasonry is essentially identical with the ancient religious mysteries, and with the Rosicrucian philosophy. There is, doubtless, in all this, too, a good deal of the "divine dark," no less than in Freemasonry; but let us try if we cannot get at least a glimpse of what is known as to these ancient mysteries.

For brevity's sake, I must give as condensed an idea of the professed object of the mysteries as possible; and, in doing so, prefer quoting at second hand, as it were, from others who have already given condensed ideas of these mysteries; and from a point of view altogether different from my own preconceived ideas.

Thus, in a paper on "The Buddhist Emblem of Architecture," in vol. xiv., p. 633, of *The Asiatic Journal* of Bengal, Captain T. Latter says:—

"In all these mysteries, which were held in such high veneration by the ancients, and the types of which have descended in a chain of unbroken succession even to our own days, the attainment of *the crowning point* of the craft was *typical of* DEATH. It was alone by passing through the vale of *its shadow* that *perfect* LIGHT could be obtained." Apuleius, in the 11th book of his *Metamorphosis*, or Fable of the Golden Ass, describes minutely this *completion* of *initiation*,—the night-like darkness, the approach to the confines of Death; and then, in the very midst of this darkness, the Light revealed to him [and in fact *in him*]. In some of the various versions of these mysteries it is said that the candidate was shrouded in the shudder-cloth of death; was placed in the narrow home to which we all must go; was *raised again*, and went forth the *new born and perfect craftsman* [the *antitype* of an immortal life, "new every morning" after "dying daily"]. In others it was represented by the candidate passing through *an oval*, symbolizing that, as he entered this scene of woe, so must he go forth again. Thus was it that we find Death styled in ancient writ, the portal of life."

That the death here alluded to or signified was not the death of corruption, as this writer may perhaps have thought it was, there is abundant proof; as, for example, where Apuleius himself, speaking of the Goddess Ceres or Isis, the great nurse-mother "of a thousand names," says;—"The gates of the realms beneath, and the guardianship of life, are placed in the hands of the goddess; and the initiation into her mysteries is celebrated as bearing a close *resemblance to a voluntary* death, with a precarious *chance of recovery*.....whom, through her providence, being *after a manner born again*, she *restores* to the career of a *new existence*."

"The sage Isocrates," says Warburton, while speaking of the mysteries and night vigils of Eleusis, "called the mysteries *the thing human nature principally stands in need of*.... indeed the Greeks seem to have placed *their chief happiness* in them: so Euripides makes Hercules say, I WAS BLEST when I got *a sight* of the mysteries; and it was a proverbial speech, when any one thought himself *in the highest degree happy* [in an ecstacy of entrancement, in short] to say, I seem as if I had been initiated in the higher mysteries. The primitive Christians, in imitation perhaps of these Pagan rites, or from the same kind of spirit, had a custom of celebrating *vigils in the night*."

These ideas of the *summum bonum* or "highest good" of man remind me of the less ancient doctrines ascribed to certain mystics whom a writer (believed to be Defoe), in a work on the history of magic, stigmatises as magicians. He is very virulent against the "effluvia of hell," as he calls them, but seems pretty fairly to describe the views he reprobates.

"Now magic," he says, "puts an end to all difficulty. By consulting *the dark oracle* and entering a little into *the secrets of the sacred science*, as they wickedly tell you it is, *they come out transformed into a new kind of species* [a higher development of humanity, doubtless]: they tell you that they are arrived to a complete *knowledge of the eternal mysteries*,—that God is nothing but *the sum of human desires, the century of an exalted Spirit carried up into the regions of eternal calm and quiet, where the Soul is in raptures of joy and love*." This they receive, by *the Light* of the refined supreme judgment, to be *the perfection of happiness*, and that is God. Amor Deus est; Jupiter quodcunque cupis."

Of the Rosicrucian Philosophy, perhaps all I need here do is, for want of a better, to quote my own brief condensation, from the Paper on Symbols in the *Builder* of 15th January, 1859.

"The Rosicrucians taught that there are two kinds of life, 'the compound life' and 'the elementary life.' The compound is the human or *Soul* life. The elementary is the Sylphide or *Spirit*-life. It was the duty of the sages, *by fasting, watching, prayer, and contemplation*, to bring about 'a Rosicrucian *marriage*' with the elementary or Spirit-life. That life was the companion and bride of man (the compound life) in Paradise; and the desertion of that his Spirit bride constituted the very fall of man itself. The grand purpose of the brethren of 'the *Rosy Cross*' was, by help of the Spirit-life, to bring about the entire *regeneration* and the *perfection* and salvation or *immortalization* of man, in body and soul and spirit. As in the Eleusinian initiation, 'science, genius, and immortality' were to be the fruits of the glorious alliance which the sages sought. By the help of their Spiritual brides, they could penetrate into all the secrets of nature, and 'see into the life of things;' and this accords with what the Taliesin says of the Druidical god life."

We may now have some idea of what the Freemasons mean when they speak of the similarity of their initiations to those of the ancient mysteries, and shall now be better able to indicate what such symbols as the hexalpha, used as one of their most precious jewels, must have been originally meant by them, as well as by many others, to signify.

I fear, however, that I must postpone any further remarks on the Freemasonic and other geometrical symbols, if you will allow me, to another communication.

J. E. DOVE.

* "In the *shadow* of Death *Light* will spring up." A dread reality, and h s shadow are "Death and his brother sleep." The LORD "turneth the shadow of death into *the morning*."—Amos v. 8.

THE CORONATION CHAIR, WESTMINSTER ABBEY.

ALLUSION was recently made in the *Builder* to the coronation stone set within the ancient chair which is now preserved near Edward the Confessor's shrine in Westminster Abbey. The traditionary history of this stone is remarkable, but it is only traditionary. It has been known as the "prophetic" or "fatal" stone, which tradition asserts is the same whereon Jacob rested his head when he saw the vision of the ladder reaching to Heaven, with the angels of God ascending and descending in the Plain of Luz. From various sources we have evidence of the great antiquity of the practice of crowning kings on an elevated stone or by a pillar; and the custom may still be said to form part of the coronation ceremonies of our own country. Besides the stone in Westminster Abbey, there still remains the stone at Kingston-upon-Thames, on which several of the ancient kings of England were crowned.

The Scriptures show that the Jewish patriarchs erected stone pillars on different occasions, but chiefly from religious motives; and that these monuments were at subsequent periods dedicated to the most important national purposes, particularly to the creation of kings. The stone which Jacob had made his pillow, he afterwards set up as a pillar, and poured oil upon the top of it, saying, "And this stone, which I have set for a pillar, shall be God's house." He also changed the name of the place from Luz to that of Beth-el.

He likewise set up a stone for a pillar at Galeed Mizpah, on the spot where he entered into a lasting covenant with Laban; and at that spot Jephtha was solemnly vested with the government of Gilead. At the stone which Joshua had set up, Abimelech was made king. Adonijah usurped his brother's crown, and held a feast at the stone of Zobeleth; and Jehoash was crowned and anointed king standing by a pillar, as the manner was. Josiah also stood by a pillar, with all his people, in the Temple at Jerusalem, when he made a solemn covenant to keep the ordinances of the Lord.*

It is probable that the custom of inaugurating kings by placing them either upon or near an elevated stone spread extensively through the East, as it certainly did from thence to the Celtic and Scandinavian nations. The Persians had their "artioze" or "fatal" stone, the use of which with them was to point out the most deserving candidate for the throne. Amongst the Norwegians, Swedes, and Danes, the practice was to form a circle of stones, commonly about twelve in number, in the middle of which was set up one larger than the others. This was the royal seat, the nobles occupying those surrounding it, the people standing without. Here the leading men of the kingdom gave their suffrages, and placed the elected king on his throne. Monuments of this kind remain in Denmark, and traces of them may be found in Shetland, the Hebrides, Isle of Man, and elsewhere.

A rude enthronement, somewhat similar to that of the Northmen, is to be found among the Celtic tribes; and the kings of both Scotland and Ireland were placed upon a stone at the time of their election. The consecration of peculiar rocks and stones formed a branch of Druidical superstition, and the votaries of Druidism were taught to believe that there was great virtue in stones thus hallowed. "The stone of power" was a flat stone, usually black, which the Druidical priests were said to "consult:" probably they slept upon it, like Jacob, and had what they regarded as celestial and oracular visions for their guidance. The Arch-Druids, too, sat in a stone chair, to which they attributed wonderful virtues, and which appears to have partaken of the nature of a bishop's throne. They spoke mystically of "awakening" the chair of the Taliesin at Caer Sidi, and declared that he who sat in it would suffer neither disease nor decay; but become one of the "twice-

* The etymology of the word "Column," is an interesting and curious subject, with reference to the ancient "Columbs" or oracles.

born" and "deathless brotherhood." It is conjectured that the stone below the coronation chair may have been Druidical. There were formerly some rhymes current in Ireland which imply that the Scotch, although of legitimate descent, would fail to preserve regal power unless in possession of the Fatal Stone.

From Fordun's account of the Coronation Stone we gather some particulars respecting its legendary history. There was a certain king of Spain, of the Scottish race, called Milo, who had many sons: one, however, named Brek, he loved beyond all the others, although he was neither the eldest nor the heir. He therefore sent him to Ireland with an army, and gave him a marble chair, carved with very ancient art by a skilful workman, in which the kings of Spain of the Scottish nation were wont to sit when inaugurated. This Simon Brek having reached the above island with a great army, reduced it under his dominion, and reigned in it many years. He placed the stone or chair at Themor, the royal residence, a noted place at which his successors were accustomed to reside. Gathelus, as some say, brought this chair, with other regal matters, with him from Egypt into Spain: others relate that Brek, having anchored on the Irish coast, was forced by contrary winds to withdraw his anchor from the surge; and whilst labouring to that end, a stone in the form of a chair of marble was hauled up by the anchors of the ship. Receiving this as a presage of future success and dominion, he was exceedingly joyful, and it was then prophesied that he and his posterity should reign wherever this stone was found.

In Hollinshed's Chronicle there is a long account of this Gathelus, who is there said to have been a Greek, the son of Cecrops, who built the city of Athens. After leaving Greece, Gathelus resided some time in Egypt, when he married Scota, the daughter of King Pharaoh; but being alarmed by the judgments denounced by Moses, who was then in Egypt, he quitted that country, and landed in Spain, where he built a city, which he called Brigantia. When he sat upon his marble stone, he gave laws and administered justice to his people. This stone was in fashion like a seat or chair, having such a fatal destiny, as the Scotch say, following it, that, wherever it should be placed, there should the Scottish men reign and have supreme governance. "Hereof it came to pass, that first in Spain, after in Ireland, the kings which ruled over the Scottish men received the crown upon that chair until the reign of Robert the First, king of Scotland."

There are several ancient rhymes connected with this; amongst them the following:—

"King Edward wyth the lang shankes from Scotland he fette.
Beseyde the shryne of Seynt Edward at Westminster he hitte sette."

The Irish name for this stone was generally the "Fatal Stone:" sometimes, however, it was called the "Stone of Fortune." Its place, when in Ireland, was the Hill of Tarah; and for some ages the kings of that country were crowned upon it there. Sir J. Ware, in his account of the relic, states that the Irish historians say it was brought by the colony of the *Tuath de Danans* into their country, where it was regarded as an enchanted stone, and reputed to have a peculiar quality; namely, that when any of the Royal Scythian race placed themselves on it to be crowned, it made a terrible noise resembling thunder; but if the king elect were a pretender, the stone was silent; and tradition reports that in the times of heathenism, before the birth of Christ, he only was crowned monarch of Ireland under whom, when placed upon it, the stone "groaned or spoke." In the reign of Morietach Mac Ere, it was sent to his brother Fergus, first king of Scotland, who was descended from the blood-royal of Ireland; and he had it placed in Argyle, where it continued until the reign of King Kenneth II., who A.D. 840, having vanquished the Picts, near Scone, enclosed the stone in a wooden chair, and deposited it in the monastery there, to serve for the inauguration of the kings of Scotland. According to Pennant, its station, when in Argyleshire, was the Castle of Dunstaffnage; and in his Tour in Scotland, he has given an engraving of an ivory image, found in the ruins of that castle, which represents a king sitting, as he supposes, in the ancient chair, in whose bottom was the fatal stone. The shape of this chair is very different from that in Westminster Abbey; and if, we may judge rightly from his carving, it was of great antiquity.

Bishop Leslie, who wrote his account of Scottish events early in the reign of Queen Elizabeth, states that Kenneth removed the *marble chair* from Argyle to Scone, and willed that the future kings should be inaugurated sitting on that chair. Hollinshed narrates the facts of this removal more particularly. "King Kenneth," he says, "haveing destroyed the Pictish kingdom, caused the marble stone (which Simon Brek sometime brought out of Spaine into Ireland), and the first Fergus out of Ireland into Albion, to be brought now forth of Argyle, where, till that time, it had been diligentlie kept, into Gowrie; which region before apperteined to the Picts; there to remaine from thenceforth as a sacred token for the establishment of the Scotish kingdome in that countrie. He placed it at Scone upon a raised seat, on a plot of ground there, bicause that the last battell which he had with the Picts was fought neare vnto the same place." Buchanan, in his History of Scotland, gives an account of the coronation stone, which is very similar to the above; but says, in addition, that the kings of Scotland were wont to receive both the regal title and the insignia sitting on that chair, till the days of Edward I. king of England; and Chalmers asserts that the last of the Scottish kings who was crowned on that seat was Alexander III. Hardyng, however, whose chronicle was partly composed in Henry VI.'s reign (and with whom on this point several ancient historians agree), speaking of John Baliol, affirms that he was crowned—

"In the Minster of Scone, within Scotlãd groũd,
Sittyng upon the *regal stone* full sound,
As all the Kynges then vsed had sfore
On Sainct Andrewes day, with al joye therfore."

In April, 1296, Edward I., having formed a league with Bruce, defeated John Baliol in a great battle near Dunbar. Afterwards Edward, wishing to deprive the Scottish nation of every vestige of its independence, caused the crown, sceptre, and inauguration stone, with all the public jewels, archives, charters, &c., to be conveyed to London as memorials of his conquest and the subjugation of the Scots.

In the wardrobe account of Edward I., under the heading "Jewels remaining at the End of the Twenty-seventh Year, of those which were sometime the King of Scotland's, found in the Castle of Edinburgh," mention is made of a large enamelled silver cup, and a great stone on which the kings of Scotland were wont to be crowned. It would seem by this that the coronation-stone was at any rate for a time deposited in Edinburgh. Most historians, however, agree that Edward carried the stone from Scone to London. Respecting this, Hemingford says:—"In the church at the monastery of Scone, near the high altar, there was a very antient stone, made indeed concave like a rude chair, wherein the future kings were seated as customary in the place of coronation. This stone Edward I., in returning through Scone, commanded to be taken away and carried to London." Knighton gives similar testimony; and Walsingham says that Edward, in returning by the Abbey at Scone, took from thence the stone which the kings of Scotland were wont to use for a throne at the coronation; and brought it to Westminster, and ordered it thenceforth to be made the chair of the officiating priest. Another authority, who has evidently gathered his information from the last-named writer, says:—

"And as he came homeward by Skone away,
The Regal stone of Scotland then he brought
And sent it forth to Westminster for ay
To be there in a cheire cleanly wrought,
Which then was standyng beside the shryne
In a cheire of olde tyme made full fyne."

Matthew of Westminster informs us [date 1297] that the king coming to Westminster, on the morning of St. Botolph, offered to the blessed King Edward the regalia of the Scottish kingdom, viz., the throne, the golden sceptre, and the crown.

Rapin, the historian, after alluding to the intention of King Edward to unite the two kingdoms, and the removal into England of the Scottish regalia and famous inauguration stone, says, "The people of Scotland have all along placed in that stone a kind of fatality: they fancied that while it remained in their country the state would remain unshaken; but the moment it should be elsewhere removed, great revolutions would ensue; and for this reason Edward carried it away,—to create in the Scots a belief that the dissolution of their monarchy had come, and to lessen their hopes of obtaining their liberty."

Of such import was this stone, that it was not only made a separate article in a treaty of peace, but also of political conference between Edward III. and David II., king of Scotland. A writ of Privy Council, of July 1st, 1328, is in existence, signed by the king and directed to the Abbot and Convent of Westminster, wherein Edward III., after reciting that the stone whereon the kings of Scotland used to sit, at the time of their coronation, and which was then in the keeping of that abbot, &c., should be sent to Scotland; and that he had ordered the Sheriffs of London to receive the same from them by indenture, and cause it to be delivered to the queen mother: notwithstanding this command, it is clear that the coronation-stone was never given up, although many ancient records, jewels, and monuments, were actually delivered to the Scotch.

The ancient prophetic distich relating to this stone is said to have been cut in or engraven on it by command of king Kenneth; but this is in all probability erroneous; for, so far as we are able to discover, there are no traces of any inscription; and, with the exception of a small cross, there is no mark upon this stone: there is, however, a rectangular groove or indent, in which an inscription might at one time have been fixed.

The coronation-stone is placed within the framework of the chair, which is now in the Confessor's Chapel: at each end is a circular iron handle, affixed to a staple within the stone itself, so that it might be lifted up.

On referring to the notes above given, it will be seen that in some respects the ancient accounts of the stone do not agree with its present appearance. We have it described as a "white marble stone," and in some instances as being richly carved by a cunning artist: notwithstanding, it is in reality a dun-coloured, common-looking stone, like some of those which are brought for various purposes from Dundee, in Scotland. It is a sandy granular stone, chiefly quartz, with light and reddish coloured felspar, and also light and dark mica, with some other matters intermixed; and on the upper side there is a dark, brownish coloured flint pebble, which, from its hardness, has not been cut through, though immediately crossed by the indent above mentioned. The stone is of oblong but irregular form, measuring 26 inches in length, 16¾ inches in breadth, and 10 inches in thickness.

In the wardrobe accounts of Edward I.'s time there is a charge by Master Walter, the painter, for the costs and expenses incurred by him for making one step at the foot of the *new chair* (in which is the stone from Scotland), set up near the altar in St. Edward's shrine in the Abbatial Church at Westminster, in pursuance with the order of the king, and for the wages of the carpenter and painter for painting the said, together with making a case for covering the chair. The cost of this was 1*l.* 19*s.* 7*d.*

A VISIT TO THE BIRKENHEAD DOCK WORKS.

On Saturday afternoon last about fifty of the members of the Liverpool Architectural and Archæological Society paid a visit to the Birkenhead Dock works. They were received by Mr. J. Justen, from the department of the dock engineer, Mr. Lyster.

It is not our intention to enter upon an elaborate description of the great estate of the Mersey Docks and Harbour Board at Birkenhead, but it may interest our readers if we note a few facts in reference to the gigantic dock works on the Cheshire side of the Mersey—works extending over an area of 121 acres and 2,869 yards, and of a money value of more than four millions sterling. The quay space at Birkenhead is between five and six miles in extent: at Liverpool it is nearly seventeen miles, whilst at the latter place also the dock space is about 250 acres. The Liverpool Dock Estate covers about 810 acres, of which about 220 are yet unappropriated, and the Birkenhead Estate about 450 acres. So much for the contrast of the two estates in point of area. The extent to which the Liverpool docks are used is well known; in fact, they are over-crowded at times. The Birkenhead have yet to be tested.

The members on landing forthwith proceeded to the reclaimed portion of the Woodside basin, at the west end of which a quarry has been opened, and excellent red sandstone is being obtained, and used for building the walls of the half-tide dock and great northern entrances near Seacombe. One of Taylor's travelling steam cranes was in use for hoisting and placing the stone on the trucks, and the visitors were much struck by the economy of labour consequent upon the employment of this piece of machinery. The next point of interest visited was the Morpeth Dock, which at present contains less than four acres of water space. The enlargement is to the extent of seven acres, and consists of a cut to the south-eastward—already finished—bringing the extreme end of the dock close to the river wall, and pointing to the north-east corner of the Albert Dock Warehouses. The present entrance to the Morpeth Dock—a very

shaky one—is only 50 feet in width, and the sill is but 5 feet below the old dock datum. The new lock, which is nearly completed, has an entrance of 85 feet. The sill is to be 12 feet below the old dock datum, and the lock has been so constructed that, in case of necessity, the water may be pumped out, and ships of the *Warrior* class admitted to use it as a graving dock.

After having inspected the huge mortar-mills where the mortar used in the construction of this portion of the works is ground, the visitors proceeded to one of the principal works on the estate—a work which has cost a very large amount of money in constructing, and no small degree of anxiety on the part of Mr. John Hartley, the designer, and his successor, Mr. Lyster. The great low-water basin was designed to receive ships at all states of the tide; and we believe that, at low water of the lowest tide in the year, it is calculated there will be a depth of 12 feet of water. The area of this basin is about 14 acres. Its form is that of a parallelogram, 1,600 feet in length, 300 feet wide at the mouth and 400 feet at the top, and 47 feet deep. On the quay of the basin was a considerable quantity of timber—the remains of forest trees—which had been found in an upright position at a depth of 36 feet from the surface, whilst the excavations were in progress. This timber was examined by several gentlemen, who pronounced it be oak and pine. The possibility of keeping the great low-water basin from silting up is the greatest problem of the Birkenhead Dock works. Mr. John Hartley devoted his best energies to the consideration of the subject, and devised a plan for sluicing, which, in regard to its power and the wonderful means adopted to attain the desired end, is remarkable. Should the plan answer its purpose, a problem of more than ordinary difficulty will have been solved, and Mr. Hartley will have added another laurel to his fame. The excavation of the basin was commenced by Mr. M'Cormick in October, 1858, but the work was greatly retarded by the innumerable springs met with; and to prevent flooding, powerful steam-pumps were kept at work night and day. Mr. Hartley found the foundations of the north wall tolerably good, whilst those of the south were described by him in one of his annual reports to the Mersey Docks and Harbour Board as "exceedingly bad," and they had to be prepared for the reception of the ponderous masses of masonry which form the wall by driving "bearing" and "sheeting piles"—a tedious and expensive process. To enable the walls to be turned so as to join the river wall north and south of the entrance, an immense coffer-dam had to be constructed; and the work, which was commenced in January, 1858, was expected to have been finished by the end of the year. But here, again, the demon of Birkenhead was at work. "Timber, timber, timber, and yet more timber," went into "the bottomless pit," and still the coffer-dam was far from completion. In truth, the density of the quicksand at the south end was so great that pile after pile went, and it was years instead of months before the dam was perfected. We believe some of the piles were not less than 65 feet in length.

The unfortunate coffer-dam was particularly examined, and subsequently the party proceeded to the bottom of the upper end of the great low-water basin. In the centre is a 50-feet lock for the purpose of admitting vessels into the Great Float; and on either side of the lock are ten apertures, through which a portion of the tidal waters received into the float at high-water will be released; and, it is hoped, with such a force, that the basin shall be prevented from silting up. The scour will be marvellous, no doubt; but there was amongst the visitors some apprehension that dredging will have to be resorted to. With a moderate steop one was able to pass through the outer aperture or mouth of the sluice; and, after proceeding for a couple of yards or so, the visitor found himself in a passage about 15 feet long, 7 feet high, and 4 feet broad. This opened into a vast semi-circular chamber, illuminated with torches and successive blue and red lights, in the centre of which was a lofty arched vault, leading to a pair of 30-feet gates. These, when opened, will admit the water from the Great Float for sluicing purposes. The outlets are twenty in number, each worked by hydraulic machinery of 50 tons pressure; and it is estimated that at an ordinary 18 feet tide about 28 millions of cubic feet of water, equivalent to a fall of 3 feet in the height of the water over the area of the Great Float, will be emitted by the sluices. The great northern entrances are between Seacombe and the low-water basin. The principal one is to the north, and is 100 feet wide: in the centre is a 50-feet entrance, and that to the south is 30 feet. The three entrances meet in a half-tide dock of about 8 acres; and at its east end three other locks of equal width will admit ships into the East Float, from whence they may pass to the West or Upper Float. Some astonishment was excited by the announcement that the walls of the half-tide dock were being built 42 feet in thickness; but this is rendered necessary in consequence of the construction of two enormous culverts, at the base of the walls, for the purpose of carrying water for sluicing purposes at the river entrance. The hydraulic tower between the north entrances, the low-water basin, and the east float, has just been completed; and the powerful machinery, by Sir William Armstrong & Co., of the Elswick Foundry, properly fitted and ready for work. The gates of the various entrances and the clowes, &c., will be opened and shut by hydraulic power. The Eastern Float is connected with the Western Float by a passage 100 feet in width. The depth of the floats is 35 feet, their area 111 acres, the easternmost being 59 acres and the westernmost 52 acres. On the south side of the latter the Dock Board are constructing two graving docks, and coal tips, &c., have been erected for the coal trade at the expense of some thousands of pounds, but comparatively unused by that trade as yet, for a reason best known to the coalowners and others.

At the close of the meeting, the president called attention to the day's proceedings, and returned a vote of thanks to Mr. Lyster for the permission granted to the Society to inspect the docks; and referred also to the services rendered by Mr. J. Josten whilst conducting them over the works. Mr. Josten, in reply, ascribed the success of the proceedings to the assistance rendered by Mr. G. Biddle, the surveyor of the estate; to Mr. Pringle, the foreman of the hydraulic works; and no less to the superintendent of the chain test works, Mr. J. McDonald.

PROPOSED MEMORIAL OF THE LATE PRINCE CONSORT.

IN order that the views with which Mr. Scott prepared his design for the Memorial proper may be fairly set forth, we print the statement with which he accompanied the drawings:—

"I would take the liberty of remarking at the outset, that I have felt a great perplexity as to the scale of outlay to which I should proportion my conceptions. From the time of the very first proposal of the Memorial, my thoughts were almost constantly directed to the subject. The claims of that great and good Prince who was to be commemorated; the magnificence of the scale on which the public had from the first,—and most justly,—framed their ideas as to what the memorial to such a personage should be; and her Majesty's choice, in the first instance, of a monolith, greater than any that the world had seen, surrounded by magnificent groups of sculpture in due proportion to its colossal magnitude: all these rendered it impossible for me deliberately to strike out a thought on an unworthy scale, while the converse seemed equally impossible. It might, indeed, be almost said of an artist who is strongly impressed with the worthiness of a subject such as this, that

> 'Such is the impulse and the spur he feels
> To give it praise proportioned to it's worth,
> That not to attempt it, arduous as he deems
> The labour, were a task more arduous still.'

With such feelings I could not bring myself to treat the subject on the principle of 'nicely calculated less or more.' I had, indeed, already struck out my design before I was honoured with your invitation to do so; and having worked it out (so far as thoughts and sketches went) under a strong impulse to do what I could to render it in some degree worthy of its object, I could not bring myself coldly to sit down and deprive it of any decoration I had already designed for it; but have gone on upon the principle that the second idea of erecting a Hall of Science in proximity to the Memorial would not be allowed to rob the Memorial itself of its honours or its beauties; but that the funds which have been, and may yet be, subscribed for it will be devoted to the Memorial itself, and the Hall be erected from other sources I have, in fact, made each as good as I was able, so that either would, if need be, singly form a fitting Memorial; though I have supposed that if one of a monumental form be erected, it will not be stinted of the fair proportions which the public have, beyond a doubt, ideally prescribed for it, with a view to saving a fund to go towards the second object.

There can, indeed, be no doubt that the public expect a monument of great and conspicuous magnificence—not a mere group of sculpture, which, however fine as a work of art, produces little effect excepting from a near point of view; but an object which will strike boldly and forcibly upon the eye, and attract attention even from a distance. The monument of Frederick the Great, for instance, has been mentioned, and justly, as a noble work of art; but its beauty arises from the high *quality* of the art bestowed upon it, not from any inherent magnificence in its design or form. In scale it is considerably less than the statue (with its pedestal) of King George IV. in Trafalgar-square; and no one would, I fancy, deem that even any approach to a worthy scale for the memorial to the Prince Consort.

I will now take the liberty of offering a few remarks on the subject of the style I have adopted for the architectural portions of the monument. I have heard it asserted, that the tastes of the Prince Consort were wholly for Classic Art, and that it would, therefore, be inconsistent to erect a memorial to him in another style. It would be presumptuous in me to discuss such a question as what were His Royal Highness's preferences in matters of Art: I trust, however, that I may venture to record what has come, in three different instances, under my own observation.

I. When I had, in the spring of 1858, the honour of laying before His Royal Highness my first designs for the new Government Offices, he distinctly told me that he did not sympathise with the objections which had been made against them on the ground of their style being Mediæval,—not even in those points where they came in the closest proximity with a classic building; but that, on the contrary, he preferred variety of style, and thought the constant adoption of a single style fatiguing from its monotony.

II. In the case of the Wellington College, I was called in, with the approval of His Royal Highness, to erect a Gothic chapel to a College which is in another style.

III. When I made, some few years back, a Gothic design for the Guards' Crimean Memorial, I am informed, on the best authority, that my design was honoured by the approval of the Prince Consort to such an extent, that, though he had previously objected to the Memorial being erected in Hyde Park, on seeing this design he at once withdrew the objection, and offered every facility for its erection in the park—facilities which were withdrawn when another design was adopted. I would lay the more stress upon this circumstance, as being an emphatic approval by the Prince Consort himself of the erection of a Memorial in the Gothic style in Hyde Park, and that a design, which though of course infinitely inferior to that which I have now the honour of submitting, agreed with it sufficiently in general idea to show that the approval of the one would involve a still stronger approval of the other.

Fortified, then, by my experience in these three instances, I have not hesitated to adopt in my design the style at once most congenial with my own feelings, and that of the most touching monuments ever erected in this country to a Royal Consort—the exquisite 'Eleanor Crosses' of which King Edward I. erected no less than fourteen to commemorate his beloved Queen. I would further suggest, that this style has a peculiar appropriateness in the present instance, from the circumstance that its perfect revival has been, up to the present time, the one great characteristic of the history of architecture during the reign of Queen Victoria.

Though adopting, however, the style of a Gothic Cross, I have not followed any existing type, but have struck out one suited, to the best of my judgment, especially to this individual object.

The great purpose of an architectural structure, as a part of the Memorial, is to protect and overshadow the statue of the Prince. This idea is the key-note of my design; and my next leading idea has been to give to this over-shadowing structure the character of a vast *shrine*, enriching it with all the arts by which the character of *preciousness* can be imparted to an architectural design, and by which it can be made to express the value attached to the object which it protects. The idea, then, which I have worked out may be described as a colossal statue of the Prince placed beneath a vast and magnificent shrine or tabernacle, and surrounded by works of sculpture illustrating those arts and sciences which he fostered, and the great undertakings which he originated.

To go more into particulars: I have, in the first place, elevated the monument upon a lofty and wide-spreading pyramid of steps. From the upper platform rises a podium, or continuous pedestal, surrounded by sculpture in alto-relievo,

representing historical groups or series of the most eminent artists of all ages of the world; the four sides being devoted severally to painting, sculpture, architecture, and music. The figures are about 7 feet high, and would be treated something after the manner of Delaroche's "Hémicycle des Beaux Arts." This forms, as it were, the foundation of the monument, and upon it is placed the shrine or tabernacle already mentioned. This is supported at each of its angles by groups of four pillars of polished granite, bearing the four main arches of the shrine. Each side is terminated by a gable, the tympanum of which will contain a large picture in mosaic, and its mouldings will be decorated with carving, or inlaid with mosaic-work, enamel, and polished gem-like stones, thus carrying out the characteristics of a shrine.

The intersecting roofs would be covered with plates of metal richly enamelled and gilded, and their crestings would be of gilt beaten metal in rich leaf-work.

The whole is crowned by a lofty spire of rich tabernacle-work in partially gilt and enamelled metal, terminating in a cross, which would reach a height of 150 feet above the surrounding ground.

Beneath this vast canopy, and raised upon a lofty pedestal, would be the statue of the Prince. I have chosen the sitting posture as best conveying the idea of dignity befitting a Royal personage. Besides the sculpture already described as surrounding the podium, there would be, on pedestals projecting from each of its angles, groups illustrating the industrial arts, &c., as engineering, manufactures, agriculture, and commerce. Above these, against the pillars, and beneath the rest of the gables, would be statues which might represent the greater sciences, and in the tabernacle-work of the spire figures of angels and of the Christian virtues.

The mosaic pictures in the tympana of the gables may either represent, in an ideal manner, the patronage of art and science by royalty, or might illustrate important incidents from the life of the Prince Consort.

Finally, at the angles of the pyramid of steps from which the monument rises, are four large pedestals, bearing groups allegorically relating to the four quarters of the globe and their productions, referring indirectly to the International Exhibition.

The general material for the monument must depend, in some degree, upon financial considerations. It ought, no doubt, to be of marble; but, if this should be impracticable, one of the finest descriptions of stone must be made use of. If marble be used, the most durable variety is that known as the Sicilian. The material for the sculpture involves a question of still greater difficulty. I am myself inclined to the same which I have just named—the Sicilian marble. It is the only white marble which stands externally in our climate. That it does so is proved by the Marble Arch in Hyde Park. Its colour is not pure white, but quite sufficiently so for external works. The only alternatives are bronze and an electro-plate of copper. In every other respect than mere durability, bronze is as ill suited as possible to the atmosphere of London, for it becomes absolutely black, and the art expressed in it almost invisible. It might, it is true, be partially gilt, but even then its effect would be questionable. Many ancient works in bronze were wholly gilt, which would possibly, however, be hardly suited to the taste of this country, though certainly very magnificent.

Electroplate copper is much less costly than bronze, and is nearly equally good. It was much used, I believe, by the Prince Consort. Whether it becomes so black in the London atmosphere I am not aware.*

It will be seen from the foregoing remarks, that it is my object to unite in the Memorial all, or as many as possible, of those decorative arts which the Prince Consort so anxiously fostered. Thus, besides sculpture, which is the primary form in which monumental art must express itself, and in addition to actual architecture and architectural carving, which must ever be its closest ally, I have largely availed myself of *repoussé* work in metal; of enamel; of inlaying in rich polished stones, such as crystals, cornelians, granite, porphyry, &c.; of pictures and other decorations in mosaic-work, &c.; so as to render the Memorial rich with all the arts which can be united with architecture.

The vaulted roof of the interior would be decorated with the enamel mosaic-work introduced from Venice by Dr. Salviati.

By thus introducing all the arts subsidiary to architecture, we should not only be rendering the Memorial replete with beauty, and giving it that air of preciousness so essential to its object, but should be at once displaying and calling into exercise arts which the Prince Consort so earnestly desired to encourage; and should be rendering his Memorial not only an illustration of, but a means of practically realising, many of the objects to which he devoted his energies."

* I have learned, since writing the above, that the electro-deposit of copper acquires a by no means unpleasing tone of colour. I am also informed, on good authority, that there are several alloys of copper besides the ordinary bronze which retain their colour well, and by which several varieties of tint may be obtained; which, with the aid of partial guiding, would produce an excellent effect.

THE STRAITS OF LONDON.

PARK-LANE AT ITS JUNCTION WITH PICCADILLY

It would seem by the observations of the Hon. the Chief Commissioner of Woods, made a few weeks ago in the House of Commons, that we are not to get the relief to this strait which the projected forking of Park-lane, at the bend of the road near Hertford-street, driving the new prong through the little triangular-shaped plat of garden ground which lies in the rear of Apsley House and the other houses here, into Piccadilly *vid* Hamilton-place, was calculated to accomplish. At the same time, however, the hon. gentleman tells that the relief could be equally well effected by widening Park-lane at the particular point which causes the difficulty; and that this the vestry of St. George's, Hanover-square (in which parish the place is situate), could now do. It is quite true that one of the supplementary clauses appended last session of Parliament to the Metropolis Local Management Act, confers on vestries and district Boards the power to effect improvements of the kind, charging the expense of the same on the rates. But it is not in the least degree likely that the vestry of St. George's, rich as its parish is, will be bold enough to enter on an improvement undertaking, at an outlay of some 50,000*l.*, which the necessary buying up of Gloucester House and the adjacent properties up to the gardens would probably involve.

To the constant danger of this corner, to say nothing of its other inconveniences, I can personally testify. My place of business and my sleeping accommodation being in different localities, I have daily had, for twenty years, to approach the former by way of Piccadilly, and very frequently make the passage on the outside of an omnibus. A few years ago I was in this way placed in the painful position of being a spectator of a frightful accident which befel the poor driver of a cart, laden with bricks, who was, whilst in the act of pushing off his horse's head, in the vain hope of avoiding imminent collision in rounding the corner, crushed between the point of one of the shafts of his cart and the breast of the near horse of the omnibus, on the front of which I was sitting; the poor fellow, in a fearfully injured state, being carried off to the neighbouring hospital. Since that lamentable disaster I have seen innumerable "hair-breadth escapes" from collision in a similar way on this spot.

As respects the dangerousness of this corner, it arises mainly from the liability of a vehicle in turning from Park-lane, and proceeding towards Hyde Park-corner, meeting another vehicle coming at the same instant along Piccadilly from the direction of Hyde Park-corner, "*hugging*" the curb on that side—its right side of the road, be it remembered; and the difficulty aggravated by the "*way*" accumulated on each vehicle through the descent of the declivity which occurs in both roads at this part.

Now if the dead wall inclosing the forecourt of Gloucester House, next Piccadilly, were razed to within 2 feet of the street level, and an open iron railing set thereon, the driver of each vehicle (in the position just adverted to), would then be enabled to see through the openings of the railing the other in its approach, earlier by some ten yards of distance, thus giving sufficient time to each to shape his course out of the way of collision. By this the immediate dangerousness of the corner would be removed, though the real strait remain. To recommend the execution of this simple alteration has suggested this communication. Doubtless the noble Duke, if appealed to, would readily concede the permission; and the vestry may do the work well and ornamentally at a couple of hundred pounds expense.

Whilst on the subject of Park-lane, I would draw attention to the quagmire-like appearance which the roadway of this thoroughfare has for some time presented about the locality of the Grosvenor and Stanhope gates. Can the state of things here exhibited have origin in a desire on the part of the parochial authorities to bring *macadam* into disgust, so as to lead to a paving with granite blocks, to the end of economizing the rates, as was done some years ago by the same authorities in respect to Piccadilly, when one of our wealthiest noblemen, who was then building a magnificent mansion on the line, foreseeing that the noise of the traffic passing on "the stones" would be destructive of the comfort of the residence, was so displeased with the parish persisting to pave, in defiance of his reasonable remonstrance, that he declined to finish the edifice, and the building still remains in bare walls, a standing reproach to the parochial authorities, and a loss to the parish of a two thousand a year rating. To pave such thoroughfares as these with granite blocks, if not absolutely barbarous, is, to say the least of it, a retrograde movement in the science of road-making of half a century. If the supervision and maintenance of the thirty or so miles of road of St. George's overtasks the parochial working staff, would it not be better to put a few of the greater thoroughfares, such as Hyde Park-corner and Knightsbridge, Park-lane, &c, in contract with some eminent road-maker, as the vestry of St. James's does by Regent-street?—which street, since it has been in the hands of the contractor (Mr. Browse), has become an example of perfection in metropolitan road work, and practically disproves that doctrine, put forth a while ago by some professing to be learned in the line, which said that a metropolitan street under great traffic cannot be maintained a good roadway in macadam; Regent-street, be it observed, being subject to a traffic (counting in the reckoning the twenty-four hours of the day) little less in amount than that of London Bridge. The practice of contracting at least insures good roads, since contractors generally are well aware that their "profit and loss" account is best served by always keeping their *macadam* in the most perfect state of repair.

F. C.

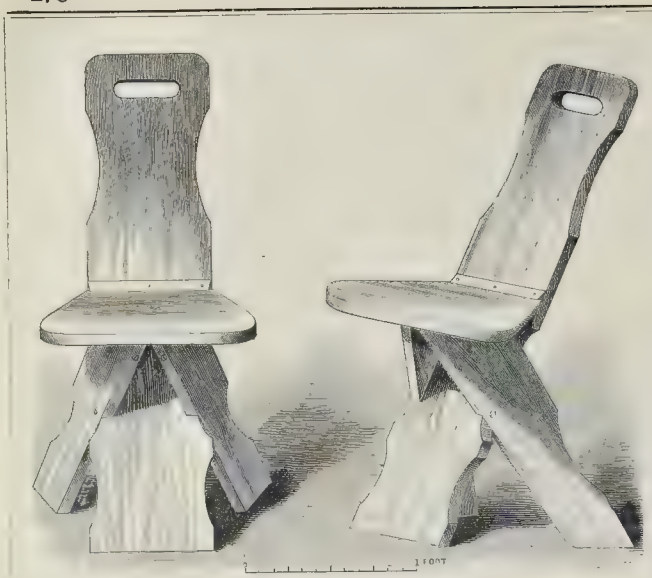
THE SEWING-MACHINE.

An interesting paper on this important subject was read at the Society of Arts, on the 5th inst., by Mr. E. P. Alexander, in which the history and progress of the ingenious sewing-machine in its varied forms and improvements were reviewed. An extract or two will interest our readers.

In 1841, Elias Howe, a native of Cambridge Port, Massachusetts, first conceived the idea of constructing a really practical sewing-machine. A young mechanic, only twenty-two years of age, hardly capable of supporting himself and those most dear to him on his scant earnings, he laboured manfully, in a little garret in his native town, at his self-imposed task, during the few hours that were spared to him after the ordinary labours of the day were ended. He became enthusiastic; and although, as he says, he could not devote his attention to the subject during his working hours, he thought upon it when he could, both day and night. It grew upon him till he felt impelled to yield his whole time to it; and, being promised assistance by a friend, he devoted himself exclusively to the construction and practical completion of his machine. The result was that, in 1845, he perfected his first sewing-machine; and, in order to test its practical success, he sewed with it all the principal seams in two suits of clothes. On the 10th of September, 1846, he obtained his patent.

On the 1st of December, 1846, Mr. Thomas obtained a patent for the machine in England; soon after which Howe himself arrived here to assist him in adapting the machine to the peculiar kind of work required, namely, stay-making. Howe does not appear to have prospered here; for, in the spring of 1849, indebted to a friend for a steerage passage home, he returned to America, poorer, if possible, than when he left. He found his wife on a bed of sickness and in a state of utter destitution. Ten days after his arrival she died. During his absence in England his patent had been extensively infringed; and, in 1850, he commenced legal proceedings, and succeeded in every case in establishing the validity of his patent.

The turning-point in Howe's career had now arrived; and fortune soon began to smile upon him. In 1853 he granted his first licence; and in 1855 was enabled to regain possession of the whole of his patent, which at one period he had entirely disposed of, in order to meet the pressing demands that were made upon him. His patent rights being finally acknowledged, and his patent prolonged for a term of seven years, he now re-



A CHEAP GARDEN CHAIR.

ceives a royalty upon every sewing-machine manufactured in the United States, producing an income of upwards of 50,000*l.* per annum!

The sewing-machine has since gone under a variety of patentees' names, from the accession of real or alleged improvements; but hitherto it has been chiefly in America it has prospered; and in this country and on the Continent even yet it is, comparatively speaking, in its infancy. Since 1860, however, when old patents expired, it has taken a start even here: during the last two years no less than 20,000 machines have been manufactured in this country alone. But in America it is estimated that there are 300,000 machines in use, 75,000 of these in private families for domestic sewing; and the annual saving to the States is estimated at upwards of 29,000,000*l.* sterling! "It has opened avenues to profitable and healthful industry for thousands of industrious females, to whom the labours of the needle had become wholly unremunerative and injurious in their effects. Like all automatic powers, it has enhanced the comforts of every class, by cheapening the process of manufacture of numerous articles of prime necessity, without permanently subtracting from the average means of support of any portion of the community."

Amongst the leading branches of industry which are giving employment to these machines in this country are the manufacture of shirts, collars, stays, mantles, dresses, under-clothing of all kinds, coats, trousers, caps, trimmings, and boots and shoes. In this last-mentioned trade upwards of 3,000 machines are now employed. Of these about 800 are working in Staffordshire, the town of Stafford alone employing from 450 to 500 machines. About 800 are in use in Northampton. In Leicester a trade entirely new to the town has been created through the instrumentality of the sewing-machine; about 300 machines being now employed there in the manufacture of boots and shoes. Bristol employs about 250 machines, distributed among five establishments. The towns of Norwich and Ipswich employ about 800 machines, and a new trade in "ready-made uppers" has been created.

Although the introduction of the sewing-machine into the boot and shoe trade met with the strenuous opposition of the Trade Union, resulting in a general strike amongst the workpeople, it has since been admitted that its employment in this department of manufacture has given a very marked impulse to the trade generally, and has, in fact, been the salvation, to this country, of the lighter class of work; enabling us to compete, in a most successful manner, with the French manufacturers, who had almost gained the entire monopoly of this branch of the trade.

A CHEAP GARDEN CHAIR.

ONE who travels with his eyes open saw this chair in some public gardens at Marseilles, and finding it solid to sit on, cheaply made, and not easily injured by the weather, brought it over. Having a free spirit he has had a number like it made, and they are found satisfactory in the Clifton Zoological Gardens and elsewhere.

A piece of 9-inch deal forms the back and main support, and another piece of the same width is split for the two legs. The chair could be made, in numbers, for about two shillings.

PROPOSED NATIONAL PRESENTATION TO H.R.H. THE PRINCESS OF WALES, FROM THE SUNDAY SCHOOLS OF ENGLAND.

THIS presentation, the offer of which has been graciously accepted by her Royal Highness, is to consist of a Bible and reading-desk. It is calculated that from the schools throughout the country a sufficient sum will be at the disposal of the managers to enable them to secure the first artworkmen to execute the various portions of the work. The designs will be very elaborate, and will comprise carvings in relief in ivory, gold, and silver, representing scenes in Scripture history. The clasps will be, it is stated, of curious workmanship in pure gold, connected with a band of silver set with precious stones. The markers are to be of Coventry ribbon, made expressly for the work, the ends to be covered with gold and silver plates set with pearls. The reading-desk will be carved in woods of various kinds. The designs are being prepared by Mr. Horatio N. Goulty, of Brighton, architect, under whose direction the work will be carried out.

SCHOOLS OF ART.

The Manchester School.—The annual meeting of this school has just been held in the lecture theatre of the Royal Institution, Mosley-street. There was a numerous attendance of ladies and gentlemen, who first inspected the works of art displayed in the picture galleries. Sir J. Kay-Shuttleworth presided. Mr. Mückley, the head master, in his report, called attention to the necessity of greater attention being given to the application of art to the manufactures of this city and district. But the number of students was small in proportion to the extent of the trades in which art was required. The desire for purer art in connexion with our buildings, clothing, and manufactures, was constantly increasing; and hence the duty of those who profess to lead the tastes of the nation was to encourage the teaching of art. As to the school, he stated that twenty-six medals had been awarded. The attendance at the evening and artisan classes was excellent. Thirty poor schools were in connexion with the institute: upwards of 30,000 persons received instruction in art; while 202 prizes had been awarded, and applications were constantly made for art apprentices. In the committee's report, complaint was made of the withdrawal of the Government grant of 300*l.* There was consequently a deficit to about that amount.

The chairman, after noticing the success of this institution, proceeded to review the discoveries of modern days as a prelude to enforcing the importance of a deeper and higher culture of art and science. We had clothed the millions with cheap fabrics, but we had produced few articles of luxury for the wealthy. In a crisis like this, it became us to consider whether we had not in our reliance on the principle of cheapness of production, too much neglected the cultivation of such science and art as ministered to the highest productions of industrial skill. In our warehouses we had taken a model of the Italian school, and we had decorated our streets with palaces almost as picturesquely as those of Venice and Florence. It was to be regretted we had no group of public buildings forming as it were a crown to the architecture of the city. These local proofs of the development of a public feeling for art were signs of a corresponding expansion of national taste. Industrial art would have a fairer field in England than heretofore. Probably, however, as a nation, our true place in the industry of the world would be sustained by such a combination as would enable us to bring high products of scientific research and exquisite artistic skill into the market at a cheaper rate than other countries; and we must strive to give such precision to machine work as would enable it to rival the most perfect productions of manual skill. Success in this higher department of industry was only to be hoped for under the guidance of a taste and skill as delicate and as highly instructed as that which had given France the command of all the highest styles of decorative printing. The cultivation of this taste and skill in the designer was among the principal objects of the provincial schools of art.

The Southampton School.—A distribution of the medals and prizes awarded by the Government Examiners to pupils of this school has been made by the Lord Mayor of London, in the lecture hall of the Hartley Institute. The following is an extract from the Report of the head master, Mr. Baker, to the committee: "In my last report I alluded to the fact that, although a large number of teachers in public schools had been successful at the Drawing Examination of 1861, their attendance in the classes had subsequently fallen off in consequence of the new Minutes of Council on Education. This was the case not only in the Southampton School of Art, but also in Romsey and Ringwood, and from this (and other local causes) the drawing classes in both these towns have been discontinued. A new Minute has just been issued, which gives to all managers of schools a direct interest in the success of their students in drawing, and I hope this will have the effect of reviving the instruction where it has lately been dormant, and of inducing the managers of all schools to have it introduced as a branch of general education. During the current year the classes at the School of Art have been attended by about the same number of students as last year, but it is to be regretted that many of them pursue their studies in a desultory manner.

STREET ARCHITECTURE IN NOVA SCOTIA.

THE NEW UNION BANK OF HALIFAX.

THE new Union Bank Building, which has been lately erected at the corner of Hollis and Prince Streets, has two fronts in the Wallace free-stone; that in Hollis-street being 40 feet in extent, and that in Prince-street 60 feet. The ground floor is occupied by the banking-room (30 feet square by 22 feet high), the directors' and cashier's rooms, the fire and burglar proof safe, and entrance-hall and staircase. The upper floors are divided into the several apartments forming the cashier's residence. The windows have wrought-iron rolling shutters; those on first floor having also ornamental balconies. The contract for the whole of the works was taken by Mr. Henry Peters, of Halifax, for 8,000*l.* The architect was Mr. C. P. Thomas, of Montreal, nephew of the late Mr. John Thomas, the sculptor.



THE NEW UNION BANK OF HALIFAX, NOVA SCOTIA.—Mr. C. P. Thomas, Architect.

FOREIGN EXCURSION CLUBS.

THERE is nothing which will more effectually promote friendly relations amongst neighbouring nations than a frequent communication with each other of men of intelligence on both sides who are engaged in the various branches of artistic and other kinds of industry: besides the good which is in this way effected, mutual instruction is the most valuable kind is exchanged in the course of those visits. It is therefore gratifying to notice that visits of the English working classes to foreign cities, such as have been managed by the formation of societies and clubs in the metropolis, are being organized in other large towns throughout the kingdom. At Birmingham a body of workmen are making arrangements for a summer visit to Paris, and we hear of similar plans elsewhere.

At a first glance, Paris seems a long way off, but in reality it is almost as easily reached, and at as small cost, as some of the towns in the North of England. Those towns where skilled labour is in demand, and where foreign excursion societies have not yet been thought of, would do well to consider the subject; for now is the time to make preparation, and provide, by weekly payments, for the needful expenses.

WORKING MEN'S HOUSES AT EDINBURGH.

THE success which has attended the efforts of the Edinburgh Co-operative Building Society to provide suitable houses for working men, in Reid-terrace, Stockbridge, has induced the directors to commence another range of working-men's houses, to run parallel to Reid-terrace, and to be of the same design and workmanship. Reid-terrace, according to the *Scotsman*, consists of a group of forty self-contained houses, all of which have been let, at prices ranging from 130*l.* to 150*l.*, with a fine or perpetual ground-rent of 11s. per annum. The houses are formed in two stories, with attics, the upper floors being entered from outside stairs, and having additional accommodation in the attics. The ground-floor houses consist each of a room, kitchen, and light bed closet, with coal-closet and water-closet, and the rents are 11*l.*; while the upper-floor houses, having a bed-room additional, are rented at 13*l.* The new street, which is to be called "Hugh Miller-place," is to consist of a row of thirty-three self-contained houses; those on the lower or ground-flat to consist of two rooms and a kitchen, and those on the upper story to have two attic rooms in addition; while all the houses are to be fitted up with water-closets, soil-pipes, and every domestic convenience. A small plot of garden ground will be railed off in front of each house, and all the tenants will have the use of a large bleaching-green. Twenty-seven of the houses have already been bought by one gentleman, and the remaining six will, no doubt, soon be sold.

The foundation-stone of the new street, to be called "Hugh Miller-place," has been laid by the Rev. Dr. Begg. A new species of deposit, in the bottle placed in the cavity of the stone, was a photograph of Dr. Begg.

In his address at the stone-laying the rev. doctor thus explained the principle (better known in England) whereby workmen might become landlords:—

"Any man who has 5*l.* now can get a house of his own. If he has that sum he can come and buy one of these houses, because the Property Investment companies will advance all the rest of the money. One of the houses on the ground-floor of the buildings opposite, containing two rooms and a kitchen, costs 130*l.*; upon the security of which building the Investment Companies will advance 125*l.* If you were to rent such a house as I have referred to, you would pay 11*l.* of rent; whereas, what the Property Investment Company would charge you would be just 2*l.* more,—viz., 13*l.* a year, and that only for fourteen years; at the end of which time the house will be your own, and will belong to your children after you [not in the shape of a merc lease, for a term, as with us, but in perpetuity]. Take, on the other hand, the houses that are situate on the second story of the building, which contain, in addition to the two rooms and a kitchen, two attics. These cost 150*l.* Well, let us suppose that a workman is disposed to buy one of these houses, and that he will require to borrow the few additional twenty or twenty-five pounds from the Investment Company. For that he will pay 2*l.* 12*s.* a year, or, in other words, he will pay 15*l.* 12*s.* per annum; and, as the rent of these houses is 14*l.*, he will, by paying the difference, viz., 1*l.* 12*s.*, become the owner of the house in fourteen years. I observed a writer in the *Scotsman* newspaper the other day saying that he wondered why houses were not provided at 15*l.* of rent, which would cost only some 240*l.* to build. Why, here we have houses containing four rooms and kitchen rated at 14*l.* rent, which cost only 150*l.* to build; and if a man will pay, as I have stated, 1*l.* 12*s.*, he can get the house to himself at the end of fourteen years. This I take to be the effectual mode of underpropping the whole social fabric, and giving every man a stake in the property of the country. I am happy to say an arrangement has been made whereby the title is procured at a very small cost."

Dr. Begg then announced that he had offered, in connexion with the Co-operative Association, two prizes to workmen for the best essay written by a working man upon working men's houses. The Association had also offered a prize for the same subject. The competition is open to all operatives in Edinburgh and Leith.

THE PARSONAGE-HOUSE AT WIMBLEDON.

A "WIMBLEDON VILLAGER" says,—"Will you spare me a corner in which to lament over the demolition of the old parsonage-house at Wimbledon, the retreat of Cecil during the reign of Queen Mary? It was, I suppose, one of the most curious specimens, near London, of a country parsonage of the Middle Ages; and one cannot but express one's sorrow at seeing it ruthlessly pulled down, apparently for little purpose. However, I suppose we must, though unwillingly, concede to all the right to do what they will with their own.

ST. GEORGE'S CHURCH, TUFNELL PARK, HOLLOWAY.

THE trustees of this temporary church having lately come to grief about the land upon which it was erected, had to remove the building to ground belonging to the Tuffnel Estate, close by. Mr. Truefitt, who designed the church, proposed a plan for removing it bodily; but as that mode of proceeding was found to be as expensive as taking it down, it was decided to adopt the latter plan. The tender of Messrs. Carter, of Hornsey-road, was accepted; and in the short space of five weeks the building, which contains sittings for upwards of 900 persons, was taken down and re-erected, notwithstanding the fact that the late marriage rejoicings and Easter time came within the five weeks granted to the builders for their work. Some credit appears, therefore, due to them for the manner in which they have executed their contract. The church was re-opened on Sunday last, the congregation having been absent for four Sundays only.

SCHOOL-BUILDING NEWS.

Ledbury (Worcestershire).—It is proposed to build a new school at Ledbury, to accommodate 150 boys. About 900*l.* would be required, and of this 237*l.* will be got by grants.

Bradford.—The chief stone of a new Sunday School, to be erected in connexion with the Wesleyan Methodist Chapel, Dudley-hill, has been laid. The site adjoins the burying-ground at the end in rear of the chapel. The school will be one story in height, and outside its dimensions will be, length, 50 feet 11 inches; breadth, 32 feet 6 inches. It will contain two class-rooms, 12 feet square, and a large room 36 feet by 30 feet; will be lighted by twelve arched windows, and heated by a hot-water apparatus. Accommodation will be afforded for 300 scholars. The cost of the erection will be about 500*l.*

Boys' British School, Hastings.—This is a plain Gothic brick structure, erected for the trustees to accommodate 120 boys. The interior dimensions are 54 feet by 24 feet, and the height is 30 feet to ridge. It has an open roof, and was built from a design by Mr. Beck, architect, Hastings, at the cost of 513*l.* 18*s.* 4*d.* The builder is Mr. A. Vidler, of that place.

STAINED GLASS.

St. Nicholas Church, Rochester.—The window to the memory of Mr. George Baker, late of King's Walden, near Hitchen, and formerly of Rochester, has been placed in the centre window of the south aisle of St. Nicholas Church. The centre compartment contains the arms of the Baker family, and under these are placed, in a rosette, the initials "G. B." in the centre. Upon the quarries are painted the crest of the family (the castle and ancient keys), the whole being surrounded with a coloured border: the lower part of the margin contains the inscription. The two side lights are similar, with the exception that the emblems of the Trinity and the Lamb and the flag are inserted on each side of the arms. The tracery heads are filled in with coloured glass: the quatrefoil is of a similar description, forming flowers, in the centre of which is the dove descending. The design of the window was by Mr. Thomas H. Foord, and it was executed at the works of Messrs. Foord, Lambeth.

Lincoln Cathedral.—A stained-glass window, to the memory of the late Earl of Yarborough, has been placed in the north aisle of the presbytery in Lincoln Cathedral. There are six panels, containing the following subjects:—Christ's Agony in the Garden; Christ bearing the Cross; the Burial; the Angel and Three Marys at the Tomb; Christ's Resurrection; and Christ appearing to Mary. there are also twelve figures of angels, in two rows of six each, bearing emblems of the Passion. The work was executed by Messrs. Clayton & Bell, of London, at a cost of 300*l.*, which will be borne by the present Earl of Yarborough. The masonry outside the window has been restored. The same artists are, we understand, at present employed in executing a window to be placed in the south aisle of the nave, to the memory of the late Mr. Robert Swan, chapter clerk.

Peterborough Cathedral.—The new stained-glass window recently erected in Peterborough Cathedral to the memory of the late Prince Consort is the work of Mr. Alex. Gibbs, of London. It is a two-light perpendicular window, and contains two full-length figures. One is King David bearing the harp; the robe being richly coloured in purple and amber: the screen is richly diapered and surmounted with a canopy on ruby ground. The second figure is that of King Solomon within the temple, the robe being ruby and green, &c. In the upper compartments there are smaller figures of the four evangelists, richly coloured, and above these figures is a diapered screen. The top spandril contains a representation of the dove, and the smaller pieces of tracery are filled with roses. The window is the gift of Mr. G. W. Johnson.

Long Buckley Church.—The *Shrewsbury Chronicle* states that Mr. C. Evans of that town has completed a decorated memorial window for Long Buckley Church, Northamptonshire. The window is divided into three compartments or panels. The first represents the interview of our Saviour with the Pharisees, when, speaking of himself, he tells them "I am the good Shepherd: I lay down my life for the sheep: and other sheep I have which ye know not of." The second, or centre compartment, represents the Ascension. "The figure of the Saviour, hovering in the air, surrounded by celestial light," says the *Chronicle*, "and the entranced rapturous gaze which his disciples cast towards him, as he gradually retreats from their view, while yet their hearts burn with the divine promise, 'I go to prepare a place for you,' are portrayed with skill." The third panel of the window shows the Three Marys at the Sepulchre, at the door of which is seated the angel, who, in reply to their interrogation, tells them "He is not here: He is risen." The lower portion of the window, forming the basis on which these compartments rest, consists also of three divisions, the decorations being of a geometrical character, with the figures of which a foliaged tracing is intertwined. The upper portion of the window, which is of considerable dimensions, consists of three portions: the centre, and of course uppermost, shows the sacramental cup, surrounded by rays of light, above which are the words "This cup is the New Testament." To the left, and slightly below, on a kind of shield, are the arms of the See of Peterborough, while directly opposite, on a similar shield, are the arms of the Rev. G. L. Yate, the donor of the window, his son being vicar of the parish. The entire window is surrounded by an ornamental border.

Trinity Church, Dean, Edinburgh.—The great west window of this church has just been completed. The work was begun nearly five years ago, by the Rev. Mr. Faithfull, clergyman of the church, who contributed one of the lights as a memorial; and his example has been followed by members of the congregation, till now all the lights, twelve in number, have been filled, and the expense of the top tracery apportioned among the contributors. The church is in the Perpendicular style, and the upper tracery is filled with Christian emblems and monograms, surmounted by foliated ornament. The six lower upright compartments contain illustrations of the life of the Saviour, viz.,—His Birth, Baptism, Last Supper, Crucifixion, Appearing to Mary, and Ascension. The six upper compartments contain subjects illustrative of the parables and sayings of Jesus Christ. The subjects are in elongated medallions, and the groundwork and bordering are rich and subdued in colour, receding from and giving prominence to the historical illustrations. This window has been executed by Messrs. Ballantine & Son, and the side windows of the church are being gradually filled by the same artists.

Free Church Presbytery Hall, Edinburgh.—The large west window of this hall is filled with stained glass in the old Scotch style, containing medallion heads of leading Presbyterian Reformers;—George Wishart, John Knox, Alexander Henderson, John Erskine, Henry Moncrieff, Andrew Thomson, Thomas McCrie, Thomas Chalmers, and William Cunningham. These heads are executed in light and shade on circles of pale blue, and the names are inscribed on ruby bands surrounding the circles. The window is divided into three compartments, and each light is surrounded by a bordering of thistles in white and gold on a ruby ground. The St. Andrew's cross is introduced, connecting the medallions, and the intervening spaces are ornamented in accordance with the details of the building. Another window, the donation of the architect of the building, Mr. David Cousin, is nearly completed, and contains full-length figures of James VI., George Buchanan, and Sir David Lyndsay. These windows are also by Messrs. James Ballantine & Son, Edinburgh.

CHURCH-BUILDING NEWS.

Caistor (*Lincolnshire*). — The ancient church here, which has been closed since last summer, during the renovation of its interior, was re-opened on Easter Monday. There was a porch both on the north and south sides: the latter, which was modern, has been removed, and the original Norman doorway outwardly restored, but walled up inside, the doors being left standing. The north porch has been rebuilt, and new windows placed in the north aisle and the transept. The chancel was "restored" a few years ago by the late Duke of St. Alban's, lessee of the rectorial estates, and his successor has contributed 80*l.* towards the present work in that part of the edifice, the rest being defrayed by the Ecclesiastical Commissioners. Three lancet windows with trefoil cusps have been placed in the east wall of the chancel; and above, in the gable, a quatrefoil in a circle, filled in with a cross in stained glass. The flat ceiling of the chancel has been removed, and also that of the nave, and the roofs improved so as to give them a more ecclesiastical appearance. The floor of the chancel has been raised and paved with tiles, the sanctuary being enriched with encaustic tiles, of which also the reredos is formed. The stalls in the chancel and the communion rails are of carved oak. The old square pews have been replaced by open seats of stained deal, and the floor of the nave paved with tiles. The walls have been coloured and also the pillars, the latter, we understand, being supposed to require colouring in consequence of the great many repairs which they have had to undergo. Mr. Butterfield, of London, is the architect under whose direction the work has been carried out, and the cost has exceeded 1,000*l.*, which, we learn, has been nearly all raised, though more funds are required for the improvement of the churchyard and the building of a wall around it. There is accommodation in the church for 450 persons.

Cambridge.—The following tenders were received for All Saints' New Church:—

Smith, London	£5,852
Thoday, Cambridge	5,459
Bullock, ditto	5,359
Tomson, ditto	4 785
Attack, ditto	4,795
Bell, ditto	4,325

Mr. Bell's tender has since been reduced about 70*l.* by sundry alterations in the design, such as plastering the roof instead of boarding it, and resorting to the expedient of building the walls with an outer casing of stone, and an inner casing of brick, and filling up the middle portion with concrete, instead of strongly constructing the whole with solid masonry. Even as the contract is now arranged on this reduced scale, it does not include boundary walls, bells, font, pulpit, seats or pews, organ, or fittings of any kind, all of which the parishioners must provide by church-rate, or by additional subscriptions. Even the design already published was abandoned, and a fresh one obtained, of which little is known. The committee, remarks the local *Chronicle*, would do well to exhibit publicly the intended design: we believe that the last adopted design consists of a short chancel; to the west of that a tower, the lower stage of which forms part of the chancel; and to the west of the chancel a nave with an aisle on the south side. There is a porch on the north side of the nave, similar to that on the north side of St. Michael's Church. The tower is carried just above the nave roof, and covered with a temporary roof. The completion of the tower and the addition of a spire are left for a future occasion.

Shenfield (*Essex*).—The parish church of Shenfield is now under the process of restoration and enlargement. The church is ancient, and consists of nave, chancel, and north aisle. The most interesting features in the edifice are the clustered oak columns, with their moulded caps and bases, hewn out of solid trees, and which support the roofs. Originally oak arches sprang from column to column, thus forming an arcade along the length of the nave and chancel; but the beauty of this design had been entirely destroyed by the removal of the arches and the insertion of iron columns. It is now intended to restore the arcade to its original form. The roofs and walls of the nave and chancel having been found to be in a dangerous condition, it was needful to remove them: the new roofs will be tiled in bands of colour, lined internally with boarding stained and varnished, and worked out into panels. The chancel arch will be in oak and moulded. The new windows will be in stone of the Perpendicular date; and the old stone of the east window will be re-used. The chancel is to be extended 10 feet, and will contain stalls facing north and south. The new seating will be low and open, of deal stained and varnished, and set upon oak kerbs. The whole of the gallery will be removed, and the tower thrown into the church, thus exposing to view the oak framing of the spire, and opening the present west window to the church. The passages will be laid with coloured tiles in patterns, and the church heated by Parritt's underground stoves. There will be an increase of fifty sittings upon the former arrangement of the pews. The works are being executed by Mr. John Hammond, of Warley, from the designs and under the direction of Mr. Bartleet, of Brentwood, architect; and will involve an outlay of upwards of 800*l.* The funds at the disposal of the committee are exhausted.

Rochford (*Chelmsford*).—Rochford Church has been re-opened after restoration. Before the alterations the church was not in a bad state, but the pews were inconveniently arranged; the nave roof modern with a flat ceiling; the aisle roofs, although they were old, ceiled over, and the oak timbers covered with whitewash. The works, which have now been completed, consist of new clerestory walls, windows, and new nave roof. The old oak timber in the aisle roofs has been repaired and restored with new, the whitewash removed, and the masonry restored. The chancel roof, which was the original one, has been repaired and panelled. In lieu of the old high pews the church has been re-seated throughout with open seats, and also new seats in the chancel. It is calculated to accommodate 430 persons, and gives 220 additional sittings, every seat having a view of the pulpit. The tower-arch and the internal brickwork have been repaired. Before the restoration this arch was blocked up by a gallery, and covered over with whitewash. A hot-water warming apparatus has been erected, the furnace being placed near the vestry. The architect by whom the church restorations were carried out was Mr. W. Slater; and the builders were Messrs. Nutt & Cumber: the pulpit and carving were executed by Mr. Forsyth. In the chancel are three stained-glass windows, presented by Mrs. Gardiner, widow of the Rev. William Gardiner, who was rector of Rochford twenty years. The window nearest the communion-table in the south-east end, represents a dove descending, and a cross and crown: in the centre is the crest of the late rector. The other window in the south chancel bears two representations of our Saviour,—one as the man of sorrows, wearing a crown of thorns; and the other having a divinely serene aspect, with the inscription,—"Every Branch that beareth fruit He purgeth it that it may bring forth more fruit."—St. John xv. 2. And below the inscription, 2 Tim. ii. 12, "If we suffer with him we shall also reign with him." The window in the north-east chancel, in memory of Mrs. Gregson, represents the figures of Faith and Patience, surrounded by a groundwork of lilies. This window and the window with the emblem of the dove were executed by O'Connor; and that with the figures of the Saviour by Bell, of Bristol. The large plain glass window is surmounted with stained-glass figures of the four evangelists, and angels holding scrolls, having inscribed "Glory to God in the highest, and on earth peace." A feature in the interior of the church is the restoration of the tower, the red brickwork of which has been cleaned and pointed; and the removal of the gallery with the organ throws open to view the tower-window, which has been newly glazed, and affords additional light to that end of the church. A piscina, which was plastered up, was discovered during the restorations on the south side of the altar. Externally the church has been cleaned and re-tiled. The south entrance, a porch, has been restored, with large new doors, and paved with tiles. The tombs and graves in the churchyard have been cleaned, and the walks new gravelled. The cost of restoring the church, including the stained-glass windows, has been about 2,000*l.*

Sawbridgeworth (*Herts*).—The new Congregational church which has been erected in place of a very mean and inconvenient structure, built in 1814, is now nearly completed, and the opening services will take place on the 29th instant. The building is of Gothic design, in the Early Decorated style. A square tower, at the junction of the chapel and school, rises to nearly 80 feet high.

Waddesden.—The parish church of Waddesden, Bucks, which is being restored from designs by Mr. Alfred Chatwin, has, at the completion of the interior, been re-opened by the Bishop of Oxford.

Horton Kirby (*Kent*).—On Friday, the 26th of March, the parish church of Horton Kirby, after having undergone a restoration, was again opened for divine service. The stone arches which support the tower have been relieved from their coating of plaster: the ceiled roof has been opened; and the old oak timber exposed to view. Seven stained glass windows (the gift of Mrs. Bradford), executed by Mr. O'Connor, of London, have been placed in the chancel transepts. Poole tiles have been laid throughout the church, and a new organ (built by Bevington & Sons), of London, erected in the south transept.

Hove (*Brighton*).—A church, under the title of "The Trinity Church," and based on the same principles as the parish church, is now in course of erection in this neighbourhood. Its site is on a large plot of ground, at the back of Ventnor-villas, bordering the Wick estate. The dimensions of the structure will be considerable; and it will afford accommodation for about 650 adults, under the existing contract; but it has been arranged to furnish 200 additional sittings, making a total of 850, by the erection, at a future period, of an aisle on the north side. The design consists of a nave, side aisles, with south tower, porch, and chancel, with apsidal end. A tower and spire also form a portion of the design. The interior of the structure will have open-timbered and boarded roof, slightly stained and varnished; and bricks are employed for the external façades, with a moderate admixture of stonework. Mr. Cane, of Brighton, is the contractor for the work; and Mr. Woodman, the architect.

Cheltenham.—The contract for the buildings at the new cemetery was awarded to Messrs. Billings & Son, of this town, at the sum of 4,295*l.*, or 95*l.* above the estimate of Mr. Knight, the architect. Of the ten tenders sent in the lowest was 3,900*l.*, and the highest 5,175*l.*; the one selected hitting the medium between the two extremes. The committee were unanimous in ignoring the five lower tenders.

Uffculm (*Devon*).—The congregational chapel at Uffculm was opened on Good Friday. The building will seat 250 persons, with height for an end gallery. The style is Early English. There are a turret and entrance porch at the north-east angle. The material used for the general walling is Westleigh stone; Bath stone for the sills, tracery, copings, &c.; and bands and arches of red brick. The architect was Mr. Bidlake, of Wolverhampton; and the builders Messrs. Hart & Welland, of Uffculm, and Mr. Parish, of Tiverton. The cost was 545*l.*

Ruthin (*Denbighshire, N.W.*).—On the 31st ult., the foundation stone of a new church, dedicated to St. Peter, and erected at the sole expense of Mr. John Jesse, F.R.S., was laid at Llanbede. The style is thirteenth-century Gothic: the varied coloured materials of the locality are to be freely used. The architects are Messrs. J. Poundley & David Walker; and Mr. James Porteus, of Welshpool, is the sole contractor for the works.

Brindle Heath (*Manchester*).—The foundation stone of St. Anne's Church, Brindle Heath, has been laid on the site of the old chapel in Brindle Heath-road. This church, the foundations of which have already been put in, is to be built in brick of two colours, with stone tracery and dressings. The roofs are to be covered with Staffordshire tiles. The plan consists of nave and south aisle, south-western porch, chancel and south chancel aisle, which last is screened off for organ chamber and sacristy. The chancel is fitted with seats placed stallwise for the choir. All the nave seats face east, and are open benches. The nave is divided from the aisle by an arcade of three pointed arches, sustained by stone pillars with moulded caps and bases. The style of architecture in which the church has been designed is early geometric Gothic. The contract has been taken

by Messrs. Thackrah & Pierce, of Stockport. The architect is Mr. J. Medland Taylor, of Manchester.

Leeds.—On Easter Monday the memorial stone of Blenheim (Baptist) Chapel, was laid by the mayor of Leeds. The new building is situate at the corner of Blackman-lane, Woodhouse-lane, and is to cost upwards of 3,500*l.* It will comprise a chapel capable of seating 600 persons, a school-room, 56 feet by 30 feet, a lecture-room for week evening services, a class-room for sixty infants, four other class-rooms, three vestries, and other apartments. The front of the chapel is towards Woodhouse-lane, and will exhibit an elevation 60 feet high to the apex of the gable. The Gothic style of architecture is adopted; and, internally, the plan of the chapel will consist of a nave 40 feet wide, with transepts and an apsidal recess. In the latter, and behind the pulpit, will be a gallery for an organ (the floor of which will be level with the pulpit floor), and seats approached by a separate entrance for the choir. The architects are Messrs. Paul & Ayliffe, of Manchester, and the contractor, Mr. J. Wood, Woodhouse.

Rawmarsh (Yorkshire).—The chief stone of a new Congregational Chapel has been laid at Rawmarsh. The site is upon a vacant piece of land at the junction of Stocks-lane with the Swinton-road, near the toll-bar. The edifice (of which Messrs. Shaw & Masterton are the architects), will accommodate 380 persons, and contain a vestry capable of seating forty persons. It will be built in the Classic style of architecture, the dimensions of the interior being 34 feet by 22 feet. There will be a small gallery at the east end of the building, and space will be left for the erection of side galleries. Mr. Harper, of Masborough, is the contractor for the masonry and joiners' work. The cost of the erection is estimated at 800*l.*, towards which there is already 300*l.* in hand.

New Whittington.—A Baptist Chapel has been opened here. The chapel, according to the *Sheffield Independent*, will cost about 400*l.* The edifice was designed by Mr. T. Lister, Newbold. Inside length 40 feet by 30 feet, entire height 17 feet 6 inches. The seats are open and placed in amphitheatre form. A raised platform instead of a pulpit is introduced. One of Messrs. Stanley's stoves is used to heat the place. Behind the chapel school-rooms are erected.

Washington (Newcastle).—The foundation stone of a new Roman Catholic Chapel has been laid at Washington, with the usual ceremonies. The site is by the roadside in the village of Washington. The building is being erected from the designs of Mr. A. M. Dunn, of Newcastle, and is French Gothic in style, being of brick with stone dressings, and is expected, when completed, to afford sitting accommodation for about 700 persons.

PROVINCIAL NEWS.

Oxford.—The new Corn Exchange was inaugurated on the 8th instant. The chief stone was laid with Freemasonic ceremonial on 30th October, 1861. The architect was Mr. S. L. Seckham, the city surveyor, and the contract was taken for 2,179*l.* by Mr. Dover. The new building is considerably larger than the Town Hall. The principal entrance is by the Town Hall-yard, but it is intended to have an additional one, by Carter's-passage, from the High-street. Being without frontage to the street no expense has been lavished upon the exterior. The centre of the roof is of wood, while the sides, which slope down to the walls, are of glass. The walls are divided by pilasters, separating the main timbers of the roof into compartments; and these are subdivided into panels with semicircular arches, which are formed of brick and stone work, of several colours, there being no plastering. The sculptured stone-work, representing agricultural products, has been chiselled by Mr. O'Shea. A narrow gallery, with light iron railing, runs along the side walls, being constructed by corbellings out from the walls, and supported upon a series of arches. On the north and east sides are galleries, and below these are ranges of offices, &c. Ample provision has been made for light and warmth. Hot-water pipes are carried under the floor, and two large fire-places are fixed on the south side. The acoustic properties of the building, according to the local *Journal*, appear to be seriously defective.——The chief stone of the new Workhouse for Oxford has been laid. The building will consist of three principal ranges or blocks parallel to each other, approached by the new road in course of formation, which leads to the centre of the house. The central portion of the front range will comprise two stories, with entrance archway, surmounted by a bell-cote. This portion is allotted to the porter's day and bed rooms, clerk's and committee rooms, and the other portion of this range, forming wings on either side, will contain a board-room for the guardians, and dispensary and other offices. Beyond these will be the receiving wards and tramp wards for both sexes, with separate entrances to each from without, and also private entrances from within for the use of the officials. Passing through the front archway, in a straight line at the distance of about 100 feet, will be the main building, 258 feet long and 44 feet wide, with central corridor extending the whole length, but broken in the centre by a large hall, over which will be a tower upwards of 90 feet in height to the vane, serving the purposes of a staircase for the use of the master and matron, and of a ventilating shaft. The building will be divided into separate day-rooms and dormitories for the several classes of inmates, each class being kept quite distinct, and having its own staircase, lavatories, and yards. The aged men and women will occupy the front, and the able of both sexes the back of the building, connected with which will be yards and sheds for stone-breaking, workshops, laundry, wash-houses, &c., each class being again sub-divided. The kitchen, offices, and dining-hall will be at the back of the main building, and approached by separate covered ways for both sexes. The infirmary will be placed at the back of the whole on the higher ground, and contain separate wards for male and female patients, with nurses' rooms to each class. The fever-wards will occupy the third story, having separate staircases entered from the back. A detached chapel, of a cruciform shape, will be provided. The whole is to be built with red and white brick, with a small portion of Bath stone for cornices, brackets, tabling, &c. The staircases will be of York stone, and all the internal walls of brickwork. The dormitories will be 12 feet high. The site consists of about twelve acres of clay soil, and is on an incline: the building will be about 20 feet above the level of the Cowley-road. Mr. William Fisher is the architect, and Mr. J. C. Curtis the builder. Mr. J. Walker, of Birmingham, is the clerk of the works.

Wimpole.—The tender of Messrs. Thoday & Clayton, of Cambridge, has been accepted for the erection of new farm buildings on the Wimpole estate. The tenders were:—

	House.	Out-buildings.
Bell & Sons	£894 0 0	£592 10 0
Genison	750 0 0	590 0 0
Thoday & Clayton	748 0 0	585 0 0

Wolverhampton.—It has been resolved to enlarge the Orphan Asylum here so as to accommodate 160 orphans instead of 70. The cost of the enlargement will be 5,500*l.* Mr. Joseph Manning, of Corsham, the architect of the present building, has prepared the plans.

THE OPERA HOUSES.

Italian Opera, Covent Garden.—"Masaniello," with which the house opened, was unexceptionally presented, and gave genuine delight. M. Faure is an admirable *Pietro;* and M. Naudin (though not Mario) both sang and acted the fisherman chief with ability. The great duett in the second act was redemanded with unmistakable enthusiasm. The scene for this act, in the environs of Portici, and that for the third act, the Market-place, are especially beautiful.

Madlle. Fioretti has been successful as *Elvira* in "I Puritani," but is scarcely likely to create any *furore.* Well-trained, and endowed with a good organ, her fluency and finish of execution give pleasure; but there is a want of soul, and she fails to touch the heart of her audience. "If I were young," Rossini said some years ago to Madame Alboni, "I would make you love me, break your heart, and leave you the finest singer in the world." A similar process would greatly improve Madlle. Fioretti.

Her Majesty's Theatre.—We have received two or three letters as to the new proscenium frame here. We give part of one of them, that the merit or otherwise may rest on the right shoulders:—

"The decorations of this theatre were not of the high, thoughtful character of Giotto's works, or of the modern pre-Raffaellite decoratists; nevertheless, they were pleasant in tone of colour: taken as a whole they were warm and rich, and served as an excellent antidote to the prevalent taste for white and gold; for one is at a loss to understand what people can admire in a decoration without colour, since there cannot possibly be any artistic merit in such work. The old decorations have been repainted by Messrs. Green & King, and some of the worst parts painted out and better designs executed by their artist, Mr. Devilder. The whole as it now appears is certainly a very pleasant effect of colour, showing most thoroughly the superiority of flat to relief decoration. It is a great pity the design prepared by the above-mentioned firm for a proscenium frame has not been carried out. It possessed the merit of wholly expressing the constructive idea of a frame, viz., horizontal and vertical beams, with the extra support of a corner plate set inside to strengthen the framing. But it appears the house architect possesses a certain traditional right to design all alterations he pleases; and my especial business in writing this letter to you is to inform the architectural public at large that neither the decorators of the establishment nor the scenic artist are in any way responsible for the frame now put up. Of the taste thereof I will not speak: the artistic public will judge. The horizontal and vertical sides of the frame run into one another by a curve: thus there is one continuous, unbroken moulding. It has the appearance of a badly-constructed stone arch without capital. As it now is, it is neither arch nor frame. Had even the corners been cut diagonally, we should have yet had something approaching a wood construction."

GEOMETRICAL PROBLEM IN GOTHIC ARCHITECTURE.

We have received several demonstrations of Mr. Tarn's problem, p. 221, *ante,* and give the following from Halifax:—

Put DO$=\beta$: radius of wheel circle$=r$, and AB$=$XE$=6\,a$.

Then $(6\,a+r)^2=(7\,a)^2+\beta^2$

And $(6a-r)^2=(3\,a)^2+\beta^2$

Or $36\,a^2+12\,ar+r^2=49\,a^2+\beta^2$

And $36\,a^2-12\,ar+r^2=9\,a^2+\beta^2$

By subtraction: $24\,ar=40\,a^2$

$\therefore r=\frac{5}{6}\,a$

And $6\,a-r=\text{BO}=6\,a-\frac{5}{6}\,a=4\,a+\frac{1}{6}\,a$

BO therefore $=\frac{2}{3}+\frac{1}{6}$ of $\frac{1}{3}$ of AB.

Q. E. D.

TRIMMING SLATES.

I was pleased a short time since to observe the manner in which some slaters were "punching" *two* slates, for one, under the usual mode; which old mode consists of marking with a gauge the slates where they have to be punched (this takes quite as long as the punching). Their new mode of operation was to sit astride a plank, nail two pieces of wood thereon at a given distance apart, say 10 inches for duchess: in this manner they knew instantly when to punch the slate. I think if you were to make this known it would be of service to the trade. The men said it was their "patent."

L. F.

REGENT'S PARK ORCHESTRA.

I have seen with much pleasure the orchestra in course of erection in the Regent's Park. When in Paris last summer, I was much struck with the admirable arrangement of the chairs round the band, which in the afternoon performed a choice selection of music in the Tuileries Gardens. They were ranged *in the form of an amphitheatre,* with passages left at intervals for the ingress and egress of the public; each entrance being guarded so as to keep out children unattended by their parents or nurses. Each person occupying a chair paid two or three sous for the accommodation, and thus was enabled to listen to the music with comfort, while those who only attended for promenade had ample opportunity for so doing, and listening to as much of the music as they thought proper. I would propose a similar arrangement for seating the public round the orchestra in the Regent's Park, and I feel assured it would obtain approval if a trial were made.

By the present system, or rather want of system, the chairs are so placed that the noisy children and unmusical portion of the public walk and run in between them so as to utterly prevent the sitters from enjoying the sound of the music and the sight of the orchestra. If you think this suggestion worthy of notice, will you spare a corner in your forthcoming number, as time presses; and unless the Government have their attention called to the matter before the orchestra is completed, I fear they will refuse to take it into consideration this season.

Eagle Eye.

ROTHERHAM WATER BILL.

SIR,—I presume it is another of Mr. Hawksley's "theories" to suppose that your readers will be content to have "dust thrown in their eyes" by diverting their attention from the real question at issue. I confess I have more confidence in their common sense. If Mr. H. will refer to my letter, and read it carefully, I hope he will be able to discover that I never accused him of giving any evidence "relating to the Worksop waterworks." This would have been an absurdity on my part, inasmuch as in my letter I distinctly say we have *no waterworks* in Worksop. Will Mr. Hawksley say that he did *not*, in his evidence before the Committee of the House of Commons *on the "Rotherham Water Bill,"* say that the consumption of water *in Worksop* was eighteen gallons per head daily?

My remarks in reference to deodorizing works were simply to show that works may be constructed, by those who understand such matters, for 1s. 6d. per head, in contrast to Mr. Hawksley's estimate of 5s. per head.

I can only say that I never intended "to propagate a manifestly slanderous imputation," unless my attempt to show how little reliance can be placed on the evidence of some even professional men, can be so construed.

I did not conceive that I had anything to communicate to Mr. H. individually, which might not be equally beneficial to the public; or, at least, to those who are in the habit of giving evidence on such matters.

ROBERT WHITE
(*Clerk to the Worksop Local Board of Health*).

THE CUPOLA.

At page 257 Mr. Wigley is reported to have made the astounding assertion that the "cupola was to be found in many of the churches of the East: *it was borrowed from the Arabs*; and afterwards introduced into Southern Europe." Will Mr. Wigley be so obliging as to state the grounds for this paragraph, and also what modification he thinks should be made in his remarks upon the word "basilica?" Does he mean to deny by inference that the basilica was the type of all Christian churches?

G. V. R.

FOURTH BLOCK OF IMPROVED DWELLINGS IN LEEDS.

THE society established two or three years ago for the erection of improved dwellings for the working classes of Leeds have resolved to commence a fourth block of houses of a substantial, healthy, and well-ventilated character. The first block of ten model dwellings was erected at Beeston-hill, the cost to the purchaser being about 150*l.* each. Last year other eight houses were built on Burley Lawn, the cost being about 160*l.* each; and the society are at present engaged in building another block of fifteen houses in Langham-street, new Wortley, which are expected to cost about 142*l.* each. All the two first blocks of houses have readily been purchased, and part of the third block are bespoke, but the want has been felt of similar improved dwellings in a more central position, and these are now about to be provided by a fourth block of eighteen houses in Meadow-lane. These houses are intended for a numerous class of men whose occupations render it impossible that they can reside in the suburbs of the town. The estimated cost is from 180*l.* to 190*l.*; and each house will be provided with every convenience usually found in the best "through" houses. There will be a garden in front, and also a back yard and other conveniences, with a promenade round the entire estate. On the ground floor there will be kitchen and sitting-room or parlour, the former being 16 feet 9 inches by 13 feet, and the parlour 13 feet 4 inches by 13 feet 5 inches; the passage being 3 feet wide. Upstairs there are to be two bedrooms, one of which may be made into two. This room is 16 feet 9 inches by 13 feet, and the smaller one 13 feet 5 inches by 13 feet. The basement will contain a large scullery, pantry, and coal-cellar. The rooms will be lofty and well ventilated, and will contain every convenience for the comfort of the future inmates. Of the eighteen houses, sixteen are already taken, and the deposits, amounting to 500*l.*, paid; and, for the remaining two, purchasers will no doubt be found before the houses are finished. Additional land has been secured; and the committee are prepared to extend the scheme, should they find there is a desire that they should do so. The society have no wish to make a profit, their object simply being to enable the working classes to obtain better and more healthy houses for themselves upon easy terms. Supposing a man can make a deposit of 40*l.*, the remaining sum necessary to complete the building, say 120*l.* to 140*l.*, would be advanced by a building society. He can then enter into possession; and, by a payment of 5s. or 5s. 6d. a-week, or a little more than what he would otherwise have to pay for rent, in thirteen years and a half he would become entitled to the house; and as, during that time, he would have nothing to pay for rent, he would practically obtain a good substantial dwelling for the original deposit, exclusive of interest upon this sum. We observe that this society also has adopted the axiom—"As the Homes, so the People,"—an axiom which, notwithstanding its translation and use in the French language, and its re-translation back again into English from its French rendering, originated in the *Builder*.

MONUMENTAL.

A PORTSMOUTH correspondent of the *Hampshire Independent* says:—"I hasten to make the public acquainted with a design for a monument to the memory of the late Admiral Sir Charles Napier, which has just been submitted to a committee of gentlemen, who have gathered 250*l.* in this borough for the purpose of erecting a monument to the memory of the gallant admiral. The design is as follows;—A square basement of Portland stone, and a slender shaft of red granite, rising to the height of 28 feet; and upon the summit of the shaft a colossal figure of a lion. Could any man frame anything to look worse? We may really expect next to hear of a brazen elephant stuck upon the top of a flag staff. The very idea of a shaft only 12 inches in diameter, surmounted by a lion 7 feet in length from tail to snout, is enough to sicken one. It is, however, a fact that the committee have expressed their approbation of the design, and propose to erect it on the Southsea Esplanade. I feel bound, however, to state that the architect is not a Portsmouth man, but a gentleman who replied to an advertisement which the committee inserted in a Birmingham journal."——The excavations at Wotton-under-Edge for laying the foundation of the Tyndal memorial were commenced on the 9th instant, on North Nibley Hill, under the superintendence of the architect, Mr. Jackson, of Uley. ——Mr. Woolner has been commissioned to execute a colossal statue in bronze of the late W. Godley, founder of the Canterbury Settlement, New Zealand; to be erected in the centre of the Cathedral-square, Christchurch, New Zealand.

PROCEEDINGS UNDER THE METROPOLITAN BUILDING ACT.

RE INSUFFICIENT WORK.

AT the Worship-street Police-court, a summons was taken out by Mr. Johnson, the surveyor for the east district of Hackney, under the first schedule of the Building Act, against, Messrs. Skinner, Brothers, of Clapton and South Hackney, builders and contractors, alleging that the recesses in two houses building by them in Terrace-road, South Hackney, were larger than allowed by the Act, and alleging also that two piers were built with insufficient bond.

The case was first gone into on the 24th March, when the plaintiff, after a cross-examination withdrew that part of the charge relating to the recesses, and admitted they were not too large, unless the piers, which he complained were built with insufficient bond, were pulled down. He said he had acted upon the written intimation of a discharged workman of the defendants, and in his evidence stated that the piers were built 9 inches and 4 inches without any tie or bond together. He stated also that he had pulled down one pier 18 inches from the top, which was denied by the defendants, who stated that he only loosened a small portion and pushed it back into its place.

For the defendants Mr. Angell called two surveyors, Mr. Gliddon and Mr. Chantrell, who deposed that they had caused the pier in question to be pulled down 2 feet from the top, and they had found it was properly bonded together for that portion.

The magistrate considered that he had evidence before him that 18 inches of the 2 feet had been pulled down and rebuilt; and was not satisfied that the remainder of the pier was properly bonded. He therefore adjourned the case till the 1st inst., in order that a disinterested surveyor might examine the work and report to him; the plaintiff to give to the defendants twenty-four hours' notice.

The plaintiff accordingly appointed Mr. Wales, of Cassland House, to examine the work, who did so on Tuesday last. He had the whole of one pier pulled down 4½ inches thick, and a small portion of the second pier.

At the adjourned hearing,—

For the plaintiff, Mr. Wright, surveyor, of Hampstead and the City, was called, and stated that he was present while the work was being pulled down and examined by Mr. Wales. In witness's opinion, although there were headers binding the 9-inch to the 4-inch work, there were not sufficient of them, and the work was not properly bonded. In cross-examination, he said he did not attend the examination of the work professionally, but as a friend of the district surveyor.

Mr. Angell, previous to calling for the defence the surveyors who were present at the examination of the work, dwelt on the varying statements made by Mr. Johnson. First, he alleged that the recesses were too large and then abandoned the charge. Then he stated that the work was wholly without bond, while the evidence he would produce to-day would prove that it was not only bonded, but properly so. The case had been adjourned that an independent surveyor might examine the work; but the plaintiff failed to produce him. That fact would justify them in the conclusion that the evidence of Mr. Wales, if he had been there, would be against the plaintiff.

Mr. Cooke interposed, and said he would save the necessity for calling witnesses. The onus of proof in a case like this rested on the plaintiff; and in his (Mr. Cooke's) opinion, Mr. Johnson had not proved that the work had not been properly done. The summons would therefore be dismissed. On application for costs, Mr. Cooke said he thought it was not a case in which he could give costs, as it would imply censure on the district surveyor.

RECOVERY OF ARCHITECTS' CHARGES.

HORNBLOWER v. BIDDER.

THIS was an action tried at South Lancashire Assizes, before Mr. Baron Martin. The plaintiff was an architect, carrying on business in Liverpool; the defendant a gentleman who wished to have a house built at Mitcham, near London. The way in which the litigants were brought together was from the plaintiff having built a house at Southport for a friend of the defendant, and which the defendant admired. After considerable correspondence had taken place, the defendant instructed the plaintiff to draw plans, make out a specification, and prepare the quantities for persons desirous of tendering for the work. The amount of even the lowest tender very much exceeded the expectation of Mr. Bidder, whose wife had suggested many alterations from the plans originally contemplated by Mr. Hornblower. When the prospective expense of the building was ascertained the project was dropped, and the brother of the defendant wrote to the plaintiff requesting that his account might be sent in, that he might forward it to the defendant, who was expected shortly to return from France. The plaintiff stated in evidence that he had built a house for a Mr. Brown, at Southport, and was requested to send for inspection, by the defendant, the traces of his plans, the copy of the contract, and other particulars as to the erection and cost of Mr. Brown's house, which he did by railway. Mr. Brown's house cost 2,500*l.*, and Mr. Bidder requiring a mansion twice the size of that, the plaintiff said that, of course, such a building would cost twice as much. Mr. Hornblower, having never built any house at Mitcham, was not prepared to fix any definite sum, but formed his opinion from the result of his experience in Lancashire and adjacent counties. The plans specifications, working drawings, quantities, &c., were completed and delivered in March, 1860. The London tenders were sent in, one of which was 11,384*l.* Mr. Parker, a Liverpool builder, sent in a tender for 9,000*l.* When a negotiation between Mr. Parker and the defendant was entered into as to the work to be done, the latter offered certain land contiguous to that on which the new house was to be built in part payment, but that offer was declined and the negotiation broken. Under cross-examination the plaintiff admitted that the defendant had repeatedly expressed his wish that the cost of the building should not exceed 5,000*l.*; but Mr. Hornblower told him the work required could not be done for the money specified. Re-examined: The plans were frequently altered and enlarged at the suggestion of Mrs. Bidder, the defendant's wife. Several witnesses were called to prove that the charges of the plaintiff were such as the profession usually made. Mr. Brett, Q.C., assisted by Mr. Jones, appeared for the plaintiff, and Mr. James, Q.C., assisted by Mr. Conway, conducted the defence. Counsel for the defendant, after addressing the jury, called witnesses to prove that the plaintiff positively agreed to build the house in question for a sum not exceeding 5,000*l.*, and that it was on that ground only that he was employed. The defendant and his brother were called, and they both stated that the conditions on which plaintiff was engaged was that the cost of the house contemplated by the defendant was not to exceed 5,000*l.* His lordship having summed up, the jury found a verdict for the plaintiff, damages 652*l.* 19s. 4d.

Books Received.

A Dictionary of Chemistry and the Allied Branches of other Sciences. By HENRY WATTS, F.C.S. London: Longman & Co., 1863. Parts I. and II.

ALTHOUGH Ure's Dictionary of Chemistry and Mineralogy has been made use of by the editor and compiler, this work must be regarded as essentially a new one, since the advancing changes in chemistry necessitated the rewriting of the greater portion of it. To this end the editor, who is himself a very competent hand at such a work, both

as a man of science and as a writer, being the editor of the Journal of the Chemical Society, is assisted by no less excellent authorities, among whom we observe Professors Hofmann, Frankland, Odling, Atkinson, and Roscoe. And that these names are not merely made use of in an indefinite way to enhance the repute of the work is assured by the fact that the respective articles contributed by each has his initials attached. There is no doubt of the importance and value of such a book; and if the two parts already published be any criterion of the manner in which the whole will be done, as we have no doubt it is; this work will be both an elaborate and an accurate one, in which the present state of chemistry will be fairly represented.

Miscellanea.

Wandsworth Working Men's Club.—W. B. Linfield writes,—We have succeeded in establishing a cricket club among the members of the above, for their recreation during the summer months; and this we think will induce many young men to join the working men's club. They can belong to both for the small sum of 2d. per week.

American Scenery and Studies.—Messrs. Foster & Son, of Pall-mall, are about to sell a large number of Mr. Cropsey's pictures of American scenery, in consequence of the return of the artist to America for a time. There will be a private view of them on the 25th, and the sale will take place a few days afterwards. The collection includes many very charming studies, which, being small, will fall within the reach of moderate buyers.

Royal Horticultural Society.—The azalea and rose show of this society took place on Wednesday. The plants were in excellent condition, and the weather was all that could be desired. First prizes were awarded to Messrs. Veitch & Son, Exeter and Chelsea; to Mr. Thomas Todman, gardener to Mr. R. Hudson, Clapham-common; to Mr. Charles Turner, Slough; to Messrs. Paul & Son, the Old Nurseries, Cheshunt, Herts; to Mr. H. Lamb, gardener to Captain Cahill, Southall, Middlesex; to Mr. J. Butcher, 1, South-street, Camberwell; and to Mr. William Bull.

The Founder of the Railway System.—The committee of the United Kingdom Railway Officers' and Servants' Association, London, state that it has long been considered most desirable that there should be a national demonstration in honour of the founder of the railway system, and they thought that no better day could be fixed on than the anniversary of the birth of that eminent man; and that instead of erecting a statue, it would be better to raise a fund to be called "The George Stephenson Fund," out of which to grant assistance and annuities to the members of this association, who from accident, old age, or other emergency, may be unable to perform their duties. The Lord Mayor of London, one of the vice-presidents, has expressed his approval, and has given the use of the Egyptian Hall, Mansion House, for the purpose. Some handsome sums have already been paid and promised, which, with others that may be sent in before June 9th, will be announced on that day.

College of the Ladies' Sanitary Association.—A College of the Ladies' Sanitary Association has been opened for the purpose of affording instruction to ladies in the laws of life and health. The committee of the Association state that they feel strongly the importance of providing such instruction for women on whose personal exertion and influence the accomplishment of all domestic sanitary improvements must ultimately depend. To carry out this object courses of lectures have been instituted for the instruction of ladies engaged in education, district-visiting, and like pursuits, as well as for all others who desire an acquaintance with the elements of physiology and chemistry, and their application to the preservation of individual and public health. The lectures will include three subjects,—Chemistry, by Dr. Wood; Physiology, by Mr. Marshall, F.R.S.; and Public Health, by Dr. Richardson. The fee to any single course for one term will be 1*l.* 1*s*; fee to the members of the Association for the three courses for one term, 2*l.* 2*s.*; fee to ladies' schools, for six tickets, 3*l.* 3*s.* The secretary is Miss E. S. Griffiths, office of the Ladies' Sanitary Association, 14*a*, Princes-street, Cavendish-square, W. The printed announcement is signed Georgina Cowper, president; Elizabeth Sutherland, Janet Chambers, honorary secretaries.

Institution of Civil Engineers of Ireland.—A general meeting of this institution was held last week in the Museum Buildings, Trinity College. Dr. Downing, vice-president, gave an account of the works for the restoration of the Middle Level drainage, the discussion on which was postponed.

Prince Napoleon's Mansion, Paris.—Some surprise has been created in Paris by the announcement in the papers that the Greco-Roman mansion constructed by Prince Napoleon in the Avenue Montagne, Champs Elysées, is to be offered for sale by auction on the 9th of June next. The upset price is fixed at 900,000f. (36,000*l.*).

Warrington School of Art.—The students of this School of Art have unitedly subscribed for and presented to Mr. Thomson a handsome drawing-room time-piece on the occasion of his marriage, and in testimony of their appreciation of his services as the head of the Warrington School of Art.

Liverpool Architectural Society.—At the fortnightly meeting of this society, held on Wednesday evening, at the Royal Institution, Colquitt-street, Mr. W. H. Weightman presided. A second part of "Notes on Rome and her Edifices," was read by Mr. W. H. Picton, who described the architectural properties of the principal ancient and modern builings in the Eternal City. A discussion followed, in which Messrs. Kilpin, J. A. Picton, the chairman, and Mr. Hay took part, after which the meeting adjourned.

Glasgow Architectural Society.—A meeting of the Glasgow Architectural Society was held on Monday night, in the Scottish Exhibition Rooms, Bath-street. The chair was occupied by Mr. Alexander Thompson, president of the society, and there was a numerous attendance of the members. Owing to the society being engaged the whole evening in the discussion of some preliminary business, the reading of a paper "On Paisley Abbey and its Restoration," was postponed to the next meeting.

The Mid-Level Compensation Case.—A Norwich special jury, under the presidency of Lord Chief Justice Earle, have been engaged for five days in investigating an action—Coe *v.* Wise, clerk to the Mid-Level Commissioners, for negligence in not making and maintaining the outlet sluice of the Mid-Level, by reason of which the tidal waters broke through and ran over the sluice, submerging the plaintiff's land. The importance of this trial may be estimated from the fact that no fewer than 107 compensation claims, involving 70,000*l.* damage, have been awaiting its decision. At the close of the trial, the Lord Chief Justice put it to the jury,—First, was damage caused to the plaintiff by the absence of due care and skill on the part of the defendant in making the sluice; secondly, in maintaining the sluice; thirdly, in providing remedies against mischief after the sluice was destroyed; and, fourthly, by reason that no puddle clay wall was made along each side of the banks of the cut?—The verdict was declared for the defendant on the first issue, and for the plaintiff on the last three issues;—virtually a verdict for the plaintiff. The question of damages is to be settled out of court.

Registration of Births and Deaths in Ireland.—Sir Robert Peel's Bill has now passed both Houses of Parliament. Its general features, according to the *British and Foreign Medico-Chirurgical Review* for April, are the same as those of the English Act; and, like that, it is based upon the Poor-Law machinery. The registration of marriages is not included. Parents or others must give notice of births, so that the registration of births will be in some measure compulsory. Certificates of the "cause" of death must also be given by the medical attendants of those who die. This is not left, as in England, to the goodwill and public spirit of the medical profession, but is to be enforced by the Act. True, no penalty for disobedience is mentioned, but a refusal to "fill up and return" the certificate will be a misdemeanour, and as such punishable by law. The endeavours of the British Medical Association, and the Social Science Association, to improve the Bill have not been successful, and for the present red tape is triumphant. If the public-health movement now commencing in Ireland should spread as it has done here, the defects of the registration machinery, as remarked by the *Chirurgical Review*, will become as apparent there as they have long been to us. It now only remains for the scientific bodies—if they are in earnest—to seek to introduce gradually into the English system those reforms which have been for three years proposed by the Social Science Association, and sanctioned by the most competent judges.

Architectural Association.—The annual *conversazione* will be held this, Friday evening, at the House in Conduit-street.

Lectures; Architectural Museum.—On Tuesday evening next the Very Rev. the Dean of Ely will lecture on the Ely Lantern. It ought to be known that the lectures here commence this session at *half-past seven* o'clock, not eight, as heretofore. Cards of admission can be obtained, free, at our office.

Blackburn: Borough Surveyor.—The Borough Surveyor of Blackburn, Mr. Brierley, after nearly six years' service, has resigned his office, and has been appointed engineer to the corporation, it being considered desirable to retain him to continue to completion the sewerage and other improvement works now being carried on.

Busts of the Prince and Princess of Wales.—The Crystal Palace bust of the Princess now being issued finds favour with many, and is certainly a very agreeable work.——Mr. Brucciani, of Russell-street, Covent Garden, has sent us a pair of busts of the Prince and Princess, just published by him: that of the Princess is the better of the two.

Withernsea.—How to Restore.—In a recent gale one of the four pinnacles of the tower of the restored church at Withernsea was blown down. A parish meeting was called to determine upon the best course to be taken in consequence of this disaster. There was a long and (for Withernsea) an animated discussion; and ultimately it was resolved—what does the reader think?—"To put the pinnacle up again, of course," he will exclaim. Nothing of the kind. It was gravely resolved—"That *the three pinnacles still standing should be taken down!*" And this resolution has actually been carried out in the present week. The correspondent who forwards this adds: "It is only about three or four years since the church was restored, which makes the affair even worse."

The Metropolitan Railway and Claims for Compensation.—The Report of the Board of Trade on the bill introduced for the extension of the Metropolitan Railway, and to enable the Company to purchase additional lands, states that section 12 of the bill provides that in cases of claims for compensation against the company, under the 68th section of the Lands Clauses Act, if the claim exceed 50*l.*, and the amount be settled by arbitration, or a jury, at the sum, or less than the sum, offered by the company, the claimant shall be liable to all the costs of and attendant upon the arbitration or settlement by a jury, unless the arbitrator or the jury otherwise determine. This, it is reported, is a departure from the provisions of the Lands Clauses Act, under the 34th and 53rd sections of which, in the same circumstances, the costs of the arbitrators, or of the inquiry by a jury, would be borne by the two parties in equal proportions, and each party would bear his own costs incident to the arbitration or inquiry. The grounds for such proposed departure from the general law appear to require consideration.

Illumination of English Embassy House, Paris.—On the occasion of a banquet given by Lord Cowley, in Paris, in honour of the marriage of the Prince of Wales, the gardens were illuminated and decorated with crystal glass in emblematic colours on the system which has been carried out by Messrs. Defries & Sons. The centre device represented the Arms of the Prince of Wales within a garter, containing the words Albert and Alexandra, in blue and white crystal glass, and surrounded by laurel leaves, supported on either side with the flags of England and Denmark, united with a true lover's knot: on the right and left hand sides were the monograms A. A., encircled with a garter of prismatic coloured glass, and surmounted with the Royal Crown of England, above which were two very large Brunswick stars, the centre containing the Cross of St. George, with the motto, *Honi soit qui mal y pense*. These stars were manufactured of cut crystal glass, and contained upwards of 3,000 pieces. Under the centre were the initials of the Emperor and Empress, and supported on either side with the flags of France in their true colours, executed in crystal glass, under which were festoons of crystal glass, looped up by means of amber crystal tassels and cords to a band of gold-coloured glass, 50 feet long. Immediately over the centre were the words, "Long live the Prince and Princess of Wales," surmounted with a plume of feathers 9 feet high, over which were the words, in 2 feet crystal letters, "God save the Queen," above which were displayed the Royal Arms of England, supported on either side with the flags of England and Denmark.

SOUTH KENSINGTON MUSEUM.—During the week ending 11th April, 1863, all free days, 20,076 persons have visited the museum.

ST. DENIS.—The French Emperor has given orders that the works for the restoration of the Abbey of St. Denis, which were suspended for a time, shall be recommenced with increased activity. The church is to be "restored" in every part.

JOINERS' STRIKE.—A number of the journeymen joiners in Dumfries are at present out on strike. It appears the men have demanded from their employers that in future they drop working on Saturday afternoon at two o'clock,—but that no reduction is to be made in their wages, the general rate at present being 21s. per week.

NEW READING-ROOM AT THE PUBLIC RECORD OFFICE.—Preparations are being made for the application of the Parliamentary grant of 20,000*l*., portion of a total estimate of 30,000*l*., for the purpose of adding a south-western wing to the Record Repository on the Rolls estate, Fetter-lane. It is intended in the new block of buildings to erect a reading-room for the special accommodation of the literary searchers, modelled on the plan of the room at the British Museum.

SCHOOL DESKS AND SEATS.—Messrs. A. & R. Dennett & Co. write:—"Will you allow us to inform A. Williams (named in your impression of April 4th, as having patented a desk and form that will, by the use of iron rods as specified, either form a writing-desk, form with back, or dining-table at pleasure), that we have for the last twelve years been constantly making the same identical thing, and have had a model of same in the South Kensington Exhibition for several years. We hope A. W. has not been at any great expense in getting the patent."

THE IRON AND COPPER TRADES OF LAKE SUPERIOR.—The iron trade of Lake Superior is growing in importance. During last year 115,721 tons of iron ore and 8,500 tons of pig-iron were shipped for market. The value of rough copper shipped from the same region in 1862 is stated at 4,000,000 dollars. The yield of the copper mines of the district during the year 1862 amounted to 9,000 tons of ore; being a decrease of more than 10 per cent. as compared with the preceding year. This decrease is, however, partly compensated by the higher produce of the ore.

DISCOVERY OF ROMAN TOMBS AT CAMBRIDGE. The local *Chronicle* announces the discovery of some interesting relics about half a mile from the Via Devana, or Huntingdon-road. Workmen, in digging for the black nodules called coprolites, which are converted into manure, came upon a stone tomb, with its tenant, and the usual accompaniments of vases, glass bottles, pottery, and the like. The sarcophagus is made of great oolite, seemingly Barnac stone, and contains the skeleton of a female. Another stone coffin has since been met with, containing a male skeleton, but the stone was so rotten that it has unfortunately been almost destroyed by the workmen's picks. The perfect one has been safely removed to the Anatomical Schools.

ARCHÆOLOGICAL INSTITUTE. — An ordinary meeting of the members of this institute was held on Friday afternoon in their rooms in Suffolk-street; the Rev. Dr. Bock in the chair. The first paper was a communication to Mr. Way, reporting the state of progress of the excavations at Wroxeter, from Dr. Johnson, one of the excavation committee. In some few diggings that had been made, the site of the town-hall was found, and the cemetery, the extent of which was traced. Among the articles found were some blown glass, so well manufactured that it might be mistaken for the work of recent times. Mr. Baker then read a paper describing the results of some researches among the ruins of Beaujeau Abbey, and the discovery of the supposed tomb of Isabella, the first wife of Richard Duke of Cornwall, the King of the Romans. Dr. Bock mentioned some curious facts relating to the silver crown with which the King of the Romans was crowned. It is now at Aix-la-Chapelle; and it appears from the researches of a Dr. Boch, a German, whom the Emperor of Austria has commissioned to examine the imperial archives, that the crown was made in England by English workmen, and was carried to Germany by the Duke of Cornwall to be used in his coronation. The same silver crown was afterwards used in crowning the Emperors of Germany, who were crowned at Aix-la-Chapelle, first with the iron crown, then with the silver crown, and afterwards at Rome with the golden crown by the Pope. Dr. Bock cited instances to prove that English workmen were generally employed for the execution of the choicest works in the Mediæval period.

THE "NORWICH GATES."—The gates have been presented to the Prince of Wales. In accepting them his Royal Highness said,—"Connected intimately as I am with Norfolk, I regard with pride so beautiful a specimen of Norwich workmanship and art, and this feeling adds to the pleasure I could not fail to experience in accepting any offering made by a large body of persons belonging to every class, but animated by a common feeling of affectionate good-will towards myself and the Princess."

AN OIL WELL IN WALES.—An interesting discovery has just been made at Blaina, Monmouthshire. As one of the persons employed by Mr. Lewis, a contractor, was pumping water from a well on his master's premises, he noticed oil on the surface of the water. Oil and water continued flowing for some time, and about four gallons of oil were ultimately obtained. Excavations in the vicinity of the well show the soil to be of that boggy nature which is usual where oils are found. It has been determined to have the spring fully explored.

CITY HOUSE PROPERTY AND CITY IMPROVEMENTS.—On Saturday, at the London Sessions, a compensation case was tried in reference to a public-house, known as the Wellington, at the corner of Seething-lane, Tower-street, and a house adjoining, required by the corporation to be pulled down for the purpose of improving that thoroughfare. For the claimants several surveyors were called who valued the property at from 7,700*l*. to 8,000*l*., whilst for the City it was contended that for so small a space the utmost value was from 4,800*l*. to 5,000*l*. The jury took the medium course, and awarded 6,600*l*.

WORKING MEN'S HALL, SHREWSBURY.—This new building has been opened. Mrs. Wightman was the originator of this building. A little book, entitled "Haste to the Rescue," was published by her, and soon met such a sale as to realize the sum of 700*l*., which she appropriated for the building of a hall for working men. Her efforts were largely seconded by the public, and the result is a building, which a little further stretch of public liberality will make freehold property. The style of the building is an adaptation of the Italian Mediæval. It is of red brick, with particoloured brick and stone dressings, and encaustic tiles; marble shafts to the window and porch columns. It has a frontage to Princess-street of 36 feet, extending backwards to College-hill, 125 feet. The entrance is by a recessed porch in the tower, which is 65 feet high to the summit of the roof. The basement contains baths and lavatory: there are rooms for night schools; a reading-room for a library, where papers and periodicals will be supplied; a room for friendly societies; and a large common room where coffee, &c., will be supplied. There is also a large lecture-hall, where the weekly meetings of the institution will be held. This room is 66 feet long, 42 feet wide, and 23 feet high. Mr. Treasure, of Newport, erected the building, according to the plans and specifications of the architect, Mr. Randal, of Shrewsbury, for the sum of 3,120*l*.

THE BICENTENARY MEMORIAL.—The first annual meeting was held at the Manchester Town Hall, on Thursday in last week. Mr. Abraham Haworth presided, and said that they intended erecting in Lancashire thirty chapels to commemorate the bicentenary of nonconformity. The memorial fund amounted to 196,000*l*. Mr. G. Hadfield, M.P., had initiated a local fund, to which he gave 3,000*l*. for chapel extension in Lancashire and Chesire, and 17,567*l*. had been raised for this object. There had been four chapels completed and opened during the past year, namely at Bolton, Clitheroe, Lytham, and Southport. There were six chapels in course of erection, at Barrow-in-Furness, West Derby, Lymm, Morecambe, Preston, and Woolton. The nineteen chapels contemplated, for which sums were reserved until the plans were approved, were at Adlington, Ashton-in-Makerfield, Dukinfield, Bolton, Bollington, Kirkham, Liverpool (3), Longridge, Manchester (3), Moorside, Oldham, Royton, St. Helen's, Stubbins, and Tottington. The entire outlay upon the thirty chapels, when completed, including the local subscriptions and the grants of the committee, would be at least 100,000*l*. The committee had assisted in the examination of sites, plans, specifications, and trust-deeds of the chapels. Kindred societies to this occupied other spheres. Statistics, which had been carefully compiled, showed that the amount expended in Great Britain and Ireland during the year 1861, on congregational chapels, schools, and colleges, was not less than 215,000*l*.

PARIS.—Workmen are now actively engaged in preparing two large rooms at the Louvre, on the side towards the colonnade, formerly occupied by the Spanish Museum, to receive the paintings of the Campana collection. Workmen have likewise been employed for some days in taking mouldings of the sculptured ornaments of the long gallery of the Louvre, to serve as models in the outside decorations of the new buildings of the Tuileries.

TENDERS.

For Baptist Chapel, Wolverhampton. Mr. George Bidlake, architect:—

Elliott & Whitfield	£2,640 0 0
Trow & Sons	2,457 0 0
Heveningham	2,400 0 0
Palmer	2,381 15 0
Burkitt (accepted)	2,356 0 0

For building Congregational Chapel, Shrewsbury. Messrs. Bidlake & Spaull, architects, Oswestry:—

Cross	£4,870 0 0
Barnsley	4,427 0 0
Everal & Morris	4,216 0 0
Treasure	3,428 2 7
Trow (accepted)	3,392 0 0

For building six houses, Wolverhampton. Mr. George Bidlake, architect:—

Burkitt	£2,250 0 0
Thompson	2,240 0 0
Palmer	2,186 0 0
Elliott & Whitfield	2,181 0 0
Heveningham	1,990 0 0
Whiston	1,945 0 0

For alterations and additions to be done for Mr. E. Futvoye, No. 45, Avenue-road, St. John's Wood, under Mr. J. S. Donaldson, architect:—

Kelly	£787 5 8
Stimpson	785 0 0
Fish	780 0 0
T. Tozer	763 0 0

For a new house, Leigh Park, near Havant. Mr. R.W. Drew, M.A., architect. Quantities supplied by Mr. J. A. Bunker:—

Wheeler	£13,025 0 0
Downs	12,492 0 0
Lawrence	11,929 0 0
Deacon	11,743 0 0
Turner & Sons	11,345 0 0
Trollope & Sons	11,282 0 0
Futcher	10,599 0 0
Rogers & Booth	10,100 0 0

For the erection of a new Town-hall, at Bridgwater:—

Keitch	£2,390 0 0
Bevan & Co.	2,289 0 0
Chant	2,170 0 0
Searle	2,120 0 0
Brock	2,045 0 0
Snewbrooks & Son (accepted)	1,994 0 0

For building house and shop at Upper Holloway, for Mr. Bowry. Messrs. Broad, Pritchard, & Wiltshire, architects —

Turpin	£795 0 0
Heath	550 0 0
Brown	536 0 0

For intended public house at East Ham, Essex, for Mr. W. Honeyman. Mr. John M. Dean, architect, Stratford:—

Brittain	£446 0 0
Martin	436 0 0
Rivett	383 0 0
Davey (accepted)	345 0 0

For building house for Mr. R. Poole, Bow-road. Mr. Green, architect:—

Tolley, jun.	£467 0 0
Marshall	458 0 0
Callow	449 0 0
Waters & Sater	430 0 0
Bish	365 0 0
James & Ashton	325 0 0

For a residence at Plumstead, for Mr. Stone. Messrs. Gosling & Son, Architects. Quantities not supplied:—

Nightingale	£471 0 0
Sounex	426 0 0
Griffin	405 0 0
Roberts & Strange	403 0 0
Sutton	395 0 0
Wickens	393 0 0

For United Presbyterian Church, Aldershott. Mr. G. B. Musselwhite, architect:—

Ecott	£1,953 0 0
J. & G. Goddard	1,958 0 0
Terry & Co.	1,884 15 0
Martin (accepted)	1,836 0 0

For new iron-foundry, &c., Basingstoke, for Mr. J. B. Soper, engineer. Mr. G. B. Musselwhite, architect:—

Nicholls & Son	£1,211 15 6
Strong	1,168 0 0
Thorne	1,067 0 0
Pritchard	986 0 0
Jennings	900 0 0
Budden (accepted)	897 10 0

For rebuilding house, No. 95, Bolsover-street, Marylebone, for Mr. Freeman. Mr. Isaac Bird, architect:—

Ebbs & Son	£1,285 0 0
Brown	1,275 0 0
Fish	1,247 0 0
Tracey	1,195 0 0
Scrivener & White	1,174 0 0
Jackson & Shaw	1,155 0 0
Newman & Mann	1,095 0 0

For a pair of cottages at Farnborough, Hampshire, for Mr. Wm. Knell. Mr. Wm Brown, architect:—

Gosling (accepted)	£315 0 0

For a villa at Lewisham, Blackheath, for Mr. Samuel Smiles. Mr. Herbert Williams, architect :—

Rawlins	£4,170	0	0
Ashby & Horner	4,158	0	0
Ashby & Sons	4,085	0	0
Penny	3,976	0	0
Lawrence & Sons	3,830	0	0
Adamson & Son	3,717	0	0
Newman & Mann	3,637	0	0

For alterations and additions to the Rose and Crown Tavern, Blue Anchor-road, Bermondsey. Quantities supplied by Mr. J. A. Binker :—

Patrick	£983	0	0
Rickwood	947	0	0
Wills	888	0	0

TO CORRESPONDENTS.

E. W. T.—G. G. S.—J. B.—W. H.—Dr. W.—H. de M.—W. R. A. H.—W. S.—J. J.—J. G. S.—R. W.—S. & Son.—H. C.—Chunam (look to Baden's book on Cements). G. B (illustrations and particulars of the Nelson Column will be found in one of our earlier volume).—H. N. G.—S. W. J. (a considerable portion of it was tunnelled).—A. & Sons—Rev. H. T. B.—L. M. H.—H. J. (next week).—N. & M.—J. S.—W. D.—G. B. M

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

OUR NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and NOT to the "Publisher."

THE *Morning Post*, September 29, speaking of Benson's Watches in the Exhibition, says :—"The collection of watches shown by Mr. Benson is a large, and at the same time an interesting one, and considerable attention has been paid by the exhibitor to the decoration of the cases. Many of them are extremely elegant in the design, and were the results of prizes offered by Mr. Benson to the pupils of the South Kensington School of Design." Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch, from the plainest to the highest quality of which the art is at present capable, adapted to all climates. Benson's Illustrated Pamphlet on Watches (free by post for two stamps) contains a short history of watch-making, with descriptions and prices. It acts as a guide in the purchase of a watch, and enables those who live in Scotland, Ireland, Wales, the Colonies, India, or any part of the world, to select a watch, and have it sent free and safe by post.—J. W. Benson, Prize Medallist, 33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

GREEN AND BLUE SLATE.—It was announced by the *Mining Journal* that "A company is in course of formation by Mr. Lee Stevens, for working Slate Quarries at Llanfair, Merionethshire, under more than ordinarily advantageous circumstances," and which describes the vein of Green Slate to be of the extraordinary thickness of above 200 yards. On this subject the *Times* (April 8) states that "An unparelleled demand for Slates exists at the present time, and so greatly exceeds the supply that all the Slate Quarries which have been for years abandoned in the districts of Harlech, and other parts of Merionethshire, are now being again worked with most hopeful expectations." The general demand, in fact, for Blue Slate is so much in excess of the supply, that cargoes are occasionally sold at 1*l.* per ton profit on the invoice price; and the absolute want of Green Slate for Government and other first-class Buildings is so great that the time cost is about twice that of the quarry-rates for the Blue Slate, which have recently advanced 10 per cent. In short, these are expected to be amongst the most profitable Slate Quarries in Wales. Of the Llanfair Quarries, the *Mining Journal* also says, "Both the veins of Green and Blue Slate rise to a considerable altitude above the level of the sea; they can be worked without machinery, by driving levels into the side of the hill, through which the produce may be inexpensively obtained; and the shipping place of Pen-y-groes being within less than a mile of the Quarries, the Slate can be conveyed on board at 1s. per ton. Under these circumstances, we anticipate that the immediate subscription for shares, which is in progress, will be shortly closed." Prospectuses and further information obtainable from Mr. LEE STEVENS, 36, CANNON-STREET, LONDON, E.C.—[Advt.]

ADVERTISEMENTS.

MR. G. NEWENHAM (Pupil of G. G. Scott, Esq. R.A.) PREPARES Sets of Competition Designs, Working and every description of Architectural and Artistic Drawings. Perspectives outlined in a superior manner (and coloured by the best artists), with punctuality and despatch and on reasonable terms.—Offices, 2, Parliament-street, Westminster, S.W.

MR. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLOURIST and LITHOGRAPHER,
No. 21, MONTAGUE STREET, RUSSELL-SQUARE, W.C
Competition and every description of Architectural, Working, and Detail Drawings prepared.

PARTNER. — WANTED, a JUNIOR PARTNER, in a building business of very long standing, in the provinces. Capital required, from 500*l.* to 1,000*l.*—Address, R. S Post-office, Sheffield.

DISTRICT SURVEYOR WANTED, for the Stockport and Hyde Divisions of the Hundred of Macclesfield.—The Highway Boards are prepared to receive applications from Candidates for the Office of DISTRICT SURVEYOR Persons applying must be practically acquainted with the management and repair of highways; and preference will be given to candidates who have served as, or under, professional surveyors of highways. The district consists of twenty-five townships or places, containing about — miles of highways. Applicants are requested to state the amount of salary they will expect, including travelling and all other expenses. Security will be required. The surveyor will have to devote the whole of his time to the performances of his duties, and to reside within the district. Applications and testimonials to be sent to Mr. JOHN LINGARD VAUGHAN, Clerk to the Board, at his Office in Stockport, on or before the 1st of MAY next. Applications to be marked outside, "District Surveyorship."

JOHN LINGARD VAUGHAN,
Clerk to the said Highway Board.

Stockport, April 2nd, 1863.

LAVENHAM HIGHWAY DISTRICT, SUFFOLK.—At a journal meeting of the Board of the above district will be held at the Swan Inn, at Lavenham, on TUESDAY, the 12th day of MAY next, at ELEVEN o'clock, a.m. prepared to receive sealed TENDERS from persons willing to undertake the OFFICE or SURVEYOR for the said district. Tenders, stating the amount of salary required, to be sent to the Clerk, at his Office at Lavenham, on or before NINE o'clock of the morning of the 12th of MAY. The Board will not be bound to accept the lowest or any Tender. Candidates to appear in person on the above named day. The above district consists of 33 parishes, and it is believed of about 420 miles, and 10,295 acres. The person elected as Surveyor will be required to reside in the district, and devote his whole time to the duties of the office.—By order of the Board,

Lavenham, April 9, 1863. RICH. NEWMAN, Clerk.

NEW ROMNEY HIGHWAY DISTRICT. SURVEYOR.—Candidates for the APPOINTMENT of SURVEYOR of the District are required to send in written Applications, addressed to "The Chairman of the Highway Board, New Romney," accompanied by testimonials of their qualification and respectability, on or before SATURDAY, the 25th instant. The salary is fixed at the rate of 150*l.* per annum; and the Surveyor will be required to reside in the District, and devote his entire attention to the duties of his Office, and will not be allowed to engage in any other business. Candidates are also required to attend at a meeting of the Board, which will be held at the Guildhall, New Romney, on MONDAY, the 27th APRIL instant, at TEN o'clock in the Forenoon.

HENRY STRINGER, pro tem. Clerk to the Board.

New Romney, 14th April, 1863

ROCHESTER HIGHWAY DISTRICT.—The Highway Board for the above District will, at their meeting to be held on the 9th day of MAY next, at the Bull Inn, at Rochester, at TWELVE o'clock, be prepared to receive APPLICATIONS from Candidates for the Office of DISTRICT SURVEYOR. A practical knowledge of the management of that part of Leadwood Level which is the District comprises 30 parishes, or districts, and about 250 miles of road. The yearly salary, including that for keeping a horse (which the Surveyor must provide for), his own mail, travelling and all other expenses, will be 200*l.* He will have to devote his whole time to the performance of his duties, and to reside within the district. Satisfactory security will be required. Candidates must state their age, and forward testimonials as to character, capability, to Mr. CHARLES MARTIN, the Clerk to the Board, at his Office in Strood, on or before the 1st day of MAY next. Applications to be marked "District Surveyorship." By order of the Board

Strood, 14th April, 1863. CHARLES MARTIN, Clerk.

WIMBORNE, DORSET. — To ROAD SURVEYORS.—A SURVEYOR is REQUIRED by the Highway Board of the Wimborne District. He must place the whole of his time and services at the disposal of the Board, and must be well acquainted with the general routine and duties of roads and road-making. The District comprises thirty-four parishes, area 17,248 acres, 211 miles of road, as returned by waywardens. He will be required to reside in some central position of the district, to be fixed by the Board.—Candidates must state their age, address, stating any qualifications, and amount of remuneration they may require, with references as to ability, to me, on or before the 1st of APRIL instant. The Board do not bind themselves to accept the lowest or any Tender, and desire not to be personally canvassed. Security for the due performance of the office may be required.

THOS. RAWLINS, Clerk to the Board.

Wimborne Minster, April 11, 1863.

TO LONDON SMITHS' FOREMEN.
WANTED, in a Small General Factory, a FOREMAN. He must thoroughly understand every description of kitchen work, hot water, steam, and the general routine of a smith's shop.—Apply, by letter only, to R. A. care of Messrs. Kennard's, 67, Upper Thames street.

WANTED, by an Architect and Surveyor, a CLERK experienced in the practical part of the duties of an office, in inspecting works, in measuring up, and making up accounts; in taking plans of property acquainted with the Building Act, &c.—Address, stating salary, &c. to T. X. M. [134, Deacon's News-rooms, Leadenhall-street.

WANTED, in a Builder and Decorator's Office, a YOUNG MAN to attend to the ACCOUNTS one having some knowledge of the Business would be preferred.—Address by letter, prepaid, stating age, salary required, and full particulars, to J. M. N. Office of "The Builder."

TO PLUMBERS AND IRON PIPE FITTERS.
WANTED, an experienced Man in the above line, in the country.—Address, T. H. Post-office, Chelmsford.

WANTED, in a Land Surveyor's Office, a Young Man who is a good Plan DRAUGHTSMAN, has a knowledge of surveying and plotting, writes a good hand, and can print neatly. References required, and some proof of efficiency.—Address, T. T. Post-office, Ashford, Kent

WANTED, a YOUNG MAN, from an Architect's or Builder's Office, who could attend at evenings from half-past five to eight o'clock, to COPY ACCOUNTS, &c.—Apply, by letter only, to A. B. Mr. Payne's, 328, Regent-street, W.

WANTED, in the Office of a Builder and Decorator, TWO JUNIOR CLERKS.—State reference to last employers, and age; also terms for a permanency, to H. H. H. Office of "The Builder."

WANTED, an APPRENTICE, to the WRITING, GRAINING, and MARBLING.—Apply, W. G 149, Great Portland street, W.

TO SMITHS.
WANTED, an experienced GENERAL SMITH to Take Charge of a Shop.—Apply by letter, stating particulars, last employment, and wages required, to W. B. 45, Albany-street, Regent's Park, London, N.W.

WANTED, a good GRAINER, to fill up his time at painting if required. None but a steady man, with good references, need apply.—Address, M. C PAWLEY, Builder, close to Sydenham Station

WANTED, in an Architect's Office, a YOUTH who can use Mathematical Instruments.—Address, stating age, previous employment, and terms, by letter only, to X. Z. care of Miss Watling, 409, Strand.

WANTED, an ASSISTANT in an Architect's office. Neat draughtsmanship, and some knowledge of perspective essential. Address, stating age, terms, and previous engagements, to X Z care of Miss Watling, 409, Strand

TO ROAD SURVEYORS.
WANTED, immediately, a SURVEYOR for the newly-formed Highway District of Chipping Campden, in the County of Gloucester. The Surveyor will have to keep all the roads relating to the repair of the roads, and to superintend and see that the contractors are kept in a proper state of repair. Length of road, about 110 miles. He will have to provide his own office, and a horse for his own use, and he must not be engaged in any other business or occupation of any sort or description. Security to the extent of 300*l.* will be required. Salary, 180*l.* per annum.—Application and testimonials to be sent to the Rev. G. D. BOURNE, Weston Subedge, Broadway.

WANTED, a SITUATION, by a Practical Man (Carpenter by trade), as FOREMAN Accustomed to large works. Can prepare working drawings, take off quantities, tender, and measure up work Has had long experience as above References to principal London builders.—Address, E. J. 46, Clarendon-street, N.W.

TO NOBLEMEN, GENTLEMEN, AND AGENTS.
WANTED, by a Practical Man of good experience, who has been in business forty years as a builder, a SITUATION as CLERK of WORKS, FOREMAN, or GENERAL MANAGER, on a Gentleman's Estate. Has a thorough knowledge of estate work and general improvements. Can prepare working drawings, specifications, measure and value timber, &c.—Address, EAD, Office of "The Builder."

TO BUILDERS AND OTHERS.
WANTED, a permanent Appointment as BUILDER'S CLERK, who is a good penman, quick at accounts, capable of planning, taking out quantities, estimating, &c. Has also a thorough, practical knowledge of the building business; or would undertake the superintendence of the building and repairs necessary on a large estate. Good references and security given if required.—Address "Builder," Post office, Exeter.

TO ESTATE AGENTS AND COUNTRY BUILDERS.
WANTED, by a very steady Married Man, aged 30, EMPLOYMENT as CARPENTER and JOINER on an Estate, or as a Builder's. A very good workman. Constancy the chief object.—Address, A. E. Mr. Ruddy's, Loughton, Essex.

WANTED, by a Young Man, a Carpenter, a SITUATION as IMPROVER. Has served three years. Address, A. B. at Fielding's, News Agent, Putney.

TO BUILDERS AND DECORATORS.
WANTED, by a respectable Young Man, a SITUATION as GILDER and PAPER-HANGER. Can turn his hand to painting if required. Good references given.—Address, C. H. 28, Hugh-street West, Pimlico, S.W

TO BUILDERS AND OTHERS.
WANTED, by a Practical Man, a SITUATION as HOUSE PAINTER, &c. as Leading Man. Good reference. Town preferred.—Address, W. S. No. 17, Madeleon place, Burton crescent.

WANTED, to ARTICLE or APPRENTICE a Youth to the Plumbing and Painting Business.—Address, J. S. No 2, Paddy's terrace, Knightsbridge, S W

TO BRICKMAKERS.
WANTED, at Home or Abroad, a SITUATION as FOREMAN or MANAGER in a Brick and Tile Works, by steam or manual labour.—Address, W. HUDSON, 7, Cirencester-street, Harrow-road, London.

WANTED, by a Youth, aged 18, a SITUATION in an Architect's or Builder's Office. Two years' good reference.—Address, B. B. No 34, Harrison-street, Gray's inn road, London

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WANTED, a respectable middle-aged MAN, for a permanency, to Take Charge of and Mix all Colours required, and generally to superintend a small number of London establishment.—Apply by letter only to T. C. R 27, High-street, Hampstead, N.W.

WANTED, EMPLOYMENT, by a Carpenter and Joiner, with a knowledge of plans, specifications, &c., in the office or elsewhere. Well suited for a jobbing firm.—Address, J. T. S 9, Gilbert's buildings, Westminster-road

WANTED, by a Young Man, a SITUATION, in a Plumber's Business, as an IMPROVER.—Address, stating terms, &c. to P. P. Post office, Maldon, Essex

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WANTED, by a Practical Man, a SITUATION as WORKING FOREMAN, or otherwise, in the above Branches. Good reference given.—Address, B. H. No. 17, Gloucester-street, Queen square, London, W C.

WANTED, a SITUATION as FOREMAN of BRICKLAYERS, or to take any Amount of Work by rod or otherwise, by an experienced person, who has had charge of several large jobs in and about town. First class references and testimonials.—Address, B. E. A. Office of "The Builder."

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WANTED, by a respectable Young Man, a good practical Plumber, with three years' good reference, a Constant SITUATION. Can turn his hand to painting or glazing if required.—Address, G. M. 19, Molyneux-street, Bryanstone square, Marylebone.

WANTED, by a good Writer and Grainer, a Constant SITUATION.—Address, W. DASHWOOD, Office of "The Builder."

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WANTED, by a Young Man who has been accustomed to the work, a SITUATION as CLERK of the YARD or TIMEKEEPER.—Address, A. B. 29, Duke-street, W.C.

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WANTED, by a Carpenter and Joiner, a RE-ENGAGEMENT as FOREMAN, in or out of doors. Thoroughly competent.—Address, F. R 1, Carey-street, Westminster, S.W.

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WANTED, by the Advertiser, an ENGAGEMENT. Is a good draughtsman, measurer, and estimator. Could take the management of an Office if required. Sixteen years' experience. References as to London Builders.—Address, R. E. Post office, 199, Goswell-street, E.C.

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WANTED, by a good practical plain and decorative PAPERHANGER, a CONSTANT SITUATION, in town or country. Willing to fill up time at painting. Good references given.—Apply to E. A. G. care of Mrs. Price, No. 1, Prince's-road, Kennington Cross.

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WANTED, by a steady, practical Married Man, aged 28, a Joiner by trade, a SITUATION as FOREMAN in a Builder's Shop, or to collect rents and undertake repairs on an estate. Can be well recommended. Security given.—Address, J. T. S, Will an street, New North-road, N.

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WANTED, a SITUATION, by a PLUMBER and GASFITTER. An experienced hand in every description of plumbers' work. References given.—Address, U. S. Office of "The Builder."

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WANTED, by a respectable and experienced CLERK of WORKS, a RE-ENGAGEMENT in that capacity, or as PRINCIPAL FOREMAN to a CONTRACTOR to a large JOB. Is used to measure up works and make working drawings, &c. Good reference will be given.—Address, L. M. N. No. 6, Chilton-street North, Worship square, E.C.

WANTED, by a respectable Young Man, aged 24, a SITUATION as CLERK or TIMEKEEPER in a Builder's office. Experience, four years. Unexceptionable references. Address, A. Z. Mr. Wellbank's, Stat oner, Sloane square, Chelsea.

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WANTED, by a Young Man, a SITUATION as GRAINER, PAINTER, and for a constancy. Town or country. Wages according.—Address, Y. Z. No. 7, Augustus-row, Spa road, Bermondsey.

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WANTED, by a good Draughtsman, used to quantities, &c. a SITUATION in either of the above offices, in town or country. Understands the practical part of the profession, and could overlook the works in progress, if required.—Address, ALPHA, the Post-office, Chelsea.

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WANTED, by a thoroughly efficient Clerk of Works, a RE-ENGAGEMENT, or as General Foreman, or to Superintend on an Estate. Is well up in working out details in all branches, &c.—Address, P. O. O. Office of "The Builder."

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WANTED, by the Advertiser, an experienced and Practical Man, a SITUATION as GENERAL FOREMAN; by trade a Carpenter. First class references given.—Address, Y. Z. 8, Walpole-street, New-cross.

TO BUILDERS AND CONTRACTORS

WANTED, a RE-ENGAGEMENT, as WORKING FOREMAN of CARPENTERS and JOINERS, or to take charge of a job. Good character from last employer.—Address, S. T. at Mr. Grimlade's, Baker, Dog-street, Putney.

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WANTED, a RE ENGAGEMENT, by an experienced CLERK. Can estimate, take off quantities, &c. &c. Four years' reference from present employer. Salary, 30s. per week. Address, ALEXANDRA, Mr. Horne's, Stationer, Lee, Kent, S.E.

THE Advertiser, who has been several years in an eminent architect and surveyor's office, is desirous of an ENGAGEMENT in a builder's office.—Address, L. P. 14, Hargreave Park-road, Junction-road, Holloway.

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THE Advertiser, a Young Practical Man, being disengaged in the evening, would be glad to enter into an ENGAGEMENT with an Architect to PREPARE DRAWINGS, &c. at his own rooms.—Address, ARCHIMEDES, care of Mr. Hedinand, 2, Crawley-street, Oakley square, N.W.

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PARTIAL EMPLOYMENT WANTED, for one or two days per week, by a respectable Man. Can measure work, estimate, write out specifications, and keep books. Is a quick calculator, and a good penman. Good references. Terms moderate.—Address, A. Y. 11, Brunswick place, Upper Holloway, N.

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A GENTLEMAN, aged 28, who has been ten years with a surveyor and two years with a building firm, wishes an ENGAGEMENT as MANAGING CLERK to a Surveyor.—Address, T. S, Cornwall-place, Holloway, N.

A RESPECTABLE Young Man wishes for a SITUATION as CARPENTER and JOINER, and would make himself generally useful in all kinds of Building works.—Address, W. C. 8, Compton-street, Regent-square.

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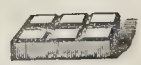
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POLYTECHNIC.—The most Liberal Shilling's worth in London. Open from 12 till 5, and from 7 till 10. Great Additions to and New Experiments in Professor Pepper's Lecture on Optical Illusions. Professor Pepper will (by the kind permission of the author) read and illustrate a portion of Mr. Charles Dickens's Tale of the "Haunted Man," and the "Ghost" will actually appear to walk across the new platform arranged in the Large Theatre. N.B.—In order to prevent disappointment, the "Ghost Illusion" will be shown every morning and evening at half-past 1 and 8 o'clock. New Lecture by J. L. King, esq. entitled "Pneumatic Wonders," illustrated with new experiments, models, &c and the "New Pneumatic Patents Despatch Apparatus." Conjuring made Easy, by Mr. James Mattnews, unassisted by confederacy or mechanical agency. You Weber's Grand Opera of "Der Freischutz," in the Germ an and humorous Schools. The Optical Scenery by Messrs. Childe and Hill. The Instrumental Music by Mrs. Penie, Mr. T. Maney, and the celebrated Bristol Family. The Vocal Music by Miss Fosbrooke, Miss Champion, Mr. Suchet Champion, and Mr. Chaplin Henry. Chorus, Lionel Brough, esq.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 10th, 1859.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and are informed that it is to be adopted generally in the houses that are building or erected there."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
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EQUAL TO GRANITE IN DURABILITY;
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The WARDOUR (CHILMARK) and TISBURY STONE COMPANY, Limited,
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Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
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IMPORTANT SALE.—HENLEY-UPON-THAMES, Oxfordshire.—TO BE SOLD by PRIVATE CONTRACT, the valuable and beautiful ESTATE known as BADGMORE FARM, in the parish of Henley-upon-Thames. The Estate comprises 169 acres of excellent Arable and Grass Land, and 31 acres of valuable Wood Land. If no acceptable offer is made for the entire property, the Proprietor will not object to divide it into four lots, in which case—
Lot 1.—Would comprise a substantial brick-built Residence, with excellent farm buildings, and nine inclosures of arable and grass land, containing together about 100 acres.
Lot 2.—Three valuable pieces of arable Land, containing together about 27 acres. Part of these lands have a frontage to the road leading from Henley to Greys, and adjoin the Park of Badgmore House.
Lot 3—Two excellent pieces of arable Land, containing about 30 acres, and very valuable Wood Land containing about 17 acres.
Lot 4.—Two pieces of arable Land containing about 10 acres.
This Property, which lies on a beautiful slope near the town of Henley, overlooking the Fawley Court Estate, is admirably suited for the site of a mansion, the greater part of it being easily convertible into park ground, or, if divided, it presents many desirable sites for villas, to all which there are excellent roads. Lots 1 and 4 extend down to and have frontages the whole length of the Fair Mile; and the greater part of the Estate lies within a mile of the Henley Railway-station.—For further particulars and to treat for the same, apply to Messrs COOPER, Solicitors, Henley-upon-Thames, at whose office a plan of the Property may be seen.

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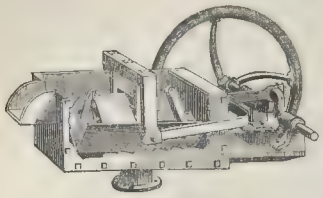
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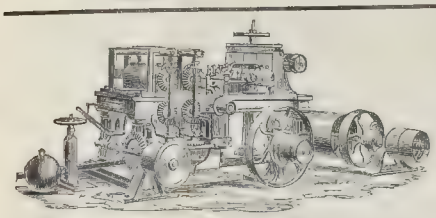
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GRANGE-PARK, Leyton.—For SALE, by Private Contract, eligible FREEHOLD LAND, free from tithe and land tax, suitable for the erection of villa or good cottage residences, situate within 10 minutes' walk of the Low Leyton station, on the Loughton Railway, and within a mile and a half of the Stratford and Lea-bridge Stations, on the Great Eastern Railway. The subsoil is gravel, and water can be procured easily. The facilities for the carriage of bricks and other building materials afforded by the network of railways at Stratford, and the great and increasing demand for houses in the locality, render this property peculiarly adapted for building operations. The purchase-money may be paid by a deposit of 10 per cent. and the remainder in nine years by half-yearly instalments, with interest on the unpaid balance at 5 per cent but the whole or any part of the balance may be paid off at any time without notice.—For plans, particulars, and conditions, apply to Mr. WHITTINGHAM, 14, Moorgate-street, London, E.C.



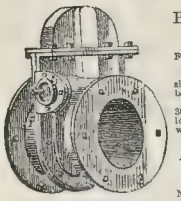
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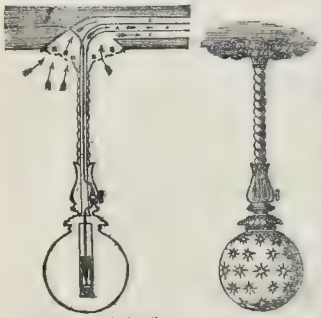


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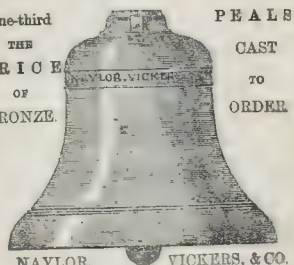
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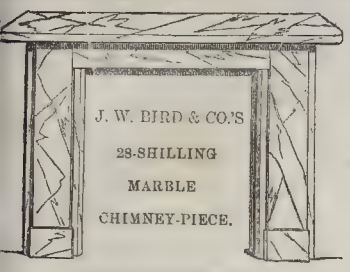


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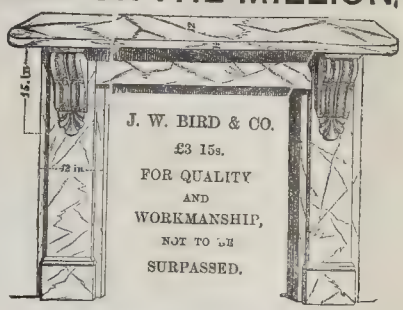
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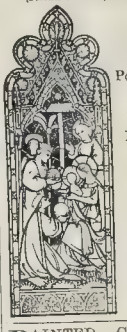
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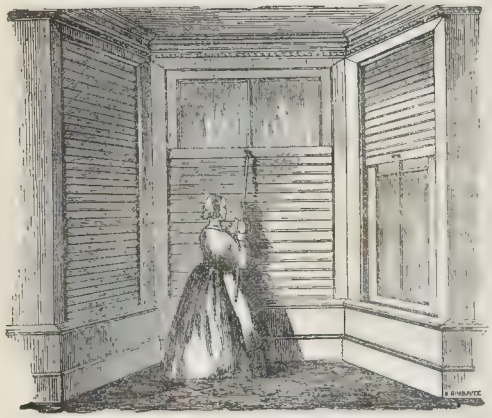
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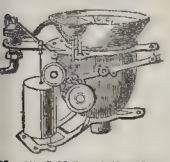
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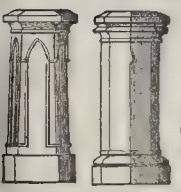
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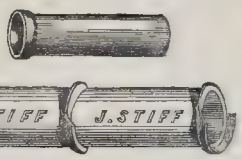
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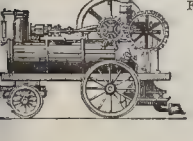
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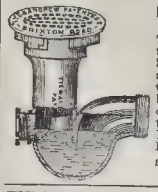
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INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to

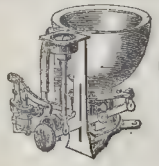
DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

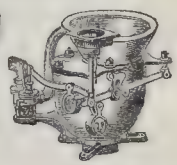
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cistern valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

TERRA COTTA and Fine STONEWARE POTTERY, warranted to stand Frost.

JOHN M BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and economized the manufacture of TERRA COTTA and FINE STONEWARE for ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to harmonize with Marble, Portland, and other Stones, and equal in hardness to Granite

A Medal at the International Exhibition was awarded, in Class 10, Section C, Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra Cotta."

Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusters, Capitals, Crosses, Terminals, Vases, Statues, Brackets, Consoles, Garden Edging, Guttering &c. nine, and twelve inch Paving Tiles, &c. &c.

Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

London Office, 377, Oxford-street, W.

MINTON & CO.

Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 30, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE-UPON-TRENT.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.

PAVING TILES in various colours and designs.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, workhouses, &c.

Dressed Blue Facing BUILDING and SEWER BRICKS.

Architects' designs carried out on the shortest notice.

Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent-road Bridge.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern book, designed by M. Digby Wyatt, esq together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 458, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Thdly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 381, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufactories known so long as "The Phœnix," Tunstall, Staffordshire, as the first of the kind in the world.

PRIZE MEDAL, 1862.

HAMILTON & CO.

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

Sole Manufacturers of

C. A. WATKINS'S PATENT WIRE BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graners' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

SALES BY AUCTION.

BRENTFORD GRAIN DISTILLERY.—TO BUILDERS AND OTHERS.

MESSRS. FULLER & HORSEY will SELL by AUCTION, pursuant to an Order of the Court of Chancery, made in the cause of "Booth v. Crofton," "Booth v. Booth," and "Booth v. Nash," with the approbation of the Honour Vice-Chancellor Stuart, the Judge to whom these causes are attached, at the AUCTION MART, in the city of London, on THURSDAY, the 28th day of MAY, 1863, at TWELVE o'clock, in Four Lots, the highly important FREEHOLD and COPYHOLD ESTATE, lately occupied as Sir Felix Booth's Distillery; comprising the Distilling Buildings, the back room, the brew-house, the mill, dwelling-house, offices, yards, garden, and stabling, and a landing wharf on the Thames, situate at Brentford, about seven miles from London, on the western road, and about midway between the Kew and Brentford stations of the South-Western Railway. It is contiguous to the New station of the North London Railway, and also to the Docks, and wharves at Brentford; the whole forming a most desirable property for any large manufacturing establishment, or a most eligible site for building operations.—To be viewed (by Card only) by cards only, which, with printed particulars, plans, and conditions, may be had of Sir. P. B. HOOK, Esq. Solicitor, 9, Lincoln's-inn-fields, W.C.; of W. H. DAVIS, Esq. Solicitor, 10, Golden square; of Messrs. KINGSFORD & DOIRAM, Solicitors, Essex-street, Strand; of Messrs. CLARK & RUSTON, Solicitors, Brentford; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Messrs. Kelk & Lucas to SELL by AUCTION, on TUESDAY, APRIL 21, 1863, and following day, at TWELVE o'clock each day, at the PREMISES, Grosvenor road, Thames Bank, Pimlico, adjoining the Railway Bridge and Grosvenor Canal, the CONSIDERING PORTION of the SURPLUS MATERIALS and PLANT used in the construction of the International Exhibition building; including 200 logs capital Baltic timber, 40 loads Swede timber, 30 loads half-balked timber, 2,500 feet Bondroits Irish quay, 400 scaffold poles, two mast spars 64 feet long, 100 fathoms firewood, a costly hydraulic girder-proving machine, 10 tons contractors' rails, 12 iron turntables, 2 Pooley's weighing machines, pole engines and monkeys, navvies' barrows, contractors' portable engines, Cornish steam boiler, capital iron timber saw frame, one batten frame, three circular saw benches two nearly new coal waggons, 21 four-wheel trollies, carpenters' benches and stools, 20 railway wheels, quantity of scaffold cord, ropefalls and slings, chain blocks and falls; also 50 contractors' earth waggons, side and end tip.—To be viewed the day previous to the Sale, when catalogues may be had on the Premises; and of Messrs FULLER & HORSEY, Billiter-street, London, E.C.

Valuable Collection of Engineer's Tools, partly from the International Exhibition.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, APRIL 28th, at TWELVE, at the WAREHOUSES, Belvedere-road, Lambeth, removed for convenience of sale, a costly collection of ENGINEER'S TOOLS, principally manufactured by the eminent firm of Fox Brothers, Derby, the whole of them highly finished, of the best materials and workmanship, and a portion exhibited at the International Exhibition, where they received honorable mention for general excellence; including two self-acting planing machines, will take in 4 feet 6 inches wide and 4 feet high, with two tool-holders to each; three smaller planing machines, to plane 1 foot 10 inches wide and 1 foot 8 inches high; three self-acting vertical drilling-machines, to bore from 1½ to 6 inches diameter, and will take in work 32 inches diameter; a universal shaping machine, with universal motion; one 18-inch self-acting and screw-cutting lathe, 18 feet bed, with break; one 16-inch self-acting slide lathe, with 18 feet bed; one self-acting, surfacing, and screw-cutting lathe, will take in a surface 5 feet diameter, and will cut screws up to 2 inches pitch; one 9½-inch centre screw-cutting lathe, with 9 feet bed; two 9½-inch centre self-acting slide lathes, with 9 feet beds; two back geared 6-inch lathes, with 4 feet beds, and tools; one highly finished 6 inch foot lathe, with 6 feet 6 inches bed; new engine workman-like steam-engine and boiler; Fox Brothers' and Whitworth's best quality steel, 70 dozen files, chain slings, blocks and falls, steel tools, leather belts, bolts and nuts, spanners, two strong wheelwright's ramps, scales and weights, standing and wheels, a new self-acting tenoning machine, by McDowall; Lloyd's patent fan, and numerous other effects.—To be viewed on Monday previous to the sale. Catalogues may be had of Messrs. FULLER & HORSEY, 13, Billiter street, London, E.C.

NORTH LONDON RAILWAY—KINGSLAND JUNCTION.

MESSRS. KENNEDY & BONNY will SELL the MATERIALS of the Houses and Shops required for the Junction with the main line, near the Turnpike gate in the Kingsland-road, (to last week in APRIL, or early in MAY. See future advertisements.)

Camden Town, April 2nd, 1863.

FOR SALE by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER YARD, Canons' Marsh, Bristol, on WEDNESDAY, 22nd day of APRIL, 1863, at ONE o'clock precisely. (Luncheon at Half past Twelve o'clock.) For Account of Importers.

40,000 Spruce Deals, Battens, Spantling, and Ends
8,000 Quebec Pine Deals
7,000 St. Petersburg Red and White Wood Deals
6,000 Onega Red Deals, Battens, and Boards
1,000 4 by 3 inch and Redwood Memel Deals, expected to arrive per Victoria
2,000 Fresh Swedish and Norway Deals and Battens
6,000 Fresh Sydvik Red Deals
6,000 Christiana Battens. Cargo daily expected to arrive per Fortuna
400 Loads Quebec Yellow Pine
200 Loads Quebec Red Pine
200 Loads Quebec Board Pine
20 Loads Quebec Oak
10 Loads Quebec Ash
200 Loads Fresh Memel Timber
30 Wainut Oak Logs
200 Loads Dantzic Redwood Timber
200 Loads Dantzic Whitewood Fir
20 Loads Dantzic Oak
300 Loads Swedish Timber
200 Norway Masts
600 Ditto 4 to 6-inch Spars } Cargo, per Alice, from Christiana, now discharging
300 Ditto 4-inch ditto
150 22 feet Rockers
50 Fathoms Hemlock, Dantzic, and St. Petersburg Lathwood Flooring.

With other Goods.

Catalogues will be issued in the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, April 2nd, 1863

TO TIMBER MERCHANTS, BUILDERS, AND OTHERS.

SALE by AUCTION, at GARRAWAY'S COFFEE-HOUSE, Cornhill, on TUESDAY, 28th APRIL next, at HALF-PAST FIVE o'clock precisely, by order of the Importers,

220 Loads Rock Elm Timber.
185 Loads Red Pine Timber.
5,000 Quebec Spruce Deals.
Saleen, 25 Logs Cuba.
Iron Bark, 7,500 Spokes.
Rosewood, 150 Planks Rio.
And at SIX o'clock precisely,

Without reserve, 4½ x minimum of Duty per foot,
MAHOGANY—280 Logs Honduras (Northern Wood), of superior quality and large dimensions, just landed at the West India Dock Wharf, West India Docks, of J. K. L. from Belize.

And other Goods.

Catalogues may be had of THOS. ROBERTS & CO. Brokers, 9, Billiter-street, E.C.

WESTMINSTER.—20,000 Pieces of Paperhangings, White Lead, Glass Builders' Ironmongery, &c.

MR. KEMP will SELL by AUCTION, at the ROOMS, Vincent-square, Westminster, on TUESDAY next, at ONE, without reserve, the above STOCK of PAPERHANGINGS, in Flocks, Satins, Golds, Marbles, &c.; also Builders' Ironmongery, in stoves, nails, screws, locks, &c.—View, and catalogues at the Auctioneer's Office, 27, Coleman-street, Bank.

LONDON, CHATHAM, AND DOVER RAILWAY.—METROPOLITAN EXTENSIONS.—Thirty-first Clearance Sale.—Capital Building Materials, Plant, and Machinery, Holland street, Blackfriars-road.

MESSRS. FULLER, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on TUESDAY, APRIL 21, at TWELVE, in lots, the Second Portion of the capital BUILDING MATERIALS and FITTINGS-UP of the extensive ranges of warehouses, wharfs, sheds, stabling, offices, and other premises known as Northumberland Wharf and Nos. 4 and 5, Holland-street (the whole built within a few years): comprising about 2,000,000 capital bricks (nearly equal to new), prime timber in roofs and floors, excellent slating, paving, flooring boards, useful sashes, loop hole and other doors, large plate glass sky-lights, crane and jib, cast-iron girder and stable fittings, lead gutters and pipes, a large quantity of granite pitching, a capital high pressure steam-engine, wrought-iron steam-boiler, iron shafting, and various other plant and machinery, gasfittings, and a large mass of useful materials and fittings-up. May be viewed the day previous. Catalogues had at Mr. VIGERS'S Offices, 3, Frederick's-place, Old Jewry; and of FULLER, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

CHEAPSIDE.—Building Materials of Five Houses.

MESSRS. FULLER, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on WEDNESDAY, APRIL 22, at TWELVE, in lots, the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS-UP, of five houses and shops, Nos. 141, 142, 143, 144, and 145, Cheapside, adjoining Saddlers' Hall, comprising granite and other kerb work, a large quantity of paving tiles, stout rafters, joists, girders, and other excellent timber, sound flooring-boards, a large assortment of glazed sashes, doors, partitioning, marble chimney pieces and interior fittings, iron columns, stone coping and cills, plate-glass shop fronts, several tons of lead in gutters and pipes, cisterns, stoves, ranges, and useful fixtures and fittings-up.—May be viewed the day previous. Catalogues had of ROBERT M SHAW, Esq. Architect, Crooked-lane Chambers, Cannon-street; and of FULLER, HORNE, & EVERSFIELD, 80, Fore-street, City, and 40, Parliament-street, Westminster.

DULWICH.—Materials of a Residence.

MESSRS. FULLER, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on Dulwich-common, on WEDNESDAY, APRIL 29th, at TWELVE, the excellent MATERIALS and FITTINGS-UP of a RESIDENCE; 120,000 stock bricks, 7,000 plain and pan tiles, 8 squares of slates, sound timber in roofs and floors, capital flooring-boards and battens, landscape and other sashes, doors, marble chimney-pieces, mahogany and other fittings, handsome marble chimney-pieces, stoves, ranges, copper, force-pump, several tons of lead, in gutters, ridges, pipes, and cisterns; stone steps and paving, bathcocks, coping, and rubber cloths.—May be viewed two days previous, and catalogues had at the Greyhound, Dulwich; at the Offices of CHARLES BARRY, Esq. Architect, 27, Sackville-street, Piccadilly; and of FULLER, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City, E.C.

PUTNEY.—Freehold Estate, admirably adapted for Building Purposes.

FULLER & BELLAMY have received instructions to SELL by AUCTION, at the MART, opposite the Bank of England, on FRIDAY, APRIL 24th, at ONE precisely, in one or more lots (if not previously disposed of by private contract), a FREEHOLD BUILDING ESTATE, comprising several acres of park-like land (a portion of which is beautifully timbered), suitable for the erection of villa residences, being close to the Putney Station, within easy access, by rail, road, or water, of all parts of the metropolis, and 6½ miles from the Clapham Junction Station, of all parts of the kingdom. Persons desirous of treating for the whole, or a portion of the estate, will have the option of doing so up to the 24th instant. Particulars, with plans, may be had of the Station-masters at the Putney, Wimbledon, Vauxhall, Barnes, Mortlake, Richmond, Twickenham, Kingston, and Clapham Junction stations; of Mr. W. CROMBIE, Law Clerks' Office, Waterloo Bridge Station; at the Auction Mart; and of FULLER & BELLAMY, Estate Auctioneers and Surveyors, 10, Cornhill, E.C.

VALUABLE LEASE, GOODWILL OF THE BUSINESS, AND STOCK IN TRADE OF A BUILDER.

MR. BRAY, Jun., is instructed to SELL by AUCTION, on the PREMISES, No. 13, Kennington-green, Surrey, on WEDNESDAY, APRIL 22nd, at TWELVE o'clock, the valuable LEASE of the above PREMISES, in which the late tenant, a builder has been carried on successfully for upwards of fifty years. The premises are in every respect adapted for doing a good trade, and are held for a term of about eighteen years, at 61l. per annum. Also the Stock-in-Trade, comprising yellow battens, deals, scaffolding poles, oak planks, posts, and cills, wainscot and hardwood, prepared floor-boards, mouldings, sashes, frames, bricks, tiles, slates, cement, carpenters' benches, scaffold poles, iron range, &c. Particulars and catalogues may be had on the Premises; of Messrs. PALMER, SNEWING, & PALMER, Solicitors, 4, Parliament-street, Charing-cross; of Messrs. HOVENDEN & HEATH 4, Broad-street-buildings, E.C.; and at the Offices of the Auctioneer, 16A, King's-road, Bedford-row, W.C.

MIDDLESEX.—Valuable and important Freehold Building Land, and a Brickfield and Pottery.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on WEDNESDAY, MAY 13th, at TWELVE, about twelve acres of exceedingly valuable FREEHOLD MEADOW LAND, (with high, suitable for building purposes, and presenting to land societies and others an unusual opportunity for a profitable speculation. The land contains an abundance of fine gravel.—May be viewed, and particulars had at the Abercorn Arms Hotel, Great Stanmore; of Messrs. CARDALE, ILIFFE, & RUSSELL, Solicitors, No. 2, Bedford-row; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

RED HILL, SURREY.—Valuable Freehold Building Land, and a Brickfield and Pottery.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on WEDNESDAY, MAY 13th, at TWELVE, about twelve Lots of very valuable FREEHOLD BUILDING LAND, situate adjoining the estate of P. Hanbury, Esq. within an hour's journey of the metropolis, and only half a mile from Red-hill Junction Station of the South-Eastern and Brighton Railways, in the county of Surrey. It has an extensive frontage to the high London and Brighton road, stands high, commands fine views over the beautiful Tanbridge park of Gatton, and offers first-rate sites for the erection of several superior residences, or for a moderate-sized mansion; it presents also a rare opportunity for a profitable building scheme; let to a respectable tenant. Also a valuable Freehold Brickfield and Pottery, situate in the rear of the above land, having an extensive frontage to the road leading from Lackford Lane to Merstham, containing a number of acres, and adapted for building purposes. It comprises about seven acres, and is let to Mr. W. Thornton, for a term which will expire in 1869, at a rent of 22l. per annum. May be viewed; particulars, with plans, had at Laker's Hotel, Red-hill; White Hart, Reigate; Greyhound, Croydon; of Messrs. CROWDER, MAYNARD, SON, & LAWFORD, Solicitors, 27, Coleman-street, E.C.; of Messrs. WILSON, Esq. Architect, 59, Laurence Pountney-lane; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

LEYTON, ESSEX.—Valuable Freehold Building Land.

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the Devisees under the Will of the late John Masterman, Esq. to offer for SALE, at the MART, on WEDNESDAY, the 13th of MAY, at TWELVE, in four lots, about 21 acres of exceedingly valuable FREEHOLD BUILDING LAND, situate on the high road from Leyton to Woodford. With shelter, within an easy distance of the church and railway stations at Leyton and Leabridge, in the county of Essex, and about six miles from London, viz.—Lot 1, valuable Park Field Building Land, with two cottages and gardens, farm-yard, cow-house, stable, and shed, having a very important frontage of about 960 feet to the high road, 500 feet to other good roads, and containing 6a. 1r. 35p. Lots 2, 3, and 4. Three Plots of Building Land, adjoining lot 1, having extensive frontages to Capworth street, leading from London to Wycliffe, and containing together 16a. 3r. 20p. The whole of the land is well adapted for the erection of detached and semi-detached villas. May be viewed, and particulars had of Messrs. HUGHES, MASTERMAN, & HUGHES, Solicitors, No. 17, Bucklersbury; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, BROMPTON, S.W.

Notice of PRIVATE SALE of about 200 MARBLE CHIMNEY-PIECES, to be sold at very reduced prices (to save the expense of removal to the Brompton Works), in the following Marbles, viz.:—Statuary, Rouge Royal, Black and Gold, Black, Sienna, Bardilla, Dove, California, St. Ann's, Rouge Jasper, Jeune Fleure, Brocatella, Genoa Green, Irish Green, Blue Belgic, Emperors' Red, Irish Fossil, Campanc Melange, Vein, Sicilian, and various excellent specimens of British Marbles, varying in price from 1l. 10s. to 50l.; and for elegancy of design, workmanship, and quality, not to be surpassed in England. Purchases to the extent of 30l. and 50l. approved bills of three and four months will be taken, less 2½ per cent. cash. Purchasers from the country will be supplied in the following cases, and the same packed and delivered to any of the metropolitan stations for 1 per cent. on the amount purchased.

UPPER HOLLOWAY.—Valuable Freehold Building Land, close to Highgate

MESSRS. PRICKETT & SON have received instructions to SELL by AUCTION, at the MART, City, on WEDNESDAY, JUNE 10, at TWELVE o'clock, in one lot, (unless previously disposed of by private contract), a valuable and important FREEHOLD ESTATE, comprising 10a. 3r. 34p. of building land, delightfully situate in York-road or Maiden-lane, extending nearly to Highgate-hill on the east, in the parish of Islington, with a frontage of upwards of 360 feet, and two new roads formed and made up to it, so that the property can immediately be rendered available for building purposes, the greater part of the adjoining land being already built upon, and a great demand for houses existing in this locality. This estate is believed to contain brick earth to a considerable depth, and is recommended to the favourable notice of parochial boards and others seeking a convenient site for the erection of a public institution, as the ground lies high, is close to Highgate, and within a few minutes' walk of the Archway Tavern, from whence numerous conveyances may be had to all parts of the metropolis; also near to a contemplated station on the Tottenham and Hampstead Junction Railway.—Further particulars can be obtained of P. A. HANLOTT, Esq. Solicitor, Bedford-row; and of Messrs. PRICKETT & SONS, Land Agents and Surveyors, 62, Chancery lane, W.C. and Highgate, N.

THE PATENT CONCRETE STONE COMPANY (Limited). Incorporated under the "Companies' Act, 1862," as a Company in which the liability of each shareholder is strictly limited to the amount of his shares. Capital, 150,000l. in 10,000 shares of 10l. each. First issue, 2,000 shares of 10l. each, the holders of an 8 first shares to have the preference pro rata on all further issues. Deposit on application, 1l. per share, and 1l. 10s. on allotment. Further calls not to exceed 2l. 10s. at intervals of not less than two months. The amount deposited will be returned without deduction in the event of the shares not being allotted.

Provisional Directors.

Fredk. Alexander, esq. Banker, Ipswich
James Beadel, esq. 25, Gresham-street, London.
George H. Burnell, esq. C.E. and Architect and Civil Engineer, 14, Lancaster's-inn-fields, London
Charles Cubitt, esq. C.E. 3, Great George-street, Westminster.
J. Allen Ransome, esq. Orwell Ironworks, Ipswich.
George Smith, esq. Builder and Contractor, 44, Wimpole-street London
Edward Woods, esq. C.E. 3, Storey's-gate, Westminster.

BANKERS.—Messrs. Barnett, Hoares, & Co. London; Messrs. Ransome, Sims, & Jefferies, Ipswich.

SOLICITORS.—Messrs. Dimmock, Nash, & Field, 2, Suffolk lane, Cannon-street, London.

GENERAL MANAGER.—Fred. J. Ransome, esq.

BANKERS.—Messrs Barry & Co. Birchin-lane.

SECRETARY (pro tem.)—Thomas Piper, esq.

TEMPORARY OFFICES.—20, Parliament-street, Westminster.

ABRIDGED PROSPECTUS.

The Patent Concrete Stone is made by consolidating particles either of sand, gravel, or clay, or any like material by means of a chemical process both simple and inexpensive.

Blocks of stone of any size, hard and durable as the best natural sandstones, but more uniform in texture, however ornate, are produced in a few minutes at a price with which natural stone can nowhere compete. No fire is used in the manufacture, and consequently the article does not crack or decay.

It is adapted to every purpose, both constructive and decorative, to which stone is applied. The stone has been already largely employed for the elegant and massive architecture of the new Courts of Law in London, Chatham, and Dover Railway, and elsewhere. Recent inspection proves that, after long exposure to the atmosphere, and a number of years' immersion, and for that block the prize medal was awarded.

The Company has made a very advantageous purchase of the patent rights and machinery for the manufacture of artificial stone, and also of the factories and plant of the inventor, situate at Ipswich and Norwich, so that no time will be lost in commencing remunerative operations. Many applications for licenses have been received, and are now under consideration.

Copies of the Articles of Association can be seen, and prospectuses obtained, at the Temporary Office of the Company, or from the Brokers, to whom applications for shares are to be sent.

LEIGHTON, SON, & HODGE beg to intimate to Publishers, Printers, and the Public generally, that they execute all the best style and on the most moderate terms every description of PLAIN and ORNAMENTAL BOOKBINDING, either in Cloth or Leather.—Also Account Books, Ruling, with promptitude and punctuality.—Price Lists on application.

A Quantity of ENGRAVED BRASS DIES in most extensive and varied, and designed in the best taste; and their powerful machinery and steam power give them great advantages in the rapid execution of large orders.

Applications for estimates will meet with prompt attention.

LONDON: 13, SHOE-LANE, E.C.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation.

LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS,

and every description of Builders' and Decorators' Trade Requisites.

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THIRTY-THREE CARTS for immediate DISPOSAL, suitable for Builders and Contractors; including brick, pallisade, dust, and spring carts; also a 4-ton timber carriage, 2-ton and 4-ton builder's vans, three waggons, all new. To be Sold Cheap, on account of alterations to premises.—Apply to GEORGE ELL & CO. Euston Works, 366 and 368, Euston-road.

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EDWARD HARPER, Secretary.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, April 18, 1863.

The Builder.

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INSTITUTE of PAINTERS in WATER COLOURS, founded 1831, as the NEW SOCIETY of PAINTERS in WATER COLOURS, is NOW OPEN.—Gallery, 53, Pall Mall.
JAMES FAHEY, Secretary.

THE EXHIBITION of ALUMINIUM and ALUMINIUM BRONZE. 2,000 SPECIMENS illustrating the application (Ornamental and Useful), of these interesting Metals are NOW ON VIEW at MAPPIN BROTHERS' New Rooms, 222, Regent-street. Admission by Card.

EVENING LECTURES.—ROYAL SCHOOL of MINES, Jermyn-street. The following COURSES of LECTURES are about to be commenced
Ten Lectures "On the First Principles of Physiology," by Professor HUXLEY, F.R.S. To be delivered on FRIDAY EVENINGS, at EIGHT o'clock, commencing APRIL 24th, 1863
Ten Lectures "On Organic Chemistry," by Dr. HOFFMANN, F.R.S. To be delivered on MONDAY EVENINGS, at EIGHT o'clock, commencing APRIL 27th.
Eight Lectures "On Heat considered as a Mode of Motion," by Professor TYNDALL, F.R.S. To be delivered on WEDNESDAY EVENINGS, at EIGHT o'clock, commencing APRIL 29th.
Fee for each course, 5s. TRENHAM REEKS, Registrar.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, W. NOW OPEN, from 10 till 6. Admission, One Shilling. Season Tickets, Half-a-Crown, admit at all times and to all the Lectures. First Lecture, by Professor KERR, on TUESDAY EVENING, MAY 5th
JAS. FERGUSSON, F.R.A.S. } Hon. Secs.
JAS. EDMESTON, F.R.I.B.A. }
Also, in conjunction with the above, the Exhibition of the Society of Sculptors of England. MORETON EDWARDS, Hon. Sec.

BILLING'S PATENTS.
CHIMNEY TERMINALS, THROAT VALVES.
NOTICE to ARCHITECTS.—The Proprietors of the late Mr Billing's Patents have secured the services of Mr. H. H. COLLINS, M.I.B.A. of No. 10, Poultry, E.C. as the Consulting Architect, from whom full particulars and the reduced prices may be obtained; or from the Manager, Mr. TYLER, 19, Abingdon-street, Westminster, S.W.

COMPETITIONS.

CHELTENHAM PARISH CHURCH.—To ARCHITECTS.—The Committee appointed to carry out the proposed ENLARGEMENT and partial RE-BUILDING of this CHURCH desire to receive DESIGNS for the same. These Designs, which must comprise plans, elevations, and sections, and be accompanied with a general specification and estimate of the costs of the intended works, to be sent in, on or before the 14th day of AUGUST next, to D. J. HUMPHRIS, Esq. Parish Churchwarden, Cheltenham, of whom may be obtained a plan of the churchyard, with the present structure shown thereon, and a printed statement, containing further particulars. A premium of one hundred guineas will be awarded for the Design which the Committee may approve and adopt; and a second premium of fifty guineas for the second best Design.
W. GARDNER, } Hon. Secs.
E. LLOYD GRIFFITHS, }
Cheltenham, April, 1863.

CONTRACTS.

LONDON DISTRICT.—To BUILDERS and OTHERS.—WAR DEPARTMENT TRIENNIAL CONTRACTS for WORKS and REPAIRS.—The Commanding Royal Engineer, London District, hereby gives Notice that Sealed TENDERS will be received at the War Office, Pall-mall, London, S.W. addressed to the Director of Contracts, on or before 21st MAY, 1863, for WORKS and REPAIRS at the undermentioned Stations, from 1st JULY, 1863, to 31st MARCH, 1866, inclusive, viz
London, comprehending Tower of London, and all the barracks or other buildings within 5 miles of that place.
Schedules and printed forms of Tender, price 7s. 6d. each, and all necessary information, may be obtained on application at the Royal Engineer Office, 11, James-street, Buckingham Gate, London, S.W. from THURSDAY, the 23rd day of APRIL, until THURSDAY, the 14th day of MAY, 1863, inclusive, between the hours of ELEVEN a.m. and THREE p.m.
The Secretary of State reserves to himself the right of rejecting the whole or any of the Tenders.
Royal Engineer Office, 11, James street, Buckingham-gate, London, S.W. 17th April, 1863.

KINGSTON-UPON-HULL LOCAL BOARD of HEALTH.—To CONTRACTORS.—The Local Board of Health of Kingston-upon-Hull are prepared to receive TENDERS for the OUTFALL DRAINAGE of the WEST DISTRICT of the Borough of Hull, comprising the construction of upwards of four miles of brick sewers and other works in connexion therewith. Trial shafts have been sunk on the proposed lines of sewers, the results of which may be seen, with the plans of the intended works, on application to Mr. J. FOX HART, C.E. Surveyor to the Local Board, at his Office, Scuicoates-hall, Hull, where also copies of the specification, forms of tender, and bills of quantities may be obtained on payment of two guineas (to be returned to parties tendering in accordance with the specification), on and after THURSDAY, the 16th inst. Sealed Tenders, endorsed "West District Drainage," addressed to the Chairman of the Committee of Works, Sculcoates-hall, Hull, must be forwarded on or before THURSDAY, 30th APRIL, 1863. The Board do not bind themselves to accept the lowest or any Tender.—By order,
Hull, April 2nd, 1863. C. S. TODD, Clerk to the Board.
Notice is hereby further given, that the time for receiving Tenders for the above-mentioned work is EXTENDED UNTIL WEDNESDAY, the 6th day of MAY, 1863.—By order,
Hull, 20th April, 1863. C. S. TODD, Clerk to the Board.

TO BUILDERS.—TENDERS are required by Messrs. COURAGE & CO. for the ERECTION of TEN HOUSES near Jamaica Tavern, Bermondsey.—Apply to Messrs. SNOOKE & STOCK, Architects, 6, Duke-street, London Bridge, S.E. where plans and specifications may be seen. The Promoters do not bind themselves to accept the lowest or any Tender.
April 16th, 1863.

LEEDS CORPORATION WATER-WORKS.—TENDERS WANTED for the ERECTION of an ENGINE HOUSE, BOILER-HOUSE, COAL-HINS, WORKMEN'S COTTAGES, and other Works, at Arthington, near Leeds. The plans and specification may be seen after MONDAY, the 13th instant, by applying to Mr. EDWARD FILLITER, C.E. Borough Surveyor, Engineer to the Waterworks, at his Office, Town Hall, Leeds. Sealed Tenders, addressed to the Waterworks Committee, Town Clerk's Office, Leeds, to be sent in not later than THURSDAY, the 30th instant.—By order,
JOHN EDW. SMITH, Town Clerk.
Leeds, 4th April, 1863.

TO BUILDERS.—The Building Committee of the Baptist Church, Worcester, are prepared to receive TENDERS from CARPENTERS (in one sum) for the VARIOUS WORKS required in the ERECTION of a NEW CHAPEL at Worcester. The drawings, specifications, and bills of quantities may be seen at the Iron Room, Foregate-street, in Worcester, between the hours of TEN to SIX, from WEDNESDAY, APRIL 22nd, until SATURDAY, MAY 2nd (both inclusive). Copies of the bills of quantities may be had on personal application to the person in charge of the drawings, or by letter addressed to him. Tenders, endorsed "Tender for Chapel," must be addressed to Rev. H. E. STURMER, Chesnut-walk, and will not be received later than MAY 2nd
Darlington, April 14, 1863. PRITCHETT & SON, Architects.

STOCKTON and DARLINGTON RAILWAY.—To BUILDERS.—The Stockton and Darlington Railway Company are prepared to receive TENDERS for the following WORKS, viz.:—
No. 1. For the ERECTION of FOUR COTTAGES, at Middlesbro'.
No. 2. For certain ALTERATIONS and ADDITIONS to the PASSENGER STATION, at Middleton-one-Row.
No. 3. For the ERECTION of a WATER TOWER, at Saltburn-by-the-Sea.
No. 4. For a large CAST-IRON TANK and GIRDERS, for the Water Tower at Saltburn-by-the-Sea.
Plans and specifications for the above may be seen upon application to the Architect at the Railway Offices, Darlington, at the following dates, viz.:—Plans, &c. for No. 1, from WEDNESDAY, APRIL 15th, to WEDNESDAY, the 22nd. Plans, &c. for No. 2, from MONDAY, APRIL 20th, to WEDNESDAY, the 29th APRIL. Plans, &c. for No. 3, from WEDNESDAY, APRIL 22nd, to WEDNESDAY, MAY 6th. Plans, &c. for No. 4, from MONDAY, APRIL 27th, to WEDNESDAY, MAY 6th.
Tenders to be delivered on or before the last named date in each case, addressed to the Secretary, and endorsed "Tender for Works." No pledge is given that the lowest or any Tender will be accepted.
(Signed) THOS MAC NAY, Secretary.
Railway Office, Darlington, April 10th, 1863.

HORNSEY HIGHWAY BOARD CONTRACTS.—TENDERS will be received by this Board on or before SATURDAY, MAY 2nd, from parties willing to contract for the SUPPLY of MATERIALS for the repair of the roads and footpaths, and Team work; also for Mason's and Paviour's work for the year ending 25th MARCH, 1864. Forms of Tender and particulars may be had on application to Mr. H. S. INWOOD, at this Office, on the mornings of TUESDAY, WEDNESDAY, and THURSDAY, the 28th, 29th, and 30th inst. between the hours of NINE and ELEVEN o'clock. WILLIAM POTTER, Clerk to the Board.
Offices of the Board, High-street, Highgate, 23rd April, 1863.

CONTRACTS.

TO MASONS and PAVIORS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City on NOON precisely, to receive TENDERS for RE-PAVING the CARRIAGE-WAYS of LUDGATE HILL and STREET, and the FOOTWAYS of LOWER THAMES STREET, agreeably to specifications to be seen at this Office. Persons Tendering are required to give the names and addresses of at least two substantial householders as their sureties to enter into bond with the Contractor for the due performance of the Contract. The Commissioners do not pledge themselves to accept the lowest Tender, or any, unless deemed satisfactory; and no Tender will be received after TWELVE o'clock on the day of treaty JOSEPH DAW, Principal Clerk.
Sewers' Office, Guildhall, 14th April, 1863.

TO BUILDERS, &c.—HAILEYBURY COLLEGE, Herts.—Persons willing to TENDER for the EXECUTION of the several WORKS required in FORMING a LARGE SWIMMING BATH, 210 feet long, are informed that the contract, drawings, and specification will lie for their inspection at Haileybury College, near Hertford, on and after WEDNESDAY, the 22nd inst. until WEDNESDAY, the 29th APRIL inst. from TEN to FIVE each day, on which day Tenders will be received, endorsed "Tender for Bath," addressed to Rev. L. BREEDES, the Hon. Secretary, Bramfield Rectory, Hertford. The Committee do not undertake to accept the lowest or any other Tender. Forms of Tender, copies of drawings, and specification, with quantities, may be obtained of JOSIAH FORSTER FAIRBANK, C.E. 20, Parliament-street, London, S.W.
London, 16th April, 1863.

TO BUILDERS.—Persons desirous of TENDERING for the erection of a new RECTORY HOUSE and PREMISES, at High Laver, in the county of Essex, are requested to send their Names to Mr. FREDERICK CHANCELLOR, Architect, Pinners' Hall, Old Broad-street, London, and Chelmsford, Essex, before TUESDAY, the 28th of APRIL.

BOARD of WORKS for the HACKNEY DISTRICT.—CONTRACTS for WATERING ROADS and for HYDRANTS.—Notice is hereby given that the Board of Works for the Hackney District will meet at the Town Hall, Clerkenwell, Hackney, on THURSDAY, the 30th day of APRIL next, at TEN o'clock in the forenoon, for the purpose of opening TENDERS as follows:—WATERING ROADS:—for the Supply of Thirty (or more if required) Water Carts, with good and sufficient horses, proper harness, and men to attend each cart, until the 29th day of SEPTEMBER next, for the purpose of watering certain roads in the parish of Hackney, under the superintendence and to the satisfaction of the Board and their Surveyor, under Contracts 1, 2, and 3. HYDRANTS:—for the Supply and fixing complete of Twenty (or more if required) Water Posts, or Fault Hydrants, connected with the services and meters, with covering boxes and receivers for meters, ready for use. Drawings or samples of the Hydrants, or Posts, to be furnished by the parties Tendering. Forms of Tender and further particulars may be obtained at the Office of Mr JAMES LOVEGROVE, C.E. between the hours of NINE and TEN a.m. The Tenders to be sealed, endorsed "Tender for Watering Roads" or for "Hydrants" (as the case may be), and addressed to the Clerk, and delivered at the Town Hall, Hackney, on or before WEDNESDAY, the 29th day of APRIL. The parties tendering, or their representatives, must attend the Board on THURSDAY, the 30th day of APRIL next, at TEN o'clock precisely. Persons Tendering will be required to enter into a Contract or Bond, at their own expense, in sufficient surety for the due performance of the Contract, and the Board do not hind themselves to accept the lowest or any Tender.
Dated April 22nd, 1863. RICHARD ELLIS, Clerk.

WROUGHT and CAST IRON FACTORY and BUILDINGS. TENDERS will be received for the CONSTRUCTION of Nos. 4 CORRUGATED IRON BUILDINGS, 118 feet long, 72 feet wide; No. 4, 30-feet Cornish Boilers; Nos. 4, 8-horse Horizontal Steam-engines, complete; Nos. 8, Stills, 10 feet square; Nos. 8, Iron Refrigerators, 10 feet square; No. 8, Iron Water-tanks, 16 feet, 10 feet, 10 feet; No. 8, Reservoirs, 8 feet square; No. 48, Iron Tanks, 4 feet, 4 feet, 8 feet; Chimney-shaft, Offices, and Stables; also ninety Workmen's Houses, Offices, and Schools.—Plans and specifications may be seen on and after TUESDAY, the 28th instant, at the Office of Mr. JOHN DALES, 1, New Inn, Strand, W.C. Tenders to be sent and addressed to Mr. J. DALES, at the above address, on or before the 7th day of MAY, at TWELVE o'clock a.m. The Proprietors do not bind themselves to accept the lowest or any Tender.

PADDINGTON.—Notice is hereby given, that the Vestry of Paddington are ready to receive TENDERS from parties willing to CONTRACT for the CONSTRUCTION of about 3,3⅙ feet run of 4 feet by 2 feet 6 inches WHOLE BRICK SEWER, in Queen's-road and Westbourne-grove; 300 feet run, 3 feet 9 inches by 2 feet 6 inches WHOLE BRICK SEWER, in Grove-terrace; 340 feet run, 2 feet by 2 feet HALF-BRICK BARREL SEWER, in Douglas-place, together with other works incidental thereto.—The Tenders to be sent sealed and directed "To the Vestry," and left at the Vestry-hall, Harrow-road, on or before MONDAY, the 4th of MAY next, and persons sending Tenders are requested to be in attendance on the following morning (Tuesday), at TEN o'clock precisely. Specification, plans, and sections, may be seen, and all particulars obtained, from Mr. W. MERRY, surveyor, at the Vestry-hall aforesaid, between the hours of TEN and TWELVE a.m. The party whose Tender may be accepted will be required to procure two sureties of 500l. each, for the due performance of the works. The expense of the contract bond to be paid by the contractor. The Vestry do not bind themselves to accept the lowest or any Tender.—By order,
FREDERICK AVELING, Vestry Clerk.
Paddington, April 23, 1863.

TO BUILDERS, &c.—TENDERS required for the ERECTION of an intended PUBLIC-HOUSE, at New Cross.—For particulars and plans, apply to Mr JENKINS, surveyor, 1, Mount Pleasant terrace, Lewisham-road. The advertisers do not bind themselves to accept the lowest or any Tender. Tenders to be left with Mr. JENKINS not later than FRIDAY, 1st MAY.

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS, &c.—Persons desirous of CONTRACTING for the RE-BUILDING of the PREMISES in the High-street, St Neots, Huntingdonshire, for Mr E. Bedells, are requested to send in their names, with references to one or more buildings erected by them, to the Architects on or before THURSDAY, the 2nd instant. Tenders for each separate trade, or for less than the whole of the proposed works, will not be received. The drawings and specification will be for inspection on the Premises, and at the Offices of the Architects. The quantities will be supplied upon payment of 10s (to be returned if a bona fide Tender is sent), and also all needful information furnished to such Builders as may be approved by Messrs. LANDER & BEDELLS, Architects, 4, Great James-street, Bedford-row, London, W.C.

BRIGHTLINGSEA GAS and COKE COMPANY (LIMITED).—Contractors are invited to TENDER for the ERECTION of NEW GAS WORKS for the above named Company.—Plans and specifications have been prepared by Mr. JAREZ CHURCH, of Chelmsford, Civil Engineer, and copies of the same can be seen either at his Office, or on application to the Secretary, at the Office of the Company. The work is divided into two contracts:

No. 1 Contract comprises the Builder's Works, and
No. 2 the Apparatus, Iron Work, and Street Mains.

Tenders for each contract are to be sealed, endorsed, and delivered to the Secretary, on or before the 7th day of MAY, 1863. The Directors do not bind themselves to accept the lowest or any Tender.

ELLIS C. ATKINS, Secretary.
Gas Company's Office, High-street, Brightlingsea, Essex.

TO MASONS and PAVIORS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the SUPPLYING and LAYING an area of about 4,000 feet run of 12-inch by 8-inch DRESSED ABERDEEN FLAT KERBS, and of about 1,150 feet superficial of 4-inch TOOLED YORK PAVING, in the parish of Battersea. The specifications can be seen at the Offices of the Board, as below, between the hours of NINE and FIVE. Tenders are to be sent in, addressed to the Board, and endorsed "Tender for Paving, Battersea," on or before the 29th MAY next. Security will be required for the due execution of the Contract. The Board do not pledge themselves to accept any Tender. By order of the Board of Works for the Wandsworth District.

ARTHUR ALEXANDER CORSELLIS, Clerk to the Board.
Battersea-rise, Wandsworth, S.W. 20th April, 1863.

TENDER for SKELETON IRON BUILDING. The Directors of the East India Cotton Agency, Limited, are desirous to receive TENDERS and TENDERS for a SKELETON IRON BUILDING, of light and cheap construction, to cover a space 18 feet long by 45 feet wide, with a clear height of 12 feet. The Directors do not bind themselves to accept the lowest or any Tender.

59, King William-street, London, E.C. April 20th, 1863.

THE Tottenham Local Board of Health are prepared to receive TENDERS for MAKING, Sewering, Levelling, Channelling, Metalling, and Making good the ROADS on the Green Park Estate, Tottenham, and for sewering, Channelling, Metalling, and Making good the Roads on the Page Green Estate, Down-lane, the Chestnut Estate, High-road, and the Summerhill-road Public Thoroughfare. Plans and specifications to be seen at the Offices of the Board, after MONDAY, the 27th instant, where schedules of quantities may be obtained, if required, on one guinea, one half of which will be returned on receipt of the schedules. Tenders to be delivered at the Offices of the Board, High Cross, Tottenham, N., on or before FRIDAY, the 1st day of MAY, at SEVEN o'clock. The Board do not bind themselves to accept the lowest or any Tender.

WM. HEATH, Clerk to the Board.

METROPOLITAN IMPROVEMENTS.—BUILDING LAND in the PARISH of MILE-END OLD TOWN.—The Metropolitan Board of Works hereby give notice, that they will meet at their Office, in Spring gardens, Charing-cross, on WEDNESDAY the 29th day of April next, at TWELVE o'clock, at noon precisely, and will be prepared to open TENDERS for parties who may be willing to take on building leases all or any certain PLOTS of GROUND, situate on the east and west sides of the new street leading from Limehouse to the Bow road, as numbered from No. 1 to 80 in the ground plan of the estate.—Particulars, conditions, and form of Tender, and every information may be obtained on the Saturday during An Office, at the Office of the Board, any day, between the hours of NINE and FOUR p.m. The Tenders must be on the printed form, and left at the Office of the Board, and be delivered under sealed covers, endorsed "Tender for Land at Mile-end," addressed to the Clerk of the Board, at the Office of the Metropolitan Board of Works, Spring gardens, S.W., on or before TWELVE o'clock at noon, on WEDNESDAY, the 13th day of MAY next, and no Tender will be received after that hour. The Board do not bind themselves to accept the highest or any Tender.

JOHN POLLARD, Clerk of the Board.
Spring gardens, Charing-cross, March 28, 1863.

TO BUILDERS. Builders desirous of TENDERING for the RESTORATION and ENLARGEMENT of the CHURCH at Wootton St. Lawrence, near Basingstoke, Hants, may see the plans and specifications at Mr. E. AWBERY'S, the Parish warden, at Wootton aforesaid, on and after the 4th of MAY next. Tenders to be received at the office of the Architect, Mr. JOHN COLSON, St. Swithin-street, Winchester, on or before the 18th day of MAY next, by TWELVE o'clock at noon. No pledge is given to accept the lowest or any Tender.

ST. MARYLEBONE, April 16th, 1863.—TO PAVIORS, MASONS, CONTRACTORS, &c.—NOTICE is hereby given that the Vestry of the Parish of St. Marylebone, in the County of Middlesex, will meet at the Board Room of the Court House of the said parish, in Marylebone-lane, on THURSDAY, the 7th day of MAY, 1863, at ELEVEN o'clock in the forenoon, precisely, to receive TENDERS from persons willing to contract for the performance of Curbe ways Paving in Brown-street, Shouldham-street, Nutford-place, Montagu-place, and Wyndham-street, and of providing and setting Kerbs, and performing other works in Big mare road, and in Hunter's terrace, all in the said parish. Further particulars may be known, and specifications may be applied for to the Vestry's Surveyor, Mr. ROBERT SCACE, at his early attendance at the Court House, from Twelve till One o'clock. The contractor is to find satisfactory security for the performance of the works and to pay the expenses of the Board and Contract. The Tenders to be sealed, left at the Vestry Clerk, and endorsed "Tender for Paving Works," before NOON of the forenoon of the said 7th day of MAY, and no Tender will be received after ELEVEN o'clock. The Vestry will expect the parties tendering, or some person on their behalf to be present at the time when and where the Tenders. The Vestry is not pledge themselves to accept the lowest or any of the Tenders.

By order,
W. E. GREENWELL, Vestry Clerk.

TO ENGINEERS & CONTRACTORS.—SHEERNESS WATER WORKS.—The Local Board of Health for the District of Sheerness, in the County of Kent, hereby give Notice that they are prepared to receive TENDERS from persons willing to contract with them for the following Works, viz.:—to provide and lay down 11 Wells, and to maintain for Twelve months in good working condition, One Vertical Compound high and low pressure Condensing Steam Engine, of Twenty nominal horse power, Two Bollers, and all other necessary Plant and Machinery. Persons desiring to Tender may obtain specifications and every requisite information by applying to Mr. JAMES LUND, the Surveyor of the Board, at his office, 20, Marine-parade, Sheerness. Sealed Tenders, endorsed "Tenders for Engines," are to be delivered at his Office not later than 12 o'clock, on the 30th day of May, 1863, at which o'clock in the forenoon, By order of the Committee of the Board of Health.

EDWARD FELKIN, Clerk.
Office of the Local Board of Health,
Sheerness, 17th April, 1863.

BUILDERS desirous of TENDERING for the ERECTION of Three pairs of semi-detached VILLAS at Pick Farm, may have the Plans, &c., on payment of half a guinea, to be returned when the Tenders are received, and obtain all particulars by applying immediately at 22, Chesterfield Cottages, Bath road, Peckham, S.E.

RAIN WATER PIPES, GUTTERS, &c.

ST. PANCRAS IRON WORK COMPANY,

OLD ST. PANCRAS ROAD, AND YORK ROAD, KING'S CROSS, LONDON.

Rain water pipes.....	2½-in.	10d.	3-in.	1s. per yard.
Eaves gutter	3½-in.	6½d.	4-in.	6½d. „
O G gutters, with clips cast on	4-in.	11d.	4½-in.....	1s. „
Sash weights.....		5s. per cwt.		

STABLE FITTINGS. HURDLES.

LIGHT AND HEAVY CASTINGS OF EVERY DESCRIPTION.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, AND YORK ROAD, KING'S CROSS, LONDON.

BERMONDSEY, ROTHERHITHE, and DEPTFORD ROADS.—BROKEN GUERNSEY GRANITE, and OTHER STONE.—The Trustees of the above Roads will meet at my Office, No. 181, Bermondsey-street, Bermondsey, in the county of Surrey, on THURSDAY, the 30th day of APRIL instant, at TWELVE o'clock at noon precisely, to receive TENDERS for the supply of 1,200 yards of BLUE BROKEN GUERNSEY GRANITE CHIPPINGS of the best description, subject to the approval of the Surveyor of the Trust, such stone to be delivered in quantities of 400 yards at a time, as follows:—200 yards at the Plough Wharf, in the Grand Surrey Canal, Rotherhithe; and a like quantity at Cherry Garden Wharf, Bermondsey, in the River Thames, before the 1st day of JUNE next, and one half of the remaining quantity to be delivered in Leicester before the 1st day of JULY next, and the remainder before the 1st day of OCTOBER next respectively, the Trustees having the option of taking 300 yards additional if required. The Contractor is to be bound by the Surveyor's admeasurement of the material and measurements of the quantities of the stone delivered. Payment to be made within three months after the respective periods of the delivery and passing of the accounts by the Surveyor at the usual quarterly meetings of the Trustees. The Contractor will be subject to the payment of a penalty of Ten Pounds in case of failure to deliver the above mentioned quantities at any of the respective periods above mentioned.

G. R. DREW, Clerk to the Trustees.
151, Bermondsey-street, S.E. 23rd April, 1863.

TO BUILDERS.—Builders desirous of TENDERING for taking down and RE-BUILDING the PARISH CHURCH at STOCKBRIDGE, Hants, may see the plan and specifications at the Office of the Architect, Mr. JOHN COLSON, St. Swithin's-street, Winchester. Tenders to be delivered to the Rev. W. H. TRIPP, at Stockbridge, by TWELVE o'clock at noon on the 6th of MAY next. No pledge is given to accept the lowest or any Tender.

April 25th, 1863.

SAINT MARY, ISLINGTON.—METROPOLIS LOCAL MANAGEMENT ACT.—The Vestry of this Parish hereby give notice, that a Contract will be entered at the Vestry Offices, Upper-street, Islington, on WEDNESDAY, the 6th of MAY next, at TEN o'clock in the morning precisely, to receive TENDERS for the CONSTRUCTION of about 750 feet of BRICK SEWER 4 ft by 2 ft. 11½ in. of BRICK SEWER 3 ft by 2 ft., and 250 feet of 15 inch PIPE SEWER, and the necessary WORKS in connection therewith, in Hornsey Road, Seven Sisters Road, Pym Lane, Caledonian Road, Camden Street, and Charlton Crescent. The form of Tender which alone will be received may be obtained, and the specification and draft Contract seen at the Vestry Offices, Surveyor's Department between the hours of TEN and FOUR o'clock. Persons desirous of contracting must attend at the time and place above stated with sealed Tenders endorsed "Tender for Sewer Work." No Tender will be received after TEN o'clock, nor will any Tender be received unless it contains a £10 Bank of England note, which will be immediately returned to each person whose Tender is not accepted, but will be retained in the other cases until the Contracts and Bonds are duly signed by the parties. The Vestry do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved Sureties for the due performance of the Works.

JOHN LAYTON, Vestry Clerk.
Vestry Offices, Upper Street, Islington, 23rd April, 1863.

TO BUILDERS.—A TWELVE-ROOMED VILLA is proposed to be ERECTED at BASINGSTOKE for Mr. R. A. DAVIS. Part is willing to TENDER for the same can see the plans and specifications, and obtain all particulars, at the Offices of the Railways, Mr. G. B. MUSSELLWHITE, on and after THURSDAY next. Tenders to be sent to Mr. R. A. DAVIS, not later than SIX o'clock on MONDAY evening, MAY 11th, 1863. Neither the lowest, nor any Tender, will necessarily be accepted.

LEIGHTON, SON, & HODGE beg to intimate to Publishers, Printers, and the Public generally, that they execute with the best workmanship and on the most moderate terms every description of WHOLESALE BOOKBINDING, either in Cloth or Leather (also Account-book Binding), with promptitude and punctuality. Their stock of ENGRAVED BRASS DIES is most extensive and varied, and designed in the best taste, and their powerful machinery and steam power give them great advantages in the rapid execution of large orders.

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The Patentee, in introducing this Machine to the notice of Contractors, Slate Merchants, Slaters and House Proprietors, has every confidence in recommending it as being an immense improvement upon the old fashioned, slow and expensive mode of Boring or Punching House Slates. Though admirably adapted for its purpose, this Machine is yet so simple that a boy may work it, it is so cheap that no tradesman need be without one, and so economical that, by its saving in breakage alone, its cost will be repaid in a few weeks.

The advantages and capabilities of the Machine may be stated as follows:—

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4th. There is no breakage.

5th. The full strength of the slate is preserved; the drill not causing any splinter as is done by the pick.

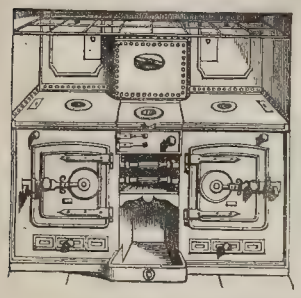
DISTRICT AGENTS are being appointed for England and Wales, and also Ireland. Suitable parties will learn prices and terms by applying to the Patentee, ALEXANDER WEBSTER, Engineer, Arbroath, N.B.; or to his Agent, Mr. D. F. ORMOND, Ironmonger, Arbroath. Satisfactory references will be required.

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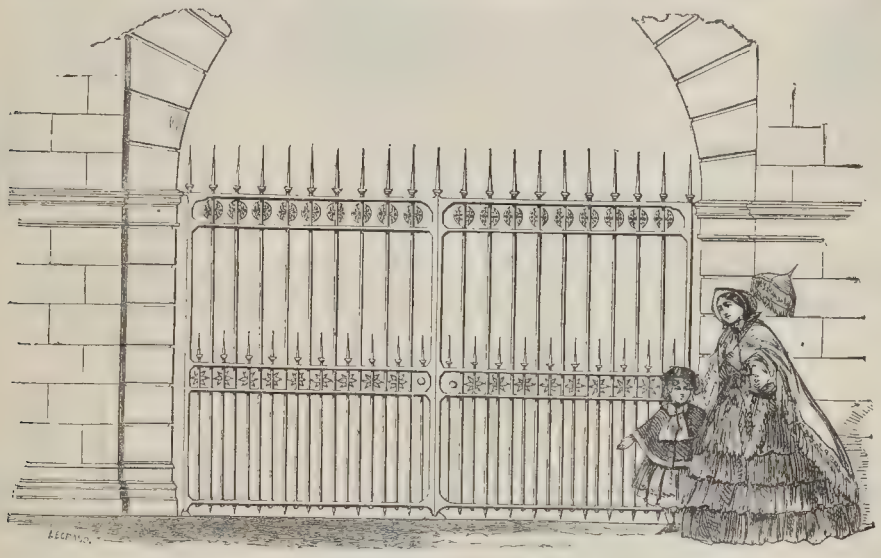
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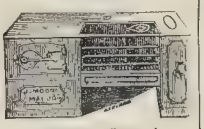


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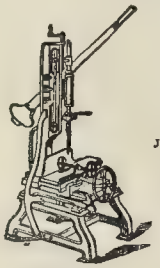
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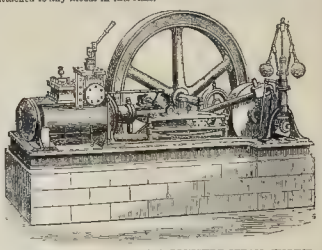
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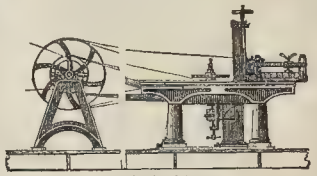
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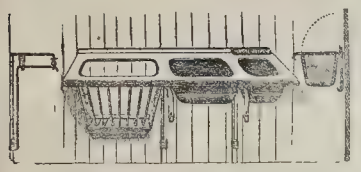
STABLE FITTINGS AND HARNESS BRACKETS.



Awarded a prize at the Paris Exhibition,

Patronized by the English and French Governments, as well as by the principal Nobility, Gentry, and Hunting Establishments in the Kingdom.

In use at her Majesty's Stables, Aldershott and Balmoral.



COTTAM & COMPANY, Winsley street, W. are the original Inventors of the PATENT ENAMELLED MANGER, Water-trough, and Wrought-iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S Patent Noiseless Halter Guide and Collar Rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

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COTTAM'S PATENT PERMANENT ATTACHED DROP COVER, for the above, is a most essential addition to their fittings; it is never in the way; can be placed and replaced in an instant, while its cheapness, simplicity, and utility in keeping the contents of the trough clean, and regulating the quantity to be taken, is quite sufficient to insure its use.

COTTAM'S PATENT SADDLE AND HARNESS BRACKET COMBINED

can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED WROUGHT-IRON VENTILATING BRACKET preserves the shape and allows a free admission of air to the under parts of the saddle.

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COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanized, and enamelled Iron gates, fencing, hurdles, &c.



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WHERE FULL-SIZED STALLS, LOOSE BOXES, AND HARNESS-ROOM, &c. ARE FITTED UP, SHOWING ALL COTTAM'S PATENT IMPROVEMENTS, &c.

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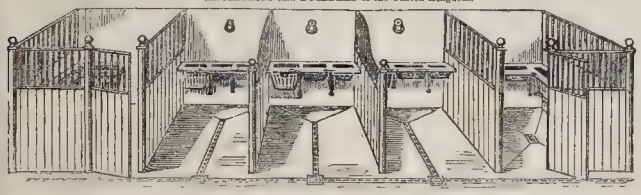
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INTERNATIONAL EXHIBITION, 1862.—CLASS 31.—PRIZE MEDAL AWARDED FOR

BARTON'S PATENT STABLE FITTINGS

AND ENAMELLED MANGERS.

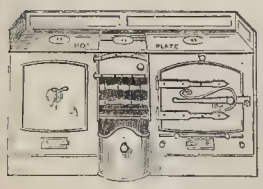
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THE NEW CRYSTAL STAR AND SUN LIGHT.

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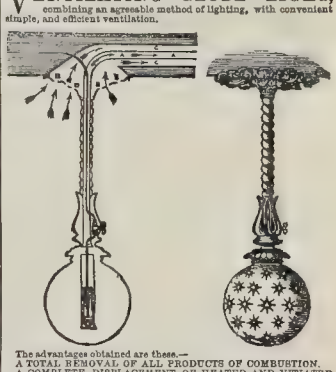
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VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient simple, and efficient ventilation.



The advantages obtained are these.—

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

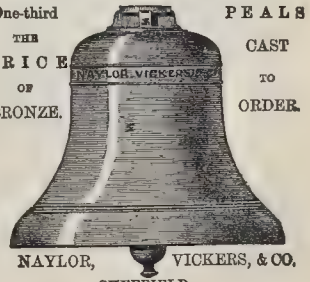
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A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

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One-third THE PRICE OF BRONZE.



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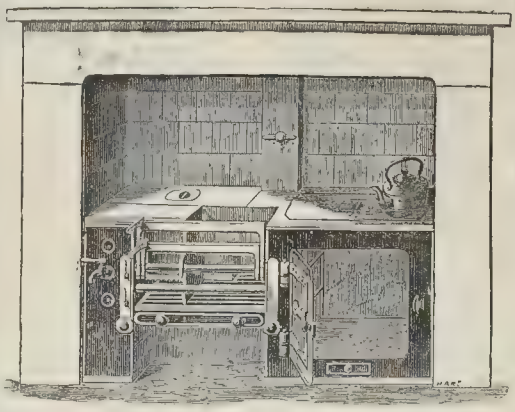
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This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

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This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,

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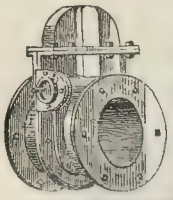
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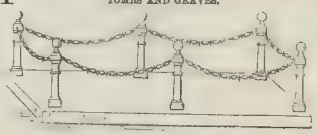
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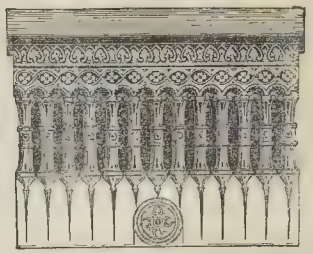
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By the use of this Apparatus a saving in fuel of 50 per cent is effected; the atmosphere in the room is purified, and can be regulated to any temperature, and the health being thus improved; smoky chimneys are prevented, a clear fire is always burning, and, in addition, in the above advantages, the heat from one fire can be made available for warming any other rooms, hall, staircase, &c. A prospectus, containing a full description of its action, or any information will be given, on application to the Patentee,

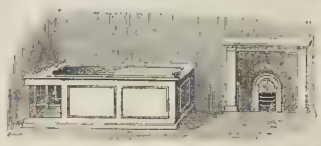
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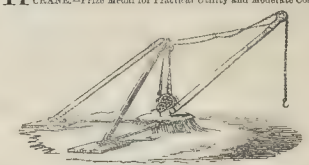
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Milled Lead in Sheet and Pipe of all sizes.

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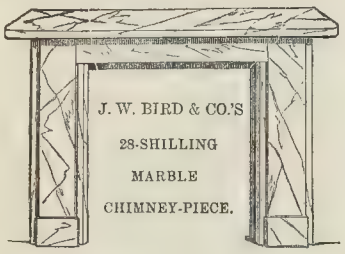
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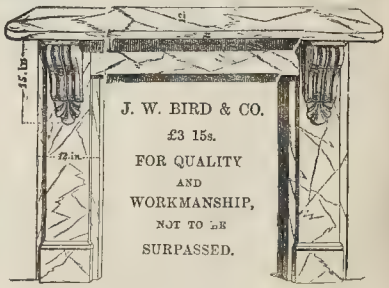
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The Builder.

VOL. XXI.—No. 1055.

Materials and Manufactures in the Architectural Exhibition.



IT is, we have often said, peculiarly difficult in the case of new materials and contrivances that are put forward for use in buildings, to form accurate opinions of their merits; and the extent of the difficulty is not appreciated by the public, with whom the sense of responsibility can hardly exist, as it must with architects. Our profession, we have remarked, has been frequently blamed for an indisposition to adopt new inventions. The fact is that apprehension of all the conditions of success, or foresight of many of the influences that will affect results in the period of time which it is the office of good building to provide for, is scarcely possible. Inventions the most promising sometimes turn out failures, through the circumstance that a single point was necessarily in oblivion at the time of adoption of the contrivance, or material; and the most experienced architects are not unlikely to be those who will have learned the most to be cautious, and who in the interests of their clients will be the most determined in asking for proofs of the durability and real economy of the articles invented and offered. The duty referred to as that of architects, is greatly increased, rather than diminished, by the quantity of materials and contrivances that have come into the market, and by the general tendency to substitute manufactured articles, merely purchased and to be fixed, for materials wrought or shaped on, or in, the building itself. To carry reasonable caution however to the length of prejudice,—so as to refuse to be served by the prolific enterprise, even that of *dealers*, in materials,—would be obviously not the course for the professors of an art and science essentially progressive, like architecture.

When ready-made ornaments, substituted for such as should have been designed and wrought for the position, are used to the blotting-out of all art-manifestation, as in the large majority of stuccoed edifices, dissatisfaction with the condition to which the art of the beautiful in building is there reduced, may be excusable, as may also some apprehension lest results such as have been brought about needlessly in the application of cement and plaster, should attend the use of artificial stone and baked clay. To pursue the serious question of the influence of art-manufactures upon our art of architecture, would however involve us in too great length of appreciation of the several points in the question, appropriately for our space,—even devoted as that is to an exhibition which includes articles of the class of manufactures concerned; whilst the difficulty of the question is enough to demand very patient and long-matured reflection. For the art-element in the manufactures department of the Exhibition in Conduit-street, then, we shall confine ourselves as heretofore, to what is presented to visitors; and in this as usual, if there be little in quantity, there is work to interest us and moreover to be admired.

As to materials and contrivances, however, in the view of their durability and economy, and of the means of comparison between materials, we must repeat that places of exhibition as now organized, do not enable the architect to get the information that he ought to be in a position to derive. The materials department of the Architectural Exhibition may always be visited with advantage; and it must be of great service to the manufacturers and dealers who contribute to it specimens of their productions; but we trust that some day, we shall see our long-since-suggested arrangement carried into effect, namely, that of exhibition in the open air and subjection to one of the true tests, exposure to the weather, in the case of all building materials and things designed for external use. All articles of this description in the Jermyn-street Museum, the museums at South Kensington and Kew, the Crystal Palace, the Polytechnic Institution, and wherever else, are simply misplaced, or so long at least as they do not become merely duplicates of specimens out of doors. If ground in Hyde Park, or Battersea Park,—or Victoria Park, if not too distant from central London,—could be devoted to the use suggested, the result might be a really popular and interesting as well as useful and instructive museum; whilst the test would be that of the very atmosphere in which the materials would have to be used. We would accept ground anywhere, however, out of London, rather than not possess the collection, and have the advantage that has been so long a desideratum in practical architecture. Might not the directors of the Crystal Palace, having the ground, usefully give attention to the subject? At least the object of our suggestion deserves to be pursued by the Institute of British Architects, the Institution of Civil Engineers, the Society of Arts, and the Department of Art and Science, and by all who are interested in questions of the durability of building materials,—as are the whole public.

After this perhaps long preamble,—in the course of which, however, it should have sufficiently appeared why we cannot necessarily respond to wishes of some exhibitors, even in the case of promising inventions, by praising these last,—we may without prejudice to the value or limits of mere notes, fittingly proceed to mention those specimens and objects that we have observed in the Conduit-street collection this year. The whole division of the collection is not large; but the variety of the kinds of articles is considerable. Thus there is no opportunity for comparing numerous inventions of the same class. Some of the objects have been in the galleries for several years, or were conspicuous in the International Exhibition of last year. The committee have issued the usual announcement of an exhibition next year, as well as that of the autumn exhibition of the Architectural Union Company: it might be well if they would consider whether by any classification, or restriction, consistently with the pecuniary receipts for space, they could render the department of materials and inventions more instructive and useful than it is this year to architects. Exhibitors, however, omit to afford necessary information as to any tests of strength, and as to price and other matters that would obviously be inquired about.

Clay manufactures and substitutes for stone, as on former occasions, are prominent in the collection. Messrs. F. & G. Rosher exhibit a selection from the articles in great variety, in which they deal, and which include bricks; paving, coping, and roofing tiles; ridge-cresting, and garden-edging. The Chilton white and red Suffolk facing bricks, and moulded bricks, are good. Messrs. Rosher issue a very useful sheet of diagrams of the different forms of pans, traps, and basins. The works they exhibit in artificial stone "prepared with Bennett's Patent Indurating Solution," are inferior to what can be produced: the ornament on the trusses sadly wants clearing out. The Watsonian Patent Fern Brick and Fern Column, also exhibited by Messrs. Rosher, deserve, as tasteful and ingenious contrivances, the attention of all cultivators of ferns. The "brick" which is made in three sizes,—the largest, 14 inches by 13 inches, and the smallest 3¼ inches by 3¼ inches,—is hollowed out on one face into a sort of niche; and from the bottom of this projects a shell-formed dish, the receptacle for the plant. Several of these bricks,—18 for a hexagon of three tiers in height,—may be built together to form the "column," which may be set in a shallow vessel or tray, and covered with a glass shade. They are made in the porous red clay. The different sizes are for the different kinds of mosses, *lycopodia*, and other plants. Instead of being arranged as a "column," they may be grouped, and built into a wall. Vegetation, it is said, will not encrust the material: thus the effect of the brick-red and the green would be permanent. The Patent Stone Bricks of Messrs. Bodmer Brothers, of Newport, Monmouthshire, are exhibited by Messrs. Rosher. We mentioned them some weeks ago. They are perfect in shape, and are of excellent colour, resembling stone. They consist chiefly of sand and lime in certain proportions, well mixed; and are subjected to great pressure in moulds. When removed from the press, they are piled in heaps; then induration commences, and penetrates to the centre. They do not deteriorate by exposure, it is affirmed, but become harder and more durable; whilst frost does not affect them, and they are not injured by being immersed in water: "hydraulic bricks" specially for sewers and similar works, however, are made. The bricks and tiles of Mr. J. K. Cooper, of Maidenhead, are made of superior clay subjected to great pressure, and are found not to be affected by frost. The cresting, in one piece with the ridge-tiles, is excellent in the different patterns, simple, and calculated to tell clearly in a view from a distant point.

Mr. J. M. Blashfield, of the Stamford Pottery, and Messrs. M. H. Blanchard & Co., of Blackfriars-road, rival one another in their terra-cotta manufactures. Any defects of the manufacture, as twisting from the firing, have been reduced to the minimum, and indeed are only observable in the deviations from right line, of the cornices in Mr. Blashfield's work, where the joints are. It is questionable whether pointing in *white* mortar, allowing joints to show, or colouring the mortar to resemble the bricks, is best. The diaper ornamentation of Mr. Blashfield's shafts might centre better than it does with the other ornamentation. All these defects of terra cotta and ornamental brickwork, especially the deviation from perpendicularity of ornaments that should fall over one another, and the prominence of the mortar joints, are observable in the arcades of the Horticultural Gardens, and much reduce the value of what is otherwise excellent work. Another point to which the attention of all producers of terra-cotta ornaments should be directed, is that which should never be forgotten by manufacturers, the desirableness of not attempting work so minute as to be unadapted to the material (unless with subsequent chasing or hand-finishing), or work which, dependent for its effect upon some amount of undercutting, cannot receive that. Mr. Blashfield exhibits the largest and best collection of specimens; but the banded and spirally-fluted shafts of Messrs. Blanchard's work,—ornament filling in the flutes in one shaft, and the hollow of the band in another,—are equal to the banded and diapered shafts of the Stamford manufacturer. Bad proportion of the diapering, and bases, to the shafts in the smaller columns of one manufacturerer; and a similar defect in the capitals of the other, and the inferiority of their ornamentation to that of the best Corinthian capitals, however prove to us that the architect should never omit the attention on his own part, to design, even where he is about to avail himself of manufactures generally so good as are those of both the producers we have named. Mr. Blashfield's cornices,—some of the specimens that were in the International Exhibition,—merit particular attention. The misapprehension of the art in such works, and of their interests, by manu-

facturers, however, was evidenced last year by the exposure at Mr. Blashfield's stall, of a cut professing to represent one of the cornices, and which had appeared in a popular art-periodical. The cut represented each sinking or projection of several inches, as little more than one inch, and changed a bold and cleverly-designed work into a flat and spiritless thing. Amongst Mr. Blashfield's best productions are certain balusters which are scarcely distinguishable from wrought balusters, and being very slender are stronger than they would be in stone. The vases exhibited are in great variety, from large-sized vases adapted for gardens, down to small Greek vases with subjects in red and white on black ground. The latter, not attempting relief, and the red clay vases perfectly plain, are more successful than the vase about 6 inches in height where the figure ornament is in high relief. One of the large vases, a common pattern with eagles as handles, is an admirable specimen of work. The other objects displayed, include trusses, frets for balustrades, bricks for chimney-shafts, and mullions, and a bust and a figure of Ceres showing the merits of the manufacture as applied to the sculptural accessories of buildings. The clays are red, white, and stone colour. The principal cornice is effectively treated with incised ornaments, coloured. "Porcelain stoneware warranted to stand frost" is shown as used in the base of a fountain at Woodhall Park, Hertford. The tiles include specimens of those used for the footways of Westminster Bridge, and varieties of mosaic, down to buff and red tiles for cottages at 5d. per foot. The red brick cornice costs for the bricks, 4s. a foot. Messrs. Blanchard's space includes specimens of their terra-cotta steps, for geometrical staircases, which may be built as Portland stone steps, but are lighter and cheaper, and probably more durable. The treads and risers may be ornamented with *tesseræ*; or the risers may be perforated; whilst the soffits also can be ornamented. Messrs. Blanchard further exhibit trusses and balusters, and an excellent vase in red clay; but one of the most important of their applications of terra-cotta, is to fencing posts. Such posts, of the material, would be durable, and particularly suited to marshy land. Each post is made in three pieces, which fit together telescope fashion. As to the strength of such posts and columns, one of the columns used at the Horticultural Gardens, when tested, bore a pressure of 20 tons. Messrs. Ransome's patent stone is exhibited in the form of balustrades and window dressings, which certainly testify by their right lines, to the superior art-value from not burning the material as required in the case of terra-cotta. We discover, however, more disintegration or liability to fracture in the arrises, than would generally be asserted of this material by those udging favourably of it. A bust of Mr. Bidder, which is exhibited, only testifies again, that a material and manufacture have their limitation, and that the siliceous stone cannot realize some of the touches producible in soft clay by the fingers, or in marble by the chisel.

Specimens of the geometrical mosaic of Messrs. Maw & Co., for pavements and wall-decorations, occupy as before, one end of the west gallery, and include some of the best of the many good designs produced with the assistance of architects to whom the manufacturers, with judgment, have applied. Generally, in inlaid encaustic tiles, especially those designed for use in churches, old patterns have been repeated by manufacturers, so much as to interfere with the appearance of freshness, in fact art, which there might be in the walls and the superstructural portions of a building. The tiles suitable for churches, from the manufactory of Mr. Godwin, Lugwardine, Hereford,—and which are shown combined in a drawing, in another part of the Exhibition,—are the best we have seen of the class; and very good they are. The same exhibitor's collection includes many other varieties of tiles as well as *tesseræ*, suited for use in the corridors of houses, conservatories, and like situations. Good specimens of mosaic, and encaustic and other tiles suited to pavements, and to reredoses and wall surfaces, are exhibited by Mr. W. E. England. Amongst them is a copy of mosaic from the Basilica of Santa Maria Maggiore, a laboriously but skilfully executed piece of work.

There are other things in the gallery which we must notice next week.

CONDITION OF BETHNAL-GREEN.

As we extend our wanderings through the widespread distress of this district, the sufferings of large numbers become more and more apparent. In house after house, in almost every separate room of those houses, there are families in the greatest poverty. In many of these rooms, on the floors, are rolled up bundles of tatters, which are all the bedding now left. In some rooms there is a bedstead, but so old and rickety that neither a pawnbroker nor dealer would take any notice of it. This, however, serves as a seat by day and an uncomfortable resting-place at night. There are no other chairs or seats which would bear a person's weight. The small children squat or roll about the floor. In upwards of thirty apartments no drawers, chests, clocks, or other of the usual furnishing of such places were to be seen, and we noted with pain that in the houses of many of the weavers the plants and flowers which heretofore enlivened even the poorest places, have disappeared, and the crockery and ornaments in which they formerly took much pride, have become scarce and broken. The dresses of the young women are less neat, and in every direction there is too plain evidence of the decline of comforts during the last two or three years.

In the houses of many of the better-off weavers we miss articles which were commonly found there. The beds, but little cared for, are rolled on the floors beside the looms; and in numerous instances the looking-glasses, pictures, the brightly-polished mahogany tables, and other matters highly prized, and which had been long in the possession of families, have disappeared.

During our recent examination of these homes we met with but few evidences of drunkenness, but saw careworn women and half-fed men and children, who exhibited courtesy that would surprise visitors who have not mixed with this class of the metropolitan population. It was found that the accounts given were rather with a view to disguise than to make a parade of their poverty.

Few persons travel from West London or from the provinces to the eastern parts of the metropolis, for there are no "lions" to be seen. The Tower and the docks have interest, but throughout the miles of streets what is there to tempt the general traveller to move in this direction? In order, therefore, to make the condition of a large multitude living in Bethnal-green and Spitalfields understood, it is necessary not only to give some further account of what we met with here, but also, for a useful purpose, to make some comparisons between the people in East London and those in Lancashire. In the latter place the extent of distress is enormous; there is *entire cessation* of work by a multitude. Mr. Commissioner Farnall, in his last report of the 5th inst., says, "There are now 414,498 persons who are either receiving out-door relief from the guardians, or who are maintained solely by the local committees within the twenty-seven unions. .....Independently of the above number there are 11,458 within the workhouses of those unions, making a total of 425,956, or 21·5 per cent. of the population. These figures show that, if the Relief Fund fails, there will in all probability be more than *one-fourth* of the population who will require support from others, many of whom—shopkeepers, the proprietors of dwelling-houses, —are just now on the verge of pauperism themselves. The present arrangements, without some sudden and unexpected beneficial change, cannot be much longer continued. There must be extensive aid devised for those suffering districts. There are future hope and sunshine for Lancashire; but while the clouds are passing away, emigration and some other means besides those now in use must surely be employed.

In those parts of East London to which we now particularly refer there seems no chance of improvement in the instance of the hand-loom silk-weavers. It is impossible that they can rear families with a prospect of future usefulness on the receipt of 8s., 9s., 10s., or even 11s. a week, when they have work; and, moreover, as we have said, there is no dependance to be placed on this miserable pittance, which, as time passes on, will be reduced in amount to those who follow this kind of work. When driven by downright starvation to make application for out-door relief from the parish (in the vain hope, as we fear, of work getting better by and by), this as a general rule is refused, and the offer is made for them to go into the union. This means the separation of man and wife, and of fathers, mothers, and children. It means also the sale of those articles which, however scanty and of but small-money price, still constituted a home. It means paupers for evermore.

On refusing to go into the House, the people are left in this great and rich city in a state of starvation. It has been shown by the evidence of medical officers and others that, in several instances lately, there have been in the Bethnal-green district cases of actual death from hunger; and who can rightly estimate the number of those who, through the want of pecuniary means and their objection to ask for parish assistance, the unwholesome condition of the houses in which they have been forced to dwell, and the want of sufficient clothing, have died, without any public note having been made of their miserable end?

Several women, who had families of children, on being asked, mentioned that the number living was about half of those who had been born. This is very different from the results as regards persons in good condition who attend to the sanitary laws, which they have the means of observing. Fortunately in her Majesty's family, for example, no child has been lost, and it will be generally seen that, with similar good management, corresponding results will be the consequence. But in this neighbourhood, in the present condition of the people, the decline of wages having driven them often into worse lodgings, to a greater extent of dirt, in their clothing and persons, and the want of sufficient food, not to mention the ignorance of the people on points regarding health, it is not wonderful that fever, small-pox, and other preventible disorders should be generated.

In the course of our progress we heard no complaint against those in authority, and from no part of the land did there come warmer wishes than came from this neighbourhood on the occasion of the marriage of the Prince of Wales. They blame, as has been already said, in their ignorance of social economy, Mr. Gladstone and others. Good teaching would be useful, and be the means of causing many in this district to turn their labour into fresh channels. Every means towards this will be of advantage, for we see in East London how sadly thousands of the population are going to waste and degradation; great necessity exists for taking the condition of these people into consideration. But clear as their sad state is, it is not easy to find a remedy; we would, however, suggest,—

1st. The necessity of making the extent of the distress here clearly known; and for this purpose official inquiry is necessary: the evil is a great and spreading one.

2nd. Assistance to the local committees by considerable funds, which, if the need were known, would soon be forthcoming.

3rd. Help to the sons and daughters of silk weavers, and others whose employment has failed, and who have honest character, to find situations—assisting those who are willing and suitable to emigrate.

4th. Extension of the means of visitation to houses, so that those who might be assisted with advantage should be known.

There are, at the present time, agencies at work for the purpose of endeavouring to remedy the evil which now exists, and which, without vigorous efforts be made, must still further increase. The clergymen, and other influential inhabitants of some districts, have formed societies for visiting and other purposes. In some departments those gentlemen have been assisted by aid from elsewhere—as in the instance of "Nova Scotia-gardens,"—but, for the most part, the power and means of the district associations are insufficient for the need. Few families are at present visited. The cause of this is, no doubt, the denseness of the population, for in such a parish as Bethnal-green the number of families is not to be counted by the houses, but by the rooms. In connexion with these societies, there is a certain amount of good done in the way of affording temporary relief—money and clothing,—but still greater is the advantage of assisting the children to find employment; of directing the attention of medical officers and parish authorities to particular cases; and in having the children sent to school.

On the way to Bethnal-green, in Mare-street, Hackney, we called at the "Elizabeth Fry Refuge," an establishment which is open for the reception of female prisoners on their discharge from prison. This institution, the objects of which were laid down by the late Mrs. Elizabeth Fry, has been in existence thirteen years. During that time 1,150 women of all ages, who have been convicted of various offences, and who, at the end of their imprisonment, had no home to go to, have been received.

During the last year ninety-eight women and girls have been inmates, some of whom remain for a few days or weeks, others for months, as the committee of ladies find the opportunity of disposing of them satisfactorily, with a view of training them for domestic service and forming habits of industry. The people here are employed in needlework, household occupation, and laundry work, the latter being especially remunerative, having produced last year a clear profit of 110*l*. Many of the cases which have been brought here are of the most painful description. Some are young girls who have come from country places to seek service, and who, by an extravagant love of dress, have been led to commit theft; others have done so for the purpose of obtaining drink; and for the most part it is found that those who come have lacked education and sufficient early moral training. The influence which the matron and lady visitors have on the inmates is great, and has had a beneficial effect: as an instance we will mention one woman, aged twenty-eight, who had been in prison twenty-eight times, and at last had a sentence of four years' penal servitude: she remained seven months in the refuge, and was then sent to service, where she has given satisfaction, and kept her place for more than twelve months. Of those who have been in this institution during 1862, twenty-four were sent to service; twenty-four to their friends, some of whom resided in distant parts; three, abroad; to hospitals, two; Barker-street Home, fifteen; Cooper's Homes, two; Manor Hall, four; Dalston Refuge, two; one to her parish; Magdalen, one; School of Discipline, one; Field-lane Refuge, one; left to seek work, four; left at their own request, fifteen. The matron, a lady who seems devoted to her difficult duty, mentioned that there was a demand for those girls and women who, after a time of probation here, could be recommended, either as domestic servants, or to work in laundries, and so forth. There is a very great demand for good washers and ironers; those engaged in this way on a large scale complain that they are unable to get suitable women for the work. Very properly, efforts are made to reclaim the criminal part of our population; but surely those who are untainted, but who are in the way of temptation and distress, are more worthy of assistance; and when hearing of the good which is done at the "Elizabeth Fry Refuge;" how readily persons of good position take young women from this place into their homes; we thought that by means of effective organization, by the extension of the societies which at present exist, and by a well-arranged plan of visitation, good employment might readily be found for some hundreds of worthy girls and youths who are at the present time in a state of destitution and without hope.

The necessity for well-directed exertions on a large scale, for general assistance to those who are with totally inadequate means endeavouring to stand against the great distress, and the opportunity of emigration, can only be understood by those who have made it a duty to inquire into the existing condition of the district.

THE VIRTUES OF PRECIOUS STONES.

We are accustomed to look at gems only in an artistic light: our forefathers have regarded them in other aspects. Precious stones were prized in old times for the medicinal value they were supposed to possess, as well as for their intrinsic worth and ornamental properties. Apothecaries of old rejoiced in their secret virtues. The amethyst was thought to prevent drunkenness. The diamond was considered a preservative against poison, as well as to possess the virtue of driving away distempers of the mind. The silver-coloured aspilates was also useful in cases of lunacy; and there was a sparkling Arabian gem of the same name, which was said to be found in birds' nests, that was considered good for the spleen. *Lapis Armenus* was prescribed by physicians to purge melancholy humours, an otherwise indefinable malady with which former generations appear to have been frequently afflicted. *Lapis hæmatites* was deemed effectual in stopping bleeding. *Lapis Judaicus*, a small, olive-shaped, streaked stone, found in Judea, pounded in a mortar and taken inwardly, was thought a certain cure for the stone. *Lapis Nephsiticus*, brought from New Spain, only required to be bound upon the arm to cure the same complaint.

The ancients were acquainted with two stones, possessing exactly opposite properties, either of which would be an invaluable adjunct in the hands of our sanitary reformers. The one was *Assius lapis*, brought from Assus, in Mysia, used for coffins because it was thought to consume the bodies inclosed in them; the other, *Chernites*, which had somewhat the appearance of ivory, used for the same purpose, was believed to preserve the remains deposited in them.

Arabus lapis, when powdered, was esteemed as a tooth-powder in the days of the early Georges. A black bituminous earth, called Ampelitis, was applied to vines to make them thrive. There were artificial stones in as good repute:—*Lapis admirabilis*, made of white vitriol, saltpetre, alum, and sal-ammoniac, was thought highly of as a cure for wounds, scorbutic ulcers, and cataracts of the eye. *Lapis medicamentosus*, made of calcined vitriol, litharge, alum, and "Bole-armenick," was considered invaluable for its property of cleansing the eyes in smallpox and for stopping bleeding. *Lapis prunellæ*, or saltpetre prepared in a peculiar mode, was accounted very beneficial in fevers and quinsy.

Precious stones were highly prized by alchemists as being of the first service in the transmutation of metals. The *ampelitis* was believed to attract gold as the loadstone attracts iron. *Calaminaris lapis* was mixed with copper to turn it into yellow brass. They entertained great hopes of antimony; but when they found that it would not produce gold out of a baser metal they called it the *philosopher's wolf*.

Magicians appear to have been more successful in the uses to which they applied rare stones. *Chelonitis*, so called from its resemblance to the eye of a tortoise, was believed to be the instrument employed by enchanters in stilling tempests. The virtue claimed by Dr. Dee for his divining "beryl" is of a different order. This, he declared, presented to his seer, Kelly, an Irishman—who corroborated his master's assertions,—visions of departed persons. Those who wished to know whether their lamented friends were happy or not could ascertain their exact condition by applying to Dr. Dee, who then directed Kelly to look into the beryl. It was preserved by Horace Walpole. When it was sold with its companion curiosities at Strawberry Hill, it was found to be, simply, a ball of cannel coal. A blind credulity in the properties of magic crystals was one of the fashionable precursors of the present spirit-rapping movement. We allude to the crowded receptions of Zadkiel in 1850. His crystal, which had belonged to Lady Blessington, and had been purchased at the sale of her effects, is described as having the appearance of a turned mass of pure crystal. It was spherical in form, and about 4 inches in diameter. Its especial virtue consisted in its ability, to quote from Zadkiel's Almanac, to give us "most important information of the actual existence of the soul after death, and of the state in which it exists until the judgment." Like Dr. Dee's beryl and modern spirits it required a *medium*. The seer, a youth, looked into the crystal, and was then asked what he saw. As his reports corresponded with what he thought he was required to see, the owner of the magic mirror drove a prosperous trade.

Another stone, *brontias*, was supposed to fall from on high in thunderstorms. And as another instance of the exaggerations that obtained, the bloodstone, *androdamus*, was declared to bleed when rubbed on the whetstone.

There was a stone in Padua that was doubtless very precious in its way to many people. It certainly possessed a marvellous virtue. It was called *Opprobrii lapis*, or the stone of reproach. People who owed money that they were unable to repay proceeded to this stone, which was set up in the most public part of the town, and acknowledged the amount of their debt, mentioning the person to whom it was due, and declared their inability to make satisfaction. Upon which they were freed from all prosecutions.

We moderns have not quite given up the idea of finding a jewel in the toad's head; that is to say, the accepted possibility affords a simile to poets when they would indicate hidden treasure. Our forefathers looked for precious stones in still more unlikely places. They found beautiful, white, oval stones in the heads of snails. Probably the finding of pearls in oysters is the origin of these fallacies.

We need scarcely allude to the great antiquity of the popular regard for gems. The jewels Abraham's steward gave Rebecca at the well may have been but wrought gold and silver; but those on the ephod of Aaron we are told were precious stones; and among the presents the Queen of Sheba brought King Solomon were gold, spices, and precious stones. This appertains more to their genealogy than to their properties.

When we are examining the jewelled wedding presents of the Prince and Princess of Wales, it will not detract from their interest should we call to mind the secret virtues attributed to precious stones in former ages.

HISTORY AND ARRANGEMENT OF THEATRES.

In the paper on this subject read by Mr. C. J. Phipps at the Bristol Architectural Society, the lecturer traced the rise and progress of the drama and spectacular representations in Greece and Rome, and explained the plans of the ancient theatres, which were illustrated by numerous large-scale plans, amongst others those of Crete, Pompeii, Athens, and that of Marcellus at Rome. He enlarged upon the advantages gained by the semicircular form, with the vast area of seats rising one above the other, both as regards sight and sound, and the uses to which the several parts were assigned. In the Grecian theatre comparatively little was done upon the stage—the open area being devoted to the principal portion of the performance—the chorus and dances. The part was called by Vitruvius the "orchestra." Now in the Roman theatre this area was occupied by the senators and patricians, as being considered by them, and rightly, the best part for seeing the performances which took place upon the stage. The proscenium, or stage, in the Roman theatre, projected farther into the orchestra than in the Grecian. The stages were of very slight depth, the back wall being generally built up into a sort of architectural façade, with columns, doors, and entablature. We have, however, records of painted scenes being hung down over this, and the triangular prisms at the sides doubtless concurred with these, as forming wings to the scene. These theatres were all open to the sky, with only the corridor at the extreme top of the stages of seats roofed in, this part being generally assigned to the women. He then proceeded to explain, from plans, the principal of the Italian theatres, the oldest of which was that built for the Olympic Academy of Vicenza, in 1580, by Palladio. The Farnese theatre of Parma was completed in 1628, and is famous for its acoustic properties, as also for its great size, being 130 feet from front of stage to back of seats. This theatre, which is a semi-circle, with the sides inclining in a square line towards the stage, has a large open space between the commencement of the seats and the stage, probably for grand processions. Most of the other more modern theatres were of the oval shape, more or less elongated. One of the best, though smallest, was that at Imula, in which the auditory takes about two-thirds of the oval, which however is continued over the stage in the ceiling to complete the geometric figure, supported on four columns or caryatides, forming three openings on the stage. "Now this arrangement," continued the lecturer, "seems to me one which is capable of being turned to good account in our modern theatres, if you are fortunate enough to get a stage director to thoroughly appreciate its value. The columns or caryatides on the stage should be moveable, and calculated to receive drop scenes either before or behind them. This would give an opportunity of having three distinct struts leading towards the front of the stage, and would do away with the absurdity of several persons being on the stage at the same time, and not supposed to see or hear each other. The illusion, so necessary to all dramatic performances, would have its full force, and there would be room for more correct scenic representation, instead of our present arrangement of side scenes, with their impossible perspective. The wings also would be completely masked. This plan would also render much more effective the representation of farces and the lighter drama, as three separate and distinct rooms would be formed, each properly constructed with walls, ceiling, and only a reasonable number of entrances, and requiring very little scenery. A manager with only a small stock, could give a new scene for almost every drama, instead of now repeating the same over and over again, in all sorts of plays. Then, for the grand opera, ballet, or enlarged scenic display, the whole of what I may call the second proscenium, could

be cleared away, raised or lowered by aid of the present machinery or hydraulic power in a short space of time, even between the acts, opening the whole of the stage free as at present; for, in addition to a curtain at each of the three openings, there could be a grand drop to shut in the whole stage opening. With this arrangement the semicircular form for the auditory could with advantage be adopted, as it would admit of a proscenium opening of any width. The lecturer then touched upon the French theatres, especially that at Bordeaux, the Théâtre Français, at Paris, and the new theatres that had lately been built there, the latter of which, however, he said he had not been able yet to visit. Of the London theatres for the representation of the drama, there were none, he said, with the exception of the new Adelphi, which called for special comment—they were all more or less alike, with little or no attempt at improvement. All erected under the influence and control of old and musty stage traditions, with little real comfort or convenience in any of them, either for the public or for the artists who minister to the public amusement; indeed, the present idea was *chiefly* that of amusement, and any attempt at imparting *instruction* by theatrical representations was ignored. One of the last (Drury-lane) had been so altered from its original form as scarcely to resemble the plans which we have in the published description by the architect, Wyatt. The New Adelphi, however, is an advance in the right direction, as founded more directly upon the semicircle. The two upper tiers take the circular form as in the ceiling, the dress circle having a balcony projecting in advance, returning by convex curves to the edge of the proscenium pillars. Now in the front the sight from the balcony is very good, but at the extreme side in the second or third row, and especially in the boxes at the back, more than half the stage floor is cut off by the curves of the balcony front. One reason for this is the height this tier is raised above the stage, to allow of the area of the pit running under it. If on a level with the stage, this defect would be lessened: and this leads me to notice the very objectionable practice of extending the pit in this way under the boxes. The pit, in all theatres, is the best part, and should be throughout at the highest price, forming, in fact, a continuation of the first circle. The extending it is destruction to the design, and apt to cause great defects in the sound, to say nothing of the intolerable atmosphere which a crowded pit is sure to produce. And yet we had a hard struggle, even at Bath, against the all-powerful cry that "the pit must be large, for it is the pit and the popular shilling that pay." Having alluded to Covent Garden theatre, the lecturer then gave a short description of the Bath theatre, explaining that the keeping within the compass of the old walls, which were standing sound and good after the burning of the old theatre, compelled him to follow in a measure the old beaten track. The lines of all the tiers had the same position as the balcony of the Adelphi, though the defect before described had been obviated by reducing the return curve next the proscenium, raising the second row of seats at sides considerably, and by taking the lighting line from the stage extremely acute. The result proved that those at the sides of the theatre had equal advantages of sight with those in the centre. The comfort of the audience had been especially provided for; and, although the space for the box-tiers is considerably greater than in the old theatre, yet, by allowing each person an arm-chair, the accommodation is reduced by some 150 seats. There are, also, two divisions in the boxes, wide gangways being left between the blocks of seats for easy means of access and egress. From this cursory glance at some of our principal theatres let us consider what are the requirements of a theatre, before and behind the curtain; and, premising that a theatre be considered one of the public buildings of a city, as such, it should have an architectural elevation, which, as far as possible, should externally take the same form as the interior, with ample entrance for each class of spectators, as widely separated as possible, so that a crowd of persons shall not mingle, or jostle against each other. All the entrances should communicate with their respective departments by wide and direct staircases,—having retiring-rooms and conveniences in all cases adjacent. Internally all walls between the corridors and the auditory are best of stone or brick, to keep back the sound of persons walking and talking in them; whilst the inside lining of these walls should be in thin strips of wood, which is a good conductor of sound. All the doors from the lobbies should shut flush with the inside of the auditory, so that no breaks in the wall may impede the sound, notwithstanding a manager's supposition so often urged that several persons can stand in the recess of a door; and all doors should open externally throughout the building, to facilitate exit in case of panic. In cases where the pit only extends to the area within the box fronts, the doors are better near the stage, than at the remotest distance—as by the time the voice reaches the back it becomes feeble, and is easily destroyed, even by a whisper; and this must be more so when doors are being continually left open. The columns supporting the various tiers are best of iron, if any are required, as allowing a less diameter, and consequent less obstruction to the view; and when used, should recede from the points of the tier as far as possible. I believe the principle to be the correct one of planning the several galleries so that each successive tier shall recede from the one below it: this would be found beneficial to sound, as exemplifying the acoustic curve, and would be beneficial to the general design. The requirements behind the curtain are multitudinous—there are so many departments, each all-powerful in their particular sphere, that any defect is sure to cause loud and immediate complaint, and often serious hinderance to the business of the stage. And first, as regards the stage. It should be clear at the sides, with sufficient width to allow a free passage for the *employé*, when the large flats are in the wings; beyond this again, docks for the temporary placing of scenes arranged in recesses with lifts for the carpenters to go up and down independent of staircases: beyond these docks should be free passages opening on to dressing-rooms for the performers, ladies one side, gentlemen the other, with a large green-room, where they can assemble before going upon the stage, within easy call of the prompter. In addition to this green-room, and probably on the other side of the stage, should be another large room for a like purpose, for the use of the chorus, the ballet, and the supernumeraries. Above the dressing-rooms should be wardrobes with tailors' and dressmakers' rooms, and lifts up and down, with dressing-rooms for the chorus and the *corps de ballet*. On the floor below the stage should be supernumeraries' rooms, and rooms for the band adjacent to the orchestra. All the dressing-rooms should have water laid on to them and fitted with lavatories and dressers, with lines and clothes-pegs all round. The magazine for properties should be on the stage floor between the green room and the prompter. The magazine for the scenery should lead directly off the stage, with racks for the cloths or scenes on rollers, and grooves for the wings or scenes strained on frames. The scene-painting room should be like those at Covent Garden and Bath, on level with flies, with the power, by working in a slot, of being lowered to the stage floor, where the scenes could be easily and quickly put in their respective places with little trouble. In connexion with the painting-room should be a private room for the artist and convenience for his attendants in the way of troughs, fire range, &c. Adjacent to or communicating with the painting-room should be the workshops. The manager's room should be near the stage, with a separate external entrance communicating both with the stage and the front of the house—the whole, if I may be allowed to quote a friend, "as inaccessible and mysterious as possible, for no one is so besieged with talkers and importunate persons as a manager." In connexion with his rooms should be those for the secretary and treasurer, and perhaps also a library of reference; porter's rooms also near the stage entrance, and kitchens, stores, and other rooms in convenient positions. Of the stage itself and its working we have yet much to learn: no method has, I believe, yet been satisfactorily introduced into this country for saving the enormous number of hands necessary to do the work. One thing is, or should be, an axiom. The roof over the stage should be sufficiently high to allow framed cloths and scenes being taken up without any doubling or rolling, as adopted in the Victoria Theatre, at Berlin, where the height above the stage is some 90 feet: the working altogether on this stage is considerably in advance of anything that has yet been attempted, and deserves especial commendation. The mezzanine, or floor under the stage, should not, in any case, be less than 8 feet high, the cellars or sinks going down to a depth of from 20 to 30 feet again under the working part of the stage, so that large pieces of scenery may be taken up and down. The stage floor should be constructed like sliding or rolling shutters, so that the whole or any part could be worked off from the centre, allowing for the introduction of traps at any part. In most of our theatres the wings or side scenes run on the stage in grooves fixed under the fly floors. On the Continent they often run on small tramways on the mezzanine, fixed to the wing or gas ladders; and, at Covent Garden, the same principle has been imperfectly carried out, as there the wing works on tramways placed a few feet below the stage floor, completely cutting the mezzanine in two, and compelling persons to bend their backs in walking, which must, to say the least, be extremely detrimental to the working when expeditious movements are so essential. This arrangement of working the wings or the mezzanine floor may, perhaps, do for operas and for the continental dramas, where one scene often, and, I may say, generally, suffices for a whole act; but, for the English theatre, where dramas, and particularly Shakspeare's plays, are performed, requiring often from twenty to thirty scenes, it would be a simple impossibility. Having made some observations as to the lighting and ventilating a theatre, the lecturer concluded with some remarks on the subject of decoration, advocating the flat treatment.

STEREOCHROMY OR WATER-GLASS PAINTING.

This process has gained a triumph in the report of the gentlemen who have just pronounced an opinion on the most desirable materials for the execution of the paintings in the Houses of Parliament. Frescoes executed in lime have been found extremely unsatisfactory, and the members of the Government commission of inquiry (among whom may be named Mr. Ruskin, Mr. L'Estrange, Mr. Gambier Parry, Mr. Maclise, and Professor Hofmann), have at last decided that future frescoes should be painted by the water-glass process, which is believed to be a perfectly permanent mode of painting.

It may not be uninteresting to our non-chemical readers, to give a few particulars of the system of stereochromic painting.

M. Johann Ness Fuchs is the chemist to whom the credit is given for the discovery of the method of dissolving flint, which dissolved flint is known as water-glass, or soluble silicate. This chemist found that by fusing silica with an alkali (soda or potash), he made a glass which was more or less soluble, according to the quantity of alkali employed. Let us here remark one important fact, the knowledge of which has of late materially aided in the success not only of stereochromy, but of all applications of water-glass. Silica or flint, we have already said, when fused with an alkali, forms a silicate of the alkali used. This silicate may, by using a large proportion of alkali in its manufacture, be made so soluble as to dissolve in water at (212 deg. Fahrenheit) the boiling point. But the employment of so large a proportion of alkali seriously interferes with the subsequent uses of the solution. If, on the contrary, the silicate be made with a minimum amount of alkali, it nearly represents bottle-glass in its appearance and general characteristics, and is only soluble under a high pressure of steam; and thus, according to the pressure available, so may the alkalinity be decreased, and consequently the value of the solution increased. We may add further, that the more neutral or the less alkaline the silicate the longer it takes to dissolve; a long continued digestion, even at a high temperature, being necessary to reduce that silicate which nearest approaches to neutrality.

This silicate, then, is the base of all operations in stereochromy, which process has been suggested by the firm agglutinizing power of the silicate and the extreme hardness and durability of silica. Any substance mixed with the former, especially if it be of great thickness (*i.e.* heavy specific gravity), will be so concreted that scarcely any natural material could vie with it in toughness when perfectly dry. The latter condition is a *sine quâ non*; for if exposed to the action of water, or even damp, it will return to its original gelatinous condition. If, however, the substance concreted have any chemical action on the silicate, such, for instance, as by eliminating carbonic acid, the alkali will be changed in its character, becoming a carbonate; in which case it loses its solvent power, and the silica will be set free in an insoluble form to combine with or influence more or less the surrounding particles with which it was concreted. Again, if only a thin film or coating of a nearly neutral silicate be exposed to the action of the atmosperic air, free from the effect of rain or damp, there will be found in the atmospere sufficient carbonic acid to act upon the alkali as in the before-mentioned manner, and an insoluble pellicule will be formed. On the contrary,

if a highly alkaline silicate be used, the alkali overcomes the power of the carbonic acid of the atmosphere, and constant efflorescence or deliquescence is the result. Fuchs, in his process of stereochromy, perseveringly tried all available means to perfect his system, but it has been left to Kaulbach, and others since his death, to reap the field his labours had sown. His first efforts were directed to the use of carbonated pigments and a silicious menstruum; but here one of the greatest difficulties assailed him. The decomposition of the silicate by the carbonate was so rapid that, before the brush could make the desired touches, the paint had coagulated. And it should here be observed, that when once this coagulation has taken place, it is a certain sign that the chemical action has also been completed; and if the contact between the particles thus formed be once destroyed, they are perfectly inert, and will not again cohere (any more than an effervescence can be restored by the addition of any amount of acid when once the alkali is neutralized). Fuchs, however, did adopt this system, for want of a better, adding silicate to the coagulated paint to restore it to the desired thinness and fitness for working; but he of course knew that he was then dependent entirely upon the agglutinizing effect of the silicate and the carbonic acid of the atmosphere for its future insolubility.

Various substances, such as oil, grease, milk, size, &c., having been tried for retarding the quick action of the silicates, were found inadmissible on account of their introducing an element subject to oxidation, and thus disintegrating the colour after it had been laid on. Then various mediums were tried to convey the colour on the ground without the admixture of silicate in the process of painting, but to apply it afterwards with a brush as a coating. The softest fitch, however, was found to disturb the colour and more or less damage the picture; the height of some of the colours prohibiting the use of a sufficiency of the binding medium. All these difficulties, it is asserted, are removed by the system at present adopted by Messrs. Kaulbach, of Munich, and Mr. Maclise in our own country. The method adopted by these gentlemen is as follows:—The colours, which are duly prepared to withstand the decolourizing effect of the alkali, are laid on with water only; and when the artist has completed his picture, he takes a syringe, invented and constructed especially for this purpose, and throws upon the painting a mist of the silicate of potash. This mist somewhat resembles a Scotch mist, in which the atmosphere is highly charged with water without anything like a liquid drop being apparent. All, then, depends upon this mist falling so gently upon the painting as to saturate it without removing or interfering with one atom of its surface. When, however, the painting has received the first application of the silicate, its colours are so far fixed that subsequent applications may be made with less delicacy; and when completely saturated the colours are so permanently fixed that those which contained carbonic acid, such as carbonates, or sulphuric acid, such as the sulphates, are irremovable even by scrubbing. Other colours or pigments depend upon the rules beforementioned for their permanency.

In ordinary painting for external purposes a modification of the same system is already in use. The patentees are Messrs. Bartlett, Brothers, & Co., of Camden Town, and their system we believe to be the use of a tenacious material, such as pipe-clay to hold the carbonates on the surface to be operated upon until the fixing solution, which we believe to be a silicate of potash, can be applied with a brush in the usual manner, which renders the whole coating permanent.

We shall doubtless see the silicates in their improved manufacture applied to other utilitarian purposes, and believe that valuable results will follow from a more thorough knowledge of this extraordinary substance.

INSTITUTE OF PAINTERS IN WATER COLOURS.

Taking advantage of the opportunity afforded by a complete reconstruction of their gallery, the Association of Painters in Water Colours, long and favourably known as the "New Society," have very justly considered that they ought to enjoy their well-earned and independent prosperity under a more distinctive title; and there can be no doubt of this step being well advised, as is with sufficient reason intimated in the few preliminary words of address by which the change of name is announced in their catalogue: "When, upwards of thirty years since, a second Exhibition of Water-Colour Painters was established, the name of 'The New Society of Painters in Water Colours' seemed the most appropriate designation which the Society could bear. The word 'New' is now an anomaly. The Society has attained a maturity which justifies its assuming a more appropriate title, and the opening of its recently-purchased and newly-built gallery has been deemed an occasion on which this change of name is at once justifiable and appropriate."

Although in some degree appearance has been sacrificed to utility, the gallery is commodious and very efficiently lighted, admitting of a large number of drawings being favourably hung and perfectly seen. This being the chief desideratum, the members are to be congratulated upon their new premises.

The collection brought together for the present year's exhibition is one of the most admirable that we remember, imputable less perhaps to individual excellence than to the high standard of its aggregate; though that Mr. L. Haghe is as usual magnificently conspicuous,—never suffering but in comparison with himself,—his principal work (62), "The Doge Andrea Dandolo leaving the Church of St. Mark, after taking the Cross,"—if it do fall short in exemplifying him thoroughly,—will attest. None but he could combine light, colour, and space with more realistic force, even in the absence of his customary richness and depth; a want more apparent still in his second contribution, "Benvenuto Cellini and Francis I. at Fontainebleau," (273) which must depend most upon its merits as an architectural interior, and these are great.

Mr. E. H. Corbould is another of those in whom the *prestige* of the institution subsists, and who as fortunately for himself as for those who could ill afford to lose him, rejoins the fraternity;—not rich enough in the imaginative element to have spared one easily so intimately connected with their earliest association and successful establishment. Of his three works, "A Memorial Design" (223), sent by her Majesty the Queen, is the most remarkable, since it not only illustrates his knowledge of Mediæval accessories, but the aptitude with which he has carried out a very appropriate connexion of all those high attributes that find their summary in the word "chivalry" with memories so clearly defining its significance,—making it a fit symbol of the late Prince Consort,—has a value of its own. A balcony group, introducing a knight with his family watching the proceedings on "The Festa Day" (72), and a gorgeous portrait with claims as a picture beyond its recognizable likeness to the accomplished "Ladie of Cromwell House" (Mrs. C. J. Freake) (8), are both brilliantly characteristic examples.

In addition to a pretty pair of damsels, one in "The Morning Beam" (36), the other, perhaps less given to early rising, but more pleasantly circumstanced and occupied on "The Sunny Side of the Wall" (44), Mr. Henry Warren has his almost always to be found "desert scene" (169), "The Arrival at the Well." Mr. E. H. Wehnert sends a very powerful drawing of "Fra Filippo Lippi and Lucrezia Buti" (301), and a pretty conceit entitled "Pleasant Reflections" (92), an instance of "glass medium" being used, with no thanks due to Mr. Miller. Mr. Absolon, after his romp "Kiss in the Ring, Hampstead Heath" (191),—wherein the lasses and the lads are skipping like frolicsome lambs, volunteers and all, though not of Lord Ranelagh's flock,—thinking a caution necessary, dimly points out the unhappy consequences of some such interchange of civilities, in his very ambiguous but clever picture of a prostrate young lady by whom he admonishes—in the strongest language his dexterous pencil is capable of—"When Sorrow sleepeth, wake it not" (263). But, "Goodness gracious!" think of the heavy dews after such a day as that glowing orange-hued horizon reminds us of, and what a harbourage those graceful ferns, intertwined with weeds imbedded in luxuriant grass, afford to the cold slimy snails! So get up, silly little woman: forget your misfortune; and remember the earwigs, although you are the happiest of Mr. Absolon's unhappy creations, and it is a thousand pities to disturb you.

Mr. J. M. Jopling's Italian studies, his "Madre Col Bambino" (124), and very characteristic head of a girl, "O Sancta Madonna, ora pro me!" (178), are expressive of more than the mere manipulative skill so often the only recommendation of a similar class of subjects, and evince a marked improvement upon former productions.

Very great praise is due to Mr. Tidey for the unaffected grace with which he has composed his version of "The Saviour blessing little Children" (245). Even partial success in so exalted an undertaking entitle him to this; for, though failing to enforce the capabilities of so grand a theme for pictorial exhibition, what he has done towards it suggests that more was aimed at than has been attained; and a very commendable avoidance of exaggeration, perhaps, has induced too restricted a use of colour and effect, to the detriment of the design; so that much of its shortcoming may be attributable to a want of confidence on the part of the artist. Mr. Mole's pleasant combinations of rustic figures and landscape are as plentiful as ever; and Mr. Lee still strives to enlist the sympathies for his little episodes from ordinary realities at home with a painstaking enthusiasm, bordering on reverence, for simplicity.

Mrs. Murray's satire upon the fallibility of the Spanish priesthood acquires the more consequence from her presumptive authority in Spanish matters; and she leaves no doubt as to which of the "Rivals for Church Patronage" (145) will be the favoured one. There is so much vitality and appreciation of character in this, that the extraordinary dash of its execution is quite a secondary cause for surprise. Her sympathies seem monopolized by foreign interests, and Mrs. Murray is a proof of the extent to which custom and predilection assist in identifying the observer with the observed; she paints Spain like a Spaniard, whatever she may think of it.

All Mr. Carl Werner's works show the same conscientious attention to detail, and literal imitation of textures and effects as heretofore: his representation of "The Foundation Walls of the Temple of Solomon, the Wailing-place of the Jews" (88), displays all the qualities to be looked for in its treatment, although it might occur that more should have been done with the "wailers," if not less with the wall, to have made it more generally interesting. (269), "Entrance to the Church of the Holy Sepulchre, Jerusalem," and (276), "Waiting for Trial—Entrance to the Hall of Justice at Jerusalem; the Kadi just stepping in," are other capital presentments of Eastern fact.

Of the landscape delineators, Mr. Edmund Warren is again the most careful in elaboration, and the most exhaustive of his materials by the very completeness with which he finishes everything alike. Of his seven examples rivalling the camera's reflexions, a wonderful cornfield (40), to describe which he quotes from "Thomson's Seasons," is certainly the most noteworthy. Every ear of wheat in the foreground is separate and distinct, and a vast array of these photographic portraits of particular straws through which may be seen an undergrowth of as faithfully individualized flowering weeds—most refreshing to any eye but a farmer's,—lead far away over a perfect ocean of waving gold:—

> "Rent is the fleecy mantle of the sky:
> The clouds fly different, and the sullen sun
> By fits effulgent gilds th' illumined field;
> And black by fits the shadows sweep along,
> A gaily checker'd heart-expanding view,
> Far as the circling eye can shoot around
> Unbounded tossing in a flood of corn."

Mr. Warren, in his close application to nature, denotes the truth of this description as well as, on his own part, remarkable industry, and a most enviable ability to endure hot weather with a free hand, but not the less exact.

Mr. Bennett, equally untiring in his study of nature, takes a more comprehensive view of what he sees, and a readier means of expressing it. For facility and vigorous execution, all he does pronounces him almost singular, although Mr. Whymper contends that he shares with him some of this.

Mr. Reed produces also admirable results, but with more apparent labour, and a taint of indoor finish that deteriorates from their purity and truth.

It would entail the appropriation of far more space in our columns than we can spare, to give that due consideration of the peculiar claims that most of the items sustaining collectively the character of the exhibition are so decidedly deserving of. Landscapes predominate, interspersed with many a charming glimpse of sea and shore and dotted coast, and reminiscences to Continental visitors of quaint old buildings, to give variety. Messrs. Leitch, McKewan, Fahey, (the excellent secretary of the Institute); D'Egville, Maplestone, Pidgeon, Prout, Robins, Rowbotham, and Vacher, with the other members, are well assisted by their associates, amongst whom Mr. Deane, who, with Messrs. Hine and Shalders, forms a valuable acquisition; and Messrs. Penley, Mitchell, Philp, Richardson, and Sutcliffe to wit, claim recognition. Nor must the exquisite flowers of Mrs. Wm. Duffield and Mrs. Harris be overlooked, or the well-known handiwork of Mrs. Margetts and Mrs. Harrison.

CONVERSAZIONE OF THE ARCHITECTURAL ASSOCIATION.

THE annual *conversazione* of the Architectural Association was held on Friday, the 17th instant, at the House in Conduit-street.

It was attended by a considerable number of the members and their friends, including a fair proportion of ladies.

The chair was occupied by the president of the Association, Mr. Thomas Blashill.

The Chairman said that one of the principal objects for which the meeting was held was the presentation of prizes to those gentlemen who had competed for the two prizes offered this year, viz., Mr. Tite's prize of 5*l.*—3*l.* for the best design for a country mansion, and 2*l.* for the second best; and a prize of 1*l.* 10s. 6d., contributed by "A. B.," for the best line perspective sketch of a porch. For the first, he regretted to say, there had been but two competitors. The reason probably was, that the members of the Association who were likely to compete for the prizes worked very hard in the class of design, and they could scarcely be expected, under the circumstances, to compete on a subject which required so much time to be devoted to it.

Mr. T. Roger Smith having read the report of the judges appointed to examine the works sent in,—

The Chairman handed books, value 3*l.*, to Mr. T. Hardy, to whom the first prize for "design for a country mansion" was awarded; and to Mr. Edward Wimbridge, books value 2*l.* for the second best design. Mr. Wimbridge also obtained "A. B.'s" prize for the best line perspective sketch of a porch.

Some notices of motions and other business having been transacted,—

The Chairman said it often happened that there was no new matter of sufficient importance to occupy the attention of meetings like the present. Such occasions were devoted to conversation on desultory matters connected with the profession, especially as they had usually, as on the present occasion, an excellent exhibition of architectural drawings. This year, however, a new feature had arisen in the Architectural Association, and this was the first opportunity that had occurred for bringing it publicly before the members. It might be necessary to say that they had a considerable amount of success in the class for preparing members for elementary architectural examinations. For the last three or four years the matter had excited much interest, and at length the Institute of British Architects took it up with a great degree of energy. They consulted the Architectural Association, and listened to such suggestions as it made; and, when the scheme came down to them eventually, it was of such a nature that they very much approved of it. It was a subject of congratulation to them that the majority of the members who had passed that examination were members of the Architectural Association, and they had now the benefit of their experience and advice. He did not know that there was any matter so important as that to form the subject of discussion that evening, and he knew that there were several gentlemen present who had taken a great interest in the matter.

Professor Kerr having been called on, said he always considered it to be a very great honour to be asked to take part in any meeting of that Association. Amongst the many meetings which he was called on to attend in connexion with the architectural profession, there was none that he regarded with more interest than the meeting of the Architectural Association. He spoke without any desire to flatter, but because he thought there was something very refreshing in communicating with what he would always call the youthful mind. The Architectural Association was a junior institution, and however old and grave the members might become, he would always look upon them as young. There was, as he had said, great satisfaction in coming before the youthful mind, in the meeting of new faces, and in seeing the influx of new blood giving evidence of that prosperity which they all so much desire. He often had the pleasing task of complimenting the Architectural Association upon definite and distinct grounds, and he was happy that he was able to do so again. He need not recall to their recollection the exertions which the society had made to establish the Architectural Exhibition which surrounded them, and with which they had been so much pleased; nor need he tell them of the fact that the young men of the profession established the Architectural Association when nobody else would attempt it, that they paid the expenses when nobody else would contribute, and that as soon as it could walk alone they handed it over, without asking thanks, to those who were older than themselves. A statement of that sort could not be truthfully made of many institutions of the kind; and great credit was due to those who had accomplished the work. Within the last twelve months the Architectural Association had been able to render other services to the profession. The Royal Institute of British Architects having inaugurated a system of examinations that was practically a system of education, the members of this association had not only joined heartily in that movement but had furnished a majority of the members who had passed the examination. Having done so, he thought that they were entitled to a title, and that they ought henceforth to be called graduates of the Institute of British Architects. The fact of so many having passed the examination who were members of the Architectural Association showed the life and energy which pervaded it. In inaugurating a new association men of experience expected to calculate the results beforehand, and it had been so in this case. They had determined amongst themselves in the Institute that if one-half of the candidates passed the examination it would prove that it had been properly conducted, and that the preliminaries had been founded upon a true basis. Almost all the candidates were examined; three or four whose applications were informal were necessarily set aside, and some of them no doubt would have passed. There were about seventeen or eighteen examined altogether, and about one-half were successful. The calculations made, therefore, were verified by the event, and particular evidence was afforded that the institution of that examination was worthy of the support of those who had interested themselves in it. The Association was very much to be complimented for having furnished the majority of those who passed. They had had but a few months to prepare, but the gentlemen who were sent up proved themselves remarkably well qualified. Some of the answers, he was informed, were so highly creditable that they attained very nearly the entire number of marks awarded to the various subjects. The gentlemen who did not pass should not consider that any reflection was cast upon them by that fact. Somebody should go to the wall necessarily. If everybody passed it would be proof that the questions were not suited to the purposes required. Those who failed this year should only come better prepared next year. Failure one year was no discredit, but merely a business-like evidence of the necessity to try again. The Architectural Association had therefore, done good service to the public and to the profession by sending up young men who passed so creditably on so short a notice. He was glad to say that a class had been established to prepare for the coming examination. The Institute had behaved very handsomely and liberally in the matter of the examination, not only as regards money, but principally as regards the use of the library. The Institute deserved great credit for what it had done, and the Architectural Association also deserved the utmost credit for the manner in which it had met the examination as an established fact, and made the most of it.

Mr. Jennings said that he had taken a very active part with respect to the establishment of the examinations, having attended all the meetings which were held for the purpose of bringing it into operation. The result of the movement had been highly satisfactory to the profession generally; and it was of the utmost importance to young architects that it should be carried on. It was of great importance, too, that it should be conducted in such a manner as to give satisfaction to the younger members of the profession. They were, therefore, very anxious to have suggestions from every quarter on the subject, and principally from those who had passed the examination, or from those who contemplated going up. By that means they would be enabled to judge whether improvements might not be effected. It was in an educational point of view that the examinations were desirable. As to the circumstance of having passed giving a handle to the name as suggested, he did not think that that was desirable. Many men who did not pass an examination were very able men, and he would be extremely sorry that they should be placed at a disadvantage by not having obtained a diploma, which some persons were anxious to acquire. It was desirable that they should work together, both the older and younger members of the profession; and it was only by doing so, and by an absence of jealousy, that they were likely to succeed in obtaining the position which they all so much desired. He was happy to say that within the time since he became a member of the profession and the present, there was much less jealousy amongst the various members of it than there used to be. There was now much more of the feeling of desire that all should succeed, and that the success of one did not impede the success of another. If they all worked together in that spirit, he was satisfied that the architectural profession would attain that position in which they all wished to see it placed. He trusted the younger members of the profession, who were principally members of the Architectural Association, would feel that the older members, who were connected more particularly with the Institute, were most anxious for their success. The charter of the Institute was in some measure objectionable. At some future time it was probable that it might be so altered that they could all form one association. He considered that that would be an advantage. The older members might be more cautious and "slow." The young, on the other hand, were more liable to take up things hastily; and it was an advantage to have the activity and energy of the young combined with the mature wisdom and experience of the old. He was happy to see so great an improvement in the drawings exhibited this year, and the Association deserved great credit for the advance which had taken place.

The Chairman stated that the balloting for new members would take place at the next meeting.

THE SCINDE RAILWAY.

INSTITUTION OF CIVIL ENGINEERS.

At the meeting, April 14, Mr. John R. M'Clean, V.P., in the chair, the paper read was "Description of the Line and Works of the Scinde Railway," by Mr. John Brunton.

The importance of the valley of the Indus, as the route for commercial as well as for military communication with the Punjaub and the north-west provinces of India, was pointed out by Sir Charles Napier, the conqueror of Scinde, so far back as the year 1842; and its many natural advantages subsequently attracted the notice of other eminent men. When, therefore, railways were introduced into India attention was soon drawn to the Indus valley route, having Kurrachee as its sea terminus; and a concession having been granted to Mr. W. P. Andrew, the Scinde railway company was formed in 1855. This company embraced under its management not only the Scinde railway proper, or the line from Kurrachee to Kotree on the Indus, 108 miles, but also the Punjaub line from Moultan to Lahore and Umritsir, 240 miles, and likewise a flotilla of steamboats for navigating the river from Kotree to Moultan, 570 miles. Within the last three months the Government had entrusted to the same company the construction of a line from Umritsir to Delhi, 280 miles, where a junction would be effected with the northern terminus of the East Indian Railway. The total length of these four sections was 1,198 miles, but the accounts of each section were kept perfectly distinct.

The construction of the first section of this line, from Kurrachee to Kotree, which had been graphically described as "the neck of the funnel" of the entire system, formed the subject of this communication. The works of the Scinde Railway were commenced on the 29th of April, 1858, their execution having been originally let to Messrs. James & Edwin Bray, contractors; but since June, 1859, the works had been executed departmentally, without the intervention of a large contractor, by the company's engineers and inspectors, who had thus favourable opportunities for becoming acquainted with the capabilities of the various classes of natives, as well as for ascertaining the cost of each description of work. This mode of carrying on the works was forced upon the company, by the peculiar exigencies of the case; but the author thought, that for the construction of large works in India, under Government guarantee, the employment of a substantial contractor was a preferable plan. To secure the economical execution of the works, a fair tariff of wages was published, and daily payments were guaranteed. This had the effect of collecting a considerable number of labourers. The province of Scinde contained but a sparse population, and the Scindee was naturally indolent and devoid of muscular power, though not deficient in talent. The natives of the neighbouring state of Cutch were a much superior race, and from thence came a large proportion of the skilled workmen, such as carpenters, masons, smiths, and other handicraftsmen. From the hill tribes of Beloochistan and Afghanistan a hardy race of

labourers was obtained. To maintain discipline amongst this body of men, it was found advisable to organize a regular railway police force; and to facilitate the administration of justice, a special magistrate was appointed by the Government. Owing to these precautions very few outrages of a serious character had occurred. As the line of railway lay at a distance from existing towns and villages, it became necessary to make such arrangements for the feeding, shelter, and health of the different *employés*, as policy no less than humanity suggested. The natives worked in gangs under a self-elected muccadum, or ganger, who made all agreements for work, received the earnings for division, and was himself paid a small per-centage by the men. When work was executed by day labour, it was found that its economical execution depended entirely upon the energy and honesty of the maccadum, or native overseer. These qualities were so rare, that piece-work had to be resorted to, though it was with difficulty this was established as a rule. The average prices paid for earth and rock work per cubic yard were, —alluvial earth excavated from side trenches and placed in embankment, 4·09 pence; firmly-set gravel, or soft shaly material, 4·9 pence; rock requiring bars, but not blasting, 1s. 9d.; and hard rock requiring blasting, the powder, drills, &c., being found by the company, 2s. Gravel ballast cost 1s., and broken stone ballast 1s. 10d. per cubic yard. The average prices of the principal kinds of work, including the cost of the provisional staff of superintendents, but exclusive of that of the permanent engineering staff, were as follows:—

	s.	d.	
Earthwork in embankments	0	11½	per cubic yard.
„ in cuttings, a large portion rock of different degrees of hardness	1	6½	„
„ „ in diversion of roads and streams.....	0	8½	„
Pitching slopes	2	0	per square yard.
Masonry, concrete	4	6	per cubic yard.
„ dry rubble	3	0	„
„ common rubble	12	0	„
„ coursed rubble, with rubble backing	15	0	„
„ coursed rubble.....	20	0	„
„ block in course.....	31	6	„
„ ashlar	1	7½	per cubic foot.
Ballast	1	6	per cubic yard.
Leading and laying permanent way.....	6	0	per lineal yard.
Fence walling	3	0	„

The distance between Kurrachee and Kotree traversed by the Scinde Railway was 108 miles 10 chains.

The permanent way consisted of the ordinary double-headed rail, fixed in chairs, laid on transverse wooden sleepers. A large proportion of the sleepers were of yellow pine, creosoted, sent from England. It was intended to complete the required quantity with sleepers of deodar timber, from the Himalayas; but the native merchant having been unable to fulfil the contract, a supply was purchased of Australian blue and white gum, and native red cyne sleepers. Their respective costs were, creosoted yellow pine, 8s. 11d., Australian blue gum, 8s., and cyne 7s. 9d. each, delivered in Kurrachee; that of deodar delivered in Kotree being 6s. each. The deodar sleepers were at first steeped in a solution of sulphate of copper, to protect them from the attacks of the white ant, but a Burnetizing apparatus has since been erected at Kotree, where the cost of applying the process only amounted to fivepence halfpenny per sleeper. The result of the author's experience was, that creosoted yellow pine sleepers split and twist to a great extent, owing to the extreme dryness of the climate, and that they become very brittle. To employ entirely European workmen would have involved enormous cost. It therefore became necessary to call in the aid of native carpenters and smiths as far as practicable. They first had to be induced to stand to their work, and then to be taught the use of European tools. This had been accomplished by degrees, and the result had been most satisfactory, the carriages now framed and erected at these shops by Cutch carpenters displaying admirable workmanship. To keep up a supply of European foremen, fitters, engine-erectors, and engine-drivers, the system of taking the sons of European soldiers and clerks as apprentices had been adopted, by which a staff of men thoroughly acclimatized was being educated in all branches of railway mechanism.

The extension of railway communications into wild and uncivilized countries demanded from all grades of the *employés* the exercise of more than ordinary observation, self-discipline, and energy. It would therefore be wise policy on the part of all foreign railway companies, and the contractors for the works, to be more strict than they had hitherto been, in ascertaining that the agents sent out from this country at great cost were something more than proficient in the practical details of their profession, as they ought also to be possessed of gentlemanly feelings and habits, by which alone the respect of the uncivilized native could be obtained and his services secured, so as to reduce the cost of the work, and convert the railway engineer into a pioneer of civilization and a missionary of science.

MONUMENT TO THE MEMORY OF BURKE AND WILLS, THE AUSTRALIAN TRAVELLERS.

At Melbourne, in the general cemetery, on the spot where these lamented travellers have been honourably buried, a massive monument will shortly be placed. It consists of a monolith, 12 feet high by 6 feet square at the base, and tapers to 5 feet square at the summit. This block alone weighs nearly thirty tons. Besides this there is a bold basement, on part of which are inscribed the names of the departed worthies, and which increase the whole height of the monument to from 18 to 20 feet. The monolith is from the quarry at Harcourt, on Mount Alexander, where stones of a much larger size can be readily obtained.

This memorial is likely to stand for centuries to come, when the wide land which Burke and Wills lost their lives in exploring, now so wild and solitary, shall have become covered with a great and prosperous population, governed by English laws and speaking with an English tongue.

THE MYSTERIES OF ESTIMATING.

ROADS AND DRAINAGE, WANSTEAD.

Correspondents have sent us an account of the various tenders made to the Conservative Land Society for the roads and drainage works on the Woodhouse Estate, Wanstead, and say they are very much astonished. They ask us, too, to explain. We are not surprised that they are astonished; but we cannot explain. All we can do is to give the list; and here it is:—

	£	s.	d.
Connell & Wilson	1,630	15	0
Wood	1,625	6	0
Baker	1,620	0	0
Betts	747	10	0
Kirk.....	648	9	3
Rivett.....	543	0	0
Parker	484	16	4
Johnson.....	468	0	0
Symes.....	460	0	0
Strickson	378	0	0
Horn	360	0	0
Rogers	325	0	0
Hartland & Bloomfield	311	0	0
Bull.....	307	0	0
Sharon	300	0	0
Cole, jun.	299	0	0
Potter.....	298	0	0
Newberry	296	8	6
Hayward	290	0	0
Portor & Pearson	263	11	0

The tender of Messrs. Portor & Pearson, of Lambeth, being the lowest, has been accepted.

DOINGS IN GLOUCESTER.

A correspondent from Gloucester, speaking of the works doing there, says,—First, are some excellent repairs in the very fine old cathedral here, and the unrivalled cloisters, matchless throughout Europe; secondly, a new bishop's palace, built in good taste; but still I think the repairs of the Prior's Lodgings are better still. It has been since the "Reformation" the residence of the deans, and forms part of the façade of the west front of the church. Never, even in the age of "adorning and beautifying," were so much pains taken to disfigure, and indeed make uncomfortable, a fine old piece of architecture. They have chipped off the stucco facing, or defacing, of the fronts of the building, and exposed under it the original Gothic windows, mouldings, &c. The Prior's chapel, with its curious and perfect tiled floor, the original Saxon entrance, and various other interesting objects are being daily brought to light. Only two days ago, in breaking into a fine spiral staircase unusually large, for it was the principal one in the residence, they came to a most interesting object, and probably unique. It was a *Gothic stone lantern* projecting from the wall, and in one of the divisions was actually the horn glazing, still perfect! I know not if there are more of them winding up the staircase; I shall see. I think drawings should be taken of some matters here. In one great room is some very curious panelling, covering all the walls of the room; and though this is of much later addition, being probably of James's time, still it is interesting, as it seems to me to be of unusual character.

You, of course, know of the Gothic monument erected in St. Mary's-square here in memory of Bishop Hooper, on the spot where he was burnt. In digging for the foundation of it they came to the stake to which he was tied! A friend of mine here, in digging the foundations for a gallery he is building, found the workmen, at 10 feet deep, bringing up quantities of Roman tesseræ. At first he did not notice it; but, on examination, he directed more care and attention, and has laid open a pavement 60 feet long, and it goes much further. In this case there is no pattern, but its great size is unusual. Gloucester was one of the great Roman stations, and various remains of pavement, urns, &c., have been frequently met with; and one villa, or palace, about 7 miles from hence, is superb. This latter is well known.

COMPETITIONS.

North Staffordshire Infirmary Competition.—Sir,—I should like to inquire, through the medium of your paper, what action the competitors intend taking in this matter? Is it usual, after receiving plans, to keep them an indefinite time, or to adjourn the question *sine die?* If it is usual, is it just, and is there no remedy?

A Competitor.

AUTO-TYPOGRAPHY.

From time immemorial, we dare say, or at least for the last half-century, boys have been in the habit of instructing one another in some curious processes which constitute the germs of more modern and elaborate discoveries. Amongst these we recollect of one whereby impressions of wax seals were struck off in lead by tapping the lead smartly with a hammer while a smooth surface of it was placed on the wax impression. Another consisted in the blacking of the prominent fibres of leaves and plants by rubbing them on a sheet of paper prepared with lamp-black (sometimes with other colours), and then transferring the impression to clean paper. The former of these two processes has recently sprung up into the curious and interesting art of auto-typography, as the latter has into the no less interesting and curious art of nature-printing.

A paper on the subject of auto-typography was read before the Society of Arts on the 15th of April, by Mr. George Wallis, who may fairly be said to have discovered the process, which was suggested by the nature-printing processes, but partakes more of the leaden seal process. He prepares a drawing on sheet gelatine, with a peculiar sort of ink, described in a patent which he has taken out, and containing various ingredients—such as gum arabic, peroxides of tin and manganese, Indian or Venetian red, &c.; the purpose being to form, in drawing on the gelatine, a raised surface, which is transferred to a soft metal plate, on which the drawing leaves its impression. The plate can then be worked from, with printer's ink, in the usual way, so as to produce *fac-similes* of the artist's drawing. That it may produce the more copies without being exhausted, it may be coated with steel by Mr. Joubert's process. Several plates can be successively stamped or struck off from the original drawing without much damage to the drawing itself. Mr. Wallis has invented a special press for taking the metallic impressions, in which the pressure is regulated to a nicety. The plates he uses are made of Britannia metal.

In the discussion which followed the reading of Mr. Wallis's paper a curious circumstance was mentioned by Mr. John Leighton. Mr. Wallis, he remarked, had successfully adapted the process to engrave even a wash of Indian ink, a thing he (Mr. Leighton) fully expected to find had been done before in Japan, as he had found that *the process of enlarging and reducing engravings*, introduced in that room a year or so back as a novelty, was already in existence there, as noted in Sir Rutherford Alcock's work, "The Capital of the Tycoon."

May it not have been from our Eastern great-grandfathers—the Chinese, Japanese, and other old fogies of creation—that those mysterious little ancients the boys originally derived their knowledge of seal engraving in lead, nature printing from leaves, and even photographing such leaves on paper made sensitive with nitrate of silver?

A NOTE ON WASHHOUSE CHIMNEYS.

BESIDES the prevention of smoke in washhouses,—a matter to which we would direct attention,—the arrangement of those places and their position in connexion with small houses require consideration. In many instances, when there is plenty of opportunity for managing otherwise, the washhouse is made to communicate directly with the living-rooms of the dwelling; and the consequence is that, even with closed doors, it is not easy to keep the smoke and steam from entering the various rooms. This should be avoided, the entrance of the washhouse being made as near as possible to the back-door of the dwelling.

In the washhouses which are attached to the smaller description of dwellings which have been erected during the last forty or fifty years, scarcely any care has been taken to ventilate them. In many instances the small windows are so constructed that they will not open, and there is no outlet except the door and the copper-hole. Even in new houses, and often in those of a good class, this matter has been much neglected. A simple and not very costly remedy for this want of ventilation would be to place a weather-boarded opening on the roof, constructed somewhat similarly to those which we often see on small country breweries.

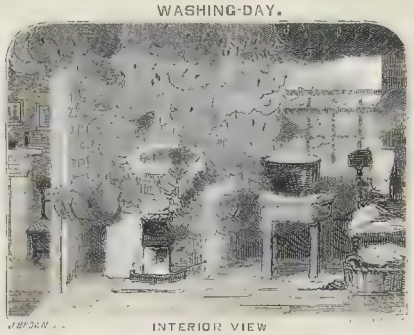
Very often the washhouse chimney will not give forth smoke at all; but when it does, this is, especially in towns, a cause of much annoyance. The chimneys, being for the most part low, allow the smoke to blow into adjoining windows, to dirty the clothes which have been hung to dry, and do other mischief.

It is, however, more particularly of the construction of the copper stoves and flues which are constructed in many of these places that we would just now speak. In most instances they can only be cleaned by a complicated machine, and (if a chimney-sweep is called in) at the cost of half-a-crown. Some of these copper-stoves always smoke, notwithstanding that they are carefully and regularly swept. We have seen several which become so much congested by the firing needed for three or four days' washing, that no smoke can pass up at all, lodgments being made in a manner somewhat similar to that which takes place in the chambers of a lamp-black manufactory. The accompanying sketch is no exaggeration, and many a housewife in London and elsewhere will acknowledge the unpleasant faithfulness of the picture. One woman mentioned that she was obliged to lift the copper out entirely every third washing-day, and sometimes oftener, and clear the soot from an elbow of the flue, which could not be reached in any other way. Some have to blow up with gunpowder every morning of the washing-day. One woman commenced with a halfpenny-worth, which for a time partly answered a good purpose. This, however, at last failed, and a pennyworth was used; this was afterwards increased to three-halfpence-worth, and although this at each firing shook the house, it failed in the end to clear the flue. For three hours she said she had kept the fire alight, and that the water was not warm, and while she and the children were as black as sweeps, half suffocated, and shedding tears, the sparrows might be seen comfortably perched upon the chimney-pot outside. Driven by vexation and despair, this person sent to the oil-shop for a large quantity of gunpowder, and such was the effect of the measure, that the setting was blown down, and the copper and its contents fell upon the floor. Out of this evil there however came good, for fortunately a skilful man was sent to repair the mischief, and from that time the smoke in the washhouse ceased to be an annoyance, "showing," said this woman who had suffered so much, "that there is a way of properly managing these things."

There are scores of washhouses in which women labour in vain, endeavouring to wash clothes clean in a dense atmosphere of smoke. Instead of the fire acting properly, for the want of a clear draught, it comes out at the grate and openings of the door of the copper, and out at the door and window of the apartment. In some instances, the flues of these fireplaces are passed into a neighbouring chimney; but this has generally an unsatisfactory result, though to a certain extent it prevents the ill effects of the short chimneys to which we have referred. There can be no doubt that a great extent of reform is required in the construction of copper-flues and fireplaces; thousands of old ones need alteration; and care should be taken in connexion with new ones, that they may not be the means of creating the nuisance of which we complain. No one but those who have had the painful experience can tell the trial which a smoky washhouse brings to the temper, and how much it adds to the general unpleasing circumstances of the washing-day in the homes of a large number of the more affluent of the artizans, and also of many of the middle class. The children look with dread to those times, and the husband gets as far away as possible.

In houses which are inhabited by several families this evil is multiplied; for, supposing that there are four or five families in the house, and it is the custom for each to fix a washing-day, there are four days of smoke and steam instead of one; and this is a matter of consequence when the washhouse is within the dwelling. Here, then, we have an extensive nuisance which requires remedy. No doubt in many instances there are carelessness and want of attention on the part of tenants, but there are thousands of cases in which the greatest care would be unavailing, the original construction is so thoroughly bad.

WASHING-DAY.



INTERIOR VIEW



EXTERIOR VIEW



THE WASH-HOUSE CHIMNEY-POT.

THE NEW BIRKENHEAD BOROUGH HOSPITAL.

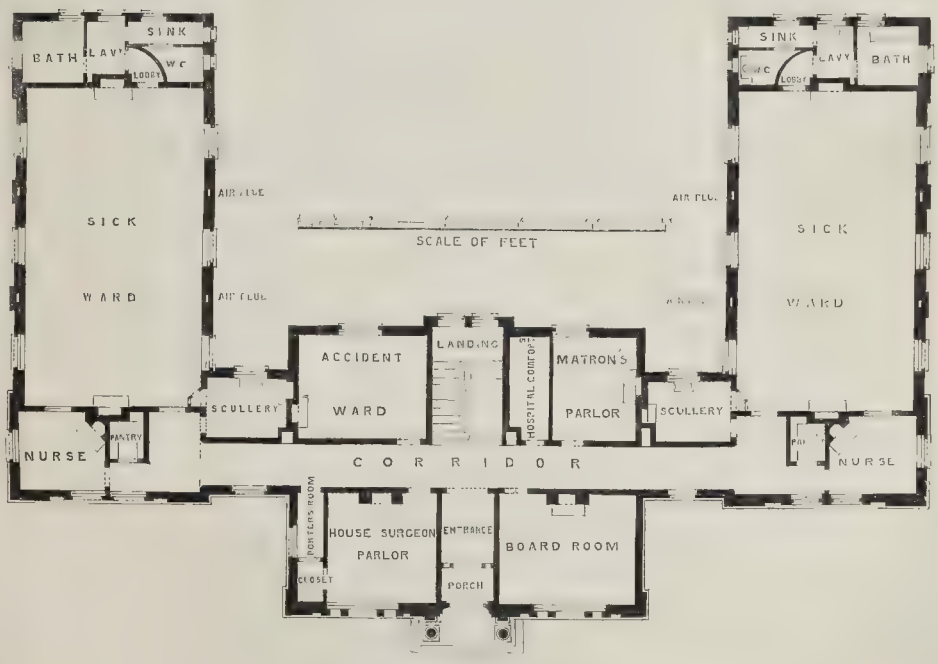
THE Birkenhead Borough Hospital now in progress is being erected at the sole expense of Mr. John Laird, M.P. It will supersede the present small house that has been used for years as a hospital in Hamilton-street, and which has been found totally inadequate to afford accommodation to the numerous cases of accident which are constantly occurring at the large works now developing themselves on the Cheshire side of the Mersey. The erection of the new hospital will involve an expenditure of about 5,000*l.*, exclusive of the land; and this sum Mr. Laird, in the most liberal and praiseworthy spirit, has placed at the disposal of the committee. The land on which the building will be erected is situate in Livingstone-street, close to the main entrance to the park, and it was purchased from the commissioners for 500*l.* The first stone was laid on the 24th of November last. Mr. Walter Scott, of that neighbourhood, is the architect; and Mr. John Hogarth the contractor for the works. We adopt the architect's own description of the building:—

The design is in the Italian style of architecture. The site selected is a piece of land fronting to Conway-street, which is 60 feet wide, and one of the principal streets in the town. It is bounded on the east and west by streets about 50 feet wide, drained by large sewers. The building will be two stories high in addition to the basement floor, and built of brick and Stourton stone, no cement being used. The aim in planning this hospital has been to embrace as much as possible the suggestions made at various times by authorities on the subject. The most essential points in constructing a hospital, they state to be—1st, fresh air; 2nd, light; 3rd, ample space; 4th, subdivision of sick in separate buildings. An inspection of the plans will show that these four essentials are obtained. The hospital is placed in a situation overlooking a public park of 180 acres, which must always be kept open, with a wide street intervening, and is also bounded by wide streets on each side. The axes of the wards are north and south. The wards have windows on both sides, one window for every two beds. There is also a window at the end of each ward, which, if necessary, can be opened at night for ventilation, without causing a draught upon the patients. The superficial area allowed for each bed is 110 feet, and the cubic space for each bed 1,430 feet. The subdivision of the sick is provided for, as the four wards will be in two wings of two stories each, exclusive of the basement. The nurses' rooms are at the entrance end of each ward, so that no one can enter or leave the ward without being seen, and by this arrangement they themselves are easily overlooked by the matron, and are able to have a complete supervision of the wards by means of windows between the rooms and the wards. There are waterclosets, baths, and lavatories for the patients at the end of each ward, quite isolated and thoroughly ventilated. There is also a scullery attached to each ward, and overlooking it. The arrangements in the plans are so made as to ensure a complete separation between the hospital proper and the administrative portion and offices. In addition to the four wards, the hospital will contain an operating-room, an accident ward, a board-room, matron's parlour and bedroom, house surgeon's parlour and bedroom, porters' room, female servants' room, kitchens and all usual offices, washhouse, laundry, store and linen rooms, fumigating room, rooms for hospital comforts, wine cellars, &c., and every requisite for such an establishment. There will be attached to the hospital a dispensary, completely separated from the remainder of the establishment, having separate access from the street. It will consist of a waiting-room for patients, consulting room, dispensing-room, and laboratory. There will be a garden or airing ground for patients, of good size, to the south, and overlooking the park. The building is so planned as easily to admit of such future extension of the wards as to double or treble the number of patients, the administrative portion of the hospital being such as to be easily adapted for a much larger number than now proposed. Lifts are provided for raising food, coals, &c., from the lower to the upper stories, and hot and cold water will be laid on in all the wards, sculleries, &c. The walls and ceilings of the four large wards, and those of the accident ward and operating-room, will be covered with Parian cement, which forms a polished and completely non-absorbent surface; and the floors of all the wards, and of the operating-room, the corridors, water-closets, bath-rooms, and lobbies, will be laid with oak, polished, to render them as non-absorbent as possible. The stairs will be of stone.

Birkenhead is indebted to Mr. Laird not alone for the munificence of the gift, but for the manner in which he has sought to obtain the best possible arrangements for the suffering poor.

THE WELSH OIL SPRING.—The paragraph which lately went the rounds of the papers relative to the discovery of a supposed oil well at Blains, Monmouthshire, requires a little explanation. The only spring, it now turns out, was a hogshead of oil, which sprang a leak some time since near the spot, and by some means a portion of the oil got into the well; hence the discovery of the supposed oil spring.





THE NEW BIRKENHEAD BOROUGH HOSPITAL.—Mr. Walter Scott, Architect.

HEALTH AND PUBLIC WORKS AT HOBART TOWN, TASMANIA.

It appears from the health reports prepared for the year 1862 by Dr. E. S. Hall, of Hobart Town, that the population of the island of Tasmania, or Van Diemen's Land, in 1862, was about 91,000; and that 1,367 deaths occurred, being a rate of mortality of 15 per 1,000, or the same as the healthiest registration-district in England and Wales, the rural and mountainous district of Glendale in Northumberland; but nearly one-third less than the rate for all England and Wales. In the rural districts of Tasmania, excluding Hobart City and Launceston and their environs, there were 545 deaths in a population estimated at 55,000 persons, or a death-rate of less than 10 per 1,000 per annum! While the rural-rate of England and Wales is about 19 per 1,000, or almost double that of this salubrious island. The small proportion of the deaths, under five years of age, of the whole, is remarkable. Nevertheless these deaths even, the reporter thinks, could be considerably reduced.

The only epidemic disease that prevailed in 1862 was whooping cough. We are indebted for these statistics and for the following to the *Hobart Town Mercury* (February, 1863).

The site for the new townhall of Hobart Town, facing on its four fronts Macquarie, Davey, Elizabeth, and Argyle streets, has now been cleared and levelled, and is ready for the commencement of building opérations as soon as the plans of the corporation and their architect are completed.

The work of levelling Franklin-square, also with a frontage on three sides, to Macquarie, Elizabeth, and Davey streets, is progressing rapidly, and the site will soon be ready for the reception of the monument to the distinguished navigator, who once lived on the very spot whilst Lieutenant-Governor of Tasmania.

On the wharf, the new Mariners' Church has so far approached completion that the roof is being laid on. It is a Gothic structure.

The finished portions of the new Catholic cathedral will soon be consecrated.

The corporation are erecting a commodious market for the exposure to sale of hay and other farm produce.

It is rather odd that there seems to be now in the colony a desire for a return of the convict system which once rendered Van Diemen's Land a terror to evil-doers.

ECCLESIOLOGICAL SOCIETY.

At a Committee Meeting held at Arklow House, on Thursday, March 26th, after some conversation about the proposed designs for stained glass and mosaics in St. Paul's Cathedral, and about the removal of the iron grills which used to separate the sanctuary from the aisles, it was agreed to request the president to communicate with the Restoration Committee. It was also agreed to co-operate, if possible, in the opposition to the proposed railway viaduct across Ludgate-hill. Numerous designs were laid before the committee. The president, Mr. Hope, submitted, from the British Consul at Stockholm, a design for an English church intended to be built in that city, from the designs of Mr. Hamilton. He also laid before the meeting Mr. Powell's sketch, from Messrs. Hardman, of a design for painted glass for the north transept window of Sydney cathedral. Mr. Lightly reported that the church used by the Dutch congregation in Austin Friars was too much damaged by the recent fire for possible preservation. It is intended to replace the ruin by a new Gothic church.

Claim was made for help in the restoration of the chancel of Bosham church (Sussex), on the following grounds:—

"The restoration of Bosham church commends itself to more than ordinary notice for the following reasons:—

1. It was built for the Saxons, and is one of the oldest churches in this part of England.
2. Its tower is the highest in England of Saxon origin.
3. Within the sacred edifice rest the mortal remains of a daughter of Canute.
4. In the opening scene of the Bayeux tapestry Harold (who, as well as Earl Godwin, occasionally resided at Bosham) is represented taking leave of Edward the Confessor at Winchester, on his journey from thence to Bosham; and then with an attendant entering Bosham church."

Messrs. Powell wrote as to glass mosaics lately manufactured by them:—

"The specimens we send are of two kinds, some of them being of a purely mosaic character, while others are a combination of mosaic and enamel, much in the same way as the two are combined in glass-painting; and this latter plan, we think, may be made very available for wall-decoration, as the colours are, of course, unchangeable by damp or atmospheric causes; and the lines and shading, being enamelled and burnt in, would have a durability scarcely to be attained by any other method of wall-painting; while the cost would be, as compared to mosaic work as ordinarily understood, very small indeed."

The committee thought the coarser mosaics very successful, both in colour and in substance; but a specimen of finer and more delicate work was, in their opinion, ineffective.

ON THE BIRTHPLACE OF CHAUCER.

At the last meeting of the London and Middlesex, and Surrey Archæological societies, Mr. W. H. Overall read a paper "On the Birthplace of Chaucer." He commenced by remarking that while the biographers of the poet believe him to have been born in the city, and to have been a member of one of the companies, yet none of them have hitherto been able to discover his residence. The first mention of his name occurs in a grant of Edward III., in 1367, of a pension to him of twenty marks. He also appears in 1374, as comptroller of the customs, which office he held to December, 1386. In 1384 he is found involved in trouble, through interfering in the election of John of Northampton for Lord Mayor of London. Northampton, however, did not succeed, and Chaucer was compelled for safety to go abroad. He returned in 1386 to London, and was sent by Thomas of Woodstock to the Tower, and deprived of his offices: to these, with a pension, he was afterwards restored by Richard II. In the "Liber Albus" mention is made of one of his residences, "Dimisio Portæ de Algate facta Galfrido Chaucer;" and in the "Liber Custumarum" there appears an account of a wardship being granted to him. Mr. Overall then brought before the notice of the meeting a copy of a manuscript dated 4 Richard II., being a transfer from Chaucer to Herbury of premises situate in the parish of St. Martin's in the Vintry, between the tenement of William the Gauger towards the east, and the tenement which formerly belonged to John le Mazelyners towards the west, and extending to the king's highway of Thames-street towards the south, as far as the water of Wallbroke towards the north, formerly the property of Chaucer's father, who is described as a vintner of London. It would appear from this deed that this spot was probably the father's residence, and there are good grounds for supposing that here Chaucer was born and lived. His father being a vintner, he was born free of that craft. These facts are somewhat strengthened by a passage in his "Book of Love," book i., sec. 5:—"Also the Citye of London, that is to me dere and swete, in which I was forth growen, and more kindely love have I to that place than to any other in yerth (earth), as every kindely creture hath full appetite to that place of his kindly engendrure, and to wilne reste and pece in that stede to abide."

NORTHERN ARCHITECTURAL ASSOCIATION.

At the quarterly meeting of this Association, held on the 15th instant, under the presidency of Mr. Thomas Austin, vice-president, the secretary (Mr. Oliver) read a communication from the Nottingham Architectural Association, having reference to the voluntary architectural examination and the granting of diplomas to architects at present in practice, upon which the Nottingham Association would be glad to exchange views on a matter which they regarded as being of great importance to the profession in general. After an animated conversation, it was moved by Mr. Greener, seconded by Mr. A. M. Dunn, that a copy of the resolutions previously passed by this Association be sent to the Nottingham Society, with an explanatory letter from the secretary.

A letter was read from Mr. F. R. N. Haswell, calling attention to the inaccuracy of the large or 25-inch scale ordnance maps, which made it an impossibility to join them together; as already pointed out in the *Builder*. A conversation ensued, but no action was taken in the matter. The conversation on the latter subject gave rise to another—namely, that of admitting civil engineers and surveyors as members of the Association, in favour of which the secretary gave notice of motion—for the alteration of the existing rule—at the next meeting. Mr. F. R. Wilson exhibited the three-panelled altar painting of the Ogle Shrine in Hexham Abbey Church; also an ancient wooden chest, surmised to have belonged to Brinkburn Priory. Mr. Wilson then read a paper upon Alnwick Castle in a state of siege, showing the various engines employed by the besiegers to capture such a castle, and the means taken by the besieged to frustrate their efforts, with the engines of war in full operation. As the meeting was separating, the secretary mentioned that, on the approaching visit of the British Association, the Association had arranged to take steps to bring together a collection of the building materials of the district.

EXTENSION OF THE HALIFAX WATER-WORKS.

The growing demands of the town of Halifax now require that the waterworks be further extended, and the branch in the Luddenden Valley commenced. Accordingly, steps have been taken to increase the supply. A ground survey is being made, and working plans are preparing, under the superintendence of Mr. Bateman, engineer, and the corporation will shortly be in a position to let the work to contractors. The Luddenden Valley scheme embraces the construction of four reservoirs. The largest, on Warley Moor, will be a compensation reservoir to the millowners down Luddenden Brook, and will have a capacity of 26,000,000 cubic feet. There will be three pure water reservoirs, calculated to retain together nearly 20,000,000 cubic feet. It is not intended, however, to carry out at present the whole of the works connected with the branch scheme in this valley, but simply the Warley Moor Compensation Reservoir, and the Castle Carr Reservoir. From these there will be conduits constructed, one involving the cutting of a tunnel through Mount Tabor, and terminating in Ramsden Wood Reservoir, in the Hebble Valley, from whence the water will be conveyed by the present arrangements to Halifax. By the works proposed in the first instance to be constructed, about 1,000,000 gallons per diem will come to Halifax; and when the whole works are completed it is computed that this valley will supply at least 2,000,000 gallons per day; making the supply to Halifax from the two valleys over 3,000,000 gallons. The scheme could be extended into the Hebden Valley, where an inexhaustible supply of good water could be obtained. Halifax is enviably situate in respect to water supply.

STATUES AND MONUMENTS.

Mr. J. S. Westmacott has finished, in marble, a statue of Alexander the Great, the attitude being suggested by a well-known passage from Dryden. It is intended for the Egyptian Hall of the London Mansion House. ——The excavations for the foundation of the Tynedale monument have been commenced on North Nibley Hill, near Wotton-under-Edge, under the superintendence of the architect, Mr. Jackson, of Uley. It is intended to lay the foundation-stone on Thursday in Whitsun week.—— A specimen of monumental architecture is described by the *Guardian* as having been prepared for the grave of the Rev. Mr. Eckitt, late President of the United Methodist Free Church, whose monument is to be erected in Finchley Cemetery, London. It is at present in the yard of Mr. Cockayne, of Nottingham. Standing 30 feet high, it is the largest monumental work made by Nottingham artists. The style is Geometrical. The base is square, ornamented on the middle of each face with a circle in relief, containing emblems of the Trinity. The central portion consists of four Gothic faces, with high-pitched gablets. At the corners are four sculptured figures, representing Faith, Hope, Charity, and Religion. Above the panels, filling up the spandrels of the gablets, are trifoliated ornaments, with the monogram J. H. S., a floral cross, as the emblem of the Trinity, and a descending dove, emblematic of the Spirit. The apices of the gablets are surmounted by finials of pomegranate leaves. From the shaft, which is allowed to appear behind the gablets, springs a light spire, supported by four columns, the shafts of which are of polished Aberdeen granite, and the bases and capitals carved. The spire is octagonal, the edges decorated with floral crockets, and the finial ontspread pomegranate leaves. The panels in the middle portion of the monument are of Aberdeen marble, and will contain inscriptions. The architect is Mr. R. C. Sutton, of Nottingham, and every portion of the work has been executed by Nottingham men; the carving having been done by Mr. Thomas Earp, and the stone-cutting by Mr. Cockayne, who is the contractor. Mr. Sutton's

plan for this monument was selected by the London Committee from among a large number of competitors; and the cost, according to the *Guardian*, including the carriage of the material from Yorkshire and Aberdeen, is only about one-half what it would have been in London.

CHURCH BUILDING NEWS.

Lowestoft.—The new Wesleyan chapel here has been opened. The edifice is situate about the centre of the High-street, and adjoins the old one, now to be used as class and school-rooms. The new chapel is in the form of a parallelogram, 70 feet long, 60 feet wide, and 50 feet high. The style of architecture adopted is Italian, and the materials employed, are white brick facings with Caen stone dressings. The East front (the principal) is divided into three heights: the lower part consists of a colonnade, having Portland stone columns of the Doric order with entablature over: the upper part is broken into three divisions, having four circular-headed windows, with panelled piers and carved stone capitals, the foliage of which consists of flowers emblematic of the Christian faith. The spandrils above have circular panels with carved foliage, presented by the architect. The centre division of the front is surmounted by a pediment of Bath stone; and a large semicircular window, with moulded key-stone, completes the principal features of this front. The interior is divided into nave and aisles by two rows of iron columns, with galleries round the three sides. The ceiling of the nave is semicircular, with arched openings at the sides, springing from the columns. There are twenty side windows and two large semicircular windows, one at each end, and the two latter ventilate the whole chapel. The total accommodation is for 1,250, and the total cost was about 2,500*l.* The whole has been executed from the design and under the superintendence of Mr. John L. Clemence, of Lowestoft, architect. The moulding of the enriched capitals inside and the carved stone capitals in front were executed by Mr. James Tolmie, of Lambeth. The contractors for the different works were as follows:—Bricklayer, plasterer, and slater, Mr. G. Rix; carpenters and joiners, Messrs. Butcher & Bly; mason, Mr. Utting; plumber, painter, glazier, and gas-fitter, Mr. J. W. Ling; ironfounder, Mr. Skoyles.

Lavenham (Suffolk).—The opinion of Mr. F. C. Penrose, architect, having been obtained, under his advice the nave and aisle-roofs of Lavenham church have been overlaid with new planking, and wholly re-leaded, and the seventeenth century ceiling of the chancel replaced by a roof of open timberwork—to be lined and painted at some future day—accordant in style with the decorated work of the windows. In repairing the roof of the nave, it was found necessary to carry the principals on iron shoes bolted to the wall-plates, their ends having decayed away. The refitting of the chancel is complete: the oak stalls with folding seats, and the benches with carved poppy-heads and elbows, have been restored; the floor paved with encaustic tiles; new mullions inserted in the windows; and a painted east window by Lavers & Barraud, of London, inserted by the Rector. Two other painted windows, one at the west end, where it is visible through the archway by which the tower has been thrown open to the nave, the other on the south side of the chancel, have been inserted by Messrs. W. & F. Thompson, brothers-in-law of the Rector. The west window was among the examples of this department of art in the International Exhibition last year. The rest of the church has been freed from the encrustations of whitewash and colour which filled up and concealed its moulded pillars and carved panel-work, and the stone-work has been repaired. The square pews have been so far cut down, that the church no longer appears empty when the congregation are seated, but their entire removal and the substitution of benches is obviously the next step to be taken. The restoration has been carried out under the direction of Mr. Penrose; Mr. Ringham, of Ipswich, executing the greater part of the wood-work; Messrs. Keogh, of Sudbury, the stone-work. The roofs of the aisles were constructed by Mr. Garrard, of Lavenham; and the lead work and glazing by Mr. Clemence, of Lavenham, and Messrs. Morley & Co., of Bury St. Edmund's.

Bures (Suffolk).—The church at Bures has been repaired and restored at a cost of about 2,000*l.* The west gallery has been removed and the tower arch opened, throwing the whole space of the tower into the church, thus enlarging the accommodation and extending the view. A floor for the ringers has been put in above the remains of an old groined ceiling in the tower. All the high pews have been removed, the floor cleaned throughout the building, and the entire under-surface covered with concrete 6 inches thick. The aisles and open spaces have been paved with Peake's tiles, and the church has been fitted up with open benches. The arcade on the south side of the nave has been rebuilt, consequent upon one column having sunk nearly 10 inches below its original level. New clerestory windows have been put on each side of the nave, and a new large window at the west end of the north aisle. New arches and piers have been put into the north and south aisles to prevent the spreading of the chancel arch. One of the five Perpendicular windows in the Waldegrave chapel, which was much injured, has been taken out, restored, and reinserted. A new gallery to seat 60 persons has been erected in this chapel: the old roof, which was much decayed, has been removed, and a new one erected and covered with lead externally, corresponding in pattern and style with the old. The church has been replastered throughout, finished with stucco, and the stone work of the arches, pillars, font, &c., cleared of paint and colour. The external walls have been stripped of the old plastering which hid the flint work, and the walls have been pointed in black mortar. The brick porch on the south side has also been cleaned and restored. The altar-rail has been refixed upon stone steps, and the sacrarium will be laid with ornamental tiles. The church has been heated with hot-water pipes, laid in each aisle for that purpose, and covered with open iron gratings. The architect was Mr. E. Christian, of London. All the works have been executed by Messrs. Rayner & Runnacles, of Halstead. The church will now seat 818 persons, 597 free. A new organ has been provided, built by Messrs. Bevington & Sons, of Soho. The total number of pipes is 557.

Hatton-wall.—The new Roman Catholic church which has for some time past been in course of erection in Hatton-wall has just been consecrated.

Whitley.—It has been determined to erect an organ in Christ Church, at Whitley: the cost will be about 300*l.* In the aisle of the new church a decorated window of two lights has been filled with stained glass by Messrs. Heaton, Butler, & Bayne, of Hampstead-road. The glass is given "to the glory of God by the Sunday scholars and teachers of St. Giles's Schools." The subject in the right compartment is Christ blessing little children. The left compartment represents the Good Shepherd bearing the Pastoral Staff, the emblem of the Episcopal Office. The trefoiled head of the window is filled in with a representation of the Agnus Dei. The window was paid for by the subscriptions of the humbler classes, and it is hoped that a wealthier class of churchmen will ere long provide the means for filling in some of the windows in the chancel or those on the south side of the nave.

Minster (Thanet).—The works at St. Mary's church are now drawing slowly to a close, but the opening has not yet been fixed. A stained-glass window (the most westerly one of the three in the south aisle), has been given by a friend as a thank-offering to God on the restoration of the ancient edifice. It contains an illustration of the Baptism of Christ and other emblems of the faith.

Crediton.—The foundation stone of a new Congregational chapel was laid at Crediton, on the 8th instant. The structure is erected from drawings by Mr. Thomas Oliver, Newcastle-on-Tyne, based on a design which received the approval of the Chapel Building Society some years ago. The contractors are Mr. Heathman, for the carpenter's and smith's work; Mr. Francis Channon, for the mason and plasterer's work; and Messrs. Hall & Thomas, for the painting and glazing, all of Crediton.

STAINED GLASS.

Howden Church.—The stained glass in the great west window of Howden Church is being fixed by M. Athron, of Doncaster, stonemason. The artist is M. Capronnier, of Brussels. The window is Geometrical, of Edward II.'s time. It is divided into four lights by mullions, and into two divisions by transoms. The subject in the lower division is the worship of the Magi. The upper division contains the angel appearing to the shepherds; and the tracery is filled with angels floating lightly, as if in the clouds, and bearing scrolls containing the words, "Peace on earth, good-will towards men." The window has been placed in the church by Mr. Scholfield, of Sandhall, as a memorial of his late father and mother.

SCHOOL-BUILDING NEWS.

Liverpool.—The premises for accommodating the Old Church schools have been rebuilt and re-opened, in the presence of the mayor. The value of ground in the neighbourhood of Moorfields rendered necessary an outlay of 1,100*l.* for the purchase of the additional site, and the cost of the re-erection was about 2,700*l.* In opening the schools it was stated that there is a scheme in contemplation for forming an institution similar to that organized in London for providing education and amusement for working lads between the ages of fourteen and eighteen, called the Youths' Club and Institute. Whilst classes are going on in one room, a library, newspapers, chess, and other amusements are to be found in another.

METROPOLITAN UNDERGROUND RAILWAYS.

A QUESTION appears to me to arise in connexion with these projects applying for Parliamentary sanction, viz.,—Whether Parliament have the power to alienate a man's private property without compensation?

With regard to the telegraphic companies the legal maxim is at once admitted, "*Cujus est solum ejus est usque ad cœlum;*" and a man may put two or three stories on his house. But is not the converse of the proposition "*Cujus est solum ejus est usque ad infernum*" equally true? and may he not add two or three basements,—in fact, "sink a well," if he be so minded?

The Metropolitan Railway was for the most part under a public road or way, and cases have scarcely arisen; but in the multitudinous projects afloat several legal considerations may arise.

LEX.

WANTED, A MEETING-ROOM.

SIR,—The George and Blue Boar Hotel is about to be taken down. The societies of decent artisans meeting there are again adrift to seek in vain for a house with rooms spacious enough for their accommodation. There are societies of enormous numbers in this metropolis, but rooms to accommodate them to the extent of two or three hundred nowhere exist in connexion with the existing taverns. Foresters, Old Friends, and others, are enormously augmented, but their meeting-places are as contracted in dimensions as ever. In our own case, the Bookbinders' Society, we want at this moment a room for an annual festival meeting, hitherto held at the above house, also for monthly meetings. The Freemasons offer us either of their halls, one for 10*l.* 10*s.*, the other for 5*l.* 5*s.* for a single night: this, therefore, will not suit. Doubtless lecture-halls and school-rooms on the temperance principle may be found in out-of-the-way places, but nowhere in suitable places have we rooms for large assemblies of working men or women upon the *social* system which they are accustomed to.

Now, sir, I venture to think that the construction of some such place, to accommodate seated 250, in Holborn or its vicinity, would pay, and, at the same time, help to elevate the working classes from their grovelling tendency to herd together in the low mere public-houses of insufficient space for the observance of the proprieties.

C. DENT.

THE CROMWELL FOUNTAIN AT THE CRYSTAL PALACE.

A PROTEST.

THE Crystal Palace at Sydenham may justly be regarded as a School of Art; furnishing, as it does, examples of every style in architecture, and casts from the best works in sculpture extant. Of late years, too, lectures have been given on art by persons distinguished for their learning and proficiency.

With all these efforts to advance the public taste, and give a deserved reputation to the Palace at Sydenham, it was to be hoped that the directors themselves might benefit by the teaching thus provided. It would seem that they are resolved to convince the world to the contrary. The figures which are now in course of erection, over a proposed fountain, placed in the centre of the grand terrace facing the building, and towards the garden, are so contrary to the fundamental principles of design in architectural ornamentation, and in sculpture; considered in reference to purpose, arrangement, form, and meaning; that it appears as if, with so many examples of good taste about the building, the directors had resolved, in

this conspicuous situation, to set up, by way of contrast, one exhibiting every fault that should be avoided.

In architecture it is a rule that no mere ornamentation should destroy or injure the effect of the main lines; that all decoration should be appropriate, and appear as a part of the design, as belonging to it constructively; or, if superadded, as something the absence of which would be felt as a want. In sculpture, whether figures be taken singly or in groups, there are certain essentials which an artist ought always to attend to. For instance, the figures must express what they are meant for; they must be appropriate to the purpose intended; they must be designed with a respectful attention to the canons of art,—the grammar, so to speak, derived from the best works of antiquity and of the revival; the laws of stability must not be neglected; it should be obvious that figures can retain the position in which they are placed; form must be attended to, and proportion; and, when any imitation of some well-known example is attempted, it must not be a caricature of it.

There are few individuals to whom Nature has been so ungenerous as to deny them the capacity of attaining to a correct taste: in almost every case it is only necessary to familiarize the sight with the best examples, to become intimately acquainted with them; and as children acquire a language by hearing it spoken, so a correct judgment is formed of works of art by seeing them exhibited. There are, however, a few unfortunates who either will not or cannot learn; and the directors of the Crystal Palace, I am sorry to say, seem to belong to that forlorn class.

Before proceeding to illustrate the barbarisms recently committed at the Crystal Palace, a few words should be premised describing the general design, or what at present appears of it, the upper portion.

There is a narrow tomb-shaped pedestal, the cornice of which has a curve at each extremity, sharp and unsafe looking, showing how necessary it is to reflect when attempting to copy. On this two marine monsters, male and female, written on as "War" and "Peace," are meant to be reclining; and the liberal allowance of fish's tail which has been given to each is no doubt intended to act as a counterbalance to their bodies, which would nevertheless fall off if placed in such a position. The idea of these, and their unstable position, seem to be intended as a caricature on the noble works of Michelangelo in the Cappella de' Medici in S. Lorenzo at Florence, copies of which are in the Italian Court of the Palace. Standing up from between these monsters, on the top of the tomb, is a rather colossal figure of Oliver Cromwell, redundant in big breeches and boots, who points to War. These figures appear above the line of the terrace balustrade; and it seems as if, by intention, the Palace and its contents were placed under the protectorate of this clumsy figure. A substructure of brick, built up in front of the terrace and immediately against it, supports them.

All who are acquainted with palaces and terraces throughout Europe know that, for length and breadth, and general features, few, if any, terraces can compete with this. The intention shown to destroy the effect of this length and the grand perspective produced by the continuity of the lines without interruption, including also the level of the figures on the pedestals along the whole front, can only be regarded as a barbarism. Any attempt at decoration which does not form a part of the terrace and does not belong to it, deserves no better name. The figures that are placed on the substructures of brickwork and brought to overtop the terrace are an excrescence. But the barbarisms here committed against good taste in sculpture are still more conspicuous. Figures should not only express what they mean, but should also be characteristic of what they are intended for. Who ever saw figures of Peace and War with fishes' tails? Peace should be represented always in a graceful and dignified attitude, either as standing or sitting, not lolling on her elbows and thrown down as if she had fallen asleep, like the "Night" of Michelangelo. But, however placid, a figure should not be obviously unsafe; and Peace and War would fall off their ill-proportioned couches if not fastened on. These figures are also too bulky; and, though there is some benignity in the countenance of Peace, her companion, like Vice,—

> "Is of so frightful and distorted mien,
> That to be shunn'd needs only to be seen."

But these are the things which the directors of the Crystal Palace have set up in the most conspicuous place they could find for the admiration of visitors. What natural connexion there may be between a fountain of water and Oliver Cromwell is only known to the directors themselves. Ocean, Neptune, Britannia, or Peace, in a proper position, holding out the olive-branch to all nations, would have had a more obvious meaning. There can be no objection to a fountain being placed in this locality: it may even be made an ornamental feature, and appropriate; but there must be nothing of it seen above the line of the terrace balustrade; nothing to spoil the fine effect of that extended line; nothing to interrupt the magnificent view;—a fountain extending in breadth to cover the blank wall between the flights of steps by which we ascend to the Palace, but not exceeding in height the terrace line.

H. C. Barlow.

WIDE TENDERING AND BILLS OF QUANTITIES.

Sir,—Seeing in a late number a letter on this subject from a provincial contractor, in which the writer says,—"The quantities in question were provided by the architect," and "that he is aware that such a course is not in practice in London: "I beg to correct an error into which he has fallen.

There are now before me some quantities from a firm of London architects, prepared by themselves, and for which they charge 2 per cent. in addition to lithography and builder's copies of drawings, with a proviso that the quantities are to be accepted as correct after the contract is signed.

To illustrate the imperfect manner in which the quantities are prepared, the following, amongst numerous items, will be sufficient, and they will go far to account for the great discrepancy so often seen in the lists of tenders.

A Metropolitan Contractor.

*** It is unnecessary to print these. They include "one water-closet complete," and so on.

ST. THOMAS'S AND BETHLEHEM HOSPITALS.

A general Court of the Governors of St. Thomas's Hospital was held on Tuesday; Sir John Musgrove, president of the court, in the chair. The clerk read the minutes of the last meeting, and a report setting forth the plans and estimates, prepared by Mr. Currey, the surveyor of St. Thomas's Hospital, of a new building to substitute the present Bethlehem Hospital, in the event of the contemplated arrangements being carried out, and which was set down at a cost of 150,000*l.*, including the site.

Mr. Tite, M.P., recapitulated the proceedings of the committee, and said that the result of their negotiations with the authorities of Bethlehem Hospital was to the effect that they did not want the money from St. Thomas's Hospital; but said, "If you will find us a site and build us a hospital in the country we shall be willing to come to terms with you, but upon no other condition." As to obtaining a site, that was nothing in comparison with the difficulties that would afterwards arise. After having purchased the land they would have to build not only a hospital for Bethlehem, but also one for themselves, and it was impossible to come to any approximation as to what the ultimate expenditure would be. The building of the two hospitals and the Parliamentary expenses (for it would be necessary to obtain an Act of Parliament) would involve a cost of not less than 300,000*l.*

After some discussion, the following motion was passed *nem. con.*:—

"That the Grand Committee be empowered to continue the negotiations with the Governors of Bethlehem Hospital for obtaining the site of that hospital, and to submit proposals to that body either to build for them a new hospital in conformity with the plans and estimates prepared by Mr. Currey, the surveyor of this hospital, at a cost not exceeding 150,000*l.*, including the site, or to pay for the site and buildings of Bethlehem the sum of 150,000*l.*, subject to the approval of the Court of Chancery, and the sanction of Parliament and of this Court."

To knock down one sound and costly building in order to erect another on its site, and then to put up a third elsewhere in lieu of the first, certainly seems to common minds a very extravagant mode of proceeding.

COMPENSATION CASE, LIVERPOOL.

DIFFERENCES.

The London and North-Western Company are making a branch line from Edgehill to rejoin the main line at a place called Bird's Wood, in the parish of Aston, in Cheshire, by which means the direct London traffic will pass along the valley between Allerton on the east and Mossley Hill and Garston on the west, through Speke and Ditton; then across the Mersey a little west of Runcorn Gap Ferry, by a lofty and magnificent iron bridge; and so on through Aston to Bird's Wood, which is a mile and a quarter beyond Preston Brook, and seven miles south of Warrington. Amongst other lands required in carrying out this object, the Company have to purchase from Mr. Josias Booker three statute acres and 37 perches of agricultural land, being 15,639 square yards, forming part of his property, nearly equi-distant from the Allerton-road eastward, and the Garston high road westward. To ascertain the value of this land a reference was held, of which the *Liverpool Mercury* gives the following particulars:—Mr. Booker's claim will be gathered from the valuations of the following witnesses called on his behalf:—Mr. Thomas Wylie, the parish surveyor, estimated the value of the land, including compensation, but exclusive of a bridge, which was left to be built at the expense of the Company, at the sum of 4,192*l.* 4s. 9d.; Mr. Horner, architect, at 4,322*l.* 1s. 8d.; Mr. J. Hay, architect, at 4,061*l.* 9s.; Mr. John Cunningham, architect, at 4,445*l.* 12s.; Mr. Scourfield, builder, at 4,685*l.* 19s. 6d.; Mr. Owen Williams, at 3,976*l.* 4s. 3d.; Mr. John White, at 4,217*l.* 5s. It transpired incidentally, though not named in evidence, that Mr. Samuel Holme had been consulted by Mr. Booker, but was not called by that gentleman, and that Mr. Holme's valuation was about 2,000*l.* The following gentlemen were then called on behalf of the Company, Mr. Lloyd ridiculing the valuations which had been given for less than three acres and a quarter of mere agricultural land:—Mr. William Culshaw, architect, valued the land and compensation at the sum of 1,776*l.*; Mr. Gee, architect, 1,776*l.*; Mr. James A. Picton, 1,777*l.* 10s.; Mr. Henry White, of Warrington, 1,769*l.*; Mr. James Holme, 1,581*l.* 15s. 9d.; and in addition the Company to be at the expense of building a bridge. The award has now been made, and the referees have given Mr. Booker the sum of 2,188*l.*, being less than half the amount claimed; and instead of the Company building the bridge to connect the severed land, the cost of it, namely, 595*l.* is to be paid to him, he building the bridge to suit his own convenience. It has been stated, and we believe with accuracy, that the cost of this reference will be nearly 800*l.*, and that the charge will fall upon the railway company.

Books Received.

A Handy Book on Villa Architecture. By C. Wickes, Architect, author of "The Spires and Towers of Churches of England." Second series. London: Lockwood & Co. 1862.

This, the second series of Mr. Wickes's "Villa Architecture," already briefly noticed in our pages, contains five designs in as many styles, and ranging in cost from 1,479*l.* to 3,876*l.* No wise person would think of building a house from a ready-made plan in a book; but works of this kind enable those who desire to build to bring their ideas to a focus, and discriminate between what they do want and what they do not, and so to give useful instructions to their architect. Plan No. 2 is objectionable as allowing of no thorough draught through the house; and the passing of the stairs over the main entrance would have a mean effect. Some of the elevations are treated skilfully.

Things to be Remembered in Daily Life, with Personal Experiences and Recollections. By John Timbs, F.S.A. London: Kent & Co. 1863.

This is perhaps the most reflective of all Mr. Timbs's many useful books. Time and human life, including some of his own personal experiences, form the staple subjects of the volume. By focusing great truths from the Living and the Dead is sought to be exemplified the moral couplet;—

> "Honour and shame from no condition rise:
> Act well your part, there all the honour lies."

We have no doubt that as a companion volume to "Things not Generally Known," this of "Things to be remembered" will be as popularly received as its predecessor. The sketches of character which it contains have been drawn in great measure from our own time, so as to give the book a current interest, though historic gossip has not been altogether neglected. As a slight example or indication of the nature of these sketches, though in this case a very brief one, we may quote the following under the head of "Opportunity:"—

"Extraordinary instances have occurred of latent genius having been discovered by some lucky accident, and fostered to high position. Isaac Ware, the architect, and editor of 'Palladio,' was originally a chimney-

sweeper; and, when a boy, was seated one day in front of Whitehall Palace, upon the pavement, whereon he had drawn in chalk the elevation of a building. This attracted the notice of a gentleman in passing, and led him to inquire who had enabled out the building. The boy replied, it was his own work: the unknown patron then took the lad to the master-sweeper to whom he was apprenticed, purchased his indenture, and forthwith had little Ware educated. He rose to be one of the leading architects of his day: and among other edifices he built Chesterfield House, in South Audley-street, one of the handsomest mansions in the metropolis. Ware died in 1766; and, it is said, retained the stain of *soot* in his face to the day of his death."

We cordially recommend the book.

Miscellanea.

THE ARCHITECTURAL MUSEUM.—On Tuesday evening last the Dean of Ely delivered a lecture on the Ely Lantern. We postpone our report till next week.

ARCHÆOLOGICAL INSTITUTE.—At the next monthly meeting of members on Friday next (May 1), Professor Willis will deliver a lecture on the crypt and chapter-house of Worcester. The chair will be taken at four o'clock.

ROYAL ITALIAN OPERA.—Mdlle. Carlotta Patti, sister of one who has made her reputation amongst us, is a very charming and finished singer. A slight physical defect prevents her from taking part in lyrical drama; but, as a concert singer, she affords a new sensation. In *Gl' angui d' inferno*, from the "Zauber-flöte," and Eckert's Echo Song, she has delighted her audience. Mdlle. Fricci's *Norma*, in the face of a recollection which will not soon be effaced, is a satisfactory performance; Mdlle. Dottini, a good *Adelgisa*. "Gulielmo Tell" was to be performed for the first time this season on Thursday evening, introducing a new *Arnoldo*, Signor Caffieri, his first appearance in England.

MEMORIAL OF THE EXHIBITION OF 1851.—On Monday the Prince of Wales received a joint deputation, consisting of Sir W. Dilke, Bart., vice-president of the Royal Horticultural Society; Mr. W. Wilson Saunders, F.R.S., honorary secretary of the Royal Horticultural Society; Mr. Alderman Challis, chairman of the Memorial committee; and Mr. Godwin, honorary secretary of the Memorial committee, on the subject of the inauguration of the Memorial of the Exhibition of 1851, which has been erected in the garden of the Horticultural Society, and which will terminate with a bronze statue of the Prince Consort. His Royal Highness having heard certain statements that were made to him as to the day on which the Memorial was intended to have been uncovered —viz., 5th of June,—was pleased to change it to the 10th of June. The ceremony of uncovering the Memorial will be performed by his Royal Highness the Prince of Wales, and her Royal Highness the Princess of Wales and other members of the Royal Family will be present. Full details of the ceremonial will be immediately published. Meanwhile we may state that her Majesty's Ministers, Foreign Ambassadors, and other distinguished persons, will take part in it.

NORFOLK AND NORWICH ARCHÆOLOGICAL SOCIETY.—The annual meeting of the members of this society was held at the Guildhall, Norwich, the Hon. F. Walpole occupying the chair in the absence of the president, Sir J. P. Boileau. The report was read by the hon. secretary, the Rev. C. R. Manning, and adopted. It described the society as in a prosperous condition. Office bearers were then elected or re-elected. The Rev. Mr. Manning read a paper "On Wickhampton Church and Monument;" and Mr. L'Estrange one "On the Derivation of the Terms Hungate and Colegate." Mr. Fitch exhibited the register of Burnham Thorpe Church, containing the register of Lord Nelson's birth, with a note by his father recording the investiture of Nelson with the order of the Bath, his rear-admiralship, and creation as Lord Nelson of the Nile and of Burnham Thorpe. The chairman remarked that this note seemed to indicate that the Nelsons were then up in the world. It was somewhat remarkable that three great contemporaneous admirals had all been born in one small village in this county—the village of Cockthorpe—which hardly contained more than six houses. They were Sir Cloudesley Shovel, Sir Christopher Minns, and Sir James Narborough. It was remarkable that this small village and the village of Burnham Thorpe should have produced four such great men. As an instance of the enthusiasm excited by Nelson's victories, he mentioned that when Nelson went away after his last visit to Burnham Thorpe, he took as many as thirty-eight boys with him from that little village.

PRIVATE GASWORKS.—Messrs. Porter & Co., of Lincoln, gas-engineers, have received instructions from the Archbishop of York to erect gasworks and fittings at Bishopsthorpe Palace. The same firm are also engaged in the erection of gasworks at Chester County Asylum.

HESS OF MUNICH.—The death of Heinrich Von Hess is felt as a great loss to Munich. Every traveller in that pattern-book city will remember the mural decorations, especially in the Basilica of St. Boniface, and stained-glass windows, from his hand. He was scarcely sixty-five when he died.

THE LUDGATE-HILL VIADUCT.—It is, so far, satisfactory to know, from the secretary of the London, Chatham, and Dover Railway, who writes to the *Times*, that the company "are willing to construct such a bridge as will at once be an ornament to the City and at the same time facilitate the widening of Fleet-street, so that from the foot of Ludgate-hill, where the bridge crosses, a good view of St. Paul's may be obtained." It is to be hoped, however, that even still all necessity for constructing such a bridge across Ludgate-hill will be obviated.

CHESTER ARCHÆOLOGICAL SOCIETY.—At the last ordinary monthly meeting, held at the society's rooms, St. Peter's-churchyard, the mayor in the chair, Mr. R. B. Edmundson, of the stained-glass works, Manchester, delivered a lecture "On the Manufacture of Ancient and Modern Glass," tracing it from its presumed discovery as early as the days of Tubal Cain, and its manifest existence as an art in early Egyptian times, down to its later introduction into Rome, Venice, Bohemia, England, &c. Mr. Edmundson intends shortly to give another lecture on "Stained Glass, Ancient and Modern—what it was, what it is, and what it ought to be."

RENTED CHURCH SEATS FOR THE POOR, *versus* FREE ONES FOR THE RICH.—In laying the foundation-stone on Easter Tuesday of a new church at Cliftonville, Hove, the Bishop of Chichester shrewdly expressed his opinion that in places of fashionable resort like Brighton and Hove, there should be *no free seats at all*, but a large number at a mere nominal rent, by the payment of which the poor man should secure his sitting against the intrusion of his richer neighbour; also some sittings at a somewhat higher charge, suited to the circumstances of tradesmen and others in their position of life; and he added that it afforded him great gratification to learn that such was the system intended to be adopted in the new church.

STRIKE AMONGST THE LEICESTER BRICKMAKERS.—It appears that a general strike has taken place amongst this class of workpeople for an advance of wages and for a diminution in the hours of labour. Should the extra rate of remuneration be agreed upon, it is intended that the question of time should not be so much an object, as most of the men work on piece. The demand made is stated by the local *Advertiser* to be for an advance at the rate of threepence per thousand for making bricks; threepence per thousand for packing them up; and twopence per thousand from the mill or for grinding; in all eightpence. Besides the question of wages, one arises with regard to time. The hours of labour amongst brickmakers at present are from six in the morning until seven in the evening, and an effort is made to reduce the same one hour, making it from six to six. Two masters are said to have acceded to the demand.

ALBERT MIDDLE-CLASS SCHOOL AND COLLEGE, IPSWICH.—The thirteenth meeting of the executive committee was held at Ipswich on Monday last; present the Right Hon. the Earl of Stradbroke, chairman; Sir E. C. Kerrison, Bart., and various other gentlemen, including Mr. Peck, the architect. The building firms who had offered to contract were reported to be very satisfactory, and Mr. J. W. Lacy, of Norwich, was selected as presenting the lowest tender. Several were under the specified 10,000*l.* by a considerable sum. Sir E. Kerrison brought up the report of the sub-committee, who had conferred with Mr. Lucas. Some minor suggestions were made, and Mr. Lucas guaranteed that nothing additional would be required, the contemplated outlay covering everything. All the sand that was necessary for the undertaking had been placed at the disposal of the committee by Mr. Arcedeckne. The building sub-committee were empowered to obtain from the contractor the necessary guarantees, and to see generally to the progress of the negotiations. It was announced that the bricks would be ready in the second week in June.

THE WOLVERHAMPTON SEWERAGE SCHEME.—The town-council of Wolverhampton have resolved to carry out the scheme of their borough surveyor as modified by Mr. Curley, C.E., and to that end have authorized the application to the Home Secretary for his sanction to borrow 37,000*l.*, repayable by instalments in thirty years, for the purpose of carrying out the sewerage works.

THE SEWAGE QUESTION IN THE COMMONS.—Mr. Brady, in the Commons last week, called attention to the reports of the Royal Commission on the sewage of towns question, the results of which he characterized as by no means satisfactory, especially in having referred the matter to Mr. Lawes, himself extensively interested in manure as an article of commerce. Mr. Brady read largely from the reports. Mr. Cowper defended the commission and Mr. Lawes, and urged a continuance of the experiments in which he had been engaged at the instance of the commission. Other members took part in the discussion, which, however, led to no special result.

HOSPITAL OF ST. CROSS, WINCHESTER.—The fine old Norman church attached to this institution is in process of gradual restoration, as funds permit. Last week a new organ, built for the hospital by Walker, of Tottenham-court-road (cost 420*l.*), was opened by Mr. Hopkins, organist of the Temple Church. The Lord Bishop of Rochester preached, and at the conclusion of his sermon expressed an earnest hope that the new organ would give the *key-note* to larger and more extended restorations of this glorious old sanctuary,—a hope which was warmly responded to by the master (the Rev. L. M. Humbert), the trustees, the brethren, and other members of the congregation. The work is now standing still solely for want of funds.

WORKINGTON WET DOCK.—The foundation stone of the Workington dock was laid about two months since. The piling around the dock is now half finished. Another steam piler is about to be set going to complete the north and east walls, while the engine at present in work is employed in piling the entrance and basin. The masonry of the north wall has been entirely completed for a length of 200 feet. The west wall is being pushed on. Nearly the whole of the foundation courses are laid, and the wall is finished from the north-west angle of the dock for a distance of some 60 feet. It is expected, both by the engineers and contractors, that the whole of the masonry will be finished by the close of the autumn.

SANITARY STATE OF STOCKPORT.—We regret to learn from the *Stockport Advertiser* that scarlet fever has been raging as a plague in various parts of this borough and its suburbs for several weeks back. Stockport and Heaton Norris are still suffering from this insidious visitor. In Hazelgrove, scarlet fever prevails by the house row; and owing to the peculiarly limited accommodation in the dwellings, being generally speaking merely cottages, the disease has spread rapidly and fearfully amongst families and neighbours. The assistance of the guardians has been urgently solicited to provide a temporary asylum for the infected cases, none such being convenient in Hazel-grove; and eventually it was suggested that the Heaton Norris workhouse should be opened for their reception and treatment. The theory advanced on this occasion is that scarlet fever is atmospheric, and not miasmatic.

THE LEICESTERSHIRE ARCHITECTURAL SOCIETY At the usual bi-monthly meeting of this society, Mr. R. W. Johnson, architect, Melton Mowbray, exhibited, through Mr. North, elevations, ground-plan, and a perspective drawing of five labourers' cottages recently erected by him upon the estate of Mr. W. A. Pochin, in the parish of Rearsby, in this county. Mr. North exhibited an anastatic drawing, by Mr. Joseph Goddard, of the Blue Boar Inn, known as King Richard's House, formerly standing in Leicester, from architectural drawings and measurements made by Mr. Henry Goddard before its destruction in 1836. Mr. G. Kenton exhibited through the secretary a "Half-Guinea Ticket to admit one person to the Fifth Aërial Voyage of Mr. Blanchard's Air Balloon and Flying Boat, in which he will ascend with an American gentleman, 1784." Blanchard was rewarded by the King of France with a pension of 1,100 francs. The Rev. J. H. Hill read a genealogical paper upon the ancient family of Talbois. A lengthy consideration took place in committee relative to the autumn meeting and excursions of the society, when it was decided that Kibworth should be made the centre of the proceedings, and that Hinckley should not be visited this year.

North Riding Infirmary.—Preparations are being made for opening and admitting patients into the North Riding Infirmary. The structure, which is on the pavilion plan, from the designs of Mr. Thomas Oliver, has been erected to accommodate 60 patients, at a cost of from 5,000*l.* to 6,000*l.*

Sailors' Home, Well Street, London Docks.—At a meeting of the directors, on the 18th instant,—Captain the Hon. Francis Maude, R.N., in the chair,—the report of the building committee was read, and the plans presented and explained by the architect, Mr. E. L. Bracebridge. It was unanimously resolved that the plans under consideration be adopted. The cost (quite 10,000*l.*) required to achieve the undertaking will be much in excess of the funded property at the disposal of the directors; but the necessity and urgency of the measure are so great that they feel convinced the additional outlay will be fully compensated by the advantages accruing therefrom.

Ottoman Exhibition: Timber and Minerals. The *Levant Herald* says:—Under the category of "class 1," in the centre compartment, is a very good, though small, collection of samples of beech, pine, maple, oak, and other woods: the specimens of the latter from the district between Bronssa and Kutayiah are of a very superior description, and are of the highest importance in connexion with shipbuilding, as there is a large supply of timber of this excellent description in the country. The collection of specimens of minerals comprised in "class 3" is, considering the vast mineral wealth of the country, not only extremely limited, but totally inadequate to convey any correct idea of the mineralogy of the empire. The district round Trebizond, however, furnishes some fine specimens of copper, lead, and silver ores well worth examination. Several specimens of coal and iron also seem to have been well selected, but from the defective manner in which they are arranged, and the absence of any detailed description, they lose three-fourths of their proper interest to the spectator.

Steam Boiler Explosions.—At the last monthly meeting of the Association for the Prevention of Steam-boiler Explosions, held at Manchester,—Mr. William Fairbairn, president, in the chair,—Mr. Fletcher, chief engineer, presented his report, from which it appears that two explosions had occurred during the past month to boilers not under the inspection of this association, by which fifteen persons were killed and sixteen others injured; making a total of thirty-one. A serious oversight had been made in the design of one of the boilers,—the top end being hemispherical and the bottom flat. The other explosion is also attributed to mal-construction of the boiler.——A terrible explosion of boilers has since taken place in the west of Scotland, at the Mossend Iron Company's Works, adjoining the Holytown station of the Caledonian Railway, five connected boilers having exploded at once, whereby no fewer than seven persons have lost their lives, other seven have been less or more injured, and some thousands of pounds damage done to property. The cause is believed to have been the supply of water after neglect till the boilers were red hot; but the attendant himself was killed.

Metropolitan Police Returns.—A very useful and instructive series of tabular records of the "number of persons taken into custody by the metropolitan police, and the results, in the year 1862, with comparative statements from the year 1831 to 1862 inclusive," has been printed by the police authorities at Whitehall, for her Majesty's Stationery Office. Age, sex, offence, occupation, education, sentence, &c., are all tabulated in various ways for facility of reference. Thus in one table we have "The degree of instruction of the persons taken into custody" in 1862, which gives a return of 68,287 persons, of whom 45,317 were males and 22,970 females; and of whom 10,465 males and 7,209 females could neither read nor write; 32,027 males and 15,597 females could read only, or read and write imperfectly; 2,753 males and 163 females could read and write well; and 72 males and 1 female (!) had superior instruction. Another table, or series of tables rather, gives a "Return of the trade or occupation of the persons taken into custody during the year 1862;" showing that, of the 68,287 persons taken into custody 22,434 males and 20,599 females were of no occupation (other than theft, we presume); 10,801 males were labourers; 1,169 males and 103 females were shoemakers; 1,105 males were sailors; 1,057 males and 370 females were tailors; 791 males were carpenters; 718 males coach and cabmen; 598 males, painters; 570 females, laundresses; 400 males, smiths; and so on.

The Irish Institute of Architects.— The arrangements for re-organizing the Irish Institute are progressing. A general meeting was to be held on the 23rd inst. Mr. Charles Lanyon is named as president.

Worthing.—A new drinking-fountain is to be at once erected in the much-improved town of Worthing, where a pier has been built. This was much appreciated during the last year. A correspondent says:—The smell of sea-weed has been removed through the united action of the inhabitants and the Water Company.

Southgate's Fire-Escape.—A new patent portable fire escape has been invented by Mr. Southgate, builder, of Kensington Park. It is worked by a spiral spring which rapidly brings its burden to the ground, after which it ascends with a bound to the window to which it is fixed. Its weight is only eight pounds, thus enabling its possessor to have it in readiness for use wherever he may travel.

Cardigan Gas Works.—A special meeting of the directors of this company was held at the Guildhall, on the 3rd inst., to consider the report of Mr. Andrews, of Swansea, the civil engineer engaged by the company to examine the plans which had been sent in by the various contractors, who had proposed to complete the works. The Mayor, Mr. Thomas Davies, presided. It appeared from the report of Mr. Andrews, that the plans submitted by Messrs. Vickery were the best adapted for the town, but that these required alterations. The meeting determined that these plans should be sent back to them for the required amendments.

Public Works in Buenos Ayres.—The concession for the Rosario and Cordova Railway was, at the last advices, expected to be forthwith granted to Mr. Wheelwright, and would be accompanied by large land grants, which would make the enterprise one of the most important in South America. The question of the supply of water to the city of Buenos Ayres had likewise occupied attention, and the municipality have resolved to advertise for plans from English engineers, with a prize of about 400*l.* for the best, such plans to be sent in before the end of August next.

Glasgow Water Committee.—The ordinary monthly meeting of the Glasgow Water Committee has been held, the Lord Provost presiding. The quarterly report by Mr. Gale, on the state of the works, was read, from which it appeared the average quantity of water sent into the city during January, February, and March last, was 16,460,000 gallons a-day from the Loch Katrine works, and 3,330,000 gallons a-day from the Gorbals works; in all 19,790,000 gallons a-day; being 290,000 gallons a-day more than for the corresponding three months in 1862. The works at the lochs generally are in good repair, and standing well.

Public Works and Buildings.—The estimates to be voted for public works and buildings have been issued, 6,464*l.* are charged as so expended at the South Kensington Museum in the last year, for which the accounts are made up. The repairs and furniture of the British Embassy house at Pera, which cost 1,500*l.* in each of the last two years, are to cost 3,234*l.* this year. Among the items for works at home is one of 6,000*l.* for the lions "to be" executed and placed on the pedestals of the Nelson Column." For works within the Houses of Parliament four votes are to be taken. The first is a further vote of 1,300*l.* towards 9,000*l.* to be applied to wall painting by Mr. J. R. Herbert in the Peers' Robing-room, the subjects to be Scriptural illustrations of justice on earth, and its development in law and judgment. The subject on which the artist is now occupied is "Moses bringing down the Tables of the Law to the Israelites." Another vote is of 1,600*l.*, to complete the payment for two of the twelve white marble statues of British sovereigns, to be placed in the Royal Gallery, and to make part payment for two more, when the small models of them, about to be begun, shall have been approved. There are further votes, amounting to 600*l.*, for payments to Mr. C. W. Cope and Mr. E. M. Ward, for wall-paintings for the Peers' and the Commons' corridors: the subjects are illustrative of that great contest which commenced with the meeting of the Long Parliament and terminated in 1689. The vote for Kew Gardens is very nearly the same amount as last year. Sir W. J. Hooker reports that the number of visitors in 1862 was 550,132, the largest number in any year, and 70,062 more than in 1861—an increase mainly due to the influx of foreigners to the International Exhibition.

New Blackfriars Bridge.—The Committee have passed the Bill.

The Power of the Penny.—This power is strikingly exemplified in the flourishing condition of the Woodside-ferry at Birkenhead. During March, 1862, the receipts were 2,491*l.* 15s. 2d., and in 1863, 2,775*l.* 9s. 7d. From the 24th of April preceding to the 31st of March, ending 1862, the receipts were 32,837*l.* 11s. 9d.; and in 1863, 34,636*l.* 17s. 10d. During the same period, ending 1862, the expenditure was 21,800*l.*; and in 1863, 20,468*l.* odd, thus showing a profit of nearly 14,000*l.* per annum out of a penny ferry.

"Onslow Model Dwellings."—At the last meeting of the Society for Improving the Condition of the Labouring Classes, the secretary reported that, on the invitation of Mr. Freake, of South Kensington, he had accompanied him over the newly-erected "Onslow Model Dwellings," situate in the Fulham-road, Brompton. These dwellings are arranged in three blocks, and afford an aggregate accommodation for 108 families, viz.—61 dwellings of three rooms each, and forty-two dwellings of two rooms each. Contiguous thereto is a large hall, which it is proposed to have fitted up as a reading-room and coffee-room, for the use of the tenants. A washhouse and public bath are shortly to be added. A resident superintendent has been appointed, and Mr. Freake has adopted the "rules" and general arrangement of this Society for the government of the Homes. The cost of each "Home" has been 80*l.* The total outlay, including the land, has been 14,000*l.* Mr. Freake would be willing to dispose of the entire property for that sum, in order to engage in a similar undertaking in another locality.

Newspapers and Paper.—A contemporary gives the following facts on the subject of the Prince of Wales's marriage and the London newspapers:—On Monday, March 9th, the circulation of the *Times* was 135,000; the *Daily Telegraph*, 230,000; while the *Morning Star* and the *Standard* ran between 80,000 and 100,000 each. The day of the wedding was Tuesday, the 10th, and on Wednesday, the 11th, the circulation was sustained and increased. The *Illustrated London News*' orders were for 315,000, but only 200,000 could be executed. The value of the *Times*' edition amounts to 1,687*l.* 10s.; the *Daily Telegraph* to 958*l.* 6s. 8d.; the *Illustrated London News*, at 10d., to 8,333*l.* 6s. 8d. What may give more interest to the practical eye of the paper-maker is the subject of weight of these enormous quantities. The weight of the *Times*' issue on these days was 43,875lb.; the *Daily Telegraph*, 39,539lb.; and the *Illustrated London News*, 97,916lb. The market value of these quantities is something to refresh one in these dull times. Taking the quality of the *Times* at 5½d. per lb., we have the paper cost for each day, 1,005*l.* 9s. 4½d. Taking the price of the *Telegraph* at 4½d. per lb., we have the paper cost 782*l.* 10s. 10d. Taking the price of the *Illustrated London News* at 5½d. per lb., we have the amount of paper consumed in a single impression of these three papers equal to 2,243*l.* 18s. 2d.

James Watt a Photographer!—We give the following on the authority of the *Birmingham Post*:—"A distinguished chemist in London, writing a few days ago to a friend of his in Birmingham, says:—'The following extraordinary fact will interest and surprise you. Yesterday I was at the Patent Museum, and inspected some recent additions obtained from lumber in the possession of the Boulton family. I saw two copper plates, plated with silver by the old process. They had been carelessly kept, face to face, and are much scratched. *On one is a photographic image of the old house at Soho!* It has been ascertained that the house was altered at a certain date, and that the image in question is of the house before the alteration. This was produced by James Watt! There are also many paper photographs which were produced by J. W. Further, distinct evidence has been got to show that J. W. was engaged in photographic experiments, and that he took portraits. A letter was written to "the Lunar Society" by Sir William Beechy (or Beachy), the portrait painter, expressing a hope that the then photographers would not disclose their process lest the art of portrait painting should come to an end! There is much other collateral information on this curious subject which has been procured, and inquiries are being still prosecuted. The information is so startling as to seem almost incredible; yet it is true. Of course iodine could not have been used, as it was not then known.'" Chlorine, the analogue of iodine, however, might.

A ROMAN WALL IN THE TOWER.—For some time past a number of men have been employed at the Tower in making some alterations. A few days ago, in the course of the excavations which were being carried out for that purpose, near the ticket office, the navvies came against a wall, which is said to be of Roman construction, at a depth of above 12 feet from the surface. Upon further removing the soil the wall was discovered to be about 10 feet in thickness and of a semi-circular formation, being composed of chalk and Kentish rag.

INTERESTING TO UMBRELLA BORROWERS (WITHOUT LEAVE ASKED).—An American has invented a lock umbrella stand. The moment the umbrella drops to its place in the rack, the handle is by a single movement grasped and held firmly in the clutch of a lock which nothing but the key specially manufactured for the particular depository can loose. The key, which is practically a pawn-ticket for the article, is of less weight and no greater size than a nickel cent, and adds no perceptible weight to the vest pocket. The invention, says the *New York Times*, is at once ingenious and useful: its introduction into counting-rooms, hotels, offices, and halls, and other places of public and private resort, must become general.

A WET DOCK FOR JERSEY.—In the report issued by the Chamber of Commerce, it is stated that there is every reason to believe that the project for the construction of a wet dock at St. Helier's is about to be carried out. The cost of a wet dock, including a graving dock, is set down at 85,000*l.* The balance of money to the credit of the piers and harbours is, it appears, 20,500*l.* "The average annual receipts for harbour dues for the last five years," says the report, "have amounted to 7,000*l.*; which, after payment of the interest on the debt and meeting the ordinary expenses, leave a net balance of 4,000*l.* per annum. This, with a yearly subsidy of 5,000*l.* from the revenue, would be ample to meet the cost of the dock."

GAS.—The half-yearly report of the Sheffield United Gaslight Company announces a reduction of the price of gas from 3s. 9d. to 3s. 6d. per 1,000 cubic feet,—a reduction which also involves the payment of a dividend of 10 instead of 8 per cent. The report also announced a reduction of 4s. per lamp per year in the charge for public lamps, and proportionate reductions in the charges for meters. The chairman, in moving the adoption of the report, expressed his confidence that the company would be able to continue the reduced prices, and still pay the maximum dividend of 10 per cent. Ald. Holland congratulated the shareholders and gas consumers on the prosperity of the company, and the wise reductions, and hoped that increased prosperity would enable the company to make still further reductions at no distant period. Ald. Unwin explained that, at the present rate of consumption, the directors would have to draw upon their reserve fund of 16,000*l.* to the extent of nearly 4,000*l.* a year, to enable them to pay the maximum dividend. He, however, anticipated a gradual increase of income from increased consumption. The company was very prosperous, and it would be for the benefit both of the shareholders and the public to let it go quietly on. A dividend of 10 per cent. on the A, and 8 per cent on the B and other stock was then declared. This is something like intelligent management.——In a report which the Gas Committee of the Town Council of Wolverhampton has presented to that body it is said,—"The Company charge the corporation with a consumption of 18,000 cubic feet of gas for each annual lamp. This calculation is made on the basis of the original contract to supply five cubic feet per hour for 3,600 hours. For the lamps which are burned only eight months in the year, 14,000 cubic feet of gas is charged for 2,800 hours. A reference to the following towns will show that the charges paid for lighting the lamps are considerably less than Wolverhampton: for while in Wolverhampton the price paid is 3*l.* 12s. 6d., it is in Ashton-under-Lyne 1*l.* 4s. 1d.; Bath, 3*l.*; Birmingham, 3*l.* 10s.; Blackburn, 2*l.* 2s. 9d.; Bolton, 1*l.* 8s. 3d.; Bradford, 2*l.* 8s.; Bury, 1*l.* 8s. 2d.; Coventry, 2*l.* 10s.; Derby, 2*l.* 6s. 2d.; Oldham,* 1*l.* 15s.; Preston, 2*l.* 16s. 7d.; Rochdale,* 1*l.* 10s.; Salford, 2*l.* 0s. 2d.; Dudley, 3*l.*; Huddersfield,* 1*l.* 9s. 9d.; Leeds, 2*l.* 5s.; Macclesfield, 2*l.* 2s.; Manchester, 1*l.* 5s.; ditto, 1*l.* 15s.; ditto, 2*l.* 2s.; Sunderland, 2*l.* 15s. 6d.; Stockport, 3*l.*; Warrington, 2*l.* 14s."

* In the places marked thus * the pillars belong to the town, and the price does not include the charge for them.

BRITISH MUSEUM.—The number of visitors to the British Museum in 1862 amounted to 895,077, an increase of 253,191 over the number in 1861. The number of persons attending the reading-room was not quite so large in 1862 as in 1861. It averaged 419 a day, and each reader consulted on an average ten volumes in the day. The total number of articles received for the library in 1862, including broadsides and ballads, was 73,929.

DISCOVERIES.—The remains of the ground-floor of a Roman building have just been discovered at Lyons, in the direction of Fourvières. The part of the wall which is left standing is covered on one side with slate, and on the other with white marble. Some handsome mosaics have been extracted from the ruins.——The men employed in making cuttings for the railway from Cordova to Malaga have recently found, about half a league from the former place, a great number of columns and capitals of very superior execution. Antiquaries who have visited the spot suppose them to be the remains of one of the Moorish palaces which formerly existed in the neighbourhood of Cordova.

RAILWAY MATTERS.—In the House of Lords, Earl Granville had a select committee appointed to inquire whether any, and, if any, which of the schemes before Parliament for the construction of lines of railway within the limits of the metropolis could be proceeded with in the present session, without the risk of interfering with the future adoption of a comprehensive plan of metropolitan railway communication; and to consider what provision could be made for the securing such a comprehensive system with the greatest advantage to the public and the least inconvenience to the local arrangements of the metropolis. Referring to a question put by Lord Strathleden, his lordship said he considered it advisable that the Ludgate Station and Junction Railways Bill, as well as the various other Bills in connexion with metropolitan railways, should be referred to the select committee. The committee has since reported.——The traffic receipts of railways in the United Kingdom amounted for the week ending the 4th of April, on 10,633 miles, to 555,435*l.*, and for the corresponding week of last year, on 10,217 miles, to 489,280*l.*, showing an increase of 416 miles, and of 66,156*l.* in the receipts. The gross receipts on fourteen railways amounted in the aggregate, on 7,290 miles, to 438,667*l.*; and for the corresponding week of 1862, on 7,032 miles to 383,919*l.*; showing an increase of 258 miles, and of 54,748*l.* in the receipts.

FOUL AIR IN WELLS.—Cases of suffocation by foul air in wells are every now and then occurring, notwithstanding the well-known risk of such fatalities. Two men have just been killed in this way at Haynes, according to the *Bedford Times*; and a third nearly sacrificed his life in trying to rescue the other two, one of the latter of whom lost his life also in the vain endeavour to save the first. This is almost the sole history of every such case: two or three lives are thus generally lost in succession. It would be the means of saving many lives, were the press, on all such occasions, to make a point of reiterating how apt old wells are to contain foul and deadly air; how simply and easily the existence of foul air in wells can be ascertained by means of a lighted candle sent down by a string; human life being in imminent danger wherever air will not keep a candle burning well; and how readily the foul air, once ascertained to exist, can be pumped out by any water-pump or hydropult, just as if it were water itself, and allowed to flow away on the surface, though invisible. Carbonic acid gas, or foul air, is so heavy, and so like water in this respect, that it can be poured out of one vessel into another. Where no pumping apparatus can be had, quicklime will, in time, exhaust the foul air, or fix it in the lime, so as to render it safe to descend; care being first taken to test it by again lowering a lighted candle.

TENDERS.

For the erection of a house, Newington-causeway, for Mr. Myers. Mr. H. Jarvis, architect. The quantities taken out by Mr. Charles Shoppee:—

Dabbs	£1809 0 0
Rider	1,717 0 0
Langmead & Co.	1,597 0 0
Sawyer	1,661 0 0
Thompson	1,658 0 0
Sharpington & Cole	1,611 0 0
Tarrant	1,590 0 0
Wills	1,581 0 0
Hart	1,585 0 0
Henshaw	1,544 0 0

For building three houses, Park-walk, Chelsea, for Messrs. Bell, of Fulham. Mr. Gordon Stanham, architect. Quantities supplied:—

Axford	£1,895 0 0
W. Bird	1,860 0 0
Faulkner	1,784 0 0
Adamson & Sons	1,663 0 0
Oliver Pitts	1,635 0 0
Dawson (accepted)	1,612 0 0

For Belvedere Chapel:—

Cushing	£1,400 0 0
Chinnock	1,218 0 0
Bond	1,104 0 0
Tarrant	1,100 0 0
Marshall	1,090 0 0
Gumbrell	1,078 0 0
Ward	1,053 0 0
Davis	1,015 0 0
Simms	988 0 0
Kirk	970 0 0
Strange	970 0 0
Foster	967 0 0
Pearce	910 0 0
Lamb	872 0 0
Blofield	835 0 0
Tear	825 0 0

For laundry, at Sydenham:—

Hoburn	£4,120 0 0
Drake	3,600 0 0
Preedy	3,412 0 0
Downs	3,320 0 0
Hill & Co.	3,298 0 0
Perry & Judson	3,294 0 0
Smith	3,285 0 0
Mann	3,190 0 0
Nightingale	3,132 0 0
Stevenson	3,034 0 0
Dover	2,901 0 0
Sawyer	2,879 0 0
Simms	2,847 0 0

For new spire and addition to St. Mark's Church, Greenwich:—

Piper	£3,572 0 0
Rickwood	3,500 0 0
Patman	3,386 0 0
Tarrant	3,333 0 0
Downs	3,320 0 0
Rudkin	3,192 0 0
Manley	3,147 0 0
Wardle & Baker	3,050 0 0
Ackermann	3,039 0 0
Simms	2,988 0 0
Chinnock	2,530 0 0

For alterations and additions at the College, Hallebury, Herts. Mr. Blomfield, architect. Quantities not supplied:—

					Allowed for old Materials.		
Collins	£3,350	0	0	..	£270	0	0
Ekins & Son	3,173	0	0	..	300	0	0
Andrews	3,070	0	0	..	380	0	0
Hitch (accepted)	3,022	0	0	..	382	0	0

For a new church at Aberdare, Glamorganshire. Mr. Blomfield, architect. Quantities not supplied:—

Williams	£4,200 0 0
James & Price	4,149 0 0
Richards	3,870 0 0
Wall & Hook	2,900 0 0
Rees (accepted)	2,797 0 0

For excavations and preparation of ground for the erection of new warehouses in Upper Thames-street, City; Mr. Mathews, architect:—

					Digging Trenches, per yard cube.				Concrete, per yard cube.		
Flooks	£398	0	0	..	£0	3	3	..	£0	6	0
Gooch	397	0	0	..	0	2	6	..	0	6	0
Boulton	396	0	0	..	0	3	2	..	—		
Reid	390	0	0	..	3	6	..		0	6	9
Jenkins	350	0	0	..	0	3	3	..	0	8	0
Easton	346	0	0	..	0	3	0	..	0	8	6
Wynn	250	0	0	..	0	2	10	..	0	5	10
Blinkins & Cousins	240	0	0	..	0	3	3	..	0	5	9

For excavation and preparation of ground for the erection of a new warehouse in Little Knight Rider-street, City. Mr. Mathews, architect:—

					Digging Trenches, per yard cube.				Concrete, per yard cube.		
Reid	£195	0	0	..	£0	4	0	..	£0	7	0
Easton	150	0	0	..	0	3	10	..	0	8	10
Jenkins	140	0	0	..	0	3	0	..	0	8	0
Rooke	80	0	0	..	0	3	6	..	0	6	0
Gooch	70	0	0	..	0	2	6	..	—		
Wynn	60	0	0	..	0	2	10	..	0	5	10
Blinkins & Cousins	52	10	0	..	0	3	3	..	—		

For the erection of a warehouse, 3, St. Ann's-lane, General Post-office, for Mr. Henry Watson. Messrs. Tillott & Chamberlain, architects. Quantities supplied:—

Ashby & Sons	£1,518 0 0
Cannon	1,445 0 0
Lawrence & Sons	1,440 0 0
Fish	1,438 0 0
Wills	1,387 0 0
Brass (accepted)	1,348 0 0

For the construction of a new roof and alterations, &c, at the Castle Tavern, Gresham-street, City, for Mr. John Crawford. Messrs. Tillott & Chamberlain, architects:—

Piper & Wheeler	£995 0 0
Cannon	991 0 0
Wills	969 0 0
Fish	953 0 0
Hill, Keddell, & Robinson (accepted)	724 0 0

New House, Leigh Park.—Mr. Deacon's tender was 11,900*l.*, not 11,743*l.*

TO CORRESPONDENTS.

Architecture of Palestine.—We have a letter from Mr. Wigley in reply to our correspondent of last week, but are forced to postpone it; with many others.

Transparencies.—A. Amateur wishes to be told the best method to cause the colours in transparent illuminations to assume a brilliant appearance; also the best colours for use. Further, if muslin be preferable to calico?

R. M. M. (we shall be glad to receive copies of Masons' Marks).—G. C. (thanks. We shall be glad to receive plan and further particulars).—J. W.—G. S.—G. W. T. O. (should have reached us earlier). W. H. S. (should have sent architect's name).—F. & Son (shall have attention).—A Finchley Architect (if drawings are sent to Editor they shall be looked to).—J. T. B. (go to School of Art).—F. S.—G. D.—W. P.—Mr. M.—M. D.—W. R. L. (we are obliged uniformly to decline pointing out books).—F. W.—J. R. S.—Justitia (next week).

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than FIVE o'clock, p.m., *on Thursday.*

THE *Mechanics' Magazine* of September 5th, in its description of Benson's Great Clock, says: "Benson's great piece of clockwork is certainly a marvellous achievement in clock-making, both as regards the workmanship, and its capacity under difficult circumstances for time measuring." Benson's new show-rooms contain clocks designed by the first artists of the day, and include clocks for the drawing-room, dining-room, bedroom, library, hall, staircase, bracket, carriage, church, turret, railways, warehouse, counting-house, with musical, astronomical, and every description of clock, from the plainest to the highest quality of which the art is at present capable. Church and turret clocks specially estimated for. Benson's illustrated pamphlet on clocks and watches (free by post for two stamps), contains a short history of clock and watchmaking, with descriptions and prices; it acts as a guide in the purchase of a clock or watch, and enables those who live in Scotland, Ireland, Wales, the Colonies, India, or any part of the world, to select a clock. J. W. Benson, received a Prize Medal and honourable mention. 33, and 34, Ludgate-hill. Established 1749.—[Advt.]

ADVERTISEMENTS.

KIRBY, WILLIAM.—If this Gentleman, who many years since built several houses at Blackwall, Brixton, and other places, will call on Mr. H. W. SPRATT, Architect, 2, Wallbrook buildings, City, he may probably hear of something to his advantage.

MR. G. NEWENHAM (Pupil of G. G. Scott, Esq. R.A.) PREPARES Sets of Competition Designs, Working and every description of Architectural and Artistic Drawings. Perspectives Outlined in a superior manner, and coloured by the best artists), with punctuality and despatch, and on reasonable terms.—Offices, 26, Parliament-street, Westminster, S.W.

MR. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLOURIST and LITHOGRAPHER,
No. 21, MONTAGUE-STREET, RUSSELL-SQUARE, W.C.
Competition and every description of Architectural, Working, and Detail Drawings prepared.

TO ARCHITECTS and DECORATORS.—Mr. J. DE VULDER, DECORATIVE ARTIST and COLOURIST, 35, Holford-square, Pentonville. Architectural and perspective designs coloured. Designs for decorations prepared, and works executed.

TO BUILDERS. — QUANTITIES and ESTIMATES FURNISHED, Bills of Quantities Priced out, every description of Work measured up, Disputed Accounts adjusted and arranged (at one half the usual charges), by a Practical Man who has had fifteen years' experience as a Surveyor in one of the largest Building Firms in London.—Address, A. B. 34, Ashton-street, Poplar.

W. W. NICHOLSON, CIVIL and MECHANICAL ENGINEER (many years with Messrs. W. Cubitt & Co. Builders), begs to inform his friends and the profession that he may be consulted on matters connected with the above branches, and is prepared to furnish designs, detail drawings, and quantities, for every description of Ironwork connected with dock building, bridges, iron roofs, warehouses, railway stations, and general works

W. W. N. has also made an arrangement with a large Iron firm to supply ironwork of every description.

Office, 17, King street, Cheapside.

PARTNER. — WANTED, a JUNIOR PARTNER, in a building business of very long standing, in the provinces. Capital required, from 500*l.* to 1,000*l.*—Address, R. S. Post-office, Sheffield

PARTNERSHIP WANTED. — A Young Architect and Surveyor, of energetic business habits, is desirous of uniting in PARTNERSHIP with a Gentleman having a well-established and increasing practice. Principals only will be treated with. Address, A. M. Z. Office of "The Builder."

TO PARENTS AND GUARDIANS.
AN ARCHITECT and SURVEYOR, of good practice, in a healthy part of the country, is desirous of OBTAINING an ARTICLED PUPIL.—Address, in first instance, to ARCHITECT and SURVEYOR, 5, Hermitage Villas, West Hill, Highgate, N.

CLERK WANTED, who has a knowledge of the BUILDING BUSINESS, and can keep a Set of Books connected therewith, an clearly perform, and one who has some knowledge of Land Surveying preferred. Salary, 30*s.* per week.—Apply, by letter only, to B. C, care of Mr. Berridge, Stationer, 34, Eastcheap.

GASFITTING TRADE. — WANTED, a first-rate SHOPMAN.—Apply to D. HULETT 55 and 56, High Holborn.

DISTRICT SURVEYOR WANTED, for the Stockport and Hyde Divisions of the Hundred of Macclesfield.—The Highway Board are prepared to receive applications from Candidates for the Office of DISTRICT SURVEYOR. Persons applying must be practically acquainted with the management and repair of highways; and preference will be given to candidates who have served as, or under, professional surveyors of highways. The district consists of twenty-five townships or places, containing about —— miles of highways. Applicants are requested to state the amount of salary they will expect, including travelling and all other expenses. Security will be required. The surveyor will have to devote the whole of his time to the performance of his duties, and to reside within the district. Applications and testimonials to be sent to Mr. JOHN LINGARD VAUGHAN, Clerk to the Board, at his Office, in Stockport, on or before the 1st of MAY next. Applications to be marked outside, "District Surveyorship."

JOHN LINGARD VAUGHAN,
Clerk to the said Highway Board.

Stockport, April 2nd, 1863.

DISTRICT SURVEYOR WANTED.—The Highway Board of the Wells District, in the county of Somerset, are desirous to receive APPLICATIONS for a DISTRICT SURVEYOR. Applicants must be practically acquainted with the general management of highways. The district comprises seventeen parishes, and consists of about 240 miles of road. Applications must state the amount of salary that will be required, including travelling and all other expenses. The District Surveyor will have to devote his time exclusively to his duties, to reside within the district, and to keep a horse. Security to the extent of 200*l.* to the satisfaction of the Board, will be required. Applications and testimonials to be sent to Mr. WELSH, the Clerk to the Board, Wells, Somerset (post paid), on or before the 1st day of MAY next, under cover, marked outside "Highway Tender."

W. L. WELSH, Clerk to the Board.

Wells, Somerset, 10th April, 1863.

N.B. The Board will meet at the Town Hall, Wells, on MONDAY, the 4th day of MAY, at ELEVEN o'clock a.m. for appointing the Surveyor

HIGHWAY ACT, 1862. — To SURVEYORS.—The Board of Highways for the District of Bletsoe, in the County of Bedford, are desirous of appointing, at their meeting on TUESDAY, the 5th day of MAY next, a well-qualified SURVEYOR of HIGHWAYS for the entire District. The District embraces twenty-six parishes, and contains about 105 miles of parish roads. The salary will be 130*l.* per annum.—Applications on the subject are to be made to Mr. GARRARD, Solicitor, Olney, Bucks, the Clerk to the District Board; and candidates must send in to him their testimonials on or before FRIDAY, the 1st day of MAY next.—By order of the Board,

JOHN GARRARD, Clerk.

Olney, 8th April 1863

LAVENHAM HIGHWAY DISTRICT, SUFFOLK. An adjourned meeting of the Board of the above district will be held at the Swan Inn, at Lavenham, on TUESDAY, the 12th day of MAY next, at ELEVEN o'clock, a.m. prepared to receive sealed TENDERS from persons willing to undertake the OFFICE of SURVEYOR for the said district. Tenders, stating the amount of salary required, must be sent to the Clerk, at his Office, at Lavenham, on or before NINE o'clock of the morning of the 12th of MAY. The Board will not be bound to accept the lowest or any Tender. Candidates to appear in person on the above-named day. The above district consists of 55 parishes, and it is believed of about 420 miles, and 1st,500 acres. The person elected as Surveyor will be required to reside in the district, and devote his whole time to the duties of the office. By order of the Board,

Lavenham, April 9, 1863. RICH NEWMAN, Clerk

ROAD SURVEYOR WANTED.—WANTED, by the Highway Board of the Cirencester District, constituted under the Act 25 & 26 Vict. c. 61, which comprises the parishes and places of Ampney Crucis, Ampney Saint Mary, Ampney Saint Peter, Bagendon, Barton, Baunton, Chesterton, Coates, Daglingworth, Driffield, Duntisbourne Abbotts and Leer, Duntisbourne Rous, Harnhill, Oakley, Preston Siddington, South Cerney, Spernall, Stratton, Wiggold, Brimpsfield Colesbourne, Elkstone, North Cerney, Rendcombe, Syde Edgeworth, Sapperton, Frampton, Winstone, Barnsley, and Rodmarton, all in the county of Gloucester, a DISTRICT SURVEYOR. The extent of road is about 225 miles. The District Surveyor will be required to enter upon his duties forthwith, to reside within the district, to devote his whole time to his office, and to provide and keep one or more horses for his use. He will also be required to enter into a bond with two approved sureties, to the extent of 500*l.* for the due performance of his duties, and the appointment will be made subject to determination at any time by either party giving to the other two months' notice in writing. The salary will not be less than 200*l.* per annum. Applications, in the Candidates' own handwriting, stating amount of salary required, and present and recent occupation, accompanied with testimonials of a recent date as to character, abilities, and general fitness to execute the duties, must be delivered at my Office, per post or otherwise, by ELEVEN o'clock in the morning of MONDAY, the 27th instant. Such Candidates as may be selected will have notice to attend at the time fixed for the election.—By order of the Board,

W. L. COOKE, Clerk.

Cirencester, 16th April, 1863.

TO SURVEYORS of HIGHWAYS and to OTHERS accustomed to the MAKING of ROADS.—DOCKING UNION HIGHWAY DISTRICT. WANTED, by the Board of Wardens of the above district, an active and intelligent Man, capable of performing the duties of the office of DISTRICT SURVEYOR for the thirty-six parishes in this union, comprising 280 miles of hard road and 30 miles of green road. He will be required to keep or provide himself with a good horse. The salary will be 170*l.* per annum, and the surveyor will be required to devote his time entirely to the duties of his office. Every candidate must produce satisfactory testimonials of experience and capability in the management of roads, and be a correct and ready accountant. The election will take place at the Docking Workhouse, at TWELVE o'clock at noon, on WEDNESDAY, 29th MAY next, when candidates will be required to attend in person. Applications, accompanied by original testimonials, must be forwarded to Mr. ALFRED SPANTON, Solicitor, Hunstanton, King's Lynn, prior to WEDNESDAY, 13th MAY next.

WIGMORE HIGHWAY DISTRICT.—SURVEYOR WANTED.—The Highway Board for the District of Wigmore, in the County of Hereford, hereby give Notice that they require a competent person to fill the Office of DISTRICT SURVEYOR. The salary will be 125*l.* per annum, and the person appointed will be required to keep a horse, and to devote his whole time to the duties of the office. He must also provide satisfactory security to the amount of 200*l.* and must reside in the district, if required. Candidates are requested to send in their applications, with testimonials, to the Clerk of the Board, at his Office in Ludlow, before NINE o'clock in the forenoon of TUESDAY, the 28th day of APRIL instant.—By order of the Waywardens of the Wigmore Highway District, FRAS. R. SOUTHERN, Clerk.

Ludlow, 16th April, 1863.

TO ASSISTANT SURVEYORS.
WANTED, immediately, an experienced ASSISTANT, to take a portion of a first-class Survey.—Apply by letter only, stating terms and references, to A. B. "Mercury" Office, Derby.

WANTED, a Good GENERAL SMITH, one accustomed to Boiler-making and House smithing preferred. Constant employment for a steady man.—Apply, stating wages required, with references, &c. to J. B SOPER, Ironmonger and Engineer, Messingstoke, Hants.

WANTED, an experienced WORKING FOREMAN of CARPENTERS and JOINERS. He must be able to make working drawings for all kinds of work, Gothic and otherwise, and also to measure up work. Address, stating wages required and where last engaged, to T. R. Office of "The Builder."

ASSISTANT WANTED.
WANTED, immediately, an ASSISTANT in the Engineer and City Surveyor's Office, Gloucester; one acquainted with Town and Sanitary Works preferred. Applications to be sent, stating salary required, with testimonials, to W. McLANDSBOROUGH, Assoc. Inst. C.E., Corn exchange, Gloucester.

WANTED, in a Builder's Office, an experienced CLERK, who is not only well up in office duties, but able to measure up work, estimate, take off quantities, and prepare a set of plans.—Address, stating where last engaged and wages required, to T. K. Office of "The Builder."

TO LAND SURVEYORS' ASSISTANTS.
WANTED, immediately, an ASSISTANT competent to make and plot surveys. He must be a neat draughtsman.—Address, stating salary, &c. to K. L. Post-office, Croydon.

WANTED, immediately, a practical Man, to SUPERINTEND the ERECTION of a NATIONAL SCHOOL BUILDING, already commenced. The engagement would be for six weeks, at a salary of Two Guineas a week.—Address, with references, to Messrs. MONEY & SON, Architects, Newbury.

WANTED, immediately, a BUILDER'S CLERK, who is a good penman, quick and correct at accounts, and experienced in the usual office duties, more especially Joiners' bookkeeping.—Apply, stating wages required, and other particulars, also giving names for reference, to A. B. Post-office, Darlington.

WANTED, an ASSISTANT ARCHITECT and SURVEYOR of ability and experience, to whom a liberal salary will be given.—Address, stating age, experience, and qualifications, B. A. Office of "The Builder."

WANTED, by an Architect and Surveyor, an ASSISTANT, who is practically acquainted with construction, and competent to superintend the erection of buildings. Age from 30 to 40.—Address, A. Z. care of Mr. Baily, Chemist, No. 1, Old Dorset-place, Clapham-road, S

WANTED, a SITUATION as CLERK of WORKS, SHOP or GENERAL FOREMAN, by a Man of extensive practice; is competent in all branches. References unexceptionable.—Address, J. D. 46, Great Clarendon-street, N.W.

TO IRONMONGERS AND BUILDERS.
WANTED, by an experienced Man, aged 40, a SITUATION, in the Hot-water Bath, Gasfitting, and Bellhanging work. Has had good experience in town work.—Address, Y. Z. Post-office, Little Ilford, Essex, E.

WANTED, a RE-ENGAGEMENT as CLERK of WORKS or SHOP FOREMAN, or the Superintendence of a large Job Out-doors, by a thoroughly qualified Man. No objection to the country.—Address, D F. 17, Ryder's court, Leicester-square.

WANTED, a RE-ENGAGEMENT as FOREMAN of WORKS or as SHOP FOREMAN of JOINERS, by a steady practical Man of several years' experience (in London), in either capacity. Thoroughly understands his duties. Satisfactory reference and testimonials from late and previous employers. No objection to the country.—Address, A. B. 3, Westfield-road, Kingston-upon-Thames.

TO NOBLEMEN, GENTLEMEN, AND AGENTS.
WANTED, by a Practical Man of good experience, who has been in business four years as a builder, a SITUATION as CLERK of WORKS, FOREMAN, or GENERAL MANAGER, on a Gentleman's Estate. Has a thorough knowledge of estate work and general improvements. Can prepare working drawings, specifications, measure and value timber, &c. -Address, EAD, Office of "The Builder."

WANTED, by an experienced Man, a Carpenter, aged 40, a SITUATION as GENERAL FOREMAN, or to Take Charge of a Job; has just completed a twelve-months' one. Prepares working drawings. Good reference from his late employer. Country not objected to. —Address, G. W. M. 78, Lillington-street, Pimlico, S.W.

TO JOINERS, &c.
WANTED, by an active Young Man, aged 21, who has been several years at the trade, a SITUATION as IMPROVER, in a good shop.—Address, Y. Y. Honey-street Marlborough, Wilts.

TO BUILDERS AND DECORATORS
WANTED, by a respectable Young Man, a constant SITUATION, as PLAIN and DECORATIVE PAPERHANGER. At present with an eminent Westend firm. Willing to fill up time at painting. Apply to Mr. GADD, Decorator, 10, Charles street, Albany-road, Camberwell.

TO MASTER PLUMBERS OR BUILDERS.
WANTED, by a Young Man, a JOB or a CONSTANT SITUATION. Is a thoroughly good practical Plumber. Five years' good reference. Can turn his hand to painting or glazing if required.—Address, M. W. No. 80, East-street, Manchester-square, Marylebone.

WANTED, a RE-ENGAGEMENT as FOREMAN, either in Shop or Building. Carpenter and Joiner. Well up to his business. Age, 38. Unexceptionable references from late and former employers.—Address, L. M 15, Brunswick-place, Hen and Chicken-lane, Walworth.

TO SAW-MILL PROPRIETORS, BUILDERS, &c.
WANTED, by a steady, sober Man, a SITUATION to work at a circular saw-bench, or sharpen for frame. Good reference can be given.—Address, C. Z. A. office of "The Builder."

WANTED, by a competent Architectural Draughtsman, a RE-ENGAGEMENT in an Architect's or Builder's Office.—Address, W. T. care of Mrs. Coade, 17, West Smithfield, City, E.C.

WANTED, by a first-class WRITER and GRAINER, a constant SITUATION.—Address, A. B. 32, Tottenham-street, Fitzroy-square, W.

TO ARCHITECTS, &c.
WANTED, by an ASSISTANT, 33 years of age, of 18 years' experience, a SITUATION, at home or abroad. Fully competent in every branch of the profession. Understands every kind of perspective, working drawings, and details, Gothic and Classic, and is a good colourist. First-rate testimonials.—Address, F. CHILDS, Office of "The Builder."

WANTED, a SITUATION, as GRAINER, WRITER, and PAINTER. Country preferred.—Address, T. M. S. 21, George street, Fitzroy street West, London.

WANTED, by the Advertiser, a SITUATION as SHOP or General FOREMAN. Can set out and measure up work of every description; and is well acquainted with the Building trade in all its branches. Good reference can be given.—Address, M. A. Office of "The Builder."

WANTED, to APPRENTICE, a LAD, aged 15, to the PLUMBING, GAS FITTING, &c. A premium will be paid.—Address, A. Z. Mr. Bore, 115, London-wall, E.C.

AN Architect's, Surveyor's, or Builder's Assistant, requires a RE-ENGAGEMENT. Is a good draughtsman and specification writer, well versed in construction; an efficient measurer, quantity taker, and accountant, and has had the care of many extensive works. Thoroughly practical, and of good experience.—Address, S. A. F. Post-office, Brompton-row, S.W.

WANTED, a SITUATION, by a Young Gentleman who is willing to make himself useful as an Assistant to a Surveyor or a Government Clerk of Works. Is a Joiner by trade. Can have six years' character as to his ability and fitness to fill the above. No objection to treat with a gentleman direct.—Address, J. O. R. Office of "The Builder."

TO BUILDERS AND OTHERS IN THE COUNTRY

WANTED, a RE-ENGAGEMENT as WORKING SHOP FOREMAN of JOINERS, a few miles from town, by a thoroughly practical Man of eleven years' experience. Good reference as to abilities, honesty, and sober habits.—Address, A. B Mr. Tarrant's Library, Brixton hill

TO PLUMBERS.

WANTED, by an experienced Plumber, a SITUATION, either in Town or country.—Address, T. J. 7, Brewer street, Clerkenwell, E.C.

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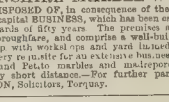
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BUILDING LAND at OXFORD.—The difficulty which has heretofore existed of procuring suitable sites for building private residences in and around Oxford is now overcome. A very fine estate, known as "Norham Manor," comprising upwards of 30 acres, belonging to the President and Scholars of St. John's College, is now being laid out for the purpose and TO BE LET, on BUILDING LEASES, for a term of 99 years, at moderate ground-rents The land is situate within ten minutes' walk of the Colleges and public buildings in the city, while it possesses all the advantages of the country. The site is elevated, it has a subsoil of gravel, and a plentiful supply of pure spring water. Several lots have already been disposed of, and a few residences of a good character have been built. For particulars and terms of the land, apply to Messrs MORRELL, BIDDLE & RAWKINS, Solicitors; or to Mr. WILLIAM WILKINSON, Architect, Oxford.

WANTED, a SITE, Freehold or Long Leasehold, in a leading thoroughfare between Regent-street and Park-lane The area (about 150 feet by 30 feet) may be situated at back, but a frontage of 25 feet in the main street, and a separate entrance from a back or side street indispensable.—Address, with particulars, to Mr. ALFRED STRONG, 23, Lincoln's-inn-fields, W.C.

ROSSLYN PARK ESTATE, Hampstead. — A few Plots of LAND on the above Estate (within three minutes' walk of the Railway Station), commanding beautiful and extensive views towards Windsor and Highgate, can be had on BUILDING LEASES —For particulars, apply to Mr. N.T. BANDALL, Architect, 28, Great Winchester-street, City; or the Clerk of Works on the Estate.

FREEHOLD GROUND RENTS, CITY of LONDON.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 16th of JUNE next, at TWELVE o'clock precisely, to receive PROPOSALS for the PURCHASE of FREEHOLD GROUND RENTS, on Premises let on Building Leases, having about eighty years unexpired, and severally situate Nos. 70 and 71, Watling street; Nos. 76 and 77, Newgate-street; and No. 4, Maidenhead-court, Aldersgate-street; particulars and plans of which may be had at this office, together with the conditions of sale Tenders must be sealed, endorsed outside, "Tender for Ground Rent," and addressed to the undersigned at this Office, and must be delivered in before TWELVE o'clock at the said 16th of JUNE next. The Commissioners do not bind themselves to accept any Tender unless the same shall be deemed eligible. Parties tendering must attend personally or by an authorised agent on the day of treaty, and be then prepared (if their Tender be accepted) to pay the required deposit of 10 per cent and to execute an agreement for the completion of the purchase agreeably to the conditions of sale.
JOSEPH DAW, Principal Clerk.
Sewers' Office, Guildhall, April 20, 1863.

TO BE LET, at Newington Butts, Surrey, a MANUFACTORY, with Steam-engine (about 8-horse, high-pressure); also a small DWELLING-HOUSE, now in use for lead and colour grinding: will become vacant at Midsummer — May be seen, and terms known, on application to Mr BROWN, 6, High-street, Newington Butts, or at 4, Adam's-court, Old Broad-street, City.

VALUABLE BUILDING GROUND in Cresconi-place, on the South Side of Clapham Common, TO BE LET for a term of eighty years, subject to building restrictions. The specification may be seen at the Offices of Messrs. HAWKINS, BLOXSAM, & HAWKINS, No. 2, New Bowell-court, Carey street, Lincoln's-inn, to whom Tenders in writing, endorsed "Tender for Building Ground at Clapham," are to be sent on or before the 6th day of MAY next. The highest or any Tender will not necessarily be accepted

TO BE LET, on a Building Lease, at Chelsea a PIECE of GROUND, in a first-rate situation, calculated for the erection of a public house, for which it is suitable (being close to the New Barracks), and three shops About 212 feet frontage to the New Bridge-road, and about 22 feet to the main Queen's-road East.—For particulars inquire on the Premises; or at No. 194, Queen's road East.

EALING.—BUILDING LAND, within two minutes' walk of the Railway Station, known as Eaton Rise, TO BE LET for detached or semi-detached villas.—Apply to Mr. HANCOCK, Surveyor and Builder, Ealing green.

NEAR BRIGHTON.—FREEHOLD LAND TO BE LET or SOLD, for Building Villas, in a pleasant Village about three miles westward of Brighton, close to a railway station. Situation dry and healthy The land will be sold at a very moderate price, with easy terms of payment. Also to eligible and desirable WATERSIDE FRONTAGE TO BE LET, for Ship Building or Wharf —Apply to Mrs E HALL, Southwick, near Brighton; or to E. F. HALL, No. 3, St. Mildred's court, Poultry, London.

TO BUILDERS.—A PLOT of FREEHOLD GROUND, frontage 70 feet, and 204 deep, fit for a tavern and two good shops. Current price, for 99 years, water and gas laid on Two thirds of the money advanced.—Apply at 14, Upper Charles street, Northampton-square

FREEHOLD SITES at Poplar and Bromley, suitable for Factory Premises or Stabling, TO BE LET or SOLD; also FREEHOLD RESIDENCES in Grove-road, Row, near the principal entrance to the Park The houses contain ten rooms each, are well built and drained, and are close to direct omnibus route to the City.—Apply to JOHNSON & ARROWSMITH, Architects, 29, Great St. Helen's, E.C.

TO BRICKMAKERS and OTHERS.—LAND TO LET, for BRICKMAKING, near the Victoria Docks.—For particulars, address E. L. 40, Norfolk-street, Strand.

FREEHOLD LAND at SYDENHAM, about ten minutes' walk from the London and Brighton Railway-station.—TO BE LET, on Building Lease, a Piece of LAND, having a frontage to the road leading to Beckenham of about 430 feet, and a depth of about 370 feet. Land-tax redeemed.—Apply to Messrs. PATERSON & LONGMAN, Solicitors, 3, Winchester-buildings, Great Winchester street, London, E.C.

BUILDING LAND TO BE LET, for the erection of shops and houses on a main road, within ten minutes' walk of the Clapham road, Nine Elms Boat Pier, and Vauxhall Station, and within five minutes' walk of the new works of the South-Western Advances, if required.—Apply to H. BATES, The Priory, Wandsworth-road.

TO BE LET, a Capital WHARF and DRAWDOCK, known as "Searle's Wharf," most eligibly situate at the foot of the New Westminster Bridge, and opposite the Houses of Parliament.
This Drawdock has been closed for some years, and is now about to be re-opened.
From its excellent situation and the probability of the Scotland Yard Works being closed at an early date by the Thames Embankment, a very valuable business may no doubt be depended upon
A Residence is attached, which may or may not be taken with the Wharf or Drawdock
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BRICKS, YELLOW and PALE SECONDS, PAVIORS, STOCKS, GRISSELS, and PLACE, delivered by barge alongside to any part of the River Lea or Canals.—For particulars apply to
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SUFFOLK BRICKS, RED and WHITE, of best quality, at reduced prices Also other Kiln Goods, as selected by the War Office.—For specimens and particulars apply to T. ALLEN, 7, Great Smith street, Westminster, S.W.

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SUFFOLK AND OTHER PAVIORS,
RED AND WHITE PACINGS,
STAFFORDSHIRE AND FIRE GOODS,
MALM CUTTERS, PICKINGS,
AND BUILDERS' GOODS GENERALLY.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.
JOHN DOWNEY, Victoria Wharf, Nine Elms, S.
Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Ritch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr William Langdale, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire
The EWELL DEEP BLACK RUBBERS and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

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IN ANY QUANTITIES, BY BARGE ALONGSIDE.

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The usual commission allowed to merchants of the trade.

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BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, AND SANITARY PIPE MACHINE FOR STEAM OR HORSE POWER.
Which will produce, of equally good quality, one third more in quantity than any other machine of the same cost and working expenses The above Patents will be sold together or separate, and are suited for private enterprise or a public company.
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J. H. ANDREWS, Wisbech, offers
Red Pantiles, at 30s. per 1,000.
" 8-inch Paviors, at 37s. 6d. per 1,000.
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Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway As to 20,000 Bricks lying at Devonshire street station, at 30s. per 1,000.

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JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by
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WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.
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SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.
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GREAT SAFFRON-HILL, HOLBORN,
OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

FLOORING! DEALS! MAHOGANY!
100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
5,000 Yellow Battens ..... from £11 10s. per 120
2,000 Spruce ditto ..... from £9 per 120
SPRUCE DEALS, 2s. 6d. each.
FIR TIMBER 55s. PER LOAD.
Scaffold Poles ..... 1½d. per foot
YELLOW DEALS, £16 PER 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

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	White (not Spruce).	Yellow.
¾-inch Flooring	11s. 6d. to 12s. 0d.	13s. 0d. per Square.
¾-inch ,, ...	12s. 0d. to 13s. 0d.	13s. 0d. to 14s. 6d. ,,
1-inch ,, ...	14s. 6d. to 16s. 0d.	15s. 6d. to 18s. 6d. ,,
1¼-inch ,, ...	18s. 0d.	20s. 0d. to 22s. 0d. ,,

YELLOW DEALS, 3 by 9, from...£16 10s.

Yellow Battens	£11 10s. per 120
¾ White Matched Lining	12s. per square.
¾ Yellow	16s. ,,

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SMITH & McGAW

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BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 ,, ...	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,, ...	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,, ...	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
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At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

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Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE-FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d per square.	Laths, 28s. per Load.	
Yellow Deals, sound and good	£19 10 0 per 120, or 0s 3½d. per foot.	
Spruce Deals	16 10 0 ,, 0 2¼ ,,	
Yellow Battens, excellent quality	11 10 0 ,, 0 2 ,,	
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 ,, 3 6 each.	

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
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OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

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At 6d. 7d. and 8d. per foot, at
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LADY LAKE'S GROVE, MILE-END-GATE.

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Spruce.	White.	Yellow.
¾ inch, from 12s.	12s. 9d.	13s. 6d. per square.
¾ ,, 13s.	14s. 6d.	14s. 6d. ,,
1 ,, 15s.	15s. 6d.	16s. 6d. ,,
1¼ ,, 17s.	18s. 0d.	19s. 6d. ,,

180 feet run of 7 inches, 140 feet run of 9 inches to the square.
White Battens, 9f. 10s. per 120, 12 feet.
Yellow ditto, 10f. ditto ditto.
½-inch Match Boards, 13s per square.
¾ ,, 14s. ,,
1 ,, 16s. ,,
Venetian Blind Laths, 9s per 100 feet sup.
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April 22, 1863.

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For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of moisture preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street hill, London, E.C.
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N.B. Can be Painted in Twenty-four Hours.

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FREEN'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality, Strength, and Colour, supplied to Shippers and the Trade.

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GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.

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CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.

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ORDERS ADDRESSED TO MESSRS. S. & R. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

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LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
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Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
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PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard sculola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

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12, UPPER GROUND STREET, BLACKFRIARS, S.
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PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.

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Manufacturers only of first-class quality, for the Home and Foreign Trade.

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THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large work.—All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.

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PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

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Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
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Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
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FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.

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Delivered on Steamer or Rail at Bristol at 6s. per Cask, in quantities of not under 50 casks. Freight to London Bridge, about 1s. 2d. per cask; to Paddington, about 1s. 10d.
Apply to Messrs. CHAS. ISAACS & CO. Bathurst Cement Works, Bristol.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart, VENTNOR, ISLE of WIGHT—Second Testimonial.—"March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

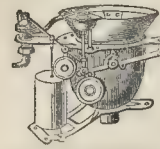
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

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FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH-PRESSURE VALVE COCKS.

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves manufactured by them, have their NAME legibly marked thereon.

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Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

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ORIGINAL ANTI-CORROSION PAINT.

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It is extensively used at home and abroad for all kinds of

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And has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUTBUILDINGS, AGRICULTURAL IMPLEMENTS, MACHINES, CONSERVATORIES, PARK FENCING, GATES, &c., IRON ROOFING, BRIDGES, HURDLING, and every description of IRONWORK; while for

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The Anti-Corrosion is lower in price and lasts twice as long as the best White Lead.

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Are prepared to execute orders to any extent for their TISBURY STONE. This is a close, fine-grained Stone, of a beautiful colour, possessing all the qualities of the best Portland, in which range it is placed geologically.

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A great variety of Coloured Marbles always ready to select from.
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This stone (which is a perfect colite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

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Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
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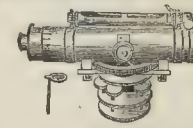
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Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
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Near Astley's Theatre,
Respectfully inform the Public that their Illustrated Price List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

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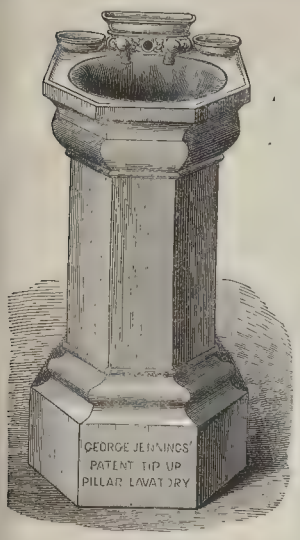
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GEORGE JENNINGS, HYDRAULIC AND SANITARY ENGINEER,



begs to inform ARCHITECTS, ENGINEERS, and OTHERS interested in SANITARY PROGRESS, that the London, Chatham, and Dover Railway Company have taken his Wharf and Factory, Holland-street, for their New Station at Blackfriars, and that his Works for the future will be carred on at

PALACE WHARF, STANGATE, LAMBETH,

opposite the River Front of the New Houses of Parliament.

The well-known character and great demand for all GEORGE JENNINGS'S Manufactures have rendered it unnecessary for him to advertise for the last two years; he, however, takes this opportunity to state that during that time he has added many Sanitary and Domestic Articles to those already before the public, some of which gained the Medal of 1851, and more recently the Exhibition Medal of 1862; the latter being awarded to him for "GENERAL Excellence of Articles exhibited and for Novelty of Application."

Jennings's Patent Tip-Up Lavatories, Water Closets, Urinals, and other sanitary appliances will be found in use on eighteen different Railways in England, on the East-Indian Lines, at many Stations, on the Paris, Orleans, and other Continental Railways.

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Are the only DRAIN-PIPES that MECHANICALLY PERMIT EXAMINATION, or LEGALLY PERMIT THE INTRODUCTION OF SADDLE JUNCTIONS.

IN SPITE OF THE STRONGEST TRADE COMBINATION THAT EVER EXISTED, BAD COPIES OF HIS ORIGINAL INVENTION, AND DISCOUNT REACHING 50 PER CENT., the DEMAND for these PIPES is STEADILY INCREASING.

JENNINGS'S PATENT AIR CHAMBER SMOKE FLUES, TERRA-COTTA and STONEWARE AIR BRICKS, PUMPS for Shallow or Deep Wells, Sluice Valves for Steam, Water, or Gas, Fire Cocks, Hydrants, Shop Shutter Shoes, Family Jars, &c. are now in course of arrangement, at his New Sanitary Depôt, and he hopes, by continued attention to the requirements of the age, to deserve that large share of support he has hitherto been favoured with.

GEORGE JENNINGS, Sanitary Engineer, PALACE WHARF, STANGATE, LAMBETH, S.

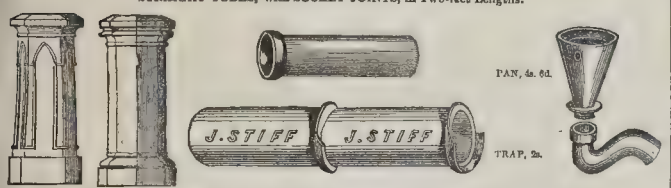
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleaned without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

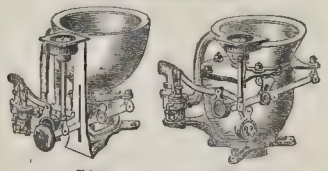
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

J. TYLOR & SONS' PATENT

REGULATOR WATER-CLOSETS.



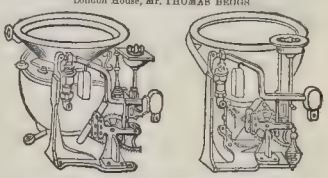
Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cistern valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London.

GUEST & CHRIMES, FOUNDRY and

GENERAL BRASS WORKS, Rotherham; and 37, Southampton-street, Strand, London, W.C.

London House, Mr. THOMAS BEGGS



ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient and simple, free from all smell, and requires no cisterns, service boxes cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipes. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet, alike dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary direct Service Main Cottage Water Closets.

Chrimes's Patent High pressure Single and Double Loose Valve and Screw Down Cocks; Improved Self acting and Full Water-Closet; Patent Absolute Water Waste Preventer; Plumbers' and Gas-Fitters' Brass Work of every description. Drawings, Descriptions, Prices, and Testimonials will be forwarded per post on application as above.

CROGGON and COMPANY,

Manufacturers of

PATENT ASPHALTE ROOFING, BOILER, RAILWAY, SHEATHING, and INODOROUS FELT, For Damp Walls, and Lining Iron Houses.

DOWGATE HILL, London; and 2, GORES PIAZZA, Liverpool.

WOOD PAVING.

MESSRS. THORN & CO.

CONTRACT to MANUFACTURE and LAY WOOD PAVING, of every description. It is particularly adapted for RAILWAY STATIONS, ENGINES, SHOPS, IRON BRIDGES, &c.

THORN & CO. STEAM SAW-MILLS, CREMORNE WHARF, CHELSEA, and GROSVENOR ROAD, PIMLICO.

Asphalte for Railway Arches and Iron Bridges.

SALES BY AUCTION.

INTERNATIONAL EXHIBITION BUILDING, 1862.

MESSRS. FULLER & HORSEY are instructed by Messrs. Kelk & Lucas to SELL by AUCTION, on THURSDAY, MAY 7th, and following Day, at the BUILDING, in suitable lots, the MATERIALS of the WESTERN ANNEX, which have been carefully taken down and stacked in convenient lots; including 478 glazed skylights, each 15 feet by 13 feet, 98 glazed sashes 1 250 yards run, boarding, 230 000 feet run of quartering, 1,100 yards cast iron rain-water pipe, 1600 yards roofing felt, 5 500 feet run sleepers, 800 square inches matched boarded partition with quarters, 30 counter frames, 300 pedestals for statuary, 40 portable rifles, 2 glass cases, 27 double and single turnstiles with telltales, 5 writing frames, desks, 20 carpenters' benches, 20 office tables, 50 double and single desks, 4 copying presses, 400 chairs, 50 sets pigeon-holes, 150 office stools, 17 sack barrows, 150 brooms and mops, 50 watering cans, pails, pots, and brushes; 10,000 yards of cocoa-nut matting, 30 washing stands, 20 door mats, 50 gas stoves, gas fittings, 100 carved oak settees with spring seats, 600 forms, 6 tons contractors' rails, 6 trucks, 6 fluted cast-iron columns, 30 cabinet frames, 3 sewer-jacks, and numerous other effects.—To be viewed the day previous and morning of sale, and catalogues to be obtained at the Place of sale, and of Messrs. FULLER & HORSEY, 12, Billiter-street, London, E.C.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Messrs. Lavers to SELL by AUCTION, on MONDAY, MAY 18th, at ELEVEN o'clock, at the IRON GATE BRIDGE, on the Bow Creek, a few paces from the Bow-lane-road Station of the North Woolwich line, removed for convenience of sale, on the completion of Government contracts and other large works on the Thames, a valuable PLANT and MATERIALS: including one Gilbert's steam pile engine, two Sisson's steam pile engines, two contractors' portable steam-engines of eight and ten horse power, horizontal 14-horse high pressure steam-engine and boiler, powerful iron circular saw bench, two multitubular steam-boilers, donkey engine, two 10 ton travellers, six trussed steel rail travelling cranes, single and double purchase crabs, triple and single hoisting gear for shears, three hand pile-drivers, two Murray's patent chain-pumps, capable of raising 1,000 gallons per minute; one Norton's patent pump, 500 casks tallow, 2 cwt. coopers' tools, large quantity of boilers' plant, 300 loads prime Memel timber, 1,500 3 and 4 inch Memel planks, four very large blocks of Roach stone 120 feet in each; timber blocks to carry 15 tons, with Kirkstall forge arms, timber carriage, carts, barrows, 50 ton barge, boat, James's patent and other weighing machines all weights, and other effects. To be viewed on Saturday previous to the sale, of which notice will be had at the Wharf; and of Messrs FULLER & HORSEY, 14, Billiter-street, London, E.C. There is every facility for the removal of the goods by water or land carriage.

TO BUILDERS, CONTRACTORS, SAW-MILL PROPRIETORS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Messrs Wilson & Sons to SELL by AUCTION, on MONDAY, 25th MAY, 1863, and following Day, at ELEVEN o'clock each day, on the PREMISES, Great Suffolk-street and 98 Stevens-square, Kent-street, Southwark, without reserve, the MACHINERY, TOOLS, and remaining STOCK of a BUILDER: including a 16-horse power, direct-acting engine; Cornish boiler, 7 feet diameter, 19 feet long; rack saw bench, vertical deal saw frame, self-acting circular saw bench, and twenty-four cast steel saws, planing machine, moulding machine, a new set of shafting, band saw machine, joiner's circular bench, with plough and rail saws; circular tabbeting and moulding machine, leather bands, two tons of loop iron, 250 pine planks, twenty-seven tons deals, sash frames, sashes, glazing, twenty-four logs Honduras and Cuba mahogany, in planks; 7,000 feet 4 to 2½-inch yellow boards, 2 800 feet pitch pine boards from 4 to 1 inch, 1,800 feet pine boards, tanks, 5,000 feet 1½ inch white boards, 300 feet skirting, 120 oak sills, quantity oak 7 ash, 14 fee run moulings and sash beads, 50 new panel doors, 80 dozen seaffold cords, 3 builders' ladders, and steps, 3 grindstones, 27 joiners' benches, 3 cramps, 2 crates ground glass, 300 scaffold boards, 100 scaffold poles, 8 dozen putlogs, 27 stone sinks, 800 feet York paving, 52 York slabs, 1 case stoves, glazed bricks, 1,000 inch rubbed York coping, quantity Portland and York stone, an assortment of builder's ironmongery, timber carriage, trussed rail, spring stone cart, hand truck, 2 benches, forges, office fittings and other effects. To be viewed on Saturday previous and morning of sale, when catalogues may be had on the premises, and of Messrs. FULLER & HORSEY, 7, Billiter-street, E.C.

BRENTFORD GRAIN DISTILLERY.—TO BUILDERS AND OTHERS.

MESSRS. FULLER & HORSEY will SELL by AUCTION, pursuant to an Order of the Court of Chancery, made in the causes of "Booth v. Coulter," "Booth v. Booth," and "Booth v. Booth," with the approbation of his Honour Vice Chancellor Stuart, the Judge to whom these causes are attached, at the AUCTION MART, in the city of London, on THURSDAY, the 28th day of MAY, 1863, at TWELVE o'clock, in Four Lots, the lightly leasehold FREEHOLD and COPYHOLD ESTATE, lately occupied as Sir Felix Booth's Grain Distillery; comprising the maltings, the back malting, the brew-house, the mill, dwelling-house, offices, yards, garden, and stabling, and a landing wharf on the Thames, situate at Brentford, abutting on the western road, on the north road, and about midway between the Kew and Brentford stations of the South-Western Railway. It is contiguous to the Kew station of the North London Railway, and also to the locks and weirs at Brentford, the whole forming a most desirable property for any large manufacturing establishment, or a most eligible site for building operations.—To be viewed till the Sale by cards only, which, with full particulars, plans, and conditions, may be had of St. P. B. HOOK, Esq. Solicitor, 9, Lincoln's-inn-fields, W.C.; of W. H DAVIS, Esq. Solicitor, 10 Golden square; of Messrs KINGSFORD & DORMAN, Solicitors, Essex-street, Strand; of Messrs. CLARK & RUSTON, Solicitors, Brentford; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

Valuable Collection of Engineer's Tools, partly from the International Exhibition.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, APRIL 28th, at TWELVE, at the WAREHOUSES, Belvedere-road, Lambeth, removed for convenience of sale, a costly collection of ENGINEER'S TOOLS, principally manufactured by the eminent firm of Fox, Brothers, Derby, the whole of them highly finished, of the best materials and workmanship, and a portion exhibited at the International Exhibition, where they received Honourable mention for general excellence; including two self-acting planing machines, will take in 4 feet 6 inches wide and 4 feet 3 high, with two tool-holders to each; three smaller planing-machines, to plane 1 foot 10 inches wide and 1 foot 8 inches high; three self-acting vertical drilling machines, to bore from 2 inches diameter, and will take in work 33 inches diameter; a nut-shaping machine, with universal motion; one 18-inch self-acting and screw-cutting lathe, 18 feet bed, with break; one 16-inch self-acting and screw-cutting lathe, 18 feet; one self-acting, surfacing, and screw-cutting lathe, will take in a surface 5 feet diameter, and will cut screws up to 3 inches pitch; one 9½ inch centre screw-cutting lathe, with 9 feet bed; two 8½-inch centre self acting slide lathes, with 9 feet beds; two back geared 6-inch lathes, with 4 feet beds, and tools; one highly finished 6 inch foot lathe, with 6 feet 6 inches bed; new engine workasmall steam-engine and boiler; 4 tons Crowley and Millington's cast and shear steel; 70 dozen files, planes, bits and taps, steel tools, leather bands, bolts and nuts, spanners, two strong wheelwright's cramps, scales and weights, shafting and wheels, a new self-acting tenoning machine, by McDowall; Lloyd's patent fan, and numerous other effects.—To be viewed on Monday previous to the sale. Catalogue may be had of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C

KILBURN PARK.—A valuable Freehold and long Leasehold Estate.

By order of the Mortgagee

MESSRS. GEO. ROBINSON & HETLEY are instructed to SELL, at the CANTERBURY ARMS, facing the property, on TUESDAY, APRIL 28, at FOUR o'clock punctually, in Twenty-six Lots, SIX newly erected DWELLING-HOUSES and PREMISES, held for ninety-nine years at low ground-rents, and of the annual value of 300l.; and ELEVEN CARCASES, in a forward state, situate and being Malvern-terrace, Malvern-road, Kilburn Park, in the parish of Willesden; also, NINE PLOTS of FREEHOLD BUILDING GROUND, adjoining.—The property can be viewed. Particulars and conditions may be had of COMPTON READE, Esq. 61, Lincoln's-inn-fields, where the leases may be inspected between the hours of 1PM and FOUR, and at the Offices of the Auctioneers, 21, Old Bond street.

DULWICH.—Materials of a Residence.

MESSRS. FULLER, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on Dulwich-common, on WEDNESDAY, APRIL 29th, at TWELVE, the excellent MATERIALS and FITTINGS-UP of a RESIDENCE: 120,000 stock bricks, 7,000 plain and pan tiles, 8 squares of slates, sound timber in roofs and floors, capital flooring boards and battens, mahogany and other sashes, doors, partitioning, cupboards, mahogany watercloset, handsome marble chimney-pieces, stoves, ranges, copper, force-pump, several tons of lead, in gutters, ridges, pipes, and cisterns; stone steps and paving, balconies, coping, and other effects.—May be viewed two days previous, and catalogues had at the Grey-round, Dulwich; of the Offices of CHARLES BERRY, Esq. Architect, 27, Sackville-street, Piccadilly; and of FULLER, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City, E.C.

WESTMINSTER.—Surplus Stock of a Contractor, the premises being required by the Westminster Chapter Commrs.

MESSRS. FULLER, HORNE & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, Orchard-street, Victoria-street, Westminster, on WEDNESDAY, MAY 6th, at TWELVE, the SURPLUS STOCK of a CONTRACTOR: comprising a portable 10-horse power engine, with copper tubes, fittings, and stoves and ranges, doors, sashes, plaster moulds, and a variety of other useful materials.—May be viewed one day previous, and catalogues had of FULLER, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

BUILDING MATERIALS of several Houses, Newington Causeway, to be taken down for the enlargement of the Premises of Messrs. W. Tarn & Co.

MESSRS. FULLER, HORNE, & EVERSFIELD are instructed by Messrs. Tarn & Co. to SELL by AUCTION, in the course of the ensuing month, the excellent MATERIALS and FITTINGS UP of THREE HOUSES, being Nos. 4, 5, and 6, Newington Causeway, and premises adjoining, comprising a quantity of valuable materials, expensive plate glass, shop fronts, and other trade fittings and fixtures, a detailed description of which will appear in future advertisements. — 40, Parliament-street, Westminster; and 80, Fore-street, City

TO BE SOLD, pursuant to an order of the High Court of Chancery, made in the matter of the Settled Estates Act and the settled estates of Humphrey Thompson, deceased, with the approbation of the Master of the Rolls, in fifty-seven lots of various dimensions, from 950 to 248 square yards, by

MR. THOMAS WATSON, the person appointed by the said Judge, at the CLEAVER HOTEL, at Darlington, in the county of Durham, on THURSDAY, the 7th day of MAY, 1863, at FOUR o'clock in the afternoon precisely, FOUR ACRES, ONE ROOD, and TWENTY POUR PERCHES of FREEHOLD LAND, abutting on the high road leading from Darlington to Barnard Castle, late the property of Humphrey Thompson, deceased, and now in the occupation of Joseph Pease, esq.—Particulars whereof may be had gratis of Mr. ROBERT BLAND DIXON, Land Agent, Darlington; of Messrs. G. & G. T. ALLISON, of Darlington, Solicitors; of Messrs. CLARKE & MORICE, of 29, Coleman-street, London, Solicitors; of the said Mr. THOMAS WATSON, of Darlington; and at the said Cleaver Hotel. GEO. HUME, Chief Clerk.

Dated this 17th day of April, 1863.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, BROMPTON, S.W.

Notice of PRIVATE SALE of 500 MARBLE CHIMNEY-PIECES, to be sold at very reduced prices (to save the expense of removal to the Brompton-road), in the following Marbles, viz.:—Statuary, Rouge Royal, Black and Gold, Black Sicilian, Buckfastleigh, Devon, Caffonia, St. Ann's, Rouge Jasper, Jeune Fleure, Brocatella, Genoa Green, Irish Green, Blue Belge, Emperor's Red, Irish Fossil, Languedoc Mottled, Vein, Sienna, and various other assortments of British Marbles, varying in price from 12. 10s. to 80l.; and for elegancy of design, workmanship, and quality, not to be surpassed in England. Purchases to the extent of 20l. and 50l. approved bills of three and four months will be taken, less 25 per cent. each. Purchasers from the country will be supplied with packing-cases, and the same packed and forwarded to any of the metropolitan stations for 1 per cent. on the amount purchased.

STOCK BRICKS 1100, on the Medway, 4 miles from Rochester (London, Chatham, and Dover Railway), or to Strood from London Bridge (North Kent), thence by steam-boat to Upnor, 1¼ mile from the Field.

MR. MAILE will SELL by AUCTION, at the Ree Brickfields on TUESDAY, MAY 5th, at TWELVE o'clock, about THREE MILLIONS of BRICKS: consisting of good grey stocks, red kiln bricks, rough stocks, and place bricks.—May be viewed two days previous to the Sale. Catalogues will be forwarded on application to Mr. HOBBS, 193, Great Suffolk street, Borough, London; or to the Auctioneer, Faversham, Kent.

TO TIMBER MERCHANTS, CONTRACTORS, BUILDERS, CARPENTERS, AND OTHERS.—CAMDEN NEW ROAD, Camden-terrace, Camden-town.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, on MONDAY, APRIL 27th, at TWELVE, 250 PLANKS, DEALS, and BATTENS 3000 cubic feet of flooring, 800 feet of quartering, 4000 feet 4 by 4 scantling, 2,000 feet of Mahogany, 2,000 feet of white pine board, 200 new doors, 50 sashes, 12 mantelpieces, scaffolding, brick cart, &c. — Auction Offices, 2, Cumberland street, Hampstead-road

BUILDERS' SALE, on THURSDAY next, also STABLE FURNITURE, FARMING IMPLEMENTS &

MR. WM. HOLLINGSWORTH will SELL by Auction, at the COMMERCIAL SALE ROOMS, 13, High Holborn, on THURSDAY next, APRIL 30th, at TWELVE precise, the following BUILDERS' MATERIALS:—200 register and stipple stoves, kitchen ranges, iron piping and guttering, iron castings of all kinds, 300 grass washers, 2 tons of steel, 3 tons of nails, brass-foundry goods, 4 cwt bell furniture, jacks, chains, locks, and hinges, and ironmongery of every description; 1,500 pieces of paperhangings, 2 tons of white lead and colours, 60 gallons of turps, marble and slate chimneypieces; also 200 iron sheep and cattle hurdles, iron stable fittings, stall posts and divisions, mangers, water troughs, hay racks, corn bins, barrows, &c.; a patent plough, lawn mower, a drill, a flax scutching machine, a steam-engine and boiler, labels, files, and other tools, cart arms and boxes, scythes, pumps, hay-knives, and garden tools.—View and catalogues the day before the sale.

MATERIALS FOR HOUSE FINISHING.

MR. EDWIN WHITE will SELL by AUCTION, at 12, Holborn Bars, and 1, Castle-street, Holborn, on THURSDAY next, at TWELVE precisely, 2 tons Pure White Lead and Paint; 5 hundredweight Mineral Tinters; and 1½ 3-fold Venetian Blinds, 2 tons Rouge royal, St. Ann's, Brocatella, dove, black, and other Marble Chimney-pieces. On view on Monday and morning of sale. Catalogues are now ready

WIMBLEDON FREEHOLD BUILDING LAND AND VILLA RESIDENCES.

MR. H. O. MARTIN will SELL by AUCTION, at the MART, opposite the Bank of England, on TUESDAY next, APRIL the 28th, at TWELVE for ONE o'clock precisely, valuable PLOTS of FREEHOLD BUILDING LAND, near the railway station and new church. Well drained by a main sewer; also a PAIR of well-built FREEHOLD VILLAS, of the value of 60l. per annum each.—Plans, with particulars and conditions of sale, may be had of Messrs HILLIARD, DALE, & STRATTON, 3, Gray's-Inn-Square; J. WRIGHT, Esq. New Inn; and at the Auctioneer's Offices, 18, Adam street, Adelphi.

TO BUILDERS AND OTHERS.—Very eligible LEASEHOLD BUILDING GROUND, 1 acre 2 roods 25 perches, Waterloo-place, Highroad, New Cross, being in the midst of a well-populated district, affording 600 feet of frontage, and well suited for the erection of 40 six-roomed houses, or a large manufactory. Lease 63 years. Ground rent 30l. or 40l.

MESSRS. TEBB, BROS. will SELL the above ESTATE, estimated to produce a Ground Rent of 130l. per annum, by AUCTION, at the MART, on WEDNESDAY, MAY 13th, at ONE o'clock, in ONE LOT.—Plan and Particulars by Post; at the "Dover Castle," Broadway; the Mart; and 3, Adelaide-place, London Bridge, E.C.

SHOOTER'S HILL, KENT.—VALUABLE FREEHOLD BUILDING LAND.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the TOWN HALL, Woolwich, on FRIDAY, MAY 15th, 1863, at SIX for SEVEN o'clock in the Evening, 15 Lots of FREEHOLD BUILDING LAND, with frontages to the Eglinton and Brent roads, situate near to the Royal Military Academy, Woolwich Common, and well adapted for the erection of superior Villa Residences. Nine tenths of the purchase money may remain on mortgage or contract at five per cent. to be paid in nine years, by half-yearly instalments, but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained ten days before the sale, of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; and of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

WIMBLEDON, Surrey.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, MAY 18th, at TWELVE for ONE o'clock, in sixty two lots, the remaining portion of the valuable FREEHOLD BUILDING LAND, free from tithe and land-tax, with frontages to the new road called Hartfield-road, close to the Wimbledon Station on the main line of the London and South-Western Railway. Nine-tenths of the purchase-money may remain on mortgage or contract, at 5 per cent. to be paid in nine years by half-yearly instalments, but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained ten days before the sale, of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; and of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

ADDISCOMBE COLLEGE, CROYDON, SURREY.—Mansion, House and Premises, with orchard and garden, and valuable Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, Bartholomew-lane, City, on MONDAY, MAY 25, at TWELVE for One o'clock, a further PORTION of this eligible ESTATE, late the property of the Hon. East Indis Company: consisting of the noble mansion, built in the most substantial manner, and well adapted for a school or public institution; containing on the basement story, entrance-hall, dining-room, and two other rooms; on the ground floor, a noble entrance hall, dining-room, ante-room, library, four sitting-rooms, two other rooms, wide oak staircase; on the basement, servants' hall, kitchen, scullery, larder, housekeeper's room, butler's pantry, cellars, &c. The steward's house contains, on the first floor, four bed-rooms; on the ground floor, two parlours and sitting room; on the basement, kitchen, scullery, and offices, and garden. Also eligible Freehold Building Land, with frontages to the Upper Addiscombe-road. The lot on which the lodge stands is set apart for a tavern, ten lots for business purposes and the remaining lots are adapted for good Villa Residences. The property is within ten minutes' walk of the New and East Croydon Stations, about a mile of that at West Croydon, and when the Addiscombe Railway is completed the Station will be on the Estate; thus bringing the property in constant communication with the City and West end at all times of the day. Nine tenths of the purchase money on mortgage or contract at 5 per cent. to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained about ten days before the sale of Mr. PALACE, South Lodge, Addiscombe; of the principal Inns in the neighbourhood; of Messrs. RUSSELL & DAVIS, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate street, London, E.C.; and at the Place of Sale.

CREWE.—FREEHOLD BUILDING LAND.

TO BE SOLD by AUCTION, pursuant to a Decree of the High Court of Chancery, made in a Cause "Blakemore v. Edleston," by the Vice Chancellor Sir John Stuart, the Judge to whose Court the said Cause is attached, by

MESSRS. CHURTON, the persons appointed for that purpose, on FRIDAY, the 22nd day of MAY, 1863, at the CREWE ARMS HOTEL, CREWE, at TWO o'clock in the afternoon precisely, EIGHTY SEVEN LOTS of FREEHOLD BUILDING LAND, of various dimensions, partly situate between Mill-street and the back of the Crewe Arms Hotel, abutting new to Oak street leading to the Station, and part abutting upon the new road leading from Oak street, Crewe, to Wistaston, and part abutting on the inland lane at the back of Wistaston-street, and part on the Chester Line of Railway, and all in the immediate neighbourhood of the Railway Station of the Main Line, and of the Manchester, Liverpool, Chester, Staffordshire, and Shrewsbury branches of the London and North Western Railway.—Particulars and conditions of sale and plans may be had (gratis) on application to Messrs. HENRY & HODGSON, Solicitors, HOBEL (CREWE), at TWO o'clock p.m. the afternoon preceding the day of sale; of HENRY HEANE, Esq. Newport, Salop, and 19, Regent street, London; Messrs. PINNIGER and WILKINSON, 28, Bishopsgate, Without, London; Messrs. GREGORY & CO. Bedford row; and Messrs. GREGORY, Esq. St. Martin's-lane, London: Messrs. BROUGHTON & HENSLEY, RICHARD C. EDLESTON, Esq. at J. BROADHURST, Esq. Nantwich, Cheshire, and Messrs. CHURTON, Auctioneers, Nantwich and Whitchurch, Salop; and at the Place of Sale. ALFRED HALL, Chief Clerk.

Dated this 17th day of April, 1863.

TO TIMBER MERCHANTS, BUILDERS, AND OTHERS.

SALE by AUCTION, at GARRAWAY'S COFFEE HOUSE, Cornhill, on TUESDAY, 28th APRIL next, at HALF-PAST FIVE o'clock precisely, by order of the Importers,

223 Lasde Rock Elm Timber.
185 Lasde Red Pine Timber.
5,000 Logs of Spruce Deals.
Saleum, 21 Logs Elm.
Iron Bark, 7,050 Spokes.
Rosewood, 16 Pesaks Rib
And at SIX o'clock precisely,
Without reserve, at a minimum of fourpence per foot,
MAHOGANY 280 Logs Honduras (Northern Wood), of superior quality and large dimensions, just landed at the East Wood Wharf, West India Docks, ex J. K. L. from Belize.
At other floors
Catalogues may be had of THOS ROBERTS & CO. Brokers, 9, Billiter-street, E.C.

MONEY.—1,300l. TO BE ADVANCED in one sum, or in separate amounts of not less than 200l. on Freehold property, at 5 per cent. Apply to Mr. J. ARCHER, Solicitor, 11, Token house-yard, London, E.C

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION

Incorporated by Act of Parliament, 1859), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold property for terms not exceeding ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayments by instalments less than the rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.

EDWARD HARPER, Secretary.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY TIMBER, WINE, and SPIRIT WARRANTS. BANKRUPTCY and INSOLVENTS' CASES CONDUCTED. Balance-sheets Prepared, and Meetings of Creditors Convened Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT, 17, Moorgate-street, Bank, London.

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The Builder,

AN ILLUSTRATED

Architect, Engineer, Operatives & Artist.

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place; or by Mr. ALFRED HILL, 38, Tonbridge-street, Euston-road, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS, 9, Conduit-street, Regent-street.—A PUBLIC DINNER in aid of the Funds of the above Institution will take place at the LONDON TAVERN, on WEDNESDAY, JUNE 3rd, 1863. A. J. B. BERESFORD HOPE, Esq. F.G.S. has promised to take the chair. Further particulars will shortly be announced.

JOSEPH KAY, Secretary.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON.

On TUESDAY Evening next, at 7.30, a LECTURE will be delivered in the THEATRE, on "CONSTRUCTION and ORNAMENT, OLD and NEW." By Sir HENRY DRYDEN, Bart.

PRIZES of 30s. and 2l. for Wood Carving, and 5l. 5s. and 3l. 3s. for Coloured Decoration, are now offered to artist workmen, who may obtain full particulars, and also cards for the Lectures, of the Attendant in the Museum; at the office of "The Builder;" or by letter to the Hon. Sec. at 15, Stratford-place, W.

A. J. B. BERESFORD HOPE, President.
GEORGE GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

INSTITUTE of PAINTERS in WATER COLOURS, founded 1831, as the NEW SOCIETY of PAINTERS in WATER COLOURS.—The ANNUAL EXHIBITION is NOW OPEN.—Gallery, 53, Pall Mall, opposite Marlborough House.

JAMES FAHEY, secretary.

EXHIBITION of SCULPTURE at the ROYAL HORTICULTURAL GARDEN, South Kensington, TUESDAY, MAY 5th. Open at ONE o'clock; Band at TWO. Admission, Half-a-crown.

THE EXHIBITION of ALUMINIUM and ALUMINIUM BRONZE. 2,000 SPECIMENS illustrating the application (ornamental and Useful), of these interesting Metals are NOW ON VIEW at MAPPIN BROTHERS' New Rooms, 222, Regent-street. Admission by Card.

ARCHITECTURAL EXHIBITION, 9, Conduit street, Regent-street, W. NOW OPEN, from 10 till 6. Admission, One Shilling. Season Tickets, Half-a-Crown, admit at all times and to all the Lectures. First Lecture, by Professor KERR, on TUESDAY EVENING, MAY 5th.

JAS. FERGUSSON, F.R.A.S. } Hon. Secs.
JAS. EDMESTON, F.R.I.B.A. }

Also, in conjunction with the above, the Exhibition of the Society of Sculptors of England. MORETON EDWARDS, Hon. Sec.

COMPETITIONS.

CHELTENHAM PARISH CHURCH.—TO ARCHITECTS.—The Committee appointed to carry out the proposed ENLARGEMENT and partial RE-BUILDING of this CHURCH desire to receive DESIGNS for the same. These Designs, which must comprise plans, elevations, and sections, and be accompanied with a general specification and estimate of the costs of the intended works, to be sent in, on or before the 14th day of AUGUST next, to D. J. HUGHPHRIS, Esq. Parish Churchwarden, Cheltenham, of whom may be obtained a plan of the churchyard, with the present structure drawn thereon, and a printed statement, containing further particulars. A premium of one hundred guineas will be awarded for the Design which the Committee may approve and adopt; and a second premium of fifty guineas for the second best Design.

W. GARDNER, } Hon. Secs.
E. LLOYD GRIFFITHS, }

Cheltenham, April, 1863.

NEW BAPTIST CHAPEL, Houghton Regis, near Dunstable, Beds.—Five Pounds are offered for the best PLANS for the above.—Particulars may be had by applying to the Rev. G. H. DAVIES, Houghton Regis.

CONTRACTS.

KINGSTON-UPON-HULL LOCAL BOARD of HEALTH.—To CONTRACTORS.—The Local Board of Health of Kingston upon Hull are prepared to receive TENDERS for the OUTFALL DRAINAGE of the WEST DISTRICT of the Borough of Hull, comprising the construction of upwards of four miles of brick sewers and other works in connexion therewith. Trial shafts have been sunk on the proposed lines of sewers, the results of which may be seen, with the plans of the intended works, on application to Mr. J. FOX SHAILE, C.E. Surveyor to the Local Board, at his office, Sculcoates-hall, Hull, where also copies of the specification, forms of tender, and bills of quantities may be obtained on payment of two guineas (to be returned to parties tendering in accordance with the specification), on or after THURSDAY, the 16th inst. Sealed Tenders, endorsed "West District Drainage," addressed to the Chairman of the Committee of Works, Sculcoates-hall, Hull, must be forwarded on or before THURSDAY, 30th APRIL, 1863. The Board do not bind themselves to accept the lowest or any Tender. By order,

Hull, April 2nd, 1863. C. S. TODD, Clerk to the Board.

Notice is hereby further given, that the time for receiving Tenders for the above-mentioned work is EXTENDED UNTIL WEDNESDAY, the 6th day of MAY, 1863.—By order,

Hull, 20th April, 1863. C. S. TODD, Clerk to the Board.

TO ENGINEERS & CONTRACTORS.—SHEERNESS WATER WORKS.—The Local Board of Health for the District of Sheerness, in the County of Kent, hereby give Notice that they are prepared to receive TENDERS from persons willing to Contract with them for the following Works, viz.: to provide and Execute the said Works, and to maintain for Twelve months in good working condition, One Vertical Compound high and low pressure Condensing Steam Engine, of Twenty nominal horse power. Two Boilers, and One set of Three-throw Pumps, &c. Persons desiring to Tender may obtain specifications and every requisite information by applying to Mr. JAMES LUND, the Surveyor of the Board, at his Office, 19, Montague-terrace, Sheerness. Sealed Tenders, endorsed "Tenders for Engines," &c. are to be delivered at the Office not later than TUESDAY, the 5th day of MAY, 1863, at SIX o'clock in the Evening.—By order of the Sheerness Local Board of Health,

Office of the Local Board of Health, Sheerness, 13th April, 1863. EDWARD PELKIN, Clerk.

TO BUILDERS.—Builders desirous of TENDERING for the RESTORATION and ENLARGEMENT of the CHURCH at Wootton St. Lawrence, near Basingstoke, Hants, may see the plans and specification at Mr. R. AWBERY'S, the Churchwarden, at Wootton aforesaid, on and after the 4th of MAY next. Tenders to be delivered at the Office of the Architect, Mr. JOHN COLSON, St. Swithin-street, Winchester, on or before the 18th day of MAY next. By TWELVE o'clock at noon. No pledge is given to accept the lowest or any Tender.

TO SEWER CONTRACTORS.—The Board of Works for the Fulham District, in the County of Middlesex, hereby give Notice that they will be ready at the Board Meeting to be held at Broadway House, Hammersmith, on WEDNESDAY, the 20th day of MAY, at TEN o'clock precisely, to receive sealed TENDERS from Parties who may be willing to contract for the laying down, constructing, and completely finishing a certain intended BRICK SEWER of about 228 feet in length, and other Works connected therewith, in KING STREET WEST, in the Parish of Hammersmith. Plans, Specification, and Detail Drawings of the Works, together with the Form of Tender, may, with other Particulars, be obtained at Broadway House, Hammersmith, between the hours of TEN a.m. and FOUR p.m. on any day previous to the 18th day of MAY. Sealed Tenders to be addressed to the Chairman of the Board at their Office, at Broadway House, on or before WEDNESDAY, the 20th day of MAY, at TEN o'clock, and the party whose Tender may be accepted will be required to enter into a Contract and Bond with two sufficient Sureties for the due performance of the undertaking, such Contract and Bond to be prepared by the Solicitor to the Board at the expense of the Contractor. The Board does not pledge itself to accept the lowest or any Tender.—By order, W. LOVELY, Clerk.

CONTRACTS.

WAR DEPARTMENT CONTRACTS.

NOTICE to BUILDERS.—Tenders are required for REPAIRING, PAINTING, WHITEWASHING, &c. the interior of the BUILDINGS in the west rear range, ROYAL ARTILLERY BARRACKS, WOOLWICH.

Parties desiring to Tender for the execution of these works, must leave their names at this Office, on or before the 14th day of MAY, 1863, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Woolwich, April 24, 1863

TO CONTRACTORS.—Notice is hereby given, that TENDERS will be received by the Director of Contracts, War Office, Pall Mall, London, on or before MONDAY, the 11th MAY, 1863, from persons desirous of CONTRACTING with the Secretary of State for War for CLEARING AWAY the MUD from the front of the New Gun Wharf, at Chatham.—Forms of Tender may be obtained on application at the Royal Engineer Office, Chatham Lines, between the hours of TEN and FOUR till the 9th MAY, 1863. Tenders to be addressed to "The Director of Contracts, War Office, Pall Mall, London, S.W." and to be delivered free, endorsed, "Tender for Clearing away Mud at Chatham." No Tender can be admitted after the said 11th day of MAY, 1863. N.B.—The Secretary of State for War reserves to himself the right to reject the whole or any of the Tenders

Royal Engineer Office, Chatham 27th April, 1863.

LONDON DISTRICT.—To BUILDERS and OTHERS.—WAR DEPARTMENT TRIENNIAL CONTRACTS for WORKS and REPAIRS.—The Commanding Royal Engineer, London District, hereby gives Notice that sealed TENDERS will be received at the War Office, Pall Mall, London, S.W. addressed to the Director of Contracts, on or before 21st MAY, 1863, for WORKS and REPAIRS at the undermentioned Stations, from 1st JULY, 1863, to 31st MARCH, 1865, inclusive, viz.:—

London, comprehending Tower of London, and all the barracks or other buildings within 5 miles of that place.

Schedules and printed forms of Tender, price 7s. 6d. each, and all necessary information, may be obtained on application at the Royal Engineer Office, 31, James street, Buckingham Gate, London, S.W. from THURSDAY, the 23rd day of APRIL, until TUESDAY, the 14th day of MAY, 1863, inclusive, between the hours of ELEVEN a.m. and THREE p.m.

The Secretary of State reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, 31, James-street, Buckingham gate, London, S.W. 17th April, 1863.

THE Tottenham Local Board of Health are prepared to receive TENDERS for MAKING, Sewering, Levelling, Channelling, Metalling, and Making good the ROADS on the Green Park Estate, Tottenham, and for Levelling, Channelling, Metalling, and Making good the Roads on the Page Green Estate, Down-lane, the Chestnut Estate, High road, and the Summerhill-road, Philip-lane, Tottenham.—Plans and specifications to be seen at the Offices of the Board, after MONDAY, the 27th instant, where schedules of quantities may be obtained on payment of one guinea, one half of which will be returned to the unsuccessful Tenderers on receipt of the schedule and Tender. Sealed Tenders, marked "Tender for Roads," must be delivered at the Offices of the Board, High Cross, Tottenham, N. on or before FRIDAY evening, the 8th MAY, at SEVEN o'clock. The Board do not bind themselves to accept the lowest or any Tender. WM. HEATH, Clerk to the Board.

METROPOLITAN IMPROVEMENTS.—BUILDING LAND in the PARISH of MILE-END OLD TOWN. The Metropolitan Board of Works hereby give notice, that they will meet at their Office, in Spring gardens, Charing cross, on WEDNESDAY, the 13th day of MAY now next, at TWELVE o'clock at noon precisely, and will be prepared to open TENDERS by parties who may be willing to take on building leases all or any certain PLOTS of GROUND, situated on the east and west sides of the new street leading from Limehouse to the Bow road, and numbered from No. 1 to 39 inclusive on the plan of the street.—Particulars, conditions, and form of Tender, and every information may be obtained in the Superintending Architect's Office, at the office of the Board, any day, in the hours of NINE a.m. and FOUR p.m. The Tenders must be on the printed forms supplied at the Office of the Board, and be delivered under sealed covers, endorsed "Tender for Land at Mile-end," and addressed to the Clerk of the Board, at the Office of the Metropolitan Board of Works, Spring-gardens, S.W. on or before TWELVE o'clock at noon, on WEDNESDAY, the 13th day of MAY now next, and no Tender will be received after that hour. The Board do not bind themselves to accept the highest or any Tender

JOHN FOLLARD, Clerk of the Board.

Spring-gardens, Charing-cross, March 28, 1863

TO MASONS and PAVIORS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the SUPPLYING and LAYING a quantity of about 4,000 feet run of 12-inch by 8-inch DRESSED ABERDEEN FLAT KERB, and of about 13,000 feet superficial of 3-inch TOOLED YORK PAVING, in the parish of Battersea. The specification can be seen at the Offices of the Board, as below, between the hours of NINE and FIVE. Tenders are to be sent in under seal, addressed to the Board, and endorsed "Tender for Paving, Battersea," on or before the 13th MAY next. Security will be required for the due execution of the Contract. The Board do not pledge themselves to accept any Tender.

By order of the Board of Works for the Wandsworth District,

ARTHUR ALEXANDER CORSELLIS, Clerk to the Board.

Battersea-rise, Wandsworth, S.W. 20th April, 1863

TO BUILDERS.—Builders desirous of TENDERING for taking down and RE-BUILDING the PARISH CHURCH at STOCKBRIDGE, Hants, may see the plans and specifications at the Office of the Architect, Mr. JOHN COLSON, St. Swithin's-street, Winchester. Tenders to be delivered to the Rev. W. H. TRIBE, at Stockbridge, by TWELVE o'clock at noon on the 9th of MAY next. No pledge is given to accept the lowest or any Tender

April 27th, 1863.

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS.—TENDERS are required for the ERECTION of a WESLEYAN CHAPEL at Wellington. Plans and specifications may be seen at Mr. LEWIS'S, Bond-street, to which Tenders must be sent, not before WEDNESDAY, the 6th of MAY. Each Tender must be sealed, and the Committee do not bind themselves to accept the lowest or any Tender.—N.B. The building is intended to be commenced about Midsummer next.

RESTORATION of SAINT PHILIP'S CHURCH, Bristol.—TO MASTERS, BUILDERS, and OTHERS. Persons desirous of TENDERING for the RESTORATION of the above CHURCH can inspect the specifications, and obtain copies of the bill of quantities (printed for the purpose), which will be returned to persons Tendering, at the office of Mr. JAMES KNIGHT, the Architect, at the Victoria Hall, Bowood-road, S.E. Tenders to be delivered to the Rev. Mr. BLOOMFIELD, 8, Stoke-terrace, Philpot-street, E. not later than FRIDAY, 8th of MAY, at TWELVE o'clock at noon.

TO BUILDERS. — Builders desirous of TENDERING for the ERECTION of LAUNDRY, WASH-HOUSE, GREENHOUSE, and other repairs, for A. G. MILNE, Esq. at Eltham, may see the plans and specifications at the Office of Mr. THOS. CHESSER BASORTH, Surveyor, Eltham. Tenders to be sent in by PUBLIC notice, on the Sunday of MAY, 1863. The lowest or any Tender will not necessarily be accepted.

TO BUILDERS.—TENDERS are required by Messrs. SOUTHERN & COLE for the ERECTION of a PAIR of HOUSES at Fore-hill. Drawings and specimens to be seen on application to Mr. SEXTON DAVALL, Architect, 18, Bedford-sq., Chemside.—N.B. Messrs. S. & C. do not bind themselves to accept the lowest or any Tender, and builders must be prepared with references and security, as old either to be required.
April 25th, 1863

TO CONTRACTORS and OTHERS.—The Local Board for the district of Chorley (Alderley Edge), Cheshire are desirous of receiving TENDERS for the EXECUTION of CONTRACT No. 1 in laying the necessary WORKS in making a MAIN OUTLET SEWER. Specifications, with plans and sections, may be obtained at the Office of the Engineer to the Board, Mr. R. G. TRAFF, 18, Corporation-street, Manchester, on payment of Five on and after the 1st MAY.—Sealed Tenders, endorsed "Tender for Contract No. 1," must be left at the Office of the undersigned, 16, Convent-street, Manchester, on or before THURSDAY, 14th MAY.—The Board do not bind themselves to accept the lowest Tender. Dated this 23rd April, 1863. W. L. WELSH, Law Clerk to the Board

BOARD of WORKS, POPLAR DISTRICT.—To BUILDERS and CONTRACTORS.—Notice is hereby given, that the Board will meet on TUESDAY, the 12th day of MAY next, at SIX o'clock in the evening precisely, in the Board Room, East India Dock Road, to receive TENDERS from persons willing to CONTRACT for the construction of a FOOT BRIDGE across the North London Railway, to connect Railway-row Cross-streets, Bromley. The Board do not bind themselves to accept the lowest or any Tender, and the parties tendering, or some one on their behalf, will be required to be in attendance on the Board at the hour above mentioned, and the person whose Tender shall be accepted will be required to pay down immediately the sum of 5l for the expense of the Contract and Bond, and to furnish the names of two responsible parties (householders), in the sum of 300l. for the due performance of the Contract. Tenders upon forms prepared for that purpose, and no other will be received, and endorsed "Tender for Foot Bridge, Bromley," are to be delivered, properly sealed, on or before the 12th day of MAY next, at TWELVE o'clock noon, after which time no Tender will be received. Plan and specification can be seen, and forms of Tender had, on application at the Surveyor's Office, from NINE in the FOUR p.m. any day until the 11th of MAY. CHARLES F. CREW, Clerk to the Board.
Offices, East India Dock road, April 30, 1863.

TO BUILDERS. — The Guardians of the Poor of the Parish of Lambeth are prepared to receive TENDERS for the EXTERNAL REPAIRS and PAINTING required to be done at the House of Industry, Norwood. The specification, with the conditions as to the proposed Tenders may be seen at the Office of the Architect, Mr. HERBERT PARRIS, No. 1, Kennington-green, Lambeth, on and after WEDNESDAY, 6th MAY next.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A Meeting of this Board will be held on MONDAY, the 11th day of MAY, 1863, at SIX o'clock in the evening, at the Office of the Board, No. 15, Great Alie-street, Whitechapel, to receive TENDERS for the EXECUTION of the works required with the SEWERS and DRAINS of the District, mentioned and described in the specification or schedule of Contract prepared by direction of the Board, for the period of ONE YEAR, from which specification and form of Tender may be obtained at the Office of the Board, upon payment of 1s. at which time and place persons Tendering. All Tenders must be delivered at the Office of the Board previous to the time of meeting; and any Tender which is not from the printed form prepared by the Board, and duly sealed for the purpose by the person Tendering, will be rejected. The Board do not bind themselves to accept the lowest or any Tender.
ALFRED TURNER, Clerk to the Board.
15, Great Alie-street, Whitechapel, 23rd April, 1863.

WEST HAM LOCAL BOARD of HEALTH.—The Local Board of Health for the District of West Ham, in the county of Essex, are prepared to receive TENDERS for the LAYING and CONNEXION of HOUSE DRAINS to the Public Sewers, and other Works. The whole of the Terms and Contracts are to be in accordance with conditions, plans, and specifications, which may be seen and obtained at the Rokeby House in Stratford, at the office of Mr. MARSHALL, the Surveyor to the Board, and the Tenders must be delivered at the Office, at Rokeby House, not later than MONDAY, the 11th day of MAY next—By order of the Board. CHAS. WILSON, Clerk
Rokeby House, Stratford, E. April 24th, 1863

BRIGHTLINGSEA GAS and COKE COMPANY (LIMITED). Contractors are invited to TENDER for the ERECTION of NEW GAS WORKS for the above named Company. Plans and specifications have been prepared by Mr. JAMES CUBITT, of Chelmsford, C.E., Engineer, of whom either the same can be seen either at his Office, or on application to the Secretary, at the Office of the Company. The work is divided into two contracts

No. 1 Contract comprises the Builder's Works, and
No. 2 the Apparatus, Iron Work and Street Mains.

Tenders for one or both of the above, endorsed, and delivered to the Secretary, on or before the 7th day of MAY, 1863. The Directors do not bind themselves to accept the lowest or any Tender
ELLIS C. ATKINS, Secretary.
Gas Company's Office, High-street, Brightlingsea, Essex.

WEST HAM LOCAL BOARD of HEALTH.—The Local Board of Health for the District of West Ham, in the county of Essex, are prepared to receive TENDERS for the CONSTRUCTION of a SEWER, between the Barking road and Rathbone-street, Hallsville, and also for MAKING a ROAD between the said Sewer and Barking road, in the district of the said Board, according to plans, sections, specifications, and works required by Mr. Marshall, the Surveyor to the Board, and which may be seen at his Office at Rokeby House, Stratford, where printed forms of Tenders may be obtained, together with any further information required. Tenders endorsed "Tenders for Sewer and Roads," are to be sent to me on or before MONDAY, the 4th day of MAY next. By order of the Board. CHAS. WILSON, Clerk.
Rokeby House, Stratford, April 24.

TO BUILDERS. — Persons desirous of TENDERING for the ERECTION of a RECTORY-HOUSE at High Ham, four miles from Langport, Somerset, can see the plans and specifications upon application to their surveyor, Mr. ROBERT STRONG, at High Ham, on and after MONDAY, the 4th day of MAY. Tenders to be sent to the Architect, JOHN NORTON, Esq. 23, Old Bond-street, Piccadilly, W. on or before the 16th of MAY. The Rector does not bind himself to accept the lowest Tender submitted.

THE PLYMOUTH HOTEL COMPANY, Limited. DUKE of CORNWALL HOTEL. To BUILDERS.—TENDERS are invited for the RECTION of the above HOTEL, in Plymouth, Devon. The drawings, specifications, and conditions of Tender may be seen at the Office of the Architect, Mr. CHARLES F. HAYWARD, 8, Adam-street, Adelphi, London, on the 11th, 12th, and 14th of MAY next, and from the 20th to the 27th of MAY, at the Company's Office, Continental-street, Plymouth. Copies of the bills of quantities (for which no guinea will be charged) may be obtained of the Architect or Secretary, and after the 14th of MAY. Tenders must be sent to the undersigned on or before FRIDAY, the 29th of MAY, at 10 o'clock precisely, and Forms of Application for the remaining Shares to be issued at the under signed
HAMILTON WHITEFORD, Secretary.
Courtenay-street, Plymouth

SOUTH LEICESTERSHIRE RAILWAY. TO CONTRACTORS and BUILDERS.—The Directors are desirous of receiving TENDERS for the ERECTION of PASSENGER STATIONS and GOODS ACCOMMODATION at Elmsthorpe, Narborough, and Whetstone. Printed circulars of Tenders may inspect the drawings, and obtain information at the intended Station at the Office of the Engineer, Mr. JOHN ADDISON, C.E., Delahay-street, Westminster on MONDAY, the 4th of MAY between the hours of TEN and FOUR o'clock. Tenders addressed to the Secretary are desired to be sent in before MONDAY the 11th of MAY, at TEN o'clock A.M. The Directors do not bind themselves to accept the lowest Tender.—By order,
JAMES PLAISON, Secretary.
Leicester Station, April 27th, 1863

BLACKFRIARS BRIDGE. — Notice is hereby given, that the Bridge House Estate Committee will meet at the Guildhall, on TUESDAY, the 9th day of JUNE next, to receive TENDERS for the EXECUTION of a TEMPORARY BRIDGE across the River Thames, on the west side of, and adjoining the Blackfriars Bridge. The piles of the intended Bridge and approaches of the Works to be executed, and further particulars thereof, may be seen at the Office of the Clerk, JOSEPH CUBITT, Esq., No. 1, Great George-street, Westminster. The Tenders must be sealed up, addressed to the Bridge House Estates Committee, endorsed "Tender for Temporary Bridge at Blackfriars," and left at the Committee-room, in Guildhall, on TUESDAY, the 9th day of JUNE, at TWELVE o'clock precisely, on which day the parties Tendering will be expected to be in attendance at Guildhall, to attend any further communication the Committee may think proper to make with them. The Committee do not bind themselves to accept the lowest or any Tender that may be sent in.
FERDINAND BRAND, Comptroller.
Guildhall, 30th April, 1863

THE PATENT CONCRETE STONE COMPANY (Limited). Incorporated under the "Companies Act, 1862." Capital £100,000, in 10,000 shares of £10 each, with power to increase the capital to £200,000. The liability of each shareholder is strictly limited to the amount of his shares. Capital, 100l. 0s. in 10 shares; 100l. each first issue, 5,000 shares of 10l. each, the money on which first issue to be paid in preference to calls on all further issues. Deposit on application 1l. per share, and 1l. on allotment. Further calls not to exceed 2l. 10s. at intervals of not less than two months. The amount payable will be returned without deduction in the event of the shares not being allotted.

PROVISIONAL DIRECTORS.
Frank Alexander, Esq., Backfields, Edinburgh.
James Reed, Esq., 2, Gresham-street, London
George H. Hoar, Esq., 168, Aldersgate-street, London
Charles Cuthbert, Esq., C.E., 3, Great George-street, Westminster.
J. Allen Pickering, Esq., Orwell-park, Ipswich
George Smith, Esq., Bank-street, Ipswich
Edward Woods, Esq., C.E., 3, Storey's-gate, Westminster
BANKERS.—Messrs. Barnett, Hoare, & Co., London; Messrs. Alexander & Co., Ipswich.
SOLICITORS.—Messrs. Dimmock, Neal, & Field, 2, Suffolk-lane, Cannon-street, London.
GENERAL MANAGER.—Frank Rastrick, Esq.
BROKERS.—Messrs. Parry & Co., Bridge-lane
SECRETARY (pro tem.).—Thomas Piper, Esq.
TEMPORARY OFFICES.—3, Parliament-street, Westminster.
PROSPECTUSES AND FORMS OF APPLICATION FOR SHARES may be had.

The Patent Concrete Stone is manufactured by consolidating articles either of sand, gravel, chalk, clay, or any like material by means of a chemical process of mixing and compressing.

Blocks of stone of any size, hard and durable as the best natural stone, can be produced by this simple, however effective, process, at a far less expense than by the ordinary mode of working stone.

No time is wasted in the manufacture, and stone perfectly the structure is at once erected.

It is equally to every purpose, both constructive and decorative, to which stone is applied. The stone has been already employed upon the stations of the Metropolitan Railway, at both the London Chatham, and Dover Railway, and at Aldershot Barracks, and has proved that it hardens by exposure to the atmosphere, and is unaffected by the daily action of tidal sea water during many months.

A solid block, measuring 7 feet 3 inches by 2 feet 2 inches by 1 foot, was used for the foundation of a steam engine at work in the International Exhibition, and for that block the prize medal was awarded.

The Company has made a very considerable purchase of the patents for the manufacture of stone, also for the fabrication of natural stone, and also of the factories and plant of the inventor, situate at Lowestoft and Norwich, by which the Company will be left in a commanding remunerative position. Many applications for licenses have been received and are now under consideration.

A copy of the Articles of Association can be seen, and prospectuses obtained at the Temporary offices of the Company, or from the Brokers, to whom applications for shares are to be sent.

DURABILITY of GUTTA PERCHA TUBING. Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company are prepared to give guarantees of its durability, as fully confirmed by "SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT, 3rd December, 1862. "Much rain has fallen during the past year, and I am pleased this morning, respecting the Gutta Percha Piping, for Pump service, to state that none of the joints have failed in any respect. Many builders and other persons have taken occasion to call the attention to the best apparatus they have ever seen for the purpose, and I am satisfied that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY ROAD, LONDON.

PATENT ASPHALTIC ROOFING FELT. D. ANDERSON & SON, BELFAST
And 24 and 224, BILLITER STREET, LONDON,
PATENTEES AND MANUFACTURERS OF ASPHALTIC ROOFING SHIP SHEATHING, BOILER AND INODOROUS FELTS.

ASPHALT.—The TRINIDAD ASPHALT is recommended to Engineers FOR IRON BRIDGES, INSIDE OF IRON SHIPS, DECKS, and for ROOFS of Railway Stations; also for FLAT ROOFS, FOOTWAYS, and BASEMENTS OF HOUSES.
THORN & CO.
GROSVENOR ROAD, PIMLICO, WOOD PAVING MANUFACTURERS.

ASPHALTE GERVASE FOOTTIT, TRINIDAD ASPHALTE WORKS, Rotherhithe, London. Established 1834. TRINIDAD, SELYSSELL and BRITISH ASPHALTES, manufactured by steam power, laid down in the best manner, or supplied in any quantity, on application to the Works, or being forwarded with material. Post office orders or references in London promptly attended to. Estimates given for every kind of the above work.

WEST DRAYTON GRAVEL PITS. T. FERGUSON, sole proprietor of the above Pits, is now prepared to deliver any quantity of the very finest description of GRAVEL, specially adapted for making garden paths, coverts, &c. Orders received at the Offices, Nos. 11, 12, 13, Wharfs, Northside, Paddington Basin, W.

LEIGHTON, SON, & HODGE beg to intimate to Publishers, Printers, and the Public generally, that they execute in the best style and on the most moderate terms every description of WHOLESALE BOOKBINDING, either in Cloth or Leather (also Account-book Ruling), with promptitude and punctuality. Their Stock of ENGRAVED BRASS DIES is most extensive and varied, and designed in the best taste; and their powerful machinery and steam power give them great advantages in the rapid execution of large orders.
Applications for estimates will meet with prompt attention.
LONDON 13, SHOE LANE E.C.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL & CO Builders of Carts Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation
LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS,
and every description of Workmen's, Builders', and Decorators' Trade Requisites
Vans, Wagons, Dobbin and other Carts, specially Adapted for every other Purpose, Trucks, Trollies and Parts for Railways.
Scaffolding, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire.
Price Lists on application.
GEORGE ELL & CO.
EUSTON WORKS, 366 and 368, EUSTON ROAD, LONDON, N.W.

VENETIAN BLINDS should have LEWTAS'S NEW PATENT ACTION which ENTIRELY SUPERSEDES the HOOKS and annoyance of winding the Cords. Can be easily fixed to old Blinds. Price, 2 cord action 2s., 3 cord do. 3s. A liberal commission to the trade. To be had of—
EDGAR PARKS, Ironmonger and Sole Agent,
140, Fleet-street, London

BALLAST.—Builders may be supplied with well burnt BALLAST, by applying to Mr. THURLOW, Miller, on the Maitland Park Estate, Haverstock Hill, N.W.

A TWENTY-HORSE High-pressure expansive and condensing Beam STEAM ENGINE TO BE DISPOSED OF. Cylinder 20in. by 24in. Lathes estimated, four feet stroke.—Apply at Messrs. MEREDITH, BROTHERS, Saw mills, Bankside, Southwark, S.E. where it can be seen.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS), 17, Union street, and 253, Great Guildford street, Borough, S.E. inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c
GENERAL IRON FOUNDERS,
MERCHANTS, and PATTERN MAKERS.



COLUMNS, GIRDERS, ROOFS,
TANKS, DOORS, RAILINGS,
STAIRCASES, MACHINE-CASTINGS,
And every description of Iron work, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

OLD RAILS, GIRDER and BEAM IRON, FOR SALE.
WILLIAM BIRD & CO.
2, LAURENCE POUNTNEY HILL, E.C

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No 24, Davies-street, Three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, wholesale or retail. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only effectual Instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO 26, High Holborn, London,
Manufacturers of Gas Chandeliers Glass Lustres, &c. &c.

TO BUILDERS, CONTRACTORS, and OTHERS—TO BE SOLD, one 6 horse power PORTABLE ENGINE by GARRETT and SONS, in working order, by Garrett; the 11 horse portable and other 7 horse vertical engine and boiler, by Chaplin, on wrought iron carriage and cast iron wheels; one cast iron locomotive, on cast iron wheels, with wrought iron frame-plates, 42 feet flat, 15 in ches deep, and 14 inch thick.—Apply to H. LEE & SON, Crown Wharf, Nine Elms, Vauxhall.

TO MILLERS and ENGINEERS. For SALE by PRIVATE CONTRACT, the Proprietor declining business, a 10 horse power high-pressure condensing STEAM-ENGINE, 3 months old, almost new, with new 42 horse Cornish boiler, with low-water tube; large steam chest, feed apparatus, valves, &c., a pressure gauge, by Longbotham. Also 4 run of mill machinery, fitted with the last two years, consisting of two pairs 4 feet French stones, flour mill and sifter, stout stack frame, shafting, hoisting tackle, &c. driven by counter gear by iron wheels and shafts. All the above may be seen at work at Brandon Mills, Suffolk, within six miles of the Brandon station on the Great Eastern Railway. For particulars and cards to view, apply to EDWARD BANHAM, Auctioneer and Estate Agent, Malsham Hall, Brandon.

THOS. DUNN & CO. Manufacturers of RAILWAY PLANT in all its details; Boilers, Bridges, Barges, Dock work, and Roofing; Cranes, Caissons Chain, Hoists, Jacks, &c.; Engines, Horizontal, Vertical, Dragon-d, and Tractors Fans, Blast Engines, forges, Furnace Fittings, &c.; Hammers, Steam and Tilt, Pile Drivers, &c.; Lathes, Boring, Turning, Planing, and Shaping Tools; Machines, Slotting, Weighing, Screwing, Punching, &c. Travellers, Jib-cranes, tanks, &c.; Shippers and Exporters of Metals and Machinery, Rail Bars, &c. &c.—Windsor Bridge Iron Works, Manchester

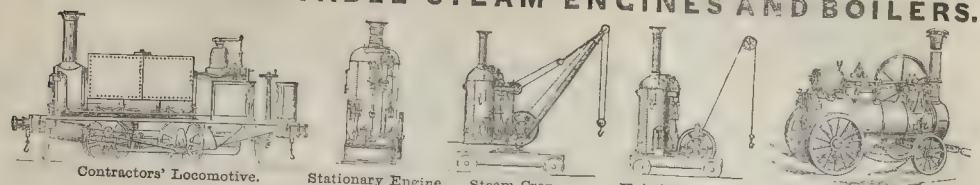
CORNISH and ELEPHANT BOILERS for SALE, by private contract.—An excellent Boiler, 18 feet long, 7 feet 6 inches diameter, with tube 2 feet diameter, Steam Chest and mountings. Also an Elephant Boiler, 21 feet long, 4 feet diameter, with 4 lower tubes, 22 feet long, 1 foot 7 inches diameter, and mountings. Apply to Messrs FULLER & ROBSEY, 13, Milk-street, London E.C.

RAIN WATER PIPES, GUTTERS, &c.

Rain Water Pipes	2½ in.	3 in.	4 in.	5 in.	per yard.
Eaves Gutter	3½ in.	4½d.	6d.	8d.	"
O G Gutter	4 in.	5½d.	7½d.	1s.	"
Sash Weights				5s.	per cwt.

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, AND YORK ROAD, KING'S CROSS.

NEW PATENT PORTABLE STEAM ENGINES AND BOILERS.



Contractors' Locomotive. Stationary Engine. Steam Crane. Hoisting Engine. Agricultural Engine.

STATIONARY ENGINES.

THESE Engines require no Chimney-Shaft, nor Building whatever, a Cast-Iron Ash-pit forming the SOLE-PLATE, and they may be set up anywhere and started at once. Being very carefully made of the best materials, they may be perfectly relied on to work satisfactorily and, from their self-completeness, they may be erected and set to work by any ordinary mechanic to instructions supplied. These improved Engines have the great advantage of being applicable to a variety of purposes, the small space they occupy rendering them available where ordinary Engines cannot be used.

PRICES OF ENGINES AND BOILERS COMPLETE.

Delivered Free in Glasgow, Hull, Liverpool, or London.

1	Horse Power, Cylinder	3½in.	×	6½in.	Stroke	...	...	£45	9 Horse Power, Cylinder	9½in.	× 16in. Stroke £180
2	"	4¼	" × 9	"		...	...	65	11 "	10⅜	" × 18 " 210
4	"	5¼	" × 11	"		...	...	85	13 "	11⅛	" × 20 " 240
5	"	6¼	" × 13	"		...	...	105	16 "	13	" × 22 " 275
7	"	7½	" × 14	"		...	...	125	20 "	14½	" × 24 " 310
	"	8½	" × 14	"		...	...	150	25 " pair Cylrs.	11¼	" × 20 " 370

Prices of Steam Cranes, Hoisting Engines, Contractors' Locomotives, Agricultural, Pumping, and other Engines, on application.

J. B. BROWN & CO. 18, CANNON STREET, CITY, LONDON, E.C.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

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Orders requiring Despatch and Punctuality can be executed in a few days.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, d involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron UTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

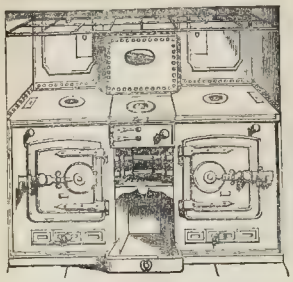
Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY.

OLD SAINT PANCRAS ROAD, LONDON, N.W.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.

CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Full-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of



WHEN CLOSED.

THE MANUFACTURER,

WILLIAM ADDIS, Nos. 6, 7 & 15, LEICESTER-ST. LEICESTER-SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.

GEORGE SMITH & CO.

IRONFOUNDERS AND SANITARY ENGINEERS,

SUN FOUNDRY, GLASGOW;

AND 37, SOUTHAMPTON STREET, STRAND, W.C. LONDON.

LONDON HOUSE.—MR. THOMAS BEGGS.

Manufacturers of Rain-water Goods, and all kinds of Cast-iron Fittings for Architectural Purposes;

Patentees of GEORGE SMITH & CO.'S Patent Baths, Bath Stands, and Lavatories;

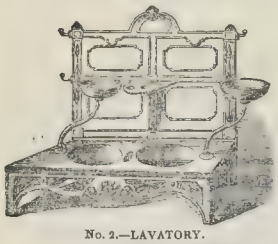
DRY DEODORIZING CLOSETS, COMMODES, STREET URINALS;

Patent Grave Monuments and Tablets; also Cast-Iron Plain and Ornamental Fountains; Cattle Troughs; and their

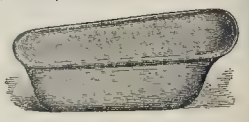
REGISTERED STABLE FITTINGS,

Which were selected by the late Prince Consort for Holyrood Palace Stables,

and for which First Premium was awarded by the Royal Highland and Agricultural Society.



No. 2.—LAVATORY.



No. 3.—Plain Bath, with or without Fittings.

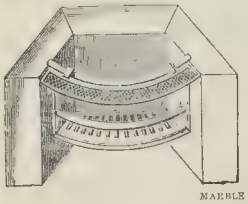
Drawings, Descriptions, Prices, and Testimonials, will be forwarded per post on application as above.

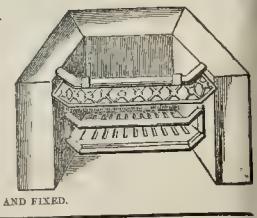
FIRE-LUMP STOVES,

FOR BED-ROOMS, COTTAGES, SERVANTS' OFFICES, BARRACKS, SCHOOL-ROOMS, WAREHOUSES, CHARITABLE INSTITUTIONS, &c.

			£	d.	with bright Steel. £	d.
19 inches wide,	10 inch bars	.....	7	6	 8	8
21 ,,	12 ,,	.....	10	6	 12	0
24 ,,	13 ,,	.....	13	0	 15	0
27 ,,	18 ,,	.....	16	0	 18	0
30 ,,	21 ,,	.....	20	0	..... —	
33 ,,	24 ,,	.....	30	0	} Extra strong.	
38 ,,	27 ,,	.....	38	0		
42 ,,	30 ,,	.....	42	0		

These Stoves give a considerable heat with a small consumption of coal.





EDWARDS & SON,

STOVE GRATE & KITCHEN RANGE MANUFACTURERS,

No 49, GREAT MARLBOROUGH STREET, REGENT STREET, LONDON

MARBLE OR STONE FENDERS, WITH METAL FITTINGS AND TILE HEARTHS COMPLETE, SUPPLIED AND FIXED.

LAMBERT, BROTHERS,

THE ALPHA TUBE & FITTING WORKS,

WALSALL.

LONDON: THOMAS LAMBERT & SON, LAMBETH.

CANNON IRON FOUNDRY 156, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers Newels, Bars, Water-closet Work, Area Gratings, Fly and other Wheels Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

SMITH'S PATENT DOOR SPRINGS FOR SWING DOORS,

So universally known as to need no description; but to prevent the substitution of spurious imitations, it is necessary to see that the

ADDRESS, PRINCES STREET, HAYMARKET;

is STAMPED THEREON, such only being genuine and warranted by the Maker.

SMITH'S PATENT WEATHERTIGHT CASEMENT FASTENING

Immeasurably superior to the Espagnolette Bolt, and

SMITH'S PATENT WATER BAR,

Are the only effective means of excluding the weather from French Casements. Approved by all the leading Architects, and applied to all the principal buildings in this country, and on the Continent. Models and Lists of Prices forwarded free on application. Every description of Engine, Machine, Ironwork, Repairs, &c for Builders and Ironmongers.

REGISTERED MEDIÆVAL SUN-BURNERS.



PRIZE MEDAL,
INTERNATIONAL EXHIBITION, 1862.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

THE NEW CRYSTAL STAR AND SUN LIGHT.

J. DEFRIES & SONS,

ENGINEERS, GAS-FITTERS, AND MANUFACTURERS

OF MEDIÆVAL AND EVERY DESCRIPTION OF GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS, VESTIBULES, &c. &c.

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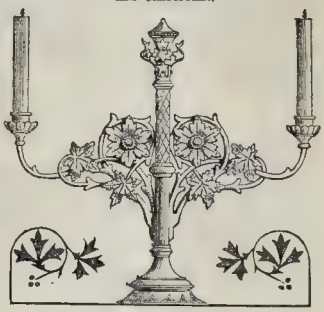
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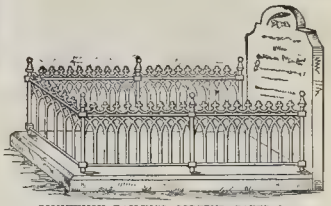
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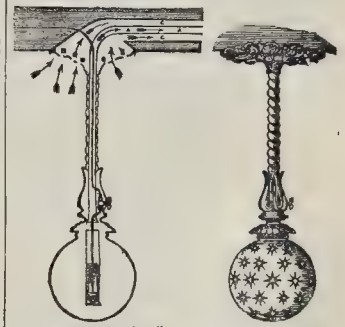
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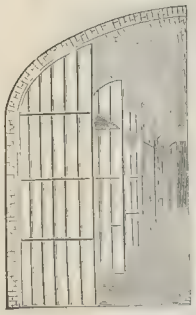
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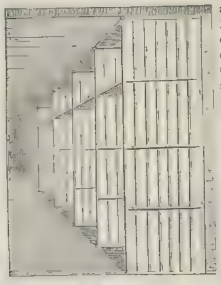


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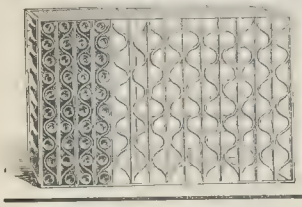
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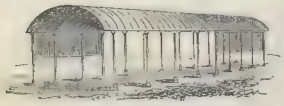
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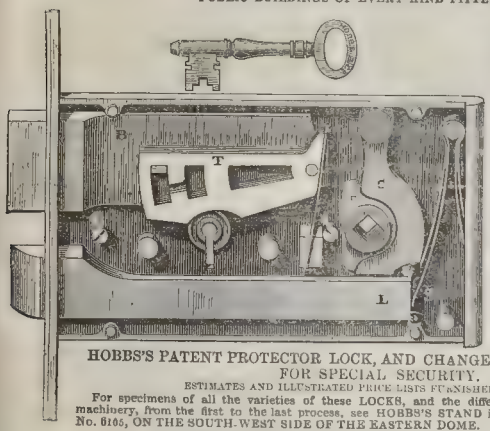
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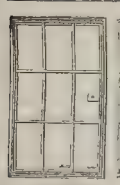
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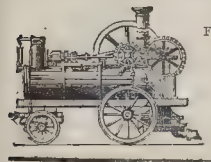
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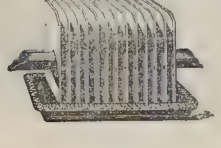
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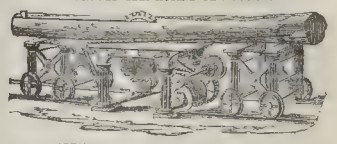
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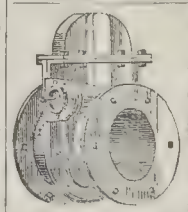
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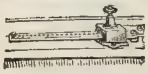



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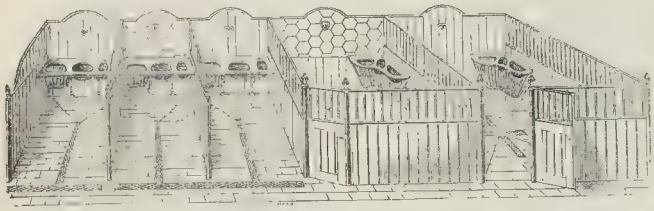


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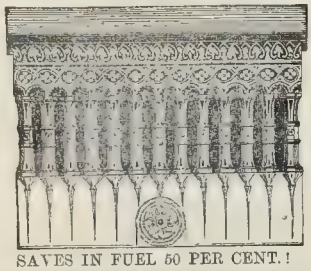
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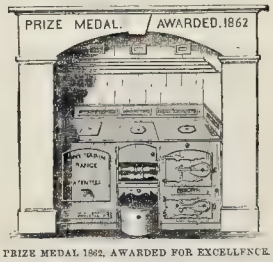
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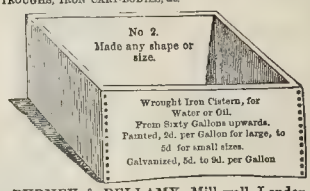
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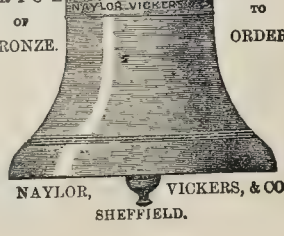
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Being a Letter to the Secretary of State on the First Accounts delivered by the Companies in accordance with the Metropolis Gas Act, 1860.
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London: WATERLOW & SONS, 49, Parliament-street, Westminster, and 66, London wall E.C. 1863.
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CONTENTS.
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THE ART-JOURNAL for MAY (price 2s. 6d.) contains notices of the "Architectural Exhibition," the "French Exhibition," and those of the Societies of "British Artists" and "Female Artists;" "The Revival of the Fine Arts in the Eighteenth and Nineteenth Centuries," by the Cavaliere Marchese Pietro Estense—Alexander Cooper, R.A.," by James Dafforne, illustrated; "Prince Consort Memorial;" "History of Curiosities, or Treasures in Art," by Thomas Wright, F.S.A. illustrated; "The Royal Wedding Presents;" "Machinery employed in Art-Manufactures," by Robert Hunt, F.R.S.; "The Hard Woods used in Turnery and Wood-Engraving," by P. L. Simmonds, &c. &c. The line engravings are "Cupid and Psyche," engraved by F. Joubert after W. Etty, R.A.; "Dido and Æneas leaving Carthage on the Morning of the Chase," by the late J. F. Wittmore, A.R.A.; "The Prisoner of Love," by W. Boxall—the statuary by G. Fontana. The Part also includes the fourteenth portion of the Illustrated Catalogue of the International Exhibition, in which are comprised specimens of Worcester and Coalport Porcelain, Silverwork, Jewellery, Petrifacta, Chandeliers, Fans, Picture-frames, Ironwork, Cabinetwork, Stoves, Pianofortes, Carpets, Clock-cases, &c. &c.
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The Builder.

VOL. XXI.—No. 1056.

The Art-Union of London Distribution.



As usual, the annual meeting of this Association was held on the last Tuesday in April, and, as usual also, passed off smoothly and satisfactorily. It took place in the Adelphi Theatre, and the attendance was very large.

The Right Hon. Lord Monteagle, the President of the Association, on taking the chair, congratulated the members that for the twenty-seven years they had been working they had a satisfactory history; and that they also had a satisfactory present. Like other modern sovereignties they had begun with wars and rumours of wars, but these had all passed away, and they were now in a most satisfactory position, with an overflowing exchequer. As long as his powers lasted, he would be found true to his post. After some general observations, his lordship called on Mr. Godwin, the honorary secretary, who read the following Report:—

For the twenty-seventh time it has become the duty of your Council to relate to you the proceedings of the year, and the steps taken in furtherance of the great objects of the Association; to set before you the balance-sheet, and to distribute amongst the subscribers, in accordance with the charter, works of art that have been prepared and the right to select others from the various public exhibitions of the current year. In fulfilment of this they are glad to be able to state that the subscription is considerably in excess of the last, and amounts to the sum of 12,838*l.* 6*s.* Throughout the kingdom and the colonies the warmest interest in the progress of the Association continues to be manifested, and evidence is every day accumulating of the good effects which have been produced by its operations over a large part of the globe. The illustrations of Tennyson's "Idylls of the King," and the engraving after Mr. Dickse'e's "Labour of Love," due to each member of last year, were handed to them on receipt of the subscription. In order thus to have the engravings ready, it of course becomes necessary for the Council to incur heavy liabilities in advance,—to engage for the payment of large sums of money out of subscriptions not merely as yet unpaid, but that might never be forthcoming. Engravings, for example, after D. Maclise, R.A., and after W. P. Frith, R.A., involving an expenditure to the extent of 5,600*l.*, have already been in hand for two or three years, and are not yet completed. The assured stability of the Association, however, and the existence of the Reserved Fund, which is now 11,077*l.*, prevent any difficulty in this respect.

For the ensuing year, Mr. J. Noel Paton, R.S.A., has executed for the Association twenty remarkable drawings, illustrating Coleridge's "Ancient Mariner." Commencing with the first four lines of the poem:—

> "It is an ancient mariner,
> And he stoppeth one of three.
> 'By thy long grey beard and glittering eye,
> Now wherefore stopp'st thou me?'"

Commencing with this, the artist has illustrated the weird story in designs of cognate power, leading up to the moral of the poem:—

> "Farewell, farewell! but this I tell
> To thee, thou Wedding Guest!
> He prayeth well, who loveth well
> Both man, and bird, and beast.
>
> He prayeth best who loveth best
> All things both great and small;
> For the dear God who loveth us,
> He made and loveth all."

The drawings are being reproduced by lithography, very efficiently, by Mr. W. Macfarlane, of Edinburgh, under the personal supervision of Mr. Paton; and, bound up with the poem, will form a book of greater value commercially, than the whole amount of the subscription, and one, moreover, that will be prized on its own account. Each subscriber of one guinea will be entitled to this volume. Or should other engravings be preferred, they may be had in lieu. Or, again, should the subscriber desire, instead, to become possessed of one of the bronzes, Parian statuettes, or any other work of art issued by the Association, this can be arranged on a tariff which has been prepared with special reference to the advantage of members.

The works here referred to were set up in the shape of a trophy at the late International Exhibition; and, properly looked at with reference to the history of modern art in England, formed a collection of great interest and importance, and one of which the Art-Union had reason to be proud. It included bronzes after Flaxman, Chantrey, Sir Richard Westmacott, Foley, Armstead, Thorneycroft, John Bell, Stephens, Jefferson, and Kirk, some of them commenced at a time when there were no bronze-workers practising the art in this country. There were also works in statuary porcelain (precursors of the artistic statuettes which now fill the shop windows), after Gibson, Calder Marshall, Foley, Durham, Lawlor, Wyon, and others; with electrotype bas-reliefs; castings in iron; and the only series of artistic medals that is being produced in Great Britain.

Following up these various works the Council have caused the reproduction in statuary porcelain, from a reduced model (by the sculptor, of Mr. Durham's marble group, "Go to Sleep," purchased by a prizeholder in the distribution of 1861. Examples of this will be awarded to-day.

The Council have also obtained, with the express permission of her Majesty the Queen, the copyright of Mrs. Thorneycroft's bust of the Princess Alexandra, executed by the artist for H.R.H. the Prince of Wales on the occasion of their marriage. A number of these beautiful busts will form part of the present distribution. We should be unlike the whole nation if,—when referring to this most happy incident,—this undoubted Heart Union which all have hailed with delight and are looking to with hope,—we did not express the feelings of deep gratification with which, in common with all her Majesty's loving subjects, we are inspired. The Prince has himself studied on the spot the arts of all peoples; has seen Nature in every clime and under all aspects. That his Royal Highness, following in the footsteps of his beloved and highly-gifted father, the Prince Consort, may be led, amongst other good works, to give his aid in promoting the fine arts of this country; the elevation through them of common things; and the consequent increase of home joys, must be the earnest prayer of all enlightened minds.

The bust (the only portrait, it should be mentioned, for which the Princess has yet sat to any artist in England) will be ready for delivery in the course of a few weeks. In continuation of the medallic series, Mr. Wyon is executing a model of Bacon, the sculptor; and Mr. Wilson one of Benjamin West. This collection now includes fourteen medals, each commemorating a painter, sculptor, or architect, and one of his most famous works.

The lamented death of Henry Thomas Hope, esq., who presided at the first public meeting of the Association, and the retirement of William Ewart, esq., M.P., a member of the first council, leave two vacancies. These have been filled by the election of E. S. Dallas, esq.; and James Anderson Rose, esq.

The Council were called upon by a spontaneous resolution passed at the last general meeting of the Association, to take steps to recognise the services of the hon. secretaries. A sub-committee was accordingly appointed to consider the matter, and in their hands it at present rests.

To the exertions of the local honorary secretaries and agents the Society has been this year, as always, in a very great degree indebted for its success. The Council thought it advisable, in a circular lately addressed to those gentlemen, to point out that for the current year it would be especially necessary to make considerable efforts to keep up the amount of subscriptions, in the face of the many demands on the resources of the public; and since, amongst 700 or 800 representatives, there would in all probability be some who found it no longer convenient to devote the requisite time and trouble to collecting subscriptions, it was urged that, in such cases, it would be desirable to transfer the agency, or to obtain the services of a coadjutor.

The result has proved that the suggestion was not out of place, since a very considerable increase of numbers has been attained in many places by the greater activity of our correspondents.

The Council must also repeat their thanks to the Society of British Artists, to whose continued courtesy they owe the use of the Suffolk-street galleries, at small cost, for the annual exhibition of the prizes.

As a matter of detail it may be well to take this opportunity of publicly noticing a part of this Society's practice which has of late been a subject of frequent inquiry in the office. This is in reference to the want of a *number* on each receipt or ticket given for a subscription. All the Society's agents being supplied with books of receipts in which we can, of course, only approximate to the number which may be required by each; if each receipt bore a number, there would of necessity be a large portion of these unappropriated; and if any such were by accident placed in the wheel, or if any of those belonging to receipts given to subscribers were left out, there would in either case be an injustice committed. By the practice we have always followed the names are entered from the counterparts of the receipts, and from the agents' lists, in the large book used at the drawing, and are numbered as they are entered; and the corresponding tallies, previously prepared and arranged by hundreds on wires, are carefully checked by three members of the Council, so that perfect certainty is ensured that the proper number of tallies, and no more, is placed in the wheel,—a result which it would be almost impossible to guarantee by the method of numbered receipts. Any member who desires it may learn his number by applying at the office a few days before the distribution.

The following is an abstract of the accounts. A full statement of receipts and expenditure will be printed as usual, with this report, and circulated:—

	£	s.	d.
Amount of subscriptions of the year	12,858	6	0
Cost of printing report, almanacs, and circulars	477	15	0
Commission and expenses of agents, and advertising	918	14	8
Rent, salaries, carriage of parcels, &c.	1,312	8	2
Reserve of 2½ per cent. required by the charter	321	9	0
Cost of printing, paper, &c., of print and outlines	3,340	9	2
Amount allotted for prizes	6,487	10	0
	12,858	6	0

The accounts have been audited by two members of the general body of subscribers, John Jones, esq., and W. P. Moore, esq., and three members of the Finance Committee.

The sum set apart for prizes to be selected by the prizeholders themselves is thus appropriated:—

35	works at	£10	each.
30	,,	15	,,
25	,,	20	,,
20	,,	25	,,
12	,,	35	,,
12	,,	40	,,
10	,,	50	,,
3	,,	75	,,
3	,,	100	,,
2	,,	200	,,
—			
152			

To these are added,—

The great chief prize, "The Dancing-Girl Reposing," a statue in marble, by W. Calder Marshall, R.A.

6 Statuettes in Bronze, "Caractacus," by J. H. Foley, R.A.

200 Statuettes in Porcelain, "Go to Sleep," by Joseph Durham.

300 Porcelain busts, of H.R.H. the Princess of Wales.

100 Tazzas in commemoration of the late Prince Consort, designed by J. Leighton.

150 Pairs of Bas-reliefs in fictile ivory, of subjects from Milton, by E. Wyon and R. Jefferson.

and 200 Books of Etchings, by E. Radclyffe, after the late David Cox.

making in all 1,100 prizes, in addition to the engraving and volume of illustrations received by every member; and the Parian busts due to those who have subscribed for ten years consecutively without gaining a prize.

The mode of allotting the tazzas, bas-reliefs, and etchings will be that pursued on the last occasion. The picture prizes, bronzes of Caractacus, statuettes, and busts, will be drawn from the wheel as heretofore. Three cardinal numbers will then be drawn, and every 128th name in the list reckoning both forwards and backwards from the first of the three, will be entitled to a memorial tazza; while every 88th name, reckoned in the same way from the second number, will be entitled to a pair of bas-reliefs, and every 64th name similarly reckoned from the third number, will have a set of etchings, in order as the names stand; with this proviso only, that if any name so determined have already gained a prize to-day, the other prize will pass to the next succeeding number.

The etchings by Mr. Radclyffe from drawings by the late David Cox form a covetable prize. They are twelve in number, and convey admirably the large style of the artist,—the truthfulness and breezy freshness of his pictures. The bas-reliefs from Milton, also, will be found very satisfactory. The artists, Mr. E. W. Wyon and Mr. Jefferson, have ably carried out the idea of the Council.

The chief prize, "The Dancing-Girl Reposing," was the result, it may be remembered, of a Competition in 1845; responded to by a large number of artists. A smaller version of the statue was produced for the Association in porcelain, and largely distributed. Reductions of other statues submitted in the Competition were also executed for the Association in the same material under the direction of the artists.

Carrying out the views which then influenced them, the Council are now offering a premium of 600*l.* for a life-size figure or group in marble, to be competed for by finished models in plaster. One year will be given for the production of the model, and another year for the execution of it in marble. The art of the sculptor demands at the hands of the Association all the aid that can be given to it. The character of the country is involved in that of its monuments. Several agencies are in operation having the advancement of the art for their object. Thus the Royal Horticultural Society, acting on a suggestion of the late Prince Consort, offer the opportunity, with some small pecuniary inducements, for an annual exhibition of sculpture,—with especial reference, perhaps, to the adornment and perfecting of gardens. An Institute of Sculptors, too, has been formed. And with reference to other departments of the art, the Society of Arts intend to give a number of premiums for works in modelling and carving; and will, probably, crown the victors publicly. Numerous important monuments are in preparation; and the Memorial of the Great Exhibition of 1851, and of its founder, Albert the Good, will be inaugurated on the 10th of June next by H.R.H. the Prince of Wales, with marks of especial honour, and with most gracious expressions of interest on the part of our revered Queen.

The Sculpture-competition proposed by your Council will be open to artists of all nations. Art is of no one country: its kingdom has no boundaries.

> "In war renown'd, in peace sublime,
> Art moves in greatness, and in grace:
> His power, subduing space and time,
> Links realm to realm, and race to race."

Leonardo da Vinci, Raffaelle, and Michelangelo, are amongst the enduring glories, not of Italy, but of the whole world.

The Art-Union of London is less thoroughly known on the Continent of Europe than it should be, and the Council are seeking to make it more so. Represented by its agents in all quarters of the globe,—from St. Petersburgh to New Zealand; from Bermuda to Hong Kong; in Barbary and Port Natal; San Francisco and New Orleans; and receiving from the United States, from Australia, and from the West Indies, alone, 1,500 subscriptions in one year,—the number, strange to say, obtained from the whole of continental Europe has never exceeded 200 in the same period of time. This can only be attributed to want of knowledge out of England of the advantages the Association offers; and this knowledge the Council are now endeavouring to supply.

Reference was just now made to the recent International Exhibition, — that wonderful collection which offered, as the laureate truly sang, from every clime,—

> "Marvels, and a feast
> Of wonder, out of West and East,
> And shapes and hues of Art divine!
> All of beauty, all of use,
> That one fair planet can produce,
> Brought from under every star,
> Blown from over every main,
> And mix'd, as life is mix'd with pain,
> The works of peace with works of war."

France sent us Ingres, Delaroche, and Ary Scheffer; Bavaria, Carl Piloty; Spain, Antonio Gistert; Belgium,

Gallait and Leys; and Norway, Tidemand, in touching pictures of the domestic life of his country.

In this peaceful tourney the artists of England must be held to have maintained an honourable position. Still it is not unlikely that what was seen of other art there may have its effect in lessening those shortcomings which are obvious in our school. Some may have been reminded that, as a German writer says,—"Art must feed on the marrow of history," and that a really noble picture, statue, or building requires in its production the heart as well as the head of a man. We want not merely what the artist sees, but what he feels. Remembering, too, how man is moulded by man, how thought induces thought, and of its kind, some may have been led to determine on working with a more fixed purpose, and have taken a resolution to rouse higher feelings than those of pleasure merely. The duty of the artist, may we be permitted to resay, is to select, to look for the excellent; to correct, so to speak, the deficiencies of marred nature, and complete the imperfect real. By keeping the best before men an advance is induced. These views, involving the importance of setting forth the "general," as opposed to the mere depiction of the "individual," have been uniformly urged in the reports of this Association from its foundation; and though altogether opposed to the doctrine of some acknowledged teachers, and for a time by a section of the British School of Art, are again, it is to be hoped, obtaining acceptance.

In conclusion, your Council, with a few condensed lines, would claim for the Art-Union of London, through which more than 300,000*l.* have now been raised and distributed, that it has sent far and wide, and into distant lands, in which the fine arts were actually unknown, examples of the best works of ancient and modern times: it has immensely contributed to the increase at home of the love and appreciation of these means of civilization, refinement, and delight; and, moreover, has helped on to fame, by the purchase of his early works and the great publicity thus and otherwise given to his name, many an artist who is now quoted as an ornament of his time and country. The Arts are bound up with the enjoyments and destinies of the human race: to assist in their progress is to do a good work.

GEORGE GODWIN,
LEWIS POCOCK,
Honorary Secretaries.

The Report having been read, the Chairman moved the adoption of it. He said, the fact that the Art-Union had gathered and distributed no less a sum than 300,000*l.* was an astounding one.

Mr. Charles Barry, who said it was his first appearance on any stage, seconded the motion; and expressed his gratification in doing so, having a feeling of interest in the Art-Union by inheritance as well as personally; his father having been one of its first committee. It was satisfactory to see they had a good balance at their bankers', as a guarantee of their future prosperity, which all could understand.

Professor Donaldson proposed a vote of thanks to Mr. Godwin and Mr. Pocock, the honorary secretaries. Thanks were due to them for the zeal and ability with which they discharged all duties. Last year a committee was appointed to arrange a testimonial to these gentlemen. As chairman of that committee, he was happy to say they already had upwards of 250 subscribers to the testimonial, and he hoped that soon the list would be very largely increased.

Mr. Dobson, A.R.A., seconded the resolution, which was carried by acclamation.

Mr. Godwin returned thanks on behalf of himself and Mr. Pocock, and expressed the great gratification they had in the performance of their duties. He then advised such as might become prizeholders, who were not themselves judges of art, to consult friends who were, before making their purchases; as, irrespective of those higher motives which ought to guide them, good pictures, by their increase in value, became good investments. An early picture by Mr. Frith, purchased by a prizeholder some years ago for 105*l.*, had recently changed hands for the sum of 750*l.* In another case, a picture, originally costing 300*l.*, brought a few years afterwards nearly as many thousands. He also referred to the advantages of education in art even in appreciation of the beauties of nature. He concluded by moving a vote of thanks to Mr. Webster for the use of the theatre, and to Mr. Wm. Smith for carrying out the arrangements.

Mr. Pocock seconded the resolution, which was carried amidst loud applause.

Mr. Wm. Smith, in the absence of Mr. Webster, returned thanks.

The President being about to leave the chair, Professor Donaldson moved that the Council be instructed to present to his Lordship some work of art issued by the Art-Union in testimony of their affectionate regard for his services.

Mr. Antrobus seconded the proposition, and it was passed by acclamation.

His Lordship briefly acknowledged the compliment, and retired; after which Professor Donaldson took the chair, and the drawing was proceeded with.

Mr. Arnold and Mr. Atkinson acted as scrutineers, and Miss Burgess and Miss Jane Hill drew the numbers.

Mr. Charles Mayhew, Mr. Bennoch, F.S.A., Mr. Thos. Grissell, F.S.A., Mr. Edward Hawkins, Mr. Butterworth, F.S.A., Mr. Henry Hayward, Mr. Isaacson, of Liverpool, and others, took part in the arrangements. And acknowledgment should be made of the efficient services, now for many years, of Thos. Simons Watson, Esq., B.A., the assistant secretary.

The following is a list of the principal prizeholders:—

Entitled to the Marble Statue of the Dancing-Girl Reposing, by W. C. Marshall, esq., R.A.—Kenning, C. L., Little Brington, Northamptonshire.

200*l.*—Porrett, R., 48, Bernard-street; Murchison, J. H., Kingston-on-Thames.

70*l.*—Anderson, Jas., Margaret-street; Henderson, T., Northumberland Wharf; Menzies, Jno., Kincardine.

75*l.*—Briggs, Lady, Brighton; Keen, J., Cradley-heath; Langdale, G. W., Beverley.

50*l.*—Cotton, J., St. Helen's; Dent, John, 34, Great James-street; Grimes, Mrs., Clarges-street; Mark, R., Winslow; Peden, M., Sydney; Robertson, W., 14, Prattstreet; Small, Dr., Boston; Spashott, H., Gray's-Inn-passage; Warwick, W. A., Cheltenham; Wickes, H. W., Bromley.

40*l.*—Cordingley, E., Atherstone; Davis, R., Newgatestreet; Dennison, W., 46, West-square, Borough; Downes, F. D., Cheltenham; Fawcett, J., Sheffield; Fisher, J.; Ludlam, J., Sheffield; Middleton, W. W., Flitcham; Parker, E. H., Newark; Rhodes, J., Ripley; Ryan, M., Clonmel; Solly, J., Tipton.

35*l.*—Cordes, C., Samarang; Grace, Master J. C., Constantinople; Knowles, A. C., Stockton; Lloyd, E. R., Stratford-road; M'Ray, W., 76, Lombard-street; Library at Marshall & Snellgrove's; Mills, J., Colton, Leeds; Pearson, W. P., Bambleton; Stewart, R., Yarmouth; Taylor, J., Chorley; Webster, W., Manchester; Whitehead, Mrs. Sarah, Ireby.

25*l.*—Barwell, W., Maze-pond; Bishop, A., Hyde-vale; Brown, R. T., Islington; Field, Mrs. E., Clapham Common; Fox, D. C., Wellington, Somerset; Hilton, T. T., Blackburn; Kitson, J., jun., Leeds; Mackrell, W. T., Wandsworth; McMullen, Mrs., Hackney; Quarmby, W., Ashton; Ramsey, Miss, Aberdeen; Raven, —, Maidstone; Rickett & Rock, Cheltenham; Roberts, E. W., 15, Fish-street-hill; Rout, W., Hobart Town; Tucker, S., Ponder's End; Thornton, H. Bradford; Wheeler, J., Charles-street; Wilson, Captain, Henrietta-street; Williams, W. P., Rugeley.

20*l.*—Alexander, T., Barcelona; Broadbridge, J., Addison-terrace; Brothers, Alf., Manchester; Bushell, W. D., Cardiff; Carr, J. G., Gelsang; Ellis, A., Hobart Town; Ellis, A., Leicester; Fytche, J. L., Louth; Francis, Col., Leeds; Gardner, Mrs. A., Glasgow; Gurney, J., Abingdon-street; Harris, J. T., Leicester; Harvey, J. L., St. John's-wood-terrace; Hilder, Geo., Rye; Jago, J., Liskeard; Kennedy, Mrs., Bridgwater; Lorimer, A. P., Willicoultry; Newton, E., 30, Fitzroy-square; Spitsbury, B., Huggin-lane; Stedman, W., West Malling; Stewart, J. R., Jedburgh; Tatham, E., Paddington; Taylor, G., Constantinople; Tidsdale, T. E., St. John, N.B.; Wilkins, E. M., Poultry.

15*l.*—Allison, W. G., Louth; Bentley, Mrs. H., Oulton; Blew, R. A., Ware; Brandon, S., Rotherhithe; Bretherton, E., Gloucester; Brown, W., Melbourne; Budd, T. W., 13, Norfolk-crescent; Church, J., Springfield; Deering, S., Adelaide; Eason, Miss, 24, Berners-street; Gatey, J., Keswick; Heywood, J., Christchurch, N.Z.; Hillman, G., Bishop Auckland; Johnson, E., Castle-street; Langford, A. T., Plymouth; McNeillidge, J., Liverpool; Miles, R., Aberdare; Moseley, F. B., Liverpool; Norman, Col., York; Pearce, G. P., Albany-street; Roberts, Sam. J., Chester; Saxby, T., Lewes; Smith, W., 82, Quadrant; Snewing, C., Euston square; Stanford, C., 377, Strand; Stanway, —, Leominster; Stephens, —, Loughborough-park; Taylor, T. G., Edinburgh; Thomson, T. P., Liverpool; Tookey, W., 48, High-street.

10*l.*—Andrews, H., Truro; Berry, W. G., Lambeth; Bingham, T. I., Dover; Bishop, A., Hyde-vale, Blackheath; Blackman, Miss, Wandsworth; Bright, E., Brighton; Brittain, F. W., Penzance; Dick, T., Otago; Gee, T. W., Ashton; Gibson, R., Geelong; Goodall, Mrs., Douglas-road; Gray, J. A., St. Ann's Bay; Hamilton, J., Belfast; Hawkes, I. G., Christchurch-street; Hill, T. W., Oswestry; Holford, R. S., per Colnaghi & Co.; Inwood, Geo., Bromsgrove; King, G. F., 55, Fenchurch-street; Knight, J., Foley; Lane, D. A., Camden Town; Lane, T., Hereford; Milnes, T., Kidderminster; Morison, J., Glasgow; Nixon, H., Liverpool; Odhams, T., *Guardian* Office; Phipps, W., Northampton; Sanderson, Mrs. A., N. Adelaide; Shipman, R., Grantham; Smith, H. A., Bishopsgate-street; Smithers, C. G., Leadenhall-street; Turner, Mrs. M. A., Bepton; Wardman, H., Leeds; Wilson, Col., Finsbury; Wolfe, Capt., Surbiton; Yeoman, Mrs., Osmotherley.

Entitled each to a Bronze Statuette of "Caractacus."—Brown, Mrs., Chartham; Curtis, —, Lille; Haddock, Capt., Hanley, Liverpool; Hainsworth, B., Huddersfield; Pack, T. H., Maidstone; Turner, H., Broad-street.

Entitled each to a Porcelain Statuette, "Go to Sleep." Adams, S., Ware; Adelaide Society of Arts; Airey, Rev. W., Keysol; Anderson, E., Mortlake; Andrews, B. T., Adelaide; Angier, M., Barcelona; Archdeacon, W. E., St. John, N.B.; Aylmer, 19a, Coleman-street; Banister, W., Morton-on-Marsh; Bannister, S.S., Tipton; Barnes, J., Brentford; Barnes, Mrs., Esher; Barnett, Mrs., Leinster-gardens; Barrow, G. E., Manchester; Bayley, R., Sheffield; Beach, J. H., Grange-road; Bedford, J., South-street, Leominster; Bell, R., 14, York-street, Portman-square; Bishop, A., Blackheath; Bonny, J., Hyde; Bowman, Mrs., Melbourne; Broadbent, S. W., Sunderland; Brookes, W. L., Whitchurch; Brown, J., Foresthill; Buckley, Miss, Eccleshall; Burden, J., Stirling; Burdock, J. B., Glasgow; Cabbell, B. B., Portland place; Cartwright, G., Holloway; Clarke, R., Monmouth; Clark-on, Jos., Birmingham; Clay, R., Portland; Coles, R., Eden-bridge; Coombs, E., Chichester; Conway, C., 95, Charlotte-street; Cooper, J., Dudley; Cope, Y. A., Pietermaritzburgh; Farrell, J., Bungay; Feather, R. B., Liverpool; Fenzi, C., Florence; Ferguson, J., per D. Bryce, Glasgow; Finlay, G. S., Edinburgh; Fleming, W., Reform-street, Dundee; Foggett, E., Blackburn; Francillon, Mrs., Cheltenham; Fuller, J., Cambridge; Gardner, J. W., South Norwood; Garland, H., Barnsley; Garner, T., Stoke Newington; Garrett, Mrs., Tamworth; Gillispie, W., Liverpool; Gleeson, E. B., Adelaide; Gorham, Mrs., Chichester; Gray, J., Sydney; Gregory, Mrs. J., Blackheath; Gross, W., Botesdale; H., Boston, U.S.; Hall, T.B., Ferry-hill; Hammon, J., Northampton-square; Harding, J., Hammersmith; Harkness, J., Birkenhead; Harrison, E. J., Birmingham; Harrison, J. Walworth; Harrop, J., Newport; Harvey, J., Bishop Stortford; Hallett, H., Ratcliffe; Heaton, R., Burslem; Hill, Mrs., Liverpool; Holt, J., Chorley; Hopcraft, G., 3, Billiter-square; Horsley, E. T., Alfreton; Hurry, —, Port Elizabeth; Iles, —, Market Rasen; Jackson, Rev. J. R., Barnegill; Jerome, J. S., Birmingham; Johnson, J., 24, Granville-square; Johnson, J. E., Cambridge; Johnstone, W. R. H., Ferryhill; Jones, J., Liverpool; Jones, J., Merthyr Tydvil; Jones, W., Aldershot; Keen, G., Grafton-place; Kemp, M., Port Elizabeth; Kemsley, E. J., Port Elizabeth; Kingston, G. S., Adelaide; Kitching, —, Chesterfield; Lane, W. J., Studley-road; Law, E., Northampton; Lawrence, J., Hemingford Grey; Lawrence, Miss, Charlotte-street; Lees, H., Ryde; Lloyd, Rev. Y. G., Bridlington; Loader, Mrs., 1, Clarendon-place; Longcroft, C. R., Aberayron; Loughhead, H. W., Belfast; Lowe, F. J., Scarboro'; Lowther, G., Selby; McKenzie, A., *Argus* Office, Melbourne; McKilvie, J. T., Birkenhead; McLaren, J., Dunfermline; Martin, W. T., Batavia; Meacock, Rob., Wilmington-square; Milburn, R., North Shields; Mitchell, Mrs., Clapham; Montague, J. P., Bridport; Moore, G. R., Clapham; Mourilgan, E., St. John, N.B.; Muray, Major, Army and Navy Club; Newman, J. A., Newington; Nicholson, W., Sunderland; Noad, Capt., Charing Cross; North, Hon. W., Arlington-street; Norton, Hon. Mrs. J., Chertsey; Nugent, Hon. Lady, Mayfair; Oughton, —, Pancras-street, W.C.; Page, H. M., 23, Coventry street; Patrick, J., St. Germain's Lynn; Patterson, G., Liverpool; Paul, Dr., Burton-crescent; Paul, John, Glasgow; Pilkington, J., Reform Club; Pilkington, W., Port Elizabeth; Pollock, Mrs. D., Keppel-street; Pope, W. A., Berkeley-square; Price, G. W., Stoke Newington; Price, J., Mile End New Town; Price, J. R., Victoria-road; Prowse, R., Lansdown-villa, Lee; Quaile, E., Liverpool; Rattray, A. A., Clement's-lane; Reynolds, Rev. C., Adelaide; Richardson, J. V., Oxford; Robertson, H. B., Liverpool; Robertson, T., Hackney; Robertson, W., Westminster Palace Hotel; Rossi, Sig. Y. de, Cadiz; Rutter, J., Alsop-street, Boston; Sandford, R. S., Surbiton; Saunders, G., Coventry; Scott, W., Blairgowrie; Scovell, H., Portswood, Hants; Sewell, F., 37, Leadenhall street; Sharp, John, Brentford; Sharpe, J., Orchard-road, Brentford; Shearman, J. C., Charlwood-street; Silver, C., Halifax; Simons, J. P., Durban, Natal; Simpson, T., St. Mary's, York; Smallwood, M., Bank, Scarborough; Smith, Professor, Sydney; Snell, J., Settle; Sonnenthal, J., Bradford; Spackman, H., Bath; Stanley, C. G. S., Devonport; Strachan, J., Dundee; Strugnell, W. P., Edgware-road; Stubbs, John, Liverpool; Sutcliffe, J., Rochdale; Swan, J., Lincoln; Swan, Rev. F. H., Axwardley; Swizer, W., Lion-terrace, Portsea; Sykes, H., Heckmondwicke; Taplin, T., Newman-street; Taylour, Miss, Buntingdale; Taylor, S., Purbrook, Portsmouth; Thorburn, T. J., Liverpool; Timperley, R., Darwen; Tisdale, T. E. J., St. John, N.B.; Traherne, Major, Bridgend; Trew, —, Railway Station, Brighton; Tulloch, Mrs. Col., Pimlico; Urling, G. F., 224, Regent-street; Van Boecop, Bois le Duc; Vass, D. R., Stirling; Walmisley, H., Clapham Park; Ward, W. J., Oxford; Watmough, J., Brotherton; Wemyss, R., Glasgow; Wickham, J. W. D., Frome; Williams, J. B., Liverpool; Williams, J., The Grove, Denbigh; Williamson, High-street, Chatham; Wilson, J., 2, Springfield-villas; Windover, Miss, Earl-street; Wortham, Mrs. J., Newington; Yallop, T., Albert road, Regent's Park; Yates, J., Hopewood, Rotherham; Youle, H. F., Guildhall.

In addition to the above 300 parian busts of the Princess of Wales, 100 tazzas commemorative of the late Prince Consort, 150 pairs of fictile ivory bas-reliefs, and 200 books of etchings after David Cox, were distributed.

SOCIETY OF PAINTERS IN WATER-COLOURS.

THE fifty-ninth exhibition of the Society of Painters in Water-Colours differs but little in character from those that have lately preceded it; and, in the absence of anything to distinguish it, may be very fairly accepted as sustaining the proficiency of its members severally.

The observation "an average exhibition," in its application to them, must be considered in its particular relativeness, less in its generally associated meaning; for though there is a very apparent want of imaginative pictures,—always invaluable for giving vitality to interest,—the present collection comprises so much of elementary skill and extraordinary achievement of as much as has been attempted, that, where this can satisfy, cavil is out of the question. Still, to those who look for something beyond this,—some commensurate end to be attained by such means,—the possession of the power to do greater things seems to reproach the waster of it.

Long ago the capabilities of the medium for emulating the strongest effects of oil-painting have been proved, and are still asserted, even in instances where it might have been better to adhere to its idiom, so that it can scarcely be doubt of its durability that prevents the investment of thought and invention—precious enough just now—in a questionable security, or that occasions the rarity of the dramatic narrative, or embodiment of any kind of incident, in the picture production of our day. The cessation is as curious as it was sudden, and, perhaps, may be imputable to *further* rivalry of their oil-colour brethren. We wish this contention, at all events, would cease, as, by Gum!—of one sort or another—they are fighting on tolerably even ground, and the fall is certainly mutual at present.

This is to be regretted, from the effect it must have in misdirecting younger artists; and with the inclination to copyism so general as it is, it may reasonably be expected to entail neglect of intellectual culture, amongst other mischievous consequences; and it is the more to be noticed because it prevails at all our exhibitions.

Unfortunately, the few exceptions that are to be found in the Gallery are not best calculated to enforce an argument in favour of ideality in preference to the extension of it in literal imitativeness of reality. Mr. Frederick Taylor's "Hawking—the Heron brought down on the Skirts of the Village" (140), revives recollection of many a superior antecedent, and so far assists; and Mr. John Gilbert's apostrophe of Shakspeare's and Cervantes's texts hardly does more, for though displaying much of the dexterous ease with which he expresses himself, it is less successful than usual in illustrating anything else: "Don Quixote's Curious Discourse upon Arms and Letters" (18) has only furnished him with an opportunity of cleverly arranging numerous figures round a table, but, saving the Don and unmistakable Sancho, they are not so easily identified as the strongly-marked characters of the author's description would lead one to expect; the female portion, however, are pretty and ugly enough to justify all that is said of them in the story; the scene from "Twelfth Night" (29), "Malvolio washes off Gross Acquaintance," as heavy in its comedy as its colour, is not a favourable specimen of executive quality. "A Wounded Page brought home to his Father's Hall" (114), by Miss Margaret Gillies, having a story attached to it, claims a place in this brief category, too soon concluded without Mr. Duncan's appalling representation of a wreck "On the Goodwin Sands" (77), so vividly suggestive of any amount of narrative connected with such a terrible situation, and the gloomiest associations of seafaring possibilities; so, to dispel the effects of this in recollection of mighty Ocean's pleasanter phases, it may be desirable to include Mr. Alfred D. Fripp's saucy fisher-boys, if only for the sake of contrast, since the purpose of the picture consists of the lazy one for which the admirable urchins are assembled, basking on the beach, "Watching the Porpoises" (125), in blissful contempt of sun-stroke and with never a care for freckles. For the combination of academic knowledge with thorough appreciation of nature, and showing how valuable such influences are by the position to which they raise even common-place material, this is a remarkable example, and it affords an instance of faculty not being used to its best advantage.

Mr. Carl Haag has left his thirsty camels and busy Nubians at rest at their caravanserai whilst betaking himself to the City of the Dead, "Palmyra" (186). In solemn silence he notes its awfulness and desolation, and with determined industry and consummate skill conveys to others just those impressions this visit must have left with him. The immense difficulty attending such an undertaking as this would have deterred many from attempting it. Though almost panoramic in its comprehensiveness, the detail is as much elaborated as the distance from which the view is taken; and furthermore, there is a poetry in its treatment, putting aside any notion that photography would have been equally efficient in its interpretation, that likens the Syrian ruins to the bleached carcase of some giant favourite of the sun, that yet with a melancholy fondness lingers about it, and tries with warm embraces to infuse a new life into it. But whilst acknowledging the dignity of this masterpiece, and the high artistic talent manifested in its result, it must be wished that he will speedily return to life and action for future inspiration; for he is far too great as a figure draughtsman to be spared from such thin ranks without leaving a very visible gap.

The transcendent excellence of Mr. Hunt's fruit and still-life compositions is even yet sufficiently astonishing to dilate upon, although all of the same type. His fertile hand has never failed him in producing marvels from year to year. A bunch of grapes, a few berries, a bit of moss, and a bird's egg, are sufficient basis for his rhetoric: like many another orator who depends less upon what he says than how he says it, hiding the poverty of his argument in the rich clothing of his eloquence —a wonderful power, nevertheless, as any one of the ten or a dozen assertions of it here set forth will testify.

Mr. F. W. Burton does for a higher order of nature all that Mr. Hunt has done for peaches and plums, and his exquisitely beautiful idyl (239) is equally incomparable to anything of analogous aim. A child, reclining, is contemplating a spray of blossom with an earnest intensity of admiration that implies association with matters of deeper interest: the delicacy of the little lady, and the inimitably charming languor of her attitude, betokens she may be a convalescent, and perhaps she is wondering how long it will be before she can again chase the butterflies she thinks must have flitted about those pink blossoms; or perhaps it was the dearly-loved flower of some little sister playfellow, who can never, never admire it again; or, it may be, simply a study, with no intention to define such sentiment as it appears to us to be invested with;—one of those happy accidents that to genius (but only to genius) are sometimes unavoidable. At all events, we think it perfection in its way, looking at it in ours. The two other drawings, "German Lilacs" (234), and "Jostephane" (273), both show the refinement and power distinguishing him, and assist to focus the character of the exhibition. Brittany still provides Mr. J. J. Jenkins with pleasant episodes from pastoral life. "After Vespers" (131), is a very clever and agreeable drawing; but how tired that good-looking peripatetic mother must be of saying "Come along" to that pretty, slowly going, and growing child! (280) "Prayers," with its subdued colouring, is very unaffected and pleasing. The same may be said of Mr. Walter Goodall's peeps into the cottages of our own peasantry. (57) "Mother's Away," is very pretty and neatly finished. Mr. Smallfield's studies, though wanting in force, show much sound knowledge. His would-be bather "Letting 'I dare not' wait upon" ——, his wish to be in, is nicely expressed in "Shilly-shally" (210).

Of the landscapes it would be difficult to say anything but in praise. Perhaps it is from the feeling of safety with which they can rely upon those members of it that devote themselves to its delineation, for the success of their exhibitions, that the figure draughtsmen of the Society evince so little energy. Amongst those of conspicuous attractiveness, will be found Mr. George A. Fripp's fine view of (24), "The Town of Llan Ogwen, on the road from Bangor to Capel Cûrig, near the Penrhyn Slate Quarries,"—with the mountains Carneth David and Llewellyn, in the distance; a picturesque scene, but the buildings have an appearance of being out of the perpendicular from some cause or other. Mr. J. D. Harding's "Scene near the Pont du Caille, between Chambery and Annecy" (37), is a cognate example of the many preceding it, wherein the master who has made many masters was one of the first to raise "water colour" to the position it now holds. Near this is one of Mr. Paul J. Naftel's carefully elaborated and substantial drawings (34), "Low Water, Roque de Guet; in the distance Cobo Bay, Guernsey," which looks very true. The difficulty of keeping such an expanse of beach flat and retiring is admirably overcome. More admirable still is his "View, looking down on Moulin Huet Bay and the Doyle Column, Cherbourg, in the distance—Guernsey" (178). That Mr. D. Cox inherits some of his father's qualities, his "Cornfield, near Carshalton Station" (65), and Welsh Passes, quite indicate; but he has modesty to guide them, learning to walk before he attempts to run.

Mr. W. C. Smith's luminous "Sunset on the Grand Canal" (100), and "The Rialto" (84), of Mr. J. Holland, are sufficiently exponent of the glories of Venice for a season in themselves, but the pretty little bit of it, "Madonna del Saluti" (98), so cleverly moonlit by Mr. Alfred P. Newton, is much more suggestive of romance,—it might have been an inspiration from Byron, as well as his larger subjects.

All Mr. Birket Foster's contributions prove that, however fecund he is and has been, and however rapidly he works, he must have been a close watcher of Nature, and that it is no carelessness of doing the best he can do that has led him to put in circulation so many of his notes of hand. The hundreds of delicately-drawn illustrations that are so easily identified and so widely scattered, would have induced a belief that he had no taste for, or, at least, no time to think about, colour; but his *tour de force* this year annihilates any such supposition, and "The Ferry" (145), with its glowing sunset effect, places him high in the list of those who best know the use of it.

As if to indoctrinate the spectator with the specific worth of the medium as it is and as it was in contiguity with this are two emanations by the late F. O. Finch, traditional of Cozens and Girtin. A "Classic Landscape, with Figures" (150), and "An Ancient Sacrifice," are, with the rest of these drawings, forming a feature in the room, so purely characteristic of the idiomatic distinction between water and oil, that they are likely, in their provocation of comparison, to intimate that something has been lost as well as gained in confusing the application of the two vehicles.

Mr. Davidson's nice discrimination and conscientious rendering of ordinary passages may be seen to full advantage in the minutely-finished drawing "From the Church Fields, Reigate (111); the wonderful tree in this is its most notable point. A "Corn-field, Gatton Park" (134), with a pleasant path through the massive foliage that borders it, and a bright bit of sunny effect, "Near Nutfield" (60), will induce a search for more like them.

Mr. Dodgson has several characteristic landscapes, in which his observation of fact is so tempered with a feeling for poetic adaptation as to constitute a peculiarity with him; Mr. H. Brittan is well represented in his landscape and cattle combinations; and Messrs. Callow, Evans, Gastineau, Edward Goodall, Topham, Bartholomew, Branwhite, Sam Evans, Alfred Hunt, Riviere, and Rosenberg are in full force.

We reserve for the last a hearty commendation for Mr. S. Read, whose interior of "The Cathedral of Toledo" (33) is one of the attractions where all is attractive, and shows much matured power applied to excellent purpose. In fact, it is a mighty fine interior.

SOCIETY OF FEMALE ARTISTS.

THE seventh exhibition of the sisterhood of the palette and the brush, now open at 48, Pall-mall, encourages a hope that they may become firmly established in their new gallery. It shows a marked improvement upon those preceding it, and is a very interesting collection. With enough of the honourable spirit of emulation amongst themselves, there is little doubt of the steady growth and increasing importance of this institution; and, with the intention of connecting with it opportunities for study, the purchase of the lease of their present premises for a term argues that the promoters of it are really in earnest in their intention of establishing a settled position.

Of the many noteworthy productions we can mention but a few. First, in acknowledgment of their simplicity and power, the two Dalecarlian episodes by Mdlle. Amalia Lindegren, "Girl tending Cattle" (161), and "Grandmamma's Pet" (165); and next to these the very clever characterizations by Miss Kate Swift, "The Butterfly and the Bee" (169), wherein the one girl is industriously at work, whilst the other, too intent on the appreciation of her own pretty face, does nothing but wreathe flowers in her hair, or try new effects; a position of things not unknown amongst sisters. This time the race *is* to the *Swift*. These works are fully equal to anything present for technical force, though with a little inclination to general breadth at the expense of detail. The head of the poor old woman in "Saying Grace" (158) is an admirable bit of expression; but the same disregard for finish suggests that a caution is not unnecessary. Mrs. Swift's "Portrait of Miss Townley" (178), is solidly painted, and looks as if it were very like. Mrs. Backhouse has some capital little figures, and Miss Louise Rayner some equally good architectural drawings, deserving high praise. Madame Jerichau contributes some important pictures; and if our pages were not so full as they are this week of matters of art aside of architecture, we should do more than mention the names of Miss A. Burgess, Miss E. Walter, Miss Margaret Gillies, Miss Gastineau, and the Misses Claxton, whose "Scenes" on the screen must on no account be overlooked.

This gallery has been added to the list of those from which the prizeholders of the Art-Union of London may select works of art.

a

JAPANESE ORNAMENTATION.

The French have long been considered the leaders of fashion in all things pertaining to applied art. The dress which we wear should be beautiful as well as convenient; hence, fashions in dress should be fashions in applied art. Not in matters of dress only do the French lead us, but also in other branches of manufacture. From the Imperial works of Gobelins, issue articles which the world desires to imitate, and thus it sets the fashion in needlework and carpets; and in the style of our wall-papers we follow our Continental neighbours.

Although this is the case to a very great extent, we do not follow the example of the French so closely as we did twenty years back, or even ten. When in a state of infancy as regards art-knowledge, we wisely followed those in advance of ourselves; but as we gained strength we began to run alone. Recently we have, in many instances, dared to set out in new paths, and have wandered whither our inclination has led us; and we do well in trying to break those ties which have bound us to others when unable to walk. Yet, wherever any relationship has existed similar to that between mother and child, the offspring will love to adopt peculiarities of the parent, even after years of maturity have been reached.

While we are not now incapable of treading with safety in new walks of art, a feeling yet lurks within which leads us occasionally to do as those from whom our decorative art largely sprang. This proneness which we have to follow the French, leads us to write on the subject of this paper.

Anything approaching idiosyncrasy in ourselves, whereby we are led to follow in one particular walk, should be carefully watched. Giving way to this tendency we are ever apt to fall, for in pursuing the course of others we reap the disadvantage of any error in their guidance.

French ornamentists are now largely engaging themselves with the production of patterns in the style of the ornaments of China and Japan. French chintzes are now for the most part covered with forms which connect them in the mind with works of the Celestial Empire; and wall-papers are covered with summer palaces, Damios, and sacred flowers.

The chief idea which we, and our Continental neighbours also, have of Japanese art, has been derived from the works of Japan shown in the recent International Exhibition, especially from those collected by Sir R. Alcock. With Chinese art we have long had some familiarity; but valuable works brought before us at the Exhibition just referred to, have greatly increased our knowledge of its true character.

The source of the knowledge of the art which the French are now so earnestly utilizing (in a commercial point of view) has been open to us as well as to them, hence our knowledge of this branch of art should not be less than theirs. Indeed, we had greater facilities for procuring information upon these works than those who were less familiar with the English language than ourselves. So our knowledge should be greatest.

The opportunities we have had of observing Japanese ornament should enable us to form a tolerably correct judgment upon its merits. They



ANTHEMION ORNAMENTS.

should also qualify us for forming a reasonable opinion of the ornament produced in imitation of that of Japan. They should likewise enable us to say whether the spirit of the imitated ornament has been caught; whether the forms employed in the imitative productions are characteristic of the style from whence they have been derived; and, whether, above all, those forms are intelligently used which are expressive of the faith, wants, or superstitions of those who first produced them.

In many cases the French artists who have engaged themselves with recasting Japanese designs have failed to discover the purport or significance of the forms they have borrowed. They have taken the form, but have not perceived the sentiment of which the shape is but the shroud; or have copied forms and groupings without seizing the spirit of the work. Landscapes in bad perspective, houses falsely foreshadowed, quaint and meaningless figures, and impossible groups of flowers, have been set forth as so many characters in the art of the nation. Whether the art of Japan is justly represented by these things the following must answer.

A careful consideration of the art-works of China and Japan leads to the conclusion that but one style of ornament prevails in the two countries. Japanese ornament may be regarded as bearing the same relation to that of China that a dialect does to a normal language. Japanese ornament is not widely distinct from Chinese, yet it has peculiarities of its own—differences of a minor character: it is a dialect.

Just as the dialect of a language may result from a progressive change, so a deviation from a style of ornament may take place in the direction of advancement. It is even possible that an original language may degenerate while that which has arisen from it in the form of a dialect may flourish and live; so in ornament, a modification of a style may grow and flourish while the original style becomes corrupted or lost. This is Darwinism in ornament.

Japanese ornament, while a dialect of the Chinese, seems to be in a more flourishing condition than its parent. It has more vigour (perhaps owing to its relative youthfulness), and is richer in true art qualities. Without entering further into this subject at present, we shall proceed to consider more in detail the nature of the art of Japan; but with this we must associate that of China, as the ornament of the two countries is inseparably combined.

Our remarks, then, will have reference equally to the ornament of China and Japan, and we shall illustrate peculiarities common to the art in both countries by reference to the works from either; but while passing along we shall point out prevailing tendencies of the art of each country.

We have said that the Japanese patterns now so common in the French market do not faithfully set forth the style of ornament of which they are considered to be expressions. This seems to be owing to imperfect knowledge of the nature of the style of art used, or to the ornamentist giving preference to the lowest form of art found in the country, to that which issues from uncultivated minds, and is applied to the commonest articles. Objects to which this common art is affixed are much more general in China than in Japan, and from such much of that half-cast ornament must have been derived, which is now so largely used in France.

There is no poverty of rich ornamental forms in the best art-works, either of China or Japan. Shapes which are in themselves beautiful are common; flowers rendered as well-arranged ornaments, are everywhere to be met with, and skilful groupings of quaint shapes prevail.

As a well-arranged and typical ornament of China and Japan, we would instance the anthemion, which, while prevalent in the art of both countries, is most frequently found on the beautiful Claissoné vases of the Chinese, which date their

origin about one hundred or one hundred and fifty years back. Of this ornament there are scores of modifications; indeed, the number of its varieties seems endless. In some cases it consists of parts almost completely separate one from the other; in others, of members closely connected; while in other modifications it appears as intermediate between these extreme forms. Our figure, in which seven of its varieties are represented, will give an idea of what we mean.

There can be no doubt of the beauty of this ornament in some of its varieties. The shapes of the parts generally employed in its construction are beautiful, and their combination is almost invariably both ingenious and satisfactory. A difference in the material in which the ornament is wrought brings about a variation in its form. Figures 1 and 7 were wrought in brass; the forms being made out by chiselling away portions of the metal: hence their especial character. All the others were formed by a narrow riband of brass being soldered to a brazen vessel in such a manner that one edge projects, and by the interstices being filled with enamel colour. The ground is also covered with colour and raised to the level of the other work. This mode of formation will account for certain of their special features. This is the manner in which all the ornaments on the Claisoné vases are wrought.

It is interesting to notice the striking and curious similarity in structure of these anthemion ornaments of the Chinese and Japanese to ornaments of other nations. The anthemion, in a simple and pure form, is peculiarly characteristic of Greek ornament; but, with the Greeks, a greater similarity of form was preserved throughout its modifications. It also occurred in Egyptian and Assyrian ornament. In the former, however, it was of comparatively rare occurrence. We have it in Alhambra and Mediæval works also, in some of its varieties; so art, in its various developments, has been no stranger to it.

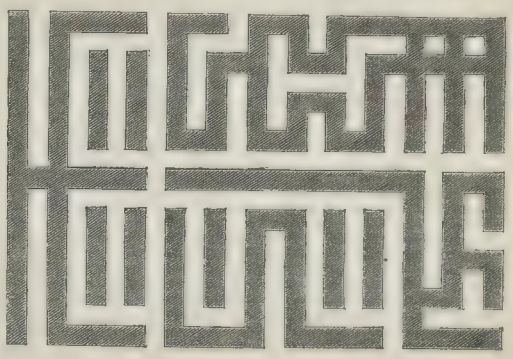
An interesting inquiry here presents itself. Has this ornament, in its modifications, arisen out of a tendency of the natural outgoings of the human mind in all ages? Has it arisen out of an intercourse between the nations who have produced it, or by the familiarity of one with the works of the other? Or, had it birth in a far-off age, when man was yet as but one family, whence it has accompanied him in his wanderings and descended in the manner of a tradition to later times? If it has resulted from a natural tendency of the human mind, it becomes invested with peculiar interest, as it must then be an embodiment of a want felt by man under widely different circumstances, and must hence point to a quality of the mind itself. If its appearance in different nations is due to an intercourse between the countries which have produced it, or to one being familiar with the art-works of the other, this ornament should point to links missing from the chain of history, and would to an extent supply them. If its appearance in all countries is due to its having birth in far-off ages, when man was as one family, its existence would furnish divines with another proof of the descent of man from common parents. While these inquiries are of deep interest, it is not within the scope of our present purpose to consider them further: their interest has caused us to allude to them, but we must do no more.

The anthemion ornament which we have observed in so many modifications of form in the art of China and Japan, would of itself lead us to suppose that the countries which produce it possess a well-considered and decided style of ornament. A form thoroughly considered, and worked into many modifications, never occurs save as a feature in a marked ornamental style. It does not exist alone, hence its existence points to the evolution, and somewhat matured unfolding of an historic style in art.

The anthemion ornament seems to be of chiefly mental origin: it is of an ideal character. The Greek form has been said to have its origin in the head of flowers of the honeysuckle; but if we are to attribute its origin to what it most resembles, we might consider the Greek anthemion to have arisen from one of the upper petals of the mignonette flower. The segments of this curiously divided organ closely correspond in form with the members of the anthemion in its purest shape, and the little basal portion corresponding with the scale from which the parts spring is frequently shown in the conventional ornament. With even this striking similarity existing between the natural object and the work of human art, it would be unwarrantable to say that the natural work gave rise to the conventional. A very careful investigation of this ornament in its varieties leads us to regard it as a purely mental



Fig. 8.



FRETS.

Fig. 9.

production. Its occurrence in Alhambra ornament, in which no form is imitative of a natural object, would strengthen this opinion.

Japanese ornament, and that of China also, is in part made up of ideal forms, and in part of natural objects, treated, possibly, in a very conventional manner. It is right, then, to notice this division of the ornaments which as a whole make up a "style" into two classes, and to consider those of each separately. The anthemion is a very characteristic ideal ornament; but there are also others which occur as frequently.

Frets and key patterns are everywhere to be found in works of Japanese art. They are as characteristic of Japanese as of Greek ornament. Here, again, we come to a singular coincidence—a coincidence more remarkable than the resemblance of the anthemions of various nations,—for we find the very frets and key patterns of common occurrence in Greek art repeated over and over again in the art works of Japan: not similar frets and key patterns merely, but precisely the same things, and these even of complicated design. So complete and full is this coincidence, that we should hesitate before saying that there are any Greek frets which have not very closely, if not exactly, anticipated Japanese ornaments. There are, however, one or two classes of frets, of frequent occurrence in Japanese ornament, which we never find produced by the Greeks; two of these we figure (figs. 8 and 9); the one (fig. 9) is very distinct, and appears in no other style of ornament. There is also a kind of fret peculiar to Chinese ornament; but this we must omit, as we can only use Chinese art to assist us to develope that of Japan. We have also found the echinus, or egg-and-tongue moulding, in a simple and somewhat rude form, in Japanese ornament; but as it is not characteristic of the style, nor of frequent occurrence, it would be pushing affinities too far to insist upon its identity with that of the Greeks and Romans. We shall continue the subject.

THE ELY LANTERN.

In commencing the lecture delivered on Tuesday, the 21st ult., in the theatre of the South Kensington Museum, by the Very Rev. the Dean of Ely, before the members of the Architectural Museum, on the subject of the Ely lantern,—

The Dean, having been introduced to the meeting, and having alluded to the absence, owing to a domestic affliction, of the President of the Society (Mr. Beresford Hope), proceeded to say, that although he had to speak upon an architectural subject, he should, being no architect, speak entirely as a layman. His only excuse for appearing in that position was, that being connected with the cathedral to which the lantern belonged, he considered it was his business to make himself acquainted with the condition of the cathedral, past and present. It was to him, of course, a subject of the greatest interest; and he knew that he had to speak to a kindly, friendly, and uncritical, even though they might be a professional audience. He should have to speak of the past history of the cathedral, of the changes which it had gone through from time to time, partly also with respect to its present condition and its future prospects, although the lecture would have chiefly to do with the Lantern,—that wonderful wooden structure, that marvellous piece of carpentery which shone above its fane. In order to know how it came into existence it was necessary to ascertain something of the origin of the cathedral. It was originally a Norman structure. It had a central tower supported by four columns: there were two transepts, which existed at the present day; and there was a Norman nave and also a Norman chancel. In the thirteenth century, Bishop Northwell, then bishop of the see, at his own expense pulled down the northern end of the cathedral and built six bays of very beautiful and elaborate Early English or First Pointed work. These have always gone by the name of the Presbytery. They were built as the shrines of Saint Etheldreda and her sisters, who are the great saints of the cathedral, and the former of whom founded the Abbey of Ely; and a further object was to accommodate the pilgrims who came to pay devotion to their shrine. The Mediæval arrangement was such that the greater portion of the choir where the stalls in which the monks sat were placed, was chiefly under the central tower. Such was the condition of the cathedral, when the accident happened, which ultimately led to the existence of the lantern. The Norman tower was in that state of old age and imbecility which Professor Willis stated was common to all Norman towers. When the Norman tower at Chichester tumbled down not long since, Professor Willis stated that it was because the habit of Norman towers generally was to tumble down. In the fourteenth century the Ely tower fell, not because it had been tampered with as the tower at Chichester was, but because the Normans were not good masons. They had a notion that thickness would do everything, which was very untrue of the head, for instance. Thickness would not compensate for the absence of brains in the head any more than for the absence of good masonry in a tower. The monks were in wholesome fear of the tower; and in order that whatever happened they might not come to grief, they very wisely said their prayers at the west end of the cathedral. That which they expected happened; for, in or about

the year 1320, the tower actually did fall. At that period the convent had amongst its members a man of most remarkable genius. His name was Alan de Walsingham, and he held the office of sacristan. He had charge of the buildings, and received the rents for the use of the convent. Before he turned his attention to architecture, he was a very clever goldsmith. He was also a very admirable architect. All the buildings which had him for their architect had an originality about them which was extremely striking. He had the genius to turn this great misfortune, namely, the tumbling down of the tower, into a great benefit. An account of what had happened and of what was subsequently done, was given in the old monkish chronicle of the time, a free translation of which he would read.

"Alan de Walsingham was made Sacrist in the year of our Lord 1321, and remained Sacrist until October 25th, 1341; in whose time many and various burdens fell upon the office of Sacrist, and especially in the very year of his appointment. For, in the night before the feast of St. Erminilda, after the Matins had been sung in the Chapel of St. Catherine (because the Convent could not venture to sing the service in the choir on account of its dangerous condition), the procession to the shrines in honour of St. Erminilda having been accomplished, and the brethren returning to the dormitory,—a few having, in fact, just got into bed, lo! on a sudden, the bell tower over the choir came down with a tremendous crash,—it seemed like the shock of an earthquake,—but no one was hurt or crushed by the fall. Another thing happened, which might be ascribed to a miracle rather than to natural causes, for in that horrible crash and enormous fall of stones, which made the whole city of Ely shake, the large and beautiful structure over the tombs of the holy Virgins, by the providence of God, and through the merits of His beloved virgin Etheldreda (as is to be hoped) was preserved from all fracture or injury, for which glory be to Christ! The aforesaid Sacrist Alan, sorrowing vehemently, and being made very sad by this most destructive and lamentable event, was altogether at his wits' end as to which way he should turn himself and how he should set to work to repair so terrible a catastrophe. But, recovering himself by degrees, and putting entire confidence in the aid of God and His most blessed Mother, and also in the merits of the most holy virgin Etheldreda, he put his hand to the work manfully. In the first place, he caused the stone and wood which had fallen to be carried, with great labour and considerable expense, out of the church; and then he cleansed the church itself with as much expedition as possible from the great quantity of dust which was in it." It was a remarkable fact that the great quantity of dust caused by the fall of the Norman tower at Chichester was a subject of surprise and comment. The chronicle proceeded: "And lastly, he ascertained and examined the ground on which he was to construct a new bell tower. Having measured out an octagon, at the angles of which he intended to raise eight stone columns to support the whole building, and under which he could afterwards place the choir, with its stalls, he carried on his excavations until he found solid and firm ground, upon which foundation of his work might safely be commenced. The eight places having been thus carefully examined as aforesaid, and stones and sand having been firmly packed in them, he at length commenced the eight columns and the rest of the stonework. This work was completed in six years, *i.e.*, A.D. 1328; and forthwith in that same year the ingenious wooden structure of the new bell tower, conceived with the most consummate and wonderful genius, was begun to be built upon the aforesaid stonework, at a very great and heavy expense, in consequence of the enormous beams which were required to connect it with the substructure; which were hard to be found; and when they were, had to be purchased at a great price." He (the Dean) could sympathize with Alan de Walsingham in that particular. For the work of restoration now being proceeded with by Mr. Gilbert Scott, great beams were required for the long buttresses. Some were got in Norfolk, some in Bedfordshire, some in Lincolnshire; and all "had to be purchased at a great price." It went on,—"These beams were brought by sea and by land to Ely; and having been worked and carved by skilful artificers, were framed together as the work required; and thus, by the help of God, the building was brought to a glorious and happy conclusion. The cost of the new bell tower during twenty years while Brother Alan de Walsingham was sacrist was 2,400*l.* 6*s.* 11*d.*" equal to 30,000*l.* or to 40,000*l.* of the present day] "of which 206*l.* 0*s.* 11*d.* was contributed in presents." Walsingham took the opportunity afforded to him by the falling of the tower, and made the new and magnificent octagonal tower, and the lantern by which it was crowned, a grand feature in the cathedral. The clear diameter of the octagon was 65 feet; of the lantern, 30 feet: the length from the floor to the centre of the lantern was 142 feet: the height of the lantern itself from the aperture to the vault was 48 feet. The lantern, which was a wooden structure, was a regular octagon: the tower on which it was suspended was an irregular octagon. Walsingham solved a problem in the fourteenth century which builders in the present day found it hard to solve. One of the most difficult things possible was to join old work to new. The chapel of St. Catherine, in Ely Cathedral, was restored about ten or fifteen years ago; but, notwithstanding that it was a small chapel, where the juncture took place there was a settlement. Walsingham, however, managed to build the tower right in the middle of old work, and there was not at this day a crack or flaw, nor was there any mark of the juncture between his work and the old Norman work. He also constructed three bays which were beautifully decorated in Second Pointed, and were exquisite specimens of Gothic work. One little remnant of the old Norman work remained at this point, namely, a pillar in the wall of the choir. Walsingham seemed to have left it, when he commenced his work, as a starting-point from which he was to begin; and it was now the oldest part of the entire structure. It was supposed that the beams which supported the lantern, and which were 60 feet long, were all one tree; but when they were lately examined it was found that they were not so. The essential structure stood upon eight upright timbers, supported by beams mortised into them, and taking their support from the stonework below. Into these were mortised other beams, so that around the lantern there was a system of numbering, altogether sixteen. He might mention that the reason for erecting a wooden structure appeared to be to avoid the repetition of the calamity which had occurred, and which it was feared would take place again, owing to the weight of a stone lantern. It might be also that Walsingham wished to exercise his genius upon a new material. At all events, the lantern was at that time unique. It was originally intended for a belfry. It contained a chamber used as a bell chamber, and it was possible it might be used as a bell chamber again. Mr. Scott had made a careful survey of the entire building, and removed all doubt as to its original purpose. There was also evidence of the fact from contemporaneous documents. In the Sacrist Rolls there was an account of the casting of the bells in the fourteenth century. They were cast by "Master John of Gloucester," and an account was given of his journeys into various countries for the purpose of obtaining clay for the moulding and tin and copper for the bells, and the items of his travelling charges were faithfully recorded. One bell was called Jesus: its weight was 3,792lb. Another was called John, 2,780lb.; another Mary, 2,198lb.; and a fourth, Walsingham, which weighed 6,204lb. Fuller, in his work, speaks of the lantern as follows: "This presenteth itself afar off to the eye of the traveller, and on all sides at great distance, not only maketh a promise, but giveth earnest of the beauty thereof. The lanthorn therein was built by Bishop Hotheim" [that is, in his time], "wherein the labour of twenty years, and five thousand ninety-four pounds eighteen shillings tenpence halfpenny farthing were expended, is a masterpiece of architecture. When the bells ring, the woodwork thereof shaketh and gapeth (no defect, but perfection of structure), and exactly chocketh into the joynts again; so that it may pass for the lively emblem of the sincere Christian, who, though he hath *motum trepidatimis*, of fear and trembling, stands firmly fixed on the basis of a true faith." Whether any architect of the present day would consider that the shaking and gaping of the woodwork was no defect of construction, or that the fact that it "chocked into the joynts again" was a thing to be admired, there was certainly room to doubt. The simile drawn, however, showed that there were "sermons in stones," and good, too. The old bell frames remained until 100 years ago, but the bells were removed, and an account of the melting down of "Walsingham" was extant. Essex submitted the building to a thorough repair, and so far as preventing it falling was concerned did his work well, but so far as beauty was concerned he entirely marred it. He shortened some windows, inserted others in the style usually known as "churchwardens' Gothic," and made various other alterations, more substantial than tasteful. During the course of the restoration now taking place, it was found that wherever the weather had got at the wood the timber had perished, but that wherever it had been properly protected it was still as perfectly sound and good as it was the day it was put up. Sir Christopher Wren was surveyor of Ely Cathedral, and he treated it to one or two enormities which remained until the present time. There was sufficient evidence afforded by a comparison of the two structures to convince him (the lecturer) that the peculiar construction of the dome of St. Paul's, which consisted of first the painted vault, then the brick cone which supported the tower and cross, and then the outer lead-covered dome, was suggested to Sir Christopher Wren by the cathedral of which he had been surveyor. The present state of the work of restoring the lantern is as follows:—The eight flying buttresses which had been removed by Essex in the course of the substantial repairs executed under his direction in the middle of the last century, had been replaced, together with a system of braces and ties which were believed to be a true reproduction of the work of Alan de Walsingham: the flying buttresses were, in fact, mortised into the very holes in the corner upright beams of the lantern which were originally cut for that purpose. These buttresses added great strength to the structure, and it was obvious upon an examination of the present condition of the lantern that it was unwise to remove the original supports without replacing them. Part of the alteration made by Essex, as he had stated, consisted in shortening the windows of the lantern, and giving the roof of the octagon, which rises to the sills of the windows, a correspondingly higher pitch: the windows are now being restored to their original length, and the roof put back again to its original pitch. Half of this roof is complete, and two of the windows are in their places. The enlargement of the windows to the original size, and the opening of the panel-work below, which was apparently closed by Essex, would add very much to the internal beauty of the cathedral. The endeavour was to replace the lantern in the condition in which Walsingham had left it. He trusted that, under the able superintendence of Mr. Gilbert Scott, the work would be completed in the course of next year. Its appearance, suspended in the air, and looking from top to bottom like a piece of lacework, would be light and beautiful. They had but one difficulty to contend with. Skilful architects and clever workmen were to be had: the difficulty was to obtain funds for the restoration. It was an expensive thing to follow in the footsteps of Alan de Walsingham; but if anything was left undone their poverty and not their will would consent to the shortcoming.

Mr. Gilbert Scott, on moving a vote of thanks to the dean, which was carried by acclamation, remarked that liberal arrangement had been made by the dean and chapter for the completion of the exterior tracery of the lantern, so that in all respects the restoration would, he hoped, be perfect.

MATERIALS AND MANUFACTURES IN THE ARCHITECTURAL EXHIBITION.*

THE Blue Lias Lime and Cement exhibited by the Keynsham Company, from their works at Keynsham, near Bath, form an important feature in the Exhibition. In the collection of specimens are some of gypsum, and of plaster, cast into ornaments, and of lithographic stone, besides a specimen of the fossil *ammonites* of the lias. The materials are exhibited in numerous applications and proportions of admixture with sand and ballast; and the tenacity of the lime and cement in joining bricks may be seen to be great, even where there are five parts of sand to one of the lime. Rough-rendering on lath is shown as executed with one part of lime or cement, and four parts of sand; floated stucco, with three parts of sand; and trowelled stucco, with the same proportions. A hard concrete, as shown, may be formed of the limestone chips, grouted with the cement. The concrete from the foundations of Chelsea Barracks, which was made from the Keynsham lime, however, is far inferior to some kinds of concrete, or at least to that which may be made with Portland cement: in fact the specimen exhibited is crumbly, and powdery, to an extent that would be quite unsuited to harbour-works. Still, we by no means think that the fault at Chelsea, is in the lime used. The cement is prepared by Captain Scott's patent, which involves the subjection of the lime, in the heated state, to the action of sulphurous acid. It sets very hard, either in

* See p. 289, *ante*.

water or exposed to the open air. Blocks, one part sand and one cement, 2 inches square in section, and with supports 3 inchesapart,—after having been made six months,—have been found to have a strength of upwards of 800 lbs. The colour is very light brown. The cost is 1s. per bushel, for a quantity above ten tons, at the works, or 1s. 3d. at Paddington.

Messrs. Nickson & Waddingham, of Manchester, exhibit their patent slate-ground for plaster-work. It consists simply of small slates attached to the quartering, or ceiling-joists, in lieu of lathing. Each slate is perforated in two places, and fixed with a narrow space separating it from the slates next to it: these perforations and spaces give the key for the plastering. The advantages claimed are incombustibility and imperishability, ease of fixing, added strength to joists, freedom from shrinkage or expansion, permanence of the even surface, and prevention of cracks. It is actually affirmed to be less in weight, as finished with plaster, than plastering with the foundation of laths; and the inventors say that repairs can be effected with peculiar ease, or without disturbing a larger space of plaster than that over which the repairs are required. Mr. J. C. Part's specimens of Martin's cement, or some of them, remain in the lobby of the North Gallery, showing different applications of this useful material, one of the specimens having been painted upon within twenty hours after it was put upon the lathing.

The late Mr. John Billing's "Terra Cotta Terminals" or "Chimney Terminations," specimens of which are shown, have been used in so large a number of public buildings and private houses, that ample evidence of their merits should be available. Little of this, however, is offered to us beyond the list of names of buildings. In the Grosvenor Hotel, Somerset House, St. Bartholomew's Hospital, the London Bridge Hotel, and the Chelsea Barracks, very great use has been made of these contrivances: the first-named building alone, has 260 of them. The idea of the improvement on chimney-pots seems to be much the same as that of the Marquis de Montagu's invention described and illustrated in one of our articles on the International Exhibition. Funnel-shaped pots, with orifices large or small, variously as required, are placed on the chimney, each one covering the top of a flue, in order to contract the flue to its proper size, and maintain the ascension of the heated smoke throughout the length of the flue, in the greatest power. By the external slope, the action of the wind tends to increase the ascensional current. Return of "back smoke" from adjacent flues, is prevented by partition-slabs separating the orifices from one another. The invention may be applied at a cost of 6s. for each flue, exclusive of scaffolds, and that of the fee for the patent and personal superintendence: for, each chimney must be adapted specially to its purpose. The total cost then comes to 14s. 6d. per flue in the case of new buildings, and 21s. in that of old. We are forced to say that in the case of one old house where the terminals were tried, the result did not satisfy.

The Bourne Valley Pottery Company, the manufacturers of "Creeke's Patent Capped Drain Pipes," of which they exhibit specimens showing the different joints and junctions, represent the pipes as being "the only perfect, simple, and really effective invention by which drains can be minutely examined at any time, obstructions removed, and cap-junctions of any size inserted (in the event of further connexions being required) without breaking a pipe or disturbing the flow of sewage;" and they fill a page of the catalogue with a further statement of "the superior advantages possessed" by the pipes. That all these advantages are confined to Creeke's pipes, however, we are not prepared to say.

The Vieille Montagne zinc, of which there are numerous specimens in the form of lucarne dressings, rain-pipes, vanes and terminals, and ornaments of many kinds, as well as models explanatory of the different arrangements in laying adapted to the obtaining a water-tight roof, seems to be steadily getting into use. Messrs. C. Devaux & Co. claim for the pure zinc, when the sheets are properly laid, a durability greater than that of lead, and an entire avoidance of repairs. But the material must be used of the proper thickness. The oxidation that would form a protecting coat in the case of the thick sheet,—then not continuing,—would simply consume the whole of the zinc, were very thin sheets used as formerly; and the defect of thickness is given by the parties interested in the use of zinc, as the reason why the mere coating to other metals in certain cases decays. In the laying, the plates must everywhere have play; and Mr. J. W. Tyler having had more than three years' experience, claims to be well able to carry into effect the methods introduced from the Continent. Messrs. Devaux & Co. have just printed a letter from Mr. Edmeston, supplementary to his original report, and to his paper read at the Institute of British Architects in January, 1860. In this letter, besides insisting on attention to the manner of laying, and to non-contact with any iron, and on the importance of good zinc, which, he remarks, may be known by its capability of bending double without cracking, he says that nothing less than 21-ounce should be used for roofs, while gutters should be 24-ounce or 26-ounce. From a report to the Académie des Sciences from the Conservatoire des Arts et Métiers of Paris, it appears that the oxydation goes on for about four years, and then hardens into the protecting coat before alluded to. According to the letter, zinc should last longer, exposed to the smoke of coal than to that of wood fires. Sea air is by no means injurious. As to the contact of lead, Mr. Edmeston has now had opportunities of seeing that this should be avoided, where there is damp, as much as should the contact of iron. The letter embodies the result of certain inquiries by Mr. Ashpitel and opinions which he obtained from some foreign architects. The zinc generally employed in Paris is of the weight of 5 kilogrammes 55 centigrammes per square mètre; or, where greater solidity is required, the weight may be one kilogramme per mètre more. The general custom is to lay it on poplar boards which are 11 to 12 centimètres in width, and are themselves laid with spaces of 2 to 3 centimètres between them. M. Baltard in the buildings of the Halles, or markets, provided a double thickness of boards, with space for a current of air between them. Mr. Edmeston is not quite correct, speaking of the Victoria Station roof, in saying "there has not been one drop of wet through that roof from the day it was completed:" the roof leaks much, and in many places; the defect is probably in the skylights; but possibility of doubt as to the fact should be removed. The decorative capabilities of the material are very great; but we are not desirous to see the valance and fringe patterns, some of which are shown in Conduit-street, in English use. The lucarne dressings are generally tasteful; but good work of art-manufacture may be bad in result through a run upon it,—making that which subordinate would be good, bad from usurpation of the sphere of other and more valuable resources of effect. Such result seems to us to have followed from a recent application of the decorations in the instance of a roof added to a house in Piccadilly, already noticed, where the openings are in two stages, and if not duplicates, much too closely resemble one another in pattern and size.

Messrs. Hayward Brothers exhibit their Union Kitchen Range, well contrived for heating a sufficient quantity of water for baths, as well as for roasting and other operations of cookery; and they also show their coal-hole plates, arranged with means of getting light, Sheringham's ventilator for admission of air, and an improved louvre ventilator which is made to act either for admission or extraction. Howarth's Archimedean Screw Ventilator, to be placed upon a roof, was described by us last year. The moveable glass ventilators of Mr. Moore are well known. Messrs. J. Moore & Sons exhibit one of their pressed-glass clock-dials, which have an opaque appearance by day, and can be illuminated at night, and may be highly ornamented by colour.

Mr. Pierce, Mr. S. E. Rosser, and Mr. D. O. Boyd, exhibit some of their different forms of heating apparatus. The success of arrangements for heating must depend in some degree upon details which would not at first attract attention; and there are points of difference in the arrangement of the gills and warming-plates now used by various manufacturers, which are considered very important in the economy of heat, and to the object of not over-heating. A fair examination of different forms of apparatus would demand a long article.

Messrs. J. Tylor & Sons exhibit a selection from their manufactures, which are all shown in their catalogue, a production of really great value for reference. Mr. Sharpe's Improvement in Closet Pans, which is shown in the North Gallery, in action, consists in formation of the rim into a tube conveying the water entirely round the upper edge, and allowing it to descend vertically from orifices which are shaped and graduated according to the requirements. The North Devon Pottery Company exhibit a Stoneware Pan-closet, in which the receiver and capsizing cup, or spoon, are made of vitrified stoneware, or glazed earthenware, and which therefore is not liable to corrode.

McAdam's pulleys for window-sashes, of porcelain or vitreous material, and the method of hanging double sashes with a siugle weight on each side the window, should be examined. The advantage claimed for the pulleys is their thorough exemption from the damp and rust through which cords may become rotten and broken. The wrought-iron water-tight casements and frames of Messrs. Burt & Potts, have now in numerous cases, undergone the desired test of years, and we believe successfully in exposed situations. Likewise specially for keeping out the wet, and for use in stone or wooden mullions, are the casements designed by Mr. George Devey and manufactured by Messrs. Gibbons & White.

The collection of locks, with explanation of the details of their manufacture, by Messrs. Hobbs & Co., is very useful and interesting. The show-case, from the International Exhibition, is so arranged as to afford, aided by the few pages "On the Application of Steam Machinery to the Manufacture of Locks and Keys," much information. At the manufactory in Arlington-street, New North-road, which would deserve a visit, all kinds of locks, and down to those which are priced about 2s., are made through the application of the machinery, of a description or quality not obtainable before the year 1851. In the Parautoptic, or Bank Lock, which costs for strong rooms 20*l.*, and for despatch-boxes 10*l.*, the same key of six "bits," can be altered 720 times; and the lock will each time of use adapt itself, so that the one lock is equivalent to 720 different locks; or, by a greater number of "bits," the changes may be extended to millions. The Protector Solid Key and Index Locks, in which the "bits," or "steps," are not changeable, are exhibited as possessing absolute security against picking by any method at present known; and they are sold at prices varying from 10s. to 40s. The Lock-Indicator is a method of locking by means of the handle without a key; and showing, by an index-finger, to what extent the bolt has been shot. For unlocking, the key is required. Messrs. Hobbs's locks, as many of our readers know, are lever-locks; and it is claimed for them that they have superseded warded locks, which are so easily opened by skeleton-keys. Locks and lock-furniture are exhibited by Messrs. Brown & Scammell, and some other manufacturers.

Perhaps even more important is the exhibition by Messrs. J. B. Newall & Co. of the electric bells in action. The invention, French (as we have before stated), must almost supersede the old form of bells in hotels, and a like class of buildings, as well as in private houses. The invention provides the means of telegraphing word what is wanted, and of receiving a reply.

Of ornamental metal-work there are three or four exhibitors. Messrs. Benhams & Froud contribute the vanes and finials such as they are able to execute from designs, and ornamental brass-work, besides lightning conductors and casement frames. Mr. H. Hunt exhibits a wrought-iron gate and pilasters, somewhat of the character of many of those of seventeenth-century date which may be found in the environs of London. The gate would be dear at its price, 170 guineas, even were it not inferior to many of the examples referred to. It proves however that its producer can execute work of the class. Some large gates exhibited by Mr. Potter also seem to us high in the price, 1,600*l.*, if not dear. The design is made up of scroll-work and foliage,—which with the frames, are hand-worked; whilst amongst the scrolls are introduced, birds and animals, executed in gun-metal, and gilt. Messrs. Hart & Son, besides some of their work in gold, silver, and brass, in the form of chalices, lamps and candlesticks, and inkstands, display the best specimens of their iron-work that we have lately seen. In a pair of gates, the scroll-ornamentation, which is of Early French character, is excellent in effect, aided by the colouring; though the birds which are partly gilt, as well as treated more prominently in colour than the general ornamentation, are less satisfactory; and it may be doubted whether the bird-forms should have been used at all. A couple of tall standards with scroll-heads, carrying a cross-pole with ornamented ends, form a contrivance from which chandeliers may be suspended; whilst the design is a clever modification of designs that are common but not the less effective.

Paperhangings and wall decorations are exhibited by Messrs. Scott, Cuthbertson, & Co. But the best works of the class are the paperhangings designed by Mr. Robinson, of Leamington, and exhibited by Messrs. Woollams. They are in the flat style of treatment, and mostly in two shades of the same colour; and whilst the forms are not imitative, or pictorial, they are the forms chiefly

of natural leaves. The course taken in such efforts, when architects are induced to make them, and the successful utilization of natural models, may show that we were right in particular views which we expressed on the subject, at a date when the principles of architectural art had been less brought to bear in decoration, than they have been during the dozen years that have since elapsed. Specimens of hall decorations, also designed by Mr. Robinson, are exhibited by Mr. T. Kershaw. The Raffaellesque or arabesque manner of decoration, for panels, extorts admiration for fanciful treatment, grace of lines and harmony of colours, and beautiful features such as the figures that are introduced; but there is an error in the sort of decoration nevertheless,—in the general scheme and principle of the scrolls and ornaments,—requiring to be palliated by every beauty that can be expressed in the human and animal forms about the scrolls or in the panels. Mr. J. L. Coulton, in his specimen, falls somewhat short of this order of excellence; whilst the important point, the graceful junction of the bodies of figures with scrolls, is not successfully attained. He can produce work greatly superior to what he here shows. The cartoons for stained glass by Messrs. Heaton, Butler, & Bayne, with drawings by them (38, 321, 375 in the general collection), deserve to be mentioned. Messrs. George Jackson & Son's Papier Mâché, in its decorative treatment at least, is still at the head of such work, as especially in the artistic quality of well-calculated and properly-telling effect of detail from the generally distant point of view. The Parquetry of Messrs. Arrowsmith needs now little that we can add in favour of its excellence. Messrs. Naylor's Stains for Deal, are intended for imitation of all kinds of wood. The stains to imitate oak, can, it is said, be combed without the ground which is usually required in the graining of old work. One gallon will cover about 80 yards, or at a cost of about three farthings per yard, without varnishing. Messrs. Bellman & Ivey's Scagliola, exhibited in four of the pedestals supporting busts in the Sculpture department of the Exhibition, is the best in the galleries, and worthy of their reputation. Some of the pedestals near these, however, and also in scagliola, are good; and those of the Serpentine Marble show as usual the beauty of that material, though not the extraordinary variety of colours, hues, and tints.

Models are exhibited of a new system of bridge construction (not for the first time) patented by Mr. Angelo Sedley, and by which it is expected that rivers and valleys may be crossed in one span, up to 1,500 feet. To show that such a dimension of span is considered possible, it is only necessary to refer to the words of Mr. Fairbairn at the meeting of the British Association in Manchester. On that occasion, the authority named is reported to have spoken,—after alluding to the tubular bridges for railways, as having spans which ten years earlier were thought beyond the reach of human skill,—of spans of 1,800 to 2,000 feet as to be bridged over safely,—allowing that these were the maximum, or from the weight of the structure itself then coming into the question. Mr. Sedley has three modifications of his system. Each of these has an oblique arrangement of the supporting chains, which carry different points in the length of the roadway from the same point of suspension. The arrangement therefore resembles slightly that of Dredge's Suspension Bridge. The modifications however are different combinations of the tubular, ordinary girder and cantilever, and suspension principles. The materials would be wood and iron; or wood, and iron and steel combined. One model shows a bridge having two spans of 500 feet each, and a central pier, whereat, if we understand rightly, would be the deepest part of the continuous girder, and the anchorage for the chains above all. For crossing 1,500 feet, the arrangement in each half of the span is that of a cantilever of four pieces in depth, of timber, corbelling as it were, and the ends of each of the lower pieces carried by inclined rods passing over saddles on the abutments to anchorage in the ground, or within the depth of the extension landward of the girder or truss itself. Half the bridge being built on each shore and run out, the halves would be united by a shoe; and the centre would be strengthened by arched flanged girders, which might be of steel for the sake of great strength with lightness. In the third model, the cantilever arrangement below the level of roadway, is replaced by a lattice arrangement above, the other portions being in principle the same. A model which was in the International Exhibition, and had a span of 17 feet 6 inches, broke with a weight of 503lb., and would have borne more but for an accident.

In commencing, in our last number, the notice of this department of the Exhibition in Conduit-street, we spoke of the difficulty which there must be in forming opinions of new materials and contrivances without the actual test of use during some period of years. We admitted, however, opinions had to be formed; or that there would be no application of science; and the practice of building, instead of increasing the comforts and happiness of the community, would stand still. But, we adverted to steps that might be taken, and deserving of the application of public money, to test the durability of materials and contrivances of many kinds. Had the specimens of stone brought together by the Commission for the selection of the material for the Houses of Parliament, been worked into mouldings and exposed at the time, about five-and-twenty years ago, in a suitable place open to the weather, and been allowed to remain to this date, we should now probably have been in a position to avoid failures in stone, mistakes of which the Houses of Parliament are not the only and not the most considerable example. Pending the adoption of such arrangements, however, and the attainment of experience, we want all the facts and results that can be supplied by dealers,—interested though they may be,—and by workmen. In short, what we want is *evidence*. Architects are so little disposed to object to novelties as such, that there is reason to complain of the facility with which certificates are given by professional men, as to their satisfaction with something that they have applied. Experiments of every kind should be regarded as necessary, and be undertaken by the manufacturers or dealers themselves; and the results, clearly stated, should be authenticated. As a rule, whether in the Architectural Exhibition, or elsewhere, we get nothing of this sort: prices even are exceptional; and a really useful list or prospectus is issued by but two or three dealers. In the pages of the Exhibition catalogue, for the department of materials and inventions, arrangement of the titles and information might be made much more serviceable than the actual arrangement is. A good reader for the press, even, might do something that is wanted. At present there is no system in placing and setting forth the names of exhibitors; in separating clearly in the page, the title of one invention from that of another; in distinguishing the assertions of dealers as their own words, and in some other matters which, if attended to, would at least facilitate reference, and conduce to the objects both of visitors and exhibitors. Numbers in the catalogue refer to none on the walls; and certain exhibitors who have taken trouble to supply titles for their individual works, in the same document, omit every means of identifying the articles themselves. Our well-known anxiety for the success of the Exhibition, and for attainment of professional objects which can be assisted by the Exhibition, must be our excuse for pressing the points referred to, on the attention of the committee.

BRITISH SCULPTORS.—HUBERT LE SŒUR.

OF kings on horseback we have *four* in London — King Charles I. at Charing-cross, King William III. in St. James's-square, King George III. in Pall-mall East, and King George IV. in Trafalgar-square. They date from 1633 to 1836. The earliest is still the best: the sculptor was Hubert Le Sœur.

To the curious account I gave of the Charing-cross statue of Charles I. in my "Handbook for London," I have nothing to add; but of Le Sœur himself I have something to tell, and that something is new.

In the MS. Warrant-book of King Charles I.'s Lord Chamberlain, Philip Herbert, Earl of Pembroke and Montgomery, I found the following entry:—

"28th January, 1632-3.—A warrant for a Chaine and a Medal of eighty pounds value, a free Gift unto Mons. Le Suer."

The chain was a present from King Charles I., and is a new fact, *now* first published in the life of that great patron of art and artists, the martyr-monarch.

And here I will ask, what is the money value of the "chain and medal" given by King George IV. to Sir Thomas Lawrence in his capacity as president of the Royal Academy of Arts, the medal worn by the late Sir Martin Archer Shee, and now most worthily worn by Sir Charles Eastlake? Was King George's gift made in imitation of King Charles's?

At Portsmouth, in a recess in a public gate, is a *gilt* bust of King Charles I., with the following inscription underneath:—

"*King Charles the First.*

After his travels through France and Spain, and having passed many dayes both by sea and land, he arrived here the 10th day of October, 1623."

This fine bust (neither Walpole nor Wornum tells us so), was the work of *our* Hubert Le Sœur. Here is a dated Crown payment to the great sculptor, confirmatory of my statement:—

"1635, June 26.—To Hubrecht le Sueur, the sum of 270*l.* for these several pieces by him made and delivered by his Maj^{ty}'s command, viz.—the image of his Maj^{ty}'s own head, in brass, for the town of Portsmouth, at the rate of 50*l.*; and one other like image, in brass, sent to Ireland, at the like rate of 50*l.*; one other of Seneca's head, in brass, at the rate of 30*l.*; the statue of Mercury, in brass, at the rate of 100*l.*; and a bust of Nero's head, in marble, at the rate of 10*l.* In all, 270*l.*"

The accounts from whence this entry is taken contain other payments to Le Sœur, in the years 1636 and 1637. Thus he received in 1636, 280*l.*, for a great statue in brass, of "Hercules holding a Child in his Arm," and for buying and bringing over "for his Majesty's use the *Mould* of the figure Laocoon."

Still later entries in May and August, 1637, record a payment of 200*l.* "for the statue of Cleopatra, in brass." Who has the Hercules? and where is the Cleopatra? Perhaps Mr. Wyatt Papworth or Mr. Watkiss Lloyd can again come to our assistance.

In a MS. roll of "extraordinary" expenditure made by Burlamachi as King Charles's agent, I found the following entry:—

"For money paid for house rent of Hubert Le Sœur at the rate of c^{li} per annum, viz., in part of one quarter ended at Lady Day, 1630, 16*l.* 15*s.*; for two years and three quarters ended at Christmas, 1632, 275*l.*, and in part of a quarter ended at Lady Day, 1633, 8*l.* 5*s.* In all 300*l.*"

Another payment, of an earlier date, and hitherto unpublished, occurs in the works accounts of the Crown, and runs as follows:—

"Hubert Levisueur, for the moulding, making, and fashioning of xii figures to stand upon the cappitulles of the pillars of King James his Hearse in Westminster Abbey,—xx^{li}."

There is an engraving of the Hearse; the statues seem well designed.

And now I have to notice another very fine work from the hand of Le Sœur unknown to Walpole and Wornum. In Wolverhampton Church, in Staffordshire, is a life-size statue, in bronze, of Admiral Richard Leveson. It is in every respect as fine as the Earl of Pembroke statue, by the same artist, in the Bodleian Gallery at Oxford. Its price, too, is known. Le Sœur's Agreement for the statue is printed in Shaw's "Staffordshire," vol. ii. p. 158, and should find a place in a new edition of Walpole's Anecdotes.

Le Sœur lived in Bartholomew-close, and I confidently attribute the bust of James Rivers, in the Church of St. Bartholomew the Great, to his hand. Rivers died in 1641. The date of Le Sœur's death is unknown.

A London fact may here fittingly find a place. The sculptor of the Charing-cross statue of Charles I., properly proud of his work, has inscribed the left hind foot of the horse with his name and the date,—"HVBERT LESVEVR. 1633." I may add that the metal ribbon on the figure of the king exhibits the hole from which the missing George was hung. PETER CUNNINGHAM.

THE NATIONAL ALBERT MEMORIAL DESIGNS.

THE Report of the Committee appointed by the Queen has been made public through the daily papers, together with a letter from Lieut.-General Grey on the part of Her Majesty, approving of the recommendation for selection of the design of Mr. Scott, "to which Her Majesty had already given the preference among the many beautiful designs submitted for her judgment."

The Report adds little to what was known before it appeared, and has been stated in our columns. Of the designs submitted, and the desirability of always applying to architects in such cases, the Committee say:—

"The ability, ingenuity, and taste displayed in all the designs are such as to prove the wisdom of the course suggested by your Majesty; and we trust that on future occasions, in questions relating even more directly and exclusively to sculpture, it will be found advisable to consult those whose studies and practice lead them to regard monumental works with reference to the site they are to occupy, and in relation to surrounding objects.

At the same time we are aware, on the one hand, that designs for statues or groups of sculpture by architects can only be required to indicate the position and dimensions of such works, leaving the sculptors themselves uncontrolled in all other respects; and, on the other, that the judgment ought not to be influenced by any defects of detail in such necessarily vague representations of sculptured forms.

In proceeding to the onerous duty of pointing out designs, one of which might, subject to your Majesty's approval, and with due modifications, be chosen for execution, we had to bear in mind the amount of the funds subscribed as compared with the estimates of the candidates."

"We are bound to state that at this moment the amount subscribed barely exceeds 60,000*l.*"

Proceeding then to point out what they conceive to be the apparently indispensable requisites next to a cost within the means, the Committee say:—

"We are of opinion that, in its general conception, the design by Mr. Philip C. Hardwick exhibits an especial attention to these requisites."

"These conditions appear to us to have been carefully borne in mind by Mr. Hardwick; and, as regards the important question of expenditure, his is the only design according to which the Memorial itself, irrespective of the Hall, could be executed at a cost within the amount subscribed."

Having thus selected (as common minds might think) one of the architects as the successful competitor, they then proceed to point out Mr. Scott's design to her Majesty's favourable notice. They say:—

"While admitting the somewhat sepulchral character of what are called Gothic Crosses, we cordially appreciate the feeling which led Mr. Scott to adopt in his design, to use his own words, 'the style . . . of the most touching monuments ever erected in this country to a Royal Consort,' and to give to an architectural structure the character of a vast shrine expressive of the value attached to the statue which it protects.

We, therefore, do not dwell on the objection, likely to be urged, of a certain want of originality in a monument of this kind, because we believe that the beauty of this example, if it could be carried into execution without sacrificing the richness and completeness of its effect, would abundantly compensate for any actual or imagined resemblance to other structures coming under the denomination of a Gothic Cross."

The cost, they fear, cannot be estimated at much less than double the amount subscribed; and to this must be added that no calculation is made for the cost of laying out the ground (in this case an indispensable addition), nor for that of straightening the public road.

"Under these circumstances we still think we are bound to submit our opinion, in the first place, as to the relative merit of the designs. That opinion, after a careful and repeated comparison of those designs, considered irrespectively of cost, is in favour of that by Mr. Scott. The difficulties which present themselves in regard to the estimate can only be met, first, by abandoning for the present the project of a hall; and, secondly, by such an addition to the present available amount as would secure the completion of Mr. Scott's monument without sacrificing its chief characteristics."

They suggest, in conclusion, that Parliament should be appealed to, to supply the required addition to this fund.

This appeal, as all know, was made; and, on the motion of Lord Palmerston, the sum of 50,000*l.* was voted, almost by acclamation, to supplement the voluntary gifts of individuals; and the National Memorial may now be considered a fact accomplished.

That this mode of dealing with the question has given any pleasure to the original subscribers we cannot state. Some of them say, not unnaturally, that as they are now to contribute share and share alike with the people who have given nothing, it might not have been unwise to wait.

THE NATIONAL ALBERT MEMORIAL.

THE acting committee of the Albert Memorial Fund met on the 29th ult., at the Mansion House. Mr. Wm. Cubitt, M.P., presided; and Mr. Alderman Wilson, Mr. Henry Cole, C.B., Mr. Godwin, Mr. Charles Hill, F.S.A., Mr. S. R. S. Goodman, and Mr. Brown were present. Mr. Goodman, the hon. secretary, reported that the total amount received up to the time of the last meeting of the committee in October last was 53,098*l.*; and from that time to the present the amount received was 1,342*l.* The total outlay for expenses was 2,073*l.*, of which 158*l.* only was for office expenses. The cost of advertisements amounted to 1,299*l.*, and the remainder was for printing and stationery. The interest derived from investment of the money amounted to 1,953*l.*, which had nearly paid the expenses. The chairman said that, as the committee were aware, seven architects had been invited to send in designs for a memorial; and if one were selected the other six were to receive 100 guineas each. Seven designs had been received, and that of Mr. G. G. Scott had been decided upon; and, consequently, in conformity with a resolution passed at a former meeting of the committee, he was going to draw six cheques for 105*l.* each, for the purpose of handing them to those gentlemen who had not been successful. More than one of those present complained that the members of the committee had not had an opportunity of seeing the designs. It ought not to be forgotten, it was rightly said, that the committee represented the body of subscribers, and would have to see the projected memorial carried out. Mr. Cubitt said that the designs had been removed within the last few days to the Royal Gallery at Westminster, and he believed that it would be advertised on the next day that they would be exhibited to the public. Some routine business was gone through, and the committee adjourned.

AMBULANCES FOR THE SICK.

THE sudden outbreak, as we may call it, of small-pox in the metropolis, is a very serious circumstance, to which the Privy Council have just called the attention of the Poor-Law Guardians, who are supposed to enforce the operation of the Vaccination Acts. New cases, their lordships state, are arising by hundreds every week within the limits of the thirty-six metropolitan unions; and the number of cases last week, it seems, was double that of the week previous. A district surgeon writes to the *Times* that "small-pox has become so prevalent that it is absolutely necessary the Government should deal with the case *instanter*." He intimates that "the Small-pox Hospital is full and cannot receive any more patients;" and he sees "people walking about in streets and courts and alleys with the disease fully developed, and propagating and extending it in all directions." He proposes that the Government should give up the Queen's Bench Prison for a temporary reception-house: it has to be pulled down afterwards; and something *must* be done. If matters go on as they do now no family will be safe from this loathsome disease. Typhus fever, too, we hear, has been raging at Battersea and elsewhere. We gave warning weeks ago.

Under such circumstances we are especially glad to notice that some of the guardians of the metropolitan parishes are seriously determined upon providing carriages or some other means for the conveyance of the sick to the hospitals, particularly those who are afflicted with contagious disorders. Several plans have been suggested for the purpose of getting rid of the use of public cabs in cases of fever, small-pox, &c. Amongst these it has been proposed to place cabs at certain of the stands for this especial purpose, marking them so that they might be easily recognized. We have made some careful inquiry on this point, and the result is, we do not think this could be made to answer as matter of business; and it therefore becomes a question as to where the considerable funds required are to come from for the support of these carriages, drivers, and horses. It has been by others thought that some enactment should be made to prevent the use of public street carriages for the conveyance of the sick entirely. This, however, would not only be very difficult to manage, but inadvisable otherwise: there are hundreds of sick with disorders not infectious who require cabs for their conveyance to the hospitals or to the residences of physicians and surgeons for advice: there are also many women carried to and fro in cabs in connexion with the lying-in hospitals. These persons would have as much objection to infected cabs, and perhaps be exposed to as much (if not more) danger from them, as those in good health. It, therefore, seems especially to rest on the parish authorities to provide sufficient means for the conveyance of those ill of small-pox, either to their own or to such hospitals as will receive cases of this description. There is a difficulty in the great distance to be traversed in some of the metropolitan unions; but we fear that there is a far greater one in the management by the door-keepers and some other workhouse authorities, who are often so jealous of exceeding their boundaries that, even in such a simple and inexpensive matter as the supply of an ambulance, they would cause delay and trouble which would not only often prevent the chance of recovery, but also cause the spread of infection.

In these posts we ought to have persons of discrimination, who, when the relieving officers and perhaps the master of any of these establishments are not to be seen, should be able to discriminate in urgent cases; and give, in a cheerful, civil, and prompt manner, the information or assistance required by the poor. The other day a woman applied to one of these doorkeepers at the Shoreditch Union, for a medical order for her child who was ill of diphtheria,—a fatal complaint, now prevalent in the district: she was coolly told by Cerberus to "call again to-morrow," but by that time the child was dead. Instances of a similar kind are of far too frequent occurrence. It is a principle of workhouse management not to give the most trifling relief without investigation; and although this is, upon the whole, necessary for the purpose of protecting the ratepayers, still it is often too blindly carried out. We fear, therefore, that the provision of ambulances at the workhouses would not entirely meet what is required, unless liberal measures were adopted for their use.

It has also been proposed that the removal of the sick of infectious diseases should be made a matter of police; but we suspect that it would never do to add this to the already heavy duties of this body: it would, however, be very useful if the police were empowered to compel the masters of workhouses, in case of their refusal, to provide for the immediate removal of certified cases of fever and small-pox to those hospitals or other places to which the sick or their friends might wish their removal.

There is another plan, which would perhaps be the best of any; and which, if an agreement could be made, might be carried out at but little cost: that is, by the contribution amongst the Union authorities of a sum, in proportion to their population, for the establishment of ambulance stations at convenient points. This, however, may be far too comprehensive and reasonable an idea to be adopted; at any rate, at present.

Supposing that proper provision *were* made for the removal of such sick cases as are to be considered infectious, then the placing of such persons in street cabs might be made an indictable offence, punishable by fine. But this, we think should not be made to fall upon the cabmen; for how can they be expected to distinguish between one disorder and another? and if the punishment fell upon them, it would prevent the use of cabs in many instances when their employment was very necessary, and where there was no danger of any injurious effects.

There is a great prejudice amongst the London poor against having their sick removed to hospitals, even when they admit that it would be the best for all: there should, therefore, when an inclination is shown, be every facility given; and it would be found profitable for parishes to set about this in a liberal manner.

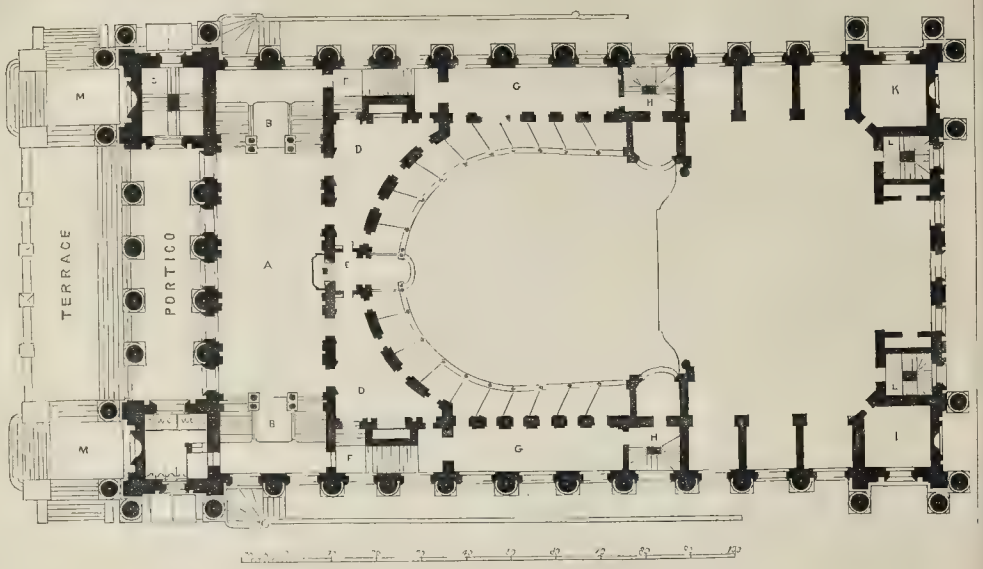
It may be worth while to mention here as a curious circumstance in connexion with small-pox, that an Edinburgh physician, Dr. Smart, of the Royal Infirmary there, has discovered that all unsightly pitting by small-pox is easily and completely preventible by masking or painting the face, or in women the face and neck, with a solution of indiarubber in chloroform. Gutta percha tears into ribbons and peels off, while indiarubber stretches to the movement of the features, mouth, &c.; and it can readily be renewed even if accidentally injured. Under such treatment, according to the *Scotsman*, no vestige of pitting remains, and the mask is rather comfortable than otherwise, as it prevents itching of the covered surface.

COMPETITION.

Bromley Townhall.—Seven architects were invited by the Lord of the Manor, Mr. Coles Child, to submit designs for the elevations of the above-named building; the plans having been previously decided upon, giving accommodation for a market in the basement, police-station, branch bank, Literary Institution, and Townhall. The design submitted by Mr. T. C. Sorby has been selected, and is to be carried out under his superintendence forthwith.

A FATAL BED.

IN an interesting little book, written by Miss Goodman, one of the English Sisters of Mercy who rendered good service during the Crimean war, we have an account of a deadly nook in the hospital at Scutari. This lady says: "In the midst of those struggling between life and death, as are the inhabitants of hospitals, the baneful effect of causes which render the air impure is more evident because it is sufficient to turn the balance, and to produce not merely disease, but its fatal issue. A bed in a corridor in which I worked was so situate that its occupant was near the current of a draft of impure air, which, having travelled up a passage, crossed the corridor to escape through a doorway. Of a number of



NEW OPERA HOUSE, MALTA.—*Plan.*

patients—perhaps twenty—who were assigned to this couch, none left it but for their final resting-place. It was at the end of the corridor at which I entered, so that the first face that greeted me each morning would be that of the soldier on the fated bed; then in a few days I should have to pass his lifeless body. Again, after a short interval, some new tenant would receive me cheerfully, perhaps remarking, as many of those who arrived did, how happy he felt in being from under canvas, and having a house over his head once more,—with a dash of gallantry, some may say, that it was very comfortable when a man was sick out there to see an English woman. As I stopped I used to feel unable to look the poor fellow in the face: there seemed to be in my heart a fatal secret which I was keeping from him. At length, to my great relief, the bedstead was taken away, and that part of the corridor remained unoccupied."

Deadly beds, somewhat similar to the above, may be met with in some of the hospitals and infirmaries in England even at the present day.

NEW OPERA HOUSE, MALTA.

THE new Opera House at Malta is one of several important public works for the embellishment and improvement of the island which have marked the rule of the present governor, Sir Gaspard le Marchant, Bart. It is situate at the entrance of Strada Reale, the principal street in Valletta, and has been designed by Mr. Edward M. Barry. The auditory will contain ninety private boxes, in four tiers, accommodating, with pit, stalls, and gallery, upwards of 1,200 persons. As land in Valletta is exceedingly valuable, the ground-floor of the theatre under the side corridors, and also the lower part of the terrace in front, are occupied by shops; and, according to Maltese custom, residences are provided in the building for the principal artistes. Special arrangements have been devised to withstand the heat of the climate, and fresh air will be conducted to all parts of the house. The saloon, or crush-room, is placed over the entrance-hall, and has five windows, with balconies overlooking the terrace. The painting room and the necessary workshops are in the roof, which has been designed to admit of thorough ventilation. It is constructed of queen trusses, of a span of sixty-four feet, the queen posts of which are carried up to support an attic with louvre windows and bold projecting eaves.

The decorations of the interior will be white and gold, and the lighting will be by a sun-burner, or by the mode recently introduced into the new theatres of Paris in the Place du Châtelet. The building is being constructed of the excellent stone of the island. The works in Malta are being carried on by a native contractor, under the supervision of the architect's clerk of works, Mr. J. Poulson. The carpenter's work, ironwork, stage, and decorations, are to be prepared in England, and have been entrusted to Messrs. Emmerson and Murgatroyd, of Stockport. The building is expected to be completed next year.

REFERENCES.

A. Grand Saloon.
BB. Grand Staircase, right and left.
C. Amphitheatre Stairs.
DD. Box Corridor.
E. Governor's Box.
FF. Right and left Box Stairs.
GG. Box Corridor.
HH. Right and left Stage Stairs.
I. Prima Donna's Room.
K. Green Room.
LL. Artistes' Stairs.
MM. Terrace Entrance, right and left.

BUILDERS' BENEVOLENT INSTITUTION.

A MEETING of the committee of the Builders' Benevolent Institution was held on the 27th ult., when, amongst other business, Mr. Joseph Bird, the hon. sec. of the ball held in February last, produced his balance-sheet and accounts, by which it appeared that the net profit of the ball amounted to 119*l.* 9*s.* 6*d.*, which is carried to the Relief Fund of this excellent charity, so that, in point of fact, this agreeable union of innocent amusement and charitable intent enables the committee to support five pensioners, and must prove a pleasing reminiscence to those who attend it.

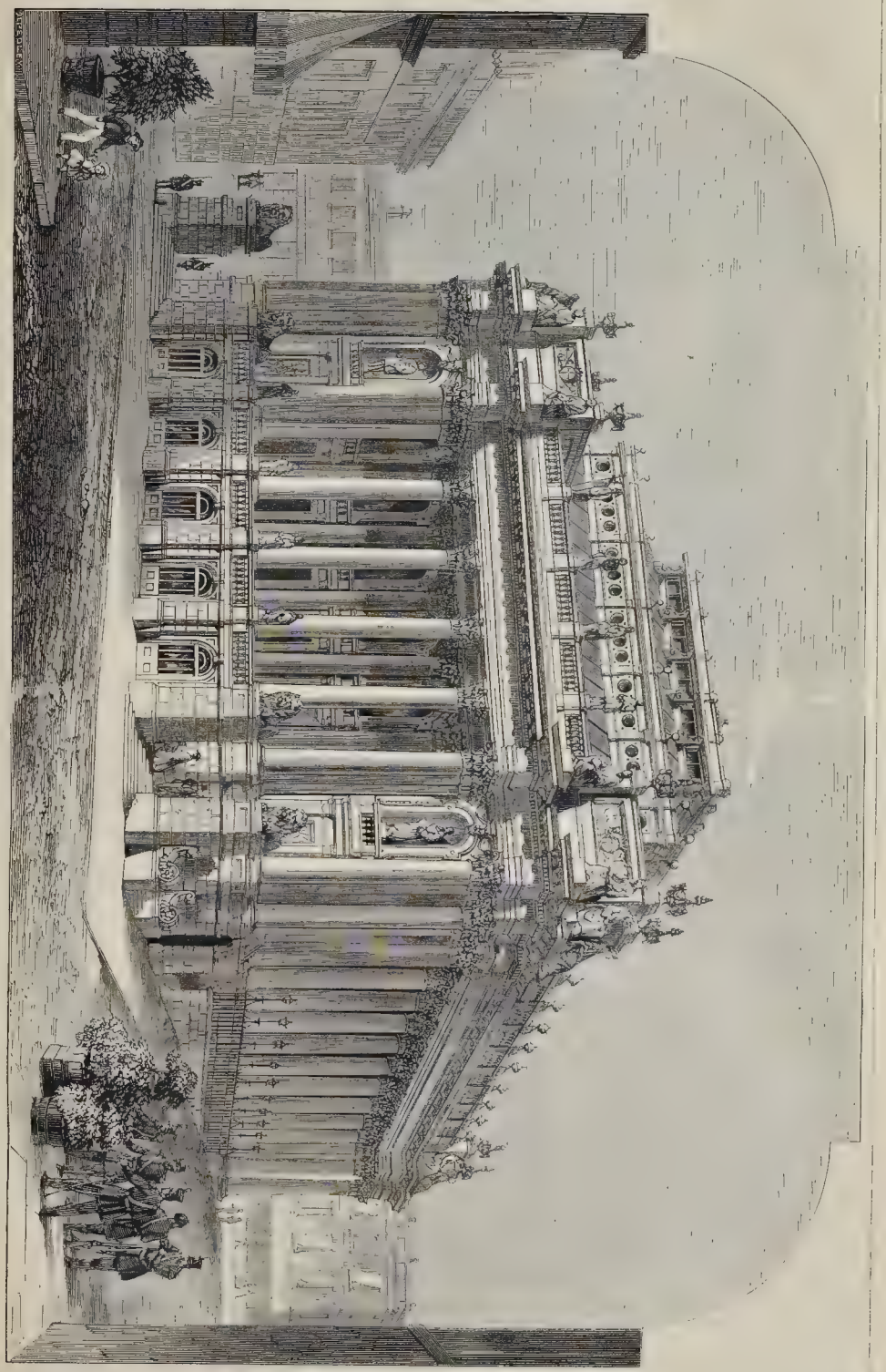
We have so often given acknowledgment to the indefatigable exertions of the hon. sec. and the stewards, through which this success is attained, that it has come to be considered by them a matter of course, and is little appreciated by them accordingly.

CHARGING OF ENTAILED ESTATES FOR RAILWAYS.

THE following is the substance of the report of the Select Committee of the House of Lords on this subject:—I. That the evidence before the committee proves that both the letting and selling value of land is in general greatly increased by its having the advantage of easy access to a railway. II. That the additional value conferred upon land by the construction of a railway is capable of being estimated by experienced land agents and valuers. III. That there is frequently great difficulty in the present state of railway affairs in raising money for the construction of a railway intended to benefit an agricultural district, unless a portion at least of the shares are taken by the owners of the land to be benefited by the line. IV. That landowners have, in consequence, become, in some cases, large subscribers to railways passing through the district in which their property lies, and would probably have contributed much more largely to these undertakings but for the obstacles opposed by the present state of the law to their raising money for the purpose. V. That it is therefore desirable to enable landowners to raise money for the purpose of taking shares in railways calculated to improve their property, on the following conditions:—1. The charge to be imposed upon land for the purpose of taking shares in a railway should be in the form of a rent-charge for a term not exceeding twenty-five years. 2. The amount of the rent-charge to be so imposed upon an estate should in no case exceed the amount of the increased annual value which the Enclosure Commissioners may be satisfied that the construction of the railway will confer upon it. 3. The amount actually paid for shares in the railway, and for the necessary expenses incurred in the transaction, should be certified to the Enclosure Commissioners before they sanction imposing upon the estate a rent-charge sufficient to pay the interest on the sum borrowed for these purposes, and also to pay off the capital in a term not exceeding twenty-five years. 4. No such rent-charge should be imposed upon land until it has been shown to the Enclosure Commissioners that the railway has been completed and open for traffic. 5. The shares so purchased should remain in the hands of the Enclosure Commissioners until the rent-charge shall have expired, when they shall be delivered to the person then entitled to the estate; and while the shares are held by the commissioners, the dividends upon them should be received by the owner of the estate.

WIMBLEDON OLD PARSONAGE.

A CORRESPONDENT, "A. B.," writes,—I see in the last number of the *Builder* a lamentation of a "Wimbledon Villager" on the supposed pulling down of the old parsonage. He may cease his sorrow, as the present owner is doing the necessary repairs to save it from the further ravages of time, and restoring some of its original features that had been plastered over. It is certainly a curious and genuine specimen of its time, and I trust may yet weather out many ages to come.



NEW OPERA HOUSE, MALTA.—Mr. E. M. Barry, A.R.A., Architect.

PLACES, SQUARES, AND TREES OF LONDON.

IT is consoling to find that the Great Globe of Leicester-square has dissolved, and left no wreck behind, save the crippled statue; and were this space, formerly so well shrubbed, a little more adorned with plantations, as it is not to be opened, the effect would be infinitely preferable to the broad arena of gravel that now occupies two-thirds of the space. This is just the spot where a judicious arrangement of shrub, tree, and flower knot would be of the greatest value: it is therefore to be hoped that the latest innovation upon English gardening, the *geometric style*, may not be here adopted. We do not want varicoloured walks or volutes to vie with the Persian shawls hung in the opposite shop windows. The repose of a well-mixed plantation, with a dozen plane trees, of ten years growth, would please the eye more, and might soon afford refreshing shade as well as ornament.

In this climate, one of the happiest for the adoption and growth of all the vegetation of the temperate zones, there is no excuse for neglect of the garden. Notwithstanding the smoke, forest trees in general attain a large size, even in the closest parts of the City, wherever the roots are unmolested by the railway or the sewers; still there is great neglect of plantation with us, as compared with those of foreign cities, where boulevards form grand features, and throw into relief the noble buildings which the growing and improving science of architecture is incessantly multiplying. Our New-road, once a noble route margined with gardens and trees, has vanished: old Brompton-row has been more recently blotted out. Now we are dazzled with the hopeful prospect of having one truly grand central promenade along the river: that ought to be consistent with its incomparable position, and to be made, as Mr. Bazalgette has agreeably shadowed forth, a credit to the City, an enjoyable resource for its pent-up inhabitants, and an atonement for Gothisms hitherto perpetrated and irremediable. There will be plenty of margin on the river's brink, the most favourable in soil and position for gigantic foresters and blooming shrubs. These, as continuations from Richmond-terrace to the Temple Gardens, might really be made the glory of London; but if any such dedication to public taste and health be really intended, rows of houses, stores, and buildings must be admitted with great discretion, and the intervening public buildings as well as Northumberland House Gardens, ought to be particularly kept in view, so as to maintain a continuity of design throughout.

As to the other extensive improvements projected for Westminster—the Abbey and the Houses of Parliament,—here, too, there is great scope for the judicious introduction of trees. There will be ample space beyond Abingdon-street, and the projected widening of King-street if the continuation of Whitehall be too gigantic an undertaking for this small nation) would offer the occasion for embellishments, terminating in the garden opposite the Abbey.

It is true that the new Foreign Office (if the King-street opening be carried out) must be withdrawn, as to frontage, full 50 feet behind the line of the Treasury; and this, too, must create an angle and break in that street, leaving 50 feet of the Downing-street end in view as a projection! What advantage will be obtained by thus widening King-street, instead of boldly grappling with the evil and removing bodily the north side of Parliament-street, it is hard to discover.

Is there any one grand thoroughfare in London without a blot? Holborn is the nighest thing to it; and yet here the poor City cannot remove the Bars, cannot bridge over the hollow! These things have been talked of for years: they may be done hereafter, if the Corporation are in good humour, or should have the coal duties continued.

Now that the public is awakened and expectant, it is devoutly to be wished, whatever great works may be accomplished, that they be done in good taste, with judgment and effect. In accomplishing the river embankment, no doubtful frugality of means to so good and great an end ought to be suffered to mar the effect, or to lose the occasion which, if misused, can never recur.

As to the improvement of squares and public gardens, there is much to be done, and great scope for the arborist and gardener: there is scarce one piece of intramural ground that can be called ornamental garden; certainly nothing like the Hyde Park borders nor the flower walk of Kensington. The noble Lincoln's-Inn-Fields, as to trees, is pretty well; so is Russell-square; but for the rest, even including the Temple Gardens and its pet flower, the wintry chrysanthemum, but little can be said in their praise: Westbourne-terrace, Oxford and Cambridge terraces, are the wretched examples we possess of hortulan taste. What we want is the stately, shady, widespreading plane, the varied shrubbery, and the bed of transplanted flowers: these, with an emerald turf, and rich sanded walks, are all that can be desired to make the English garden a place of repose and of solace.

THE COFFER-DAM AND SYPHONS FOR THE MIDDLE LEVEL DRAINAGE.

INSTITUTION OF CIVIL ENGINEERS.

AT the meeting, April 21, Mr. Hawkshaw, president, in the chair, the paper read was "Account of the Coffer-dam, the Syphons, and other Works, constructed in consequence of the failure of the St. Germain's Sluice of the Middle Level Drainage," by the president.

The St. Germain's Sluice was situate at the confluence of the Middle Level main outfall drain with the River Ouse, near the upper end of the Eau Brink Cut. This drain was made in 1847, from the designs, and under the direction, of Messrs. Walker, Burges, & Cooper. It was deepened by them in 1857, and then had, at the lower end, a bottom width of 48 feet, the side slopes being 2 to 1. The level of the bottom was 7 feet under low-water spring-tides in the river, and the rise of the tide at that point was about 19 feet at spring-tides, the cill of the sluice being 6 feet below low-water spring-tides. The bed of the drain was of soft blue clay, and the sides consisted of variable thicknesses of soft blue clay, peat, yellow clay, and surface soil.

On the 4th of May, 1862, the St. Germain's Sluice gave way, thereby admitting the tidal waters, which ebbed and flowed throughout a distance of upwards of twenty miles. A few days afterwards, the western bank of the Middle Level drain burst, about four miles from the sluice, by which 6,000 acres of land were inundated. Immediately after the failure of the sluice, the author received instructions to execute whatever works might be necessary to shut out the tidal waters, regardless of the expense. The services of Mr. J. T. Leather were secured as contractor, who was ably aided by his assistant, Mr. E. P. Smith. Mr. Alexander G. Linn was appointed resident engineer. Subsequently, after the coffer-dam was closed, finding it impossible to devote so much time to the works as he had previously done; at the author's request, the Middle Level Commissioners associated with him Mr. T. E. Harrison, who has since continued to act.

Before the author assumed the direction of the works, and directly after the failure of the sluice, an earth and cradle dam was attempted to be thrown across the drain, at about 500 yards from the fallen sluice. This was relinquished shortly after the permanent coffer-dam, of pile-work, was commenced; which the author considered was the only plan likely to be effectual, and the site finally fixed upon for which was about 880 yards from the sluice. The coffer-dam might be thus described:—Temporary piles were first screwed into the ground, upon which a staging was erected for the pile-driving engines. Two rows of sheet-piling, 25 feet apart, were then driven transversely down the slopes of the drain on each side, from the centres of the banks to within 20 feet of the bottom, leaving a central space of 88 feet of coffer-dam to be afterwards completed. In this portion of the dam the piles were placed in pairs on each side, 7 feet 6 inches apart from centre to centre, and with a space of 7 inches between each pair. The grooves thus left were for the reception of sliding panels, to be used to fill up the intervals between the several twin piles. Waling pieces of whole timbers were fixed to the inside and the outside, both at the top and as near the level of low water as possible. As the piles were driven, struts and ties were inserted, and strongly-framed raking struts were secured against the dam and against abutments of piles, backed with concrete, on the land. The panels were composed of timbers 7 inches thick, and of variable lengths, firmly bolted together, and further connected and weighted on one side by flat wrought-iron plates. In order to put these panels in place, a frame was erected, from which they were suspended, and from which they could be lowered, and raised, if necessary, by pulleys.

The rush of water through the dam was materially increased when the piles for the panels and the walings were in place; so that, at times, the difference of level between the water on the two sides of the dam was considerable. Aprons, extending the whole width of the drain, and for some distance up the slopes, were formed on both sides of the dam, of sacks of clay, and of gravel, puddle, and stone. Only sufficient stone was deposited in the centre of the dam to stiffen the the clay; but large quantities of puddle were repeatedly thrown in at slack water, most of which was washed away by the rush of water, which acquired a velocity of eight miles an hour.

The first, or lower tier of panels was 7 feet deep, and pointed at the lower end, so as to be driven into the mud. Inasmuch as they could not be driven to the same depth, the second set was so arranged as to raise the panelling to the uniform height of low-water spring tides. During these operations, sacks of clay and gravel were deposited on the inside and the outside of the dam; but, although the aprons were extended, only a few sacks of gravel remained in the inside. It now became clear that the water could only be excluded by shutting the dam at one operation. To accomplish this, the necessary panelling, which had to be 12 feet deep, was suspended from the scaffolding, so as to be dropped into place at slack-water neap tides, when the differential head for the dam to sustain was the least. On the first attempt to close the dam, three of the twin piles on the lower side gave way, releasing some of the bottom panels, after the tide had receded 3 inches, and when there was a head of 8 feet. The other panels were readily lifted and removed; and sheet-piling was then driven up to the level of the lower waling pieces, thereby filling in the spaces between the broken piles. The second attempt, which proved completely successful, was postponed until the succeeding neap-tides; when the panels were dropped into their places in twenty minutes, at low-water of ebb-tide; that time being more convenient; the difference of the head at high and low water not being considered of sufficient importance to counterbalance other advantages. After the panels were lowered, the inside of the dam was immediately filled with clay; sacks of gravel and clunch being deposited in the centre. So complete were the arrangements that the raising of the dam was kept in advance of the rise of the tide, and before high water the dam was completed; the dam not exhibiting the slightest indication of failure, or of weakness. The coffer-dam was commenced on the 16th of May, and the tidal waters were shut out on the 19th of June, 1862.

During this time the means to be adopted for the future drainage of the Middle Level received serious attention. After careful consideration, the author determined that, in addition to such drainage as could be obtained through Salter's Lode-sluice, the old outlet into the Ouse, syphon pipes should be laid over the coffer-dam. This plan of discharging water was not novel to him, having pursued it in 1839, when engaged on the Manchester, Bury, and Bolton Canal. The syphons were sixteen in number, and were laid transverely across the dam, at an inclination of 2 to 1 at the sides, and horizontally over the top. Each end was terminated by a horizontal length, containing the upper and lower valves, laid 18 inches under low-water of spring tides, the top of the syphons being 20 feet above the same level. The total length of each syphon was 150 feet. The syphons were of cast-iron, 3 feet 6 inches internal diameter, and the thickness of the metal was (excepting at the socket ends, where it was thicker,) 1¼ inch. They rested on the top of the dam, and on inclined framework, supported on piles, at the sides. Underneath the extreme ends of the syphons, sheet-piling was driven across the drain. Above the sheet-piling, the spaces between the inclined framework, to the underside of the syphons, were filled in with clunch, clay, and gravel, so as to form a solid and impervious embankment. The bottom of the dam, at the inlet and outlet of the syphons, was protected by substantial wooden aprons, extending across the drain; and a row of piles was driven on each side, inclining towards each other, and contracting the channel to a width of 60 feet, so as to keep the "wash" off the slopes of the drain. The upper or inlet valve consisted simply of a loose hanging flap of teak wood, working inwards as soon as the outward was the preponderating pressure. The lower, or outlet valve, was of cast-iron, turning on a hinge at the top, and fitted with a balance weight, which was capable of resisting an interior pressure, but could be readily released when the valve was converted into a flap opening outwards. The reason for adopting two valves was for the purpose of enabling the syphons to be put into operation, either by exhausting the air, or by filling them with water; but at present only the former method had been tried.

The syphons were put into action by exhausting the air from the inside, by an air-pump having three cylinders, each 15 inches diameter, with a length of stroke of 18 inches, worked by a 10-horse power high-pressure steam-engine. Each syphon could be shut off or be brought into operation at pleasure, by means of slidecocks, fixed on vertical pipes, communicating with a transverse horizontal pipe, in connexion with the air-pump. An overflow pipe showed when the syphons were full of water; and glass gauges were also attached to some of the syphons for the same purpose. The pipes were cast by Messrs. Cochrane & Co., and the steam-engine and air-pump were manufactured by Messrs. Easton, Amos, & Sons.

After the breach occurred it became evident that all attempts to stop it should be abandoned. The area flooded was surrounded by banks, which confined the mischief within certain limits. As soon as the coffer-dam was completed, and the tidal waters were excluded, the breach was closed, by first tipping stone to form a footing for an embankment of clay to the level of the bottom of the drain, above which a small quantity of clunch was mixed with the clay, to stiffen and weight it. The total quantity of material used to restore the bank was about 25,000 cubic yards. The bottom of the drain where the scour had taken place was also repaired, and the banks generally were put in good order. After the breach was secured the water on the inundated land was let off through the Marshland Smeeth and Fen drain and the adjoining Marshland sewer.

In conclusion, the author remarked that he believed the syphons would be found to answer all the purposes of a permanent sluice. They possessed, moreover, the advantage of not rendering the safety of a district dependent upon single pairs of gates; for it was clear that any one or more of the syphons might be damaged or destroyed without affecting the operation of the others or endangering the district.

RAILWAY MATTERS.

The great tunnel under the Crystal Palace has been completed. This is one of the most important of the works in connexion with the metropolitan extension of the railway system in that direction. The tunnel runs from Dulwich under Sydenham-hill to Penge Wood. The chief engineer was Mr. F. T. Turner. The tunnel is 2,200 yards in length: there are, moreover, seven shafts, the deepest of which is 182 feet.

The works have also been commenced at Sydenham for the purpose of placing the various termini of the London, Chatham, and Dover Company in connexion with the Crystal Palace on a level with the building; thus obviating the present serious inconvenience of ascent through corridors and stairs. The contract for the works has been taken by Messrs. Peto & Betts, and the construction is under the superintendence of Mr. Turner, the engineer of the Metropolitan Extension of the London, Chatham, and Dover Railway.

A new station and suitable waiting-rooms on the South Staffordshire line in Wednesbury have long been felt to be desiderata. The branch lines from Wednesbury to Darlaston, and from Wednesbury to Tipton, have led the directors to move the old station, and to erect in its place a range of new buildings. The passengers' station, when completed, will greatly improve the south end of the town. Its style is mixed Italian, in blue brick with white facings. A covered bridge will span the line to the centre platform, lighted at the sides with fluted plate-glass. On each platform will be waiting-rooms. There are three platforms, each 380 feet long, one for the junction on the Darlaston branch, and one for the up and down lines on the main line to Dudley and the Tipton branch. The goods station will be 200 feet long by 70 feet wide. The stations are being erected by Messrs. Branson & Murray, of Birmingham.

The traffic receipts of railways in the United Kingdom amounted, for the week ending the 11th of April, on 10,677 miles, to 548,326*l.*; and for the corresponding week of last year, on 10,237 miles, to 494,057*l.*; showing an increase of 440 miles, and of 54,269*l.* in the receipts. The gross receipts on fourteen of the principal railways amounted in the aggregate, on 7,290 miles, to 423,711*l.*; and for the corresponding week of 1862, on 7,036 miles, to 386,778*l.*, showing an increase of 254 miles, and of 36,933*l.* in the receipts. The goods and mineral traffic on these lines amounted to 216,219*l.*, and for the corresponding week of 1862 to 212,727*l.* The receipts for passengers, parcels, &c., amounted to 207,492*l.* against 174,051*l.* The traffic receipts on sixty-five other lines amounted, on 3,386 miles, to 124,615*l.*, and for the corresponding week of last year, on 3,201 miles, to 107,279*l.*; showing an increase of 185 miles, and of 17,336*l.* in the receipts. The total receipts of the past week show a decrease of 7,109*l.* as compared with those of the preceding week, ending the 4th of April.

An accident of a singular nature threatens the railway from Rome to Civita Vecchia. A subterranean flame, a sort of incipient volcano, has shown itself at Mont-des-Hictres, seven kilomètres from Rome. The flame is on the slope on the right-hand side of the railway in going from Rome to Civita Vecchia. The space occupied by the crevasses which give forth the sulphureous exhalations is about 20 mètres in length by 10 in width. In penetrating the soil to the depth of a mètre, the rock is found to be incandescent and visibly red in open day. This ignited rock is a clayey slate, rich in lignite and in fossil vegetable deposit reduced to a bituminous state.

Several Swiss journals, says the *Science pour Tous*, announce that there is a project for making a new passage through the Alps for the railway, not under Mont Cenis, but under the Simplon,—an announcement which seems ominous as regards the Mont Cenis tunnel if the railway referred to be the one so long in progress. In a conference held at Lausanne by the delegates of the Governments of the Swiss cantons it was decided, it is said, that a special commission should be appointed by the cantons of Geneva, Vaud, Friburg, and the Valais, to come to an understanding with the company which has received the concession of the Italian railway, and to consider the measures to be taken to obtain the realisation of that project. The tunnel would have a total length of 4,600 to 4,700 mètres. The rock, it is said, is easy to penetrate, and so uniform and solid that there are hopes that masonry might be dispensed with.

ALBERT MEMORIALS.

Southwark.—A stained glass window has just been erected in the north transept of St. Saviour's Church, Southwark, in memory of the Prince Consort. In an upper large circular compartment will be found the parochial seal, representing the Transfiguration, with the words, "*Sigillum commune. Sti. Salvatoris in Southwarke.*" The two lower compartments contain the arms of the Prince and Queen. Four large divisions underneath are occupied with subjects illustrative of the Prince's benevolent and devoted life:—"The care of Orphans," "Solomon inspecting Plans for the Temple," "The Scriptures read to King Josiah," "Religious Education." The whole terminates with the inscription, "To the glory of God, and to the memory of the lamented Prince Albert, Consort of Queen Victoria, this window was erected in the year of our Lord 1863." The work has been raised by the instrumentality of the Rev. S. Benson, chaplain of the parish, aided by the contributions of parishioners and others, and was executed by Messrs. Ward & Hughes.

Statues of the Prince Consort.—Mr. Noble has now in his studio clay models of three colossal statues of the Prince Consort, one in the robes of the Garter, the other two in academical gowns. The statues, when finished, are to be placed respectively in Leeds, Salford, and Manchester.

SCHOOLS OF ART.

The Cheltenham School.—The annual examination of this school has taken place. Nineteen medals have been awarded to the works of pupils. Of the drawings thus rewarded, seven have been chosen for transmission to South Kensington, there to compete for the higher distinction of national medallions. A local exhibition of the drawings took place, attracting a large number of the gentry and townspeople, the show of works being generally considered to be the best which has been made, commanding as it has done the largest award of medals ever made in Cheltenham.

The Stroud and Gloucester Schools.—An exhibition of the drawings of the students in the Stroud and Gloucester Schools has taken place in the Mutual Improvement Society rooms, and attracted a large number of visitors. The drawings shown were very meritorious, and reflected credit on the master, Mr. J. Kemp. Of the works of the Stroud pupils thirteen have received medals, and six of these have been selected for national competition. Of the Gloucester school twelve have been awarded medals, and five are marked for national competition.

The Cirencester School.—Mr. Wilde, the inspector of local art-schools, commenced his annual examinations at this school, by testing elementary classes from the Blue and Yellow Schools, the British School, and Watermoor School, in first grade free-hand drawing in outline. To these succeeded lady-pupils, in model-drawing, and in the evening the male adults underwent examinations in perspective, geometry, and orthographic projection. The works executed at the school during the past twelve months were, as usual, exhibited at the Corinium Museum, where the distinction of "medal" was affixed to them by the inspector. Twenty-seven works were selected for reward, and of these eleven were further selected for national competition.

The Newcastle-under-Lyme School.—At the annual meeting lately held, it was stated that there are 360 pupils in this school, and that the number of prizes awarded to them at the last annual examination amounted to thirty-eight, in the proportion of a prize to every nine pupils. At Newcastle, where the art-education of each pupil costs thirty shillings a-year, half this amount has to be provided by public subscription. The Newcastle people propose to erect a suitable building for their school.

MATTERS IN PARLIAMENT.

Sewage of Towns Committee.—On Monday Mr. K. Seymer moved that the analysis of evidence appended to the report of the select committee on sewage of towns in the session of 1862 be cancelled, on the ground of an irregularity in the proceeding of that committee in excluding all debatable matter from the report of the committee, and producing it all in the analysis of evidence. The hon. gentleman quoted from the report and analysis of evidence in proof of the proposition. Mr. Paget seconded the motion. Dr. Brady opposed the motion, and contended that there were three propositions which could not be controverted;—Firstly, that the agricultural interest suffered from the want of good manure; secondly, that that want had been partially supplied by artificial manure; and, thirdly, that it was not for the interest of the trade that any change in the present system should take place. The hon. gentleman then proceeded to criticise the report of the Royal commission, and remarked especially upon that part which alluded to the unknown process of applying manure all the year round. Mr. Ayrton supported the motion. Sir G. Grey thought that there was some mistake in the manner in which the hon. member for Leitrim embodied his views on the report, and recommended the analysis to be cancelled. Dr. Brady consented to withdraw the analysis. The motion was agreed to.

The proposed Market in Leicester-square.—On Monday in Mr. Adderley's committee on the proposed Regent market, in Leicester-square, Mr. E. Saunders, the architect, was examined. The intended structure, projected by Mr. J. L. Taberner, would be an ornamental Crystal Palace structure, built of iron and glass, and surmounted by cupolas, having a southern façade of 300 feet, and another of 370 feet, intersected by eight commodious avenues, divided into appropriate compartments for the sale of fruit, flowers, and other commodities. The case for the promoters having closed, that of the opposition, on the part of the Metropolitan Board of Works and the vestry of St. Martin's, was opened by Mr. Phinn, Q.C., the committee deciding that the parish of St. James, Westminster, and the Marquis of Salisbury were not entitled to a *locus standi*. Mr. Goddard, of the Metropolitan Board of Works, was examined.

On Tuesday the case in opposition to the Bill was opened on behalf of the Metropolitan Board of Works, the parish authorities of St. Martin's-in-the-Fields, and on behalf of 110 of the inhabitants, shopkeepers, and residents in Leicester-square and its vicinity, on the ground that the proposed market, if carried out, would cause inconvenience to the inhabitants of the square and to the locality, as an open space and public thoroughfare. The proposed market would tend to diminish the present respectability of the neighbourhood. Those who professed to claim the freehold had no legal title to it or to sell it, the Court of Chancery having in 1787 decreed the area called Leicester-square a garden or pleasure-ground, and that it should be so kept by the Tulk family for ever afterwards at their own sole cost.

A meeting of the inhabitants of Leicester-square has been held at the Savile Palace, in Leicester-square, for the purpose of considering the Bill before Parliament for appropriating the square as a market. General Sir de Lacy Evans presided. Mr. Marshall, churchwarden of St. Martin's,

moved a resolution, which was carried, to the effect that, from past experience, markets were commercial failures, and tended to depreciate the surrounding property; that the proposed market was uncalled for and unnecessary; and that the Bill should be opposed. Mr. Bidgood strongly urged upon the inhabitants the necessity of preserving the square as an open space. He referred to the vast outlay recently expended in opening the approaches to the west through the new street from Covent Garden and Cranbourn-street, and urged that the proposed market, if successful, would, from the traffic anticipated, render nugatory the outlay expended. It was also resolved that the committee be requested to continue their exertions to keep the open space, and that the funds raised and to be raised be applied in opposing the Bill to appropriate the square as a market.

Since this was in type the committee have thrown out the Bill.

The New Street from Blackfriars Bridge to the Mansion House.—The select committee appointed to consider the question of a new street from Blackfriars Bridge to the Mansion House have passed the preamble of the Bill, and agreed to the main clauses.

PROVINCIAL NEWS.

Norwich.—The St. Andrew's Hall restoration committee have reported to the city council that in answer to advertisements nine tenders were received, three of them for doing the entire work, and six for doing portions of the work only; that it was deemed advisable the whole works should be under the control of one contractor, and they therefore recommended the council to accept the tender, being the lowest sent in, by Mr. J. W. Lacey, for doing the whole of the works at the sum of 2,870*l.* This recommendation was agreed to by the council. About 1,500*l.* will have to be subscribed by the city and county to aid in carrying out the restorations, the rest being met by funds in the hands of the corporation.

Kingston.—Considerable alterations and additions have been recently made to the Militia Barracks in this town. A new guard-room, additional stores, quarters for the serjeant-major, and a detached hospital, have been built, and a parade-ground, measuring about 500 feet by 300 feet enclosed. The whole of the works have been executed by Mr. Sims, of Richmond, under the direction of the architect, Mr. C. H. Howell, of Lancaster-place.

Deal.—This town, in a few months, it is said, will again be provided with a landing-pier, to which steamers may draw and passengers land, and which will also improve the general aspect of the town. The ceremony of driving the first pile, or rather of embedding the first column in concrete, has just taken place.

Chester.—The taking down and rebuilding of the Royal Hotel will shortly be commenced. The tender of Mr. T. Hughes, builder, Aldford, has been accepted for the work, it being the lowest of the three tenders to which the number sent in were reduced. The following were the tenders sent in:—R. Bellis, Chester, 20,300*l.*; Clarke & Jones, Manchester, 18,391*l.*; Niell, Chester, 17,632*l.*; B. & O. Owens, Chester, 17,091*l.*; J. Roberts, Chester, 16,992; T. Hughes, Aldford, 16,957*l.* 17*s.*

Edinburgh.—The foundation stone of the new Edinburgh Magdalene Asylum, at Dalry, has been laid by the Lord Provost. The plans for the building were prepared by Messrs. Leadbetter & Smith, of Edinburgh. The style of the building is the old Scotch baronial, but as the funds of the institution are limited, it has been kept very plain. The entrance-hall and staircase are situate in the centre of the ground-floor, from which passages, 6 feet wide, run right and left, communicating with the apartments, &c. There are in all six dormitories, in which sixty-three beds can be erected. "The thorough ventilation of all the large rooms and dormitories," says the *Scotsman*, "is secured by a simple but efficient method. It has been the aim of the architect to render the working and management of the house as simple and easy as possible, and for that purpose all the work will be done on the ground-floor; and for supervision the matron's business parlour is placed between the sewing-room and laundry, with a door opening into each." The contractors for the work are:—Messrs. A. Dryden, mason; R. Henderson, wright; J. Grieve, plasterer; A. M. Peters, plumber; and A. Slater, slater.

Elgin.—The city improvements, says a local paper, proceed without intermission. Two large mansions have been contracted for: one, in the old Baronial or Scotch style, with castellated towers and pinnacles, is to be erected for Mr. A. Lawson, Oldmills, on a commanding and beautiful site opposite the "Conet Hill." Another house is to be erected on the south-east end of Guildry-street, by Mr. M'Intosh, clothier. This villa is to contain all modern improvements and accommodations. The contractors are Messrs. Macdonald & Gerrie, builders; Anderson, carpenter; Findlay, slater; Proctor, plasterer; and Hunter, plumber. The first-named mansion is from a design by Messrs. Reid & Mackenzie, architects; and the latter by Mr. Petrie, architect, both of Elgin.

Inverness.—Part of the works of the new street, says the *Elgin Courier*, are now contracted for: these are the Academy-street part, which consists of six shops. The contractors are:—for the mason's work, Messrs. Cumming & Ellice; carpenter's work, D. Munro; blacksmith's work, W. Smith, founder; plasterer's work, Duffus; plumber's work, Logan & Thompson; slater's work, Russell. The members of the 1st U. P. congregation are to build a church. The section of the work on Church-street will soon be contracted for. The demand for the shops and other tenements is immense, and they are let at very high rents. These improvements have also prompted the members of St. John's Episcopal Church to determine on finishing the spire of that building. Nor are other points of the town awanting as to improvements. The extension of the Station Hotel is now well-nigh complete. The workmen are busy at the new engine-house at the railway station. The Territorial Mission Church is being proceeded with.

STAINED GLASS.

Watford Church.—A memorial window has been placed in the north aisle of this church to the memory of some officers who were killed during the Indian mutiny. The window is from a design by Messrs. Lavers & Barraud. The larger figures represent David and Joshua,—as two of the most celebrated warriors in Old Testament history. The smaller compartments contain illustrations from the life of David,—his triumphant return after slaying Goliah, and the incident of his sparing the life of Saul when he was in the cave at Engedi. The one is supposed to illustrate the lawfulness of war, and the other the unlawfulness of treachery. The window bears the following inscription:—"To the Glory of God, and in memory of Lieutenant-colonel James Pratt, Lieutenant-colonel Charles Chester, Captain James Fagan, Captain Thomas H. Hillind,—all of the 23rd regiment of Bengal Native Infantry, who fell in the mutiny and rebellion in India, A.D. 1857. Erected by their brother officers." The west window of the church is very much defaced: its stone mullions and tracery have been replaced by woodwork, and part of the window is blocked up by brickwork: it is proposed to restore it, with a design in commemoration of the recent marriage of the Prince of Wales. A voluntary subscription has been set on foot in order to raise 150 guineas for this purpose.

Shottesbrook Church (*Maidenhead*).—A large stained-glass window has just been placed in Shottesbrook Church, as a memorial of the late Captain Nicholas Vansittart, of her Majesty's ship *Magicienne*, who died of wounds received at the storming of the Taku forts in China. The window has been erected by his brother officers, as a token of the esteem in which they held him. The design is "The Ascension," by Messrs. Hardman, of Birmingham, and the window has been fitted in by Messrs. Allwright, plumbers, &c., of Knowl-hill. We believe the cost will be between 300*l.* and 400*l.*

Sowerby Church.—A stained-glass window has been inserted at the end of the north transept of this church, as a memorial to several members of the Cayley family, who have resided in the parish of Sowerby, near Thirsk, for a great number of years. The window, which is in the Norman style, is composed of three separate lights. The stained glass has been presented by Mrs. Favell, of Derwent Lodge, Keswick. The artists were Messrs. Warrington & Sons, of London.

Armagh Cathedral.—A competition was called for a painted glass window to be placed in Armagh Cathedral to the memory of the late primate. Messrs. Hardman, Clayton & Bell, O'Connor, and Lavers & Barraud, were invited, and the latter are the successful competitors. It may not be generally known that the late archbishop, at great cost, restored much of the cathedral; and this fact has greatly influenced the artists in preparing the design. The tracery represents our Lord in glory, attended by beatified saints. The first tier in the three lower lights illustrates the Dedication of the Temple by Solomon; the middle tier, its restoration under Ezra and Nehemiah; and the bottom tier represents in the centre opening the mission of St. Columba to Ireland; the left-hand side the founding of the cathedral by St. Patrick; and on the right the late primate with plans before him for its restoration, and handing a bag of money for that purpose.

CHURCH-BUILDING NEWS.

Taunton (*Somerset*).—The new church of St. John the Evangelist, just completed at Taunton, and which has been erected at the sole cost of the Rev. F. J. Smith, has been consecrated by the bishop of the diocese. The church, which is situate near to the new shirehall, has been built from a design by Mr. Scott, in the Early Decorated style; the builder being Mr. H. Davis, of Taunton. The seats are open and entirely free, and there are sittings for about 600 persons. The stone employed in the structure is Westleigh stone, with dressings of Ham Hill, Bath, and Bishop's Lydeard red sandstone; and the roof is covered with ornamental tiles. The church consists of a nave and north and south aisles, with chancel, north chapel, and organ space. The length of the building, from the chancel to the western door, is 110 feet, and the extreme width of the interior is 56 feet. The shafts of the chancel arch are of polished Devonshire marble, and the labels terminate with heads of the apostles Peter and Paul. The shafts of the chantry arch are of Devonshire marble, the capitals being symbolical representations of the holy Eucharist. The north and south aisles are separated from the nave by four bays, the arches of which are constructed alternately of Bath and Ham stone, the labels being of red sandstone, and the shafts are sculptured. The terminations of the labels are stopped with foliage and representations of human heads of singular expressions. On the last capital of the southern side of the nave, and close to the western door, is a dove bearing an olive-branch in its mouth. Close to this the font is situate, and the idea which the sculptures intend to convey is that the church of Christ is to be entered by baptism. The roof of the nave is open timbered, varnished, and the interstices of the rafters are stuccoed and decorated; and the corbels supporting the principals are ornamented with foliage. The eastern or chancel window is of three lights, the shafts Devonshire marble with foliated capitals. The aisle windows have red sandstone shafts, with labels of ornamented stone, terminating with bases, and are pierced with trefoils and quatrefoils. The western window is a three-light. It has, like the eastern window, Devon marble shafts: the capitals are carved, and the labels terminate with the head of the queen on the right and that of a bishop on the left, thus representing the union which subsists between the Church and State. The eastern window has been painted by Messrs. Minton & Powel, and represents subjects in the life of Christ. In the eastern window, painted by the same firm, is a representation of the Transfiguration, and on the top three small angels in compartments. The pulpit is principally of Ham Hill stone. The materials of the porch alternate with Ham Hill, Bishop's Lydeard, and and Bath stone. In the apex of the arch is a corbel in Bishop's Lydeard stone, supporting a figure of St. John the Evangelist, the emblematic eagle being at his feet in an ornamental niche supported by carved capitals. At the western end of the aisles are two two-light windows. The sedilia are composed of alabaster and Caen stone, with shafts of Cornish serpentine, with foliated capitals and carved bases. The reredos is composed of a centre arch with two smaller arches on either side. The centre arch is diapered, and in the centre is the sacred monogram, composed of the letters "I. H. S.," the whole illuminated with blue, gold, and red. The floors of the chancel and aisles are laid with encaustic tiles, in pattern. The tower, which is intended for an organ, has two arches, the corbels of which are carved in the Columbine style of foliage. The seats of the church are all of pitch pine varnished, open, low backed, and are calculated to accommodate about 650 persons. The tower is 80 feet high, and from it rises a spire of about the same height. The tower springs from a massive base, and has two tiers of windows with foliated capitals, the labels terminating with bosses. Above is another tier of sunk diapered carving. At the angles of the tower, near the point from which the spire rises, are four niches, in which are placed colossal statues of the four evangelists. The entire carving of the building

has been executed by Mr. Herley. The spire is constructed of Ham stone, and is perforated with storm lights. We are indebted to the *Taunton Courier* for these particulars. The total cost of the edifice has, we hear, been about 9,000*l.*

Aberdare.—The old churchyard having been closed for interments for some time, application was made to the Ecclesiastical Commissioners for a new site. One has been obtained in Maesydre, and the following tenders for the erection of a new church were submitted for consideration:—Mr. P. Rees, 2,797*l.*; Mr. D. Richards, Aberdare, 3,837*l.*; Messrs. James & Price, Cardiff, 4,014*l.*; Mr. Williams, Llandaff, 4,200*l.* The several tenders were referred to a committee for consideration.

Llanbedr.—The chief stone of a new church was laid here on the 31st ult. The church, which is dedicated to St. Peter, will seat about 200 persons. On plan it consists of a nave 48 feet by 22 feet, chancel 15 feet by 28 feet 6 inches, with polygonal apse, organ chamber, vestry, south porch, and bell tower, which rises to a height of 60 feet on the south front. The style is Early Decorated, Continentally treated, the coloured stones, with which the locality abounds, being freely used in the arches, shaft-bands, &c., throughout the church. Internally, the building will be open-timbered to the ridge, and plastered between the rafters. The pewing will be open throughout, simply varnished; the chancel roof of panelled work. It is proposed to fill in the whole of the windows with stained glass, and lay the chancel and aisles with encaustic tiles. The architects are Messrs. Poundley & Walker, the contract being taken by Mr. James Porteus, of Welshpool, builder.

Castle Caereinion.—The foundation-stone of the new church now in the course of erection in this parish has been laid. The necessity of building the new church upon the old site made the removal of the old building imperative. The church will be built in the Rustic Gothic style, with lancet windows, and will consist of a nave, chancel, vestry, tower, and spire. The dimensions of the nave will be 49 feet by 24 feet 6 inches; the chancel 22 feet by 15 feet. The tower and spire will be 100 feet high. The edifice will be built with Welshpool stone, with a layer of bricks inside to prevent damp. The roof will be open-timbered, with plaster between the rafters. The internal fitting-up will be on the open-pew system, and is calculated to accommodate 220 persons. The church is dedicated to St. Germanus. The architect is Mr. T. H. Wyatt, of London; and the contractors are Messrs. Chester & Son, of Liverpool. The entire contract is for 1,680*l.*, which, with architect, will amount to about 1,800*l.* It is not intended immediately to proceed with the spire. The amount of the present contract is 1,430*l.*

Liverpool.—We are requested to explain that the statement quoted from a Liverpool paper, that "Mr. Wortley, engineer, has had the superintendence of the laying out of the grounds" at the Anfield Park Cemetery is incorrect, the whole of the works excepting those belonging to the building department having been carried out from the designs of Mr. Edward Kemp, and under his superintendence; Mr. Wortley having acted solely as his clerk of the works.

Birmingham.—The Town Council has, after a long and warm debate, voted a sum of 800*l.* for building a Roman Catholic chapel in the Borough Cemetery, by a majority of 24 against 21.

Oxford.—St. Aldate's Church, Oxford, after having undergone extensive alterations and improvements, has been re-opened for divine service. The restoration which has just been brought to completion, remarks the local *Journal*, had for some years been considered a most desirable object. It was resolved to enlarge and entirely reseat the building, so as to obtain 274 additional seats, and to devote the whole of the increased accommodation to the poor, for whom scarcely any provision had previously existed. The erection of parish schools, on an enlarged scale, was included in the prospectus; but, although the site has been purchased, this portion of the plan has been for the present deferred. The two undertakings would, it was estimated, require about 4,600*l.*, but the restoration of the church alone involves a cost of but little under 4,000*l.* Mr. J. C. Christopher, of London, the rector's cousin, furnished the plans, and the work was intrusted to Mr. J. C. Curtis, of Oxford, builder. The most prominent improvement is the enlargement of the aisles, both of which have been thrown out about 24 feet to the east. The south aisle, which is believed to have originally been a separate chapel in connexion with Pembroke College, was partially shut off from the nave by a wall. This has been removed. The tracery of part of the east window of this aisle has been retained. The roof of the nave is entirely new, as well as that of some other portions of the edifice. The arches rest on columns of Aberdeen granite, similar to those in the New Church of St. Philip and St. James, and the gaslights are arranged on coronals round the tops of these columns. The pulpit (given jointly by Mr. H. Grant and the architect) is of Caen stone and five-sided, the letters "I. H. S." being chiselled in the centre, and vine and other fruit leaves, &c., sculptured on the remaining sides. These, as well as the foliage and other ornamentations, have been executed by an artisan named Beate, whose skill has been in request at St. Mary's Church and other of the collegiate buildings. Two ranges of low pews run the whole length of the nave and aisles, so that the church now contains 800 sittings, nearly 300 free. The building will be warmed by hot-water-pipes, which have been fixed under iron gratings in the floor. The entire structure has undergone repair. The churchyard has been lowered, re-turfed, and planted, and the railings re-fixed just above the level of the street. The church is not yet entirely finished, the capitals, &c. having yet to be sculptured, and some other work to be done.

Bicester.—The old parish church of Bicester, which was in a very dilapidated condition, has undergone a restoration. The roof has been stripped and nearly all made new. The windows and tracery of the windows have been restored, and in several places made new. Four galleries were pulled down, and the vestry has been thrown open to the church. The pews have been replaced by open sittings. The outside of the church tower and chancel has been pointed with dark cement, showing the courses of the stonework. The chancel has also been roofed anew, and new windows put in. A new organ has been built expressly for the church, at a cost of 200*l.*, by Messrs. Gray & Davison, of London. A large five-light memorial window is being erected in the chancel, the gift of Mrs. Fryer, in memory of Sir Gregory Osborn Page Turner, Bart. The subject is the Ascension, and the artists are Messrs. Cox & Son, of London. The restorations have been carried out by Messrs. Fassnidge & Son, builders, Uxbridge, from designs prepared by Mr. Beesley. The entire cost will amount to little short of 3,000*l.* The edifice has been re-opened.

Hinckley (*Leicestershire*).—The Parish church has been opened for divine service after the restoration of the windows and chancel. The chancel was in a most ruinous and dilapidated state. The east window (early English) was in many places almost entirely gone. In the upper part of this window were some pieces of stained glass, irregularly placed, and apparently of great antiquity. From some peculiarities of colour and construction, they are stated by Mr. Evans to be of the period of the battle of Bosworth field. The four side windows were in a little better condition. The window is now re-filled with stained glass, of geometric pattern, the colour being of the deepest tone, with a figure in the centre light of Our Saviour "as the Man of Sorrows." The four side windows are of cathedral glass, with coloured coves and circular medallions of colour in the different compartments. Mr. Sebastian Evans was the designer, at Messrs. Chance's works, Birmingham. The whole of the chancel has been laid down with tiles from the manufactory of Mr. Whetstone, of Coalville, who, at his own cost, tiled a small portion which would otherwise have been incomplete. In place of the pews have been substituted two carved rows on each side, of oak stalls, with four brass standard gaseliers from the manufactory of Messrs. Cotton, of London. The architect employed was Mr. W. Gillett; the surveyor Mr. W. Redman; and the builder Mr. Broadbent, all of Leicester.

Kingsthorpe (*Northampton*).—The Kingsthorpe church restoration is proceeding. On removing the plaster from the old Norman arcade of the nave, the masonry has been found in so shattered a condition, that more has to be taken down and rebuilt than was at first contemplated. The two western arches, for instance, over which the great gallery was inserted about thirty years ago, have suffered sadly, and have been found too weak to bear with safety the new clerestory walls. Under some of the Norman piers blocks of wood had been wedged in and covered over: small plugs had been inserted in the arches: gaps in the masonry had been filled in with mortar: the bases of the piers had been cut and hacked away to make way for pews, till their state had become most insecure; and, in one case, a brick grave had been formed close up to one of the piers of the chancel. Traces of wall paintings have been discovered, apparently of three different dates, but nothing sufficiently perfect to be worth preserving. About twenty of the old gravestones with sculptured crosses have been discovered. These had been used in building the clerestory walls, probably in the fifteenth century.

Retford.—The church of Retford is about to be restored. About 1,500*l.* have already been raised towards the work. The chancel is to be entirely re-built, and a north aisle and north porch are to be erected. There is already a south porch. The roof is to be of its original pitch, and open seats are to be substituted for the high pews.

Bolton.—The opening and dedication of a Congregational church and school, took place on Good Friday last. These buildings are in the Gothic style of architecture, from designs by Mr. Thomas Oliver, Newcastle-on-Tyne, and cost 6,000*l.* The church will accommodate 1,200 persons, and has a tower and spire at the north-east angle. Mr. Marsden, of Bolton, was the builder.

Kirk Smeaton.—The ancient church at Kirk Smeaton, near Pontefract, has been re-opened after restoration. The church, before the restoration, showed a nave and chancel, and north aisle and west tower, and the disproportion of the north aisle with the nave, or southern aisle, detracted from the beauty of the building. To remedy this, the attention of the architects, says the *Doncaster Gazette*, has been directed. There are various parts that from beneath the heap of plaster now show the original features and decorations of the church. In the north aisle the work has perhaps been the most extensive; for, whilst alterations alone characterize the chancel and nave, this side has been enlarged, to dispense with that disparity of dimension between it and the nave, that so much detracted from the effect which architects seek to secure in ecclesiastical buildings. The north aisle has been pulled down and entirely rebuilt, and widened by some feet, and continued eastward towards the chancel, into which a new arch is opened, and a number of additional seats procured. A new vestry has also been added on this side, the entrance to which is from the north-east side of the chancel. The chancel improvements are varied. Where practicable the arcade and walls have been cleansed, and the stonework appears in many places. The open roof is exposed to view, and though too old to allow of its remaining as the architects found it, the original plan has been followed, at considerable cost. The roofs of the chancel, the nave, and the north chapel, are all of high pitch, the woodwork stained and varnished, with carved ribs and stone corbels. The aisles are newly paved with Staffordshire tiles. The glass introduced is of cathedral quality, with stained borders of blue, yellow, and red, in the east window (above the altar), the window in the east end of the north aisle, and also in one or two in the south side. Externally the entire edifice is re-faced. The tower windows are restored, a vane affixed to the summit, and a lightning-conductor provided. The roof is covered with Welsh slates. The churchyard is enlarged, a breadth of 15 feet being added to it, on the north side, for a length of 60 yards. The amount of contracts and additions for the new north aisle and vestry, new windows, rerooofing, new seats, and heating (but not including the clock, which was subscribed and paid for separately), was 953*l.*; and towards this 779*l.* were promptly subscribed, leaving a deficiency of 174*l.* By these alterations 158 free sittings have been provided. The extended accommodation affords seats for 260 persons, of which number 60 seats are set apart for the children of the Sunday-school. The architects under whose directions and from whose designs the restoration has been made, were Messrs. Atkinson & Brother, York.

ROTHERHAM WATER BILL.

DATING from Berlin, Mr. Hawksley writes,—"As you have been pleased to admit another communication from Mr. White, I beg to repeat that 'I did *not*, in my evidence before the Committee of the House of Commons, on the Rotherham Water Bill, say that the consumption of water in Worksop was eighteen gallons per head daily,' or in any other way mention or refer to Worksop."

On forwarding a precise requirement to Mr. White for the grounds on which he, in an official position, had made the charge against Mr. Hawksley, now denied; he returned us a copy of the *Sheffield Independent* (March 24th), in which Mr. Hawksley is reported to have said, in evidence, when stating the quantity of water consumed per head per day in several towns;—

"Nottingham, 17 gallons; Derby, 10 gallons; Sheffield, 18 gallons; Manchester, 21 gallons; Salford, 17 gallons; Bolton, 16 gallons; Bury, 16 gallons; Sunderland and South Shields, 15 gallons; Berwick, 16 gallons; Norwich, 14½ gallons; *Worksop*, 18 *gallons*; the average of the whole being 17 gallons."

With Mr. Hawksley's letter before us, we have no hesitation whatever in asserting that this must be a misprint. Moreover, we feel bound to say that it was the duty of Mr. White, writing, too, as a public officer, to ascertain the truth of his premises before making this charge; still more so before repeating it; and that he owes both ourselves and Mr. Hawksley an apology.

A DISCREDITABLE OFFER.

SIR,—The practice of competition would appear to retrograde entirely, to judge from the enclosed disgraceful advertisement abstracted from the columns of a daily paper of the 20th ultimo:—

"TO ARCHITECTS AND BUILDERS.—A clergyman, about to build a parsonage house, would be glad to receive designs and estimates for the same. He offers a premium of 5*l.* for the set that will be chosen, and pledges himself to return rejected designs to their owners. The cost of the house is not to exceed 1,200*l.* Accommodation required—porch, hall, dining and drawing rooms, study, kitchens, butler's pantry, w.c., and other offices, cellars, stable, and coachhouse; six bedrooms upstairs, two of which to be nursery and nursery bedroom. Designs, &c., to be sent free, on or before the 1st of May, to ——, Leinster-gardens, Bayswater."

I presume that clergymen in general are supposed to have at least some little knowledge of the architectural profession: in this instance, however, the advertiser seems ignorant of all professional practice, or to be animated by the unworthy desire to obtain the experience and labour of an architect in preparing a complete set of drawings and estimate for a house of 1,200*l.* for the paltry and insulting pittance of 5*l.* He surely cannot expect that any gentleman with the smallest particle of honour for his profession will deign to notice such a disgraceful proposition. I offer no apology for trespassing upon your valuable space: the columns of the *Builder* are well known to be open to show in a true light any degrading offer to obtain the services of professional men. JUSTITIA.

A SITE FOR THE ALBERT MONUMENT.

SIR,—Permit me, at the eleventh hour of the great "Albert Monument" question, to suggest the corner of the Green Park, at the top of Constitution Hill, opposite to Baron Rothschild's new mansion, as a more eligible site than the more remote spot at Kensington Gore.

The ground is elevated, and commands views of St. James's and parts of Hyde parks, Westminster, and Imperial and Buckingham palaces, and would be visible from Kensington, Bayswater, and Piccadilly, the greatest thoroughfare in the west end of the metropolis. A SUBSCRIBER.

*** This site has been suggested in our pages before.

MONAGHAN ASYLUM COMPETITION.

SIR,—The unsatisfactory results of recent architectural competitions in Ireland, have been the subject of much complaint; and the architects of Ireland have recently held several meetings to devise such measures as may in future guard the profession from the injustice so often wrought by the arbitrary conduct of committees. Architects are now invited to submit designs for another important building, the new Lunatic Asylum for the counties of Monaghan and Cavan. There are a few facts respecting this and the other asylums now about being erected throughout Ireland, to which I think attention should be directed.

Orders have been issued by the Lord Lieutenant in Council, for the erection of six new lunatic asylums in Ireland. The arrangements are under the direction of Commissioners of Control (corresponding to English Commissions in Lunacy), acting in conjunction with local committees appointed by the various county grand juries. The selection of designs, and appointment of architects, have been generally left to the committee, subject to the approval of the Board of Control, who have an architect in Dublin, appointed to advise and report to them on all designs adopted by the local committees, previous to their being carried into execution.

So far all seems reasonable and fair. The following particulars, however, are of a different character, and should be noted by all intending competitors.

It would appear that the advising architect to the Board of Control is also permitted to act as architect to any of the asylums of which the local committee may appoint him, and that it forms part of his agreement with the Board, that he is to design and superintend these for half the usual architects' commission, or 2½ per cent. on the outlay. A letter to this effect was addressed by the Board to each of the local committees; and, in consequence, the Board's architect was appointed for two of the asylums, which are now in course of erection. As a further consequence, in the case of two other asylums, where the local committees did not wish to employ the Board's architect, the low terms of his proposal were made the ground of endeavours to induce other architects to undertake the work on the same terms, and in one instance with success.

Passing over the anomalous position occupied by the Board's architect, it is much to be regretted that the Board of Control, composed as it is by men of high standing in various professions, should adopt measures which, while unfair and injurious to the architectural profession, can hardly be expected to produce any really economical or satisfactory results to the public service.

As regards the Monaghan committee, they have stated that, while not pledged to employ the author of the best design to carry out the work, it will be their desire to do so. They have not stated, however, whether, in the event of his being so employed, they propose to pay the usual commission or not; and with the above-mentioned facts before them, this question becomes of some importance to those architects who may be disposed to submit designs. ALPHA.

TEMPTING BAIT.

SIR,—When at Manchester the other day, my attention was called to the following advertisement. Knowing your willingness to expose such unprofessional practices, I have thought proper to forward the same to you. J. W.

"SMITH, Practical Architect, Sanitary Engineer, Surveyor, Valuer, &c., —— Street, Manchester. — Plans, Specifications, &c., for Places of Worship, Schools, and Buildings for Charitable purposes made, free from charge. Plans, Details, and Superintendence for any description of Property, 1½ per cent."

THE WEDDING PRESENTS.

COULD not one day in the week be set apart so as to enable the "upper ten thousand" to see the presents to the Prince and Princess of Wales, at an entrance of, say, one guinea or half a guinea, or even 5s.? Let the "people" have the other five days, at free and sixpenny admissions, as at present; but let the upper and professional classes have one day, and on that day a chance of really seeing the presents; without, as is now the case, having to stand a squeeze of nearly two hours, and even then, on arrival at the objects, being "moved on" without seeing them. I am sure many hundreds, and perhaps thousands, of people would avail themselves of that *quasi*-exclusive day, and a large sum be raised, which could be applied in charity in Bethnal-green and elsewhere.

C. J. PALMER.

MEDIÆVAL ARCHITECTURE OF PALESTINE.

YOUR correspondent, "G. V. R.," puts to me, through your columns, two questions on the report taken of my lecture on the Mediæval Architecture of Palestine, which I am happy to have an opportunity of elucidating; as its brevity, as compared to the *spoken* lecture, may require some explanation for many.

In speaking of a very fair specimen of the churches built by the Crusaders in Palestine and Syria, I observed that it had a cupola over the centre of its transept, which is commonly the case with churches of that period in Palestine. This feature did not exist then in European churches, and the Crusaders must have borrowed it *there and then* from the Arabs. It is found in subsequent churches built by *Latin* Christians in the South of Europe, such as those of the Morea, Candia, Sicily, and the continent of Italy. The work on the churches of the Morea, published by Didron about 1852, and the works of Hittorf and of the Duke of Serra di Falco on Sicily, are my authorities for such an assertion as regards these countries; while my own visits to Pisa, Sienna, Ancona, &c., are my authorities for asserting this of the continent of Italy. Having now answered "G. V. R." to the best of my power, may I ask him why he calls my assertion *astounding?*

As to the "basilica," the report of my lecture seems to me tolerably clear. In speaking of many early churches, consisting of a single nave and apse, I note that the word "basilica" was applied to the hall of Roman mansions, as well as to Roman halls of justice; and, considering how many churches Christians had in Palestine and Rome, before they could have any prospect of ever obtaining possession of public basilicas, I conclude that the original type of early churches was the mansion or *private* basilica, consisting of a rectangular hall, with a semicircular recess or *oriel* attached to one end of it, and not the *public* basilica, which is itself a development of the former, and which could only suggest a development of the original form of a Christian church.

GEORGE J. WIGLEY.

THE THOROUGHFARES.

SIR,—It appears to me that the real cause of the disasters at the late festivities was not so much a collapse of the City police organization as the general apathy of the Corporation on the subject of street improvement. A glance at a map of Paris, or any large French town, will show that our neighbours are wiser than we in the matter of street arrangement; for at the junctions of large thoroughfares provision is made, by circular spaces, for the additional traffic which is a consequence of the junction. If the City would go vigorously to work, opening up and demolishing with an earnest will, our streets would in a few years bear some proper proportion to the population.

The perpetual and disgraceful blockade at the junction of Leadenhall-street and Cornhill, and at the junction of Fenchurch and Gracechurch streets would be remedied by the making of a circus at those points; and now that the new street is to be made to the Mansion House it is imperative that a larger space should there be opened up than exists at present; but no opportunity is availed of, and the houses opposite Charlotte-row, now removing, are to be immediately rebuilt in a substantial style: so that we shall have seven streets pouring in their myriads upon this central point on some future gala day; and the result will be something still more frightful than on the last occasions. A CITIZEN.

HUNGERFORD HALL.

SIR,—I am only now aware that in the *Builder* you were lately pleased to express your good opinion of the strictly temperate and orderly principles on which I successfully established Hungerford Hall as a music and refreshment hall; and for your influential and valuable approval please to accept my grateful thanks. As my interests, however, may be injured, as they were in the matter of compensation, by the public belief, in which you very naturally share, that it is *I* who have removed to a hall which was opened under the same name immediately after the railway company dispossessed me of Hungerford Hall, and before I could have time to complete the decorations of the new Hungerford Hall, which I have just opened in the Westminster Bridge-road, I am sure you will do me the justice to inform your readers that this latter is the only establishment of the kind I have any connexion with in London at present.

CARLO GATTI.

PATENTS CONNECTED WITH BUILDING.*

AN IMPROVEMENT IN THE CONSTRUCTION OF A CONICAL COVER OR POT, A GRADUATED APPARATUS FOR PLACING UPON CHIMNEY TOPS, AND FOR PREVENTING SMOKE AND EXTINGUISHING FIRES."—*E. de la Bastida.* A communication. Dated 19th September, 1862.—This invention cannot be described without reference to the drawings.

FORMATION OF BOILERS TO BE EMPLOYED FOR WARMING BUILDINGS AND SIMILAR PURPOSES.—*D. C. Bridge and J. Dyson.* Dated 19th September, 1862.—This invention consists in a new arrangement of water spaces and tubes, whereby a much larger amount of surface is exposed to the action of the heat than heretofore; and in some of the forms of boilers the smoke is also consumed, thus effecting economy in fuel.

HINGES FOR FRENCH CASEMENTS.—*W. Lea.* Dated 25th September, 1862. This invention consists in securing to the back of one flap of the hinge, by means of a pin, one end of a quadrant carried through an aperture in the flap itself; the other end of the quadrant passes through another aperture in the other flap of the hinge. At the back of the second flap, free to move on a pin, a rod or lever is fitted, which projects beyond the

* Selected from the lists in the *Engineer, Mechanics' Magazine*, &c.

flap, and which is armed with a tongue or catch. Notches or holes are made in the quadrant, and on bringing down the lever so as to engage the catch into one or other of the notches or holes, the casement is retained open to the extent allowed by the particular notch or hole engaged until the catch is released.

WINDOW-SASH FASTENER AND GUARD.—*J. J. Bates.* Dated 26th September, 1862.—The object of this invention is to fasten a window-sash when the said sash is shut down, and to prevent the said sash, when partly opened, from being raised from without. The invention is carried out as follows:—To the front edge of the top rail of the lower sash two levers are jointed, the said levers being situate nearly horizontally, and having motion in vertical planes. The projecting or outer end of each lever is extended laterally, so as to form a handle or plate under which the finger is placed in raising the window-sash. On the upper surface of the top rail of the frame two other levers are jointed, the longer arms of the last-named levers being nearly vertical, and their shorter arms horizontal. The shorter arms engage under the inner ends of the first-mentioned levers. The tops of the vertical levers are bent nearly into a horizontal position, and bear against plates of brass or other metal fixed vertically on the front sides of the top sash. The said plates have holes at a distance of about 2 inches apart. Springs under the shorter arms of the vertical levers press the top ends of the said levers against the vertical plates, and cause them to engage in the holes in the said plates. In raising the window-sash it is only necessary to place the forefinger of each hand under the handles of the horizontal levers, and lift the said handles.

CONSTRUCTION OF LEADEN WINDOW-SASHES, CASEMENTS, OR GLAZED COVERINGS OR PARTITIONS.—*W. E. Gedge.* A communication. Dated 26th September, 1862.—The cheeks of these improved sashes are not more than half an inch broad, and the adhesion of the glass to the leaden sash completely excludes cold from the interior, thus making a glazed gallery as warm as a parlour. But this heat, which has hitherto been so prejudicial, inasmuch as, changing into steam, it rendered glazed apartments uninhabitable, necessitated some arrangement for carrying off the condensed vapour, and therefore the improved leaden sashes, the subject of this invention, which may be straight or curved, and of any suitable length, are provided with small openings at certain distances from each other, and hidden at the bottom of the chamber groove or frame, so that the water that runs over the inside glass falls into the chamber or grooves, and finds a direct exit to the exterior as described.

Books Received.

A Manual of Heraldry, Historical and Popular; with seven hundred Illustrations. By CHARLES BOUTELL, M.A. London: Winsor & Newton. 1863.

IT is the aim of this manual to inquire into the true character and right office of heraldry, and to describe and illustrate its general condition as it is in use amongst ourselves. Of the rise and progress of the *science*, and of its almost universal prevalence under variously-modified forms, the author gives a slight and rapid sketch. The volume, which comprises upwards of four hundred pages, contains a good deal of curious and interesting matter of its kind, including special chapters on architectural and monumental heraldry; corporate and official heraldry; the heraldry of the cross; royal, foreign, modern, and various other aspects of heraldry; heraldic charges, terms, and figures, mottoes, crests, seals, coins, flags, badges, &c. The author is of opinion that,—

"Every Gothic architect ought to be a thorough herald: heraldry alone can enable him to render his works, in the noblest and most perfect sense, historic monuments: without heraldry no lover of the great art which has been so happily revived amongst us is able either to feel the full power of what the Gothic has transmitted to him from the olden time, or to realize all that it is now able to accomplish as a living art."

Heraldry, he urges,—

"Provides for the Gothic architect,—and particularly when employed upon public and national works,—the most comprehensive and the most plastic of symbolism."

Such being the case, Mr. Boutell thinks,—

"It is a matter for equal surprise and regret that architectural heraldry should hitherto have been so generally neglected, even by some of our Gothic architects."

And he adds that,—

"It is to be hoped that the time at length has come in which both architects themselves and all who feel an interest in their great art will bestow at least a portion of their regard upon heraldry in its special relation to architecture."

Touching the "armorial insignia of H.R.H. the Prince of Wales, K.G.," Mr. Boutell has designed a shield; but would the College of arms ratify the design? We doubt it.

London and its Gas Companies: State and Condition of the Companies supplying Gas to the Metropolis. By SAMUEL HUGHES, C.E. London: Waterlow & Sons. 1863.

MR. HUGHES has here made a searching examination of the published accounts of the metropolitan gas companies, in the form of a letter to the Home Secretary. The accounts on which his investigation is based are the first of those made out by each company in accordance with the Metropolis Gas Act, 1860; and they seem to be prepared in the same fallacious and deceptive way that we proved those first of all published by order of the Commons to have been made out at the time we were urging on the gas movement, which has since led to such extensive reductions of price, beneficial to all parties.

Notwithstanding the confusing mode of making out these accounts, and the strenuous efforts of some of the companies to swell their capital, Mr. Hughes has not only clearly shown that, "in the aggregate, the whole thirteen companies have realized a profit sufficient to pay a dividend of more than nine per cent. on *all* their capital, after providing for payment of all fixed interest and all interest due on borrowed capital;" but that "if the capital of certain extravagant companies be reduced to that of more economical ones, the profit realized by the whole of the companies would vary from 11 to 18 per cent., according to the companies which are taken for comparison."

Most of the gas companies of the metropolis, also, have had their accounts, such as they are, published for some years in the *Journal of Gas Lighting*; and an examination of these accounts, Mr. Hughes remarks, will show that these companies have for several years realized a profit exceeding 10 per cent. on a *bonâ fide* and moderate capital, in addition to the reserve which they are entitled to under the Sale of Gas Act.

The state of matters, therefore, is sufficient in itself to justify the gas consumers all over the metropolis in demanding an *immediate and very large reduction in the price now paid for gas*; but

"If in the end," says Mr. Hughes, "the companies resist the appeal which these facts make to their sense of justice, and obstinately refuse a reduction of price, am I not, at all events, fairly entitled to ask, on the part of the public, for a searching and thorough examination of the accounts, in order that the present unsatisfactory and anomalous position of the companies may be replaced by one possessing the attributes of justice and common sense?"

The time then seems now to have arrived for the local authorities of the metropolis to take action under the Metropolis Gas Act, and to avail themselves of its provisions to compel a reduction in the price of gas.

Two courses are open to them, and these may be pursued simultaneously: 1st, To call on Parliament to adjust the irregular and anomalous capital accounts of the gas companies, as they did in 1851, in the case of the water companies, in order as far as possible to create uniformity of price, under the provisions of the Gas Works Clauses Act, which compels a reduction when dividends amount to 10 per cent. 2nd, To proceed under the Gas Works Clauses Act to have the accounts examined by official accountants, in order to determine those cases in which the absolute profits have already reached the prescribed amount of 10 per cent.

VARIORUM.

THE *Mirror*, which has just now been put before the public, promises to be reflective, true, and brilliant, as mirrors should be. We could have wished another title. This belongs to our old friend Mr. Timbs and the early history of periodical literature in London. However, what is done is done. The first number of the new venture, which we are glad to learn is in first-rate hands, is an excellent one: if this standard can be maintained success is pretty nearly certain. It is specially a newspaper, giving the news of the week digested; but it is also a review, and contains some admirable articles.

WEDDING PRESENTS: SOUTH KENSINGTON MUSEUM.—The attendance, as we expected, has been enormous. During the week ending 25th ult., the visitors numbered 92,805.

Miscellanea.

THE LATE MR. A. F. ASHTON, ARCHITECT.—We record with sincere regret the death of Mr. Frederick Ashton, which took place at his house, in Pelham-crescent, Brompton, on the 22nd of April, after less than a week's illness, the result of a violent cold. Mr. Ashton "served his time" with the late Mr. Finden, and gained a medal at the Academy. His acquirements were very considerable. He was well acquainted with ancient and modern languages; was a good draughtsman, and an excellent musician. Possessed of a sufficient fortune, there was no great stimulus for exertion, so that he did not pursue his profession actively. The readers of the *Builder* have had the advantage, on many occasions, of his careful and instructed pen. The very brief illness which terminated in his death, at the early age of forty-eight, was brought on by somewhat imprudent exposure to night air after exertions in an amateur orchestra. He has left a young widow and several daughters to deplore his untimely loss.

MR. POUNCY'S NEWLY PATENTED CARBON PROCESS.—The *Dorset Chronicle*, which quotes, as many others have done, our recent remarks on this subject, states that the Photographic Society of Scotland has awarded Mr. Pouncy its silver medal for this discovery of his in taking photographs in printers' ink. The report says:—"For printing in carbon the committee would recommend that the medal be given to Mr. Pouncy, of Dorchester, for his view of Melrose Abbey, in which it appears to the committee he has overcome the difficulty of representing in carbon every variety of shade and tint exhibited in the original negative. At the same time the committee trusts Mr. Pouncy will be stimulated by this award to perfect his *most important discovery*, and not rest satisfied till he is able to compete in delicacy of tint and pureness of lights with prints produced by nitrate of silver, so as to make his process available either for landscapes or portraits."

HEREFORD CATHEDRAL: ACCIDENT TO THE CORONA.—The corona, 18 feet high, by Skidmore, of Coventry, which was in the International Exhibition, was recently elevated temporarily to its intended position under the tower, in the presence of Mr. Skidmore and other gentlemen. After it had hung for some time suspended by a rope, it was about to be lowered, when unfortunately the rope gave way, and the corona fell to the ground from a height of about 25 feet, the momentum of the fall causing it to sink into the concrete of the flooring about 2 feet 6 inches. Happily no one was seriously hurt. The damage to the corona, although considerable, is not irreparable: on the same night it was taken to pieces, packed up, and sent off to Mr. Skidmore's works at Coventry, where it will be repaired in about a month. The accident does not in any way interfere with the completion of the restoration, which is arranged to be effected in time for the grand re-opening on the 30th of June next.

STEREOGRAPHY BY AID OF THE MAGIC LANTERN.—A correspondent, "H. T. B.," asks whether it be not possible to produce gigantic stereographic effects by throwing transparent stereographs on the usual screen by means of the magic lantern; and using, as the stereoscope, the dark room itself, with some kind of eye-glasses like the skeleton or spectacle stereoscope already in use. Attempts have been made to enlarge stereographic effects, but there must be some optical difficulty in the way; and whether our correspondent's suggestion be new to those who have tried such experiments we do not know, but are inclined to suspect that such a plan must have already been considered. Were it possible, however, we might suggest, in addition, that in thus exhibiting a building or a statue, something like the effect of walking round it might be produced by means of a cruciform arrangement of stereographs revolving on a single perpendicular axis through the centre of the cross: at all events, the two opposite sides of the building or statue might thus be alternately shown; although, with transparent stereographs and a form of magic lantern, the display of all the sides might not be possible. With two such lanterns, however, focused on the same spot, as in dissolving views, and worked alternately, this might easily be done; and the effect of a walk round the object in view, or at least of its revolution round its own centre, might thus be obtained. The same principle might be brought into operation with magic lanterns, even though not stereographically; and, as we have before suggested in the *Builder*, it could easily be applied to the stereoscope itself as in ordinary use.

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.—On the 23rd, at the rooms in Conduit-street, Mr. A. W. Blomfield delivered a lecture on "Art in Common Things."

UTILISATION OF SEWAGE.—A petition has been presented to the House of Commons by Mr. Doulton, M.P., from the vestry of St. Mary, Lambeth, in reference to utilisation of the metropolitan sewage. They pray that a select committee may be appointed to inquire into the subject prior to any plan being adopted by the Metropolitan Board of Works.

ANCIENT REMAINS IN BRIDGE-STREET, BLACKFRIARS.—In excavating the roadway in Bridge-street for gas mains, the men struck upon a conglomerated mass of stone, iron, and other substances, the whole of which Mr. Stephens, from Messrs. Aird & Sons, who are executing works for the City Gas Company, caused to be carefully removed. It is supposed, from the position in which these remains were found, that they must have belonged to some large ancient building which stood upon the banks of the old Fleet River.

THE GENERAL POST-OFFICE.—The work of constructing kitchens and dining-rooms designed for the accommodation of the letter-carriers and sorters has at length been perfected, and arrangements made for the immediate application of the new rooms to their intended purpose. A plan was shadowed forth some time since by the Post-office authorities for providing suitable dwellings, properly arranged, in a convenient neighbourhood, for such of the letter-carriers and sorters as may desire them. This promise, there is now reason to believe, is about to be carried out.

FIRE IN A RAILWAY BRIDGE.—On Tuesday morning, at ten o'clock, a fire of an unusual character took place in a bridge belonging to the London, Chatham, and Dover Railway which crosses West-street, Walworth. It appeared that one of the trains travelling towards the Elephant and Castle dropped a piece of burning coal, which rolled against the wooden skirting on the west side of the bridge, and set fire to it; and, fanned by the fresh breeze, the flame soon extended more than half way over the bridge. An alarm was given, and in a short time two engines belonging to the brigade, and one belonging to Mr. Hodges, the distiller, were on the spot, and with a plentiful supply of water extinguished the flames. The injury done is not of any serious extent.

DEATHS FROM DESTITUTION IN BETHNAL-GREEN.—On Saturday in last week Mr. John Humphreys, one of the coroners for the county of Middlesex, held an inquest in Bethnal-green, touching the deaths of Elizabeth Ashley, aged 36, and John Hayes, aged four weeks, who it was alleged died from extreme destitution. Dr. Massingham said that last Wednesday he was sent for to see deceased. The family were living in a sort of underground cellar or kitchen, the only articles in which were a bedstead and a table. There was no chair or comfort of any kind. The woman was dreadfully emaciated. The jury returned a verdict of death from disease of the lungs, accelerated by great privations. The child John Hayes was the son of a hawker of the same name, who died "from fever accelerated by want of food," about four weeks ago. These are the practical commentaries on the statements we have already made.

THE WORKING MAN'S KITCHEN, GLASGOW.—The Great Western Cooking Depôt has met with so much public acceptance that about 6,000 people breakfast and dine daily at the sixteen branches which are at present in operation. A new kitchen has within the last few days been opened in Pitt-street for preparing the food which is consumed at the various branches. This building, which is a large structure partially of wood and brick, is divided into three departments—the store room, the kitchen proper, and the bake-house. The boilers, the erection of which cost about 800*l.*, are of peculiar construction, and were made by Messrs. A. & W. Smith & Co., engineers, Glasgow. They consist of a copper boiler, which is placed inside a cast-iron boiler, a small space being left between them to allow of the introduction of steam, by which the contents of the copper boiler are boiled. The steam is generated outside the building, and conducted into the kitchen, and introduced into the boilers, by means of pipes, which permit either of one boiler only being heated, if that be all that is required, or of the whole ten being heated at the same time. The whole building, storehouse, kitchen, bakery, and outhouses, occupy 1,200 square yards of ground. Including this, the erection cost nearly 3,000*l.*

THE MIDDLE-LEVEL CATASTROPHE.—The defendants in the Middle-level drainage case, tried at the recent Norwich Assizes, have obtained a rule for a new trial in the Court of Queen's Bench. The application for the rule was based on the grounds of misdirection, and that the verdict for the plaintiff was against the weight of evidence.

THE METROPOLITAN TURNPIKE ROADS.—It appears from a recent report of the commissioners of these roads, that the receipts from tolls on the roads during the past year were 67,684*l.* 6s. 7d., and the receipts from all sources 78,103*l.* 14s. 7d. The expenditure during the same period was 75,595*l.* 14s. 1d. A Bill is now before Parliament which, if passed, will transfer from the commission to the respective parishes the maintenance of fifty-one miles of road, and cause the removal of twenty-five turnpike-gates and fifty-six sidebars.

MODEL OF A CHURCH BY A LADY.—The *Norfolk Chronicle* speaks of having seen a pretty and extremely well executed model of Heigham Church, in perforated card, by Miss Clara Wells, of St. Gregory's: the time occupied in its completion was nine months. Both interior and exterior are comprised in the model, and are depicted with great minuteness. The number of tiles comprised in the roof is upwards of 4,000—each tile being about one-fifth of an inch long. The length of the model is only 11½ inches; the width, 4¼ inches (not including the transepts); its height from the base to the roof, 6¾ inches; and to the vane of the steeple, 14¼ inches.

ARCHITECTURE AND RELIGION.—At the Offord-road Institute, Islington, on the 22nd of April, Mr. Gunn fired off an essay on "Church Music and Architecture in their Relation to Public Devotion." He referred to the heathen temples of old and the church architecture of the early Christians, when architecture and music were considered as the handmaids of religion, and when everything was done to encourage religion by the influence of art. He thought church organs ought to be dispensed with, as he considered there was more devotion displayed in a chorus of voices than with an organ, which invariably drowns the singing. He advocated plainness of style for places of public worship, with roofs of a "natural pitch." The Rev. John Pulsford differed entirely with the essayist, and strongly advocated the powerful influence beauty of form had on the mind. Gothic architecture was calculated to operate powerfully on the mind, and impress us with the sanctity of the place. Mr. Pike, Mr. John Hayward, and Mr. W. F. Potter took the same view.

REFLECTORS OF LIGHT FOR HOUSES.—In the narrow streets of Genoa a reflector is used, made of clean white cotton or linen cloth, attached to a framework of wood, or to a couple of iron rods, secured to brackets of iron, one rod being at the top, the other at the bottom of the brackets, and placed at an angle of 45 degrees with the window, the apex of the angle nearly touching the window, and, of course, turned downwards, the reflector itself being of the breadth of the window at the least, and of about 3 feet or more in depth. The shops on the ground-floor have the reflector fixed towards the upper part of the window, in order to leave the lower part free for exposing the articles that may be for sale. A correspondent of the *Morning Advertiser* suggests the use of such reflectors in houses and in other buildings situate in the narrow streets of our own towns or villages. The adoption of such a plan generally and at once would create employment for many a cotton-loom now idle.

PRESERVATION OF TIMBER BY SULPHATE OF COPPER.—A pamphlet is in circulation containing a short description of Dorsett & Blythe's patented process of preparing wood by the injection of heated solutions of sulphate of copper; a process said to have been adopted by French, Spanish, and Italian, as well as other Continental railway companies; by the French Government for their navy and other constructions; and by telegraph companies for poles on Continental lines. The advantages of the injection by sulphate of copper are thus summed up by the patentees:—1. It is cheaper than creosote, and can be employed in places where creosote cannot be had. 2. Wood prepared by it is rendered to a great extent incombustible. 3. Wood for out-door purposes so prepared, has a clean yellowish surface, without odour: it requires no painting; remains unchangeable for any length of time; and can be employed for any purpose, the same as unprepared material, and carried with other cargo without hinderance. It is recommended for railway and other uses in India.

THE ARCHÆOLOGICAL INSTITUTE AT ROCHESTER.—The arrangements for the archæological congress to be held in Rochester in the month of July next are progressing most satisfactorily.

HAILEYBURY COLLEGE.—The council of this college have asked for tenders for a large swimming-bath, 210 feet long. They have recently had gas-works erected. Mr. J. F. Fairbank is the engineer, and Messrs. Barwell & Co., of Northampton, erected the gas-works.

THE NATIONAL PORTRAIT GALLERY.—The sixth report of the trustees of this gallery issued on Saturday, states that the purchases now amount to 111. The large collection of engraved portraits bequeathed by Mr. H. W. Martin, amounting to some thousands in number, is in process of classification and cataloguing for purposes of reference. They include portraits of all ages and all countries.

WORKMEN'S CLUBS: BIRMINGHAM.—The committee who undertook to establish Working Men's Clubs in Birmingham have taken a house in New-hall-street, for the first club, which will be opened so soon as 250*l.* can be obtained to furnish the rooms, and provide for the first year's rent. After this expense is defrayed, it is believed that the club will be self-supporting. The management will be left mainly in the hands of the members, the trustees appointed by the committee retaining the necessary control over the furniture and premises.

THE NORTHAMPTON ARCHITECTURAL SOCIETY. At a recent committee meeting of this Society, amongst other proceedings, the Rev. G. W. Paul, as secretary of the sub-committee on cheap grave memorials, read a report which stated that very satisfactory answers had been obtained from Mr. Blashfield, of Stamford; Mr. Sumter, of York; and others, by which good Christian memorials in terra-cotta, wood, or iron, might be furnished at a rate not exceeding 10s. or 12s. each. The sub-committee was requested to continue their inquiries, and to report whether the society, by the publication of a sheet of designs or otherwise, could forward the object in view. They would be glad of any suggestions or good designs for tomb crosses.

THE NEW ALMS-HOUSES, WINDSOR. — The new alms-houses in Victoria-street have been recently completed. The building is in the Italian style, and forms three sides of a quadrangle. It cost about 3,500*l.*, the materials being red and white brick, with Bath stone dressings to porches and bay windows. In the eastern wing twelve inmates will have one room each, with necessary conveniences: the western wing will accommodate twelve inmates: the centre houses will have two rooms for each, and there is a board-room in the centre. The building was erected by Mr. Snowball, after the design of Messrs. Edgington & Tait. Her Majesty and the Princess of Wales lately paid these almshouses a visit.

THE PORCH OF ST. MARY'S, OXFORD.—In the Convocation to be held on the 30th ult., it was to be proposed that the Vice-Chancellor be empowered to spend such a sum as might be necessary for the restoration of the present porch of St. Mary's church, according to the recommendation of Mr. Scott, who says, in his letter on the subject,—"I would suggest the saturation of the stone, in the first instance, by some indurating solution, as it is in so tender a state at present as hardly to bear to be touched: after this we could proceed more safely in cutting out the most decayed portions, and replacing them; and so feel our way onwards with other parts; judging, as we go on, to what extent to proceed and where to stop. It could not be executed by contract."

SEWERAGE ACCIDENT AT DEPTFORD.—A coroner's inquest on the death of three men by an accident at the Metropolitan Sewerage Works in course of excavation for the Southern Low-level Sewer, was held on Wednesday last, at Deptford, before Mr. C. J. Carttar, when various evidence was led as to the accident. Mr. S. Gale, the manager for Messrs. Aird, the contractors, attributed it to the pumping out of loose sand with the water from the sewer foundations; and William Green, an excavator, complained of want of shoring; but Mr. Gale denied that any complaint had ever been made to him. George Noales, foreman of the timber-work, denied that there was any want of shoring, and agreed with Mr. Gale as to the cause of the accident, as did Mr. John Bennett, the clerk of the works in the service of the Board. Mr. John Aird, the contractor, said more than ordinary care had been taken with this cutting, and concurred in opinion with the preceding witnesses as to the cause of the accident. The jury returned a verdict of "Accidental Death."

NEWENT BOARD OF HIGHWAYS.—Mr. G. B. Armstrong, late assistant in the engineer and city surveyor's office, Gloucester, was elected surveyor to the Newent Board of Highways on the 17th ult.

BROCOLI PRESENTED TO THE QUEEN.—A curious brocoli has been sent to her Majesty, who has graciously acknowledged the receipt of it through the Master of her Household. Its shape was that of a scroll or ribonade, 18 inches in length, 1½ inch in diameter in the middle, and 3 inches at either end. The plant was lined in the centre by a solid line of the same nature as the flower, and following its form with geometrical precision.

THE PARIS EXHIBITION OF 1863.—The *Moniteur* publishes the following note:—"Numerous complaints having reached the Emperor respecting the refusal of works of art by the Exhibition jury, his Majesty, anxious that the public should have an opportunity of deciding on the justice of those complaints, has determined that the works refused shall be exhibited in another part of the Palace of Industry. This exhibition will be optional, and the artists who may not choose to take part in it have only to inform the administration of their decision, and their works will be at once returned."

HANOVER-SQUARE ROOMS.—On the 24th ult., Herr Sigismund Blumner gave the first of three subscription *soirées* for chamber music. The works chosen for performances are selected from the great masters, and will comprise, in particular, such as are either neglected, or are pre-eminent for their beauty. The artists for the first *soirée* were:—Violin, Mr. Vieuxtemps; tenor, Mr. Webb; violoncello, Signor Pezze; and pianoforte, of course, Herr Blumner. Madame Lemaire and Signor Bossi were the vocalists. It was an exceedingly interesting concert, and Herr Blumner showed himself a master in his art.

SALES OF HOUSE PROPERTY.—At the Mart, by Mr. George Prickett:—Freehold residence, No. 3, Bedford-place, Bedford-square, Brighton, estimated value 65*l.* per annum—sold for 620*l.* By Mr. Edmonds:—Leasehold houses, Nos. 21, 22, 23, 24, 25, and 26, Melina-place, Hackney, producing 89*l.* 14*s.* per annum, term 60 years from June, 1844, ground-rent 13*l.* 10*s.*—420*l.* Leasehold fifteen houses, Nos. 9, 10, and 11, Ada-street, and 12 to 23, George-street, Hackney, let at weekly rents amounting to 234*l.* 10*s.* per annum, term 60 years from June, 1844, ground-rent 33*l.* 15*s.*—1,090*l.* Freehold three cottages and plot of land, in all about 1*a.* 0*r.* 37*p.*, upon the high road, Harmondsworth, Middlesex, let at 30*l.* per annum—470*l.* At Garraway's, by Mr. Walker:—Leasehold dwelling-house and business premises, No. 26, Tavistock-place, Burton-crescent, let on lease at 80*l.* per annum, term 95 years from Christmas, 1804, ground-rent 18*l.* 18*s.*—580*l.*

THE LONDON, CHATHAM, AND DOVER RAILWAY AND THE GREENWICH OBSERVATORY.—Yesterday a further report of the Astronomer Royal, regarding the probable effect on the Observatory of the proposed extension of the London, Chatham, and Dover Railway through Greenwich Park, was issued. It may be briefly stated that what Professor Airy now proposes, after the most careful investigations and experiments, as sufficient for the protection of the Royal Observatory, is—that it be required that the railway pass through the park in a tunnel; that the railway take the course through the park defined by the red line on a map which has been prepared, the rails being on continuous bearing; that the average speed of each and every train while passing through the park be limited by clause in the Act of Parliament to the rate of twelve miles an hour; and that by clause in the Act of Parliament summary legal process be defined for the enforcement of that limitation.

TENDERS.

For new bank premises at Maidstone, Kent, for the London and County Bank. Mr. Fred. Chancellor, architect. Quantities taken out by Messrs. Curtis & Son:—

Downes	£3,884 0 0
Foord	3,450 0 0
Tracey & Co.	3,435 0 0
Greensted (accepted)	3,414 14 0

For additions and alterations, for Mr. C. Cockerell, at Sydenham:—

Downs	£1,748 0 0
Little	1,700 0 0
Piper	1,686 0 0
Sawyer	1,677 0 0
Patrick	1,633 0 0
Perry	1,571 0 0
Browne	1,552 0 0

For the erection of two shops in Sankey-street, Warrington, for Mr. Ben. Sharp. Mr. Ben. P. Coxon, architect. Quantities not supplied:—

Campbell	£1,311 7 0
Gibson & Son	1,085 0 0
Pennington (accepted)	1,081 0 0

For the erection of a villa residence on the British Land Company's Estate at East Cowes, Isle of Wight, from plans, &c., by the Company's surveyor:—

	If with Jennings's patent bonding bricks.	If without the bonding bricks.
Ward	£1,377 0 0	£1,355 0 0
Wheeler	1,369 0 0	1,341 0 0
Grimes	1,085 0 0	1,060 0 0
Chinchen (accepted)	1,050 0 0	1,035 0 0

For additions to cottage at Waltham, Berks, for Rev. E. J. Parker, B.D. Mr. W. H. Woodman, architect:—

Lawrence & Co.	£435 0 0
Searle	433 13 8
J. & S. Wheeler	400 0 0

For warehouse at Abingdon, Berks, for Messrs. Hyde & Clarke. Mr. W. H. Woodman, architect:—

Dover (accepted)	£2,360 0 0

For rebuilding the Bell Inn, Kilburn. Mr. George Truefitt, architect. Quantities not supplied:—

Carter	£1,838 0 0
Waters	1,785 0 0
Longmire & Burge	1,765 0 0
Allen (accepted)	1,575 0 0

For the erection of a house and stables at Croydon. Mr. Cæsar Long, architect:—

Cohen	£2,925 0 0
Conder	2,821 0 0
Scott	2,620 0 0
Perry	2,600 0 0
Larke	2,598 0 0
Ring	2,300 0 0

For building two dwelling-houses at Holloway. Mr. James Harrison, architect:—

A. & J. Smith	£978 0 0
Macfarlane	905 0 0
James & Ashton	848 0 0
Dunford	750 0 0

For a pair of villas at Crescent-road, Croydon. Mr. William Paice, architect. Quantities supplied:—

Partridge & Crutch	£1,728 0 0
Simms	1,666 0 0
Donelly	1,648 0 0
Henshaw	1,616 0 0
Wallace	1,599 0 0
Foster	1,499 0 0

For new roads, Clarendon-road, Hornsey:—

Haynes	£540 0 0
Carnall & Co.	446 0 0
Leeks	410 0 0
Rutty & Co.	401 0 0
Cole, jun.	398 0 0
Sharon	390 0 0
Brucl	376 0 0
Newberry	360 0 0
Haines	365 0 0
Porter	302 0 0
Pearce	294 0 0
Hayward	292 0 0
Osborne & Son (accepted)	264 0 0

For alterations and additions at the Warwick Arms, Gillingham-street, Pimlico, for Mr. Daft. Mr. T. R. Parker, architect:—

Fish	£510 0 0
Duncanson & Moultrie	458 0 0
Cross	440 0 0
Sabey	425 0 0
Bennett	409 0 0

For painting, decorative works, &c., at the Colosseum Tavern, Portland-road, for Mr. Grace. Mr. A. Newman, surveyor:—

McIntosh & Nicol	£116 0 0
Norris	115 0 0
T. Haines	68 10 0

For the restoration of the parish church of St. Margaret, Lewknor, Bucks. Mr. Arthur W. Blomfield, architect:—

Wyatt	£2,020 0 0
Outhwaite	1,932 0 0
Castle	1,720 0 0
Holland	1,454 0 0

For works, 12, Mansfield-street. Mr. C. Eales, architect:—

Haward	£4,200 0 0
Bellingham & Co.	3,978 0 0
Saunders	3,694 0 0
Phillips	3,678 0 0
Brown	3,595 0 0
D'Anson	3,565 0 0
Clark & Mannoch	3,550 0 0
Macey	3,543 0 0
Clemence	3,463 0 0
Longmire & Co.	3,441 0 0
Rudkin	3,123 0 0
Scrivener & White	3,104 0 0

For five cottages, shop, and public-house, at Merton, Surrey. Mr. J. W. Reed, architect:—

Smith	£1,285 0 0
Sleap	1,247 0 0
Green	1,200 0 0
Sale (accepted)	1,194 0 0

For two houses and shops at Hornsey-road. Mr. J. W. Reed, architect:—

Watson	£1,265 0 0
Sale	1,143 0 0
Smith	1,140 0 0
Sleap	1,079 0 0
Hill & Son	1,015 0 0

For widening and repaving the footway round Red Lion-square:—

Garrett & Stacey	£132 16 0
Tildesley & Son	123 13 0
Allen & Son	118 0 0
Clernie	97 14 0
Beevers	90 0 0
Rutty (accepted)	82 0 0

For the Borough Market, Southwark. Mr. E. Habershon, architect:—

Rider	£7,680 0 0
Colls & Co.	7,654 0 0
Gammon	7,287 0 0
Brass	7,227 0 0
Downs	7,163 0 0
Carter	6,993 0 0
Hill & Co.	6,582 0 0
Sawyer	6,240 0 0
Stap (accepted)	5,550 0 0

For additions and alterations to Wentworth House, near Headon:—

Sadds	£1,079 0 0
Tracey & Co.	977 0 0
Donne	887 0 0

For new schools and master's residence within the precincts of the Canterbury Cathedral. Mr. Austin, architect. Quantities supplied by the architect's clerk at a charge of three guineas for each set:—

Matthews	£6,900 0 0
Lancefield	6,299 0 0
Shrubsole, Stephen	5,890 0 0
Gaskin & Godden	5,846 0 0

For new malt-house and other works at Faversham, Kent, for Messrs. Shepherd & Mares. Mr. Adkins, architect. Quantities supplied by Mr. Rickman:—

Scoones	£3,451 0 0
Austin	2,958 0 0
Chinnock	2,917 0 0
Paine	2,624 0 0
Shrubsole, Lewis	2,599 0 0
Bonnett	2,527 0 0
Naylor & Son	2,513 0 0
Whiting	2,355 0 0
Creed & Broadbridge	2,263 0 0
Orpin	2,185 0 0
Shrubsole, Stephen	2,130 0 0
Jelt (accepted)	1,798 0 0

For the erection of ten cottages at Newington, Kent, for Mr. Edwards:—

Shrubsole, Stephen	£1,290 0 0
Seager	1,166 0 0
Bonnett	1,145 0 0
Ellis (accepted)	1,055 0 0

For drainage and other works at the Kent County Lunatic Asylum, Maidstone. Mr. Balmer, county surveyor. Quantities supplied by Mr. Ruck:—

Cobb	£1,104 0 0
Sutton & Vaughan	1,086 0 0
Anscomb	1,080 0 0
Naylor & Son	1,057 0 0
Shrubsole, Stephen (accepted)	1,055 0 0

TO CORRESPONDENTS.

To obtain Heights of Chimneys.—Sir: Will some of your correspondents be good enough to point out the best method of obtaining the heights of chimneys which cannot be measured on the ground in the ordinary way?—W. H.

Wood lace in Churches.—A correspondent desires to know the means of ridding a church of this nuisance.

J. A. D.—J. H. M. D. T.—J. P.—R. W.—J. W. B.—J. F. H. (our opinion on *ex parte* statements, as against decision of Board of Works, would be of no use. Take proper advice).—J. B. J. S.—H. B.—P. C. H.—T. & Co.—H. H. (such inventions are mentioned when first made public. We cannot return to them).—J. W. & Sons.—J. W. R.—C. H. H.—Mr. R.—W. B.—S. S.

We are compelled to decline pointing out books, and giving addresses.

THE *Clerkenwell News*, October 27, speaking of Benson's Watches in the Exhibition, says:—"In Benson's great case are some fine specimens of engraved watch-cases, designed by the pupils of the Schools of Design. They are, perhaps, on the whole, the best specimens of engraved watch-cases in the Exhibition." Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch, from the plainest to the highest quality of which the art is at present capable, and adapted to all climates. Benson's Illustrated Pamphlet on Watches (free by post for two stamps) contains a short history of watch-making, with descriptions and prices. It acts as a guide in the purchase of a watch, and enables those who live in Scotland, Ireland, Wales, the Colonies, India, or any part of the world, to select a watch, and have it sent free and safe by post.—J. W. Benson, Prize Medallist, 33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

A GREAT IMPROVEMENT IN STAINING CATHEDRAL CHURCHES, CHAPELS, LIBRARIES, HALLS, &c.; AND VERY IMPORTANT TO BUILDERS.—Among the most useful productions of modern inventions which have come under notice, "Mead's Patent Oak Stain" claims special attention from the trade; its superior excellence and relative convenience are unprecedented; and its chemical affinity admirably adapts it to the purpose. It entirely surpasses paint, is simple in use, and gives to deal and all white woods the most beautiful effect and shade of rich old oak unattainable by any other process; thereby it materially enhances the appearance of all woodwork. Those who have not yet used it, should not delay in giving it a trial. It is packed in a concentrated form, with directions, and can be conveniently forwarded, in any required quantity, to order, by T. J. Hogg, 3, Brunswick-place, City-road, London, N.—N.B. Further particulars of the preparation will be found advertised in this Journal.—[*Advt.*]

TO BUILDERS AND OTHERS. Very eligible LEASEHOLD BUILDING GROUND, 1 acre 2 roods 26 perches, Waterlo-place, High-road, New Cross, being in the midst of a well populated district, affording 695 feet of frontage, and well suited for the erection of 46 six-roomed houses, or a large manufactory. Lease 63 years. Ground-rent 30s. or 16l.

MESSRS. TEBB, BROS. will SELL the above ESTATE, estimated to produce a Ground Rent of 133l. per annum, by AUCTION, at the MART, on WEDNESDAY, MAY 13th, at ONE o'clock, in ONE LOT.—Plan and Particulars by Post; at the "Dover Castle," Broadway; the Mart; and 3, Adelaide-place, London Bridge, E.C.

WICK HOUSE, HACKNEY.—220 Fine TIMBER TREES, Poles, Espaliers, and Cordwood.

MR. A. RICHARDS will SELL by AUCTION, on the PREMISES, adjoining Victoria Park Railway Station, on THURSDAY, MAY 7, at ONE, to clear the ground for building purposes, 30 ELM TREES, many of large dimensions; 40 ash, 7 oaks, 50 horse-chestnuts, 18 aspen, part very large; 30 limes, 20 sycamores, 3 walnuts, 35 willows, &c. Also 1,000 poles, 2,000 faggots, and 50 stacks of cordwood.—Or view. Catalogues obtainable on the Premises, and of the Auctioneer, Tottenham.

CREWE.—FREEHOLD BUILDING LAND.

TO BE SOLD by AUCTION, pursuant to a decree of the High Court of Chancery, made in a Cause "Blakemore v. Edleston," by the Vice Chancellor Sir John Stuart, the Judge to whose Court the said Cause is attached, by

MESSRS. CHURTON, the persons appointed for that purpose, on FRIDAY, the 22nd day of MAY, 1863, at the CREWE ARMS HOTEL, CREWE, at TWO o'clock in the Afternoon, EIGHTY-SEVEN LOTS of FREEHOLD BUILDING LAND, of various dimensions, part situate between Mill street and the Railway Premises at Crewe, and abutting on new roads there leading to the Station, and part abutting upon the new road leading from Oak-street, Crewe, to Wistaston, and part abutting on an intended new street a continuation of Wistaston-street, and part on the Chester Line of Railway, and all in the immediate neighbourhood of the Railway Station of the Main Line, and of the Manchester, Liverpool, Chester, North Staffordshire, and Shrewsbury branches of the London and North Western Railway. Particulars and conditions of sale and plans may be had (gratis) on application to Messrs. FISHER & HODGES, Newport, Salop; HENRY HEANE Esq. Newport, Salop, and 12, Regent street, London; Messrs. PINNIGER and WILKINSON, 26, John-street, Bedford row; Messrs. GREGORY & CO. Bedford row; CHRISTOPHER CUFF, Esq. St. Martin's-lane, London; Messrs. BROUGHTON & HENSLEY, RICHARD C. EDLESTON, Esq., and J. BROADHURST, Esq. Nantwich, Cheshire; and Messrs. CHURTON, Auctioneers, Chester and Whitchurch, Salop; and at the Place of Sale. ALFRED HALL, Chief Clerk

Dated this 17th day of April, 1863.

MR. G. NEWENHAM (Pupil of G. G. Scott, Esq. R.A.) PREPARES Sets of Competition Designs, Working and every description of Architectural and Artistic Drawings. Perspectives outlined in a superior manner (and coloured by the best artists), with punctuality and despatch, and on reasonable terms.—Offices, 28, Parliament-street, Westminster, S.W.

MR. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLOURIST and LITHOGRAPHER,
No. 21, MONTAGUE STREET, RUSSELL-SQUARE, W.C.
Competition and every description of Architectural, Working, and Detail Drawings prepared

ARCHITECTURAL COLOURING.—To ARCHITECTS.—DESIGNS intended for EXHIBITION or COMPETITION, PREPARED and COLOURED, by Mr. BURBIDGE, 28, Craven-street, Strand, W.C.

A PARTNERSHIP is offered to a Builder having about 3,000l. at command, to join a builder in an established business, and who is about adding brickmaking to his present trade. There are no old debts to pay off, and the business is carried on upon the advertiser's own freeholds. Apply to Mr. HEARDEN, 91 and 92, Piccadilly.

TO ARCHITECTS AND SURVEYORS.

PARTNERSHIP.—An Architect and Surveyor, of persevering and industrious habits, is desirous to enter into Partnership with a gentleman who has an extensive and well-established practice.—Address, with full particulars and terms, Z. B. Q Office of "The Builder."

TO BUILDERS.

PARTNERSHIP.—An energetic Man, of thorough business habits, possessing a sound knowledge of the business, both practically and theoretically, and having had a large amount of experience, is desirous of joining in an established firm as PARTNER, to take an active part in the business. Best of references given and required.—Address, W. M. Office of "The Builder."

PARTNER. — WANTED, a JUNIOR PARTNER, in a building business of very long standing, in the provinces. Capital required, from 500l. to 1,000l.—Address, R. S. 1, Post-office, Sheffield

TO CAPITALISTS, BUILDERS, or OTHERS.—PARTNERSHIPS, or otherwise, WANTED, to carry out a PATENT for LOUVRE SHUTTERS of a simple and economic construction.—Particulars, A. Z. Post-office, Portsdown-terrace, Edgeware-road, Kilburn

A VACANCY for a respectable Youth as an ARTICLED CLERK in a Builder's office.—Apply at Mr. NEWSON'S, Builder, 38, Grosvenor Mews, New Bond-street.

ASHFORD HIGHWAY DISTRICT.—The Highway Board for the Ashford District hereby give Notice that at the next Meeting, to be held at the PUBLIC ROOMS, ASHFORD, on TUESDAY, the 12th day of MAY next, at ELEVEN o'clock, they will proceed to the ELECTION of a SURVEYOR for the District. The highways within the district, exclusive of footpaths, are in extent about 289 miles. The Surveyor will be required to reside in Ashford or within three miles thereof. Persons desirous of filling the office are requested to state their age, and send their applications, with testimonials as to their ability and character, and Tenders as to the amount of salary required (including horse hire, travelling, and other personal expenses rendered necessary in the performance of the duties), to the Clerk, at his Office, 4, Ashford, on or before SATURDAY, the 9th day of MAY next, under cover, addressed "To the Chairman of the Ashford Highway Board." The Surveyor will be required to find security for the money entrusted to him. The Board will not be bound to accept the lowest or any Tender. F. HUGHES HALLETT, Clerk to the Board.

Ashford, April 24th, 1863.

BUILDER'S CLERK WANTED.—Must be a good bookkeeper and write well.—Address all particulars to J. B. Mr. Hatchett's, Stationer, Moorgate-street, E.C.

CLERK WANTED, at a Lime and Cement Wharf. One used to the business preferred.—Apply, by letter only, in own handwriting, stating age and salary required, to W. C. H. 196, Copenhagen-street, Islington.

DECORATIVE PAINTERS.—WANTED, a CLEVER HAND, accustomed to Gothic work.—Apply, stating terms and reference, to SKIDMORE'S Art Manufactures Company, Coventry.

EXTRA HANDS WANTED.

EXPERIENCED MARBLE MASON, active young Polishers, a Man to Drive a light cart and call on Builders for orders, deliver goods, &c.; must be well recommended. Wages about 21s. per week. Vacancy for an Apprentice.—Apply by letter to Mr. HARTLEY, Westminster Marble Works, Pimlico-street.

TO PAINTERS AND DECORATORS.

FOREMAN WANTED, competent to superintend first-rate work. He must be a good grainer and marbler. A liberal engagement will be made with an experienced and thoroughly efficient person. Address, BIRD & HULL, Decorators, &c. 106, Long-street, Manchester.

LAVENHAM HIGHWAY DISTRICT, SUFFOLK.—An adjourned meeting of the Board of the above district will be held at the Swan Inn, at Lavenham, on TUESDAY, the 12th day of MAY next, at ELEVEN o'clock, am prepared to receive sealed TENDERS from persons willing to undertake the OFFICE of SURVEYOR for the said district. Tenders, stating the amount of salary required, must be sent to the Clerk, at his Office at Lavenham, on or before NINE o'clock of the morning of the 12th of MAY. The Board will not be bound to accept the lowest or any Tender. Candidates to appear in person on the above-named day. The above district consists of 55 parishes and it is believed of about 120 miles, and 100,550 acres. The person elected as surveyor will be required to reside in the district, and devote his whole time to the duties of the office—by order of the Board.

Lavenham, April 9, 1863. RICH. NEWMAN, Clerk.

TO SURVEYORS of HIGHWAYS and to OTHERS accustomed to the MAKING of ROADS.—DOCKING UNION HIGHWAY DISTRICT.—WANTED, by the Board of Wardens of the above district, an active and intelligent Man, capable of performing the duties of the office of DISTRICT SURVEYOR for the Docking Parishes in this Union, comprising 200 miles of hard road and 70 miles of green road. He will be required to keep or provide himself with a good horse. The salary will be 170l. per annum, and the Surveyor will be required to devote his time entirely to the duties of his office. Every candidate must produce satisfactory testimonials of experience and capability in the management of labour, and be a correct and ready accountant. The election will take place at the Docking Workhouse, at TWELVE o'clock at noon, on WEDNESDAY, 20th May next, when candidates will be required to attend in person. Applications, accompanied by original testimonials, must be forwarded to Mr. ALFRED SPANTON, Solicitor, Hunstanton, King's Lynn, prior to WEDNESDAY, 13th MAY next.

THE PLYMOUTH HOTEL COMPANY, Limited.—DUKE of CORNWALL HOTEL.—WANTED, a CLERK of the WORKS, to superintend the erection of the above Hotel, which will be shortly commenced. Applications, giving references and terms, to be sent to the undersigned on or before the 7th of MAY next. HAMILTON WHITEFORD, Secretary,
Dated 28th April, 1863. Courtenay street, Plymouth.

WANTED, immediately, 25 STONE MASONS. Apply to Mr. JOSEPH STANLEY, Stone and Marble Works, St. Stephen street, Norwich

WANTED, an experienced BUILDER'S CLERK, who is a good writer, quick at accounts, and fully accustomed to the retail office duties. One who can prepare plans and take off quantities preferred.—Address, stating age, last employers' reference, and salary required, to X. Y. Z. Robert's Library, Arbutus-row, Pimlico, S.W

WANTED, a PUPIL, by an experienced ORNAMENTAL DESIGNER. No premium will be asked, if he be able to draw and tint well.—Address, by letter, to Mr. J. T. L. 4, Upper Brockwell terrace, Hunts Pond-road gate

TO ARCHITECTURAL DRAUGHTSMEN AND SURVEYORS.

WANTED, immediately, a competent ARCHITECTURAL DRAUGHTSMAN; also a good ENGINEERING SURVEYOR and LEVELLER. Apply, by letter, stating age, previous employment, and salary required, addressed to C. S. Box Extra 11, Post-office, Manchester

TO CLERKS OF WORKS.

WANTED, an experienced and thoroughly-practical Man, of good address and unexceptionable character. He must be a good draughtsman, thoroughly acquainted with the building trade in all its branches, and fully competent to take the entire management of extensive building operations.—Address, stating where last employed and salary expected, to C. P. W. Office of "The Builder."

TO ARCHITECTS' ASSISTANTS.

WANTED, a Competent ASSISTANT in an Architect's Office in the West of England.—Address, stating terms, qualifications, and references, to J. J. H. Post-office, Bath

TO CARPENTERS.

WANTED, a FOREMAN of JOBBING CARPENTERS and JOINERS. Must be used to jobbing work, and an active, steady, industrious, intelligent Man only, whose character will bear the strictest investigation.—Apply in own handwriting, stating age, where last employed, or married and what family, to Mr. Hibberts, 83, Claapside, E.C.

WANTED, a YOUTH, to assist in a Builder's Office. Must write a good hand, and be able to trace drawings. Will be wanted to keep the same hours as the architect.—Address, R. J. S, Wilson-street, Finsbury, E.C.

WANTED, a YOUNG MAN having some practical knowledge of the Building Trade, and who is also able to attend to the business of a Builder's Office, including plan drawing.—Apply by letter, stating salary, to A. B. 13, Paradise street, Lambeth walk, S.

WANTED, for Gas Works Abroad, a MANAGER; also a FOREMAN, who must be an experienced retort setter and bricklayer; and some GAS FITTERS.—Apply, by letter, to A. B. care of Mr. Morris, News Agent, Camberwell green, S.

TO PLUMBERS, &c.

WANTED, a thoroughly good THREE-BRANCH HAND. Constant employment.—Apply at 18, King's row, Pimlico.

WANTED, a respectable YOUTH, in a Surveyor's and Architect's Office. Must be able to copy or trace drawings and write well.—Address, with full particulars, J. D. Mr. Ingram's, 12A, Bridge street, S.W.

TO PAINTERS, GRAINERS, &c.

WANTED, immediately, in a Country Shop, a respectable MAN, a good Grainer and Writer. No objection to turn his hand to plain painting and paper hanging.—Address, D. H. Post-office, Weybridge, Surrey.

ASSISTANT WANTED

WANTED, immediately, an ASSISTANT in the Engineer and City Surveyor's Office, Gloucester; one acquainted with Town and Sanitary Works preferred. Applications to be sent, stating salary required, with testimonials, to W. McLANDSBOROUGH, Assoc. Inst. C.E., Corn-exchange, Gloucester

WANTED, a RE-ENGAGEMENT as Assistant Draughtsman in the office of a Builder. Civil Engineer, or Architect, by a neat and expeditious draughtsman, and colourist, and fair penman. Address, G. T. Post office, High-street, Stoke Newington, N.

WANTED, by an experienced Plumber, Painter, and Glazier, a permanent SITUATION.—Address, S. H 12, St James-square, Cheltenham

WANTED, by a respectable Young Man, in his twenty-fifth year, a SITUATION as CLERK in a Builder's Office. Three years' good reference in the building trade.—Address, X. Y. Z. 9, Clifton-terrace, Fulham-road, S.W.

TO BUILDERS, RAILWAY COMPANIES OR GAS COMPANIES, OR GAS-FITTERS.

WANTED, by a steady Young Man, a constant SITUATION as BRASS-FINISHER and GAS-FITTER. Understands jobbing, and can have a good reference from late employers.—Address, W. S. 16, Bloomburg-street, Vauxhall Bridge-road, S.W.

TO BUILDERS, &c.

WANTED, by the Advertiser, a Carpenter and Joiner by trade, a RE-ENGAGEMENT as Out-door FOREMAN, or on a GENTLEMAN'S ESTATE. Age, 39 years. Satisfactory references and testimonials.—Address, H. F. 13, Arnold's-place, Francis street, Newington, S.

TO MASTER BUILDERS AND PAINTERS.

WANTED, by a first-class Grainer of Woods and Marbles, a Constant SITUATION. Is a very steady man. Good references may be had. Country preferred.—Address, G. M. 4, Upper North street, Caledonian-road, King's-cross, London.

TO CARPENTERS AND BUILDERS.

WANTED, to APPRENTICE a YOUTH, aged 17, as CARPENTER. Indoor preferred.—Address, stating premium required and full particulars, to B. M. Post office, Oxted, Surrey.

TO PLUMBERS, BUILDERS, &c.

WANTED, a SITUATION, by a Practical PLUMBER and GAS FITTER. Has no objection to fill up his time with painting and glazing.—Address, H. ROBINSON, 38, Regent street, Leader-street, Chelsea.

TO MASTER PLUMBERS AND BUILDERS.

WANTED, a SITUATION, by a thoroughly experienced PLUMBER, good JOBBING WORKER, and GAS FITTER. Has no objection to fill up his time with painting. Either in town or country.—Address, T. W. J. 7, Brewer street, Clarkenwell, E.C.

TO ARCHITECTS, BUILDERS, &c.

WANTED, by a Married Man, aged 30, a RE-ENGAGEMENT (temporary or otherwise) as GENERAL ASSISTANT. Has a good practical knowledge of building, superintending, &c. Salary moderate.—Address, A. Z. 16, Moreton-place, Pimlico, S.W.

WANTED, a SITUATION in an Architect's Office, or as an ASSISTANT SURVEYOR in a Fire Office in London. Has been five years in the profession. Salary, two guineas per week.—Address, Z Phœnix Booking Office, King William-street, City.

TO BUILDERS.

WANTED, by a Carpenter and Joiner, a RE-ENGAGEMENT as FOREMAN, in or out of doors. Thoroughly competent.—Address, F. B. 1, Carey-street, Westminster, S.W.

TO PLUMBERS AND BUILDERS.

WANTED, by a Young Man, aged 21, a SITUATION as an IMPROVER to the PLUMBING trade. No objection to Painting, &c. if required.—Address, A. B. 10, Lisle-street, Leicester-square.

TO BUILDERS.

WANTED, a SITUATION as FOREMAN, or Working Foreman of BRICKLAYERS. Is used to large jobs in town. No objection to town or country. Good reference can be given.—Address, J. C. 3, Wellington-road, St James's road, Holloway, N.

TO CARPENTERS AND JOINERS.

WANTED, by a Young Man, aged 21, a SITUATION as IMPROVER to the above. Town or country.—Address, G. T. Shaw's, 256, Oxford-street, W.

TO BUILDERS AND CONTRACTORS

WANTED, an ENGAGEMENT as MANAGING MAN, in a CONTRACTOR'S OFFICE, in London. Can introduce a considerable amount of business. Sixteen years' experience. First-class reference to London builders.—Address, R. G. Post-office, 130, Goswell-street, E.C.

WANTED, by an energetic, sober Man, seven years' experience, an ENGAGEMENT as BUILDER'S FOREMAN, Shop or otherwise, or as CLERK of WORKS. Can be highly recommended both for ability and general character. Several years' reference and unexceptionable testimonials. Address, C. 134, Drury-lane, W.C.

TO ARCHITECTS AND SURVEYORS.

WANTED, by the Advertiser, an ENGAGEMENT in an Architect's or Surveyor's Office as Improver. Salary required moderate for 6 months. References.—Address, C. D No. 2, The Priory, Tratton, Portsmouth.

WANTED, a RE-ENGAGEMENT, as GENERAL or SHOP FOREMAN, by a thoroughly practical Man, Joiner by trade. Well versed in construction; has carried out extensive works; can prepare finished and working drawings, take out quantities, and estimate. First-class references.—Address, B. A. 7, Castle-terrace, Pownall-road, Dalston, N.E.

TO ARCHITECTURAL DRAUGHTSMEN.

WANTED, a LITHOGRAPHIC DRAUGHTSMAN, who has been used to very neat ink work.—Address inclosing specimens of work and terms, to A. B. Post-office, Carlton-in-Lindrick, Notts

WANTED, by an experienced Man, a SITUATION as WORKING FOREMAN. Has had twenty years' good experience in London in stairs, shop fronts, sashes and frames, hanging doors, paneling, and joinery in alterations and repairs. Can make out working drawings and measure up work.—Address, SMITH, 15, Hanover square, Kennington Park.

TO BUILDERS AND OTHERS.

WANTED, by the Advertiser, a SITUATION as SHOP FOREMAN of JOINERS, or to Take Charge of a Job. Town or within thirty miles. Good reference.—Address, Y. X. L. Office of "The Builder."

WANTED, by a Young Man, a SITUATION as JUNIOR ASSISTANT, or IMPROVER, in an Architect's Office. Has served 2½ years in an office. If the Advertiser could get into an office where he is likely to obtain knowledge of Surveying, a very trifling salary only would be required.—Letters to be addressed to A. B. care of Mr. W. Hockey, 8 Soho-row, Hampstead-road

TO BUILDERS AND OTHERS.

WANTED, by a thoroughly Practical Man, a SITUATION, as GENERAL or WORKING FOREMAN, or to take CHARGE of a JOB. Prepares working drawings and measures up work. Good reference from most employers. Country not objected to.—Address, Y. Z at Mr. Barrow's, 11, Moreton-street, Pimlico, S.W.

TO BUILDERS, PLUMBERS, WRITERS, AND DECORATORS.

WANTED, by a steady Young Man, just out of his time, a SITUATION in a good Firm as an IMPROVER to the Plumbing and House Decorating, or he would take a SITUATION as an ASSISTANT to a Writer to the Trade in London. A first-class reference can be given.—Address, J. LEONARD, Vineyard, Abingdon, Berks.

WANTED, a RE-ENGAGEMENT as FOREMAN of BRICKLAYERS, in Town or country. Good references from late employers.—Address, J. T. No. 24, Westbourne-street, Pimlico, London, S.W.

TO ARCHITECTS AND BUILDERS.

WANTED, EMPLOYMENT, by a good plain Draughtsman and Colourist, either at an office or his own rooms. Salary, if for a permanency, 1l. 1s. per week. Good reference can be given.—Address, J. H. Office of "The Builder."

WANTED, a SITUATION as CLERK of WORKS, SHOP or GENELAL FOREMAN, by a Man of extensive practice; is competent in all branches. References unexceptionable.—Address, J. D. 46, Great Clarendon street, N.W.

TO CARPENTERS AND BUILDERS.

WANTED, to APPRENTICE a YOUTH, aged 16, Indoors.—Address, W. W. 13, Portland-road Villas, Notting-hill, stating premium required.

TO CARPENTERS AND JOINERS.

WANTED, by a Young Man, who has had four years' experience, a SITUATON as IMPROVER to the above.—Address, M. A. R. Office of "The Builder."

TIME-KEEPER, COLLECTOR, or MESSENGER.—A respectable single man, with good ref-rence. Also security if required.—Address, A. C. T. No. 2, Abbey Cottages, Queen's-road, Kilburn

THE Advertiser, a Plasterer, desires a RE-ENGAGEMENT as FOREMAN. No objection to take work. Address, N. R. Office of "The Builder."

TO BUILDERS AND CONTRACTORS

THE Advertiser, a thoroughly practical Man, having had great experience, and possessing a small capital, wishes for a JUNIOR PARTNERSHIP in a well-established firm.—Address, M. G. T. 2, Millman-street, Bedford-row, W.C.

TO SURVEYORS AND LAND AGENTS.

THE Advertiser, a Married Man, is DESIROUS of obtaining a SITUATION as ASSISTANT. He is conversant with surveying and levelling, is a neat draughtsman, can plot surveys, and has a fair knowledge of taking out quantities, &c. First-rate references.—Address, T. K. 4, Bath-terrace, Forest-gate, Essex.

THE Advertiser is desirous of a SITUATION as BUILDER'S FOREMAN. Is capable of setting out work of every description. Can prepare working and detail drawings; take out quantities, and measure up work, &c. Good references can be given.—Address, G. H. Office of "The Builder."

TO BUILDERS AND CONTRACTORS.

THE Advertiser, who has had several years' experience in London building firms, wishes for a RE-ENGAGEMENT in the capacity of CLERK. Well acquainted with the general routine of the office, and able to give satisfactory reference. -Address, J. C. Office of "The Builder."

IRON-WORK CONSTRUCTION.—A Surveyor, who has had great experience in the Construction of Iron Buildings, offers his advice and services to architects, &c. on reciprocal terms.—Address, X. X. No 2, Snowden Villas, Maida Vale.

HANDRAILS and STAIRS. WANTED, by a First-class STAIRCASE HAND, used to town work, an ENGAGEMENT in the above line.—Address, N T. E. Office of "The Builder."

TO SURVEYORS, &c.

EMPLOYMENT WANTED, in or near London, by a Young Gentleman aged 20. Thoroughly understands surveying, mapping, planning, &c.—Address, SURVEYOR, 9, St James's-terrace, Southgate-road, N.

EMPLOYMENT WANTED, as BUILDER'S CLERK, CLERK of WORKS, to MANAGE an ESTAGE, or other confidential situation, by an active middle-aged Man. Has a thorough, practical knowledge of building in all its branches, can take out quantities, and measure up work. Unexceptionable reference. Salary moderate. Country preferred. -Address, J. C. Dorling Cottage, Hardeyford road, Vauxhall, S.

TO ARCHITECTS

AN experienced Clerk of Works is open to a RE-ENGAGEMENT. — Address, C. D. Post-office, Ascot, Sunning Hill, Berks.

TO CIVIL ENGINEERS AND SURVEYORS.

A GOOD PLAN-DRAUGHTSMAN, of considerable experience, is desirous of an ENGAGEMENT in the office. Can survey and level. Has specimens and testimonials. Terms, two guineas per week.—Address, W. G. care of Mr Wellams Stationer, &c. 2, Westmoreland terrace, Hornsey road, N.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

A YOUNG MAN, who has been several years in the Office of an Architect, and has had the advantage of fair practical experience on building works, wishes for a RE-ENGAGEMENT. Town or country.—Address, J. W. S. Post-office, Hare-field, Middlesex.

A COMPETENT ASSISTANT requires a RE-ENGAGEMENT as MANAGING CLERK to an Architect, for which a moderate salary would be accepted if the situation be for a permanency. -Address, A. V. V. Post-office, Newbury.

TO ARCHITECTS.

AN ASSISTANT, who is competent to make drawings from rough sketches, copy, trace, and colour perspectives; also good at design, is open to a RE-ENGAGEMENT.—Address, C. D. 5, Sunbury-terrace, Liverpool-road, Islington, N

A FIRST-CLASS GRAINER and WRITER wants, in the vicinity of London, a Constant SITUATION.—Address, A. B 32, Tottenham-street, Pitfroy square, W.

TO PLUMBERS, BUILDERS, &c.

A STEADY RESPECTABLE YOUNG MAN (from the country), aged 20, WANTS a CONSTANCY as PLUMBER or THREE BRANCH HAND.—Reference if required, Address, B. P 2, Lemmark grove, Islington.

TO PARENTS AND GUARDIANS

AN ARCHITECT and SURVEYOR having an extensive country practice, within an hour's ride of Liverpool, is in want of a respectable youth as a PUPIL. The youth would be under the immediate direction of the principal, and would possess unusual advantages for acquiring a full knowledge of his profession. Premium moderate.—Apply to JOHN KERR, Esq. Collegiate Institution, Liverpool

A BUILDER'S SON, aged 22, is in want of a SITUATION as an ASSISTANT to a BUILDER. Can take off quantities, prepare plans, &c. Has been used to the superintendence of works. Good references. Moderate salary. -Address, A B. 18, Boro', Farnham.

TO ARCHITECTS, &c.

A PRACTICAL CLERK of WORKS is open to a RE-ENGAGEMENT. First-class Testimonials.—Address, M. N. 21, Alfred street, Bow-road, E.

TO ENGINEERS, MANUFACTURERS, AND OTHERS

A YOUTH, aged 18, who has a knowledge of Engineering, wishes for EMPLOYMENT, or to bind himself for three or four years in an Engineer's Establishment.—Address, G. L. 11, Great Marylebone-street, W.

TO ARCHITECTS

AN experienced ASSISTANT, and first-class Designer, Perspective Draughtsman, and good Colourist, is open to an ENGAGEMENT, in Town, as MANAGING ASSISTANT.—Address, A. E. 131, Albany-street, Regent's Park.

AN ENGINEERING and ARCHITECTURAL ASSISTANT, who has been engaged for the last sixteen years upon public works of water supply, gas, and town drainage, and in designing and superintending the erection of buildings, desires a Permanent ENGAGEMENT. The highest testimonials furnished.—Address, C. E. 26, Parliament street, Westminster, S.W.

TO ARCHITECTS

A JUNIOR ASSISTANT, accustomed to the duties of an architect and surveyor's office, is desirous of obtaining a RE-ENGAGEMENT. Salary very moderate.—Address, H. E care of R. Blessley, esq. 8, Furnival's Inn, London, E.C.

TO ARCHITECTS AND CHURCH BUILDERS.

A PRACTICAL GOTHIC and GENERAL STONE CARVER, is now in WANT of an ENGAGEMENT. A country job preferred. Recommendations from, and references to, eminent London architects. — Address, BERIL, Office of "The Builder."

TO ARCHITECTS, BUILDERS, &c

A GOOD DRAUGHTSMAN and DESIGNER, accustomed to the routine of an architect's office, is desirous of obtaining a SITUATION, in town or country. Terms moderate.—Address, A. B. O. Office of "The Builder."

TO BRICKLAYERS AND PLASTERERS.

A RESPECTABLE YOUNG MAN, aged 18, used to hard work, is desirous of LEARNING the above trade. Indoor preferred. A little pocket-money will be expected.—Address, A. C. Mr. Foster's, Bookseller, High-street, Peckham.

PHILBROKE ESTATE, at Leytonstone, on the Woodford and Loughton Railway, twenty minutes from Fenchurch and Bishopsgate Stations.—This valuable FREEHOLD ESTATE (land-tax redeemed), surrounding the Station, healthy locality, gravelly soil, excellent drainage, water and gas laid down, roads made, and can be dug on the estate, it is proposed TO LET in Plots suitable for building detached and semi-detached Villas. Repeated applications have been made for houses in this neighbourhood. For terms, apply to Mr. ATHEY, at the Surveyor's Office, Philbroke Estate, Leytonstone, Essex.

WOODFORD RAILWAY.—The GROVE, WANSTEAD. Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 400 yards only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Kingston; some very eligible SITES in the Grove-road, Mile-end, a few of which are adapted for shops, and large and very CHEAP PLOTS TO LET, at Ealing.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

SUTTON, near the Station.—PLOTS of FREEHOLD BUILDING LAND FOR SALE. Land-tax redeemed, conveyance free. Also, PLOTS TO BE LET, on a Building Lease, for ninety nine years.—For plans, &c. apply by post, pre-paid, to Mr. TRIBE, Builder, Sutton, Surrey, S.

HEATHERHURST ESTATE, FRIMLEY, SURREY.—This Freehold Estate has been divided into LOTS suitable for the ERECTION of high-class VILLA RESIDENCES, so much in demand in the neighbourhood. It is on the road from Guildford to Frimley and Sandhurst, 3 miles from the camp at Aldershott, and within 3 miles of the Ash Station, and only 53 minutes by rail from London. It commands a beautiful view through a vast extent of varied and picturesque country, and is in the most healthy part of Surrey. The soil is chiefly gravel.—For plans and particulars apply to F. GOODCHILD, Esq. Guildford; or to J. C. PAIN, Esq. Solicitor, on the estate, and at York Town, Surrey.

BUILDING LAND at OXFORD.—The difficulty which has heretofore existed of procuring suitable sites for building private residences in and around Oxford is now overcome. A very fine estate, known as "Norham Manor," comprising upwards of 30 acres, belonging to the President and Scholars of St. John's College, is now being laid out for the purpose and TO BE LET, on BUILDING LEASES, for a term of 99 years, at moderate ground-rents. The land is situate within ten minutes' walk of the Colleges and public buildings in the city, while it possesses all the advantages of the country. The site is elevated, it has a subsoil of gravel, and a plentiful supply of pure spring water. Several lots have already been disposed of, and a few residences of a good character have been built. For particulars and to treat for the land, apply to Messrs MORRELL, BIDDLE, & HAWKINS, Solicitors; or to Mr. WILLIAM WILKINSON, Architect, Oxford.

FREEHOLD GROUND RENTS, CITY of LONDON.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 16th of JUNE next, at TWELVE o'clock precisely, to receive PROPOSALS for the PURCHASE of FREEHOLD GROUND-RENTS, on Premises let on Building Leases, having about eighty years unexpired, and severally situate Nos. 70 and 71, Watling-street; Nos. 76 and 77, Newgate-street; and No. 4, Maidenhead-court, Aldersgate street; particulars and plans of which may be had at this office, together with the conditions of sale. Tenders must be sealed, endorsed outside, "Tender for Ground Rent," and addressed to the undersigned at this Office, and must be delivered in before TWELVE o'clock on the said 16th of JUNE next. The Commissioners do not bind themselves to accept any Tender unless the same shall be deemed eligible. Parties tendering must attend personally or by an authorised agent on the day of treaty, and be then prepared (if their Tender be accepted) to pay the required deposit of 10 per cent. and to execute an agreement for the completion of the purchase agreeably to the conditions of sale.

JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, April 20, 1863.

NEAR BRIGHTON.—FREEHOLD LAND TO BE LET or SOLD, for Building Villas, in a pleasant Village about three miles westward of Brighton, close to a railway station. Situation dry and healthy. The land will be let at a very moderate price, with easy terms of payment. Also an extensive and desirable WATERSIDE FRONTAGE TO BE LET, for Ship Building or Wharf.—Apply to Mrs. E. HALL, Southwick, near Brighton; or to H. F. HALL, No. 3, St. Mildred's court, Poultry, London.

FREEHOLD LAND at SYDENHAM, about ten minutes' walk from the London and Brighton Railway-station.—To BE LET, on Building Lease, a Piece of LAND, having a frontage to the road leading to Beckenham of about 600 feet, and a depth of about 270 feet. Land-tax redeemed.—Apply to Messrs. PATERSON & LONGMAN, Solicitors, 3, Winchester-buildings, Great Winchester-street, London, E.C.

TO BE LET, on a Building Lease, at Chelsea, a PIECE of GROUND, in a first-rate situation, calculated for the erection of a public house, for which it is peculiarly eligible (being close to the New Barracks), and nine shops. About 222 feet frontage to the New Bridge-road, and about 22 feet 6 inches in Queen's-road East.—For particulars inquire on the Premises; or at No. 134, Queen's-road East.

FREEHOLD GROUND between the Forest Hill and Sydenham Stations TO BE LET on long Building Leases.—For plan and particulars, apply to C. F. REEKS, Esq. Architect, 12, Middle Scotland-yard, S.W.

BUILDING LAND TO BE LET or SOLD, at Sydenham, near the Church, the Railway Station, the Crystal Palace and Park. It fronts a wide, handsome roadway, and has ample depth for garden grounds. All the houses on the estate are of a good class, and the rents obtained give an average return of 12 per cent. on the outlay. The remaining frontage will be let at a low rent, to secure the ground being speedily covered.—Terms and particulars of Messrs. EDWIN FOX & BOUSFIELD, Land Agents, 41, Coleman street, Bank, E.C.

BUILDING LAND TO BE LET, at Canonbury (Marquess-road), at Lower Norwood, a most eligible site, commanding beautiful views, close to the station; at Croydon, &c. Also at Edward's-row, Bow, some caravans for completion. The usual advances of money to respectable parties.—Apply at the Offices of Mr. J. EDMESTON, Architect and Surveyor, 5, Crown-court, Old Broad-street, E.C.

SUSSEX.—TO BE SOLD, that beautiful FREEHOLD ESTATE and PLEASURE FARM called Purchase Manor, situate in the picturesque country near Ditchling. It contains an excellent mansion house, commanding extensive views, with twelve bedrooms and suitable reception-rooms, library, conservatory, coach house, stables, walled garden, and shrubberies: also a steward's house annexed, and 262 acres of land. On the verge of the estate is an excellent newly erected eight roomed house, and twenty acres of land, on which is a pottery and brickyard of great repute in the neighbourhood. The brick earth is of good quality, and is believed to underlie the whole estate. The whole is within a ring fence, and has been alle-drained except twenty acres. Good shooting and fishing.—For particulars and cards to view, apply to Mr. TOOTELL, Edgware, N.W.

TO CONTRACTORS, BUILDERS, and OTHERS.—TO BE LET, TWO BRICKFIELDS, yielding a large return and good profit, situate within twenty miles of the metropolis, and within a mile of a railway station.—For particulars apply to Mr. REARDEN, 91 and 92, Piccadilly.

TO BE LET, at Newington Butts, Surrey, a MANUFACTORY, with Steam Engine (about 8 horse hight preserve), now in use for lead and colour grinding; also, a small DWELLING-HOUSE. Will become vacant at Midsummer. May be seen and terms known on application to Mr BROWN, 6, High-street, Newington Butts: or at 4, Adams-court, Old Broad-street, City

TO BREWERS, BUILDERS, PUBLICANS, and OTHERS.—TO BE SOLD a 99 years LEASE of an eligible Site for a Public house, adjoining Cherry-garden Pier, with frontage to the river. Lic-nse secured.—Apply to Mr. W. G. CLIFT, Lucas & Spencer's Wharf, Bermondsey Wall, S.E.

A BARGAIN.—TO BE SOLD, a PLOT of FREEHOLD LAND, 60 feet frontage, 200 feet deep. Within five minutes' walk of Forest-hill Station. With a quantity of building materials, joiner's work, bench, &c.—For particulars, apply to J O 4, Freel street, Paddington

PENZANCE, CORNWALL. The FEE SIMPLE, in hand, of NINETEEN ACRES of first class BUILDING GROUND, all within 600 yards of the beach, and commanding full view of the sea, and adjoining the town of Penzance, will be SOLD, in lots, by AUCTION, at Penzance, on FRIDAY, JUNE 5th, 1863. The fee simple, subject to a lease now hanging on a life of eighty-one, in 8 Acres of Building Ground in Penzance, will be sold in lots by auction at the same time. The whole of this ground is at present under cultivation as market-garden ground for early broccoli and early potato crops.—For particulars apply to RODD & CORNISH Solicitors, Penzance

Penzance, April 23rd, 1863.

MANUFACTURING WATERSIDE PREMISES, occupying about an acre of ground.—TO BE LET on lease, direct from the freeholder, for a building term if desired, conveniently-placed MANUFACTURING PREMISES, situate at West Ham Abbey, Essex, a few minutes' walk from the Stratford Bridge Station of the North Woolwich Railway, and with waterside frontage next the Channel Sea River. The ground contains a site of about one acre, the buildings are spacious ground floor erections, and there is a hands-me and lofty brick chimney shaft.—For particulars, apply to Messrs FULLER & HORSEY, 13, Billiter street, London, E.C.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.

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TARPAULINS for COVERING WORKS. SCAFFOLD AND HEMP ROPE FALLS. AWNINGS FOR FOUNDATION STONES.

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59, Bishopsgate-street Without, E.C. Manufacturer, by appointment to Her Majesty's Honourable Board of Ordnance.

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THROUGH THE EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 6s. 6d. These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 107 and 108 (late 117 and 118), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

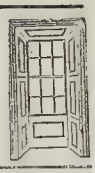
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JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by
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(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).
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CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.



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SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.
KING & DUNGEY,
GREAT SAFFRON-HILL, HOLBORN,
OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

FLOORING! DEALS! MAHOGANY!
100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
30,000 Pine Planks ..... from 3s. 6d each
35,000 Yellow Battens ..... from £11 10s. per 120
30,000 Spruce ditto ..... from £9 per 120
SPRUCE DEALS, 2s. 6d. each.
FIR TIMBER 55s. PER LOAD.
Scaffold Poles ..... 1½d. per foot
YELLOW DEALS, £16 PER 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

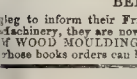
FLOORING, DEALS, MOULDINGS, &c.

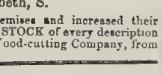
	White (not Spruce).	Yellow.	
¾-inch Flooring	11s. 6d. to 12s. 0d.	13s. 0d.	per Square.
1¼-inch ,, ...	12s. 0d. to 13s. 0d.	13s. 0d. to 14s. 6d.	,,
1-inch ,, ...	14s. 6d. to 16s. 0d.	15s. 6d. to 18s. 6d.	,,
1½-inch ,, ...	18s. 0d.	20s. 0d. to 22s. 0d.	,,

YELLOW DEALS, 3 by 9, from...£16 10s.

Yellow Battens	£11 10s. per 120
¾ White Matched Lining	12s. per square.
½ Yellow	16s. ,,

J. TERRY & SON, 109, BOROUGH ROAD, S.E.



MOULDING WORKS.
SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),
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Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
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THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
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Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS, AND CARPENTERS, AND OTHERS,
Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE-FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.				Laths, 2s. per Load.		
Yellow Deals, sound and good.....	£19	10	0 per 120, or 0s. 3½d. per foot.			
Spruce Deals.....	16	10	0 ,,	0	2½	,,
Yellow Battens, excellent quality	11	10	0 ,,	0	2	,,
Pine Planks, dry, 12 feet 3 inches by 11 feet	21	0	0 ,,	3	6 each.	

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

DRY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
JOHN COUMBE'S.
LADY LAKE'S GROVE, MILE-END-GATE.

LARCH FIR TIMBER.—RAILWAY
CONTRACTORS and OTHERS—FOR SALE, about 1,200 Superior Larch Fir Timber Trees, averaging 20 feet measure, and many trees 2 feet through. Well situated for land and water carriage—For particulars apply to Messrs. LEANEY & CAREY, Timber Merchants, Tunbridge Wells.

FLOORING, MATCH BOARDS, DEALS.

	Spruce.	White.	Yellow.
¾ inch, from 12s.	12s 9d.	13s 6d per square.	
⅞ ,, 13s.	13s 6d.	14s 6d. ,,	
1 ,, 15s.	15s 6d.	16s 6d. ,,	
1¼ ,, 17s.	18s 0d.	19s 6d. ,,	

180 feet run of 7 inches, 140 feet run of 9 inches to the square.
White Battens, 9/. 10s. per 120, 12 feet.
Yellow ditto, 10/. ditto ditto.
¾-inch Match Boards, 11s. per square.
⅞ ,, 14s. ,,
1 ,, 16s. ,,
Venetian Blind Laths, 9s per 100 feet sup.
CHARLES CUTLER,
SURREY SAWING AND PLANING MILLS, CHURCH STREET, KENNINGTON.

JOSEPH & ALFRED ROSLING beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

GREATER REDUCTIONS.—
Yellow Deals, from 3s 2d ; Spruce, from 2s. 6d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 2¾ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1 inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Carriage free to any part of town.
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1, Walnut-tree-walk, and Walcot-place, Lambeth.

SEASONED WAINSCOT OAK,
30,500 feet in Plank and Board, sawn three years.
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FETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the River Thames.—For further particulars apply to Messrs. J. & E. KNIGHTS Lathwood Merchants, Importers, &c Baltic Wharf, Pimlico, London, S.W. five minutes' walk from the Victoria Station.

BRICKS, YELLOW and PALE SECONDS,
PAVIORS, STOCKS, GRISSELS, and PLACE, delivered by barge alongside to any part of the River Lea or Canals.—For particulars apply to
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SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS,
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MALM CUTTERS, PICKINGS,
AND BUILDING GOODS GENERALLY.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.
JOHN DOWNEY, Victoria Wharf, Nine Elms, S.
Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

WHITE and RED SUFFOLK FACING
BRICKS and other KILN GOODS.
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

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The entire MAKE of BRICKS by Mr. William Lndgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

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The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

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IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, offers
Red Pantiles, at 50s. per 1,000.
,, 8 inch Pavings ,at 37s. 6d. per 1,000.
,, Floor Bricks, 40s. per 1,000.
White Kiln ditto, 40s per 1,000.
Ridge Tiles, at 75s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway.

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STONE.—ALFRED TUCK has on Sale Stock and Place Bricks, Best Reds, Copings and Pavings, Pan Tiles, Pantiles, Ridge and Gutter Tiles, Drain Pipes, Socket Pipes, Garden Pots, Chimney Pots, and Hollow Pipes for Drains, Moulded Bricks for Jambs, Mullions, Tracery, Chimney Shafts, Cornices, Bases, String Courses, Parapets, Finials, &c in great variety, delivered at any Station on the Line of the Great Eastern Railway.

BRICKS.—Good STOCK BRICKS, deli-
vered to any station on the Great Eastern Railway.—Apply to the Manager, T. WILKINS, Chelmsford, Essex
Also, superior WHITE and RED FACING BRICKS.—Apply as above, or to W. WRIGHT, Brickmaker, Dedham, Essex.

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PORTLAND CEMENT MANUFACTURERS.
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PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent, has ensured Whatever is stated with regard to all of the lime cements, so much of which is now brought into the market and sold as Portland.
PLASTER OF PARIS, both coarse and fine, of very superior quality and flour
LIME. Grey Stone, Chalk, and Blue Lias Lime, well burnt, in the large or small lumps, or ground to any degree of fineness required, for concrete.
BRICKS from our fields in Kent, by the barge-load, delivered in the river or canals, or by rail from the above wharf, of good quality and moderate price.
A large Assortment of Glazed Stoneware Drain-pipes, Yorkshire Plain, Pan, and Paving Tiles, Hair, Laths, Chimney-pots, &c. always kept in stock.
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STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
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Ditto, ditto, ORNAMENTAL, ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
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LUMPS, of FIRE, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
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TERRA COTTA and CEMENT CHIMNEY TOPS, GARDEN VASES, TRUSSES, and BUILDING MATERIALS.
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Goods forwarded per Rail, Barge, and Vessel.
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JAMES R. BLASHFIELD
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Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
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ORDERS ADDRESSED TO MESSRS. S. & R. BANGOR WHARF, CAMDEN TOWN, N.W.
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With this Material Houses may be finished and occupied in one fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble — Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

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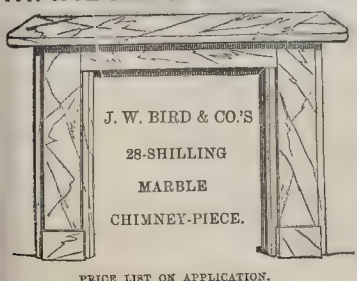
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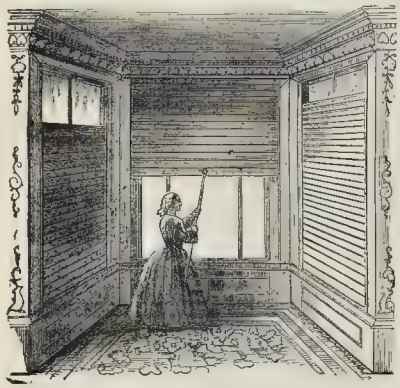
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CLARK'S Patent Self-Coiling Wood Shutters, 2/6 per Foot.

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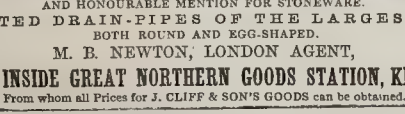
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Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s
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20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre,
Respectfully inform the public that their Illustrated Price list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.
These Pencils are prepared in various degrees of hardness and shade.

H H H for drawing on wood.	F F light and shading
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
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	B B B B ditto ditto.
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Sold by all the principal Stationers in town or country.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 "	2 15
4 "	3 15

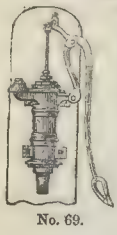
No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 10s

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

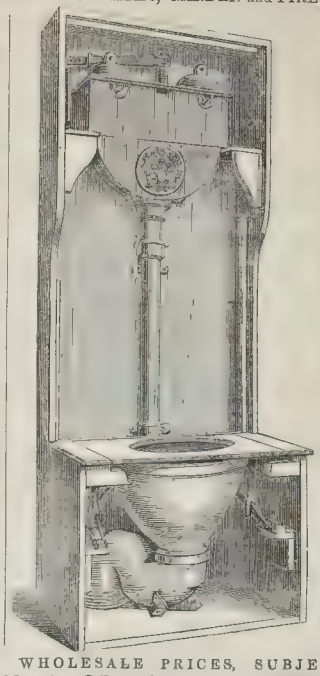
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 "	5 5 0	
3½ "	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 "	4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing at the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service

Self acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	2 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.



No. 1484.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0

Sunk Handle, extra 0 2 0

Blue Basin, extra 0 1 0

No. 1454.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 2l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

CLINTON & OWENS, LATE

BENJAMIN FOWLER & CO. Whitefriars-street, Fleet-street, London,

MANUFACTURERS OF PUMPS AND HYDRAULIC MACHINERY OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DOMESTIC, AGRICULTURAL, OR MANUFACTURING PURPOSES, OR FOR CONTRACTORS' USE, TO BE WORKED BY HAND, HORSE, WATER, WIND, OR STEAM POWER.

Portable Steam Engines, Powerful Single and Double-Barrel Pumps, Centrifugal Pumps, and Boring Tools for Contractors' Purposes, ON HIRE.

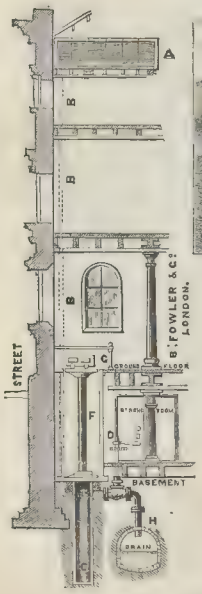
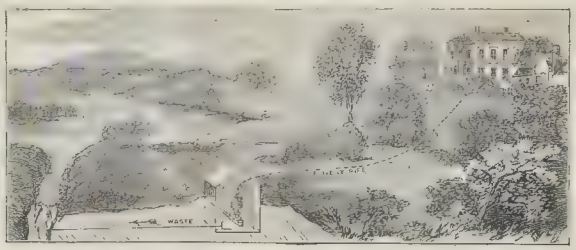


Fig. A.



THE LANDSCAPE SKETCH ABOVE SHOWS

THE IMPROVED HYDRAULIC RAM.

This is a simple Self acting Machine for Raising a constant supply of Water for Use in Public or Private Establishments where a fall can be secured from a Stream, Brook, Springs. Messrs FOWLER have fixed a great many by trust. Rams in various parts of the country, for raising from 6/6 to 6,000 or more gallons per day to elevations varying from 40 to 600 feet, and forcing through main pipes from 50 yards to several miles in length. The fullest particulars and estimates will be handed on application.

No. 37 SHOWS A SET OF

TREBLE-BARREL PUMPS WITH HORSE GEARING,

For Raising Water from DEEP WELLS for the SUPPLY of TANKS in MANSIONS and PUBLIC BUILDINGS. Messrs. FOWLER also Manufacture all the Various Other Forms of Pump for Deep or Shallow Wells for Hand or other Power.

Fig. A SHOWS

A HYDRAULIC LIFT,

Worked by Pressure from a Cistern, Supply, for Raising Warehouses, and other Hoist Lifts. Messrs FOWLER also Manufacture such Lifts to be worked by Hand Pumps, where pressure cannot be obtained from a Cistern.

BENJAMIN FOWLER & CO.

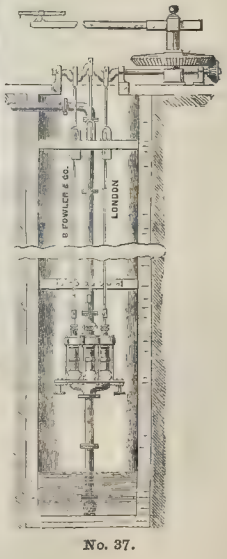
MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

PUMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE, STEAM ENGINES, WATER WHEELS, TURBINES, HOISTS, WARMING AND DRYING APPARATUS, BATHS, GAS WORKS, AND FITTINGS

ESTIMATES WILL BE HANDED ON APPLICATION.

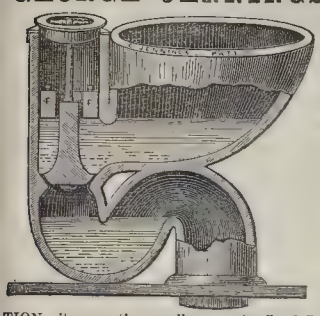
PRICE LISTS OF PUMPS FREE BY POST.



No. 37.

NOTICE OF REMOVAL.

GEORGE JENNINGS, HYDRAULIC AND SANITARY ENGINEER,



begs to inform ARCHITECTS, ENGINEERS, and OTHERS interested in SANITARY PROGRESS, that the London, Chatham, and Dover Railway Company have taken his Wharf and Factory, Holland-street, for their New Station at Blackfriars, and that his Works for the future will be carred on at

PALACE WHARF, STANGATE, LAMBETH,

opposite the River Front of the New Houses of Parliament.

The well-known character and great demand for all GEORGE JENNINGS'S Manufactures have rendered it unnecessary for him to advertise for the last two years; he, however, takes this opportunity to state that during that time he has added many Sanitary and Domestic Articles to those already before the public, some of which gained the Medal of 1851, and more recently the Exhibition Medal of 1862; the latter being awarded to him for "GENERAL Excellence of Articles exhibited and for Novelty of Application."

Jennings's Patent Tip-Up Lavatories, Water Closets, Urinals, and other sanitary appliances will be found in use on eighteen different Railways in England, on the East-Indian Lines, at many Stations, on the Paris, Orleans, and other Continental Railways; and in every Hotel, Hospital, Asylum, Prison, or other public building of importance throughout the Kingdom.

GEORGE JENNINGS would call particular attention to his

EXHIBITION VALVE CLOSET AND TAP,

(in one piece of earthenware), as above shown. It is ENTIRELY FREE FROM ALL COMPLICATION; it saves the usually expensive Lead D Trap, Service Box, Cranks, and Wires; it is noiseless in action; and most durable and efficient.

JENNINGS'S PATENT TIP-UP LAVATORIES, in a sanitary point of view, are much to be preferred, as the contents, after use, are thrown direct from the basin, leaving no deposit, which is often the means of communicating disease.

GEORGE JENNINGS has also invented a TIP-UP CLOSET, which for Basements, Cottages, &c., will be found most suitable: they are sold complete, with seat, for 63s. each.

JENNINGS'S PATENT DRAIN-PIPES

Are the only DRAIN-PIPES that MECHANICALLY PERMIT EXAMINATION, or LEGALLY PERMIT THE INTRODUCTION OF SADDLE JUNCTIONS. IN SPITE OF THE STRONGEST TRADE COMBINATION THAT EVER EXISTED, BAD COPIES OF HIS ORIGINAL INVENTION, AND DISCOUNT REACHING 50 PER CENT., the DEMAND for these PIPES is STEADILY INCREASING.

JENNINGS'S PATENT AIR CHAMBER SMOKE FLUES, TERRA-COTTA and STONEWARE AIR BRICKS, PUMPS for Shallow or Deep Wells, Sluice Valves for Steam, Water, or Gas, Fire Cocks, Hydrants, Shop Shutter Shoes, Family Jars, &c. are now in course of arrangement, at his New Sanitary Depôt, and he hopes, by continued attention to the requirements of the age, to deserve that large share of support he has hitherto been favoured with.

GEORGE JENNINGS, Sanitary Engineer, PALACE WHARF, STANGATE, LAMBETH, S.

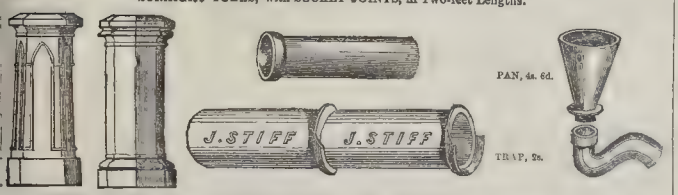
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.

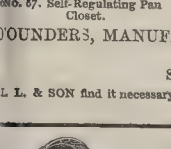


HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,



No. 1. Lambert's Ball Valve.



No. 6. High-Pressure Bib Valve.



High-Pressure Stop Valve.

No. 57. Self-Regulating Pan Closet.

FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH-PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves manufactured by them, have their NAME legibly marked thereon.



is the only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME (the obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required) without breaking a pipe, or disturbing the flow of sewage.

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, S.; or from the WORKS, near POOLE, DORSET.

Illustrated Lists with full Particulars and Prices may be obtained of

WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

A GOOD DRAWING-DOCK AND LANDING WHARF.

*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent-street, W.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6949.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.





UNDERHAY'S PATENT

REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

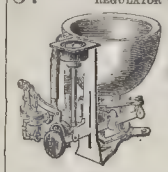
F. G. UNDERHAY

now manufactures on HIS OWN ACCOUNT his Patent Regulator Water-Closets, Valves Gas Meters, &c. on the same premises.

CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

J. TYLOR & SONS' PATENT

REGULATOR WATER-CLOSETS.

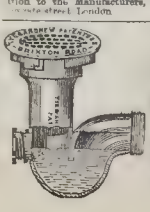


Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cistern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.



TYE & ANDREWS'

NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

SALES BY AUCTION.

INTERNATIONAL EXHIBITION BUILDING, 1862.

MESSRS. FULLER & HORSEY are instructed by Messrs. Kelk & Lucas to SELL by AUCTION, on THURSDAY, MAY 7th, and following days, at ELEVEN o'clock each day, at the BUILDING, in suitable lots, the MATERIALS of the WESTERN ANNEX, which have been carefully taken down, and stacked in convenient lots, including fully taken down, and stacked in convenient lots, including fully taken down, and stacked in convenient lots, including f

The Builder.

Architect, Engineer, Operatives & Artist.

VOL. XXI.—No. 1057. MAY 9, 1863. PRICE FOURPENCE. By Post, 5d.

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ROYAL HORTICULTURAL SOCIETY.
19TH JUNE, 1863.

CEREMONIAL TO BE OBSERVED AT UNCOVERING the MEMORIAL of the EXHIBITION of 1851, and STATUE of H R H. the PRINCE CONSORT, in the presence of their RR.HH.'s the PRINCE and PRINCESS OF WALES and other Members of the Royal Family.

The Guests invited to take part in the procession will assemble at the West Dome of the Exhibition Building.

While assembling Military Bands will play.

The Royal party will be received at the West Dome entrance by the Executive Committee of the Memorial Committee.

Their RR.HH.'s will proceed down the Nave to a Balcony over the Southern Entrance of the Horticultural Gardens and their arrival will be announced by a flourish of trumpets. "God Save the Queen" will be played by three Military Bands united in the Arabe Garden.

The Council of the Horticultural Society will present an Address. Military Bands will again play.

After which the Memorial Committee will read an Address.

H.R.H. the Prince of Wales will order the UNCOVERING OF THE MEMORIAL, which will be announced by a flourish of trumpets and a salute of Artillery, after which Military Music will be performed and the Fountains will play.

The Royal Party, headed by the Procession, will then walk round the Gardens, stopping at various points to see the Memorial and the Garden.

The route will be marked by barriers and banners; and it is requested that during the Procession the Spectators will remain stationary.

In the event of rain, the line of Procession will keep under the cover of the Arcades.

The Exhibition Building will be thrown open to the Visitors.

GEORGE GODWIN, Hon Sec Memorial Committee.
W. W. SAUNDERS, Hon. Sec. of the Horticultural.

ROYAL HORTICULTURAL SOCIETY.
19TH JUNE, 1863.

UNCOVERING OF MEMORIAL OF EXHIBITION OF 1851.

In the Presence of their RR. HH.'s THE PRINCE and PRINCESS OF WALES.

Cards of Admission, price 15s., if obtained before the 27th of May; 20s. up to 9th of June; and 30s. on day.

A. MURRAY.

ROYAL ACADEMY of ARTS.—The EXHIBITION of the ROYAL ACADEMY is NOW OPEN.—Admittance (from Eight till Seven) One Shilling. Catalogue One Shilling.

JOHN PRESCOTT KNIGHT, R.A. Secretary.

SOCIETY of PAINTERS in WATER-COLOURS.—The FIFTY-NINTH ANNUAL EXHIBITION is NOW OPEN, at their Gallery, 5, Pall-mall East (close to the National Gallery), from Nine till Dusk. Admittance, 1s. Catalogue, 6d.

JOSEPH J. JENKINS, Secretary.

INSTITUTE of PAINTERS in WATER COLOURS, founded 1831, as the NEW SOCIETY of PAINTERS in WATER COLOURS. The ANNUAL EXHIBITION is NOW OPEN.—Gallery, 53, Pall Mall, opposite Marlboro. ugh House

JAMES FAHEY, Secretary.

THE EXHIBITION of ALUMINIUM and ALUMINIUM BRONZE. 2,000 SPECIMENS, illustrating the application (Ornamental and Useful), of these interesting Metals are NOW ON VIEW at MAPPIN BROTHERS' New Rooms, 222, Regent street. Admission by Card.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS.—9, Conduit-street, Regent-street, W.—A PUBLIC DINNER in AID of the FUNDS of the above INSTITUTION, will take place at the London Tavern, Bishopsgate-street, on WEDNESDAY, JUNE 3rd. A. J. B. BERESFORD HOPE, Esq. M.P. in the Chair. The names of gentlemen Honorary Stewards, &c. will be published next week.

JOSEPH KAY, Secretary.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, W. NOW OPEN, from 10 till 6. Admission, One Shilling. Season Tickets, Half-a-Crown, admit at all times and to all the Lectures. Second Lecture, by F. Y. HURLSTONE, Esq. President of the Society of British Artists, on TUESDAY EVENING, MAY 12th.

JAS. FERGUSSON, F.R.A.S. } Hon. Secs.
JAS. EDMESTON, F.L.B.A. }

Also, in conjunction with the above, the Exhibition of the Society of Sculptors of England. MORETON EDWARDS, Hon. Sec.

BILLING'S PATENTS.—CHIMNEY TERMINALS, THROAT VALVES.

NOTICE to ARCHITECTS. The Proprietors of the late Mr. Billing's Patents have secured the services of Mr. H. H. COLLINS, M.I.B.A. of No. 9, Poultry, E.C. as the Consulting Architect, from whom full particulars and the reduced prices may be obtained, or from the Manager, Mr. TYLER, 12, Abingdon-street, Westminster, S.W.

COMPETITIONS.

ROYAL MASONIC INSTITUTION for BOYS, Lordship-lane, Wood Green, Tottenham.

Patron—HER Most Gracious Majesty the Queen.

President.—The Right Hon. the Earl of Zetland, K.T., M.W.G.M.

PLANS and DESIGNS for a projected NEW BUILDING for One Hundred Boys.—The House Committee of this Institution have it in contemplation to erect a new building on their own freehold property situate as above; but before coming to a final decision on the subject are desirous of having placed before them ample materials for the guidance of their judgment. They therefore offer to such architects as may think proper to send in plans, three premiums of £50 and 30s. respectively, for PLANS and DESIGNS for a BUILDING, with every necessary accommodation for 100 Boys, with the requisite educational and domestic staff. The Drawings of the three selected and premiated Designs to be the absolute property of the Committee. The Committee will not bind themselves to adopt either design, but will be at liberty to modify either premiated Design in any way they may think proper, to employ any architect they may select, and to erect the Building in sections or otherwise as they may think best. The sum proposed to be expended is £5000. The Drawings to be sent in to the Office, addressed to the Committee, care of the Secretary, not later than TUESDAY, the 26th INSTANT. Full instructions and every information may be obtained on application to the Secretary as under, on and after THURSDAY, the 14th instant.

FREDERICK BINCKES, Secretary.

Office, 16a, Great Queen street, W.C. May 8th, 1863.

CHELTENHAM PARISH CHURCH.—Architects intending to send in DESIGNS for the above competition can have photographic and figured sketches of present church, with all other necessary information, upon application to W. H. care of Mr. Armstrong, 71a, King's-road, Chelsea.

TO GLASS STAINERS.—ABBEY CHURCH, BATH.—Persons willing to give DESIGNS and TENDERS for a MEMORIAL WINDOW to the late Bishop Carr, to be placed at the east end of the choir of Abbey Church, are requested to forward designs and estimates (including carriage and fixing) to Mr. RICHARD HOBERT, Bay Hill House, Bath, before the 1st of JULY next. The size of the window is 20 feet wide by 56 in height, including the mullions and tracery. The design not to include any human figures, but in other respects is left open to the suggestion of the artist. No pledge is given to accept the lowest or any Tender.—For further particulars, apply to Mr. RICHARD STOTHERT.

CONTRACTS.

TO CONTRACTORS and OTHERS.—The Local Board for the district of Chorley (Alderley Edge), Cheshire, are desirous of receiving TENDERS for the EXECUTION of CONTRACT No. 1, being the necessary WORKS in making a MAIN-OUTLET SEWER.—Specifications, with plans and sections, may be obtained at the Office of the Engineer to the Board, Mr. B. C. TRAPP, 18, Cooper street, Manchester, on payment of £1s on and after the 1st MAY. Sealed Tenders, endorsed "Tender for Contract No. 1," must be left at the Office of the undersigned, 15, Cooper-street, Manchester, on or before THURSDAY, 14th MAY.—The Board do not bind themselves to accept the lowest Tender. Dated this 22nd April, 1863. W. L. WELSH, Law Clerk to the Board.

FAKENHAM CHURCH, NORFOLK.—TO BUILDERS.—Such Masons, Carpenters and Joiners, Plumbers and Glaziers, Slaters and Painters, as are willing to TENDER for RE-ROOFING and RE-SEATING the Parish Church at Fakenham, may inspect the drawings and specifications at the School House, Fakenham, on application to the Rector or Churchwardens, from the 11th to the 2nd instant, both inclusive. Sealed Tenders are to be delivered to the Rector, on or before 23rd of MAY, at SIX p.m. Security will be required for the due performance of the contracts; and it is hereby notified that no pledge is given to accept the lowest or any Tender. Schedules of quantities may be obtained on application to Mr. B. WORMALD, at the Architects' Office, on and after the 16th MAY.—By order of the Committee,

J. B. & WM. ATKINSON, Architects.

93, Micklegate, York, May 2, 1863.

CONTRACTS.

WAR DEPARTMENT CONTRACTS.

NOTICE to BUILDERS.—Tenders are required for REPAIRING, PAINTING, WHITEWASHING, &c. the interior of the BUILDINGS in the west rear range, ROYAL ARTILLERY BARRACKS, WOOLWICH.

Parties desiring to Tender for the execution of these works, must leave their names at the Office, on or before the 14th day of MAY, 1863, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Woolwich, April 24, 1863.

LONDON DISTRICT.—To BUILDERS and OTHERS.—WAR DEPARTMENT TRIENNIAL CONTRACTS for WORKS and REPAIRS.—The Commanding Royal Engineer, London District, hereby gives Notice that sealed TENDERS will be received at the War Office, Pall-mall, London, S.W. addressed to the Director of Contracts, on or before 21st MAY, 1863, for WORKS and REPAIRS at the undermentioned Stations, from 1st JULY, 1863, to 31st MARCH, 1866, inclusive, viz.:—

London, comprehending Tower of London, and all the barracks or other buildings within 5 miles of that place.

Schedules and printed forms of Tender, price 7s. 6d. each, and all necessary information, may be obtained on application at the Royal Engineer Office, 11, James-street, Buckingham Gate, London, S.W. from THURSDAY, the 23rd day of APRIL, until THURSDAY, the 14th day of MAY, 1863, inclusive, between the hours of ELEVEN a.m. and THREE p.m.

The Secretary of State reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, 11, James-street, Buckingham-gate, London, S.W. 17th April, 1863.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for ERECTING the GARRISON POINT COAST GUARD STATION at Sheerness, in the county of Kent, may inspect the Drawings and Specification at the Custom House at Rochester or at this Office, between the hours of TEN and FOUR, from WEDNESDAY, the 13th to WEDNESDAY, the 27th inst. now next ensuing and both inclusive (Sundays excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at Noon of the 28th inst. under seal and directed to the Commodore Controller General of Coast-Guard, and endorsed "Tender for Garrison Point."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 4th day of May, 1863, at the Admiralty,

Coast-Guard Office, 12, Spring gardens, London, S.W.

COAST GUARD CONTRACT.

NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the Erection of a COAST GUARD STATION at Pendeen Cove, near Penzance, in the County of Cornwall, may inspect the Drawings and Specification, at the Coast Guard Watch-Room, Penzance; or at this Office, between the hours of Ten and Four, from WEDNESDAY, the 13th, to TUESDAY, the 26th inst. now next ensuing, and both inclusive (Sundays excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at noon, of WEDNESDAY, the 27th inst. under seal, and directed to the Commodore Controller-General of Coast Guard, and endorsed "Tender for Pendeen Cove."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest, or any of the Tenders

Dated this 4th day of May, 1863, at the Admiralty

Coast Guard Office, 12, Spring gardens, London, S.W.

WEST HAM LOCAL BOARD of HEALTH.—The Local Board of Health for the District of West Ham, in the county of Essex, are prepared to receive TENDERS for LAYING and CONNEXION of HOUSE DRAINS to the Public Sewers, and other Works. The whole of the Tenders and Contracts are to be in accordance with Conditions, Specifications, Plans, Sections, and Details, which may be examined any day at Rokeby House, in Stratford, at the Office of Mr. MARSHALL, the Surveyor to the Board, and the Tenders must be delivered at my Office at Rokeby House, not later than MONDAY, the 11th day of MAY next.—By order of the Board, CHAS. WILSON, Clerk.

Rokeby House, Stratford, E. April 24th, 1863.

TO BUILDERS.—Plans and Specifications for RESTORING and REPITING the PARISH CHURCH at Turweston, near Blackley, in the county of Northampton, may be inspected at the Rectory House, Turweston, till SATURDAY, the 23rd MAY, Sundays excepted. Persons desirous of CONTRACTING for the Execution of the above Works must send in sealed Tenders, directed to the Rev. W HARLEY, Turweston, Brackley, on or before the 23rd MAY. The lowest or any Tender will not be necessarily accepted.

Turweston, May 4th, 1863.

NOTICE.—TENDERS will be received by the Director of Contracts for CLEARING OUT about 1,700 tons of MUD, &c. from the War Department Camber, at Sheerness.

Parties desiring to Tender, can obtain full particulars and form of Tender, on application to the Office, between the hours of TEN and FOUR, till 16th MAY inst.

No Tender will be received after 20th MAY, and the Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Sheerness, May 4, 1863.

THE Directors of the Great Central Gas Company are prepared to receive TENDERS for the TAR manufactured at their Works for the Year ending 1st JULY, 1864.—Particulars as to quantity and delivery may be obtained on application to the manager, at the Works, Bow-common-lane. Tenders to be sent in on or before WEDNESDAY, the 10th of JUNE next.

28, Coleman-street, E.C. 5th May, 1863.

[*For remainder of Contracts see next Page.*

CONTRACTS.

TO BUILDERS.—TENDERS are required by Messrs SOUTHERN & COLE for the ERECTION of a PAIR of HOUSES proposed to be built in Drawings and specification can be seen on application to Mr SIXTUS DYBALL, Architect, 18 Bucklersbury, Cheapside, where Tenders are to be delivered on THURSDAY, 14th inst. at FOUR p.m.—N.B. Messrs S. & C do not bind themselves to accept the lowest or any Tender, and builders must be prepared with references and security, should either be required.
April 27th, 1863

NORTH-EASTERN RAILWAY. — To CONTRACTORS, BUILDERS, IRONFOUNDERS, &c.—The Directors are prepared to receive TENDERS for the ERECTION of a GRAIN and GOODS WAREHOUSE at the Tyne Dock, near South Shields. Plans, specification, &c. may be seen, and all information obtained on and after the 4th of MAY, on application to Mr. PROSSER, Architect to the Company, Newcastle-on-Tyne. Tenders, addressed to the Secretary, to be delivered at York not later than FOUR p.m. on WEDNESDAY, the 20th of MAY. Quantities will be supplied. The Directors do not pledge themselves to accept the lowest or any Tender. J. CLEGHORN, Secretary.
York, 24th April, 1863.

TO BUILDERS.—HOLDGATE, in MUCH WENLOCK, SALOP.—Plans, specification, conditions of contract, and quantities for the CARCASE of a NEW PARSONAGE-HOUSE, for this parish, may be seen on and after MONDAY, the 11th of MAY, at Mr EAVES, Farmer, Stanton Lacy, Much Wenlock, Salop, and Prudence-cott, on or before SATURDAY, the 23rd MAY, to my office as below.—The lowest or any Tender not necessarily accepted. JOHN F. SEDDON, C.E., Whitehall, London

LONDON MECHANICS' INSTITUTION.—TENDER for REPAIRS.—The Committee of this Institution will be glad to receive TENDERS for the REPAIRS to be done, comprising BUILDERS' and CARPENTERS' WORK. Copies of the specification to be obtained on application to the Secretary, price 2s.
29, Southampton-buildings, 7th May, 1863.

TENDERS are required for making a ROAD at Teddington, Middlesex, according to Plan and Specification which may be seen at the Office of Messrs. SYMPSON & WARNER, No. 7, Golden-square, to whom Tenders are to be sent, on or before the 20th MAY. The lowest or any Tender will not necessarily be accepted

TENDERS for the REMOVAL and DESTRUCTION of DISEASED MEAT.—The Commissioners of Sewers of the City of London, at their meeting in the Council-house of the said City, on TUESDAY, the 19th of MAY, 1863, at TWELVE o'clock precisely, to receive TENDERS for the REMOVAL and DESTRUCTION of MEAT and POULTRY condemned in the City of London as unfit for human food.—Particulars of the terms of the contract to be entered into may be seen at the Office, and the Tenders must be delivered before TWELVE o'clock on the day of treaty, at which time the parties setting in proposals must attend personally or by a duly authorized agent. JOSEPH DAW, Principal Clerk.
Sewers Office, Guildhall, May 5th, 1863.

TO BUILDERS.—A Gentleman desires to BUILD THREE HOUSES, for occupation, on leasehold land, and wishes to meet a Builder who would complete them in consideration of the Cost of Erection and Interest being paid by Five Annual Instalments.—Address, in the first instance, to W. Q. care of Messrs. Hooper & Cull, 12, George-street, Mansion House, London, E.C.

TO BUILDERS.—Persons willing to CONTRACT with the Justices of the County of Kent, for the ERECTION of POLICE-STATIONS at Tunbridge and Whitstable, may see the plans and specifications at the Office of the County Surveyor, Maidstone, any day, except Sunday, between the hours of TEN and FIVE. Each Station is to be described separately, agreeably to the form of Tender to be obtained at the County Surveyor's Office, where sealed Tenders are to be left for Tunbridge Police Station, or "Tender for Whitstable Police Station," as the case may be delivered by SIX o'clock, p.m. on MONDAY, the 25th inst.; and persons tendering are to be in attendance at the Courts of Justice, Maidstone, at HALF-PAST TWELVE o'clock on TUESDAY, the 26th inst. Neither the lowest nor any other Tenders will be accepted unless approved of and parties approved security will be required for the performance of the several contracts.
H. A. WILDES, Clerk of the Peace.
Maidstone, May 4th, 1863.

TENDERS are required for the ERECTION of a detached VILLA RESIDENCE, proposed to be erected in Bonney lane, Islington. Drawings and specification can be seen between the hours of TEN and FOUR, at the Office of the Architect, Mr. J. W. REED, 4, Shaftesbury-terrace, Hornsey-road. Tenders to be delivered, as above, on the 18th of MAY, at FOUR o'clock p.m. The lowest or any Tender will not necessarily be accepted.

TO BUILDERS.—NEW SCHOOLS at STEVENTON, BERKS. Persons desiring to TENDER for the above buildings may see the Plans and Specifications at the Vicarage, Steventon, between the hours of NINE and FIVE, on and during the 18th, 19th, and 20th of MAY. The Tenders to be sent in by JUNE 1st. No pledge is given that the lowest or any Tender will be accepted. The site of the buildings is within a short distance of the Great Western Railway.

THE CRAY'S GAS-LIGHT and COKE COMPANY (Limited).—Contractors are invited to TENDER for the erection of new GAS-WORKS for this Company. The Plans and Specifications may be seen on and after Tuesday, the 12th inst. at the Offices of WILLIAM MAY, Esq., St. Mary's Cray, and 2, Adelaide place, London Bridge; or at the Office of the Company's Engineer, Mr. ALFRED PENNY, Wenlock Iron Works, Wharf Road, City Road. The words "Gas-Works" to be endorsed on the Tenders of Builders and Engineers' Work, but may be Tendered for in one Contract. Tenders to be endorsed, "Tender for Gas-Works," and sent to the Secretary, WILLIAM MAY, Esq., 2, Adelaide place, London Bridge, on or before TUESDAY, the 26th inst.

TO PAVIOURS and BRICKLAYERS.—The Burial-Board of the Parish of Saint Mary, Newington, will meet in the Vestry Room of the Parish Church, on FRIDAY MORNING, the 15th MAY instant, at HALF PAST NINE o'clock, to receive and consider TENDERS for the DRAINAGE and REPAVING of the PARISH CHURCHYARD, NEWINGTON-BUTTS. A plan and specification of the work to be done may be seen at my Office, as under. The Board do not bind themselves to accept the lowest Tender.—By order,
JOSEPH BURGESS, Clerk to the Burial Board.
1, Keene's Row, Walworth, May 7, 1863.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY. To BUILDERS and CONTRACTORS. The Directors of the London, Brighton, and South Coast Railway Company are prepared to receive TENDERS for the erection of a NEW STATION, with Clerk's House, and Platform Sheds, at the Ballast-hill Station, on the West Brighton Crystal Palace Branch.—Drawings and specifications will lie for inspection at the Office of Mr. JAMES HOUGH, C.E., No. 7, Parliament-street, Westminster, on and after MONDAY, the 18th instant; and Tenders must be delivered to the undersigned, at the London Bridge Terminus, on or before NOON, TWELVE o'clock, on MONDAY, 1st JUNE next. The Directors will not be bound to accept the lowest or any Tender.
FREDERICK SLIGHT, Secretary.
London-bridge Terminus, 6th May, 1863.

TO BUILDERS. —STOCKBRIDGE NEW CHURCH, Hants.—The TIME for sending in the TENDERS is EXTENDED from the 8th to the 13th inst. Bill of quantities may be had on application to Mr. HOWELL, Surveyor, Hanover-buildings, Southampton. JOHN COLSON, Architect.
May 9th, 1863.

SUTTON ROYAL HOTEL.—To BUILDERS.—Builders desirous of TENDERING for the ERECTION of the above building are requested to send in their names to the Architect Mr. EDWARD HOLMES, 4, Waterloo-street, Birmingham, on or before MONDAY, the 18th instant.
May 6th, 1863. (Signed) HODGSON, ALLEN, & HODSON, Solicitors to the Company

WEST DERBY UNION NEW WORKHOUSE. To BUILDERS and OTHERS.—The Guardians are prepared to receive TENDERS for the proposed NEW WORKHOUSE, intended to be built on a site in Walton-on-the-Hill, near Liverpool. Plans and specifications may be seen at the Office of Mr WILLIAM CULSHAW, Architect, Rainford place, Liverpool, on and after MONDAY, the 4th day of MAY next. The quantities are being taken out by Mr. GEORGE HOLME, Surveyor, Leyland Chambers, Moorfields, Liverpool, and a copy will be furnished on the payment of 1l. 1s., which sum will be returned to the unsuccessful competitors after the contract is signed. Sealed Tenders to be delivered at my office on or before TUESDAY, the 19th day of MAY next, endorsed, "Tender for the West Derby Union Workhouse." The Guardians do not pledge themselves to accept the lowest or any of the Tenders. The Contractor will be required to join the two sufficient sureties who will be bound with him in the due performance of the Contract.
WILLIAM CLEAVER, Clerk to the Guardians.
Liverpool, April 28, 1863.

TENDERS are required for REPAIRS and ALTERATIONS in the "Three Tuns." Public House, 12, Cross-street, Hatton-garden.—Apply on the premises for particulars.

BICESTER MARKET END LOCAL BOARD.—To CONTRACTORS for SEWERS and OTHERS.—The Local Board for Bicester Market End, in the county of Oxford, are prepared to receive TENDERS from parties willing to undertake the following CONTRACT for DRAINING the said Town. For the construction and Completion of Culverts and Brick Sewers; for Excavating Lay up and Jointing Earthenware Pipes, for Constructing Sewage Tanks, Outlet Works, and Cleansing Watercourses, Fixing Gullies, and other Works. Plans, sections, specifications, and conditions of Contract may be seen at the Office of Mr WILLIAM FOSTER, Clerk to the Local Board, Bicester; or at the Office of Mr. CHARLES SELBY, Surveyor, Oxford, of whom further particulars can be had. Tenders to be sent to the Clerk to the Local Board on or before THURSDAY, the 14th day of MAY next. The Local Board do not bind themselves to accept the lowest or any Tender
WILLIAM FOSTER, Clerk to the Local Board.
Local Board Office, Bicester, 29th April, 1863

SEWERS OFFICE, GUILDHALL, 30th April, 1863.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City on TUESDAY, the 19th of MAY next, at TWELVE o'clock precisely, to receive TENDERS for such WORKS of CLEANSING and REPAIRING SEWERS within the said City as may be required to be done during the term of three years, commencing at Midsummer Day next. A specification of the works and conditions may be seen at this Office, together with a schedule of prices; and the Tenders are to state the per-centage, more or less, than such scheduled prices, at which the parties Tendering are willing to execute the said works. The Commissioners will require the parties contracting to enter into bond with two approved sureties, in the sum of 1,000l. for the due performance of the contract. No Tender will be received after TWELVE o'clock on the day of treaty. The Commissioners do not pledge themselves to accept the lowest Tender, nor any, unless deemed eligible.
JOSEPH DAW, Principal Clerk.

TO BUILDERS and OTHERS.—Notice is hereby given, that PLANS and SPECIFICATIONS for BUILDING the HOUSE of MERCY, at Horbury, near Wakefield, in the West Riding of the county of York, will be lying at the Parsonage at Horbury from the 4th day of MAY to the 16th inclusive (Sunday excepted), and all persons proposing CONTRACTING for the EXECUTION of the WORKS must send in sealed TENDERS, directed to the Rev. J. SUTCLIFFE, Horbury Parsonage, Wakefield, on or before the 23rd day of MAY next. The contractor must be prepared to enter into the usual legal bond, with two good and approved sureties, for the due performance of the work, as by law required. The Committee do not bind themselves to accept the lowest or any Tender necessarily
Horbury, May 1st, 1863

TO STONE MERCHANTS and OTHERS. PARISH of ST. GILES, CAMBERWELL.—The General Purposes Committee will meet on WEDNESDAY, the 20th MAY instant, at FOUR o'clock precisely, to receive TENDERS from persons willing to CONTRACT with the Vestry for the SUPPLY and LAYING DOWN of about 800 feet of PURBECK and other KERBING as the Vestry may require.—Further information to be obtained upon application to Mr. J. C. REYNOLDS, Surveyor to the Vestry, at the Office of Works, Wells-street, Camberwell, between the hours of ELEVEN and THREE, or after MONDAY the 11th inst. The parties tendering must be in attendance when the Tenders are opened, and the Vestry do not bind themselves to accept the lowest or any Tender.
GEO WM MARSHEN, Vestry Clerk

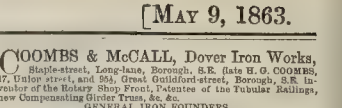
TO BUILDERS.—TENDERS are required for the ERECTION of a HOUSE at Lower Clapton. Drawings, &c. can be seen at the Office of Mr. T. K. GREEN, Architect, 25, College-hill, Cannon-street. The lowest Tender will not necessarily be accepted. TENDERS (separate) are also required for THREE VILLAS at NORWOOD (close to the Palace); the Contractor being bound to take land for the erection of three others adjoining.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A Meeting of this Board will be held on MONDAY, the 11th day of MAY, 1863, at SIX o'clock in the evening, at the Office of the Board, No. 15, Great Alie-street, Whitechapel, to receive TENDERS for the SOLE OPTION of the several works required with the SEWERS and DRAINS of the District, mentioned and described in the specification or schedules of Contract prepared by the Surveyor to the Board, for the period of ONE YEAR. A copy of the specification and form of Tender may be obtained at the Office of the Board, upon payment of 2s. 6d. which will be returned to persons Tendering. All Tenders must be delivered at the Office of the Board previous to the time of meeting; and any Tender which is not upon the printed form prepared by the Board and duly signed by the person or persons Tendering, will be rejected. The Board do not bind themselves to accept the lowest or any Tender.
ALFRED TURNER, Clerk to the Board
15, Great Alie-street, Whitechapel, 29th April, 1863.

BOARD of WORKS, POPLAR DISTRICT.—To BUILDERS and CONTRACTORS. Notice is hereby given, that the Board will meet on TUESDAY, the 12th day of MAY next, at SIX o'clock in the evening precisely, in the Board Room, East India Dock Road, to receive TENDERS from persons willing to CONTRACT for the construction of a FOOT-BRIDGE across the North London Railway, to connect Railway and Crisp-street, Bromley. The Board do not bind themselves to accept the lowest or any Tender, and the parties tendering, or some one on their behalf, will be required to be in attendance on the day and at the hour above mentioned, and the person whose Tender shall be accepted will be required to join with the Board to supply the money at the expense of the Contractor and Board, and to furnish the names of two responsible persons willing to be bound with him in the sum of 500l. for the due performance of the Contract. Tenders (on forms prepared for that purpose (any other will be rejected), and endorsed "Tender for Foot Bridge, Bromley," are to be delivered at my Office, as above, on or before SIX o'clock on the evening of MONDAY, at noon, after which hour no Tender will be received. Plan and specification can be seen, and Form of Tender had, on application at the Surveyor's Office, 6, Furnival's-inn, until FOUR p.m. on any day until the 11th of MAY. CHARLES C. CESLY, Clerk to the Board.
Offices, East India Dock-road, April 28th, 1863

TO BUILDERS. — Persons desirous of TENDERING for the ERECTION of a RECTORY-HOUSE at High Halstow, four miles from Langport, Somerset, can see the plans and specification upon application to the Rev. ROBERT STRONG, at High Halstow, and after MONDAY, the 4th day of MAY. Tenders to be sent to the Architect, JOHN NORTON, Esq. 24, Old Bond-street, London, W. on or before the 16th of MAY. The Rector does not bind himself to accept the lowest Tender submitted.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 295, Great Guildford-street, Borough, S.E. inventor of the Rotary Shop Front, Patentee of the Tubular Railings, now Compensating Girder Truss, &c. &c.
GENERAL IRON FOUNDERS, MERCHANTS, and PATTERN MAKERS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS PLITCHES, and TANKS. Iron Roofing, and every description of Smiths and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.
Steam-boats from London Bridge call near the Factory.

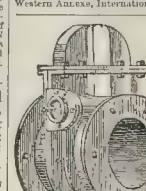
IMPORTANT to BUILDERS and OTHERS having circular saw tables.—The Advertiser, WILLIAM SKETCHLEY, having invented and perfected an IRON DISC for PLANING FLOOR-BOARDS to any width and thickness required, calls the attention of builders and others to the importance of and immense saving effected by it. The Disc is attached to the spindle with as little trouble as the circular saw, and will prepare the surfaces of ten squares per hour.—To give orders, or for information apply to the Inventor, WILLIAM SKETCHLEY, 7, Turton street, Weymouth.

RAIN WATER PIPES, GUTTERS, &c.

Rain Water Pipes	2½ in.	3 in.	3½ in.	Is per yard.
Eaves Gutter	3½ in.	4d.	4 in.	6d. "
O G Gutter	4 in.	7½d.	4½ in.	9d. "
Stack Weights	2s. per cwt.			

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, AND YORK ROAD, KING'S CROSS

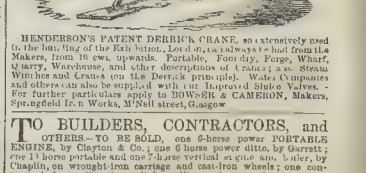
PERIN'S PATENT BAND SAW BLADES.
R. WORSSAM & CO beg to announce that they have purchased of Mons. Perin, of Paris, the exclusive right to SELL his celebrated BAND SAW BLADES (the superiority of which is universally allowed in the United Kingdom. S. W & Co have always a large assortment of these Saws at their Works, 304, KING'S-ROAD, CHELSEA, S.W. where also the Band Saw Machine exhibited by Mons Perin in the Western Annexe, International Exhibition, is now on sale.



REDUCED PRICES OF
BRYAN DONKIN & CO.'S
IMPROVED GAS VALVES.
From 2 in. to 18 in. price 9s. 6d. to 12s. per in. diameter.
List of prices, with full dimensions of all sizes up to 30 in. to be had on application.
These Valves are all proved to 300l. on the square inch before leaving the works, and are always kept in stock.
Valves made with outside racks to order
Also Screw Water Valves, with gun-metal faces.
BRYAN DONKIN & CO. ENGINEERS
Near Grange-road, Bermondsey.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

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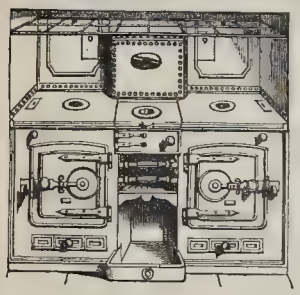
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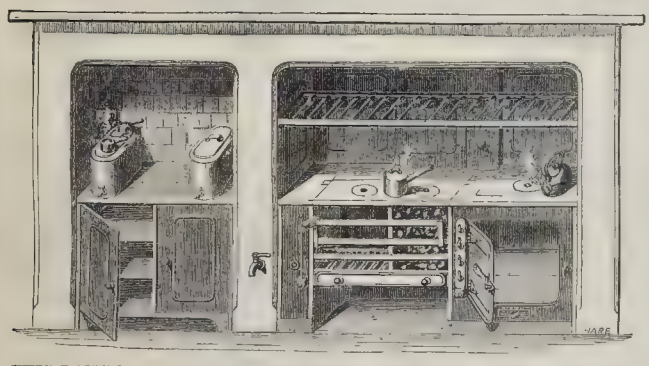
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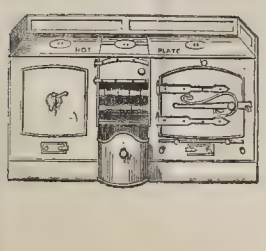
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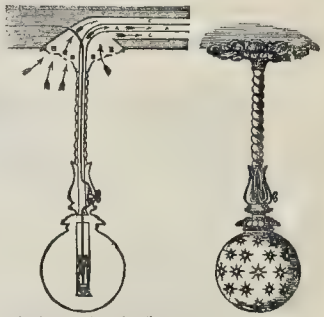
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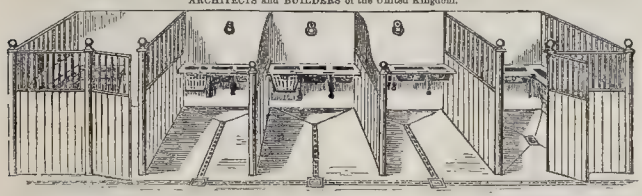


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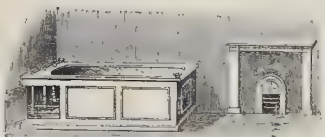
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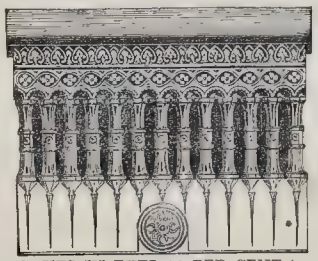
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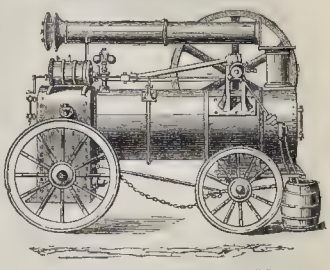
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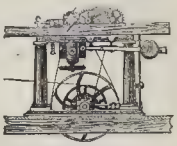
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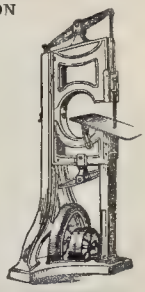
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These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public. All kinds of Bent Glass Silvered.
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SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
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Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by
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CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERY WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

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SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.
KING & DUNGEY,
GREAT SAFFRON-HILL, HOLBORN,
OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

FLOORING! DEALS! MAHOGANY!

100,000	Dry Prepared Flooring Boards	from 10s. 6d. per square	**SPRUCE DEALS, 2s. 6d. each.**
10,000	Pine Planks	from 3s. 6d. each	
5,000	Yellow Battens	from £11 10s. per 120	**FIR TIMBER 55s. PER LOAD.**
2,000	Spruce ditto	from £9 per 120	Scaffold Poles 1½d. per foot

YELLOW DEALS, £16 PER 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	White (not Spruce).	Yellow.	
⅜-inch Flooring	11s. 6d. to 12s. 0d.	13s. 0d.	per Square.
½-inch ,,	12s. 0d. to 13s. 0d.	13s. 0d. to 14s. 6d.	,,
1-inch ,,	14s. 6d. to 16s. 0d.	15s. 6d. to 18s. 6d.	,,
1¼-inch ,,	18s. 0d.	20s. 0d. to 22s. 0d.	,,

YELLOW DEALS, 3 by 9, from...£16 10s.

Yellow Battens	£11 10s.	per 120
½ White Matched Lining	12s.	per square.
½ Yellow	16s.	,,

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MOULDING WORKS.
SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.



Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
⅜ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
½ by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
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RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS, AND CARPENTERS, AND OTHERS,
Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE-FREE.

	Laths, 28s. per Load.	
Three-quarter inch Flooring (well prepared), 11s. 6d. per square.		
Yellow Deals, sound and good	£18 10 0 per 120, or 0s. 3½d. per foot.	
Spruce Deals	16 10 0 ,, 0 2½	,,
Yellow Battens, excellent quality	11 10 0 ,, 0 2	,,
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 ,, 3 6 each.	

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

OAK, SPANISH, CHESNUT, and LARCH TIMBER, of excellent quality, TO BE SOLD for cash, situate at Shenley Hill, on the St. Albans and London turnpike road, and about sixteen miles from London.—Apply for an order to view, to Mr. J. W. MILNES, Land Agent, 389, Strand, London.

COLNE VALLEY and HALSTEAD RAILWAY.—2,000 RAILWAY SLEEPERS WANTED, of English larch or Scotch fir, half-round, 8 feet 10 inches long by 5 inches thick at the smallest end, to be delivered at any Station on the Colne Valley Railway.—Address to the Secretary of the Colne Valley Railway, 6, Victoria-street, Westminster, London, S.W.

DRY WAINSCOT, At 6d. 7d. and 8d. per foot, at JOHN COUMBE'S, LADY LAKE'S GROVE, MILE-END-GATE.

LARCH FIR TIMBER.—RAILWAY CONTRACTORS and OTHERS.—FOR SALE, about 1,200 Superior Larch Fir Timber Trees, averaging 20 feet metings, and many trees 3 feet through. Well situated for land and water carriage.—For particulars apply to Messrs. LEANEY & CAREY, Timber Merchants, Tunbridge Wells.

FLOORING, MATCH BOARDS, DEALS.

	Spruce.	White.	Yellow.
¾-inch, from 12s.	12s. 9d.	13s. 6d.	per square.
⅞ ,, 13s.	13s. 6d.	14s. 6d.	,,
1 ,, 15s.	15s. 6d.	16s. 6d.	,,
1¼ ,, 17s.	18s. 0d.	19s. 6d.	,,

180 feet run of 7 inches, 140 feet run of 9 inches to the square.
White Battens, 9l. 10s. per 120, 12 feet.
Yellow ditto, 10l. ditto ditto.
¾ inch Match Boards, 13s. per square.
½ ,, 14s. ,,
,, 16s. ,,
Venetian Blind Laths, 9s. per 100 feet sup.
CHARLES CUTLER,
SURREY SAWING AND PLANING MILLS, CHURCH STREET, KENNINGTON.

JOSEPH & ALFRED ROSLING beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 9d.; Spruce, from 2s. 6d.; Pine Plank, from 3s. 3d.; Mahogany, 8d.; ¾ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 18s. 3d.; ¼ White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

SEASONED WAINSCOT OAK, 30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
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LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the River Thames.—For further particulars apply to Messrs. J. & E. KNIGHTS Lathwood Merchants, Importers, &c. Baltic Wharf, Pimlico, London, S.W. five minutes' walk from the Victoria Station.

VICTORIA MARBLE WORKS, 28, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOW ROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

BOX MARBLE CHIMNEY-PIECES.—A large assortment on view, from 1l. and upwards; handsome moulded Trieste Chimney-pieces, 11-inch jambs, 11-inch shelf, 1½-inch thick, 3 feet opening, for 2l. 15s.; 9-inch jambs, 9-inch shelf, 2 feet 10 inches opening, moulded caps, bases, for 1l. 10s.; 10-inch jambs, 10-inch shelf, in superior Arvin, for 3l. 15s. The trade supplied.—R. SPRAGGS, 40, Hollingworth-street, Liverpool-road, Holloway.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

SERPENTINE, large size and great variety,
EQUAL TO GRANITE IN DURABILITY;
adapted for TOMBS, COLUMNS, CHIMNEY PIECES, and all purposes for which MARBLE and GRANITE are used.
Manufactured by
THE LIZARD SERPENTINE COMPANY (Limited),
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This Granite is selected for the New Westminster Bridge.
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EDGE RUNNERS OF SUPERIOR QUALITY.

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The WARDOUR (CHILMARK) and TISBURY STONE COMPANY, Limited,
Are prepared to execute orders to any extent for their TISBURY STONE.—This is a close, fine-grained Stone, of a beautiful colour, possessing all the qualities of the best Portland, in which range it is placed geologically.
It will supply the long-wanted desideratum of the Architect, Builder, and Sculptor, as the Stone is a first-class Weather Stone, easily worked, and carries a fine arris; and is eminently adapted for carved mouldings, high-class architecture, and works of art, requiring only to be known to become the
STONE OF THE DAY.
Specimens, Price, &c. may be obtained of
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General Stone Merchant, Millwall; or at the Offices of the Company, 3, Adelaide-place, London Bridge.

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All Estimates made at a considerably reduced cost for Marble Work.
Good Vein Box Chimneypieces at the reduced price of 30s. to 50s.
Statuary Chimneypieces, from new designs, carved, 10l. to 40l. each.
A great variety of Coloured Marbles always ready to select from.
The Trade will find a Liberal Discount at this Establishment.
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Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parkspring, Harehill, &c. &c.
Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Block. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

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For Particulars of Block, Worked Stone, &c. apply to
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GENERAL AND ORNAMENTAL PLASTERERS,
Manufacturers of
SCAGLIOLA MARBLE
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SUPERIOR PLASTER OF PARIS.
This Plaster, made expressly for their own business, is of excellent quality, and its extreme lightness in weight ensures a saving of 30 per cent. in use, from its covering one-third more superficies than the general plaster.
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were awarded Messrs. Bellman & Ivey for their Works at the Exhibition of 1851, and again in 1862.
PLASTER WORKS, 3, BEDFORD STREET, LIQUORPOND STREET, LONDON, E.C.
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Portland Slab, Paving, Landings, and Scantling of every size sawn by steam, always kept in stock; also York Paving and Landings, Steam, Stone, and Marble Saw Mills, Cremorne Wharf, Chelsea, and Grosvenor Road, Pimlico.
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YELLOW MAGNESIAN or BOLSOVER LIMESTONE
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
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Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
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Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
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Messrs. PINDER SIMPSON & SONS, 29, Savile-row, London, and at the Museum of Practical Geology, Jermyn street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

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Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes.
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MAGNUS'S ENAMELLED SLATE
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Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Finsbury Slate Works 39 and 40, Upper Belgrave-place, Pimlico, S.W

GRANITE OBELISK for SALE.—The beautiful OBELISK, in polished Grey Granite, that stood in the Eastern Nave of the Exhibition Building, is now OFFERED FOR SALE.—Apply to Messrs. H. POOLE & SON, Great Smith street, Westminster. The Obelisk is erected at Lloyd's Wharf, Millbank, where it may be seen. It is suitable either for a monument or for an ornament for pleasure ground.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than five tons. Price forwarded and estimates given on application.—Address,
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A small Lot of the above TO BE SOLD, VERY CHEAP.—Apply to P. KEVAN, 11, Magdalen-street, Tooley-street, Southwark.

PHILBROKE ESTATE, at Leytonstone, on the Woodford and Loughton Railway, twenty minutes from Fenchurch and Bishopsgate Stations.—This valuable FREEHOLD ESTATE (land tax redeemed), surrounding the Station, healthy locality, gravelly soil, excellent drainage, water and gas laid down, roads made, sand cart being on the estate, it is proposed TO LET in Plots suitable for building detached and semi-detached villas. Repeated applications have been made for houses in this neighbourhood. For terms, apply to Mr. ATHEY, at the Surveyor's Office, Philbroke Estate, Leytonstone, Essex.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 600 yards only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the purchase the Freehold will at a specified time. LAND also TO LET at Blackheath, Tottenham, Kingston; some very eligible SITES in the Grove road, Mile-end, a few of which are adapted for shops, and large and very CHEAP PLOTS TO LET, at Ealing.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

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BUILDING LAND at OXFORD.—The difficulty which has heretofore existed of procuring suitable sites for building genteel residences in and around Oxford is now overcome. A very fine estate, known as "Northam Manor," comprising upwards of 30 acres, belonging to the President and Scholars of St. John's College, is now being laid out for the purpose and TO BE LET, on BUILDING LEASES, for a term of 99 years, at moderate groundrents. The land is situate within ten minutes' walk of the Colleges and public buildings in the city, while it possesses all the advantages of the country. The site is elevated, it has a subsoil of gravel, and a plentiful supply of pure spring water. Several lots have already been disposed of, and a few residences of a good character have been built. For particulars and to treat for the land, apply to Messrs. MORRELL, BIDDLE, & HAWKINS, Solicitors; or to Mr. WILLIAM WILKINSON, Architect, Oxford.

FREEHOLD LAND at SYDENHAM, about ten minutes' walk from the London and Brighton Railway station.—TO BE LET, on Building Lease, a Piece of LAND, having a frontage to the road leading to Beckenham of about 200 feet, and a depth of about 270 feet. Land tax redeemed. Apply to Messrs. PATERSON & LONGMAN, Solicitors, 3, Winchester-buildings, Great Winchester-street, London, E.C.

TO BE LET, on a Building Lease, at Chelsea, a PIECE of GROUND, in a first-rate situation, calculated for the erection of a public-house, for which it is peculiarly eligible being close to the New Barracks, and nine shops. About 212 feet frontage to the New Bridge-road, and about 22 feet 8 inches in Queen's-road East.—For particulars inquire on the Premises; or at No. 13a, Queen's-road East.

BUILDING LAND TO BE LET, at Canonbury (Marquess road), at Lower Norwood, a most eligible site, commanding beautiful views, close to the station; at Croydon, &c. Also at Edward's row, Bow, some cottages for completion. The usual advances of money to respectable parties.—Apply at the Offices of Mr. J. ROMESTON, Architect and Surveyor, 5, Crown-court, Old Broad-street, E.C.

PENZANCE, CORNWALL.—The FEE SIMPLE, in hand, of NINETEEN ACRES of first class BUILDING GROUND, all within the yards of the beach, and commanding full view of the sea, and adjoining the town of Penzance will be SOLD, in lots, by AUCTION, at Penzance on FRIDAY, JUNE 5th, 1863. The fee simple, subject to a lease now hanging on a life of eighty-one, in five Acres of Building Ground in Penzance will be sold in lots by auction at the same time. The whole of it is rented and is at present under cultivation as market-garden ground for early brocoli and early potato crops.—For particulars apply to RODD & CORNISH, Solicitors, Penzance

Penzance, April 2nd, 1863.

MANUFACTURING WATERSIDE PREMISES, occupying about an acre of ground. TO BE LET on lease, direct from the freeholder, for a building term if desired, conveniently-placed MANUFACTURING PREMISES, situate at West Ham Abbey, Essex, a few minutes' walk from the Stratford Bridge Station of the North Woolwich Railway, and with waterside frontage near the Channel Sea River. The ground occupies a site of about one acre, the buildings are spacious ground-floor erections, and there is a handsome and lofty brick chimney-shaft.—For particulars, apply to Messrs. FULLER & HORSEY, 13, Billiter street, London, E.C.

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BUILDING LAND TO BE LET, HACKNEY, close to the Railway Station, for small Dwelling Houses.
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NORWOOD.—Eligible FREEHOLD LAND TO LET, on Building Leases, suitable for the erection of detached villas. Money advanced.—Address, B. FLETCHER, Architect and Surveyor, Bond court House, Walbrook, E.C.

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MAIDA VALE.—BUILDING GROUND TO BE LET.—An Estate plotted for Twenty two Houses or to 75 if sent each. A corner, shops, four shops, and three stables. Frontages to fine wide roads. The whole to be let at the very low ground rent of 150 on repairing lease, or in portions.—Apply to Messrs. POWELL, Building Land Agents, 1, Queen's road, Bayswater-road, W.

FREEHOLD LAND WANTED, near London, suitable for building purposes. State quantity, situation, and lowest price.—Address, prepaid, to R. at Mr. Kirkman's, Auctioneer, 8, Clement's-lane, E.C., and Blackheath.

TO ARCHITECTS AND SURVEYORS.
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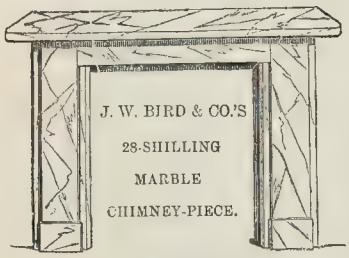
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VOL. XXI.—No. 1057.

The Royal Academy.



HE presence of the Prince of Wales gave additional interest to the annual dinner of the Royal Academy on the 4th instant; and the excellent and appropriate speech which his Royal Highness delivered clearly and well, touched all present. "I cannot on this occasion," said the Prince, impressively, "divest my mind of the associations connected with my beloved and lamented father. His bright example cannot fail to stimulate my efforts to tread in his footsteps; and whatever my shortcomings may be, I may at least presume to participate in the interest which he took in every institution which tended to encourage art and science in this country, but more especially in the prosperity of the Royal Academy."

When the President proposed the Health of the Visitors, he referred particularly to the position of *architecture* amongst us.

"The lovers of art," said he, "like those who are engaged in its practice, may still be supposed to contemplate a greater success than that already achieved: they, too, may be assumed to look beyond the present; to take an interest in all improvements; and, possibly, to ask themselves how their own influence can hereafter be most beneficially exercised. To such a supposed inquiry an answer may, without presumption, be suggested. If any part of the domain of fine arts can be said to be more worthy than another of their attention, it is perhaps that section which, in its various forms, is most before the world,—I mean architecture and public works. It should be borne in mind that if pictures are defective, they can be easily disposed of; that indifferent statues, and even objectionable small structures, can be removed; but spacious architectural arrangements and extensive buildings must remain, either as a lasting credit to the taste and good sense of the nation, or as a lasting stigma, which all would repudiate, but which all must be content to bear. It is unnecessary to point out examples of the latter description. It would be more useful to inquire whether the present,—that is, the customary and long-established mode of regulating such matters,—admits of improvement. Many are of opinion that, in order to insure that unity and consistency which are especially desirable in architecture, in order to avoid the incongruity which must result from successive controllers and desultory modes of proceeding, a permanent instead of a mutable directing authority is indispensable. To this suggestion constitutional objections are raised—objections which, after all, may not be insuperable. Few, indeed, would be willing to admit that the constitution of this country is incompatible with administrative arrangements calculated to promote the most important of the fine arts, the public interests, and the national honour. The truth is, art is too long to share, or be subjected to, the otherwise salutary vicissitudes of party. The changes of system consequent upon changes of administrations, to which we are accustomed in the fluctuating world of politics, need not extend to the calmer regions of art. Some of the noblest fabrics of the Middle Ages were erected amidst political storms, and as they slowly rose, looked with equal severity on the turmoils of men and the changes of the atmosphere. I will only add that I am far from agreeing with those who see nothing but defects in our own metropolis, nothing but perfection in those of the Continent. There is, indeed, abundance to admire at home; but the secret of success appears to be everywhere the same. In England, in some instances, a presiding architect; in others, private enterprise, duly controlled at the outset, have seldom failed to secure that comprehensiveness and continuity of purpose which are essential to completeness of result; and the same end is attained, only by a different process, in other States."

The Archbishop of Canterbury, in reply, touched properly the mission of art. Each of us, his Grace observed, "will regard that exquisite art which adorns these walls from his own point of view. For my own part, I cannot forget that in the early days of its revival it was the constant handmaid of religion; and that those great masterpieces, which seem to be the offspring of piety, were powerful aids to reverence and devotion. Altered circumstances did indeed, in later days, somewhat change the direction in which the current of genius used to flow. But still art has, and ever will have, a high and noble mission to fulfil. That man, I think, is little to be envied who can pass through these rooms and go forth without being in some sense a better and a happier man; if, at least, it be so, as I do believe it to be, that we feel ourselves the better and the happier when our hearts are enlarged as we sympathize with the joys and the sorrows of our fellow men, faithfully delineated on the canvas—when our spirits are refreshed by the touching representations of the playfulness, the innocence, the purity, and may I not add [pointing to Millais's picture of "My first Sermon"] the piety of childhood—when generous emotions are kindled by the spectacle of some great and noble sacrifice made at the call of duty and of conscience; or as we trace the lineaments of the great and the good [pointing to the portrait of Sir G. Cornewall Lewis], who have departed from this earthly scene, and their place knoweth them no more. May art ever employ itself in elevating the moral tone of the country, while it refines its taste; in purifying the character from base and sordid feelings, and prompting it to all that is good and generous and noble."

It was left to Lord Palmerston, however, to stir the meeting into hilarity and heartiness: "It is natural," said he, "that any man who is engaged in public life should feel the greatest interest in the promotion of the fine arts. In fact, without a great cultivation of art no nation has ever arrived at any point of eminence. We have seen great warlike exploits performed by nations in a state, I will not say of comparative barbarism, but wanting comparative civilisation: we have seen nations amassing great wealth, but yet not standing thereby high in the estimation of the rest of the world. But when great warlike achievements, great national prosperity, and high cultivation of the arts, are all combined together, the nation in which those conditions are found may pride itself on holding that eminent position among the nations of the world which I am proud to say belongs to this country." After dwelling at some length on the pleasure and varied advantages to be derived from the Exhibition, the Premier closed with a reference to the improvement effected there for the sculptors. "The present Government," said he, wittily, "has an apology to make to one department of art, and that is to the sculptors; for there is an old maxim denoting one of the high functions of art, which is *artis est celare artem*. Now, there was a cellar in which the art of the most distinguished sculptors was concealed to the utmost extent of the application of that saying. We have brought them comparatively into light; and, if the sculptors will excuse us for having departed from that sage and ancient maxim, I am sure the public will thank us for having given them an opportunity of seeing those beautiful works of men of whom it may be said,—

'——— vivos ducunt de marmore vultus.'

I trust, therefore, the sculptors will excuse us for having done not, perhaps, the best they might have wished, but, at least, for having relieved them a little from the darkness of that Cymmerian cellar in which their works were hid."

The Exhibition.

Unlike many preceding it, the present Exhibition of the Royal Academy maintains its character of superiority more by the diffused excellence amongst its constituent items than by any remarkable instances of supereminent performance. With no amazing planet to contend against, the steadier stars shine the more brilliantly; and this galaxy, being more really illuminative to those in the dark with relevance to our progress and position in art, deserves the greater attention for the highly satisfactory light it affords.

There is no great picture to assert dominion and concentrate excitement this year, and much less than might have been expected of the "sensational" order to show that that element is of such indispensable value as it needs must be considered in giving vitality to interest of any kind in our days. No such influence has been productive here of any such new and startling effects to be registered, as the spirit of the times might naturally have been supposed to evoke, unless Mr. Millais's wonderful Moonlight require patent protection, which can hardly be the case where copyright privileges are so defiantly impossible of extension; or Mr. Leighton claim some such reservation for his clever French dramatic adaptation of Biblical history, which is far less safe from imitation than his exquisite idealities, or rather dream realizations of more than earthly loveliness.

In the absence of this, to give it a distinctive recollection for future comparison, and to characterize it *per se*, it will be found to comprise an unusual number of very excellent works, and proofs of advancement corroborating the highest promise.

Of the members themselves most of them are represented in some degree; and if not in all cases adequately, they are at least very strong assistant causes of the effect; though, as is unquestionably the case, they may be under heavier obligations than usual to that class of our painters denominated "outsiders." Of course there are the usual exceptions. Mr. Maclise is a compulsory absentee, and much as he is missed, we cannot wish to see him present, as it would interfere with his mural paintings. Mr. Mulready, Mr. Dyce, and Sir Edwin Landseer are also wanting. Mr. Stanfield does not allow failing health to excuse his presence; and happily, if it interferes with the pursuit of his avocation, there is little symptom of decline in the five memorable coast scenes he now contributes. As fresh and truthful as ever, they appear to have gained in atmospheric appositeness, by a less precise touch than hitherto belonged to his method of execution. The most important of these is well calculated to show the advantage of this, and may be ranked with his greatest successes. "The Situation of his Majesty's Ship 'The Defence,' and her Prize, 'Il St. Ildefonso,' on the Morning following the Battle of Trafalgar" (123), with its long line of Spanish coast for a background, and comprehensiveness of stormy sky and sea, with the disabled ship for a leading point, is as interesting a manifestation of the mastery he has acquired over such materials as any former treatment of them could supply.

Mr. Phillip's large portrait composition undoubtedly ranks as an achievement in the class to which it belongs; but "The House of Commons, 1860," containing portraits of all the political heroes of the day,—and one of yesterday, unfortunately, — affords little opportunity for variety beyond that which the individuality of very successful likenesses can give to it; and, with all the power and richness of its rendering, it fails to have the leading attractiveness that almost any other subject of such importance from the same hand would have been certain of. The Premier has the House with him, evidently; and, governed seemingly by one impression, the

absorption has occasioned a monotonous similarity throughout the admirably-painted assembly. A pretty little incident of ordinary Spanish life has furnished him with a more congenial theme. In "Aqua Bendita" (23), a kneeling gipsy girl believes in its double consecration transferred from the hands of innocent childhood; and no more need be said of this work than that it is one of those examples that best justify his fame.

However much Mr. E. M. Ward may help in elucidating the more recondite probabilities of modern history, his name will always be associated with his "South Sea Bubble" reputation, and identified with the Hogarthian and Johnsonian period by his happy illustrations of it. With "Hogarth's Studio, 1739" (199), there is more to connect this work than a catalogue title would imply, and he has never turned to better account his aptitude for fully expressing the resources of any suggestion by the force with which he embodies it.

Reminded by Mr. Sala that "Hogarth painted a splendid portrait of Thomas Coram, who spent his fortune in cherishing deserted children, and in his old age was not ashamed to confess that he had spent his life in doing good. . . . We hope [so do we] they still teach every little boy and girl foundling to murmur a prayer for Thomas Coram;" and Mr. Ward has earned a share of the homage he so efficiently aids in securing the beneficent and persevering old captain by this appealing note of admiration. A holiday has been given to the little folk in order that they may visit the studio and see the picture; round which they throng in differently expressed admiration of its easily recognised resemblance; some with an open-mouthed bewilderment, others commenting on the most striking passages of it. One little perky damsel, who, with a deliciously natural expression of appreciation considerately gathers together her petticoats, that she may take up as little room as may be possible for so large a personage as she appears to imagine herself to be, is a charming contrast to the patient resignation of the poor cripple, so tenderly placed in a chair that she too may partake in the gratification of the inspection, and contemplate the image of one to whom she owes so many of the comforts she is conscious of. Two or three boys who would be critics if their stronger inclinations were not so distracted by the more alluring object of vision the kindly Mrs. Hogarth has become to them, from her occupation of dividing cakes and oranges, and making arrangements of entrancing promise for creature comfort that appear likely to affect a disinterested opinion (is there a latent sarcasm in this?), and a diversity of matter besides, all supply a fund of amusement to Coram and Hogarth, who, screened by the picture, are silent and unseen observers. "La Toilette des Morts" (124), represents Mr. Ward in another phase of notoriety. Charlotte Corday has more than once been invested by him with an extra amount of pathetic romance, and as circumstanced now, seated in the grim attiring cell of those destined to make a first and last appearance upon that stage on which she is so speedily to play out her short part of heroine, a rigid lifeless monument of despair, gazing with stony eyes at Hauer's scarcely finished portrait of herself as if taking leave of any recollection of her existence, Mr. Ward raises her nearly to sublimity, and at the same time, provokes a question if the German painter were really the last victim of enamoured idolization, as we are told he was.

We may not, however, continue our notice of the general exhibition this week, but must devote the remainder of our space, as in duty bound, to the

Architecture.

Forty-seven numbers in the catalogue of the Royal Academy Exhibition this year, are placed under the head "Architecture;" and one side, and a small portion of one end, of the South Room, comprise the space devoted to the drawings. The room being that which every visitor must pass through, entering or leaving the galleries, the small collection of productions essaying the representation of our art, has on the whole, a fair chance of being included by the public in the general round of inspection: thus, and helped by the speech of the president already quoted, architecture may be somewhat advanced to the appreciation by those who have the control of public works, no less than by all who erect or inhabit houses, of its importance as the art "which, in its various forms is most before the world,"—as that displayed in works "spacious" and "extensive" which "must remain either as a lasting credit to the taste and good sense of the nation, or as a lasting stigma which all would repudiate, but which all must be content to bear,"—or as one of those matters of study and pursuit which, referred to in the quotation in the catalogue, "nourish youth, delight old age, adorn prosperity, afford refuge and solace in adversity, delight at home, do not hinder us abroad,—pass the night, travel, go into the country with us." Such appreciation which it has been the duty of the *Builder* for twenty years to urge the fitness and importance of, but with too slowly coming attention from those who read, build, legislate, or govern, will perhaps become speedily the accomplished fact hoped for, now that the architect's view of his art's mission and office,—and therefore claims,—has been put forward, as in our own often repeated words, by so distinguished an authority as that which elicited a responding "Hear, hear," from the guests of the Academy. The audience then included persons with whom would lie the chief responsibility "to inquire whether the present, that is, the customary and long-established mode of regulating such matters [as those of public works] admits of improvement;" and whether it is not correct, "that, in order to ensure that unity and consistency which are especially desirable in architecture, in order to avoid the incongruity which must result from successive controllers and desultory modes of proceeding, a permanent instead of a mutable directing authority is indispensable," and that "constitutional objections" raised to the suggestion of change "may not be insuperable,"—since "few, indeed, would be willing to admit that the constitution of this country is incompatible with administrative arrangements calculated to promote the most important of the fine arts, the public interests, and the national honour." Other recognition of architecture than this for which we are thankful, remains as it has been in the Academy since its foundation; or rather the evidence which the Exhibition affords becomes, year by year, more unfavourable.

Notwithstanding it has been said, lately and before, that our art has not benefited by the influence of painters,—assertion which, regarding certain ages, we should not oppose,—we contend as we have urged at other opportunities, that a representation of architecture in the Royal Academy of Arts should be continued. If association of what are called the Arts be regarded as dissoluble on account of the fact of distinction between them,—in their office and in the expression allowed by the vehicle of each,—the home of Sculpture with Painting would be broken up, as that of our art likewise. Architecture, regarded not as science, but even as *art*, is to be distinguished with the widest interval from one or both of its so-called sisters; yet it can furnish, to Painting for example, as well as derive from it, both principles and details. Were architectural studies within the walls of the Academy better regulated, only in the matter of drawing, than they seem to be, it would be impossible to find the faulty drawing of buildings and their details, and the ignorance of perspective, which characterize a large number of the works in the several exhibitions of a season,—those, the productions of professed delineators and limners of buildings,—drawing which reduces immensely the result and value of works of some of our greatest masters of colour, and of light and shade, even in the eye of an observer who does not detect the fact of a deduction from his enjoyment, or may have nothing to say of the work before him but in its praise. In the Academy, however, there is now a competent teacher of perspective; thus it may be hoped that proper attention will be given by students, to one part of their respective pursuits which is common to painters and architects. To show that this expression of hope is hardly out of place, we may note that one evening, the occasion of a lecture by Professor Smirke, when some of the students demeaned themselves during the lecture in an ungentlemanly manner which we should be sorry to think could ever characterize more than a very small minority,—visitors passing through one of the rooms might see a drawing on the black-board, of a staircase, well executed and embodying an admirable lesson in perspective, with written beside it by some thoughtless *student*, the words "Leave this rubbish,"—the measure of *his* opinion of the value of the subject of Mr. Bowler's teaching.

Of the manner in which, year after year, the architectural drawings, whatever the number hung, are *exhibited* in the room in which space is accorded to them, we have spoken on each occasion, without result. If complaint be reasonably made by painters, of their works being placed at the level of a cornice, the case of architectural drawings much above or below "the line," is far more serious. The hanging at the Architectural Exhibition, in Conduit-street, goes beyond the limit: we should almost say that any position, off "the line," is nearly destructive to drawings of architecture, that is to seeing their details; for, upon details in buildings, much, even general effect, depends. The space given at the Academy, being for this reason of the hanging, subject to a deduction of perhaps half the number of the drawings on the walls, is from another reason and in the very principle of the so-called exhibition, no real presentation of architecture. It is an exhibition of *views* only, and generally one for each exterior or interior. Assuming them to be fair and correct, as well as taken each from a point that would or should be preferred by a person looking at the actual structure, views serve to convey a very small part of what will be looked at, of what it is the office of the structure to convey in the nature of architectural expression, and of what will be concerned in the question of merits. We have ere this endeavoured to point out to our readers, or at least remind them, that their impression of a work of architecture is derived in walking round it,—or as in the case of a work of sculpture,—rather than derived in looking at it from a fixed point, or even any small number of points. We are not discussing what may be possible in the room in Trafalgar-square; yet we must seek to understand the exact value of an exhibition of drawings, in order to know whether there might be ultimately avoided a mistake which is made in the whole system of the Academy in presence of our art, and in the particular formation of the architectural department of the exhibition, and to the end that we might even realize what there is in the way of lessons derivable from mere perspective views, and perhaps at length discover efficient means of aiding the views, or causing them to combine with something else in fairly conveying to the public, truthful information of the facts as in a building.

It is obvious that the drawings and description such as are followed by the builder in the construction, comprise the only accurate presentation of a building; and it is only from the fact that plans, elevations, and sections have to be put together, and the result arrived at by a mental process, which is difficult, that attempts to convey the meaning by a different method, a partial one, as perspective, are made. The difficulty, however, even to an architect, is such that perspective becomes of great service to him. Still, the perspective method of representation, to be complete, not only requires a number of views taken from every imaginable standing-place, but the art or science is founded on the mathematical theory that objects are seen from a fixed point, and that the eye is fixed as such point; which, untrue as to our vision of any object, even at some distance, is manifestly untrue as to the vision of the interior of a building. In that latter case, the eye must range over the widest area and in the largest angle bisected by an axis of vision; and no drawing has ever represented such a view as one down a cathedral nave, the same as was the impression, or rather sum of the successive visual impressions given to the mind. We never see drawings of their works exhibited by sculptors, in the Academy Exhibition: those artists avail themselves of the nearest approach to a *fac-simile* of the original; which fortunately, the comparatively small dimensions of works of the sculptor's art, and the use of plaster, combine to afford them. Some of the curves the most beautiful in the female form, are to be seen in the back and shoulders; what then is the value in the case of sculpture, not *relievo*, of one drawing, which would choose preferably the side including the face,—as compared with a cast? The answer should show what must be the insufficiency of mere views of buildings.

It would therefore seem to be a mistake in an exhibition of the best representations obtainable of buildings, not to include therein models. But, as of late, there are no models at the Academy. Objections have we know, been seen to the mode referred to, of representing designs. It has been supposed that models would be looked at by the public, much as were those of the several designs for the Wellington Monument exhibited in Westminster Hall, which were by many critics regarded as though models of the full size, for silversmith's work, or were regarded without any thought of scale, and inversely to their merits. But, much of the difficulty might be got over by explanation, and by figures to the proper scale; and by always carefully placing the model at the proper height, and restricting the eye of the spectator in some way to the proper level. It is a much more serious difficulty, in our opinion, that of getting

the models made, or with the mouldings and ornament delicately and exactly detailed. Scarcely one model in a hundred that we see, is really of the intended value; and we apprehend that money could not be easily found to produce habitually, even such models as some of the engineers contrive to get executed, that is, with the greater elaboration of ornament that characterizes most churches and public buildings.

We cannot, therefore, see the way to proper exhibition of architecture at the Royal Academy, without some admission, not obtrusively, but explanatorily,—of the element of plans and sections which we have succeeded in getting made a feature, though not a sufficient feature, in the exhibition in Conduit-street. In the latter case, indeed, because the exhibition addresses itself to architects, matters pertaining to convenience and construction deserve, or require, exposition and explanation. But our point is that the exposition of the *art* in a building, requires more of the nature of drawing than can be comprised in a single perspective, and generally something of the nature of plan and section. Sufficient might be given in two or three spaces, each the size of a crown-piece: it is the total omission of some of the chief requisites, and elements of effect meant to be conveyed by drawings, that we direct attention to as allowing the aim of exhibition to rest unattained, and as showing that the nature of architecture, the art, is not exactly understood and appreciated in the Academy itself. From this charge, however, we ought to except the present and former professors of architecture. Professor Cockerell devoted his lectures, rigidly as required, to the art-side of architecture: still, and rightly so, he dwelt much upon planning; and mere plans of the principal buildings of the world, were displayed amongst his chief illustrations. He also spoke energetically against the practice of getting up what were mainly to be viewed as "pretty drawings." Exposition of architectural art within the walls of the Academy, we may then conclude, needs something more than the drawings we are in the habit of seeing; or requires, at very least, enough to allow us to judge what would be the effect presented by the building, or portion of it, from changed points of view. The first step to improvement is to understand the character of the evil to be remedied.

Taking the drawings as they are, they form a small but rather choice collection. Amongst them are drawings representing some of the most important of the works, projected or in hand, for the improvement of London. Mr. Bazalgette exhibits three drawings (911, 919, and 921) showing proposed decorative features of his Thames embankment. All the three relate to the north side of the Thames. They show, besides the river-wall, parapet, and candelabra, a steamboat landing-pier to be constructed between Waterloo and Blackfriars bridges, a pier for the same purpose at Waterloo Bridge, and the landing-stairs, roads, and ornamental gardens between Hungerford and Waterloo bridges. The wall and parapet have the "sets-off," weatherings, cornice, and general mouldings, as simple lines which are broken by block-plinths bearing lions' heads in bronze, with rings, and forming the pedestals to carry the candelabra, and by larger pedestals to be mentioned shortly. The features of the parapet and wall are not in bad taste. We can scarcely say the same of the candelabra, which seem to be of the common form of dolphins, entwined and supporting a ring of gas-globes; or alternately, the form of a figure carrying the lamp in the hand. They would be neither monumental, nor according to true principles of decorative art. There are plenty of students at South Kensington, who would design better things. There were some of the works in the French division of the Exhibition of last year, that were in good taste,—because the supports were structurally as lamp-posts, and not as dolphins or lamp-carrying figures. In Paris generally, for out-of-door use, things of the kind are well done: in the new square of the Louvre, the candelabra are charming,—too costly for English reproduction, though suggestive as models. But in Mr. Bazalgette's design of the landing-piers, some of the features must be modified. The dummy or floating-pier lies in a recess formed by two bold projections of the masonry, which carry pedestals. These latter features, in the drawing of the pier between Waterloo and Blackfriars Bridges, bear sculpture in bronze, in panels of the dado, but no sculpture on the top. A pedestal is for the support of something; and as the features exactly resemble ordinary pedestals in the mouldings—though they may be intended to mark and enclose the recess,—it may be questioned whether, if the pedestals are to support no sculpture, the projections on plan should not be differently treated. A third mass of masonry carrying a pedestal, but its longer axis parallel with the parapet line, is engaged in the centre of the recess, and carries a bronze group with the god Neptune; so that the omission of sculpture in the other case, no doubt was intended. Another questionable matter is the immense bulk of these pedestals, following a common error as made in the enclosure of the British Museum, and even by Sir Charles Barry in that least satisfactory of his works, Trafalgar-square. The blank bulky mass of masonry is bad enough, where there is adequate weight and a feature upon it. Could nothing be tried to break by curves the ever-repeated rectangle of plan of pedestals? Even the perfect oval would harmonize with some groups, and afford variety. Looking at other features of Mr. Bazalgette's design, the light kiosk-formed structures on the floating piers are tasteful; indeed, we should be far from saying that these particular steam-boat landing-places would not be a great improvement on anything at present to be seen on the river. Opposite Norfolk-street and Arundel-street, considerable space would be laid out in gardens; but the absence of a plan does not allow us to see whether shrubs and horticulture would contribute as much to effect seen from the bridges, as they might be made to do in good hands. The landing-pier at Waterloo Bridge is by no means a successful design. Difficulties of the case of a roadway made to pass beneath an arch which *had been* designed as a waterway and part of a series of arches, are not simply ungrappled with; the want of harmony between bridge and embankment is greater by the presence of new architectural features than it would have been without any of these in the embankment. A great projecting pier, with pedestal carrying a group in bronze, terminating the recess for the dummy on one side of the bridge, is matched by a corresponding arrangement of pier and recess on the other side of the bridge; whilst the connecting line, the parapet of the embankment-roadway, bores through the bridge in appearance, to take up and join pedestal to pedestal. The two designs,—bridge, and landing-pier, interpenetrate, but do not harmonize; for, even symmetry, which seems to have been the aim, is attained from no point of view. The pier of the bridge should be brought into the new composition as part of it, and the feature of a great pedestal without symmetry of position or harmony with anything, should be modified, as also should the parapet where passing under the arch. In the third drawing, where this pedestal again appears, the artist has omitted the sculpture, perhaps feeling that the whole feature was too prominent. The third drawing shows the area between Waterloo and Hungerford Bridges laid out as a terrace-garden partly on the roof of premises forming a line of shops on the embankment. Across this garden is a descending way, perhaps from Salisbury-street, intersecting a circular sunk-area in which there is a fountain. Opposite this way, and projecting from the embankment, are stairs, descending right and left from a landing,—the raking parapets having reclining lions. Seated figures in bronze, on square pedestals, mark the openings in the parapet.

A finely-executed drawing (922) exhibited by Mr. J. Taylor, jun., shows "The London, Chatham, and Dover Railway Station, now in course of erection at Blackfriars," that is on the Surrey side of the river; and shows also enough of the new City bridge, and the railway-bridge, to give an idea of the design of each, and the combination. The two bridges, if we see correctly without a plan, do not exactly correspond in the position of the piers. The first opening of the railway-bridge, however, may be said to correspond with two openings of the road-bridge. The levels will be very different, the railway-level being much higher than the road-level. Thus, whatever fate may attend the view up Ludgate-hill, that of the view of St. Paul's from the road-bridge may be considered settled. In itself, the railway-bridge has a character of art-architectural which we have not seen exemplified in any previous work of the same kind of construction. The meeting-ends of the lattice girders are supported by a row of piers,—each pier formed of a cluster of shafts, resembling red granite, and with regular capitals and bases as stone,—whilst upon the outer shaft, and masking the junction of the girders and rising above them, is an ornament combining somewhat the form of a small buttress with that of an antefixa. The result altogether, shows there is no reason why railway-bridges, even girder-bridges, should not be always ornamental. The London, Chatham, and Dover Company have certainly shown desire to contribute by their stations, and some of their viaducts, to the architectural effect of London and its suburbs. The Blackfriars station (which seems to be in combination with a wharf) is built generally of yellow brick, the decorative effect being got by the introduction of red and black bricks, in addition to dressings in white stone or terra-cotta,—the reds and blacks in bands and arches being judiciously subordinated to the main tint of the walls. The openings are arch-headed, and chiefly pointed-arched. The City bridge, already illustrated in our pages, we may say, as shown in the drawing, is remarkable, as the other, for some attention to decorative qualities. The ribs are ornamented with *rosettes* cast on them, and the spandrils are filled in with lattice-work which is similarly ornamented. Whether the faces of the piers are rightly treated, with an imitation of stunted shafts of columns on a large scale, may be questioned. There is a cornice, with some amount of carving, in place of capital, to each of these columns, and a base; and each pier is terminated by the parapet of the recess of the footway, decoratively treated by perforations.

Prominent likewise on the "silent highway," is Mr. M. D. Wyatt's building now erecting for the Government of India, and to be appropriated for military stores. It is displayed in two views, one of the exterior (897), as seen from the river, and the other of the court-yard. We cannot reconcile ourselves to it. The river front is made up of a multitude of small arch-headed openings; whilst in the centre of the lower part of the front, is a great undecorated arch, opening into the yard. The contrast between these large and small features, certainly seems to us a harsh one. There is a certain amount of grouping of the small openings, a portion of them being arranged in threes, whilst others are single; and the windows of the top range have cusped tracery of Venetian Gothic character; but these matters of detail do not tell much at a distance, and the general effect is what we have described.

Small as is the number of drawings, we are not yet through them.

MONUMENTS AND MEMORIALS.

THE suggestion of raising a monument to Shakspeare, to be unveiled on the 24th of April, 1864, which is the tercentenary of his birth, finds increasing favour. Trafalgar-square has been proposed for the site.

The inauguration of the Wellington Monument at Liverpool will take place shortly. The statue has arrived, but, as it exceeds, by a ton and a half, the weight that was originally fixed for it; the scaffolding around the pillar required strengthening, and machinery of greater power had to be procured.

A monumental cross has recently been erected on the Grand Parade at Portsmouth, in honour of the officers and men of the 8th Regiment of Foot who were slain or died from disease during the Indian Mutiny. The form chosen for the monument is that of the old Irish cross. It is composed of Sicilian marble, the plinth of red Mansfield stone, serpentine and green marbles, and the sub-plinth of granite. The names of the officers and men will be engraved on the shaft. The design was by Mr. Leifchild, and the construction by Mr. Underwood, both of London.

A numerous and influential committee of noblemen and gentlemen in the North of England, including many of the distinguished members of the Chetham and Historic Societies (Lancashire and Cheshire) is now in course of formation, for the purpose of carrying out a project which has been entertained for some time past of erecting a memorial statue, in the town of Bolton, of James the seventh Earl of Derby.

The foundation stone of the Tyndale Memorial will be laid on the 29th inst., by the Hon. Col. Berkeley, M.P. The site fixed upon is Nibley-knoll, in the village of North Nibley, near Wotton-under-Edge, Tyndale's birthplace.

At Ironbridge, the widow of the Rev. J. Bartlett has given her consent that the memorial fountain commenced some time since and partially erected, should be taken down and re-erected on a more convenient and important site. It now stands in the centre of the flight of steps leading from the road to the Market-square, at the east end of the Tontine. The fountain is now completed. It consists of a plain quadrangular obelisk, whose base, plinth, and column, are of polished Aberdeen granite. It stands sixteen feet high above the platform. This is constructed of dressed Wenlock limestone and finished with York stone. The work has been completed under the superintendence of Mr. Samuel Nevitt, Ironbridge.

COMTE DE VOGÜÉ ON THE HOLY SEPULCHRE.

IN the second edition of the Rev. George Williams's "Holy City" will be found a long chapter, by Professor Willis, entirely devoted to the architectural history of the Holy Sepulchre. It is almost needless to say, when the latter gentleman takes up a subject, that hard things become easy; for no one in our days has ever read more sermons in stones than he has. In the present instance not only have a vast number of old authors been brought forward as witnesses, but assistance for the architectural restoration of the church of the Crusaders has even been obtained from the inlaid wooden models made by the Jerusalem monks and sold to travellers in the last century. The professor concludes his clever and interesting notice with the following words:—

"An accurate research into the existing building by an architectural student well versed in Mediæval structures, would, I am confident, detect sufficient remains of the church before the fire in 1808, represented in my sections, to form a much more complete and more exact one; and I trust my attempt will induce some traveller to set about correcting my mistakes, and resolving the difficulties which I can only pretend to have pointed out, happy if in so doing I shall have succeeded in exciting the interest which always attaches to an object of research once indicated."

This is exactly what has been done by M. de Vogüé in his work on the "Churches of the Holy Land."* After the excellent summary lately given of it by Mr. Wigley at the Architectural Museum (which still, alas! remains in confusion at Brompton), it would be useless to do over again what has been done by so very competent an authority, and who, moreover, has had the immense advantage of seeing all the localities.† But the "History of the Church of the Holy Sepulchre," as published by Professor Willis and re-edited by M. de Vogüé, is so useful and so instructive an architectural study, that it would surely be no loss of time to give a short summary of it from the "Eglises de la Terre Sainte." It must, however, be carefully kept in mind that the basis of the whole story belongs to our countryman; and no one has been more forward to acknowledge this than the gentleman who candidly confesses his obligations by telling us that "this memoir, full of talent and erudition, has continually served me as a guide in my own researches; and if my interpretation of some passages differs from his, I ought to say that, after all, he was the first to indicate the true way, and that I have been obliged to borrow for my own work the complete scheme of his memoir.

The history of the Church of the Holy Sepulchre divides itself into four periods. The first comprises the time between the foundation of the basilica, by Constantine, in 326, and its destruction by the Persians under Chosroes in 614. The second extends from the restoration, by Modestus, to the second destruction by the order of the Caliph El Hakim, in 1010. The third, from the reconstruction, in 1048, until 1130, when the Crusaders built a large church, covering the whole of the sites. The fourth epoch terminates in 1808, when the church was so much injured by fire, that an incompetent Greek architect could find no other means of safety than by entirely covering the old building by an exceedingly thick new casing; so that in the present day we do indeed possess the church of the Crusaders, but cannot see it. I now propose to follow M. de Vogüé through his account of each of these epochs. At the same time it should always be kept in mind how very large a share of the work belongs to Professor Willis.



FIG. 1.

FIRST PERIOD.—326 to 614.

The Basilica of Constantine.—In order to understand the works undertaken by order of this emperor, it will be as well to begin by a short description of the locality of the Crucifixion and the sepulchre of Our Saviour as they existed previously to the fourth century. At the present time, when we see the Christian quarter of the town occupying so much space immediately around the holy sepulchre, it is rather difficult to imagine that this spot was formerly situate without the walls of the ancient city; but such must have been the case, and moreover, portions of the wall which excluded these localities from the town have recently been brought to light.

At a short distance from this wall there was a small ravine, marked A on the plan (fig. 1), which level is now that of the paving of the modern church. On either side of this ravine the rocks rose abruptly to the height of from 12 to 15 feet. On the rock to the east was the place of the Crucifixion (marked G), and below it (H) a little excavation, known in later times as the tomb of Adam. The opposite rock, at the west end, was pierced with two tombs, each of which had a vestibule. The larger excavation (C) is generally known as the tomb of St. Joseph of Arimathea; and probably because all the niches were occupied, he caused a second tomb (B) to be excavated at a little distance. This latter consisted of the usual vestibule and an inner chamber, on the north side of which was a recess for a body, covered with a semicircular niche; the entrance into the inner chamber from the outer was by means of a very narrow and low doorway, which was closed by a large stone. It was in this inner chamber, and in this recess, that the body of Our Lord was placed by the care of his disciple St. Joseph of Arimathea, who subsequently, contrary to the usages of the Jews, caused a tomb for himself to be excavated in the floor of his family sepulchre.

When the Emperor Hadrian tried to establish a pagan Jerusalem, hating alike the Jews and the Christians, he dedicated a temple to Jupiter on the site of the Temple, while he caused the ravine A to be filled up with earth, and upon the ground thus levelled a temple was erected to Venus. When, however, Christianity triumphed under Constantine, this temple was removed, and the ground restored to its natural level by the removal of the accumulated earth, and the construction of a great basilica to inclose all the holy sites was commenced. Eusebius has preserved us a letter from Constantine to the Bishop Macarius, the most interesting portion being that in which he wishes to know whether the ceiling of the basilica should be decorated with caissons or some other ornament, and suggesting that if the former be preferred, they should be gilt. Eusebius, in his "Life of Constantine," gives us a description of the basilica itself, but unfortunately not a very clear one. From it we learn the following particulars:—1. The sacred cave was ornamented with choice columns and decorations. 2. There was an extensive space open to the sky, paved with polished stones, and surrounded on three sides with long cloisters. 3. On that side of the court placed opposite to the cave was the basilica, the interior of which was lined with marbles and the roof covered with lead, while the gilded ceiling caused "the entire building to shine as if with the rays of light." 4. There were double aisles on either side, and three doors at the east end. 5. Opposite to the doors was the apse, surrounded with twelve columns, having silver capitals. "Hence, going forward to the entrances which were before the temple, he interposed an open space, viz., between the basilica and the portals; there were also recessed chambers (*exedræ*) on each side the first or entrance court, which had cloisters attached to it; and, lastly, the gates of the court. Beyond them, in the very middle of the wide market-place, stood the propylæa or vestibules of the whole work, which, being decorated in the most imposing manner, afforded to those who were passing a promise of the wonders within."* From this description and from sundry fragments still remaining, and which he thinks belong to the edifice of Constantine, M. de Vogüé constructs the plan shown in the accompanying cut, in which it is only fair to state that he differs very considerably from Professor Willis. One of his discoveries, indeed, the pillar at O, fig. 2, is very summarily dealt with by Mr. Fergusson, in his pamphlet, who asserts that so far from being a relic of the time of Constantine, it must be referred to that of the Crusaders.

The first operation of the workmen employed by the emperor was to level so much of the surface of the rock as was required for the new church, leaving, however, the rock of Calvary standing up on the eastern side, and the Holy Sepulchre on the western. In the latter instance the vestibule was destroyed, and the outside of the sepulchre fashioned into a polygonal form, and decorated with a marble placage and attached columns. Professor Willis, however, thinks that the columns were disposed as a peristyle, while the rock formed the cella; in fact, the same sort of arrangement as we see in the temples of Vesta. It was also found necessary to remove the whole of the vestibule, and the greater part of the tomb of St. Joseph of Arimathea: that part, however, which was outside the apse has remained to the present day. M. de Vogüé considers that we have still three distinct portions of the basilica remaining:—1, the foundations of the apse with its little chapels, which have determined the shape of this portion of the church ever since; 2, the angle impost and springings of arches at O, which Mr. Fergusson attributes to the Middle Ages; and 3, the remains of a portico at *p*, which were first discovered by Doctor Schultz. From these two latter remains M. de Vogüé has been enabled to reconstruct the propylæa, *p p r r*, and the atrium, *r r m m*. In the interior we have the apse with its little chapels, *a b c*, and an arcade of twelve columns: the position of which corresponds with that of the arcade of the present church; indeed, several of the bases of the latter are said to form part of the living rock. In the centre of the space enclosed by these columns was the holy sepulchre B, which, according to Antony of Piacenza, was formed of the same stone as a millstone, while the roof was of silver, and a great quantity of valuable offerings were suspended by iron rods: this description probably refers to the inside. At *d* was the stone which formerly served to close the sepulchre, and which was rolled away by the angel. This was divided into two parts, one of which, covered with gold and gems, remained *in situ* at *d*: the other served as an altar, where Our Lord was crucified. Proceeding eastward, we find transepts (as at Bethlehem and Paul's without the walls at Rome), in the centre of which was the altar. The nave had double aisles, the row of pillars nearest the nave being

* "Les Eglises de la Terre Sainte." Par le Comte Melchior de Vogüé. Paris: Didion. 1860.

† See *Builder*, p. 256, *ante*.

* Professor Willis's translation of the passages has been used. See Williams's "Holy City," vol ii. p. 245.

circular columns, while those between the aisles were square piers. Above was a triforium and clerestory supporting the gilt coffered ceiling. In the outermost southern aisle rose up the rock of Golgotha, not so high, however, but that it left something like 9 or 12 feet clear between its top and the ceiling of the aisle. This upper surface

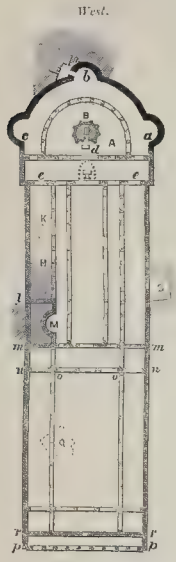


FIG. 2.—*East.*

was occupied as far as *l* by a chapel, and the rest of the space from *l* to *m* being closed up with walls to hide the irregularity of the site. The excavation M, if ancient, was dedicated to some Christian tradition, such as the division of the garments. At H, under the hole for the cross, there was a small natural hollow, which was enlarged and afterwards formed the apse of the chapel of Adam. We still see the crack caused by the rending of the rock mentioned in Scripture. According to tradition, Adam was buried in this hollow, and the blood of Our Lord running through this crack flowed upon the skull of the first man and washed away his sin. This is the origin of the skull we see at the feet of most of the crucifixes. In the Middle Ages, Adam is frequently represented as being brought to life by the blood of Our Lord,* a far more poetical way of rendering the tradition than the usual skull. K was the stone upon which the body of our Lord was placed before it was deposited in the sepulchre. S was a cistern called the prison, from a tradition that Our Lord was placed therein while preparations were being made for the crucifixion; and Q another cistern where St. Helena found the crosses.

SECOND PERIOD.—614 to 1010.

The Churches of Modestus.—When Chosroes took Jerusalem, in 614, his army was followed by thousands of Jews, who are said to have been most active in the work of destruction: the consequence was that the magnificent structure of Constantine was totally destroyed, and when Modestus, afterwards patriarch of Jerusalem, with the help of St. John the Almoner, had completed the work of restoration after fifteen years of labour, the result, instead of a large basilica, with its atrium, &c., was simply a number of small churches each covering some venerated spot. The reasons for this change were twofold: in the first place, the funds were limited; and, in the second, the Byzantine domed church had supplanted the basilica. We therefore find four distinct edifices: 1, the Church of the Resurrection, built over the Holy Sepulchre (see A, fig. 3); 2, the Church of Golgotha, H; 3, the Church of the Invention of the Cross, F; and 4, the Church of the Virgin, K, built over the unction stone. These four churches were connected together with walls, and the court in the middle was paved with marble. The principal authority for the restoration of the churches of the second period is the well-known description of Arculphus, as taken down by Adamnanus, abbot of Columba, in Iona, who furthermore induced him to draw a plan upon a waxen tablet. Two editions of this plan have come down to us, one of them being published for the first time in the present work.

The Church of the Resurrection.—Modestus found the apse of Constantine's basilica still standing, or at least sufficient of it to serve as a foundation for the new work. The eastern wall of the transept, *e é*, was also probably in the same condition, while the bases of the colonnade being cut out of the rock would be equally available. The colonnade was therefore carried on until it met the walls of the transept, from which latter sprang three apses. The walls of the apse were continued from *a* and *c* to *e* and *é*, and pierced with five doors on each side. Outside the eastern apses was a semicircular portico. We have thus by the extension of the apse built by Constantine the first circular church of the Holy Sepulchre. The rock itself was covered with engaged columns and marble, while two columns at the east end were connected to the others by means of low walls; within was, *d*,

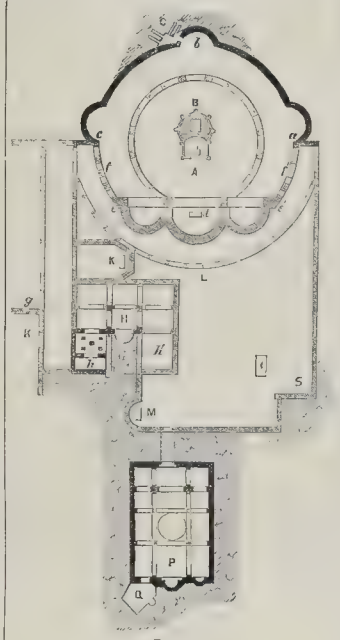


FIG. 3.

one part of the stone of the angel, used as an altar; the other half served as the high altar in the principal eastern apse. It should be remarked that the space over the Holy Sepulchre was open to the air in all the constructions which succeeded one another.

The Church of Golgotha appears from Arculphus to have been larger than it is at the present day. M. de Vogüé has therefore added a bay to the west and an aisle to the north, *h'*; he also supposes that there was a cupola at H.

The Church of the Invention of the Cross, known throughout the Middle Ages as the Basilica of Constantine, was also a construction which owes its origin to Modestus, although the Crusaders rebuilt the vaults. It is a church (for it has undergone very little alteration in the plan and lower parts) precisely like so many that are found in Greece and Syria, consisting of three apses, a centre dome, and a western narthex. Beyond it, at Q, is situate the cistern where St. Helena found the three crosses. At present the floor of the chapel is some 16 feet below the floor of the church above, and it is rather puzzling to conceive why Modestus built it at this level. The cistern, Q, is some 9 or 10 feet lower.

The Church of the Virgin, in the eleventh century, contained the unction stone, and M. de Vogüé has therefore placed it at K. At M is the *exedra* noticed in the previous plan, and in Arculphus's time, the repository of the chalice used by our Lord on Good Friday. At I was a table for alms, said to indicate the spot where Abraham placed the wood when about to sacrifice Isaac. At S was the spot called the prisons; and at L a place where sundry chains attached to the neighbouring churches met together, and which was supposed to indicate the centre of the earth. Finally, Arculphus shows sundry lines to the south of the Chapel of the Virgin which M. de Vogüé identifies with the ruins of a portico still remaining.*

W. BURGES.

* See the Arundel Psalter in the British Museum.

THE SPREAD OF SMALL-POX AND FEVER IN THE METROPOLIS.

IT is with very great concern and regret that we have noticed the increase of the first-named pestilence. In Islington, among the houses which stand between the Caledonian-road and the York-road (formerly Maiden-lane), the cases seem to be increasing in number; and so serious is the result, that it calls for some active measures for preventing further mischief. It is not children only who are attacked, but men and women in the strength and prime of life, and even persons advanced in age. Small-pox, as we have before noted, is also raging in other parts of the metropolis; and, amongst other districts, we now learn that cases have occurred at Battersea, where typhus fever has also been prevalent.

A few years since the late Prince Consort directed special attention to the increase of small-pox in the large towns of England; and since then several persons of well-known ability have pointed out the danger which was likely to ensue in consequence of the neglect of vaccination—not only amongst the poor and ignorant classes, but also with many who are well informed and in better positions; and now the time seems to have come when the public of London must suffer the consequences of such neglect. The metropolitan Hospital appointed for the reception of cases of small-pox is full, and applications are constantly being made at other hospitals and at the infirmaries of the workhouses for admission.

As regards the Islington district, which, according to the medical officer of health's report, has been excessively unhealthy of late, we have made careful inquiry and received fresh proof of the ill-effects of bad sanitary arrangements in connexion with both small-pox and whooping-cough. At the back of Bemerton-street, on part of the ground on which the Sunday Fair, some time since described in the *Builder*, used to be held, there still stand a number of miserable and unwholesome cottages. The rooms are very small, ill-ventilated, and for the most part dirty. These are only one story high; and, being planted in the old-fashioned way upon the earth without provision for drainage, the walls are rotting with damp; and what adds to the evil is, that many of the houses are over-crowded by poor distressed families. We are told that the small-pox has visited nearly every one of these houses: nor will any one wonder at this who has seen the condition of the places. In one of the cottages a case of small-pox first occurred; and it then seems to have spread thence through the others to Stroud's-vale, Bemerton-street, and the adjoining neighbourhood. In the course of a tedious inquiry, we found that vaccination had here been greatly neglected;—that in several instances those who had been vaccinated in childhood had been attacked by this disease; but, in almost every instance, the cases were slight in comparison with those in which vaccination had not been attended to. Since there can be no doubt, as every one knows, of the infectious nature of the small-pox, particularly in such over-crowded dwellings as those to which we have so often referred, it is a most important duty in all who have the charge of the health of parishes and districts, to provide means for the immediate removal of afflicted patients, and suitable places for their reception. At present, when the hospital is full, the parish authorities are bound, if required, to remove those sick in this way to the infirmaries of the workhouses; and as, in most instances, there is no distinct provision in such infirmaries for those who are ill of fevers and smallpox, this is attended with considerable danger; and it has been recommended by the Metropolitan Association of Medical Officers of Health, that, in consequence of the increase of mortality from small-pox, the guardians of the poor and other local authorities should take the matter into consideration. The Association, while recognising the total neglect or inefficient performance of vaccination as the great cause of the mortality in question, consider it not the less apparent that the prolonged residence of

* To be continued.

infected persons in rooms occupied by others, the exposure of such persons in the streets, in public conveyances, in the waiting-rooms of hospitals, and the absence of adequate means of isolation, have been the immediate agents in bringing about the recent rapid diffusion of small-pox to a degree unexampled in the epidemic of 1859-60; and that, in consequence of the want of room at the Small-pox Hospital, it is necessary, during the epidemic, to provide temporary buildings, in such situations as are best suited for the purpose, on the double ground of distance from inhabited houses, and facility of approach; also that public attention should be called to the importance of vaccination, and the nature of the law in connexion with it.

Although we know that there is a prejudice against vaccination, we believe that this is based on such slender grounds that, if the Act of Parliament were properly enforced, in nine cases out of ten the parents would conform with what is necessary for the safety of their children. There is great carelessness, rather than positive prejudice, respecting vaccination amongst many parents; and good would be done it those who have the care of this duty were to make inquiry at the national and other schools for cases of neglect in this respect; but far more good would follow a house-to-house, or even a room-to-room visitation, in the poorer districts, particularly those in which the small-pox is now prevalent.

We have still, as we have ever had, no doubt that typhus fever, small-pox, and some other complaints of the same class, are preventible: we see that the worst and most numerous cases occur in places which are neglected in sanitary arrangements: we find that in these situations diseases of this description spread, if care be not taken for the timely removal of patients. In the wretched homes existing, the death-rate of those who are stricken with disease is enormous: even in the Islington Fever Hospital the number of deaths is large; but it must be considered that, for the most part, the worst cases only are brought here. Large as the number of deaths is in a spacious place such as this, where care is taken of ventilation, and where there is the best medical attendance, there can be no doubt that if the same patients had been allowed to remain in their homes, the number of deaths would have been doubled.

In the Fever Hospital there are written, in a large volume, the names of those who are brought to the hospital, and an account of the neighbourhood in which they had been living; and these entries, we find, agree in a very remarkable way with the state of the drainage and other sanitary conditions of districts. There are many cases in the suburban neighbourhoods, in Deptford especially. Here, in New-street, Griffin-street, and Mill-lane, not only in ordinary dwellings, but in licensed lodging-houses, typhus fever has been raging. This is a matter which requires not only the attention of the district officer of health, but also of the police authorities. It is notable, however, that the licensed lodging-houses in St. Giles's, and those in the City and several other parts, seem to have been free from virulent fevers.

Bethnal-green, St. George's-in-the-East, Dock-head, Bermondsey, parts of St. Martin's-in-the-Fields, Little Saffron-hill; Perry-terrace, St. Pancras (a place which we have before noticed); Redcliff-square, Stepney; Charles-street, Mary-lebone, &c., &c., yield many cases of typhus fever. We will by-and-by give some account of these fever dens; particularly those in Deptford; but, in the mean time, we may remark that those who have the care of the health of parishioners ought to be watchful, in neighbourhoods where fever and small-pox are prevalent, to see what drainage or other sanitary improvement is required; and to endeavour, by all means, to remove those who have been seized with these disorders. In the report for 1861 of the Fever Hospital, it is said—"Much has been done. The victims of typhus, since we have had boards of health, with their medical officers and their inspectors, studying each court and alley, are reduced in numbers. It is now five years since we had a serious and open epidemic." Such fluctuations there have always been; but the filthy pool of fever, if it has not always overflowed, is still among us, ready to overflow again; *and it has no right and no unavoidable occasion to be amongst us at all.* All typhus and typhoid fever is preventible. There is much to be done before it be exterminated throughout London; but that we have made some head against the monster is precisely the reason why we should not relax in the war we are bound to wage against it.

FOOT'S CRAY CHURCH, KENT.

THE "CRAYS."

As you travel on the London, Chatham, and Dover line, you may see on leaving Bromley the parish church of Foot's Cray, which has been partially restored under the direction of Mr. E. C. Hakewill. This was recently reopened with special services. The old pews have given way to open seats, and all galleries have been removed. A new open roof has been placed on the nave, and the nave itself elongated westward, leaving the old wooden bell-turret and spire in their original position. Three new bells, by Messrs. Warner, have been hung, and are rung from the floor of the church. An organ-chamber, too, has been thrown out on the north side of the chancel, and a new organ is being built by the Messrs. South, of Gray's-Inn-lane. Part of the staircase to the old rood-loft remains, the openings to which have been restored, and form the access to a new stone pulpit. A remaining panel of the rood-screen has been introduced into the front of the prayer-desk. A brass lectern, by Hart, is the gift of former parishioners of the rector at Bibury, Gloucestershire.

Three new painted windows have been added by Castell. The ancient Purbeck marble font, which had lost its columns and gained a painted surface of "granite," has been restored and polished by White, of London, at the cost of the architect. Mr. Francis, of Foot's Cray, did the works; and the cost has already exceeded 850*l.*; but much remains to be done in the removal of external stucco and brickwork of former days, and in coloured decoration of the interior. All this will doubtless follow. The rector, the Rev. C. Birch, deserves credit for his efforts.

Passing the other day along the railway mentioned, the country hereabout showed how marvellously the season is in advance; appletrees in full bloom, the pear blossom falling, and all nature flush with green. There is an interesting set of villages here to which the little river Cray gives name,—Crayford, Foot's Cray, North Cray, St. Paul's Cray, and St. Mary Cray. Foot's Cray gets the rest of its title from its Saxon owner, Godwin Fot, or Foot. The churches have interest enough for a day's loiter; and there are others close by. The visitor may go with Robert Bloomfield:—

> "O'er eastward uplands, gay or rude,
> Along to *Erith's* ivied spire,
> I start, with strength and hope renew'd,
> And cherish life's rekindling fire."

Then to Dartford; Darent, with its Norman church; and Swanscombe, with its Saxon one, both remarkable. Near Dartford, to go back a bit, may be seen some of the curious pits in the chalk called "Dane holes," similar to those at Little Thurrock, on the other side of the Thames, described in one of our earlier volumes. In fact, a refreshing and satisfying day may be spent hereabout without any great expenditure of money or strength.

THE MARKET VALUE OF AN ARCHITECT.*

In these revolutionary days,—when the great purpose of a man's life seems to be, if not always to leave the world better than he found it, certainly to leave it upside down,—whilst the map of the earth is changing, the map of history changing, the map of society changing, the map of science changing, day by day, we cannot be surprised to see changing with the rest the not unimportant map of that division of labour by which human energy conducts its material and intellectual operations. Old agencies become effete: new take their places. Vocations which were important yesterday are superfluous to-day. Our old men, like our old muskets, are behind the age.

Now, amongst other honourable callings in art and science which have existed time out of mind, one of the most ancient,—in fact, we can follow its history by infallible records for 3,000 years,—is the vocation of an *architect*. And this vocation, I may fairly affirm, has all through these thirty centuries received from public opinion respectful recognition,—at least, in the great centres of intelligence for the time being. But within the last few years, in this metropolis of London, it really seems as if the proposition were being advanced that this recognition is a mistake,—that this architect, in a word, is a myth.

There are some who have put the matter in the form of a puzzle, desiring to know whether any one can inform them what an architect is. No one can, of course. Gentlemen of learning in that way, who consider themselves behind the scenes, applaud the cleverness of the hit. They have heard of the name, it is true. They have a vague idea of large pretensions attached to the name. They have heard a good deal lately of one Sir Charles Barry, an architect. With regard to St. Paul's Cathedral, also, in the City, they have heard of one Sir Christopher Wren, an architect, whose fame is supposed to be an honour to his country. They have travelled all over the world, one or another of them, and have looked at all the lions of the world. A very large proportion of these lions are certainly architectural lions; objects of much pride to the people; subjects of books, pictures, medals, histories, poems, researches innumerable; mighty and venerable works of marvellous human skill; by the Nile for instance, by the Ilissus, by the Tiber; by a hundred such old rivers to whose silent flow these works of the architect seem to give a voice, recalling the memories of ages otherwise lost. No doubt, all this is so; but yet, when the question is put in its plain, prosaic simplicity,—What is an architect?—gentlemen of education really cannot readily tell. There are even gentlemen in the House of Commons who have suggested the answer in a vague and pleasant way, that an architect is a nuisance; reminding one of the time when a similar puzzle was proposed,—What is a pound? There was the same quandary then. Some gentlemen had vague ideas about twenty shillings, but further than that the puzzle has never been unravelled to this day.

Let us take another instance. There exists a certain artistic society, of well-known name, professing to exercise great influence in architecture; indeed, dealing with church architecture largely, and that not only religiously, but technically and practically too. Its criticism is furnished by gentlemen of whom probably not three could make a passable drawing of the back leg of a chair. And yet before these empirics prominent architects humbly present their designs for judgment, thankfully accept faint praise, submissively endure dogmatical, almost discourteous rebuke.

Once more, when the Great Exhibition building of last year had to be planned, the Royal Commissioners, peremptorily rejecting the suggestion of having an architect, employed a sapper and miner. The Crystal Palace of 1851, none the less, was the work of a gentleman's gardener.

Now "the value of a thing is what it will bring." What, then, is the value of an architect? Not much, one might feel inclined to say; in point of fact, at the present day, nothing apparently;—nothing, at least, but romance,—nothing worth paying for in the eyes of Parliamentary critics, royal commissions, ecclesiological societies; and, so far as these dignified authorities are exponents of general opinion, nothing worth paying for in the eyes of the sovereign public. But hold: if it comes to a question of what is worth paying for,—a question of market value, whether of broadcloth or brains,—the public of this country are given to judging by their own instincts, altogether independently of dignified authorities. Walk through the city of London, therefore,—through Liverpool, Manchester, Glasgow, and many another busy hive of industry,—and take the effectual suffrage of the every-day works of every-day streets,—the property of men with whom market value is everything, and romance nothing. Do these employ sappers and miners and gentlemen's gardeners? If the House of Commons find it so hard to tell the market value of an architect, suppose they consult some shopkeeper in Cheapside? Perhaps he may be able to solve their other puzzle too, and tell them what is is a pound.

The value of a thing is what it will bring. I propose to embrace this proposition, as you see, in its hardest and most prosaic sense;—what is the *market value* of our profession? I propose to answer the question in the hardest and most prosaic manner,—by weighing the practitioner against *cash*. Rely upon it, John Bull's purse is not opened as it is to us to those who do him no service.

It is possible to ask,—and it would only depend upon a peculiar kind of moral courage how long one might persist in affecting not to know,—what is a *lawyer?* There is a certain grim pleasantry, however, which goes for an answer: it is perfectly intelligible: he who is his own lawyer has a fool for his client. Even affectation must ultimately yield to the strength of this simple reasoning, if the querist has had any experience of business at all. Now he who is his own architect,—what sort of person has *he* for his client? Perhaps statistics

* By Professor Kerr. Read at the Architectural Exhibition on the 5th instant.

might furnish an answer here no less conclusive than the former.

What is a *soldier*, by the bye, in these days of Garibaldini and Polish scythemen? What might be the answer of the wits of Westminster and South Kensington, I cannot presume to say; but a plain man of business might venture to suggest that he is still an expert, trained to do with every advantage that which your Garabaldini and scythemen, for want of training, can only accomplish under much disadvantage. And in these days of capitalist builders, ecclesiological amateurs, sappers and miners, and gentlemen's gardeners, what, in like manner, is an architect? A trained expert none the less, who by reason of his training, and in exact degree according to the measure of his training, performs with facility and honour a difficult and delicate intellectual task which these Garibaldini and scythemen of the arts, for want of training, only bring dishonour on their age by pretending to attempt; dishonour even in the eyes of those who put them forward—whose want of knowledge is on a par with their own want of skill,—for, after all, who amongst the very men who cannot tell what is an architect will have the hardihood to suggest the creation of one worthy the name out of a sapper and miner or a gentleman's gardener?

I do not forget that in former lectures in this very place I have traced the history of two of the most remarkable architects of all time, with whom architecture was not apparently the subject of youthful study. Michelangelo was a sculptor. Wren was a mechanician. It is true. Therefore, the argument has run, why not make another Wren out of "a clever young officer of engineers?" another Buonarotti out of a distinguished horticulturist? Well, little Sir Christopher was a gentleman, and member for Windsor; we can fancy him speaking very civilly to the sapper and miner; but, in the name of all rugged memories! what would *he* say to the gentleman's gardener who struck at the Pope with a scaffold board? Again, the argument runs on, in the Middle Ages the architects of marvellous works were untrained priests; why not therefore out of a clergyman at large make a useful jurisconsult of the Ecclesiological Society? The inference here, I reply, is even more hollow than the former. Were the priest architects of the Middle Ages untrained? Certainly not: the clerical experts of that time, in all departments alike, were doubtless not only carefully taught, but carefully selected both before and after. Nor was Wren untrained; after the manner of his time it is unquestionable that he had studied anxiously for years. As for the magnificent intellect of Michelangelo, if there be anything that we can suppose impossible with it for lack of training, it would be architectural design; and more, if there be anything in which even training proved inadequate to constitute him so much a wonder of the world as in all else, critics agree that it is in this art alone that he is scarce himself.

An architect, then, is a public practitioner who, by means of a certain training which is peculiar to him (based, of course, upon a certain aptitude which is not every one's gift), is qualified to administer building operations with peculiar skill. And the value of such a public servant is to be judged of by two facts at the outset which are to be taken for granted. First, it is the fact that within the last fifty years the numbers of the profession, at first in London and the great towns, but latterly throughout the country at large, have been steadily increasing; and this in an advancing ratio, which at the present moment is almost incredible. This is proof which statisticians would pronounce indisputable that the English public, appreciating very highly the character of the supply, are thus induced in a corresponding degree to augment the demand. Secondly, it is the fact that while the profession of architects has been so vastly increasing in numbers, the position of its members socially, educationally, and pecuniarily, has not only continued satisfactory, but has materially advanced. This is good evidence, again, that on the whole the public pay the architect well: there is even reason to believe that the public at this moment are perfectly prepared to pay him better. We are, therefore, already entitled to affirm that the market value of the architect is a matter upon which there need be no feeling of discouragement: if we have detractors, they are certainly not the English public at large.

In proceeding, now, to examine more in detail the functions of the architect as a public servant, I need scarcely remark that in every-day practice he frequently diverges into business which is not strictly architectural; it being always the rule that, as every vocation is conterminous with, or, as we say, abuts upon, a variety of other vocations which may be said to surround it, there are in every direction recognized combinations of vocation effected upon border ground. And thus there constantly come before certain classes of architects a mass of questions of survey, valuation, purchase and sale, legal and other controversies of many kinds, in which, as adviser, negotiator, skilled witness, advocate, or arbitrator, the experienced architect is able to render to the public such service as no one else could pretend to offer. But suppose we set aside all this as surveyor's work. That it is most useful work we must never forget; and the fact that it is handsomely paid for is no doubt in many cases an important element in the pecuniary success of the profession; but, nevertheless, we need not shrink from surrendering this ground in our present inquiry, so as to confine our attention to what may be called the more peculiar and exclusive province of the traditional architect. In other words, divest the question of all this useful, profitable, but not purely architectural skill, and there remain these three great departments of our craft pure and simple, each one essential to the character of a perfect architect, and each one bearing a market value; namely,—

Building contrivance, or the contrivance of plan;
Building science, or the science of construction;
Building art, or the Fine-art Architecture.

The master architect is master of all these, and he *alone* is master of them all. I will go even further, and assert that he alone is master of *any* of them, as mastery should be.

The raw material for all this exercise of intellectual endeavour is the builder. He supplies the bricks and mortar, the timber and deals, the journeyman and the labourer, the trowel and the hammer. Occasionally he is bold enough to profess to supply the architecture too: he is a practical man, and an ounce of practice is worth a pound of theory: he has had great experience, from the bench upwards, and could take off his coat and turn to at his trade yet if occasion required: he keeps his own draughtsmen, perhaps, and can turn out a drawing as well as any architect in London; and so on. This gentleman is the raw material. Give him an architect, and he owns it frankly:—"I always prefer to work under an architect, if it is only a five-pound job; because then I know it is *right;* I have no trouble and no responsibility. The only thing that puzzles me," he will say confidentially to the architect, "is this; how, in the name of wonder you can do so much work for so little pay: what's five per cent.?" He *may* go on to hint that the five ought to be made up to ten; but the market value of an architect already depends upon the stolidity with which he listens to this suggestion without having the faintest idea of what it means.

Look now at what I call building contrivance. I mean the skilful adjustment of everything to the end of convenience in respect of the arrangements of plan, the choice of appliances, and the ordinary construction. We may safely say that if the architect be not able to profit his client in this matter alone to the full extent of his commission he is not worthy of the name. I might even assert that, as a rule, the difference of palpable value between, for instance, a West-end dwelling-house carefully compacted by an experienced architect, and the equivalent pitchforked together by any one of a hundred builders who would cheerfully dispense with all professional aid, is, in respect of mere contrivance, not simply five per cent., but five times five, and without the necessity for a single shilling of additional outlay on this account.

But, in order that the architect may really be of service to the public in this important respect, it is obviously essential that he should study with attention the subject of plan. Nothing can be a more fatal error as regards the value of the architect than a notion which pervades the mind of many of our students to the effect that artistic design is the one thing needful. Let it be distinctly understood that an Englishman is very easily overdosed with this artistic design. In dwelling-houses, for example, English gentlemen not of the Hebrew persuasion will be found to refuse anything beyond a very modest minimum of it. The dislike of obtrusiveness is, in fact, so decided amongst our better classes, that it frequently leads to an archaic poverty of design much to be deplored. But convenience of disposition is quite another thing. In this there is no limit whatever to the exercise of skill; and the high esteem in which this kind of architectural merit is held may, without hesitation, be instanced by an allusion to certain gentlemen well known who have built up thus, with little pretension, if any, to either science or art, a reputation which secures without an effort the most liberal returns in the profession. In a word, the high market value of such practitioners is one of the best possible illustrations of the degree to which the item of building contrivance is practically appreciated by the public. As another notable instance, there are not wanting cases in ecclesiastical practice in which a valuable connexion is kept up on the strength of similar merits of plan; where not only an unpretentious, but even an obsolete manner is accepted in respect of style, for the sake of sound experienced common-sense in general contrivance.

Take, now, the second department of the architect's province, namely,—building science or construction. It is in respect of this that the clever young officer of engineers, and the gentleman experienced in green-houses, were put over the heads of the entire architectural profession. It is in respect of this that the civil engineers as a body are supposed to affect contempt for the architects as a body, although I question, for my own part, whether they really do. In a word, it cannot be denied that particular attention is at the present moment demanded to the study of scientific construction, as the best means by which the architect can recover any prestige which of late years he may think he has lost.

However, I have none the less emphatically to point out the fact that if for a time the architect lags behind the pace of other professors of science, it is only in respect of such questions as apply to magnitude of scale and novelty of principle. In his ordinary beaten track he is still unrivalled. Neither the practical builder, with his empirical instinct, nor the engineer, with his mathematical elaboration, can either dispossess the well-trained architect of his common constructive ground, or even aid him where he may be at a loss.

It may be again affirmed, in the formula already adopted, that if the architect does not benefit his client pecuniarily in this respect alone to the full extent of his commission, and a good deal more, he is not an apt and well-trained man. His market value, therefore, is again clearly before us: the man of business, in building a residence for himself, or a church or school for his neighbourhood, or a warehouse or factory for his trade, not only feels that the ingenious and practised contrivance of all arrangements, at a cost of 5 per cent., is a thing that *pays;* but perceives also that the science which is brought to bear upon the construction is a second thing that *pays*, even if it cost another 5 per cent., which it does not. For, argues common sense, how far would 5 per cent. go in waste of material and labour? How far would 5 per cent. go in remedying inconvenience? How far in repairing structural weakness? What is 5 per cent. in business? A bagatelle: there is many a warehouse in London where 5 per cent. pays for little more than wrapping a thing up in brown paper.

To relieve for a moment the tedium of sustained argument, let me relate an anecdote. Some years ago a party of gentlemen, chiefly architects and builders, were invited to dine together. The architects arrived in public cabs; the builders in their private broughams. The contrast was pointed out, and the explanation asked for. "It is the difference," was the reply, "between 5 per cent. and 15."

By way of mentioning in passing a matter which must not be forgotten, let me here remark how important a point in the practical value of an architect to his client is the matter of a correct calculation of cost. It is not too much to say, that in a certain sense, all other qualities of excellence are vain unless this truly British principle be fairly met. An architect's estimate has been allowed to become a byword. This ought not to be. I believe in the case of every one of our profession, whose career has been signally fortunate in public works, such as Soane and Smirke, this one merit has been the foundation of success. An Englishman, in a word, will always pay liberally for a reliable estimate; and he will always complain bitterly of any disappointment in this respect, refusing to take any excuse whatever.

We may now turn to our third department—Building-Art. Here the accomplished architect is supremely master of the situation. This is the art of the beautiful in building; the long celebrated and right royally cherished fine-art architecture; queen amongst the arts; enthroned from the very dawn of civilization; to whose majesty the rest are handmaids; beside whose monuments all through the ages the common works of man's genius are but toys, and man himself a pigmy,—

working, one might imagine, under the behest of some Titanic agency unseen,—leaving in tremendous ruins scattered across the globe, that which is a puzzle really, hard to be solved by thoughtful men.

The abstract origin of this fine art is no more than this. Look at it as a first principle in all intellectual work, that grace and beauty must assuredly find a footing somewhere. Owen and Huxley may theorize for ever about the microscopic anatomy of monkeys and men; but if the real difference between the lower intelligence and the higher intellect is to be actually understood, we must, I think, start from this one point, and this alone. No bulk of brain, no conformation of skull, can ever cause a gorilla to see the beauty of the brightest flower of the woods; and no degradation of species, short of occasional disease, can ever deprive a *man*—be he but a Hottentot—of that relation to the multifarious beauty of the universe around him out of which come all his best enjoyments and all his aptitudes for mental development. It is a first principle, I therefore repeat, in the operation of human intellect in all works of design, that it shall combine with the useful the graceful; and in building, as may safely be said, grace of every kind, from playful prettiness to solemn majesty, seems to force itself upon the attention of the intellectual designer more perhaps than in any other sphere of the kind whatever. Hence, then, architecture the fine art. It began with the beginning: it has never wearied in its pleasant way from that beginning till now: it will never weary from now to the end. Five thousand years ago the savage decked out his wigwam as daintily as a savage could; and five thousand years to come, in the last and dreamiest age of the perfectibility of the species,—when the world is too refined to be worth living in any longer,—when humanity, having nothing further for which to keep awake, can only yawn and snuff itself out, the last attenuated lord of the creation will sink to rest in some pleasant chamber of design, on whose placid features the Battle of the Styles has imprinted neither a frown nor a scar.

But, at all events, here we are in the very feverheat of the world's progress; about equally removed, as perhaps everybody will acknowledge, from savagery on the one hand and perfection on the other; and it is not too much to say that these are the times of all times, and England the land of all lands, in which it would be voted a perfect anomaly for building to go without fair garments. That in this very age, and in this very country, there should be found people sufficiently perverse to raise a cry for the contrary, is at the same time to be expected. The curious mental law here exemplified has frequently been under discussion before now: and it is well understood that when any principle is most fully in the ascendant, then is the time for some one most flatly to deny it. So that the present universal popularity of architectural art is a thing not at all at variance with the enunciation of the riddle—what is an architect?

In this last of our three forms of the question of money value, it is certainly most remarkable how decidedly the general public of the present day signify their cordial appreciation of the architect's services. The demand for what is called a "neat elevation" governs every little shop-front in our back streets. Our very workhouses are notoriously made matter of artistic effect. Even police-courts and prisons are tricked out with their modicum of ornament, lest discipline itself should be too dismal to bear, or the felonious part of the public have reason to complain that we do not regard them as men and brethren.

It would be wasting your time to enlarge upon the market value of our agency in fine art. The historical monuments, of which there is not a country of the civilized world but possesses its share; the great public buildings of the day laboriously rising up in every centre of population; the temples of divine worship, of whatever faith, from primeval antiquity to the passing hour; the cenotaph of sorrow, and the tower of triumph; the gigantic theatre, and the pettiest restaurant; the palace of imperial receptions, and the wayside cottage of modest retirement,—all these are but the universal testimony of our race to the purchase of architectural art.

I ought to have included with these (our theatres and palaces, churches and cottages) the noble bridge in its fifty forms, the grand quay-wall, the mighty breakwater, the lighthouse of many welcomes; but you all know I cannot. Art has not yet reached these; the works of our engineers,—marvels of science,—have not yet bowed to the more fascinating yoke. But presently they will—inevitably they must; and we may, therefore, be satisfied meanwhile to wait. Still here lies the germ of a future conflict. That our engineers, as a profession, will adopt the practice of artistic design, I hold to be impossible; the elementary organization of the craft prevents it; the class of mind involved is not the artistic class; but whether the architects as a profession will embrace the practice of the more ponderous kind of construction, is a question of doubt. I hope they will; but to be done effectually it must be done by numbers. In a word, if our rising architects would at present turn their attention earnestly to the study of the building works of the engineer, I think the whole of these might, before long, be conquered to the authority of Art. Can anything be conceived more grandly suitable for architectural design than our Thames bridges? Why should they be so inevitably helplessly barren of endeavour after elegance or ornament? Look at the nakedness again of our lighthouses: why cannot the architect weave a little of the beautiful into their naturally graceful forms? To those who profess so much now-a-days to seek for novelty of style, let me say a word on this. For novelty of style, the best of all foundations is novelty of purpose: suppose we try the architectural hand on a few bridges, lighthouses, and piers for an experiment, and see what will come of the effort. But let this be borne in mind, there must be no sham and piecrust; no adaptation of mere cast-off clothes; no designing in such and such a style; no attempting to follow so and so's manner. At all events, what more prominently concerns us in this suggestion at the present moment may be put thus:—so well and widely acknowledged is the market value of the architect in respect of his charming art-work, that if he will but offer to apply it to engineering, I undertake to say the universal voice of the country (except, perhaps, the voice of the engineer) will applaud and encourage on every hand.

I now come to the least pleasurable portion of my inquiry, namely—to ask how it happens that at the present moment persons of education and good taste are found to come forward and assert roundly that the architect is of no market value at all? I must answer the question briefly, and you will excuse me, therefore, if I speak to the point. I blame the archæologists. It may be laid down as a rule that so long as the trained expert keeps to *business*, the untrained amateur will be his respectful admirer; but that directly he turns his specialty into a popular recreation, hundreds of idle intellects cluster round him and contest with him the possession of his very skill. As mere illustrations of this question of policy, note how carefully the medical and legal professions keep their science out of what is called the "popular" form. Ask military men what they think of the present fashion of soldiering for amusement. Look even at our own shrewd half-brothers, the engineers, and see how they fight shy of noble patronage and public debating clubs. I think it has been a most mistaken policy in our Mediæval architects to encourage as they have done the empirical and superficial sciolism of fashionable antiquarianism. The old *dilettanti* had their faults; but they were men of polish; and if their sentiments were somewhat affected, they were at least both graceful and harmless: but these new-fangled *savans*,—mild country curates, Roman Catholic priests the reverse of mild, rubbers of brasses, collectors of china, dealers in curiosities, pre-Raffaellite house-painters, ecclesiastical milliners, glaziers, and candlestick makers,—the more sincere their admiration the more hurtful their help. Fifty years ago architecture was, at the worst, the plaything of Egyptian explorers and Greek scholars; now it is the prey of a host of blackbeetles from Wardour-street.

The *enmity of amateurs* (I use the expression advisedly) is the basis of all the opposition which the architect of the present day has to contend with. Amateurs are always a professional encumbrance; and if a profession make pets of them, they become pests. In precise proportion to their earnestness, so are they pernicious. Of necessity shallow in their knowledge, they are of necessity self-satisfied in their opinions; and the more it is necessary to conceal their ignorance, the more they have recourse to arrogance. As regards architecture, in whatever branch, I contend that we have no need for any amateur element whatever; and I unhesitatingly assert that when we encourage what is called the praiseworthy interest taken by the educated public in our beloved art, and so on, in the expectation that the market value of our craft is being raised thereby, we are really establishing a partnership with any one who has an unfurnished head to let, by which we both depress the standard of criticism and lower the market value of skill. He who respects himself, the world respects him: he who underrates himself will find himself accepted at his own valuation.

I have thus set forth for your consideration the way in which I think the shrewd instincts of the English people are to be confidently relied upon by the architectural profession as appreciative of the value of professional services. I have asserted that the present affectation of contempt for our profession is only the ephemeral arrogance of petted archæologists and amateurs, in direct opposition to the views of the public at large. I have also endeavoured to explain that in order to uphold our pretensions to public usefulness we must, of course, maintain carefully, and indeed elevate still more, our standard of knowledge. I have ventured to direct attention especially to science as a field of profitable study and profitable practice. I have only to urge further that, for the sake of our market value, if no more, we ought to contrive to keep our æsthetical disputes to ourselves, and to avoid seeking help from the Philistines,—to agree to differ in taste without surrendering brotherhood,—and above all, to come to a determined understanding to allow no more architectural amateurs,—in fact, to tell such people plainly to mind their own business,—as they would very soon tell us if our positions were reversed.

As a last word I have this to say. There are tricks in every trade; but I know of no profession of men in England who, as a rule, more honestly and anxiously perform their duty—doing a large amount of work for very modest payment—than the architects; and I take the opportunity of winding up with a practical suggestion that, although we do not complain, it would be a well-merited compliment if the public would take the first opportunity of augmenting the money standard of our market value above the five per cent.; in fact, in plain English, to signify their sense of our high merits by raising our wages.

ARCHITECTURAL COPYRIGHT.

A CORRESPONDENT writes,—"Some time ago I designed and carried out the erection of a large and expensive bay window to a mansion. Can I protect my right of design so far as to have a claim in case that design is exactly repeated in another part of the same building? And if I can, what are the requisite steps to be taken?"

The answer, we fear, must be that he cannot obtain the protection he desires. It was proposed in a recent Copyright Bill to give architects protection for designs *on paper* (withdrawing it when the design was executed), but such was the apathy of the profession on the subject that even this was omitted in the protective Act which was passed.

A HINT FOR THE EXHIBITION OF NAVAL MODELS.

In the House of Commons, Lord R. Montagu has asked the Secretary of the Admiralty whether the statement was correct which had been made by Mr. Scott Russell, in a paper read at a meeting of the Society of Naval Architects, concerning the collection of models at Somerset House; viz., "That it had been thrust into a cellar—shut up in the dark—and was now effectually kept out of sight." In reply, Lord C. Paget said that "the models referred to were not so well placed at Somerset House as could be desired, owing to the want of suitable accommodation in the building; but at the same time, the statement of Mr. Scott Russell that they were thrust into a cellar was a great exaggeration." There can be no doubt, however, that those models are very ill placed at present, and are comparatively useless to the student of naval architecture, or to those who are interested in observing the progress of ship-building. Many of these models are of great beauty and of delicate and curious workmanship. There are other models of ships which are scattered here and there, in certain of the Government offices, in the Royal and some other collections, and in museums. These being odd and isolated examples have no great value; but if the whole of these illustrations of naval architecture, together with those pictures and prints which exist of our ancient and modern vessels, from the British corracle and Roman and Danish galleys, to the *Great Eastern* and the iron-clad *Warrior*, there might be formed a most instructive and interesting exhibition. Room could probably be found for such a purpose in the South Kensington Museum.



PAISLEY ABBEY, SCOTLAND.—*In course of Restoration under the Direction of Mr. Sedding.*

PAISLEY ABBEY, SCOTLAND.

LIKE most of the other more important ecclesiastical edifices of Scotland, Paisley Abbey was founded about the middle of the twelfth century. The event which more immediately suggested its erection was the death of the pious David I., who had himself been the founder of many churches in every part of the kingdom. The founder of the abbey was Walter, the first Steward of Scotland, who, having received as an exile a generous welcome from David, determined to perpetuate his sense of the king's kindness by erecting to his memory the Monastery of Paisley. The mason or architect employed was John Morrow, who must have been a celebrity of the period, since we find from the following sensible account of himself that Paisley was not the only town which he adorned with his skill:—

"John Morrow sum tym callyt was I
And born in Parysse certainly,
And had in keping al mason werk
Of Santandrays, ye hye kirk
Of Glasgu, Melros, and Paslay,
Of Nydysdall and of Galway.
I pray to God and Mary baith
And sweet St. John kep this holy kirk fra skaith."

The above inscription is copied from a tablet in the transept door of the Abbey of Melrose, which, as we see, was also one, and not the least important, of Morrow's productions.

The style of Paisley Abbey is Early English, though there are not wanting round arches in one of the two southern entrances.

In the edifice as it now exists there is very little to indicate which portion of the abbey was first erected, though the apparent age and character of some "built-up-arches" at the south-west angle of the monastic buildings might point out this as the locality of the oldest masonry still standing.

The entire completion of the buildings extended over more than one century. Indeed, the edifice was not constituted an abbey till 1219. Previous to that date it only ranked as a monastery. It is highly probable that the abbey reached its state of greatest perfection about the middle of the fourteenth century. At that time the tower and spire had been finished, while chancel, choir, transept, chapel, cloister, and monastery were grouped around in all their completeness.

How long the abbey remained in this finished condition does not exactly appear, though in all likelihood more than a century passed before any decided change occurred. About that period, however, viz., towards the beginning of the sixteenth century, the abbey, by the fall of the tower and spire, was visited by a disaster of the most serious kind. Of the cause of this calamity no authentic record has been left, though the tradition is probably correct which assigns it to lightning. The result of this misfortune was the entire destruction of the choir, chancel, and northern arm of the transept, while the nave was also so seriously damaged that the hasty erection of an ungainly wall or gable at its intersection with the transept alone saved the whole fabric from destruction. The repair of this crushing disaster never seems to have been seriously attempted: at least, in 1860, when Mr. Salmon first reported to the heritors, the portions of the abbey which had suffered from the fall bore all the marks of confirmed and ancient ruin. As for the architecture of the edifice, like most buildings of the same period, its merits are unequal. The west front is very imposing, and furnishes one of the best examples of the style which the northern division of the island can boast. With all this, however, it perhaps wants that living grace in its detail and outline which imparts in all cases so great a charm. The northern gable or elevation of the transept exhibits, on the other hand, great beauty in its detail; and now that its entire outline has been restored, and the tracery of its principal windows completed, presents a general aspect which few buildings of the period surpass. The restorations, so far as Mr. Salmon has yet been empowered to carry them out, consist of the re-erection of the northern porch, the completion so far of the northern wing of the transept, and some of the angle turrets, as well as a general renovation of bases, strings, and other mouldings. Besides these operations, however, at the architect's suggestion, the soil which the accumulation of centuries had heaped round the walls, to the height in some cases of nearly 10 feet, has been entirely removed. Some ungainly erections, in the shape of walls and houses, which shut up the abbey on the west and north, have also been taken down; producing, with the removal of the soil, a result far surpassing the highest expectations of the promoters of the undertaking.

Within, as on the outside, the burying of the dead had raised the level of the floors 3 feet or 4 feet above the bases of walls and piers. The whole of this accumulation of poisonous soil has now been taken out; and for the first time for three or four centuries the nave is again exhibited in all the imposing dignity of its ancient proportions. As this portion of the abbey is still used for the parish church, among its other renovations it has been supplied with a new pulpit, and new seating arranged to accommodate nearly 1,110 sitters. In the mean time, and only from the want of funds, the further work of restoration is delayed. This want, we trust, will not be of long duration; and our Paisley friends will excuse us for reminding them that the old Scotch proverb "a begun turn's half ended," is only true when they who begin do not stop. The preservation and restoration of these noble witnesses of our ancient faith and progress are too important a consideration to be kept in abeyance by any obstacle which skill and energy may overcome.

CHARING CROSS BRIDGE.

INSTITUTION OF CIVIL ENGINEERS.

At the meeting on April 28th, the paper read was, on "The Charing-cross Bridge," by Mr. Harrison Hayter.

It was stated that this bridge consisted of nine spans,—six of 154 feet and three of 100 feet,—the centre opening of the Hungerford Suspension-bridge having been divided into four spans each of 154 feet, that on the Surrey side into two spans also of 154 feet each, and the opening on the Middlesex side into three spans each of 100 feet—the superstructure over the latter being fan-shaped. The width of the river, at the site of the bridge, was 1,350 feet. The greatest depth of water between the two brick piers of the original bridge was 13 feet below low-water spring tides, and the average depth was about 9 feet; the rise of spring tides being 17½ feet. The level of the rails was 31 feet above Trinity high-water mark, and there was a clear minimum headway under the bridge of 25 feet above the same datum.

The superstructure was carried by cylinders sunk into the bed of the river, and by the piers and abutments of the suspension-bridge, the abutments having been considerably lengthened. The cylinders, excepting at the fan end, were 14 feet diameter below the surface of the ground, and 10 feet diameter above, the junction between the two sizes being effected by a conical length. There were four piers formed of these cylinders, each consisting of two cylinders, 49 feet 4 inches apart from centre to centre. They were of cast iron, 1¼ inch in thickness throughout, and the circumference was divided into segments, with interior flanges round all the edges, through which the segments were bolted together; and a horizontal interior rib was also cast in the middle of each segment. There were thus continuous vertical lines of ribs, securing a strong columnar arrangement.

The strata through which the cylinders were sunk consisted of mud and gravel, of varying thicknesses, overlying the London clay. The sinking was effected by excavating the material from the inside—at first by divers, but after the London clay was reached and the water was pumped out, in the ordinary way—and by weighting the cylinders, to an average load of 150 tons each. These cylinders were sunk to depths of 52 feet, 62 feet, and in one case to 72 feet, below Trinity high-water mark. They were filled with Portland cement concrete up to where the conical length commenced, and above with brickwork, set in Portland cement mortar, to the underside of the granite bearing blocks, which were 2 feet 6 inches in thickness, and projected 1 inch above the top of the cylinders, in order that the weight might not come on the upper edge of the iron-work. With a view of testing the strength of the foundations, the two cylinders in the pier nearest to the Surrey side, after being completed up to the level of high water, and filled with concrete and brickwork, were each weighted with 700 tons, being about equal to the greatest load they could possibly have to sustain, supposing the four lines of rails on the bridge to be loaded with locomotive engines. This caused the cylinders to sink permanently 4 inches. To bring the other cylinders to a bearing, so as to prevent any settlement after the completion of the bridge, from the weight of the permanent and moving loads, they were each weighted with 450 tons, when it was found that they permanently sank, on an average, 3 inches each. Each pair of cylinders forming a pier was connected together transversely by a wrought-iron box girder, 4 feet deep, which also served as a cross-girder for supporting the roadway. Assuming the four lines of way on the bridge to be loaded with locomotive engines, the pressure on the base of the cylinders would amount to 8 tons per square foot, and on the brickwork at the top of the cone to about 9 tons per square foot.

The superstructure of each of the 154 feet openings consisted of two main girders, to the under-side of which were suspended cross-girders, for carrying the roadway platform. These cross-girders extended beyond the main girders, and formed a series of cantilevers on the outer sides, for supporting two footpaths, each 7 feet wide in the clear. The main girders were of wrought-iron, and were not continuous, but extended only over one opening. Each girder had to support, inclusive of its own weight, a maximum distributed load of 750 tons. The extreme depth of these girders was 14 feet, and the depth between the centres of gravity of the top and bottom members was 12 feet 9 inches. The sides of the girders between the bearings were divided into fourteen equal parts by a pair of vertical bars, connected to the top and bottom by pins of puddled steel, 7 inches diameter at the ends of the girder, decreasing to 5 inches diameter at the centre; and each division contained a double set of two diagonals crossing each other. The top and the bottom of these girders were of boiler-plate, and consisted of horizontal tables 4 feet and 3 feet wide respectively, and of four vertical ribs, the two outer rows being 24 inches deep, and the two inner rows 21 inches deep. The aggregate thickness of the plates in the horizontal table of the top in the centre of the girder was 8⅛ inches, and in the bottom 3⅛ inches, without the angle-irons, and of 4½ inches and 4⅛ inches respectively with the angle-irons, but exclusive of the angle-iron covers. It was arranged that, with the greatest load, the maximum strains should not exceed 4 tons per square inch in compression, and 5 tons per square inch in extension. All the rivet-holes were drilled by machines capable of drilling several holes at one time. This plan was, under the circumstances, less costly than punching, besides which a great saving was effected in putting the work together. The diagonals acting as ties were of Howard's rolled suspension links, each separate tie being composed of two or three links, as required, riveted together. The diagonals acting as struts were each in one solid forging, and were united together in pairs by zigzag bracing of wrought-iron. In the centre of the girder, where the diagonals acted as both struts and ties, the pairs were united together in the two central spaces by the zigzag work. The dimensions of the struts varied from 12 inches by 3 inches at the ends to 6 inches by 2½ inches in the middle, and of the ties from 12 inches by 2½ inches at the ends to 6 inches by 2 inches in the middle. The ends of the girders over the piers were boxed in, with plates ⅝ inch thick, stiffened by angle and T irons. Over the cylinders the girders rested on sheet-lead, laid upon the granite blocks. On the brick piers and the Surrey abutment they rested upon roller bed-plates. The girders were put together in place on a staging, the upper and lower platforms of which were accurately adjusted to the proper camber. The whole of the plates were drilled, and the struts and ties were completed, before being sent to the works. The weight of each main girder was 190 tons. One of the main girders was tested when in its place with a distributed load of 400 tons, when the greatest deflection observed was 1⅜ inch, and the permanent deflection after the load was removed was ¼ inch.

The cross girders of the 154-feet openings were of wrought-iron, and were generally similar in character to the main girders, from which they were suspended, at intervals of 11 feet apart, from centre to centre. They were 4 feet deep in the middle, and 2 feet 1½ inch deep where the cantilevers were united to them outside the main girders. The top and bottom consisted of two plates, 18 inches wide by ⅜ inch thick, the sides being of lattice bars united to the top and bottom by angle-irons. The cantilevers decreased from 2 feet 1½ inch deep at their junction with the cross girders to 1 foot 2 inches deep at their extremities. Each cross girder, including the two cantilevers, weighed 9 tons. When two of these cross girders, without the cantilevers, were tested with a load of 140 tons, equivalent to 70 tons on each girder, the maximum deflection in the centre was 1 inch, and the permanent deflection when the load was removed was ¼ inch.

The superstructure of the three 100-feet openings of the fan end was supported by the brick pier and abutment on the Middlesex side of the suspension bridge, and intermediate to these by two rows of seven and of nine cast-iron cylinders respectively. These cylinders were 10 feet diameter below the ground level, the outer ones being 8 feet diameter, and the inner ones 6 feet diameter above that level. They were sunk to depths averaging 40 feet below Trinity high-water mark, and were filled with Portland cement concrete to about 5 feet above that level; but it was not considered necessary to fill in the remaining portion of these cylinders. On account of the great width of the fan end, which increased from 59 feet 4 inches at the brick pier to 168 feet at the abutment, the plan of supporting the roadway on cross girders, suspended from outside main girders, was inadmissible; and as it was not desirable to introduce intermediate main girders, projecting above the line of rails, the roadway was carried by interior plate girders, laid at right angles to the piers and abutment, and by the outside main girders, which were laid at the angle of inclination of the fan. The outside main girders were of the same depth, and were generally of the same character, although lighter in all the parts, and were fixed at the same level, as the girders of the 154 feet openings. The interior plate girders were of the ordinary construction, 5 feet deep, or one-twentieth of the span, and weighed 26 tons each. The triangular spaces between the outside main girders and the outer interior plate girders were filled in with cross girders, terminated by cantilevers, projecting beyond the face girders, and similar to those outside the main girders of the 154 feet openings.

The roadway platform over the 150 feet openings consisted of planking 4 inches thick, spiked to longitudinal timbers, 15 inches by 15 inches, placed underneath the rails, and bolted to the cross girders. Over the fan end, the platform consisted of planking 6 inches thick, secured to the girders. The footpath platforms were of planking 6 inches thick.

The first cylinder of the Charing-cross bridge was pitched on the 6th of June, 1860, and as the bridge was now on the eve of completion, its construction would thus extend over a period of about three years. The weight of wrought-iron in the bridge, including the steel pins, was 4,950 tons, and of cast-iron, 1,950 tons. The total cost, including the abutments, would be 180,000*l.*, or 1*l.* 15s. per square foot, and 131*l.* per lineal foot. The cylinders of the 154 feet openings cost complete 20*l.* per lineal foot; the outer cylinders of the piers of the fan end cost about 12*l.*, and the inner ones about 10*l.* per lineal foot. The bridge was designed by Mr. Hawkshaw (President Inst. C.E.), the engineer to the Charing-cross Railway Company, and was carried out under his immediate supervision, Mr. John H. Stanton being the resident engineer. Mr. George Wythes was the contractor for the construction of the railway, but this bridge was sublet to Messrs. Cochrane & Co., whose representative on the works was Mr. Joseph Phillips.

THE IMPOLITIC TAX ON PUBLIC CHARITIES.

WE object strongly to any proposal to levy a tax on the property of our charitable institutions. In the metropolis—and the case is similar throughout the country—many most valuable establishments, although they are possessed of funded and other property, have a struggle for their existence year after year. In many instances it is absolutely necessary for hospitals and similar institutions to have funded or other property to fall back upon, particularly when times are bad, and when, by the increase of sickness or calls, there may be more than the average demand for assistance. Take for example the Islington Fever Hospital, an institution of the utmost value. In the year ending December 31st, 1861, the outlay, but for the sale of 750*l.* of stock, Reduced Three per Cent. Annuities, which produced 691*l.* 17s. 6d., would have been considerably over the income. On the 31st of December, 1860, the balance in the hands of the treasurer was only 4*l.* 10s. 4d. During the year 1861, the whole amount of donations and subscriptions was 1,047*l.* 10s. 3d.; from unions and parishes who had sent patients, 417*l.* 10s. 6d.; from non-subscribers and others, on account of domestic servants, 144*l.* 15s.; dividends on Government Stock, 67*l.* 3s. 6d.; rent on account of Coldbath-fields estate; some other items,—amongst them a donation towards providing a carriage for the exclusive use of fever patients,—and the six hundred and odd pounds for the Government Stock above mentioned, made a sum of 2,669*l.* 17s. 11d. The year's expenses were 2,275*l.* 18s. 1d.,; leaving in the hands of the treasurer and secretary 398*l.* 19s. 10d.; so that, but for the sale of stock, there would have been a deficiency in this year of nearly 300*l.* It is true that, as regards this hospital, the amount of the proposed tax would not be large; still, under the conditions, this could be but ill spared; and in other cases the charge would be considerable. As regards St. Bartholomew's Hospital, for instance, the income of which is stated to be 36,000*l.*, the tax of 7d. in the pound on this would amount to 1,050*l.* per annum, a sum which, making the yearly cost of a patient 25*l.*, would serve for the support of forty-two sufferers; but, in the way that hospitals are managed, this sum would be of advantage to more than five or six times that number.

St. Luke's Hospital, for the treatment of insanity, requires additional support rather than to be still further crippled, as it would be by the imposition of this tax: and in most of the metropolitan hospitals there are more demands for admission than the funds will allow of.

At the Manchester Infirmary the income in 1862 was 11,921*l.* 19s. 5d., the expenditure 11,468*l.* 19s. 5d.; but there had been an unexpected legacy during the year of 4,301*l.* 10s. The tax, if levied on this hospital, would be very heavy. We might multiply these instances, but it does not require much argument to show that it would be a great error to lay a Government tax upon establishments of this description, which have been founded and endowed by charitable individuals for the purpose of succouring suffering humanity. In certain cases the intentions of those who have made charitable bequests have either been perverted, or the original intention has not been carried out in correspondence with the existing circumstances; but for the most part not only the hospitals, but also schools and other institutions, particularly those which are of comparatively recent date, extend in usefulness in correspondence with the extent of funds at their disposal.

In order to show more clearly the effect which the withdrawal of the sum of even a few hundred pounds a year would have on some of these charities, we give the following statement in connexion with the Manchester Infirmary. The income in 1862 was 11,921*l.* 19s. 5d., and for this sum the number of those admitted into the house or who were in other ways attended to, was, in-patients, 1,858; out-patients, 24,924; home-patients (persons attended to in their own homes, and assisted with medicine and advice), 3,733; fever-ward patients, 188: total, 30,703. The average cost of each patient was about 7s. 8d. It will thus be seen to what a great extent the appropriation of each 100*l.* would withdraw the most necessary medical relief from the poor.

In 1861 the number of cases received at the Islington Fever Hospital was 663, the cost of the year being 2,275*l.* 18s. 1d. This shows a charge of about 3*l.* 8s. for each, and all are in-patients, many of whom obliged to remain for a considerable period in the wards.

Look, for another instance, at the Child's Hospital in Great Ormond-street, and the City Mission, the benefit of which amongst the masses of the London poor can only be appreciated by those who have seen its effect in connexion with this society. The number of missionaries who are sent into the London shadows depends upon the amount of the income. To levy a tax upon this would be the means of depriving neglected districts of the advantage of the labours of some of these earnest men. The value of the amount which would be derived from this source by the State would be but trifling in comparison with the evil which would result. Government has wisely withdrawn their proposition; but these observations are nevertheless needed.

UNCOVERING OF THE MEMORIAL OF THE EXHIBITION OF 1851.

THE arrangements for this ceremonial have now been determined on. The Council and Executive Committee of the Memorial Committee having learned that a later day than the 5th of June would be more convenient for some of the members of the Royal Family, took the pleasure of Her Majesty and H.R.H. the Prince of Wales on the subject, and it has consequently been altered to the 10th of June. The ceremony will take place partly in the Horticultural Garden and partly in the Exhibition Building, which for the day is to be open to visitors to the garden.

The general nature of the proceedings may be described as a reception, a procession, the presentation of addresses, and the uncovering of the Memorial, as executed by Mr. Durham.

The bodies who are to have the honour of taking a prominent part in the proceedings of the day are, the Committee of the Memorial of 1851, by whose persevering exertions for years the Memorial has, through many difficulties and much labour, at last reached its present crowning point; and the Council of the Society, who are the hosts of the great personages who are to honour the garden with their presence.

The Memorial Committee will receive their Royal Highnesses the Prince and Princess of Wales on their arrival at one of the entrances of the Exhibition building, and will conduct them to the platform under the western dome. Here the guests who are to walk in the procession will assemble. Every one who takes part in it is required to be in uniform, court dress, or robes of office. During the assembling of the guests music will be performed both in the building and in the garden.

The procession will move down the nave of the building, and, turning to the left, ascend to the refreshment rooms overlooking the garden. The first idea was to conduct their Royal Highnesses to this spot chiefly for the sake of the view of the garden to be obtained from the refreshment windows, and to return from thence to the front of the great fountain, and there, on a large dais, to perform the greatest part of the ceremonies of the day. The obstruction which such an erection, in the very centre of the garden, would offer to the view of the spectators, led to this plan being abandoned in favour of that now adopted. In front of the refreshment rooms, at the bottom of the garden, and directly over the middle portico, is to be erected a balcony capable of holding the whole procession, sloping down in successive tiers, thus forming a splendid bank, in the front rank of which their Royal Highnesses will take their place. Here, in full view of the crowds in the garden, high enough to be seen by every one, and not too high for recognition, the chief ceremonial of the day will take place.

The first part of this will consist in the Council of the Royal Horticultural Society handing an address to their Royal Highnesses, and receiving a reply.

Their Royal Highnesses will then be seated.

A short piece of music will be performed. At its conclusion the Executive Committee of the Memorial Committee will come forward and read an address. H.R.H. the Prince of Wales will reply. His Royal Highness will then order the uncovering of the Memorial. A flourish of trumpets will announce the fact, and artillery from a battery behind the Conservatory will proclaim it to the public without. Their Royal Highnesses will then resume their seats, and three united bands will perform a piece of music.

On its conclusion, the procession will leave the balcony and descend into the garden, and escort the Royal party round the garden. They will first proceed up the left side to the Conservatory: they will then pass round the large basin, so as to view the Memorial more closely on every side. Returning to the Conservatory they will resume their tour of the garden, and take their departure at the Council-room entrance. The whole route of the procession will be marked out with barriers and banners.

THE VENTILATION OF UNDERGROUND RAILWAYS.

THE ventilation of the Metropolitan Underground Railway still requires improvement. At the King's-cross station, the sulphurous fumes which escape from the tunnel are both unpleasant and unwholesome; and some of the other stations are even much worse. This condition of the atmosphere cannot be good for passengers, particularly those who are in delicate health; but on the numerous men who are employed, we are told that the effect of remaining for many hours in the bad air which is to be met at several points is highly injurious, and "more," some say, "than a man can long stand."

We have been in many mines, but do not remember meeting with anything so suffocating as the air is here. At some times it is much worse than at others; the matter depending, in a measure, on the direction of the wind and state of the external atmosphere. Certain improvements have been made, but still more effectual means are required for the ventilation of the tunnels, and also of most of the stations. The number of trains which pass and repass in each day is very large; but that is required for the public conve-

nience. On Sundays forty-eight trains pass down, and the same number up; in all ninety-six: but on week days there are seventy-five down and the same number up, in all a hundred and fifty trains. This rapid succession of trains, which on week days continues from six o'clock in the morning until twelve o'clock at night, makes extraordinary means of ventilation necessary. The experience here gained should induce those engaged in new works to endeavour to prevent what is here complained of. By some alteration in the locomotive it may be possible still further to consume the gases; but until this be done many more air-shafts than are in the tunnel from King's-cross westward are required.

"THE LAST SUPPER."

AT the German Gallery, in Bond-street, will be found a remarkable version by Mr. H. C. Selous, of the well-known "Last Supper," painted by Leonardo da Vinci, on the wall of the Dominican Convent of Santa Madonna della Grazzie, in Milan. This noble work is, perhaps, better known all over the world than any other picture, through copies and engravings; notably by Raphael Morghen's very inaccurate translation. Mr. Selous has chiefly availed himself of the celebrated copy by Marco Oggione. It is well remarked in Mr. Wornum's excellent "Epochs of Painting, Ancient and Modern," that the mere fact that Oggione's copy was painted for people well acquainted with the original in its perfect state, by a distinguished scholar of Leonardo, ought to be a sufficient guarantee for its fidelity. Mr. Selous has referred largely to this in completing the present restoration; but he has also availed himself of the more important privilege of perusing and working from the original studies made by Leonardo. The copy by Oggione, was purchased many years ago, on the Continent, by Sir Thomas Lawrence, for the English Royal Academy of Arts, where it is now located. It has become invaluable as the most authentic record which is known to exist of its great original. But Sir Thomas Lawrence's homage to the fame of Leonardo did not terminate with this acquisition. Having heard of the existence of thirteen of the original studies made by Leonardo for "The Last Supper," he left no stone unturned to become their possessor; and after the most indefatigable researches, and the expenditure of a very large sum of money, he became possessed of no fewer than twelve of the number. These drawings, which are executed in coloured chalks, are of a most vigorous character, and seem to confirm in no slight degree the reputation for fidelity of Marco Oggione's copy. The chief object of the "restoration" by Mr. Selous is, that the picture may be repeated by Messrs. Day & Son, in chromolithography, at such a price as to place it within reach of a large circle. The painting will do much to advance the reputation of Mr. Selous. The versatility of his talent and the extent of his industry, are alike remarkable.

THE PALACE OF WESTMINSTER.

THE thirteenth report of the Commissioners on the Fine Arts has been issued. It states that, as the whole scheme of decoration for the palace has been considered and decided; and, trusting that the series of works now in progress can be carried on to their completion, it does not appear that the commission need be continued to superintend the execution.

The commissioners report that Daniel Maclise, R.A., has brought to a successful and highly satisfactory termination the large wall-painting, executed in the water-glass method, representing the meeting of Wellington and Blucher after the Battle of Waterloo; and that he has already begun the corresponding painting representing the Death of Nelson.

Anticipating the same industry on the part of Mr. Maclise as he has hitherto manifested, they recommend that, assuming willingness on his part, such portions of the Royal Gallery be subsequently intrusted to him as may still produce a satisfactory arrangement and a relative completeness.

In the Queen's Robing-room, William Dyce, R.A., has, since the date of the last report, been occasionally employed on the frescoes from the legend of King Arthur. The stipulated remuneration for the entire series having been long since received by him, the reporters say that they have only to express their earnest hope that he will see the importance of prosecuting the work with greater assiduity; more especially since his exclusive occupation of the apartment must occasion great inconvenience to her Majesty.

In the Peers' Robing-room, John Rogers Herbert, R.A., has nearly completed a large wall-painting, representing "Moses bringing down the Tables of the Law to the Israelites." The delay has been chiefly in consequence of frequent experiments by the artist in the water-glass method of painting; but, as Mr. Herbert now appears to be satisfied as to the technical process to be adopted, there is no reason why in future he should not proceed much more rapidly.

Charles West Cope, R.A., who has undertaken the Peers' Corridor, has prosecuted his work with equal ability and industry. Five out of the eight paintings of which the series is to consist have been already finished, and the designs for the remaining three have been approved.

In the Commons' Corridor, Edward Matthew Ward, R.A., has completed four of the paintings, executed in fresco, and a sketch for a fifth has been approved.

Among future undertakings, requiring less time, may possibly be included the re-painting of some of the earlier experimental frescoes in the Upper Waiting-hall.

At the close of their report the commissioners say:—"We cannot conclude this our final report without desiring to offer our testimony to the professional skill, as well as the activity, the zeal, and the uprightness with which our secretary, Sir Charles Eastlake, has, during a period of twenty-one years, fulfilled an important and sometimes an invidious task. We know that Sir Charles Eastlake's services were fully appreciated by his Royal Highness the Prince Consort, and we venture to hope that some regard may be shown to those long and meritorious services."

SCULPTURE BY LIVING ARTISTS IN THE HORTICULTURAL SOCIETY'S GARDEN, SOUTH KENSINGTON.

ALTHOUGH we cannot speak of the first exhibition of sculpture here as a great success, it leads us to anticipate well for another year, and most certainly has the effect of improving the gardens and conservatory immensely. Their appearance just now is charming.

Out on the terrace in front of the conservatory is Durham's great statue of the Queen, in bronze, which was originally intended as the crowning statue for the Memorial of the International Exhibition of 1851. This fine figure has been produced in metal by Messrs. Elkington's process of depositing by electrotype, and is a fine specimen of this mode of reproduction of works of art. By this method the cost of bronze statues is reduced, and all risk of imperfect castings, of course, entirely done away with. As our readers are aware, this figure is not to surmount the Memorial, but in its place will be one of the late Prince by the same artist. This figure has also been completed by Messrs. Elkington, and will be fixed on the pedestal in a few days more, to be ready for the public inauguration by the Prince and Princess of Wales in June next. There are several other fine models of figures in the collection. Messrs. G. G. Adams, John Bell, E. Davis, Joseph Durham, Earle, J. Edwards, Fontana, J. H. Foley, E. J. Kuntze, Lawlor, Lynn, MacDowell, Marochetti, W. Calder Marshall, Monti, Munro, Noble, Papworth, Ruddock, Edward B. Stephens, Thorneycroft, Thrupp, Weeks, J. Sherwood Westmacott, and Woodington, are the chief contributors.

THE BRIDGE OF THE LONDON, CHATHAM, AND DOVER RAILWAY, AT BLACKFRIARS.

THE foundation-stone of this bridge was laid on the 2nd instant by Lord Sondes. The new railway bridge will run across the Thames only a few yards from the new Blackfriars Bridge. The railway bridge (of which we have given a view), will have five spans, the centre one being 188 feet, the second and fourth 177 feet 8 inches, and the first and fifth 163 feet span. The abutments will be of brickwork, cased with Portland stone, and the foundations taken down to the London clay, at a depth of 27 feet below Trinity high water. The abutments will be built in coffer-dams of the ordinary construction, but the largest ever executed in this country. The foundations for the piers will be laid at a depth of 55 feet below Trinity high water; and, in order to get to this depth without the expense and inconvenience of coffer-dams, large wrought-iron caissons, 18 feet in diameter, will be sunk into the bed of the river till the required level is reached, when the brickwork will be commenced inside, and carried up 2 feet below low-water line. At this point the masonry of the piers commences, and will be laid within a temporary caisson to 5 feet above Trinity high water. From this height to the level of the underside of girders the piers will consist of clusters of cast-iron columns, of which one will be under each girder. The girders, on the lattice principle, will rest on the tops of the columns, and the headway afforded for navigation will be 30 feet 3 inches above Trinity high water.

The London, Chatham, and Dover line has already one station open,—the Victoria at Pimlico; and the line now in progress, as many of our readers must be already aware, is to obtain a City terminus, irrespective of the South-Eastern line, which it joins at the Norwood Junction. At present the line is now open from the Elephant and Castle to Camberwell and Herne Hill, and is being proceeded with through Dulwich to the Crystal Palace, and thence to Beckenham, from whence a communication will be made with the South-Eastern line, so that, in addition to the stations at Pimlico and Farringdon-street, there will ultimately be stations also in Cannon-street, at London Bridge, and Hungerford. During the building of the bridge a passenger station will be erected in close proximity to the southern abutment of the bridge. It will be called the "Blackfriars Station." This will be opened for traffic in September next, and will be the City terminus of the railway until the completion of the bridge, which will be accomplished by May, 1864. The works between the present temporary terminus of the metropolitan extension of the line at the Elephant and Castle and the Blackfriars Station are being carried on with vigour, and it is expected that the company's line direct from Victoria Station to Beckenham will be ready for opening in July next.

COMPETITION.

Malvern Proprietary College.—Two correspondents assert that the Council received drawings in competition after the date fixed, December 18th, and call for an explanation. The Council should feel themselves bound to place their conduct in a proper light before the profession.

LIVERPOOL EXCHANGE BUILDINGS COMPETITION.

THE Committee have received nearly fifty sets of plans in answer to their advertisement, some of which are said to possess great merit. The old Sessions House is being now cleared out for their proper exhibition, firstly to the Committee, and afterwards to the public. None but members of the Committee will be permitted to see them until the public exhibition takes place.

CHURCH-BUILDING NEWS.

St. John's-wood, London.—The foundation stone of Abbey-road Chapel, St. John's-wood, for members of the Baptist denomination, has been laid on the site selected, adjoining the Abbey-road. The Byzantine style of architecture has been adopted in the erection of the chapel, which it is estimated will cost about 3,000*l.*, and accommodate 1,100 persons. The cost of the freehold site was 2,000*l.* The first step taken was on the 10th December, 1862, when a meeting was held at the Eyre Arms, under the presidency of Sir S. M. Peto, M.P. The chapel has a portico with two arches, a semi-circular apse, and two towers with open belfries and spirelets.

Kensington.—The foundation stone of a new Wesleyan Chapel was laid on Thursday week in Warwick-gardens, Kensington. The design has been furnished by Messrs. Lockwood & Mawson, and consists of a red brick building with Bath stone dressings, finished internally with iron columns and stained deal pews. The contract, for nearly 5,000*l.*, has been taken by Mr. N. Simmonds, of Harrington-street, Hampstead-road.

Hitchin.—All Saints' Church, Clifton, Beds, has been reopened. The building, which is of the twelfth or thirteenth century, was in a very dilapidated condition, and insufficient in accommodation. To meet these requirements, a new north aisle has been erected, the nave and chancel restored, and the whole of the nave, aisle, and chancel, reseated with uniform open seats. The chancel fittings are of Baltic oak. The chancel is paved with Minton's ornamental tiles, whilst Staffordshire tiles have been used for the nave and

isle. The pulpit, which is open, is of stone inaid with coloured marbles, and is surmounted by a chaste brass reading-stand and candelabra, by Skidmore, of Coventry, who supplies the whole of the lighting apparatus. A new organ has been erected in the north chancel by Messrs. Bevington. The stained glass windows, by Hardman, are entirely new, and the subject of the west window is "The Judgment Day." Our Saviour is represented as sitting in judgment: on his right hand a multitude are being crowned with glory, and on his left another multitude are passing into perdition. In a small two-light window in the south side of the nave there is a representation of "The Annunciation." There is also a window of stained glass in the north chancel. The other windows are of cathedral green glass, with light borders. The sedilia and piscina in the chancel have been re-sculptured and are restored. The style of the new aisle is Geometrical, and it is built of the sandstone found in the neighbourhood, with Bath stone dressings. The whole of the work has been carried out under the care of Mr. Haycock, jun., of Shrewsbury, the architect, by Messrs. Warren and Mr. G. Jeeves, of Hitchin, and Mr. Davies, of Clifton. The hot-air apparatus was supplied by Mr. Dodwell, of Shrewsbury. The entire expense has been borne by the patron, Mr. Mills.

Caxton (Cambridge).—The parish church of St. Andrew's, Caxton, was re-opened for divine service, after restoration, on April 9th. The restoration has been carried out under the direction of Mr. W. White, architect. The large windows, which were of Perpendicular character, and posterior to the date of the church, were removed, and their place supplied by Early English windows of due proportions. The proportions of the chancel have been restored, the chancel descending by one step from the nave. The original intention of this was judged of from the discovery of the old sill-stone. The chancel stalls and open sittings, prayer-desk, lectern, and pulpit, are of stained varnished deal. The entire expense, about 900*l.*, has been met by the parishioners, the neighbouring clergy and gentry. The expense of the restoration of the church was met partly by the dean and canons of Windsor, and partly by Mr. V. Beldam, of Royston, the lessee of the great tithes.

Pont-Lottyn.—The foundation-stones of Pont-Lottyn Church and Fochrhiw school-room have been laid. Pont-Lottyn is about two miles distant from Fochrhiw. The ceremonial was attended by visitors who came by the Dowlais Iron Company's railway, as did the Bishop of Llandaff on the occasion. The church consists of a nave, north and south aisles, apsidal chancel, south chancel-aisle, and vestry on the north side of the chancel, with the warming-apparatus chamber under it. The materials are native stone walling, with red brick quoins and windows, with bands of red bricks at intervals externally. The style is Early First Pointed. The bell-turret is placed over the chancel-arch. Internally, the nave arcades consist of three wide arches on each side of red and white bricks, resting on Bridgend stone cylindrical shafts with Bath stone caps and bases; the chancel and other arches being treated in a similar way, and the chancel lined with red and white bricks. All the seats are free and unappropriated, and will seat 350 people. The chancel is fitted up with stall-wise seats, prayer-desk, lectern, altar and super-altar, 8 feet long, on a foot-pace raised on four steps; also altar-rail, sedilia, and credence. The pulpit is placed against the north pier of the chancel-arch. In addition to the usual font there is a large bath made for the purpose of baptizing adults by immersion: this is placed, together with the font, close to the west door. The chancel-floor is laid with tiles. Owing to the peculiarity of the site the chancel will be a great height externally, as the ground falls 7 feet from west to east, so that the cill of the east window will be 20 feet from the ground. The roof of the nave is divided into three bays by arched principals, resting on stone corbels; the intermediate rafters being boarded on the under side; making a pentagon with vertical ribs 2 feet apart. The chancel-roof is covered and boarded, with ribs in a way similar to the nave. The aisle roofs are lean-to ones, with rafters and principals boarded at the back. The external covering is native stone slate. The architect is Mr. C. Buckeridge, of Oxford, and the builders are Messrs. James & Price, of Cardiff.

Bakewell.—The church here has, within the last few years, been adorned internally by various benefactors, who have erected stained-glass windows and otherwise beautified it. A new western gable window has been inserted in the Geometrical Gothic style, in keeping with the earlier portions of the church, and in place of the insignificant window which previously occupied the gable. This new window has been glazed by Messrs. Clayton & Bell, of London, with a representation of the Baptism of our Lord. In addition to the above work, the whole western wall has been decorated by Mr. Castell, decorative artist. These works have been all carried out under the direction of Mr. G. Goldie, of London, architect.

Liverpool.—The newly-erected Independent chapel, Norwood-grove, West Derby-road, has been opened for Divine service. The structure, which is of Gothic architecture, has been erected in accordance with plans furnished by Messrs. Poulton & Woodman, of Reading. Mr. Nelson, of Liverpool, was the sole contractor for the work, which it is estimated will cost more than 4,500*l.* The erection is of red sandstone, from the quarries in the immediate neighbourhood, with white Cheshire (Stourton) stone dressings. It is a parallelogram in form, the main entrance being through two doorways coupled under one arch, beneath a four-light window, which forms the principal architectural feature of the elevation, and fronts towards the West Derby-road. A stone porch forms the front entrance into a corridor divided from the chapel by a glazed screen of Gothic design, with doors at either end leading to a gallery constructed at the end of the chapel opposite the platform. On either side of the entrance porch is a turret, and the front is flanked on each side by semi-octagonal projections containing the gallery staircases. The chapel is 82 feet in length, 43 feet in width, and 42 feet in height from the floor to the apex of the ceiling, and will afford accommodation for from 850 to 900 persons. All the seats are open benches, formed of pitch pine and varnished; and the gallery, constructed of the same material, has open ironwork in keeping with the other decorations of the building. The windows are the workmanship of Messrs. Edmundson & Son, of Manchester. The front and side windows are all formed of rolled cathedral quarries, with illuminated borders and foliated tracery, except the principal window, which consists of geometrical lights, stained and painted. The ceiling, which is vaulted and plastered, is divided into bays by groined ribs springing from stone columns attached to the walls, with carved capitals of characteristic foliage. In lieu of a pulpit, an octagonal platform, 13 feet in diameter, has been constructed within an apse at the extremity of the chapel. This structure is of Caen stone, divided into panels, each containing two quatrefoils, filled with open ironwork, through which either hot or cold air can be forced at pleasure. The angles of the cornice of this platform are filled with stone carving of varying design, and the apse, which is divided from the main body of the chapel by a moulded arch supported on carved capitals and foliated bosses, is enriched with a series of carvings in stone of natural foliage conventionally treated. The stone carving throughout the building has been executed by Mr. Maurice Geflowski, sculptor. The chapel is lighted at night by means of starlights suspended from the roof, and in the portico and back approaches are lamps. In the rear of the chapel, upon the ground floor, are vestries, with lecture-room and library above; and arrangements have been made whereby a school-room can be attached to one side of the building. The chapel has at present but one small gallery immediately above the main entrance, but has been so constructed as to admit of side galleries. The ground is inclosed by a red sandstone wall, with Cheshire stone plinths and carved finials at the two principal gates, which will be lighted by four massive lamps. The entire building has been erected under the superintendence of Mr. William Laidlaw, clerk of the works.——The lecture-hall of the Trinity United Presbyterian Church, Devonshire-road, Claughton, has been opened for public worship. This hall is intended as a portion of a much larger edifice, which will consist of a church proper, with nave and transepts, and will be capable of accommodating from 800 to 1,000 persons. It is to be in the Gothic style, built of Stourton stone, and will have a tower and spire in the inner angle between the nave and a transept. The lecture-hall forms a semi-circular apse, being the north and south sides, broken by small transeptal gables filled with triplet windows, the apse itself being lighted with a range of fourteen single lights. The entrance porch, session-room, and vestry, are placed between the lecture-hall and the intended church, and over the session-room there will be erected a gallery passing into the lecture-hall. At present the session-room forms a large recess and platform, on which is placed the pulpit. The hall, which will at present and until the erection of the church be used as a place of worship, affords accommodation for about 300 persons. The roof of the building is open, showing the timbers up to the cross braces, where it is sealed. The whole of the joiners' work is stained and varnished. Underneath the hall there is accommodation for *soirées* and social gatherings. The building has been erected by Mr. Westmoreland, of Islington, Liverpool, from the designs furnished by Messrs. J. & W. Hay, architects.

GLASGOW ARCHITECTURAL ASSOCIATION.

On Thursday evening, 30th ult., a lecture was delivered to the members of the association, by Mr. Alexander Thomson, architect (of Messrs. A. & G. Thomson), patron of the association. Mr. Thomas Gildarde, architect, an honorary member, presided. The subject chosen for lecture was a critical analysis of the Classic and Mediæval styles, showing to what an extent the æsthetic element was inherent in each, and how far each was appropriate as the basis of modern design. The lecturer noticed some of the recent works of our popular art-critics, discriminating between what he considered true and what false teaching. In speaking of the requirements of modern times, he strongly advised the members not to use archaic forms in their studies, whether Classic or Gothic, and however much revered through association of ideas; but to exercise thought, and, from the position in which our present civilization places us, combined with the *true* principles of beauty, to form a new style of architecture, capable of keeping this art one of the *fine* arts, as well as a chronicle of the manners of our time.

The lecture was profusely illustrated. A vote of thanks to the lecturer, on the motion of Mr. J. M. Smith, was passed.

BRISTOL SOCIETY OF ARCHITECTS.

At the meeting held on the 4th instant, Mr. P. W. S. Miles in the chair, the council's report was read by the hon. secretary. This showed that under the new arrangements, the Society included 1 life member, 17 professors of architecture, 3 students, and 21 corresponding and honorary members.

"The principal alterations were, 1st, Extending the operations of the Society to the surrounding towns; 2nd, A new class of members, being gentlemen taking an interest in art; and 3rd, The adoption of summer excursions. Delegates from the Society attended at the first meeting of the Architectural Alliance held in London on 2nd of July last, and, in conjunction with delegates from the architectural societies of London, Scotland, Ireland, Birmingham, Liverpool, Manchester, and the Northern Association, framed rules which have since been accepted as a common basis of action by all the societies represented at that meeting. The council have almost unanimously adopted the scale of charges issued by the Royal Institute of British Architects until such time as the Alliance shall have decided upon this question. The excursions of the past year have been highly successful."

The president suggested the formation of a museum for the use of students.

RAILWAY MATTERS.

Another railway bridge has been burnt; a large wooden one on the Norwich side of the Ely station. The bridge burnt was situate about 200 yards north of the station, and carried the railway over a large sheet of water. The woodwork, which was very dry, and thickly coated with tar, fell an easy prey to the flames, which are supposed to have been occasioned by the dropping of some live coal upon it from a passing engine.——It has been resolved in the House of Lords, on the motion of Earl Granville, that with respect to the following railway bills,—the East London and Rotherhithe; the Grand Surrey and Commercial Docks; the Metropolitan, Tottenham, and Hampstead; the Rotherhithe; and the London (Victoria section), the orders be discharged, and the fees remitted; and that the said Bills be not further proceeded with during the present session.——A startling scheme has just been introduced to public notice by Mr. Alcock, the member for East Surrey. The projector proposes the formation of an overland railway from London to Calcutta, by way of Constantinople and Teheran. The whole distance is 6,100 miles, and the journey may be accomplished without interruption, except at the Straits of Dover and the Bosphorus. The time in which it may be accomplished would be twelve or fourteen days. Portions of the line, amounting to one-half of the whole, have already been constructed, so that

little more than 3,000 miles have to be laid down. But these 3,000 miles run over a vast region of deserts and mountains.

THE STAGE.

Royal Italian Opera House.—The representations here are proceeding brilliantly. Naudin has won his chief honours in the *Traviata*. The opera altogether was well played. On Thursday evening Mdlle. Adelina Patti was to make her first reappearance, choosing for it the *Sonnambula*.

The Princess's Theatre.—Mr. and Mrs. Charles Kean have returned to the scene of their former triumphs for a few nights, and, without the aid of splendid appliances, to which Mr. Kean's few opponents are fond of ascribing his popularity, are delighting crowded audiences. His Othello is a masterly performance, little known in London.

PARISH BOUNDARIES.

"BEATING THE BOUNDS."

THE day is approaching when the ancient custom is usually celebrated of "beating the bounds" (or boundaries).

In large parishes this time-honoured usage is heartily enjoyed by those who take part in it; and the quickly varied scenes arising from traversing lanes and fields, and passing over water and through streets, alleys, roads, gardens, factories, works, houses, public and private, inside and outside, over and under, are beyond what a non-"bound-beater" can perhaps well imagine.

In these utilitarian days, however, there is a growing tendency to apply the test of *cui bono?* to things antique, middle-aged, and modern.

The custom in question appears to be an immemorial one. It has doubtless, in other days, been of considerable local value.

Is it, however, the most efficient and most convenient machinery for securing the limits of a parish in the year 1863?

The theory is, that a parish shall be completely and faithfully perambulated; its land-marks, wood, iron, or stone ascertained to be duly placed and in good repair, and every encroachment resisted.

Holy Thursday is the day usually appointed for the procession; and in practice I have found that the walking of the boundaries is not an arbitrary performance, but one that takes place as far as expediency prompts. For example: if houses or premises belonging to influential men in the district have been built upon the boundary, the parochial host will make a deviation by passing through an adjoining street or house, simply sending a school-boy through the house which has encroached, although in theory all should have passed through.

With the dwellings of humbler pretensions, "principle" is vindicated; and I have known the pioneers, consisting of half-a-dozen rough and ready hands with saws, pickaxes, and crowbars, called forward to make a passage through bricks and boards, through which the authorities and their followers have marched.

Frequently it is only a garden which trenches on the boundary, and it is of course impossible for a number of people in holiday spirit and in haste to run through a garden, flower or market, without doing some little damage. In small places a passage through is insisted upon. In large ones there is generally a compromise: walls are scaled, roofs climbed, and no force used.

It would thus appear that the greater the trespass on the boundary-wall the greater the impunity which results.

It may, however, be asked, is the boundary-line a real one, consisting of so many feet of earth actually belonging to the parish, or is it a mere mathematical line? At all events, the theory of a clearly-defined walking boundary has long since been exploded. From parochial negligence or the impossibility of maintaining the boundaries houses have been erected in utter defiance of them.

The parochial system in these days is a very different thing to what it was even a century since. People are heedless nowadays as to whether their districts are allocated to St. James, St. John, or All Hallows; and the only advantage in living in certain parishes is, that, owing to the inequalities of the poor-rates, the taxes are somewhat lower.

Whilst, however, the parish system exists, it should unquestionably be preserved in its integrity; but is beating the bounds the system for effecting this most consonant with our present status? In occupying a house on the boundary, should a man have to submit to a periodical invasion by headboroughs, charity children, *cum multis aliis?* As the parish allowed the house to be built, did it not recognise and sanction the right to erect it?

As no man can build a house without it being a matter well known in the neighbourhood, should not exception be taken to its encroachments before completion? Can no better plan be devised than the present inconvenient one? Railways, clubs, banking-houses, docks, museums, &c., cannot be knocked about: why then should small workshops, dwelling-houses, gardens, &c., suffer?

What is no one's special business to look after, invariably meets with neglect. Boundary-marks are frequently removed by the mischievous and the interested. Old plans are continually being affected by the rapid increase in new buildings. The old residents, whose evidence is so frequently relied upon as to what was done on the last boundary day, are constantly "sleeping with their fathers." Some consideration of the matter may perhaps lead to the suggestion of a remedy for the present defective system. P. M. H.

TENDERS FOR THE SURREY COUNTY HOSPITAL.

SIR,—Can you give us any information as to the tenders delivered some time since for the Surrey County Hospital. It is reported that the estimates range from 12,000*l.* to 17,000*l.*, while the architect's own estimate for his design was 7,500*l.* Is this just to the other competitors? A. & B.

CASES UNDER METROPOLITAN BUILDING ACT.

WOODEN BUILDINGS.

ON the 22nd ult., the District Surveyor of Camberwell summoned Mr. Hood, a photographer, before the magistrate of the Lambeth police-court, for having erected at the back of his house a building of wood and glass, contrary to the Act, which requires all buildings to be enclosed "with walls of brick, stone, or other incombustible materials."

Mr. Hood urged, that as he had attached wheels to this building, so that it could be removed from one place to another, he considered the erection exempt from the operation of the Act. The magistrate, however, took a different view of the matter, and made an order for Mr. Hood to amend the irregularity complained of.

ROTHERHAM WATER BILL.

SIR,—I am sure no one would have a greater aversion than myself to charging any one unjustly; and if I have been the means of giving publicity to what is not true, I trust that when I say I extremely regret it, Mr. Hawksley will accept this as my apology.

But let us look at the matter a little further. Had Mr. Hawksley, in his reply, said that he did not mention Worksop in his evidence on the Rotherham Water Bill, I should have been bound to believe him; but when the proprietor of the *Sheffield Independent* had his report "from a London reporter specially engaged for the purpose," I do not think that it is surprising that I should expect the report to be correct. I read various reports in the respectable journals of the day, and always considered they were to be relied upon: if, however, the truth of such reports is to be inquired into, I conceive their readers will greatly diminish.

ROBERT WHITE.

Books Received.

ENGINEERS' POCKET-BOOKS.

Pocket-Book of Useful Formulæ and Memoranda for Civil and Mechanical Engineers, by GUILFORD L. MOLESWORTH, C.E. (Spon, London). This is really a *pocket*-book, and a most useful and valuable one of its kind. Many of the formulæ are, of course, not original; but the whole is exceedingly well condensed, and the little volume contains numerous formulæ and memoranda on a great variety of subjects. Mr. Molesworth, we may remark, is the principal resident engineer of the Ceylon Railway.

The Engineers' Pocket Remembrancer. An Epitome of Data, Rules, and Formulæ, applicable to Civil, Mechanical, Marine, Hydraulic, Lighthouse, Telegraphic, Railway, and Gas Engineering, Surveying, &c. By FRANCIS CAMPIN, C.E. London: Atchley & Co. This is not quite so small and handy a book for the pocket, and assumes the shape of an ordinary volume: it is better suited for use in offices, and contains many useful tables. The author is the president of the Civil and Mechanical Engineers' Society.

VARIORUM.

"The Australian Builders' Price-book." By C. Mayes, C.E., and architect. Melbourne: Sands & McDougall. 1862. This price-book appears to be esteemed by professional authorities in the Colonies.——"The Shilling Guide to the London Charities, for 1863." By Herbert Fry. London: Hardwicke. In alphabetical order and running columns, this Guide shows the name, date of foundation, address, objects, and annual incomes, number of people benefited by, mode of application to, and chief offices of, the London charities.——"The Science of Ship-building considered in its relations to the Laws of Nature;" illustrated. By B. Bowlby Willson, of Canada. London: Potter, Poultry. 1863;—a suggestive treatise by one who seems to have thought for himself on the subject, but without much mathematical lore.——"Holmes's Magneto-electric Light, as applicable to Light-houses. We have here an account prepared, apparently, at the instance of the proprietors, of the very brilliant and promising light already in use at the Dungeness light-house, and which has Professor Faraday's approval as one which "promises many improvements during its further development." The descriptive and other matter is accompanied by an engraved view of Holmes's interesting magneto-electric light apparatus.——The principal article in the present number of the *Gentleman's Magazine* is an illustrated one on "Irish Round Towers."——"London Society" has a large number of capital illustrations, as usual, including a portrait of the "father" of the Academy,—Mulready (made R.A. in 1816),—and a very good notice accompanying it.——The present *Quarterly* is a number of varied interest: Colenso, and Salmon; India, America, Kinglake, and sensational novels are the subjects treated of, with the leanings that belong to it. It is itself, as it says of a sensational novel,—

"About peas-pudding and porridge, about the Spartans,
About the war, about the pilchard fishery,
About the state of things in general,
About short weights and measures in the market,
About all things and persons whatsoever."

——Appleby's "Illustrated Handbook and Price Current of Machinery and Ironwork" (Spon, Bucklersbury), is a trade catalogue, and something more. Contractors, engineers, and others will find it useful.

Miscellanea.

THE MARRIAGES OF ENGLISH KINGS AND QUEENS.—The correspondent who sent us a list, printed at p. 259, *ante*, made two or three slips, which call for correction. Thus: Edward I.'s second wife was Margaret, daughter of Philip III. of France, and not Isabella; and Edward II. married Isabella, daughter of Philip IV., of France.

THE ROYAL SOCIETY.—On Saturday evening last Burlington House was thrown open for a second *conversazione*, held by General Sabine as President. The arrival of visitors continued till a late hour, the latest being those who quitted the table of the Royal Academy for the *soirée*. About twenty minutes to eleven their Royal Highnesses the Prince of Wales and the Prince Louis of Hesse arrived, and were received at the foot of the stairs by the President and secretaries. The attendance was numerous.

ARTS OF JAPAN.—At the Royal Institution, on Friday, May 1, a lecture was delivered by Mr. John Leighton, F.S.A., upon "The Arts of Japan; illustrated by native examples." Mr. Leighton, having touched upon the people and their isolation, contrasted the Chinese and Japanese, awarding the palm to the latter, who, though seeking seclusion, seem alive to progress and ready to avail themselves of European discovery. After touching upon the architecture, sculpture, and arts of drawing and design, he proceeded to sum up the evidence, noting where they were our superiors and where deficient; the last inheritance of the European school—powerful use of light and shade—being wanting, though form, colour, and perspective are most effectively used in Japan.

LIVERPOOL ARCHITECTURAL SOCIETY.—The meeting, on Wednesday evening, 22nd ult., was presided over by Mr. Weightman. Mr. Kilpin gave notice of motion to the effect that the report of the proceedings of each preceding meeting should be read at the general meeting, as he thought the adoption of such a system would enable members who had not attended the previous meeting to make themselves acquainted with the opinions and views expressed thereat; while those who had attended would have their memories refreshed. Mr. J. A. Picton suggested that, in future, the Society should make excursions to different places for the purpose of deriving information as to architecture and archæology, and it was understood that the subject would be taken into consideration. A paper by Mr. P. H. Horner was read, "On some of the Analogies of Architecture." A discussion followed.

CONSECRATION OF A ROMAN CATHOLIC CHURCH IN CAMBERWELL.—A newly-erected Roman Catholic church, in the Wyndham-road, Camberwell, has been consecrated by the Roman Catholic Bishop of Southwark. The edifice is styled "The Church of the Sacred Heart," and contains sittings for about 700 or 800 persons.

BERKS.—The mansion of Sir C. D. Crosley, Sunningdale, Berks, having undergone extensive repairs and decorations, under the superintendence of Mr. Alfred Smith, by Messrs. Holland & Hannen, builders, the men employed were regaled with a dinner on Friday evening, the 1st inst.; Mr. Thomas Sneezum presiding as chairman.

ACCIDENTS.—About twenty *employés* of Messrs. Houlden & Parker, cabinet-makers, of Church-street, Liverpool, were at tea the other evening, when the flooring of the room in which they were sitting fell in, the whole of those present, as well as the *débris* of the floor, going through the one below it. As the shop is situate in one of the principal thoroughfares of the town, the crash and the screams of the people injured by the accident created great consternation. The cause of the accident is not positively known, but the building will have to be pulled down.——A house in Burley-terrace, Leeds, has been set on fire by the overheating of a flue in an adjoining house.

ASTRONOMICAL CALCULATIONS. — Among the communications made at the last meeting of the Astronomical Society, was one from Mr. Stone, principal assistant at the Royal Observatory, Greenwich. Mr. Stone had completed the calculations of the mean horizontal parallax of the sun, as deduced from observations made at Greenwich on the planet Mars at his recent opposition, compared with other similar observations made in Australia. The result is that the heretofore received mean distance of the earth from the sun must be diminished by about three millions of miles! What a corollary this is on the dogmatical and supercilious assurance with which some astronomers lay down the law to lay thinkers on the subject of astronomical science!

TURBINE.—An improved turbine has been provisionally specified by Professor Charles Fink, of Berlin, which is constructed with a fixed outer ring of adjustible direction vanes, contained between two parallel horizontal annular surfaces, between which adjustible vanes the actuating water passes, and is directed by them into and through a series of buckets or openings formed with or attached to a ring or wheel attached to a shaft or spindle, and free to revolve within the ring first mentioned. The actuating water, after passing through the buckets of the inner ring or wheel (and thereby giving a rotary motion to the same, and to the shaft or spindle upon which it is fixed), passes downward through a suitably formed pipe or tube, from which it is ultimately led away in any convenient manner. The necessary movement for adjusting the vanes to any required angle may be imparted to the annular ring by levers or other convenient or suitable means.

THE FINE ARTS IN LIVERPOOL: ONE EXHIBITION.—We are glad to learn, from the *Albion*, that the negotiations between the gentlemen interested in Art for the establishment of *one* exhibition in Liverpool have been successful. During the last five years there have been two exhibitions —one in Bold-street, upheld by the Society of Fine Arts, and the other in Post-office-place, managed by artists forming the Liverpool Academy. The Liverpool Academy, now established for many years in Liverpool, resolved a few months ago to cease holding an annual exhibition in their rooms, and to withdraw from a contest which they had not the means to carry on. Upon their giving up these rooms, several gentlemen who had shown an interest in the matter agreed to take the lease, and so relieve the artists of their responsibility. But, to prevent any impression that this was intended as a new opposition, these gentlemen at once made proposals for a union of the friends of art in the town, and after prolonged negotiations have brought the matter to a successful termination. The Liverpool Institution of the Fine Arts is the title of the amalgamated societies. The exhibitions will in future be held in Post-office-place. Considerable misapprehension has existed regarding the negotiations which have led to the generally-desired union of the Liverpool Academy and the Society of Fine Arts. We understand that the advances which have resulted in so satisfactory an arrangement emanated from the last-named society, and not from the Academy.

A NEW FIRM: "SEMPER FIDELIS."—Miss Faithfull and her company of the Victoria Press have taken the arms of a lion on the alert—looking for business, perhaps, says one—with the appropriate motto, "Fidelis et Firmus,"—"Faithfull & Co.," we presume.

THE DRINKING-FOUNTAIN MOVEMENT.—The committee at Merthyr for conducting the Prince of Wales's marriage festivities, after paying all claims, find themselves in possession of a large surplus, and have resolved to expend it in the erection of a public drinking-fountain. They have selected a design by the Coalbrookdale Company, and it will be erected in front of St. David's Church, and bear an appropriate inscription commemorative of the auspicious event.

BOOT-BRUSHING MACHINE.—An engine-man, Mr. Joseph Polson, Edinburgh, has invented a machine for blacking and brushing boots and shoes. The brushes, which are hollowed to suit the rounded shape of the boot or shoe, move horizontally with great rapidity, and give about 300 strokes per minute, being five or six times the number produced by a strong hand and arm. It is to be hoped the strokes will steer clear of the corny toe if the boot proprietor put his foot in it for the occasion.

WOOD-LICE IN CHURCHES.—A correspondent asks for information as to means of getting rid of wood-lice in a church. Various recipes for destroying insects of different kinds have been given in our columns; but we do not think "Keating's Insect-destroying Powder" has been mentioned. We have found it effectual in destroying insects in a garden, and it is said to be equally useful in clearing away such pests as fleas, bugs, &c.: it might, therefore, be sprinkled about the resorts of the wood-lice; and we dare say that in a short time they may thus be got rid of. We should like to know the result. This powder (unlike Keating's Vermin-killing Powder) is said to be "harmless to animals," although destructive to all sorts of insects. For flying and some other insects it is used as a fumigant, sprinkled on red-hot coals or wood, or set fire to after being twisted up in a piece of paper.

A WORKMAN'S TOOLS DISTRAINED ON ANOTHER'S PREMISES.—*Benham* v. *Weller*.—The plaintiff in this case had been working on defendant's premises, and had put his tools down and left the shed in which he had been working, intending to return almost immediately. In the mean time the tools were seized. The jury that tried the case at Aylesbury gave a verdict for the defendant. At the Court of Queen's Bench on Monday, on the application to set aside this verdict, a rule was refused, on the ground that the rule of the law which privileged tools of trade from distress only applied where they were in actual use and in actual mutual possession, because the reason of the rule was the danger of personal violence and breach of the peace. No doubt, if the man had merely laid the tool down before him, and it was seized before he could take it up again, the case might be within the rule; but here he had left the place, and, therefore, the reason of the rule did not apply, and there was nothing else to distrain.

NEW BRIDGES OVER THE THAMES.—The Committee of the House of Lords, of which Lord Taunton is chairman, with consideration of the proposed Albert Bridge across the Thames, decided;—"That the committee are unwilling, without a more pressing necessity than has been shown in the case, to sanction the erection of a new proprietary bridge over the Thames, with tolls in perpetuity; and they are further of opinion that it is desirable and of urgent importance that the whole question of bridge accommodation between the two sides of the river, within the metropolitan district, should receive the early consideration of some public authority, specially with the object of providing for the abolition of all tolls on them, as far as possible. For these reasons the committee were of opinion that it was not expedient to proceed with the Bill, which is, consequently, thrown out." The case of the Putney and Fulham new bridge was considered. It is proposed to construct the bridge from Putney to Fulham a little to the eastward of the existing Putney Bridge, on the suspension principle, with three spans. The centre of the bridge is to have a headway of not less than 21 feet above Trinity high-water mark, and at the abutments of 8 feet, with a pier and landing-stage. The committee, after taking evidence corroborative of the objects of the Bill, agreed to pass to the subject of provisoes giving compensation to the proprietors of old Putney Bridge, to be assessed by arbitration or a jury.

SEWERAGE OF BUXTON.—Mr. E. W. Wilmot, the chairman of the local board, has resigned his seat, the board having decided, almost unanimously, that, for the future, no sewers of any sort shall be put in at the public cost,—a decision, he considers, alike unjust and impolitic.

THE LATE MR. W. HARRIS, ARCHITECT.—We have to mention the death, on the 1st of April, of Mr. William Harris, architect, of 55, Park-street, Grosvenor-square, sixty-six years of age. Mr. Harris was a pupil of the late A. Welby Pugin, and gave the designs for Queen's-gate-terrace, Gore-road, and other private buildings.

A TIMBER-FELLING MACHINE.—To those desirous of raising a few thousands by their timber, it will be interesting to be informed that a talented Scotchman has lightened the difficulty as to time by inventing a machine as portable as a wheel-barrow, which, it is said, is capable of cutting down as much wood in one day as two men could accomplish in a week. It is easily worked. The inventor, Mr. M'Glashan, resides at Dun Alaister, Pitlochie.

NEW BELLS. — Among recent bell-foundry doings, it may be mentioned that the following have been turned out by Messrs. Warner & Sons. In the last two months they have cast two "memorial bells." 1st. A 20-inch bell, bearing a medallion portrait of the late Prince Consort. It was cast as an addition to the peal for the Rev. S. M. Ware, Helenswick Rectory, Bromyard. (This is the second they have cast in memory of the late Prince). 2nd. A bell of about 7 cwt. for Newfoundland, with the following inscription:—

"In memory of the great seal haul,
A.D. 1862.
St. Peter's, Twillingate.
V. R.
25."

3rd. Three bells supplied to the Grey Friars Church, Reading. 4th. The bell at St. Philip's Church, Kennington-road. 5th. The bell at the New Agar Town Church. 6th. A new peal of three bells hung at the church at Foot's Cray.

CARLTON HOUSE TERRACE, LONDON.—Mr. Locke (in the House of Commons) asked the Chief Commissioner of Works whether he intended to complete Carlton House-terrace upon the vacant ground where the riding-school stood; and, also, whether he would propose, during the present session, the continuation of the carriage-way from the Mall in St. James's Park to Charing-cross. Sir H. Verney said, before the hon. gentleman answered the question he wished to inquire whether it was intended to continue the road from the east end of Carlton House-terrace to the northern extremity of Spring-gardens, the space for which was vacant by the taking down of the riding-school? Mr. Cowper said Carlton House-terrace would be continued on the ground that was now vacant. Building leases on that ground had been granted by the Crown. It was not his intention, during the present session, to propose the continuation of the carriage-way from the Mall in St. James's Park to Charing-cross. Such an improvement was recommended by a committee of the House in 1856, but it had made no recommendation as to where the funds were to come from.

THE CAMDEN SOCIETY.—The anniversary meeting af the Camden Society was held on Saturday, May 2, being the birthday of its patron the great historian, when the Marquess of Bristol took the chair, and the principal resolutions were moved and seconded by Mr. Tite, M.P., Mr. George Dodd, F.S.A., Mr. Durrant Cooper, and other influential members. The annual report is occupied principally with a statement of the successful result of the Society's efforts for opening the Register of Wills in Doctors' Commons for the use of literary inquirers, which has been conceded by Sir Cresswell Cresswell in respect to all wills of a date anterior to the year 1700. With the view of making generally known the importance of this new source of literary and historical information, the Camden Society has issued a volume of "Wills from Doctors' Commons." The selection belongs to a great variety of memorable characters:—members of the Royal Family; eminent prelates and noblemen; persons who played important parts during the great civil war; well-known poets, painters, and musicians; divines and philosophers; and, lastly, the wills of some distinguished ladies. The Society has issued for the subscription of 1862 63, two other books, viz.:—Lists of Foreign Protestants and Aliens resident in England, 1618—1688, from returns in the State Paper Office, edited by Mr. W. Durrant Cooper, F.S.A.; and the Trevelyan Papers, Part II., from 1551 to 1643, edited by Mr. J. Payne Collier, from the Muniments of the Trevelyan Family.

ST. MARTIN'S SCHOOL OF ART.—The seventh annual *conversazione* of this school (Castle-street, Long-acre), will be held on Thursday evening, the 14th instant.

THE CARDIFF ASSOCIATION OF MASTER BUILDERS.—About eight years since, during the time of a strike of masons and other workmen, an association bearing this name was formed at Cardiff. Since then but few circumstances have occurred to call for combination, and the association has somewhat languished. Circumstances, however, have recently taken place which induced several of the members to resuscitate the society; and as one of the best means of doing so, it was purposed to extend an invitation to all the masters connected with building interests to a social dinner. This dinner has just been held at the Queen's Hotel, when a large assembly of master builders met on the occasion. Mr. C. Pearson presided; and the two vice-chairmen were Mr. Daniel Jones and Mr. W. P. James.

RAGS AND PAPER. — A return shows that within the last seven years the imports of rags and paper in the United Kingdom have been as follows:—In 1856, 10,287 tons of rags, 15,767 cwts. of foreign paper; 1857, 12,206 tons of rags, 12,057 cwts. of paper; 1858, 11,394 tons of rags, 11,701 cwts. of paper; 1859, 14,621 tons of rags, 18,338 cwts. of paper; 1860, 16,154 tons of rags, 45,019 cwts. of paper; 1861, 20,486 tons of rags, 94,355 cwts. of paper; 1862, 23,943 tons of rags, 193,639 cwts. of paper. Thus the imports of rags have more than doubled since 1856, while the imports of foreign paper have increased since that period by 177,872 cwts. The exports of British paper in 1858 were 106,557 cwts.; 1859, 126,454; 1860, 112,514; 1861, 91,958; 1862, 129,440. These facts bear out the anticipations of Mr. Gladstone, which were met with much ridicule and opposition three years since.

THE THREATENED LUDGATE-HILL VIADUCT.—It is so far satisfactory to know that the London, Chatham, and Dover Railway Company appear to have themselves abandoned their scheme for the proposed viaduct; but they have only relinquished their powers for the construction of this portion of their original scheme in favour of a new company formed under the title of the Ludgate Station and Junction Railway Company, which, so far as regards the original company, betrays their anxiety to be rid of the odious task of disfiguring one of the most central thoroughfares in London. It is to be hoped the new company will *not* be empowered to carry out the viaduct in question; nor that Parliament will grant the extension of time asked for by the original company beyond next August for carrying out this new form of their project. There is no absolute necessity for a viaduct, and we do not see why it should be carried out at all, so long as an underground line below Ludgate-hill is possible, in order to complete the connexion of the present underground line with the south. The Ludgate-hill inhabitants and proprietors, we are glad to observe, are stirring in this matter, and a committee have addressed the individual members of the House of Lords on the subject. The City Court of Sewers appear to think the viaduct must be permitted.

YARMOUTH SCHOOL OF ART.—There was a very crowded attendance at the Town-hall to witness the distribution of prizes awarded at the last examination to the students of this and various other public schools. About 130 prizes had been awarded, and amongst them were eight medals and seven books, the latter being received by those who had been successful in obtaining medals in previous years. At the last distribution, held about six months ago, Dr. Stephenson promised to give a series of lectures on anatomy and physiology, and to present a silver medal, value two guineas, to the student who at the termination of the course would draw up the best outline of the subjects treated upon. The lectures, eight in number, were duly delivered, and were well attended. Mr. Barrett, master of the charity school, was successful in winning the medal. The mayor occupied the chair, and in opening the proceedings, he observed that the hon. secretary (Mr. Harmer) had put into his hands a paper by which he saw that a larger number of pupils had passed at the last examination, both in the school of art and in the public schools, than at any period since the establishment of the institution in this town. There were not, however, so many prizes this year, because the standard of merit necessary to obtain them had been raised. The standard was so low that almost every pupil obtained a prize.

PUBLIC WORKS FOR THE UNEMPLOYED.—Mr. Rawlinson has been appointed by the Government to proceed to the cotton districts, for the purpose of reporting to the Government on the one hand, and of communicating with the local authorities on the other, as to the needs and capabilities of those districts in the way of works of public improvement, and the possibility of employing the able-bodied cotton workers on such works, at fair wages. He has been over a portion of the district,—Stockport, Oldham, and Blackburn,—and works will be set out at once if the money necessary can be obtained on easy terms—say 3½ per cent.—and the redemption fund be deferred for three years. Government may lend one or more millions on safe security, so as to have every able-bodied industrious man set to useful and beneficial work. The men can and will work for fair wages; and the corporations and local boards will find the work if the money be obtainable on the terms named. A short Act will be required.

IRON AS A TONIC IN THE VEGETABLE CREATION.—A curious discovery is alleged to have just been made regarding the influence of iron on vegetation. Preparations of iron are used in the animal world as a medicine where the blood is poor in red particles. The pale cheeks of the invalid often regain their bloom under the influence of such tonics. It is much the same, it appears, with plants. On the chalky soils of France and England, where there is an absence of iron, vegetation has a sere and blanched appearance. This is entirely removed, it is said, by the application of a solution of sulphate of iron. Haricot beans watered with this substance acquired an additional weight of sixty per cent.! [How would a few doses of cod-liver oil agree with them?] Mulberries, peaches, pears, vines, and wheat derive advantages from the same treatment. It is expected that the salts of iron will be found as beneficial in farming as in horticulture, but the experiments are as yet very incomplete. In the cultivation of clover, however, wonderful advantages are declared to have been gained. The material is cheap, and the quantity applied is small.

TENDERS.

For building warehouses in Cannon-street, City, for Messrs. Palmer, Phillips, & Faithful. Mr. H. S. Legg, architect. Quantities furnished by Mr. R. Roberts:—

Brown & Robinson	£15,300	0	0
Holland & Hannen	14,980	0	0
Cubitt	14,860	0	0
Myers	14,745	0	0
Lawrence	14,573	0	0
Brass	14,473	0	0
Downs (accepted)	13,940	0	0
Rider	13,918	0	0

For St. John's Church, East Dulwich:—

Cannon	£7,214	0	0
Mansfield	7,135	0	0
Brown & Robinson	6,985	0	0
Patrick	6,985	0	0
Macey	6,887	0	0
Constable	6,834	0	0
Tarrant	6,800	0	0
Thompson	6,765	0	0
Jackson & Shaw	6 750	0	0
Dove, Brothers	6,545	0	0
Sawyer (accepted)	6,443	0	0

For St. Luke's church, Warlingham. Mr. R. W. Drew, M.A., architect. Quantities supplied by Mr. J. A. Bunker:—

Ward	£1,694	0	0
Wells	1,650	0	0
Downs	1,590	0	0
Turner & Sons	1,467	0	0
Carruthers	1,450	0	0
Rowe	1,369	0	0
Newcombe	1,349	0	0

Accepted for Wetherby Union Workhouse, West Riding of Yorkshire. Messrs. J. B. & Wm. Atkinson, architects, York:—

Masonry and Brickwork.			
Keswick	£1,550	0	0
Plastering.			
Jennings	139	18	0
Carpenter and Joiner's Work, and Hardware.			
Bellerby	693	0	0
Plumbing and Glazing.			
Bradbury	236	0	0
Slating.			
Cattley & Sons	197	0	0
Painting.			
West	38	0	0
	2,853	18	0

For a pair of semi-detached villas, at Kentish Town. Mr. Thomas T. Green, architect. Quantities supplied:—

Stevenson	£1,552	16	0
Scrivener & White	1,515	14	0
Palmer	1,512	0	0
Ward	1,497	0	0
Marshall	1,495	0	0
Davies	..	..	..
Manley & Rogers	1,430	0	0
Curtis & Ventham	1,130	12	6

For repairs, &c., to the Leather Warehouse Company's warehouses, Bermondsey. Messrs. Porters & Markham, architects. Quantities not supplied:—

Colls	£498	0	0
Little	479	0	0
Wills	468	0	0
Wells	453	0	0
Bargeman	435	0	0
Coleman	426	0	0
Peake	425	0	0
Simms (accepted)	395	0	0

For the erection of four dwelling-houses, at Higher Crumpsall, near Manchester, for Mr. William Smith. Mr. Thomas Dale, architect:—

Statham & Sons (accepted)	£2,205	0	0

For the erection of four houses, at Old Trafford, near Manchester, viz.—two for Mr. F. J. Ainsworth, and two for Mr. George Richards. Mr. Thomas Dale, architect:—

Statham (accepted), each house	£645	0	0

For an additional fire-proof story on building, at the Mill-hill Cotton Works, Blackburn, for Messrs. Hodgkinson, Swaine, & Codling. Mr. Thomas Dale, architect:—

Stones (accepted)	£2,420	0	0

For construction of sewers in the northern portion of the parish of Clapham. Contract No. 1. Mr. C. W. Johnson, surveyor:—

Moxon	£15,000	0	0
Munday	12,783	0	0
Pearson	12,571	0	0
Blackmore	12,270	0	0
Dowell & Co.	12,101	0	0
Thirak	11,455	0	0
Kent	11,342	0	0
Hill, Keddell, & Robinson	10,644	0	0
Dethick (accepted)	10,223	0	0

For a new house and offices, near Brigg, Lincolnshire, for Mr. Thomas Freer. Mr. Goddard, architect:—

Wallis & Son	£1,450	0	0
Huddleston	1,375	0	0
Reeve	1,316	0	0

For alterations and additions to the Baptist Chapel and Schools, Weston-super-Mare. Mr. Hans F. Price, architect:—

Stock	£937	10	0
Palmer	9 0	0	0
Thorney	888	0	0
Brock	850	0	0
Lewis	789	10	0

For the erection of seven houses, Holderness-road, Hull. Mr. F. Wright, architect:—

Hall	£2,200	0	0
Holmes	2,122	0	0
G. Jackson (bells omitted)	2,104	5	0
J. Jackson (accepted)	2,0?3	9	0
Richardson (flagging omitted)	1,875	0	0

For the enlargement and alteration of farm dwelling-house, Middleton-on-the-Wolds. Mr. F. Wright, architect:—

Hewson	£543	0	0

For the erection of a Primitive Methodist Chapel, with school and class-rooms, Spring Bank, Hull. Mr. F. Wright, architect:

Bricklayer and Plasterer's Work.			
Bailey	£1,100	0	0
Mason's Work.			
Wallis & Tadman	£700	0	0
Carpenter and Joiner, Plumber, Glazier, Gas Fitter, and Painter's Work.			
Stamp	£1,338	0	0
Ironfounder's Work.			
King & Peach	£218	0	0

For additions to house in Bridge-street, Canterbury, for Mr. Peter Martin. Mr. William Wilson, architect. Quantities supplied:—

Wilson	£837	13	0
Lancefield	831	0	0
Cozens	793	10	0
Brett	783	0	0
Shrubsole (accepted)	710	0	0

For the construction of sewers in Queen's-road, and Westbourne-grove, Paddington. Mr. W. Merry, surveyor:—

Dowell & Co.	£8,490	0	0
Cole	6,974	10	0
Phillips	5,583	0	0
Hill	5,550	0	0
Crockett	4,750	0	0
Mann	4,545	0	0
Thirst (accepted)	4,499	0	0

For erecting shop and dwelling in London-street, for Mr. J. R. Sawyer. Mr. W. A. Smith, architect:—

Brooks	£1,120	0	0
Ling & Balls	1,111	0	0
Brown & Baily	1,077	0	0
Boardman (accepted)	1,049	0	0

For the erection of a new refreshment house, at Erith Marshes, Erith, Kent, for Mr. John Russell, of Gravesend. Messrs. T. Dann & Son, architects:—

Willis	£478	0	0
Melton	430	0	0
Francis & Son	395	0	0
Gumbrell (accepted)	390	0	0

For a farmhouse, at Bury, near Ramsey, in the county of Huntingdon, for Mr. P. W. Behagg. Mr. Robert Hutchinson, architect. Quantities supplied:—

Mason	£419	0	0
Richardson	363	10	0
Allen & Smith	331	0	0
Bateman	328	0	0
Heythorpe	328	0	0
Brown & Dring	319	0	0
Bunting & Son	314	11	4
Thackery & Son	314	0	0

For Long Stowe Church, Cambridgeshire. Mr. W. M. Fawcett, architect:—

Richardson & Co.	£2,010	0	0
Bell & Sons	1,842	0	0
Bird	1,784	12	0
Osborne	1,710	0	0
Gray & Son	1,579	0	0
Conquest (accepted)	1,423	3	2

For the erection of two houses and shops, in the Bank-street, Aldershott, for Mr. William Masters. Messrs. Eggar & Stapley, architects:—

Goddard	£707	15	0
Duke	630	0	0
Terry	625	0	0
Martin (accepted)	593	0	0

For the erection of dwelling-house and wine store, in the Bank-street, Aldershott, for Messrs. Mackenzie, Hallet, & Co. Messrs. Eggar & Stapley, architects:—

Martin (accepted)	£690	0	0

For new chapel, &c., in the Walworth-road. Searle, Son, & Yelf, architects:—

Marsland & Son	£6,015	0	0
Turner & Sons	5,657	0	0
Kent	5,547	0	0
Dover	5,500	0	0
Higgs	5,500	0	0
Colls	5,475	0	0
Thompson	5,468	0	0
Bond	5,464	0	0
Cook	5,460	0	0
Adamson & Sons	5,436	0	0
Tarrant	5,400	0	0
Hack & Son	5,397	0	0
Scrivener & White	5,395	0	0
Sims	5,053	0	0
Shilton	4,998	0	0
Chamberlain	4,996	0	0
Kirk	4,989	0	0
Sawyer	4,971	0	0
Simmonds	4,948	0	0
Marshall	4,700	0	0
Chinnock & Brothers	4,449	0	0

For swimming baths, 210 feet long, at Hailebury College, Herts. Mr. Josiah F. Fairbank, C.E., engineer:—

Winn	£660	0	0
Collin	625	0	0
Patman	595	0	0
Ekins & Sons (accepted)	565	0	0

For villas, near Wandsworth, Clapham-road. Mr. G. H. Page, architect —

Read & Son	£7,689	0	0
Ashby & Sons	7,870	0	0
Jacobs	7,747	0	0
Easton	6,897	0	0
Scrivener & White	6,879	0	0
Palmer	6,453	0	0
Bass	6,393	0	0

TO CORRESPONDENTS.

Newspapers should be marked – E. C. R. (shall have attention) — J. P.– G. W. (the cement desirable would depend on circumstances, and position Our correspondent should consult with his architect).— J. B. & W. A.—Projection (if neighbour could prove damage, he would probably recover. Take proper advice). Measurables (the inquiry is not clear as it stands). — G. S. – W. H. S — R. C J. B. (it would depend on exact wording of the wager. We cannot interfere) — J. E.— H. M. B. (always glad to have information). — Mr. E. — Messrs. H — Mr. G.—J. M. (we do not decide wagers). P. G (ditto). — S. S. R. H.—Mr. M.—Mr. F.—F. C.—W. B.—T.—J. N. (in type).

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender, not necessarily for publication.

NOTE. - *The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than FIVE o'clock, p m., *on Thursday.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

THE *Engineer*, of August 15th, in its description of Benson's Great Clock, says:—"As engineers we can say that it really approaches much nearer the perfection of mechanism than any other example of clockwork we have yet seen, on anything like the same large scale." Benson's new showrooms contain clocks designed by the first artists of the day, and include clocks for the drawing-room, dining-room, bed-room, library, hall, staircase, bracket, carriage, church, turret, railways, warehouse, counting-house, with musical, astronomical, and every description of clock, from the plainest to the highest quality of which the art is at present capable. Church and turret clocks specially estimated for. Benson's Illustrated Pamphlet on clocks and watches (free by post for two stamps), contains a short history of clock and watch making, with descriptions and prices. It acts as a guide in the purchase of a clock or watch, and enables those who live in Scotland, Ireland, Wales, the Colonies, India, or any part of the world, to select a clock.—J. W. Benson, received a Prize Medal and honourable mention. 33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

IN THE COUNTY OF SURREY.—Eight miles only from the Royal Exchange, and seven from the West end.—Very valuable Freehold Estate, known as Biggin Farm, comprising nearly 100 acres of land with Residence, Farm Buildings, Stabling, Loose Boxes, &c. having important frontages of between 6,000 and 7,000 feet to capital main roads, close to the Streatham common Station on the main line of the Brighton Railway, and one mile and a quarter from the Streatham Station of the London-bridge, Crystal Palace, and Victoria Railways; lying in the direct route of the projected Wimbledon and Streatham, London, Chatham, and Dover (Streatham, &c Extension), and London, Brighton, and South Coast (South London, &c Junctions) Railways, notices of claims having already been served, offering advantages for building purposes rarely to be met with in such contiguity to London.

MESSRS. WEATHERALL & GREEN have been honoured with instructions from the Proprietor to offer for SALE by AUCTION, at the MART, London, on THURSDAY, MAY 14, at ONE o'clock (unless previously disposed of by private contract), the above important and very valuable FREEHOLD ESTATE, particulars of which, with plans and conditions of sale, are now ready, and may be obtained of JAMES WRIGHT, Esq., Solicitor, No. 8, New-inn, Strand; and of Messrs. WEATHERALL & GREEN, Surveyors, Land Agents, and Auctioneers, 32, Chancery lane W.C.

TENTH SALE of SURPLUS PROPERTY belonging to the North London Railway Company: comprising 14 plots of valuable Freehold Building Land, and three Freehold Residences, situate at Homerton and Lower Homerton, in the parish of St. John, Hackney

MESSRS. BEADEL have received instructions to offer for SALE by AUCTION, at the MART, Bartholomew lane, London, on TUESDAY, MAY 26th, at TWELVE for ONE, in lots, several PLOTS of FREEHOLD BUILDING LAND, with frontages to Morning lane and Bridge street, Homerton, with a residence standing thereon; also the Freehold Residence, with large garden and stabling, known as the Castle, situate at Lower Homerton, let on lease for a term of 7, 14, or 21 years, from Lady day, 1861, at 90l per annum; the Manor House, a freehold residence in the High-street, Homerton, with garden and stabling, about five minutes' walk from the Hackney stat on on the North London Railway, let on lease for a term of five or seven years, from Midsummer, 1860, at 50l per annum; a Freehold Dwelling-house, called Sheppard House, with garden and stabling, adjoining the last mentioned, let on lease for seven years from Midsummer, 1863, at 30l per annum.—Part may, with plans and conditions of sale, may be obtained of Messrs. PAINE & LAYTON, Solicitors, 7, Gresham House, Old broad street, E.C.; of Messrs. KENNEDY & BONNY, 10, Cornwall crescent, Camden town, N.W.; at the Mart; and of Messrs. BEADEL, 25, Gresham-street, London, E.C.

TO AMATEURS, TURNERS, AND OTHERS.—The Valuable Lathes, Tools, and interesting Effects of the late John Taylor, Esq., F.R.S

MR. FREDERICK A. MULLETT will SELL, at 31, CHESTER-TERRACE, Regent's-park, on WEDNESDAY, the 27th inst., at TWELVE, a 4 feet IRON-BEDDED LATHE, with 6-inch centre, and a large assortment of most expensive chucks, by Holtzapffel & Co.; a 3-feet bedded lathe, with 3½-inch centre, with brass and boxwood chucks, &c.; a rose carving and planing machine, with iron bed and frame; a large quantity of valuable engineering tools; about 5 cwt. of hardwood; benches; nests of drawers, mahogany cases, &c. May be viewed the day prior and Morning of Sale, and catalogues had on the premises, and at the Auction Rooms, Albion place, Hyde Park square, W.

ACTON, MIDDLESEX, within five miles of London.—Desirable Freehold Residence, with about seven Acres of Land admirably adapted for building.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION, at the MART, near the Bank of England, on TUESDAY, JUNE 2, at TWELVE, in one lot, and if not so sold, then immediately in two lots, GROVE HOUSE, a desirable family residence, containing eight bed rooms and attics, dining and drawing room, and the usual domestic offices; with coach-houses and stabling, orchard, capital flower and kitchen gardens, vinery, tastefully disposed lawn, with carriage drive, &c. comprising an area of four acres; also, immediately adjoining THREE ACRES of excellent LAND, allotted under the Acton Inclosure, and has a long frontage on the turnpike road to Uxbridge, also to two roads leading to the Acton Station; in fact, is bounded on three sides by good roads. The property is freehold, and is in every way adapted for building purposes; it is within a very few minutes' walk of the Acton Station on the North and South Western Junction Railway. The subsoil is gravel and clay. The residence has been recently vacated, so that possession may be had on completion of the purchase.—Particulars, with plans, may be had at the Mart, E.C.; of Messrs WALKER & JERWOOD, Solicitors, 12, Mincing-lane, E.C.; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 19, Wellington place, Pall-Mall, S.W.

To Wheelwrights, Barge Builders, Timber Dealers, Cabinet Makers, Pianoforte Makers, Builders, and Others.—5,000 feet of Dry Oak Planks, Pine, Yellow, and White Deals, Mahogany Walk nut, a quantity of Oak Barge and Boat Knees, &c &c (Sale Postponed from last Wednesday)

F. HALL & SON will SELL by AUCTION, on WEDNESDAY, MAY 13th, 1863, at ONE o'clock, on the PREMISES, Chester street, Kennington-lane (near the Six Bells), Smith and King's Arms), an unclaimed Parcel of Goods sent in from the Docks, and the clearance of a Barge Builder and Lighterman; comprising about 5,000 feet of capital long dry oak plank, suitable for barge or boat builders, wheelwrights, and others; 5,000 feet of dry beech plank, quantity of elm and timber planks and skids; 1,000 pine, yellow, white, and spruce planks, deals, and battens, cut various, 300 ditto whole; 5,000 feet of Spanish, maple, and birch veneers, stock of Spanish mahogany, short wainscot and mahogany boards, quantity of sycamore, chestnut, cut into boards, 10 doors and other doors, and various effects.—Catalogues on the Premises; Telegraph, Regent-street, Westminster; and of the Auctioneers, 1, Thurloe terrace, Wandsworth road

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R. W. LLOYD, Clerk.
Ludlow, 4th May, 1863.

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AN Architect and Surveyor offers his SERVICES as MANAGER of an ESTATE, either for building or other purposes. Is thoroughly practical, and otherwise competent, and would devote the whole or only part of his time to the duties.—Address, ARCHITECT, 70, High Holborn.

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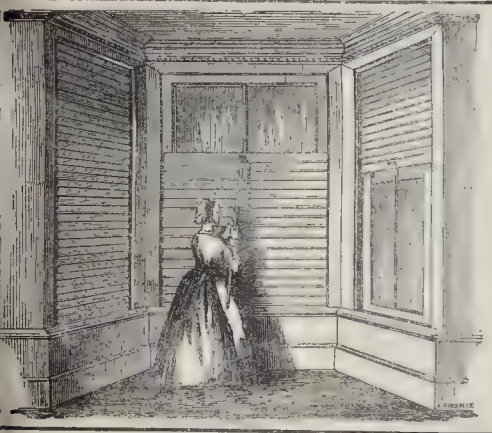
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May 1, 1863. THOMAS PIPER, Secretary.

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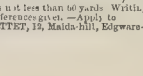
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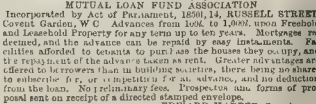
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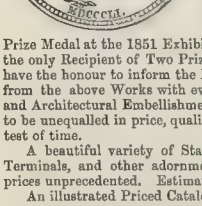
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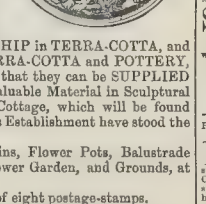
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WOOD PAVING.
MESSRS. THORN & CO.
CONTRACT to MANUFACTURE and LAY WOOD PAVING, of every description. It is particularly adapted for RAILWAY STATIONS, ENGINES, SHOPS, IRON BRIDGES, &c.
THORN & CO. STEAM SAW-MILLS, CREMORNE WHARF, CHELSEA, and GROSVENOR ROAD, PIMLICO.
Asphalte for Railway Arches and Iron Bridges.

NOTICE OF REMOVAL.

GEORGE JENNINGS, HYDRAULIC AND SANITARY ENGINEER,

begs to inform ARCHITECTS, ENGINEERS, and OTHERS interested in SANITARY PROGRESS, that the London, Chatham, and Dover Railway Company have taken his Wharf and Factory, HOLLAND STREET, for their New Station at Blackfriars, and that his Works for the future will be carred on at

PALACE WHARF, STANGATE, LAMBETH,

OPPOSITE THE RIVER FRONT OF THE NEW HOUSES OF PARLIAMENT.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, 

Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,
BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

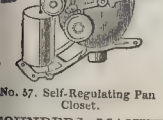
DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

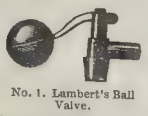
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



No. 57. Self-Regulating Pan Closet.

THOMAS LAMBERT & SON,



No. 1. Lambert's Ball Valve.



No. 6. High-Pressure Bib Valve.



High-Pressure Stop Valve.

FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH-PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves manufactured by them, have their NAME legibly marked thereon.

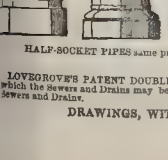
JAMES STIFF & SONS,

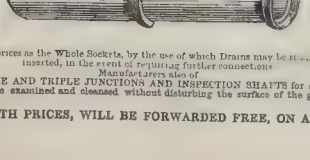
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

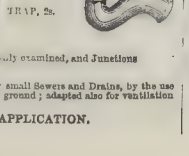
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







PAN, 4s 6d.

TRAP, 2s.

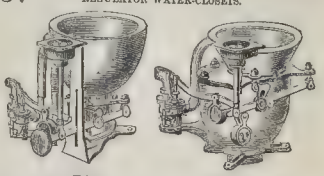
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

J. TYLOR & SONS' PATENT
REGULATOR WATER-CLOSETS.

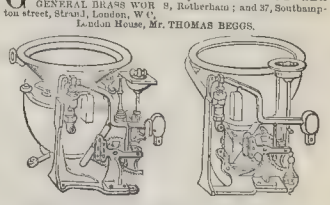


Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No cistern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London

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GUEST & CHRIMES, FOUNDRY and GENERAL BRASS WORKS, Rotherham; and 37, Southampton street, Strand, London, W.C.
London House, Mr. THOMAS BEGGS.



ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient and simple, free from all smell, and requires no cisterns, service boxes cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipes. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet, alike dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary Service Main Cottage Water Closets

Chrimes's Patent High pressure Single and Double Loose Valve and Screw Down Cocks; Improved Self-acting and Pull Water-Closet; Patent Absolute Water Waste Preventer; Plumbers' and Gas-Fitters' Brass Work of every description. Drawings, Descriptions, Prices, and Testimonials will be forwarded per post on application as above

---

PENCILS, BLACK LEAD, and COLOURED CHALKS.

A. W. FABER'S POLYGRADE LEAD PENCILS, sold by all Stationers and Artists' Colourmen.

Sole Agents, HEINTZMANN & ROCHUSSEN, 9, Friday-street, E.C.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.

A sample of the Forty-Guinea Village Turret Clock may be seen in action, and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,248.

JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
183, St. George street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER by special appointment to Her Majesty and H.R.H. the Prince of Wales, and

MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,

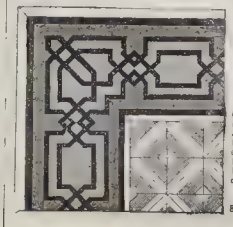
Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do do	10 "
Ladies' or Gentlemen's Gold English Lever Watches	13 "
Strong Silver Lever Watches	5 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do. do.	25 "
Marine Chronometers	25 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 33, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London

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SOLID PARQUET FLOORS, ARROWSMITH'S PATENTED,

From 1s per foot, in various woods, inch thick, grooved, ongued, and keyed together, not veneered

For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

SHOW ROOMS,
80, New Bond-street, W.

SALES BY AUCTION.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Messrs. Lavers to SELL by AUCTION, on MONDAY, MAY 18th, at ELEVEN o'clock, at the IRON GATE BRIDGE, on the Bow Creek, a few paces from the Barking-road Station of the North Woolwich line, removed for convenience of sale on the convenient of Government contractors and other large works on the Thames,'a collection of valuable PLANT and MATERIALS: including one Gilbert's steam pile engine, two Slaven's steam pile engines, two contractors' portable steam engines of eight and ten horse power, horizontal 14 horse high press re steam-engine and boiler, 8 inch pressure steam beam engine, with 11-inch cylinder, 30 inch stroke, powerful iron circular saw bench, two multitubular steam boilers, monkey engine, two 15-ton travellers, six trussed overhead travelling cranes, single and double purchase crabs, treble and single blocking gear for shears, three hand pile drivers, two Murray's portable iron pumps, capable of raising 1,800 gallons per minute, one Norris's patent pump, blocks and falls, irons, smiths' tools, large quantity of builders' plant, 300 loads prime Memel timber, 1 to 3 and 4 inch Memel planks, four very large blocks of Riesch stone 12ft long and 2 tons each; stone truck to carry 3 tons, with Kirkaldi forge and anvil, timber carriage, carts, harrows, 50 ton barge, 3 ft. Jervis's patent and other weighing machines and weights, and other effects. To be viewed on Saturday previous to the sale. Catalogues may be had at the Wharf; and of Messrs. FULLER & HORSEY, 13, Billiter-street London, E.C. There is every facility for the removal of the goods by water or land carriage — N.B. Approved bills at three months' date will be taken from purchasers to the extent of 50l. and upwards.

TO PRINTING PRESS AND MACHINE-MAKERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, MAY 19th, 1863, at ELEVEN o'clock, on the PREMISES, Finsbury street, Roupmaker street, Finsbury, in lots, the MACHINERY, TOOLS, and STOCK-IN-TRADE of a printing-press and machine maker and engineer, including a self-acting planing machine, new within two years, by Smith, Beacock, & Tannett, to take in 3 feet 6 inches wide and 12 feet long; two self-acting screw-cutting lathes and drilling machine, by the same makers; two surfacing and boring lathes to the larger capable of turning a surface 7 feet in diameter, two smaller turning lathes, 4 horse steam engine and boiler, slotting, vice and benches, steel tools, sawing tackle, stores of various descriptions; also a valuable collection of patterns for the different sizes of Columbian printing presses, and for the Clarer log print wove boxes, all the remaining stock-in-trade, double demy printing-machine, one double crown and one foolscap folio press, sixteen inking tables, rollermoulds pair of surfaces, cardcutter, counting house furniture and other effects.—To be viewed on Monday previous to the sale, when catalogues may be had on the Premises; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

TO BUILDERS, CONTRACTORS, SAW-MILL PROPRIETORS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Messrs. Wilson & Sons to SELL by AUCTION, on MONDAY, 25th, MAY, 1863, and following day, at ELEVEN o'clock each day, on the PREMISES, Great Suffolk-street and St. Steven's-square, Kent street, Southwark, without reserve, the MACHINERY, TOOLS, and remaining STOCK of a BUILDER: including a 16-horse power, direct-acting steam-engine; Cornish boiler, 7 feet diameter, 29 feet long; rack saw bench, vertical deal saw frame, self acting circular saw bench and twenty-four cast-steel saws, planing machine, moulding machine, two morticing machines, ball saw machine, joiner's circular bench, with ploughs and saws; circular edgeing and moulding machine, leather bands, two tons of hoop iron, 240 pine planks, twenty squares flooring boards, six loads timber in scantling, twenty four inch Hamburg and Odin mouldings, in planks, 7,000 feet 4 to 12-inch yellow boards, 2,000 feet pitch pine boards from 4 to 11 inch, 8,000 feet pine battens and planks, 5,000 feet 4 to 11-inch white deals, 300 feet sairting, 220 cubic yards sandy rock plank, 14 000 feet rim mouldings and sash beads, 50 new panel doors, 50 dozen scaffold cords, 3 builders' hoists, ladders, and steps, 3 grindstones, 27 joiners' benches, 3 cramps, 3 crates ground glass, 300 scaffold boards, 100 scaffold poles, 8 dozen putlogs, 27 stone sinks, 800 feet York paving, 92 York cills, 700 Rufford's glazed bricks, 600 feet 4-inch rubbed York coping, quantity Portland and York stone, an assortment of builder's ironmongery, timber carriage, tumbril cart, spring stone cart, hand truck, 2 masons' trucks, office fittings, and other effects. To be viewed on Saturday previous and morning of sale, when catalogues may be had on the Premises; and of Messrs. FULLER & HORSEY, Billiter-street, E.C.

BRENTFORD GRAIN DISTILLERY.—TO BUILDERS AND OTHERS.

MESSRS. FULLER & HORSEY will SELL by AUCTION, pursuant to an Order of the Court of Chancery, made in the cause "Booth v. Coulton," "Booth v. Booth," and "Booth v. Nash," with the approbation of his Honor the Vice-Chancellor Stuart, the Judge to whom these causes are attached, at the AUCTION MART, in the city of London, on THURSDAY, the 28th day of MAY, 1863, at TWELVE o'clock, in Four Lots, the highly important FREEHOLD and COPYHOLD ESTATE, lately occupied as Sir Felix Booth's Grain Distillery, comprising the buildings, the back room, the new house, the mill, dwelling house, offices, yards, garden, and stabling, and a landing wharf on the Thames, situate at Brentford, about seven miles from London, on the western road, and about midway between the Kew and Brentford stations of the South-Western Railway. It is contiguous to the Kew station of the North London Railway, and also to the locks and basins of Brentford; and the whole forming a most desirable property for any large manufacturing establishment, or a most eligible site for building operations.—To be viewed till the 26th inst. by cards only, which, with printed particulars, plans, and conditions, may be had of ST. P. B. HOOK, Esq., Solicitor, 6, Lincoln's-inn-fields, W.C.; of W. H. DAVIS, Esq. Solicitor, 16, London square, Kensington; of Messrs. KINGSFORD & SMITH, Solicitors, Essex-street, Strand; of Messrs. CLARK & RUSTON, Solicitors, Brentford; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

Pair of Steam Engines, equal to 50-horse power nominal.

MESSRS. FULLER & HORSEY are instructed by the Directors of the London Armoury Company (Limited), who are removing to their new Works, to SELL by AUCTION, on THURSDAY, MAY 28th 1863, at TWELVE for ONE o'clock, at the AUCTION MART, Bartholomew-lane, a pair of 14-inch nominal high pressure and condensing STEAM ENGINES, each of 25-horse power, cylinders 20 inches diameter, 5 feet stroke, with metallic pistons, bright gearing, eccentrics, 8-inch fly-wheel and shafts, made in 1861. The Engines may be seen in action at the Works in Bermondsey (by cards only) any day between the hours of TWELVE and ONE of the day before the Sale; and catalogues may be had of Messrs. FULLER & HORSEY, 13, Billiter street, London, E.C.

NORTH LONDON RAILWAY.—KINGSLAND JUNCTION.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, by order of the North London Railway Company, on the PREMISES, near the Kingsland Station, on TUESDAY, MAY 19th, 1863, at TWELVE, the first portion of the excellent MATERIALS of about SEVENTY HOUSES and SHOPS, situate at Kingsland-green, Charles street, Hartwell street, Barrow-road, Dalston lane, Forrest-row, &c. &c. May be viewed the day previous to Sale, and catalogues had at the Offices, Kingsland-road and Camden Town.

BATTERSEA.—TO GENTLEMEN, NURSERYMEN, BUILDERS AND OTHERS.

MESSRS. PROTHEROE & MORRIS are instructed by the executors of the late Thomas Galnes, deceased, to SELL by AUCTION, on the PREMISES, Surrey lane, Battersea, S.W. on MONDAY, May 11th, at ELEVEN o'clock, a newly-erected SHOW-HOUSE, 41 feet 10 inches by 32 feet over; 28 capital greenhouses, several ranges of pits; 1, 2, 3, and 4 light horses, 3-gazing vans, thousands of feet of 3 and 4-inch hot-water piping, saddle and other boilers, erection of sheds, quantities of bricks, slate shelving, York paving, hand glasses, garden pots, mats; useful slate shelving, York paving, hand glasses, garden pots, mats; useful bay gelding; brewing utensils, iron roller, nest seed drawers, barrows, garden tools, and sundry effects. May be viewed prior to the Sale. Catalogues may be had (for cash, returnable to purchasers) on the Premises; of the principal Seedsmen in London; and of the Auctioneers and Valuers, American Nurseries, Leytonstone, Essex, N.E.

BUILDING MATERIALS.—CURTAIN ROAD, SHOREDITCH

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Charlered Gas Company to SELL by AUCTION, on the PREMISES, on MONDAY, MAY 11, at TWELVE for ONE, all the Valuable BUILDING MATERIALS, Fixtures, and Fittings-up of a large Chapel, Dwelling-house, and Premises adjoining, in Cumberland-street, Curtain-road: comprising excellent stock bricks, lead and zinc gutters and pipes, sheet rafters joists, girders, and other useful timber, plain and pan tiles, sashes, doors, wainscoting, chimneypieces, and interior fittings-up, sound flooring boards, tar paving and fittings-up of the chapel, entrance-gates, York and pebble paving, coping and sills, hot-air stove, and useful fixtures and fittings-up.—May be viewed. Catalogues of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C.; and 40, Parliament street, S.W.

STRAND.—The Excellent BUILDING MATERIALS of a recently erected Block of Buildings

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, MAY 22, at TWELVE, the very excellent MATERIALS and FITTINGS-UP of a Block of Buildings erected within the last few years in Wellington-street, Strand, corner of Exeter-street, comprising a large quantity of sound materials of the very best quality, a detailed description of which will shortly appear—40, Parliament street, Westminster, and 80, Fore street, City.

OLD ASYLUM, BEDFORD.—Excellent Building Materials

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the town, on the Ampthill road, on MONDAY, MAY 11th, at TWELVE for ONE o'clock, the Ninth portion of the excellent BUILDING MATERIALS of the late Bedford County Lunatic Asylum, comprising entrance door, with fine wrought Ketton stone frontispiece, marble and other chimney pieces, register and other stoves, excellent dressed and rubbed Ketton and other windows, doors, and sashes, fine Ketton stone, quoins, sills, string course, and coping; large quantity of well-seasoned oak joists, rafters, floor-boards, purlins, beams, &c.; 250 narrow and timber sash weights, 500 slate, weights, air bricks, and ventilators, strong 66 round locker, wrought iron palisades and gates, large cast iron grating, cast iron, stone stair case, and numerous other large slate slabs for roofing; fire excellent oak staircases in Governor's House, a large dinner bell, 2 heavy deal boards, 2 iron gardens, quantity of pebbles, coping bricks, York paving, &c. May be viewed on the Saturday before the sale, and catalogues may be obtained of the Auctioneer, 14, Moorgate-street, London, E.C. and of the Foreman on the premises.

SHOOTER'S HILL, KENT.—VALUABLE FREEHOLD BUILDING LAND.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the TOWN HALL, Woolwich, on FRIDAY, MAY 15th, 1863, at SIX for SEVEN o'clock in the Evening, 15 Lots of FREEHOLD BUILDING LAND, with frontages to the Eglinton and Brent roads, situate near to the Royal Military Academy, Woolwich Common, and well adapted for the erection of superior Villa Residences. Nine tenths of the purchase money may remain on mortgage or contract at five per cent, to be paid in nine years, by half-yearly instalments, but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained at the Auction, 14, Moorgate-street, London, E.C. and of the Auctioneer, 14, Moorgate-street, E.C.; of Mr. JOHNSON, on the Estate; of Mr. R. GREEN, Richard-street, Woolwich; and at the Place of Sale.

POSTPONEMENT OF SALE. WIMBLEDON, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM has to announce that the SALE of LAND, at the AUCTION MART, London, on MONDAY, May 18th, 1863, at TWELVE for ONE o'clock, is POSTPONED until further notice.

ADDISCOMBE COLLEGE, CROYDON, SURREY.—Mansion, House and Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, Bartholomew lane, City, on MONDAY, MAY 25, at TWELVE for ONE o'clock, a VERY IMPORTANT LOT, being the PORTION of the late ESTATE, late the property of the Hon. East India Company, consisting of the noble mansion, built in the most substantial manner, and in a very complete order, formerly an institution; containing on the second floor eleven bed-rooms, dressing-room, work room, store room, and water closet; on the first floor, a lofty drawing room, 30 feet by 20 feet, with two communicating rooms, and two other rooms; on the ground floor, a noble entrance hall, dining-room, attendants library, four sitting rooms, two store rooms, wide oak staircases on the basement, servants' hall, kitchen, scullery, larder, housekeeper's room, butler's pantry, cellars, &c. The steward's house contains, on the first floor, four bed rooms; on the ground floor, two parlours and sitting room on the basement, kitchen, scullery, and offices, and garden. Also eligible Freehold Building Land, with frontages to the Upper Addiscombe-road. The lot on which the lodge stands is now let at £10 per annum for business purposes, and the remaining lots are adapted for good Villa Residences. The property is within ten minutes' walk of the New Addiscombe Station, and within half an hour's ride from West Croydon, and when the Addiscombe Railway is completed the Station will be on the Estate; thus bringing the property in constant communication with the City and West end of London. Nine-tenths of the purchase money may remain on mortgage or contract at 5 per cent to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained about ten days before the sale of Mr. PALCE, South Lodge, Addiscombe; of the principal Inns in the neighbourhood; of Messrs RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

EAST HAM, ESSEX.—VALUABLE FREEHOLD BUILDING LAND.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, on MONDAY, MAY 25th, at TWELVE for ONE o'clock, in Nineteen Lots, about 7 acres of MARKET GARDEN and BUILDING LAND, late in the occupation of Mr. Mills, situate about midway between the Plaistow and East Ham Stations, on the London, Tilbury, and Southend Railway, with frontages on the Green Man Road and Pasture Road to East Ham and Barking, opposite Plasket Park and near the Green Man Tavern. The corner lot facing the road from West Ham and Stratford, is set apart for the erection of a Tavern. Nine-tenths of the purchase money may remain on mortgage or contract, at 5 per cent, to be paid in nine years by half-yearly instalments, but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained ten days before the sale of the principal Inns in the neighbourhood; of Mr. THOMAS BUCKLAND, Church street, Edgate; of Messrs. RUSSELL & DAVIES, 59, Coleman-street; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

REDHILL, SURREY. Cottage Residence and Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL BY AUCTION, at the MART, London, on FRIDAY, MAY 29th, 1863, at TWELVE for ONE o'clock, a COTTAGE RESIDENCE, called Mill Street, an Eligible Building Land, with frontages to Mill street, the New-road called "Garland's-road," and to the Parish-road from Redhill to Brighton. The whole Freehold and unlet property, containing 3a. 2r. 20p. Nine-tenths of the purchase money may remain on mortgage, or contract, at 5 per cent to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained ten days before the sale at the principal Inns in the neighbourhood; of Mr. THOMAS BUCKLAND, Church street, Reigate; of Messrs. RUSSELL & DAVIES, 59, Coleman-street; of the Auctioneer, 14, Moorgate street, London, E.C.; and at the Place of Sale.

ENFIELD, Middlesex.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the Mart, London, on FRIDAY, MAY 29th, 1863, at TWELVE for ONE o'clock, several LOTS of FREEHOLD BUILDING LAND adjoining the Town, and close to the Enfield Station on the Great Eastern Railway. Nine-tenths of the purchase money may remain on mortgage or contract at 5 per cent, to be paid in nine years by half-yearly instalments, but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained at the Inns in the neighbourhood; of Mr GLOVER, Chase Side, Enfield; of the Auctioneer, No. 14, Moorgate-street, London, E.C.; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; and the Place of Sale.

BUILDING MATERIALS, BRIDEWELL.

MESSRS. GLASIER & SON are favoured with instructions from the Governors of Bridewell Hospital, to SELL, by AUCTION, on the PREMISES, on WEDNESDAY, MAY 27th, and following day, at TWELVE for ONE, the valuable BUILDING MATERIALS and FITTINGS: comprising 1,000,000 capital stock bricks, several thousand feet of capital York and Portland stone in paving, coping steps, string courses, cills, &c.; 100 squares of slating, slating-boards, rafters, flooring, boards and joists, turret-clock and bells, iron doors, railings, bars, girders, and gratings, about 30 tons of lead, couch-house gates, sashes, doors and frames, large coppers, slate cisterns, large steam cooking apparatus, chimney-pieces, stoves, ranges, and other fixtures and fittings.—May be viewed on the day prior and mornings of sale, and catalogues had on the premises; and of the Auctioneers, 41, Charing-cross, S.W.

FOR SALE by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canon's Marsh, Bristol, on WEDNESDAY, 20th day of MAY, 1863, at ONE o'clock precisely. (Luncheon at Half past Twelve o'clock.)

For account of Importers

15,000 Spruce Deals, Battens, Scantling, and 1 Ends
7,000 Yellow Pine Deals
6,000 St Petersburg Red and White Wood Deals
2,500 Gefle Red and White Deals, and Boards
2,000 4 by 11-inch Redwood Memel Deals
3,500 Fresh Sawn Red and Norway Deals and Battens
1,000 Pitch Pine Planks and Battens
200 Loads Quebec Yellow Pine
150 Loads Quebec Red Pine
50 Loads Quebec Birch Pine
30 Loads Quebec Oak
200 Loads Fresh Memel Timber
100 Loads Prime Memel Oak
2,000 Memel Pipe Staves
30 Wainscot Oak Logs
100 Loads Red Norway Timber
500 Loads Swedish Timber
200 Norway Masts
1,000 Fir Poles and Spars
11 Fathoms Firewood
10 Fathoms Hemlock, Dantzic, and St. Petersburg Lathwood
30,000 Pipe Staves
40,000 Sawn Laths
Flooring

With other Goods.

Catalogues will be issued in the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, May 6th, 1863.

TO BUILDERS, CARPENTERS, TIMBER MERCHANTS, OWNERS, AND OTHERS

MR. CHARLES PUGH will SELL by AUCTION, on TUESDAY, MAY 12th, and FOLLOWING DAY, at ELEVEN o'clock, the BUILDING MATERIALS of the extensive Mansion of THE ALB HOUSE, Streatham, Stables, Dairy and Cowsheds, consisting of good sound bricks, lead, tiles, slates, joists, flooring, oak and mahogany wainscotting, sashes, grates, plate glass doors, slate paving, marble slabs, 4-in. shingles, chimney pieces, both with hot-water apparatus, to let, lock, hanger hinges for about 150 doors, of cattle, oak, elm, and a variety of wood in planks and scantling. Catalogues, 3d. each, at the Premises; White Lion, Streatham; White Bear, Kennington, and Auction Office, 6, Blackman street, S.E.

TO BUILDERS AND OTHERS Very eligible LEASEHOLD BUILDING GROUND, I acre 1 rood 14 perches, Waterloo place, Highroad, New Cross, being in the midst of a well-populated district offering 60 feet of frontage, and well suited for the erection of shops, or large manufactory. Lease 60 years. Ground rent 30s. or 35l.

MESSRS. TEBB, BROS. will SELL the above ESTATE, estimated to profit as a Ground Rent of 16l. per annum, by AUCTION, at the MART, on WEDNESDAY, MAY 13th, at ONE o'clock, in ONE LOT.—Plan and Particulars 2s. Post; at the "Dover Castle," Broadway, the Mart; and 3, Adelaide-place, London Bridge, E.C.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, BROMPTON, S.W.

Notice of PRIVATE SALE at 5s. MARBLE CHIMNEY-PIECES, to be sold at very reduced prices, to save the expense of removal to the Brompton-road, in the following Marbles, viz.: Sicilian, Opposite Black, Sienna, Pavilion, California, St. Ann's, Rouge Jasper, Jaune Fleure, Brocatelle, Devon, Irish Green, Blue Belge, Emperor's Red, Irish Fossil, Languedoc-yellow, Serpentine, and a large selection of excellent specimens of British Marbles, varying in price from 1l. 10s. to 50l.; and for elegancy of design, workmanship, and quality, not to be surpassed in England. Purchasers to the extent of 30l. and 50l. approved bills at three and four months will be taken, or 5 per cent. cash. Purchasers from the country will be supplied with packing cases, and the same forwarded to any of the metropolitan stations for 1 per cent, on the amount purchased.

Extensive Stock of a Timber Merchant, Camden Town.

MESSRS. LEREW & LEREW have had consigned to them for SALE by AUCTION, at the YARD, Camden-terrace, near the Railway Station, Camden-road, N.W., on MONDAY, APRIL 13th, at TWELVE, the capital STOCK, as principally advertised; comprising upwards of 500 lots.—Auction Offices, 2, Cauldwell-street, Hampstead-road.

[For remainder of Auctions see p. ix.

London: Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, No. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields, and Published in the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 4, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, May 9, 1863.

The Builder.

Architect, Engineer, Operative & Artist.

VOL. XXI.—No. 1058. MAY 16, 1863. PRICE FOURPENCE. By Post, 5d.

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ROYAL HORTICULTURAL SOCIETY.
10TH JUNE, 1863.

CEREMONIAL TO BE OBSERVED AT UNCOVERING the MEMORIAL of the EXHIBITION of 1851, and STATUE of H.R.H the PRINCE CONSORT, in the presence of their RR.HH.'s the PRINCE and PRINCESS OF WALES and other Members of the Royal Family

The Guests invited to take part in the procession will assemble at the West Dome of the Exhibition Building.

While assembling Military Bands will play.

The Royal party will be received at the West Dome entrance by the Executive Committee of the Memorial Committee.

Their RR.HH.'s will proceed down the Nave to a Balcony over the Southern Entrance of the Horticultural Gardens, and their arrival will be announced by a flourish of trumpets. "God Save the Queen" will be played by three Military Bands united in the Ante-Garden.

The Council of the Horticultural Society will present an Address.

Military Bands will again play.

After which the Memorial Committee will read an Address.

H.R.H. the Prince of Wales will order the UNCOVERING OF THE MEMORIAL, which will be announced by a flourish of trumpets and a salute of Artillery, after which Military Music will be performed and the Fountains will play.

The Royal Party, headed by the Procession, will then walk round the Gardens, stopping at various points to see the Memorial and the Garden.

The route will be marked by barriers and bunters; and it is requested that during the Procession the spectators will remain stationary.

In the event of rain, the line of Procession will keep under the cover of the Arcades.

The Exhibition Building will be thrown open to the Visitors.

GEORGE GODWIN, Hon. Sec. Memorial Committee.
W. W. SAUNDERS, Hon. Sec. of the Horticultural.

ROYAL HORTICULTURAL SOCIETY.
10TH JUNE, 1863.

UNCOVERING OF MEMORIAL OF EXHIBITION OF 1851.

In the Presence of their RR. HH.'s
THE PRINCE and PRINCESS OF WALES.

Cards of Admission, price 10s. if obtained before the 27th of May; 20s. up to 9th of June; and 30s. on day.

A. MURRAY.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON.

On TUESDAY Evening next, at 7.30, a LECTURE will be delivered in the THEATRE, on "THE WROUGHT IRON WORK of the GREAT EXHIBITION of 1862" By WILLIAM WHITE, F.

PRIZES of £25 and £15 for Wood-Carving, and £5 and £3 for Colored Decoration are now offered to Artist-workmen who may obtain Competitors' Tickets, at Admission cards for the Lectures, of the Attendant in the Museum: at the Office of "The Builder;" or by letter to the Hon. Sec. at 13, Stratford-place, W.

A. J. B. BERESFORD HOPE, President.
GEORGE GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, W. NOW OPEN, from 10 till 6, daily. Admission, One Shilling. Season Tickets, Half-a-Crown, admit to all the Lectures and to all the Lectures. Third Lecture, by Dr. CHAS. DRESSER, on TUESDAY EVENING, MAY 19th.

JAS. FERGUSSON, F.R.A.S. } Hon. Secs.
JAS. EDMESTON, F.I.B.A. }

Also, in conjunction with the above, the Exhibition of the Society of Sculptors of England. MORETON EDWARDS, Hon. Sec.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS, 9, Conduit-street, Regent-street, W.

A PUBLIC DINNER in aid of the Funds of the above Institution will take place at the London Tavern, on WEDNESDAY, JUNE 3rd, 1863; A. J. B. BERESFORD HOPE, Esq. P.G.S. in the chair.

STEWARDS.

Cockerell, F. P. esq.
Currey, H. esq.
Donaldson, T. L. esq.
Dunlage, W. esq.
Fowler, Charles, esq.
Foster, C. W. esq.
Fielder, H. esq.
Grissell, T. esq. F.S.A.
Hardwick, P. esq. R.A. F.R.S. F.S.A.
Hardwick, P. C. esq. F.R.S.L.
Hayward, J. esq.
Higgs, W. esq.
Hill, G. H. esq.
Haynes, W. esq.
Jay, John, esq.
Jennings, Geo. esq.
Keeling, E. B. esq.
Lee, W. esq. M.P.
Lee, H. esq.
Lee, Son, & Smith, esqrs.
Lucas Brothers, esqrs.
Myers, Geo. & Son, esqrs.
Pennethorn, Jas. esq.
Parkinson, R. esq.
Plucknett, Geo. esq.
Richardson, Charles, esq.
Robinson, Thos. esq.
Rogers, Wm. esq.
Snook, — esq.
St. Aubyn, J. P. esq.
Taylor, Josh. esq.
Trollope, Geo. & Son, esqrs.

Gentlemen desirous of promoting the interests of the Institution by becoming Stewards, and supporting the Chairman on the occasion, will oblige by forwarding their names to the Secretary, at the above address JOSEPH KAY, Secretary.

INSTITUTE of PAINTERS in WATER COLOURS, founded 1831, as the NEW SOCIETY of PAINTERS in WATER COLOURS. The ANNUAL EXHIBITION is NOW OPEN.—Gallery, 53, Pall Mall, opposite Marlborough House.

JAMES FAHEY, Secretary.

THE EXHIBITION of ALUMINIUM and ALUMINIUM BRONZE 2,000 SPECIMENS illustrating the Silver-like Qualities and Useful, of these interesting Metals are NOW ON VIEW at MAPPIN BROTHERS' New Rooms, 222, Regent-street. Admission by Card.

MEDALS and PRIZES of the ROYAL INSTITUTE of BRITISH ARCHITECTS, Conduit-street, Hanover-square, W.

The Council will proceed in January, 1864, to take into consideration the appropriation of the Royal Medal to be conferred on a distinguished Architect, or on a Man of Science who may have produced a work tending to promote the knowledge of architecture, or of the various branches of science connected therewith. Gentlemen desirous of sending Essays, Illustrations, and Designs, in competition for the Silver Medals of the Institute, the Soane Medallion, with its Travelling Fund, and the prizes offered by Mr. W. Tite, M.P. F.R.S. and Sir Francis E. Scott, Bart. may obtain the necessary information on application to the Honorary Secretaries, by letter, prepaid, at the above address. JOHN P. SEDDON, } Honorary
CHAS. FORSTER HAYWARD, } Secretaries.

COMPETITIONS.

TO GLASS STAINERS.—ABBEY CHURCH, BATH.—Persons willing to give DESIGNS and TENDERS for a MEMORIAL WINDOW to the late Bishop Carr, to be placed at the east end of the choir of Abbey Church, are requested to forward designs and estimates (including carriage and fixing) to Mr. RICHARD STOTHERT, Hay Hill House, Bath, before the 1st of JULY next. The size of the window is 20 feet wide by 50 in height, including the mullions and tracery. The design not to include any human figures, but in other respects is left open to the suggestion of the artist. No pledge is given to accept the lowest or any tender.—For further particulars, apply to Mr. RICHARD STOTHERT.

ROYAL MASONIC INSTITUTION for BOYS, Lordship-lane, Wood Green, Tottenham.

Patron—Her Most Gracious Majesty the Queen.

President.—The Right Hon. the Earl of Zetland, K.T., M.W.G.M.

PLANS and DESIGNS for a projected NEW BUILDING for One Hundred Boys.—The House Committee of this Institution have in contemplation to erect a new building on their own freehold property situate as above; but before coming to a final decision on the subject, are desirous of having placed before them ample materials for the guidance of their judgment. They therefore offer to such architects as may think proper to furnish plans, three premiums of £50 and 30 respectively, for PLANS and DESIGNS for a BUILDING, with every necessary accommodation for 100 Boys, with the requisite educational and domestic staff. The Drawings of the three selected and premiated Designs to be the absolute property of the Committee. The Committee will not bind themselves to adopt either design, but will be at liberty to modify either premiated Design in any way they may think proper, to employ any architect they may select, and to erect the Building in sections or otherwise as they may think best. The sum proposed to be expended is £8,000. The Drawings to be sent into the Office addressed to the Committee, care of the Secretary, not later than TUESDAY, the 7th of JULY next. Full instructions and every information will be given on application to the Secretary as under, on and after THURSDAY, the 4th instant.

FREDERICK FINCKS, Secretary
Office, 16a, Great Queen street, W.C. May 6th, 1863.

WEDGWOOD MEMORIAL INSTITUTE, Burslem.—The Committee for Erecting the above have received designs of 37 Artists from Mr. Beresford Hope, Mr. J. K. Heathcote, Mr. J. Edge, and the Rev. Dr. Armstrong, as PRIZES for the best DESIGNS of all Architect or other Artist for the Treatment and Decoration of the FAÇADE of the INSTITUTE, in all or any kind of ceramic ware, coloured bricks, mosaics, and terra cotta, as structural features of an architectural composition, with the view of encouraging a higher and more artistic style than is usually applied to the decoration of buildings. The Competitive Designs are to be sent in to Mr. Beresford Hope, Mr. Digby Wyatt, and Mr. J. C. Robinson, Judges. The Designs must be sent in on or before NOVEMBER 2, 1863, and will, after adjudication, be all exhibited, both at Burslem and in the Architectural Exhibition (London), 1864.—Particulars, with block elevation, may be obtained by letter (enclosing a postage stamp) from the SECRETARY of the Architectural Union Company, 9, Conduit-street, W.; and from W. WOODALL, Esq. Longport, Burslem, Staffordshire.

TO ENGINEERS, &c.—WATERWORKS for the BOROUGH of WATERFORD.—The Town Council of Waterford is prepared to receive plans and estimates for the SUPPLY of WATER to the CITY. Printed specification of the general conditions may be had on application, through the post or otherwise, to JOHN O'BRIEN, Esq. Town Clerk. A premium of 50l. will be paid for the plan approved of.

Town Hall, Waterford, May 5, 1863.

MACCLESFIELD CEMETERY. — The Burial Board are desirous of receiving PLANS, ELEVATIONS, and SECTIONS, with estimates of the cost, of THREE DETACHED CHAPELS, for the Church of England, the Dissenters, and the Roman Catholics. They are to be constructed of stone, and not in an unnecessarily expensive style. Premiums of 15l. 10l. and 5l. will be awarded for the first, second, and third best sets of designs.—The Board to have the right, if required, of returning any of the designs for which a premium is paid. They must be sent to the Burial Board, Townhall, Macclesfield, on or before the 3rd of JUNE next, and any information may in the meantime be obtained at my Office.

Macclesfield, May 6, 1863. JOHN MAY, Clerk to the Board.

TO ARCHITECTS and OTHERS. — The Committee appointed for BUILDING a NEW BAPTIST CHAPEL in Lake road, Landport, Portsmouth, are desirous of receiving PLANS, ELEVATIONS, SECTIONS, SPECIFICATIONS, and ESTIMATES for the same. The Chapel to contain 1,000 sittings, and the cost not to exceed 3,500l. A Premium of 21l. will be given for the approved Plans, for which Plans, &c. are to become the absolute property of the Committee; but the Committee reserve to themselves the right of rejecting the whole of the Plans, &c. if in their judgment there should not be any one suitable for the purpose intended. The Plans, &c. to be sent free of expense to Mr. CROWTER, 149, Lake-road, Landport, on or before the 24th day of JUNE, 1863, without the author's name, but with a motto. A sealed letter, bearing the motto and containing the author's name and address, must accompany each Plan, &c. to be sent.—Further particulars may be known on application to Mr. CROWTER, as above.

Portsmouth, May 14th, 1863.

TO GAS ENGINEERS, &c. — The Town-council of Waterford is willing to receive PLANS and ESTIMATES of GASWORKS for the Public Lighting of the Borough. Particulars can be had from the Town clerk, JOHN O'BRIEN, Esq. on application through the post or otherwise.

CONTRACTS.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for ERECTING the GARRISON POINT COAST GUARD STATION at Sheerness, in the County of Kent, may inspect the Drawings and Specification at the Custom House at Rochester, or at the Office between the hours of TEN and FOUR, from WEDNESDAY the 13th, to WEDNESDAY, the 27th inst. now next ensuing and both inclusive (Sundays excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at noon of the 28th inst. under seal, and directed to the Commodore Controller General of Coast-Guard, and endorsed "Tender for Garrison Point."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 4th day of May, 1863, at the Admiralty.

Coast-Guard Office, 12, Spring-gardens, London, S.W.

COAST GUARD CONTRACT.

NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the Erection of a COAST GUARD STATION at Pendeen Cove, near Penberth, in the County of Cornwall, may inspect the Drawings and Specification, at the Coast Guard Watch-Room, Penzance; or at this Office, between the hours of Ten and Four, from WEDNESDAY, the 13th, to THURSDAY, the 28th inst. now next ensuing, both inclusive (Sundays excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at noon, of WEDNESDAY, the 27th inst. under seal, and directed to the Commodore Controller General of Coast Guard, and endorsed "Tender for Pendeen Cove."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest, or any of the Tenders.

Dated this 4th day of May, 1863, at the Admiralty.

Coast Guard Office, 12, Spring-gardens, London, S.W.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS, &c.—TENDERS are required for the following service at Chatham, viz. RAISING DOWN a HIGH-MASTING Dockyard to Chatham Barracks.

Parties desiring to Tender for the execution of these works must leave their names at this Office on or before SATURDAY, the 23rd day of MAY, 1863, and pay the sum of half a guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not pledge himself to accept the lowest or any Tender.

Royal Engineer Office, Chatham, 11th May, 1863.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.

TENDERS are required for RENEWING ROAD WORK on ROOFS of certain BUILDINGS at the Royal Military College, Sandhurst, Berks.

Parties desiring to Tender for the execution of these works must leave their names at this office on or before the 23th day of MAY, 1863. Sub-contractors will be required to take out their own quantities from the specification.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Sandhurst, 12th May, 1863.

[For remainder of Contracts see next Page.

CONTRACTS.

FAKENHAM CHURCH, NORFOLK.—To BUILDERS.—Sealed Masons, Carpenters and Joiners, Plumbers and others, Sealed and Printed, as are willing to TENDER for RE ROOFING, and RESEATING the Parish Church at Fakenham, may inspect the Drawings and Specifications at the School House, Fakenham, on and after the 11th inst., by leave of Church wardens first obtained for the purpose; both Specifications Sealed Tenders must be delivered at the Rectory House before 12 o'clock of MAY, at which time they will be opened for the due performance of the contracts. And it is hereby notified that no tender cannot be accepted. Each Tender must be signed by the Tenderer, and the quantities of each article stated and given in Mr. B. WORTLEY'S Estimate. Any further particulars may be obtained on and after the 16th MAY. By order of the Committee,

J. H. & WM. ATKINSON, Architects.

93, Micklegate, York, May 2, 1863.

TO BUILDERS. Plans and Specifications for RESTORING and REPAIRING the PARISH CHURCH at Tarvesdon, Yorkshire, in the centre of Whitestone, may be inspected at the Rectory House, Tarvesdon, till SATURDAY, the 23rd MAY. Sealed and printed Forms of CONTRACTING for the Execution of the Above Works may be had on sealed Tenders, directed to the Rev. W. HARLEY, Tarvesdon, Brackley, on or before the 26th MAY. The lowest or any Tender will not be necessarily accepted.

Tarvesdon, May 4th, 1863.

NORTH-EASTERN RAILWAY. — To CONTRACTORS, BUILDERS, IRONFOUNDERS, &c.—The Directors are prepared to receive TENDERS for the ERECTION of a GRAIN and GOODS WAREHOUSE at the Type Dock near South Shields. Plans and Specifications may be seen and all information obtained on and after the 11th MAY, on application to Mr. PROSSER, Architect to the Company, Newcastle-on-Tyne. Tenders addressed to the Secretary, to be delivered at York before 12 o'clock on FOURTEENTH WEDNESDAY, the 20th MAY. Quantities will be supplied. The Directors do not pledge themselves to accept the lowest or any Tender.

J. CLEGHORN, Secretary.

York, 2nd April, 1863.

TENDERS for the REMOVAL and DESTRUCTION of DISEASED MEAT. To Cowkeepers of Sewers in the City of London, Westward in the South Side of Broad City, on TUESDAY, the 5th of MAY, 1863, at TWELVE o'clock precisely, to receive TENDERS for the REMOVAL and DESTRUCTION of MEAT, and POULTRY contemporary in the Sewers' Rounds now unfit for human food. Particulars of the terms of receipt may be entered at every day at the Office, and the Tenders must be delivered before TWELVE o'clock on the day of treaty, at which time the parties sending in proposals, or their personal representative or by a duly authorized agent.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, May 6th, 1863.

TO BUILDERS. Persons willing to CONTRACT with the Trustees of the County of Kent for the ERECTION of POLICE STATIONS at Tenterden, Wittersham, may send separate specifications at the Office of the County surveyor, Maidstone, to be inspected until, between the hours of TEN and FIVE o'clock, on which day Tenders will be received at the Council Office, where a Form of Tender may be had if applied for. Tenders Station, "Tenterden" or "Wittersham," are to be delivered on SATURDAY, the 23rd next, and not later than MONDAY, the 25th next, and persons tendering are to attend at the hours of 12 and 2, Maidstone, on TUESDAY, the 26th of May, at which time the Tenders will be opened. No Tender will be accepted unless accompanied by a sufficient security with the required for the performance of the respective contracts.

H. A. WILDES, Clerk of the Peace.

Maidstone, May 4th, 1863.

SEWERS OFFICE, GUILDHALL, 30th April, 1863. The Commissioners of Sewers of the City of London will meet at the Guildhall aforesaid, on TUESDAY, the 12th of MAY next, at TWELVE o'clock, to receive TENDERS for the said WORKS. The Cleansing and REPAIRING of SEWERS within the said City, as may be required, during the term of three years, commencing on the 1st day of August next. Specifications of the works and of the terms of the contract, to which the Tenders are to be adhered to, may be had at the Office, on and after Monday next, between the hours of 10 and 4, and Tenders must be delivered at the Office aforesaid, sealed up, and addressed to the Chairman of the Commissioners of Sewers, on or before TWELVE o'clock on the day of treaty, when the Tenders will be opened in the presence of such of the Tenderers as may attend. The Commissioners do not bind themselves to accept the lowest Tender, nor any that does not comply with the specification and conditions.

JOSEPH DAW, Principal Clerk.

TO BUILDERS. TENDERS are required for the ERECTION of a HOUSE at Lower Clapton. Drawings &c. can be seen on and after MONDAY next, at Mr. T. LAWRENCE, Architect, 2, Lothbury. Sealed Tenders will not be received after the 25th inst. TENDERS are required for the ERECTION of THREE VILLAS at NORWOOD. Plans to be Prepared. The Contractor being bound to Execute the Contract of Three others adjoining.

TO BUILDERS, CONTRACTORS, and OTHERS. Tenders are required for the ERECTION of a Iron BANK for the NEW HOUSE, now in the Market-place, Boston, from the Plans and Specifications to be seen at the Office of Mr. STEPHEN LEWIN, Boston, on and after the 18th instant. Tenders to be delivered at the Office on THURSDAY, the 28th. The lowest or any Tender not necessarily accepted.

Boston, May 12, 1863.

TO BUILDERS.—TENDERS will be received by HON. & CROFT, Esq. of Offices, Barking, on or before SATURDAY, MAY 23rd, 1863 for ALTERATIONS, ADDITIONS, and RESTORATION of FARM PREMISES, at Gale's Field, in the parish of Barking, in the occupation of Mr. THOMAS WALTON. Plans and specifications may be seen or application at the Inn at Barking, kept by Joseph Finch, from MONDAY, the 18th inst. until SATURDAY, the 23rd inst. any information respecting the premises may be obtained on the premises for the last three days of Mr. ROBERT SMART, Surveyor, Dagenham, near Romford, Norfolk. The lowest or any Tender will not necessarily be accepted.

TO BUILDERS. TENDERS are required by Messrs. CURRAGE & CO. for the ERECTION of a PUBLIC HOUSE at Upton, Essex, may be obtained on and after THURSDAY the 21st inst. and Tenders to be left on MONDAY, the 25th inst. at 12 o'clock, at the Office of Mr. CHESLER CHESTON, Jun. Architect, 3, Mincing-lane, City. The lowest or any Tender not necessarily accepted.

May 14th, 1863.

TODMORDEN TOWN-HALL COMPANY, Limited. TO MASONS and BUILDERS.—The Directors of the above Company are prepared to receive TENDERS for the whole of the Works required on the ERECTION of the proposed TOWN HALL. The Plans, drawings, and specifications may be inspected at the Architect's Office, Manor Hall, Todmorden, from MONDAY, the 18th inst. to SATURDAY, the 30th inst. after which time it will be open to the Tenderers, parties who have any Tender Schedules enclosed in Tender for Town Hall, Todmorden," to be left at the Post Office, Todmorden, addressed to the Secretary, on or before TWELVE o'clock on the 30th inst. The Directors do not bind themselves to accept the lowest or any Tender.

TO BUILDERS. Persons desirous of CONTRACTING for the ERECTION of the NEW FOUNDERY, WORKS, and other Buildings, now being erected at Undertown, near Ruby Townships, in the parish of Wore-in-Hurst, are informed that the Drawings and Specification for the work may be seen by application at the Office of Mr. JOHN MARK, Caterton Parsonage, on and after SATURDAY next, but that no Tender is to be taken in the name of the Contractor or responsible tenderer, except the name of the Contractor is stated in the Tender, nor any that does not comply with the specification and conditions.

Caterton Parsonage, Kirkby Lonsdale.

TO BUILDERS. — Persons desirous of TENDERING for the ERECTION of NEW FARM BUILDINGS at Nobb's Farm, Springhill near Chelmsford, can inspect the plans and specifications at my Office at Chelmsford, after the 22nd MAY. Tenders to be delivered to me at Chelmsford, on or before the 1st day of JUNE. The Proprietor does not pledge himself to accept the lowest or any Tender. FRED CHANCELLOR, Architect.

Phoenix Hall, Old Broad-street, London, and Chelmsford, May 14, 1863.

THE GAS METER COMPANY (Limited). The Directors of the above Company require TENDERS from Builders for the EXTENSION of their PREMISES in Kingdom-road, including new offices, foundry, workshops, stores, packing rooms, &c. Plans and specification to be seen and all information obtained at the Office of their Architect, Mr. WILLIAM LEE, St. Michael's House, London. Security to the amount of £500 will be required to insure the completion of the works within the time named. Tenders to be delivered at 5, Coleman-street, City, on MONDAY, the 25th inst. TWELVE o'clock, addressed to A. A. CROLL, Esq., Chairman of the Company.—By order of the Board,

G. BAIL, Esq., Managing Director

BLACKFRIARS BRIDGE. — Notice is hereby given, that the Bridge House Estate Committee will meet at the Guildhall, on TUESDAY, the 26th day of JUNE next, to receive TENDERS for the ERECTION of a TEMPORARY BRIDGE across the River Thames, on the east side of, and adjoining to, Mr. Kirtee's Bridge (now standing on the Surrey side of the River), and the Plans of the Works to be executed, may be seen, and further particulars obtained, upon application at the Office of the Engineer, JOSEPH CURTIS, Esq. No. 1, Great George-street, Westminster. The Tenders must be sealed up, addressed to the Bridge House Estates Committee, endorsed "Tender for Temporary Bridge at Blackfriars," and delivered (sealed) at the Guildhall aforesaid, before 12 o'clock on TUESDAY, the 26th JUNE, and the persons Tendering will be expected to be in attendance at Guildhall on that day at ONE o'clock to receive the Orders of the Committee thereupon. The Committee do not bind themselves to accept the lowest or any Tender that may be sent in

FERDINAND BRAND, Comptroller.

Guildhall, April 30th, 1863

THE CRAYS GAS LIGHT and COKE COMPANY (Limited).—Contractors are invited to TENDER for the ERECTION of NEW GAS WORKS and MAINS for this Company. The Plans and Specifications may be seen on and after THURSDAY, the 21st MAY, 1863, at the Offices of WILLIAM MAY, Esq. St. Mary Cray, Kent, and 2, Adelaide Place, London Bridge; or at the Offices of Messrs. Clegg & Lawrence, Mr. ALBERT PENNY, Wenden Town Works, West Road, City Road. The work is divided into three contracts—Builders' Work, Engineers' Work, and the Laying of the Mains, and Tenders to be delivered in separate envelopes. Tenders addressed "Tender for Gas Works," and sent to the Secretary, WILLIAM MAY, Esq. 2, Adelaide Place, London Bridge, on or before TUESDAY, the 2nd day of JUNE, 1863.

TO BUILDERS.—TENDERS are required for the ERECTION of TWO SEMI DETACHED VILLA RESIDENCES, at Appley. The Drawings and specification can be seen on and after SUNDAY, the 18th inst. at the Office of Mr. HARDY, North-street, Lewes. Sealed Tenders to be endorsed "Tender for Villas at Appley," and left at the GRANDHAM, Esq. 1, Salisbury-street Chambers, St. Mary-axe, on or before MONDAY, the 8th day of JUNE next. The proprietor does not bind himself to accept the lowest or any Tender.

NOTICE.—Royal Engineer Office, Sheerness, 8th May, 1863. TENDERS will be received by the Director of Contracts for ENLARGING a WELL, and SUPPLYING and FIXING a Temporary PUMP, &c. at Sheerness.

Parties desiring to Tender are to obtain the Particulars, together with a Specification and Form of Tender, on application to this Office, between the hours of TEN and FOUR, till the 21st MAY, inclusive.

No Tender will be received after the 25th MAY, and the Secretary of State does not bind himself to accept the lowest or any Tender.

SEWAGE of the METROPOLIS.—The Metropolitan Board of Works hereby give notice, that they have EXTENDED THE TIME for receiving TENDERS for DISPOSAL of the SEWAGE of the METROPOLIS until FRIDAY, the 19th JUNE next. All Tenders must contain a full description of the works proposed, and a time in which the same will be completed, and must be accompanied by plans, and such other information as may be required by the Board, further particulars as to the manner in which the sewage is to be delivered into, and the quantity and quality of the manure which it is to contain, the points at which the sewage is to be intercepted for the purpose to be employed, the mode of effecting such intercepting communications with the Board's sewers, the provisions against flooding, terms of pumping power, or other motive power in the company's works, the mode of deodorisation or otherwise preventing the sewage from becoming a nuisance or injurious to health; the amount of capital to be provided, proposed rate of the shares, duration of contract, and royalty agreed to be paid to the Board. The Board will not entertain any contract, or make any concession of sewage to any parties unless they take all steps necessary for carrying their proposals into effect within a time to be named by the Board; and in the event of failure to do so any agreement or concession on the part of the Board shall be void and of no effect, and in any event a deposit of £5000 must be made to secure to the Board the return of the sewage works, and the full power to re-let and deal with the same, and no further power, in case of any failure of the contractors in their operations, to sell to their full rights, and without any cost to the Board. Tenders must contain the names of two or more sureties, to be approved by the Board, who shall be jointly and severally bound in a sufficient sum, for the due performance of the contract, and for the efficient execution of the works in accordance with the provisions and subject to the limitations of the Metropolis Local Management and Main Drainage Acts, and for indemnifying the Board against all loss, damages, or claims, counter for compensation, legal proceedings arising out of the said works, or out of any act of the contractors. The Board will not bind itself to accept the lowest or any Tender. The plans and sections of the sewers to be used, and information obtained on application at the Engineer of the Metropolitan Board of Works, at their Office in Spring Gardens, between the hours of NINE a.m. and FOUR p.m. on all Saturdays, between NINE and TWO o'clock. Tenders must be delivered at the Board-room, on the 19th of JUNE next, at ONE o'clock precisely, and must be endorsed at the office before FOUR o'clock on THURSDAY, the 5th of JULY next, when Tenders will be opened in the presence of such of the Tenderers as may attend. Tenders, and who may be desirous of altering or amending their proposals, may obtain them on application to the Clerk of the Board.—By order,

JOHN POLLARD, Clerk of the Board.

May 14, 1863

TO STONE MASONS, MERCHANTS, and QUARRYMEN.—The Local Board of Health for the District of West Ham, in the County of Essex, are prepared to receive Offers of GRANITE CURB, and they hereby invite TENDERS from parties who may be willing to contract with them for supplying such Granite Curb, and for Laying and Repairing the same, according to the Plans, Specifications and conditions now be examined, and forms of Tender obtained, by application to Mr. MARSHALL, the surveyor to the Board, at his office, at Rokeby House, Stratford, E., and Tenders are to be sent to me on or before MONDAY, JUNE 8th. By order of the Board,

CHARLES WILSON, Clerk.

Rokeby House, Stratford.

NOTICE.—To Stone Merchants, Paviors, Contractors and Others. The Woolwich Local Board of Health will meet at their Board Room, Widgate-street, at SEVEN o'clock in the Evening of TUESDAY, the 26th inst. to receive TENDERS for the supplying and LAYING about 15,000 SUPERFEET SUPER. of FIRST CLASS GINCH YORK, and 15,000 FEET SUPER. of 6 INCH YORK PAVING, ROLLED and SQUARED, in such streets within the parish as may be selected. Also for the supplying and Laying about 7,000 feet run of Aberdeen Granite Kerb, 12 in. by 6 in. and 7,000 feet run of Aberdeen Granite Channelling 9 in. by 6 in. and 6 in. by 6 in. Copies of the specification, with form of tender, as such, may be had by application to Mr. REED Clerk to the Local Board, on or before the 24th inst. The Board do not bind themselves to accept the lowest or any Tender.—By order,

ANDREW C. REED, Clerk.

Town Hall, Woolwich, 11th May, 1863.

WEST HAM LOCAL BOARD of HEALTH.—The Local Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS for LAYING GRANITE CURB, and also for supplying such road-metal and labour as may be required in making and repairing the streets called Stratford street, Newton street, Crawford street, Salbarton street, Arkwright street, Fulton street, Brunel-street, Upper, Middle, and Lower Park Streets, Montes mens-street, Rathbone-street, Pitt street, Burke street, and Clarke's street all in Hallsville, with in the district, according to plans, sections, specifications, and conditions prepared by Mr. MARSHALL, the Surveyor of the Board, and which may be seen at the Office, at Rokeby House, in Stratford, where also forms of Tender may be obtained, together with any further information required. Tenders, endorsed "Tender for Roads," are to be sent to me, on or before MONDAY, the 8th of JUNE next.—By order of the Board,

CHARLES WILSON, Clerk.

Rokeby House, Stratford

TO BUILDERS.—TENDERS are required for the ERECTION of FOUR EIGHT-ROOMED HOUSES in Deptford. Plans and specifications may be seen on and after the 16th inst. on application to Mr. W. CLARK, 27 Buckleysbury, E.C. Tenders must be delivered on or before the 21st inst. The lowest or any Tender will not necessarily be accepted.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 4, Vine, Great Guildford-street, Borough, S.E. Inventor of the Rotary Shaft Point, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.

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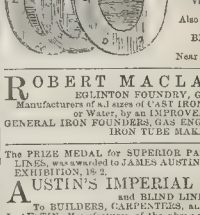


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They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

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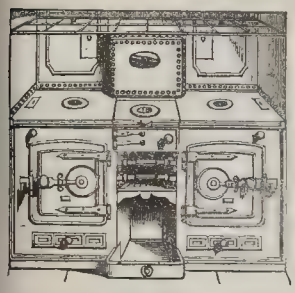
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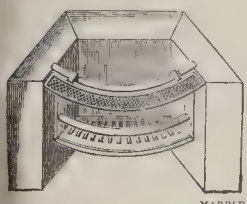
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With hanging trivet.

		s.	d.		s.	d.
18	in. fire-grate, 13 inch bars	7	6		9	6
21	,, 13 ,,	10	0		12	0
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36	,, 24 ,,	30	0	Extra strong.		
48	,, 27 ,,	36	0			
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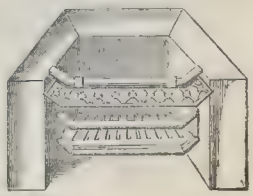
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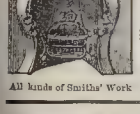
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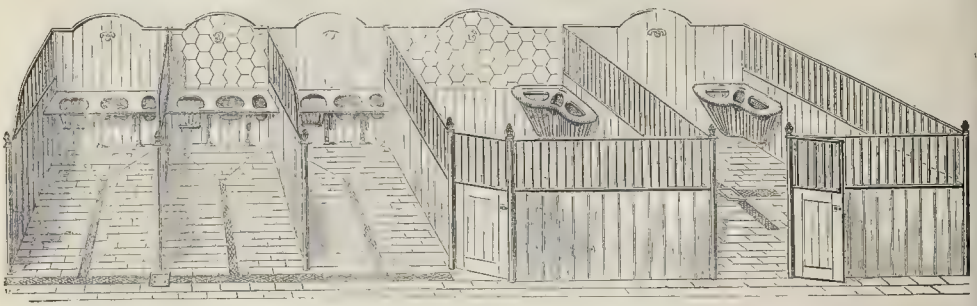
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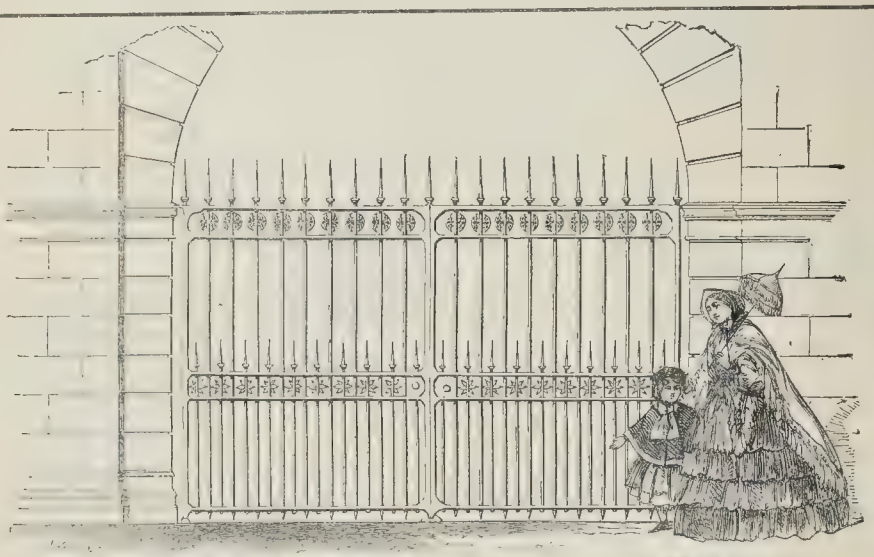
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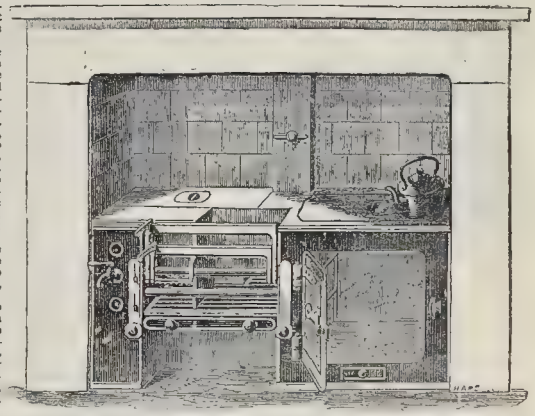
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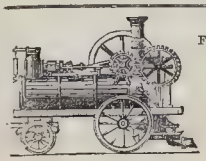
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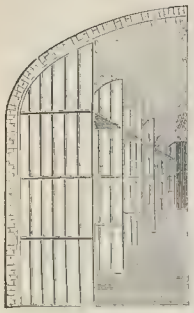
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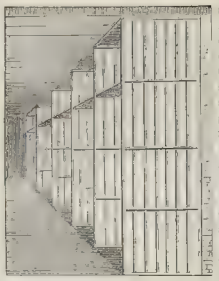
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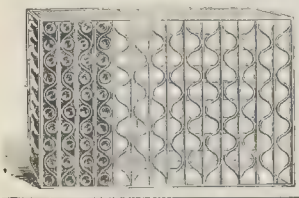
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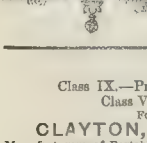
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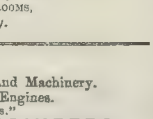
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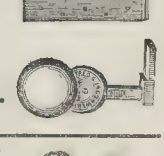
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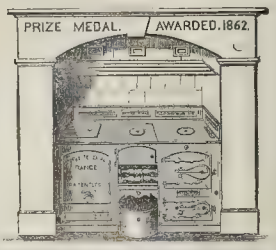
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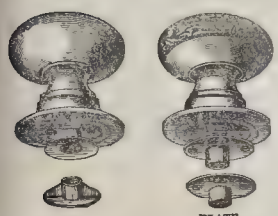
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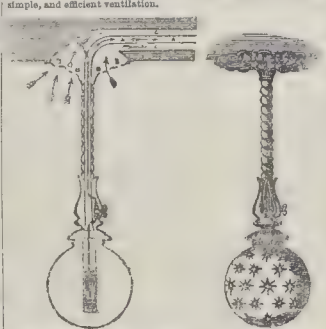
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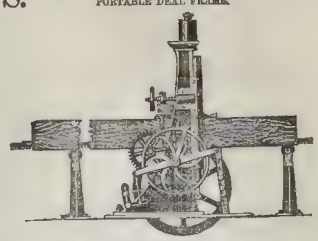
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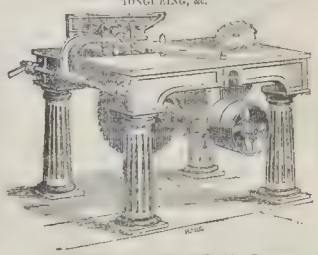
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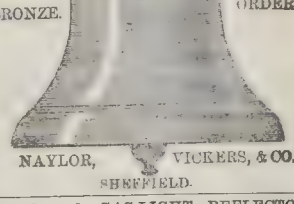


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VOL. XXI.—No. 1058.

Fresh Excavations on the Roman Campagna.



EXCAVATIONS begun last February, near the eighth mile from Rome, on the Flaminian Way, have laid open remains of a Villa of Livia, mentioned by classic writers, and well rewarded the proprietors who undertook these works, supplying one more proof how rich is the harvest to be yet secured beneath the unexhausted soil of the Campagna! The expedition to *Prima Porta*, site of these discoveries, though through one of the least frequented and least monumental regions of the Roman environs, is full of interest and historic association. Crossing the Milvian bridge, we take the road improved, after long abandonment, within late years, and now generally preferred for the journey northwards to Civita-castellana, following the track of the Flaminian, whose ancient pavement is seen, in considerable portions, after a few hours' progress, exactly correspondent to the direction of this modern route. For several miles we have the scenery of the Tiber valley, impressive in its solemn solitude, spread far in view to our right; and at a short distance from the Milvian bridge, we distinguish, on the river's opposite bank, the uncultivated grass-grown mounds where once stood Antemnæ: farther northward are the more boldly-rising heights once occupied by Fidenæ, whose acropolis is marked by a large spectral old farm-house, called Castel Giubileo, on a lofty promontory conspicuous above all the knolls and ridges around. The direction of the ancient Flaminian Way may for several miles be traced by the frequent ruins of mausolea, once, perhaps, splendid as those in the Appian, but far more dilapidated, probably owing to their immediate exposure to the outrages of successive invaders from the North: their general plan, however, still distinguishable, the prevailing form either circular or conical, with the sepulchral chamber in the centre. More singular is the formation of others seen at different points, close to the wayside, entirely excavated in the tufo rock, —some with vaulted ceilings, hollowed out with perfect regularity, presenting a type of which there is no example on the Appian, unless we may except (what indeed is very different) the subterranean cemetery of the Scipios. A narrow bridge carries us across the Cremera, whose quiet little stream brings to our thoughts Veii, Camillus, and the ten years' siege; while from its grassy banks, at this spot, the eye follows the windings of the long valley, between low uncultured hills, in which that city stood. Not far hence we cross another stream flowing into the Tiber, opposite the mouth, hence discernible, of the Allia, on whose banks the Romans sustained their most signal defeat by the Gauls, under Brennus. A grim Mediæval ruin, that must have had its day of pride in impregnable strength, stands on a precipitous height near the entrance to that valley of the Cremera. From this point extend, left of the road, a series of rocky ridges, lithoid tufo, of reddish yellow hue, adding a finely-contrasted feature to the rather monotonous landscape; and where these rocks rise to their boldest eminence they assume a name for ever renowned in association with an event of mighty import to the destinies of Christian Europe—*Saxa Rubra*—the battle between Constantine and Maxentius, the last decisive triumph over Paganism, having been fought on the wide plain through which the Tiber flows in a broad serpentine channel, below those heights so obviously suited to strategic operations. Beyond the northern limit where the tufo rocks subside into low undulations, a massive ruin, apparently the substructure of an extensive villa, advances from the grassy slopes of a ridge under which the road passes before taking a sudden turn, and bringing us, at an angle, to the little village, Prima Porta, whose sole street is formed by a chapel, an *osteria*, and about a dozen wretched houses. Immediately above, to the right, rises a steep knoll, now identified beyond doubt as the site of the Empress Livia's villa on the Flaminian Way, mentioned by Pliny and Suetonius. Having climbed to its summit, we could not but stop, before pursuing archæologic objects, to admire the grand and extensive landscape here spread before the eye, one of the finest panoramic views of the Roman Campagna. We found on this platform-summit, which is quite without culture, several labourers at work under the superintendence of a proprietor in whom courtesy and intelligence were not wanting. As yet there is nothing to observe on this site except several quadrate chambers opened at a depth little below the level of soil around; and within their areas the remains of decorative painting on stucco, crumbled off from interior walls, remarkable for vividness of tints, but not for any designs or figures on the fragmentary surfaces. All the more precious objects have been removed from these unburied ruins to the deserted rooms of an old house near the village, whither our obliging guide, the superintendent proprietor, conducted us. A rich variety of antiques is prepared to delight the archæologist in this improvised museum, whence nothing has yet been withdrawn: busts, marble and terra cotta ornaments for architecture, several antifixes being among these, fragments of marble reliefs, masons' *signa* on tiles, broken vases of glass, much oxydized; conduits of terra cotta, on one of which is the name Tiberius; and more interesting remains of painting on stucco in style similar to the Pompeian, with figures and heads of good design, the tints here also vividly preserved. But the greatest treasure, the discovery of which has made a sensation in Rome's artist-circles, is a statue of heroic scale (reported to be 11 feet), now laid on its back, at once recognizable as Augustus, and believed to represent him in the deified character; the head and body perfect; the right arm broken off, but happily preserved in numerous fragments; the legs also, and both feet broken, but in no part lost,—so that the complete restoration with the antique material will be an easy task. The countenance is very noble; indeed, among the many likenesses of this emperor at Rome, where they so abound, perhaps the most intellectually-expressive, regal, and serene; the profile, especially, of finest type, and the attitude of correspondent dignity; costume, a richly-ornamented cuirass, chlamys, military tunic, and buskins; and the advocates for the system of applying colour to sculpture will be gratified by the authority here in their favour, inasmuch as the cuirass and tunic retain clear traces of red paint, now reduced to a soft carnation, though not the slightest remnant of tinting appears on the head or nude parts. After we have admired that fine countenance, attention is arrested by the singular beauty of detail in the ornamental reliefs of the cuirass, the part covering the breast adorned by the figures of Aurora driving her quadriga, preceded by the winged Lucifer, and overshadowed by the *cælum*, an aged man with sweeping draperies extended on each side in semicircular folds; in the lower part, Apollo playing his lyre, mounted on a hippogriff; two warriors meeting, one the standard-bearer holding the vexillum with its eagle, the other accompanied by a dog, to symbolize fidelity; a subject province represented by a half-prostrate figure giving up a sword; and lower than these, Abundance, a female recumbent with the cornucopia.

In the ornamental sculpturing of military costume, of which many examples are seen in the Vatican and Capitoline Museums, none equal this latest-discovered example, or attain its effect of delicacy and richness. Noticeable among the other objects are busts, all in good preservation, and of superior style; one resembling Septimius Severus, with peculiarly forked and curly beard, in marble, blackened as if by the action of fire; another of a female, whose elaborate head-dress shows that the artist must have copied a wig; another of a youth, pleasing though not handsome, who wears the toga with a broad laticlave across the breast, here peculiar in being *quintuply* folded, each fold distinctly marked. Two well-finished reliefs of sphinxes are on a species of lappet ornament belonging to the costume of the Augustus; on the fragments of a large urn, which might be a sarcophagus, are other figures in relief, distinguished by beauty and freedom, the subject apparently (to judge from the attitude of one, falling dead or swooning into the arms of another), the slaughter of Niobe's children. On one of the stamped *signa* is a tiny figure of Fortune, in the centre of the disc, with the legend around: OPVS. DOL. DE PRAED. AVGG. EX FIGVLA D. CAECILLIAE AMANDAE. At present the works here are not being carried on with great activity, and the coming season of intense heat will not allow of more energetic pursuance; but we were gratified by hearing from the proprietor that his intention is, when October brings facilities for hiring a greater number, to keep 140 men every day at these excavations. The Papal Government reserves for itself, in regard to newly-discovered antiques, a right of purchase at the terms fixed by appraizers it appoints to estimate their value, but leaves the discoverers at liberty to prefer the offers of a higher bidder. In the year 1862 were exported from these States ancient sculptures of the value of 532 scudi; ancient paintings, 9,596 scudi; the value of *modern* exports that year being, for pictures, 119,537 scudi; for sculptures, 188,325 scudi.

The Pope has given permission, as announced to the Archæologic Academy, for excavating that part of the Palatine declivities comprised within the grounds at the north-western side, purchased several years ago by the Emperor of Russia, but after a time presented by him to the Pontific Government. In course of the works for building barracks within the Prætorian camp have been found several epigraphs, and a subterranean corridor of good construction, supposed to extend far, but not accessible to the public. Also some sepulchres formed inside the cells of the military, without any indication of date, but certainly belonging to a Christian period after the removal of prohibitions against intramural interment.

In the restorations still progressing at the basilica of S. Lorenzo beyond the walls, has been laid open the ancient level of a lateral portico, adorned with frescoes, illustrating that martyr's story, in several compartments, with inscriptions, evidently Mediæval, and concluded to be of the twelfth century; likewise, under the pavement of the present naves, several sepulchres, having in one, near the shrine of St. Lawrence, a body wrapped in cloth of fine texture, which had evidently been embalmed, and was covered by a stratum of plaster. On these remains, attached to the breast, was laid a gold cross, about an ounce in weight, wrought on both sides in niello of great elegance, with the words on the front:—*Emmanuel nobiscum Deus* (the first name Greek, the other words Latin); and on the reverse,—*Crux est vita mihi, mors inimice tibi.* This cross is recognized as one of those reliquaries for wearing on the breast, called by the

Byzantines, *encolpii*,—see the report by De Rossé, in his "Bulletin of Christian Archæology" for April, who conjectures for date of this object the sixth century. The discovery of entrances to two catacombs on the Salarian Way, and in those hypogees some primitive Christian paintings among the most valuable, have been already reported on in a *brochure*, with two coloured plates, by the Abbate Scognamiglio; one engraved original, in this series, the Virgin and Child, with a figure, probably St. Joseph, supposed to be of the first century.

The 21st of April is celebrated by learned societies here as the anniversary of Rome's foundation. In the last instance the members of the Pontific Archæologic Academy* met in the pleasant gardens of Prince Massimo's villa, on the site of the Sullustian, to listen to discourses, and partake of a good dinner. Before that substantial entertainment, Mgr. Bartolini read an essay on the glories of the Eternal City, under Paganism and under the Popes, to an audience including Cardinals and Princes. Before dispersal, Visconti proposed that all should adjourn to the Palatine. There was first inspected the site of the intended (not yet commenced) works of excavating on the Mount's north-western slopes; from thence the Academicians passed into the Farnese Gardens, to examine the excavations so long in progress at that side. Here they were soon joined by no less illustrious a visitor than Pius IX., who good-humouredly attached himself to their party (after, of course, due honours paid), and with the rest listened to the explanations of Signor Rosa, director of these works, undertaken by the French Emperor. We observe a new system in these Palatine Gardens, adopted by Signor Rosa for the information of visitors, carried out to an extent that may sometimes excite a smile from the sceptical, and sarcastic comment from the learned in Roman history. Sign-posts are erected with the designations of the several localities recently brought to light, or disencumbered; and we read in large letters, not only the titles *Triclinium Accademia, Domus Victoria*, but such startling announcements as that "*Here* stood the cottage of Faustulus, —'ubi Romulus mansitavit;'" "*Here* was the summit of the staircase called '*Scalarum Caci*.'"

On the 24th ult., the Archæologic Institute, of German origin and supported by German energies, met at their well-stocked library, on the Tarpeian Rock, for the last reunion before the summer recess. To an unusually full assemblage the principal report was read by Dr. Brunn, secretary, who principally dwelt on late discoveries in the Neapolitan States; the remains exhumed at Pompeii, of human bodies as well as artistic ornaments, and various decorative objects, some in wrought gold, from the soil of provinces corresponding to the territory of Magna Græcia. During this lecture were handed about engravings of the more interesting works described, most remarkable being that from a bronze Bacchus,—a statue, below life-size, found at Pompeii; the grace and correctness of this figure, the beauty of the head and general outlines, such as to impress every beholder. Coloured drawings and photographs from Pompeian antiques assisted the audience in appreciating objects described; and in a glazed cabinet was seen a collection of gold ornaments from Magna Græcia, vying with, if not surpassing, the Etruscan jewelry so much admired at the Vatican.

* This Academy was founded by Pomponio Leto, at his house on the Quirinal, already converted by him into a Museum of Antiques, shortly before the year 1482, and the first Christian celebration of Rome's anniversary took place, under the same superintendence, at the Church of Araceli on the Capitol. The Academicians were favoured, and new life given to their proceedings, under the Pontificates of Julius II. and Leo X. They disappeared after the atrocious sack of the city, in 1527, not to be resuscitated till 1700, when Clement XI. became a patron; and since 1814 they have enjoyed an assignment from the treasury, bestowed by Pius VII. Gregory XVI. allowed to them the gratuitous use of the press of the apostolic Camera.

ROYAL ACADEMY.*

IT was hardly to be expected that Mr. Millais would allow his reputation for the year to rest upon two such unostentatious productions as "My First Sermon" (7) and "The Wolf's Den" (498), charmingly simple as they are, and extraordinary for the matured power that signalises them. The merits of these are perfectly unquestionable, and put aside all chance of that discussion which apparently he often delights in provoking. Some such motive must have actuated his treatment of Keats's heroine in "The Eve of St. Agnes" (287). Apart from its pretensions to embody any ideas but those of his own conceiving, this picture, whilst it will dissatisfy as an illustration of the poem, must create wonder at the imitative power that distinguishes it. Moonlight has never been painted with more literal truth; and this interior, merely as an abstract representation, is a triumph over great difficulties, and extorts admiration, however reluctant one may be to accept every-day reality as a medium for interpreting a purely imaginative description. The fault lies in attributing to the picture any connexion with its stated origin. There is nothing to identify the ordinary-looking damsel, in one of the least picturesque attitudes incidental to unrobing, with the exquisite illusionary Madeline; so that there was the less excuse for further eliminating the poet by substituting sixteenth or seventeenth for fourteenth century accessories. Mr. Millais is never so apt an illustrator of others' ideas as of his own: his greatest successes are the best proofs of this; his "First Sermon," propounded upon a very original text indeed; and his admirable little household story, furnished by those eloquent little brothers grim in their wolf skins, about a lovely fairy, of snow-drop notoriety, to wit.

Mr. Cope's name has been often associated with some such pleasant phases of domestic interest as his "Music Lesson" (46) and "Morning Lessons" (221), both having a charm of their own; and Mr. T. Faed, with a more homely force and broader humour, goes to a similar source, though lower down the stream, for refreshment. "Train up a Child," &c. (in the way it should sew?), introduces us to a labourer's family, the head of which is watching with fatherly approval his busy pet of a daughter, seated on his knee, as she carefully sews on a button to the wrist of his shirt-sleeve. This is the most noticeable of Mr. Faed's contributions this year, all marked by the luminousness of colour and dexterous manipulation that are patent to him.

Mr. W. P. Frith's "Juliet" (100) proclaims relationship to many similarly graceful personifications that have preceded it; and although not too efficiently representing its author, it is invested with enough of the painter's fascinating method of execution to make it autographic.

Mr. Elmore's "Lucrezia Borgia" (130), beyond showing superlative technical qualities, is equally striking for definition of character, although his gorgeously-dressed and voluptuously-formed ideal may be somewhat too much in consonance with vulgar presentiment. This performance contains the essence of all that constitutes Mr. Elmore's excellence, and for brilliancy and precision of touch could scarcely be surpassed.

Mr. F. R. Pickersgill's "Isabella, Duchess of Clarence, urging her husband to abandon the cause of the House of York, and support that of Lancaster, A.D. 1470" (140), suffers from its neighbourhood to a consequent charge of appearing more flat than perhaps in the absence of such a contrast would be justified. A sparkling fancy portrait of such another boy in promise and parts as Henry VIII. must have been, before his predilections for havoc *in futuro* had supplanted a taste for bowls and knocking down nine-pins, will attract immediate attention for its elaborated finish and quaint treatment. "The King of Hearts" (146), by Mr. W. Holman Hunt, seems to have been naturally adapted for recalling Holbein and his times, irrespective of artistic fittings.

The veteran, Mr. T. Webster, is as genial in his comprehension of the unaffected enjoyment that would appertain to "A Tea-party" (159), such as he has so pleasantly depicted, as he is sympathetic with the poor bereaved peasant, who, "Alone" (165), is striving to derive consolation from the unfailing source of it: The widower, but just returned from his lost wife's funeral, would appear to offer subject matter for a demonstration of violently-expressed grief, but the excessive refinement with which the struggle for resignation is suggested, has deprived it of none of its intensity; and though the overwhelming nature of his grief is simply denoted by his inability to think of anything beside it,—his eyes dreamily wandering even from the words of comfort he so thirsts for,—the story is much more pathetically told than might have been the case if more dramatic means had been called into requisition. Mr. Webster has many disciples in his adherence to an always popular class of art, and not one more promising, or more likely to become distinctively prominent than Mr. J. Clark. "After Work" (122) will revive some of the anticipations his earliest works excited; for, though not equal to such an instance as his "Sick Child," there is a perceptible improvement upon productions of a later date. It has none of that woolliness and timidity of execution common to these. With less of sentiment, Mr. G. B. O'Neill's works are as generic in their way; "Aunt Deborah's Pocket" (121) and (357) "Public Opinion" inclusive.

The Greek pastoral of Mr. P. F. Poole (191), with some verses to describe it, is less successful as an example of poetic rendering than is customary from him, and more idiomatic of his failings than his strength. Mr. J. C. Hook's "Leaving at Low Water" (335) may be selected as epitomizing the leading characteristics of his style, so delightfully fresh and vigorous, and always without the slightest taint of vulgarity in its realization of truth. His comely fisher-wives, loutish sailor-lads, and sunburnt urchins, become epic, unassisted by adventitious sentimentalism; and his rigid observance of, and confinement to, fact, strangely enough appear to make him inimitable where imitation is easiest.

We cannot yet assimilate the fruits of Mr. F. Goodall's Oriental travel and study with his anterior reputation. His picture of "The Palm Offering" (515), representing an Arab widow carrying palm branches wherewith to decorate the grave of her husband,—according with a wider obtaining custom wherein flowers are substituted,—is powerful, both in its expression and the solidity with which it is painted; but in praising it we retain a preference for much that has preceded it from the same hand.

Mr. F. Leighton's four pictures have high merit, and together compass remarkable talents. His Bible illustration, however, though of the grand historical size, is by no means the most favourable exponent of this. "Jezebel and Ahab, having caused Naboth to be put to death, go down to take possession of his vineyard: they are met at the entrance by Elijah the Tishbite" (382), is the theme upon which Mr. Leighton has dilated with great spirit and force. The amount of success attained in it must certainly be attributed to the executive ability it indicates, and some of it, perhaps, to the tragic fervour of Jezebel. Elegance is very distinct from grandeur; and adopting a wide range of selection in regard to material is no proof in itself of versatility. A taste for extreme elegance is the dominative element in this artist's imagination; and, when appropriately exercised, leads to pre-eminently fascinating results, as will be best asserted by the exquisite incarnation of sybaritic loveliness, "A Girl with a Basket of Fruit" (406), and in a lesser degree by his "Girl feeding Peacocks" (429). On the other hand, how prevailing this influence is, and how difficult of subjugation, is intimated even in the stern, harsh "Italian Crossbow-man" (528), and to a greater extent in the figure of "Elijah," who, rouged giant as he is, threatening to bring away with him some of that fragile wall of the vineyard, is emasculated by the effects of it.

* See p. 325, *ante*.

ARCHITECTURE AT THE ROYAL ACADEMY.*

AMONGST several works exhibited by Mr. E. M. Barry, is a view (910) of St. Stephen's Crypt; and No. 912 is a view of the entrance. According to the original intention of Sir Charles Barry, the crypt is in course of restoration to serve as a chapel for residents in the Westminster Palace. We should have hardly supposed, from recollection, that so good a light could be got, as that shown in the principal drawing. The *severies* of the groining are enriched with floral ornament and monograms on gold ground, and the bowtel mouldings of the ribs with rosettes: the spaces beneath the windows are decorated in diaper with inlaid marble; and the floor is of encaustic tiles. The super-altar, or centre of the reredos, seems to be an ad-

* See p. 328, *ante*.

dition; at least, the detail is not quite in character. Mr. Barry's "New Chapel, Leeds Grammar School, in course of erection" (913), has, as shown in the drawing, a crude effect in the painted ornamentation of the main ceiling, or too like floor-cloth. The sacrarium ceiling, having monograms on blue ground, in compartments, is better in character; albeit it may be less novel. There is no strongly defined chancel, or sacrarium arch,—whether the omission be a defect or not: the ceiling only is spanned by wooden ribs rising, as arches, from shafts. A third work by Mr. E. Barry, a completion of one commenced by his father, is exhibited under No. 920, comprising three beautifully-executed drawings of portions of the interior of the Town Hall, Halifax, in Yorkshire. The principal portion, the Central Hall, without our saying that it has very great novelty,—a requisite quality indeed which we both desiderate and fear,—is one of the best designs for the feature of a building suited to such a town, that we have seen for some time. Our readers know we have come to think little of written description, in cases where explanation is peculiarly the office of drawings, as it is so peculiarly in the case of designs which are of the first quality. In the case of the Halifax building, if we might attempt description of the interior, we should say that the main features are the balcony-gallery carried by a bracket-cove, into which groin arches that rise from pilasters at the sides, and the cove and plafond of the ceiling,—the former being, except as to the supporting ribs, completely glazed, and in diamond-shaped panes with star-formed ornamentation at intersections of the bars. A Corinthian order of pilasters in the upper story, a balustrade (inferior to other parts), arch-headed panels for paintings, lunette-spaces for shields and supporters, and statues on pedestals in front of the pilasters of the ground story, complete the design. A council-room and a committee-room are shown as having wainscotting, oak ceilings coffered, or framed in compartments, and crimson and gold wall-decorations.

Coming back to London and its river, we find "The Proposed Tower Bridge over the Thames at the Tower Stairs" (896), designed by Mr. Page. It consists simply of plain arched ribs of iron, and spandrils filled in with light rectangular framing. The piers of the abutments are but poorly designed; indeed the decorative character in the whole bridge, is scarcely what might be looked for in works of which drawings are admissible in the Academy. The bridge is designed for a high-level way, as most of our readers would know. In "The Lendal Bridge on the River Ouse, at York" (904), by the same engineer, there is more attempt at decoration: but it is not quite successful; and the tracery in the spandrils is not good, regarded from the Gothic point of view. The toll-houses and abutments are castellated or Gothicised; and the arch-opening appears to be slightly pointed. These peculiarities are no doubt induced by desire to conform to the *genius loci*. Useful inquiry might be opened into the question of the obligation to make the efforts as in the case of an association of position of new works with others which may be of much earlier date, and of different style to any prevailing in our day, conformable to such date and style. Ought Telford to have designed the piers or towers of the Conway Suspension Bridge, as he did design and build them, to appear as outworks of the castle? The public approve in that case,—see every guide-book to North Wales,—whilst the engineer of a second Conway bridge decides any question that may have suggested itself to him, as did his predecessor. Can the engineer and architect, knowing that suspension and tubular bridges are creations of modern days, assent to the mimicry which there is in certain features of these Conway examples, for the sake of the good word of his constituency, the less-educated public? Are the gentry of Wales right in building their mansions on the type of Caernarvon and Chepstow Castles,—considering that the harmony which is thought to be attainable, results in deception, and in an impression when the true character is detected, that the work is childish? The employer who pays the cost, will often have "his way;" but a profession of artists should have a defined principle to govern its advice, if not also to act upon.

Captain Fowke exhibits two views (905, 929) of a "Design for Completion of the International Exhibition Building," which suggests too strongly the Louvre. In the Exhibition-road front, we find the centre extended in appearance of width and height, and the dome modified greatly, if not rebuilt. Amongst the features coming from the Louvre, and placed exactly as they are there, are the Caryatides; whilst in the angle pavilions, the form and general treatment of the roofs are no less copied. An order of engaged columns is combined with that portion of the new façade in which the mosaic pictures would occur. The Cromwell-road front would be little different from the other, excepting in the greater width of the centre portion of the design, and in the absence of the dome, as at present.

"The Palace Hotel, Buckingham Gate" (918), by Mr. John Murray, is a pretty accurate transcript of the Italian manner of Sir Charles Barry. It would be a valuable addition to the architecture of London, were the material any other than cement. This material is, we apprehend, to be used by Mr. Marrable in the Italian front of the much smaller building, for the Garrick Club (now erecting in the new street leading from King-street to Cranbourne-street), a view of which with adjoining buildings is shown in the drawing No. 909. The staircase, having nothing in it, but an oval in the ceiling, to redeem the whole from common-place, appears in No. 931. In the front, the doorway is neither in the centre nor at one end; and the result so far, is not good. Otherwise, with a more pronounced character in the ground-story, the design might have been effective in stone: cement, if used, should have a treatment for itself; although, in my case, it blackens sooner even than the other material; and three years may be taken as the utmost life-time of the best design. After that, the process of clogging-up and rounding-off by the application of paint or wash sets in. A view of the Board-room of the Metropolitan Board of Works (907) is shown by the same architect. There are features of the interior of that building which are more creditable to Mr. Marrable's taste, as well as professional skill. A drawing (915) of the Langham Hotel, of which a small photograph was noticed by us in the Conduit-street exhibition, is exhibitited by Mr. J. Giles, with whom is now associated Mr. Murray. Six stories of windows, mostly arch-headed, whereof one story is in the *cornicione*; a high-pitched roof with dormers and lucarnes; two projections in the north front, well treated as pavilions, but having bows, each of only two stories and not exactly harmonizing with the rest of the building; a rather awkward arrangement of re-entering angles and a cant to suit the rounding-off of the north-east corner, where a square and domical-roofed tower is placed, are the main features of the design. Though amongst these features are several which detract from the work, the northern façade, if in stone, will be an addition to the better part of the London architecture. The building will however, be fatal to the portico of Nash's church, which abused though the building have been, deserved a better fate. Is there to be attempted, the institution of some machinery of Government, or the Academy, by which can be prevented these interferences by private rights, with the public right in a prospect or a piece of architectural effect.

The manner of Sir Charles Barry before named, is very marked in the City of Norwich Hotel as proposed to be erected by Messrs. Banks & Barry. The drawing (928) shows also the intended Public Assembly Rooms. The building would have the feature of a clerestory with a modification of buttresses, and with arch-headed windows. A pediment with sculpture; a line of louvre-ventilators, breaking each slope of the roof; and a two-storied projection at the end of the building, super-pilastraded, are some of the other features. That portion of the building corresponding with aisles, has pilasters or piers, round which the cornice breaks, combining with the buttresses. The windows here are in two stages, the upper one being square-headed; and the working out of this arrangement is almost the only detraction from what is a very good design. The building would be of brick and stone.

Mr. G. G. Scott's drawing (914) of the new Leeds General Infirmary, is one of the cases where section, if not also plan, (the slightest sketches,) would, —even in the Royal Academy intention of exhibiting architecture, the art,—have been useful, and important to fair criticism. The arrangement of the buildings as a central block and two side blocks, is, judging from the view, the system of the plan; which thus, may be in accordance with good principles of hospital-planning; but as the whole of the window-lights are pointed, and the majority of the heads are large and filled with the Early-Decorated character of tracery, we cannot help desiring to know that the upper parts of the wards are so well lighted and ventilated, as they would be with the use of horizontal lintels, and window-heads close to the ceiling. This may not be the first time that we have found this question suggested by designs of a similar character of architecture: the question is one peculiarly appropriate for renewal in the case of a design for a hospital, and as illustrative of our point, the insufficiency of mere views. It might not be at any time satisfactory for the exterior of a building to give the idea of internal closeness and darkness; but where it were *shown* that the case was not so, we would accept the facts as artistic justification enough. Top stories seem to be lighted by dormer windows: are the ceilings which attend the use of such features, favourable to hospital uses? The carriage-porch, parapets, and gables, and other features,—in red brick and white stone,—have all the character of Mr. Scott's recent works; which is saying that they have some considerable beauty and merit.

A design for the Queen's Hotel, Aberystwith, by Messrs. C. F. Hayward and H. D. Davis, is exhibited in No. 923. The building promises to be, in character, an effective combination of features suggested by both the Italian and the Gothic, without the features being copied from those of either style, or suggesting the superiority of any particular examples. Such is the course which modern design should take, whatever may be the estimate of the success in the present instance. The continuous balcony to the second story, the balcony and verandah in one of the upper stories, and the balconies at canted angles of pavilions of this hotel, are features which are well managed, seeing what are the uses of the building, and the economic stone-construction throughout.

The hotel at Cannes, in France, appears as the principal work in a view (900) of buildings erecting by Messrs. T. Smith & Son. It is in the French Italian style; and the superiority in all points of its design to that of the other buildings, some of which are English Gothic, is noticeable, and curious as fact.

Several drawings of churches may be found. Mr. Burges exhibits a view (925) of the interior of Cork Cathedral according to his design; it comprises the apse and the cross. We give an engraving of this interior, a plan, and some particulars, in our present number.

Mr. Street is clever, as he always is, in the Church of All Saints, Denstone, Staffordshire, views of the interior of which (903) are shown. Mr. Bury is correctly Gothic, and able, in all the grouping and details of his "Decorated" church erected at Hanger-lane, Stamford-hill (893); Messrs. J. & H. Francis exhibit a view of Christ Church, Paddington (906), with the tower and spire which they are about erecting; and Mr. P. C. Hardwick shows a clever design for a red brick and stone, "Decorated" Gothic church, "now being erected at the permanent barracks Aldershott" (895). Mr. T. H. Wyatt, Mr. E. B. Lamb, Mr. C. H. Cooke, Mr. R. P. Spiers, and Mr. D. Brandon also are amongst the exhibitors. Mr. H. E. Coe shows an interior view (926) of "St. Philip's Church, Lambeth;" Messrs. Pugin & Ashlin a good drawing of a cathedral (935), and Mr. R. M. Phipson views (932, 938) of St. Mary's Tower Church, Ipswich, which is being nearly rebuilt under his care. An interior view of his theatre, Bath, already described at some length in our pages, is exhibited by Mr. C. J. Phipps (933).

An interesting production, the last of those in the exhibition, that we can name, is Mr. Ashpitel's "Restoration of the Basilica of Constantine and Maxentius, from a very old plan in the Royal Library at Windsor" (902); but unless Mr. Ashpitel have positive authority for more than plan, we should be apt to doubt whether the details of some of his windows, and the manner of his rustication, may be regarded as of the Roman period of architecture in Italy.

We now terminate our series of notices of the chief exhibitions of architectural drawings of the season. It may not gratify our readers next year to have a similar review, at the same length; but we could not, in this case, allow opportunities to be lost, of saying many things which we believe, in the present state of the art and profession, need to be said and repeated; and we hope that in taking advantage of productions in either of the exhibitions, for the remarks that perforce suggested themselves,—or of buildings, few of which are not in some way honourable to their architects,—we have had approval even from authors of designs that may have been commented upon. Our general aim is obvious; and could we succeed only in getting improvement effected in the manner of the exposition of architecture, especially in the Academy, — in getting substituted the nearest approach to the thing itself, for the single perspective views which offer but one small part of it, —we should claim to have done something towards

the proper placing before the public eye of the thing, not "pretty drawing," but real architecture.

BRITISH SCULPTORS.

THE FAMILY OF "THE CHRISMASES."

IN his chapter on "Painters and other Artists in the Reign of James I.," Walpole has properly included the name of GERARD CHRISMAS. To the little that Vertue had collected about Chrismas, and Walpole bought of Vertue's widow, the noble author in white kid gloves added a stray fact or two. A waif fact and a worthless inference were added by Walpole's first editor, Mr. Dallaway. To these slight materials for making the family of "the Chrismases" known to all who study the history of art in England, Mr. Wornum, Walpole's second and last editor, has contributed "nothing." To the little of Walpole and the "waifs" and "nothings" of his editors I have something to add.

When first at Guildford, in Surrey, some sixteen years ago, looking about me for materials towards a long-promised "Handbook to the Environs of London," I (purse in hand, as in duty bound) sought a tourist's admittance to Trinity Church, an ugly red brick rebuilt edifice of the Batty Langley age, pleasantly seated in a very pretty and clean town. My principal business purpose for the day was to stand by the tomb of George Abbot, Archbishop of Canterbury, a Guildford man, and a man of note in a stirring period of English history. One reflection that passed through my mind at the time deserves historical remembrance for its contrast and its truth. Dates are suggestive. On the very day that Abbot died, Laud, bishop of London, translated to Canterbury on Abbot's death, was offered a cardinal's hat!

The monumental effigy of Archbishop Abbot was more than "up" to my expectations. I scanned the tomb narrowly, and to my surprise observed what no historian of Surrey tells us—not Manning and Bray, not even Brayley,—what no historian of art tells us,—not Walpole, not Dallaway, not even Wornum,—that the tomb of Archbishop Abbot carries its sculptor's name. Abbot's tomb was the work of Gerard Chrismas and his sons.

Who were his sons? Another shilling spent at the "Prerogative Will Office" of the Archbishop of Canterbury in Doctors' Commons, and my curiosity was slaked. Garrett or Gerard Chrismas, "*citizen of London, and carver*, weak of body but strong in faith," made his Will in the year 1633, and died in 1639, new facts both in the sculptor's history.

Readers of the *Builder* will be pleased with a few particulars from a source so authentic. The citizen and carver leaves his wife, Rachel Chrismas, his executrix, and hopes that his children will be "kind and dutiful to her" . . . . "for she hath been a good mother unto them, and a careful and faithful wife unto me." To his sons John and Matthias he leaves forty pounds a piece, hoping "that they will be helpful and assistant to their mother, in completing such works as he is engaged upon, and in collecting such debts as may be due to him." Besides John and Matthias, he had five other sons and three daughters. His son Daniel was a source of trouble to the old man, and his Will marks his displeasure. "To my son Daniel I bequeath five pounds only, inasmuch as he hath been an undutiful son, frequenting gaming-houses," &c. Other items supply materials. He mentions his lands in Kent, which he had bought of his brother-in-law, John Honywood; and a debt of three hundred and forty pounds due to him from the Commissioners of the Navy. Was Rachel Chrismas, Rachel Honywood by birth? and when did she die?

The poetry of a Lord Mayor's pageant of the year 1622 lets us into a fact about Garrett Chrismas that Walpole would have seized and turned to good account when, in his *Anecdotage*, he was correcting and enlarging his delightful "Anecdotes." His editors might have done something with it, and with effect; but they have wholly overlooked it. London's "splendid annual" or new Lord Mayor for the year 1622-3, was Peter Porby, grocer, afterwards Sir Peter P., and a turtle-feeding—Ward—worthy of his day. Sir Peter having a taste for poetry, called in the City poet and City chronologer to his double triumph, Cimon-like, on "land and wave." Thomas Middleton, the dramatist, was the City poet; and Garrett Chrismas was the City Bunning of the year. Their joint labours are part preserved and part commemorated in one of the rarest of the printed City pageants. Mr. Dyce knew nothing of it when, in 1840, he collected Middleton's works. The "noble solemnity" of the day is entitled, "The Triumphs of Honour and Virtue," and it is easy to see that it was a fine one. The poet was pleased with his City Inigo. "For the body of the whole triumph," he says, "with all the proper graces and ornaments of art and workmanship, the reputation of those rightly appertain to the deserts of Master *Garret Crismas*, an exquisite master in his art, and a performer above his promises."

This joint labour with Thomas Middleton was not Gerard or Garrett Chrismas's sole connexion with the City-writing Tom-Tits of his time. The Ironmongers—the tenth on the list of the twelve great companies—called in his aid once with Thomas Dekker, the dramatist, and antagonist of Ben Jonson; and at another time with Thomas Heywood, the most prolific and not by any means the worst of the great and prolific school of Shakesperian dramatists. A recent excellent "History of the Ironmongers' Company" has supplied these new facts in illustration of the history of literature and art in this country.

As I continue my contributions, your readers will find that I have new materials that will both amuse and instruct "architects, engineers, operatives, and artists,"—in other words "master and man," and the "general reader," touching master carpenters and master masons, "joiners and ceilers," painter-stainers, &c., &c., in relation with employers and employed; bearing on tenders and contracts, contingencies and extra charges, wages, extra hours, horse-hire, boat-hire, percentages, old stores, perquisites, and—vails.

PETER CUNNINGHAM.

ON CONSTRUCTION AND ORNAMENT, OLD AND NEW.

A LECTURE was delivered on Tuesday evening, the 5th inst., by Sir Henry Dryden, bart., on the above subject, before the subscribers to the Architectural Museum, at the South Kensington Museum. The chair was occupied by Mr. Beresford Hope, M.A., D.C.L., president of the association, who introduced the lecturer.

Sir Henry Dryden said, that a recent writer of very great common sense had told them that the population of England consisted of 17,000,000 of people, mostly fools. In all human probability he was a fool to come there to lecture, and they—the audience—were fools to come there to listen. Another writer, however, had said that it was the part of wisdom to suffer fools gladly. Almost every audience consisted of three classes: one consisted of those who knew all that the lecturer spoke of much better than he did himself, of which class many were no doubt present: the second were so afraid of dictation that if they were told to go to heaven they would ride straight—elsewhere: the third consisted of the small portion of the assembly who could learn something from the lecturer, and to those he addressed himself. He had been told he might lecture on anything connected with art and architecture, but that he would have to address professional people, art workmen, and ladies. He feared it would require more talent than he possessed to please them all. It would be tedious in a mixed audience to enunciate the arts and sciences implicated in architecture: they were chiefly those with which the designer, the mason, the carpenter, the carver, the smith, the painter, and the glazier had to do. Much had been said and written about the similarity of form, colour, and sound. He had read and heard a good deal about it; but could not see its practical use, although there might be some coincidences. They were told that they could fiddle Salisbury Cathedral, paint God save the Queen, and carve Rule Britannia; but he advised them not to trouble their heads about it; and if they wanted coincident matters, to study a Welsh triad. In reference to the immediate subject, he might say that in old times they strove much for religion and little for bodily comfort: they built great churches and small houses. Now, however, it was all the other way: they built large houses and comparatively cheap churches. The old houses were gone—at least, the most of them,—but the churches remained. Castles had disappeared, or become ruins, or were amalgamated, because we enjoy peace, and they could not be made efficient for the purposes of modern warfare. A new castle in Mediæval style was frightful folly, and when attempted was never really carried out. They confessed their inability to invent beauty, and had therefore to go back to the old models. It was true they invented bridges, and railway sheds, engines, and carriages, and things of that sort, but that was far from inventing beauty. If they were to collect all the cemetery chapels, and all the cemetery monuments, and all the gate lodge in Great Britain, he believed they would have the best collection of ugliness in the world. Some very few of the monuments were by themselves tolerable, but a crop of them was detestable. It seemed as if the aim and object in the construction of lodges was to make them small and uncomfortable. Often the poor old gatekeeper had to go over the way to bed, running the risk of catching bronchitis on the way. If a lady ordered a pair of shoes, or a gentleman a hat, which they could not get on when sent home, they had a right to complain; and in like manner, if a building erected for them was not fit for use, they had a right to complain. It might be fairly required that a church intended for the service of the Church of England should be fit for the performance of the Liturgy, and afford room to stand, to sit, and to kneel in the pews, within the meaning of the Act, and that the building should be capable of being filled by one voice. For the Scotch Kirk they might reasonably require room to sit and stand in the pews, and to see the preacher. Of late the Dissenters had been aping Roman Catholic architecture. For the Roman Catholic Church the requirements were pretty much the same as for the Church of England. If any person or persons wanted a church to be built, and found the cash, or could delude other people into giving it, surely they had a right to build as ugly a thing as they pleased, under the guidance of that eminent architect "A," or "B." If they pulled down an old church, that was another affair. It might be thought, also, that they had a right to make their new horror as unsuited as they liked for its purpose; but he did not know whether they had a moral right in all cases to do this, as perhaps other people would have to pay for the service. A hundred years ago, new churches were generally a parody on Roman architecture: now they were generally a parody on Mediæval architecture. No doubt there were some fine churches built, but there were many obstacles to the building of good churches. First, there was the avarice of this age and nation. Men became architects to get money; and though many, he hoped, had a true admiration for the beautiful, yet the hurry they were in to get the money,—that is, to get into lucrative practice,—prevented, in general, due preparation for their calling; and, in particular, due preparation for each separate work. In old times the architects frequently were provided for in other ways, and often lived close to the spot on which they were to build. The buildings were often years in hand, and, he supposed, had the undivided attention of the architects. The wages were lower than now in proportion to other things. The question of price was a difficult one for the architect to face. A loose way of getting at it was to add together the value of a bushel of oats, wheat, and barley, and to compare that with the price of the labour in question. The attention of the architect nowadays is too much divided. He was expected to be able to furnish plans for churches, schools, houses, cottages, stables, dog-kennels; and what therefore could be expected? If he was a good church architect it was ten to one that he would not know how a horse should lie down or how a dog should be benched; and if he knew the latter the chances were that he was not a good church architect. That was, however, altogether a question for the public. In houses down to the seventeenth century ornament seemed to be very much studied. Somehow modern architects did not hit the thing off. The new was often no more to the old than boys' Latin was to the verses of Virgil. Our fathers, however, made mistakes too. It should be remembered that building differed from designing. They might have a good design badly built or a bad design well built. The mistakes made by the Mediæval men were chiefly those of construction. Their foundations were often bad, their walls were rubble: their mortar was bad, their roofs were bad. The Romans built well, as the walls and buildings still remaining attested. Chichester and Hereford showed bad mechanic and bad construction. In the one case a heavy spire, and in the other case a tower was placed on a Norman substratum not meant to carry any such thing; and the consequence was that the one was down and the other only saved by a good mechanic. Our ancestors made occasional mistakes in design too. In the west front of Peterborough Cathedral three huge arches were to be seen, very fine in themselves, but carrying nothing, and the central arch being the smallest. Amiens and Notre Dame had each three great arches too, but they were made subservient to the upper portions of the buildings; and the centre arch in each case was the largest. The fact was that nature was often

perfect, art never. Look at the sea, the sky, or a piece of down: who would wish to take a lake from the sky, a ripple from the sea, an undulation from the downs? 'But scarcely anything could be looked at that man put his hand to that satisfied the eye. One of the greatest obstacles that lay in the way of attaining to anything approaching perfection was the straining after unmeaning oddities. When this mania for "quaintness," as it was called, seized a man, it was all up with him. There certainly existed the power now to do good work. Workmen are now more skilful in the use of tools than of old: the great desideratum was skill in design. It was good to be a ready copyist, but it was better to be a ready designer. It was not shortness of funds which made bad buildings: a good architect cut his coat according to his cloth. In old times they had to put up very simple buildings as well as those of a more elaborate kind. Many of these remained, and all were in every way excellent as regards design and proportion. Unfortunately there was no fixed rule of proportion or of beauty. No doubt rules existed, but they were not always alike; and probably every form and every proportion was good in some position. After all, they should argue from their eye to their rules. How volatile was taste. The ladies had but to think of the style adopted by their grandmothers and compare it with that adopted by themselves. With respect to the male sex, too; how great was the change a few years had made. When he was at college a man did not wear a hair on his chin: now a young fellow looked like a cross between a goat and a sky terrier. These things could not be brought to a given rule. What was commonly called common sense was very uncommon; and the common sense of a person educated in a particular subject was very different from the common sense of a person uneducated in it. But even people of equal education and ability did not come to similar conclusions. Much should be allowed for the constitution of the mind and the eye. His eyes were very different from those of other people who had had equal opportunities. He had often seen new buildings which appeared so ugly to him that they almost made him ill; but others held a different opinion with respect to them. He could not understand how the east window of Carlisle Cathedral was less beautiful than the east window of Gloucester or of York. No doubt, the architects who despised the latter thought theirs the best. The only conclusion he could come to was, that the eyes of different people had different constitutions: what appeared beautiful to one, did not appear beautiful to another. He hoped to set his audience a-thinking; and if he did, it was no matter whether they all arrived at the same conclusion. Much had been said as to the right tendency of architecture. Some held that it was perpendicular, others that it was horizontal: he thought both were wrong. The great Architect of the Alps, the Andes, and the Peak of Teneriffe, pointed it out unmistakeably. All architecture was upward convergent, but in different degrees,—at least, those buildings pleased best in which this tendency was most strongly apparent. Of course, if pushed to the extreme degree, they would have the pyramid. In designing a new church, the churches of the district should be studied, and local peculiarities should be adhered to. The national styles should be retained, instead of going abroad for models, unless some practical defect in the national was removed by the foreign. With respect to the new Foreign Offices, the most foolish objection that had been made to the adoption of English architecture was that it did not admit the light. The fact was, that the Elizabethan style, and that of the time of Henry VII. and Henry VIII., gave perfect lanterns, and the houses were, in consequence, so cold in winter that they could scarcely be lived in. As a rule, the Elizabethan houses had light on three sides, and what on earth was wanted more for the Foreign Offices in that respect? It might be interesting to state that the church of Clapton, in Northamptonshire, had been pulled down, and he had taken accurate measurements of it. The chancel arch was pointed, with the hood-mould zigzag, and one of the stones of part of a cross, with plait-work on it. The tower of that church had this peculiarity, that it was perfectly free, and without one single tie, although the arcading came up to it in the usual way. The first thing in designing a building was to have its proportions good. The doors, windows, and so forth should be in good proportion to the other parts of the building. A common error was, not to begin high enough,—that is, not to have made a platform. The platform and the plinth were main items in giving the upward convergency, of which he was an advocate. The platform allowed for accumulations around the building, and for its sinking, for it was a well-established fact that all buildings sink. The Greek temples were all put upon steps, and the steps were used for the purpose of giving the upward convergency. The steps were so high that no one could step up them, but real steps were put in the apparent steps. The people, however, who carried out the platform system to its fullest development, were the Mexicans: all their temples were to be found so placed. They never began building until they had the platform so constructed that a grand effect was secured. The Eleanor Crosses were all placed on steps. Lincoln Cathedral was high, so was Exeter. No one liked to go down to a house: he did not allude to houses in valleys, but to the ground just around them. When wishing to make a sketch, a man moved about until he got things into good relative places; and so in designing buildings they should have regard to the directions in which it would be viewed, and to the surrounding objects. Persons came up to London, and were quite disappointed if an architect did not knock off the plan of a house to be built hundreds of miles away, totally irrespective of whether it was to be built on the top of a Welsh Mountain, or on the flat of a Lincolnshire Fen. These people clearly belonged to the seventeen millions to whom he had alluded in the opening. Having got good proportions, the next thing to attend to was to have good foundations—a matter too often neglected. Often, too, walls were not wetted enough. Good walls could not be made with dry stones. When a building was pulled down the foundation was always hardest, because kept damp. He considered plinth very important where the object was, as it should be, to secure pictorial effect. Many architects rejoiced in putting windows "of sorts," as the cotton spinners would say; but these belonged to the "quaint" order of which he had made mention. In many churches,—Exeter, for instance, the general outline was the same, but the tracery differed. With respect to roofs, he believed that the imperfect construction of old roofs had done more than anything else to destroy the walls. A wooden roof was supposed to support itself; but a vault was supposed to be supported by abutments, which were often found to be defective. Our ancestors were not up to roofing. They never acted on the plan of bolts and straps. They thought massiveness of timber would keep the roof firm, but they were mistaken. It was a pity that they did not use a few pennyworths of the iron that they made use of elsewhere in binding and strapping the roof. He might mention that he found square-ended tiles and slates best. The fancy tiles did not fit the valleys; and that cast lead he had proved to be better than rolled. With regard to glazing, bad painted glass was worse than plain quarries. The quarries should always be in proportion to the size of the opening. Some stanchions were outside, and some inside. There were objections to both, but he liked those inside best. He had never studied painted glass, and, therefore, only looked at it as a skeleton. He considered that painted borders or beads to plain windows were very ugly; but he approved of a grey border to clear the tracery. He could not admire figures in impossible dresses, or in queer postures, or a subject carried across the tracery. Modern glass failed from want of granulation, from want of variety. As to flooring, carpets or matting had no business in churches. Tiles, stone, or marble should be used for the passages, and blocks of wood for the pews. He preferred, for appearance sake, to have the floor of the pews a few inches above the floor of the passages. The seats should be sufficiently large, and provided with kneeling stools. Ornament was of two kinds,—one that which was necessary, the other that which was adopted for the sake of ornament. The first was best, but the line left was very vague. Light and shade were equivalent to form; for without shadow we see no form, and without form we see no shadow. As in a picture so in a building,—various degrees of light and shade are required. There was often poverty of shadow from too slight a projection of gables. He believed that the earliest ornament to be found in this country was the plait work, or Runic knot work on crosses. At all events, it began in Saxon times, and was imported from the North. The mouldings of doors and windows should be different planes, and the effect was best when the planes were decided. The style of ornament should be regulated by the materials, metal, wood, or stone. He would not go into symbolism, or into conventionalism; and all carving of natural objects should be conventional to some extent. The eye and the mind should be satisfied in consistency, in form, in elaboration, and in colour. With respect to restorations, much was heard of the term, but little was seen of real restoration. Old churches were numerous; and various causes led to their wanting repairs and restoration. Restoration was a putting a thing back to a state in which it once was. A considerable portion of architects' business, as a body, was repairing old churches. The more money was spent on the building the more the architect was paid; so that the profession of an architect, or of a carver, or builder, was exactly opposed to the conservation of an old church or house. A very high-principled fox might refrain from annihilating the fowls of a squire who allowed him free run of his rabbit-warren, but the fowls' chance was bad. With a new church the case was exactly the reverse of what he had stated. More damage had been done to old churches in the last thirty years than in all the preceding years from the Reformation downwards. The Puritans did comparatively slight damage, and what they did was apparent and unmistakable. He need not argue for the importance of history. Old buildings were the material unlying records of a nation's history, and as such could not be overvalued. When an architect inserted his own new windows and doors instead of the slightly damaged and perhaps less pretentious ones he found; when he re-faced or perhaps *de*-faced the wall, and moulding, and pillars,—when he substituted new foliage for the damaged capital, he destroyed one atom of the annals of art—one line of the churches' evidences—one small portion of England's history. While there were few good restorations, he admitted that there were many beautiful new churches. He hoped that in future restorations the utmost care would be taken to restore, and not partially to construct anew,—not alone in point of material but in point of style.

THE ARCHITECTURE OF SPAIN.*

It is much to be regretted that the architectural monuments of Spain, which, through the circumstances of the history of that country, are a subject of deeper interest, and replete with more distinct and impressive lessons to the architect, than those of any other country, should be the least known of any in Europe. Indeed, in a degree to be of value to the architect (with few exceptions), the most noted of which is that of the Alhambra (so elaborately described by Mr. Owen Jones), they cannot be said to be known at all. I have not the presumption to pretend, in my paper of this evening, to make good that deficiency; for, although it has been my good fortune to contemplate those memorials of greatness and perfection in one of the most beautiful of the fine arts, I have done so without the culture of the professed architect, without taking necessary measurements, or analyzing the causes of those impressions of elegance, of playful fancy, of beauty or sublimity with which they struck me, being satisfied with the enjoyment of the effect that they produced; not contemplating that I should ever have the honour of addressing you (as this evening) upon the subject; and also not having provided myself with those plans and elevations of them, or even pictorial representations, which are almost essential to their perfect illustration; and without which, I fear, my descriptions may be but imperfectly understood. The only thing which is in my power and capacity to do, is to point out to you many of those monuments of architectural greatness which have been slightly alluded to, or wholly overlooked, whether from the imperfect information we possess of them, or from whatever other cause, by the greatest of the architectural historians and critics of our time, when treating of Spanish architecture; and to trace generally (though perhaps imperfectly) an outline of the course that architecture has pursued with the Spanish nation in its rise and progress, its culminating excellence, and its florid decadence;—in the course of which, indeed, it presents more salient points, more distinct phases, than the architecture of any other European nation.

I have said that the circumstances of the history of Spain impart an interest to its architectural monuments possessed by those of no other nation. Successive and distinct races of men have flooded, and held sway in, the Peninsula. The periods of their existence may be likened (to compare small

* Read by Mr. Hurlstone, President of the Society of British Artists, at the Architectural Exhibition, on the 12th inst.

things with vast ones) to the successive geological eras in the mighty history of the Earth, and to the distinctive fossil petrefactions which mark respectively those eras. The architectural monuments which these races of men have respectively left are the greatest and most impressive, if not the only, symbols of their history, their power, and their vigorous existence. And here let me remark a circumstance which colours with absorbing interest the architectural monuments of Spain,—a circumstance, indeed, which could not be otherwise in the loftiest development of a fine art like architecture, inferior to no other,—that, notwithstanding the architectural structures erected by those successive peoples who have ruled the Peninsula, were built under precisely the same necessities,—notwithstanding they were raised in the same climate, as shelter from the same heat, or protection from the same weather, and each alike displaying the perfect fulfilment of all those conditions of necessity and utility which, although the prosaic side of the art, are never absent from good architecture,—yet they are so utterly dissimilar in taste, and in the impressions they convey to the spectator,—are so stamped, if I may so say, with the idiosyncracy of the respective people who produced them,—that they scarcely seem the work of people inhabiting the same globe, or at least the same hemisphere;—so much so that when through any circumstances they happen to be placed in immediate juxtaposition (as in the instance of the Alhambra of the Moors, and the Palace of Charles V. of the Castilians, to which I shall have occasion to refer at large) they give an indescribable jar or shock to the taste from their discordant incongruity, though each among the finest examples of their respective styles as developed by a different people. Of the Phœnicians, and their colonists the Carthagenians, and the original Iberians, there are, indeed, no unquestioned works existing. The Torre del Or,—which is one of the characteristic features of Seville, standing near the spot of disembarcation by the visitor who arrives by the Guadalquivir,—a perfectly simple (even rude) octagonal tower,—has been considered the work of the Carthagenians by some, though by others attributed to the Romans; and some portions of the towers of the Alhambra are previous to the Roman time, probably erected by Phœnicians or Carthagenians. Of the Romans, it is certain that they covered the Peninsula with cities, and that at a comparatively late date of the empire. One of these cities,—celebrated as the birthplace of the Emperors Adrian, Theodosius, and Trajan, and the philosopher Seneca,—Italica,—stood a few miles higher up the Guadalquivir than Seville. It presents at this day a heap of disformed and buried ruins, which have been a quarry for the Moors in the erection of Seville, if not for the Christians who succeeded them. The countless small marble columns, about 5 feet in height and 1 foot in diameter, so numerous that they appear like the spontaneous productions of nature rather than the work of men's hands, which one meets with in all positions and circumstances in Seville; sometimes really forming parts of architectural design, but more frequently used for the baser motives of mere utility; and as often not that, but merely embedded in the walls, and thrusting themselves forward in strange places or chambers, to the great detriment and inconvenience of the occupants, were doubtless derived from Italica, and testify to the extensive Roman architectural constructions there. But although the Romans, as I say, covered at least the southern part of the Peninsula with cities, yet very few and imperfect examples of their temples and their civic or domestic architecture now exist: nevertheless, they have left the impress in Spain of their genius and their power in the grandeur of their works,—in those works in which they were truly great,—for the Roman style of architecture, in their temples and civic edifices, was never perfected,—I mean their bridges and aqueducts. In this view Spain may be said to display the architectural genius of the Romans in its most impressive form better than any country of Europe, even than Italy itself; for here the aqueducts and bridges which they erected are on a grander scale. The aqueducts of the Campagna of Rome, which present so striking a feature viewed from St. John Lateran, are comparatively insignificant to those of Spain. One of the noblest of these works of the Romans in Spain is the bridge of Alcantara, built by Trajan. It consists of six arches, the two centre with a span of 110 feet: its length is some 670 feet, and 28 feet wide and 240 feet above the level of the river. The work is simple and majestic, and worthy of the emperor of the world. Another even surpassing these is the great aqueduct of Merida, the grandest in the world: ten arches are nearly perfect: thirty-eight shafts remain, some 90 feet high. They are arched in three tiers, and made of brick and granite. This was only one of many Roman aqueducts in Merida: one crosses the Madrid road, of which only three shafts remain.

The ancient city of Segovia is distinguished by its celebrated aqueduct, as much for the elegance of its form and solid construction as its unalterable preservation and constant use, for it has brought the beautiful water to the inhabitants of Segovia for more than 1,800 years, and still brings it. There is no trace in it of mortar or cement.

Of the architectural works of the Spanish Goths, whose rule in Spain fills up the period from the fall of the Roman empire, in 411, to their own fall upon the advent of the Moors in the year 714, three centuries, there are indeed but few remains, at least south of the Asturias and the Basque Provinces, which alone the Moors never conquered, and from which the tide of conquest was in the course of centuries rolled back. It is probable that the Moors, during the long occupation of their extensive Spanish empire, altered or rebuilt the Christian churches, converting them into their mosques; as the Christians afterwards rebuilt or converted most of their mosques into Christian churches, as in the instances of the cathedrals of Valencia, Granada, Seville, and innumerable others (as partially at Cordova), all built upon the spot, and in most instances occupying the exact area of the mosques that they replaced. Some few vestiges of the Spanish Goths previous to the Moorish occupation are still to be traced at the convent of San Roman, built near Toro, in 674, and in the walls of Toledo, 674; but in the Asturias, to the north, where the Moors never penetrated, there are still existing many works of the Spanish Goths, mostly churches. Though I do not believe that the erection of any of them can be traced to the period prior to the occupation of the southern portion of the Peninsula by the Moors, I believe they were all contemporaneous erections with those of the Moors, widely as they differ from them. These works are characterized by the massive circular piers and the round arches, resembling what we understand by our Early Saxon architecture, as well as a prominent feature, the porch, which was indeed a necessity of the inclement climate of that country. The Spaniards, with more discrimination and correctness than ourselves, call this style of architecture Gothic,—"obras de los Godos," works of Goths; whilst that which we are accustomed to call Pointed Gothic, the birth of a latter age (in which style are most of our cathedrals), they term Tedesco, or Tedesque, and Germanico, being derived (in their case at least) from Germany, with which, in the Middle Ages, they had an intimate communication. These "obras de los Godos" are the oldest Christian churches existing in the Peninsula. The best-preserved specimens are on a lofty hill of red sandstone, called la Cuësta de Naranco, the opposite side of a valley to the north of Oviedo, the capital of the Asturias, where there are several.

The architectural monuments of the Moors then come in succession to those of the Romans throughout the large portion of Spain that they conquered and ruled; for although that country was, for above three hundred years, the kingdom of the Spanish Goths (the interval between the rule of the Romans and the advent of the Moors), yet, as I have said, their buildings have been destroyed or replaced by the Moors.

Of the monuments of Moorish architecture still remaining in the Peninsula, we have more ample and detailed accounts than of any,—at least we have of one of them,—the Alhambra,—in the elaborate work of Mr. Owen Jones, which has made that monument familiar to us. But, elegant and beautiful as it is, it was a work of the decadence of the Moorish architecture. It was erected the last, and not until after the fall of the brilliant empire of Cordova, its superior in arts, in science, and in arms, as well as those of Valencia and Seville. Its foundation was, indeed, the result of the fall of this latter kingdom or pachalic.*

From the accounts drawn from both Arabic and Spanish sources, as well as from those traces, faint indeed, but unmistakable, presented by remain like the Mesquita of Cordova and the Giralda, not the Alcasar of Seville, the Arab architecture had attained a far higher perfection than th Alhambra of Granada would evince. Notwithstanding the mutilations, and, what is worse, t disfiguring additions to the Mesquita of Cordov it is evidence of the surpassing genius of t Moors. Startling from its novelty, and the inven tive powers displayed, it remains one of the mo impressive monuments in Europe. It is indee worthy of a journey to see it;—to form an idea the effect of its naves and transepts, its intersec tions of nineteen longitudinal rows of column with twenty-nine transverse rows, originally 1,20 columns. The labyrinth of these colonnades ove an extent of 2,400 feet is utterly bewildering, it is unequalled. For myself, I must say that never was so impressed with any building, on firs entrance, as the Moorish mosque of Cordova.

The choir, or whatever that portion of the buildin was in the time of the Moors, was unfortunate altered by the bishop and against the judgmen of the corporation, so late as the time of Charles V who in this instance reproved what he himse afterwards did at the Alhambra. "You ha built here what you, or any one, might have buil anywhere else, but you have destroyed what w unique in the world. You have pulled down wha was complete, and you have begun what yo cannot finish."

The alteration is in the Florid Gothic, in it last and expiring form, in the beginning o Charles V.'s reign. It is not undeserving of ad miration in itself, and is less incongruous tha might have been expected with that curiou monument.

The Giralda of Seville, which serves precisel the same office as the Italian campanile, detache as those are from the cathedral, is so notable a architectural monument of the Moors, that it h become the characteristic symbol of the city o Seville, in the same manner as the ugly embry tower and antique crane of the Cathedral o Cologne, which is stamped on the Eau de Colog bottles and other productions of that city. I forms an exquisitely graceful feature, markin the site of the city seen from an immense dis tance when journeying towards it by the Guada quivir, and every minute apparently changing it relative position, sometimes in front, to the right to the left, and at times almost behind, accordin to the winding of the river. The Giralda was th square minaret of the mosque, which the cathe dral has replaced. It was the work of Guever the Moorish inventor of algebra. Though o noble proportions, it was thought too low by th Spaniards, and a belfry, &c., in all 100 feet, wer added to the height. In elegance, in the combi nation of lightness and massiveness, it surpasse all the European towers,—the tower at Venice, &c erected in Italy or elsewhere, at that period. Th Moors themselves justly attached so much im portance to it, that they determined to demolish it upon the fall of the city to St. Ferdinand, bu were only prevented by a threat of general mas sacre. There still exists another tower of th same, or rather larger dimensions, and resemblin it in architectural design, by the same architect Guever, at Marocco, one of the two capitals o Morocco, as I was informed when in Morocco, by Mr. Drummond Hay, the only Englishman wh has been permitted to visit the interior of tha country. It is unfortunate that there have been no drawings made of them, as it would hav furnished us with the true Moorish termi nation of the Giraldæ, replaced by the Spanish work, but which Mr. Hay, not an architect described to me as equally beautiful with th rest. I believe it is four gilt balls of diminishin magnitude. The Alcasar of Seville (from an in scription) was erected after the possession of tha city by the Spaniards (it is said by Moorish workmen brought from Granada). It has been sadly mutilated, and partially altered; but from what remains I cannot help thinking that in it original state it was of a purer taste than th Alhambra. Its remarkable feature is the extra ordinary manner in which its strength and mode of construction are so perfectly concealed that structures requiring great strength and ingenuity and which, in other architectural styles, would consequently present an appearance of ponderosity

* One circumstance alone, although it is descending to minutiæ, bespeaks the inferiority of the Alhambra as an architectural monument to the Mesquita of Cordova and the earlier Moorish works. It is that the ornamentation (which is the prominent feature of the style) is of necessity one of lath and-plaster, which could not be executed in stone. There is the beautiful honeycomb ornament, for instance, which imparts such a charm to the Hall of the Ambassadors, it would be impossible to express in stone. As, also, the essential dependence of this style of ornamentation upon colour, of which a striking illustration may be seen in the archway of the ancient Moorish palace of Bádis, now called the Casa del Carbon, on the Darro, which is as fine as anything in the Alhambra, in fact is identical with the best of it; but, having been whitewashed, it loses more than half its value; whereas the ornamentation of the Mesquita of Cordova, no less charming in taste, is wholly produced in stone cutting, as the beautiful interlaced ribbon ornament, &c.

are here notable for their elegant and airy lightness.

Other works of the Moors, of less extent, and innumerable fragments, standing alone or encased in more recent building (as the Moorish arch), are scattered all over Spain, upon which time will not permit me to dwell; but there is a charming little piece of Moorish architecture at Granada, which I am surprised has been utterly overlooked by our architectural illustrators; and that even Mr. Owen Jones, while he was about the Alhambra, should have missed it. I mean what is now called the Alcaiseria, but was the ancient Zacatin, or shopping street, though the Spaniards have transferred this name to a street of their own erection running at right angles to it. It was actually *the* Zacatin of which the famous old Spanish ballad or cancionero sings, the "Ay de mi Alhama!" It is in the third verse the messenger brings the news of the fall of Alhama:—

"Descavalga de una mula,
Y en un cavallo cavalga,
Por el Zacatin arriba,
Subida se avia al Alhambra,—
Ay de mi! Alhama."

"He quits his mule and mounts his horse,
And through the streets directs his course,
Through the street of Zacatin,
To the Alhambra spurring in,—
Woe is me! Alhama."

It is a little gem of a Burlington Arcade, although not composed of one line only, as this, but of another at right angles, and probably more, for it has been partially destroyed by fire; but enough remains to show one of the most charming specimens of this kind of architectural fabric. I wonder that the French, at least, have not copied it in their numerous arcades, for which it would serve as a beautiful model.

The architectural monuments in Spain in succession to those of the Moors are the Gothic cathedrals (as we should call them, but incorrectly), in which, indeed, Spain is not less rich than this country, or than France. A period of three centuries, from toward the middle of the twelfth century (1150) to the middle of the fifteenth (1450), may be justly called the cathedral-building era of the world; and I think that (of existing cathedrals at least) none will be found that are not included within it. During this period there were, of course, changes of style, from the round arch, and a style (though different) more nearly allied to the Byzantine, to the Pointed, from the Pointed to the far more enriched, and abounding in fantasies and grotesque conceits (as the Flamboyant in France) as it verged to its decline. The middle of this period, about 1300, the early part of the fourteenth century, seems to have been the best, the culminating point. In this country it corresponds with the reign of Edward III. Although all of these cathedrals (commenced at different times during this period) are partially, and should have been wholly, characteristic of the styles of architecture at the respective times of their erection, yet have all of them been so repeatedly added to, changed (or altered, to improve some indeed, and those of the earliest, like Canterbury), so constantly during the whole of the cathedral-building era, that few indeed, or none, present perfect and homogeneous specimens of their respective prevailing styles of the time of erection. This holds good with respect to the Gothic cathedrals of Spain, though, perhaps, to a somewhat less extent.

There are some arrangements in respect to the Spanish Gothic cathedrals which mark them as distinct from the cathedrals of this country, France, or Germany. The great altar is in nearly every instance isolated, the side aisles passing round it, and is placed east of the crucero or transept. The choir (or coro) is on the opposite side of the transept, and is also isolated. Immediately over the crucero, or intersection of the nave and transept, is the cimborio, a compromise between a Gothic octagonal tower and a dome, often of exceeding beauty. The trascoro is the back or outer side of the coro, relieved throughout with chapels. There is generally no gate or opening for entrance to the coro anywhere but by the transept, so that upon entering the western or principal entrance to the cathedral, you have before you the back of the coro, which shuts out of sight the high altar, which for effect would be much better seen upon entering. The rejas, or brass or iron gates and railings which inclose the choirs, altars, and chapel, are of extraordinary and peculiar beauty, and are characteristic of Spanish cathedrals. It was, in the great time, a branch of art of itself; and the rejeros, or ornamental ironworkers, justly figure in the lists of illustrious artists. The most celebrated were Villapando, Dominge de Cespedes, and Anenas of Cuença. Those rejas are of wrought-iron or brass, with forms and figures of the most exquisite designs. Of the Spanish cathedrals, the number of sacristies is a remarkable feature. Besides the principal one for the ordinary service of the church, many of the larger chapels have their own attached. The Spanish cathedrals have also a segrario, or chapel, where the Sacrament is administered and the host kept; often a separate building, like the baptistery was with the Italians. The cathedral has also almost always attached to it the parish church, which sometimes performs the double office of segrario. This of itself, as at Seville, is frequently of imposing dimensions. The retable, the structure which fills the space of the high altar in Spain, is usually of three or four ranges of architecture, one above the other, with columns, entablatures, and other parts ornamented with statues, bas-reliefs, and paintings, the finest works of the school. The cathedrals of Spain have also some distinguishing characteristics amongst themselves in the different provinces. Thus those of Catalonia, for instance, besides the remarkable shortness of the nave and aisles in proportion to the width, giving the church a compressed look, have always the principal entrance, reached by a lofty flight of steps, of circular form, as the cathedrals of Barcelona and Gerona. Of the Spanish Gothic cathedrals some eighty now remain: the collegiate and parish churches may be counted by the thousand.

The finest examples of the purest period of the Gothic will be found in the exquisite cathedral of Leon; in the elegant ones of Palencia, 1321; Oviedo, 1388; the Cathedral, and Sa. Maria del Mar, at Barcelona, 1328; the Cathedral of Taragosa; and the convents of Lupiana, near Guadalajara, 1330, and Guadalupe, 1389. The Transito or Jewish synagogue of Toledo, 1350, is without rival in the world, and presents a matchless *ensemble* of all that Hebrew, and Gothic, and Moorish art could do in juxtaposition.

The finest specimens of stained glass range from 1480 to 1580, and are to be found in the cathedrals of Toledo, Seville, Leon, Burgos, and Barcelona.

The cathedral of Leon, one of the earliest and best specimens of pure Gothic in Spain, of the twelfth century, resembles some of our own of that period; arches nearly in the form of those of Salisbury, but narrower: the trascoro is of alabaster. The cathedrals generally of Catalonia present traces of the style, having been introduced there by the Normans. Tarragona, commenced soon after Leon and Barcelona, one of the finest specimens of the light Gothic, resembling the best specimens of France and England a little later, 1221. The cathedral of Burgos, taken as a whole, interior and exterior, has been considered one of the finest examples of Gothic architecture in the world. It is not surpassed by the cathedrals of France and England, though it has the fault of Spanish cathedrals, of the nave being too blocked up by the coro, and the capella major, or great altar, too encumbered with chapels; making the interior somewhat heavy. Over the crucero, the intersection of the nave and transept, is an octagonal tower or cimborio, of surpassing beauty, and of interest as a rare example of the passage of the Gothic to the Renaissance, which for the most part is decided, presenting scarcely any instances of the mingling of these apparently incompatible styles. There can be no question that it is of much earlier date than that given in our account of the cathedrals,—1560. They told me at the cathedral, that it was a work of the end of the reigns of Ferdinand and Isabella: it is certainly not later than the earliest part of the sixteenth century.

The western façade of Burgos cathedral, surmounted by its two pyramidal spires of open tracery, 1442, is of great celebrity.

But as for the interior, the cathedral of Seville is the finest Gothic construction in Spain, or in the world. It is one of the later cathedrals—date 1400,—which renders it the more singular that its author should be utterly unknown. It is a favourite theme with the Spanish pseudo-poets to address lines to the mystic hands that raised this solemn fane, upon which they look with an awe somewhat akin to that of the wanderers in the desert on the mighty remains of Persepolis or Balbec. This magnificent structure has five naves, of nearly equal breadth. The form approaches a square, the breadth being very great in proportion to the length, and the side aisles are all equal, and nearly of the same height as the centre. The capitals of the columns are of the same elevation throughout, and the piers of similar dimensions to each other. It has thus that element of symmetry which is characteristic of Grecian architecture, and in which the Gothic is generally considered as wanting. From this plan, and the great solidity of the piers, the exterior is wholly without the connecting arches and buttresses, which, in most of our cathedrals, support the inner parts of the fabric, and supply the want of internal strength. The trascoro has a beautiful and costly architectural front of red marble of Moron. It is, however, out of keeping with the architecture of the cathedral.

With the exception of the great western porch, which is fine, and in keeping, the exterior of the cathedral is singularly unfortunate. It is an inextricable jumble of forms, which can scarcely be referred to any style, or it includes all styles,—the beautiful tower of the Giralda representing the Moorish,—and is the more remarkable as the accompaniment of the finest interior in existence. I should mention, that, in the clerestory, there are the most brilliant and finest specimens of painted glass, admirable in itself and its mode of introduction, adding greatly to the marvellous effect of this matchless cathedral.

There are few works remaining in Spain of civil and domestic architecture of the same period as her Gothic cathedrals: in ours there are none. The only ones that occur to me are fragments (of deep interest, indeed, to the architect) of porches or doorways, and sometimes a portion of the façade of the houses of the ancient Spanish nobility (the Ricos Hombres), which may be seen at Toledo, and are indeed in singular contrast with the houses of the Valencian nobles, built in the decline of the art, as I shall have occasion to mention.*

AMERICAN IRON BRIDGES.

INSTITUTION OF CIVIL ENGINEERS.

ON MAY 5, Mr. Hawkshaw, president, in the chair, the paper read was on "American Iron Bridges," by Mr. Zerah Colburn. The great number of timber bridges in America might be accounted for, the writer said, from the fact, that the first cost of the truss, or superstructure, of a timber bridge of any given span, was generally less than one-half that of an iron bridge of the same strength. Iron had been occasionally employed since 1835, but only within the last ten or twelve years to any extent.

Cast-iron tubular arches, including one of 80 feet span, were erected from the design of Major Delafield, about the time when similar arches were adopted, by the late M. Polonceau, in the construction of the Pont du Carrousel, over the Seine. Major Delafield's arched ribs were elliptical in section, the transverse vertical axis being about four times the length of the conjugate axis. In 1858, an aqueduct bridge was erected at Washington, by Captain Meigs, in which the two arched ribs were formed of water-pipes, through which the water flowed. The span of this bridge was 200 feet, the rise being 20 feet. The pipes were circular in section, 4 feet in diameter inside, and 1½ inch thick. This bridge was 28 feet wide over all, and the roadway was of timber, supported on wrought-iron spandrils. The bridge was tested with the arched ribs filled with water, and with a load of 125 lb. per square foot upon the roadway, making the total weight on each rib about 350 tons. The thrust of one-half of this weight upon each abutment would be about 470 tons, corresponding to a strain of 2 tons per square inch of sectional area of iron in the pipes. This strain did not include the pressure of the water in the pipes, which were proved to 300 lb. per square inch. These examples were, so far as the author was aware, the only iron arches yet completed in the United States; and with the exception of a few pivot bridges, and one or two ornamental bridges in the Central Park at New York, they comprised nearly all the cast-iron bridges in that country.

There were a small number of plate, or boiler iron bridges. The first was erected in 1847, in place of a timber bridge, by Mr. Millholland, on the Baltimore and Susquehanna (now the Northern Central) Railroad. This was 50 feet span, and the two girders were each 6 feet deep, the two sides of each being formed of plates ¼ inch thick. Between the sides at the top a timber 12 inches square was bolted as a compression member, and the top was further strengthened by two wrought-iron bars, 5 inches deep by ⅜ inch thick, while four similar bars were riveted along the bottom of each girder. The sides were stiffened by stay-bolts, enclosed in cast-iron distance pieces, 12 inches apart from centre to centre. The centre of each girder was placed exactly

* To be continued.

under the rails, which were spiked to the timber forming the compression member. The breaking strain of the pair of girders was equal to 250 tons of distributed load, and the weight of the bridge was 14 tons. When completed, this bridge was coupled at each end to a railway waggon; and was slung by chains to a temporary timber truss. It was then taken 19 miles by railway, run exactly over the place it was intended to occupy, the existing timber bridge was cut away, and the girder bridge lowered with the permanent way ready for traffic, the whole operation not having caused an interruption of more than two hours.

Having been long accustomed to trussed timber bridges, American engineers, in adopting iron, naturally employed it in trusses also. But, before describing the various forms of iron truss-bridges, the strength of American iron was referred to. It appeared, from a vast number of experiments made by the United States Ordnance Board, that there was but little iron in any American cast guns of a less tensile strength than 11 tons per square inch; and in 1851, the author had himself seen portions cut from 11-inch guns, weighing 6 tons 15 cwt., tested up to 16·14 tons. The transverse breaking strength of a large number of samples of re-melted iron, when reduced to the English standard of a bar 2 inches deep and 1 inch wide, resting on supports 3 feet apart, varied from 27¾ cwt. to 48·1 cwt., the general strength being 34 cwt. The minimum crushing strength of the irons experimented upon was 37¾ tons, and the maximum 77¾ tons. Experiments made by the Franklin Institute twenty-five years ago, showed the mean tensile strength of cast iron at the first smelting to be 9½ tons; and the iron now employed by engineers in Philadelphia bore from 7·14 tons to 10·2 tons. In 1858, Mr. Albert Fink tested the iron used in the construction of a large bridge on the Louisville and Nashville Railroad. When the results were reduced to bars 2 inches deep by 1 inch wide, on supports 3 feet apart, the minimum breaking weight was 29½ cwt., mean 32·68 cwt., maximum 39 cwt. This iron was a mixture of two-fifths cold blast, two-fifths hot blast, and one-fifth scrap. With regard to wrought iron, the experiments made by the United States Board of Ordnance gave a tensile strength varying from 17 tons to 33 3 tons per square inch; and those of the Franklin Institute a mean strength of 26 tons for plate iron. At the present time 27 tons was generally expected of American boiler plate. Other experiments were also quoted to the same effect; and it was remarked that, from what had been stated, American engineers might work up to rather higher strains than were commonly allowed in this country. The high qualities of the best American iron were due to the purity of the ore and of the fuel employed in the manufacture. In bridges of less than 150 feet span, even when loaded with a weight of 1·34 ton per lineal foot of single line, the strains did not exceed 3 57 tons per square inch on wrought iron in tension, and 4·46 tons per square inch on cast iron in compression.

Of the iron truss-bridges that were described, all had certain peculiarities in common, distinguishing them from the trussed structures adopted in this country. In almost every case the compression members of American iron trussed bridges were of cast-iron cylindrical or octagonal pipes. These simply abutted, end to end, against each other; and although means were employed to prevent lateral motions of the ends, flanges and bolts were never introduced for that purpose. Another, and one of the most important peculiarities, was the depth of truss, a depth exceeding that employed by English engineers, except in rare instances, as at Chepstow and at Londonderry. American engineers considered a depth of one-eighth for spans of 200 feet as only moderate: for shorter spans depths of one-seventh and one-sixth were common; and in the case of one bridge of 120 feet clear span, the depth was 23 feet, or nearly one-fifth of the span. It should, however, be observed that, in some of the American trusses, the arrangement of the tension members was such that, if the depth of the truss were not considerable, the diagonals would be inclined at hardly more than 8° or 10° from the horizontal; in which case a very large quantity of material would be employed, in proportion to the supporting power obtained. No American iron or timber bridges were ballasted; nor had they any floor, only a foot-path of planks. In bridges having the rails at or above the level of the top chords, known in the States as "deck bridges," parapets were seldom employed; and the trusses were often so short a distance apart, that a passenger, on looking out of a carriage window, was unable to discover any support beneath the train. In no bridges of two or more spans were the trusses made continuous over a pier; each span being always treated as a bridge by itself.

One of the earliest iron trusses adopted in the States was a trellis, known as Rider's Bridge. Cast-iron T, or angle irons, were employed in compression, and wrought-iron bars in tension. These bridges were so slightly proportioned that they occasionally broke down, and the author was not aware that the plan was now adopted in new structures.

A detailed description was then given of a Murphy-Whipple bridge, having a span of 125 feet, with the railway supported on the lower chords. It was for a double line, and there were three trusses, 14 feet apart, from centre to centre, the strength of the middle one being about one-half greater than that of either of the others. The trusses were 23 feet deep, or 0·184 of the span. The top chord was formed of cylindrical cast-iron pipes, and the bottom chord of a chain of square bars, 10 feet 5 inches in length between the centres of the eyes. Upright cast-iron posts, placed at the same distances apart, divided the truss into panels; and as the posts were in two lengths, they were each trussed by four round rods, to prevent lateral failure. The diagonals were in pairs of square rods, and were formed also as eye-bars, grasping pins 2½ inches diameter in the top chord, where the pipes abutted upon each other, and pins 3½ inches diameter in the bottom chord, thus connecting the links, or bars, of which it was composed. The diagonal tension bars only crossed each other in two panels on each side of the centre of the truss. The top and bottom chords were placed horizontally, with transverse and diagonal bars. The railway bars were supported upon longitudinal timbers, which rested upon transverse wrought-iron rolled beams. The total weight of the superstructure complete was 102½ tons, or 8 cwt. per foot of single line. With an additional distributed load of 3,000 lb. per lineal foot on each line, the tensile strain at the middle tension rods would be 4·27 tons per square inch in the middle truss, and 3·12 tons per square inch in the outer trusses; but, with a train on a single line only, the ordinary working strains did not exceed 2½ tons per square inch in tension, nor 3 tons in compression.

In 1861, an iron bridge was erected on the line of the Pennsylvania Central Railroad, across the Schuylkill at Philadelphia. It had two clear spans of 192 feet each, and one pivot span, or turning bridge, 192 feet long. The construction was similar to that just described, but the truss was only 19 feet deep. The upright posts, or struts, were of wrought-iron, so rolled that when two bars were put together they formed an octagonal tube. The top and bottom chords of the turning bridge were of wrought-iron rolled beams, so that either might resist extension or compression. The three spans for a single line contained an average of 5 cwt. of wrought-iron, and 7¼ cwt. of cast-iron per lineal foot. The nett cost of the bridge, exclusive of masonry, was 8,144*l.* 10s., or 14*l.* 4s. per lineal foot; the wrought-iron costing 22*l.* 15s. 6d., and the cast-iron 6*l.* 11s. 3d. per ton.

The pivot was of a kind extensively employed for turn-tables. It consisted of a fixed and of a moveable cast-iron disc, both grooved to receive a number of steel rollers, each turned to the frustra of a double cone. A circular railway was laid around the pivot, but the wheels only bore upon it, when the bridge was not truly balanced on the rollers. With a load of 14 tons balanced upon one of these bearings, the whole was revolved by a weight of 3½ lb. hung over a pulley, and connected by a cord to the periphery of the turn-table.

The form of truss introduced by Mr. Wendel Bollman was next noticed. In it the load upon each panel was transferred directly to the ends of the truss, through a pair of straight suspension bars, doing duty only in that panel. With the exception of one pair of suspension bars, supporting the centre of the bridge, the bars in each pair were of unequal length, and their lower ends were attached to the upper extremity of a compensating link, in order to allow for contraction and expansion. This bridge could not alter its form under unequal loading. A bridge upon this plan at Harper's Ferry, on the Baltimore and Ohio Railroad, has four parallel trusses for a double line, and a clear span of 124 feet. The span was divided into eight panels, and the depth of the truss was 17 feet 6 inches. The top chords were each formed of a single line of octagonal cast-iron pipes, and the vertical posts were also of cast-iron. The strains upon the various parts of the truss, caused by the weight of the bridge and of a load of 1½ ton per lineal foot, were 2·8 tons per square inch in compression in the top chord, and varied from 4·46 tons per square inch in tension in the longer suspension bars to 7·14 tons in the shorter bars. Mr. Bollman had stated, that this bridge was tested with a moving weight of 122 tons of locomotives on one span of single line, or nearly 1 ton per lineal foot, and that the deflection at a speed of 8 miles an hour was 1⅛ inch at the centre.

The iron bridge designed by Mr. Albert Fink had been more extensively adopted than any other on the railways of the United States. In this bridge a pair of diagonal tension bars connected the foot of the principal strut or king-post in each truss, with the ends of the top chord. This pair of diagonal bars supported one half of the whole weight of the truss and its load. Each half span was subdivided by a strut, and two diagonal tension bars extended, one to the nearest end of the top chord, and the other to the top of the centre post. Each quarter span was again subdivided into eighths, and these again, for spans greater than 100 feet, into sixteenths. Under the direction of Mr. B. H. Latrobe, then engineer of the Baltimore and Ohio Railroad, in 1852 Mr. Fink erected an iron bridge of three spans, each of 205 feet, where that line crossed the Monongahela river. The depth of the truss was about one-ninth of the span, and the railway was carried at a little above the level of the bottom of the truss. The weight of the bridge, including the permanent way, was only half a ton per foot of single line, and with an additional load of one ton per lineal foot, the tensile strains upon the wrought iron did not exceed 0 15 tons per square inch, and the compression on the cast iron 4 25 tons. The Green River and the Barren River Bridges were then alluded to as being nearly identical in construction to that last described.

The Bollman and the Fink trusses for a single line, and in spans of from 160 feet to 200 feet, cost 14*l.* per lineal foot, or nearly 28*l.* per ton; while timber bridges of the same span only cost from 5*l.* to 7*l.* per foot. Still, iron bridges now met with an amount of favour which appeared certain to insure their ultimate substitution for timber bridges. A gradual preference was being shown to the plate girder, as the great annual change of temperature, from 20 deg. below zero to a reflected heat of 130 deg. in the summer sun, was not favourable to the use of cast iron in structures of such importance as railway bridges.

NEWSPAPER STEREOTYPING.

FEW persons would suppose, remembering the rapidity with which a daily paper is composed and printed, that the "forms" could be stereotyped. Yet, so it is, and for the sake of that very rapidity. The *Engineer* gives some particulars of the mode pursued in respect of the *Times*. The pages are set up with types in the ordinary manner, and from these a *paper* matrix is obtained by pressure. The paper intended to receive the indentation or intaglio of these forms is prepared as follows:—Beginning with a sheet of very thin and fine but strong paper, known variously as bank-post or silver tissue, a sheet of brown paper and two or more sheets of blotting paper are successively pasted one over the other upon one side of the tissue. The opposite or face side of the tissue is dusted with powdered French chalk. The form of type is first warmed in a steam oven; and then, when taken out and laid flat, the plastic paper web, prepared for impression, and still damp with paste, is placed upon it and the whole passed beneath a weighted roller. The impression is as perfect as if it had been made in the finest wax. The paper comes from the types without the least wrinkle and without cutting or tearing at the edges of any one of the thousands of impressions with which it is covered. The sheet, too, is nearly dried and is ready for the moulding frame. As it is not so stiff but that it may be readily bent, the paper is now made to assume the curve corresponding to the cylinders, 64 inches in diameter, of the Applegath presses and those made upon Hoe's plan by Mr. Whitworth. The paper mould is held between an iron back and a block of fire-clay, curved upon its face, and in this position the type metal may be poured and a stereotype plate produced in a few seconds, and perfect, with the exception of trimming the edges and planing the back, which operations are accomplished in a few minutes more. The paper mould is not burnt by the contact of the melted type metal, which fuses at a comparatively low temperature. A slight discoloration and the least smell of burning are the extent of the injur

to the mould, which, indeed, is good for a dozen or more casts, and may then be filed, if required, and preserved for years to be again cast from at any time. The sixteen pages of the *Times*, including its double supplement, are thus stereotyped between four o'clock and 4·40 every morning, the average time of making and finishing each plate being two minutes and a-half. Instead of printing off a whole edition from a single form of type, as many like impressions may be obtained at one and the same time as there are presses for the work.

THE PUGIN MEMORIAL.

THE Pugin Memorial Committee have signified their intention of placing the sum of 1,000*l.*, collected by them, at the disposal of the Institute of Architects, in trust, for the establishment of a students' travelling fund, under certain conditions.

THE BIRMINGHAM SEWAGE QUESTION.

AT a quarterly meeting of the Town Council, a petition to Parliament, praying for power to dispose of the sewage of the borough in such a manner as to relieve the corporation of difficulties, was submitted to the council for approval. Mr. Walker, in moving that the seal of the corporation be attached to the petition, and that it be sent to Mr. Scholefield, M.P., for presentation, remarked that not only was a very large quantity of sewage of great value entirely wasted under the present system, but it was a great nuisance, and endangered the lives of the people. A large sum of money had been expended on the works at the outlet; but without additional powers from Parliament the manure could not be conveyed to the farmers, who were willing to pay a good price for it. Mr. Wiggin moved, as an amendment,—"That the Public Works Committee be authorised and instructed to apply a quantity not exceeding five acres of the land belonging to the corporation, at the outlet of the main sewers at Saltley, in such manner as in their judgment will most satisfactorily demonstrate the agricultural value of the liquid sewage, which flows over the weirs of the subsiding tanks into the Tame, in the production of root, grass, and such other crops as they may think fit to select; and for that purpose that the committee be empowered to lay out such land in a proper manner for irrigation by such liquid sewage, and make use of such quantities thereof for the purposes of such irrigation as they may think fit, and report to the council thereon." The petition, however, was finally approved of.

The Public Works Committee recommended that the Finance, Rate, and Appeal Committee be authorised and instructed to negotiate for a loan of 30,000*l.*, under the "Birmingham Improvement Act, 1861:" 26,000*l.* of this money it was proposed to expend on sewage contracts, repairs, and other works already ordered; and the remainder would be partly expended in the construction of tramway and carriage-drive, and the remainder—should there be any left—in paving those footpaths in the town where the owners of property were willing to bear half the expense. The report continued:—"The attention of your committee continues to be anxiously directed to the operation of the sewage works at the outlet. Further arrangements, however, are required, in order to make the works as perfect as possible. Among other things, it may be observed that the rapid accumulation of the intercepted matter removed from the subsiding pits renders it necessary that the construction of shedding for drying it, and a siding from the Midland Railway to the works, should be immediately commenced, upon which to remove it with greater rapidity, and at the same time to afford to the landowners and occupiers in the vicinity of the railway greater facilities for availing themselves of this valuable manure; and your committee propose to have the works completed immediately the council has authorised the raising the loan previously referred to."

Alderman J. H. Cutler urged the Council not to proceed with so many miles of sewerage until they saw what the Government intended to do to help them out of the dilemma into which they had got them.—Mr. Wiggin said it had become absolutely necessary that the sewerage should be proceeded with. The Council were now depositing ninety tons of solid matter into the sewers per day, and there was no means of getting rid of it.—Mr. Cornforth remarked that the economy of this country in the matter of sewage was very defective. In China there was a different and a better system, and the Americans were improving. In Paris, matter was not thrown from the water-closets into the sewers, but was put into ingeniously constructed tubs, (?) from which it was removed forthwith to the farmer, who paid ready cash for it. He read a paragraph from a report of the Registrar-General of Births and Deaths, in which it was remarked that fevers were now being propagated by the air and water proceeding from the excrement deposited in sewers and cesspools in large cities, and that those ravages would be reduced effectively if that matter was used in cultivating soil, which was so much needed.—The motion for negotiating the loan was put and carried.

The Public Works Committee recommended that, in consideration of the very efficient manner in which the Borough Surveyor discharged the important duties of his office, and of the increased responsibility and labour of these duties with great satisfaction, his salary be increased from 400*l.* to 500*l.* per annum. This motion also was ultimately agreed to.

WALLASEY WATER WORKS, CHESHIRE.

AT a monthly meeting of the Local Board of Health, Wallasey, the Chairman of the Water and Gas Committee reported that the well for the supply of the district with water had been finished, and was a complete success. This well has been sunk under peculiar circumstances, on the margin of the Great Float. Wallasey Pool occupied the site of a valley line trending inland on the Cheshire shore of the river Mersey. There is little doubt but that in some former geological period, a river course had scoured the channel of the Wallasey Pool down to the rock, just as the bed of the river Mersey, opposite the Seacombe shore, is now, at this present day, bared to the rock, by the strong scour of the tides. Progressive changes have allowed of the bed of the former Wallasey Pool silting up until, at this present, there is a thickness of marl, in some parts, upwards of a hundred feet in vertical depth. This marl rests on a bed of sand, which sand rests on the new red sandstone rock. The several borings show that the sand is not an even parallel bed, but that it probably resembles the sand hills and sand banks forming the shores and estuary of the river Mersey at this day,—a series of sand hills, plains, mounds, and banks, submerged and covered by silt and strong marl, containing many erratic blocks, boulders of limestone, whinstone, and granite. The red-sandstone rock is full of fresh water of singular purity, enclosed by the vast covering of marl named. At several points in the parish of Wallasey there are springs: one, well known, issues in the shore at New Brighton, opposite the Black Rock Battery, betwixt high and low water line, each tide covering it. But, nevertheless, the water of the spring, when the salt water of the sea leaves it, issues bright, fresh, and soft. The well, now finished, was commenced by Mr. Rawlinson, C.E., to reach the rock, and tap this vast reservoir of pure water. A portion of land, situate on the margin of the Great Float, (Wallasey Pool) was selected, being "waste land," and claimed by the Local Board, on which to place Gas Works and Water Works. A well was commenced, and had to be abandoned because the ground had been so broken by pumping quicksand, that the engineer did not deem it safe further to tamper with it.

The site of the well is some 20 feet above high-water level of the sea; and now that a well has been completed, the fresh water rises to some 16 feet above the level of the sea. The quicksand and rock have been reached at a depth of 94 feet from the surface, so that there is a pressure of water from beneath the marl covering nearly equal to a head of 80 feet, or approaching 40lb. pressure on the square inch. When the first well had been formed through the marl, 80 feet thick, to the quicksand, the rush of water was so powerful that a solution of silt and sand alone could be pumped.

The second well has been sunk by Mr. Tilly, of Enfield, using 7-feet cast-iron cylinders. The cylinders have been sunk down to the rock, with the water in the well, *without pumping*. An inner cylinder, with a strong cast-iron bottom, having a socket 2 feet diameter, was lowered to the bottom, and the joint made good by a diver working under 80 feet head of water. Boring tools were then worked through the 2-feet socket-hole, and a lining or guide-tube driven tight into the true rock, 10 feet deep, so as to shut out the solution of silt and sand. The boring into the true rock has been continued to a depth of 150 feet from the bottom of the cast-iron cylinders, or 250 feet from the surface. The water now rises up the bore-pipe soft, pure, and sparkling, of 5½ deg. of hardness only, and may be pumped at a rate of 500,000 gallons per day with the existing pumps. The yield of the well is, however, above 1,000,000 gallons of water per day. The boring tools have opened up a natural fissure in the rock of unknown capacity and depth.

Few wells have been executed under greater natural difficulties than this at Wallasey. Many predictions stated that it never would be completed; and even the week before its completion, the report was current in the district that the engineer had determined to abandon it.

COMPETITIONS.

Borrap Estate, Ripon.—In answer to advertisements in the *Builder*, thirteen designs were submitted by architects for laying out the above estate for building purposes. The design of Mr. T. C. Sorby has been accepted as suited to the requirements of the locality.

Monaghan Lunatic Asylum.—SIR,—My attention having been called to a letter in your publication of the 2nd inst., signed "Alpha," on the subject of the competition for plans for the new lunatic asylum about to be erected for the counties of Monaghan and Cavan, I beg your insertion of a few words in reply to the concluding paragraph, for the information of the writer, and of such architects as may have had doubts on the subject. The committee propose to pay to the architect who may be employed to carry out the works the *usual commission*; but they wish it remembered that, according to the terms of their advertisement, if the designer of the plan approved of be so employed, no premium will be paid to him.

HARRY ROGERS, Secretary to Committee.

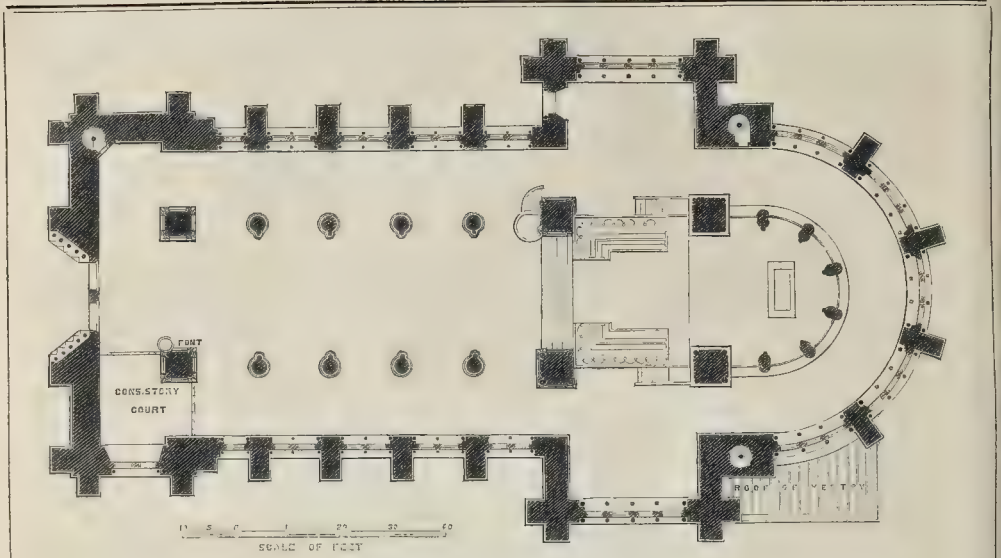
ELECTRO-TELEGRAPHIC PROGRESS.

TWO projects, it is said, are in the field for connecting Australia with Java. It is proposed to lay the cable on the north-west of Australia, on the shores of the Gulf of Carpentaria, or to take it round to Brisbane, the capital of Queensland. At this point the cable would be in communication with the existing intercolonial lines, and New South Wales, Victoria, and South Australia would thus be brought into connexion with the countries of the old world. The cost of laying the line from Java to Queensland is estimated at 1,100,000*l.*; but from Java to the north-west a cable could be laid for 243,000*l.*

The *Moniteur* publishes the following notification: "An international conference has just been opened in Paris, at the Ministry of Foreign Affairs, for the purpose of examining a project for a telegraphic line intended to connect Europe with the American continent. It is proposed that the submarine cable shall cross the ocean from the Cape Verd Islands to Brazil, and be continued thence by the West India Islands to North America. The powers most immediately interested in the success of this undertaking have promptly given in their adhesion to the views of the Emperor's Government."

The following account of an extraordinary French telegraphic invention is given by the Paris correspondent of the *Star*: "The Abbé Cassell's pantelegraph is taken up by the Government. A 'project of a law' was recently presented to the Corps Législatif, which proposes that it should supersede the Morse apparatus now in universal use. The pantelegraph is one of the greatest scientific wonders of the present day. It is properly enough termed here an autograph and automateur. A despatch written at Paris is reproduced without the assistance of any clerk at Marseilles with the most rigorous fidelity, as is also a portrait, sketch, or drawing of any kind. Nor does the Casselli apparatus need so great a supply of electricity as that of Morse, and is much less affected by the condition of the atmosphere. The Empress has lately had her likeness telegraphed to some of her friends in the provinces; and, last week, Casselli telegraphed a painting of a full-blown rose from the Observatory to the bureau of the telegraphic administration. The petals were of a beatiful pink colour, and the leaves of an equally good green; in short, were exactly like the tints of the original. Rossini, also, not many days ago, telegraphed to Marseilles, by this apparatus, a melody which he improvised in honour of the inventor, and which has since gone the rounds of the Paris saloons."

This account almost savours of the alleged wonders of the spirit-rappers, with their "spirit-flowers" and "spirit photographs," rather than of the actual workings of electric telegraphs. Instead of "wonders" ever "ceasing," they are ever increasing, in this age of wonders.



CATHEDRAL OF ST. FINN BARR, CORK.—*Plan.*

PROPOSED CATHEDRAL OF ST. FINN BARR, CORK.

OUR readers will remember that in a recent competition with reference to the proposed new cathedral in Cork, a design by Mr. Burges was selected. We have engraved an interior view of the design, and shall make the architect's proposition best understood by printing the pith of the remarks he submitted with it to the committee.

The sum placed at the disposal of the designer being comparatively small, when viewed in relation with the object to be attained, viz., the construction of a cathedral; he thought it desirable to ascertain, in the first place, what are the most essential differences between a cathedral and a large parish church; which latter, in the present instance, would be out of place; inasmuch as the proposed building is to receive a bishop, dean, and chapter.

If we examine any number of old cathedrals, we shall find that, however much they may differ among themselves as regards size and ornament, they, for the most part, present us with transepts, with the triple division of arcade, triforium, and clerestory, and with more than one tower. It is very true that these towers may not always be built, but the preparation for them is generally to be discovered.

In applying these characteristics to the present building, some considerable difficulty occurred, both on account of the limited nature of the site and still more on account of the small sum to be expended.

A short and simple plan was therefore adopted, consisting of nave, aisles, and transepts, together with an apsidal choir and ambulatory; the advantage of the latter arrangement being, that it causes the shortness of the building to be less apparent, while, at the same time, it affords additional accommodation in case of need.

The plan being thus restricted, but at the same time possessing the distinctive features of a cathedral, the next object was to obtain as much dignity as possible consistent with the outlay. This he thought to effect by making the architecture exceedingly plain and simple, and, at the same time, finishing the walls, which possess the requisite divisions of arcade, triforium, and clerestory, with a boarded wooden roof. Stone quadripartite groining would be out of the question, both on account of its cost and of the diminution in height in the interior, for it requires a wooden roof over it to protect it from the weather, and thereby causes the loss of height. It is generally objected to open wooden roofs, that, unless made of very thick materials and double boarded, they are apt to render the building very hot in summer and very cold in winter. This, in the design, is avoided by boarding to the inner line of the timbers, and thereby obtaining a ventilating chamber between the interior and exterior of the building.

The aisles are shown as vaulted, with a barrel stone roof; but the span is very small and the roof above very slight. However, it would be quite possible to use timber alone, if the funds required it.

From the position of the proposed building, on the top of a hill, where it would be seen from the whole town, it becomes a matter of necessity to have three spires, as well as to carry off the height and shortness of the building itself. Of course it it would be impossible to execute these and the church for the 15,000*l.*; and they must, therefore, necessarily be left to the piety of future generations; at the same time, two or more low towers would only impoverish the building, without any corresponding effect.

A vestry has been provided on the southern side of the ambulatory, and a chapter-house under the south tower. The figures on the jambs of the west door represent the five wise and five foolish virgins: on the tympan is the general resurrection; above, at the angles of the rose-window, the four evangelical symbols; and in the great gable, our Blessed Saviour. These are the only sculptured figures in the building. The principal material proposed to be employed is the red local stone for the mass of the walls; the doorways being hard Bath stone, except in the case of the central tower piers, which, on account of the weight, would require to be executed in Portland or some other hard stone.

In conclusion, the author considered that the body of the church could be executed for 15,000*l.*, and acted upon the principle that it would be better to wait for the towers, than, by attempting too much, to erect a building which would be unworthy of the position occupied in Cork by the Established Church.

THE ARCHITECTURAL ASSOCIATION.

THE annual special business meeting of the members of this Association was held on Friday, the 1st inst., at the House in Conduit-street. The chair was taken by the president, Mr. Thomas Blashill.

The following gentlemen were, on ballot, elected members of the Association:—Mr. F. H. Fowler, 32, Fleet-street; Mr. C. Browne, 18, Spencer-street, Canonbury; Mr. C. Hatfield, 49, Cambridge-street, Pimlico; Mr. J. T. Nightengale, 5, Marlborough-terrace, Kennington; and Mr. B. B. Perress, Anderson-street, Chelsea.

A letter was read from the hon. sec. of the Architectural Alliance, requesting that the names of the gentlemen who might be deputed to act as delegates from the Association at the annual meeting to be held in London in July might be forwarded by the 29th inst.

A brief discussion ensued, with reference more particularly to the position of the delegates with respect to one of the principal questions to be discussed at the approaching meeting of the Alliance; namely, the propriety of adopting a scale of professional charges, in the course of which the president and Mr. T. Roger Smith said that the delegates would not have any power to pledge the Association to any proposition that might be made on the subject, and that the understanding was that each association forming the Alliance might adopt or reject any scale of charge that might be recommended. Ultimately the question of choosing delegates was referred to the next meeting.

On the motion of Mr. T. R. Smith, certain amendments were made in the rules of the Association, the effect of which was, that in future (except on special occasions otherwise provided for) all questions submitted to general meetings of the Association be decided by a show of hands of those present, and that the use of proxies be not permitted. In the election of officers, however, proxies may be used.

The next question discussed had reference to the best hour for meeting. Mr. Adams proposed that the time should be changed from eight o'clock to half-past seven, contending that the members did not at present attend with sufficient punctuality to admit of the president taking the chair, and that the period usually left for discussion after the paper of the evening had been read, was far too short.

Mr. C. H. F. Lewes supported this view.

Mr. H. A. Reeves, Mr. Paraire, Mr. Wimbridge, and other gentlemen, on the contrary, contended that it would not be prudent to depart from the usual hour for assembling among all scientific, literary, and artistic societies; and that if it were known that in future the chair would be taken at eight o'clock precisely, the attendance of members would be more punctual. It was also urged that an earlier hour for meeting would interfere with the modelling class, which also met on Friday evenings.

Eventually a show of hands was taken, when the motion to substitute half-past seven for eight o'clock was lost, the numbers being,—ayes 20, noes, 21.

Some other matters of a routine character having been disposed of,

Mr. C. J. Adams announced that the next subject for the Class of Design would be a choir or chancel screen; and that at the meeting on the 15th instant, Mr. F. A. Skidmore would read the second part of his paper on Metal Work.



CATHEDRAL OF ST. FINN BARR, CORK.—INTERIOR, LOOKING EAST.

SELECTED DESIGN: BY MR. W. BURGES, ARCHITECT.

ARCHÆOLOGICAL INSTITUTE.

THE official paper in reference to the meeting at Rochester on the 28th of July next says:—

Rochester presents a centre of archæological attraction not only in the cathedral and noble castle, or in minor objects—the remains of the city walls, ancient dwellings of picturesque or historical interest, the remains of the house of the Templars at Strood, and of Gundulph's Hospital at Chatham, but also numerous ancient architectural examples, ecclesiastical, castellated, and domestic, of remarkable interest, advantageously accessible on such an occasion. The following may be particularly mentioned:—The ancient stronghold of the Cobham family at Cowling; Cobham Church, with its fine series of sepulchral brasses; the noble gallery of paintings at Cobham Hall; the supposed remains of Saxon architecture at Dartford Church; the churches of Cliffe, Darenth, Stone, and Farningham; Boxley Abbey; Malling Abbey; Maidstone, with its fine church, museum, and numerous objects in the vicinity; the remarkable examples, moreover, of military architecture—the mote at Ightham; Leeds Castle; Allington Castle; Old Soar; and Knole, with its celebrated assemblage of historical portraits. To those who investigate traces of Roman occupation, the extensive potteries in the Upchurch Marshes, near Rochester, present a subject of interesting inquiry. Amongst remains of a still earlier age may be cited, Kits Coty House, the most curious primeval monument in the south-eastern parts of England; and the fallen cromlech at Addington; the semicircle of stones and chamber at Coldrum. Of these localities many may be included in the scheme of general excursions now in preparation; whilst others, comparatively difficult of access, may be available to parties of the mere keen votaries of archæology. Mr. Roach Smith has, with much kindness, offered his services as a guide, in the event of a special party being formed to visit either Coldrum or the Upchurch Potteries.

The architectural history of the cathedral and conventual buildings has been undertaken by Professor Willis. The grand example of military architecture, Rochester Castle, will present a subject of unusual importance to the Rev. C. H. Hartshorne. The Rev. J. Earle, late A. Sax. Professor, Oxford, will give a dissertation on the archæology of Kentish local names: a memoir on certain examples of painted glass in Kent, has been promised by Mr. Winston; and the subject of sepulchral brasses, of which Kent presents an unequalled series, will be brought before the meeting by Mr. J. G. Waller.

PROTESTANT CHURCH OF MONTPELLIER, COMPETITION.

MORE than one English competitor complains of the treatment received. Letters asking for information, and addressed to the clergyman, have been returned. We have just now learnt accidentally that the award is as follows. Considering that, on the recommendation of Mr. C. Daly, of Paris, we placed the terms of the competition prominently before our readers, we might have expected an official intimation of the result:—

First premium, W. Bouwens, Paris; second, F. Estibot, Lyons; third, Albert Claris, Paris.

Honourable mention: first, A. Gouttès, Montpellier; second, X. P. Arribat, Montpellier; third, André Marcel Bourdillon, Geneva.

CERAMIC DECORATION OF BUILDINGS.

THE suggestion and offer made a few weeks ago by Mr. Beresford Hope, with reference to the Wedgwood Memorial Institute, will be remembered by our readers. The committee have now received donations of the value of 25*l.*, 15*l.*, 10*l.*, and 5*l.* respectively, from that gentleman, Mr. J. E. Heathcote, Mr. J. Edge, and the Rev. Dr. Armstrong, to be offered as prizes to architects or other artists who shall in competition produce the best designs for the ceramic treatment and decoration of the block façade of the Institute, which is to be constructed according to the accepted designs of Mr. G. B. Nichols. This competition has accordingly been resolved upon, not only with the view of enhancing the beauty of the structure itself, but also with the object of creating a systematic interest in ceramic architecture in its artistic and its practical aspects, by directing the attention both of artists and manufacturers to the subject. The committee have appointed Mr. Hope, Mr. M. D. Wyatt, and Mr. J. C. Robinson judges, who have issued the terms of the competition. These may be obtained at No. 9, Conduit-street. The designs are to be sent in by the 2nd of November next.

SCHOOLS OF ART.

The Ipswich School.—The annual distribution of prizes at this institution took place at the School, Northgate-street. The Rev. C. H. Gaye, the chairman of the committee of the school, presided. There was a numerous attendance of ladies and gentlemen. The chairman, in opening the meeting, said he was glad to be able to state that the pupils had this year maintained the credit which they had gained in former years, the number of medals and prizes being about the same as heretofore. Mr. G. C. E. Bacon said the committee were very glad that they were able on this, as on previous occasions, to issue a report of a very satisfactory character. The inspector had reported very favourably of the improvement he had observed in drawing, and spoke highly of the steady progress the boys in the several schools had made, which was owing entirely to the exertions of their master, Mr. Griffiths. Last year there were fourteen medals, and on this occasion only twelve; but the number of prizes, he believed, was greater this year. The authorities of the South Kensington Museum had discovered that they could not be so lavish in the distribution of prizes as heretofore; and the number of prizes having been reduced, it would be more creditable to those who should hereafter obtain them.

The Kidderminster School.—This institution has now been in existence thirteen months, and is gradually working its way in the estimation of the inhabitants. The number of students now is ninety, out of whom twenty-five are designers or those engaged in various designing shops. Pupils of the school continue to be engaged by the designers in the town, and thus another means of obtaining a respectable livelihood has been opened to youths whose talents lie in this direction. Mr. Kennedy, the principal master of the school, has been delivering a lecture "On the True Principles of the Art of Design as applied to Textile Fabrics;" in which he pointed out the bad taste displayed in the naturalistic treatment of flowers, foliage, &c., in designs for carpets, and advocated strongly the use of abstract forms and conventional treatment, geometrical and symmetrical. He also explained the principles of decoration taught in the Government School of Art.

MEMS. FROM HOUSE OF COMMONS.

The Vacant Plot of Ground at Carlton Gardens.—Sir M. Peto said that, as his name had been mentioned in a question put on this subject, he wished to say that he had not preferred this particular site in any way, and that he had gone to the officer of the department to say that he did not require it, and that the disappointed parties were welcome to it at the price which he had paid for it. Sir J. Shelley said his hon. friend had misunderstood the object with which he put the question. In these days, when they were looking everywhere for an eligible site for public offices, he thought that such a site as Carlton-house-rise ought not to be disposed of by private contract, or for any less price than the utmost which the public would give for that purpose. He was glad to hear that his hon. friend, who was a good judge of the value, had given a full price for it; but he believed it would have fetched a larger price had it been generally known to be in the market. He hoped that by putting the question he should not be understood as implying that his hon. friend was in any way to blame. The rent has been stated to be 1,400*l.* per annum for about three-quarters of an acre.

The Exhibition Building.—Lord R. Cecil asked the Chancellor of the Exchequer whether the report was true that the Government had offered or intended to become purchasers of the building in which the Exhibition of 1862 was contained. The Chancellor of the Exchequer said he had been questioned upon the subject a few weeks since, when he gave the best answer he was then able to give. He was not now able to make any further statement upon the subject, but he could assure the noble lord that if the Government should offer or intend to become purchasers of the Exhibition Building they would give the earliest information in their power to the House; and in case they should intend any step requiring a vote of money they would take care to lay an estimate before the House at an early period, and bring the matter under discussion in the manner which might be thought most convenient.

Public Buildings.—Mr. B. Cochrane gave notice that on an early day he should move that, for the sake of obtaining greater unity of design in our public buildings, and with a view to the efficiency and economy of the public service, it is desirable a permanent Commissioner of Public Works and Buildings should be added to the present Board of Works.

SCHOOL-BUILDING NEWS.

Lowestoft.—Contracts have been entered into with Messrs. George Rix & George Parker for the erection of Congregational Sunday school-rooms, from designs and plans prepared by Mr. W. Oldham Chambers, of this town, architect. The building, which will be of an ornamental character, in the Italian style of architecture, with two campaniles, will be in the rear of the present chapel, and front Nelson-street.

Cannock (*Staffordshire*). — New schools at Hednesford, on the summit of one of the highest of the Cannock Chase hills, have been opened. The buildings are of red brick, with bands of white and blue bricks, and include a house for the master. The large room is adapted for service, pending the erection of a church, which it is to be hoped may shortly be erected. The Marquis of Anglesey has given the site of the schools, which forms only part of a grant of five acres from that nobleman, for the erection of a church, parsonage, and schools. The schools have been erected by Mr. Tomlinson, of Cannock, after the designs of Mr. Samuel Johnson, of Wolverhampton, at a cost of 800*l.*

Broadwas (*Worcestershire*).—The new school building just erected in this parish has been opened. It is built on a piece of land nearly opposite to the rectory; and, though plain and unpretending in its architectural features, it will give accommodation sufficient to meet the requirements of the parish. It is in the Gothic style, and is built of party-coloured brick, with Bath stone dressings. The roof is high-pitched, and is covered with black and red Broseley tiles, worked out in design. On the south front there is a small bell turret. The school-room will accommodate fifty scholars of both sexes. The design was furnished by Mr. A. E. Perkins, of Worcester, architect; and the building contract was carried out by Mr. John Ballard, of Martley, builder. The cost is estimated at 370*l.*

CHURCH-BUILDING NEWS.

Frampton (*Lincolnshire*).—The foundation of a new district church in the parish of Frampton, has been laid by Mrs. Tunnard. The site is in a field beside the road leading from the Kirton turnpike to Kirton Holme. The edifice will consist of a nave, chancel, south porch, and a vestry on the north side of the chancel. The external of the walls will be stone, but the internal red bricks. The work is being executed by Mr. White, of Alford, builder. Mr. Fowler, of Louth, is the architect.

Doncaster.—The chancel and new organ at Christ Church have been opened. The architect employed was Mr. Arnold. The chancel is composed of two bays, forming side aisles. The capitals of the columns show considerable foliated work, carved by Mr. Athron. Mexborough stone has been used for the shafts of the columns, and the caps, bases, and arch mouldings are from the quarries at Brodsworth. The arch mouldings of the octagonal columns by which the chancel is divided afford an aisle on either side. The carving of the capitals represents the maple, thorn, and nut leaves; wheat-ears, buttercups, and flowers being also distinguishable in many places. The roof is an open one; and in carrying out the Gothic design, says our authority, the local *Gazette*, Mr. Arnold had great difficulty to get weight, so essential on roofs of that kind, but he overcame it by the addition of a second plate for the springing of the roof, and in this manner bringing down the ends of the rafters to their proper position, finished with a small embattled cornice. The wood is St. Petersburg red deal, stained and varnished. The roof of the former chancel was flat and divided into panels. The seats placed in the chancel are of oak, and cut by Mr. Ruddle, of Peterborough. The new organ was built by Herr Schulze, who made the instrument in the parish church. It is much smaller than the parish church organ. There are 22 sounding stops, 3 manuals, and a pedal key board. The case is of oak, Gothic in design (by Mr. Arnold), made by Mr. Ruddle, of Peterborough. It shows a great variety of ornament. The front

pipes are diapered, the larger ones having different texts of Scripture worked in the designs. The cost of the screen is estimated at 42*l.*: the organ will cost about 300*l.*, independent of the old organ given in exchange, and without the price of the case. The vestry has been enlarged, and its proportions altered: it is now placed against the chancel wall. The floor of the chancel has been paved with Minton's tesselated tiles. The stained-glass windows are from the manufactory of M. J. P. Capronniere, of Brussels. The subject of the new window on the north side of the chancel is "The Annunciation to the Shepherds." The south window represents "The Adoration of the Magi." A rose window has been introduced at the west end, which is opened out by the removal of the organ, and is emblematic of the union of the gospel in Christ. In the centre is the Lamb; and the four medallions springing from that point contain representations of the living creatures mentioned in the Book of Revelations. A small triplet window is placed in the vestry. The two new windows in the chancel were the gift of the late Mrs. Saunders, to the memory of her family. The rose in the west side of the church and the triplet in the vestry are the gifts of M. Capronniere. The expense of the extension of the chancel, the alteration of the vestry, the window, &c., is 800*l.*, exclusive of the gifts of several of the congregation.

Sheffield. — The Broomhill New Connexion Chapel has been opened. It is situate on the Glossop-road, near the Mount. The chapel is of stone, in the Italian style, the portico being at a considerable elevation above the road. Access to the body of the chapel is gained through a double lobby in the centre of the front, and there are separate entrances to the galleries under the same central portico. The chapel is on the ground or principal floor, the space beneath it on the basement being used for a school-room. This is 55 feet by 48 feet, with a height of 13 feet, light being obtained from windows on each side. There are also two class-rooms here, and the formation of the site has permitted the whole of these school premises to be erected above ground. The chapel is of the same size as the school; and adjoining it there are class-room, minister's vestry, and other conveniences. The whole area of the building, 70 feet by 48 feet, is surrounded by galleries, which are consequently extensive. The height of the chapel is 32 feet. There is accommodation for 800 persons, with unusual width of seats and passages. The total cost will be, it is estimated, about 3,800*l.*, exclusive of an organ which is being built by Messrs. Willis, of London. Towards this sum more than 2,000*l.* have been raised. The architects are Messrs. Flockton & Abbott; and the builder, Alderman Mycock. The chapel is warmed by hot air from an apparatus supplied by Messrs. Haden, of Trowbridge.

Aston (Yorkshire)—Aston church has been recently restored under the direction of Mr. M. E. Hadfield, architect. In the autumn of last year, the present rector, the Rev. A. R. Campbell, determined upon a general restoration of the church; and this circumstance has led to the uncovering of the Norman arcade which separates the nave from the aisles. It had been covered by a thick coat of plaster. The labels, capitals, and even the shafts had been defaced and disfigured by modern mouldings. In the process of restoration it was discovered that the arches were constructed of different coloured stones, so systematically arranged as to leave no doubt that it had been designedly done to give the grace and force of colour to the otherwise simple mouldings. The stones of the three rims are different in colour and texture. The label is purple gritstone, from the neighbouring village of Wales. The outer chamfer is of red sandstone, from the same place, whilst the inner rim and relieving arches are the rich yellow limestone from Lindrick Common, near Worksop. The shafts are built of each kind of stone as marked on the section. One capital only is of Roche Abbey limestone, with an abacus of Lindrick stone. The church generally partakes of three different styles, but there is nothing particularly worthy of note except the arrangement of coloured bands in the arcade. Care has been taken to preserve this feature of the building—and the capitals, bases, and other details have been restored. No renovation of the old work has been permitted, except washing and scrubbing the surface: the practice of chiselling over the old stone to make it look new has been prohibited. The old altar stone has been discovered and placed in the vestry: the consecration crosses are discernible, though much worn. The roof of the nave, which was of a low and depressed character, has been removed, and a new open roof erected in its place, of framed open timber. The south aisle windows have been filled with tracery, and all the plaster stripped from the walls and roof.

Harewood.—The church here, which was originally built in the twelfth century, and which from time to time has undergone many alterations and changes, has been restored from designs by Mr. Scott, and formally re-opened for divine worship. The designs have been carried out under the superintendence of Mr. Parsons, the estate architect to the Earl of Harewood. The pulpit" and font are in Caen stone, with Lizzard serpentine marble from Cornwall, and were carved by Mr. Farmer, of London. The contractors for the general works were Messrs. Beanland, of Bradford; and a warming apparatus was fixed by Messrs. Nelson & Sons, of Leeds. The thick coating of plaster, which covered the walls to a depth of nearly 2 inches, has been removed, and the arches and pillars made to stand forth in their proportion. The flat plaster ceiling has been replaced by a panelled roof of stained pine. The west gallery has been taken away, and open seats of stained pine, one uniform size, substituted for the old irregular pews. The Rythen and Redmayne monuments have now been inclosed by an open screen of oak. The prayer-desk, lectern, and choir-seats are also of oak. A font of Caen stone, with marble pillars, has been presented by the Countess of Harewood, and a sculptured pulpit of the same material by the Hon. Edwin Lascelles. The chancel inside the communion rails is laid with Minton's encaustic tiles. The cost of this restoration has amounted to about 3,000*l.*, the whole of which, except 500*l.* collected in the parish and neighbourhood, has been provided by the Earl of Harewood.

Appleby.—St. Lawrence Church, at Appleby, has been re-opened, according to the *Carlisle Journal*. It has been closed for restoration during the last eighteen months. The side windows are new throughout, having been restored according to a design furnished by Mr. Cory, of Carlisle, while those in the clerestory have been re-glazed, and the stone renewed, where necessary. The chancel and north chancel aisle have undergone a restoration under the superintendence of Mr. Christian, architect to the Ecclesiastical Commissioners. In addition to a new east window, three new windows have been inserted in the north chancel aisle. The whitewashed ceilings have been removed, both in the north aisle and chancel proper; exposing in each case the oaken beams and timber of a new and lofty open roof. A new chancel arch completes the restoration of the eastern end of the church. An improvement has also been made at the west end of the building, the western tower having been opened out by the removal of the organ-gallery, thus giving the church the whole length from east to west, and exposing to view an arch and the large western window, which has been restored in accordance with a design furnished gratuitously by Mr. Christian. The organ is removed into the north chancel aisle. The whitewash has been cleared from the columns and arches throughout the building, and the stone redressed. The whole of the work has been executed by Messrs. Nelson & Co., of Carlisle. The staining and varnishing of the woodwork was done by Mr. Fauset, of Appleby.

Guernsey.—Morley Wesleyan Chapel was opened for public worship on the 19th April. The following are some of the particulars, abridged from the local *Comet*:—The chapel is in the Gothic style, and constructed of red granite, random masonry. The walls are buttressed; the buttresses pointed with Portland cement, similar to those of St. Paul's Chapel. The length of the chapel, which is in the form of a T, is 42 feet; width, 33 feet; length of transept, 47 feet. The walls are 16 feet in height; from the ridge to the ground, 40 feet. The roof is slated. The chapel is lighted by three windows, of quarried glass, on each side; and a centre and two side lights of the same material above the door in front, and two small slit windows, one on either side of the door, contribute towards the same object. A small centre finial and two steeplets, on the front of the building, are added by way of ornament. The addition of a schoolroom at the eastern end, in accordance with the style of the chapel, will give it a cruciform appearance. Provision has also been made, in the event of the chapel becoming too small, to open the partition wall; and convert the schoolroom into chapel accommodation sufficient for eighty persons additional. The contractor was Mr. P. Gallienne, formerly in the employ of the late Mr. Matthew De Putron, builder, St. Martin's. It is calculated to seat 218 persons,—fifty free. The estimated cost of the chapel was 450*l.*; that of the schoolroom, 175*l.*; total 625*l.*

Battersea.—St. John's Church, Battersea, near the Wandsworth station (Waterloo line) was consecrated by the Lord Bishop of Winchester, on the 5th inst. The church contains accommodation for 635 adults on the ground floor, and 100 children in a western nave gallery, and has been erected, including all extras, for which an architect's certificate is required, for 4*l.* 15s. per sitting—allowing 20 inches for each sitting throughout. The church consists of a nave and chancel, 84 feet 6 inches long by 24 feet 6 inches wide, being terminated by a semi-octagonal spac. The north and south aisles are 73 feet long by 17 feet 6 inches wide. The external height of the nave from the ground to the ridge is 44 feet 6 inches; that of the aisles, 35 feet. There is no clerestory. The columns of the arcade are of stone. The octagonal pierced stone pinnacles between the nave and aisles in the west front (one of which is the bell turret) are 65 feet in height. There are griffins carved by Mr. Redfearn at the angles of the base of the broach spires, surmounted by carved finials. The style of the building is Gothic, of the Early Pointed period, adapted to the prevailing taste, with stone dressings and red, black, and grey brick facings. Messrs. Sharpington & Cole were the contractors, who have completed their work ten days before the stipulated time. The chancel fittings were executed by Messrs. Cox & Sons. the illuminated tablets for the decalogue, &c., were by Messrs. Simpson; and the corona, gaseliers, and fittings by Mr. Berry. The carving and stained glass margins were presented by the architect. The cost was about 3,350*l.*

THE BOW BRIDGE, LEICESTER, AND THE TRADITION AS TO KING RICHARD III.

IT is the intention of the corporation to fix on the new Bow Bridge two oblong iron plates, one of which will relate to the erection of the bridge on the site of the old structure of that name, and the other to the legendary account of the death of King Richard III., and the traditional prophecy connected therewith. The plates, which will be made to correspond, will be about 2 feet 6 inches in length, and from 2 feet to 3 feet in breadth. The letters will be raised, and bronzed, and the plates let into one of the piers of stone on either side. The one commemorating the erection of the bridge will have upon it the following inscription:—"This bridge was erected by the corporation of Leicester in the mayoralty of S. Viccars, esq., A.D. 1862, on the site of the ancient Bow Bridge, over which which King Richard III. passed at the head of his army, to the battle of Bosworth Field. August, 1485. Joseph Whetstone, chairman of Highway Committee: S. Stone, Town Clerk: E. S. Stephens, Borough Surveyor." The plate on the opposite side will have upon it the legend in verse, according to Speed's History of Great Britain:—

> "Upon this bridge [as tradition hath
> Delivered] stood a stone of some height,
> Against which, King Richard, as he passed
> Towards Bosworth, by chance struck his spur,
> And against the same stone, as he was brought
> Back, hanging by the horse's side, his head
> Was dashed and broken, as a wise woman
> [Forsooth] had *foretold*, who, before Richard's
> Going to battle, being asked as to his success,
> Said that where his spur struck his head
> Should be broken."

This account is simply handed down as a tradition: and the corporation, in preserving it, are properly enough engaged in taking care that whatever is interesting in connexion with Leicester shall be retained.

PROPOSED TOWN HALL, ALBERT MEMORIAL, &c., FOR EDINBURGH.

THE want of a large and convenient hall for public purposes has long been felt in Edinburgh. Sketches, however, of a design for the improvement of the south side of the High-street, and the erection of a town-hall, were lately prepared by Mr. David Rhind, architect, and have been for some time under consideration. From this design a definite plan has been prepared and engraved by Messrs. W. & A. K. Johnston. The improvements contemplated are of great extent, and are intended, not only to afford ample space in a central position for the town-hall, but to take advantage of the striking natural features of the situation for a grand architectural display. The new town-hall building, it is proposed, should include, besides a hall of 120 feet in length by 80 feet in breadth, other rooms for the meetings of the Merchant Company, the Chamber of Commerce, and other public bodies. Streets are included in the pro-

jected improvements, and these are intended to be wide and handsome, and probably built in the old baronial style already attempted in Cockburn-street. On the north side of one to be called Albert-street, immediately fronting the town-hall, the intention is to erect the Scottish National Memorial to the late Prince Consort, for which between 15,000*l.* and 16,000*l.* have now been raised. The memorial, it is proposed, should take the form of a bronze equestrian statue, with other bronze figures, representing Art and Science. The whole group would occupy a commanding position, and would be seen in grand effect from the whole extent of Princes-street, from the Waverley and North bridges, and from the Mound. Gardens and a terrace are included in the design, and at the southern semicircular boundary of the gardens is the space to be occupied by the statue, to which access will be obtained by four distinct flights of steps. The northern extremity of the whole design is to be occupied by a fountain in East Princes-street Gardens, for which it is understood a legacy has been left in the hands of the Town Council. Messrs. W. & R. Chambers, Messrs. M'Laren, Son, & Co., and others whose property would be bounded on the west by one of the streets to be named St. Giles-street, have indicated their willingness to co-operate heartily in carrying this improvement into execution, if it should meet with the approval of the authorities.

THE VENTILATION OF UNDERGROUND RAILWAYS.

I have frequently travelled on the Metropolitan Railway, and noticed the atmosphere to be particularly unpleasant at Gower-street. At first, the condensers of the engines were said to be insufficient for their purpose: I believe new ones have since been constructed; yet, from recent experience, I fully agree with your remarks in last week's *Builder* upon the imperfect ventilation; and would suggest whether the "sunlight" gas-burner, or some other good draught-creating medium, cannot be introduced at intervals in the *crown* of the tunnel, with a shaft above each to lead away the impure air in convenient directions. The apertures for light and air at Gower-street are below the level of the crown of the arch, and so do not seem greatly to assist the ventilation.

W. H. C.

CONSTRUCTION OF CHURCH ROOFS.

Having had for many years, and lately, my attention drawn to the construction of new roofs to ancient edifices, and to proposed new works, I have met with difficulty in treating the question, when the funds at disposal are limited, in anything like the old spirit as to strength and solidity, particularly when the material must of necessity be *fir*.

I find the only solution to the problem is by giving up flush framing altogether where fir is used, or where the oak or chestnut must be of less scantling than the old roofs; and I propose to substitute the system of lap framing, with dovetail joints, to timbers in a state of tension.

It is rarely the case that, even where fir is used, we are able to specify timbers of the ancient scantlings; and this class of timber, being much less durable and weaker, renders the oak mode of construction totally inapplicable; so that, where a rafter of oak 4 by 4 can safely be mortised, it would be imprudent to treat the same section of fir similarly, with, of course, the same view to durability and strength. In the case where the timbers appear and are dressed, I admit great difficulty arises as to how to ornament or mould them, and I am free to admit the unsightliness of the lap system; but where the roof is ceiled to the underside of spars, there is no hinderance to laying the diagonal braces, punchions, and collars against the sides of the rafters, and notching them down slightly with a dovetail joint, and then pinning them. In this case you have, *firstly*, the advantage of a dovetail end, which, to a piece of framing in a state of tension, is a very powerful mode of connexion. *Secondly*, the sections of the spar and brace are very slightly reduced. *Thirdly*, the cost of such a means of construction is much lessened in labour, and (if the above facts are granted) in the amount of timber required.

With a commendable jealousy in preserving the old spirit in the restoration of our ancient edifices, and working in it in our new, the great Church Building Society forbad, some years ago, the use of tiebeams; and, quite recently, their professional committee have put their veto on the above system of construction, entirely on the plea that it is not in accordance with ancient precedent. If my memory serves me, there are no formulæ giving the relative strain necessary to disconnect two or more portions of framing secured by the several modes of connexion. It is a practical question of much service and interest in these days, when economy of construction is so pressed on our attention, and when there is a growing wish to *build* or establish lasting works, but not in blind accordance with ancient examples.

Philip Boyce, Architect.

THE PARKS AND KENSINGTON GARDENS.

The reference lately made in the *Builder* to the new style of gardening, and in especial to the improvements so notably carried out in the parks and Kensington Gardens, has given much satisfaction to Horticultural professors, and to all amateurs of the English garden. It is most gratifying to witness the advance of floriculture and plantation in places of public resort, where not many years back all was plain, barren, and almost repulsive. When the park and gardens were surrounded by dead walls, they were comparatively deserted: what a difference we now behold! Crowds of admiring promenaders, ladies, families, nurses, children, frequent the tastefully-decorated borders in search of health, and profiting by that enjoyment which a tastefully decked parterre never fails to infuse into the tranquil mind. In point of fact, except in nurseries or floral marts, hitherto there was no example to be found for imitation or study; for the only institution that existed to cultivate public taste in this respect was the Chiswick, or Regent's Park exhibition; and these being open to and accessible by a comparatively small number, a general diffusion of intelligence on the subject was out of the question.

In the improvements so rapidly made it is much to be regretted that the fine timber trees in the Gardens have not received that attention which arborists and private proprietors would have assuredly given to their plantations, whether for effect or for profit. It is deplorable to witness the failing state of the slender, tall, close-grown stems of lofty trees, which, if given a fair interval of space, might yet feather out, and become not only ornamental but vigorous. To-day we see struggling to bud into existence lofty foresters 100 to 150 feet high, dying at the top, exhibiting little more branch than an unthinned pine grove, each starving and whipping its neighbour, through too close proximity! Is there no wood-ranger to arrest this state of decadence and decay? Surely all must know that forest trees cannot arrive at maturity and exhibit a healthy, much less an ornamental growth, at a mean distance of say 12 feet. Entire groves are much closer than that, and many of the trees are 5 or 6 feet only apart. For free growth and natural garniture, each stem should be distant at least half its height from its neighbour.

The thinning of a plantation, while it secures health and grace to the occupants of the grove, also secures to the frequenters of the woods and glades a healthy and genial atmosphere. Having so far touched this subject, I would, with reference to the introduction of fountains and waterworks, observe, that while we give credit to the authorities who have done so much to embellish these gardens, which contribute to the health and solace of great multitudes, there is still a shortcoming, as to effect, in what has been already done, and a great default in design as to what might be effected, if we take into account the means at their disposal, and the great scope and aptitude of the field of their operations.

The four little basins of yellow water, with their abortive fountain squirts, and dimly seen gold fish, are failures. Would they not be better filled in with mould, and transformed into lively knots of planted flowers? Then, again, the hirsute borders of the Serpentine, between the bridge and fountains,—what a happy space they offer for decoration in marginal borders of alternated beds, walks, and knots! Here the most delicate shrubs and flowers would flourish, and lend an edour and grace to grounds and water, which are now certainly pleasing, but which might be made enchanting.

Then there is on the highest plateau of the centre a space of water called the Round Pond, covering eight acres. Here, indeed, is a glorious site for a fountain, in the centre of the glades, palpable from all sides: a jet such as that in the central Serpentine Italian Garden would have a telling effect. The water, too, if forced to this point from the well (Mr. Doowra's), might be conducted back by a pipe, so as to feed and keep in play that fountain also to its full height; but were it possible to obtain a grand fountain, equal to the French fountain, now a derelict in the Horticultural Gardens, the effect would be complete.

Any one, however, who looks at the Round Pond must deplore that so much ground is lost and swamped in so valuable a position: for effect, two acres would be most ample; or the *encircling six acres* might be converted into flower-beds or knots, enriched by appropriate shrubs (not too large growing), so as to form an attraction in this *juste milieu* of the most favoured and valuable of metropolitan pleasure-grounds.*

Joseph Newton.

BEATING THE BOUNDS.

ST. MARTIN-IN-THE-FIELDS.

Sir,—After reading your remarks on the above, I am induced to trouble you with this, as our vicar and churchwardens have resolved not to "perambulate" this year, on account of the heavy expense it entails on them, and which they can only legally charge upon the "rates" once in three years. It has been the custom in this parish to "perambulate" every year, and to take nearly all our school children, 1,200 or 1,300, and the cost of refreshments for them (not to mention creature comforts for the higher powers), is no trifle. It is, however, I think, necessary that an *annual* inspection, even on a small scale, should take place, in order to protect the parish from the encroachments and infringements you have pointed out.

X. C. W.

WORKS WITHOUT NOTICE.

BUILDING ACT.

Sir,—Permit me to direct attention to the very inadequate, almost in point of fact *nominal*, *fines* inflicted by magistrates for neglect of notice,—offering a premium to builders to evade the requirements of the Act.

A few salutary inflictions of the 20*l.* penalty would soon cure the evil, and be an act of justice to the really honest builders. It would also save a great amount of trouble to all parties, as such work is generally wrong, and executed in an improper manner. Such *mistaken* leniency on the part of magistrates simply emboldens offenders.

Under the Act of 1844, in addition to the 20*l.* penalty, we had also treble fees for default of notice. It is notorious that since the abolition of the treble fees, the work improperly carried out without notice has largely increased.

A Surveyor.

THE CUPOLA AND THE BASILICA.

Mr. Wigley's courteous readiness to explain the two points of his lecture, upon which you allowed me to make inquiries, is acknowledged as soon as my *Builder* is to hand. The only way of conducting the discussion to a definite conclusion is for one of your correspondents to state clearly the position to which he wishes the other to adhere. For example, I suppose that Mr. Wigley did not mean, by *cupola*, anything but a roof resting on a circular or polygonal tambour or curb, or covering the space formed at the intersection of two avenues. He did not, by saying that such a cupola was to be found in many churches of the East, mean to intimate his belief that until the Crusades no church in Europe had such a cupola: he did not, by saying that the Crusaders borrowed it from the Arabs at Jerusalem, mean to deny that the Arabs had never made a cupola up to that time, except by the employment of Byzantines: he did not, by saying that the cupola was introduced after the Crusades, mean that the cupola was unknown to the churches of civilized Europe of that time, nor even that in Europe the prevalence of cross churches with cupolas began after the Crusades. Otherwise, I must ask him to support, in some manner, the assertions that *the cupola, so defined, was invented by the Arabs; borrowed from them for the Eastern churches; and not known in any part of Europe till* 1100. These seem to be legitimate translations of his words, and are to me astounding propositions.

With regard to the *basilica*, he seems to think that a room of the least secluded character in a

* The suggestion of this spot as a site for the National Albert Memorial, by a "Member of the Mansion House Committee," may be remembered by our readers.—Ed.

house was the type of the early Christian churches, wherever they existed, rather than the synagogue or the public basilica. Upon reflection he will probably agree with the general teaching that, until the Christian religion was tolerated, congregations listened to their teachers in synagogues, and other public places, or else in secrecy; and that the reception-room, *basilica*, of a Roman noble's palace was not likely to be used, when, according to all tradition, the crypt was more safe than the mansion for a congregation.

G. V. R.

WHAT IS A BRICK?

THE case, Goote *v.* Stone, heard in the Court of Queen's Bench on Friday, was an action on a lease of a brickfield to recover a "royalty" reserved thereby, of so much per thousand of "bricks" made. The question raised upon appeal from a County Court judge was, whether this meant bricks in the mould, or bricks after they had been burnt and fully made. A similar point had arisen on the word "pipes and pantiles." The County Court Judge had decided in favour of the plaintiff, that the lease meant bricks in the mould. Mr. Mellish, Q.C., argued for the defendant, the appellant, that this was wrong, and that the word "bricks" meant not bricks in the mould, but bricks burnt and fully made. "A brick is not a brick until it is burnt. It is a mere piece of clay. If a man buy bricks he surely means burnt bricks. He would be disappointed if he received a cartload of lumps of clay."—The Court thought that the meaning of the words must depend upon the sense in which they must be taken with reference to the object in view. The object of a man who bought bricks was to use them, and so they must mean burnt bricks. But the object of the lease was to levy a royalty on the quantity of clay derived from the land, and in that sense it must mean bricks in the mould.—Judgment for the respondent.

Books Received.

Lectures on the History of England. By WILLIAM LONGMAN. Lectures Fourth and Fifth. London: Longman & Co. 1863.

Mr. Longman has now completed the first volume of his excellent "Lectures on the History of England." With the fifth and last in the volume he has issued the Preface and an Index of the Contents. In the Preface he says,—

"I feel that some explanation is needed of the reasons which have induced me to step out of my province as a publisher, and encroach on the domains of authors; for, independently of a natural feeling, akin to jealousy, which either author or publisher must feel if one or the other attempt to combine the two vocations; it is clear that they cannot, as a general principle, be united with advantage. I trust, however, that authors will forgive me, and not revenge themselves by turning publishers. There is, nevertheless, some advantage in a publisher dabbling in literature; for it shows him the difficulties with which an author has to contend—the labour which is indispensable to produce a work which may be relied on;—and it increases the sympathy which should, and which in these days does, exist between author and publisher.

The circumstances which caused me to undertake the laborious, but most agreeable, task of giving Lectures on the History of England, were these. A Society for the Improvement of the Labouring Classes was formed in 1855 in the small village of Chorleywood, in Hertfordshire, the population of which was almost entirely agricultural. After this society had been established for a year or two, it was thought desirable that monthly evening Lectures should be delivered during the winter season. These were well attended; and, having given in 1857 a Lecture on Switzerland which seemed to interest my agricultural neighbours, I was requested by the incumbent of the district, the Rev. A. Scrivenor, to deliver a series of Lectures on the History of England. In an easy moment I promised to do so. . . . I became fascinated with the subject. It laid hold of me and would not let me go; and thus it was that I became entangled in authorship."

And well it was that he did: these lectures are a model of clearness and simplicity of style; and as such they are suitable to readers of any class. To those for whom they were written they must have given especial pleasure from the consciousness that every word of the lecturer was understood as he went on with his interesting sketches of the history of their native land.

The two parts now issued include the period beginning with the reign of Edward I. (A.D. 1272), and ending with the reign of Edward II. (A.D. 1327).

Britanno-Roman Inscriptions: with Critical Notes. By the Rev. JOHN MCCAUL, LL.D., President of University College, Toronto. Rowsell, Toronto: Longman, London. 1863.

DR. MCCAUL had occasionally, for the last five years, contributed articles to the *Canadian Journal* on this subject; and he has here collected and extended them into a goodly volume, the greater part of which consists of notes of more or less interest.

It is gratifying to see a critical and learned work such as this coming to us from the colonies; and also to find that its subject has been there held to be of sufficient interest, not only for publication in a colonial journal, but for reprint by the colonial press.

The work, we doubt not, will be deemed of value in England no less than in Canada, and also in the United States.

VARIORUM.

"The Year Book of Facts in Science and Art. By John Timbs, F.S.A. London: Lockwood & Co. 1863." It is always with a pleasant relish that we cut up the pages of "The Year Book of Facts;" but we have so often expressed our good opinion of this now long-established and standard series of Year Books, that all we need now do is to note the issue of the volume containing all "the most important discoveries and improvements of the past year; in mechanics and the useful arts; natural philosophy; electricity; chemistry; zoology and botany; geology and mineralogy; meteorology and astronomy."——"Education and Manufactures: the Second Part of the Jury Report, Class XXXI., International Exhibition. By Alfred Tylor. London: Longman & Co." This is a reprint from the Jury Reports of Mr. Tylor, the deputy chairman and reporter of Class XXXI; and has already been quoted in our pages at some length. It treats of Scientific and Art-Education in relation to progress in manufactures—Education in England—and Foreign Schools. Under the first head, strikes, wages and prices, trades' unions, building and other societies, crime, &c., are treated of; under the second, gratuitous education, influence of parents, high education, training and working men's colleges, Government education, &c.; and under the third, schools in France, Germany, and Belgium, as compared with drawing schools in this country.——"A Letter to William Howard Russell, LL.D.; or, Passages in his 'Diary North and South.' By Andrew Dickson White. London: H. Stevens. 1863." The author of this pamphlet also calls it, on the cover, "A Word from the North-West," which implies, as the leaning of it does, that he is a Federalist. Dr. Russell, however, gave so fair an account of both North and South in his "Diary," that we are not inclined to go into the charges here made against him; which, as seen through Northern spectacles at the present exciting moment, are quite as likely to have a twist of their own as any remarks made by a disinterested "foreigner" such as our American cousins are so fond of calling a "Britisher." The state of opinion in this country on the great questions which are more than merely agitating the once United States, is certainly a very anomalous one. We voted many millions sterling to get rid of the stain of slavery ourselves; and yet we do not sympathise so generally and fully as might consistently have been expected with those who are trying to remove that stain from themselves in America. Perhaps the recollection that the movement for the suppression of slavery in the North had a merely political origin; and that slavery was actually reserved as a good thing to loyal states, and taken away from rebellious ones, has something to do with this anomalous state of opinion; and so doubtless has natural sympathy with those who are fighting for their own freedom, whatever they may be doing with regard to that "domestic institution" which we ourselves fastened on them, as "an old man of the sea," of whom it must be difficult to get rid, in a case where the evil is not merely colonial and local, as with us, but a deep-rooted national and all-pervading one with the South. Mr. White's letter is very well written, from his own point of view.

Miscellanea.

THE MIDDLE-LEVEL CATASTROPHE.—There will be no new trial, Chief Justice Erle (who tried the case) being satisfied with the verdict.

PARIS TO BE LIT BY ELECTRICITY.—The lighting of Paris, it is stated, is to be intrusted to M. J. Van Malderan, who has invented a new electric light, one jet of which is equal to 2,200 jets of gas. The Place Saint Sulpice is destined to be the first where the essay is to be tried.

NEW HOTEL AT BLACKPOOL.—The South Blackpool Hotel Company, Limited, have secured a site at South Blackpool, Lancashire, contiguous to the station of the proposed Preston, Lytham, and Blackpool Railway, on which to erect a hotel on an extensive scale, combining all the modern improvements. The company propose to raise a capital of 50,000*l.*, in 10,000 shares of 5*l.* each.

TREASURE TROVE.—Sir: Whilst the reading account of the destruction of some very valuable treasure found at Mountfield, in Sussex, it occurred to me that if the Government were to empower the surveyors of our provincial towns, or the village schoolmaster where there is no surveyor, to secure for them, under proper regulations, all treasure trove, and allowed them a small per centage, many things of interest and value would make their appearance.—DEBRIS.

DWELLINGS FOR THE WORKING CLASSES.—With a view to promote enlarged investments of capital in model dwellings and other establishments for the benefit of the working classes, the Council of the Society of Arts has instituted a statistical inquiry into the results hitherto obtained, including family dwellings of every description, model lodging-houses, dormitories, refuges, baths and washhouses, soup kitchens, coffee-houses, &c.: any who can supply information, or indicate sources where it may be obtained, are requested to communicate with the secretary, who will send blank forms for being filled up with the required data.

DAMAGES: THE LATE ICE-HOUSE ACCIDENT AT ISLINGTON.—The case Harrold *v.* Gatti was an action to recover compensation for injuries received through the alleged negligence of the defendant's servants. The defendant pleaded not guilty. The plaintiff is a bricklayer's labourer, and the defendant formerly carried on business at Hungerford Hall. In January, 1862, the defendant was constructing a large ice-well on his premises in the Caledonian-road, Islington, when the roof fell in, and the plaintiff received the injuries complained of. The action was terminated by the defendant's consenting to a verdict for the plaintiff for 80*l.* Verdict accordingly.

THE LIVERPOOL WELLINGTON MONUMENT.—The statue of the Duke has been safely placed on its pedestal at the top of the monument, on the site appropriated by the Town Council, near the St. George's Hall. The statue, which is of bronze, weighs five tons and four cwt., and the contractors, Messrs. Holmes and Nicol, commenced to hoist it up on Saturday morning at four o'clock. At eleven o'clock the statue was placed in position on the pedestal at the top of the column. During the operation Mr. Nicol, the contractor, Mr. Glaister, the mason who constructed the column, and Mr. Lawson, the sculptor, were present. The figure was then bolted down, and a sheet thrown over it, until the inauguration on Saturday. The panels for the base of the monument, and the four eagles that are to be placed, one at each angle of the cornice of the pedestal, were not ready.

WORKING MEN'S CLUB AND INSTITUTE UNION. A conversazione in connexion with this movement has been held at the Hanover-square Rooms, and was numerously and fashionably attended. Lord Lyttelton presided. The proceedings commenced with a musical performance by the choir of the Working Men's College. The refreshments were set out in the drawing-room for nearly 1,000 guests. The meeting was addressed by the chairman, the Dean of Christchurch, the Rev. H. Solly, and other gentlemen, explanatory of the objects and claims of the Union. The Union, as we have before noted, was formed for the purpose of helping working men to establish clubs or institutes where they can meet for conversation, business, and mental improvement, with the means of recreation and refreshment, free from intoxicating drinks, the clubs at the same time constituting societies for mutual helpfulness in various ways.

CERAMIC MEMORIAL OF THE PRINCE CONSORT.—The council of the Art-Union of London have been honoured with the following letter, addressed to the hon. secretaries, and dated—"Osborne, 11th May, 1863.—Gentlemen: I have had the honour to present to her Majesty the Queen the tazza which accompanied your letter of the 8th of May. The Queen has commanded me to return her best thanks to the council of the Art-Union for their attention, and to assure them that her Majesty will value very highly this very creditable example of printing on ceramic ware.—I have the honour to be, gentlemen, your most obedient humble servant,

(Signed) C. B. PHIPPS."

SHOCKING ACCIDENT WITH GIRDERS AT BIRMINGHAM.—At the works of Messrs. Smith & Sons, at Springhill, two large girders had just been finished and weighted with about forty tons each of pig iron to test them, when both girders fell, burying beneath them and the pig iron Mr. Charles Grace, of Bath, inspector of girders to Mr. Marsh, C.E., and a workman from Smethwick: they were of course fatally crushed, Mr. Grace indeed being killed on the spot, while the workman shortly afterwards died. The report speaks of the fall of the girders but not of their fracture: they were placed on blocks of wood 5 feet only from the ground.

NEW ACT ON GARDENS IN CITIES AND BOROUGHS.—An Act of Parliament has just been printed, for the better protection of gardens and ornamental grounds in cities and boroughs. The object of the statute is to free from neglect or encroachment gardens in squares and other places; to vest them in the Metropolitan Board of Works or other corporate authority, or vest them in a committee of rated inhabitants, for keeping the same as a garden or pleasure-ground, otherwise the same to be vested in a board or parish, to be kept as an open space or street. By-laws, to be approved of by a judge of common law or justice at sessions, are to be made for the management of the places, and penalties to be enforced for non-observance of the same.

THE METAL WORK AT THE INTERNATIONAL EXHIBITION.—On Monday night the third of a series of six lectures having reference to some of the contents of the recent International Exhibition, was delivered in the Birmingham and Midland Institute, by Mr. W. C. Aitken; the subject being "The Metal Work of the Exhibition of 1862. The lecturer pointed out the great progress which had been made in iron and steel—especially in wrought iron—since the Exhibition of 1851; and mentioned in illustration a variety of instances showing how extensively these metals were used. No nation exhibited at the International Exhibition iron castings equal to those shown by Sheffield and Derby houses, and by manufacturers of Coalbrookdale and elsewhere. Great improvements were shown in the plate workings and in enamelling on iron; and among the other products in which advances had been made since 1851 was the manufacture of jewelry in aluminium and bronze. Birmingham he showed to have been well represented in many manufactures; and during the evening mentioned several firms who had contributed largely to the Exhibition. He concluded by remarking that in all the metals the progress made since 1851 was very considerable. All that was done in iron resembled more the feats which the Grecians might ascribe to their blacksmith gods than the labour of human beings.

THE DRINKING FOUNTAIN MOVEMENT.—A drinking-fountain which Mr. John Brett has presented to the Ipswich public has been opened at the Arboretum. Mr. T. S. Gowing, who takes a great interest in all that pertains to the Arboretum, suggested that the opening should take place with some little ceremonial, and several hundreds assembled round the fountain: Mr. Gowing opened it, and then read some verses which he had composed in honour of the occasion. The structure stands on two steps of Portland stone, and is of a quadrangular form, divided into two unequal parts by a bold ornamented moulding. The basement portion has on each of the four sides a projection semicircular on plan, containing a basin fluted from its circumference to the centre, after the manner of the water drains of the ancient piscinas. Above these projections, sunk into the face of the wall, there is on each side a small recessed arch, with incised ornamentation. On the recessed slabs are spouts surrounded by iron scrollwork, with chain and galvanized cup on one side, and pull for water on the other. At the angles of the upper portion are banded shafts of Purbeck marble, with floral capitals supporting an entablature, elaborately carved with water-plants, conventionally treated; underneath which are also disks and lozenge-shaped panels, in red, green, and yellow Devonshire and Sicilian marbles. Over each shaft is a pedestal crowned with a pine cone, and between them are four anthemion ornaments. Above rises a stone roof in shape of a truncated pyramid, each face carved with laurel-leaf scales. The design is Romanesque, freely treated, and the materials used are Aubigny and Corsham Down and Portland stones; wrought-iron; Purbeck and other polished marbles. The fountain was designed by Mr. Phipson.

GALLERY OF ILLUSTRATION.—Mr. and Mrs. German Reed's present entertainment, "A Charming Cottage," increases in popularity; and Mr. John Parry still astonishes and delights in "Mrs. Roseleaf's Evening Party."

LIVERPOOL ARCHITECTURAL SOCIETY.—At the concluding meeting of the session, on Wednesday evening, the 6th inst., from the report of the Council it appeared that there are 157 members of the society. Mr. W. H. Weightman was elected president, and Mr. Kilpin and Mr. Boult vice-presidents, for the ensuing year, and the council and officers for the ensuing year were appointed. The president then read the annual address, in which he reviewed, briefly, the various public works at present in progress in this town and its neighbourhood. He made favourable allusion to the engineering works in course of construction for the Dock Board on the Cheshire side of the Mersey; and made interesting allusion to the different matters, directly and indirectly, connected with architecture, which had occurred in the course of the past year. It was resolved that the excursion this year should be to Chester and Eaton Hall.

ACCIDENTS.—Part of the tower of Preston Church, Suffolk, has fallen. It had for a long time been in an unsatisfactory state, owing to its having been struck by lightning above a century ago, and repaired in an inefficient manner. Lately it had become absolutely necessary to rebuild the staircase, the upper part of which had been taken down for the purpose, when the greater part of the east wall of the tower and a portion of the south wall fell, destroying some of the roof of the nave, and burying under the ruins the gallery of the church, together with the organ. The bells, six in number, are at present uninjured; but the dangerous state of the part of the tower still standing causes anxiety. Had the fall occurred on Sunday, the loss of life must have been great. ——A new three-arch bridge at Trowse, with a centre arch 38 feet in span, and about 9 feet in rise, was in course of erection over the river by Messrs. Stanley & Son, under the direction of the county surveyor, Mr. R. M. Phipson: the bridge, which was built of brick, with an outside facing of stone, had advanced almost to completion, the work having been hastened on account of the traffic; and Mr. Phipson attended in order to ease the centres or supports of the middle arch. The brickwork of the centre arch shortly afterwards gave way, and dragging the stonework with it, fell into the river. No one was injured, as the workmen were at dinner; and it was fortunate the accident occurred previous to the bridge being completed and opened for public traffic.

THE PROJECTED OBSTRUCTION OF LUDGATE-HILL.—The secretary to the Committee for the Preservation of Ludgate-hill remarks that, "the whole railway interest ought to combine to consider the alternative of a tunnel under Ludgate-hill in place of a tunnel over the hill; for if the latter structure should ever be erected, it will be a lasting and fatal obstacle in the way of all future railway communication across the metropolis. Its appearance will be hailed with a shout of execration; it will be smothered with nick-names; and will be known in and about London as the 'Last of the Viaducts.'" The committee, it seems, were ready to raise a light outline model of the air tunnel in position if the authorities had permited, in order that the public might be able to judge ocularly of the dreaded effect of such an obstruction; but really no such step was necessary; and besides, it is questionable whether a light outline model would impress the public eye and mind, as the heavy and opaque reality would, were it once put up. However, the most strenuous exertions ought to be made to get rid of the threatened nuisance. The warning and unsightly air-tunnel at London Bridge will give the public a good enough idea of what they have to expect should the one at Ludgate-hill be carried out, keeping out of view altogether the obstruction to the view of St. Paul's from the western approach. On this subject Mr. Penrose, the surveyor to the fabric of St. Paul's, draws attention in the *Times* to the fact that, seen from Fleet-street, sixty yards before reaching Farringdon-street, the proposed bridge *would* hide more or less of the western façade of St. Paul's, and give in exchange nothing but its deep sides and cavernous soffit—at least forty feet wide. With regard to the practicability of a tunnel in place of a viaduct, the committee are said to have the best professional advice to show that the company might construct such a tunnel, and save money by the alteration in their plans.

VENTILATION OF OUR IRON-CLAD SHIPS.—Ventilation has been applied by Mr. Turner, the master-shipwright, to the *Caledonian*, iron-clad, now building. A powerful force-pump is to expel the vitiated atmosphere, and supply every compartment with pure air.

THE KIDDERMINSTER CARPET FOR THE PRINCE OF WALES.—Nine designers competed and two designs were selected, to one of which the preference was at length given; and it was found to be by Mr. Harvey, of Kidderminster, who obtained several medals at the International Exhibition for his designs. The other was by Mr. Benjamin Perks, also of Kidderminster, a young man of twenty, whose design was highly praised. In the successful design, while aiming at as rich an effect as possible, the artist has endeavoured to connect the carpet in some way with the Prince. He has consequently introduced the Gothic rose, alternating with the Dagmar Cross, in the principal portion of the border; whilst the inner border has been set apart for the monogram "A. E. A." and the coronet. The next thing will be to select by ballot the manufacturer of the carpet.

THE CHURCH OF SANTA CROCE, FLORENCE.—On Sunday last, says a recent letter from Turin, one of the finest creations of modern Italian taste and genius,—the façade of the world-renowned Church of Santa Croce of Florence,—was, amid the enthusiastic acclamations of the Florentine population, unveiled to public gaze,—Prince Carignano, as representative of his royal cousin, the King, with the Minister of the Interior, and all the government and municipal authorities, taking part in the ceremony. This façade is in Florentine mosaic, but the only marbles employed are green prato marble, and the white marbles obtained from the old Tuscan quarry, which Michelangelo preferred to all others when choosing the material of his statues, though perhaps, being from a different part of the quarry, of a rather rougher grain. It is to the care and munificence of an English resident in Florence—of Francis James Sloane—that the successful and speedy completion of the magnificent façade is mainly due. His pecuniary contribution to the work is said to be about 200,000 francs; but, in all probability, it has been a great deal more, because, whenever, since that work first began, a temporary difficulty was experienced for want of sufficient funds, Mr. Sloane's purse was instantly opened, and the difficulty forthwith removed. The subject of the chief bas-relief is the "Exaltation of the Cross," which surmounts the middle door of the church, and is itself again surmounted by the statue of the mourning mother of the Saviour. The work has been executed by Giovanni Dupré.

NEW BARRACKS AT DOVER.—The south front new casemated barracks, situate in a deep and newly-formed trench in front of the married soldiers' quarters, near the citadel, have at length reached completion. The contractors are Messrs. Lee & Son, of London. This structure has contained six millions of bricks in its construction. At the east-north-east angle rises a pier to the height of 67 feet, being 18 feet by 15 feet in thickness, and the whole is set in Portland cement. The front walls are 4 feet 8 inches thick; the party walls 4 feet 3 inches; and the back walls 2 feet 3 inches. The mean height of the building is 53 feet; its length 314 feet, with a return of 100 feet, making 414 feet of frontage. The building has three stories, above the third of which is a series of arches of 20 feet span, each consisting of eight rings of bricks set in Portland cement. The whole is bomb-proof; and preparation is made at the top of the building for a battery, not included in the present contract. Near the grand entrance to the barracks is a winding wainscot staircase, from which a spacious corridor leads off on the first floor to the mess-room and officers' quarters. The mess-room is 30 feet by 18 feet. Contiguous to this is the mess establishment, consisting of ten rooms, in addition to an ante-room. In other parts of the barracks are a sergeants' mess-room, 30 feet by 20 feet; eight sergeants' rooms; 23 soldiers' rooms, 30 feet by 20 feet, each adapted for 11 men; quarter-master and barrack-master's stores; tailor's, shoemaker's, and armourer's shops; orderly-room, guard-room, prisoners' rooms and cells, into the latter of which warm air is admitted by means of flues. The depth of the building from the front is 37 feet, and beyond an area of 25 feet deep; at the back is a terrace 10 feet wide, which runs along the front of the back offices, including cookhouses, bath and ablution-rooms, &c. The building has been under the superintendence of Mr. Bispham for the contractor; and of Mr. Downer, for the engineer department.

Anvil Block Casting, Sheffield.—Messrs. Stanley & Co., iron founders, Midland Works, Sheffield, have cast an anvil block, weighing one hundred tons. The operation of casting began about eight o'clock, and continued until three. The mould—to the uninitiated only an immense hole in the earth—was situate in the centre of a spacious casting-room, having on each side a powerful crane, by which the molten metal was conveyed in ponderous "ladles" from the furnaces to the mould. The metal was run from two large cupolas and two air furnaces. The anvil block is intended for a 12½-ton Nasmyth's double-acting steam-hammer, resting on a foundation of oak blocks, 11 feet square by 4 feet deep, and 120 large piles driven 10 feet in the ground by steam power. The hammer is for forging the homogeneous metal for the large Whitworth guns and projectiles, marine engine-cranks, and other shafts, weighing from 5 to 8 tons each.

Transplanting of Large Trees.—Sir Joseph Paxton and other English horticulturists were, we believe, the first who attempted, or at any rate perfected, the system of removing large trees from one place to another; but during the last few years it has been practised in Paris to an extent unknown elsewhere. At spring and fall the transplanting trucks, or wheeled frames, are to be seen in all directions, and the Champs Elysées, the Boulevards, and the various squares recently laid out in many parts of the town, have been adorned with thousands of noble trees by these means. A report was made on the subject the other day to the Central Society of Horticulture, by which we are told that horse-chestnut trees more than 39 inches in diameter, and a catalpa tree 150 years old, and 23 inches in diameter, have been transplanted with success. Another and very remarkable case is mentioned, namely that of three good-sized trees growing in such a manner that they could not be separated, having been removed together from a private garden about to be destroyed, the mass of roots and earth measuring five metres, or about sixteen feet English in length. It has been discovered, that the bleeding of trees, and the attacks of insects, after the cutting off of branches, may be effectually stopped by the simple method of well brushing the part exposed with a paste made of wood-ashes and water: the ash enters between the fibres of the wood and prevents exudation, while the alkaline property of the mixture keeps off insects.—*Popular Science Review.*

The Nottingham Sewerage, &c.—The annual report of the Highway Committee has just been presented to the council. The report states that the sewerage of the borough is steadily progressing. The most important work of the sewerage during the last year consists of the river Leen culvert and intercepting sewer which was completed in January, 1863. The culvert commences at the Cork Holes, and terminates, for the present, at the bottom of Finkhill-street; and the formation of it has considerable effect upon the surrounding district, and will, year by year, continue to give greater efficiency to the district sewerage. The total expense of the new work has been under the sum of 4,500*l.*, the original estimate. For a considerable time past the general condition of the public sewerage has been under investigation. Old sewers have been opened and examined and their state registered: all permanent sewers have also been examined and placed on the plans of the sewerage: manholes have been constructed for access and inspection; and all new works have been designed and carried out with a view to permanency, and the object of perfecting the general sewerage of the borough as early as possible. The amount of permanent sewerage already established within the borough is about as follows:—Executed by the late St. Mary's Highway Board in that parish and in the new inclosure, 8,779 yards; executed by St. Peter's Highway Board, 352 yards; executed by the Local Board during the last three years in the old town and in the new inclosure, together above 5,855 yards; to which if is added the quantity of sewerage executed by the Inclosure Commissioners, a total extent of permanent borough sewerage is obtained of about 15½ *miles*. The panterpits in connexion with the street sewerage (upwards of 2,000 in number) have been repaired as far as possible, and in forty-five streets improvements have been made. All the sewerage and other public works contained therein, and in connexion with the other committees of the council, are carried out from the plans and under the personal superintendence of Mr. Tarbotton, C.E., the corporation surveyor.

New Branch of Trade at Coventry.—Ribbons not being wanted, Messrs. J. & J. Cash, of Coventry, according to the local *Herald*, have employed some of their looms in an entirely new article of manufacture, viz., strips of muslin of all convenient widths for "frilling," woven in the loom, so that a firm edge, resembling a hem, is formed on one side, and a running thread is inserted on the other, by which the material can be gathered up at once for frilling purposes. Every lady, it seems, who knows the expenditure of time and trouble in hemming and "whipping" breadths of muslin for frills, will thank Messrs. Cash for the invention.

Antiquarian.—A tesselated pavement has been discovered in the old nursery ground, adjoining the county hospital, Dorchester, during excavations for a drain to a village residence building there. It was scarcely 2 feet below the surface, and the *débris* on the top included several roofing slabs, resembling those found under similar circumstances in the enclosure of Dorchester Castle. ——Some quarrymen excavating around the Roman encampment on Cleeve-hill, says the *Gloucester Chronicle*, have opened what are locally termed "soldiers' graves," and coins, burnt bones, the foundations of a Roman dwelling, and relics of various kinds, have been found. The Earl of Ellenborough, as lord of the manor of Southam, in which the discoveries have been made, has stopped further excavations until the ground has been examined by experienced archæologists. About three miles from this spot, to the right of Winchcomb, an entire Roman villa has been discovered, and is now laid bare. The relics discovered will be preserved at Sudely Castle. The villa is similar in many respects to that at Witcomb, in the park of Lady Cromie, and has reception-rooms, and wet and hot *hypocausts*, or baths. The tesselated pavements are finely arranged, and various designs adorn each apartment. The average dimensions of the rooms are about 15 feet square.

TENDERS.

For the new Roman Catholic Church at Stourbridge, for the Rev. Walter Keen. Mr. E. Welby Pugin, architect:—

Bloomer	£4,390 0 0
Hartland	3,887 0 0
Allsop & Son	3,850 0 0
Lovatt	3,850 0 0
Grew & Son	3,798 16 0
Smith	3,553 0 0
Stockton & Seile	3,167 0 0
Heyingham	3,134 0 0
Ife	3,127 0 0
White	3,100 0 0

For Warlingham Parsonage. Mr. R. W. Drew, M.A., architect. Quantities supplied by Mr. J. A. Bunker:—

Wells	£851 0 0
Downs	849 0 0
Carruthers	795 0 0
Rowe	715 0 0
Ward	710 0 0
Turner & Sons	667 0 0
Newcombe	643 0 0

For the erection of two shops and dwelling-houses in Knight's-hill-road, Lower Norwood, Surrey, for Mr. Barnett Meyers. Messrs. Tillott & Chamberlaine, architects. Quantities supplied:—

Browne & Robinson	£2,320 0 0
Piper & Wheeler	2,300 0 0
Ashby & Sons	2,261 0 0
Fish	2,247 0 0
Cannon	2,235 0 0
Wills	2,229 0 0
Hill, Keddell, & Robinson	2,187 0 0
Deacon	2,025 0 0
Ward & Co. (accepted)	1,979 0 0

For rebuilding Llanllwchaiarn Church, Cardiganshire. Mr. Withers, architect:—

D. J. Jones	£1,838 0 0
Thos. Jones	1,410 0 0
Rees & Williams	1,271 8 0
Davies	1,150 2 0
Griffiths	1,097 12 0
Thomas (accepted)	1,052 10 0

For additional wing to St. Mary's College, Harlow. Mr. Withers, architect. Quantities supplied by Mr. Poland:—

Perry & Judson	£1,343 0 0
Sharpington & Cole (accepted)	1,249 0 0

For the construction of a wooden foot-bridge across the North London Railway, to connect Railway and Chrisp-streets, Bromley. Mr. Robert Parker, Surveyor:—

Inman	£393 0 0
Hall	349 0 0
Watts	332 0 0
Phillips	329 0 0
Hack & Son	326 0 0
Cole & Son	298 0 0
Andrew Killby	288 0 0
Francis Hedges (accepted)	276 0 0

For the erection of a porter's lodge to the County Hospital at Huntingdon. Mr. Robert Hutchinson, architect. Quantities supplied:—

Richardson	£199 14 6
Haile & Brown	190 0 0
Bird	176 0 0
Cennell	174 6 0
Brown & Rowe	172 10 0
Balmer	172 7 0
Thackery & Son	164 0 0

For re-building premises, High-street, Homerton, for Mr. C. H. Pulley. Messrs. Wales & Sparks, architects.—

Conder	£1,089 0 0
Robinson	1,033 0 0
Henshaw	894 0 0
Brett	868 0 0
Skinner, Brothers (accepted)	830 0 0

For the erection of two dwelling-houses and shops, in the Strand, Dawlish, for Mr. Wm. Hatcher. Mr. W. F. Cross, architect:—

Stafford	£1,452 0 0
Stamp	1,340 0 0
Woodman	1,200 0 0
Sanders (accepted)	1,195 0 0

For erecting warehouse in Southwark-bridge-road, for Messrs. Pocock, Brothers. Mr. Henry Jarvis, architect:—

	Difference, Stone instead of Cement.	Total.
Rider	£181 0 0 ..	£5,193 0 0
Gammon	206 0 0 ..	4,808 0 0
Patrick & Son	207 0 0 ..	4,787 0 0
Higgs	144 0 0 ..	4,623 0 0
Browne & Robinson	198 0 0 ..	4,571 0 0
Turner & Sons	176 0 0 ..	4,489 0 0
Lawrence & Sons	129 0 0 ..	4,486 0 0
Myers & Sons	259 0 0 ..	4,316 0 0
Henshaw	203 0 0 ..	4,214 0 0

For a twelve-roomed villa residence, for Mr. R. A. Davis, Basingstoke. Mr. G. B. Musselwhite, architect:—

Ellis	£1,185 0 0
Simms	1,165 0 0
Biggs	1,070 0 0
Nicholls & Son	1,045 0 0
Lichfield	1,039 0 0
Buddem	1,038 0 0
Jennings	1,011 7 7
Pritchard (accepted)	912 0 0

For chapel, schools, &c., at Peckham Rye. Mr. J. K. Bland, architect:—

Higgs	£3,050 0 0
Willis	2,976 0 0
Cooke	2,970 0 0
Colls	2,939 0 0
Dearsley	2,902 0 0
Simms	2,759 0 0
Thompson	2,654 0 0

For public-house and baker's shop at Stockwell, for Mr. Goddard. Mr. Rawlings, architect:—

		If Plate glass front.
Bamford	£1,130 0 0 ..	£1,155 0 0
Taylor	1,129 0 0 ..	1,142 0 0
Thompson	1,080 0 0 ..	1,100 0 0
Harrington & Brown (accepted)	1,065 0 0 ..	1,090 0 0

For the erection of a villa for Mr. Henry Warden, in the St. James's-road, Tunbridge Wells. Mr. James Blundell, architect:—

Elliott	£1,039 0 0
Edwards & Walklin	924 4 0
Walker	869 10 0
Pink	768 10 0
For Plasterer's work (separate)	
Twort	£173 15 0
Mason	169 15 0
Wenban	169 12 0

For house and stables at Beulah-hill, Norwood. Mr. Sextus Dyball, architect. Quantities supplied by Mr. Poland.—

Turner & Son	£3,825 10 0
Gammon	3,657 0 0
Ashby & Sons	3,591 0 0
Browne & Robinson	3,539 0 0
Colls & Co.	3,483 0 0
Tarrant	3,289 0 0
Sharpington & Cole	3,287 0 0
Macey	3,279 0 0
G. & R. Buck	2,769 0 0

For a house and offices at Sudbury, for Mr. J. Cowper. Mr. Alfred Smith, architect. Quantities supplied:—

Sewell	£3,182 0 0
Chapman	3,100 0 0
Woodward	3,000 0 0
James & Ashton	2,967 0 0
Macey	2,889 0 0
Mansfield	2,880 0 0
Patman & Fotheringham	2,850 0 0

For dwelling-house for Mr. H. Heath, Grange-road, Upper Norwood. Mr. H. Gale, architect. Quantities not supplied:—

Colls & Co.	£1,776 0 0
Deacon	1,700 0 0
Marshall	1,670 0 0
Smith	1,600 0 0

For erecting new house for Mr. Smart, at Romford, Essex. Mr. F. F. Thorne, architect:—

Browne & Robinson	£2,100 0 0
Marsland & Son	2,070 0 0
Perry & Judson	1,970 0 0
Hammond	1,745 0 0
S. Cook	1,718 0 0

For alterations to Oriel Lodge, Clapton. Mr. John Wallen, architect :—

Skinner, Brothers (accepted) £330 0 0

For house and stables in Bow road, for Mr. H. Garman. Messrs. Hammack & Lambert, architects. Quantities supplied :—

Forrest	£1,779	0	0
Houlett & Brown	1,774	0	0
Marshall	1,700	0	0
Hall	1,690	0	0
Heath	1,687	0	0
Bond	1,651	0	0
Hart	1,625	0	0
Ennor	1,576	0	0
Ward	1,574	0	0
Hedges	1,550	0	0
Robinson	1,547	0	0
Johnson	1,530	0	0
James & Ashton	1,519	0	0
Parry & Judson	1,415	0	0

Tenders for warehouses in Cannon street, City.—We are asked to state in reference to these tenders, inserted by us on 9th inst., and in which the lowest was not accepted, that the decision was come to on the question of time; and throws no discredit on Mr. Rider.

TO CORRESPONDENTS.

Ornamental Art in Japan.—We are forced to postpone continuation of this article.

W. C—A Wording Man (none better).—J. B.—A Competitor.—H. R.—Architect (would find it in the Official Instructions issued at the time).—Mr. C.—Mr. P.—R. D. O.—T. S.—R. M. P.—V. B.—J. B—n (next week).—H. R.—Mensuration (nine).—W. H. C.—A Pupil (a better word might have been used) S. S.

We are compelled to decline pointing out books, and giving addresses.—S. & S.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than FIVE *o'clock, p.m., on Thursday.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

THE *"Mechanics' Magazine,"* Sept. 5, speaking of Benson's Watches, says:—"The number of watches produced at Ludgate-hill is something enormous, touching 15,000 yearly, manufactured on the most approved principle of division of labour, under the personal superintendence of the principal. The firm, as we understand, does not profess to make watches at the lowest price, but the best watches at the price; and from the magnitude of their business, and the necessity for more extensive premises, we may fairly judge that they have received the impress of public approval." Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch from the plainest to the highest quality of which the art is at present capable, and adapted to all climates. Benson's Illustrated Pamphlet on watches (free by post for two stamps), contains a short history of watchmaking, with descriptions and prices. It acts as a guide in the purchase of a watch, and enables those who live in Scotland, Ireland, Wales, the Colonies, India, or any part of the world, to select a watch, and have it sent free and safe by post.—J. W. Benson, Prize Medallist, 33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

ADVERTISEMENTS.

TO AMATEURS, TURNERS, AND OTHERS.—The Valuable Lathes, Tools, and interesting Effects of the late John Taylor, Esq., F.R.S.

MR. FREDERICK A. MULLETT will SELL, at 31, CHESTER-TERRACE Regent's-park, on MONDAY, the 25th inst., at TWELVE, a 4-feet IRON-BEDDED LATHE with 6 inch centre, and a large assortment of most expensive chucks, by Holtzapffel & Co.; a 3-feet bedded lathe, with 3½-inch centre, with brass and boxwood chucks, &c.; a rose cutting and planing machine, with iron bed and frame; a large quantity of valuable engineering tools; about 2 cwt. of hardwood; bunches; seats of drawers; mah.gany cases, &c. May be viewed the day prior and Morning of Sale, and catalogues had on the premises, and at the Auctioneer's offices, Albion place Hyde Park square, W.

NORTH LONDON RAILWAY.—KINGSLAND JUNCTION.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, by order of the North London Railway Company, on the PREMISES, near the Kingsland Station, on TUESDAY next, MAY 19th, 1863, at TWELVE, the first portion of the excellent MATERIALS of about SEVENTY HOUSES &c. SHOPS, road, Dalston lane, Forrest-row, &c. &c.—May be viewed the day previous to Sale, and catalogues had at the Offices, Kingsland-road and Camden Town.

THREE ACRES of VALUABLE FREEHOLD BUILDING LAND, Barnes, close to the Hammersmith Bridge.

MESSRS. GLASIER & SON are instructed to SELL by AUCTION, on WEDNESDAY, JUNE 3rd, at TWELVE for ONE o'clock, in one or more LOTS, Three Acres of VALUABLE FREEHOLD BUILDING LAND, with a Frontage of abt. 700 feet to an occupation road leading out of the Hammersmith Bridge Road.—May be viewed, and Particulars and of HAINES, Esq. Solicitor, 178, Edgware-road; at the Bolton Arms, Barnes-road; at GABRAWAY'S; and of the Auctioneers, 21, Charing Cross, S.W.

BUILDING MATERIALS, BRIDEWELL.

MESSRS. GLASIER & SON are favoured with instructions from the Governors of Bridewell Hospital, to SELL by AUCTION, on the PREMISES, on WEDNESDAY MAY 27th, and following days, at TWELVE for ONE, the valuable BUILDING MATERIALS and FITTINGS, comprising 100,000 capital stock bricks, several thousand feet of capital York and Portland stone in paving, coping, steps, string courses, cills, &c.; 100 squares of slating, slating boards, rafters, flooring, seasoned deals, timber, sash and bells, iron doors, railings, bars, gates and castings, about 50 tons of lead, coach house gates, sashes, doors and iron ex, large coppers, slate cisterns, large steam cooking apparatus, chimney pieces, stoves, ranges, and other fixtures and fittings.—May be viewed the day prior and mornings of sale, and catalogues had on the premises; and of the Auctioneers, 21, Charing Cross, S.W.

SURREY.—Very Eligible Building Land, at Walton, a beautiful open and healthful district, on the main line of the South Western Railway, 40 minutes' ride from London

MESSRS. RUSHWORTH, JARVIS, & ABBOTT are instructed to announce for SALE by AUCTION, on FRIDAY, JUNE 26th (unless previously disposed of), about 12a. acres of FREEHOLD BUILDING LAND, part of the Ashley park Estate, extending from the railway station towards the village of Walton upon-Thames, a distance of about a mile and a quarter by the direct road, and occupying nearly the entire frontage, besides very extensive and valuable frontages to the main roads in other directions. This land, which is all of a dry sand and gravelly soil, might be brought into immediate operation as sites for gentlemen's residences of the first-class, and presents a highly important and most attractive building property, worthy the attention of large capitalists as a sound and lucrative investment—a statement fully justified by the successful result of the building purchases where many have taken place on the Oatlands park Estate adjoining, though at a greater distance from the metropolis, and further from railway accommodation. The land is well cultivated as arable, and is ornamented with beautiful plantations and trees from 30 to 50 years' growth, available in laying out the ground for first class villa residences, which are much sought for in this locality, and from the proximity to the railway station would readily secure tenants.—Further particulars may be obtained at the Offices of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Land Surveyors and Architects, Saville row, Regent-street, W. and 19, Change alley, Cornhill, E.C. who are authorised to negotiate a sale by private treaty.

OUNDLE, NORTHAMPTONSHIRE. VALUABLE FREEHOLD ESTATE.—The Talbot Inn, as a Private House.—TO BE SOLD BY AUCTION, by

MR. S. DEACON, on the PREMISES, on the 28th day of MAY, 1863, at SIX o'clock, in the Evening, in one or more Lots, as may be determined upon and subject to conditions of sale, all that capital Messuage or Dwelling-house, long known as THE TALBOT FAMILY INN AND POSTING HOUSE, situate in the centre of the Town of Oundle, with a large frontage in New Street, adjoining the Market Place, together with the stables, extensive range of stabling, granary, and other out-offices thereto, coach-houses, outbuildings and yards in the rear, covering half an acre of land. The House, which may be termed the interesting feature of the whole, from its Elizabethan front, built with a part of the stone from Fotheringhay Castle, contains on the ground floor, a handsome entrance hall, dining and drawing rooms, large dining or billiard room extending the whole length of the building, with nine good bedrooms and dressing room on the first floor, and seven attics over. Behind the house is a large yard, wells of excellent water, a good garden, ten stables, barns, and numerous outbuildings, with a private entrance at the back. The Inn and premises let at no great expense to be sub-divided into excellent trade dwelling houses and good cottages, and parts of the extensive cellarage for wines may be advantageously sold off, and the whole estate, from its situation and extent, forms a very valuable investment. The property may be viewed, and further particulars known, on application to the Auctioneer, at 1 at no offices, in Oundle.

Oundle, 9th May, 1863. CHAS. THOS. WILSON.

MR. G. NEWENHAM (Pupil of G. G. Scott, Esq. R.A.) PREPARES Sets of Competition Designs, Working and every description of Architectural and Accurate Drawings. Perspectives Outlined in a superior manner (and coloured by the best artists), with punctuality and despatch, and on reasonable terms.—Offices, 28, Parliament-street, Westminster, S.W.

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A THOROUGHLY competent QUANTITY SURVEYOR, with a portion of his time unoccupied, will be happy to ASSIST Architects or Engineers in the preparation of quantities, measurements, surveys, writing specifications, &c. either in London or the country.—Address, B. F. Office of "The Builder."

WANTED, a Gentleman to JOIN the Proprietor of large Granite Quarries and Brickworks already a large business, with first rate returns, having large contracts in hand. Capital required, TEN THOUSAND POUNDS. First class references. For all particulars apply to J. BOYLE FOWLER, esq. Solicitor, Plymouth.

PARTNERSHIP.—An Architect and Surveyor, of Middle Age, having a well established, fair, and improving General PRACTICE in the City, and holding appointments willing to receive a PARTNER. A Gentleman recently out of his Articles would not be objected to. About Two or Three Hundred Pounds would be required.—Address, ARCHITECT, Mr. Young's, 193, Bishopsgate-street Without.

A LAND AGENT and SURVEYOR in the Country requires, for a short time, an ASSISTANT. One who is well up in Surveying, Levelling, Mapping, &c.—Address, stating where last in Salary required per month, &c. to F. F. care of Mr. Grucock, 75, Old Broad street, City, E.C.

CAMBRIDGE UNIVERSITY and TOWN WATER WORKS COMPANY.—MANAGER WANTED.—WANTED, an experienced FITTER-ON, to take the general management and superintendence of the Company's business and accounts. Applications, giving references and stating amount of salary required, to be forwarded to the Directors at their Offices, 7, King street, Cambridge. Cambridge, May 8, 1863.

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WANTED, a Young Man, as CLERK in a Builder and Decorator's Office. One who has some knowledge of the business would be preferred.—Address, stating age, qualifications, salary required, and references, to J. M. N. Office of "The Builder."

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WANTED, a CLERK of the WORKS, to superintend the erection of several Houses. A practical Carpenter preferred.—Apply, by letter only, to Mr. CÆSAR LONG, Architect, 9a, Bishopsgate street, E.C.

WANTED, on a Nobleman's Estate, an industrious, sober, good workman, as PAINTER, GLAZIER, and PAPERHANGER; must understand the boxing of colours, and be able to do a little Graining. One who has a knowledge of Plumbers' work and Gasfitting preferred. Wages 21s. per week.—Apply, stating age and qualifications, with copies of testimonials, to Mr. IRVINE, Uphampton, Shobdon, Herefordshire.

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WANTED, a GENERAL ASSISTANT.—Apply, by letter, to LAWS & DENNISON, Architects, 12, Doughty-street, W.C.

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WANTED, by a thoroughly practical Man, a SITUATION as SHOP FOREMAN of Joiners, or to Take Charge of a Job; is competent to do so.—Satisfactory testimonials and reference. Address, A. B. F., care of Mr. Parrett, 14, Palace road, Lambeth

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WANTED, by the Advertiser, a SITUATION as FOREMAN of BRICKLAYERS. Can take out quantities, measure up work, keep accounts, understands drawings, and has a general knowledge of the building trade. Can have six years' character from last employers. No objection to piece-work in town or country.—Address, H. B. No. 2, Percy terrace, Plumstead, Kent.

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WANTED, by a respectable Man, a constant SITUATION as first-class PLUMBER, GASFITTER, and HOT WATER FITTER, or to Take Charge of a Job, either Town or country. An unexceptionable reference given.—Address, J. F. 48, Northampton st, Hoxton.

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WANTED, by the Advertiser, a SITUATION as CLERK, or otherwise. A thorough bookkeeper and accountant, can measure and take out quantities, neatness and correct at dimensions, a practical glass-cutter, glazier, and painter, and well acquainted with other branches of the building trade. Satisfactory references.—Address, A R M Office of "The Builder."

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WANTED, by a steady Man, and one that thoroughly understands his business, a SITUATION as IRON, ZINC, and job-GATE WORKER, Gasfitter, Screwing Pipes, &c. &c. Unexceptional character can be given. Last employers' reference required.—Address, WM. PARKER, No. 5, Swan Buildings, Swan-alley, Moorgate-street, City.

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WANTED, by a Young Man, a SITUATION as PAINTER, GRAINER, and MARBLER. No objection to fill up time in painting.—Address, J. J. B. No. 69, Great Suffolk-street, Borough, S.E.

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TO CARPENTERS AND BUILDERS.

WANTED, by a steady Young Man, aged 22, a SITUATION in the above line as IMPROVER. Town or country.—Address, E. A. 2, Blandford-street, Manchester square.

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WANTED, by an experienced ASSISTANT, who has been engaged in first class offices an ENGAGEMENT. Accustomed to prepare fair working and detail drawings, &c. and has a thorough knowledge of Gothic architecture.—Address, C T N, Office of "The Builder."

WANTED, EVENING EMPLOYMENT by a Youth of 18. Can draw and that well (specimens can be shewn), is quick at figures, and can assist in taking out quantities, &c. &c.—Address T T 18, St. Martin's lane, W.C.

TO ARCHITECTS, &c.

WANTED, by a PRACTICAL CLERK of WORKS, a RE-ENGAGEMENT in that capacity. Good references will be given.—Address, R. S. T. Office of "The Builder."

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WANTED, by the Advertiser, an ENGAGEMENT in an OFFICE. Is a good practical draughtsman, measurer, and estimator, and is thoroughly competent in all the duties of an office, both in-door and out. Age 32 Terms, 2*l.* 2*s* per week. First class references —Address, POST OFFICE, 275, City-road, N.

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THE Advertiser, a married man, is desirous of obtaining a SITUATION as ASSISTANT. He is conversant with surveying, levelling, the construction of buildings; is a neat draughtsman, can plot surveys, has a knowledge of taking out quantities, &c. First rate references.—Address, T. K. 4, Bath-terrace, Forest Gate, Essex.

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IRONWORK CONSTRUCTION.—A Surveyor, who has been responsibly engaged in the construction of the largest and most important Iron Structures lately erected, is willing to ADVISE and ASSIST in the preparation of working drawings and specifications for ironwork generally, upon mutual terms.—Address, IRONWORK, Office of "The Builder."

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CLERK or JUNIOR CLERK.—WANTED, a SITUATION. Age 19. Has been in a builder's office. Can copy or trace drawings Salary moderate.—Address, K. F. 7, Exeter-street, Sloane street, S.W.

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A QUANTITY SURVEYOR and MEASURER, of considerable practical experience, is desirous of BUSINESS in taking off quantities, writing specifications, and measuring up works. References to Architects Address, ALPHA, Mr. Fisher, Stationer, Vassall-road, Brixton-road, S.

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A SURVEYOR, well acquainted with the Contracting Business, and having a portion of his time unoccupied, will be happy to act as AGENT for an established and respectable Contractor, having no office in London, who may nevertheless be desirous of extending his connexion in that direction, and would undertake to obtain the necessary particulars, tenders, &c of contracts for which he might wish to give a tender, either in London or elsewhere.—Address, D. R. Office of "The Builder."

TO SURVEYORS, BUILDERS, &c

A RESPECTABLE YOUNG MAN, who has served his time to a Plumber, Painter, and Glazier, now wishes to obtain an ENGAGEMENT in an office where he may make himself useful in copying and tracing drawings, &c Can write a good hand. A nominal salary only.—Address, prepaid, to E. S. at the Library, No. 6, Clarence place, Loughborough road, Brixton

AS TRAVELLER.—A Young Man, aged 29, who has filled the above situation for the last seven years in the London trade, is desirous, with Builders, Wishes to meet with a similar APPOINTMENT.—Address, M. R. S. care of Mr Taylor, Tobacconist, 15, Pancras-road, Lambeth, S.

TO ARCHITECTS, BUILDERS, AND CONTRACTORS.

AN Estimator, Quantity Surveyor, Measurer, and good Perspective Draughtsman, of great experience, is open to an ENGAGEMENT, to take the SOLE CHARGE of the estimating, bookkeeping up, drawing, and general superintending departments; or as Clerk of the Works. First-class reference. Age 37.—Address, G. RUSSELL, No. 10, Carlisle Cottage, Mount Gardens, Westbourne-street road, Lambeth.

AS JUNIOR ASSISTANT, in an Architect's Office; is a good draughtsman, and can take out quantities. Good references.—Salary required 25*s* per week.—Address, X. Esplanade, Weymouth.

TO CARPENTERS AND BUILDERS.

A YOUNG MAN, aged 18, wishes for EMPLOYMENT in the above trade. Has been at it two years. Address, W. T. at the Office of "The Builder."

TO CIVIL ENGINEERS AND LAND SURVEYORS.

A GOOD PLAN DRAUGHTSMAN, of considerable experience, is desirous of an ENGAGEMENT Can survey and level. Has specimens and testimonials Terms moderate.—Address, W. G Mr. Wenham, 2, Westmoreland-terrace, Horsley road, N.

TO PLUMBERS, BUILDERS, AND OTHERS.

A FIRST-CLASS PLUMBER, or Three-branch Hand, understands gasfitting, wants a CONSTANT SITUATION.—Address J. S. 10, Sussex street, Tottenham Court-road.

A GOOD THREE-BRANCH HAND is open to an ENGAGEMENT, having returned from a three-years' job in the East. First-class references.—Address, C. R. No. 15, Mortimer street, Cavendish-square, W

A FIRST-CLASS CLERK of WORKS is open to an ENGAGEMENT. - Address, C. W. 12, Greslam-terrace, Powmall-road, Dalston, N.E.

TO ENGINEERS, MANUFACTURERS, AND OTHERS

A YOUTH, aged 18, who has a knowledge of engineering, wishes for EMPLOYMENT, or to Apprentice himself for four years in an engineer's establishment. Two years' good character.—Address, A. W. 11, Great Marylebone-street W.

TO SURVEYORS OR ARCHITECTS

A YOUNG MAN, of long practice, wishes for a SITUATION as CLERK. He holds a testimonial of good character from his late employer.—Address, H. P. 42, Halsey-street, Chelsea, S.W.

TO ARCHITECTS, ENGINEERS, BUILDERS, &c.

A PRACTICAL BRICKLAYER is in want of a SITUATION as FOREMAN, or by the rod or foot.—Address, A. H. 2, Sherbourne-place, Blandford-square, N.W.

A YOUNG MAN, who has served his articles to a Civil Engineer, wishes for a SITUATION. Is a good draughtsman, has a knowledge of mapping and taking out quantities, &c Salary no great object. Good security and references, &c.—Address, Y. Z. Mr. Barton's, High-street, Newington.

AN Architect's, Surveyor's, or Builder's Assistant requires a RE-ENGAGEMENT. Is a good draughtsman and specification writer, well versed in construction; an efficient measurer, quantity taker, and accountant, and has had the care of many extensive works.—Address, S. A P. Post-office, Brompton row, S.W.

TO ARCHITECTS AND SURVEYORS.

A YOUNG Married Gentleman, who is a neat draughtsman, good colourist, and conversant with the ordinary routine of an Office, desires a RE-ENGAGEMENT in either town or country. A satisfactory reference can be given.—Address, X. Z. Chapman's, Stationer, Church-street, Hackney, N.E.

TO CIVIL ENGINEERS AND CONTRACTORS.

A CIVIL ENGINEER, aged 33 (Married), of long practical experience, particularly in railway matters, desires an ENGAGEMENT; having worked for the last few years abroad, and being anxious to establish a connexion in England Will accept a moderate salary. References and testimonials of the highest character.—Apply, C. E. 42, Chichester-road, Kilburn, London, W.

AMERICAN GAS-FITTING and GAS ENGINEERING.—The Advertiser is desirous of a SITUATION FOREMAN of a SHOP, or as Assistant Engineer of Works. Has had twenty years' experience in the above line in England and the United States, and is prepared with many improvements in the way of gas-fitting, portable gasworks, steam fitting, &c.; or would be willing to take charge of this work in any large building.—Address, D. F. No. 1, College-place, Oakley-square, London, N.W.

A CARPENTER and JOINER is in WANT of EMPLOYMENT, day work or piece. Is a thorough workman.—Address, T. H. Office of "The Builder."

AS CLERK of WORKS, or GENERAL SUPERINTENDENT, a MAN aged 41 (Carpenter by trade), used to the various duties of such a situation. Many years with an extensive, well known London firm, in charge in town and country jobs. Pay wages, measure, keep accounts, set out, &c. Four years in last engagement.—Address FOREMAN, 33, Berwick street, Pimlico, S.W.

TO BUILDERS AND CONTRACTORS.

AN experienced CLERK of WORKS, who has been many years engaged upon Trennial Contracts, for works and repairs, in superintending, measuring up, and making out the quarterly accounts, as per schedule, is desirous of a RE-ENGAGEMENT, permanent or otherwise.—Address, C. W. 30, Edward-street, Hampstead-road, N.W.

TO ARCHITECTS, &c.

A FIRST-CLASS ASSISTANT is desirous of a RE-ENGAGEMENT in the office of an architect. He is a good draughtsman, and is competent to prepare fair and working drawings. First-rate references.—Apply, R. R. 2, Camden Cottages, Denmark-road, Camberwell, S.

AN Engineering and Architectural Assistant, engaged for the past sixteen years on Plans, &c. for Public Works of Water Supply, Gas, and Town Sewerage, and in designing and superintending the erection of private and other buildings, is open to a permanent ENGAGEMENT. First class testimonials.—Address, A. C. E. 9, Trellick terrace, Vauxhall-road, S.W.

TO SURVEYORS AND LAND SURVEYORS

CLERGYMAN'S SON, aged 19, who has been two years and a half with a borough surveyor (articled), is desirous of an ENGAGEMENT, with a small salary.—Address, Mr. J. H. SPENCER, Wilton Parsonage, Taunton, Somerset.

AN ENGAGEMENT REQUIRED, by an ARCHITECT, Building and Land Surveyor, either in town or country. Can design, prepare plans, elevations sections, and working drawings, measure up work, draw up estimates, specifications, superintend works, measure and plot, and prepare finished plans with trees sketched from the spot, sketch, prepare perspective, water-colour, pencil, or crayon drawings. Last engagement two years —Address, A. B. Post-office, Beaumont, Jersey

TO ARCHITECTS, &c.

A PRACTICAL CLERK of WORKS is open to a RE ENGAGEMENT. Testimonials first-class.—Address, M. N. 21, Alfred-street, Bow, road, E

TO BUILDERS, SURVEYORS, &c.

A SURVEYOR, of considerable practical experience, would be glad to fill up spare time in surveying, quantities, preparing detail drawings, specifications, &c. on reasonable terms. Apply N. 23, Chesterfield Cottages, Bath road, Peckham, S.E. good references can be given.

TO PARENTS AND GUARDIANS

AN ARCHITECT and SURVEYOR having an extensive country practice, within an hour's ride of Liverpool, is desirous of receiving a respectable youth as a PUPIL. The youth would be under the immediate direction of the principal, and would possess unusual advantages for acquiring a full knowledge of his profession Premium moderate.—Apply to JOHN KERR, Esq. Collegiate Institution, Liverpool.

PHILBROKE ESTATE, at Leytonstone, on the Woodford and Loughton Railway, twenty minutes from Fenchurch and Bishopsgate Stations.—This valuable FREEHOLD ESTATE (land tax redeemed), surrounding the Station, healthy locality, gravelly soil, excellent drainage, water and gas laid down roads made, and communicating with the estate, it is proposed TO LET in Plots suitable for building detached and semi-detached villas. Repeated applications have been made for houses in this neighbourhood For terms, apply to Mr. JOHN KERR, at the Surveyor's Office, Philbrooke Estate, Leytonstone, Essex.

WOODFORD RAILWAY.—The GROVE WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 400 yards only from the Estate, and the City is reached in five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Kingston; and some very eligible SITES in the Grove road, Mile-end, a few of which are adapted for shops, and large and very CHEAP PLOTS TO LET, at Ealing.—Apply to Mr. ENIGMTLEY, Architect 25, Cannon-street.

HEATHERHURST ESTATE, FRIMLEY, SURREY This Freehold Estate has been divided into LOTS suitable for the ERECTION of high class VILLA RESIDENCES, each in demand in the neighbourhood It is on the road from Guildford to Frimley and Sandhurst, 3 miles from the camp at Aldershott, and within 2 miles of the Farnboro' Station, and only 35 minutes from London. It commands a beautiful view throughout a vast extent of varied and picturesque country, and is in the most healthy district in England. The soil is chiefly gravel.—For plans and particulars apply to F. GOODCHILD, Esq. Guildford; or to J. CAPAIN, Esq. Solicitor, on the estate, and at York Town, Surrey.

PENZANCE, CORNWALL. —The FEE SIMPLE in land, of NINETEEN ACRES of first-class BUILDING GROUND, all within 600 yards of the beach, and commanding full view of the sea, and adjoining the town of Penzance will be SOLD, in lots, by AUCTION, at Penzance, on FRIDAY JUNE 5th, 1863. The fee simple, subject to a lease now hanging on a life of sixty one, at Six Acres of Building Ground in Penzance, will be sold in lots by auction at the same time The whole of this ground is at present under cultivation as market garden ground for early broccoli and early potato crops. For particulars apply to LODD & CORNISH, Solicitors, Penzance.

Penzance, April 23rd, 1863.

MANUFACTURING WATERSIDE PREMISES, occupying about an acre of ground.—TO BE LET on lease, direct from the freeholder, for a long term if desired conveniently-placed MANUFACTURING PREMISES, situate at West Ham Abbey, Essex, a few minutes' walk from the Stratford Bridge Station of the North Woolwich Railway, and with waterside frontage next the Channel Sea River The ground forms a site of about one acre, the buildings are spacious ground-floor erections, and there is a handsome and lofty brick chimney-shaft.—For particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

SUTTON, near the Station.—PLOTS of FREEHOLD BUILDING LAND FOR SALE. Land-tax redeemed, conveyance free. Also, PLOTS TO BE LET, on a Building Lease, for ninety nine years.—For plans, &c. apply by post, pre-paid, to Mr. TRIBE, Builder, Sutton, Surrey, S.

BUILDING LAND TO BE LET, HACKNEY, close to the Railway Station, for small Dwelling Houses.

NORWOOD, close to the Crystal Palace, for Shops and Villas. PERRY HILL, SYDENHAM, for Shops. Advances in each case if required.—Apply to Mr. T. K. GREEN, 25, College-hill, Cannon-street, E.C.

CITY of LONDON.—BARBERS' HALL. TO BE LET, on a Building Lease, Nos. 33, 34, and 35, Monkwell-street, Wood-street, and a portion of the Court-yard Hall and Offices in the rear. For particulars and plans, apply to the BEADLE at the Hall; or to the Clerk, HENLEY GROSE SMITH, Esq., 4, Warnford-court, Throgmorton-street, E.C.

VALUABLE BUILDING PLOTS, near ORDNANCE TERRACE, CHATHAM.—The Trustees of Watt's Charity, at Rochester, are desirous of receiving TENDERS for Fourteen Plots of BUILDING LAND, at or near Ordnance Terrace, in the parish of Chatham, Kent, TO BE LET (with immediate possession on the Lease for the term of 99 years from Christmas, 1864. The Tithe and Land-tax are redeemed. The Estate is most eligibly and delightfully situated on the elevated ground between Ordnance-terrace and Fort Pitt, and commands extensive views of the River Medway, Dockyard, &c.; is adjacent to the Chatham Station of the London, Chatham, and Dover Railway, and is eminently adapted for the erection of Dwelling-houses and Villas of a respectable description. TENDERS are to be sent in on or before SATURDAY, the 6th day of JUNE next, to the Office of Messrs. LEWIS & MARSH, solicitors, Rochester, where also a Plan of the Estate and a model of the Lease are deposited, and open for inspection previous and up to the day of Tender.—For further particulars of the several Plots, and conditions as to the Buildings and Leases, see printed particulars and conditions which will be issued 21 days prior to the day of Tender, and may be had of Mr. MARTIN BULMER, the Trustees' Surveyor, Maidstone and Strood; of Messrs HARRISON & LEWIS, 24, Old Jewry, London, E.C.; or Mr. WILLIAM HAYWEN (the Receiver of the Charity Estates); at the principal Hotels in Rochester and Chatham; and of Messrs. LEWIS & MARSH, Rochester.

TO BUILDERS.—WANTED to RENT, on lease, in a good market town, and within a convenient distance of the metropolis, suitable PREMISES for carrying on a moderate and respectable building trade. No objection to take to a business, and purchase a fair proportion of stock. Unexceptional references given and required.—Address, A. B. C. Mr. Bidger's, 49, Bishopsgate-street Within, London, E.C.

TO ARCHITECTS, BUILDERS, and OTHERS.—TO BE LET, on Building Leases, at low ground rents, about 50 acres of most eligible BUILDING LAND, immediately adjoining the Colney Hatch Station, on the Great Northern Railway. Gravelly soil and good water. There is a great demand for villa residences in this neighbourhood. The connecting of the Great Northern Line with the Metropolitan Railway, brings this property within half an hour's ride of the City or West End.—Apply to Mr E. BARKER BOOTH, Solicitor, 4, Gray's Inn-square.

GROUND RENTS.—WANTED to PURCHASE, about 120l. PER ANNUM in FREEHOLD GROUND RENTS, well secured on a good class of London house property. Full particulars and terms to be sent to Messrs. DANIEL SMITH, SON, and OAKLEY, 10, Waterloo-place, Pall-mall, S.W.

NORWOOD. — Eligible FREEHOLD LAND TO LET, on building leases, suitable for the erection of detached villas. Money advanced.—Address, B. FLETCHER, Architect and Surveyor, Bond-court House, Walbrook, E.C.

FREEHOLD GROUND RENTS, CITY of LONDON.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY the 16th of JUNE next, at TWELVE o'clock precisely, to receive PROPOSALS for the PURCHASE of FREEHOLD GROUND RENTS, on Premises lately severally situate Nos. 70 and 71, Watling-street; Nos. 7 and 8, Bow-street; and No. 4, Maidenhead-court, Alderscate-street; particulars and plans of which may be had at this office, together with the conditions of sale. Tenders must be sealed, endorsed outside "Tender for Ground Rent," and addressed to the undersigned at the Office, and must be delivered in before TWELVE o'clock on the said 16th of JUNE next. The Commissioners do not hold themselves to accept any Tender unless the same shall be deemed eligible. Part a day of treaty, and be then prepared (if their Tender be accepted) to pay the required deposit of 10 per cent and to execute an agreement for the completion of the purchase agreeably to the conditions of sale.

JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, April 20, 1863.

TO BE LET, on a Building Lease, at Chelsea a PIECE of GROUND, in a first-rate situation, calculated for the erection of a public-house, for which it is peculiarly eligible (being close to the New Barracks), and nine shops. About 212 feet frontage to the New Bridge-road, and about 21 feet 6 inches in Queen's-road East.—For particulars inquire on the Premises; or at No. 131, Queen's road East.

LAND TO BE LET, for the Erection of a Pair of Villas, on a high road, with sewer, gas, and water mains, six miles from town, Surrey side, moderate ground rent, and 700l. to be advanced at five per cent. The foundations supply sufficient sand and gravel. For particulars apply to A. O. care of J. P. Harvey, esq. 2, Tavistock-street, Covent-garden, W.C.

SYDENHAM.—ELIGIBLE BUILDING LAND, Fifteen Acres, TO BE SOLD or LET, adjoining the Railway Station, adapted for an institution, residences, &c.—To treat apply personally to Messrs. CRAWTER, Surveyors, Land Agents, and Auctioneers, 5, Bedford-row, Gray's inn, W.C.

SOUTHAMPTON.—To BRICK, TILE, and CEMENT MANUFACTURERS, and OTHERS, requiring extensive WATERSIDE PREMISES.—TO BE LET, with immediate possession, for an unexpired term of twenty years, an extensive and important PROPERTY, occupying an area of about twenty acres, situate at Fling, on the banks of the Southampton river, with spacious wharf and river frontage, accessible by vessels of large burthen, together with numerous buildings, consisting of most substantial MILL HOUSE, four stories high, with engine and boiler; sheds, and chimney shaft of 120 feet; also the erections of brick kilns and scale, with cottages for foreman and workmen. The land has an inexhaustible supply of brick-earth, and the premises are convenient for many manufacturing purposes.—For further particulars, apply to Mr. H. WITHERS, Land Agent, Redbridge, near Southampton.

TO CONTRACTORS.—TO BE LET, the several WORKS required in the ERECTION of a MILL, with engine and boiler house, chimney, warehouses, and offices, at Kidderminster, for Thomas Lea, esq.—Plans and specifications may be seen at the Assembly-room, Lion Hotel, Kidderminster; and bills of quantities of the several works may be obtained on application at our Offices, in Bradford or London, from WEDNESDAY, MAY 27th, until SATURDAY, JUNE 6th, on which last mentioned day, before 12 o'clock at noon, sealed Tenders must be delivered to us, under cover, to THOMAS LEA, Esq. Kidderminster. The lowest Tender not necessarily accepted. LOCKWOOD & MAWSON, Architects. Post office Buildings, Bradford; 10, Lion Inn-fields, London.

TO BUILDERS and OTHERS.—TO BE LET, in Holloway-road, a HOUSE, with Workshops and large yard. A lease can be had. Valuation of shop and fittings required—apply to Mr WESTON, Tea Dealer, 19, Pleasant-row, Upper Holloway-road.

BUILDING LAND TO BE LET, at Canonbury (Marquess road), at Lower Norwood, a most eligible site, commanding beautiful views, close to the station; at Croydon, &c. Also, at Edward's road, Bow, three cottages for completion. The usual advances of money to respectable parties.—Apply at the Offices of Mr. J. EDMESTON, Architect and Surveyor, 5, Crown-court, Old Broad-street, E.C.

LONDON.—UPPER THAMES STREET. Valuable and important FREEHOLD WATERSIDE PREMISES TO BE LET by TENDER, upon Lease for Twenty-one or Seventy seven Years from Lady day, 1863. The premises are the property of the Dyers' Company, and lie between Blackfriars and Southwark bridges, in the best part of Upper Thames street, where the principal iron, metal, paper, and dry goods warehouses are situate, being in fact the London market for those commodities. The frontage next the Thames is 30 feet, with a depth of 218 feet. The premises can be viewed at any time, and full particulars of the property can be obtained upon application to HENRY BATE, Esq. the Clerk of the Company, Dyers' Hall, Dowgate hill, London, E.C.

BUILDING LAND TO LET, near the Camden Railway Station, for Sixteen H. USES, which are much required, together with a good SITE for a PUBLIC HOUSE. Roads and Sewers made. For particulars, apply at Mr RICHARDSONS' Office, St. Paul's-road, Camden-town; or J. K. WRIGHT, Solicitor, 25, Bedford row.

TO BUILDERS and OTHERS.—TO BE LET, within half a mile of the Nine Elms Station, COMMODIOUS PREMISES suitable for Workshops, &c. extending over an area of 150 feet by 85 feet, at present a brewery, but easily convertible: consisting of a brick building 55 feet long 25 feet wide, and three floors high, suitable for carpenter's and joiner's shops, with steam-engine of a horse power, large sheds, stabling for eight horses, and two yards. For particulars, apply to Mr J. H. BRIDGES, Falcon Brewery, Ipswich.

ROSS of MULL GRANITE COMPANY (Limited).

Granite for contract work, 10,000 ft a month if required. POLISHED RED GRANITE for architectural work, blocks can be had of any dimensions.

Apply to the Secretary, 35, Parliament-street, S.W.

THE BISHOP WEARMOUTH IRON WORKS, SUNDERLAND.—These valuable PROPERTIES with the Rolling Mills and all other Machinery, the property of the Derwent and Consett Iron Company, Limited, will shortly be submitted to PUBLIC AUCTION, by direction of the Trustees, and under the sanction of His Honour the Vice Chancellor Kinderley. The time and place of sale, together with further particulars, will shortly appear

JOSEPH ANDERSON, Solicitor to the Trustees.

Newcastle-upon-Tyne, 11th May, 1863.

LONDON GENERAL OMNIBUS COMPANY, LIMITED.—The Directors are desirous of receiving TENDERS for about 120 Tons best RANDAM PEBBLES, not exceeding 4 inches in depth. Tenders, stating price per ton and place of delivery, to be sent to the undersigned on or before next.—By order,

A. G. CHURCH, Secretary.

31, Moorgate-street, May 9th, 1863.

THE PATENT CONCRETE STONE COMPANY (Limited) Temporary Offices: 7, Parliament-street, Westminster.—At a Meeting of the Board of Directors, held here this day, it was resolved: "That applications for the remaining shares in this Company must be made to the Brokers, Messrs. BARRY & CO. Birchin-lane, E.C. before the 1st day of JUNE next, on which day the share-list will be closed."

May 1, 1863. THOMAS PIPER, Secretary.

LONDON GENERAL OMNIBUS COMPANY (LIMITED).—The Directors are desirous of receiving TENDERS for the ERECTION of STABLES, in Duncan street, Islington. Plans, specification, and quantities to be had at the Office of the Company, 31, Moorgate street. Sealed Tenders and endorsed "Tender for Works" to be sent to the undersigned, on or before NOON on the 1st of JUNE. The Directors do not hold themselves to accept the lowest or any Tender. By order,

31, Moorgate street, May 14, 1863. A. G. CHURCH, Secretary.

QUEBRADA LAND, RAILWAY, and MINING COMPANY (Limited).

Copies of SPECIFICATIONS and CONDITIONS for the CONSTRUCTION of this Company's RAILWAY can be obtained from Messrs. DUASFORD & RANKEN, 9, Broad-street-buildings, London; or from Mr R. GRANTHAM, 7, Sedan Layri, Lorca, by either of whom TENDERS will be received up to the 20th inst.—By order of the Board, DUNSFORD & RANKEN, Managers.

11th May, 1863.

THE GRENVILLE DELABOLE and TREHANE SLATE and SLAB COMPANY (Limited and Registered). Capital 21,000l. in 3,000 Shares of 10l. each. Deposit to be paid to the Company's Bankers, Messrs. Smith, Payne, & Co. per Share, and a further payment of 2l. per Share on allotment.

DIRECTORS.

George Edward Cottrell, esq. Hatherley, Burnett, N.
Captain Lamerock Flower, Bassett's, Epsom.
W. Denham Kitt, esq. Camelford, Cornwall.
P. R. Nesbitt, esq. M.D. Tavistock, Devon.
Lieut.-col. Wragge, Fairfield House, Old Charlton, Kent.

BANKERS.

The London, Birmingham, and South Staffordshire Banking Company (Limited), 110, Cheapside.

AUDITOR.

Arthur Cooper, esq. Public Accountant (W. & A. Cooper), 13, George street, Mansion House, London, E.C.

SOLICITORS.

Messrs. Hampton & Burgin, 8, John-street, Bedford-row, W.C.

ABRIDGED PROSPECTUS.

The objects of this Company are to carry on and work the Grenville Delabole and Trehane Slate and Slab Quarries, in the parishes of St. Teath and Treneglos, in the county of Cornwall.

The lease of the Grenville Delabole Quarry, consisting of forty-two acres, is for twenty-one years, at a rental of 80l. per annum for the first seven years, 70l. per annum for the next seven years, 60l. per annum for the remainder of the term, and 1-20 royalty.

The lease of the Trehane Quarry, consisting of seventy two acres, is for thirty years, at a rental of 40l. per annum for the first seven years, 70l. for the remainder of the term, and 1-20 royalty.

The Directors have recently purchased the leases of these valuable properties with out cash payment, on the allotment to the vendor of 200 fully paid-up Shares in the company. Great abundance of slate has been found at a few feet from the surface in both quarries. They are estimated to produce from 200 to 300 tons per annum, and to pay large dividends, in consequence of the ever increasing demand for slate.—*Vide Jones's Geological Survey of Cornwall*, 24th Apr., 1861.

Applications for shares to be made through the Brokers, Messrs. Barry & Co. 20, King's Arms-yard, Moorgate-street, London, E.C. where specimens of the slate and engineer's reports may be seen, forms of application, for shares, detailed prospectuses, and all information obtained.

THE GRENVILLE DELABOLE and TREHANE SLATE and SLAB COMPANY (Limited).—As the demand for slate and slabs now far exceeds the supply, the Directors of this Company will grant to merchants, contractors, builders, and others, taking shares and contracting for slate and slabs, PRIORITY of SELECTION, Delivery, and other special advantages.—By order of the Board,

HENRY PAINE, Secretary.

TO BRICKLAYERS.—The BRICKWORK of several SIX ROOMED HOUSES TO BE LET. Apply, by letter only, to Mr. CESAR LONG, Architect, 38, Bishopsgate street, E.C.

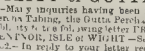
DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—"Second festimonial.—"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now seven years, and I am informed that it is to be adopted generally in the houses that are now being erected here."

N.B. From the above unsolicited testimonial, it will be seen that the CORROSIVE WATER of the Isle of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF ROAD, CITY-ROAD, LONDON.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED 1838



For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the possibility of the formation of vermin. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS. SCAFFOLD AND HEMP ROPE FALLS. AWNINGS FOR FOUNDATION STONES.

CARY & PRIER, DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N

TARPAULINS, MARQUEES, &c. for SALE or HIRE. SCAFFOLD and HEMP ROPE FALLS.

H. PIGGOTT, 59, Bishopsgate street Without, E.C. Manufacturer, by appointment to Her Majesty's Honourable Board of Ordnance

INDIA-RUBBER HOSE and TUBING for Watering Gardens, Lawns, Washing Carriages, Windows, &c. JAMES LYNE HANCOCK, Manufacturer has a stock of all sizes Also,

BRASS HAND BRANCHES, with SPREADERS, STOP COCKS, JET, and UNION JOINTS, to connect the Hose to Cisterns.

RUBBER FIRE-ENGINE HOSE, for HALLS, MANSIONS, &c. with the necessary Fire branches and Brass Unions Screws.

Illustrated Price Lists on application.

JAMES LYNE HANCOCK, VULCANISED INDIA-RUBBER WORKS, 287, Goswell road, London, E.C.

IRON HOSE-REELS for winding up Guided Hose when out of use.

CUNDALL, DOWNES, & CO. PHOTOGRAPHERS, 168 New Bond street, Copy Pictures, Maps, Engineering Plans, Coloured Diagrams, Drawings, Buildings and Engineering Works in progress in any part of the country, on plates up to 36 by 21 inches.—Terms may be had on application.

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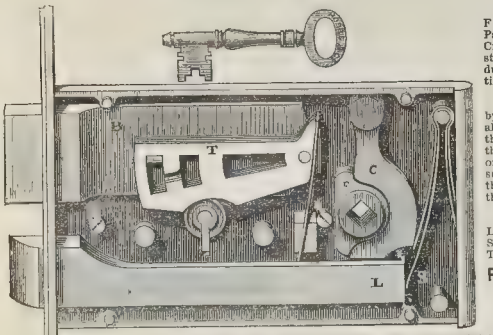
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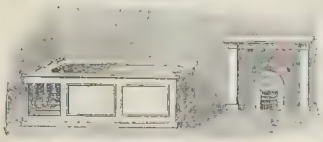
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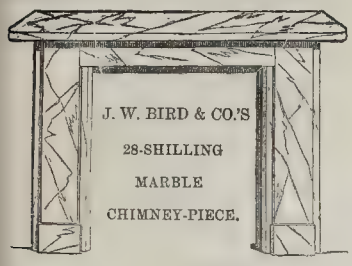
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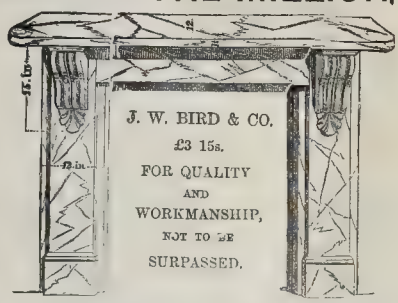
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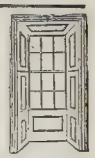
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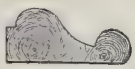
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2,000 Spruce ditto ..... from £9 per 120
SPRUCE DEALS, 2s. 6d. each.
FIR TIMBER 55s. PER LOAD.
Scaffold Poles ..... 1½d. per foot
YELLOW DEALS, £16 PER 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	White (not Spruce).	Yellow.	
¾-inch Flooring	11s. 6d. to 12s. 0d.	13s. 0d.	per Square.
¾-inch "	12s. 0d. to 13s. 0d.	13s. 0d. to 14s. 6d.	"
1-inch "	14s. 6d. to 16s. 0d.	16s. 6d. to 18s. 0d.	"
1¼-inch "	18s. 0d.	20s. 0d. to 22s. 0d.	"

YELLOW DEALS, 3 by 9, from...£16 10s.
Yellow Battens ..... £11 10s. per 120
¾ White Matched Lining ..... 12s. per square.
¾ Yellow ..... 16s. "
J. TERRY & SON, 109, BOROUGH ROAD, S.E.



MOULDING WORKS.
SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.
Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS, AND CARPENTERS, AND OTHERS,
Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE FREE.

Thr e-quarter inch Flooring (well prepared), 11s. 6d per square.	Laths, 2s. per Load.			
Yellow Deals, sound and good	£19	10	0 per 120, or Cs. 3½d. per foot.	
Spruce Deals	16	10	0 "	0 2½ "
Yellow Battens, excellent quality	11	10	0 "	0 2 "
Pine Planks, dry, 12 feet 3 inches by 11 feet	21	0	0 "	3 6 each.

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. } **BUNNETT & CO.** { ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON AND COPPER SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super. according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT. } **BUNNETT & CO.**

INVITE ATTENTION TO THEIR

ORNAMENTAL CAST-IRON SHOP-FRONTS,

In every variety of style, with or without Brass Sashes or Stall Plates.

COPPER SASHES, WINDOW-FRAMES, and CASEMENTS for STONE MULLIONS in GOTHIC MANSIONS ADMITTING the MAXIMUM of LIGHT, and ABSOLUTELY EXCLUDING all WIND and RAIN.

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REVOLVING WOOD SHUTTERS.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. } **BUNNETT & CO.** { ORIGINAL PATENTEES AND MANUFACTURERS.

Have Reduced the Price of their Patent Revolving Wood Shutters, with IRON HINGES, to 2s. 6d. per foot; or with Strong Web Hinges, at 2s. per foot.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

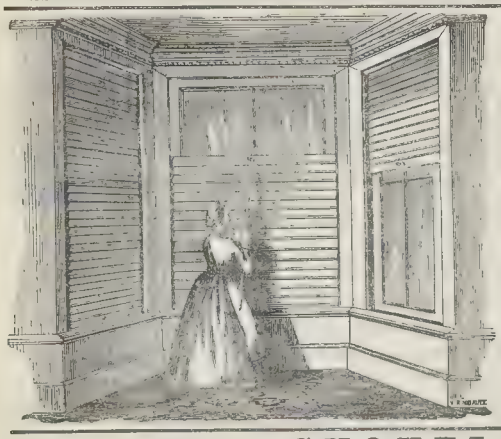
IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisit Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses. BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.



REDUCTION IN PRICE

OF

CLARK'S

NEW PATENT REVOLVING SHUTTERS

FOR

SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters	.....	2s. per foot	super
Wood Self-Coiling	do.	2s. 6d.	do.
Iron	do. do.	3s.	do.
Steel	do. Fire and Thief Proof..	3s. 6d.	do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, Gate-street, Lincoln's Inn Fields, W.C. AND 4, MARKET STREET, MANCHESTER.

SNOXELL & CO.'S

PATENT REVOLVING SHUTTERS IN IRON OR WOOD

BRASS SASH BARS, STALL BOARD PLATES, AND BLIND MAKERS.

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BARTLETT, BROTHERS, & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.;

PATENT SILICEOUS PAINT, FOR COATING STONE, CEMENT, STUCCO, &C.

Specimens of the Silicates and Aluminates, and of their applications, may be seen at the CONSTRUCTIONAL DEPARTMENT. SOUTH KENSINGTON MUSEUM.

THE FLUO-SILICIC STONE-PRESERVING COMPANY, LIMITED.

39, CHARING CROSS, S.W. & 12, COPTHALL COURT, THROGMORTON STREET, E.C.

PATENT FLUO-SILICIC INDURATIONS for the PRESERVATION of STONE, CEMENT, and other like materials. The Company apply to the surface of Stone, Cement, &c. a solution of Fluo Silicic Acid, and Silicate of Potash. These are the only patents which confer the use of that most valuable agent, Fluo-Silicic Acid Bath, Cann, and other similar stones, when treated by the Company's solution, become extremely hard. The great expense of the restoration of Buildings in Portland stone has been a constant source of Art-Industry, but since the Fluo-Silicic process can be applied to readily lose its stone after it is carved, that obstruction exists no longer. The Fluo-Silicic at once permanently arrests the decay of all stone.—For further information, apply to the Manager of the Company, Mr. DUDLEY, Architect, as above.

WEST DRAYTON GRAVEL PIT. T. FERGUSON, sole proprietor of the above Pits, is n prepared to deliver any quantity of the very finest descriptions GRAVEL, splendid material for road making, garden paths, concre &c. Orders to be addressed at the Offices, Nos. 11, 12, 13, Wharfs, Northsid Paddington Basin, W.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator

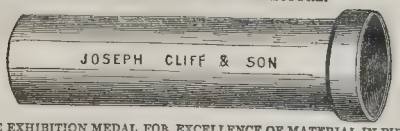
for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 6s. 6

These Ventilators are arranged so that the requisite quantity of Air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 188 and 189 (late 117 and 118), Union street, Borough, London; and all respectable Ironmongers, Builders, &c.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, 

Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,
BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF Nº 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.



THOMAS LAMBERT & SON,


No. 57. Self-Regulating Pan Closet.

No. 1. Lambert's Ball Valve.


No. 6. High-Pressure Bib Valve.


High-Pressure Stop Valve.

FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH-PRESSURE VALVE COCKS.

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves manufactured by them, have their NAME legibly marked thereon.

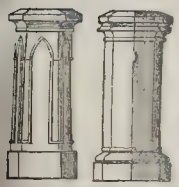
JAMES STIFF & SONS,

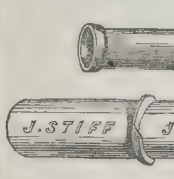
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.






PAN, 4s. 6d.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be [illegible] and Junctions inserted, at the cost of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd It is portable, being packed in rolls, and not liable to damage in carriage.—3rd It effects a saving of half the timber usually required.—4th It can be easily applied by any unpractised person.—5th From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th Under slate, metal, or tiles, it is a most effective non-conductor.

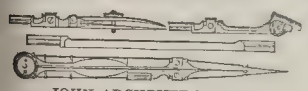
INODOROUS FELT, for damp walls and for ships, under carpets and floor cloths. Price ONE PENNY per Square Foot.

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening sound.

Samples, testimonials, and full instructions, on application to

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MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
(Near Astley's Theatre,

Respectfully inform the public that their Illustrated Price List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13
Only Medal awarded for "excellence of construction of Mathematical Instruments."

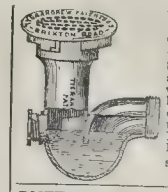
SQUARES.—W. F. STANLEY,
late STANLEY & ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 12-inch, 5s. and 5s. 6d.; 18-inch, 8s. 6d. and 9s. 6d.; 24-in. 12s. 6d. and 13s.

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for Draughtsmen's Use. Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN,
LONDON, W.C.
Price 2s. 6d. post free.

STANLEY'S IMPROVED DRAWING PEN



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

INTERNATIONAL EXHIBITION, 1862.
CLASS 35, NO. 6849.

3s. 9d.



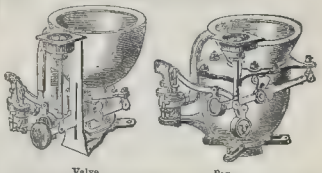
The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the cheapest pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No [illegible] required. The closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick Lane, [illegible] Street, London.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Mowlesfield-street North, City road Basin, N. 2ndly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 681, of the Great Exhibition, note the grant for a First-class Medal and rank the Manufacture thus known, as being "The Peakes," Tunstall, Staffordshire, as the first of the kind in the world.

MINTON & CO.
Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 72, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grey Bricks and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Bone Paving BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary tessellated tiles, as also coverings MAW & CO.'S Patent Enamel, designed by M. Digby Wyatt, esq. together with a special design and estimate (based upon data to be supplied by the dimensions of hall, passage, conservatory, verandah, [illegible], &c. will be sent on application to Benjamin Dykes, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, [illegible].

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

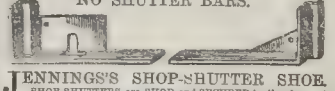
IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD ST. PANCRAS.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every principal street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Palace Wharf, Stangate, Lambeth, S.

SALES BY AUCTION.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Messrs. Lavers to SELL by AUCTION, on MONDAY, MAY 18th, at ELEVEN o'clock, at the IRON GATE BRIDGE, on the Bow Creek, a few paces from the Barking-road station of the North Woolwich Line, removed for convenience of sale, the whole of the valuable PLANT and MATERIALS: in the Thames, a collection of valuable PLANT and MATERIALS: including one Gilbert's steam pile engine, two Seward's steam pile engines, two contractors' portable steam-engines of eight and ten horse power, horizontal 14 horse high pressure steam engine and boiler, horse power, horizontal 14 horse high pressure steam engine and boiler, a high pressure steam lieam engine, with 11 inch cylinder, 20-inch stroke, powerful iron circular saw bench, two multitubular steam boilers, donkey engine, two 10-ton travellers, six trussed overhead travelling cranes, single and double purchase crabs, triple and single hoisting gear for shears, three sets of pile-drivers, two Murray's patent chain-pumps, capable of raising 1,000 gallons per minute; one Norton's patent pump, blocks and falls, forges, smiths' tools, large quantity of builders' plant, 200 tons prime Memel timber, 1,000 3 and 4 inch Memel planks, four very large blocks of Roach stone 120 feet in each; stone truck to carry 12 tons, with Kirkstall forge axles, timber carriage, carts, harrows, 50-ton barge, boat, James's patent and other weighing machines and weights, and other effects To be viewed on Saturday previous to the sale. Catalogues may be had at the Wharf; and of Messrs FULLER & HORSEY, 71, Billiter street, London, E.C. There is every facility for the removal of the goods by water or land carriage NB Approved bills at three months' date will be taken from purchasers to the extent of 50l. and upwards.

TO PRINTING PRESS AND MACHINE-MAKERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, MAY 19th, 1863, at ELEVEN o'clock precisely, the MACHINERY, TOOLS, and STOCK-IN-TRADE of a printing-press and machine maker and engineer, including a self-acting planing machine, new within two years, by Smith, Beacock, & Tannett, to take in 3 feet 6 inches wide and 12 feet long; two self-acting screw-cutting lathes and drilling machine, by the same makers; two surfacing and hand lathes, the larger capable of turning a surface 7 feet in diameter, two smaller turning lathes, 4 horse steam-engine and boiler, shafting, vices and benches, steel tools, screwing tackles of various descriptions; also a valuable collection of patterns for the different sizes of Columbian printing presses, and for the Careen printing machines, and the remaining stock in trade, double demy printing machine, one double crown and one foolscap folio press, sixteen inking tables, rollermoulds, pair of surfaces, cupboard, counting house furniture, and other effects To be viewed on Monday previous to the sale, when catalogues may be had on the Premises; and of Messrs. FULLER & HORSEY, 13, Billiter street, London, E.C.

TO BUILDERS, CONTRACTORS, SAW-MILL PROPRIETORS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Messrs. Wilson & Sons to SELL by AUCTION, on MONDAY, 25th MAY, 1863, and following day, at ELEVEN o'clock each day, on the PREMISES, Great Saffron street and St. Steven's square, Kent street, Southwark, will (at request) the MACHINERY, TOOLS, and remaining STOCK of a BUILDER: including a 16 horse power, direct acting steam engine; Cornish boiler, 7 feet diameter, 19 feet long; rack saw bench; vertical saw frame, self-acting circular saw bench and twenty four cast steel saw; planing machine, moulding machine, two tenoning machines, ball saw machine, jointer's or smith's bench, planing and sash sticking machine, tenoning and mortising machine, leather belting, 1 in. to 5 in. prime, 2 in. pine planks, twenty square floating cards, air blower for sounding, twenty feet long. Hydraulic lifting jack, to lift 7 tons 5 feet; 6 to 14-inch yellow boards, 2,000 feet pitch pine boards from 4 to 14 inch, two feet pollarded ash stuff, 5,000 feet 4 inch cut white boards, two feet scantling, 2 pounds oak plank, 24 inch feet run mouldings and sash beads, 50 new panel doors, 8 dozen scaffold cords, 3 builders' hoists, ladders, and steps, 3 grindstones, 27 joiners' benches, 3 cramps, 2 cranes ground, 700 yards of 9 inch York paving, 92 yards of 7 inch Portland stone, an assortment of builder's tools, open cart, timber carriage, tumbril cart, spring stone cart, hand truck, 7 trussed purlins, five fittings and other effects. To be viewed on Saturday morning of sale, when catalogues may be had on the premises, and of Messrs. FULLER & HORSEY, Billiter-street, E.C.

BRENTFORD GRAIN DISTILLERY.—TO BUILDERS AND OTHERS.

MESSRS. FULLER & HORSEY will SELL by AUCTION, pursuant to an Order of the Court of Chancery, made in the causes of "Booth v. Conlton," "Booth v. Booth," and "Booth v. Nash," with the approbation of his Honour Vice-Chancellor Stuart, the Estate lately in the occupation of Messrs. Booth, at the AUCTION MART, in the city of London, on THURSDAY, the 28th day of MAY, 1863, at TWELVE o'clock, in Four Lots, the highly important FREEHOLD and LEASEHOLD ESTATE, formerly occupied as Sir Felix Booth's Grain Distillery; comprising the buildings, the Lack room, the boiler house, the malt, swell and horse offices, yards, gardens, and stabling, and a landing wharf on the Thames, situate at Brentford, about seven miles from London, on the western road, and about midway between the Kew and Brentford stations of the South-Western Railway. It is contiguous to the New station of the North London Railway, and also to the docks at Isleworth at Brentford, the whole forming a most desirable property for any large manufacturing establishment, or a most eligible site for building operations.—To be viewed till the Sale by cards only, which, with printed particulars, plans, and conditions, may be had of Mr. F. B. HOOK, Esq. Solicitor, 9, Austin's-inn; of Messrs. GRAY & CO. of W. B. DAVIS, Esq. Solicitor, 10, Golden square; of Messrs KINGSFORD & DORMAN, Solicitors, Essex-street, Strand; of Messrs CLARK & RUSTON, Solicitors, Brentford; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

Pair of Steam Engines, equal to 60-horse power nominal

MESSRS. FULLER & HORSEY are instructed by the Directors of the London Armoury Company (limited), who are removing to their new Works to SELL by AUCTION, on THURSDAY, MAY 28th, at TWELVE o'clock, at the AUCTION MART, Bartholomew-lane, a pair of Horizontal High pressure and Condensing STEAM ENGINES, each of 25 horse power nominal, 3 cranks 3 feet 6 inches diameter, with metallic pistons, bright gearing, swinging, each fly wheel shaft, cast-iron fly-wheel 14 feet diameter, spur mortise wheel 8 feet diameter, each piston 2 feet 6 inches diameter, cast-iron condenser, cast iron frames, cranks, cast iron segment bulls on steel standard, made in 1854 The Engines may be seen in motion at the Works in Bermondsey by cards only, the day before the Sale. TWELVE and ONE o'clock previous to the Sale; and catalogues may be had of Messrs. FULLER & HORSEY, 13, Billiter-street London, E.C.

CAMBERWELL.—Seven Acres of very valuable Freehold Building Land, containing fine brick-earth, within about two miles of London Bridge.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, JUNE 16, at TWELVE, in one lot (unless previously disposed of by Private Contract) seven acres of FREEHOLD BUILDING LAND, situate between St George's Church and the Camberwell Cemetery, fronting Camberwell Church-road, having frontages to Peckham grove and Drummond street, and eligible for the erection of small villa or cottage residences, and containing a valuable brick-earth, and, it is believed, of unbounded well. Also, a separate lots, a neat Freehold Residence, commonly known as Grove cottage, with garden attached, and a small piece of Freehold Building Land adjoining thereto, in the occupation of Mrs. Hand. Plans and particulars may be had of Messrs. WESTAKING, Solicitors, 3, Charlotte-row, E.C.; and of the Auctioneers, 8, Leadenhall-street.

TO ARCHITECTS, BUILDERS, AND HOUSE DECORATORS.

MR. EDWIN WHITE will SELL by AUCTION at 12, Holborn Bars, and 1, Castle Street, Holborn Hill, on TUESDAY next, at TWO precisely, a very large Portion of Fashionable FRENCH and ENGLISH PAPER HANGINGS of great Variety; about 100 stationary, viz. Sicilian, rouge-royal, rouge-grioite, very superior, Belgium grey, sea-grass, drawing-room blacks, and other Marble Cloth and Linens, plain and sculptured; a few Stone Chimney Pieces, 12 Water Grates, &c. Moulding: White Lead and Paint new lamps, Cement To Let. Iron Bed-Cheats, and items.—View and Catalogues, Monday and morning of Sale.

THE NEW METROPOLITAN MEAT AND POULTRY MARKET.—Furniture, Bar Fittings and Utensils, of a Public House.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the Premises, on TUESDAY, MAY 19, at ELEVEN for TWELVE, the HOUSEHOLD FURNITURE, BAR FIXTURES, and UTENSILS of the Bull's Head Public House, Smithfield; comprising the usual bed-chamber and sitting room appendages, mahogany dining tables, loo tables, Pembroke tables, useful china, glass and cutlery; capital 8-motion beer engine, 4 motion ditto, metal top counter, pewter and copper measures, urns, fountains, taps and pipes, safe and racks, mahogany chimney piece, 8 day clock, drinking tables, gas fittings; kitchen requisites, stoves, and other house and trade fixtures and effects —May be viewed the day previous Catalogues had at the Auctioneer's Offices, HOUSEHOLD and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament street, S.W.

STRAND.—The Capital MATERIALS of a recently erected Block of Buildings.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the Premises, on FRIDAY, MAY 29th, at TWELVE in LOTS, the whole of the Excellent BUILDING MATERIALS, FIXTURES, and FITTINGS UP, of the Spacious Premises situate 8 Wellington street, Strand (corner of Exeter street), and comprising 200,000 capital bricks, 20 squares of slates and slating boards, prime timber in roofs, joists, and girders. Two pairs of sound flooring, glazed sashes, doors, inside and other doors, iron gutterance, pipes, &c. nine stout hoardings, three pairs, several tons of lead in gutters, cisterns, and pipes, stoves, and other useful materials and fittings up —May be viewed two days previous, and Catalogues had at the Offices of G. PARNELL, Esq. Architect, 59, Pall Mall; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament Street, S.W.; and 80, Fore Street, E.C.

ACTON, MIDDLESEX, within five miles of London.—Desirable Freehold Residence, with about seven Acres of Land admirably adapted for building

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION, at the MART, near the Bank of England, on TUESDAY, JUNE 2, at TWELVE, in one lot, and if not sold then immediately in two lots, GROVE HOUSE, a desirable family residence, containing eight bed rooms and attics, dining and drawing room, and the usual domestic offices; with rose trees, shrubs, orchard, capital flower and kitchen gardens, nursery, tastefully disposed lawn, with carriage drive, &c. comprising an area of four acres; also, immediately adjoining THREE ACRES of rich LAND, with frontages to the Acton Byeroad, and has a long frontage on the turnpike road to Uxbridge, also to two roads leading to the Acton Station; in fact, in bounded on three sides by good roads. The property is freehold, and is in every way adapted for building purposes; it is within a very few minutes' walk of the Acton Station on the North and South Western Junction Railway. The whole will be sold in a parcel or lots. The residence has been recently painted so that possession may be had on completion of the purchase. Particulars, with plans, may be had at the Mart, EC.; of Messrs. WALKER & JERWOOD, Solicitors, 12a, Furnival's-inn, E.C.; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-Mall, S.W.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, Walton-on-the-Hill, Surrey.

Notice of PRIVATE SALE of about 200 MARBLE CHIMNEY-PIECES, to be sold at very reduced prices (to save the expense of removal to the Hospital now building), consisting of Statuary, Rouge Royal, Black and Gold, Black, Sienna, Red Ita, Dove, California, St. Ann's, Rouge Jasper, Jaune Fleure, Brocatella, Genoa Green, Irish Green, Blue Johns, Empress Red, Irish Red, Canada Mahogany, Vein, Sienna, and various excellent specimens of British Marbles, varying in price from 1l. 10s. to 50l.; and for elegancy of design, workmanship, and quality, unequalled in England. Purchasers to the extent of 50l. and 50l. may view lots of three and five months' date, and those 25 per cent cash. Purchasers from the country will be supplied with packing-cases, and the same packed and delivered to any of the metropolitan stations for 1 per cent on the sum paid for them.

CREWE.—FREEHOLD BUILDING LAND TO BE SOLD by AUCTION, pursuant to a Decree of the High Court of Chancery, made in the cause of "Hall v. Hall," before the Vice Chancellor Sir John Stuart, the Judge to whose Court the said Cause is attached, by

MESSRS. CHURTON, the persons appointed for that purpose, on FRIDAY, the 22nd day of MAY, 1863, at the CREWE ARMS HOTEL, CREWE, at TWO o'clock in the Afternoon, EIGHTY-SEVEN LOTS of FREEHOLD BUILDING LAND, fronting Nantwich road, Oak street, Mill street and the Railway Premises at Crewe, and abutting on new roads then leading to the same; and part abutting upon the new road leading from Oak street Crewe, to Monk Coppenhall, part of which new road is intended to be extended from Oak street, and part upon the Chester and Crewe Railway, all within the immediate neighborhood of the Railway Works of the North Western Railway Company, Liverpool, Chester, North Staffordshire, and Shrewsbury branches of the London and North Western Railway Companies, and within a few of the principal Railway Stations in England. Plans of the property for sale and plans may be had of Messrs. BRIGGS & FISHER & HODGES, Newport, Salop; HENRY HEANE, Esq. Newport, Salop, and 15, Regent street, London; Messrs. PINNOCK and WILKINSON, 23, John-street, Bedford row; Messrs. GREGORY & CO. Bedford row; CHRISTOPHER CUFF, Esq. St. Martin's-lane, London: Messrs. BROUGHTON & HENSLEY, RICHARD C ELLESTON, Esq. and J. BROCKBANK, Auctioneers, Manchester, and Messrs CHURTON, Auctioneers, Chester and Whitchurch, Salop; and at the Place of Sale ALFRED HALL, Ch.of Clerk

Dated this 17th day of April, 1863.

To Engineers, Bone Merchants, Artificial Manure Manufacturers, and others.—Important Sale of Mr. G. A. Hall yard, retiring.

MESSRS. LEREW & LEREW will SELL by AUCTION, at the Butchers' Arms Tavern, Castle Market, York-road, Kingsland, on MONDAY, MAY 25th, at ONE for TWO o'clock, in LOTS, the whole of the Large and desirable manufacturing premises, built at moderate rentals, situate in Pleasant Grove, Bells Isle, Maiden-lane, Pooper with the Plant, viz 12-horse power engine, 9 bellars, bone-crushing and grinding mills, new boiler, horse packet pan, vat, tank, bellows, &c. May be viewed three days prior to the Sale.—Auction Offices, Cardigan-street, Hungerford road, N.W.

EAST HAM, ESSEX. — VALUABLE FREEHOLD BUILDING LAND.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, on MONDAY, MAY 25th, at TWELVE for ONE o'clock, in Nineteen Lots, about 7 acres of MAY LET GARLAND, and LEDDINGTON'S FARM, LAND, situate on the Western side of Mr. Mills' Estate, and nearly between the Pavilion and East Ham Stations, in the London, Tilbury, and Southend Railway, with frontages on the Romford road, West Ham and Plaistow roads, Sandford Lane, and Barking, opposite Plashet Park, near the Green Man Tavern. The corner lot facing the road, in West Ham and Stratford is set apart for the erection of a Tavern. Nine-tenths of the purchase money may remain on mortgage or contract, at 5 per cent to be paid in nine years by half-yearly instalments; but the whole or any part of the loans may be paid off at any time with interest. Particulars, plans, and conditions of sale may be had of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

NEW BROMPTON, CHATHAM, Kent.—Freehold Building and Garden Lots.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MITRE HOTEL, Chatham, on WEDNESDAY, MAY 27th, at TWO precisely, in the Middle Row, Napier Arms, New Brompton: Mr. W. BARRETT, Cook's-place, New Brompton; R. PHILLIPS, Boot-street, Chatham; J. PHILLIPS, Boot-street, Chatham; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, E.C.; and at the Place of Sale,

POSTPONEMENT OF SALE.—WIMBLEDON, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM has to announce that the SALE of LAND, at the AUCTION MART, London, on MONDAY, May 18th, 1863, at TWELVE for ONE o'clock, is POSTPONED until further notice.

ADDISCOMBE COLLEGE, CROYDON, SURREY.—Mansion, House, and eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, Bartholomew lane City, on MONDAY, MAY 25, at TWELVE for One o'clock, a further PORTION of this eligible ESTATE, late the property of the Hon. East India Company: consisting of the noble mansion, built in the most substantial manner, and well adapted for a school or public institution; containing on the second floor eleven bed rooms, dressing-room, work room, store room, and water-closet; on the first floor, saloon, drawing-room, and study, four bed rooms, dressing room, and two other rooms; on the ground floor, a noble entrance hall, dining room, state-room, library, four sitting-rooms, two other rooms, wide oak staircase; on the basement, servants' hall, kitchen, scullery, larder, housekeeper's room, butler's pantry, cellars, &c. The stewards house contains, in the first floor, four bed-rooms; on the ground floor, two parlours and sitting-room; on the basement, kitchen, cellars, and offices, and garden. Also eligible Freehold Building Land, with frontages to the Upper Addiscombe-road The whole or any part of the land is suitable for a tavern, ten lots for business purposes, and the remaining lots are adapted for good Villa Residences The property is within ten minutes' walk of the New Roads for Croydon and Addiscombe, a mile of that at West Croydon, and when the Addiscombe Railway is completed the Station will be on the Estate; thus bringing the property in constant communication with the City and West End at all times of the day. Nine tenths of the purchase money may remain on mortgage or contract at 5 per cent to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time with interest. Particulars, plans, and conditions of sale may be had of Messrs. PULLEN, HORNE, & EVERSFIELD, 40, Parliament Street, S.W.; and 80, Fore Street, E.C.

REDHILL, SURREY.—Cottage Residence and Freehold Building Land

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on FRIDAY, MAY 29th, 1863, at TWELVE for ONE o'clock, a COTTAGE RESIDENCE, in Mill-street, and eligible Building Land, with frontages to Mill-street, Hight Row road called "Garland's Road," and to the Turnpike road from London to Brighton. The wade Freehold and Land-tax redeemed. Nine-tenths of the purchase money may remain on mortgage or contract, at 5 per cent, to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be had of the principal Inns in the neighbourhood; of Mr. THOMAS BUCKLAND, Church street, Reigate; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14 Moorgate street, London, E.C.; and at the Place of Sale

ENFIELD, MIDDLESEX.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the Mart, London, on FRIDAY, MAY 29th, 1863, at TWELVE for ONE o'clock, several LOTS of FREEHOLD BUILDING LAND adjoining the Town, and close to the Enfield Station on the Great Eastern Railway Nine tenths of the purchase money may remain on mortgage or contract at 5 per cent to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be had of the principal Inns in the neighbourhood, of Mr. CLOVER, Chase Side, Enfield; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, No. 14, Moorgate street, London, E.C.; and the Place of Sale.

REIGATE, SURREY.—Eligible Freehold Building Land

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on WEDNESDAY, JUNE 3, 1863, at TWO for THREE o'clock in the afternoon, in LOTS, a FREEHOLD BUILDING LAND, situate close to the town of the ancient Borough Town of Reigate, with frontages to the Lesbourne-road to the Station, and to the Turnpike road to London and Brighton. Nine tenths of the purchase money may remain on mortgage or contract at 5 per cent to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time with interest. Particulars, plans, and conditions of sale may be had of the principal Inns in the neighbourhood; of Mr. T. BUCKLAND, Church street, Reigate; at the principal Inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

NEW BARNET, HERTS.—A valuable Freehold Building Land

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on TUESDAY, JUNE 2, at TWELVE for ONE o'clock, in FORTY-EIGHT LOTS of eligible FREEHOLD BUILDING LAND, land-tax redeemed, situate within a few minutes' walk of the Barnet Station on the Great Northern Railway, and commanding extensive and magnificent views of the surrounding country The Metropolitan Railway, passing open, brings the property within half an hour's ride of the City, and the Railway Company intend to make a station in the immediate neighbourhood Nine tenths of the purchase money may remain on mortgage or contract at 5 per cent to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice Particulars, plans, and conditions of sale may be had of the principal Inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

ACTON, MIDDLESEX.—A well-stocked Orchard, and valuable Freehold Building Land, two miles from the City

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, JUNE 8, 1863, at TWELVE o'clock precisely, in LOTS, a very eligible FREEHOLD BUILDING LAND, with frontages to Bollo Bridge road, near to the village of Acton, Particulars of the terms on which nine tenths of the purchase money may remain on mortgage or contract at 5 per cent to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time with interest. Particulars, plans, and conditions of sale may be had of the principal Inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

MOULSEY.—Mirrose Villa, a substantially built and commodious family residence, with stabling, extensive pleasure grounds, flower, kitchen, and fruit gardens, and a valuable Freehold Building Land, with frontages to the River Thames, Hurst-road, and Bridge-road.

MESSRS. DANIEL SMITH, SON, and OAKLEY have been favoured with instructions from the Executors to offer for SALE by AUCTION, at the MART, London, on TUESDAY, JUNE 2, at TWELVE, one of the most valuable FREEHOLD PROPERTIES in the neighbourhood of Hampton Court Railway Station. It consists of a commodious and substantially built family residence, with stabling, coach-house, and other requisite offices, and is surrounded by pleasure grounds, tastefully laid out with choice flowering shrubs, and productive kitchen and fruit gardens, the whole containing about 3 acres, and is bounded on the north side by a good carriage road, and on the south side by the River Thames, and is approached from the road by a carriage drive, commanding a most delightful view of the river. The house contains entrance hall, dining room, drawing room, library, seven bed rooms, and dressing room, and is replete with every convenience. The property is admirably adapted for the residence of a gentleman, and is now in the occupation of a good yearly tenant. Particulars and conditions of sale may be had of the Auctioneers, 8, Leadenhall-street; of Messrs. DAVIS, SMITH, and OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall Mall, S.W.

[For remainder of Auctions see p. 359.

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The Builder.

Architect, Engineer, Operative & Artist.

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PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS, 9, Conduit-street, Regent-street, W.

A PUBLIC DINNER in aid of the Funds of the above Institution will take place at the London Tavern, on WEDNESDAY, JUNE 3rd, 1863; A. J. B. BERESFORD HOPE, Esq. F.G.S. in the chair.

STEWARDS.

Addis, W. esq.	Hill, Keddie, & Robinson.
Allen, W. esq.	Holland & Hannen.
Bacon, F. esq.	Hobbs, Astley, & Co.
Batterbury, R. esq.	Jackson, T. esq.
Bell, R. esq.	Jay, John, esq.
Bennett, E. H. esq.	Jennings, Geo. esq.
Bennett, J. esq.	Keeling, E. B. esq.
Bennett & Son.	Knowles, J. T. esq. A.S.A.
Bird, W. esq.	Lee, W. esq. M.P.
Bishop, J. G. esq.	Lee, H. esq.
Chubb, J. esq.	Lee, Son, & Smith, esqrs.
Cockerell, F. P. esq.	Lewen, T. esq.
Collins & Stanbury.	Lucas, Brothers, esqrs.
Comfort, E. esq.	Lusk, A. esq.
Cowper, The Right Hon. W. F. M.P.	Meakin, F. J. esq.
Creegen & Co.	Myers, Geo. & Son, esqrs.
Cubitt, H. esq.	Parkinson, F. C. J. esq.
Dent, W. esq.	Parkinson, R. esq.
Dodd, H. esq.	Parry & Jubson.
Donaldson, L. L. esq.	Pennethorn, Jas. esq.
Dowson & Co.	Puckmett, Geo. esq.
Dunnage, W. esq.	Reddie, E. esq.
Eastwood & Sons.	Richardson, Charles, esq.
Fielder, H. esq.	Robinson, Thos. esq.
Fraser, Brothers, & Pott.	Rogers, Wm. esq.
Fowler, Charles, esq.	Sharpington & Co.
Foster, C. N. esq.	Snook, W. esq.
Freeman, W. & J.	St. Aubyn, J. P. esq.
Gammon, E. B. esq.	Stirling, T. esq.
Graham, F. esq.	Tatham, L. H. esq.
Grissell, T. esq. F.S.A.	The Right Hon. the Lord Mayor, M.P.
Hall, G. H. esq.	Taylor, Josh. esq.
Hardwick, P. esq. R.A. F.R.S., F.S.A.	Thirst, E. esq.
Hardwick, P. C. esq. F.R.S.L.	Thomas, T. esq.
Haynes, W. esq.	Trickett, S. esq.
Hayward, J. esq.	Trollope, Geo. & Son, esqrs.
Higgs, W. esq.	White, J. B. esq.

Gentlemen desirous of promoting the interests of the Institution by becoming Stewards, and supporting the Chairman on the occasion, will oblige by forwarding their names to the Secretary, at the above address. JOSEPH KAY, Secretary.

BUILDERS' BENEVOLENT INSTITUTION.—THURSDAY NEXT.—An ELECTION of THREE PENSIONERS, Two Male and One Female, will take place on THURSDAY, the 28th instant, at the London Tavern. HENRY LEE Esq. President of the institution, in the chair. Polling commences at TWELVE, and closes at THREE o'clock precisely.

May 22nd, 1863. A. G. HARRIS, Sec.

ARCHITECTURAL PUBLICATION SOCIETY.—The ANNUAL GENERAL MEETING of the SUBSCRIBERS will be held at No. 9, CONDUIT STREET, Regent-street, on FRIDAY evening, the 29th instant.

JAMES FENNETHORNE, Esq.
will take the chair at EIGHT o'clock precisely.
May 20, 1863. ARTHUR CATES, Hon. Sec.

ROYAL HORTICULTURAL SOCIETY.
10TH JUNE, 1863.

CEREMONIAL TO BE OBSERVED AT UNCOVERING the MEMORIAL of the EXHIBITION of 1851, and STATUE of H.R.H. the PRINCE CONSORT, in the presence of their RR.HH. the PRINCE and PRINCESS OF WALES and other Members of the Royal Family.

The Guests invited to take part in the procession will assemble at the West Dome of the Exhibition Building.

While assembling Military Bands will play.

The Royal party will be received at the West Dome entrance by the Executive Committee of the Memorial Committee.

Their RR.HH. will proceed down the Nave to a Balcony over the Southern Entrance of the Horticultural Gardens, and their arrival will be announced by a flourish of trumpets. "God Save the Queen" will be played by the 3 Military Bands united in the Arts-Garden.

The Council of the Horticultural Society will present an Address.

Military Bands will again play.

After which the Memorial Committee will read an Address

H.R.H. the Prince of Wales will order the UNCOVERING OF THE MEMORIAL, which will be announced by a flourish of trumpets and a salute of Artillery, after which Military Music will be performed and the Fountains will play.

The Royal Party, headed by the Procession, will then walk round the Gardens, stopping at various points to see the Memorial and the Garden.

The route will be marked by barriers and banners; and it is requested that during the Procession the spectators will remain stationary.

In the event of rain, the line of Procession will keep under the cover of the Arcades.

The Exhibition Building will be thrown open to the Visitors.

GEORGE GODWIN, Hon. Sec. Memorial Committee.
W. W. SAUNDERS, Hon. Sec. of the Horticultural.

ROYAL HORTICULTURAL SOCIETY.
10TH JUNE, 1863.

UNCOVERING OF MEMORIAL OF EXHIBITION OF 1851

In the Presence of their RR. HH. THE PRINCE and PRINCESS OF WALES.

Cards of Adm sion, price 15s if obtained before the 27th of May; 20s. up to 9th of June; and 30s. on day.

A. MURRAY.

INSTITUTE of PAINTERS in WATER COLOURS, founded 1831, as the NEW SOCIETY of PAINTERS in WATER COLOURS.—The ANNUAL EXHIBITION is NOW OPEN. Admission, 1s.—Gallery, 53, Pall Mall, opposite Marlborough House.

JAMES FAHEY, Secretary.

THE EXHIBITION of ALUMINIUM and ALUMINIUM BRONZE, 2,000 SPECIMENS illustrating the application (invented as I believe) of these interesting Metals are NOW ON VIEW at MAPPIN BROTHERS' New Rooms, 222, Regent-street. Admission by Card.

ARCHITECTURAL ASSOCIATION.—Members of the Association are invited to meet in the NORTH AISLE of ST. PAUL'S CATHEDRAL, on this SATURDAY, the 23rd instant, at HALF-PAST TWO o'clock. This being the first sketching visit of the Voluntary Architectural Examination Class in connection with the Association.

CHARLES J. ADAMS, Hon. Secretary.

ARCHITECTURAL EXHIBITION, 9, Conduit street, Regent street, W. NOW OPEN, from 10 till 8 daily. Admission, One Shilling. Season Ticket's, Half-a-crown, admit at all times, and to all the Lectures. Fourth Lecture, by T. HAYTER LEWIS, Esq. on TUESDAY Evening, MAY 26th.

JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, F.R.I.B.A. }

Also, in conjunction with the above, the Exhibition of the Society of Sculptors of England.

MORTON EDWARDS, Hon. Sec.

BILLING'S PATENTS.—CHIMNEY TERMINALS, THROAT VALVES.

NOTICE to ARCHITECTS.—The Proprietors of the late Mr. Billing's Patents have secured the services of Mr H H COLLINS, M.I.B.A. of No 19, Portsdown-road, as Consulting Architect, from whom full particulars and the reduced prices may be obtained; or from the Manager, Mr TYLER, 12, Abingdon street, Westminster, S.W.

COMPETITIONS.

WEDGWOOD MEMORIAL INSTITUTE, Burslem. The Committee for Erecting the above have received donations of £21 15s 10d. and 5l. from Mr. Beresford Hope, Mr. J. E. Heathcote, Mr. J. Edge, and the Rev. Dr. Armstrong, as PRIZES for the best DESIGNS, by any Architect or other Artist, for the Treatment in Decoration of the FAÇADE of the INSTITUTE, in all or any kind of ceramic ware, coloured bricks, mosaics, and terra cottas, as structural features of an architectural composition, with the view of creating a systematic interest in ceramic architecture, both among artists and manufacturers. The Committee have appointed Mr. Beresford Hope, Mr. Digby Wyatt, and Mr. J. C. Robinson, Judges. The Designs must be sent in on or before NOVEMBER 1, 1863, and will, after adjudication, be all exhibited, both at Burslem and in the Architectural Exhibition (London), 1864.—Particulars, with block elevation, may be obtained by letter (enclosing a postage stamp) from the SECRETARY of the Architectural Union Company, 9, Conduit-street, W.; and from W. WOODALL, Esq. Longport, Burslem, Staffordshire.

MACCLESFIELD CEMETERY.—The Burial Board are desirous of receiving PLANS, ELEVATIONS, and SECTIONS, with estimates of the cost, of THREE DETACHED CHAPELS, for the Church of England, the Dissenters, and the Roman Catholics. They are to be constructed of stone, and not in an unnecessarily expensive style. Premiums of 15l. 10l. and 5l. will be awarded for the first, second, and third best sets of designs.—The Board to have the right, if required, of retaining any of the designs for which a premium is paid. They must be sent to the Burial Board, Townhall, Macclesfield, on or before the 3rd of JUNE next, and any information may in the meantime be obtained at my Office.

Macclesfield, May 6, 1863. JOHN MAY, Clerk to the Board.

TO ENGINEERS, &c.—WATERWORKS for the BOROUGH of WATERFORD.—The Town Council of Waterford is prepared to receive plans and estimates for the SUPPLY of WATER to the CITY.—Printed specification of the general conditions may be had on application, through the post or otherwise, to JOHN O'BRIEN, Esq. Town Clerk. A premium of 50l. will be paid for the plan approved of.

Town Hall, Waterford, May 5, 1863.

TO ARCHITECTS and OTHERS.—The Committee appointed for BUILDING a NEW BAPTIST CHAPEL on Lake road, Landport, Portsmouth, are desirous of receiving PLANS, ELEVATIONS, SECTIONS, SPECIFICATIONS, and ESTIMATES for the same. The Chapel to contain 1,500 sittings, and the cost not to exceed 2,000l. A Premium of 25l. will be given for the approved Plans, &c. which Plans, &c. are to become the absolute property of the Committee; but the Committee reserve to themselves the right of rejecting the whole of the Plans, &c. if in their judgment there should not be any one suitable for the purpose intended. The Plans, &c to be sent (free of expense) to Mr. CROWTER, 140, Lake-road, Landport, on or before the 24th day of JUNE, 1863, without the author's name, but with a motto. A sealed letter, bearing the motto, and containing the author's name and address, must accompany each Plan or design.—Further particulars may be known on application to Mr. CROWTER, as above.

Portsmouth, May 15th, 1863.

TO GAS ENGINEERS, &c.—The Town-council of Waterford is willing to receive PLANS and ESTIMATES of GASWORKS for the Public Lighting of the Borough.—Particulars can be had from the Town-clerk, JOHN O'BRIEN, Esq. on application through the post or otherwise

CHURCH SEATS.—The Churchwardens of High Wycombe invite Builders to send in to them DRAWINGS of the most approved SEATS of BENCH ENDS for Parish Churches. The Church of High Wycombe, for which such Benches are required, is a very ancient, spacious, and beautiful building, of Gothic architecture. The seats should, of course, be in character with such a church. Durability, comfort, and economy should be considered, and the estimate should accompany the drawings. If will be paid for the drawing most approved to the builder who sends it.—Address, as soon as may be, to the Churchwardens of High Wycombe

FREEMASONS' HALL. The DESIGNS which have been sent in for the proposed New Buildings will be EXHIBITED at St. MARTIN'S HALL, Long acre, on and after MONDAY, the 25th instant from NINE a.m till Sunset. The Exhibition will remain open till the evening of WEDNESDAY, JUNE 3, Architects, members of the Craft, and their friends, will have free admission upon entering their names and residences at the door of their Lodge in the book provided for that purpose.—By order of the Committee,

WILLIAM GRAY CLARKE, G. Secretary.

21st May, 1863.

CONTRACTS.

WAR DEPARTMENT CONTRACTS.—NOTICE TO BUILDERS

TENDERS are required for RENEWING LEAD WORK on ROOFS of certain BUILDINGS at the Royal Military College, Sandhurst, Berks

Parties desiring to Tender for the execution of these works must leave their names at this office on or before the 26th day of MAY, 1863. Candidates will be required to take out their own quantities on the spot.

The Secretary of State does not bind himself to accept the lowest or any Tender

Royal Engineer Office, Sandhurst, 19th May, 1863.

COAST GUARD CONTRACT.—Notice to Builders and Contractors.—Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Galloways, near Lydd, in the county of Kent, may inspect the drawings and specification at the Coast Guard Watch House at Rye, on Office hours, between the hours of TEN and FOUR, from THURSDAY, the 21st inst. to SATURDAY, the 6th of JUNE, now next ensuing and both inclusive (Sundays excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at noon of the 9th of JUNE, under seal, and directed to the Commodore Controller-General of Coast Guard, and endorsed "Tender for Gallowaye."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or any offer of the Tenders.

Dated this 13th day of May, 1863 at the Admiralty Coast Guard Office 12, Spring Gardens, London, S.W

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of NEW FARM BUILDINGS at Nabbott's Farm, Springfield, near Chelmsford, can inspect the Plans and Specifications at my Office at Chelmsford after the 22nd MAY. Tenders to be delivered to me, at Chelmsford, on or before the 1st day of JUNE The Proprietor does not pledge himself to accept the lowest or any Tender.

FRED CHANCELLOR, Architect.

Pinners' Hall, Old Broad-street, London; and Chelmsford, May 14, 1863.

THE CRAYS GAS LIGHT and COKE COMPANY (Limited).—Contractors are invited to TENDER for the ERECTION of NEW GAS WORKS and MAINS for the Company. The plans and specifications may be seen on and after THURSDAY, the 21st MAY, 1863, at the Office of WILLIAM MAY, Esq. St. Mary Cray, Kent and 2 Adelaide Place, London-bridge, or at the Office of the Company's Engineer, Mr. ALFRED PENNY, Wenlock Iron Works, Wharf Road, City Road. The work is divided into three contracts—Builders' Work, Engineers' Work, and the Laying of the Mains; but may be tendered for in one contract or separately. Tenders to be endorsed "Tender for Gas Works," and sent to the Secretary, WILLIAM MAY, Esq. 2, Adelaide Place, London Bridge, on or before TUESDAY, the 2nd day of JUNE, 1863.

[For remainder of Contracts see next Penny.

CONTRACTS.

TO BUILDERS.—TENDERS are required for the ERECTION of TWO SEMI-DETACHED VILLA RESIDENCES, at Anerley. The Drawings and Specification may be seen on and after MONDAY, the 25th inst., at the Office of Mr. H. CLARK, North-street, Lewes. Sealed Tenders to be delivered at "Tender for Villas at Anerley," and addressed to GRANTHAM, Esq., Ship-street Chambers, Brighton, on or before MONDAY, the 8th day of JUNE next. The proprietor does not bind himself to accept the lowest or any Tender.

TO STONE MASONS, MERCHANTS, and QUARRYMEN.—The Local Board of Health for the District of West Ham, in the County of Essex, require several MILES of GRANITE CURB and they hereby invite TENDERS to be sent to them who may be willing to Contract with them for supplies from time to time. Specifications and conditions may be seen, and Lists of Tenders sent in, by applying to Mr. MARSHALL, C.E., the Surveyor to the Board, at his Office, at Rokeby House, Stratford, E., and Tenders are to be sent to me on or before MONDAY, JUNE 8th. By order of the Board,
CHARLES WILSON, Clerk.
Rokeby House, Stratford.

WEST HAM LOCAL BOARD of HEALTH.—The Local Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS for LAYING GRANITE CURB, and also for supplying Road metal and labour as may be required in making and repairing the streets called Stratford-street, Newton-street, Crawford-street, Sebastian-street, Arkwright-street, Prince-street, Bridge-street, Upper, Middle, and Lower Fox Streets, Montes-mews-street, Rathbone-street, Pitt-street, Burke-street, and Clarkson-street all in Hallsville, within the district, according to such sections, levels, and conditions as are prepared by Mr. MARSHALL, the Surveyor of the Board, and which may be seen at the Office, at Rokeby House, in Stratford, where also forms of Tender may be obtained, together with any further information required. Tenders, endorsed "Tender for Kerbs," to be sent to me, on or before MONDAY, the 8th of JUNE next. By order of the Board.
CHARLES WILSON, Clerk.
Rokeby House, Stratford.

TO BUILDERS.—TENDERS are required for BUILDING a SCHOOL CHAPEL, with VESTRIES, &c. at Grove road, Mile-end. The drawings and specification may be seen on application to Mr. W. HUME, 5, Auckland road, Edmund-road, Old Ford, E. between the hours of TWO and EIGHT p.m. daily. Tenders to be sealed and delivered to Mr. H. C. WARD, 44, Normanroad, N. till Box at Office is Six o'clock p.m. on SATURDAY, MAY 30th. The Committee do not bind themselves to accept the lowest or any Tender.

TO BUILDERS.—Parties willing to TENDER for the ERECTION of a PUBLIC HALL, at TUNBRIDGE WELLS, in the county of Kent, may inspect the drawings and specification, at J. COLBRAN'S, Esq. Tunbridge-Wells, on the 27th inst. Copies of the quantities may be obtained at the Office, on application (including the Carriage) to be sent to J. COLBRAN, Esq. on JUNE 1st endorsed "Tender for Public Hall." Neither the lowest nor any Tender will necessarily be accepted. Quantities by Mr JOSEPH SIMMONS.
JAMES WILSON, F.S.A. Architect, 1, Belmont, Bath

TO BUILDERS. — Holdgate, near Much Wenlock, Salop.—Plans, Specification, Conditions of Contract, and Quantities for the CARCASE of a NEW PARSONAGE HOUSE for this parish may be seen at Mr. ESPS Farmer, Station to Lord Mary Wellesley, and TENDERS to be sent on or before the 1st day of MAY, to my Office, as below. The lowest or any Tender not necessarily accepted.
JOHN P. SEDDON, 7, Whitehall, London

SCAFFOLDING for a CHIMNEY-SHAFT. WANTED, a CONTRACT for.—Address, LLOYD'S Paper-mills, Bow Bridge, near London

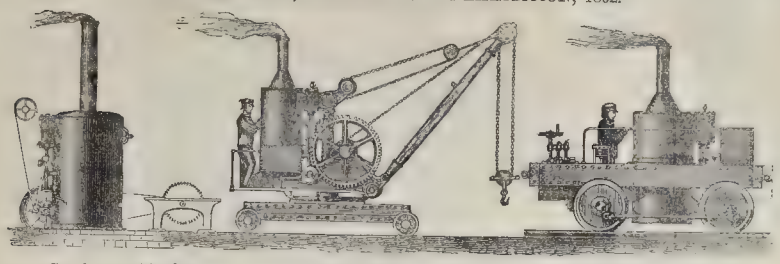
THE CAMBRIDGE MUSIC HALL.—Builders willing to TENDER for BUILDING the above HALL will COMMUNICATE, by letter, post-paid, to the Architect, who reserves the right of selection to whom bills of quantities will be forwarded.
HENRY McCALLA, C.E. Architect.
Office, 25, Westbourne-place, Eaton-square, S.W.

NORTH-EASTERN RAILWAY.—To CONTRACTORS, BUILDERS, and IRONFOUNDERS.—The Directors are prepared to receive TENDERS for the ERECTION of an ENGINE-STABLE at Stanley, and CHIMNEY-SHAFT at Shaw's Quarry, and such information obtained, on application to Mr PROSSER, the Company's Architect, York, on and after the 22nd instant. Sealed Tenders, inscribed "Tender for Engine Stable," to be delivered to the Secretary, at York, not later than WEDNESDAY the 3rd JUNE. The Directors do not pledge themselves to accept the lowest or any Tender.
J. CLEGHORN, Secretary.
York, 14th May, 1863.

WAKEFIELD WATERWORKS COMPANY.—To CONTRACTORS. The Directors of the Wakefield Waterworks Company are prepared to receive TENDERS for the CONSTRUCTION of FILTER TANKS, GATE-KEEPER'S COTTAGE, SAND and TOOL SHED, and other Works, at the Upper or service Reservoirs, situate at Field Head, in the Township of Stanley; and also for New Mains and Alterations required in the ERECTION of a CHIMNEY, with the necessary Brick and Culvert Drains to Boilers, the Removal of Earth to depth and Board, and the Laying of and additional Boiler, and the Alterations required in the Steam Pumping Boiler House, all of and near Wakefield, and their Works at the Stanley Pumping Station, situate at Stanley Ferry, in the township of Stanley aforesaid. Drawings and specifications may be seen at Isaac Lister's Office, Bank Top, Wakefield, and their Works at the Stanley Pumping Station, Stanley Ferry, in the township of Stanley aforesaid. Drawings and specifications may be seen at Isaac Lister's Office, Bank Top, Wakefield, and their Works at the Stanley Pumping Station, situate at

CHAPLIN'S PATENT PORTABLE STEAM ENGINES AND BOILERS.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.



Stationary Engine. From 1 to 30 Horse Power. **Portable Steam Crane.** 1 to 30 Tons. **Contractors' Locomotive.** 6 to 27 Horse Power.

From the strength, simplicity, and compactness of these Engines, they are now extensively used for general purposes; also in situations where Steam Engines of the ordinary construction cannot be applied.

Stationary Engines,—require no building in, nor chimney stalk, and with our Patent forced combustion apparatus, will burn inferior qualities of coal, wood, or peats. These Engines are specially suited for shipment, and may be packed inside the Boiler to economise freight.

Portable Steam Cranes,—for wharf or railway, with wrought-iron carriages on wheels, link motion, foot brake, &c., all under the easy control of one man; the larger sizes hoist, lower, and turn round in either direction by steam.—*These Cranes were selected by H.M. Commissioners for receiving and sending away the heavy machinery at the International Exhibition of* 1862.

Contractors' Locomotives,—are adapted to work on rails or tramways of a gauge from two feet upwards; they are complete and efficient Locomotives, simple in construction, and the working parts easily got at for repair; they draw heavy loads at reduced speeds. These Engines are usually sent in one package, ready for work on arrival.

LIGHT PORTABLE, HOISTING, WINDING, AND PUMPING ENGINES, &c.

ALEXANDER CHAPLIN & CO. CRANSTONHILL ENGINE WORKS, GLASGOW.

OFFICE, 9, Adam Street, Adelphi, W.C.; LONDON DEPOT and WHARF, Lower Fore Street, Lambeth, S.

Engines of each class KEPT IN STOCK for SALE or HIRE, and all our Manufactures GUARANTEED as to EFFICIENCY, MATERIAL, and WORKMANSHIP.

Parties are cautioned against using or purchasing Imitations or Infringements of these Patent Manufactures.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
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Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.

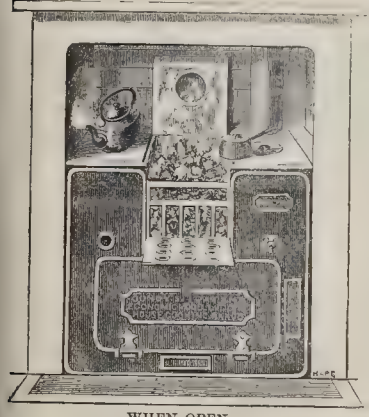


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MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

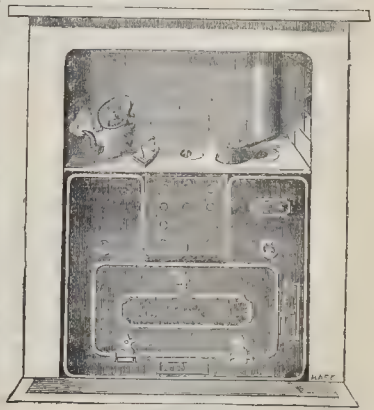
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CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of THE MANUFACTURER,



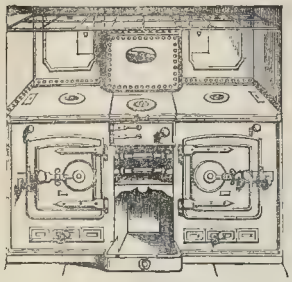
WHEN CLOSED.

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WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates.

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May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gasoliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

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So universally known as to need no description; but to prevent the substitution of spurious imitations, it is necessary to see that the

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is STAMPED THEREON, such only being genuine and warranted by the Maker.

SMITH'S PATENT WEATHERTIGHT CASEMENT FASTENING

Immeasurably superior to the Espagnolette Bolt, and

SMITH'S PATENT WATER BAR,

Are the only effective means of excluding the weather from French Casements. Approved by all the leading Architects, and applied to all the principal buildings in this country, and on the Continent Models and Lists of Prices forwarded free on application. Every description of Engine, Machine, Ironwork, Repairs, &c for Builders and Ironmongers

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FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

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The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

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Bell-hanging Railings, and Balconies.

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PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

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PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.

THE NEW CRYSTAL STAR AND SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.

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Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

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SERVICE PIPE, BRASS BALL VALVES, &c.

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Three-eighths-inch diameter	1*s.* 0*d.* per foot.
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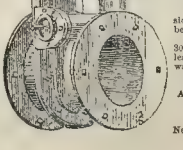
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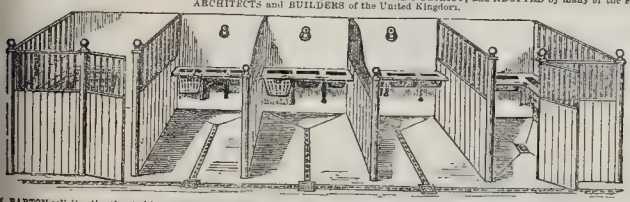
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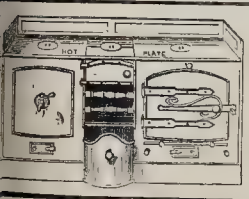
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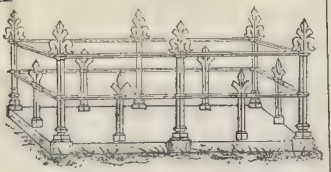
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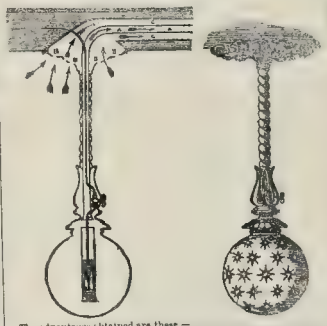
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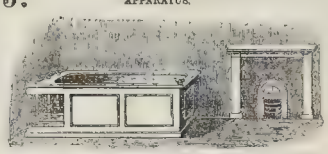
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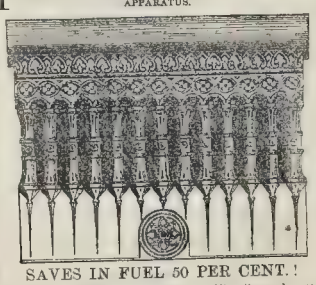
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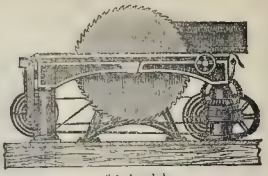
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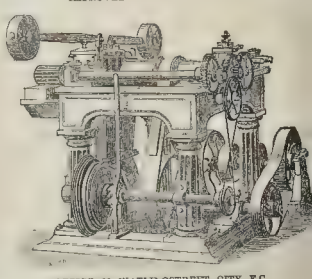
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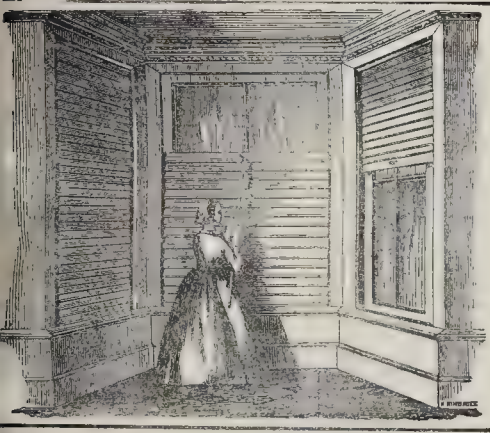
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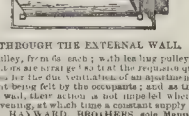
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VOL. XXI.—No. 1059.

The Proposed National Albert Memorial.



IN our present Number we give a view and plan of the design, by Mr. G. G. Scott, which has been selected for the National Memorial of His Royal Highness, the late Prince Consort.* The architect was unjust to himself when, by an expression in his written explanation (given in our Number of April 18th), he led those who had not seen the design to suppose it to be an "Eleanor Cross." It is true Mr. Scott, in this explanation, disclaims the idea of taking any ancient type as his guide. He says, "I have not followed any existing type, but have struck out one suited, to the best of my judgment, especially to this individual object;" but the impression was given. The term "Eleanor Cross" may be considered as used only in the same conventional sense as that in which the word "Mausoleum" is applied to sepulchral edifices bearing no analogy at all to that of King Mausolus.

The leading idea of the design is founded on what is of necessity its most important and central object—the Statue of the Prince himself; and the great aim has been to add dignity to this statue, and to render the design expressive of the sentiment with which it is regarded.

The statue,—which is in a sitting posture, representing the Prince as clothed in the robes of the Order of the Garter, and is placed in an elevated position on a raised platform,—is overshadowed by a vast and gorgeous canopy, not so much for physical protection as for the enhancement of its dignity. To carry out this view, the canopy is treated almost with the richness of a shrine, or (one may say) of those imaginary structures of which ancient shrines took the form of the models. It is about 30 feet square, and is supported at the angles by groups of columns of polished granite. The material for the mass of the structure is not yet determined, but the aim is that it shall unite brilliancy with durability. Whatever the material may be, it will form but a groundwork for richer inlayings. The gables and spandrils will be filled in with mosaic pictures, relating, probably, to scenes in the life of the Prince Consort; and other parts will be enriched by decorations in gilt and enamelled bronze, polished stones (such as crystals and cornelians), and other objects calculated to add to its brilliancy and beauty. The pinnacle-work, or *flèche*, rising from the roof of the canopy, as well as the covering of the roof itself, and the cresting of the gables, will be wholly of gilt and enamelled metalwork, which, in the hands of Mr. Skidmore, may be expected worthily to exemplify this special branch of the art-progress of our day.

The canopy rises from a lofty and solid basement or *podium*, which is surrounded with sculpture in high relief, representing, in figures of life-size, the history of the arts of painting, sculpture, architecture, and music; something after the manner of Delaroche's *hemicycle des beaux arts*. On pedestals projecting from the angles of this *podium* are groups illustrative of others of the arts and occupations of Peace; as commerce, agriculture, manufactures, and engineering; and on larger pedestals, at the extreme angles of the flights of steps which surround the platform, are groups having reference to the contributions of the four quarters of the globe to the International Exhibitions. The detached figures which decorate the canopy itself, represent the principal sciences and the Christian virtues; while the whole design is terminated by a richly gemmed cross, supported by angels. The square of the base of the platform will be between 130 and 140 feet, and the entire height of the monument about 150 feet.

One leading object in the design was the union in one great work of the various arts which the Prince so anxiously fostered; and we need hardly say that one pre-eminently necessary condition to the success of such a work is the earnest and hearty co-operation of the different artists who will be engaged on its realization. Architects, sculptors, designers, and workers of mosaics, workers in metal, architectural carvers, and those who carry out the structural portions of the work ought to labour together *as one man* in their endeavours to make this monument at once the most perfect work of art which our age and country can produce, and at the same time perfectly *at unity with itself*, so that every work of art which contributes towards its magnificence should be in perfect harmony with every other work of art and with the entire conception of the design. Especially is it important that the architect and the sculptors should heartily and in all confidence and goodwill work hand-in-hand together. There is now one of the noblest opportunities which can possibly offer for uniting the three sister arts, and bringing these wanderers back into one family after their long severance. Let us hope it may properly be made use of. We may gather Mr. Scott's own views on this point from a passage which we subjoin from a paper recently read by him before the Philosophical Society at Leeds:—

"There is a marvellous consanguinity between the best Mediæval sculpture of the thirteenth century and that of the Greek period, just when it had thrown off archaicism, but not begun to lose its pristine purity. In bringing these two in contact lies the hope of future art. *Neither* should be copied; *neither* style should be, strictly speaking, revived. The *sentiment* of the two must be united, and the perfect art of Greece *warmed* with the deep feeling of the Gothic period, and that by men not only capable of appreciating each, but capable of uniting them in art; nor copied or even imitated from either, but the emanation of their *own souls*. This is, after all, *the* great development which we need. We want the master-mind which is capable of distinguishing the *essentials* from the *accidents* of art; which can sever its beauties from its defects; which can distinguish noble elements when nearly hidden under conventional overlays, and can retain the one while rejecting the other; which, after buying the field for the jewel it contains, can *find* and *retain* the jewel while rejecting the earth from which it is dug; but which will not use even this jewel just as he finds it, but will transfer it to a *setting* of its own. To drop metaphor,—we want artistic accompaniments to our revived architecture, which shall be no pedantic reproduction of an old style, but which shall cull from it all that is real and noble in its sentiment, and render them anew in art of the highest possible grade."

Much of this is so precisely what we have ourselves often written that we have only to say, we hope it may be carried into practice. Everything will depend on the sculpture. This will be the life or the death of the monument. We must have no working *down* to Mediæval quaintness, but a working up to the highest style of art superfused with sentiment. We must have no wilful distortion or studied incompleteness, but the best possible art that the century is capable of. Means should be taken at once to determine as to the men who are to be employed, so that their thoughts may be led into right channels.

These considerations of course involve the subject of outlay. Though the subscribed fund has been liberally supplemented by Parliament, it must be clear to any one who considers the great amount of sculpture and decoration which the design contains, that there is ample room for the expenditure of any additional subscriptions which may be received. The subscription fund should by no means be considered as closed. Many important questions which may arise as to the materials (whether of architecture, of sculpture, of mosaic work, or inlaying), and as to the artists to be employed;—questions involving, in a greater or less degree, the beauty and the durability of the work and the art expended upon it;—must of necessity depend upon the funds at command: and it is almost needless to say that such a work as a Memorial of our Blameless Prince ought in no degree to be hampered by little questions of cost. We trust, therefore, that the public will take care that no such shackles be imposed upon the work, and will by no means view the subscription voted by Parliament in the name of the nation as closing the list, or as shutting out the future contributions of individuals who, knowing now what the Memorial is to be, may be led to take increased interest in its success. Help may also be afforded in the way of gifts more in *kind*. This, however, involves very delicate questions. No one but the architect can judge how far such gifts are suitable, or even admissible. Everything must be of the *very best*, and nothing admitted which is not the very best, merely because it is a gift. Again, everything must be in harmony; and when one scale of materials or work is determined on, no gift, however valuable, should be allowed to disturb its harmony, nor should questions claiming the most grave consideration be influenced by the mere accident of the offer of a contribution in kind. The artists engaged on the architectural decorations must be selected by and must work under the direction of the architect, so that no offers of this kind must be allowed to disturb his arrangements; much less must any merely advertising offers be entertained, or the work may be irreparably damaged. One class of object, however, is especially open to offerings of this kind, viz., the stones for inlaying, and (if it may be so described) for *gemming* the canopy. What is wanted for this purpose is not *marbles*, as their polish would not last, but actual *pietra dura*, crystals, agates, cornelians, malachite, amethysts, porphyry of brilliant colours, and other objects of a similar kind; and it must be remembered that these must be of large size, or they will not tell in a work of such dimensions. Persons, however, offering such contributions, should not feel annoyed if they are not found suitable, as it is only those engaged on the designing and directing the execution of the work who can be expected to form an ultimate opinion on such questions.

One word as to the direction of the works. The Memorial originated with the popular voice, and we would retain for it the popular character. The small committee named by Her Majesty, when called upon to say what shape the Memorial should take, has fulfilled its mission. Let it die: and let the responsibility of completing the work return to the committee appointed for that purpose by the public meeting held at the Mansion House under the presidency of Mr. Cubitt. This committee includes men of ability of all kinds, and could appoint from its ranks an executive body eminently capable of insuring a satisfactory result. The English people began the good work: let the English people finish it.

* See p. 371. The drawing was made for us by Mr. Drayton Wyatt, under Mr. Scott's own direction, so that its correctness may be depended on.

THE ROYAL ACADEMY.*

We are glad to see that Mr. David Roberts is continuing his illustrations of Modern London. (114) "St. Paul's from the River Thames, looking West," and from an east view, as might be expected, is admirably adapted for picturesque treatment. Mr. Horsley's silvery clear colour and knowledge of daylight effects, invest very trivial uses of them with their own value. "The Morning of St. Valentine" (157), in which a very pretty coquette finds enough in her looking-glass to account for the importunities of letter-writing lovers, is charming, slight as it is. Mr. J. F. Lewis's reproduction in oil of his well-known water-colour drawing, "a Frank Encampment in the Desert of Mount Sinai" (158), has increased solidity, but in most respects is inferior to the original. Of Mr. W. C. T. Dobson's three works, all imbued with that sentiment for simplicity peculiar to him, "Frühling" (181) and "At the Well" (308) are preferable to, because more natural than, his Scriptural subject, "The Holy Family returned from Egypt" (340). The pure and exalted character of this and similar performances, nevertheless, entitles Mr. Dobson to great and respectful admiration. Mr. H. O'Neil cannot be congratulated upon "The Power of Music" (398), which is by no means calculated to support his reputation. "Roman Beggars at a Church Entrance" (454), by M. R. Lehmann, is deserving attention for its essentially French academic qualities; and so is Mr. J. Gilbert's reminiscence of Velasquez, "An Army on the March — The Rearguard with Baggage-waggons" (480), for qualities just as great, but idiosyncratic. Mr. Rankley has never painted anything to beat his present picture, "A Sower went forth to sow," though his name be appended to much he may be proud of. The young dark-visaged vagabond in the foreground is a most annunciative study of gipsy character, such as we see it in our days. The performance throughout is marked by a matured skill. There are great refinement and intense pathos in Mr. G. F. Watt's "Ariadne" (523), hopelessly watching for the return of her lover, Theseus. All Mr. Watts does is expressive of an exquisite feeling for poetry, and this work may be particularized. With less delicacy of expression, Mr. E. Armitage belongs also to the eclectic class of painters. His "Burial of a Christian Martyr in the Time of Nero" (622) tells of his foreign education, and proves his possession of extraordinary knowledge and masterly acquirements. Mr. R. Ansdell exhibits his best characteristics in his well-studied representation of "A Wrecker" (468),—one of those Cornish notabilities, half pirate half cadger, associative with stormy weather, sea-beaten coast, and the drifting spoils that make up the picture. His carefully precise execution has realized the utmost worth of his materials.

Amongst the concessions and extension of benefits that seem to be anticipated from an expected modification of Royal Academy laws, it would certainly be reasonable to include some mode of distinguishing lady members of the profession, by identifying their relative claim to such honours as are awarded to their brother artists. This, however, is a matter requiring grave consideration; and such an equalization might be objected to by those to whom at the first thought it would appear most welcome: for example, if Mrs. E. M. Ward were as disputations in her nature as she is in her art, the determined manner in which she insists upon a full moiety of eminence with her husband would be as unseemly as it is now graceful—reflecting, as it does, much of what she has learnt from him. Her picture of "Queen Mary taking leave of her Child" (386), is admirably painted—with a vigour which leaves the womanly instinct that selected so charmingly sympathetic a subject, the only clue to its being the work of a lady, and while provoking comparison with masculine emanation places Mrs. Ward at the head of her sister contributors.

To casual observer it would be somewhat difficult to account for the many complaints of injustice or want of judgment that are heard on the present occasion against those always well-abused and never-to-be-envied plenipotentiaries the hangers. With so poor a representation of the members themselves, an unusual opportunity has occurred to other painters not immediately connected with them: and from as much as is to be seen within the walls, one can hardly reconcile on the present occasion the special call for a more than ordinary amount of stricture, with the extra advantages of favourable position so extensively shared by younger members of the profession. It seems certain, however, that some excellent pictures were rejected.

Much more blame attaches itself to the advisers of some of the members contributing; who, however well they may have assisted formerly in upholding the prestige of a Royal Academy exhibition, would be wise now to rest content with their old reputation and not strive so industriously as they do to make a new one. With very few exceptions beyond those in which this selfishly persistent enjoyment of prescriptive right renders them very flagrant indeed, there are not many pictures on the line unworthy of such distinction, however numerous the cases may be of equal though unrecognized claim to it, and to the very general acknowledgment so deservedly awarded to such works as collectively sustain it. The fact of its being pronounced to be above an average exhibition, whilst conveying a compliment to those who have made its character, must reflect credit upon its arrangement in proportion to the opportunity afforded for arriving at such a conclusion.

Mr. P. H. Calderon has taken a long step this year in advance of the last of his works: it is gratifying to find such instances of ripening promise as his earlier pictures were, succeeded by such an improvement upon them as this. "The British Embassy in Paris, on the Day of the Massacre of St. Bartholomew, August 24, 1572" (378), as described in Aikin's "Memoirs of Sir Dudley Digge's Complete Ambassador," furnishes him with a rare opportunity for diversified expression, and he has taken the fullest advantage of this, and has been able to realize a very probable representation of such a shelter as Sir Francis Walsingham's house became to those of the English residents in Paris who had sufficient presence of mind to resort to it in their emergency. Of Walsingham's personal safety the perfidious young king and his detestable mother (Catherine de Medicis) were, for their own sakes, careful, and all who took shelter in his house found it an inviolable sanctuary. Men and women are gathered together, some round the window looking into the street below, watching for relatives or friends, and the proceedings of the butchery; others wounded in their hurried flight from their beds, with no other apparel than their night gear, and such articles as their good friend, the ambassador, could lend them at the moment, are variously influenced by terror, rage, or grief, unnoticed by him who, taken by surprise, paces up and down the room, with head bowed down in thought, and hands folded behind, crushing a letter that has not assisted him to penetrate the mystery of the horrible business which so perplexes him. This picture is worthy of great praise for its admirable technical qualities, its only drawback being the necessity of a description to elucidate the story. Mr. M. Stone's "On the Road from Waterloo to Paris" (315), betokens improvement, but he will have to guard against affectation and prettiness; the stagy gloss of a theatrical wardrobe belies and ruins such a composition as this, which must depend entirely upon verisimilitude for success. Mr. Marks is always original, either in narrative or as narrator, and his feasible supposition of "How Shakespeare studied" (261), will at once be accepted, although his Bill at sight may not be. It was a capital notion to bring together types of such characters as the great dramatist modified to his purposes, and these, so accurately suggestive of Dogberry, Shallow, Slender, Pistol, and Bardolph comprehensiveness, very strikingly contrast the unlikely Shakespeare.

Mr. A. H. Barr is to be congratulated for having adopted a more independent method of asserting his rapidly acquired position; few painters have so suddenly made themselves known, and Tennyson has evoked from him qualities that induce great expectations for him. His "Scene from Dora" (250) not only evinces admirable executive skill, but a rare apprehension of expression with power to match in dealing with it. Substituting humour for pathos, Mr. J. Barr, in (425) "A Travelling Tinker," appears to be similarly gifted. Mr. V. C. Prinsep also promises to become distinguished, although at present he depends more upon exciting astonishment at his extravagant disregard of any taste but the conventional one coherently his own than by appealing to the sense of what may be more generally accepted as pleasant or agreeable. His predilection for ugliness utterly destroys all the interest for such a phase in the course of true love as an estrangement would enlist for tolerably good looking victims of "Whispering Tongues," and forcibly suggests that truth might have been poisoner rather than poisoned, if these participators in plainness only ignored their particular share of it. In this picture (423), and in "Il Barbagianni" (391), there is so much conscientious study manifested, with many other merits peculiar to them claiming great consideration, that whatever may become subversive cannot be too strongly warned against.

Mr. E. Crowe will add to his reputation by his clever illustration of how the death of Goldsmith was mourned by those outcasts of the great city to whom he had never forgotten to be kind and charitable,—"Brick-court, Middle Temple, April, 1774" (359). Mr. J. B. Burgess has an aptitude for depicting the variety of emotions supposed to be incidental to a postal delivery of letters. "A Spanish Post-office" (351) depends chiefly for its national ascription upon the costume adorning cosmopolitan actors; the scene is a lively one, and if the *dramatis personæ* are a little too demonstrative, they secure the success of the little drama, and greatly to the credit of the author. This, again, is an earnest of increasing promise and power. Mr. W. F. Yeames makes a new dress from the most threadbare of materials, and creates a fresh interest for the "Meeting of Sir Thomas More with his Daughter after his Sentence to Death" (522), by succinctly telling his version of the story, with some good drawing and solid painting to help him. "True to Death" (565), by Mr. C. Goldie, and "The First Sight of the Armada—Lighting the Beacon" (569), by Mr. J. E. Hodgson, will repay inspection. "A Sick Call" (586), by Mr. M. J. Lawless, is entitled to be placed amongst the most strikingly original conceptions here, and exhibits qualification for greater achievement still. "The Death of Jean Goujon" (611), by Mr. E. H. Wehnert; "The Token of Flight to Robert the Bruce" (621), by W. J. Grant; and "Life or Death" (628), by J. Hayllar, are noteworthy. (441) "A Reconciliation," F. B. Barwell, has some good points of interest (452) "The Trio," by J. Pettie, some quaint character and good workmanship. Mr. S. Solomon's "Betrothal of Isaac and Rebecca" (567), Miss E. Osborn's charming "Sunday Morning" (579), and "The Last Chapter" (568), by Mr. R. B. Martineau, with "Juliet and the Nurse" (624), by Mr. R. S. Stanhope, and "The Warder's Summons, 1485" (716), by Mr. G. D. Leslie, are with many other works, deserving of more than a poor note of admiration. With such, however, we must be content ourselves. Space and time fail before will.

* See pp. 325 and 342, *ante*.

ON ARCHITECTURAL AND ARTISTIC METAL-WORK.

In his lecture on this subject, to which we ha referred elsewhere, Mr. Skidmore commenced b saying it would be desirable very briefly to rec pitulate a few of the incidents mentioned in l previous paper, for the sake of the intimate re tion between the metal-work of various eras. T first question he desired to enter upon was t immense extent and value of metallic art in almo every age and country of the world; and th while gold and silver were used for almost every p pose of secular life—such as baths, couches, chai and thrones—they were equally used for fon altars, chandeliers, chalices, shrines, and extend to architectural uses—such as columns, capit roofs, beaten plates for walls, entrances of do ways of palaces, the doors themselves, and, final for covering the floors. To illustrate this he quo from early records and examples. Fifteen centur R.C., 48 pillars were made for the taberna 17 feet high, covered with plates of fine gold, s the bases on which they stood were massive silv weighing 114 lb. each. A few centuries later, Solomon erected the Temple; its porch 120 f high, overlaid with plates of gold. Two mas pillars were cast of brass, 31 feet high and feet diameter; the capitals, also of brass, 8 fee height and diameter. No such columns were England in this day. The greater house had ceiling of fir-tree overlaid with gold, garnis with precious stones. The house, also, was o laid with gold—the beams, the walls, and doors. The holy house was overlaid with gol the weight of 67,800 lb., and this not gilding, plates, the nails being spoken of. Two pil before the house were 61 feet high, with cap of 7 feet high, and adorned with superp work.

The entrance of the house, the inner doors, doors of the Temple, were of gold. For secular he made a throne of ivory and overlaid it gold, with steps and footstool of gold. All vessels for use were of gold. About the same Homer, in describing the palace of Alcinous, s the usage of the period:—

"The walls were massive brass; the cornice high.
Blue* metals crowned in colour of the sky.
Rich plates of gold the folding doors encase—
The pillars silver on a golden base.
Silver the lintels deep projecting o'er,
And gold the ringlets that command the door."

Again, when Telemachus visits Menelaus at Sparta:—

"View'st thou unmoved, O ever-honoured most,
These prodigies of art and wondrous cost?
Above, beneath, around the palace shines
The stainless treasure of exhausted mines.
The spoils of elephants the roofs inlay,
And golden amber darts a golden ray. . . . .
Who eyes the dazzling roofs with vast delight. . .
Then from his glittering throne . . . with
Ivory silvered thick the footstool shone," &c.

Another century later, and the use of metallic art shows itself in the record of wealth destroyed by Sardanapalus when he discovered that Nineveh must fall; destroying by fire, among other works, 150 bedsteads of gold, and a like number of tables of the same material. Among numerous passages of ancient historians bearing on the question, occurs the record of a statue, throne, and table in gold, weighing 90,000 lb.; other instances of three statues weighing 2,800 talents. Crœsus offered to the gods 3,000 head of cattle, and burnt on the pile bedsteads of gold and silver, vials of silver, &c. The residue was cast into ingots, and weighed 86,000 lb.: these were offered at the Temple of Delphi along with a lion of gold weighing 1,100 lb. When the temple was burnt, 490 lb. were melted from it. Also bowls of gold, one of them of great skill and beauty of workmanship, made by Theodorus, the Samian. Herodotus confirms its excellence. He enumerates many like things, including several pillars; and writes, "all these are in existence in my day, but many others are lost." In 432 B.C. Phidias executed his figure of Minerva in ivory, with her golden garment, worth 120,000*l.*, according to the testimony of Thucydides; Jupiter, by the same artist, like Minerva, in gold and ivory, seated on a throne of ivory, gold, and precious stones. Strabo says its height was 45 feet. A century later, 331 B.C., Alexander entered as conqueror into Ecbatana. In the treasury he found 120,000 cwt. of gold, and the columns of its palace covered with plates of gold and silver, and its roof of silver. In Persepolis he found still greater wealth. A few years later, and the Rhodians, to celebrate the successful defence of the city, erected across their harbour the figure of Apollo, 120 feet high. Its proportions would be realized by comparison with that of Havelock in Trafalgar-square,—itself a memorial of the rescue of an incomparably larger empire than the Rhodian states. Livy and Pliny give an interesting account of the brazen threshold of the Capitol at Rome, and the pillars that were removed from Athens. In the subsequent building which was raised, the gold for plating and covering the surfaces with beaten work amounted to 1,350,000 lb. Various other instances might be quoted, but enough had been cited for the purpose.

Was it possible that the long array of architectural metal-work, so costly and involving so much art, should have left no suggestion or found no representation in the stonework of the period? and that those who produced the ornamentation should resort to the objects we assign to them,—"buckle-bones," "reels," "tooth-and-egg," &c., for their inspirations? The answer was, that large numbers of detail ornament, as explained in the previous paper, were the exact counterparts of costly rendering of gold and silver; the treatment true to the material, and of which contemporaneous examples are extant.

Passing to the Christian Church, the fury of persecution crushed all attempts at giving that homage and that costly devotion of all choicest gifts which the Jews directly, and the heathens indirectly and darkly, offered to the Creator of all. An exile in Patmos, St. John gives to the Christian world the Revelation, and in it offers to the gaze and the ultimate beatitude of all the heavenly Jerusalem, a city of gold, with walls of precious stones and gates of pearl. It mattered little for the present inquiry what might be the various and possible views advanced on the meaning of the passages: it was sufficient for the purpose to know that it influenced Theophilus, who travelled to Byzantium and gathered the traditions of Christian arts, instructed his pupils to adopt architectural forms, and represent the golden city in their metallic art: he enters into details, and quotes the words of St. John as a reason for directing the same. Stones the prophet assigns to each of the Apostles, to be used under the respective figures—the jasper, sapphire, chalcedony, emerald, sardonyx, &c.; and the love of symbolism, which has characterized every age of Christian art, and is so evident in the construction of cathedrals and churches, could scarcely fail to be more or less impressed with a symbolism so significant, modified by the actual requirements of the edifices. Regarded in this light, it would be readily understood how a church intended to represent a heavenly type on earth—the heavenly, by revelation, described as of gold and precious stones—should derive its illustration from the very golden representations of the same with which the previously existing buildings abounded. Leaving these considerations for a time, and continuing the narrative of work in gold and silver, the following presented only a fractional portion of lists of costly and precious productions too long for the limits of a paper.

A.D. 328.—Constantine calls artists to Constantinople to enrich the palaces with works in gold and silver. He presented to the churches at Rome* crosses of gold weighing 300 lb., large patens of gold, chalices, lamps, lustres, fonts, and altars of gold.

583 to 659.—Eloy, from an artisan (pupil of Abbon, Master of the Mint), rose to be an eminent goldsmith, Master of the Mint, and Bishop of Noyon. He made for Clothaire II. two thrones enriched with precious stones; for Dagobert I., a large cross of gold, and set with precious stones, for the basilica of St. Denis, the marble roof of which was covered with gold and gems. When bishop he founded the monastery of Solignac, near Limoges, in which he assembled monks skilled in the art. Princes and bishops followed his example, for the express purpose of producing work in gold and silver.

684.—From an account in the Bodleian at Oxford, of Glastonbury Church, we find King Ina caused to be built a chapel of gold and silver, together with ornaments and vessels of silver and gold.

For the ornamentation were used 2,640 lb. of silver; for the altar, 264 lb. of gold; for the candelabra, 12½ lb. of gold; for the binding of gospels, 20 lb. of gold; and for other purposes, 45 lb. of gold: statuettes, 178 lb. of silver and 28 lb. of gold, the vestments being woven on both sides with gold and precious stones.

772 to 814.—Charlemagne restored the arts, and founded basilicas and supplied them with costly vessels of gold and silver: he had in his own possession tables, &c., of gold and silver. His body in the tomb was seated on a throne of gold, and was exhumed for the sake of these treasures.

795 to 816.—Leo III. gave works in metal and precious stones, weighing 1,075 lb. of gold and 24,900 lb. of silver.

835.—The magnificent altar of gold now remaining at the church of St. Ambrose, at Milan, consisting of enamels, precious stones, with figures of Christ and Twelve Apostles, a work of great richness and beauty.

813 to 879.—Church of St. Stephen, in France, endowed with altar tables of silver. Abbon by his will caused the high altar to be overlaid with gold and gems.

849 to 872.—King Alfred went early to Rome, was acquainted with the Continent and its works of art—kept goldsmiths and other artists at his own expense.

867 to 976 was remarkable for the profusion and richness of metallic works in gold, precious stones, and pearls,—the Emperors and others giving costly tombs, &c. Constantinople was a seat of these manufactures. The Doge Orseolo ordered, A.D. 976, from thence the splendid shrine of enamel and gold work now preserved at St. Mark's, Venice. At this time, the marriage of Otho III. with the Greek Princess Thophania, drew the Byzantine artists in metals to the German court.

1017 to 1031.—William of Malmesbury says, Canute gave great gifts to Winchester, which displayed such magnificent liberality as astonished the minds of strangers; the quantity of precious stones and jewels dazzled the sight of the beholder.

1003-1024.—The Emperor Henry II. presented many pieces of gold and silver work of great consequence. An altar front remains, given to the Cathedral of Bale. The example of the Emperor acted on the bishops; and we find, among others, the Archbishop of Mayence presenting a crucifix weighing 600 lb. of gold, and the Bishop of Heldeshiem, himself a goldsmith, giving another enriched with filagree and gems.

1041.—William of Malmesbury says the Cathedral at Coventry was enriched with so much gold and silver, that the walls seemed too narrow to contain it, in the reign of William Rufus. Robert de Limesi removed from one beam that supported the shrine 500 marks of silver.

1066.—Waltham Abbey Church Harold had ornamented with plates of copper, and plated with gold (the capitals of the columns and the bases and mouldings, with great skill on the part of the workmen). He had also an altar made of pure gold, and vessels of gold for chief days, and silver for feasts.

About this period, in the East, the wealth in precious metals, chiefly in gold, was incalculable. Mahmud took from a single temple 760,000 gold coins, golden vessels 28,000 lb., and bars of the same 1,600 lb. At Guzerat he robbed a temple of 56 columns of massive gold set with stones, and a chain weighing 1,860 lb.

About 1152, among other works particularly to be mentioned, is the shrine of the Three Kings of Cologne, of gold, enamel, and gems.

Thirteenth century.—The shrines at this period were much used in the form of churches or tombs, as that of St. Saurin at Evereux, and St. Romain at Rouen.

1290.—Mulik Alleh took at Devgir, capital of Ramadeva, 15,000 lb. weight of gold, 175 lb. weight of pearls, and 50 lb. weight of precious stones.

Fourteenth century.—Reliquaries in the form of churches were restricted to cathedrals; chapels and oratories were enriched with figures in gold and silver which contained relics. Goldsmiths' art in this century was of such extent as would scarcely be credited in the present day. The inventories of Charles V., 1369, comprise treasures estimated at nineteen millions. At this time were commenced two of the most important works which have come down to us—the altar at Pistoia, and that at Florence. For more than 150 years the most skilful goldsmiths of Italy were engaged on these two monuments of art. A long list of artists in gold might be added, would time permit.

Illustrations were given of the various modes of working metals, from the fifteenth century before Christ to the fifteenth century after, illustrated by existing examples. These received a treatment in harmony with the known qualities of metals, the various forms and arrangements in accordance with ductility, malleability, and constructional necessity, and therefore true to the material. Numerous details were exemplified by reference to diagrams, models, and also actual work in progress. These were compared with stone examples, the absolute necessities of the metal construction being represented to the minutest details in the stone; with, in other instances, the addition of a fragmentary and unsightly piece of stone, attached to give support, and evidently not part of the original design,—as in many French capitals, the originals of these in gold and silver were shown to need no such support, being able to maintain themselves without such addition. The identity of form being entire, it was evident that the original type was that which needed no violation of, or addition to, the form, to render its production practicable and enduring. A similar treatment of statues was referred to, where an additional piece of fragment, generally unsightly, was added to give stability to the figure. In all instances it required little argument to prove which was original. In the short limits of a report, without the numerous examples illustrated by drawings and actual goldsmiths' work, it would be impossible to convey any notion of the evidence adduced. In conclusion, it was remarked that the Byzantine and Mediæval monasteries, many of which were founded for the cultivation of metallic art, were the great schools of such work; and that monastics frequently enlarged and re-erected their own buildings. It was more reasonable to suppose they would choose for types of ornament the costly objects of the sanctuary on which they had expended years of toil and thought than, having done so, to turn into the wood-yard for a billet to fill a moulding, or the kennel for a dog's tooth to furnish suggestive ideas. Instead of this, the builders of our cathedrals were eminently practical, and made their edifices exponents of their faith, understood of all men; the anomaly being that the enrichment of cornice and capital, especially the earlier kinds not derived from nature, have no intelligible meaning; but considered as the representative of treasured riches, with which all then must be acquainted, they would be understood of all, and enhance the dignity of the design by association with their known costly type. It is not to be wondered at

* The mixture of alloys in certain proportions produces a blue metal. The composition of this was evidently known at that period.

* Labarte.

that in the present day, when all their golden examples are lost in the very recent revival of Gothic architecture, men should regard as of stone origin all the forms they found in that material; and that when fragmentary pieces of gold or silver are discovered they are set down as copies of stone, although they possessed all the elements of beaten work, were true to the nature of the material, and agreed with the practice of goldsmiths of all ages.

The deductions drawn by the lecturer were, that gold and stone might be and were made the vehicles for the representation of objects foreign to themselves, while both had a treatment natural to themselves:—The gold in sheet—beaten, raised in lobes, fluted to give strength and shadow; in wire—in coiled, in spiral, and numberless curved forms. Stone had its natural expression in masses, in chamfers, &c. When we saw arches represented in gold, we knew they were derived from stone. In like manner, when we saw represented in stone the coiled and spiral forms of wirework, or beaten, lobed, and fluted forms of sheet gold, the identical forms of the art-work of the goldsmiths of the same period, the same exercise of reason should lead us to infer that they were representations of gold work then existing. Why not give to the elucidation of architectural form the same exactness of reasoning applied to other pursuits? If in geology we find forms not agreeing with the nature of stone, we search for correspondence in other objects for their counterparts, and at once pronounce their origin. Why not so with the unexplained forms of architectural decoration, and obtain a like practical result?

THE ORNAMENTAL ART OF JAPAN.

IN our former article upon Japanese ornament, we said that it, as a style, in part consisted of purely ideal shapes, and in part of forms derived from nature. As in that article we spoke of the forms which had a mental origin we shall now consider those derived from living objects.

Both flowers, birds, insects, and certain fabulous creatures, are much used in Japanese decorations; but in all cases the natural object is subjected to a conventional treatment. The flowers are "displayed" rather than rendered symmetrical; that is, they are spread out flatly upon a surface. The salient features of the plant are always well caught and expressed. Deformities of growth are to a great extent discarded in the rendering of details, yet that rustic character which chiefly results from blights, and injuries sustained, is cherished and represented. The skill with which flowers are spread over surfaces is great, and they are generally beautifully drawn. Botanical truth is often observed in the small parts of the flower, and general accuracy is scarcely ever sacrificed.

Certain flowers are favourites with the Japanese, as the rose, lily-of-the-valley, and forget-me-not are with us. Those most used in their ornament are the Chinese pæony (fig. 3) and the chrysanthemum; but many other flowers are in common use with them. The sacred bean, china-aster, bamboo, blackthorn, almond, narcissus, castor-oil plant, hibiscus, pomegranate, convolvulus, umbelliferons plants, reeds, grasses, and trees, are all of frequent occurrence, and certain other plants are not uncommonly used.

While we say that flowers when used as ornament by the Japanese are usually "displayed" or rendered flatly, and yet without symmetrical order, it must not be understood that this is always the case. Flowers are sometimes treated symmetrically. We give one example in fig. 6, where we have exactly reproduced the Chinese pæony, as used for a wall-paper pattern.

Birds and insects are also much used, we say, in Japanese ornament, as well as conventional creatures. Of the latter class the dragon is the most common, and appears in the greatest diversity of shape. The bat is also represented in some instances in a purely ideal manner; but the ideal bat is perhaps chiefly constructed by the Chinese: treated conventionally, it is common in Japanese ornament. The stork, certain small birds, many insects, as butterflies and grasshoppers, and even separate feathers, are frequent in decorative compositions. The stork is given in every conceivable attitude, and a flight of these birds is commonly represented on a surface with the view of ornamenting it. But the birds are not treated naturally, but ornamentally. Conventional forms are produced sufficiently like the creature intended to suggest it to the mind. This is the true way to use natural objects for the purpose of ornament. We do not produce ornament if we merely imitate nature; we do so only when we adapt the object chosen as a theme, to the position for which it is intended.

We have spoken of ideal creatures, and of an ideal bat, yet space will not allow us to consider the ornamental animals found in Japanese decorations; they are yet so curious that we are tempted to give one illustration (fig. 7).

The breadth with which dense heads of flowers are treated by the Japanese is great, and the skill with which they achieve the general aspect of the plant imitated is wonderful. They delineate a mass having the contour of the entire head of flowers, and enrich this in various ways; frequently without giving the slightest attention to the forms of the individual flowers. Trees are very variously treated, and are always severely rendered. The foliaceous branches are sometimes almost wholly ideal in kind, yet they are natural in appearance; and trees are never rendered symmetrically, but in the rustic or broken manner in which they are usually seen. All flower drawings of the Japanese are worthy of the ornamentist's attention, as they invariably partake of an ornamental character. We give one or two illustrations (figs. 1 and 2), well deserving careful study. They are from one of their botanical works, and are the more interesting as they were drawn for the purposes of science, and are yet ornamentally treated.

We must now pass from a consideration of the elements of Japanese ornament to notice composition as it occurs in the style with which we are dealing.

Broadly, it may be said that Japanese ornaments are collected together without order. Method is not wholly wanting in the grouping, for the Japanese achieve the effect they desire most completely, and this can only be done by systematic working; but regularity in the disposition of their ornaments rarely occurs. If the front of a square cabinet is to be decorated they usually divide it diagonally. A fret is frequently seen to border two-thirds of an object in the most regular manner, and then suddenly give place to some irregular ornament. Extreme irregularity characterises the grouping, and much ingenuity is frequently manifested in securing the desired effect.

While grouping is thus exceedingly irregular in most Japanese art-objects, it is yet founded on principles of order in some cases; and even a severe geometrical basis is occasionally employed for composition. Diapers of a very regular character are common (fig. 8), and larger geometrical



FIG. 8.

repeating patterns also occur. Some of these set patterns are excellent, and few are feeble in character. There is no great peculiarity in the construction of these patterns; indeed, many might be mistaken for productions of the best period of Mediæval art, but in using these great eccentricity is often manifested. Remi Schmit & Co. had a box in the late International Exhibition enriched with small regularly-repeating ornaments. Being a Japanese work, it was not covered with one pattern, but was divided into segments to which were applied diapers of very different kinds. It is common for Japanese articles to be thus decorated: an angular corner portion of a cabinet-front, or the quarter of a box-lid, is frequently regularly diapered over, while the remaining portion of the surface is treated in a very different manner. Even a small and irregularly-shaped portion of a surface is sometimes diapered, while the remainder is plain.

Viewing our subject strictly, we are confounding two ideas. We are blending the idea of grouping with the mode of applying ornament. Speaking more accurately, the groups of ornamental forms found in Japanese ornament, are frequently of a methodical or symmetrical character; but these groups are *applied* with great irregularity.

Landscapes (these are sometimes used in Japanese decorations), and plants, when used as ornaments, are curiously applied. A box, called a pillow, shown in the Japanese court of the late Exhibition, by Sir R. Alcock, had a landscape wrought upon it in gold lacquer. This landscape was a panoramic view, surrounding the entire box. It was continued uninterruptedly on the four sides. The most curious feature, however, was this,—mountains, trees, and the sea, passed over the angle at the upper part of the box, and extended across the top: thus five sides of the object were covered by the one landscape. A Japanese dressing-case, now before us as we write, has hawthorn branches wrought upon its sides. These in every case round an angle, and extend over part of a second side; while that on the top bends down to one of the vertical faces. A box (also now before us), intended to be carried by a Damio's wife, has a plant wrought upon it, growing from a rock; but the branches and foliage extend round the angles. A saucer-shaped bowl, having a deep rim as a foot (similar to the rim forming the foot of many ordinary tea-cups, only perfectly plain), has a flower drawn upon its exterior surface. This spray commences at one side of the bowl, and passes, apparently, through the rim, or between it and the rounded portion of the bowl, to the other side. A plant originating on a panel of a door frequently disappears behind a style, and re-appears in the next panel, as though the style was something applied to the face of the door after the decorations were added. Angles, protruding members, or recesses, are no obstacles to Japanese artists; the ornament follows the surface in its undulations, or appears and disappears where the decorator pleases. These are great peculiarities of the Japanese mode of applying ornament to surfaces.

Most men who have great skill in any one art have some peculiarity. Indeed, with the extreme development of mental power in one direction, a weakening of some other faculty often seems to set it; but the weakness is insignificant and trifling when contrasted with the favourable development of the mind. It is so, also, with nations. Few countries rise to any great height in civilization without manifesting some peculiarities,—some features belonging only to their own national character, and features which contrast strangely with general greatness. In the case of art, it is similar. With a noble and earnest development of true qualities there is frequently some manifestation of weakness—some shortcoming to militate against perfection. This we see in the mode of applying ornament by the Japanese.

Some Japanese ornaments are almost perfect in form, and in the grouping of their parts. The treatment of flowers, as we shall shortly see, is in most cases very commendable, and the colouring and execution of art work is frequently inimitable. In most respects Japanese ornament is to be commended, but the mode of applying the decorative forms tends to deaden our admiration through its weakness.

While the Japanese mode of applying ornament to the surfaces which it decorates is unsatisfactory, the treatment of the ornament is highly to be commended. Flat ornament, or ornament in low relief (see fig. 3), not apparently, but really so, is always applied to a flat surface. There is no sham work with the Japanese. They are honest in art. They do what they mean, and mean what they do. This candour of expression is ever pleasing. Openness of character is very lovable. If a surface is flat, and this is its most desirable condition, surely the ornament applied to it should not disturb this welcome feature. The flatness of the dressing-case of which we have already spoken is perfectly preserved, while it is enriched with sprays of the blackthorn. In this mode of treating plants there is no sacrifice of beauty. For instance, every flower in the blackthorn spray is beautifully drawn; even the most minute parts are represented with a fidelity which, perhaps, no European could imitate. The drawing is also delicate and full of feeling; yet the branch is not symmetrical in its parts. The artist who produced it was not the school man of our civilization. He could draw a spray flatly without feeling that it must hence consist of corresponding halves. He could subdue his spray to conform with the requirements of the surface which it was to decorate, without giving up the freedom of growth which he fancied he perceived in the natural model. He was, in fact, a man free from all prejudices, who could live as a *semi*-naturalist without feeling that his works must either be imitative on the one side, or geometrical on the other. The flowers of the blackthorn spray are made out in gold, on a black ground. Four kinds of bronze are, however, employed in its produc-





Fig. 6.

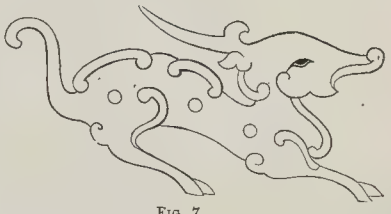


Fig. 7.

ORNAMENTAL ART OF JAPAN.

tion,—one of a rather warm tint; a second very similar, but slightly brighter; a third we could readily imagine, from its grey hue, to be formed of a mixture of black lead and gold; and a fourth to consist of gold and a small quantity of iron-rust. The flowers formed of the gold first mentioned are solid, and have the stamens wrought upon them in the second (or brighter) gold named. Other flowers are wrought in the two duller bronzes, but these are outlined with the first gold. The stem of the plant is enriched with small square fragments of pale and bright gold, apparently minute cubes of solid metal, or squares of sheet-gold, much thicker than gold-leaf. These glitter, and give brilliancy. The use of bronzes of different colours is common with the Japanese, and by their use they get all the variety demanded by the eye, and yet retain consistency of treatment.

The treatment adopted leaves the box in appearance what it really is. It does not convert it, in aspect, into a pedestal, or black mass on which blackthorn branches really rest. The sprays have been added with the intention of making the box more beautiful, and not with the idea of making it look like something else. Beautiful as flowers are, the Japanese artist never wished to make the box appear as if covered with real flowers. To do so would be to deceive, and the true artist is honest in his expressions. The sole object was that of making the box more beautiful by applying to it graceful forms. It is a box still; and a beautiful box. Fig. 4 is a flatly-treated spray, taken from a box.

This principle of preserving the true condition of the surface decorated is maintained rigidly in all Japanese works. Through the kindness of Mr. M'Donald we possess a number of specimens of wall-papers from Japan which were shown by him at the late Exhibition. In no one instance is imitative relief attempted. Rigid flatness of treatment is found in every one. Flowers, birds, clouds, and conventional ornaments are all rendered with the same flatness (see figs. 5 and 6, all of which are from wall-papers). Thus the true condition of the wall is preserved when covered with the paper. However humiliating it may be, we have yet much to learn; and that, even, from the Japanese.

The Japanese wall-papers lead us to notice another art-feature worthy of attention, which we may now desirably consider. A great number of the lacquered objects of Japanese manufacture are brightly coloured. Vermilion is common on these articles. Rich maroons, greens, and gold colours are regularly used; but the objects to which these colours are applied are small when compared with the wall of the room. They show us, however, that the Japanese are familiar with bright pigments. If we turn from these lacquered objects to the wall-papers we are struck with the marked difference of colour which they present. The wall-papers are as dull and neutral as the lacquered objects are bright and positive. This might at first seem strange; but it is not so. It arises out of a true art-feeling. The wall of an ordinary apartment should always be treated as a background. It should hence be neutral in character; it should recede from notice rather than obtrude itself upon the attention. If it is thus negative, it will cause the furniture, and even the occupants, of the room to look attractive and beautiful. If it is positive, it will draw to itself that attention which ought to be left free to fix itself upon more noble objects. A wall has its existence merely as a necessity, and is not created as an object of beauty. The Japanese know what a wall is. They keep it in its place. They decorate it becomingly; they enrich it by a pattern; but do not give to it strong colours to make it attractive. They leave it a wall,—a background,—a surface which, while agreeable in its place, assists the beauty of all objects standing in front of it, and resting upon it.

In producing a wall-paper, we generally use several "blocks,"—a block for each colour, and hence print several times. The Japanese use but one block, and hence have but one colour. In some cases they print twice, or even three times; but this is rare. Once is their general number for wall-papers, and with this they are satisfied.

What we have now seen of Japanese ornament leads us to see errors into which our French neighbours have fallen in producing designs in this style. From a cursory observation of inferior articles, they have gathered an erroneous or imperfect knowledge of the style, and have combined it with their own art. Japanese wall-papers never suggested the so-called Japanese papers of the French. Common earthenware may have done so—especially that from China—but no good work could have given rise to the ornament which France has recently produced as Chinese and Japanese. The flatness is gone which we everywhere find in Japanese work, and the skilful rendering of flowers. A few Japanese buildings in the background—a pagoda or a temple; a figure in the foreground and a Chinese lantern, are the art emblems chosen. These are to indicate the style of ornament used.

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While we must condemn these recent productions of the French, we admire many of their late wall-papers beyond most of the similar productions of our own: some shown in the late Exhibition were all that could be desired. We would also pay a tribute of respect to Mons. Barbedien, of Paris, and to his able designer of enamel-ware articles, owing to the happy manner in which they have caught the spirit of the artists of China and Japan, and given forth new works of great beauty in the style of the art studied. Much credit is due to them for their labour and results: their works speak well of their art-knowledge. The enamel-ware of Mons. Barbedien may advantageously be studied, with the view of ascertaining how foreign ornament may be applied to our own purposes.

THE ARCHITECTURE OF SPAIN.*

WHEN the stranger (the visitor to Granada) enters those delicious groves redolent of the perfume of roses, and reverberating with the song of the nightingale, which beguiles the tedium of the ascent to the Alhambra,—when he has reached the platform upon which the Alhambra stands,—a scene totally unexpected, and wholly unlike anything that he could have anticipated, presents itself to him; not a vestige of the palace of the Moors,—he feels as if it had vanished like its Aladdin prototype of the Arabian tales,—whilst in its place, before his eyes, stands a "sumptuous pile of Paladian architecture" that might have been transported from the valley of the Adige or the banks of the Brenta. This is the palace of Charles V., which, in my opinion, and for reasons which I will explain, has not attained that estimation of foreigners which it is entitled to. The Spaniards, indeed, have themselves ever been proud of it, considering it one of the finest architectural monuments of their country.

For its erection a large portion of the Alhambra—the winter palace of the Moor (which the Spaniards confess was the most sumptuous portion),—was unfortunately pulled down by Charles V., who here committed the very crime which he reproved in the case of the Mesquita of Cordova. Strangers, as I have said, come here for the purpose of viewing the Alhambra, most of them embued with a feeling favourable to Moorish art, and freshly excited by having just passed through the exquisitely beautiful Moorish Gate of Justice (which stands near the last grade of the ascent), and all with the expectation that the Moorish palace would present itself. The work of Charles V. is thus viewed with disappointment and chagrin, or with a feeling akin to indignation for its impertinent intrusion. For this reason, I cannot help thinking that it has been overlooked and misprized by all visitors. To those whose tastes are not wholly catholic (and this is too frequently the case even with professional men), and who, from enthusiastic admiration of one style (which may be justly founded), lose, to a certain degree, the full perception of the beauties of another style which is opposite,—to the taste of those who come here fervently embued with a feeling for the Moorish architecture,—this edifice of Charles V. in such a place does, indeed, offer a rude shock; for no two architectural monuments more directly opposed in style and taste could have been placed in juxtaposition. The largeness and breadth of style, both of its leading forms and of the ornamentation of the Palace of Charles V., is in violent contrast to the exquisite elaboration and elegant littleness of the Alhambra. The prevailing feeling in the one is dignity and repose, that of the other playfulness and grace. Both have been erected to the same intent—the palace of a sovereign,—and both with the same appliance, indeed, necessity, for a hot climate, an interior patio; but how different are the results they present. The palace of Charles V. is erected (as the Spaniards say) in the order of the Greco-Romano. It is in fact the style of the Renaissance, which was introduced into Spain by Berrugete and Machuca. It was the first essay, and perhaps remains the best in the new style. Machuca was the architect; the choice of the situation, although unfortunately necessitating the destruction of a part of the Alhambra, was in accordance with the usual genius of the Spaniards in the choice of the sites of their palaces, to which I shall have occasion hereafter to refer, and was faultless.

It is commonly supposed that the continual and frightful earthquakes that were at that period experienced in Granada, deterred Charles V. from completing it. It was finally relinquished at a second attempt, after an interval, and therefore never inhabited. It is, however, perfected, with the exception of the roofing, and therefore displays nearly its full architectural effect. Its plan forms a perfect square of 20,000 superficial feet, 200 feet each side. It consists of three façades, of which the west and the south are the more striking and important. Is is composed of two stories, which are divided by a magnificent cornice, sustained in the façade to the north, by half-columns of the Tuscan order (almohadilladas): between the half-columns are windows, and above them oval openings. This base story is rustic, with the stone divisions marked. In the second story the half-columns are of the Ionic order, 25 feet high, and the walls are decorated by many excellent sculptures, by Morell and Juan de Vera. The principal gate or portal façade, which is to the west fronting the Placeta de los algibes, is 62 feet high, and 60 feet wide, consists of three doors grouped together. The cornice of the first story in this west façade is sustained by eight Doric columns, and the second by the same number of the Ionic order: the intervals are decorated by relievos, medallions, and statues, over the pediments of the doors, which are beautifully executed. In the façade the portal is also 60 feet high, and of the same width; the first or ground story is of the Ionic order, the second of the Corinthian. The sculptural decorations to this façade, also by Juan de Vera and Morell, are even finer than those of the west; but the most extraordinary architectural feature of this palace of Charles V. is its inner court or patio, which is circular. I am not aware that there exists any precedent for this form of interior court in any of the Italian palaces of the Renaissance, to which class this building belongs, nor do I know that there is one example of it in the buildings of the Moors, from whom the idea and purpose of the patio were originally borrowed by the Spaniards. I believe it to beunique, and the effect is certainly dignified and striking. The extensive circular patio is 144 feet diameter, round which runs a colonnade of two stories, each sustained by thirty-two columns, the lower ones of the Doric order, the upper of the Ionic, which is based on a breastwork above the inferior cornice sustaining the superior ring. The grandeur of the circular colonnades, with their changing effects as the sun passes its daily course, are certainly most novel and unique, though it would undoubtedly, if inhabited, have been covered with an awning roof.

There is below, not far from this palace, in the groves of the cuesta of the Alhambra, an extensive mural fountain, also erected by Charles V., in the style of the Renaissance. This palace is interesting as a type, perhaps the finest one, of the architectural taste in Spain at that period. Architecture, as if to vindicate her sisterhood with poetry, painting, and sculpture, underwent, in a remarkable manner, precisely the same transformations, and presented precisely the same phases, as her sister arts. With the advent of Charles V. ceased that which I may call the Gothic taste of Spain in *all her arts*. After Ferdinand and Isabella she produced (in poetry) no more her famous old romanceros and canciones (her ancient ballads). Her painters of the Albert Durer type finished in the crowning genius of Fernando Gallegos; and her architectural erections of a kindred taste in the beautiful works built under Ferdinand and Isabella, perhaps most brilliant in the expiring efforts as the church of St. Juan de los Reyes at Toledo, marked by the simplicity of its general forms, and unsurpassed richness of ornamentation. That singular phenomenon took place in all her arts in Spain, unprecedented in any other nation,—the establishment of the classical era, and its taking precedence, in time, of the strictly national. (I have alluded to this in other lectures.) The polished elegance, the measured correctness, and finish of the classical writers were emulated by Garcilasso Boscan and Hurtardo de Mendoza. The fulness, richness, and grandiose taste and forms of Michelangelo, founded on the classical antique, were reproduced by Alonzo Berrugete and Gaspar Bercerra, and the architecture of the classical Renaissance by these and Machuca. It was not until the succeeding age (all this having passed away), that the strictly national style developed itself equally in all the arts. In literature, in Cervantes, Quevedo, Lope de Vega, and Calderon; in painting, in Velasquez, Murillo, Alonzo Cano, and Zurbaran; and in architecture, in the matchless works of Herrera. As in literature, so in architecture, there appears to have been no transition period between the Gothic taste and the Classical Renaissance. The latter, like an Oriental sun, burst upon the Spanish world without a dawn; and the erection of the palace of Charles V. shows how cordially and energetically Spain had adopted the style of the Renaissance, more so than most other European nations, although in France the Palace of Fontainebleau and the earliest portion of the Louvre were contemporaneous erections, evincing also the adoption of the style by France. In this country it did not distinctly take root; it was coeval with the palace and chapel of Hampton Court, erected by Wolsey in the Florid Gothic style, of which, unfortunately, the beautiful hall alone remains,—the rest having been demolished by William III. for the erection of his Dutch palace,—and also some erections by the same at Windsor. From political causes, no doubt, of which the Reformation was a prominent one, the Renaissance style did not present that marked advent in this country that it did with Continental nations. The Gothic was longer expiring, and in its decay underwent the debased forms of the Tudor style, and its termination was somewhat involved in obscurity; but we only find that it had ceased to exist, and had been supplanted entirely by a new style in the succeeding age by the raising of the Paladian palace of Whitehall by Inigo Jones. The reign of Charles V., with its novel style, was not a great building age, in Spain at least, in comparison with that of his successor, Philip II. There were some town halls, ayuntamientos, as well as bishops' palaces, erected; but the architects have unfortunately left us the most extensive evidence of their activity and zeal in the coros of cathedrals, as also the retablos of the same. Being usually painters, sculptors, and architects, they furnished the architectural design, they carved the sculpture which ornamented them, and executed the paintings, which completed the decorations. These works are admirable in themselves; nevertheless, being in the taste of the Renaissance, they are out of keeping (especially in respect to the coros or choirs) with the Gothic edifices in which they are introduced. There are few of the Spanish cathedrals which are not injured by this introduction in so prominent a feature as the coro.

In the succeeding reign, that of Philip II., the architecture of Spain, as I have said, in common with its literature, changed its form and taste, and in both (presenting what may justly be termed the national style) attained the highest degree of excellence. It is an unusual phenomenon for an art to pass from a comparatively florid style, which that of the Renaissance must be considered, to one of greater, indeed of unexampled, severity; but such was the case with architecture in Spain. The most important work which was the result of this change of style, though perhaps it may not be the most complete example of it, was the Escorial. The Escorial, in magnitude, is one of greatest—I question if it be not the greatest—work of the modern world. In mere bulk of material it far exceeds St. Peter's at Rome, whilst in the area which it occupies, if we include the paved court, which is by no means large in relation to the building, and which occupies the north and west façades only, and which is enclosed by a wall and pillars of granite, which correspond with the pilasters, the string courses, the doors and walls of the building,—including this, I say, this great work occupies an area of 500,000 superficial feet. Nothing is more extraordinary in respect to this vast edifice than the time of its erection. When one considers that of the great architectural monuments of the modern world, St. Peter's at Rome took two centuries in completing, that the Cathedral of Milan occupied as many more; that the Louvre, commenced in the fifteenth century by Francis I. has only been completed in the nineteenth by Louis Napoleon; that so many of the greatest architectural works, as the Duomo at Florence, the Cathedral at Cologne, the palace of Whitehall, have never been completed at all; and that even that boast of celerity, St. Paul's, occupied above forty years, one is struck by the marvellous energy which, from the laying of the first stone, completed this structure most vast of all in little more than twenty years. Our own St. Paul's Cathedral might easily stand in one of its patios. So far as to its importance with regard to bulk only. Like St. Peter's, at Rome, it was the work of more than one architect (though not so numerous), and like St. Peter's, it has undoubtedly suffered in respect to perfect unity of design through that circumstance.

It was planned by a monarch that was not only the most munificent patron of art in general, but an especial one of architecture, of which he was a most excellent judge. The architect who furnished the first and original design was Juan Bautista de Toledo, and his design, as far as regards the exterior façades, was mostly carried out.

* A lecture delivered by Mr. F. Y. Hurlstone at the Architectural Exhibition, Conduit-street. See p. 345, *ante*.

He was dismissed after a time, for a cause unknown, and his place supplied by the greatest architect that Spain, or perhaps any other country, has produced in modern times,—Herrera. His work has principally been the interior, and consequently it is there, and not to the exterior, that we must look for that surpassing excellence which makes this building one of the greatest wonders of modern architectural art. The material is altogether of granite, the order almost wholly Doric. The roofs are of tiles, or sheets of lead, and its towers, cimborios, and façades of extraordinary grandeur and beauty. It is said, with a probability of truth, that this building was erected in consequence of a vow of Philip II., at the battle of St. Quentin, to San Lorenzo. But that the idea of a gridiron, which was the instrument of martyrdom of the saint, dictated the plan, or regulated the distribution of its parts (upon which Ford indulged his sarcasm), I believe to be a vulgar rumour. The influence, though slight, of the Moorish taste may be traced in its general external features, in the application of its patios, and perhaps in the general architectural simplicity or baldness of the exterior. I believe that its design would not have been other than it is were the gridiron no instrument of martyrdom.

The principal façade is 744 feet, exactly 20 feet less than the base line of the great pyramid (764 feet), and 37 feet greater than the second pyramid, that of Cepheron (707 feet), with towers at the angles of the height of 200 feet, which towers terminate in pyramids covered with slate, and finish in vast copper balls and a cross of iron. In the centre of the façade, and of a width of 140 feet, is a salient projection of the wall, rising higher than the rest to a height of 145 feet. This gives mark to the principal entrance, which is in its centre. Above a socle or pedestal, a yard in height, rises the first story, which is of the Doric order, and to the level of the cornice 62 feet high, which cornice runs round the whole of the edifice. The said socle serves as a pedestal to eight half-columns, four on each side of the gate, divided two and two, in the intercolumniations of which are four niches, and above each two windows, one above the other. In the middle is the entrance, which is 12 feet wide and double that in height, with jambs, dentils, &c., all of one entire piece of granite. Above the door there is a window, and the architrave, frieze, and cornice of the first story are sustained by half-columns. The second story, which is Ionic, resting upon the cornice of the first, has no more than four half-columns, in whose interval, placed in a niche, is a statue of San Lorenzo, 15 feet high, executed in coloured marble, with the exception of the hands and feet, which are white, by Juan Bautista Monegro, below is a shield of the royal arms cut in stone. Above the Ionic half-columns is a triangular façade, with pedestals and balls, which terminate the principal portico.

In the half of the distance, at each one of the sides, are two gates of equal size, 10 feet wide, and double that in height, with jamb dentils and sobre dentils of one piece. All the doors and windows of this edifice have equally jambs and dentils of one piece.

Turning to the edifice, the façade of the south is the most beautiful of all from its majestic simplicity, having no more enrichment than the fillet and cornice, which at the same level run round all the edifice and four orders of windows. The number of these is 296, with three small doors below, one in each tower and one in the centre.

Entering the central door of the principal façade, you find yourself in a beautiful porch of 30 feet in width and 84 feet in length, above which are the celebrated libraries. The ceiling is of stone, well worked and adorned, though with simplicity, with fillets and lunettes, and the same the walls, which have pilasters in bold reliefs; and between them six grand arches, three on each side; to the west the middle arch is the entrance-door, with its lateral ones. The three which correspond in front, are open and give entrance to the grand patio of the kings, which is 230 feet long by 136 feet wide. The walls of this are adorned with pilasters in bold relief, which rise from a pedestal, and at 34½ feet terminate in a bold cornice, which is sustained by square modillons. These pilasters divide five orders of windows, the number of which, counting those in slate roofs and towers, is 267.

Upon entering this patio, as I have said, the façade of the church is opposite to you: 40 feet before coming to the temple, and altogether 5 feet high, are seven spacious steps, which run the whole width of the patio: above is a spacious landing-place. The frontispiece of the temple is composed below of five arches 14 feet wide and 26 feet high, the two outer ones level with the façade; the three middle ones, a little more salient or projecting, are between six Doric half-merged columns; those of the middle single, and those of the sides paired with capitals, architrave, frieze, and cornice corresponding. Above the five arches correspond five windows, 6 feet by 12½ feet high; and this first story terminates in the cornice of the patio. Perpendicularly to the said half-columns are six pedestals, with their bases and cornices 13 feet, and bearing six statues, 18 feet high, of granite, with hands and feet of white marble, representing six monarchs of the tribe of Judah and family of David, who in divers times contributed to the splendour and the restoration of the Temple of Jerusalem. These statues have girdles and crowns of bronze, plated with gold, as are also all the insignia which they bear. At the shoulders of these statues rises the second story, the façade formed of six pilasters, corresponding with the six half-columns of the first. Between these pilasters are three grand windows, and above the band which connects them there is another arched window, 13 feet wide and more than 26 feet high, which breaks the lower cornice of the façade, and is comprised in its curve within the pediment. A triangular frontispiece, with five balls upon pedestals, finishes the sky line of the façade. At each side of this façade rise two beautiful square towers to the height of 270 feet, which below are concealed in the building on either side of the convent and the college, and do not discover themselves but at the height of 82 feet.

Entering by the façade of the temple through either one of three gates, you are in the vestibule, or bajo coro, of the church, 60 feet square, extraordinary for its construction; its ceiling being formed of massive blocks of granite, which, from its slight curvature, appear suspended. The mode in which it is constructed, and its enormous lateral thrust counteracted, being wholly concealed.

The view of the church from this vestibule is one of the grandest that can be found or conceived. Even the cynic Ford, upon viewing it, was disarmed and fell down and worshipped. He says, "Here is indeed the triumph of architecture; it takes away the breath of the beholder by its majestic simplicity; all is quiet, solemn, and unadorned. The religious sentiment pervades the whole of the house of God; everything mean or trivial is forgotten, and awe creeps over mortal man, who feels that the holy of holies overshadows him."

A principal feature of this church is the situation of the coro, or choir, which I consider one of the finest inventions in this extraordinary building. Utterly unlike the usual Spanish custom of placing it in the principal nave, which it generally encumbers. It is at the entrance of the church, in continuation of the greater nave, though at an elevation of 30 feet. Measuring from the bronze railings which are immediately over the entrance to the church to the opposite wall, from which it is lighted by three large windows looking into the patio, it is 96 feet in length by 106 feet in width and 84 feet in height. Of itself a church of some magnitude, it is entered by two grand arches on either side, communicating with the ante-coros, which are cloisters at the same elevation as the coro, running round the church and passing behind the grand altar, which (the grand altar) being of considerable elevation, the performance of the services at the high altar is perfectly seen from the coro, as necessary for the responses, while the coro itself is utterly unseen by the congregation in the church, which gives rise to a most extraordinary effect: the solemn sounds of the responses and the anthems of the coro mysteriously float in the air, and fill the church with their harmony, without its being perceived from whence they proceed.

The ante-coros, or upper cloisters, which are upon a level with the coro (a second story, as it were), running round the church and passing behind the grand altar and open to the church, present, on passing along them, in the multiplied intersections of arches, some of the most magnificent scenes of architectural effect. Those who have passed through the upper corridors of the Colosseum at Rome may form an idea, though a faint one, of its grandeur. The body of the church is a perfect square of 183 feet, the material wholly granite. In the centre are four massive piers 30 feet in thickness, relatively placed at the distance of 53 feet; and eight others corresponding spring from the walls, distant 30 feet from the first, with which they are connected one with the other by twenty-four arches. Thus the nave and transept form a Greek cross of equal arms, 53 feet wide, with side aisles 30 feet wide. In the central piers are formed chapels which are decorated with columns; but it is impossible to convey an idea, even in representation, of the unsurpassed grandeur and solemnity of this interior. I know nothing to equal it. The lower cloisters, too, are unique with their archways and entrances. Severity of style is supreme. They have not a vestige of ornament, but in their cyclopean simplicity they charm the eye and possess the imagination by grandeur of line alone, in which they are unequalled by any Italian or other examples. There is a palace in Italy, the Pitti, at Florence, which invariably arises to the mind in association with this as an example of the Cyclopean style of architecture; but there is an *affectation* in the Pitti of rudeness and simplicity which makes it inferior to the work of Herrera in the realization of a true Cyclopean style.

Upon the whole, I should say that the Escorial has not had that attention directed to it which it deserves, and, consequently, is not held in that estimation which it merits. It has been criticized as a royal palace, which it was not. The feeling which gave rise to it was that which impelled Charles V. to retire to the monastery of St. Juste, that which, under a different phase of civilization had urged Diocletian to seek the obscurity of Dalmatia and to raise his vast pile at Spalatro. Philip II. was anxious to embrace the monastic life, though unwilling to relinquish the sweets of power. He became a monk while he was a sovereign, and he raised this pile Del Real Monasterio de San Lorenzo,—the Royal Monastery of San Lorenzo. If ever architecture in its loftiest aim displays its just equality with its sister arts of poetry, painting, and music, in the expression of a sentiment and in the embodiment of a feeling, it does so in the Escorial. The gloomy austerity, the intense earnestness, I may add, even the mystic grandeur of the religious feeling of Philip, which characterized his age, more especially his country, and was embodied in his person as its chief representative, finds its expression in these vast walls. A romance in stone and mortar amidst its savage and melancholy sierra, the Escorial remains, and will remain, unequalled as a monument and memorial of a phase of human civilization which has passed away.

The style of Herrera one would imagine less appropriate in its application to cathedrals and churches than to civil edifices; yet is the cathedral of Valladolid, erected by him in 1585 as the church of the Escorial, one of the monuments most worthy of the study of the architect: nowhere is the genius of this man more striking, imperfect as the building is, for it was never wholly finished; had it been so, it would have been, as Herrera himself said, with conscious and well-founded pride, "*un todo sin egual*,"—a whole without its equal. No artist, it appears to me, has been known to impart to the Greco-Romano architecture that solemnity and religious feeling which is considered so marked a characteristic of the fine Gothic cathedral, and in which the Italian temples since the Renaissance, as St. Peter's itself, and notably St. Paul's, are so wanting. Wherever this great man put his finger, he left the impress of sublimity. Perhaps the most perfect of all his works, the one which wholly bids defiance to criticism, is the Lonja, or exchange of Seville, 1583. Vitruvius has erected nothing finer. The general plan is a quadrangle, enclosing a court, surrounded by an arcade. There are two stories, ornamented externally by pilasters. The order is Tuscan, both above and below, and the court staircase, and various apartments, decorated with a profusion of the rarest marbles. The whole is a specimen almost unique of chaste elegance and massive solidity. An accomplished critic says that it is a model for public buildings, which should be placed in all boards of work or similar places. It is truly surprising the number of important architects' works that Philip II. scattered throughout Spain. There is scarcely a city of importance that does not present an instance in a gate, or entrance, a triumphal arch, an ayuntamiento, or townhall, or one or more convents. The Spaniards were, indeed, a convent-building nation. It is incredible the number that were erected even in the time of Philip II. In most large towns at that time the number of convents and nunneries averaged from forty to fifty, while others were distributed all over the land. As may be imagined (exclusive of the Royal monastery of San Lorenzo), Spain still contains the most magnificent examples of this class of edifice, notwithstanding the political events of the country have conduced to their destruction more than any class of buildings. Time will not permit me to specify them, although many deserve the earnest study of the architect. In most Spanish towns of importance since their suppression, the most convenient one has been

converted into a sort of national gallery, in which are collected the pictures, not stolen by the French, and the painted sculpture, &c., of the rest; so that most of the important Spanish towns have now their national gallery. The largest one is usually converted to the cigar manufactory, a Government office, in Spain, of the utmost importance. I have pointed out the extraordinary manner in which the architecture of Spain kept pace with its literature in its rise, progress, and its culminating excellence, and the singular analogy between the two arts in their various phases. It was equally so in its decline. When literature had attained its highest excellence in its national and characteristic style in Cervantes, Quevedo, Lope de Vega, and Calderon, there arose a poet who destroyed the goodly edifice by the introduction of a vicious taste, named Gongora. He was not without cleverness; indeed, it requires a certain amount of talent, though debased, to override that which is great. The vile trash was characterized by his name, Gongorism, as well as Cultismo. It was the same as that we term cupheuism. Precisely the same took place in architecture. Upon the footsteps of the great Herrera trod a man named José Churiguerra (with his fol lowers of course), that at once debased the architecture of Spain, and stamped a style with his name, Churiguerresco Churiguerismo, like the Gongorism of literature. Its characteristic is the absence of all purity of taste, and the overwhelming redundancy of *vicious* ornamentation. It is also called in Spain the Plataresco, from its resemblance to the capricious and fantastic forms of the chasings of plate. As may be imagined nothing can be worse than the works of Ribero, Tomo Gavilin, the followers of Churiguerra, who was not the worst, though his name has been selected to designate the style. Their works are worse than the decline of the Italian, the Rococo, which in its apostle Borromini was nearly contemporary, and are called by the Spaniards themselves, who are excellent critics of art, Delirios, or offspring of diseased or distempered imaginations, and sometimes compared to the works of the harpies who in ancient times scattered filth over everything, as these have, indeed, befouled too many of the principal churches in Spain, as the Cathedral of Valentia, in which city may also be seen some of the most outrageous specimens of the style in the houses of the Valentian nobility—the angles at the bases of which will turn into and roll along the ground in enormous volutes or scrolls, ornamented with Tritons and Cupids, and endless broken and fantastic curves. However, to some of the best works of the style one cannot help according a certain degree of admiration for their richness and fertility of invention. One of the least unsatisfactory specimens is the College of San Telmo, once a naval college, at present the sumptuous palatial residence of the Duke and Duchess of Montpensier, at Seville, facing the Christina Gardens. I regret that I have not a drawing of the portal façade of this building, which is most interesting, but it is given, as well as the Alcasar of Seville, in Mr. Wells's "Travels in Spain." The building is composed of two large quadrangles, behind a façade of 500 or 600 feet in length, the portal centre of which, of most elaborate execution in the Plataresque taste, has been enriched by the architect, Matias de Figueroa, in its three stories, with carved columns, inscriptions, balconies, statues, single and grouped arches, medallions, wreaths, friezes, &c., of unexampled richness. Another specimen, also at Seville, deserving the attention of the architect, is the façade of the Ayuntamiento, or Town-hall, once a portion of the vast Franciscan convent, now for the most part pulled down.

This degraded style—the decadence of architecture in Spain—sprang up towards the end of the seventeenth century, when all her arts declined, and continued a considerable time into the next century.

It is not the object of my lecture to notice the modern architecture of Spain; I will, however, conclude with a few remarks upon Madrid in an architectural point of view. It is, by some centuries, the youngest capital in Europe, St. Petersburg excepted, as it cannot be said to have been founded before the sixteenth century by Charles V. It in consequence is deficient in ancient architectural monuments in Roman, Moorish, Gothic, or even Cinque-Cento art. It possesses no Notre Dame or Louvre and Tuileries like Paris. It has no Westminster Hall, Westminster Abbey, no Tower, no Whitehall, Banqueting House, like London, and is unfortunately rich in Rococo, which was the reigning style at the earlier period of its erection. It is, besides, the smallest capital of a great nation in Europe. Nevertheless, it has some architectural features superior at least to London. We have no street in London, nor yet, indeed, is there in Paris, notwithstanding the recent splendid improvements by the magnificent sovereign of the French, which can vie with the Calle de Alcala, in its noble expanse and its varied succession of buildings of sumptuous or stately architecture. I should mention that there was a sort of reaction in the architectural taste of Spain before the middle of the eighteenth century, the first native who opposed successfully the Churiguerresque style being Ventura de Rodrigues; he fortunately, with his followers, led back to a more severe and correct style of design, which became extremely popular and beneficial to the architectural display of Madrid. He was the founder, in fact, of the modern architectural taste of Spain existing to this day.

No metropolis in Europe presents a royal palace which, taking all things into consideration, can vie with that of Madrid. It was erected for Philip V. by Juvara, a Sicilian, and Jachetti, a Turinese, to whom, with Sabatine, also a Sicilian, Rodriguez, and Villanenva, Madrid owes her best architecture. Its style is Italian; it is square, each of its fronts being 470 feet in length by 100 feet high. It is built of white stone, with a rustic base of granite. It encloses a magnificent court, and is of itself a building of the utmost importance; but there is an inexpressible charm given to it by its extraordinary site, and that site the more extraordinary as being connected with a busy and populous city. This sumptuous pile towers over a country grand in its wildness, and closed by the magnificent range of the Guadarama mountains. It forcibly recals to mind some of those finest works of Claude Loraine, where noble and elegant fabrics of Italian architecture are surrounded by, and contrasted with, nature in her grandest features in the expanse of the boundless sea, or the vast and luxuriant wilderness closed by the rolling Apennines, forming a whole fraught with poetry.

The Puerta del Sol is the Charing-cross, or more than the Charing-cross, of Madrid. It is here (in the language of Johnson) that there is the confluence of the full tide of human life. The Spaniards were making it (when I was there, two years ago), by the buildings with which they were surrounding it, worthy of its importance as the heart of the capital. They had embellished its centre, not with the ginger-beer squirts of Trafalgar-square, but with a truly magnificent fountain.

The most considerable work of Villanueva is the Museo (the National Gallery) of Madrid, beautifully situate on the Prado. It is of red brick, ornamented with granite. The principal façade (although in some respects open to criticism, as being flanked by two projections in the manner of bastions tending to injure the harmony of the outline) is a work of considerable merit. In the centre is a hexastyle portico of Doric, flanked by two Ionic colonnades of incomparable beauty, and the Ionic temple which forms the lateral, *i.e.*, the principal, entrance is unrivalled in beauty and fitness. The vast circular hall of entrance, from which open the entrances to the various galleries or schools diverging from it, is one of the noblest and most appropriate of designs. It is impossible, in considering the National Gallery of a foreign nation, not to feel shame and humiliation for our own; the more so, as the work was not of an Academician only (Mr. Wilkins), but of the Royal Academy of Arts of London, the plans in their progress having been laid before the council of that body for their consideration—their approval or rejection. One conclusion may be drawn from it, that however it may be with the other arts, architecture has not her home in that institution. Nor from that source will be drawn the genius and inspiration which will hereafter dignify and adorn our future London, or place us upon a par with foreign nations in this one of the noblest of the fine arts. I allude to this especially in consequence of the speech of Sir Charles Eastlake at the dinner the other day at the Royal Academy. The Royal Academy have felt that architecture is of all the arts the one which has slipped through their fingers, and alone is independent of that absolute control that they assume to exercise over all the departments of the fine arts. Sir Charles has therefore taken the golden opportunity afforded by the dinner (which he has done upon other occasions for equally sinister objects), to suggest to Her Majesty's ministers the necessity of the establishment of a permanent power (of course, vested in the Royal Academy) to exercise absolute authority over the designs and execution of all architectural works hereafter to be erected in London, to secure to us, as he says, "that unity and consistency which are especially desirable in architecture,"—"that comprehensiveness and continuity of purpose which are essential to completeness of result." It is not a little singular that Mr. Ford, in an able article upon Spanish architecture in the *Quarterly Review* in 1846, ascribes the debasement of Spanish architecture, and the deterioration that Madrid has suffered in this respect, to the very appointment of such a commission as Sir Charles Eastlake urges upon the Government. I quote his words:—"Scarcely an edifice in Spain escaped these harpies—he alludes to the Churiguerresques, who were worthily succeeded by Royal Academicians. These, with their chairs, chains, and centralization, were the inventions of Philip V., who came, according to Caen Bermudez, to crush ignorance and false taste with a strong hand. He created an artistical inquisition, which watched over architectural heresies, and whose approval was requisite before any new edifice could be erected. Thus the intellect of the nation was fettered by conventionalities, and every opening closed against private judgment and individual mind."

A RECENT PEEP AT THE ROOKERY OF ST. GILES.

IN no part of the metropolis has more satisfactory progress been made than around this famous but most disreputable metropolitan district: many houses of a very bad description have been removed; and Church-lane, which leads from Church-street to New Oxford-street, is the only portion of the ancient Rookery now remaining. Twenty years ago it was a place of great danger except to those to whom the inhabitants felt well-disposed. Then the sanitary conditions were terrible, and the low lodging-houses were pandemonium. Into these dens, men, women, girls, and boys of all ages were admitted in unlimited numbers; and scenes were enacted which were disgraceful to humanity. From time to time since the above date, particularly during the last seven or eight years, a marked improvement has called for notice. It is not so much that the character of the persons who live here has amended, for still we see groups of the same sort of dangerous men and boys, the same haggard old women, others, of younger years, ragged and dirty; and children, the majority of whom are Irish, or of Irish extraction; but, in spite of themselves, they are obliged to preserve a degree of cleanliness, in the rear part of the premises. So far as we were able to judge, the sanitary inspector of the parish seems to do his duty well: there were few accumulations of dust. Indeed, the people seem to have now a practice of throwing the ashes and refuse into the carriage-road; these being swept up by the scavengers every morning and evening, and removed; and although this plan is not very sightly, it is perhaps less harmful than the storing for a time of such matters in cellars or narrow back-yards.

We heard some complaints here of scarcity of water, but not so loudly as in many other districts. There is a contrivance in several of the houses respecting the water supply: it is to place a number of casks in the cellars which are now unused. These casks are filled when the water comes in from the main, and it can be pumped up, when wanted, into a passage, or some other convenient part of each house. This, it is said, prevents waste of water; but great care should be taken to keep pure those places in which this supply is held, by means of seasonable lime-washing, ventilation, and the removal of all impure matters. There is a pump of this kind attached to the front of a shop at the south-east corner of Church-lane. This is supplied from a very large cistern in the old-fashioned house adjoining, which was formerly occupied by Justice Dyott. It is said that during the severe frosts, for several years past, this supply has never failed. The pump cannot be used by any one except with the permission of the proprietor of the shop. The licensed lodging-houses, which are under the care of Mr. Reasen and his staff, are in a clean and wholesome condition. In Church-street, there are several houses which are licensed as common lodging-houses, and are under the surveillance of the police. In one of these houses the late mysterious murder was committed; and in Justice Dyott's house a similar tragedy occurred some time ago. Some of these places afford lodgings to dissolute girls, and are notoriously evil houses. It has been much objected to that such arrangements should be allowed; but this is not, as the law exists, a question for the police: their continuance depends on the forbearance of the parish authori-

ties; and certainly it is better that such spots—blemishes though they be—should be open, either by night or by day, to the visits of the police, than remain dirty and disorderly. To return, however, to Church-lane; it is to be noticed that, although improvements have taken place outside, the houses within, let in tenements, are as badly conditioned as formerly; and we think as much, indeed more, overcrowded than ever. In this matter we can expect no good change until the law empowers the police to inspect dwellings so let, as they do common lodging-houses. This we have often urged.

The population of the Rookery is peculiar; and it is disheartening to notice, that although five schools of various kinds have been built round about, but few, if any, of the children, are sent from Church-lane. There, and elsewhere, in parts of the metropolitan population similarly composed, it is matter for wonder what is to become of these children, and if, when they arrive at manhood and womanhood, they will be better or worse than the wretched parents who have brought them into a miserable existence. There is constantly a police-officer at each end of Church-lane, and by this and other means a degree of order is kept which was not formerly known in this troublesome locality.

THE ANTIQUITY OF MAN: DISCOVERIES BEARING UPON THE QUESTION.

EVERY discovery and incident helping to constitute, as science, the newly established pursuits, archæo-geology and anthropology, is now receiving so much attention, that we are surprised no notice has been taken of a discovery stated by the *Echo du Nord* to have been made in the town of Lille, which, if correctly reported, should be capable of being turned into evidence in favour of theories of the formation of "recent" or earlier strata, or in disproof; though the facts detailed are too remarkable for us to say in which exact direction they should be considered to tend. Although the discovery is said to have been made on the morning of the 1st of April, we may assume that the French journals would not have given, as they have, some extended publicity to the story, without conviction of the character for veracity of the *Echo du Nord*. Moreover, part of the statement may be tested by any one able to visit the museum in Lille, where the object discovered is said to have been placed for inspection. The story is, that on the morning of the 31st of March, or 1st of April, whilst one of the houses of the Grand' Place of Lille was in course of demolition, a block of stone, broken in falling, disclosed, to the astonishment of the workmen, the form of a child petrified in the interior of the block; and, as though this much would not be sufficiently startling, it is added that one of the child's legs had been a wooden one. The whole figure, with the wood, had acquired the hardness of stone; and the form, extended in the attitude of sleep, with the perfect leg slightly bent, was completely preserved. The figure was found to be attached to the general mass by a cement that had been formed; and it could not be separated. The French authority, in directing the attention of the citizens of Lille to the object itself in the museum, does not hesitate to ascribe to it an antiquity of many thousand years. As regards the geological age of the stone, the only statement is to the effect that the block came originally from the quarries of the Oise.

Readers of the newspapers may have noticed that a fresh statement of the discovery of living toads in blocks of stone has appeared. Mr. Gordon Cumming is quoted as the authority. We have not the paragraph at hand; but, of course, every statement of the kind should show that the observer had examined carefully the block, to discover any fissure by which the toads might have entered.

The French men of science are finding reasons for believing in the high antiquity of the human remains discovered lately near Abbeville. They seem, at least, to have gone far to disprove the value of Dr. Falconer's test of sawing the tooth, in which he discovered gelatine; since they are able to assert that gelatine has been found in fossil teeth of much greater antiquity than any teeth to be found in "drift." M. Boucher de Perthes has many objects in his collection which appear more like the work of hands than the objects known as flint implements. These have been seen by the writer of this present note, when at Abbeville. Most of those found in the peat are unquestionable: others found in the "drift," we believe M. Boucher de Perthes would set no value upon. The statements as to the connexion of the tooth experimented upon in London, with the jaw-bone found at Moulin-Quignon, somewhat differ: Dr. Falconer's letter would seem to say that the tooth was one that had been found detached, near to the bone; whilst the recent statements at the Academy of Sciences seem to imply that the tooth had merely belonged to the collection of M. Boucher de Perthes; who, it is added, had always expressed doubts about it, and refused to guarantee it. Whilst these questions are debated, there are French men of science who are seeking to explain the effects of stratification by different theories from those which are received. Whatever the issue of the many branches of investigation into the history and antiquity of the earth's strata, and of the human and animal life upon it and within, there are few men to whom so much will be owing as to M. Boucher de Perthes.

Since these notes were penned, a second letter by Dr. Falconer has appeared, giving an account of meetings held in Paris, and further and very careful researches at Moulin-Quignon, in all which he had assisted. The chief result, admitted equally by Englishmen and the French, is that the bone exhumed by M. Boucher de Perthes, as well as "flint-implements" having characteristics which had led some of the English men of science to regard the implements as forgeries, could not have been inserted in the strata by the workmen. The French go further, and say that the jaw and the implements alike are contemporary with the deposition or formation of the strata. Dr. Falconer still doubts whether the jaw is of any very great antiquity. Whichever way the conclusion be arrived at, as to the bone, the discovery in Lille, *if authentic*, should help to the decision.

THE PEABODY FUND.

THE trustees, by the secresy in which they shroud their steps, are lessening public confidence in the wisdom of their proceedings. It is now reported that they have purchased a portion of the long vacant ground in Victoria-street, Holborn-hill.

Dr. S. Gibbon, on the part of the Board of Works for the Holborn district, has addressed a communication to them, urging the eligibility of the Holborn district for the erection of dwellings for the industrial classes, for various reasons, which he gives, especially:—

1st. Because the number of the existing houses is inadequate to the population, as is evidenced by the numerous cases of overcrowding and illegal occupation of dark cellars, which are constantly demanding the Board's attention; and by the fact that a few years since 348 houses, with many more in the adjoining parish of Clerkenwell, were taken down in this district for street improvements in the Holborn Valley. These 348 houses, which accommodated about 1,943 families, and 4,176 individuals, have not been replaced; therefore it was not surprising to find at the census, 1861, that the population of one sub-district averaged 4·4 families, and 15·5 persons to each house.

2nd. Because most of the houses at present occupied by the poor are of ancient and, in a sanitary point of view, of very faulty construction: crowded together in narrow courts and alleys, they are defectively lighted, often built back to back with other houses, so as to be incapable of efficient (*i. e.* through) ventilation. The dust-bins, waterbuts, and water-closets, formerly cesspools, are situate in the basements. Originally designed for one, they now contain from ten to fifteen families each. It is believed that the erection of a few blocks of cheerful and wholesome dwellings would necessitate the rebuilding of these old houses, which are now with difficulty kept fit for human habitation.

Is it certain that building houses is the best thing the trustees can do?

THE ARCHITECTURAL MUSEUM.

THE fifth lecture of the session at the Architectural Museum, in the South Kensington Museum, was delivered on Tuesday, May 19, by Mr. William White. The lecturer first called attention to the purposes of the Architectural Museum, and of the lectures annually given in it. These were meant, he said, not so much for technical instruction, as for mutual improvement by means of discussion; and the proper subjects of them were not the general principles and theory of architecture, but rather how the various subordinate branches of art that are exercised under the architect's direction, might be most successfully cultivated: how, in the words of their president, "the artist workman might be converted into the working artist."

His subject was the wrought-iron work of the Great Exhibition of 1862. He had taken notes of the various objects at the time, and he now freely criticized what he had seen, believing that without free criticism there was no way of arriving at a higher perfection of true art. The following is a sketch of Mr. White's observations:—Metal work may be divided into two classes, wrought work and cast work. Wrought work holds the higher place in art, though cast work is of more practical utility, especially in large works, owing to its cheapness. Each requires a treatment proper to the material: forgetfulness of this simple principle is the chief cause of errors in design and taste. Cast-iron is brittle: wrought-iron is elastic. By casting we can obtain a perfect mechanical uniformity, but wrought-iron shows the hand and skill of the workman, and can be counted good only when it shows a skilful touch. Annealed cast-iron, or, as it is commonly but incorrectly called, "malleable cast," is often used in defiance of the true principles of art, as an imitation of wrought-iron. This use is to be condemned, for this material wants the tenacity and elasticity of wrought-iron; still the material has a legitimate use as cast. The beauty of wrought-iron work depends upon the workmanship being fully shown, as well as the nature of the material. The drawing out and fining of good wrought work shows at once that it could not have been cast, and could not stand if it were cast. The structure and the surface ought to indicate the nature of the process by which it was formed: twisted iron is in vain imitated by filed spirals: the effect of such shams is always unsatisfactory. Care must be taken that decoration does not interfere with real usefulness, or with the strength of the work. In illustration of the principles advocated by the lecturer, he drew attention to the points of excellence or defect in many of the chief works exhibited in 1862; showing sketches of some, and producing others kindly lent by the owners for the occasion. At the conclusion of the lecture, Mr. Skidmore offered some remarks, and proposed a vote of thanks to Mr. White, which was heartily responded to.

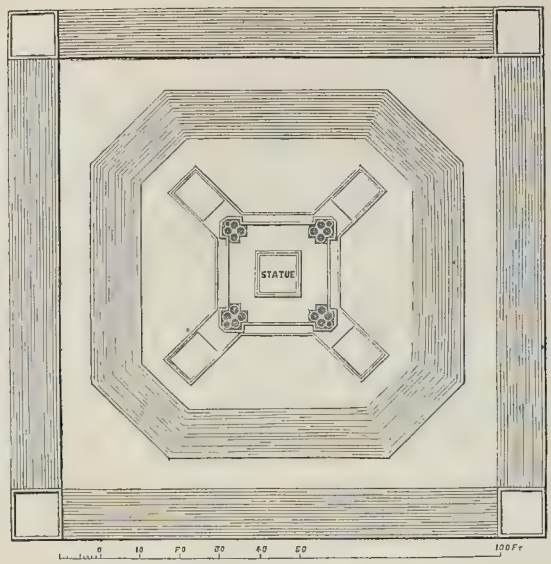
VITAL STATISTICS OF MELBOURNE, AUSTRALIA.

SOME vital statistics given in the report of the Registrar General of Melbourne have much interest. In the month of December, 1862, the deaths in Melbourne were 393, or a daily average of 12·68. This shows a considerable increase in the rate of mortality compared with that of the same month in the year before, when it was 8·11 per day. In 1861, the deaths in December were 299, in 1860, as many as 525, and in 1859, 479. Of the 393 deaths in December, 1862, 259, or nearly 66 per cent., were children under five years of age; and 134, or rather more than 34 per cent., were beyond that age. This is sadly like the statistics of infant deaths in the mother country.

The number of deaths throughout the district, during the quarter terminating on the 31st December, 1862, amounts to 830, against 738 in the corresponding quarter of 1861.

The death rates of the quarter for each 1,000 in the different parts of the district of Melbourne, vary very greatly. In Melbourne proper, the rate was 8·75. If the other quarters correspond with this, the yearly deaths of this capital would be 35 in the 1,000—equal to the average of Manchester township. But in east Melbourne the death rate in the quarter was only 2·48 in the 1,000; North Melbourne and Carlton, 8·16; Fitzroy Municipality, 5·33; South Yarra and Prahram, 4·81; Emerald Hill and Sandridge, 5·16; St. Kilda and Brighton, 4·45; Doutta Galla and Keilor, 3·56; Boroondara and Heidelberg, 2·27; Cut-paw-paw, 3·05; Hobson's Bay, 1·74, or only 6·96 in the 1,000. We have not just now the means at hand of knowing to what extent the death rate of the town of Melbourne may be affected by the deaths of persons who may have been brought from other neighbourhoods to the public institutions; but if this cannot be shown to be to a considerable extent the case, it is clear that the town of Melbourne requires sanitary care.

Besides the chances of life and death, the price of provisions is a matter of consequence: it may, therefore, be useful for those who intend to emigrate to Australia to compare the following list of the chief necessaries of life:—Bread, per 4 lb. loaf, 6d. to 7d.; apples, per lb., 4d.; meat, 3d. to 5½d.; pork, 7d. to 9d.; dry onions, 1½ to 2d.; potatoes, per cwt., 6s. to 9s.; cabbages, 2d. to 1s. each; sugar, 4d. to 6d. per lb.; tea, 2s. to 3s. 6d.; coffee, 1s. 6d.; tallow candles, 6d. to 7d.; sperm candles, 1s. 4d. to 1s. 6d.; cheese, 9d. to 1s. 6d.; fresh butter, 2s. 6d. to 2s. 9d.; salt butter, 1s. 6d. to 2s.; ducks, per pair, 6s. to 7s.; eggs, per dozen, 1s. 8d.; geese, 5s. to 6s. each; fowls, per pair, 4s. to 4s. 6d.; turkeys, 7s. to 12s. each; milk, 9d. per quart; English beer, 6d. a glass, 1s. 6d. a quart; ditto, bottles, 12s. a dozen; colonial beer, 9s. a dozen; gas, 16s. per 1,000 feet; wood, 12s. to 18s. a load; coals, 2*l*. 10s. per ton.



THE PROPOSED NATIONAL ALBERT MEMORIAL.—*Plan.*

SOME ODDS AND ENDS.

Short-hand Writing.—The preface to a small work on Brachygraphy, published by J. Gurney, March 1st, 1778, mentions as a curious fact, that it was an art then unknown to any people in the world except to the subjects of the king to whom it was dedicated, George III.; and adds that, although it was known to Cicero, who instructed and employed persons to practise it in the Roman senate, no avail was made of it in this country till the year 1588, when Dr. Timothy Bright printed a treatise, entitled "Characterie, or the Art of Short, Secret, and Swift Writing by Characters," which he dedicated to Queen Elizabeth, under whose letters patent it was published. The author proceeds to undertake a task that would inflict upon many more modern writers an infinity of trouble; namely, to explain, in person, to any purchaser of the book, such passages as he may not immediately comprehend, and to promptly attend to any letter stating such difficulty of comprehension, which might be addressed to him, post-paid. We presume he would reply to these in short-hand. But the offer is indicative of the intimate relation between reader and writer on out-of-the-way subjects when the polite arts were not so generally diffused as in our own age.

Quantities.—It may be some satisfaction to such of our readers as are stumbling over the first difficulties in the art of taking out quantities, to know that equal obstacles beset the paths of students of other subjects. Grammar, logic, mathematics, arithmetic, algebra, and natural philosophy, have their abstruse and harassing quantities, as well as building materials. There is, in fact, scarcely any end to quantities. By way of proof, we enumerate:—Moral quantity (that which depends on the manners of men and the free determination of their wills, as good and evil, dignity and power, rewards and punishments); natural quantity (such as weight, motion, cold, light, thickness, and thinness); notional quantity (that is, a quantity arrived at by the operation of the understanding, relating, for instance, to the extent of the mind's capacity, or of its conceptions); permanent quantity (extension into length, breadth, and quantity); successive quantity (that which is applied to time and motion); transcendental quantity (the continuation of the existence of a being); continued quantity; discrete quantity; simple and compound quantity. The quantity of matter in a body, and the quantity of motion in a body, are further varieties. The simple measurements or cubing of building materials may be considered a mental recreation by contrast with these untangible quantities.

Curious Names of Northumbrian Places.—There are many singular names of places in Northumberland. Not the least curious are Allgood, Blinkbonnie, Biteabout, Clickemin, Carrylouse, Coalhouses, Coatyards, Coldcoats, Middlethread, Makemrich, Moneylaws, Monkseaton, Nunriding, Roguery, Synderhope, Sheepwash, Twicebrewed, Thrivewell, and Unthank. Places on the lines of old Roman roads bear indicative names, such as Remridge, Rejerodge, Cawledge Currage, Corridge, Dunridge, Edgewell, Ferneyridge, Greenridge, Harperidge, Highridge, Longridge, Mellsridge, Nunridge, Quitreway, Stamfordham, Todridge, Usway, Yasridge, Whitridge, &c. The names, too, of places along the route of the great Roman wall speak for themselves:—Walltown, Whalton, Wallington, Wallbottle, Walridge, Harewalls, Cocklaw Walls, Wall, Wallhouses, Thirlwall, Gunnerswall, and Wallsend. The sites of camps and other Roman settlements are indicated in names:—Rochester, Rudchester, Hedchester, Fernechester, Chesterhope, Greenchester, Whitchester, Chesterwood, Oatchester, and Chesters. The terminals most peculiarly Northumbrian are biggin, bottle, bothal, bogg, croft, cleugh, eals, flatt, fell, gate, haugh, hoe, hag, hope, kirk, lin, mire, peth, peel, rigg, rim, shaw, shield, slake, syke, twisle, &c. Some of these forms are reversible: kirk, for instance, is a prefix as well as an affix, Kirle Harle, or Nunny Kirk. Lin is another instance: there are Routing Linn and Lowlin, as well as Linton, Linmouth, and Linbriggs. It is further noticeable that although the Danes frequently invaded Northumberland, there are but few places owning Danish names.

Ancient Britain.—The secretaries of the Berwickshire Naturalists' Club, Mr. Robert Embleton and Mr. George Tate, F.G.S., have recently issued their annual volume perpetuating the transactions of that body. The matter in it of interest to our readers consists of Mr. Tate's accounts of the exploration of several traces of Ancient Britain among the Cheviot hills. There is evidence, in the great number of ruined buildings, to show that 500 ancient Britains lived in tracts on which there is now but one solitary shepherd's cot. A town, several forts, and numerous hut circles, have been uncovered; that is to say, the immense accumulations of earth upon the ruins of them have been removed by a staff of explorers, under the practical direction of Mr. Coulson, Corbridge. Besides these, of which we have informed our readers from time to time, an exploration has been made of a huge circle of large stones, some standing, some overthrown among the heather, on the north side of the Three Stone Burn, near Cheviot. The stones vary in height and in distance from each other. The tallest is 5 feet 5 inches; the shortest 21 inches high. One of an intermediate size, 3 feet 9 inches, is 10 feet round. The plan of the so-called circle is elliptical, measuring 112 feet by 96 feet. On this elliptical line the stones are placed singly, at unequal distances, the two nearest to each other being 13 feet 2 inches apart; the two most distant from one another 31 feet apart. Allowing that there is a missing stone in a space measuring 57 feet from stone to stone, we have here a mystic circle composed of fourteen huge blocks of porphyry. What was its purpose? To ascertain this, excavations were made along the circumference and round some of the stones: trenches were cut at right angles through the inclosure, and again at some distance from the centre down to the natural surface and below it. This examination revealed nothing except a little charred wood here and there, and one flint arrowhead. No walls, no ditches, nor rampiers, nor further relics were found. By an exhaustive process Mr. Tate comes to the conclusion that this circle of unhewn stones "was the temple wherein the ancient Britons of the district assembled to join in the religious rites performed by their Druid priests." In corroboration of this view he mentions a Gaelic phrase, pointed out by Dr. Wilson,—"Am chiel thu dol do'n clachan,"—Are you going to the *stones?*—for are you going to church, which seems to imply a traditional association of idea, of worship and the monolithic rings of our ancient population. The cost of the explorations was defrayed by the Duke of Northumberland; and the gentlemen upon whose estates the antiquities are situate, Messrs. F. Sitwell, M. Culley, and W. Roddam, afforded every facility in their power. The volume also contains papers on Jedburgh by Mr. Jeffrey; "On the Northumbrian Dialect," by Mr. Ralph Carr; "On the Battle of Flodden Field" (illustrated); "On Barrows at Ford," by the Rev. W. Greenwell; "An Account of an Ancient British Grave, discovered at North Sunderland," by the Rev. F. R. Simpson; with a "Description of the Calvarium of a Skeleton found therein," by T. B. Davis, M.P., F.A.S.; "Notices of the Remains of Ancient Camps at Milne-graden," by Mr. D. Milne Home; "Miscellanea Zoologica," by Mr. R. Embleton; and a form of notice respecting things worth observing and preserving distributed among the persons employed in the formation of the Berwickshire Railway, 1862. As this may be useful to those in the neighbourhood of similar works, who are forming or filling museums, we condense it:—

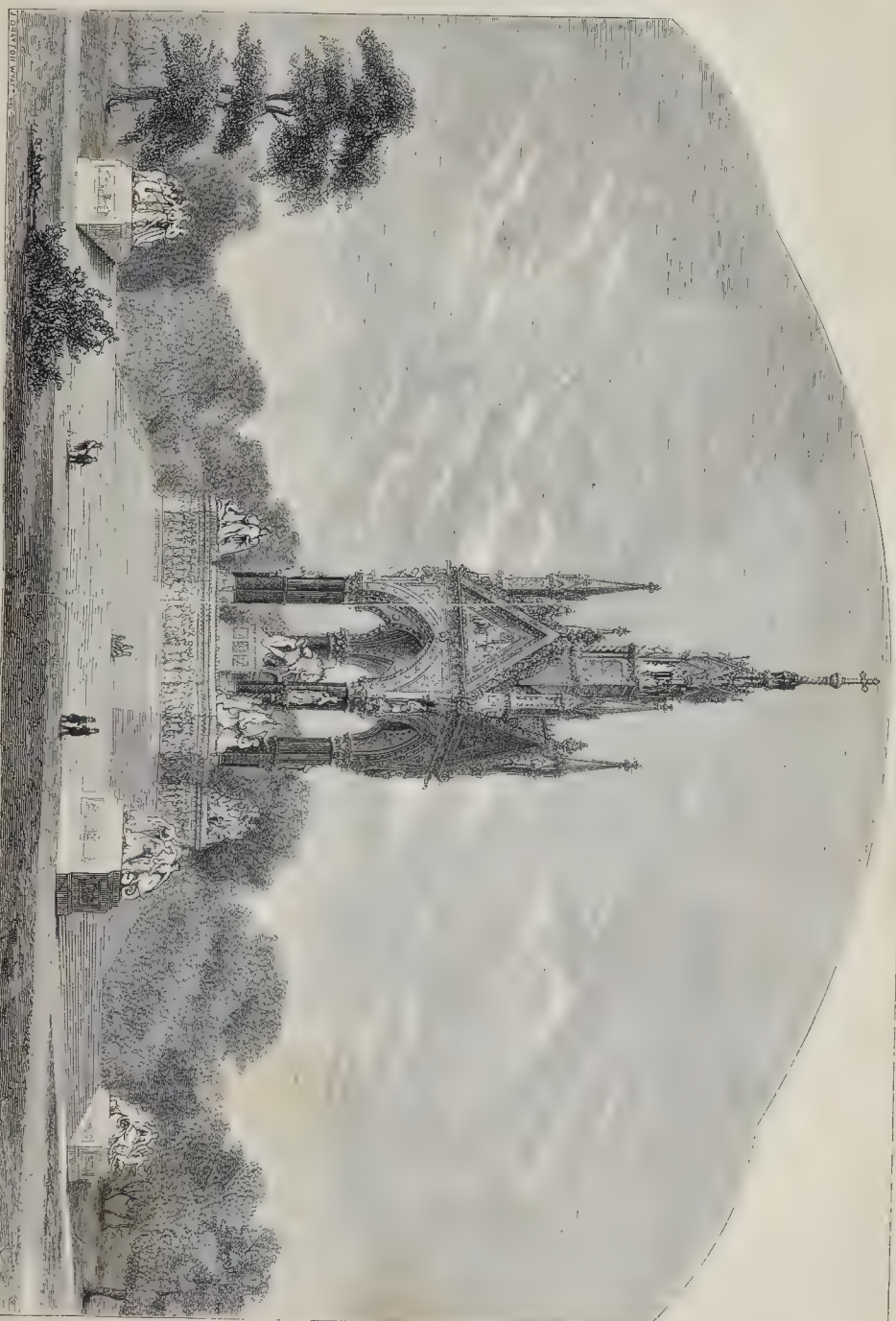
Geology: old Rocks.—The lines of junction between different rock formations should be observed to note how the more recent rocks have been deposited over the edges of the older rocks, after the latter had been elevated and contorted. Any metals, unusual minerals, crystals, fossil remains, should be as little injured as possible, so as to allow drawings to be made on the spot.

Superficial Deposits.—Observe the way in which the old rocks are covered by beds of clay, gravel, and sand; and whether they appear to have been ground down and smoothed by the passage over them of heavy and rough materials; and if so, in what direction the scratches and marks are made. Any fossil remains found in these beds, bones or teeth of animals, shells, or plants, should be preserved.

Antiquities.—Any coins, and weapons or other implements, whether made of stone, wood, or metal, should be carefully preserved and a note taken of the place and stratum in which they were found. Any sculptured stones or stones bearing inscriptions should be taken care of. If any graves or skeletons are discovered they should remain undisturbed until they are properly examined; and the greatest care should be taken to preserve skulls or urns from being broken. In the event of any discoveries being made under any of the above heads, notice thereof should be sent to, &c.

A DANGEROUS FOOT-PATH.

FOR years past the footpath which passes on the west side of the road opposite the Islington Agricultural Hall, the Fever Hospital, and for a long way northwards, has been one of the most dangerous in the metropolis, owing to some levelling which has been made in the carriage-road in stage-coach days. This footpath has been left standing up above the road at a height of from 2 feet to that of 3 feet, 4 feet, and upwards. In frosty weather, during fogs, and in dark nights, this is very dangerous, and has caused many accidents. Now that we are having monster musical entertainments, dog-shows, and cattle-shows, which attract large multitudes to this neighbourhood, the matter is of greater consequence even than it was formerly. It will be expensive, and inconvenient to the adjoining houses, to lower the foot-path; but there ought to be an iron railing placed along the curb of this inland cliff; or it might be formed into steps.



THE NATIONAL ALBERT MEMORIAL.—THE SELECTED DESIGN: BY MR. G. G. SCOTT, R.A.*

[* See p. 361, ante.

MODERN SCHOOL OF SCULPTURE.

IN an interesting and valuable lecture recently delivered by Professor Westmacott before the Cambridge School of Art,* the lecturer expressed the following views:—

"There is still great danger to the interests of true art from the propensity there is in sculptors so frequently to appeal only to the sensual feelings of their public, and to look a-field for their subjects in classical dictionaries and in obsolete fables, rather than to draw from their own feeling. Thus they are led, as we constantly see, to produce works only to exhibit form; only to show the ability of their authors in the manipulation of a difficult material, or to attract attention by addressing the mere sense.

Some additional force seems to be given to these remarks by the fact,—and it is a very interesting one,—of the movement that has been made by a small section of artists in the production of works of a sentimental and, usually, religious character. These reformers of art have discovered a great truth, too long lost sight of, that such art, so founded, is the highest and the best; and according to the opinion above expressed, even this principle, if once generally recognized, may be considered a possible ground for the improvement of all our art. It is a matter to be deplored, that with this noble impulse to incite them, some of the promoters of this movement have not fully recognized the advantage of practising their art upon the highest standard of form. This, there can be no doubt, has interfered with the good this school might have effected. Those who have studied and can appreciate the value of beauty,—it is in art as in everything,—are offended at what appears a silly prejudice and affectation in those who utterly repudiate its use. Why pure and noble thoughts and illustrations of sacred scenes and subjects should not be presented in the most pure, beautiful, and noble forms with which nature furnishes us, it is difficult on any theory to understand. To use the nude of the Greek *ideal* would be as absurd and objectionable as it would be incongruous and inappropriate in a Christian religious representation; but as we have the highest type of beauty in the noblest of God's creations, the human form, it seems a mere unreasonable prejudice not to make the figures in such compositions as beautiful and as perfect as their Creator produced them, when, as we read, 'God made man after His own image.' Purposely to represent actors in Scripture scenes attenuated, ill-formed, and of a vulgar commonplace class of form, is almost a mockery. It is true, the earlier artists of the revival, and even down to the fifteenth century, did this; but they knew no better. Art was then in its infancy. Their object was to express the subject, the idea; and their utter ignorance of rules of art is evident. Their work is impressive from its earnestness, not from its defects—in spite of its shortcomings, not because of them. Unfortunately the defects are what a certain school seems to admire and to think worthy of imitation. Material art, good or bad, may be copied; but simplicity and earnestness must be innate, part and parcel of the artist's own idiosyncracy: and if he has these, how strange it seems that he should prefer to give them expression in language which he knows to be imperfect, of a bygone period, and showing a totally different condition of art-knowledge from his own. How can an artist of the middle of the nineteenth century pretend to find a true language of art,—that is, true to him and to his time and public,—in the strange, rude, meagre forms of seven or eight centuries ago?

Still, this impulse, if allowed to develop itself, may, in spite of these little affectations, work great good to art. Some there may be who may find their market-advantage in following in a peculiar and exceptional wake, which has its class popularity, and, what is more to the point, its paying patrons. But there are among the artists of the new school true and earnest men who will undoubtedly have the glory of advancing art of a pure and noble kind by their efforts to disseminate a feeling for pure and beautiful subjects, in opposition to the false and the meretricious and the tricky that has to some extent been forced upon public attention here and elsewhere.

Sculpture might have better taken an impulse from the standard of feeling approved by this movement, than from the more objectionable, even if fascinating, school of sensationists. It is not desirable, even if it were possible, to restore the style or mode of ancient Greek sculpture; but it might conduce greatly to the improvement, the dignity, and the success of this art, if modern sculptors would bear in mind the exigencies, the conditions of its practice. From its very nature, confined to form and without the charm and fascination of colour,—for the tinting and smearing experiments that have lately been witnessed cannot fairly be considered in the category of colour, that is, if nature's colouring or Titian's colour mean anything,—limited, as I have said, in its means by this one condition Form, sculpture is not fitted for picturesque, flighty, or very fanciful treatment."

* Now published by Bell & Daldy, Fleet-street.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

AT the Annual General Meeting, May 13th, (Dr. Lee, F.R.S., President) the Auditors delivered in a report and balance sheet of the accounts for the past year, by which it appears that 571*l.* 6s. 7d. had been received, and 515*l.* 17s. 10d. expended, and a balance left in favour of the Association of 55*l.* 8s. 9d. Every account against the Society had been paid, and for the quarterly journal, and two parts of the *Collectanea Archæologica*. The Associates were called upon to give more assistance towards the latter work, as an important archæological publication. A third part was announced as nearly ready for delivery.

Thirty new Associates had been elected, fourteen had withdrawn, eight were deceased, and five were recommended by the council to be erased from the list for non-payment of their subscriptions. The Treasurer read notices of the deceased members. The usual votes of thanks to the officers and council having been passed, a ballot was taken for their successors for 1863-4, when the following list was returned:—

President -R. Monckton Milnes, M.P., D.C.L.
Vice-Presidents.—Sir Charles Rouse Boughton, Bart.; James Copland, M.D., F.R.S.; George Godwin, F.R.S., F.S.A.; Nathaniel Gould, F.S.A.; James Heywood, F.R.S., F.S.A.; George Vere Irving; T. J. Pettigrew, F.R.S., F.S.A.; and Sir J. Gardner Wilkinson, D.C.L., F.R.S.
Treasurer.—T. J. Pettigrew, F.R.S., F.S.A.
Secretaries.—J. R. Planché, *Rouge Croix*; H. Syer Cuming; and Edward Roberts, F.S.A.
Secretary for Foreign Correspondence.—Thomas Wright, M.A., F.S.A.
Palæographer.—Clarence Hopper.
Curator and Librarian.—George R. Wright, F.S.A.
Draftsman —Henry Clarke Pidgeon.
Council.—George G. Adams; George Ade; William Harley Bayley, F.S.A.; Thomas Blashill; John Gray; W. D. Haggard, F.S.A.; Matthew Harpley; Gordon M. Hills; John Lee, LL.D., F.R.S., F.S.A; Edward Levien, M.A., F.S.A.; William Calder Marshall, R.A.; George Maw, F.S.A.; Thomas Page, C.E.; Richard N. Philipps, F.S.A.; Edward Joseph Powell; J. W. Previté; and Samuel R. Solly, M.A., F.R.S., F.S.A.
Auditors.—T. W. Davies and J. V. Gibbs.

The Congress was fixed to be at Leeds, at the beginning of October, under the presidency of Mr. R. Monckton Milnes, when Ripon Cathedral, Fountains Abbey, Kirkstall Abbey, Aldborough, Wakefield, Pontefract, &c., will be visited.

PROTECTION OF IRON FROM RUST.

IN course of a discussion on various subjects at the Society of Arts last week, in a Committee of Reference on Mechanics and Engineering, Mr. C. F. Varley said:—All attempts to use galvanised iron for roofs in large towns failed from the smoke attacking the galvanised metal, and tinned iron did not resist the action of smoke so well even as zinc. All the experiments he had seen of coppering iron had failed unless it was done in so expensive a manner as not to be practicable for any extended use of it. What they required was a covering of lead, or lead and antimony, put upon the iron so as to combine the stiffness and cheapness of iron with the durability of lead. Owing to the multiplicity of telegraph wires in the metropolis danger might result from the falling of long spans of wire through their being rusted away. Col. Schaffner said the coverings of houses in some countries were of tinned iron. In America this was largely used instead of lead. In St. Petersburg and Moscow iron was mostly used, but it required frequent painting. In the telegraph service he had tried many expedients for the preservation of the wires by galvanising and the use of linseed and other oils. He had boiled the wires in linseed oil with beneficial results; but they would decay. Mr. Varley, sen., said, if iron were heated and passed through oil, the pores were filled up, and the metal lasted a long time. Mr. Reveley mentioned that iron heated and covered with asphaltum or mineral bitumen in the solid state had resisted a moist atmosphere for fifteen years. He had found the natural asphaltum the best, and he had not succeeded so well with liquid asphalte. With all other materials he had found the rust penetrated underneath. Mr. John Braithwaite said that the mode of arresting it adopted by his father, and which he had himself followed for the last fifty years, was by painting the iron with red lead. Painting with white lead was of no use, as the acid used in the preparation of it produced swelling effects. He had inspected a well where he had fixed an engine forty-five years ago. The rods which had been placed in this well, 200 feet deep, were painted with pure red lead; and on taking them up, he found that their weight was precisely the same as when they were put down forty-five years ago.

CHURCH-BUILDING NEWS.

Grantham.—A preliminary step has been taken towards the restoration of the church at Grantham; at least, notice has been given of a vestry meeting "for the purpose of considering the propriety of obtaining a report from some eminent architect on the present state of the parish church, and the works required to be undertaken for its restoration, and making such orders thereon as may be deemed expedient." Mr. Scott, we understand, is to be requested to furnish a report of the present condition of the church, and the probable cost of restoration.

Windsor.—The contributions towards the erection of a new church in the vicinity of Queen's Villas have justified the promoters in determining on its immediate erection, to further which six architects have been solicited to furnish plans. These, says the local *Express*, are to be submitted within a limited period; and, on the adoption of the favoured one, the work will be immediately proceeded with.

Devizes.—St. John's Church, Devizes, has been re-opened, after it had been closed for twelve months for the purpose of restoration and enlargement. In pulling down the old arcades of the nave, a large number of ancient Norman carved heads and mouldings were found built into the walls; and Mr. Leach, the proprietor of the Castle Grounds, has just erected a Norman doorway from these stones. The lantern was at some time or other shut off by the construction of a ringers' loft, and a series of intersecting arches, with columns and windows, of a peculiar structure, are thus hid from view. The present alterations did not contemplate a restoration of these features. The old waggon-headed roof of the nave has been replaced by a new open timbered roof with curved principals, close-boarded on the top of rafters, and stained. The unsightly and dangerous-looking leaning columns (some of which were as much as 23 inches out of the perpendicular) have all been removed, the arcading has been entirely rebuilt, and the church extended one bay (13 feet) to the westward. The pillars are built of alternating courses of Box and Chilmark stone. All the interior walls of aisles, transepts, chapels, &c., have been repaired and cleaned off to the stone-work, to correspond with the new bay, and there is no plastering throughout. Where the gallery and organ stood, at the west end, there are now a doorway and window: the latter requires to be filled in with stained glass. The old high-backed pews are substituted by light open seats, with buttresses on standard ends, stained and varnished. The ground has been considerably lowered, and a body of concrete, 6 inches thick, placed over its entire surface. The flooring of the pews is of new deal, and the centre and cross aisles are paved with Minton's black and red tiles. Haden's heating apparatus, with the latest improvements, has been applied. The chancel within the altar rails has been partly re-decorated. The sittings have been increased from 558 to 703, notwithstanding the removal of the gallery. About 150 are free. The works have been carried on from plans drawn by Mr. W. Slater of London, the contractor being Mr. B. Mullings, of Devizes, builder. The entire cost of the works will exceed 2,800*l.*

Cherill.—The church at this place is now undergoing alterations and repairs. It is to be repewed throughout, and a new vestry built, with other additions, and it will be heated with Haden's warming apparatus, the entire expense being defrayed by Mr. G. H. W. Heneage, of Compton House. The whole of the works are intrusted to Mr. B. Mullings, of Devizes, builder.

Great Massingham (Norfolk).—This old church was re-opened for divine service on April 29th, after having undergone considerable restorations. The nave, south aisle, tower, and porch roofs have all been made new out of English oak, and the entire benches, pulpit, &c., prepared and fixed out of cedar, all the wood kindly given by the patron, the Marquis Cholmondeley, of Houghton Hall, besides a donation of 500*l.* The porch has been

taken down and entirely restored by the rector, the Rev. C. Grenside. The restorations have been carried out by Messrs. Curtis & Son, builders, Litcham, under the superintendence of Mr. D. Penning, Suffolk. The entire cost is about 2,000*l.*

Congleton.—The organ at Astbury Church, formerly standing in the western gallery, it has been decided is to be placed again over the western door on a platform supported by two stone fluted columns, of similar character to those formiog the piers of the church. The organ will project but a little way into the church, the blowing apparatus being placed in a chamber behind the west walk. The organ stands in the centre, between the two western windows.

STAINED GLASS.

St. Giles's Church, Northampton.—Mr. W. J. Peirce has lately presented to his parish church (St. Giles's) a stained glass memorial window, the work of Messrs. Powell, of London. The window forms one of a series representing scenes from the life and death of the Redeemer; the subjects illustrated in the present window, which is divided in two parts, being the "Scourging of Christ," and "Christ bearing the Cross."

Shipnall Parish Church.—The *Shrewsbury Chronicle* states that two new stained glass memorial windows have been erected in the Moreton chancel of this old edifice. The first one, upon entering the chancel, is dedicated to the memory of the late Mr. R. A. Slaney, M.P., and comprises representations of the Scripture texts engraved underneath, viz., 1st, "Whosoever drinketh of the water that I shall give him shall never thirst;" 2nd, "Blessed are the merciful, for they shall obtain mercy;" 3rd, "Go and do thou likewise." The last-mentioned is a representation of the good Samaritan relieving the man wounded by thieves. The remaining portions of the window are filled up with sundry devices. In the second window are illustrations of the following passages of Scripture, viz., 1st, "Suffer little children to come unto me, and forbid them not;" 2nd, "Thou art gone on high Thou hast led captivity captive;" 3rd, "Glory to God in the highest, and on earth peace." The other portions of it are completed by designs similar to those in the other window.

Prestolee Church, Lancashire.—The great west window of this church has been prepared by Messrs. Ballantine & Son, of Edinburgh. It is designed in the Early Decorated style, with four upright lights and geometric tracery. In the four lights is a representation of the Nativity, combined with the Adoration of the Shepherds and the Wise Men. The composition embraces twelve figures, the Virgin and Child with Joseph being in the two centre lights, the Shepherds kneeling and presenting their humble offerings on the right, and the Magi presenting their princely gifts on the left. Behind the central group, a portion of the structure is seen where the birth took place, and beyond is a receding deep blue sky, in which the Star of the East shines over the central figures, while groups of angels hover over the Holy Family, announcing to the worshippers the glad tidings of great joy, and proclaiming "Peace on earth, good will towards men." In the bases are the emblems of the evangelists and angels bearing scrolls with appropriate texts, and combined with the tracery. Each upright compartment has its canopy with mosaic groundwork, so as to preserve the requisite architectonic propriety.

Guildhall, York.—At a special meeting of the city council, held on the 24th of December last, it was resolved that a subscription memorial window to the late Mr. Alderman Meek should be placed above the sessions court in the Guildhall. The expense was estimated at 300*l.* A design for the new window, prepared by Mr. Frederick Bell, of this city, architect, has received the sanction and approval of the council, and also of the committee. A number of tenders for the furnishing of the new window has been delivered, and that sent in by Messrs. Hardman & Co., of Birmingham, has been accepted. The work will be forthwith commenced. The glass of the old window will be taken out under the supervision of Mr. Bell, who has been requested to separate the old from the new glass, and report to the committee how the former can be effectually preserved in one of the windows of the Guildhall. The subjects of the new window (of five lights) are intended to illustrate the charter granted by Richard II., on the 18th of May, 1396. The centre light will contain a full-length figure of Richard II. in armour. On the right hand of Richard II. will be William de Selby, the first lord mayor. He will be represented as having just received the sword. On the King's left will be the figure of Sir William Frost, Knight, who was lord mayor in 1396-97, when the great charter of the city was granted, and will be represented as just having had the document presented to him. The extreme right and left lights of the window will have figures of the first two city sheriffs. All the figures will be represented in the costume of the period of Richard II., in their gowns of office, and with beards and hair as worn at that time. They will be placed under canopies and on diapers of the same period as the architecture of the Guildhall. In the tracery will be the arms of Richard II., with the crown, crest, cypher, cognizance, and supporters; the arms of the city of York, backed by the sword and mace, and surmounted by the Spanish hat; and the city arms as before, impaled with those of the late Alderman Meek as lord mayor. The lower part of the window will be filled in with arms of five of the witnesses to the charter.

Boroughbridge Church.—The entire clerestory windows of Boroughbridge Church, numbering sixteen compartments have been recently filled with stained glass from the establishment of Mr. H. M. Barnett, of Newcastle-on-Tyne. The windows, in design, represent the "Te Deum," the verses of which are inserted in scrolls held by angels,—one in the centre of each compartment, with wings partly extended. The remaining portiOns of the windows consist of coloured geometrical forms, filled between with foliage. There is also, above each window, a quatrefoil containing the sacred monogram of Christ.

PROVINCIAL NEWS.

Winchester.—In compliance with a resolution, the mayor has called a public meeting of the inhabitants to consider the question of repairing or restoring the City Cross. The sum required to completely restore the Cross is estimated by the city surveyor, Mr. W. Coles, not to exceed 240*l.*, and the council will probably vote 100*l.* towards the cost.

Totness.—The Devon and Cornwall Bank, which is just completed, is of three stories, with a frontage of 48 feet to the main street. The façade of the ground-floor story consists of six arched openings, the piers and segmental arches of which are of finely-wrought granite, from Messrs. Freeman's works at Penryn. The capitals of the piers are carved in Portland stone. The features of the next story are two central semicircular-headed windows, flanked on each side by an oriel window, with banded masonry of blue limestone between the openings. The upper story consists of an arcade of seven semi-circular windows, surmounted by a bold cornice. The building, internally, comprises commodious bank offices and manager's apartments. The architect was Mr. Hine, of Plymouth, whose design was selected in competition.

Bath.—The citizens of Bath have subscribed 3,000*l.* towards a memorial of the late Prince Consort, the money to be expended in adding a new wing to the Bath United Hospital.

Runcorn.—The construction of a bridge over the Mersey will shortly be commenced by Messrs. Brassey & Ogilvie. Mr. Brassey has already taken a house at Runcorn for office purposes. The bridge is to be an iron one.

Dundee.—The new court-houses are advancing towards completion. The centre portion of the new building is a portico, formed of four columns of the Tuscan order, the walls on either side being recessed by pilasters of the same. The two extreme wings formerly built being in this style, necessarily furnished the key of the whole façade, and the central mass of building is thus in harmony with the outlying wings. In the pediment of the portico it is intended to place a piece of sculpture, filling a triangular space 34 feet in length and 7 feet high, the centre of which will be occupied by the Royal Scottish arms. This piece of sculpture has just been completed by Mr. P. B. Smith, of Edinburgh. The principal figures are cut out of stone to a depth of 2 feet 4 inches. The lion and the unicorn supporting the shield have each been hewn out of a block of stone weighing 4 tons, and for the whole design 32 tons of stone were required. The stone was taken from the Dunmore quarry at Bannockburn. The court is 40 feet by 45 feet, and 38 feet in height. The Procurator's library is 32 feet long by 22 feet 6 inches broad, and 16 feet high. The architect is Mr. Scott; and the mason work is being done by Mr. Haggart, and the plaster work by Mr. Adam; carpentry by Messrs. Kidd & Son. The local *Warder* states, that the "Chamber Practice" court, with the Sheriff-clerks' and Procurator-Fiscal's rooms will be ready for use by Whit-Sunday, and that by the next assizes everything will be ready for the accommodation of the circuit court.

MONUMENTAL.

The Wellington Monument at Liverpool was inaugurated on Saturday, the 16th inst.——The Undercliffe Cemetery Monuments at Bradford are thus spoken of by the local *Observer*:—There is no place about Bradford more generally frequented by the inhabitants than this City of the Dead. The situation of the cemetery is itself picturesque, and the ground has been well laid out. There are strong points of similarity between our cemetery and the Glasgow Necropolis, which, however, excels ours yet in monuments. But upon the whole the Undercliffe monuments are improving in taste as much as they are increasing in number. The introduction of granite, which agreeably varies the monotony produced by the superabundance of Yorkshire grit, claims special notice. Within the last year or two, several obelisks and columns of granite have been erected. At first, Aberdeen and Peterhead granites were the favourite materials. For the smaller monuments they are perhaps the best adapted. But the largest granite monument is an obelisk erected to the memory of the late Mr. Joseph Smith within the last three weeks. The Smith obelisk is erected at the end of the central avenue overlooking Bradford. Mr. Gay, the registrar, designed this obelisk. It is a gigantic monolithic needle, erected on a solid granite base, 9 feet square, finished off by a few simple mouldings. The monolithic needle is alone 22 feet 8 inches high. Mr. Sim, of Glasgow, was the contractor. He obtained the block for the needle from the Wigton Quarries, and the material for the base from Ardshiel. The Wigton silver grey granite is close in the grain and very free from blotches. Mr. Sim received a prize medal for a specimen of it sent to the Exhibition.——The Schiller Monument in Munich has been inaugurated. King Louis of Bavaria has erected it to the poet's memory at his own expense. The ceremony took place in presence of the members of the learned and artistic societies of Munich. At night, the students and members of the different corporations of the city, more than 1,500 in number, formed a procession by torchlight.

THE STAGE AND ENTERTAINMENTS.

Royal Italian Opera.—In *Il Barbiere di Siviglia* Madlle. Patti is fresher and brighter than ever; Mario still singing Almaviva better than any other living tenor can do it; and Ronconi *acting* Figaro to the like perfection. Who shall estimate the debt due to one who creates for the world such an opera as "The Barber?" A never-ending source of innocent, we would almost say, elevating joy! a well of pleasant, gleeful thoughts, lightening men's hearts! We do not reward creators sufficiently. *Le Prophète* is on the bills for Monday; but we do not yet hear anything of the new works promised.

The Haymarket Theatre.—The action of the new comedy, "Finesse; or, Spy and Counterspy," is laid in Messina, and it opens with a bright pleasant view of the sea-shore there, with distant mountains and gaily-decked vessels, painted by Mr. O'Connor. It is not an easy thing to write a good comedy, and we may not give the accomplished authoress of "Finesse" the credit of having achieved this. Still the piece is amusing, and gives Mr. Wigan, Mr. Buckstone, and Mrs. Wigan scope for some admirable acting. The first as an old French Doctor, part diplomatist but more man, shows all his accustomed skill and delicacy; while Mr. Buckstone, as a would-be sailor, now tipsy now sober, now fighting now dancing, secures continuous hilarity, and checks any rising thought as to want of art in the dramatist.

Polytechnic Institution.—So great has been the success of "The Spectre Drama," involving the most complete optical delusion ever effected, that the directors have been led to set apart Saturday morning in each week for those who are willing to pay half-a-crown to see it more quietly than can be done on ordinary occasions. Mr. J. L. King, moreover, explains very clearly the large plate-glass electrical machine, and the Rhumkoff coil; and Professor Pepper, besides his ghostly efforts, very spiritedly done, lectures on the new metal, Thallium, and gives some striking experiments. "Der Freischutz," from a humorous point of view, concludes the morning. A very elegant audience

last Saturday showed that the arrangement is likely to be successful. The Prince of Wales went on Tuesday, and was let into the secret of the arrangement.

Mr. Lumley's Benefit Performances.—The principal artists of Her Majesty's Theatre, such at least as were connected with the old management under Mr. Lumley, have come forward in the most liberal manner and proffered their services for three "Benefit Performances." A letter to that effect, with the names of the artists appended, headed by Signor Giuglini on the part of the gentlemen, and by Mdlle. Titiens on the part of the ladies, was sent to Mr. Lumley. The first performance will be given on Monday next.

THE ARCHITECTURAL ASSOCIATION.

THE usual meeting of members was held on Friday (the 15th inst.), at the House in Conduit-street.

The chair was taken by the president, Mr. Thomas Blashill.

The following gentlemen were, on ballot, elected members of the Association:—Mr. E. Dalby, Wantage, Berkshire; Mr. Henry Aldridge, 9, Albert-terrace, Richmond-road, Bayswater; Mr. William Seymour, Bayham-terrace, Camden Town; and Mr. Kopper, 24, Berkeley-square.

The President announced that, by leave of the authorities of St. Paul's Cathedral, the members of the Association would be allowed to examine the whole of the building on Saturday next, and that it would be necessary for them to assemble for that purpose within the church at two o'clock.

The question of appointing delegates to attend the approaching meeting of the Architectural Alliance was the next subject discussed; and, in answer to applications from the Association, the following gentlemen had expressed their willingness to attend in that capacity;—Mr. T. R. Smith, Mr. Rickman, Mr. A. Allom, Mr. Paraire, and Mr. Bunker.

On the motion of Mr. Spiers, seconded by Mr. North, a resolution was passed, directing that Mr. T. R. Smith, Mr. Allom, and Mr. Rickman be requested to attend as delegates; and that should any one of the above be unable to attend, Mr. Bunker be requested to act in his stead.

A letter was read from Mr. Paraire, tendering his resignation as a member of the ordinary committee. Some discussion ensued with respect to the desirability of accepting the resignation, and eventually a motion was submitted, to the effect that the resignation be not accepted; but, on a division, it was negatived, and the resignation was accepted.

Mr. Skidmore, of Coventry, then read the second portion of his paper on Architectural and Artistic Metal Work, which we give elsewhere.

CAPTAIN COOK'S MONUMENT.

A CORRESPONDENT writes,—"I had occasion a few days ago to visit Merton, near Wimbledon, on business. In this church there is a tablet erected to Captain James Cook, the circumnavigator, by his widow, and to other of her relatives; with a female figure in very high relief, in white marble, in the attitude of mournful resignation. This monument was by Wyatt, and he was paid 700*l.* for it before it left Rome. It deserves the attention of visitors, and is the only thing of interest in the church, with the exception of a monument of the Elizabethan age in the chancel. Some of Cook's descendants still reside near the village; and I understand a brother, sister, and, I think, father, were interred in Merton Church."

COMPETITIONS.

Pateley Bridge.—The case of Pateley Bridge, near Harrogate, shows how strangely competitions are occasionally managed. Some time last year a limited liability company was formed in that place for the establishment of gas and water works. In September, the company advertised in this Journal for plans and estimates to carry their project into execution, and offered a small premium to the successful competitor. How many gentlemen competed we know not; but we do know that up to the present time the directors have not arrived at any decision upon the merits of the several plans; nor indeed are their intentions settled as to the works themselves. Surely a period of seven to eight months is not necessary for the consideration of plans to supply a village of 300 houses with gas and water. Plans are made, contracts entered into, and works completed for towns of ten times the size in less.

High Wycombe.—The churchwardens of this parish mistake the province of Builders when they invite them, as in our present number, to submit designs in competition for seats for their ancient church with the *handsome* offer of 1*l.* for the best. Is there no one in the parish to tell them what is right?

Gateshead Town-hall.—The committee report that twelve sets of designs have been submitted by eleven competitors for the premiums of 100*l.* and 50*l.* offered by the town council. The following is a list of the competitors, with the sums at which they state their designs can be executed:—

Mr. John Wardle, Newcastle	£15,000
Mr. John Edward Watson, Newcastle	26,000
Mr. John Johnson, Newcastle	8,750
Messrs. Adamson & Ross, Edinburgh	25,000
Mr. Thomas Reay, Newcastle	19,000
Mr. Matthew Thompson, Newcastle (A)	8,000
Do. do. (B)	9,500
Mr. John Lamb, Gateshead	14,500
Messrs. Thomas Moore & Sons, Sunderland	18,000
Mr. Charles E. Anfield, Park-row, Leeds	19,000
Mr. A. M. Dunn, Newcastle	15,000
Mr. J. Ord, Carlisle, no estimate.	

Ald. Crawshay said it would have been better to have stated, in the conditions of the competition, what sum the council were prepared to expend on the construction of the town-hall, as several of the designs were quite unsuited for what the council required.

Girls' Industrial School, Coventry.—A correspondent writes,—"Who obtained the premium in the above competition? Did any one?"

Freemasons' Hall.—SIR,—As I have no other means of communicating with him, will you kindly afford me the opportunity of expressing my great regret to the author of the designs marked "*Experientia*," that an unfortunate accident has occurred to his ground-plan drawing. If I could have done so, I would immediately have informed him of the circumstance: being unable to do so, and being unwilling to let the drawing be shown in its damaged state, or that it should run the risk of further injury, I have had it repaired by a first-rate artist, and I trust that "Experientia" will kindly accept this expression of my sincere regret.

JOHN HAVERS, Chairman of Committee.

ARCHITECTURAL COPYRIGHT.

SIR,—With regard to your correspondent's remarks on the subject of architectural copyright in your number for May the 9th, I may remark that, having recently had occasion to study the Copyright Acts, I have been led to consider that a certain amount of protection, though imperfect, might possibly be obtained through the medium of the Artistic Copyright Act, 25 & 26 Vict., cap. 68, since thereby a copyright is granted upon registration, for a very small fee, as prescribed by the Act, to "any original painting, drawing, and photograph," with the exclusive right of copying, engraving, *reproducing*, and multiplying such painting or drawing, and the "*design* thereof," by any means whatever.

Now it appears to me that an architect's new design, when put upon paper, constitutes an original drawing, which, if duly registered, would be protected by the Act from being "repeated, copied, colourably imitated, or otherwise multiplied for sale, *hire*, exhibition, or distribution" (see Act, section 6), the penalty being the forfeiture of a sum not exceeding *ten pounds*, and of all the illegal copies; and as such penalty can be enforced by a magistrate, it would seem to be worth while for architects to try whether protection could not be obtained under this Act, for such protection does appear to me to be within the effect of the Act, as, generally speaking, the before-mentioned "original drawing," or the "*design thereof*," would be copied or reproduced for sale or *hire*, the term "hire" legally including anything done for pay or pecuniary gain or advantage.

F. W. CAMPIN.

THE POSITION OF ARCHITECTS AND ENGINEERS.

I READ with some interest Professor Kerr's address in your pages, and if I had time to spare, should like to take up the subject, and to have offered some remarks upon that paper generally. As my practice has been both architectural and engineering, I have had opportunities of knowing how the practice in these two professions differs, although both work with the same materials. An architect in the present day is subject to the whims and caprices of his employer much more than the engineer can or would be. In many cases the architect is employed, almost as a matter of form, to do the drudgery and battle with the builder. The builder dares suggest alterations and improvements to the architect's employer, and will generally succeed too. The engineer knows no such influence: his instructions, whether right or wrong, are law. The architect's directions may or may not be carried out, as the employer decides. The builder, for his own interest, can generally prevail on his employer to fall into his notions, stupid as they may be, and both are very often ignorant of art or fine taste. The architect is snubbed, must give way, and do the best he can under such disheartening circumstances. It is two matched against one, whose opinions are formed, sincerely believing, in their ignorance, that they know all about the matter. The builder under an engineer looks up to him with all reverence: he fears his knowledge and position. He knows the power given to him in carrying out his works: he dares not interfere between the employer and the engineer. The position of an engineer is quite different, and greatly superior to that of an architect in working out his plans. You will ask, how does this arise? I answer that the engineer is carrying on a work of science, that he is fully acquainted with all the methods of working out his designs, both of materials used and the mechanical agency employed for construction. He sees farther, he knows more, than the builder: he stands over him, gives him instructions, orders him what to do. The architect is carrying out a work of taste by methods, and in materials, as well, and perhaps better, understood by the builder than himself. If what I state were not true, how is it that I so constantly see a builder standing before some monstrous production, and saying, in the pride of his heart, and in gross darkness that he does not perceive, "I planned that out myself: we had no architect here." The fact is, the builder does not want an architect: he would rather meekly offer his own plans, and carry out his works without one. It answers his purpose better; and unfortunately the majority of employers entertain precisely the same opinion. I think Professor Kerr is wrong in supposing that the diffusion of knowledge on the subject of architecture is injurious to the professional interest; or that any good can arise from drawing a veil of mystery over a subject, when there is no secret to hide, and which from its interest, and I may say simplicity, will be studied and practised by amateurs, in spite of all he can say and do. In liberality of sentiment, in the diffusing of information, the architect's better "*half-brothers*" are in advance of the architects themselves. Look at the published works on engineering, and compare them with those on architecture!

To improve their present position, the architects must endeavour to raise the present standard of taste in the public mind: they must copy the engineers in being more determined, more scientific, and more united. Above all, they must teach contractors and builders their proper office, and be more independent of them. In my opinion, the way to succeed in that is to divide labour more; and instead of contracting with one man to undertake the construction of a building from beginning to end, they should divide their contracts, as sometimes they do now, letting different tradesmen perform the work, each in his own department of business.

With reference to the endeavour on the part of the architect to take the high hand with the engineer, dictating to him the design and ornamentation (which he despises) of his works, it would not succeed: the time has passed. Engineers will not put themselves into architectural harness, let Professor Kerr be assured. J. B.

ARCHITECTURAL PLAGIARISM.

You have lately had several paragraphs about copyright in design. Allow me, not merely for my own interests,—for these in this instance are small and secondary,—but for the sake of maintaining honesty in our profession, to call your attention to the following facts.

In 1852 and '53 I designed and superintended the erection of a large house for a gentleman at Nutfield, near Reigate, the cost of which was between 6,000*l.* and 7,000*l.*: subsequently it was sold to Mr. F. H. Gurney, and further works were done, in which an old pupil of mine, Mr. Pennington, and myself were jointly concerned.

At a later period some little additions were made by another architect, but not such as to modify in any material degree the main external composition; and yet he has twice exhibited the whole building as his design, once at the Great Exhibition of 1862, and now at the Architectural Exhibition.

To get up a pretentious picture of numerous

buildings, "designed and executed by," &c., is doubtless a very good way of advertising, and also a very easy thing to accomplish, if the adding of two or three rooms to a house, or the addition of a stage to a tower, or a few new windows to a church, justify the assumption of the whole edifice as one's production. But is this honourable?

R. M. PHIPSON.

WORKS IN THE REGENT'S PARK.

IT is now understood that gardens and pleasure-grounds should be in character with the buildings which they adjoin. As fine scenery is often marred by the badness of the building it surrounds, so many buildings are disfigured by inappropriate grounds. Nor is this the case only in the country. All large towns require spaces to be reserved, where the taste of the gardener may assist the work of the architect. Indeed, I look on the one as the complement of the other; and I should wish every architect to have the skill and the power to combine the different forms of vegetation with the building he designs. In England, where the climate is peculiarly suitable to the growth of trees, few now exist except in the large parks. In the continental cities they are not all cut down when the land is cleared for building purposes, and the principal streets are not deprived of the shelter and variety trees afford. We used to pride ourselves upon our parks. We were wont to ask if any other town possessed the shade and the verdure of the country in the neighbourhood of a city; but we must now submit to be defeated by our French neighbours, and be content to think that, if the Bois de Boulogne excel any other place for the beauty and skill with which it has been designed, this is owing to the experience the Emperor acquired in England. It is, indeed, remarkable for the judgment with which every natural advantage has been employed, and for the rapidity with which the work has been executed. I think, however, the reserved garden of the Tuileries presents to an English architect a more important example. A few years ago it was a space of dry gravel, with few flowers and no large shrubs. It is now a delightful garden, planned in harmony with the neighbouring palace, where borders of exotic flowers, massive screens of trees and shrubs, unite with marble vases, the orange tree and the pomegranate, to give the privacy the court required, and to recall the gardens Boccaccio described and Tasso sang.

In the Regent's Park an Italian garden has been lately made. It is well arranged, and skilfully laid out. If it is properly kept up,—a matter involving some expense,—it will be an excellent example for others to follow. But while Mr. Cowper deserves praise for the happy means he has taken to supply the loss of the trees he was forced to cut down, but little taste has been shown in the huge band-stand he has erected in another part of the Park. It is put where even a building of greater pretension to beauty would be out of place, for it interferes with and almost conceals a very picturesque distance, cutting the sky-line in a way that no good landscape-gardener would sanction. Had the spot chosen been the only one which would hold the large numbers that surround the stand on a Sunday, the case would be different; but there are other spots which present equal, if not greater, advantages. Were I allowed to suggest one, I would point out the piece of ground not far from the inner circle, where the policemen are drilled, as one in every respect suitable to the purpose.

By increasing the planting towards the angle of the paling, near the Eastern entrance to the Botanical Gardens, sufficient shade would soon be procured to shelter the performers. The audience would here have a large space at their disposal; the new gardens would be at hand; and the place is easily reached. The selection of this spot would also save many of the inhabitants of the Park from the annoyance to which they are subject.

The houses in the Regent's Park are principally occupied by professional men, to whom the rest of the one day is not a luxury, but a necessity. It is not possible for large numbers, however well behaved, to come together without materially interrupting that repose so dear on the Sunday to many Englishmen. If it is a prejudice to prefer this quiet to the bustle a continental town would present on this day, it is at least a prejudice which deserves to be respected, and not to be rudely or wantonly disturbed. Each year the Parks are more employed for purposes of amusement. The increased facility of communication will pour into them the inhabitants of distant quarters, whenever any unusual attraction is afforded. It is very important, then, that a competent staff should be selected for their care; that good taste should preside over their direction; and that, while the public wishes are considered, they should not be permitted to interfere with their order and arrangement. We have failed in most of our streets, and have a mother city as ugly as it is vast; but I trust it will be long before we shall be unable to point with pride to the public grounds, where the people seek their recreation.

A LOVER OF GARDENS.

CERTAIN POINTS THAT MIGHT BE CONSIDERED BY MODERN ARCHITECTS.

SIR,—It would appear to be most necessary at this time to consider certain prevalent faults in modern architecture and whence they arise; and this will give an answer to your recent pithy remark as to "Italian Gothic," or at least that which is so called.

Architects constantly fall into the error of designing eccentric buildings. This is easily mistaken for originality and fancy. The only antidote to this is simplicity and a strict adherence to use. The Japanese designs or patterns are never eccentric: they are natural: their humour or quaintness is always simple, and within the bounds of the possible.

Then, the desire, in the present day, for "sensation" effects, produces this eccentricity, against which it is the duty of all to strive manfully.

Again, the desire for showiness induces the architect to have recourse to the violent undercutting in carving; the coloured bricks; fussy, useless detail, and such-like trivialities; and hence the stuff called Italian Gothic. We want simplicity. This is the want of the age in architecture. "Sensation" is also the root of the widespread evil of making effect upon us Englishmen by building up strange forms copied from abroad. Italian Gothic is so common now that it has ceased to be a "sensation;" and we have French at this moment to keep time with Mr. Fechter, at the Lyceum. The translation of "Salaambo" may get up a Carthaginian "effect." The true object of an English architect should be to build something English in character, without being a literal copy of anything built before his time, although retaining the traditions of Old English work.

A building must bespeak its use: it must be suited to the surrounding landscape; and, if in the town, suited to the habits of the people, and to the purposes required of the building, with due regard to a picturesque effect and the material employed.

O. O. O.

LIABILITY IN THE ERECTION OF SCAFFOLDING.

Shea v. *Mahony*.—This was an action in the Sheriffs' Court (Mr. R. M. Kerr, Judge), to recover compensation for injuries received in falling from a scaffold; plaintiff being a plasterer's lad, and defendant a master plasterer. Mr. Juckes appeared for plaintiff, and Mr. Metcalfe for defendant.

It appeared that very recently some repairs were being executed in a house in Oxford-street, and a large room, with a very lofty ceiling, had to be replastered. A scaffolding was erected, and it was the plaintiff's duty to serve the workmen; in doing which he was compelled to use a scaffold gangway, from which one day he fell and severely injured himself. On the part of the plaintiff it was sworn that he had to serve the plasterers upon a single plank, and it was from a single plank that he fell.

In cross-examination plaintiff said,—I was not playing on the scaffold, nor do I know that any complaint was ever made of the mode in which the scaffold was erected.

James Mahony said,—I have been a scaffold-builder for twenty-five years, and have had great experience. The usual gangway for plasterers' boys consists of three, if not four, boards; and I have very rarely seen so few as three. If there was only one plank in this case, the scaffold was deficient, and it was wrong. I have given the plastering boys generally three boards, not more than 4 inches apart, to let the dirt through.

Cross-examined.—I have not seen this scaffold.

Mr. Metcalfe urged that defendant was clearly not liable, as he had merely contracted to put up the scaffold for the builder; and had, in fact, actually employed a third person to do it. There was a well-known case recently argued, in which it was decided that where a railway guard had been killed by reason of the negligence of a platelayer, the company was not liable.

His Honour.—Oh! I know that case; but there is a stronger one, in which some workmen kept on using a shaft after they themselves had complained of it.

Mr. Metcalfe.—In addition to the law, I can prove the fact that the boy was playing, and, walking backwards, fell off the scaffold. Therefore it was his own negligence which caused the accident. The person who erected the scaffold deposed that it was put up very securely, and the boy had at least three planks to work on.

One of the plasterers said,—I saw the accident, and I am bound to say that the boy was not playing on the scaffold. He had just served a workman, and stepped backwards, falling down upon a carpenter's bench, a depth of about 17 feet. I can explain how this happened. There were three boards for the boy to go upon, and one of these boards was very much longer than the other two, so that there were two short boards and one long board—in all three boards. Of course the shortness of the two boards made a gap in the scaffold, and the boy was upon the single plank when he stepped backwards. He was obliged to go so far to serve one of the plasterers, and he evidently forgot that there was a gap, having had the three boards for some distance on the gangway.

His Honour sent for the City bricklayer; and, after some conference with that tradesman, said,—"You see, Mr. Metcalfe, that there were three planks only for a portion of the gangway."

Mr. Metcalfe.—That scaffold was erected for Mr. Pritchard, the builder, and he supplied the timber.

His Honour.—But it was the duty of the person who put up the scaffold, and who ordered it to be put up, to reject boards which were not long enough. I can understand that where an accident occurs through the negligence and omission of a fellow-workman, the master would not be liable; but here the accident happens through the negligence of the master himself. I cannot say that to use short and long boards, so that a gap is left in the gangway of the scaffold, is not negligence; and therefore I find for the plaintiff, with 5*l.* damages, and full costs.

Mr. Metcalfe.—Can I appeal?

His Honour.—No. There is no appeal under 20*l.* Your client is clearly liable.

Verdict for plaintiff.

EXUDATIONS FROM WALLS.

SIR,—Will any of your readers be kind enough to inform me what remedy to apply, effectually, to the following grievance?

I have a large mansion which has undergone recent alterations and improvements. From some of the walls (which had been for some years exposed to the weather) there is an exudation on their surface of a brownish colour, very offensive to the eye. I have had them washed and painted two or three times, and yet this wretched thing makes its re-appearance.

Can it be the effect of wet getting into the walls and so oozing out?

If so, what remedy can I apply? Whether from this cause or any other, I shall feel greatly obliged to any one who can suggest a remedy.

A. A.

WORKS SELECTED BY PRIZEHOLDERS IN THE ART-UNION OF LONDON.

From the Royal Academy.—A Reconciliation, by F. B. Barwell, 210*l.*; A Scene in the Life of Kepler, J. Heapy, 200*l.*; The Enchanted Frog-Prince, Mrs. Bridell, 42*l.*; A Day Dream, E. J. Poynter, 42*l.*; The Pride of the Desert, A. Cooper, R.A., 25*l.*; A Study on the Coast, T. Walters, 15*l.* 15*s.*; On the East Hill, Hastings, J. Thorpe, 15*l.* 15*s.*; Windermere, from Low Wood, J. Walton, 15*l.*

From the Royal Scottish Academy.—Bournemouth, by E. T. Crawford, 25*l.*; Lochnagar, James Giles, R.S.A., 20*l.*; Village Musicians, H. Collins, 20*l.*; Study, Robert Gavin, 10*l.*

From the British Institution.—A Summer Ramble, by R. Collinson, 100*l.*; A Visit from the Parson's Daughter, W. H. Knight, 73*l.*; A Pastoral, W. Crabb, 50*l.*; The Tournament, C. Hunt, 40*l.*; The Thames at Sonning, H. Jutsum, 40*l.*; On the Swale, Yorkshire, G. Cole, 25*l.*; Fowey Castle, Cornwall, H. K. Taylor, 15*l.*

From the Society of British Artists.—Scene in Petersham, by J. Tennant, 12*l.*; Fern Gatherers, E. J. Cobbett, 110*l.*; At Ockham, Surrey, F. W. Hulme, 100*l.*; Summer on the Thames, W. W. Gosling, 75*l.*; Welsh Pasture View, S. R. Percy, 75*l.*; The Peat Gatherer, S. B. Godbold, 73*l.*; The Cornfield, W. Shayer, 50*l.*; Derwent Water, J. Walton, 42*l.*; Learning a Ballad, F. Underhill, 40*l.*; A Downholme Bridge, G. Cole, 35*l.*; Moonlight, A. Clint, 35*l.*; Shipping off the Casket, H. K. Taylor, 32*l.*; Cologne on the Rhine, J. B. Smith, 31*l.* 10*s.*; By the Seaside, J. Hangell, 25*l.*; The Morning Call, G. Pope, 25*l.*; Feeding, J. F. Herring, 25*l.*; Cathedral at Abbeville, T. J. Wood, 25*l.*; A Fisherman's Daughter, T. Lucas, 20*l.*; Village and Castle of St. Michel, H. Valter, 20*l.*; Dunstanborough Castle, H. K. Taylor, 20*l.*; Black Diamonds, J. T. Lucas, 17*l.* 2*s.*; Derwent Water, C. Pearson, 15*l.*; Anxious Moments, A. F. Rolfe, 15*l.*; On the Lledr, E. A. Pettitt, 15*l.*; A Picnic in the Woods, E. Temple, 15*l.*; The Lookout, P. R. Morris, 12*l.* 12*s.*; Fetch 'em in, H. Hardy, 10*l.* 10*s.*; Lane Scene, T. J. Soper, 10*l.* 10*s.*; Camellias from Nature, T. Whittle, 10*l.*

From the Institute of Painters in Water Colours.—The Lizard Point, by J. C. Reed, 42*l.*; Scene on the Teign, F. Mitchell, 26*l.* 5*s.*; A Freshening Breeze, J. P. Philp, 25*l.*; Little Bo-peep, &c., J. Absolon, 25*l.*; Picking up Pieces of Wreck, J. G. Philp, 25*l.*; Near Bedgelert, North Wales, E. Richardson, 22*l.*; Lane in Alton, G. Shalders.

Books Received.

The Law of Compensations, by Arbitration and by Jury. By CHAS. WORDSWORTH, Q.C. London: Shaw & Sons, Fetter-lane. 1863.

MR. WORDSWORTH having been called upon to sit as "assessor" to the sheriff in compensation cases, found it necessary to collect and collate cases, and make memoranda suggested by them. The result is this little book, which will be found serviceable by all who are engaged in such matters. It will probably form the nucleus of a bigger book, for much more might be said on the subject. The appendix comprises the "Lands Clauses Act," "Lands Clauses Amendment Act," the "Railways Clauses Act," and various "forms." Mr. Wordsworth thinks a subject as to costs requires farther legislative action. He says:—

"Under the statutory provisions, if a company make an offer to a claimant of a particular sum, which is not accepted; then, if the case is disposed of by arbitration or a jury, and the compensation awarded or assessed is greater than the sum previously offered, the company bear the claimant's as well as their own expenses. Ex-

aggerated claims are of common occurrence; and it is suggested that full justice might still be done to parties whose property is wanted for the particular works to be executed, if it were enacted that, unless they succeeded, by award or by verdict, in getting *two thirds* of the amount claimed, in cases where the company had offered a specific sum, they should not be entitled to costs."

But he rightly adds, "the subject is one that requires more to be said upon it than can conveniently be done in a 'preface.'"

VARIORUM.

"The Riots at Birmingham, July, 1791. Birmingham: Matthews, Bennet's-hill, 1863." This is a *facsimile* of a pamphlet (in English and French) published at the time of the riots occasioned by the celebration of the French Revolution. Property of the inhabitants to the extent of 400,000*l.* was destroyed; and together with the reprint are given *facsimiles* of a number of engravings of the ruins of mansions and other buildings that were destroyed. What has occasioned the issue of this reprint at the present time we do not know.——"Cassell's Illustrated Bunyan: The Pilgrim's Progress. London: Cassell, Petter, & Galpin. Number 1." This is a remarkable pennyworth; but we cannot find any trace in the prospectus of the total cost. It is to come out weekly; and the work will contain copious annotations by the Rev. R. Maguire, M.A., incumbent of Clerkenwell, and a Life of Bunyan by the Rev. W. Brock: the illustrations will be by Mr. H. C. Selous and M. Paolo Priolo.

Miscellanea.

THE THAMES EMBANKMENT (NORTH SIDE) BILL.—This Bill has been read a third time in the Commons, and passed.

ARTIFICIAL SLATE.—Mr. J. N. Pierce, of Darby, has exhibited at the Franklin Institute numerous specimens of artificial slate, for the use of schools, colleges, &c. On painting any suitable surface with a preparation patented by Mr. Pierce, a slate-coloured ground will be formed, which answers for drafting or marking purposes. Paper, linen, or any textile fabric, may be used to form convenient portable slates, which can be rolled or folded up for transportation. Mr. Pierce also exhibited pencils made of talc.

HOMES OF THE POOR AT READING.—An inquest was held before Mr. Rupert Clarke, on the 29th ult., on the body of Esther Pizzey, aged twenty-one years, wife of a laundryman, at the Wellington College. The deceased resided in a place consisting of a van, and a small compartment added to it, which formed a bed-room. She died rather suddenly. Great astonishment was expressed by the jury, says the local *Mercury*, at the smallness of the bed-room used by the unfortunate deceased, the dimensions being as follows:—length, 6 feet 2 inches; width, 6 feet 3 inches, but only 5 feet in the centre, as there was a projection of about 18 inches; height, 6 feet 1 inch. The door was 5 feet 4 inches high, by 1 foot 9 inches: the window was very small, and the occupiers of the place, fortunately so far for them, could not sleep with the door shut. The sitting-room was 10 feet 6 inches long, and 6 feet wide; the height being 5 feet 11 inches. Mr. Davis's assistant said a former occupier of the place had died there about two years since, from typhus fever. The occupier paid 2s. per week. The jury returned a verdict of "Disease of the heart."

DEATH OF DR. REID.—Dr. David Boswell Reid, well known by his labours in regard to ventilation, and who has been for some years in America, died at Washington on the 5th of April. The death was sudden, and caused by congestion of the lungs. Dr. Reid had been appointed, by the Federal Government, Medical Inspector to their Sanitary Commission; and he was about to leave Washington, to be employed in ventilating the new military hospitals which have been erected in different parts of the country. "Dr. Reid," says the *Scotsman*, "was a native of Edinburgh, grandson of the celebrated Hugo Arnot, the historian of Edinburgh; and was himself at one time an extensively-employed and successful teacher of chemistry here. His connexion with the ventilation of the Houses of Parliament is but too well known. He ventilated St. George's Hall, Liverpool—the only building in the world, he said, in which his principles of ventilation have been completely carried out. The ventilation of this building is considered very successful. Dr. Reid began his public career in Edinburgh as assistant to the late Dr. Hope, Professor of Chymistry in the University. He was also a candidate for the Chair when Dr. Hope resigned."

CRYSTAL PALACE.—The Annual Great Flower Show here will be held this Saturday, the 23rd instant, that day having been selected to meet the convenience of visitors to London for Epsom races. From the unusual forwardness of the season the show this year promises to be of surpassing beauty, particularly as regards the azaleas and other large and magnificent flowering plants, which the principal growers state are unusually fine this year.

PULPIT FOR LINCOLN CATHEDRAL.—Messrs. Ruddle, of Peterborough, are constructing a carved oak pulpit for Lincoln Cathedral, after designs furnished by Mr. Scott. The pulpit, hexagonal in form, will be about 25 feet in height, and will be surmounted by a canopy of a similar altitude. Figures of the four evangelists, we believe, will be grouped round the body of the pulpit, and the panels between are intended to be filled up with Scriptural subjects in bas-relief. The entire cost of the work will be about 500*l.* It is designed as a testimonial to the Rev. Edward Trollope.

EARTHQUAKE AT RHODES.—The *Levant Herald*, of the 30th April, publishes a telegram received from Smyrna, reporting the occurrence of a most disastrous earthquake at Rhodes, on the 22nd, resulting in the destruction of 2,000 houses, and a proportionate loss of human life. Not a single building in Rhodes or in the villages has escaped uninjured. The great tower of St. Michael gave way, and the little that was left threatened every minute to fall into the port and block up the entrance. The lighthouse tower is ruined, as well as the Palace of the Grand Masters, recently converted into a prison. The walls of the town are more or less damaged, besides all the churches. At Trianda only a dozen houses are left standing. Twelve other villages have been completely destroyed. There have been in all 300 persons killed, and an immense number wounded.

CHARTER HOUSE SCHOOL OF ART.—On Monday evening the Lecture Theatre at the South Kensington Museum was filled with an attentive company to witness the distribution of prizes gained by the students of St. Thomas Charterhouse School of Art. The Rev. W. Rogers, to whom the schools in this neighbourhood may be said to owe their origin, and Mr. Redgrave, R.A., were present, and took part in the proceedings. After some introductory remarks by Mr. Cole, who presided, and explanations by Mr. Redgrave relating to the manner in which the art examinations were conducted, Cardinal Wiseman delivered a discourse, wherein he praised to the highest degree the efforts of the working and poorer classes to attain proficiency in the arts; and showed how, in the case of Giotto the shepherd-boy, and others, genius fought its way against all impediments. Whilst giving the students every encouragement, the cardinal warned them against becoming self-sufficient and forgetful of the divine source from whence all talent and genius comes. The gainers of the two highest prizes were Miss Wherry, an engraver for watches, and a plasterer. A testimonial was also presented to the master, Mr. Clack, by the students.

VISIT OF CAMBRIDGE ARCHITECTURAL SOCIETY TO WISBECH.—The party arrived by train at noon, and as they were obliged to return by the five o'clock train, the time was only sufficient for a rapid glance at several churches. Several ladies graced the company. Immediately on their arrival the party proceeded to view the parish church, on which the Rev. Francis Joseph Braithwaite read a paper. From Wisbech they were conveyed to the rectory at Walsoken, where luncheon had been kindly provided by the Rev. J. Davis. They then went to view the church of All Saints, Walsoken. Mr. Davies read a paper on it. At Walton church, the Society was met by the Rev. E. E. Blencowe, who had arranged a number of engravings of different portions of the structure for the information of his friends: some of these were in sufficient number for each visitor to take away copies. The reverend gentleman directed their attention to the most interesting points of the building, and described them with much earnestness and good humour. The inspection of Walton church having been concluded, the party resumed their journey, which proved rather a long one, through Walton Fen ends, over a rough gravel road by Emneth station to Emneth church. On their arrival the time was found to be very limited, and a hasty glance was all that could be given. A short paper was read by the Rev. J. W. Berryman, vicar of the parish, on St. Edmund's, Emneth. The visitors were compelled to defer an intended visit to Elm.

THE INTERNATIONAL EXHIBITION.—It appears to be more than likely that the Government will purchase the building.

PROVIDENT INSTITUTION OF BUILDERS' FOREMEN AND CLERKS OF WORKS.—The anniversary dinner of this excellent institution will take place at the London Tavern, on Wednesday, June 3rd. Mr. A. J. B. Beresford Hope, F.G.S., will take the chair. We hope to see a full attendance both of members and of those influential friends who know the value of this institution.

EMPLOYMENT OF COTTON SPINNERS.—The town council of Stockport has followed the example of the corporation of Blackburn, and adopted a memorial to the Government, praying that steps may be taken for authorising loans, at a low rate of interest, to the local authorities in the cotton manufacturing districts, for the purpose of enabling them to carry out public works on which the operatives may be employed.

THE "PHOTOGENIC GAS."—In the *Oil Trade Review*, a supplement to the *Grocer* of 4th April, the editor says:—"Since witnessing the experiments at the company's office in Bishopsgate-street, we have had an opportunity of visiting some of the fourteen establishments in Paris, which are particularised by the promoters as being lighted with the photogenic gas, and find that although the proprietors of some of these places were induced to try the effect, they in a very short time abandoned the use of it." The smell seems especially to have been complained of, and also the cost: one house still used it as an improver of gas, but not from any saving in cost.

THE PROPOSED VIADUCT ACROSS LUDGATE-HILL.—The City petition against the defacement of Ludgate-hill by a railway bridge now bears more than a thousand signatures. That of the clergy within the civic boundaries constitutes a separate protest. It sets forth that the proposed viaduct will be a perpetual disgrace to, and a disfigurement of, the City of London, by the obstruction of the view of St. Paul's Cathedral, entirely destroying the architectural character of the approach to the west front of the cathedral, and so defacing the most picturesque street in the whole city. The opposition must not be relaxed.

MASTER AND WORKMAN.—At the Ashton county sessions a workman, named Flannaghan, summoned a sub-contractor named Jones for 8s., the balance of wages due to him for work done as a puddler at the Clayton Iron Works. Mr. Lord, solicitor, appeared for the defendant. It was admitted the wages claimed were correct, but it was pleaded that 3s. of the amount would not be due until Saturday, and that the defendant had forfeited 5s. according to the rules of the workshop. The rules were produced, and it was proved that they had been placed in a conspicuous position; but the defendant denied he knew anything about them. Mr. Lord was unable to prove that the defendant knew of the rules; and the chairman therefore decided that they were inadmissible as against him. Mr. Hugh Mason, on looking over the rules, said they were also void from want of mutuality, as they contained a clause that the workman must give certain days' notice to leave, but no clause binding the master to give a similar notice. These two points are of great importance, and it would be well if they were better understood by both employer and employed.

RAILWAY MATTERS.—At the Shrubhill Station, Worcester, in addition to the new up-train platform, with a bridge communication from the entrance to the station, in course of construction, various important works, with a view of giving increased accommodation and facilitating business, are in progress. A couple of grass fields, together about twenty acres, adjoining the railway to the east, have been levelled, and will be appropriated as an extension of the goods yard. Another large goods shed will be erected east of the present one. Cattle-pens are being constructed at the south-east end of the added area, and stables are being built at the east side. The present carpenters' shops will be cleared away, and new ones of a more permanent character erected on a site considerably to the south of their present position. Other improvements are in progress. All the works are being carried out under the direction of Mr. Wilson, the engineer to the company, and his staff.——A new economic permanent way, designed by Mr. G. F. Griffin, is attracting attention. The sleepers are made of corrugated cast-iron, and the cost per mile is stated at 1,245*l.* against 1,086*l.*; or 1,844*l.* under the existing systems. Messrs. Brassey, Betts, Trevethick, and others are said to have given favourable opinions of its qualities.

THE DUBLIN METROPOLITAN RAILWAY BILL.—This bill has been read a third time in the House of Lords, and passed.

QUEEN ELEANOR'S CROSS, NORTHAMPTON.—A correspondent complains of the dirty and defaced condition into which the municipality are allowing this interesting relic to fall.

HERBERT MEMORIAL.—An east window, in memory of the late Lord Herbert of Lea, from the design of Messrs. A. O'Connor, of London, has been put up in the parish church of Swallowcliffe, by the direction, and at the expense, of Lady Herbert, of Wilton House.

THE ALHAMBRA, IN LEICESTER-SQUARE.—A company is in course of formation for the purpose of purchasing the music-hall in Leicester-square, called the Royal Alhambra. The price paid for the lease, the buildings, and their entire contents, is 35,000*l.* in cash, and 10,000*l.* in fully paid-up shares. It is intended to give high-class musical entertainments. Mr. G. A. Macfarren is chairman of the directors, who invite applications for a capital of 100,000*l.*, in 20,000 shares of 5*l.* each; but, in the first instance, the issue is to be restricted to 10,000.

GAS EXPLOSIONS AT THE BRIGHTON PAVILION.—An alarming occurrence has taken place in the Royal Pavilion at Brighton. A large audience had assembled to listen to the performances of Christy's Minstrels. There was a strong escape of gas in the room, and a voice was heard from one side of the room calling that the escape was there. In a few seconds more the crack of a lucifer-match was heard, and a light was seen to be passed along the wall about seven or eight feet from the floor. A series of explosions followed, and all was confusion; but in a few minutes all were got out. Then men set to work and extinguished the flames, which jeopardised the entire building.

IPSWICH.—In compliment to a very active resident and town-councillor, Mr. Thomas S. Gowing;—who for many years has been usefully engaged in the management of the Ipswich Mechanics' Institution, and has mainly contributed to render it an exception to such institutions;—the members have subscribed 46*l.*, and presented him a silver tea and coffee service. This institution has at present no fewer than 665 members on the books, and an income of 315*l.* The hall of the building was lately much improved, chiefly through Mr. Gowing's instrumentality. At the presentation, Mr. R. Ransome was in the chair, and a great many of the members were present.

ST. MARTIN'S SCHOOL OF ART CONVERSAZIONE.—The seventh annual *conversazione* of this school has been held at the schools, Castle-street, Long-acre. The Rev. Mr. Humphrey, vicar of St. Martin's, was in the chair. Mr. Redgrave, R.A., said, as an examiner of the works, he must tell no secrets: yet he must say the works sent up by this school were of a much higher order than formerly; and he warmly congratulated the pupils upon their attainments. Out of nearly eighty pupils, forty-four have passed, twenty-six medals have been awarded, and seven prize studentships. Of the twenty-six works receiving medals, twelve have been selected by the examiners for national competition. After various speeches, the proceedings closed with a vote of thanks to the lady pupils for their artistic decoration of the schools for the occasion.

DEPARTURE OF NOTTINGHAM BUILDERS FOR NEW ZEALAND.—The run of prosperity which marked a new era in the building trades of Nottingham, after the operation of the Inclosure Act had opened the way for the expansion of the town in all directions, greatly increased the number of persons engaged in the various departments of the building trades. For several years all went on prosperously; and many steady journeymen worked their way into the position of masters. There has been a decline in the trade, however, during the past four or five years; and not a few Nottingham men and their families have gone to Australia and New Zealand. Mr. Ridgeway, one of the commissioners for granting land certificates to intending emigrants, has just been in Nottingham, according to the local *Guardian*, and has selected likely emigrants, and given them registration tickets entitling them to take possession of lots of land in Auckland and other districts. This month between 200 and 300 persons will leave Nottingham for the purpose of embarking for Auckland in the ship Tyburnia, which will leave the East India Docks, London, for Auckland, on the 28th instant. The emigrants include many men connected with the building trades.

GAS.—The Ipswich Gas Company have reduced their price from 4*s.* 6*d.* to 4*s.*——Eight hundred 10*l.* shares of the Reading Gas company have been recently sold by auction, and realized 10*l.* 5*s.* to 10*l.* 10*s.* per share. The new purchasers are promised 7 per cent.——The Burslem and Tunstall Gas Company have agreed to their usual dividends of 10 and 7 per cent. old and new shares, free of income-tax.

WOOD PAPER.—The *Boston* (U.S.) *Courier* is now printed on paper made from wood fibre, according to the *Paper Trade Review*. The paper, it is said, has a very good appearance. In making this novel article a beam of timber is put into a strong cylinder, into which steam is forced at a high pressure. The power of the steam disintegrates the wood into mere threads; and so completely is this done that the dismemberment of a log of wood into riband-like filaments appears the work of magic. The fibrous filaments are easily made into paper.

PRESENTATION TO A MASTER.—At a dinner at the Rosemary Branch Tavern, last week, when nearly a hundred guests, mostly employed by Mr. Porter, builder, of Sherborne-street, Islington, were present, a massive silver cup, subscribed for by his workmen, was presented to Mr. Porter, in acknowledgment of his endeavours to promote their welfare. It was accompanied with an appropriate address, engrossed on vellum, and signed by the Committee:—"Joseph Porritt, Benj Thos. Alvarz, George Messenger, William Woolley, Alexander J. Connon."

IMPROVEMENTS IN ELECTRO-METALLURGY.—Mr. A. Dalrymple, of Sheffield, has provisionally specified an invention by which he says he is enabled to produce ornamental patterns, or other devices, upon metal surfaces by depositing one or more different metals in such a manner that these different metals are either inlaid in the metal surfaces, or in relief upon the same. He cuts out the pattern of the ornament in parchment, or other suitable material, and gums it upon the surface to be acted upon: he then covers all the other portions with a suitable non conducting varnish, or composition, and afterwards removes the parchment pattern; thus leaving the parts to be ornamented quite free of the varnish or composition; or he covers the surface entirely with a non-conducting varnish or composition, and then chases the pattern of the ornament through the same. The metal prepared by either of these processes is then "eaten out," forming a "bed" of any required depth. The article is then placed in an ordinary depositing bath with battery action containing the proper solution of the metal to be deposited.

TENDERS.

For a new wing to the City of London Hospital for Diseases of the Chest Victoria Park. Mr. William Beck, architect. Quantities by Messrs. Welch and Atkinson:—

Mansfield & Sons	£7497 0 0
Ashby & Horner	7350 0 0
Ashby & Sons	7200 0 0
Conder	6959 0 0
Lawrence & Son	6957 0 0
Brass	6947 0 0
Myers & Son	6887 0 0
Browne & Robinson	6474 0 0

For house at Forest-hill. Mr. Sextus Dyball, architect:—

Kent	£1294 0 0
Simmons	1185 0 0
Marshall	1164 0 0
Glover & Thompson	996 0 0
Bond	945 0 0

For repairs &c., to Watermen's Almshouses, Penge. Messrs. Porters & Markham, architects:—

Maeers	£1192 0 0
Warner	1119 0 0
Smith	1005 0 0
Little	931 0 0
Wells	870 0 0
Hollins	845 0 0
Simms	788 0 0
Hart	767 0 0
Wills	765 0 0
Peake	750 0 0

For a pair of semi-detached villas, at Croydon. Mr. James Tolley, architect:—

Richardson	£1610 0 0
Ennor	1583 0 0
Watts	1571 0 0
Grover	1399 0 0
Rowand	1145 0 0

For alterations and additions to premises 93 to 95, City-road, for Messrs. R. Hovendon & Sons. Messrs. Hovendon & Heath, architects:—

Conder	£2484 0 0
Prichard	2386 0 0
Axford	2365 0 0
Perry	2287 0 0
Henshaw	2074 0 0

For fitting up the London, Birmingham, and South Staffordshire Bank, 110, Cheapside. Mr. J. F. Earle, architect:—

Henshaw (accepted)	£1500 0 0

For warehouse at Leman-street, Whitechapel. Mr. R. Beeston, architect:—

Rivett	£1496 0 0

For the fifth portion of villa residences for the Temperance Permanent Land and Building Society, on their estate at Stratford:—

Rivett	£2385 0 0

For a house at Potter's Bar, for Mr. Roger Fenton. Mr. George Truefitt, architect:—

Patrick (accepted)	£1833 0 0

For new house and stables, &c., for Mr. H. K. Hebb, Lincoln. Mr. M. Drury, architect:—

Kirk	£1849 0 0
Ward	1708 0 0
Huddleston	1698 0 0
Young (accepted)	1579 0 0

The above are exclusive of a large quantity of available materials in existing buildings.

For house at Old Ford. Messrs. Searle, Son, & Yelf, architects:—

Howlett & Brown	£638 0 0
Turner & Sons	557 0 0
Robbins	537 10 0

For house at Eastbourne, for Rev. A. Foyster. Searle, Son, and Yelf, architects:—

Peerless (accepted)	£800 0 0

For a Baptist Chapel at Canterbury. Searle, Son, & Yelf, architects:—

Terry	£2138 0 0
Lancefield	2091 10 0
Cozens Brothers	2084 0 0
Shrubsole	2005 0 0
Gaskin & Godden	1731 0 0
Wilson (accepted)	1650 0 0

For house at Eastbourne, for Mr. J. C. Coles. Searle, Son, & Yelf, architects:—

Peerless (accepted)	£2100 0 0

For first portion of Free English Church, Hackney. Searle, Son, & Yelf, architects:—

Holland & Hannen	£3970 0 0

For foundation-work to premises, New Southwark-street, for Mr. J. Davenport. Searle, Son, & Yelf, architects:—

Higgs	£550 0 0
Dove Brothers	550 0 0
Clemence	539 0 0
Colls & Co.	489 0 0
Sands	478 0 0
Downs	469 0 0
Hill & Co.	459 0 0
Coleman	453 0 0
Rider	438 0 0
Turner & Sons	425 0 0

For foundation-work to premises, New Southwark-street, for Mr. S. Mart. Searle, Son, & Yelf, architects:—

Downs	£1163 0 0
Dove Brothers	975 0 0
Clemence	969 0 0
Sands	916 0 0
Higgs	903 0 0
Hill & Co.	887 0 0
Colls & Co.	879 0 0
Rider	868 0 0
Coleman	869 0 0
Turner & Sons	849 0 0

For finishing a warehouse, 73 & 74, Wood street, City, for Messrs. Nolda, Beardsell, & Jackson. Messrs. Tillott & Chamberlain, architects. Quantities supplied:—

Ashby & Sons	£2396 0 0
Piper & Wheeler	2350 0 0
Wills	2293 0 0
Fish	2150 0 0
Brass (accepted)	1968 0 0

For new room, and alterations to two houses, High-street, Aldershott, for Mr. Taunton. Mr. H. Peak, architect:—

Duke	£280 0 0
Pollard	275 0 0
J. & G. Goddard	258 10 0
Martin (accepted)	235 0 0

For additions to house at Bexley, Kent, for Mr. H. Marsh. Mr. H. Ford, architect:—

Henshaw	£1673 0 0
Larke	1630 0 0
Bell	1540 0 0
Rawlings	1329 0 0

For building a new inn at Seaford, for Messrs. Vallance, Catt, & Co., Brighton. Mr. E. J. Collins, architect:—

Fabian	£587 0 0
Davey	519 0 0
Marling	496 0 0
Banks	430 0 0

For the Warehousemen and Clerks' Schools, at Beggars' Bush, Caterham, Surrey. Mr. J. L. Bland, architect. Quantities by Messrs. Gardiner & Bell and Messrs. Welch & Atkinson:—

Coleman	£21,820 0 0
Sharpington & Cole	21,512 0 0
Ashby & Sons	21,500 0 0
Ashby & Horner	21,430 0 0
Brass	20,893 0 0
Piper & Wheeler	20,636 0 0
Lawrence & Sons	20,430 0 0
Lucas Brothers	19,500 0 0
Myres	18,945 0 0
Barnsley & Sons	17,988 0 0
Parker	16,500 0 0

For additions and repairs at 5, Grove end-place, St. John's-wood, for Mr. R. Hickman. Mr. Jales, architect. Quantities not supplied:—

Howard	£1115	0	0
Longmire & Burge	1103	0	0
Scrivener & White	1089	0	0
Ellis & Sons	1045	0	0
Rudkin	875	0	0
Herd	699	0	0

For a new residence, near the Railway Station, Hatfield, Herts. Mr. E. W. Robb, architect. Quantities not supplied:—

Ekins & Son	£525	0	0
Collins	397	0	0
Bunting & Son	380	0	0
Young	365	0	0
Webb (accepted)	341	14	0

For building rectory-house at High Ham, near Langport, Somerset, for the Rev. William Knight, with blue lias stone and brick lining, dressings of Bathstone and courses of red sandstone. The contractor to have the materials of the old rectory-house. Mr. John Norton, architect.

Davis	£2100	0	0
Beavan	2040	0	0
Gaylard	2000	0	0
Brock	1960	0	0
Hartnell & Rivell	1838	0	0
Darke	1799	0	0
Wall & Hook	1790	0	0

TO CORRESPONDENTS.

A Reply from Mr. Wigley, as to Basil cas and Cupolas, next week

Masonic Symbols: (we are forced to postpone continuation of this article)—W. G (no good end would be answered by its insertion. The committee obtained the best site that was available) J. & J. W. (we cannot return to it)—R J (shall have attention) B—T B—W. T H.—H. P.—J. N.—W. & A.—F. D. J.—A & Sons.—S. W. R—Tenders (architects who wish their names correctly given should see that we are correctly informed)—Junior Wits (we are inclined to decline giving opinions on private disputes)—R K.—Mr Hand Book—W. W.—One who knows him.—W. S.—W. & A.—W. B.—J. E.—H H—Dr G.—Architects' Charges (we really cannot undertake to advise parties)—A Countryman (gentlemen who request us to write them by return of post, giving "a list of the best works" on so and so, must think that we have more time to spare than is the case).

We are compelled to decline perusing out books, and giving addresses

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than FIVE o'clock, p.m., *on Thursday.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

THE "*Illustrated London News*" of November 8th, when describing Benson's Great Clock, says, "The movement of this clock, next to that of Westminster, is the largest in the world, and in point of quality of material, and finish of workmanship, it is unequalled by any known." Benson's new show-rooms contain clocks designed by the first artists of the day, and include clocks for the drawing-room, dining-room, bed-room, library, hall, staircase, bracket, carriage, church, turret, railways, warehouse, counting-house, with musical, astronomical, and every description of clock, from the plainest to the highest quality of which the art is at present capable. Church and turret clocks specially estimated for. Benson's Illustrated Pamphlet on clocks and watches (free by post for two stamps), contains a short history of clock and watch making, with descriptions and prices; it acts as a guide in the purchase of a clock or watch, and enables those who live in Scotland, Ireland, Wales, the Colonies, India, or any part of the world, to select a clock.—J. W. Benson received a Prize Medal and honourable mention.—33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

ADVERTISEMENTS.

TO AMATEURS, ENGINEERS, TURNERS, and OTHERS.—The valuable Lathes and interesting Effects of the late John Taylor, Esq., F.R.S.

MR. FREDERICK A. MULLETT will SELL by AUCTION, at 31, CHESTER-TERRACE Regent's-park, on WEDNESDAY, the 27th inst. at TWELVE, a ROSE ENGINE, of the most elaborate construction, by Holtzapffel & Co.; an iron-bedded lathe, with 3-inch centre, with hexagonal boxwood chucks; a carving and planing machine; a drilling ditto; a large quantity of engineering and other tools; about 5 cwt. of hardwood benches; lots of drawers; mahogany cases, &c.—May be viewed two days prior; and catalogues had on the premises, and at the Auctioneer's Offices, Albion-place Hyde Park-square, W.

TO ARCHITECTS, BUILDERS, &c.

JOHN DAWSON & SON will SELL by AUCTION, on the PREMISES, "The Kirk," Kensal-Lane, on WEDNESDAY, 27th MAY, and following day, at ELEVEN o'clock each day, ANCIENT CARVING in OAK Gothic doors, mullions, screens, and the linen panelling, and also the entire pews, seats, pulpit, lectern, and other fittings of Messrs. Pugin and Hardman's church in stone and wainscot plaster. These fittings are among the materials having been destroyed.—Catalogues may be had at JOHN DAWSON & SON'S Land and Auction Offices, Marlborough Chambers, 44, Pall-mall.

REIGATE.—Important and valuable FREEHOLD BUILDING LAND, situate near the London and Brighton Turnpike-road, on the south side of the town, being the remaining portion of the Cockshot hill Estate.

MESSRS. NASH are instructed by the Devisees in Trust of the late John Dixon, Esq. to SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, London, on THURSDAY, the 11th day of JUNE, 1863, at TWELVE for ONE o'clock, about eight acres of valuable and highly attractive FREEHOLD BUILDING LAND, comprising the remaining portion of the Cock hot hill Estate, having capital frontages to the south part and to the new road connected therewith. It is elevated, being on the sand ridge, commands fine views, and is eminently adapted for the erection of first class residences; also a FREEHOLD RESIDENCE, facing the turnpike-road (let on lease at the moderate rent of 110*l* per annum), containing dining and drawing rooms, six bedrooms, and dressing-rooms, attic, and convenient offices; detached coach-house, two stall stable, &c.; well-kept lawns and pleasure-garden, and productive kitchen garden. The above estate is delightfully situate, and presents great attractions, being in a locality proverbially healthy, and the views of the surrounding scenery extensive and magnificent. It is within a convenient distance of several churches, and the proximity of the South Eastern, Reading, and Brighton lines of Railway, within an hour's ride of the City and West End, the increasing demand for land eligible for good residence, enhance these attractions to capitalists either for residences or first-class investments.—Part values of sale may be had at the principal inns in the neighbouring towns, at GARRAWAY'S, Change-alley, E.C.; of Messrs. MAPLES, MAPLES, & PEARSE, Solicitors, 8, Frederick-place, Old Jewry, E.C.; of Messrs. CLUTTON, Surveyors, 9, Whitehall-place, S.W.; and of Messrs. NASH, Land Agents, Valuers, and Auctioneers, Reigate, Surrey.

Land for Manufactories (chemical or other), with good access by land and water, TO BE SOLD.

MR. JOHN WALLEN has received instructions to SELL, in large or small pots, about 9 acres of FREEHOLD LAND, abutting on Barking Creek (navigable for vessels of 200 tons), with workmen's mess near, and within half a mile of the railway station. For particulars apply to Mr. JOHN WALLEN, 68, Old Broad-street, E.C.

ELIGIBLE OPPORTUNITY FOR BUILDING.—BISHOP'S WALTHAM, HANTS.

MR. R. AUSTIN is favoured with instructions to SELL by PUBLIC AUCTION, at an early date, the LEASES of many very Valuable BUILDING SITES, with frontages to the Winchester and Portsmouth main turnpike roads, and near the improving town of Bishop's Waltham (which has long been noted for its healthiness) close to the Railway Station and overlooking at a general sheet of water at the picturesque Old palace ruins, having extensive and commanding views over a hill and dale and well-wooded country within about 30 minutes' distance of Portsmouth, Southampton, and Winchester, and about 12 hours of the Metropolis. The BISHOP'S WALTHAM CLAY WORKS and Messrs. BLANCHARD'S TERRA COTTA FACTORY employing many highly productive, together with the Railway and important works of improvement now in progress at Bishop's Waltham, make these Sites very desirable for building purposes. The Public are informed that they would not now have the opportunity by sale of these most eligible Building Sites but for the recent enfranchisement of the land.—Plans to be seen on and after FRIDAY, the 29th day of MAY, at the offices of the Auctioneer, 20, Fort and Street, Bishop's-walham, and Bishop's Waltham, of whom particulars are to be obtained.

HORNSEY.—Middle-st Freehold Land Society.—Near to the Woodgreen Railway Station. The last portion of valuable Freehold Building Ground, presenting a good opportunity for investment of capital in creating fresh ground rents.

MR. BRAY, Junr., is favoured with instructions to SELL by AUCTION, at the MART, on THURSDAY, MAY 28th, at TWELVE, in six lots, by order of the Mortgagees, a VALUABLE ESTATE, being a part of the Lordship Lodge Estate, in Lordship-lane, and contiguous to the Wood-green Railway station, having 1,850 feet of building frontages to Arnold-road, Wilkinson-road and Lord Hay's-lane, and presenting sites thoroughly favoured locally for the erection of detached or semi-detached villas. The roads and sewers have been made at considerable expense.—Particulars and conditions of sale may be had of Messrs. ROY & CARTWRIGHT, Solicitors, 4, Lothbury, E.C.; of Messrs. FORD & LLOYD, 4, Bloomsbury-square, W.C.; JOSEPH IVIMEY, Esq., Solicitor, No. 8, Staples Inn, W.C.; at the Nag's Head and Jolly Butchers, Wood-green; the Ship, Tottenham; the Angel, Edmonton; and at the Offices of the Auctioneer, 159, Kingsland, Middlesex, N.E.

TO BRICKMAKERS, ENGINEERS, MANURE MERCHANTS AND MANUFACTURERS, GARDENERS AND OTHERS.

MESSRS. EDWIN FOX & BOUSFIELD will SELL by AUCTION, at the BRICK FIELD, Devon's-lane, Bow-common, on TUESDAY, JUNE 2nd, 1863, at TWELVE for ONE o'clock, the BRICK PLANT: comprising 10 horse power Bright steam engine and boiler (25 feet flange and 5 ft. 6 in. shell, with 6 inch cylinder, 4 ft. 1 in. stroke complete, pug mill, 2 dublin carts, crowling, sawyer, and off-bearing barrows, 9 cwt. wheeling plates, quantity of shutes, handles, and the usual appliances of the trade; also 3 tons of Blood Manure (made up), about 50 tons of ditto (absolute), 1 ton of salt, 2 tons of nitre, 1 ton of sugar scum, 14 cwt. of Epsom salts, about 200 loads of peat, and an immense quantity of breeze; quantity of metal in work, several large tanks, a patent weighing machine, and numerous others.—May be viewed the day prior and morning of sale, and Catalogues had of Mr. C. WILSON, White Swan, Devon's-lane, Bow-common; and of Messrs. EDWIN FOX & BOUSFIELD, 41, Coleman-street, Bank, E.C.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, BROMPTON, S.W.

Notice of PRIVATE SALE of about 200 MARBLE CHIMNEY-PIECES, to be sold at very reduced prices (to save the expense of removal to the Brompton-road), in the following Marbles, viz.:—Statuary, Sienne Royal, Black and Gold, Black, Sienna, Bardilla, Dove, Californian, St. Ann's, Rouge Jasper, Jeune Fleure, Bracatella, Genoa Green, Irish Green, Blue Belge, Emperor's Red, Irish Fossil, Campaine Melange, Vein, Sicilian, and various excellent specimens of British Marbles, varying in price from 1*l* 10*s.* to 50*l.*; and for elegancy of design, workmanship, and quality, not to be surpassed in England. Purchasers to the extent of 30*l.* and 50*l.* approved bills of three and four months will be taken, less 25 per cent. cash. Purchasers from the country will be supplied with packing cases, and the same packed and delivered to any of the metropolitan stations for 1 per cent. on the amount purchased.

MR. G. NEWENHAM (Pupil of G. G. Scott, Esq. R.A.) PREPARES Sets of Competition Designs, Working and every description of Architectural and Artistic Drawings. Perspectives Outlined in a superior manner (and coloured by the best artists), with punctuality and despatch, and on reasonable terms.—Offices, 21, Parliament-street, Westminster, S.W.

JUNIOR PARTNERSHIP.—The Advertiser, having a moderate capital, and some knowledge of the Building Trade, wishes to become a PARTNER in a sound GENERAL JOBBING or BUILDING BUSINESS.—Address, J. WHITE, 134, West Graham street, Glasgow, Scotland.

PARTNERSHIP.—An excellent opportunity now offers to a young architect desirous of establishing himself in the profession to take the MANAGEMENT, and CHARGE of, or buy the Architectural Practice (in the country), of a Civil Engineer in London, much engaged upon railway work. A moderate premium expected.—Apply by letter to H. H. Messrs. Adams & Co., 1, Parliament-street, S.W.

A CLERK of WORKS WANTED, to Superintend the Construction of an Engine house, Boiler-house, Chimney, Cottages, and other Works, at the Waterworks, Farnley, Staithes, near Armley, for the Corporation of Leeds.—All applications by letter to state age and qualifications, and wages required, and to refer to last employer. All applications to be made at my office, at the Town Hall, Leeds, between the hours of NINE and TEN o'clock in the morning.

EDWARD FILLIFER,
Borough Surveyor and Engineer to the Waterworks, Leeds
Borough Surveyor's Office, Leeds, 15th May, 1863.

WANTED, a Gentleman to JOIN the Proprietor of large Granite Quarries and Brickworks, doing a large business, with first-rate returns, having large contracts in hand. Capital required, TEN THOUSAND POUNDS. First-class references. For all particulars apply to J. BOYES FOWLER, Esq. Solicitor, Plymouth.

BOROUGH of BELFAST.—The Town Council of the Borough of Belfast require a young and energetic Man as ASSISTANT to the BOROUGH SURVEYOR. Candidates must have served in a town-surveyor's office, where extensive works have been carried on, and be expert in surveying, levelling, drawing, setting out, and measuring gas works. Salary to commence at 100*l.* per annum. For further information apply to J. J. MONTGOMERY, C.E. Townhall, Belfast. Applications accompanied by testimonials to be sent on or before the 6th proximo to

JAMES GUTHRIE, Town Clerk.

CAMBRIDGE UNIVERSITY and TOWN WATER WORKS COMPANY.—MANAGER WANTED.—WANTED, an experienced PERSON, to take the general management and superintendence of the Company's business and accounts. Applications, giving references and stating amount of salary required, to be forwarded to the Directors, at their Offices, 7, King street, Cambridge.—Cambridge, May 8, 1863.

CLERK WANTED, who understands the general routine of an Estate Agent's and Surveyor's Office. He must have a gentlemanly address, write a really good fair hand, have some knowledge of plan-drawing, and a thoroughly good character. Apply, stating salary required, to SURVEYOR, care of Mr. Hall, Stationer, 78, Old Broad-street, E.C.

ELECTION of DISTRICT SURVEYOR under the Metropolitan Building Act, 1855.—The Metropolitan Board of Works hereby give Notice that they will, on FRIDAY, the 29th day of MAY instant, at TWELVE o'clock at noon, at their Office, Spring-gardens, Charing-cross, proceed to the ELECTION of a SURVEYOR for the District of Hammersmith.—Applications in writing, with certificates of competency under the Building Act, addressed to the Clerk of the Board, will be received at the Office of the Board, until FOUR o'clock p.m. on THURSDAY, the 28th instant. Each candidate must be in attendance at the meeting of the Board on the 29th instant.

JOHN POLLARD, Clerk of the Board.

Spring-gardens, May 15, 1863.

WANTED, immediately, a BUILDER'S CLERK, who is a good penman, quick and correct a accounts, and experienced in the usual offices there, more especially in men's book-keeping.—Apply, stating wages required, and other particulars, also giving names for reference, to A. B. Post-office, Darlington.

TO CLERKS OF WORKS.

WANTED, THREE experienced and thoroughly PRACTICAL MEN, to superintend the erection, and repairs of Buildings on the Midland Railway, salaries 120*l.* per annum. Applications in writing, with testimonials, must be forwarded to the Secretary of the Way and Works Committee, Midland Railway, Derby, not later than MONDAY the 1st day of JUNE next, endorsed "Clerk of Works application." The successful candidates will be written to.

G. R. BROWNE, Secretary.

WANTED, at Bath, for a short time, a First-class GOTHIC ASSISTANT. None other need apply.—Address, ARCHITECT, Mr Sidwell's News office, Union-street, Bath.

WANTED, directly, a Person who understands the BUSINESS of a Retail TIMBER YARD.—Apply at 73, Gowerstreet, off Tottenham-court-road.

WANTED, by an Architect and Surveyor in general practice, a thoroughly competent ASSISTANT.—As first, state qualifications and salary required, to M. F. Office of "The Builder."

WANTED, immediately, several good JOINERS. Liberal wages given.—Apply to Mr. J. S. GLASSCOCK, Builder, Bishop's Stortford.

WANTED, in a Builder's Office, a thoroughly efficient CLERK and BOOKKEEPER. One who has fulfilled a similar situation, and who is well acquainted with the usual duties of a builder's office. To a suitable person a permanency will be given.—Address, stating age (not less than 25), salary, last engagement, and references, to Q. E. D. Office of "The Builder."

TO PLUMBERS AND BUILDERS.

WANTED, by a first-class Plumber, a SITUATION. References as to character and ability unexceptionable.—Address, C. W. 3, Trafalgar place, Merton-road, Tooting, Surrey.

TO ARCHITECTS, SURVEYORS, BUILDERS, &c.

WANTED, an ENGAGEMENT as CLERK of WORKS, or as Assistant Surveyor and Draughtsman. A Person, acquainted with the other branches, manual and official, several years with a London firm, is offered and on works; competent to successfully manage a business under the principal. Age 30.—Address, O. A. E. Mr. Leggett's, Stationer, 21, North Audley-street, London, W.

TO CARPENTERS, BUILDERS, &c.

WANTED, by a steady practical Young Man, a SITUATION as PORTMAN or otherwise in a Jobbing Shop. Good references. No objection to a country job.—Address, X. Y. Z. Office of "The Builder."

TO BUILDERS AND OTHERS.

WANTED, by a practical Man, a SITUATION as HOUSE PAINTER, &c. as Leading Man. Good reference given. Town preferred.—Address, S. S. No. 17, Mablethorpe-place, Barton-crescent, W.C.

TO BUILDERS AND PLUMBERS

WANTED, by a PLUMBER, a constant SITUATION or JOB. Town or country. Willing to fill up his time. Address, C. W. 4, Last street, Manchester square, W.

WANTED, a SITUATION as CLERK in a Builder's Office. Has been in a firm of high repute for three years.—Address, Y. C. 4, Commercial-place, Commercial-road, East.

WANTED, a SITUATION as SHOP FOREMAN of JOINERS, or to Take Charge of a Job. Town or country. Good reference. Address, P. S. Circulating Library, 14, Palace road, Lambeth.

TO BUILDERS AND OTHERS.

WANTED, by a Young Man, a Carpenter, a SITUATION as TIMEKEEPER. Wages not so much an object as constant employment. Town or works. Reference.—Address, CHIP, 13, Caroline place, Bayswater, W.

TO MASTER PLUMBERS.

WANTED, by a Young Man, aged 20, a SITUATION as IMPROVER in the above line. Has been in the business some time. No objection to fill up his time with painting. Address, M. S. 16, Princess street, Edgeware-road.

WANTED, by a good PLUMBER, PAINTER, LEAD and SASH GLAZIER, a constant SITUATION or JOB. Address, J. L. G. 34, Sussex street, Tottenham-court-road, N.W.

WANTED, by a thoroughly practical Man, an ENGAGEMENT, to take charge of the Erection of a Building in Town or Country. Joiner by trade. Age 130. Thorough knowledge of drawings, and all the Building Trade. First class references. Address E. B. Post office, Brompton row.

WANTED, AGENCIES for Portsmouth and adjacent Towns, calling on the Building Trades. Satisfactory references.—Address, J. H. 25, New Church-street, Edgware-road, London.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, a RE-ENGAGEMENT, by a respectable Young Man, thoroughly acquainted with the routine duties of a Town or country builder's office. Can be highly recommended. Salary moderate.—Address, B. B. Post-office, Leatherhead, Surrey.

TO PLUMBERS AND BUILDERS

WANTED, by a Young Man, a SITUATION as PLUMBER, GAS FITTER, and ZINC-WORKER. Town or country. — Address, J. JUPP, 2, Archway-place, Upper Holloway, N.

TO BUILDERS AND OTHERS.

WANTED, by the Advertiser, a Permanent SITUATION Can design, make working drawings, assist in taking out quantities, &c.—Address, X. Y. Z. Mr. Browne, 29, Alwyne-road, Canonbury, N.

TO BUILDERS AND DECORATORS.

WANTED, a SITUATION, in Town or Country, as WORKING FOREMAN of PAINTERS, or as PLAIN and DECORATIVE PAPERHANGER, on day or piecework. Can measure work, &c. Age 42.—Address, H. B 79, Frederick street, Caledonian road, N.

TO BUILDERS AND PLUMBERS.

WANTED, by a thorough, good Mechanic, a constant SITUATION as PLUMBER. Has no objection to turn his hand to painting or glazing when slack of plumbing. Will go on a job in town or country. Good reference.—Address, G. R. 24, Blandford street Manchester-square, Marylebone.

TO ARCHITECTS, ENGINEERS, AND BUILDERS.

WANTED, by a thoroughly practical and efficient CLERK of WORKS, a fresh ENGAGEMENT, having completed extensive public works, with the highest of references.—Address, B. W. W. Messrs. VACHER & SON, Parliament-street, Westminster, S.W.

TO CIVIL ENGINEERS, BUILDERS, AND OTHERS.

WANTED, by a Young Man, aged 20, a SITUATION as JUNIOR CLERK. Can draw, copy, trace, colour, and write well. Good references. Address, R. SMITH, 4, St. Andrew's-terrace, Waterloo-road

TO CONTRACTORS, BUILDERS, &c.

WANTED, a SITUATION, by a thoroughly efficient Builders' Estimating and Measuring Clerk The highest testimonials and references.—Address, L. Office of "The Builder."

TO MASTER PLUMBERS, &c

WANTED, a PERMANENCY in the above line. Good references.—Address, T. D. Post-office, Eynesford, Kent

TO PLUMBERS AND BUILDERS.

WANTED, a SITUATION, in town or country, by a first-class Plumber, good Gas fitter and Zinc-worker; has a thorough knowledge of plumbing work in all its branches. No objection to fill up time with painting.—Address, J. H. River Cottage, River-terrace, City-road, London, N.

WANTED, to APPRENTICE, a YOUTH, aged 15, to a PLUMBER or GAS-FITTER.—Address, J. M. Post office, Beech-street, E.C.

TO ARCHITECTS AND BUILDERS.

WANTED, by the Advertiser, who has had considerable experience as a draughtsman, an ENGAGEMENT as DRAUGHTSMAN or CLERK, in the office of good practical work Salary would not be of the first importance, as the advertiser is anxious for immediate employment —Address, A W Office of "The Builder."

TO BUILDERS, &c.

WANTED, by a Carpenter and Joiner, a RE-ENGAGEMENT as WORKING FOREMAN, in or out-door, or to take charge of a country job. Thoroughly competent.—Address, F. R. 1, Carey-street, Westminster, S.W.

TO ARCHITECTS, BUILDERS &c

WANTED, a RE-ENGAGEMENT as GENERAL ASSISTANT (temporary or otherwise). Has a good practical knowledge of Building, Superintending, &c Age 26. Salary moderate.—Address T. B. care of Mr. Young, 13, Mortimer-street West, Finsbury, S.W.

TO BUILDERS, PAINTERS, DECORATORS, &c.

WANTED, a SITUATION, by the Advertiser, a first-class PAPERHANGER and PAINTER, having been three years in a leading decorator's establishment. Can give undeniable reference, either as Foreman or Journeyman Would have no objection to occasional country work.—Address, J. T. B. 362, Caledonian road, N.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

WANTED, a SITUATION, in the Offices of either of the above (town or country), by a Young Man, aged 23, who is an expeditious and neat draughtsman, and a good colourist, with an intimate knowledge of construction and details. Well up in the usual office routine. Unexceptionable references.—Address, S V 46, Churton street, Pimlico, S.W.

WANTED, an ENGAGEMENT, by an experienced BUILDER'S CLERK and DRAUGHTSMAN & Joiner, acquainted with the other branches of the business, estimating, setting out, superintending, and measuring up work; or as Clerk of Works. — Address, Q. E. D. Shaw's Library, 255, Oxford-street, W.

TO ARCHITECTS AND CIVIL ENGINEERS.

WANTED, an ENGAGEMENT, by a good DRAUGHTSMAN, experienced in design and construction. Efficient light and ventilation desirable. — Address, BETA, Post-office, Oxford.

TO SURVEYORS AND BUILDERS

WANTED, a SITUATION, in town or country, by a Young Man, respectably connected. Can trace and copy drawings, and write a good hand, and is willing to make himself generally useful. Salary 15s. a week, or as may be agreed upon Address (p. p.) JUNIOR, 6, Clarence-place, Longborough-road, Brixton.

WANTED, by a Young Man, aged 19, IMPROVEMENT at the Carpentering.—Address P. R at Clark's Buildings, Broad-street, Bloomsbury.

TO PLUMBERS, PAINTERS, AND GLAZIERS.

THE Advertiser, aged 21, who has served his time to the above business, is desirous of ARTICLING himself for IMPROVEMENT for two years to a house of business in London. Good references.—Apply by letter to A. B. C. No. 5, Albion-place, Upper Bristol-road, Bath.

TO ARCHITECTS.

THE Advertiser is desirous to meet with a Gentleman as PARTNER who is in every way competent to take the CONDUCTION and MANAGEMENT of the Architectural Department of a long established Office in the Midland Counties.—For particulars address, A B F. Post office, Birmingham.

TO UPHOLSTERERS, BUILDERS, &c.

THE Advertiser, by trade a Joiner, seeks a SITUATION as GENERAL FOREMAN of Out or In door Department. Has had the entire management for six years in a good West-end firm, of all building repairs, alterations, &c.; purchasing materials, paying wages, and keeping books. Also the superintendence of cabinet and French polishers' shops. References to present employers.—Address, B S, Upper Dorset street, Bryanston square, W.

TEMPORARY ASSISTANCE to SURVEYORS, &c.—A practical MAN would be glad to fill up spare time in assisting a Surveyor &c to take out Quantities, Abstract, or make out Working Drawings Address M M 88, Jermyn street, Piccadilly, W.

TO BUILDERS and CAPITALISTS.—TO BE SOLD, by private contract, FREEHOLD and LEASEHOLD PROPERTY, situate in James street and Charles street, Camberwell New Road — For particulars, apply, personally, to JAMES WEVELL, 3, James-street aforesaid.

TO BUILDERS AND SURVEYORS

THE Advertiser is desirous of IMPROVING himself under the instruction of a thoroughly practical man, in measuring, taking off quantities, &c. Address, stating terms, B. V. Office of "The Builder."

TO MASTER PAINTERS, BUILDERS, &c.

THE Advertiser, who is a good Grainer and Writer, and has had much experience in the general house work, is in want of employment. Good references.—Address, C. B. 5, Prospect-place, Barnsbury-road, Islington, N.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who has had several years' experience in Surveying, Levelling, &c and who is conversant with taking out quantities, making out working drawings, &c., is a neat and expeditious draughtsman, is desirous of an ENGAGEMENT.—Address, T. J. K. 4, Bath-terrace, Forest-gate, Essex.

TO BUILDING SPECULATORS and OTHERS.—The Advertiser, who has been largely engaged as an Architect and Surveyor on Estates and Building of a first class commercial character, and who has practically studied economy in cost of design and construction, will be glad to advise, to give rough sketches, prepare designs, working drawings and details, with specifications, quantities, and estimates; or will undertake the arrangement of contracts and disputed accounts.—Address, A. C. Z 2, Great College street, Camden Town, N.W.

THE Advertiser, a practical Carpenter and Joiner, is desirous of a RE-ENGAGEMENT as BUILDER'S FOREMAN. Is thoroughly acquainted with all branches of the building trade, can prepare working and detail drawings, set out and measure up work, take out quantities, &c Good reference will be given.—Address, E S Office of "The Builder."

IRONWORK CONSTRUCTION.—A Surveyor, who has been responsibly engaged in the construction of the largest and most important Iron Structures lately erected, is willing to ADVISE and ASSIST in the preparation of work, drawings and specifications for Ironwork generally, upon mutual terms.—Address, IRONWORK, Office of "The Builder."

EXCHANGE of PUPILS.—The friends of a YOUTH, aged 15, wish to PLACE him with an Architect in good practice, and to RECEIVE in return a YOUNG LADY, to whom a first-rate Education would be given —Address, M. D 29, Thayer-street, Manchester square

TO ARCHITECTS.

AN Experienced ASSISTANT, and first-class designer, perspective draughtsman, and good, colourist is open to an ENGAGEMENT in town, as ASSISTANT, or to take the Management of an Office.—Address, A. R 121, Albany street, Regent's Park.

TO ARCHITECTS AND SURVEYORS

A JUNIOR ASSISTANT is open to a RE ENGAGEMENT. A permanency in town preferred. Salary moderate.—Address, X Y, Trenham, Brothers, 49, Carlingwood-street, Blackfriars road, S.

A CLERK of WORKS, or GENERAL SUPERINTENDENT, a MAN aged 41 (Carpenter by trade), used to the various duties of such a situation Would prefer with an extensive, well known London firm, in charge of Town and country Job Pay wages, measure, keep accounts, set out, &c Four years last engaged.—Address FOREMAN, 30, Berwick street, Pimlico, S.W.

AN ENGINEERING and ARCHITECTURAL ASSISTANT, engaged for the past sixteen years on plans, &c. for public works of water supply, gas, and town sewerage, and in designing and superintending the erection of private and other buildings, is now open to a permanent ENGAGEMENT First class testimonials.—Address, A. C. E. 9, Trellick-terrace, Vauxhall-road.

TO BUILDERS AND ARCHITECTS.

A YOUNG MAN from the country, aged 23, wishing for IMPROVEMENT, for which he is willing to give his time for twelve months, is desirous to obtain a SITUATION in a builder's or architect's office. He has some knowledge of a plan and taking out quantities.—Address, A. R Office of "The Builder."

TO ARCHITECTS.

AN efficient ASSISTANT is in WANT of a SITUATION. Is accustomed to design in Gothic and Italian styles, get out working and detail drawings, prepare and colour perspectives, measure buildings, &c. and has had some experience as Clerk of Works — For terms, testimonials, &c apply to R J. Post-office, Reading.

TO YOUNG ARCHITECTS AND OTHERS.

A PRACTICAL SURVEYOR, of much experience, Prepares and Revises SPECIFICATIONS, and gives Hints on Constructive Details.—Address, SURVEYOR, care of Mr. King, No. 1, Railway-place, Holloway, N.

A GOOD SURVEYOR, LEVELLER, and DRAUGHTSMAN is OPEN to a PERMANENT or TEMPORARY ENGAGEMENT. Has had ten years' experience; four being upon the Ordinance Survey Is competent to undertake or superintend extensive surveys for engineering or other purposes. References exchanged —Address X. Y. Office of "The Builder."

A GENTLEMAN having completed his Articles in one of the first Offices in London, desires an ENGAGEMENT in a GOTHIC OFFICE in town. Salary moderate.—Address, ALPHA, Post-office, Grantham.

TO BUILDERS, DECORATORS, &c.

AN active Young Man, a PAINTER, is in WANT of a JOB. Has had great experience in the manage ment of work. References given.—Address, S. A. 437, Oxford-street, London, W.

A GENTLEMAN, who is qualified to take the MANAGEMENT of a GENERAL PRACTICE, is desirous of obtaining a Permanent SITUATION in London. He has visited Gothic, Italian, &c., can prepare drawings from sketches, make perspective and detail drawings, write specifications, take out quantities, make land surveys, and level Salary, 140l. A partial Engagement would be taken.—Address, C. 17, Hill-street, S.W.

A BUILDER'S CLERK wishes for an ENGAGEMENT. Is thoroughly acquainted with book keeping, and can assist in drawing, estimating, &c Has had fourteen years' experience with good firms in the building, lime, and cement trades Can give excellent references. Age, 27.—Address, H SELBY, 7, Grove place, Lisson grove, N.W

TO ARCHITECTS.

AN experienced CLERK of WORKS, who has just completed a large job, is open to an ENGAGEMENT. Address, A. G. Office of "The Builder."

TO BUILDERS AND CARPENTERS

A BUILDER'S SON, aged 23, is in WANT of a SITUATION as an ASSISTANT to a BUILDER or FOREMAN of CARPENTERS. Can prepare plans, and set out work, &c. Good references, moderate salary.—Address, W. D. 301, City-road, E.C.

AN OUTDOOR APPRENTICE WANTED, to the GRAINING Trade. A Premium required.—Address, A. C. 24, Garway-road, Paddington, W.

TO ARCHITECTS AND SURVEYORS

AN ASSISTANT, of much practical experience, and well up in construction, a thorough Draughtsman, used to taking out quantities, measuring, and inspecting works in progress, requires an ENGAGEMENT.—Address, V. G. Post-office, Chancery lane, W. E.

AN ARCHITECT and SURVEYOR, who has had very considerable practical experience in the erection of first-class public and private buildings, wishes to undertake the architectural department for an Engineer, or for a Railway or other public Company; or to lay out, design for, and conduct an Estate for a private speculator. The advertiser is a thorough man of business, very clever in design and construction, and has a practical knowledge of the values of labour and material.—Address, T. T. X. 152, Upper-street, Islington, N.

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AN Energetic Man, aged 39, thoroughly experienced in the value and quality of building materials good book keeper and accountant, wishes EMPLOYMENT as SALESMAN, YARD FOREMAN, or in a builder's office. Unexceptionable references. Moderate salary.—Address, G. 2, Selby Cottages, Clifton-road, Peckham.

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A PRACTICAL BRICKLAYER wishes to take BRICKWORK by the rod or otherwise.—Address A. W. 11, Cambridge terrace, King's-road, Chelsea.

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TO CIVIL ENGINEERS AND CONTRACTORS.

A CIVIL ENGINEER, aged 33 (Married), of much practical experience, particularly in railway matters, desires an ENGAGEMENT First class testimonials, and references to men of eminence Having visited the last few years abroad, and being anxious to establish a connexion in England, will accept a moderate salary. Is a first class estimater and calculator, an expeditious draughtsman, and field-worker.—Address, C. E. 42, Chichester-road, Kilburn, London, W.

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BY ROAD, RIVER, or RAILWAY;
Accidents in the Field, the Streets, or at Home, May be PROVIDED AGAINST by taking a POLICY of the RAILWAY PASSENGERS' ASSURANCE COMPANY, 64, CORNHILL, LONDON.
£140,000 have been already PAID as COMPENSATION for Accidents of all Kinds,
In Seventy five Fatal Cases, and 8,580 Cases of Personal Injury.
Rates and further Particulars may be obtained at the Railway Stations, of the Local Agents, or of the
HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
WILLIAM J. VIAN, Secretary.
Railway Passengers' Assurance Company, empowered by Special Act of Parliament, 1849.

LONDON and SUBURBAN LAND and BUILDING COMPANY, LIMITED Incorporated under "The Companies Act, 1862"—Offices, No. 70, Fenchurch-street, City, E.C. Capital, 50,000l in 5000 shares of 10l each, power to increase, in 5,000 shares of 10l. each. Deposit 2l per share, of which 1l. is to be paid on application and 1l on allotment. No call to exceed 10s. per share, nor to be made at less intervals than two months between each, until the sum of 5l. per share is paid up, beyond which no further calls contemplated.

ABRIDGED PROSPECTUS.

The objects of the Company are The purchase and sale of freehold and leasehold lands and hereditaments in England, the purchase, enfranchisement, and sale of copyholds; the erection of dwelling-houses and other buildings; the purchase of reversions; the improvement of property by drainage and laying out, and making thereon roads, gardens, squares, ornamental grounds, or otherwise, the exchanging, letting, leasing of property, the advancement of moneys at interest on freehold, copyhold, and leasehold securities; the borrowing and taking up of moneys at interest; the carrying on the business of a Land, Building, Advance, and Investment Company in all its branches and departments; and generally to do all such other things as are incidental or conducive to the attainment of all or any of the above objects.

The Company is an embodiment and extension of the London and Suburban Freehold Land Society, which has been in active and successful operation for upwards of eleven years, and which for the last nine years has paid a dividend of 7½ per cent

This Company has, however, in view a wider field of action, as may be collected from the summary of its objects, which is above given

The Board of Directors is composed chiefly of gentlemen who have for many years taken an active and prominent part in the management of the London and Suburban Freehold Land Society, the majority of them the same as in that direction

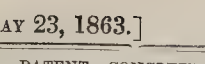
The Company begins its career free and unembarrassed, inasmuch as, excepting the usual costs of the preparation of the articles of association and the registration of the Company, "preliminary expenses,"—which words often signify the payment of large sums of the amount of paid up shares to promoters, &c.—are to them strangers.

The Members of the Land Society have already subscribed for a large number of shares; the remainder will only be allotted at a premium of 2s 6d per share, and no application for shares at that premium will be entertained after the 8th proximo.

Prospectuses with form of application for shares may be obtained at the Offices, or by post on the applicant including a postage-stamp to the Secretary, Mr. JONATHAN TAYLOR.

THE PATENT CONCRETE STONE COMPANY (Limited).—Temporary Offices, 38, Parliament-street, Westminster.—At a Meeting of the Board of Directors, held here this day, it was resolved: "That applications for the remaining shares in this Company must be made to the Brokers, Messrs. BARRY & CO Birchin-lane, E.C. before the 1st day of JUNE next, on which day the share-list will be closed."
May 1, 1863. THOMAS PIPER, Secretary.

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Near Astley's Theatre.
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TO BE DISPOSED OF, an old-established JOBBING BUILDER and DECORATOR'S BUSINESS, under very advantageous circumstances, and on very moderate terms. Sole factory reasons given for the disposal.—Apply to T. S. 12, Emmis-terrace, Graft n-road, Camden Town, N.

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PHILBROKE ESTATE, at Leytonstone, on the Woodford and Loughton Railway, twenty minutes from Fenchurch and Bishopsgate-streets.—This valuable FREEHOLD ESTATE (land-tax redeemed), surrounding the Station, healthy locality, gravelly soil, excellent drainage, water and gas laid down, roads made, and can be dug on the estate, is expressly proposed TO LET in Plots suitable for building detached and semi-detached villas. Repeated applications have been made for houses in this neighbourhood. For terms, apply to Mr. ATHEY, at the Surveyor's Office, Philbroke Estate, Leytonstone, Essex.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snare-brook Station is about a mile and a half on a line of eighty-one, in Six Acres of Building Ground in Penzance, will be sold in lots by auction at the same time. The whole of this ground is at present under cultivation as market garden ground for early broccoli and early potato crops.—For particulars apply to TODD & CORNISH, 8 Hectors, Penzance
Penzance, April 23rd, 1863.

SUTTON, near the Station.—PLOTS of FREEHOLD BUILDING LAND FOR SALE. Land-tax redeemed, conveyance free. Also, PLOTS TO BE SET, on a Building Lease, for ninety-nine years.—For plans, &c. apply by post, pre-paid, to Mr. TRIBE, Builder, Sutton, Surrey, S.

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VALUABLE BUILDING PLOTS, near ORDNANCE TERRACE, CHATHAM.—The Trustees of Watt's Charity, at Rochester, are desirous of receiving TENDERS for Fourteen Plots of BUILDING LAND, at or near Ordnance-terrace, in the parish of Chatham, Kent, TO BE LET (with immediate possession) on Lease, for the term of 99 years from Christmas next, 1863. The Tithe rent charge and Land-tax are redeemed. The Estate is most eligibly and delightfully situate on the elevated ground between Ordnance-terrace and Fort Pitt, and commands extensive views of the River Medway, Dockyard, &c.; is adjacent to the Chatham Station of the London, Chatham, and Dover Railway, and is eminently adapted for the erection of Dwelling-houses and Villas of a superior description. TENDERS are to be sent in on or before SATURDAY, the 6th day of JUNE next, to the Office of Messrs. LEWIS & MARSH, solicitors, Rochester, where also a Plan of the Estate and a model draft Lease are deposited, and open for inspection previous and up to the day of Tender.—For further particulars of the several Plots, and conditions as to the Buildings and Lease, see printed particulars and conditions which will be issued 21 days prior to the day of Tender, and may be had of Mr MARTIN BULMER, the Trustees' Surveyor, Maidstone and Strood; of Messrs HARRISON & LEWIS, 26, Old Jewry, London, E.C.; of Mr. WILLIAM HAYMEN (the Receiver of the Charity Estates); at the principal Hotels in Rochester and Chatham; and of Messrs. LEWIS & MARSH, Rochester.

CITY of LONDON.—BARBERS' HALL. TO BE LET, on a Building Lease, Nos. 33, 34, and 35, Monkwell street, Wood street, and a portion of the Court yard Hall and Offices in the rear.—For particulars and plans, apply to the BEADLE at the Hall; or to the Clerk, HENLEY GROSE SMITH, Esq. 4, Warnford court, Throgmorton-street, E.C.

TO ARCHITECTS, BUILDERS, and OTHERS.—TO BE LET, on Building Leases, at low ground rents, about 50 acres of most eligible BUILDING LAND, immediately adjoining the Caney Hatch Station, on the Great Northern Railway. Gravelly soil and good water. There is a great demand for villa residences in this neighbourhood. The connecting of the Great Northern Line with the Metropolitan Railway, brings this property within half an hour's ride of the City or West End.—Apply to Mr S. BARKER BOOTH, Solicitor, 4, Gray's-inn-square.

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SOUTHAMPTON.—To BRICK, TILE, and CEMENT MANUFACTURERS, and OTHERS, requiring extensive WATERSIDE PREMISES TO BE LET, with immediate possession, for an unexpired term of twenty years, an extensive and important PROPERTY, occupying an area of about twenty acres, situate at Eling, on the banks of the Southampton river, with spacious wharf and river frontage, accessible by vessels of large tonnage, together with numerous buildings, consisting of most substantial MILL HOUSE, four stories high, with engine and boiler; sheds, and chimney shaft of 110 feet; also the erections of brick kilns on a large scale, with cottages for foremen and workmen. The land has an inexhaustible supply of brick earth, and the premises are convertible for many manufacturing purposes.—For further particulars, apply to Mr. H. WITHERS, Land Agent, Redbridge, near Southampton.

BUILDING LAND TO BE LET, at Canonbury (Marquess-road), at Lower Norwood, a most eligible site, commanding beautiful views, close to the station; at Croydon, &c. Also, at Edward's road, Bow, some carcases for completion. The usual advances of money to respectable parties. Apply at the Offices of Mr J. EDMESTON, Architect and Surveyor, 3, Crown-court, Old Broad street, E.C.

GROUND RENTS.—WANTED to PURCHASE, about 1750l. PER ANNUM in FREEHOLD GROUND RENTS, well secured on a good class of London house property. Full particulars and terms to be sent to Messrs DANIEL SMITH, SON, and OAKLEY, 16, Waterloo place, Pall-mall, S.W.

BUILDING LAND in FLEET STREET TO BE LET, about 48 feet frontage, and 88 feet deep.—For terms apply to J. JOHNSON, Esq. 9, John-street, Adelphi; or to Mr JAMES ARDING, 62, Bread-street, Fleet-street; or Messrs. BUSHWORTH, JARVIS, & ABBOTT, Saville row, Regent-street, and 19, Change-alley, Cornhill

MR. HILL has TO LET SEVENTY-SIX ACRES of LAND for building purposes, suitable for the erection of a number of villas, about three miles from a station on the South Eastern Railway, less than 20 miles from London. Advances if required. Apply at 14, Bedford row, London

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TO BE LET, a capital WHARF and DRAWDOCK, known as "Searle's Wharf," most eligibly situated at the foot of New Westminster Bridge, and opposite the Houses of Parliament.
The drawdock has been closed for some years, and is now about to be re-opened.
From its excellent situation and the probability of the Scotland-yard Wharf being closed at an early date by the Thames Embankment, a very valuable business may no doubt be depended on.
A residence is attached, which may or may not be taken with the wharf or drawdock.
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BUILDING LAND.—FREEHOLD BUILDING LAND TO BE SOLD, eight plots, situate within five minutes' walk of Bow Railway station, and near Victoria Park, part of the London and Suburban Freehold Land Society's Estate. Price, 400l. Part of the money can remain on mortgage.—Apply, 89, Blackfriars road.

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TO BUILDERS and OTHERS.—Notice is hereby given that the Trustees of the Rev. Dr. Spurlow's Charity Estate at Hackney have several PLOTS of LAND TO LET to build on, eligible for villas and other respectable private dwellings. The land will be let free from the freeholder, and free of land tax and [illegible] communication paid charge. The above estate offers an excellent opportunity to persons desirous of building houses to reside in themselves.—For further particulars inquire of Mr. GUILDEN Surveyor, No. 2, Old Church-yard, Hackney; or of Mr. C. H. PULLEY, of Upper Homer th, and 23, Great Winchester street, Old Broad-street, City, Solicitor.

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BUNNETT'S PATENT.
THIS PATENT FOR SALE, OR LICENSES GRANTED.
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BRICKS for SALE, good Stocks and Grizzels, lying near to Brixton-hill, Norwood, and Streatham. Apply at the Field, Leigham-court road, Streatham; or to Messrs. TROLLOPE, 1, Belgrave-road, Pimlico, S.W.

BRICKS of this Season's make are now READY for SALE at the RANELAGH BRICK WORKS, Fulham Fields, and the SWAN BRICK WORKS, Walham green; S.W. Bright stocks for facings, grey stocks, grizzels, and place, of superior quality, can be delivered to any part of the W. or S.W. districts at very reasonable prices.—J. JOHNSON, Proprietor

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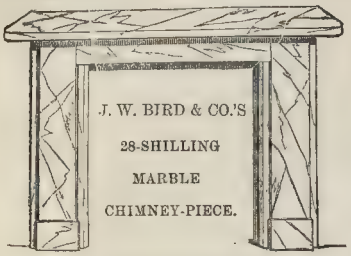
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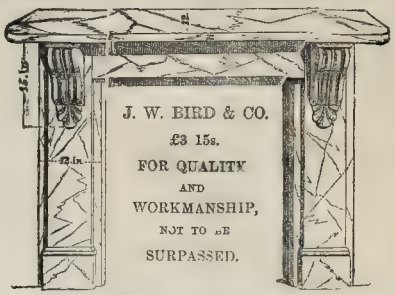
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Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
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20 by 12 per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
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Best quality, in cases of 200 feet..... 120s.
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Rosettes, various sizes and colours.

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16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
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16 oz. in Sheets, 3½d. per foot.
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MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

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Genuine White Lead	30s.	Fine Oak Varnish ...	per gallon.
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Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

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CRABS,
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WELL-BORING TOOLS,
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Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graiuers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

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DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
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PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIME-STONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River
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The Company guarantee the quality of the Lime to be equal to that used by the Engineers of the Liverpool and Birkenhead Docks.
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GREAVES'S BLUE LIAS LIME.
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Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
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PORTLAND CEMENT.
Delivered on Steamer or Rail at Bristol at 8s. per Cask, in quantities of not under 30 casks. Freight to London Bridge, about 1s. 6d. per cask; to Paddington, about 1s. 10d.
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Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

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N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
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JOHNSON'S IMPROVED BUILDING HOIST,

EQUAL TO TWELVE MEN.

STAGING DISPENSED WITH, AND VERY PORTABLE.

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Sashes and Frames, Boxing shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air tight Window Fittings, Glass Show Cases, &c.

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2,000 Spruce ditto ..... from £9 per 120

SPRUCE DEALS, 2s. 6d. each.

FIR TIMBER 55s. PER LOAD.

Scaffold Poles ..... 1½d. per foot

YELLOW DEALS, £16 PER 120.

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	White (not Spruce).	Yellow.	
¾-inch Flooring	11s. 6d. to 12s. 0d.	13s. 0d.	per Square.
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1-inch ,, ...	14s. 6d. to 16s. 0d.	15s. 6d. to 18s. 6d.	,,
1¼-inch ,, ...	18s. 0d.	20s. 0d. to 22s. 0d.	,,

YELLOW DEALS, 3 by 9, from...£16 10s.

Yellow Battens ..... £11 10s. per 120

¾ White Matched Lining ..... 12s. per square.

½ Yellow ..... 16s. ,,

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Yellow Battens, excellent quality ..... 10 10 0 ,, 12 ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

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	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 8d.	13s. 6d. per square.
⅞ by 7 ,, ...	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,, ...	15s.	15s. 6d.	16s. 6d. ,,
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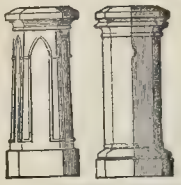
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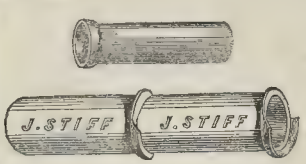
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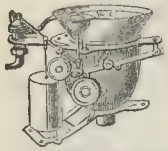
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London House, Mr. THOMAS BEGGS.



ERKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient and simple, free from all smell, and requires no cisterns, service boxes cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipes. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet, also dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary direct Service Main Cottage Water Closets.

Chrimes's Patent High Pressure Single and Double Loose Valve and Screw Down Cocks; Improved self-acting and Pull Water-Closet; Patent Atmospheric Water Preventer; Plumbers' and Gasfitters' Brass Work of every description. Drawings, Descriptions, Prices, and Testimonials will be forwarded per post on application as above.

J. TYLOR & SONS' PATENT

REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cistern valves, cranks, or wires are used. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application at the Manufacturers, J. TYLOR & SONS, Warwick Lane, Newgate street, London.

TERRA COTTA and Fine STONEWARE

POTTERY, warranted to stand Frost.

JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and economised the manufacture of TERRA COTTA and Fine STONEWARE for ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to harmonize with Marble, Portland, and other Stone, and equal in hardness to Granite.

A Medal at the International Exhibition was awarded, in Class 10 Section C, Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra Cotta."

Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusters, Capitals, Cornices, Pediments, Vases, Statues, Brackets, Consoles, Garden Edging, Guttering, six, nine, and twelve inch Paving Tiles, &c. &c.

Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

London Office, 377, Oxford-street, W.

PEAKE'S TERRO-METALLIC TILES

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for WARE is REMOVED to No 21 Wharf, Macclesfield street North, City road Basin, N. Secondly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor and Thirdly, that the "Reports of the Jurors," page 561, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufactories known so long as "The Villeries," Tunstall, Staffordshire, as the first of the Kind in the world.

MINTON & CO

HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS TO 50, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE-UPON-TRENT.

STAFFORDSHIRE RIDGING and ROOF

ING TILES, Plain and Ornamental, in Blue or Broseley colour

PAVING TILES in various colours and designs

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.

Dressed Blue Facing BUILDING and SEWER BRICKS.

Architects' Designs carried out on the shortest notice.

Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,

Belvedere road, Lambeth, and Kent-road Bridge.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED

PAVEMENTS, combining a highly decorative and economic substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern Book, designed by N. Digby Wyatt, esq. together with specific designs and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, friezes, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit street, free

London Agents—W. B. SIMPSON & SONS, 456, West Strand, where have on view a great variety of Specimens of the Pavements.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHO

SHOP SHUTTERS are SHOD and SECURED by the above HALF THE COST OF THE UNSIGHTLY AND DESTRUCTI SHUTTER BAR. Shops referred to in every principal street in Lond

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

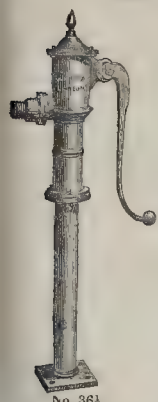
GEORGE JENNINGS,

Sanitary and Engineering Depôt, Palace Wharf Stangate, Lambeth, S.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36¼.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	.....	£2 10
3 "	.....	2 15
4 "	.....	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

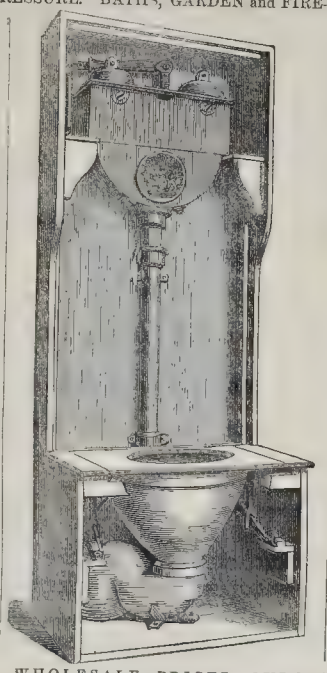
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 "	6 6 0	
3½ "	8 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch.....	.....	£3 10 0
3 "	.....	4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low pressure Service.

Self acting Closet in Wood Case, complete	.....	£4 10
Ditto Work without Wood Case	.....	2 5
Basin and Trap, W.	.....	0 5

Further Description, with Sectional Drawings will be sent on application.



No. 146½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin..... £3 0

Sunk Handle, extra 0 2 0

Blue Basin, extra 0 1 0

No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3*l.* 10*s.* each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

CLINTON & OWENS, LATE

BENJAMIN FOWLER & CO. Whitefriars-street, Fleet-street, London,

MANUFACTURERS OF PUMPS AND HYDRAULIC MACHINERY OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DOMESTIC, AGRICULTURAL, OR MANUFACTURING PURPOSES, OR FOR CONTRACTORS' USE, TO BE WORKED BY HAND, HORSE, WATER, WIND, OR STEAM POWER.

Portable Steam Engines, Powerful Single and Double-Barrel Pumps, Centrifugal Pumps, and Boring Tools for Contractors' Purposes, ON HRIE.

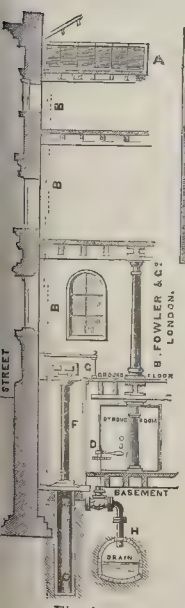
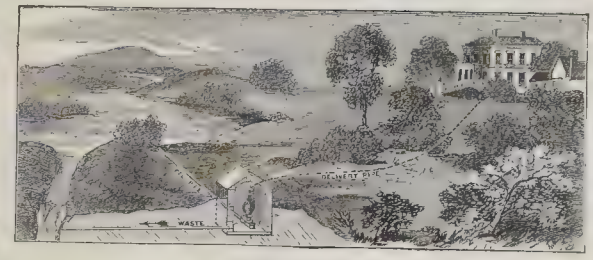


Fig. A.



THE LANDSCAPE SKETCH ABOVE SHOWS

THE IMPROVED HYDRAULIC RAM.

This is a simple Self acting Machine for Raising a considerable Supply of Water for Use in Public or Private Establishments where a fall can be secured from a Stream, Brook, or Springs. Messrs. FOWLER have fixed a great many varying from 30 to 300 feet, and forcing through main pipes from 50 yards to several miles in length. The fullest particulars and estimates will be handed on application.

No. 37 SHOWS A SET OF

TREBLE-BARREL PUMPS WITH HORSE GEARING,

For Raising Water from DEEP WELLS for the SUPPLY of TANKS in MANSIONS and PUBLIC BUILDINGS. Messrs. CLINTON & OWENS also Manufacture and Erect every other Form of Pump for Deep or Shallow Wells for Hand or other Power.

Fig. A SHOWS

A HYDRAULIC LIFT,

Worked by Pressure from a Cistern. Suited for Banks Warehouses, and other Buildings. Messrs. FOWLER also Manufacture such Lifts to be worked by Hand Pumps, where pressure cannot be obtained from a Cistern.

CLINTON & OWENS

MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

UMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE, STEAM-ENGINES, WATER-WHEELS, TURBINES, HOISTS, WARMING AND DRYING APPARATUS, BATHS, GAS-WORKS, AND FITTINGS.

ESTIMATES WILL BE HANDED ON APPLICATION.



No. 37.

PRICE LISTS OF PUMPS FREE BY POST.

SALES BY AUCTION.

TO BUILDERS, CONTRACTORS, SAW-MILL PROPRIETORS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Messrs. Wilson & Sons to SELL by AUCTION, on MONDAY, 25th MAY, 1863, and following day, at ELEVEN o'clock each day, on the PREMISES, Great Suffolk street and St. Steven's square, Kent street, Southwark, without reserve, the MACHINERY, TOOLS, and remaining STOCK of a BUILDER: including a 16 horse power, direct-acting steam-engine; Cornish boiler, 7 feet diameter, 30 feet long; rack saw bench, vertical deal saw frame, self-acting 19 feet long; rack saw bench, vertical deal saw frame, self-acting circular saw benches and twenty four cast steel saws, planing machine, moulding machine, two morticing machines, band saw machine, joiner's circular bench, with ploughs and saws; circular rebating and moulding machine, leather bands, two tons of hoop iron, 240 pine planks, twenty squares flooring boards, six loads timber in scantling, twenty-four logs Honduras and Cuba mahogany, in planks; 7,000 feet 4 to 14-inch yellow boards, 2,800 feet pitch pine boards from 4 to 14 in. thick, 3,800 feet battens and planks, 5,400 feet 9 to 14-inch white boards, 900 feet skirting, 200 oak rail, quantity oak plank, 14,000 feet run mould-ings and sash bends, 50 new panel doors and dozen scaffold cords, 3 builders' hoists, ladders, and steps, 3 grindstones, 27 joiners' benches, 3 stamps, 3 crates ground glass, 300 scaffold boards, 100 scaffold poles, 8 dozen pulleys, 27 stone sinks, 800 feet York paving, 92 York cills, 700 Ruffard's glazed bricks, 600 feet 4 inch rubbed York coping, quantity Portland and York stone, an assortment of builder's ironmongery, timber carriage, tumbril cart, spring stone cart, hand truck, 2 masons' trucks, office fittings and other effects. To be viewed on Saturday previous and morning of sale, when catalogues may be had on the premises, and of Messrs. FULLER & HORSEY, Billiter-street, E.C.

BRENTFORD GRAIN DISTILLERY.—TO BUILDERS AND OTHERS.

MESSRS. FULLER & HORSEY will SELL by AUCTION, pursuant to an Order of the Court of Chancery, made in the causes of "Booth v Coulton," "Booth v. Booth," and "Booth v. Nash," with the approbation of his Honour Vice Chancellor Stuart, the Judge to whom these causes are attached, at the AUCTION MART, in the city of London, on THURSDAY, the 28th day of MAY, 1863, at TWELVE o'clock, in Four Lots, the highly important FREEHOLD and COPYHOLD ESTATE, recently carried on as a Grain Distillery, comprising the buildings, the back room, the brew house, the malt dwelling house, offices, yards, garden, and staithing, and a landing wharf in the Thames, situate at Brentford, about seven miles from London, on the western road, and about midway between the Kew and Brentford stations of the South Western Railway. It is contiguous to the New Station of the North London Railway, and also to the docks and wharves at Brentford; the whole forming a most desirable property for any large manufacturing establishment, or a most eligible site for building operations. To be viewed till the Sale by cards only, which, with printed particulars, plans, and conditions, may be had of Mr. P. B. HOOK, Esq. Solicitor, 6, Lincoln's-inn-fields, W.C.; of W. H. DAVIS, Esq. Solicitor, 16, Golden square; of Messrs. KINGSFORD & DORMAN, Solicitors, Essex street, Strand; of Messrs. CLARK & RUSTON Solicitors, Brentford: and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

Pair of Steam Engines, equal to 50-horse power nominal.

MESSRS. FULLER & HORSEY are instructed by the Directors of the London Armoury Company Limited, who are removing to the new Works to SELL by AUCTION, on THURSDAY, MAY 28th, 1863, at TWELVE for ONE o'clock, at the AUCTION MART, Bartholomew lane, a pair of Horizontal High pressure and Condensing STEAM ENGINES each of 25 horse power, cylinders 20 inches diameter, 6 feet stroke, with portable pistons, bright planing, screw-cut, 3-inch wrought steel shaft, cast-iron fly-wheel 14 feet diameter, spur mortise wheel 8 feet diameter, and pinion 2 feet 6 inches diameter, cast-iron condenser, cast iron frames, copper valves, with gearing, &c., built by Messrs. Penn, made in 1851.—The Engines may be seen in motion at the Works in Bermondsey (by omnibus only) up to between the hours of TWELVE and ONE o'clock previous to the Sale; and Catalogues may be had of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

VENEER KNIFE CUTTING MACHINE.

MESSRS. FULLER & HORSEY will SELL by AUCTION, on TUESDAY, JUNE 9th, 1863, at TWELVE o'clock, on the PREMISES, Eagle Wharf-road, New North road, a very powerful VENEER KNIFE CUTTING MACHINE, capable of cutting from 16 to 70 veneers to the inch from wood 7 feet 11 inches long by 4 feet 6 inches wide, with rising and falling table 5 feet by 8 feet. Cast-iron planed bed, with screws, self-acting feed and reversing motion, and driving shaft, made by Messrs. Bailey & Manchester. Also, a wrought-iron cylindrical STEAMING TANK, 5 feet diameter, 12 feet long. To be seen at any time by special order, which, with descriptive particulars, may be had of Messrs. FULLER & HORSEY, 13, Billiter street, London, E.C.

13, Billiter street, 21st May, 1863.

THE BISHOP WEARMOUTH IRON WORKS, SUNDERLAND.—These valuable PROPERTIES with the Rolling Mills and all other Machinery, the property of the Derwent and Consett Iron Company, Limited, will shortly be sold by Limited by PUBLIC AUCTION, by direction of the Trustees, and under the sanction of his Honour the Vice-Chancellor Kindersley. The time and place of sale, together with further particulars, will shortly appear.

JOSEPH ANDERSON, Solicitor to the Trustees.

Newcastle-upon-Tyne, 11th May, 1863

THREE ACRES of VALUABLE FREEHOLD BUILDING LAND, Barnes, close to the Railway with Horse

MESSRS. GLASIER & SON are instructed to SELL by AUCTION, on WEDNESDAY, JUNE 3rd, at TWELVE for ONE o'clock, in one or more LOTS, Three Acres of VALUABLE FREEHOLD BUILDING LAND, with a Frontage of about 700 feet to an occupation road leading out of the Hammersmith Bridge Road.—May be viewed, and Particulars had of F. HAINES, Esq. Solicitor, 178, Edgeware-road; at the Boileau Arms, Barnes-road; at GARRAWAY'S; and of the Auctioneers, 41, Charing Cross, S.W.

BUILDING MATERIALS, BRIDEWELL

MESSRS. GLASIER & SON are favoured with instructions from the Governors of Bridewell Hospital, to SELL by AUCTION, on the PREMISES, on WEDNESDAY MAY 27th, and following days, at TWELVE for ONE, the valuable BUILDING MATERIALS and FITTINGS; comprising 1,000,000 capital stock bricks, several thousand feet of capital York and Pitchard stone in paving, coping, steps, string courses, cills, &c.; 100 squares of slating, 100 loads rafters, flooring, boards, and joists, forest clock and bells, iron doors, railings, bars, girders, and gratings, about 30 tons of lead, cast-iron soil pipes, sashes, doors and fittings, large coppers, slate cisterns, large stock of seasoned deals, chimney pieces, stoves, ranges, and other fixtures and fittings. May be viewed the day prior and mornings of sale, and catalogues had on the premises; and of the Auctioneers, 41, Charing-cross, S.W.

ACTON, MIDDLESEX, with in five miles of London.—Desirable Freehold Residence, with about seven Acres of Land admirably adapted for building.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION, at the MART, near the Bank of England, on TUESDAY, JUNE 2, at TWELVE, in one lot, and if not sold, it will immediately in two lots, GROVE HOUSE, a desirable family residence, containing eight bed rooms and attics, dining and drawing room, and the usual domestic offices, with coach houses and stabling, and capital flower and kitchen gardens, vinery, taste-fully disposed lawn, with carriage drive, &c., containing an area of four acres; also, immediately adjoining THREE ACRES of excellent LAND, situated on the Acton Lane-one, and having a long frontage on the turnpike road to Uxbridge, also to two roads leading to the Acton Station; in fact, is bounded on three sides by good roads. The property is freehold, and is in every way adapted for building purposes, it is within a very few minutes' walk of the Acton station on the North and South Western Junction Railway. The subsoil is a gravelbed of gravel. The residence has been recently vacated, so that possession may be had on completion of the purchase. Particulars, with plans, may be had at the Mart, E.C.; of Messrs. WALKER & JERWOOD, Solicitors, 12, Furnival's-inn, E.C.; and of Messrs. DANIEL SMITH, SON, & OAKLEY Land Agents and Surveyors, 19, Waterloo-place, Pall-Mall, S.W.

STRAND.—The Capital MATERIALS of a recently erected Block of Buildings.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the Premises, on FRIDAY, MAY 29th, at TWELVE for LOTS, the whole of the Excellent BUILDING MATERIALS, FIXTURES, and FITTINGS-UP, of the Spacious Premises situate in Wellington-street, Strand (corner of Exeter-street), and comprising 2,000,000 capital bricks, 50 squares of slates and slating boards, prime timber in roofs, joists, and girders, 180 squares of sash flooring, glazed sashes, loop lights and other doors, iron girders, flights of stone stairs and landings, stone paving, several tons of lead in gutters, cisterns, and pipes, stoves, and other useful materials and fittings up. May be viewed two days previous, and Catalogues had at the Offices of C. O. PARNELL, Esq., Architect, 30, Pall Mall; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament Street, S.W.; and 80, Fore Street, E.C.

EAST HAM, ESSEX.—VALUABLE FREEHOLD BUILDING LAND

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, on MONDAY, MAY 25th, at TWELVE for ONE o'clock, in Nineteen Lots, about 7 acres of MARKET GARDEN and BUILDING LAND, late in the occupation of Mr. Mills, situate about midway between the Plaistow and East Ham Stations on the London, Tilbury, and Southend Railway, with frontages on the road from West Ham and Plaistow to East Ham, and Barking, opposite Plashet Park, and near the Green Man Tavern. The corner lot facing the road from West Ham and Stratford is set apart for the erection of a Tavern. Nine-tenths of the purchase money may remain on mortgage or contract at 5 per cent to be paid in nine years by half-yearly instalments, but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained at the Mart; at the Green Man, Plashet, East Ham; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate street, London, E.C.; and at the Place of Sale.

NEW BROMPTON, Chatham, Kent.—Freehold Building and Garden Land

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MITRE HOTEL, Chatham, on WEDNESDAY, MAY 27th, at SIX for SEVEN in the evening, SIXTY SEVEN LOTS of eligible FREEHOLD BUILDING and GARDEN LAND, with frontages to the new roads called Trafalgar and Dundas Roads, and close to the New Brompton Station on the London, Chatham, and Dover Railway, being the Central Portion of the Estate known as Prospect Park and near the Green Man Tavern and Barton's Farm. Nine tenths of the purchase money may remain on mortgage or contract at 5 per cent, to be paid in half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained ten days before the sale, at the Green Man, Plashet, East Ham; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate street, London, E.C.; and at the Place of Sale.

ADDISCOMBE COLLEGE, CROYDON, SURREY.—Mansion, House, and eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, Bartholomew lane, City, on MONDAY, MAY 25, at TWELVE for One o'clock, a first-rate PORTION of this eligible ESTATE, late the property of the Hon. East India Company; consisting of the noble mansion, built in the most substantial manner, and well adapted for a school or private institution; containing on the second floor eleven bed-rooms, nursery-room, work room, store-room, and water-closet; on the first floor, saloon, drawing room, ante-room, four bed rooms, dressing-room, and two other rooms; on the ground floor, a handsome entrance hall, dining-room at re-com, library, four sitting rooms, two other rooms, wide oak staircase; on the basement, servants' hall, kitchen, scullery, larder, housekeeper's room, butler's pantry, cellars, &c. The stew-pit-house contains, on the first floor, four bed-rooms; on the ground floor, two parlours and sitting-room; on the basement, kitchen, scullery, and other offices, and cellars. The Capital Building Land, with the fruit trees to the Upper Addiscombe Road, lot on which the lodge stands is set apart for a tavern, or for business purposes, and the remaining lots are eligibly adapted for Residences. The property is within ten minutes' walk of the New and Old Croydon Stations, about a mile of the Addiscombe Railway, and when the Addiscombe Railway is completed the Station will be on the Estate; thus bringing the property in constant communication with the City and West end at all times of the day. One-tenth of the purchase money may remain on mortgage or contract at 5 per cent to be paid in nine years by half yearly instalments, but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained ten days before the Sale at the principal Inns in the neighbourhood; of Mr. THOMAS BUCKLAND, Church street, Reigate; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate street, London, E.C.; and at the Place of Sale.

REDHILL, SURREY. Cottage Residence and Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on FRIDAY, MAY 29th, 1863, at TWELVE for ONE o'clock, a COTTAGE RESIDENCE, in Mill street, and eligible Building Land, with frontages to Mill street, the Newark, and Redstone Hill, the whole Freehold and Land tax redeemed. Nine-tenths of the purchase money may remain on mortgage or contract, at 5 per cent to be paid in nine years by half-yearly instalments; but any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained ten days before the Sale at the principal Inns in the neighbourhood; of Mr. THOMAS BUCKLAND, Church street, Reigate; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate street, London, E.C.; and at the Place of Sale.

ENFIELD, MIDDLESEX, Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the Mart, London, on FRIDAY, MAY 29th, 1863, at TWELVE for ONE o'clock, several LOTS of FREEHOLD BUILDING LAND adjoining the Town, and close to the Enfield Station on the Great Northern Railway. Nine-tenths of the purchase money may remain on mortgage or contract at 5 per cent to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained at the principal Inns in the neighbourhood; and of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate street, London, E.C.; and at the Place of Sale.

REIGATE, SURREY.—Eligible Freehold Building Land

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the WHITE HART, Reigate, on WEDNESDAY, JUNE 3, 1863, at TWO for THREE o'clock in the afternoon, fifty-nine lots of FREEHOLD BUILDING LAND, eligible for the town on the road to Reigate Hill, and Linden and Park roads. Nine tenths of the purchase money may remain on mortgage or contract at 5 per cent to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be had ten days before the sale of Mr. T. BUCKLAND, Timberhurst, Reigate; at the principal Inns in the neighbourhood; and of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate street, London, E.C.; and at the Place of Sale.

NEW BARNET, HERTS.—Valuable Freehold Building Land

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART opposite the Bank of England, on MONDAY JUNE 8, 1863, at TWELVE for ONE, FORTY EIGHT LOTS of eligible FREEHOLD BUILDING LAND, admirably adapted for the erection of a few minutes' walk of the Barnet Station on the Great Northern Railway, and commanding extensive and beautiful views of the surrounding country. The Metropolitan Railway being now open, brings the property within half an hour's ride of the City, and renders it very desirable for persons wishing to reside at a short distance from town. Nine-tenths of the purchase-money may remain on mortgage or contract at 5 per cent, to be paid in nine years by half yearly instalments, but the whole or any part of the balance may be paid off at any time with out notice.—Particulars, plans, and conditions of Sale may be obtained ten days before the Sale, at the Railway Hotel and Railway Tavern, New Barnet; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale

OLD ASYLUM, BEDFORD.—Excellent Building Materials.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on MONDAY, JUNE 1st, 1863, at TWELVE for ONE o'clock, on the PREMISES, close to the town of Bedford, the TENTH PORTION of the excellent BUILDING MATERIALS of the late County Lunatic Asylum; consisting of a large quantity of York paving, 30,000 stock bricks, brick work, fine Kelton stone cornice (the gable), quoins, string courses, and cills, brick pier with stone caps, and gates; a quantity of well-seasoned oak, comprising beams, joists, rafters, floor boards, lintels, purlins, wall-plates, &c; slates for roofs, iron gate and frame, iron bars and sash-weights, cast piping, water-pipes with brass taps, screwers in stone, doors, all fronts, sash and other windows, &c. May be viewed on Friday and Saturday before the Sale and catalogues may be obtained of the Auctioneer, 14, Moorgate street, London, E.C.; and of the Foreman, on the Estate

ACTON, MIDDLESEX.—A well-stocked Orchard, and valuable Free Building Land, 5 miles from the City

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, JUNE 8, 1863, at TWELVE for ONE o'clock, in SEVENTEEN LOTS, a well-stocked ORCHARD and eligible FREEHOLD BUILDING LAND, with frontages to Bollo bridge-road, near to the village of Acton. Nine tenths of the purchase money may remain on mortgage or contract at 5 per cent to be paid in nine years, but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained at the Inns in the neighbourhood; of Messrs. RUSSELL & DAVIS, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

OUNDLE, NORTHAMPTONSHIRE.—VALUABLE FREEHOLD ESTATE.—The Talbot Inn, as a Private House.—TO BE SOLD BY AUCTION, by

MR. S. DEACON, on the PREMISES, on the 28th day of MAY, 1863, at SIX o'clock, in the Evening, in one or more Lots, as may be determined upon and subject to conditions of Sale, all that valuable Messuage or Dwelling-house, so long known as THE TALBOT FAMILY INN AND POSTING HOUSE, situate in the centre of the Town of Oundle, with a large frontage in New Street, including the Market Hill, together with the garden, extensive range of stabling, granary, and lofts over them, coachhouses, outbuildings and yards in the rear, covering half an acre of land. The building is of stone, and the principal and interesting feature of the town from its Elizabethan front, built with part of the stone from Fotheringhay Castle, contains numerous sitting-rooms, kitchens, and all usual offices on the ground floor, a large dining or hall room extending along the whole front of the building, with nine good bed-rooms and closets on the first floor, and seven attics above. Immediately behind the house is a large yard, wells of excellent water, a good garden, ten stables, barns, and numerous outbuildings, with a private entrance at the back. The inn and premises might at no great expense be easily converted into an excellent trade or family house, as all good cottages, and parts of the extensive back premises may be advantageously sold off, and the whole estate, from its situation and extent, forms a very valuable investment. Plans may be viewed, and further particulars known, on application to the Auctioneer, and at my offices in Oundle

CHAS. THOS WILSON.

Oundle, 6th May, 1863

OAK, ASH, AND ELM TIMBER.—WASTCOTE, near PINNER, MIDDLESEX

MESSRS. HERON & SONS are favoured with in ten lots from A. W. Tooke, esq. to SELL by AUCTION, on the Spot, at Eastcote, on FRIDAY, MAY 29, 1863, a MAGNIFICENT LOT of TIMBER TREES, consisting of 1,000 timber oak in boles, about 400 ash timber trees, ditto spreading, oak, ash, and elm, which are well worthe the attention of ship builders, coachmakers, and others, many of the trees being of large dimensions. The Estate is situate in the Lots are 2 miles from the Pinner station, and in the fields adjoining close to good hard roads, and very convenient for removal.—May be viewed seven days before the sale, by application to Mr. CLARK, at Pinnerhill Farm, Pinner, of whom a map then be had; as also of Mr. CHARLES WRIGHT, at the Shop; and of Messrs. HERON & SONS, Auctioneers and Valuers, 4, Charles, Middlesex

LINCOLN'S INN FIELD (near to).—To TRUSTEES, CAPITALISTS, and OTHERS.—Eligible FREEHOLD PREMISES, occupying an area of 6,000 feet, let on lease at a net rent of 300l. per annum to responsible tenants, who have expended a large sum of money in repairs and improvements, and for which and insurance from fire for 4,000l.—By Mr. MASON, on MONDAY, JUNE 8, at the MART, by order of the Devisees in Trust under the will of Andrew CLARK, esq.

NOS. 5, GREAT QUEEN STREET, opposite the Freemason's Tavern, with extensive workshops in the rear, four new tenements and dwelling-houses fronting behind the shop-houses, 7, 8, 9, and 10, Duke street, with frontage on Parker-street of 75 feet, including two houses, Nos. 26 and 27, occupied as the Boomerang Refuge for Destitute Boys. The tenancy is determinable by lease or agreement at the first seven or fourteen years of the term, therefore possession may be had in 1865, if required.—To be viewed, by permission of the tenants, by cards only, which may be had of the Auctioneer, 15, Panton place South.

HONDURAS MAHOGANY for PUBLIC SALE on THURSDAY, 28th MAY, 1863

C. LEARY & CO. will SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Cornhill, on THURSDAY, the 28th inst. at SIX o'clock precisely, a large CARGO of HONDURAS MAHOGANY, of Superior Quality, consisting of Logs, and good Scantling, just landed at the West India Docks, "Intrepid," from Belize. To be followed by a choice Parcel HAVANA CIGARS, each of which will be delivered as may be had, with about the Broker's Sale No. 19, Old Broad street, City.

REDHILL, Reigate, Surrey.—Valuable Freehold Building Land

MR. THOMAS PAGE begs to announce that he has received instructions from the Proprietors to SELL by AUCTION, at the MARKET HALL, Redhill, on SATURDAY, the 23rd of MAY, 1863, at FOUR o'clock in the afternoon punctually, a compact and valuable FREEHOLD ESTATE, situate on the Brighton road, adjoining the London and Brighton turnpike road, and near to the station at that place. This property will be found very desirable for the erection of building sites, each having a frontage to the road of about 30 feet, and a depth of 150 feet, and a new road is set out in the course of construction, from Redhill Wray Common, through the property, which will greatly add to the value of the land, and afford facility for the erection of additional premises. A plot will be submitted separately, and payment of a considerable portion of the purchase money may be allowed to remain. The estate is delightfully situated, the surrounding scenery embracing the best woods of Gatton, the distant Surrey Hills, and a highly-diversified country not to be surpassed. The neighbouring residences are of the first character, and the locality is in every respect healthy. The property is within a few minutes' walk of Redhill Junction, by numerous cross roads, and is only about one hour's ride from the City. For further particulars, and conditions, apply to the Auctioneer, Thomas Page, esq. and his Lightly situated, Redhill; at the Plans, Deeds, and Surveys, at the "Estate Offices" Office, Fleet street; at the customary Inns in the neighbourhood; of CLAIR J. GRECE, Esq. Solicitor; of Mr. BONNY, stationer, Redhill; and of Mr. T. PAGE, surveyor and General Valuer, Reigate.

ON MONDAY, JUNE 1 at TWELVE for ONE, punctually

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Cannon terrace Caledonian road, No. 2, with a, and the PLANS, Deeds, and Surveys, a lease of 80 years, of 2 capital DWELLING-HOUSES, each containing 6 bed rooms, parlours, kitchen, and other conveniences, and with the side Garden Ground at the rear, and a frontage to Cannon terrace, Caledonian road, of 30 feet wide by 70 feet deep. Particulars of the Auctioneers, 23, Cannon-street, Hampstead road.

[For remainder of Auctions see p. 379.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of C. & J. Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields, and published at the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 2, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, May 23, 1863.

The Builder,

ILLUSTRATED JOURNAL FOR

Architect, Engineer, Operative & Artist.

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PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS, 9, Conduit street, Regent street, W

A PUBLIC DINNER in aid of the Funds of the above Institution will take place at the London Tavern, on WEDNESDAY, JUNE 3rd, 1863; A. J. B. BERESFORD HOPE, Esq. F.G.S. in the chair.

STEWARDS.

Addis, W. esq.
Allen, W. esq.
Bacon, F. esq.
Barnett, J. esq.
Batterbury, R. esq.
Bell, R. esq.
Bennett, E. H. esq.
Bennett, J. esq.
Bennett & Son.
Bird, W. esq.
Bishop, J. G. esq.
Chubb, J. esq.
Cockerell, F. P. esq.
Collins, H. esq.
Collins & Stanbury.
Condor, E. esq.
Cowper, The Right Hon. W. F. M.P.
Croggon & Co.
Currey, H. esq.
Dent, W. esq.
Dodd, H. esq.
Donaldson, T. L. esq.
Dowson & Co.
Dunage, W. esq.
Easton & Sons
Fisher, H. esq.
Francis, Brothers, & Pott.
Fowler, Charles, esq.
Foster, C. N. esq.
Freeman, W. & J
Gammon, E. B. esq.
Godwin, G. F. esq. F.R.S
Graham, P. esq
Griffith, J. esq.
Grissell, T. esq. F.S.A.
Hack, C. esq.
Hall, G. H. esq.
Hardwick, P. esq. R.A. F.R.S. F.S.A.
Hardwick, P. C. esq. F.R.S.L.
Haynes, W. esq.
Hayward, J. esq.
Higgs, W. esq.
Hill, Keddle, & Robinson.
Hilton, C. J. esq.
Holland & Hannen.
Hollick, F. esq.
Hobbs, Ashley, & Co.
Jackson, T. esq.
Jay, John, esq.
Jennings, Geo. esq.
Keeling, E. B. esq.
Kennard, R. W. esq.
Kerr, R. esq.
Knowles, J. T. esq. A.S.A.
Lee, W. esq. M.P.
Lee, H. esq.
Lee, Son, & Smith, esqrs.
Lewis, T. H. esq.
Lucas, Brothers, esqrs.
Lusk, A. esq.
Meakin, F. J. esq.
Myers, Geo. & Son, Messrs.
Newton, M. B. esq.
Parkinson, F. C. J. esq.
Parkinson, R. esq.
Perry & Julyan, Messrs.
Pemberton, Jos. esq.
Pinckett, Geo. esq.
Redfer, E. esq.
Richards, m, Charles, esq.
Robinson, Thos. esq.
Rogers, Wm. esq.
Sharpington & Co.
Smoke, W. esq.
St Aubyn, J. P. esq.
Stirling, T. esq.
Tatham, L. H. esq.
The Right Hon. the Lord Mayor, M.P.
Taylor, Josh. esq.
Thirst, E. esq.
Thomas, T. esq.
Trickett, R. esq.
Trollope, Geo. & Son, Messrs.
White, J. B. Brothers, Messrs.
Yates & Hayward, Messrs.

Gentlemen desirous of promoting the interests of the Institution by becoming Stewards, and supporting the Chairman on the occasion, will oblige by forwarding their names to the Secretary, at the above address.

JOSEPH KAY, Secretary.

ARTISTS' BENEVOLENT FUND for the RELIEF of their WIDOWS and ORPHANS.

Established 1810 Incorporated by Royal Charter, 1817.

Patron—Her Most Gracious Majesty the QUEEN

The FIFTY FOURTH ANNIVERSARY DINNER will take place at FREEMASONS' HALL, on SATURDAY, 13th JUNE, 1863,

WILLIAM WITHER BRAMSTON BEACH, Esq. M.P. in the chair.

Tickets, 1l. 1s. each, may be obtained of the Board of Stewards; CHARLES J. DIMOND, Esq. Hon. Secretary; AUGUSTUS U. HISLETON, Secretary, 10a, Great Queen-street, Lincoln's Inn-fields; and at the Freemasons' Tavern.

Donations or annual subscriptions forwarded to the Secretary will be duly announced at the Anniversary Dinner, previous to the list of contributors being published.

Since the formation of the Fund, the sum of 24,721l 2s 3d. has been distributed in relieving widows and orphans of British artists; fifty-three widows having during the year 1862 received annuities amounting to 765l; and fifteen orphans the sum of 61l. 5s.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON.

On TUESDAY Evening next, at 7 30, a LECTURE will be delivered in the THEATRE, on "THE ART COLLECTIONS at SOUTH KENSINGTON, considered in Reference to Architecture." By J. C. ROBINSON, Esq. F.S.A.

PRIZES of 2s6, and 5l. for Wood Carving, and 5l. 5s and 3l 3s. for Coloured Decoration, are now offered to artist workmen, who may obtain full particulars, and also cards for the Lectures, of the Attendant in the Museum; at the Office of "The Builder;" or by letter to the Hon. Sec. at 13, Stratford-place, W.

A. J. B BERESFORD HOPE, President.
GEORGE GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

THE THIRD ANNUAL EXHIBITION of WORKS of DECORATIVE ART, at the Hall of the Painters' Company, No 9, Little Trinity-lane, City, commences on MONDAY, the 1st JUNE, and continues for one month. Admission free, from TEN to SEVEN daily. F. G. TOMLINS, Clerk.

INSTITUTE of PAINTERS in WATER COLOURS, founded 1831, as the NEW SOCIETY of PAINTERS in WATER COLOURS. The ANNUAL EXHIBITION is NOW OPEN. Admission, 1s.—Gallery, 53, Pall Mall, opposite Marlborough House. JAMES FAHEY, Secretary.

ARCHITECTURAL EXHIBITION, 9, Conduit street, Regent street, W. NOW OPEN daily, from 10 till 6. Admission, One Shilling. Season Tickets, Half-a-crown, admit at all times, and to all the Lectures. Fifth Lecture, by the Rev J. L. PETIT, on TUESDAY Evening JUNE 2nd.

JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, F.I.B.A. }

Also, in connection with the above, the Exhibition of the Society of Sculptors of England. MORTON EDWARDS, Hon. Sec.

ROYAL HORTICULTURAL SOCIETY.

Open JUNE, 1863.

UNCOVERING of MEMORIAL of EXHIBITION OF 1851.

In the Presence of their RR. HH. THE PRINCE and PRINCESS OF WALES.

Cards of Admission, price 20s. if obtained ON or BEFORE the 9th of JUNE; and 30s. on the day. A. MURRAY.

COMPETITIONS.

TO ENGINEERS, &c.—WATERWORKS for the BOROUGH of WATERFORD.—The Town Council of Waterford is prepared to receive plans and estimates for the SUPPLY of WATER to the CITY.—Printed specification of the general conditions may be had on application, through the post or otherwise, to JOHN O'BRIEN, Esq. Town Clerk. A premium of 50l will be paid for the plan approved of.

Town Hall, Waterford, May 5, 1863.

TO ARCHITECTS and OTHERS.—The Committee appointed for BUILDING a NEW BAPTIST CHAPEL in Lake road, Landport, Portsmouth, are desirous of receiving PLANS, ELEVATIONS, SECTIONS, SPECIFICATIONS, and ESTIMATES for the same. The Chapel to contain 1,500 sittings, and the cost not to exceed 3,000l. A Premium of 21l will be given for the approved Plans, &c which Plans, &c. are to become the absolute property of the Committee; but the Committee reserve to themselves the right of rejecting the whole of the Plans, &c. if in their judgment there should not be any one suitable for the purpose intended. The Plans, &c. to be sent (free of expense) to Mr. CROWTHER, 140, Lake-road, Landport, on or before the 24th day of JUNE, 1863, without the author's name, but with a motto. A sealed letter, bearing the motto, and containing the author's name and address, must accompany each Plan or Design.—Further particulars may be known on application to Mr. CROWTHER, as above.

Portsmouth, May 14th, 1863.

MONUMENT to be ERECTED in GENEVA.—A Committee of Citizens of Geneva purpose to ERECT a MONUMENT in commemoration of the Reunion of their City to the Swiss Confederation, and therefore invite Sculptors and Architects inclined to undertake the execution of such a monument, to submit their models.—For particulars apply to the Swiss Consulate, 21, Old Broad-street.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to CONTRACTORS.—TENDERS are required for the CONSTRUCTION of a SEA-WALL and SIX GROYNES, on the coast in front of Eastney Barracks, Southsea.

Parties desiring to Tender for the execution of these Works must leave their names at this Office, on or before the 10th day of JUNE 1863, and pay the sum of 10s. 6d. a piece for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, May 26, 1863.

WAR DEPARTMENT CONTRACT.—TENDERS are required for the RENEWAL of the ROOF of the Officers' Quarters at the Barracks, Dorchester

Persons desiring to Tender for the Work must leave their names at this Office, on or before FRIDAY, the 5th JUNE proximo

C. H. NUGENT, Captain and Major Commanding Royal Engineer, Portland District.

Royal Engineer Office, Weymouth, May, 1863

CONTRACTS.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.—TENDERS are required, separately, for

1. COMPLETION of RE-COVERING with LEAD the UPPER PORTION of the ROOF of the ROTUNDA at WOOLWICH.
2. —RENEWING CEILING of Ditto.
3. BUILDING a BOILER-HOUSE, and FITTING HOT-WATER APPARATUS to Ditto.
4. FURNISHING SUNDRY FITTINGS, Ditto.

Parties desiring to Tender for the whole of these works in one contract must leave their names at this Office, on or before the 14th day of JUNE, 1863, and pay the sum of 10s 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender

Royal Engineer Office, Woolwich, 20th May, 1863

WAR DEPARTMENT CONTRACTS.—NOTICE TO BUILDERS.

TENDERS are required for RENEWING PAVEMENT, and GAS and WATER PIPES, at the Royal Military Academy, Woolwich Common.

Parties desiring to Tender for the execution of these works must leave their names at this Office on or before the 12th day of JUNE, 1863, and pay the sum of 10s 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Woolwich, 28th May, 1863.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.—Tenders are required for REPAIRS, EXTERNAL PAINTING, and INTERNAL WHITEWASHING and PAINTING, to the SOLDIERS' BARRACKS and OUT-BUILDINGS, at Albany Barracks, Isle of Wight.

Persons desiring to Tender for this work must leave their names at this Office, on or before the 9th day of JUNE, 1863, and pay the sum of half a guinea for the bills of quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, May 25, 1863.

COAST GUARD CONTRACT.—Notice to Builders and Contractors.—Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Gullet-quay, near Lydd, in the county of Kent, may inspect the drawings and specification at the Coast Guard Watch Room at Rye, or at the Office, between the hours of TEN and FOUR, from THURSDAY, the 21st inst. to SATURDAY, the 6th of JUNE, now next ensuing and both inclusive Sundays excepted.

Tenders to be sent to this Office not later than TWELVE o'clock at noon of the 8th of JUNE, under seal, and directed to the Commissioners Under-General of Coast Guard, and endorsed "Tender for Gullet-quay."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 13th day of May, 1863, at the Admiralty Coast Guard Office, 12, Spring Gardens, London, S.W

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of NEW FARM BUILDINGS at Nabbott's Farm, Springfield, near Chelmsford, can inspect the plans and specifications at the Offices at Chelmsford after the 22nd May. Tenders to be delivered to me, at Chelmsford, on or before the 1st day of JUNE. The Proprietor does not pledge himself to accept the lowest or any Tender. FRED CHANCELLOR, Architect.

Pinners' Hall, Old Broad-street, London; and Chelmsford, May 14, 1863.

TO STONE MASONS, MERCHANTS, and QUARRYMEN.—The Local Board of Health for the District of West Ham, in the County of Essex, require several MILES of GRANITE CURB, and they hereby invite TENDERS from parties who may be willing to CONTRACT with them for supplying, from time to time. Specifications and conditions may be examined, and forms of Tender obtained, by application to Mr MARSHALL, the Surveyor to the Board, at his Office, at Rokeby House, Stratford, E.; and Tenders are to be sent to me on or before MONDAY, JUNE 8th.—By order of the Board,

CHARLES WILSON, Clerk.

Rokeby House, Stratford.

WEST HAM LOCAL BOARD of HEALTH.—The Local Board of Health for the District of West Ham, in the county of Essex, are prepared to receive TENDERS for LAYING GRANITE CURB, and also for supplying such road-metal and labour as may be required in making and repairing the streets called Stratford-street, Newton-street, Crawford-street, Salbarton-street, Arkwright-street, Fulton-street, Brunel-street, Upper, Middle, and Lower Fox-Streets, Montesquieu street, Rathbone-street, Pitt-street, Burke-street, and Clarkson-street all in Hallsville, within the district, according to plans, sections, specifications, and conditions prepared by Mr. MARSHALL, the Surveyor of the Board, and which may be seen at his Office, at Rokeby House, in Stratford, where also forms of Tender may be obtained, together with any further information required. Tenders, endorsed "Tender for Roads," are to be sent to me on or before MONDAY, the 8th of JUNE next. By order of the Board,

CHARLES WILSON, Clerk.

Rokeby House, Stratford

NORTH-EASTERN RAILWAY.—To CONTRACTORS, BUILDERS, and IRONFOUNDERS.—The Directors are prepared to receive TENDERS for the ERECTION of an ENGINE STABLE at YORK. Plans, specifications, &c. may be seen, and all information obtained, on application to Mr. PROSSER, the Company's Architect, York, on and after the 22nd instant. Sealed Tenders, marked "Tender for Engine Stable," to be delivered to the Secretary, at York, not later than WEDNESDAY, the 3rd JUNE. The Directors do not pledge themselves to accept the lowest or any Tender.

J. CLEGHORN, Secretary.

York, 11th May, 1863.

[For remainder of Contracts see next Page.

CONTRACTS.

TO CONTRACTORS.—TO BE LET, the several WORKS required in the ERECTION of a MILL, with engine and boiler house, chimney, watchhouse, and offices, at Kidderminster, for Thomas Lea, esq. Plans and specifications may be seen at the Assembly room, Lion Hotel, Kidderminster; and bills of quantities of the several works may be obtained on application at our Offices, in Bradford or London, from WEDNESDAY, MAY 27th, until SATURDAY, JUNE 6th, on which last-named day, before TEN o'clock a.m. Tenders must be delivered to us, sealed over, to THOMAS LEA, Esq. Kidderminster. The lowest Tender not necessarily accepted. LOCKWOOD & MAWSON, Architects.

Post-office Buildings, Bradford; 10, Lincoln's Inn-fields, London.

TO BUILDERS.—Persons willing to TENDER for the ENLARGEMENT of ST PHILIP'S CHURCH, Kensington, may see the plans and specification at the Vestry of the said Church, on and after MONDAY, the 8th day of JUNE, between the hours of TEN and FIVE. Sealed Tenders to be delivered to the Rev. J. DICKSON CLANTON, 7, Pembroke road, Kensington, on or before the 16th of JUNE. The lowest nor any Tender not necessarily accepted. THOS. JOHNSON, Architect.

Lichfield, May 26th, 1863.

COUNTY PRISON, GLOUCESTER.—To BUILDERS. The Visiting Justices are desirous of receiving TENDERS for the ERECTION of a GOVERNOR'S RESIDENCE in connection with the present prison building at the south-east angle of the County Prison. Drawings, specifications, and conditions of contract, may be seen at the Offices of Mr MEGLAND, the County Surveyor, Clarence-street, Gloucester, on and after MONDAY, the 8th day of JUNE next. Tenders to be sent in, under seal, addressed to the Clerk of the Peace, Shire Hall, Gloucester, on or before the second day of JUNE; and a Tender for each Contract is to be delivered at the Prison. The Visiting Justices do not bind themselves to accept the lowest or any Tender, as such must be subject to the approval of the next Trinity Court of Quarter Sessions.

Gloucester, 27th May, 1863

TO BUILDERS.—TENDERS are required for the ERECTION of TWO HOUSES, at Fernborough, on the estate of the Farnborough and Aldershot Freehold Land and Ground Rent Society (Limited).—The plans and particulars may be inspected at the Company's Offices, No. 18, New Bridge-street, Blackfriars, E.C. on and after MONDAY, the 1st JUNE.—The Tenders to be delivered at the Offices as above, on WEDNESDAY, the 10th, at ELEVEN o'clock, sealed and endorsed "Tender for Houses at Farnborough." The lowest or any Tender will not necessarily be accepted.

18, New Bridge street, Blackfriars, May 28, 1863

TO SEWER CONTRACTORS and OTHERS.—The Board of Works for the Westminster District hereby give notice, that they are prepared to receive TENDERS for the EXECUTION of GENERAL WORKS and REPAIRS to the SEWERS, CULVERTS, DRAINS, &c. within the district under the jurisdiction of the Board, for the term of One Year, commencing from Midsummer day next. Printed particulars of quantities, where of any, and Forms of Tender, may be obtained upon application at the Offices of the Board, the Grand Stand, Westminster, where no bid Tenders are to be received by or before FOUR o'clock in the afternoon on WEDNESDAY, the 3rd day of JUNE next, at which time and place parties tendering, or some one for each signed, must be in attendance. No Tender will be received after the time appointed, nor unless made out on one of the printed forms. The Board do not pledge themselves to accept the lowest or any Tender.—By order,

F. JEBB, Clerk

Great Smith street, Westminster, May 25, 1863

TO BUILDERS. TENDERS are required for HOUSE and STABLING at Banstead, Surrey, for Capt. L. FLOWER. Drawings, at the Office, 10, Great George street, Westminster, on MONDAY and TUESDAY next, between TEN and FOUR. Tenders to be delivered before the said hour. The lowest or any Tender not necessarily accepted.

TO BUILDERS, CONTRACTORS, and OTHERS.—Persons willing to CONTRACT for the ERECTION of the RIVAL BOYS' HOUSE, in the Market-place, Hull, may see the plans and specifications at the Office of Mr STEPHEN LEWIN, Beaver Lodge, Hull. Tenders to be delivered on or before MONDAY, JUNE 8th. The lowest or any Tender will not necessarily be accepted

LONDON, BRIGHTON, and SOUTH COAST RAILWAY.—To BUILDERS.—CONTRACT for STATION BUILDINGS.—The Board of the London, Brighton, and South Coast Railway Company are prepared to receive TENDERS for the ERECTION of the STATION BUILDINGS and two pairs of LABOURERS COTTAGES, at Seaford, at the Terminus of the Branch Railway now in course of construction from Newhaven to Seaford, in the county of Sussex. Drawings, specifications may be seen at, and copies of the quantities obtained at the Engineer's Office, London Bridge Terminus, on and after MONDAY, the 1st of JUNE next, and sealed TENDERS given the prescribed form only, must be delivered to the undersigned before NOON on MONDAY, the 8th of JUNE next. The Directors will not be bound to accept the lowest or any Tender FREDERICK SLIGHT, Secretary

London Bridge Terminus, May 27th, 1863

TO BUILDERS. TENDERS are required for ERECTING the Building of a STEAM FLOUR MILL, on the Banks of the Thames, at Rotherhithe, with retaining and river wall. Plans and specifications may be seen at the Offices of the Engineers after the 3rd JUNE. Tender to be sent in on or before the 15th proximo

RICHARD ROBERTS & CO. Consulting Engineers.

13, Adam street Adelphi, W.C.

TO SEWER CONTRACTORS.—The Vestry of the Parish of St. James's (East John Clerkenwell, will meet in the Vestry Hall, Pine Row, in Pine-street, on THURSDAY next, the 4th JUNE, at HALF PAST SIX o'clock in the evening, to receive TENDERS for BUILDING about 340 feet of 3 feet by 2 feet HALF BRICK SEWER, in Cement, with Stoneware Invert Blocks, in Saint John-street, a plan and specification of which may be seen at the Vestry Hall, daily, from TEN to FOUR. Tenders to be delivered by FOUR o'clock on the day above named, endorsed "Tender for Sewer Work in Saint John street." By order

ROBERT PAGET, Vestry Clerk.

Vestry Hall, Clerkenwell, May 25th, 1863.

TO PAVIORS.—The Vestry of the Parish of St. George the Martyr, Southwark, will meet at the Vestry Hall, in the Borough road, on the 4th, on TUESDAY, the 2nd day of JUNE, 1863, at SIX o'clock in the Evening, to receive TENDERS for the RELAYING of the PAVEMENT of the Carriage way in Kentish-street, Southwark. Specifications and Conditions may be obtained at the Vestry Clerk's Office, Vestry Hall, Borough road, where the Tenders must be delivered before EVEN o'clock on the day above named, and the parties tendering, or their representatives, must attend the Vestry Meeting. DANIEL BIRT, Vestry Clerk.

TO BUILDERS, &c.—CONTRACTS for a CHURCH.—TENDERS are required for the ERECTION of CHURCH, at Cockermouth, in the county of Cumberland. Plans and specifications will be deposited with Mr. JOS. HEWSON, Ship Hotel, Maryport, on and after TUESDAY, the 2nd of JUNE. Sealed Tenders, marked "Tenders for New Church," will be received by the Rev. H. L. HANLEY, Cockermouth, up to WEDNESDAY, the 17th June, at which time they will be opened in the presence of any Tenderer. The Committee do not bind themselves to accept the lowest or any Tender.—For further information that may be required, apply to Lay on application to Mr BRUCE, Architect, Whitehaven

SOUTHEND GASLIGHT and COKE COMPANY. The Directors of the above Company are prepared to receive TENDERS for a 40 feet GASHOLDER and GUIDE FRAME, and also for a BRICK TANK to contain the same. The plans and specifications may be seen on application to Mr. ALBERT CHURCH, C.E. Chelmsford, by whom the Tenders are to be sent, addressed to the Secretary, not later than MONDAY, the 1st June, endorsed "Builder's Work and Ironwork." The Directors do not bind themselves to accept the lowest or any Tender.—By order,

J. B. BRASIER, Secretary.

Gas Company's Office, Southend, May 27, 1863.

SAINT JOHN, HAMPSTEAD.—DUSTING CONTRACT.—The Vestry of this parish will meet on FRIDAY, the 5th day of JUNE, 1863, at HALF PAST SEVEN o'clock in the evening precisely, at the Workhouse, at New end Hampstead, to receive TENDERS from persons willing to CONTRACT, from the 24th day of JUNE next to the 25th of MARCH, 1865, for the REMOVAL of COAL and other DUST, Dirt, Ashes, Cinders, Cinders, Rubbish, Filth, and Sweepings, Vegetable and other Refuse from whatever kind, from the dustbins, ashpits, areas, houses, and premises of the inhabitants, comprised in that part of Hampstead parish which lies west of the Finchley and Hendon roads, and also from such roads called District No. 2; and from the dustbins, ashpits, areas, houses, and premises comprised in that part of the said parish which lies east and north of the last-named roads, including the town of Hampstead, called District No. 1. A specification may be seen, and particulars and printed forms of Tender may be obtained, on application at the Office of the Surveyor of the Vestry, No. 10, New end, Hampstead, any day before the meeting, between the hours of TEN and FOUR. Tenders may be made for both or either of the districts. The Vestry do not bind themselves to accept the lowest or any Tender. The contractor will be required to execute a written contract, and to enter into a bond, with two sufficient sureties, in 500l. for the due performance of the contract, and parties tendering must attend personally on the day and at the time appointed for the meeting. None but the printed forms of Tender will be received, nor will any Tender be received after FOUR o'clock p.m. on FRIDAY, the 5th of JUNE next. Tenders to be addressed to the Vestry Clerk, endorsed "Dusting Contract, Districts Nos 1 and 2," or "Dusting Contract, District No. 1," or "Dusting Contract, District No. 2" by order,

THOMAS TOLLER, Vestry Clerk.

Vestry Offices, Workhouse, Hampstead, May 19, 1863.

SAINT JOHN, HAMPSTEAD.—SCAVENGING CONTRACT. The Vestry of this Parish will meet on FRIDAY, the 5th day of JUNE, 1863, at HALF-PAST SEVEN o'clock, at the evening, precisely, at the Workhouse, at New-end, Hampstead, to receive TENDERS from persons willing to CONTRACT, from the 24th day of JUNE next to the 25th of MARCH, 1865, for FILLING and CARTING AWAY the SLOPS and STREET SWEEPINGS of the several parish roads, gullies, lanes, courts, alleys, and places comprised in that part of Hampstead parish which lies east and north of the Finchley and Hendon Roads, including such called District No. 2; and from the several parish roads, gullies, lanes, courts, alleys, and places comprised in that part of the said parish, which lies west and north of the Finchley and Hendon Roads, including the said Town of Hampstead, called District No. 1; the Vestry finding labour for scraping and sweeping the same roads, lanes, courts, &c. and for emptying the street gulleys in the same roads, &c. A specification may be seen, and particulars and printed forms of Tender may be obtained, on application at the Office of the Surveyor of the Vestry, No 10, New end, Hampstead, any day before the meeting, between the hours of TEN and FOUR. Tenders may be made for both or either of the districts. The Vestry do not bind themselves to accept the lowest or any Tender. The contractor will be required to execute a written contract, and to enter into a bond, with two sufficient sureties, in 500l. for the due performance of the contract; and parties tendering must attend personally on the day and at time appointed for the meeting. None but the printed forms of Tender will be received, nor will any Tender be received after FOUR o'clock p.m. on FRIDAY, the 5th of JUNE next. Tenders to be addressed to the VESTRY CLERK, endorsed "Scopping Contract, Districts Nos 1 and 2," or "Slopping Contract, District No. 1," or "Slopping Contract, District No. 2" By order, THOMAS TOLLER, Vestry Clerk

Vestry Offices, Workhouse, Hampstead, May 19, 1863

SEWERAGE WORKS at HAMPSTEAD. The Vestry of the Parish of St. John, Hampstead, in the County of Middlesex, hereby give Notice that they will be ready, at the Vestry, to be held at the Board room, at Hampstead Workhouse, on FRIDAY, the 5th day of JUNE next, at Half-past SEVEN o'clock in the evening precisely, to receive Sealed TENDERS from parties willing and ready to CONTRACT for the LAYING DOWN, CONSTRUCTING, and completely FINISHING certain intended Brick and Pipe sewers, 3,400 feet in length or thereabouts, with other Works incidental thereto, in East Heath road, Squires Mount, Cannon Hall-road, and the Vale of Health, Hampstead; and for the maintenance of such Works in complete repair for twelve calendar months after completion. Plans, sections, and a specification of the works intended to be performed, and forms of Tender may be had, and further particulars obtained, at the Surveyor's Office, No. 10, New End, Hampstead, between the hours of TEN a.m. and FOUR p.m. Sealed letters of the printed form only, addressed to the Vestry Clerk, must be delivered at the Vestry Office, as aforesaid, before FRIDAY, the 5th day of JUNE next, but not later than SEVEN o'clock p.m. of that day, after which hour no Tenders will be received. The Contractor or the Vestry of the party Tendering, or some competent person on his behalf, will be required. The Vestry do not intend to accept of the lowest or any Tender, and the party whose Tender may be accepted will be required to provide two approved sureties, to be bound with the contractor in a joint and several bond in 2,000l. for the due performance of the Contract. By order,

THOMAS TOLLER, Vestry Clerk.

Vestry Offices, Workhouse, Hampstead, 19th May, 1863

TO IRONFOUNDERS and OTHERS.—SOUTHPORT PIER COMPANY (Limited).—The Directors of the Company are prepared to receive TENDERS for the EXTENSION of the PIER to LOW WATER-MARK, a distance of 925 yards, or thereabouts.—Plans, specifications, and quantities may be seen at the Office of the Company, Exchange-buildings, Southport; and at the Office of the Engineer, No. 5, Great George street, Westminster. The Directors do not bind themselves to accept the lowest or any Tender. Tenders may be forwarded up to (and inclusive of) the 6th June.—By order,

JOHN A. ROBINSON, Secretary.

NEW GAOL for the HUNDRED of SALFORD.—To BUILDERS.—The Committee of Justices for erecting a New Gaol for the Hundred of Salford, will shortly be prepared to receive TENDERS for the whole of the WORKS required in the CONSTRUCTION of the said Gaol, on a part of the Kersal Moor, the Manchester Assize Courts. The plans and specifications may be inspected, at a general exhibition, and bills of quantities obtained, on a deposit of 5l. (to be returned in exchange for the Tender), at the Offices of the Architect, Mr. ALFRED WATERHOUSE, Royal Insurance Buildings, King street, Manchester, on and after the 1st of JUNE next, and sealed Tenders must be delivered to him on or before the 1st of JULY next. The Justices do not pledge themselves to accept the lowest or any Tender

FREDERICK HULTON, Clerk to the Committee.

New Bailey street, Salford, May 14, 1863.

BOROUGH of BRIGHTON.—To CONTRACTORS and Others.—Notice is hereby given that the Council will receive TENDERS from such persons as may be willing to enter into a contract for the CONSTRUCTION of a TUBULAR IRON OUTFALL and WORKS in connexion therewith, from the main northern sewer in front of the Queen's Hotel, in the Old Steine, agreeably to drawings, specification, and conditions which may be inspected on or after MONDAY, the 25th MAY inst. at the office of the Borough surveyor, at the Town Hall The work is to extend about one-third of a mile into the sea, and a great part of the work will be below the surface of the beach, and must water at all times be sealed Tenders, addressed to the "Works Committee," and endorsed "Tender for Outfall," must be left at my Office before FOUR o'clock on WEDNESDAY, the 3rd day of JUNE next. Power is reserved of rejecting the lowest or any Tender.

DAVID BLACK, Town Clerk.

Town Hall, Brighton, May 20th, 1863.

PERSONS desirous of TENDERING for the WORKS to be done in the ALTERATIONS of VILLA No 1, and the conversion of old premises into Villas Nos. 2, 3, and 4, situate at the Heath, Stourbridge, for A. B. Cochrane, Esq. can see the Plans, &c. at my Office, Union Chambers, Stourbridge. Tenders to be sent in to me on or before MONDAY, JUNE 8th, sealed and addressed "Tender for Works, Heath Estate." The Lowest or any Tender will not necessarily be accepted.

F. SMALMAN SMITH, Architect.

Argyle Chambers, Birmingham, May 26th, 1863.

TO BUILDERS.—Stogursey Parish Church, Somerset.—Tenders are required for the immediate restoration and re-seating of Stogursey Church, near Bridgwater. The plans and specifications may be inspected by intending parties at the Vestry room of the Church, on and after Monday, the 15th inst. Estimates to be forwarded on MONDAY, the 8th of JUNE, to the Architect, JOHN NORTON, Esq. 24, Old Bond street, London, W. The Churchwardens do not bind themselves to accept the lowest or any Tender submitted

BLACKFRIARS BRIDGE. — Notice is hereby given, that the Bridge House Estate Committee will meet at the Guildhall, on TUESDAY, the 16th day of JUNE next, at 1 o'clock, on the 9th day of JUNE, as previously advertised, to receive TENDERS for the ERECTION of a TEMPORARY BRIDGE across the River Thames, on the east side of, and adjoining to, Blackfriars Bridge. The plans of the intended Bridge, and specifications of the Works to be executed, may be seen, and further particulars obtained, upon application at the Office of the Engineer, JOSEPH CUBITT, Esq. No 6, Great George street, Westminster. The Tenders must be sealed up, addressed to the Bridge House Estates Committee, endorsed "Tender for Temporary Bridge at Blackfriars," and left at the Comptroller's Office, Guildhall, before TWELVE o'clock on TUESDAY, the 16th JUNE; and the parties Tendering will be expected to be in attendance at Guildhall on that day at ONE o'clock. The Committee do not bind themselves to accept the lowest or any Tender that may be sent in.

FERDINAND BRAND, Comptroller.

Guildhall, 18th May, 1863.

TO BE SOLD, a PORTABLE STEAM-ENGINE and DERRICK, suitable for hoisting bricks, masonry, &c.; only been in use three months.—Apply to J. & H. PATESON, Contractors, Oxford-street, Manchester.

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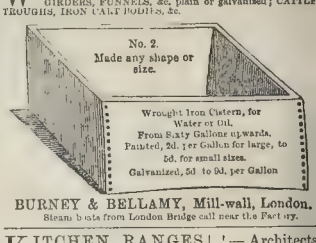
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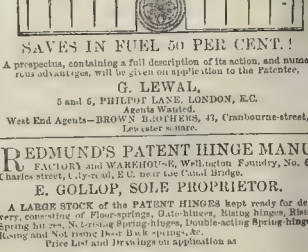
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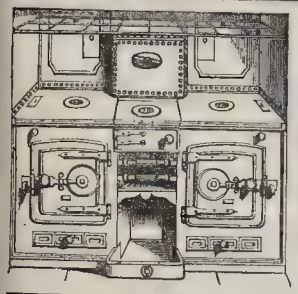
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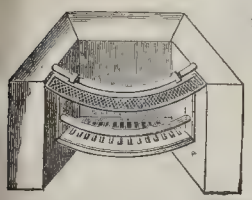
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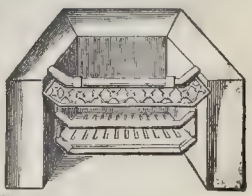


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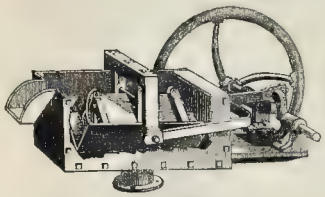
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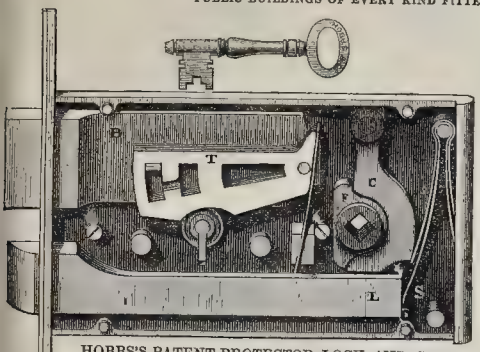
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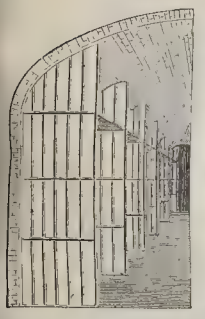
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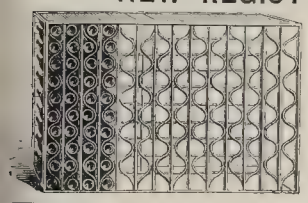
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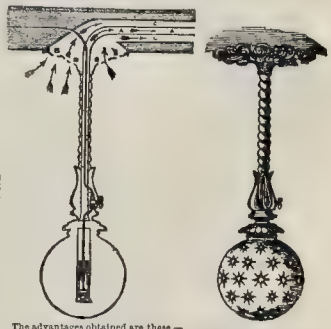
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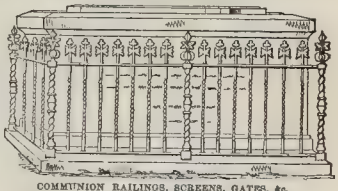
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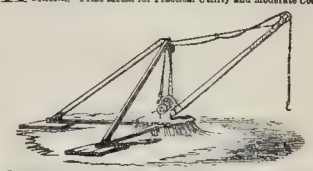
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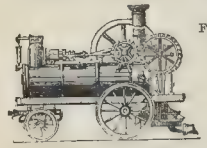
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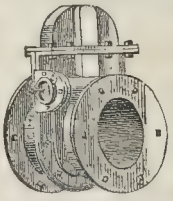
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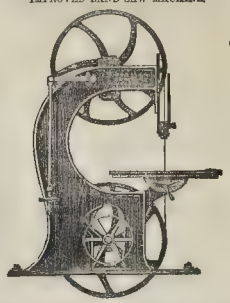
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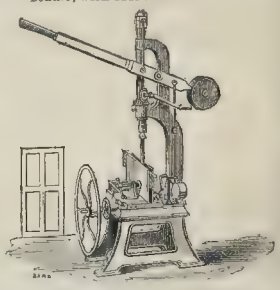
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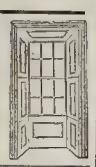
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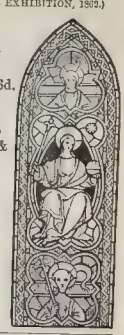
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The Builder.

VOL. XXI.—No. 1060.

Liverpool Exchange Buildings Competition.

SINCE the competition for the Government Offices, there has been none to compare in extent or interest with that for the New Exchange Buildings at Liverpool, the designs for which are now being exhibited to the shareholders in the Old Sessions House in that town.

That a premium of 1,000*l.*, and two second premiums of 250*l.* each, should be offered for the three best plans, is an almost unheard of event in these days of architectural competition, when so small a sum as 5*l.* is occasionally set up, in the full assurance of obtaining numerous respondents among the host of poorly-paid draughtsmen and pupils ambitious of emulating more practised hands. That so respectable an amount will not prove a mere delusion and snare is much to be hoped for; though a certain member of the committee did hint, with the object, we suppose, of silencing the economists among the shareholders, that the successful architect would no doubt be glad to allow that sum to be deducted from his commission in the event of his carrying out the work; but the merchant princes of Liverpool will probably feel they have a character for liberality and honour to sustain, which ought to override any such mean considerations.

Unlike the Government Offices, the Exchange Buildings are a purely commercial undertaking, with the object of realising a remunerative rate of interest on the capital invested; not perhaps undertaken in the first place solely for that object, but because the inconvenience and insufficiency of the present buildings have long been felt by the leading merchants and brokers. It is now some eighty years ago since the present quadrangle was erected in a Classic style, conforming to the architectural features of the town-hall,—an excellent structure by a Bath architect, reminding one strongly of the prevailing Italio-Classic character of the edifices of that city.

The quadrangle and group of buildings forming the present Exchange has long been noted as an object of architectural interest in Liverpool, not for any refinement or peculiar beauty of detail or construction, but from the completeness and unity of the *tout ensemble*, —a completeness that is particularly striking to a stranger, and which, it is well known, is particularly admired by the many foreigners who visit the town. In addition, it has the advantage of possessing one of the best composed groups of sculpture (speaking architecturally) perhaps in England. Notwithstanding all these external recommendations, the offices are badly arranged, ill-lighted, and ill-contrived in every way; while the news-room, though large, is totally inadequate to the accommodation required; and, from want of height, is, when crowded, hot and ill-ventilated. To illustrate the evils of a system of design which does not adapt itself to wants and requirements, but is subservient in internal arrangement to some supposed beauty of external ordonnance, no better example than the present buildings could be pointed out.

The problem which the committee have placed before the architects of England to solve is one demanding great skill, judgment, and experience; for where the ground cost 80*l.* per square yard, it is plain to see that to prove a remunerative investment, every inch must be economized. Probably never before was there a competition in which so many points have been decided beforehand for the guidance of the competitors; and in the ratio of the limitations placed upon the architect's judgment have the difficulties he has had to contend with been increased. The general form and exact boundaries were predetermined by the surrounding streets, and inner quadrangle or "flags," which must remain intact. The block plan may be described as forming the three sides of a quadrangle facing the south; with wings of equal depth, north and south; but the western wing is of a breadth sufficient to form almost a square block, measuring 185 feet by 170 feet, in which it is intended to place the news-room, containing not less than 1,350 yards superficial, and not less than 20,000 cubic yards. In the south end of the eastern wing, the Magnetic Telegraph Offices and Stock Exchange are to be placed, thus fixing beforehand the two most prominent features of the plan. Had the instructions ended here, it would have been well for the minor points, such as the height of the ground floor above the flags: the height and number of stories, &c. &c., might very judiciously have been left to the judgment of the competitors. The appearance of a foregone conclusion about the instructions, as if framed upon some existing plan, of which the framer could not divest his mind, is rather noticeable; so that arbitrary points are not sufficiently distinguished from essentials.

In addition to what has been fixed by the committee, there are three existing passages from the flags to the surrounding streets, which must be retained for public convenience; so that, to a reader unacquainted with the place, it will be difficult to conceive what *has* been left to the architect's own judgment. The problem may be succinctly stated as this:—

The form and position of the news-room, in the western wing, and mode of lighting and ventilation: the mode of lighting and arrangement of surrounding offices: the position of underwriters' room, and room for sales by auction: the general arrangement of offices, with sales-rooms, requiring a northern and eastern light: the method of lighting the corridor and the position of the staircases.

Looking now to the designs submitted, the first feature of the exhibition which forces itself upon the mind is the predominance of Renaissance designs, especially those of a French character; but Italian-Venetian, Anglo-Italian, and all the modifications and mixtures it would be hard to name, are also represented. Several of the designs approach the Roman manner, but out of forty-four sets only three are Gothic, showing clearly the influence of the style of the present and surrounding buildings has been too strong even for Mediæval talent to overcome.

Among much that is really good and clever there are many showing their authors have not been imbued with the spirit which should pervade a design formed under such peculiar and restricted circumstances. A profuseness of campanili and Mansard roofs distinguishes many,—an architectural treatment which, however suitable in a concentrated block of buildings, might destroy the beauty of a quadrangle. The lowness of the stories fixed by the committee forms a difficulty in the way of creating a grand façade which most of the competitors have felt and struggled against; and it is questionable whether, on the whole, any more successful way of overcoming it has been devised than the old-fashioned one, often condemned, of employing an order two stories high. The ground story looks in all the elevations unquestionably too low for solidity and grandeur; and it would be well were the committee to reconsider their decision, restricting its height to 12 or 13 feet. The passage from the flags into Oldhall-street has been felt by the competitors to be much too wide for the height; and a good many have, in consequence, divided it into two archways; but whether this will be allowed or not we cannot undertake to say; and, on the contrary, were the opening taken up through two stories, there would ensue a loss of valuable space. The centre of the quadrangle over this opening is in most of the designs crowned with a dome, Mansard roof, or campanile, the competitors evidently feeling the want of a central feature to balance the preponderance of the wings.

In the arrangement, form, and position of the news-room lie the greatest scope for good and symmetrical planning; and the forms adopted are as various as the methods proposed for ceiling it The parallelogram; square nave and aisles; nave, transept, and aisles; Greek cross, circle, and other intermediate forms, has each its admirers. Domes with pendentives and without; barrel vaults; glass roofs; coved and flat ceilings, either covering the whole room or only partially, and supported on piers and shafts, distinguish the different modes by which the several competitors propose to ceil this large space; and great skill has been shown in the difficult question of lighting, and the arrangement of surrounding rooms and offices, without throwing away land in useless courts. The underwriters' room is in all the plans, either shown opening out of the main room, or in its immediate proximity. In the arrangement of the Magnetic Telegraph Office and Stock Exchange, and rooms connected therewith, less scope is possible; but even here a wide difference of skill is evinced. While the arrangement of the general offices follows mostly that of a central corridor, with staircases at intervals, there are one or two exceptions which it would not, however, be wise to adopt; but it does not appear quite clear how some of the corridors are to be lighted, there being but little choice in the mode of effecting it. The arrangement of central corridors, while facilitating access to the offices on either side, presents a difficulty in the way of effectual lighting and ventilation. In the Exchange Buildings there seem to be but three feasible plans of effecting this:—by open spaces left in the floors above; by borrowed lights in the adjoining partition walls of offices; and by the light obtained through the wells of the staircases; which latter, though in itself insufficient, will prove a valuable auxiliary. The eastern wing, being wider than the central block, is difficult to manage in this particular without losing valuable space; but we will refer more at length to this when criticising the details of each plan.

In only two cases could we see that the competitors had availed themselves of the permission to send in *extra* coloured drawings showing the hues of the materials to be adopted; the whole, be it said to their credit, rigidly adhering to the sepia shading. Possibly the labour involved in fifteen elaborate drawings left the competitors no time or inclination to furnish anything *additional;* and it is satisfactory to find that such a permission, which many must have felt almost painful, cannot, from the wise course they have adopted, sensibly affect the judgment of the committee. It is open to question, whether in the first place it was well to make such a restriction; for it is indisputable that colour no less than form should be an element in external architecture; and also that a design suited for coloured materials would not show its visual outline correctly in a mere sepia drawing. With these preliminary observations, which we have thought necessary for the proper understanding of the plans, we will now proceed to a critical review, taking each design separately, though not in the order in which they are exhibited:—

"Fairplay."—The design numbered 1 on the list published by the committee, and the first seen

on entering the north room, possesses a news-room of the nave and aisle type, with apsidal end, the aisles being continued to the façade to "flags," forming the retiring-rooms for conversation, with windows looking into the quadrangle or "flags," as specified in the instructions. This plan will hardly be as convenient as a plain parallelogram, and is certainly inelegant in form, from the vestibule to the news-room being taken out of the nave, giving the plan a high-shouldered appearance. The external design is not without a certain elegance, but wants continuity and unity. The elevation is divided into a rustic basement and first floor; an order, two stories high; and an attic; the whole crowned with a continuous truncated roof, which the author intends for a fourth floor of offices should they be required: if not he proposes to finish the roof (flat ?). The position of the news-room is clearly indicated externally; the huge semicircular window for lighting it not being a feature by any means adding to the beauty of the quadrangle. The corridors are central, but it does not appear on the plans that are hung in which way the author proposes to light them.

The plan is not a symmetrical or systematic one. The underwriters' room is in the south-west angle, opening out of the news-room, but would be very low, apparently only one story high, offices being shown above it on the first floor. None of the sections being hung in this set; nor with a very few exceptions are they in any; renders it a greater task to get at the author's real intention. Of all the drawings there must at least be an average of six out of the fifteen lying on their faces upon the table; so if any of the authors detect a deficiency in the explanation of their plans they must set it down to this cause. If it is not necessary to hang the plans, it has been a work of supererogation drawing them; and it is likely, had the committee lessened their demands, that a greater number of designs would have been obtained. The style adopted, in No. 1, is quasi-Classic. It is proposed to heat the news-room with hot water, and to cellar under the whole of the flags: the iron trap-doors shown in the flags would simply be useless. The author can hardly have seen the ground; still it is difficult to understand the poetical licence of showing *trees* in the perspective.

"290," No. 3 on list.—The style adopted in this set of plans is not very marked or developed. It possesses a large news-room, a parallelogram in plan, with side aisles. The underwriters' room is in the north-west angle of news-room, an octagon on plan. The room for sales by auction is spacious, situate in the basement, immediately under a small central court to the north of news-room. This court as so arranged is perhaps the best way of getting over the difficulty of lighting the inner offices. It is questionable whether it be wise to abstract so much space to form a hall to the Telegraph-office and Stock Exchange, though it would in itself be a handsome feature. The offices are arranged with central corridors, and the plan possesses the advantage of symmetry and simplicity, being one of the best, most economical, and practicable among the forty-four. Unfortunately, the artistic design is very inferior to the planning, the campanile over the central passage into Oldhall-street being ill designed and disproportionate, decidedly the worst feature in the design. The news-room possesses a flat ceiling, and is lighted with side windows. It runs from the "flags" to Rumford-street, with entrances at each end. It appears as if the lift in the eastern wing would not act higher than the ground-floor, the stairs being shown over it in the first-floor plan. From the motto chosen, the author must be an admirer of Captain Semmes and the *Alabama*.

"Fuimus" (4).—The best of the Gothic designs, which may be contrasted with "290," just described. It possesses a well-designed elevation, showing great power and knowledge of the style, together with perhaps the worst-arranged plan in the whole set. It is really surprising, considering the talent shown in the exterior, how the same mind could so mistake the object of the building or rest satisfied with so ungainly a plan. The most noticeable feature is a long corridor occupying the whole length of the centre, and both wings adjoining the exterior, so that the whole of the light for the offices is obtained on one side, and the windows of the principal façade merely light the corridor. It would be difficult to divide such deep offices so that they could be used except by artificial light; and the tenants would be, if anything, worse off than they are now. The news-room is a parallelogram, approaching a square, with two rows of clustered shafts supporting ornamental ribs, sustaining a barrel vault. A great deal of originality is displayed in the design and decoration of this room, which is lighted by glass panels in the vault. The roofs are broken, high pitched, and truncated, with the walls carried up in gables and breaks for their support. The general outline is firm and well contrasted, but the prevalence of a similar character of window in all the façades has rather a monotonous appearance. Coloured arches, windows with central shafts and trefoil heads, recessed and without projections, and a bold, well-designed cornice, are the most distinguishing features. The character of window adopted is unsuited to offices, and the plan will certainly not be carried out, simply because it would not pay.

"Labor Omnia Vincit" (15). Judging from the number of people who cluster round this design, it is the centre of attraction. The Committee must also think well of it, as *all* the drawings appear to be hung, and in consequence it is an easier matter to describe and criticise it. The news-room is a parallelogram stretching from east to west, with an entrance on the flags and also in Rumford-street. It is proposed to connect the east wing, containing the Stock Exchange and Telegraph-office, with the west wing and news-room by a covered arcade stretching across the flags, and containing, under a central canopy, designed in the manner of a triumphal arch, the group of statuary representing the allegory of the death of Nelson. This would form a fine feature in itself apart from the quadrangle, and would doubtless be of great utility in providing a cover during rain for those who are not subscribers to the news-room, or who prefer being in a more open atmosphere; but it would cut the square in two, and also hide the beauty of the main buildings.

The present arcades form a convenient and pleasant shelter in wet weather or strong sunshine; and if nothing be provided in place of them the want of shelter will be greatly felt. Certainly no better scheme has been devised; for the arcades are inadmissible where they are taken,—as in the present buildings, and in the plan marked "Sine Labore Nil,"—out of the space that should be arranged for offices: it will not pay to give up that space: the shareholders cannot afford it. The south side of the news-room is arranged with a corridor and offices looking on to South Chapel-street. The underwriters' room is in the north-west angle; and a central court, and smaller court, occupy the north side of the news-room. There is also a small court in the eastern wing. The corridors are central in the side facing Tithebarn-street and Chapel-street. The method of lighting is by glass panels in the doors. This is the weakness of the plan, but a weakness which distinguishes most of the best plans. Could a more satisfactory method of lighting the corridors without increasing their width be conceived, the inventor would deserve the thanks of all architects.

A large space in the eastern wing, communicating with the arcade and a grand staircase to the Stock Exchange, is left open, without it being shown in the plan whether it is intended to form it into the Telegraph-office. The great defect in the news-room is the space taken up with central piers and columns, which, however well they look in the interior perspective, would prove a positive practical objection; and undoubtedly a simpler plan would in execution look far more noble and spacious. The lighting is by three glass domes, but the whole management of the news-room internally should be reconsidered; nor would any alteration made in this affect the other portions of the plan. There are entrances and small one-story porticoes in the south side of the east and west wings: whether permission could be obtained for erecting these we cannot undertake to decide; but they might be left out without injury to the elevations. The central passage, 20 feet wide, leading to Oldhall-street, has been boldly spanned with a semicircular arch; and, though looking rather tunnel-like, it would not have an unpleasant appearance; and, taking all things into account, is perhaps the most sensible way of meeting the difficulty. There is a sad dislike in the architectural mind to anything strange or opposed to existing notions of proportion, and very likely many will disapprove of it.

The author proposes also to set back the face of the building from the existing lines, and so form an area for lighting the basement, and argues that the loss of ground resulting would be met by more than an equivalent in the increased value of the basement story. The streets would certainly be improved, but the committee will consider twice before they sacrifice such valuable space. It would be well for them to consider whether the height of the ground floor above the flags could not be increased with advantage. Better basement offices would thus be obtained; and, by adding a foot or more to the height of the ground story, the whole appearance of the structure would be improved: it is here it wants height and solidity. In the event of this being done, the setting back of the face of the building would not be required, and the space so gained would be more than an equivalent for any presumed inconvenience resulting from raising the ground floor. Of the artistic execution of the perspectives and elevations it is impossible to speak too highly;—not laboured, but every touch telling. The design is elegant and complete: the stories are well indicated by strings and mouldings; and the whole is crowned with a very handsome cornice. The attic windows cut out of the frieze, with festoons between, have their prototype in the adjoining Liverpool and London Chambers, by Mr. Cockerell; or envious people might laugh at them.

The basement is rusticated; and between the windows are a species of broad pilaster, inlayed with a pattern in marble, treated very cleverly with the strings continued through; preventing that vertical cutting up of the stories so objectionable in many Palladian designs: notwithstanding this the order is strictly preserved, and some of the lines are carried up through the two stories unbroken. The vertical and horizontal lines are judiciously balanced and amalgamated, and a great deal of tasteful design is exhibited in the management of the fenestration and sculpture, and in varying the vertical lines and projections to suit the internal plan. It is the least monotonous of the forty-four designs; at the same time being more connected and unique, more pure in conception, and the only one that would thoroughly harmonise with surrounding buildings, and preserve the *spirit* of the place. The order employed (though sparingly) is Corinthian; and a handsome portico indicates the entrance to the news-room, with a corresponding one on the eastern wing. A colonnade, somewhat similar to that on the present building, marks the centre over the passage, the attic of which demands a loftier treatment; one of the few defects in the design. Some critics object to the windows as being too small, or rather the proportion the glass bears to the wall space as too restricted: were it so the design would admit of a slight modification; and we are of opinion that it will contain as much glass as can be employed with any architectural effect. We must stop here for the present.

CONCERNING THE FRENCH EXHIBITION OF WORKS OF LIVING ARTISTS.

THE French journals apparently are so much occupied with the approaching elections, as to be unable to give their wonted attention to the Exhibition of the Works of Living Artists, which was opened in Paris on the 1st of this month. Usually, their reviews of art-exhibitions extend to great length: the articles in the *Moniteur* especially, written by M. Theophile Gautier, every two years, on the works displayed at these intervals in the Palais de l'Industrie, are continued in number after number of the paper, and even till some weeks after the Exhibition has been closed; and each of the journals finds it its interest to devote to the subject, a portion of its exceedingly small space, much more considerable relatively, than is appropriated by our newspapers to the Royal Academy. A similar contrast might have been remarked in the manner of proceeding, between the English and French journals, in the case of the International Exhibition last year: though the quality of the matter that did appear in our newspapers, was on that occasion, at least equal to that of the matter in the French. The contrast generally, between the French and English press, in art-criticism, may be in part owing to the restrictions upon the treatment of political questions in France; but something is also due to a greater popularity, and a higher appreciation, of art amongst the French. Many who are aware of our recent progress, may not be satisfied to receive assertion of the fact; but the difference, we have every reason for saying, still exists.

It should be noted that on one day in the week, the Exhibition in Paris, is open to all persons without charge; whilst the ample space which the galleries of the building in the Champs Elysées afford, allows every picture to be displayed in a manner of which those who are merely acquainted with the way of piling up the works on the walls of the galleries in Trafalgar-square, can have no idea. Sculpture too has ample space; and backed by drapery, and with the area of exhibition laid out as a garden, seems to us arranged in the best manner for its appreciation; though we are aware, some sculptors are not satisfied with the system—followed now, in part, in the Horticultural Gardens, South Kensington. Whatever may have been the impression conveyed by the International Exhibition, as to the comparative excellence of the productions of the painter's art in France and England, there could have been slight question of the excellence of the French sculpture; and we should be quite justified in referring to the difference of treatment of the art in the Paris and London exhibitions, for some explanation of the fact. Curious enough, after all, is it that there should be such difference, seeing that the commemorative statues in public places in London, far exceed in number those which are to be found in the streets of the French capital. There are groups both of marble and bronze, in the gardens of the Tuileries and the Luxembourg,—ideal compositions, or copies from the antique,—there are some commemorative statues, not equestrian, as one of Marshal Ney; there are splendid fountains, and many fine works of sculpture combined with architecture; but we know of no more than two or three equestrian statues, of any kind, to set against those that may be found in London.

As regards painting and other branches of art, what has been displayed in London has afforded little opportunity for comparing the numerical importance of the works in the two countries. The Paris Exhibition, indeed, takes place only every two years; whilst it is almost the only one: it is, however, of vast extent compared with that of the Royal Academy, and it necessarily does not include the works of the highest class of all, of the nature of architectonic and mural decorations, which are added every year to the churches and public buildings. It does include large numbers of works, not of life-size sculpture or oil-painting, which in our Academy are either not received at all, or have been regarded with coldness as though not belonging to the fine arts. The best results for the several branches of art, it is evident to us, follow from the different system in all respects, of which we have evidence in the exhibition in the Palais de l'Industrie; although it may surprise some English readers to learn that there are Frenchmen who are now complaining of disadvantages under which they consider they labour, for art-workmanship in approaching rivalry with that of England, which deficiencies they are anxious to have removed by the formation of particular collections and educational agencies that they consider they do not possess at present. To this latter question, we may return at some future opportunity.

As regards the exhibition of architecture, it must be confessed that our French brethren are even less in the habit of showing drawings of their works, associated with the works of painters and sculptors, than our own architects. However, they are much more attentive than ours, to publication in illustrated books. Whilst their mode of study in many respects deserves our attention, perspective drawing seems hardly to have its value recognised; and the deficiency referred to, would, if corrected, we believe go far to the removal of some of the short-comings that, we ought to say, their architecture has. French architects seem to be even better skilled than our own, in viewing the result from geometrical drawings alone; yet, albeit these drawings theoretically should present the perfect picture, practically or regarding the limitation of time and human power, perspective drawing or the habit of seeing geometrical drawings converted into a perspective view, is almost essential to the architect.

Making all further allowance for difference in the numbers of the works in the London and Paris exhibitions, an English editor would hardly dare to administer to his readers a succession of notices of the Royal Academy exhibition, having the same proportion to the works there, as the notices in any one of the half-dozen Paris newspapers have to the works in the Palais de l'Industrie. This year, however, if we may judge from journals that have come to our hand, the candidature of MM. Thiers, Jules Simon, and Havin, and others in Paris, in addition to that of late deputies who bore a noble front in the Corps Législatif, dominates for the time even over the fine arts.

The central area of the building in the Champs Elysées is laid out, as we have said, as grass-plats and garden-ground; the space under the galleries, which is filled with boxes used in the agricultural shows, being shielded off by the draperies forming a background to sculpture. There are twelve grass-spaces, arranged with a central alley, bordered by statues, and terminated at each end of the area by a model of a monumental fountain. At the intersections of the transverse alleys with the principal alley, are circular spaces, "*rond-points*," also adorned with sculpture. The centre one is the place of a group, exhibited last year at the Ecole des Beaux Arts, representing Ugolino and his children dying of hunger. At the extremities of one of the transverse alleys are figures of Homer and Molière. The whole collection comprises a considerable number of figures of deities, heroes, and historic personages, and fanciful subjects.

The paintings and other works of art are upstairs, in saloons and galleries. A gallery surrounds the central area; so that a view is obtained as from a balcony, of the garden and sculpture below. The whole disposition in the Palais de l'Industrie, though now repeated for several years, it should be understood, is regarded as temporary; and every year the claims of the Exposition to a location of its own are put forward; and probably they will be attended to, when the question of lighting has been duly considered.

At present, the pictures are lighted as exhibited works are in galleries and every building of "ferro-vitreous" construction of the original character of the London building of 1851, that is from sky-lights that extend from wall to wall, without interval of lead-flat or any feature of construction except the slightest available members of framing and guttering,—the light, however, being softened by a *velum* of "gauze," as says an account now before us. The material used for *velum* in London exhibition galleries, we are persuaded is too opaque in every case. We spoke of the defect in this particular, in the lighting of the International Exhibition galleries. Whatever the textile fabric used at the Palais de l'Industrie, the "*gaze*" which the French journals speak of, seems to be nearer to what is required than the calico used in London. In the one case, where the atmosphere is clearer than in London, they appear to take all the light they can get: we certainly shut out much of the little that we have. The *velum* in each portion of the Palais de l'Industrie appropriated to pictures, it should be understood, does not cover the entire area of the saloon, by a difference of one or two feet, or some such dimension, all round, where the pictures are terminated by an inclined "frieze" in place of the cove adopted in our permanent galleries. From this "frieze" the *velum* is suspended.

The paintings fill three grand "*salons carrés*,"—one of them in the centre, and one at each end of the northern portion of the building,—and galleries connecting these saloons, from which there are doorways to the balcony looking on to the garden. Battle-pieces are prominent, as they were in 1861, amongst the subjects. Engravings are disposed of in the gallery returning along the eastern end of the building. In a portion of the south gallery is the exhibition of works of photography. The remainder of this gallery has been opened as an exhibition of works that had been rejected, by the jury of selection, from the principal exhibition. It is understood that the Emperor, hearing a more than the usual number of *réclamations*, and complaints of injustice on the part of Messieurs the jurors, suddenly decided to do the best thing that was possible to put an end to these complaints, by allowing all artists who chose that their rejected works should be displayed, to have such works exhibited as we have mentioned. There is really a touch of genius, as well as originality, in the manner of the Emperor's dealing with his exciteable people,—and perhaps as much now in the giving what is asked for, as there has sometimes been in withholding. An exhibition of rejected works, however, is not a new suggestion to English artists; and some say that this year especially, such an exhibition in London would pay in shillings. It may be in recollection that under the Provisional Government of 1848, all works received were exhibited: but the Republican system was discontinued in the subsequent *régime*. Possession of ample covered space in the most central spot in Paris, is of great value to the French Government: that of the Exhibition Building, South Kensington, will be not to be compared with that in the other case.

THE EXPENSES INCURRED FOR WORKS OF ART, MATERIALS, AND WHATEVER ELSE RELATES TO THE ERECTION OF THE FAÇADE OF SANTA CROCE, IN FLORENCE.

FOR the three bas-reliefs in the lunettes of the doorways intrusted to Professor Dupré, and executed, the middle one by the Professor himself, and the others over the smaller doorways, the one by Sanrocchi of Sienna, and the other by Zucchi of Florence, both pupils of Dupré, 66,522f. 26c. (2,660*l.* 1s. 10½.); the Madonna Addolorata of Professor Dupré, 2,240f. (89*l.* 12s.); the St. John of Professor Salvino Salvini, 1,680f. (67*l.* 4s.); the Penitent Magdalene of Professor Ulisse Cambi, 1,680f. (67*l.* 4s.); the two angels who are in the attitude of adoration at the chief doorway, by the sculptor Lusini, 1,680f. (67*l.* 4s.); the group of the Crucifixion, by the sculptor Ulderigo Medici, 11,340f. (453*l.* 12s.); the decorative statuettes over the smaller doorways, half figures in bas-reliefs in the soffits of the three doorway arches, 14,273f. 14c. (570*l.* 18s. 6d.); the jambs, architrave, and consols of the chief doorway, carved by Professor Pietro Giusti, of Sienna, 9,999f. 84c. (399*l.* 19s. 10½d.); the jambs of one of the smaller doorways carved by Casaglia, 2,520f. (100*l.* 16s.); the jambs of the other smaller doorway carved by Luigi Giovannozzi, 2,520f. (100*l.* 16s.); various ornaments mostly executed and modelled by the skilful ornamentist Francesco Giovannozzi, 15,923f. 46c. (636*l.* 18s. 5d.); timbers, 12,348f. (493*l.* 18s. 5d.); ladders for scaffolding, 991f. 20c. (39*l.* 14s. 7½d.); iron bond, 378f. (15*l.* 2s. 5d.); ropes, 1,428f. (57*l.* 2s. 5d.); various gears, 1,848f. (73*l.* 18s. 5d.); 2,600,000 pounds of white marble, 84,240f. (3,369*l.* 12s.); 430,000 pounds of green Prato gabbro marble, 36,120f. (1,444*l.* 16s.); 45,000 pounds of Maremma red, given by Count Ugolino Della Gherardesca; other marbles in small quantities, such as green Pisa serpentine, Asriano black, Garfagnana columbino red for the three door sills; Rosso antico given by the Royal manufactory of pietra dura mosaic; lacca lime, 2,898f. (114*l.* 18s. 5d.); 128,000 bricks at various prices, 240 cartloads of quarry stone, 1,100 cartloads of Arno sand, copper bond, 5,880f. (235*l.* 4s.); iron bond, 1,260f. (50*l.* 8s.). Total, 488,830f. (19,553*l.* 4s.) This we glean from the *Ferenze*. The architect is the Cavaliere Niccolo Matas. Our countryman Cavaliere Francis James Sloane's contribution to the building fund amounts to 260,000f., or 10,400*l.* He has, moreover, refused the decoration of Commendatore of the order of St. Maurice and St. Lazarus. His Majesty Victor Emmanuel II. has contributed the sum of 2,000f. to the work.

INSTITUTION OF CIVIL ENGINEERS.—On the 12th inst., the paper read was "On the Communication between London and Dublin," by Mr. W. Watson, M.A. This led to a considerable discussion on the 19th, when also a paper was read "On the Manufacture of Duplicate Machines and Engines," by Mr. John Fernie.

THE CHURCH OF THE HOLY SEPULCHRE.*

THIRD PERIOD.—1010 to 1130.

SCARCELY were the churches of Modestus completed when Jerusalem again passed into the hands of new masters. These were the Saracens, who professed an equal veneration with the Christians for the holy city, inasmuch as Mohammed had commenced his nocturnal journey from it to the ninth heaven: they therefore did not destroy any of the churches, but contented themselves with appropriating the temple area. The moderation of Omar was by no means followed by his successor, El Hakem, who reigned in Egypt at the commencement of the eleventh century. The actions of this khalif were so extravagant and so wicked, that it is only charitable to suppose him to have been insane, like Paul of Russia. Like the latter despot, he also suffered a violent death from his own subjects. Various reasons are assigned for his conduct in the particular instance of the Holy Sepulchre; but most certain is it that in the fifteenth year of his reign (1010), he directed a Christian secretary† to write the following order to the Governor of Jerusalem:—"The Iman commands you to destroy the Temple of the Resurrection, so that its heaven may become earth, and its length may become breadth." This order appears to have been most punctually carried out. The church was destroyed, and iron and fire employed on the rock of the Sepulchre; in vain, however, if we may credit the accounts of the transaction handed down to us. Most probably the destruction was confined to the roof of the cave and the arch of the loculus where the holy body had been placed. Accounts differ as to when the tyrant changed his mind and permitted the Christian churches, of which 30,000 are said to have been ruined, to be repaired, some assigning it to the year succeeding the persecution, while others defer it until the last year of his reign, ten years afterwards. In all probability the first restoration was merely temporary; certain it is that the buildings over the holy sites were not finished until 1048, and then only by the help of the Greek emperors. The plan of Modestus was still followed; but the churches were considerably reduced. According to both Professor Willis and M. de Vogüé, a great part of this third edifice is incorporated in the actual buildings, although added to by the Crusaders, and encased by the Greek architect after the fire of 1808. These parts are tinted black in fig. 4. It will



FIG. 4.

be seen from it how very much the want of funds compelled the restorers to simplify the building; thus the internal arcade and apse are built upon the foundation of those of Modestus, but the three apses and outer colonnade have disappeared, and the building ends to the west with a straight wall, from which projects an apse containing an altar, D. The rest of the wall is pierced with three doorways, which with the one leading out of the corridor, T, make up the four western doors described by an anonymous chronicler of the beginning of the twelfth century, whose relation is published by M. de Vogüé in the appendix to his work. At V was a chapel dedicated to the Virgin, and at D, one to St. John the Evangelist. Another, E, was dedicated to the Holy Trinity, and a fourth, F, to St. James the First, the first bishop of Jerusalem. As before said, all the other sanctuaries were very much reduced. The chapel of the invention of the cross being in ruins, there was a small oratory erected in the midst of them.

FOURTH PERIOD.—1130 to 1808.

Church of the Crusaders.—It has been but too often the fashion of modern historians to sneer at the Crusades, by calling them not the holy but the unholy wars, totally forgetting the difference between the Eastern and Western ideas of toleration, to say nothing of the state of feeling some centuries back. And, indeed, to a modern Englishman accustomed to the complete toleration of his own country,—where not only all sects follow their own devices, but can even attack the Established Church through their representatives in Parliament, or through their organs of the press,—it certainly does seem strange that at the end of the eleventh century the whole of Europe should have gone to war with Asia for the possession of a single city.

But let any one live in an Eastern city for a few months, and he will then easily understand how vexatious and galling is the rule of the followers of Mohammed, even when they only hold their own by the forbearance of the Christian powers. In the eleventh century their yoke had been made very grievous indeed by the tyranny of El Hakem and his successors, and accordingly the avenging army of the Crusaders entered the city on the 15th of July, 1099, and an indiscriminate massacre of the inhabitants indicated in what light Mahommedan rule was regarded by our ancestors. What the Crusaders did to the churches they found covering the holy places, is best given in the words of William of Tyre:—"After that, by the aid of God, they had taken Jerusalem, the said edifices appeared to them to be too small, they added to the first church a solid and very lofty building, which continuing and enclosing the ancient portions, comprised all the said places within the same edifice. The annexed plan, fig. 5, which differs but very slightly from that of Professor Willis, shows how this was effected. In the first place, the apse, the doorways, and the oratory over the unction stone, K, were demolished, and upon the area of the court the architect constructed the choir and transepts of a French church; but this new work was rather irregular in plan in order to make it work in with existing constructions. Thus the northern transept is shorter than the southern one, as it joins the previously existing portico, T, while the walls of the chapel of Calvary determine the length of the other transept. However, by carrying the triforium across it, the difference is in some measure disguised.

The choir aisles are also of unequal width, being narrow on the south on account of the proximity of the rock of Calvary, and wider to the north, in order to reach the seven arches of the Virgin, as the portico T is commonly called. The following references will explain the arrangements of the new church:—A is the circular church of the third period, and which does not appear to have been altered; B is the holy sepulchre, which received a new casing, and to which we shall return; *a*, *b*, and *c*, are the little apsidal chapels, left untouched; C, the sepulchre of St. Joseph of Arimathea; D, chapel of St. John; E, chapel of the Holy Trinity; F, chapel of St. James; G, rock of Golgotha; H, chapel of Adam; I, tombs of Godfrey of Bouillon and Baldwin; J, tombs of the four last kings of Jerusalem; K, unction stone; L, the compass or centre of the world; M, the chapel of Mocking; N, chapel of the division of Garments; O, cloister of the canons; P, dome of the subterranean chapel of St. Helena; Q, chapel of the Invention of the Holy Cross; R, chapel of St. Longinus; S, the prison; T, the seven arches of the Virgin; V, chapel of the Apparition; *n*, are the stairs leading to the chapel of St. Helena; and *m*, those by which access is gained to the cloister of the canons; *o*, is a fragment of an arcade, which M. de Vogüé considers to have formed part of the atrium of the basilica of Constantine, but which Mr. Fergusson assures us only dates from the time of the Crusaders; but both M. de Vogüé and Professor Willis are agreed upon the fact of the columns at *p* being really part of the work of the first Christian emperor. Thus much for the plan. The accompanying section will show how the Crusaders carried out French architecture in a different climate, and under different conditions to what they had been accustomed. In all probability the architect alone was European, and had to trust to foreign workmen for the execution. The consequence is that we find the architecture much plainer than in France. There are few or no mouldings to the arches, and the ornamentation has evidently been inspired by ancient remains; witness the details given in plate 10. Figures also become very scarce, for the Eastern Church sets its face against sacred sculpture, and the workmen were, therefore, unprepared to execute it; indeed the lintels of the doorways in the south transept, which, like those at Westminster, formed the principal entries to the church, have every appearance of having been executed in France and sent to Jerusalem. They are in very thin stone, secured by irons, and form no part of the construction. One of them represents scenes from the life of our Lord, and the other is enriched with scroll-work inclosing little naked figures, dragons, birds, monsters, &c.

Another difficulty beset our architect. By means of frequent wars the lofty forests had long since disappeared from the mountains of Palestine, and the inhabitants had learnt to do almost without wood in the construction of their houses, by vaulting the rooms and making the vaults support a terrace. This method of construction enabled the designer of the Church of the Holy Sepulchre to obtain a large triforium all round the church, except at the east end, where it is very doubtful whether it was continued. Mr. Willis tells us that Bernardino represents it as continuing; but all the models made previously to the late fire show an arcade pierced with alternate windows. He has, therefore, restored it by a pierced clerestory in the thickness of the wall, in which he is followed by M. de Vogüé.

Again, the space at the intersection of the choir and transepts was occupied by a dome,—another instance of the adaptation of local peculiarities: however, the round church had a roof timbered, the centre being open to the air; in this respect following the traditions of every building which had occupied the site. The campanile, which rises over the Chapel of St. John, D on plan, has been destroyed down to the first story above the triforium: and in the restoration by Professor Willis there is considerable difference from that of M. de Vogüé. The latter, however, gives his authorities; viz., the engraving of Le Bruyn, and that executed by Rewich in Breydenbach's work, and it certainly looks more like twelfth century work than the other. The grand effort of the architect was reserved for the south end of the south transept, where the principal entries to the church were placed. These two doorways, the two windows over them, and the little chapel to the north, are certainly the richest portions of the edifice. The principal decoration is got in the strings and arch labels, which are all elaborately carved, thus showing what a good clever architect can do even with the simplest means. The voussoirs of the arches are deeply cut in, so as to make them appear to be made of a great number of very thin voussoirs. The tympana are very curious. It appears that the first idea was to decorate them with geometrical patterns, and the westernmost one was actually thus ornamented; before, however,

* See p. 328, *ante*. The graphic account recently published in the *Times*, of the well doings in this structure, at the ceremonial of the combined Greek, Armenian, and Coptic churches, with respect to what is called the "Holy Fire," gives increased interest to the illustrations we present.—ED.

† Williams's "Holy City," vol. i. p. 349.

THE CHURCH OF THE HOLY SEPULCHRE.



SCALE OF FEET

Section.

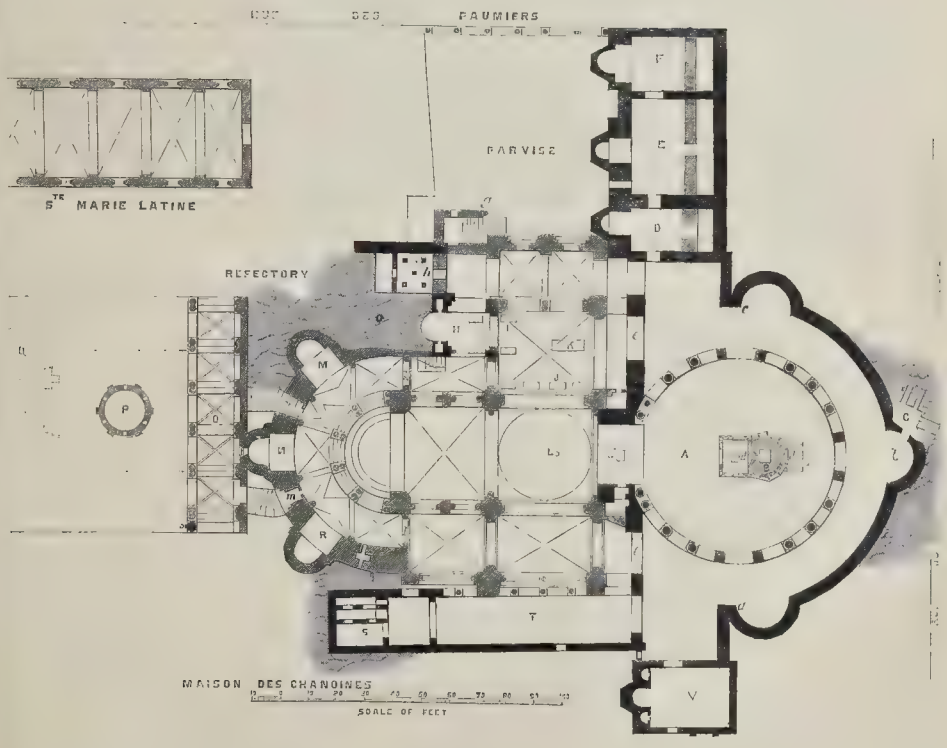


Fig. 5.

the decoration could be extended to the other it was determined to substitute mosaics, and so they were both covered over with plaster, and then with glass mosaic; that to the south representing a Madonna. Mosaics were also employed to decorate the interior of the edifice. These have entirely disappeared, with the exception of two small fragments in the upper Chapel of Calvary. One of them is part of the decoration of the tympanum of a doorway once leading on to staircase (*g*), which is now used as a chapel. This mosaic is simply a fragment of a vine branch; the other is the figure of Our Lord, which once formed part of a great picture of the Ascension, and is in the same chapel. However, from the work of Quaresmius we have a tolerable idea of what was the disposition of the other mosaics which we have now lost. In the circular church over the second order of columns was a range of full-length figures representing the Apostles and the Prophets. Under the great arch which leads from the round church into the lantern were the "Annunciation" and "Ascension." The half-dome of the apse was occupied with a large representation of the "Resurrection." The vaults of the nave and transepts had also mosaics, but were too far gone when Quaresmius wrote to be made out; but the decorations of the upper chapels of Calvary appear to have been the most costly; they were on a gold ground, and represented the "Passion of Our Lord," from "The Last Supper" to the "Ascension;" with occasionally the parallel stories of the Old Testament, the whole accompanied with Latin verses. Indeed, from the frequent use of this language in the inscriptions and the comparatively few instances of Greek, it is very evident in this case, as at Bethlehem, that the mosaics were the works of Byzantine artists employed by the Latins. It only remains to say a few words upon the Holy Sepulchre. The exterior covering was renewed in the shape of a Pointed arcade supported by marble pillars; before the door a porch was erected, replacing in some degree the ancient vestibule: this had three doors, viz., one for the south, for the pilgrims to enter; another to the north, for them to make their exit; and a third to the east. The porch was the place for the guardians of the sepulchre, and there also was to be seen part of the stone, called the Angel's Stone. At the back of the sepulchre, on the outside, was the altar surmounted with a baldachin, called the altar of the holy sepulchre (*d*); but the most curious thing of all was a sort of ciborium above the sepulchre itself. It appears to have been made of the richest materials, and the dome, which was supported by twelve columns, was ornamented in the interior with mosaics on a gold ground. The same sort of decoration was also applied to the interior of the sepulchre, and we read of the stories of the entombment, the resurrection, and the ascension. As to the chapels of Calvary they still occupied an intermediate stage between the ground and the triforium, as they had done in the time of Constantine. The pilgrims entered and departed by means of the staircases at *g* and *k*.

Such was the Church of the Holy Sepulchre as built by the Crusaders, and such it substantially remained until the fire of 1808. A Greek architect was then called in, who appears to have encased the whole work in his own abominable architecture. Perhaps some day, if the various Christian sects can cease from quarrelling for a little while, we may indulge in a hope of its restoration, for in this case there is much to be hoped for and nothing to lose in that usually destructive process. Our forefathers, had they lived in the present church-building age, would certainly have perpetuated their remembrances of the most interesting building in the world, by erecting one church at least in their own country which should be a copy of it. Even we in our present utilitarian age do occasionally build churches where beauty and not the number of sittings is the great consideration. Why should we not, therefore, some day,—instead of doing the regulation long choir and narrow nave, timber roofs, with the consequent pinnacles, panels, and tracery,—for once make a copy, or rather a restoration (for it comes to this) of that edifice for which our ancestors were content to leave all, and often to die on the sands of Palestine?

W. Burges.

The Source of the Nile.—Captain Speke, is appears, announces that the great lake Victoria Nyanza is unquestionably the main source of the Nile. The discovery was made by descending from the lake instead of ascending the Nile, as heretofore.

CONSTRUCTION OF CHELSEA SUSPENSION BRIDGE.

At a recent meeting of the Society of Engineers Mr. Geo. Gordon Page read the following paper on this subject:—

The Chelsea Suspension Bridge, which has been opened to the public for the last five years, is a bridge remarkable in many respects; and which, in point of design, mode of construction, and economy of cost, presents features of great interest.

In the year 1846 an Act of Parliament was obtained, and the necessary funds granted for the construction of this bridge, which forms a communication between Pimlico, Belgravia, and Chelsea on one side of the river, and Battersea Park and the surrounding neighbourhood on the other.

In addition to the design for the suspension bridge the engineer, Mr. Page, was instructed to prepare, for the consideration of the Metropolitan Improvement Commission, designs both for a bridge of seven arches, faced with stone, and one in cast iron of five arches; but, ultimately, the Chief Commissioner of her Majesty's Works decided to carry into execution the suspension bridge originally mentioned in the Act.

* * * *

General Dimensions.

The length of the Chelsea Bridge is 704 feet from face to face of abutments: it consists of a centre opening of 333 feet, with two side openings 166 feet 6 inches each. The piers are 88 feet long, and 19 feet wide, terminating in curved cutwaters: the piers are carried to aheight of 7 feet 6 inches above high-water mark: the width of the bridge is 47 feet: the roadway at the centre of the bridge is 24 feet 6 inches above high-water, and has a curve of 18 inches rise, commencing at the abutments. The towers and ornamental castings are of cast iron. The girders and flooring of the platform are of wrought iron.

Of the Abutments.

Too much attention cannot be bestowed on the abutments of a suspension bridge, as on their careful consideration and construction so much depends.

The abutment is the mass of masonry, or in some cases of natural rock, to which the extreme ends of the chains are made fast, and by the weight of which the strain from the chains is resisted.

The principles of the stability of the abutment of a suspension bridge are the same as those of the abutment of an arched bridge, but reversed.

In the former there is a tendency to upset or slide forward instead of backward, as is the case in the latter. The weight or gravity of the abutment should always be sufficient to prevent it from sliding on its base, and its form and dimensions should be sufficient to prevent it from upsetting. The tendency to sliding forward may be considerably lessened by making the base of the abutment, or a portion of it, slope so as to be at right angles, or nearly so, to the resultant of pressure.

Of all parts of a suspension bridge the abutments are the last in which solidity and stability should be sacrificed to motives of economy.

The weight of the abutment should be equal to resisting twice the utmost strain that can be brought upon the chains by dead weight; and the total power of resistance, combining the weight and the tendency of the abutment to slide from the ground on which it stands, should be at least equal to four times the utmost strain that can be brought upon it.

The resistance offered by the adhesion of the abutment to the ground on which it stands depends entirely upon the nature of that ground, and cannot by any general rule be accurately predetermined.

When piles are used in the foundation they should be driven at an angle approaching as near as possible to the direction of the resultant of pressure.

With regard to the saddles on the abutment, by the aid of which the direction of the chains is changed, it is not always necessary to place rollers under them; but, as they must be capable of sliding to a sufficient extent, other means are sometimes resorted to in bridges of short span, and the saddles are sometimes laid on a bed of asphalted felt. In large suspension bridges rollers are, however, universally used, to allow for the expansion and contraction of a necessarily large extent of chain.

As it is most important that the chains or wire cables of a suspension bridge should be kept free from rust, the tunnels in the abutment through which the chains pass down to their fastenings are generally constructed of such dimensions as will allow of space for access for the purposes of examination and repair if required.

The abutments of the Chelsea Bridge consist of a mass of brickwork and concrete, measuring at the base 112 feet in length by 56 feet broad, and at the top 100 feet by 46 feet, and 40 feet deep.

The face of the abutment adjoining the river is composed of cast-iron piles and plates, somewhat similar to those of the pier, with the exception that the ironwork is not brought above the level of low water.

The portion of the abutment on which the land saddles and cradles bear, for changing the direction of the chains, rests upon timber piles, 14 inches square, driven deep into the bed of the river, and are from 3 feet 2 inches to 4 feet from centre to centre. These piles are cut off at the level of low water, 16 feet below Trinity high-water mark, and the spaces between filled up with hydraulic concrete. The cast-iron and timber piles are tied together with wrought-iron ties, 3 inches by $\frac{3}{4}$ inch. On the top is bedded a series of landings, forming a table at the level of low water 53 feet 6 inches by 27 feet by 6 inches, upon which a mass of brickwork is erected up to a mean level of 3 feet below the level of the roadway. Upon this 12-inch landings are bedded for the reception of the cradles which carry the saddles on rollers. The cradles are bedded in asphalted felt, and firmly secured by wrought-iron holding-down bolts, brought up through the masonry from below. An invert, springing from beneath each saddle, is built in the brickwork below, so as to distribute equally the pressure from the cradles over the whole area of the foundation.

The mooring-chains are carried down tunnels to the moorings, the tunnels forming an angle of 155 degrees with a horizontal line. The chains are secured to massive cast-iron mooring-plates, resting against three courses of 12-inch landings, respectively 12 feet by 8 feet 9 inches, 16 feet by 12 feet 6 inches, and 20 feet by 16 feet 3 inches. The tunnels are contracted at the bottom by elliptical brick domes, thus affording a complete bearing for that portion of the landings at the end of the tunnel. These landings rest against a mass of brickwork, with inverts, to distribute the pressure over the whole area of the abutment. This mass of brickwork rests on a series of timber piles, driven at the angle of 65 degrees with a horizontal line; the tops of the piles coming up above the level of the concrete, struts, and ties, and having a good bond with the brickwork, by which means the tendency to slide is greatly diminished, the whole space between the masses of brickwork being filled up solid with concrete.

The Pier Foundations.

The construction of the foundations of the piers combines all the advantages of foundations on bearing piles, made by means of coffer-dams, without the expense and obstruction to the waterway which they involve, and which would have rendered their use at Westminster Bridge all but impracticable.

The foundations of the piers consist of timber-bearing piles, 14 inches square, driven deep into the bed of the river at intervals of 3 feet over the whole area of the pier, varying in depth from 40 feet 6 inches to 25 feet below the level of low-water, according to the resistance offered by the bed of the river.

The face or external surface of the piers consists of a cast-iron casing of piles and plates driven alternately. The main piles are 12 inches in diameter and 27 feet long, with longitudinal grooves on each side for the reception of the plates. These piles are driven to a uniform depth of 25 feet below the level of low-water, and between them are driven cast-iron plates or sheeting 7 feet 2 inches wide, so that the pier is entirely cased from the foundations to the top, which is 7 feet 6 inches above Trinity datum. The space inclosed by this casing is then dredged to the hard gravel above the clay, and filled in solid with concrete up to the level of the top of the timber piles. On this foundation a flooring of stone landings is bedded, and on this the cast-iron plates, frames, &c., forming the base of the towers, are placed.

The portion of the caisson situate above low-water is hollow, being so formed to avoid throwing useless weight on the foundation, and is merely lined with brickwork, strengthened by cross walls and iron ties.

The whole of the ironwork below the water was covered when hot with a protecting coating of tar. The thickness of metal in the caisson is 1 inch.

Of the Towers.

The towers which support the chains are entirely independent of the ornamental cast-iron casing surrounding them, and consist of a cast-iron columnar framing strongly braced both horizontally and vertically, carried to a height of 57 feet above high-water.

The columns are cast in pairs, and have a diameter of 10 inches, and thickness of metal 1 inch. They are arranged in clusters of fours, and the whole are connected with six horizontal frames, occurring at intervals. The columns are not vertical, but incline towards each other upwards from either side of the pier, the columnar framing being 13 feet 6 inches at the base, and 9 feet 9 inches at the top. In the direction of the piers the columns are 4 feet 3 inches apart, and rise parallel to each other. There are two towers on each pier, 32 feet from centre to centre. The pressure from the chains coming directly from their centre, each tower carries therefore one-fourth of the whole weight of the bridge, or about 375 tons, or about 670 tons when the bridge is completely loaded: the sectional area of the columns is 284 square inches, and there is, therefore, a pressure upon them when the bridge is loaded of 2·36 tons per square inch of section. The weight of the towers, exclusive of the ornamental cast-iron casing, is 350 tons.

On the towers are fixed massive cast-iron cradles upon which the saddles rest.

Of the Platform and Roadway.

The roadway platform is carried by two longitudinal trellis girders, running the whole length of the bridge from abutment to abutment, immediately beneath the chains, by which they are supported at intervals of 8 feet. These girders are suspended from the chains by wrought-iron rods 2 inches in diameter.

The weight of the roadway is distributed over the whole of the four chains by the coupling plates to which the rods are attached: the rods are jointed at the chains and at the roadway to accommodate any lateral motion that may occur, and are provided with screw coupling-boxes for their adjustment: the suspension rods pass through the longitudinal trellis girders, and support them from beneath.

The transverse girders which support the roadway are placed 8 feet apart from centre to centre, immediately under the suspension rods, and bear upon the bottom flange of the longitudinal girder; are 31 feet 10 inches long, 2 feet 2½ inches deep at the centre, and 1 foot 11 inches at the ends, where they are connected by a system of riveting with cantilevers 7 feet long, which practically form a continuation of them, and serve to support the overhanging footpaths: the sectional area of the top and bottom flanges is 10 inches, and the vertical rib ½ inch thick, stiffened with T-iron.

The small roadway bearers between the transverse girders are from 3 feet 3 inches to 3 feet 10 inches apart, 8 feet long, and vary in depth from 1 foot 5¾ inches to 1 foot 9½ inches, to suit the cambered surface of the roadway.

The several girders that support the roadway thus form a series of rectangular cells, which are covered with arched plates of wrought iron, stiffened with angle iron.

The haunches of the plates are filled in with a light concrete, composed of cork and bitumen. Previous to laying the bitumen concrete, the plates and girders are coated with asphalte.

The roadway is paved with oak blocks, 6 inches by 3 inches by 4 inches, bedded in bitumen, and trams of timber, flush with the roadway, with wrought-iron strips bolted down on the top for durability.

The preference was given to the cork and bitumen concrete as a bedding for the roadway blocks, on account of lightness compared with ordinary concrete. Concrete, moreover, in such a position, and in so thin a layer, is liable to crack, and become in time pulverised, and (then no better than loose gravel) liable to be deranged by passing traffic.

The footpaths are paved in the same way, only the blocks are of smaller dimensions. This pavement rests on planking placed on joists running longitudinally, resting on the cantilevers. The available breadth of the carriage-way is 29 feet, and footpaths 14 feet 4 inches.

The longitudinal trellis girder is 6 feet deep, and its flanges are composed of a top plate 10 inches by 1¼ inch, and two angle irons, 3½ inches by 3½ inch by ⅝ inch thick: the effective area of the top and bottom flanges is 12½ square inches.

This girder materially stiffens the roadway, and prevents, in a great degree, that undulation to which suspension bridges are liable.

The handrail is of wrought iron, secured to the cantilevers at every 8 feet by brackets. The ornamental bosses and stays for supporting the railing are of cast iron.

The Chains and Saddles.

The chains of the Chelsea bridge are four in number, two being placed on either side, at a distance apart of 32 feet. They consist of links of seven and eight bars alternately, 8 inches wide, and of lengths varying from 16·55 feet at the towers to 16 feet at the centre of the span, so as to admit of a uniform horizontal distance of 16 feet from centre to centre of the pin-holes of each link, and are connected by pins 4 inches in diameter. The aggregate section of the four chains at the towers is 230 square inches, and at the centre 217½ square inches. The span of the centre opening is 348 feet, and the deflection of the chain is 29 feet. The semi-span of the back chains is 183 feet, and the deflection 30 feet 6 inches. The length of the chain for the centre opening is 354 feet 5 inches, and the length of each of the back chains 186 feet. The mooring chains are placed at an angle of 25°, and are 95 feet long, and have an aggregate section of 235 square inches. The total weight of the chains is 340 tons. The chains are carried over the towers by means of saddles formed of No. 8 1-inch wrought-iron rectangular plates, 5 feet 8 inches long, and 2 feet 10 inches wide, placed at intervals of 1 inch apart, and bolted together by No. 10 bolts. The bottom edges of the plates are planed, and are let into a cast-iron plate 4 inches thick, also planed on its top and bottom surface, and which moves on ten 6-inch diameter steeled rollers, working on the cast-iron bed-plate fixed at the top of the towers. The chains are connected to the saddles in the same way as the links of the chains are connected together. At the abutments the chains are diverted down the tunnels by means of saddles of similar construction to those on the towers, based on cast-iron cradles, and placed at right angles to the resultant of the strains.

For mooring the chains the following means were adopted:—As has been observed in the description of the abutments, the tunnels for the mooring-chains are closed at the bottom by elliptical-shaped brick domes, against which the York landings are placed at right angles to the angle of inclination of the mooring-chains. The chains pass through holes formed in the centre of the landings (the dimensions of the landings were stated in the description of the abutments). A brick semi-circular arch or invert springs from the outer face of the landings, and connects the two sets of landings of each abutment together, by which means the whole weight of the middle portion of the abutment, it will be seen, is made to resist the pull of the chains. The chains are secured by means of castings, 21 inches deep, abutting against the landings, and are divided, each into four compartments, rather more than 2 inches wide, through which the chain-bars (here put two and two together) pass, and are moored by keys driven through the heads of the bars, and bearing against the mooring castings. Keys were here used instead of pins, to allow of an adjustment in the length of the chains. Similar means for adjusting the lengths of the chains were made at the saddles on the towers, but were not needed.

In calculating the length for the chains the curve may be assumed to represent a parabola, though, strictly speaking, the curve of the chains is peculiar to the construction; but, deduction being made for the stretch due to the tension caused by the appended weight, the weight so deducted will be found practically correct. Care should be taken to ascertain the exact distance of the span, as a small error in the horizontal distance will cause a serious error in the amount of deflection. It is well to provide for any discrepancy of this kind by leaving the centre links of the chains the last to be rolled; when, the error being known, it can be rectified without any serious interference with the rest of the construction.

For the erection of the chains four temporary chains were thrown across, made of 2-inch round bar-iron, and placed one on each side of the line of the chain to be erected. Upon these temporary chains travelling purchases worked, by which the bridge chains were hoisted and put in place. Four other and similar chains were thrown across beneath the former mentioned ones, to which timber platforms were suspended, and which served to carry the bars of the chains until the connexion of the links was complete. In the hope that the description may be acceptable, a few observations are subjoined respecting the manufacture of the bars.

The bars for the chains of the Chelsea Bridge were manufactured by the process patented by Messrs. Howard & Ravenhill, by which the head and body of the bars are rolled of one piece, and was effected as follows:—Piles, or, as they are technically called, balls of cleansed scrap iron, of about ¾ cwt. each, were heated (eighteen balls being the usual charge) in a reverberatory furnace of ordinary construction, and afterwards hammered into slabs about 2 inches thick by a 4-ton wrought-iron hammer. The slabs, while still hot, were then piled in sets, of the weight required for the respective bars, and again heated and hammered into oblong masses of iron called shingle, somewhat wider than the width for the bars, and about 2 feet 9 inches long. The time required for heating the balls of scrap was one hour and a quarter; that is, so much time elapsed from the time of charging the furnace to the withdrawal of the first ball; and the time required for hammering the eighteen balls into slabs was three-quarters of an hour. It may therefore be observed, that the last ball withdrawn was nearly twice as long in the furnace as the first ball was; and it may, consequently, be supposed that some of the balls of scrap were too much and others too little heated; but the precautions adopted in the management of the furnace prevent any great irregularity in this respect. The balls first withdrawn were placed nearest the furnace; and, as withdrawn, the remaining balls were pushed nearer the furnace, or otherwise, as their state required. The time for hammering a pile of slabs into shingle was about five minutes. By the two heats and hammerings the loss of iron was about 13 per cent.; and after the shingle was rolled into bars the total loss of iron was 20 per cent.; that is, the bar weighed one-fifth less than the scrap iron weighed from which it was manufactured. For converting the shingle into bars of the required form the shingle was heated to the required temperature in the furnace of the rolling-mills, and was then passed longitudinally through rollers till reduced to a width of 8 inches, and to a thickness of 2¾ inches. It was then transferred to other rollers, and passed through sideways; these rollers being so constructed as to act only on the extremities of the bar, which, by this means, were spread out to the width required for the heads. The bar was then passed again longitudinally through ordinary rollers, till reduced to the length and thickness required; after which, while still hot, it was straightened by being beaten with wooden mallets. The time required for rolling a shingle into a bar was eight minutes.

The next process was boring the pin-holes. In doing this the bars composing each link were placed one on another, and bored by one operation, by which means uniformity of length was obtained. Shearing the heads of the bars to the proper form was the next operation. To do this the bars were fixed eccentrically on a table revolving in contact with shears, which, as the table turned, cut off the superfluous portions of the heads.

Every bar of the chains at this stage was tested with a strain of 13½ tons per square inch; the contract requiring, in order to insure material of the best quality, that the iron used should stand this strain without a permanent elongation of more than one-fortieth of an inch in a ten-feet length; it having been found from experiments made that up to this strain the best commercial iron did not extend more than the very best iron that could be manufactured. It may be observed, that notwithstanding this amount of strain very few of the bars had to be rejected.

The last process in the manufacture of the chains was numbering the bars and lettering the links, that there should be no mistake in erecting the chains, as to every bar being in its proper place. A few words will suffice to explain how this was carried out. The chains were divided into eight portions, and named A, B, C, D, E, F, G, H, respectively. The chain A extended from the moorings on one side to the centre of the bridge, where it was joined by the chain B, which continued to the moorings on the other side, and so of the other three remaining chains. The heads of every bar of every link were then stamped with the letter of the chain to which it belonged, and numbered; the heads of the first links at the moorings being numbered 0, and the heads at the other extremity of these links 1. The heads of the second series of links were numbered 1 and 2; of the third series 2 and 3; and so on throughout the whole length of the chains. The bars of every link were also numbered 1, 2, 3, 4, 5, 6, 7, 8, showing the position they occupied in the link during the operation of boring.

The engineer considered it highly advantageous to the successful completion of this

part of the bridge that the chains were prepared by Messrs. Howard, Ravenhill, & Co., who spared no pains and no expense to carry out his instructions to produce a perfect structure; and so far from their making any attempt to evade any condition of the contract for their own advantage, the perfection of the work was their chief consideration.

It will show the excellence of the iron they produced to state that whereas the late Mr. Barlow deduced that the stretch of iron was at the rate of one-ten-thousandth part of its length for each ton, the iron which Messrs. Howard, Ravenhill, & Co. produced for the chains of the bridge only stretched from one-fifteen-thousandth to one-fourteen-thousandth part of the length per ton, being above fifty per cent. less than Mr. Barlow's.

As so much depends upon an honourable contractor in the execution of a work, Mr. Page authorised me to make these observations in justice to Messrs. Howard, Ravenhill, & Co.

Of the Probable Load.

Before considering the degree of strain to which the chains are liable, it would be well to investigate the amount of load to which a bridge may be subjected.

M. Navier, a great authority on suspension bridges, calculated the load likely to occur on a bridge at 42 lb. per square foot. The standard proof for suspension bridges in France is 200 kilogrammes per square mètre, which amounts to 41 lb. per square foot, the proof load required by the French Government.

For troops on march, 21 inches in rank and 30 inches in pace are allowed, giving 4·37 superficial feet per man; which, at 11 stone each, would be 35¼ lb. per square foot.

The load taken in the calculations for the Menai Bridge was 43 lb. per foot super.

An experiment was made by the engineer of the Chelsea Bridge, by packing picked men on a weigh bridge, with a result of 84 lb. per superficial foot; but it is not within the limits of probability that such a crowd could accumulate on any bridge.

Seventy pounds per square foot of platform are assured as a standard for the load that may come on a bridge; as being the utmost load that the platform could hold; supposing it, in fact, quite filled with people crowded as close together as they could be. This, it is true, is not often likely to happen; but it may do so on a public occasion; and needs, therefore, to be provided for.

The march of cavalry, or the passage of cattle, is not so productive of dangerous effects as troops on the march, inasmuch as cavalry take up more room in proportion to their weight, and do not preserve a uniform pace.

As regards the greatest moving load or crowd, it is an acknowledged fact that it is impossible for a body of people on the move to occupy per man less space than trained troops; and as I have before shown that troops on the march do not produce a greater dead weight than 35¼ lb., one may safely assume that the dead weight due to a moving crowd will not amount to so much.

Of the Strain on the Chains.

Having described the various loads that may come upon a bridge, it may be useful to show the strain produced on the chains of the Chelsea bridge under the several circumstances.

The strain on the chains from their weight alone is $1\frac{1}{10}$ ton. The strain from the weight of the platform and road alone is 3·32 tons, giving a total strain produced by the structure alone of 4·42 tons or 9·08 tons below the proof strain.

The strain on the chains from the weight of the structure and a load of 70lb. (being the weight per square foot of a dense crowd) is 7·60 tons—or 5·9, nearly 6 tons, below the proof strain; so that the chains will carry in addition to the weight of the structure nearly three times the greatest crowd that can come upon the bridge, before the proof strain is arrived at. Taking the breaking strain of the chains at 28 tons, we should require seven and a-half times the greatest possible load to be brought on the bridge to produce that strain.

Before concluding these observations on the Chelsea bridge it may be interesting, without taking into consideration the high quality of the iron, to compare the strain on the chains with other suspension bridges; and for this purpose I may refer to the Hammersmith and Pesth bridges as fine examples of bridge engineering; both being built by the same engineer, Mr. Tierney Clarke, at distant intervals; the Hammersmith bridge having been open thirty-six years, and the Pesth fourteen years.

The Hammersmith bridge is 710 feet 8 inches between abutments, the span of the main opening is 442 feet 6 inches, the deflection is 29 feet 6 inches, the useful width of platform is 30 feet, the sectional area of the chains is 180 square inches, the weight of a square foot of road 63 lb., and the strain per sectional inch upon the chains from a load of 70 lb. is 8·86 tons; the chains were proved up to 9 tons, leaving a margin of 14 tons between the proof strain and the strain from the greatest load.

The Pesth bridge is 1,262 feet, between abutments, the central span is 666 feet; the deflection of the chains is 47 feet 6 inches, or 1-14th of the span; the available width of roadway is 36 feet 3 inches; the weight of a square foot of suspended roadway is 74 lb., and the chains have a sectional area of 510 square inches.

The strain produced on the chains with a load of 70 lb. per square foot is 7·72 tons, or 1·28 tons below the proof strain, all the bars having been proved up to 9 tons.

The margin or allowance between the strain from the greatest load and the proof strain is therefore as follows:—

Hammersmith Bridge	·14 tons.
Pesth Bridge	1·28 tons.
Chelsea Bridge	5·9 tons.

COMPETITION FOR A NATIONAL MONUMENT, TO BE ERECTED AT GENEVA.

PREMIUMS are offered for the best designs for a monument in commemoration of the Re-union of the Republic and Canton of Geneva with Switzerland; and the competition is open to artists of all countries.

The conditions say, *inter alia*:—This monument, architectural or sculptural, should characterize the Re-union of the Republic and Canton of Geneva with the Swiss Confederation. It will be erected on the Triangle, near the bridge of Mont-Blanc, on the left bank of the Rhone, according to a plan which may be seen at the Swiss Consulate. The competitors are to send designs or models carefully wrought, and an approximate estimate of its expense, by the 31st of July, 1863, at latest, to the Electoral Building, addressed to General Dufour, president of the committee. Their carriage to Geneva will be paid by the committee.

At the expiration of the competition the designs or models will be publicly exhibited for ten days.

The author of the design placed at the head of the list by the committee will receive a prize of 2,000 francs; the author of that placed second, a prize of 1,000 francs. These two designs will remain the property of the committee.

We have been requested by the committee at Geneva to give this information, and willingly do so; but English artists have heretofore received such scant justice in foreign competitions that the committee must not expect that many of our sculptors or architects eminent in their profession will submit designs.

WORK AND WAGES FOR THE UNEMPLOYED COTTON SPINNERS.

MR. RAWLINSON, as the Government engineer specially appointed to procure profitable work for the unemployed in the cotton districts, has recently sent in his first report to head-quarters, after having visited and inspected Ashton-under-Lyne, Blackburn, Dukinfield, Oldham, Glossop, Rochdale, Stockport, and seen or communicated with the local authorities of Accrington, Burnley, Bolton, Bacup, Chorlton, Criston near Preston, Denton near Manchester, Over Darwen, and Wigan.

Of the six principal places surveyed, five, he states, may probably expend in the whole 300,000*l.*—that is to say, in the market town and borough of Ashton-under-Lyne, 40,000*l.* for various works mentioned in the report; Blackburn, 70,000*l.*; Oldham, 100,000*l.*; Glossop union, 20,000*l.*; and Rochdale, 70,000*l.* The sum which may be advantageously disbursed for public works in Stockport is not stated, because the question of employing the adult factory hands now out of work there is still under the consideration of the town council.

There is much good work upon which the male factory hands can be employed; and, as Mr. Rawlinson says (and we had said before), "the present system will ruin the men if persevered in over another year," as "relief to able-bodied men is ever demoralizing." Leaving out Liverpool, the distressed unions are now spending about 11,000*l.* a week in out-door relief. The proposed expenditure in the five towns named, assuming that it could be made available at once and to the full amount in wages to the operatives, would be equal to the total out-door relief for the next seven months. "There are," as Mr. Rawlinson remarks, "difficulties to be overcome, but most of these difficulties rest with the local authorities. But a vast amount of useful work may be beneficially undertaken and executed by the best of the distressed men out of employment. . . . . Any loss in the work in the first instance will be more than made up to the locality in the saving of the poor-rate." He has made arrangements for obtaining more detailed estimates of works which may be undertaken in the several towns, and has offered his services to (as far as possible) advise the local surveyor, in each case, as to works.

Mr. Rawlinson has naturally confined his suggestions and inquiries to engineering works. Besides these, Lancashire presents a very broad area for agricultural improvements, by the drainage of moss lands and hill districts, and reclaiming waste land. There is no novelty in employing the surplus labour of Lancashire in such enterprises.

The Corporation of Blackburn has, we now learn, adopted a memorial to the Government, praying that the necessary steps may be taken, "by legislative enactment or otherwise," for enabling the borough to borrow 70,000*l.*, at a low rate of interest, in order that the local authorities may at once proceed with the execution of public works of utility, and thus give employment to the large number of cotton operatives who are now supported either out of the poor-rates, or by public benevolence.

TRACES OF LAKE DWELLINGS AND SORCERY HALLS IN SCOTLAND.

THE SCOTTISH SOCIETY OF ANTIQUARIES.

AT a recent meeting of the Society of Antiquaries of Scotland the following communications were brought before the members:—"Notice of the Vestiges of two Crannoges in a Loch at Kilravock, Nairnshire, with Plans." By John Grigor, M.D., Nairn. "The Loch of the Clans" referred to in Dr. Grigor's paper has been drained, and is now mostly a marsh. In the course of agricultural operations, remains occurred of beams of wood, disposed in such a way as to suggest their having at one time formed part of a palisaded inlet. A canoe was formerly found in the same neighbourhood; and, more recently, portions of bone, flint flakes, part of a stone cup, and an iron hatchet have been picked up. The same loch contains the remains of what is believed to have been another crannoge; and in some adjoining lochs similar traces have been noticed. Dr. Grigor hopes to report the result of more detailed examinations ere long; and in the meantime his paper was received with much interest by the Society.

"Notice of an Underground Chamber in the Parish of Alvey, Inverness-shire." By Sir David Brewster, Knt. The underground chamber in question is of the form of a horse-shoe, and has a smaller one entering from it. The large chamber on the convex side measures 86 feet. The walls are about 7 feet in height: they converge gradually from the bottom till they are covered in by large flags on the top.

Mr. Stuart pointed out the similarity between this cave and the "eirde houses" in the upper part of Aberdeenshire, as well as in other parts of Scotland, and the difference between them and the chambered abodes in Sutherland, Caithness, and Orkney; suggesting that, by the accumulation of such descriptions as the present, we might be able to classify these structures according to the districts of the country in which they occurred.

GATEWAY AT THE SULTAN'S NEW PALACE, ON THE BOSPHORUS.

IN our volume of last year* we gave some particulars of the Sultan's new palace on the Bosphorus. In a previous number we published a view of the building. We now add a view of the great gateway of the enclosure, designed by Mr. Balzan, an Armenian architect. The capitals and the foliage at the base of the columns are of metal, bronzed: the rest of the structure is, we believe, of marble: the gates themselves are of cast iron. The drawing we have engraved was made from one of the admirable photographs produced by Mr. F. Bedford, while professionally accompanying the Prince of Wales in his Oriental tour.

* Vol. xx., p. 631 ("Architectural Photographs"), and p. 699 ("Modern Architecture in the East").



GATEWAY AT THE SULTAN'S NEW PALACE ON THE BOSPHORUS.—MR. BALZAN, ARCHITECT.

EXHIBITION OF DESIGNS FOR FREEMASONS' HALL.

NINETEEN or twenty designs for the buildings intended to be erected in Great Queen-street, by the Freemasons, or for additions to the existing hall, have been received in competition, and have been on view during the past week in St. Martin's Hall, Long-acre. Knowing the problem in this case submitted to our profession, to be one of some difficulty, we applied in due time, for permission to see the drawings prior to their public exhibition. Our application, however, could not be acceded to; and the result is that we are not able to give to the subject the complete notice which we believe would be deserved.

The object in view was stated in the printed "instructions" or particulars, to be the provision of "a suitable Temple or Hall for Freemasonry," to include accommodation for the Grand Lodge, for the Grand Master and Executive Officers, and for private lodges and the craft. The *hall* proper, and the apartments and offices, were to be adjoining each the other, and to have convenient internal access to a tavern of the first class, as the case is at present; whilst in other respects, the two buildings, or parts of the whole, were to be distinct and separate. The ground shown by one of the plans furnished, at a stated charge, to intending competitors,—and which plans should have been exhibited at the commencement of the week, with the competitors' drawings, to admit of the case being understood by visitors at that time,—is described as about 194 feet in depth, and about 132 feet in length. This ground would include the site of the present tavern, that of the Grand Secretary's Offices east of it; the *hall* proper, forming the back of the tavern; and additional space which has been obtained to the west. The "hall" (illustrated in Britton & Pugin's "Public Buildings of London") is used as well for gatherings of the craft, as for public dinners in connexion with the tavern, as most Londoners are aware. It measures 92 feet by 38 feet, its longer axis running north and south, but not exactly in the centre of the ground. It is important to note that this hall is intended to be preserved; whilst another hall capable of providing for 450 to 500 persons at dinner, and with a gallery for 150 spectators, is contemplated as part of the new tavern-building. Light from the exterior of the ground is obtainable only from Great Queen-street and from Middle-yard. The printed particulars represented that it was "considered very desirable, but not imperative, that the portion westward" of the present *hall* (or the new ground), and the *hall* itself, should "be applied exclusively for the purposes of Masonry;" and further, it was said that the façade representing Freemasons' Hall, which was to be of Portland stone, and of a plain but elegant character, should extend in length to the east wall of the great hall, or about 89 feet, presuming the offices placed west, or about 88 feet should these Masonic offices have the east side of the property appropriated to them. The present tavern, together with the portion eastward of it, and now used as offices and including the Temple,—in all about 85 feet in length,—is elsewhere distinctly required, with the exception of the *façade* and such rooms therein as may be appropriated to Masonic purposes, to be occupied by additions and alterations to the tavern, and to be separated from the Masonic portion. These several "instructions" have sufficed to lead most of the competitors to place the tavern as "considered very desirable," and therefore the new banqueting-hall appertaining to the tavern, in the narrower of the two spaces, parallel with the hall, that were open for selection. The difference, in that rearward portion of the ground, is said to be some feet more than the statements of figures of the frontage would show. It is obvious that the difference, whatever it is, is important: for, the question is of seating 450 people at least; and for this object, not an inch of ground is to spare. The portion of the frontage appropriated to the tavern, about 43 or 44 feet in length, was to be distinct in character from the Masonic building, and plain. It might be of brick with stone dressings. Some of the competitors, however, have offered designs bringing the whole frontage into one composition.

Some of the number, but we think a small minority, have arranged the plan with the offices in their present position, or to the east, appropriating the new ground, west, to the tavern. This arrangement has several advantages beyond the one already adverted to. It is important to note as an object which there is in addition to that of preservation of the "hall," the desirableness that the work should be "so arranged as to admit of being carried out with the least possible interference to the business of Grand Lodge, or that of the tenants of the present tavern," and that "in every case where parts of the present building can be conveniently appropriated, they are to be so converted as to form part of the new buildings." All these objects can best be attained by devoting the new or western ground to the tavern. The arrangement is adopted in a design marked 100, which treats the centre, the offices, and the tavern, in the front, in some measure as distinct buildings. They are shown in a boldly-drawn perspective view. The design, of an Italian character, has some features of detail which are good as well as novel. A similar arrangement of the hotel is found in a design marked ⊙, which is also of Italian character, though very different to the last. Again, the author of a design marked with two intersecting triangles coloured red and blue, shows the arrangement as an alternative. In fact, he shows at least the two arrangements of plan, and an elevation which could be equally adapted to the western or to the eastern principle, if we may so speak, of distribution. Besides skill in the planning, there is much freshness as well as taste in the design of the exterior in this set of drawings. It is of Renaissance character. The interior, however, is later Italian, still tasteful, but scarcely a judiciously chosen contrast. Some of the plans adopting the arrangement just mentioned, preserve the Temple—as they are able to do.

The Masonic requirements include a library, a coffee-room, grand secretary and clerk's offices, muniment-room, waiting-room, large committee-room, three offices for charities,—all these rooms suggested to be on the ground floor; and, further, they include the present *hall*; four lodge-rooms, each with an ante-room, having, where practicable, a small private room attached to it, but the small room not being a passage to the lodge-room; robing-room for the Grand Master, and one for Grand Officers; two or three small committee-rooms, should space allow; Grand Tyler's apartments, five rooms, in the basement; and other requisites. The tavern, already described as separated, generally, but required to have a good internal access provided from the Masonic portion of the building, is to include, besides the large banqueting-hall, a dining-room for 130 persons, one for 100, one for 50, and one for 20. The rooms known as the Sussex and the Cambridge; the Glee-room, and the Dining-room could be retained as dining-rooms in the tavern; and the present Clarence, with an addition, might be used as a coffee-room for Freemasons.

Premiums of 150*l.*, 100*l.*, and 50*l.*, were offered for the best designs, as our readers are aware; and three designs are pointed to as likely to receive the rewards. In the design with the motto "*L'Union fait la Force*," the tavern is placed to the east, and the Masonic portion of the building west. One part of the plan, the entrance, though treated so as to disguise the difference of centre between the corridor or hall of entrance, and the passage beyond it, and to that extent workmanlike, is in dimensions of doorway and its other features, altogether short of the requirements of the chief or only access to a building crowded on many occasions with persons entering. Several elevations, differing considerably, but all of Italian character, have been designed to the general plan here under notice. The design shown in the principal perspective view, having Salient columns the height of two stories to carry statues, is, of the lot, the least satisfactory to us. some of the elevations are beautifully-executed drawings. "Elevation No. 1" has the front, for the height of the principal stories, divided into three bays, by four bold rusticated piers. In each bay a species of loggia, with Corinthian columns, is formed; the window being set back. The entablature is common to the small order, and to the piers, which last have capitals ranging with the Corinthian capitals, and are terminated above the entablature by seated figures. These are in face of piers of an attic that terminates the building. The columns of the small order have vases over them. In the centre-bay, the cantilever-cornice which crowns the attic, is interrupted; and raking mouldings of a pediment are introduced. Beneath, is a semicircular window-arch—the archivolt carved with signs of the zodiac, the whole arrangement very difficult to treat efficiently. The banqueting-hall, seen internally, has a segmental ceiling divided by ribs, and the bays between them filled in at the haunches of the soffit with secondary ribs placed diagonally, and leaving on each side of the ceiling, a coffer, set diamond-wise, in which is a circular opening for admission of light. The drawing shows some good ornament in polychromy. The plan has several striking weaknesses scarcely to be got over.

In the design marked "Stability," the same position for the tavern is adopted. For the front, there are alternative designs, one an amplification of the chief part of the other. One of these makes the tavern-building subordinate in external character to the Masonic building: the other nearly duplicates the opposite end, and fills in a new centre. Taking the plan to be applicable to either case, the entrance is at the eastern extremity of the front of the Masonic building; and, in the more simple design, there is a window corresponding at the west,—so that the arrangement recalls that of the Conservative Club, with which building there are some other, though trifling, resemblances. The corridor of entrance leads into a grand saloon, or central hall, which is of the same family as that in the Reform Club, Bridgewater House, and other buildings of Sir Charles Barry; but the corridor enters it quite close to the angle. Otherwise there would be considerable effect in the steps up to the great hall, which occupy the whole width of the farther end; and from the galleries surrounding, on the first floor. Whether the saloon occupies space to the disadvantage of specified requirements, we cannot say: these questions are only to be answered by detailed examination, for which time has not sufficed. Skill, however, is shown in provision of the requisite areas for light. The banqueting-hall of the tavern, placed as we have said, west,—and which is raised some steps higher than the Masonic hall,—has a very effective interior: but the construction of the support for the roof, we find it impossible to understand; and no explanation is discoverable in the drawings. The ceiling is waggon-headed with semi-circular openings for light, groining in; and each half of this vault and the entablature from which it rises, is carried upon the farthest projected edge of a cove of no small dimensions. Along the sides of the hall are wide galleries on cantilevers. The street front, in each form of the design, would be an imposing structure of the Sansovino character of architecture, with the entablature-*cornicione* having the deep and richly-sculptured frieze pierced by oblong windows, a balustraded area, a continuous balcony with balusters and statues on the pedestals, and balusters to the roof. The arch-headed windows, with columns, in the first floor, between the masses of the angles, are well designed, and so are the open turrets, loggie, or belvideres with which the architect has crowned his angles. The author claims to have introduced each of the five orders somewhere in the front. In the expanded *façade*, central columnar features are more prominent, at least in the upper portion of the building.

In the design marked "Experientia," the hotel is still eastward, and treated as a distinct building externally. A *Rococo* character of Italian is observable in it. The plan, generally, seems to us made with superior knowledge of the site and of the Masonic as well as ordinary requirements; indeed, we suspect that if the eastward position of the tavern be decided upon, this plan will prove the best. The matter of lighting seems to have been properly studied. Decoratively, the design is unequal to that last mentioned. The four stories of columns and pilasters are, after all that can be said in praise of their treatment here, but commonplace; whilst the banqueting-hall shown in the view, with segmental ceiling rising from pilasters, or some other features placed in the upper part of the walls, is less satisfactory than the interior in several other designs.

Could we have given a longer notice, we might have entered into the merits of several sets of drawings. Amongst these designs is one marked "Ich Dien," wherein the Masonic hall is reached by a too circuitous route,—the result of making the entrance central in the Masonic building. It has a portico of six Corinthian columns between antæ, in the upper part of the front, darkening the windows of two stories, but otherwise skilfully designed, as are also two angle-turrets. In the same design, the banqueting-hall is disposed with columns, after the plan of nave and aisles, the central space being vaulted, and the sides flat-ceiled. The whole of each square space between beams, or ribs, is glazed; so that ample light is effectively introduced. Taste is exhibited also in polychromatic decoration. The design marked "Labor ipse voluptas," with a clever, somewhat Florentine, exterior, but heavy in appearance for London atmosphere; and designs marked "Concord," "Sic nos non Nobis;" and "Pour y Parvenir," might deserve to be looked into.

A number of letters and some personal statements show us that there have been conflicting

interests at work, antagonistic to that fairness in decision which a committee appealing to a profession owes to it. To this we may have to return.

The insertion of the following may be useful —

"SIR,—As the object of exhibiting the various designs for the proposed Masonic Buildings is, not only to enable the body of Freemasons generally to see the whole of the designs, but to form an opinion upon the three selected by the Committee, so that at the meeting of the Grand Lodge, on Wednesday next, the 3rd day of June, they may be prepared to give their assent or dissent to the Committee's recommendation,—it is desirable that their attention should be drawn to the plans bearing the following mottoes, which report says (whether correctly or not I do not pretend to say) appear upon those which have obtained the prizes:—

1. L'Union fait la Force.
2. Stability.
3. Experientia.

AN ARCHITECT."

Another writer says:—

"It is to be hoped that Messrs. Havers, Plucknett, and the other members of the committee, will state in their report the reasons for adopting a design which only furnishes a hall, 99 or 92 feet long, to hold 475 persons. 'Stability' meets the great difficulty of the instructions by a hall 122 feet long. The present hall, 78 feet long, hardly accommodates 300 persons."

GRANITE MONUMENT FOR STRATHFIELDSAYE.

AT the Penryn granite works of Messrs. Freeman, the memorial of the late Duke of Wellington intended for Strathfieldsaye is being proceeded with. The monument is to be in the form of a column, surmounted by a capital and statue of the great Duke in bronze, the whole being after a design by Baron Marochetti. The base will be 30 feet square, from which will rise three steps, 15 inches high, and 3 feet broad. In the centre of this will be placed the plinth, 12 feet square, and 6 feet high. Above this the polished granite work will commence, consisting of, first, a finely moulded base, 9 feet 8 inches square, and 2 feet 7 inches high: on this will be placed the die, an immense block of solid granite, 9 feet high by 7 feet square, weighing 40 tons. The four sides of this mass are to be panelled and moulded. Above this will be the cap, moulded, 10 feet 8 inches square by 3 feet in thickness. Above this will rise two blocking courses, on which will be placed a base of bronze; and from this will rise a monolithic column of polished granite, 30 feet long, 4 feet diameter at the bottom, and 3 feet 5 inches at the top, weighing 20 tons. It was obtained from one of Messrs. Freeman's quarries in the parish of Mabe, and is the largest piece of granite that has been worked in the kingdom. Four men were occupied during twelve weeks in rounding it, and nine weeks more have been occupied in polishing it. The column will be surmounted by the capital and statue in bronze. The former has been cast and sent to Messrs. Freeman, but whether the statue has been finished or not we cannot say.

LOCAL WORKS AT PRESTON.

IN reply to a letter from the Home Office with respect to the powers conferred upon local authorities under the Local Government Act, for works of local improvement, &c., a statement has been made by the Preston Corporation from which it appears that the cost of main sewerage works executed up to the present time amounts to 47,700*l.*; works now in progress and required, 2,800*l.*; in all, 50,500*l.* Of 16,000 houses in the borough, 12,800 have house-drains connected with the main sewers. These drains have cost 22,600*l.* or 1*l.* 15s. 4d. a house. The Corporation in 1854 purchased the waterworks at a cost of 135,225*l.* Since then they have expended 89,620*l.* in extension of the works. The water is of very good quality and is at all times under a constant and high pressure. The charges for the water are reasonable, and even in these depressed times the revenue is sufficient to pay all expenses and the interest of borrowed money. 15,790 private houses alone are supplied. During the last ten years the Corporation have sewered, levelled, paved, and completed 215 private streets, at a cost of 25,094*l.* repayable by owners. Thirty private streets are now being sewered and made good. The Corporation have expended upon Avenham Walks and Avenham Park about 3,000*l.*, exclusive of the cost of land. They have also expended about 7,000*l.* in the walks, roads, grounds, plantations, and other works on the moor. Upwards of 1,000 men are now employed in forming and levelling the land for a cattle market, &c. The same number of men are employed in levelling land for building purposes. The Corporation are erecting a new town-hall, at a cost of 40,000*l.* from designs prepared by Mr. Scott. Employment is thus provided for a considerable number of workmen.

SURREY COUNTY HOSPITAL.

THE committee of the Surrey County Memorial Hospital have determined upon proceeding without delay with the building, which is to be erected on a plot of ground presented by the Earl of Onslow, on the slope of the Hogsback, close to the town of Guildford. In answer to the advertisements for tenders the following were sent in:—

King	£15,254	4	0
Wardle & Baker	15,101	0	0
Biggs	15,000	0	0
Rider	13,977	0	0
Macrs	13,933	0	0
Peake	13,9 0	0	0
Carter & Son	13,770	0	0
Messrs. Loe	13,560	0	0
Moon & Son	13,533	0	0
Hill & Son	13,340	0	0
Messrs Goddard	13,312	0	0
Moon & Son	13,300	0	0
Nicholson & Sons	13,300	0	0
Simpson	13,300	0	0
Wells	13,255	0	0
Messrs. Smith	13,250	0	0
Hart	13,250	0	0
Wills	13,175	0	0
Patman & Fotheringham	13,135	0	0
Sharpington & Cole	13,000	0	0
Adamson & Son	12 957	0	0
Simms	12,600	0	0
Sawyer	12,413	0	0
Stap	12,430	0	0
Palmer	12,300	0	0
Chinnock, Brothers	12,198	0	0
Hill, Keddell, & Robinson	12,165	0	0
Nye	12,144	0	0
Jackson & Shaw	11,950	0	0
Hack & Son	11,840	0	0
Shrubsole	11,500	0	0
Barnes (accepted)	11,303	0	0
Matthews	10,629	0	0

The committee have accepted the lowest tender but one—that of Mr. William Barnes, of Nutfield, Redhill, for 11,303*l.* At present the committee have only money in hand and promises to the extent of about 7,300*l.*, which includes 500*l.* offered by a gentleman on condition that two like sums should be contributed, which offer has not yet been responded to. Under these circumstances the committee reserve to themselves power to stop the further progress of the works after the building has been roofed in. The committee explain the great excess over the originally intended outlay by saying it includes a handsome boundary-wall round the whole two acres of ground, with carriage entrances; Parian cement to all the internal walls of the wards; plate-glass windows; an additional floor in the roof, adopted at the Earl of Onslow's suggestion, and for which his lordship will pay; the application of Fox & Barrett's principle, which will render the building fireproof; a hot-water supply over the whole of the hospital; a well, with an engine and pump, tanks for rain water, and fittings of every description. The quantities were furnished by Messrs. Hunt & Stephenson and Messrs. Meakin & Dudgeon. Mr. Edward W. Lower is the architect.

CONTRACTORS' LIABILITY FOR NEGLIGENCE.

A QUESTION whether contractors or employers were liable for negligence occurring in the course of work was raised in the case of Dray *v.* Pullen, in the Court of Queen's Bench. The owner of premises within the district of a local board of works having been ordered to abate a nuisance existing thereon, employed a contractor to do the necessary works. In the course of their execution a trench was dug across a public highway, under the powers given by 18 & 19 Vict., c. 120; and after their completion, owing to this trench not being properly and sufficiently filled up, the plaintiff, passing along the highway, fell into it and was injured. The Court held that the contractor only, and not his employer, the owner of the premises, was liable, notwithstanding the provisions contained in sect. 110 of the above Act.

SCIENCE EXAMINATION OF THE SCIENCE AND ART DEPARTMENT OF THE COMMITTEE OF COUNCIL ON EDUCATION.

THE annual May examinations of the pupils of science schools and classes by the Department of Science and Art have just terminated, and the result shows an increase in the number of centres of examination and the number of pupils who have come up to be examined; although in some subjects there has been a decrease as compared with last year. In geometrical drawings the number of pupils examined in 1862 was 119, but this year they had increased to 289. In machine drawing the number has increased from 70 to 194; and in building construction there has been an increase from 45 to 107. In theoretical mechanics there has been a falling off from 52 pupils to 35; and in applied mechanics the decrease is from 47 to 22. The experimental sciences appear the most popular. In acoustics, light, and heat, there is an increase from 47 to 121; and in magnetism and electricity the increase is from 105 to 207. Inorganic chemistry shows an increase from 558 to 679, and organic chemistry an increase from 105 to 157. The centres of examination have increased from 54 in 1862, to 71 in 1863; and the number of pupils examined in the different subjects has increased from 1,943 to 2,672. These figures only give an approximate estimate of the number of pupils receiving instruction in elementary science, because a considerable proportion are not sufficiently advanced to attend the examinations.

IMPROVEMENTS IN WREXHAM.

IN Egerton-street, three new brick cottages, with stone dressings, are being erected by Mr. J. Lewis, mason.

In the same locality is a villa residence for Mr. T. Williams, of the firm of Overton, Painter, & Co. The body of the building is brick, with stone dressings, and is from a design by Mr. Gummow.

Five dwelling-houses and a shop are being erected in Mount Meadow, the property of Mr. Thomas Rowland.

Last but not least, we may mention the new shop and premises in Hope street, for Mr. Edward Jones. These occupy a plot of ground 40 feet in frontage, by about 80 feet in depth. These, like the other buildings mentioned, are from designs by Mr. Gummow.

Nearly all along Regent-street and Hope-road to the railway station is now filled up with buildings; and, among the more recent improvements there, we have to notice the adding of a new wing to the Dispensary. The alteration was designed by Mr. Harrison, of Chester; and was conducted under the superintendence of Mr. W. Turner, architect.

One of the most striking of the many buildings that have recently sprung up in Wrexham is Park Lodge, in Rhosddu-lane. It was built by Mr. E. Lloyd, plumber; Mr. William Turner being the architect. The materials are bricks, which, for decorative purposes, are of various colours.

CHURCH-BUILDING NEWS.

Louth (Lincolnshire).—From a want of church accommodation in that part of the parish of Louth now known as St. Michael's district, and through the liberality of the late Rev. W. Wright who gave a site and 1,000*l.*, the rector was enabled to apply to Mr. Fowler for plans, and the design for the present building was the result. A contract was entered into with Mr. Timbs to carry these designs into execution; and on the 22nd of July last the corner-stone of the edifice was laid by Mrs. Wright. The edifice has now been completed and consecrated. In plan it consists of a nave of four bays, with north and south aisles, chancel, with apsidal vestry to the south, western porch or Galilee of two bays, and bell-turret. Externally the material employed is hammer-dressed stone, with groins and dressings of Ashloe; whilst for the internal walls red brick has been adopted, diversified with horizontal bands of yellow and black brick, with embossed tile texts and stone. The style selected is geometric, which, owing to the copious introduction of brick, has been modified by some features peculiar to Italian rather than English Gothic. Decoration properly so called has been employed very sparingly. The great height of the arches in the nave in proportion to that of the columns in which they rest, is one of the Italian characteristics. With the exception of the chancel arch all the others are simple, coloured bricks supplying the place of mouldings. The supporting shafts are circular, of red Mansfield stone, surmounted by capitals of Ancaster stone, carved in imitation of natural foliage, the subjects, beginning from the corbel on the left in entering, being as follows:—Blackthorn, buttercup, fig, columbine, and rose south side, apple ivy, marsh-mallow, maple, and horse chestnut. The chancel arch is enriched by the addition of a dripstone resting on sculptured corbels, and an under moulding. It springs from carved capitals, that on the north representing the passion-flower, that on the south the vine and wheat. Beneath these are shafts of polished serpentine, which material is also introduced in the jambs of the east window, at the angles of the

pulpit, and in the base of the front. The roofs are of deal, stained and oiled. The floor is laid with drab, buff, and chocolate coloured tiles, relieved in the chancel by the moderate use of figured tiles; for which, in what we may term the presbytery, slabs of polished serpentine are substituted. The windows of the nave are of two lights, with a trefoiled circle in the head: those in the clerestory are circles trefoiled and cinquefoiled alternately; whilst that at west end consists of three sexfoiled circles within a triangle. The east window is of three lights, with three circles, containing geometrical tracery in the head. The seats in the nave are of red deal, varnished: those in the chancel, also the altar-table, rails, prayer-desk, and lectern, are of oak. In the reredos dwarf clustered shafts of serpentine support three canopies, within which are elaborate panels, the centre one being inlaid with a cross of malachite. In the spandrils of the canopies the vine, wheat, and blackthorn are sculptured, and the crockets represent blackthorn, maple, and passion-flower leaves. Between the canopies are pedestals bearing statuettes of angels. The dimensions are as follows:—Nave, 62 feet by 19 feet; aisles, 63 feet by 12 feet 6 inches; chancel, 30 feet by 17 feet 4 inches; vestry, 20 feet by 12 feet; height of nave, 43 feet; ditto of chancel, 37 feet.

Fotherby (*Lincolnshire*).—The church here has been re-opened. The chancel has been restored at the expense of Mr. Everitt Allenby, of London, the lay impropriator. The church has been entirely rebuilt. It consists of a nave, chancel, western tower, and south porch. The architect has adopted the early character of some features, rather than that of the old Perpendicular windows, &c. The walls of the church generally are of dressed chalk, faced and coursed to work in with the ashlar of the windows, &c.; the buttresses and bands of the stone from the other range of the Wolds, known as the green sand. The interior presents a contrast, being built with the red brick and stone bands similar to St. Michael's Church, Louth, and has an altar-screen of plain and glazed tiles. The fittings are of pitch pine, stained and varnished, except the prayer-desk and lectern, which are of English oak. The roofs are open timbered, covered with slate, and coloured between the rafters with a light blue tint. The tower and spire are at the west end of the church: the spire is of the broach type, and rises about 100 feet in height: the tower is of three stages, the lower one having a lancet window on the western face; the second small slits to light the ringing-chamber; and the third four windows of two lights each, with a column to divide them instead of the usual mullion. The architect was Mr. James Fowler, and the builder Mr. T. Maxey.

Hemel Hempstead.—Great Gaddesden Church has been re-opened by the Bishop of Rochester. The church consists of a nave with north and south aisles, porch and clerestory, chancel, and tower at the west end. In the chancel-floor are two good fifteenth-century brasses, and a similar brass in the north aisle. The parish chest is formed out of a solid piece of oak, and is of great antiquity. The monuments of the Halsey family will repay inspection. Before the restoration the church was dilapidated and decayed; the interior disfigured with high pews; the gallery shut out; the tower arch and the architectural features of the church buried under whitewash. The whole of the interior fittings and gallery have been removed; the masonry repaired and cleaned; the walls re-stuccoed, and west tower rebuilt. The new seats are of varnished deal and modern construction. The pulpit and prayer-desk, of wainscot, were carved by Miss Halsey, of Gaddesden Park. The altar-rail is supported on iron standards, with scrolls, painted and gilt. The two carved oak chairs within the rail are the gift of Mr. Hudson, of King's Langley. The chancel is paved with Minton's red and black tiles. The windows of the tower are filled with rough sheet quarry glazing of a greenish tint, of various shades. The stained-glass east window of south aisle is by Wailes, of Newcastle. It is to the memory of Mrs. Hoare, and is the gift of her nephews and nieces. The new organ, built by Parsons, of Bloomsbury, is placed in the tower. The church has been warmed by Messrs. Rimington, of Skipton, Yorkshire. The five bells are being rehung by Messrs. Mears, of Whitechapel. Mr. Slater, of London, was the architect, and Mr. Joseph Harris, of Berkhampstead, the builder employed. It is intended to restore the roofs and external masonwork as soon as funds can be raised for that purpose.

Ramsgate. — An elaborately constructed and finished clock has been ordered from Mr. Benson for the "Temple" or Synagogue at Ramsgate, by Sir Moses Montefiore; and was set a-going in its place, at the commencement of the present month. The time is indicated on a plate dial of 47 inches diameter, surrounding which is a scroll bearing the legend, in white letters on a blue ground, "Time flies, virtue alone remains." The bells, cast by Mears, weigh 4 cwt. for the hours, and 1 cwt. 2 qrs. 21 lb. and 1 cwt. respectively for the quarters.

Stourbridge.—The masons have been demolishing the old Roman Catholic Chapel, it being intended to erect a new edifice, affording greater accommodation. The new building, which will face Kidderminster-street, will be Gothic in style, and occupy nearly the same area as St. John's Church. The external length is 124 feet; width, upwards of 50 feet. The tower and spire will be 134 feet in height; but the latter will not be added at present. The edifice will be built with red bricks, faced with Tisbury stone, while the columns of the interior will be of Scotch granite. The architect is Mr. E. W. Pugin; builder, Mr. Ife, of Wollaston. Mr. Ife's contract is for 3,170*l*.

Daylesford (*Worcestershire*). — Daylesford Church, in an outlying part of this county, has lately been erected under the superintendence of Mr. J. L. Pearson, architect. It is of comparatively small size, measuring from east to west about 64 feet externally. It is cruciform on plan, the three short arms, forming the chancel and transepts, being equal in length. The tower, supported by four arches, stands at the intersection; and access is obtained to the belfry by a circular turret at its north-west angle. The entrance to the nave is by a south porch, the inner door of which has been preserved as a relic of former times. Both inside and out the walls are formed faced with ashlar, diversified by occasional courses of a sienna-coloured stone. The roof is covered with the brown slate of the district. Red terra-cotta has been used for the shafts externally, and marbles of various colours in the interior. The whole of the wood-work is of oak.

Jackfield.—The Pritchard Memorial Church is now appaoaching completion. This building is from the design of Mr. A. W. Blomfield, and is in the French Gothic, freely treated. The roofing, turret, porches, &c., are executed in ornamental tiles and bricks, and in bands of blue, white, and red, relieved in parts by Grinshill stone. The builders are Messrs. Nevett, Ironbridge.

DISCOLOURATION OF WALLS.

IN the *Builder* lately I noticed a letter asking for some means to prevent a discolouration on the walls of a mansion. Discolouration in stone, the same as of gas-tar, will show through almost any amount of paint. I have preveuted it in both cases effectually by giving a couple of coats of painters' knotting; and this I believe would answer in this case. The knotting to be used should be one pint of naphtha to half a pound of shell lac. J. BOTTOMLEY.

A WORD ON CUPOLAS AND A GREAT MANY ON BASILICAS.

WITH sincere gratitude to "G. V. R." for taking so much notice of my lecture, I must beg leave to say that I do not precisely see the use of translating the plain English in which my last communication was written, and which does not seem to me (as it was not intended) to convey the absolute and *astounding* propositions which "G. V. R." ascribes to me. I spoke of the adoption of the cupola, or dome, in Christian churches, *as a fashion* used by the Crusaders in the Holy Land, while it did not exist, *as such*, in Western Europe before the twelfth century: indeed, I cannot recollect just now other *legitimate* examples of it, before that time, than St. Front, at Perigueux; St. Mark's, Venice; the Duomo of Modena, &c.; isolated importations or imitations of Byzantine architecture; while, after the twelfth century, they become so common as to amount to a fashion, coming more likely from the Holy Land than from Constantinople *direct*. I am aware that the Arabs borrowed the cupola from the Byzantines, as they borrowed also the pointed arch; retaining, however, the latter *as a fashion*, which the Byzantines did not.

However, I neither lectured, nor am ready to lecture, on the origin of cupolas; and am fully convinced that others are more competent to do so, including our friend "G. V. R." I wish he would.

As for the *basilica*, from what "G. V. R." says about it, I cannot help thinking I had better be the lecturer, if you will allow me.

"The general teaching that, until the Christian religion was tolerated, congregations listened to their teachers in synagogues and other public places," will not stand the test of history. "The crypt was more safe than the mansion;" but was only used in times of actual persecution; while, during the long intervals of peace, or comparative peace, whether in Rome or in the provinces of the empire, where persecution only afflicted individual provinces for the best part of the time, Christians made use of regular churches, erected for the most part in Rome, in the houses of the richer Christians, and of martyrs. Eusebius relates (Ecclesiastical History, vii. 15) how, in Cæsarea, in the persecution of Gallienus, about the year 300, the centurion Marinus having been allowed, by the judge Achæus, three hours to deliberate whether he preferred the decoration of the laurel wreath to Christianity and death, Bishop Theotecmus led him by the hand to the *church*, and placing him close to the *altar*, lifted up his chlamys, showing him the sword with which he was girt, and then placed opposite to him the codex of the Gospels, bidding him to choose.

Optatus Milevitanus, who wrote in 372-5, says in book ii., chapter 34, that *forty* Christian *basilicas* were seen in Rome before the persecution of Diocletian (284), when a certain Victor was sent thither by the Donatists, with the pretension of preaching Christianity there. Origen, in his tract 28 on St. Matthew, says that, in Maximian's persecution, in 236, several Christian *churches* were burnt by the Pagans. In 251, Pope St. Cornelius, in his epistle *ad Fabium*, testifies to Rome being divided into forty-six parishes; while Pope St. Evaristus, who reigned from 100 to 109, had already divided Rome into *monumenta* or church districts, and had enjoined that *stone altars* should be used. Finally, there are two epistles extant, from Pope St. Clement (91-100), to the Bishop of SION, containing instructions on *altars*, church vessels, and the maintenance of *sanctuaries*.

So far for the existence of regular churches (not "synagogues and other public places"), as the buildings in which Christian "congregations listened to their teachers until the Christian religion was tolerated."

With regard to such churches being often the halls or *basilicas* of Roman mansions, we find that the first churches in Rome were in the houses of St. Prisca, St. Pudentiana, St. Praxedes, St. Valentine, near the Circus Flaminius, St. Clement. This was during the first two centuries. In the third century, we find the houses of St. Calixtus, St. Cyriacs, St. Lucina, St. Pancras, St. Cecily, and St. Vitus, also becoming churches. The readers of *Fabiola* must be familiar with the arrangements made in those houses, when they thus became Christian parochial head quarters, and how their chief hall became the church. In fact, the form of this hall, the *single* nave and apse, is still the form of several of the most ancient churches of Rome, such as those of SS. Vitalis, Vitus, Cæsarius, Peter Marcellinus, Calixtus Sixtus, Peter in Montorio, and Andrew in Catabarbars, in the grounds of the convent of Sant' Antonio. We see, also, from old plans of Rome, that formerly the ancient churches of SS. Nereus and Achilæus, St. Eusebius, St. Anthony, and St. Matthew, were also single nave churches. In his "Eucologium Græcum," James Goar gives the plans of many ancient Eastern churches, all consisting of a single nave and apse. I alluded in my recent lecture to several of the most ancient churches of Jerusalem being also of that form; such as those of the house of John Mark, the house of Caiphas, the house of St. Thomas, of St. James the Less, &c. I may be told that the present churches, on those spots, are of comparatively recent date; but we have historical evidence of churches having existed on those spots from the fourth century, and there is every reason to believe that the Crusaders rebuilt them on the ancient foundations; so that the plans would still be ancient.

The practical deduction from such archæological inquiry is not to be despised, as it shows us how easy it is to give a Christian church a church-like or (as the Apostolic constitutions term it) a *ship-shape* form, by simply adhering to the *prototype basilica*, the single nave and apse. St. Charles Borromeo, in chapter XXX. of his "Instructions on Ecclesiastical Buildings," gives a complete description of what such "a simple church," as he calls it, should be; and therefore architects, in despair of not having the means of realizing their idea of a basilica, with all the developments

attached to the *type* of an ancient Christian church, need not rush into the opposite extreme of a shapeless, square conventicle; while, by leaving out the apsidal termination from the most ornamental and developed church, they impair its church-like appearance.

I trust you will excuse my trespassing thus with a *lecture* upon your valuable space; and that our friend, "G. V. R.", will accept the blame of having thus brought me out.

GEORGE J. WIGLEY.

COMBUSTIBLE MINERALS.

PROFESSOR ANSTED read an interesting and valuable paper on the 29th ult., at the Society of Arts, "On the Varieties of Combustible Minerals used Economically, considered in Reference to their Geological Position and Relative Value for certain Purposes."

Combustible minerals for fuel had been used, he remarked, to some extent, at a very remote period, by the Chinese, and in some parts of Hungary; but the use of mineral fuel to any extent, as fuel, was, he conceived, of comparatively recent date. The Professor then went on to describe generally the various kinds of combustible minerals that are of a more or less carbonaceous nature. First among these were the different minerals comprised under the name coal, a term that has been used without strictly correct or definite application. These minerals all agree in certain particulars among each other, and with some other carbonaceous combustible minerals that are not used for fuel, such as jet bitumens, and those bituminous minerals that have been used for the manufacture of oils by distillation. A certain part of all these minerals is carbon, a certain part is earth, and another part consists of hydrogen and some other less important constituents, varying considerably in amount.

It is possible to classify these carbonaceous minerals into groups, according to their respective properties, thus:—

1. Anthracite, which consists essentially of carbon and ash, with only a small amount of hydrogen. Geologically it occurs in the coal measures, and it is probably the product of a more advanced alteration of ordinary coal. It takes fire with difficulty, and requires a strong blast or draught for its combustion: it generates an intense local heat, but is more difficult to use than ordinary coal.

2. Coal which contains more hydrogen than anthracite, but so little ash and water that it is available as fuel for steam-boilers and general purposes. One variety of this mineral closely resembles anthracite in appearance, and is known as "steam-coal." There are numerous other varieties of coal, differing in character from steam-coal to jet, which is a kind of lignite, differing also in composition and in other respects. Some kinds soften and swell up when heated, and form a solid mass, whence they are called caking coals. Others retain their form in burning, but open up into fragments: these are called free-burning, or open-burning coals. Those containing least sulphur furnish the best coke. The kinds richest in volatile substance are much used in making gas, but in proportion to their excellence in this respect they are inferior in heating power. The best of these coals are known as Cannel Coal, and in Scotland as Parrot coal. True coal has been found recently by Professor Ansted in the tertiary rocks of Transylvania. Coal exists also in the lias and oolite series, and in the newer secondary rocks of the cretaceous series.

3. Lignite, or those varieties of imperfect coal which more closely resemble wood, and contain a larger amount of water than true coal. Many varieties of lignite contain a large amount of ash, and they generally crumble down when exposed to the air.

4. Bituminous shale, or those minerals that contain a large amount of earthy substance, but are useful for gasmaking, and for obtaining oil by distillation at a low temperature. This singular class of minerals contain much carbon and hydrogen, but they are not combined to form true bitumen. There are many varieties. The richest are found in Scotland associated with coal; and it is not unlikely that some of the partings between coal are of this nature, though they are generally thrown away as worthless. These minerals, under the name of Boghead coal and Torbanehill mineral, &c., have become familiarly known and of importance for the manufacture of oil by distillation according to a method introduced more than thirty years ago in France, and subsequently carried out in this country by Mr. Young, near Edinburgh. These minerals are intermediate between the more definitely marked shales and true coal; and it is difficult, if not impossible, to draw any line of demarcation between the two classes of minerals. All agree in refusing to coke, and in retaining their slatey structure after burning. The Professor called especial attention to the fact that there is a considerable number of shales in the old red sandstone and silurian series of rocks, most of which have not been examined with regard to their value as oil-yielding materials. Geologically, there is no limit to the localities where these shales may be found, nor is there limit to their variety of colour and general appearance.

5. Mineral asphalt, bitumen, and petroleum, contain a much larger amount of hydrogen than any of the other minerals already named: some of them are used for paving; while others, that are liquid, are useful for burning in lamps, and for making gas. Of the former kind are the pitch of Trinidad and Zante, and the Chapapote of Cuba. Of the latter kind are the Rangoon and American oils: the Albert coal is also a bitumen.

The mineral oils and bitumens are less frequent than bituminous shales, but they are more generally to be met with than is commonly thought, and they are the most valuable of all the carbonaceous minerals for the manufacture of oil.

As a general conclusion to his remarks, Professor Ansted said he wished to point out,—1stly. That the variety of combustible minerals available for practicable purposes is large, perhaps larger than is generally thought, and that such minerals form several significant groups. 2ndly. That they belong, all of them, to all geological periods, no one being of necessity limited to any part of the earth's history. 3rdly. That there is less advantage taken of many of them than their real importance deserves. And, 4thly. That much has yet to be determined as to the circumstances under which the organic kingdom of nature has been enabled to provide these large stores of carbon and hydrogen as mineral contributions to the well-being of man.

INDIAN RAILWAY PROGRESS.

THE BHORE GHAUT INCLINE.

A HIGHLY important railway communication has been opened in the Bombay Presidency. This communication brings the high lands of the Deccan,—2,000 feet above the sea level,—into close connexion with the low lands of the Presidency, and with the town of Bombay itself; converting the Deccan into a kind of suburban district for the citizens. The Bhore Ghaut Incline of the Great Indian Peninsula Railway has occupied more than seven years in construction; and during the greater part of that time there have been 45,000 workmen daily employed upon it. The incline is a series of tunnels through mountains of rock, and viaducts stretching across valleys, alternating with each other; each part a triumph of modern science and skill.

The incline reaches at one long lift the height of 1,832 feet, the highest elevation yet attained by any railway incline. It is 15½ miles long, and its average gradient consequently 1 in 46 39. The highest gradient is 1 in 37, and the sharpest curve 15 chains radius. The tunnels are twenty-five in number, the greatest length of any of them being 341¼ yards. There are eight viaducts, one consisting of eight arches of 50 feet and being 129 feet high, and another of a like number of arches with a maximum height of 143 feet. The quantity of cutting amounts to 2,067,738 cubic yards, and of embankments to 2,452,308 cubic yards. There are twenty-two bridges of various spans, and seventy-four culverts. The total cost of the works has been 1,100,000*l.* or 68,750*l.* a mile.

The construction of the incline was let by contract to Mr. Faviell during the autumn of 1855. In March 1859, Mr. Faviell relinquished his contract, and the Company carried on the works under the management of their resident engineers, Messrs. Adamson and Clowser, until the following November, when Mr. Solomon Tredwell, to whom the contract had been re-let in England (in the previous August), commenced operations. On Mr. Tredwell's decease, shortly thereafter, Mrs. Tredwell conducted the business of the contract, until, in March 1860, Messrs. Adamson and Clowser were permitted to resign the Company's service and accept the office of contractor's managers; Messrs. West and Tate being appointed resident engineers on the part of the Railway Company.

Books Received.

On Piracy of Artistic Copyright. By ERNEST GAMBART. London: Tegg. 1863.

MR. GAMBART having been a sufferer by such piracy, he speaks from experience in the matter. The law appears to afford little or no protection in such cases as those tried by Mr. Gambart; and even when he has obtained verdicts in his favour he has been unable to recover his costs, far less his damages for injury done to his business interests. The piracy of engravings (if that be its proper designation) by means of photography is the worst of all, in Mr. Gambart's estimation. His two-guinea engraving of Holman Hunt's "Light of the World" was photographed, and specimens were sold at 5*s.* each.

The remedies which Mr. Gambart suggests are these:—

"An amendment in the International Copyright Laws is first wanted. As these stand at present, the owner of a copyright, in order to secure his property in the different countries with which international treaties have been concluded, is compelled to register it in every one of them where he desires protection. In most cases he is obliged to incur the additional expense of depositing a proof impression of each engraving before he can receive the security required. This system of registering and depositing, when treaties shall be concluded between all the countries of Europe and America, will become impossible to carry out. Imagine a publisher having to register in a hundred different countries every one of his publications; and at a cost, for correspondence and agency, of at least ten shillings in each case (it now costs about twenty shillings for registration in Berlin): add to this, that a hundred proof impressions of all his plates will often outvalue the probable remuneration. It should be stipulated, to avoid all this, that when the owner of a copyright *shall have complied with the requirements of his own country's laws, his copyright shall be secured to him in any other country between which and his own there shall exist treaties have been made.* Such a provision would at once put a stop to the career of the Berlin publishers of cheap lithographic piracies, and enable foreign owners of copyright to sue them at home.

Many improvements in international treaties on artistic and literary copyright could be suggested, but this one above named is the most pressing: all other matters can be left for the consideration of a regularly appointed international congress, which could equalise the laws of all civilised countries on this subject.

One of the principal objections to the several older Acts of Parliament on the subject is, that they are not sufficiently clearly expressed, and that their wording leaves room for chicanery and repeated reference to the judges. Section 6 of the Act 25th and 26th of Victoria, chap. 68, appears to be more effectively worded; and its provisions, which at present only apply to the piracy of pictures, drawings, and photographs, should be extended to those of engravings and lithographs; but, in addition, it is necessary that a clause in any new Act should strike at the PURCHASER, and that the OWNERSHIP of piracies should not remain unchallenged.

The power of proceeding by summary process before two justices of the peace, granted to publishers of photographs, should also be given to publishers of engravings: it is the greatest evil of the late Act that engravings are not dealt with so favourably as photographs are. Lastly, it is necessary to devise some means of bringing to justice offenders who have no domicile, and hawk piracies from house to house, or station themselves in the public thoroughfares."

Lispings from Low Latitudes; or, Extracts from the Journal of the Hon. Impulsia Gushington. London: John Murray, Albemarle-street. 1863.

THIS is a capital book of its class: full of quiet fun and truthful picture. Impulsia visits the East, follows in the footsteps of Eöthen, and what she sees and what she does in the land of the beetle are here set forth with telling pen and pencil. Impulsia is weak, foolish, and not very handsome; yet such is her pluck, such her resignation under difficulties, such her faith in those she meets (a lovely quality), that we almost envy the vagabond Victor-Alphonse—into whose arms she falls at the close of the book, only to awake to further adventures of a harrowing character, to be set forth in a future volume. Lord Dufferin acts as sponsor for the author.

The Farm Homesteads of England. A Collection of Plans of English Homesteads existing in different Parts of the Country, to illustrate the Accommodation required under various Modes of Husbandry. Part I. Edited by BAILEY DENTON. London: Chapman & Hall. 1863.

THE first part of this work illustrates, 1.—The Flemish Farm, Berkshire; 2.—Thorney Farm, Cambridgeshire; and 3.—Buckden New Farm, Huntingdonshire, in seven plates. The work when completed will give twenty-four specimens of farms including "covered homesteads and homesteads distinguished by special accommodation for the rearing and feeding of all descriptions of stock." We must reserve our opinion till the work is farther advanced; but our present impression is that it will not go far enough to be so useful as it should be and might be. The descriptive matter accompanying the plates in the present part is meagre and insufficient. The plates do not include any sections.

Miscellanea.

THE CEREMONIAL OF JUNE 10TH.—The Memorial Committee and the Royal Horticultural Society have expressed their desire that every visitor (not merely those in the procession) who may be entitled to wear an academic gown, robe of office, or uniform of any kind, will appear in it on the day of the inauguration of the monument. We hope this request will be largely complied with.

PICTURES NOT HUNG AT THE ROYAL ACADEMY.—A private exhibition of pictures at the Cosmopolitan Club, Charles-street, Berkeley-square, shows that room could not be found at the Academy for some pictures of considerable merit. There are here twenty-six works, including some excellent landscapes by Mr. J. G. Naish, A. Mac Callum, and J. Bunney; a large earnest picture, "La belle Dame sans Merci," by Mr. H. Hughes; "An Allegory," by Mr. H. Holiday; and a capital picture by Miss Osborn, painted amongst the people in Mardorf, Kurhessen, called "A Spinnstube."

FORT WILLIAM, LOCHABER: THE BELFORD HOSPITAL.—An hospital is to be erected here, and endowed, by Mr. A. Belford, of Glenfintaig, at a cost of 20,000*l*. The foundation stone has just been laid with some ceremonial by "the brethren of the mystic tie," as Freemasons are sometimes called in Scotland. The building is to consist of two stories, besides attics and sunk cellars, and is to be according to plans drawn by Mr. H. Burrell, architect. The ground floor is to be taken up with the directors' room, doctors', housekeeper and servants' apartments: on the upper flat are to be the respective wards, including fever ward, operating room, and nurses' apartments. The entire dimensions of the building are 80 feet in length by 50 feet in breadth with a back wing 32 feet by 27. The contractors for the mason work are Messrs. Gray & Dick, Glasgow; carpenter work, Mr. Menzies, Oban; and plumber work, Messrs. Wallace & Allan, Glasgow.

SHAKSPEARE'S BONES.—There is a hot and violent controversy going on just now in literary and dramatic circles, remarks the *Court Journal*, about the propriety of moving Shakspeare's bones. Next year, in April, it is proposed to celebrate the tricentenary of the poet's birth, and it is urged that this would be a fitting occasion to make a solemn ceremony of digging up his mortal remains. The objectors, however, fear the curse which Shakspeare pronounced upon any one who would venture to disturb his bones. It is argued again that that was merely a hack inscription of the sextons and stone-cutters of the period. What is to be the end of the matter? What if no bones should be found? How fine a theory might then be raised that there was no Shakspeare! In the February number of the *Monthly Magazine* for 1818, however, there is evidence that the bones of Shakspeare were seen about that time. But why touch them now at all? We may add that the New Place Gardens wall in Chapel-street, Stratford-on-Avon, has been lowered and coped, so that now the public can have an uninterrupted view of the whole of the gardens, and also of the excavations showing the foundation of the "New Place," as it existed when inhabited by Shakspeare.

ACCIDENTS.—A workman has been killed by falling a depth of 70 feet from the staging for the temporary bridge which is being thrown across at Clifton, Bristol, preparatory to the erection of the suspension bridge there: the poor fellow was killed on the spot.——A man employed in some galvanised iron works at Birmingham Heath, having occasion to light a gas-burner over a tank of vitriol, in a boiling state, had to walk on a plank across the tank, when he fell into the deadly bath below. He was burnt nearly all over, and died in a few hours. There must have been culpable negligence here, for which either the workman or some one else was responsible.——At Baxender, near Bacup, during a recent thunderstorm, the lightning struck a mill chimney, built of brick, about 40 yards high, and knocked 2 yards off the top, and on the west side cut an even slice about 3 feet broad and 38 feet high out of it down to the bottom of the chimney, and left the other part remaining, but dreadfully shattered.——Some boys, while amusing themselves at a house in course of erection at Halifax, brought down a portion of a wall upon them, and one of them was killed on the spot, and four of the others seriously injured.——At Ipswich Quay, the floor of a chamber occupied by a corn merchant fell through. It contained about 600 sacks of wheat. On the beam underneath a number of iron pipes had been placed on brackets, and the combined weight was too great—hence the accident.

VOLUNTARY EXAMINATION CLASS: ARCHITECTURAL ASSOCIATION.—We are asked to say that the class will meet on Saturday afternoon, May 30th, at Mr. Myers's Works, in the Belvidere-road, at half-past two. On Wednesday, June 3, Mr. Lemon will continue the subject of Carpentry. Members are requested to bring sketches for a timber roof, 28 feet span, 45 feet long; gable at one end, hipped up at the other; gutters on two sides, eaves on third; ¼-inch scale, with details and specification.

RAILWAY TRAFFIC RETURNS.—The traffic receipts of railways in the United Kingdom amounted for the week ending the 9th of May, on 10,677 miles, to 561,870*l*.; and for the corresponding week of last year, on 10,237 miles, to 520,710*l*.; showing an increase of 440 miles, and of 41,160*l*. in the receipts. The gross receipts on fourteen railways amounted in the aggregate, on 7,290 miles, to 436,134*l*.; and for the corresponding week of 1862, on 7,036 miles, to 407,330*l*.; showing an increase of 254 miles, and of 28,804*l*. in the receipts.

SOMEBODY WRONG.—The following is said to be a list of the tenders sent in for proposed new school premises for boys at Haddenham:—

Kidd	£1,510 0 0
Bullock & Son	1,192 0 0
Attack	1,864 0 0
Gray & Son	1,037 0 0
Garner	871 14 0
Haird	720 6 6
Peart & Waters	697 0 0

The contractor takes the old materials of the present premises.—The difference is very discreditable, and ought to be explained. What have the highest and the lowest to say about it?

DRINKING FOUNTAIN IN ST. JAMES'S PARK.—A drinking-fountain has been set up in St. James's Park, on the south side of the enclosure, near Queen's-square Gate, by order of the Hon. W. Cowper, the chief Commissioner of Her Majesty's Works. On a pedestal of granite reclines a nude youthful figure in Sicilian marble representing a water-carrier. On one face of the pedestal a dolphin discharges water into a shell supported on a basket with water-lilies and other accompaniments,—a somewhat oddly built-up panel, also in marble. We have to protest, as of old, against the representation of heads of living creatures as spouts for drinkable water. As a whole, nevertheless, the fountain is creditable to the skill of Mr. R. Jackson, the sculptor, by whom it has been executed. It is beautifully placed, and we shall be thankful to Mr. Cowper if this lead to the adornment of the parks with other statuary. The parks already owe much to his taste and care.

MORTALITY IN ENGLAND.—In the 10 years 1851-60 the annual mortality in the districts comprising the chief towns was 24·57 per 1,000 living; in the districts comprising small towns and country parishes, 19·77; in all England, 22·24. The deaths of males averaged 23·18 per 1,000 living; of females, only 21·34. Out of equal numbers living there were 109 deaths of males to 100 deaths of females. Of the persons who lived to be 100 years old there were two women to one man. Two of the 623 districts into which England is divided—namely, Farnborough in Surrey, and Bellingham in Northumberland, with a population respectively of 14,318 and 7,080, took the lead in healthiness, and had in the 10 years an average annual mortality of only 14 in 1,000; and two other districts in Northumberland, Glendale, with a population of 13,211, and Rothbury, with 7,147, had an average annual mortality of only 15 in 1,000. In no other entire district was the annual mortality so low as 15; but it was only 16 in 10 districts,—namely, Epsom, Bromley, Steyning, Easthampstead (Berks), Dulverton (Somersetshire), Billesdon (Leicestershire), Hemsworth (Yorkshire), Belford (Northumberland), Bootle (Cumberland), and Knighton (Radnorshire). In the entire district of St. George's, Hanover-square, the average annual mortality was only 18 per 1,000; and the same in Lewisham; and in the Hampstead district only 17. Taking the whole country through, not above one district in five had so low a mortality as 18. During the 10 years 1851-61, from census to census, London increased its numbers 121 a day, 72 by excess of births over deaths, and 49 by immigration; but this continual accumulation of human beings within its limits did not bring an increased mortality. In the 10 years 1840-49, the average annual rate of mortality in London was 25·1 per 1,000: in the subsequent decennium, 1850-59, it fell to 23·6 per 1,000. This may seem a small thing in a single thousand, but London has nearly three thousand thousands.

GAS.—Mr. Smeed is erecting new gasworks at Murston for Sittingbourne. They will include a coal-shed large enough to hold 1,000 tons. The main, an 8-inch one, is already laid half way to Sittingbourne.——At Godalming, dissatisfaction having existed relative to the price of gas, which is now charged 7*s*. 6*d*. per 1,000 feet, steps have been taken to bring the subject before the gas company. In the event of the directors declining to reduce the price, a gentleman, it is said is prepared to undertake to supply the town at from 4*s*. to 5*s*. per 1,000 feet.

BALMORAL: CAIRN IN HONOUR OF THE LATE PRINCE CONSORT.—A large cairn, of pyramidal shape, erected by command of her Majesty the Queen, in memory of the Prince, has just been completed. It occupies a commanding position on a hill some distance south of the castle, and may be distinctly seen from near Crathie. It is built of roughly-dressed stones, and measures 35 feet square at the base and 40 feet in height. On the north slope a tablet is built, having on it a suitable inscription, with a quotation from the Wisdom of Solomon, iv. 13, 14,—"He, being made perfect in a short time, fulfilled a long time. For his soul pleased the Lord: therefore hasted He to take him away from among the wicked." On the east slope are cut out the initials of all the members of the royal family, and the date 21st August, 1862, immediately under.

THE FLEETS AND RESERVOIRS AT LYNN.—The "reservoirs" (more fitly they might be called cesspools) used for retaining "back water" between the tides, for scouring out the "fleets" which form one of the distinguishing features of this town, have for years past been regarded, and justly, as a serious nuisance to the inhabitants. The fleets themselves, whatever their value for the purpose of navigation, are little more than open sewers; and one of them, called Purfleet or Clough fleet, which passes under a bridge in High-street, is a sink of abomination and filth of the worst description. Another, almost as bad, is the Fisher fleet, which receives the refuse of the North-end, and has its reservoir in the thickly-populated district known as Lower Canada, not far from the railway station. The deposits in these fleets were carried by the flood tide into the reservoirs and there accumulated. Steps have been taken with a view to having the two reservoirs filled up.

COMBINATION OF KNOWLEDGE.—In the course of the excellent speech made by Lord Stanhope when presiding at the anniversary dinner of the Literary Fund on the 13th, the speaker said that, amid the congratulations which were fairly earned, he could not help feeling with some regret that from year to year the various branches of knowledge had an increasing tendency to run in separate channels, having less and less communication with each other. Last week, before the commission now sitting to consider the constitution of the Royal Academy, a gentleman with whose merits they were all acquainted, Mr. Beresford Hope, was examined; and, having expressed his views on the immediate subject of inquiry, he was led to offer some remarks on the intellectual progress of the country, in the course of which he said that there was a constant tendency to establish three societies to do the work of one. He himself feared that these different societies had not all the success which their founders could wish; but what he chiefly complained of was the increasing spirit of isolation between those cultivating different branches of literature and science, and their indisposition to meet on common grounds for the general good. He had been for some twenty years connected with different institutions, committees, or councils; and he had remarked, of late years, what was not before observable, that the eminent men in each particular branch of study were inclined to band themselves together in support of that study, and not to think so much of the interest of the whole. That was his deliberate opinion of the tendencies of the present day. He did not apply blame to any one branch more than another, but he thought there ought to be a free communication between those cultivating different branches of knowledge, instead of something of a supercilious feeling. In France the opposite system prevailed: scientific men were willing and happy to meet others upon a common ground. The result was, that the Institute of France had spread its influence through the whole of that great nation, and might be said to extend its ramifications to other countries and to the world at large. In England we did not want the men: he need only look round the room to establish that proposition: it was the spirit of combination that was wanting.

ST. MARTIN'S SCHOOL OF ART.—At the *conversazione* of this School, to which we have already alluded, twenty-six local medals were awarded: six received honourable mention, and there were fifty-seven certificates, and twenty-seven prizes: seven free studentships were also awarded. Messrs. Thomas Baseden, Henry Reich, and Alfred Warner, obtained national medallions.

WATER-COLOUR ARTISTS' LANCASHIRE FUND.—A correspondent says,—"Some months since, I subscribed to an Exhibition of Water-Colour Pictures. The proceeds of the subscriptions were to go to the Lancashire Distress Fund. Will you insert a *query* in the next *Builder* as to the amount of the fund, how it has been appropriated, whether the lottery has been drawn, and who were the fortunate prizeholders?" The collection, we learn, is still in Manchester: the allotment has not yet been made. The various subscription-books are to be gathered in forthwith, and the distribution will doubtless follow soon after.

BRIGHTON DRAINAGE. — The Town Council have at length taken a step towards the drainage of the town. The nuisance arising from the Albion Outfall at the eastern part of the town, has been repeatedly complained of. The Council have decided to adopt the proposition of the Borough Surveyor for extending this Outfall to a third of a mile from the sea-shore, at an estimated cost of 6,500*l*. This proposed outfall, it is said, will not interfere with any plan that may hereafter be carried out for the complete drainage of the town, whether it be for taking the sewage to the east, the west, or inland. But it may be all waste money.

THE RAG-COLLECTING BRIGADE.—The first annual meeting has been held at Radley's Hotel, under the presidency of the Earl of Shaftesbury. The report, which was very encouraging, stated that with only four trucks the boys had in nine months, up to Christmas last, collected upwards of eighty tons of rags and refuse, besides 50,000 bottles; that householders regarded the operation very favourably; and there was little doubt if funds were supplied the movement would gradually extend over the metropolis, finding employment for many hundreds of boys. The committee state that with ten trucks the first depôt would be self-supporting; and to accomplish this about 250*l*. more is wanted, each truck requiring a trading capital of 50*l*.

LECTURES ON STAINED GLASS.—The fifth of the series of six lectures, addressed to the people of Birmingham under the auspices of the Birmingham and Midland Institute, was delivered on Monday evening last, by Mr. John Hardman Powell; the subject being "Stained and other Glass." The lecturer ridiculed the present manner of criticising works in stained glass; and urged, as the basis of his discourse, that the style or rather mixture of styles followed by the manufacturers of stained glass at the present day was inferior to that known as the Early English style. The true principles of the art, he contended, were declining, because of the errors which had been introduced, and were now adopted. Those errors were, in his opinion, chiefly a restless desire for novelty, the use of antiquated glass, the want of nationality in the glass, a too high finish, a cracking into bits of styles, a great desire for money, the time given for thought was too limited, a striving after natural effects alone in the drawing, and last the mixture which was made of all the different styles of other countries.

ARCHITECTURAL EXHIBITION, CONDUIT-STREET, REGENT-STREET.—On Tuesday evening, the 19th, Dr. C. Dresser delivered an interesting lecture on "The prevailing ornament of China and Japan." The lecturer called attention to the recent opportunities which we have had of acquainting ourselves with the ornament of Japan; and stated that the style of ornament prevailing in China and Japan is rich in art qualities, and is deserving of careful study. He then proceeded to say that ornament is of an æsthetic or symbolic character. Greek ornament was made up of forms intended only to delight by their beauty. Egyptian ornament consisted of forms which addressed the understanding. Mediæval ornament was also of this nature. He observed that Japanese ornament was both of a symbolic and æsthetic character, and instanced as examples of the former the sacred bean found in tombstones, and many articles of religious services, the dragon devouring the sun (the eclipse), conventional eyes, stork, sacred mountain, &c.; of the latter, small birds, insects, and plants. As we are treating at length on these same points, we need not here go farther into them.

THE EXHIBITION BUILDING.—We are able to state that the Government are prepared to recommend the purchase of the Exhibition Building by the nation. The terms, both in respect of the building and the land on which it stands, are agreed on.

THE EXTENT OF THE BRITISH COLONIES.—The colonies of Great Britain comprise altogether 3,350,000 square miles, and cost us for management 3,350,000*l*. per annum, or just about a pound a mile. They have an aggregate revenue of 11,000,000*l*., and owe among them 27,000,000*l*., or just two years and a half's income. They import goods to the amount of 60,000,000*l*. yearly,—half from ourselves, and half from all the rest of the world. They export produce to the value of 50,000,000*l*., of which three-fifths come to this kingdom; and all this is done by a population which is under 10,000,000 in the aggregate, and of which only 5,000,000 are whites. Add to these figures, says the *Spectator*, 900,000 square miles for India, and 200,000,000 of people with a trade of 71,000,000*l*., and we have a result that *the Queen reigns over nearly one-third of the land of the earth and nearly a fourth of its population*. If a British vizier under the Emperor should, as seems probable, rule China, Englishmen will directly control *more than half the human race!*

TIN-LINED LEAD CISTERNS AND PIPES.—At a meeting of the Liverpool Chemists' Association, specimens of lead-pipe and sheet lead, electroplated with tin, were exhibited by Mr. Holt, and some discussion ensued respecting the use of lead coated in this manner for water-cisterns and pipes. It appeared to be the opinion of the meeting that the coating of tin, instead of preserving the lead, was far more likely to ensure its more rapid corrosion; for if the coating of tin by any means happened to be scratched off, even to the slightest extent, galvanic action would take place, and the lead would be destroyed very quickly. Dr. Nevins and Dr. Edwards stated that their experiments had proved that such would undoubtedly be the case; Dr. Edwards remarking that, in one case which he had examined, a cistern made of lead, in which was an accidental admixture of tin, was eaten out by well-water in six months, the lead being rapidly precipitated in the form of sulphate, &c.

TENDERS.

For additions and alterations to farmhouse, Nuthfield, near Redhill, for Mr. T. Welch. Messrs. Wales & Sparks, architects:—

Robinson	£2,373 0 0
Conder	1,895 0 0
Henshaw	1,839 0 0

For German Hospital, Dalston. Professor Donaldson, architect. Mr. Gritten supplied the quantities:—

Cubitt & Co.	£12,492 0 0
Rider	12,118 0 0
Timewell	11,920 4 9
C. Fish	11,810 0 0
Browne & Robinson	11,430 0 0
Ashley & Son	11,100 0 0
Piper & Wheeler	10,945 0 0
Lawrence	10,879 0 0
Patson	10,743 0 0

For new malt stores, for Messrs. Ind, Coope, & Co., Romford Brewery. Mr. C. Dyson, architect. Quantities supplied by Mr. W. Meakin:—

Reed	£2,747 0 0
Rivett	2,715 0 0
Ashley & Sons	2,687 0 0
Ashmole	2,640 0 0
Peny & Judson	2,598 0 0
Hammond (accepted)	2,439 10 0

For part of additions to residence, Bexley Heath, Kent, for Mr. H. March. Mr. Herbert Ford, architect. Quantities not supplied:—

Henshaw	£1,673 0 0
Wood (late)	1,650 0 0
Larke	1,630 0 0
Bills & Gumbrell	1,540 0 0
Francis & Son (late)	1,414 0 0
Rawlins (accepted)	1,329 0 0

For public house to be built in Wells road, Sydenham, for Mr. Thomas. Mr. Edward H. Badger, architect:—

Gorram	£950 0 0
Searle	940 0 0
Gerard	894 0 0
Amer	875 0 0
Rees & Jones (accepted)	850 0 0
Miller	785 0 0

For church proposed to be erected in Raleigh-street, Nottingham. Messrs. Hine & Evans, architects. Quantities supplied:—

Elliott & Lilley	£7,673 0 0
Wright	7,622 0 0
Willimott	7,565 0 0
Thompson & Fryer	7,021 0 0
Young	7,000 0 0
Wilson*	6,995 0 0
Simpson & Lynam	6,675 0 0
Dennett & Co. (accepted)	6,350 0 0

* This tender was for Ancaster stone only: the remainder were for Little Eaton stone.

For schools and master's house proposed to be built at Cotgrave, Notts, for the Right Hon. Earl Manvers. Messrs. Hine & Evans, architects. Quantities supplied:—

Wilson	£1,420 0 0
Croft & White	1,150 0 0
Dennett & Co.	1,095 0 0
Claricot	1,085 0 0
Gilbert & Wood	1,055 0 0
Simpson & Lynam	1,044 0 0
Dawson	1,039 0 0
Han & Wood	1,032 0 0
Barker	1,021 0 0
Willimott	1,020 0 0
Young	1,010 0 0
Thurman	1,006 0 0
Smith	1,003 0 0
Belt & Wood	995 0 0
Stevenson & Weston	994 0 0
Bradbury	949 0 0
Booker	930 0 0

For new police station at Whitstable. Mr. Bulmer, county surveyor. Quantities supplied:—

Anscomb	£740 0 0
Wilks	648 0 0
Cobb	646 0 0
Shrubsole (accepted)	625 0 0

For new police station at Tonbridge. Mr. Bulmer, county surveyor. Quantities supplied:—

Anscomb	£2,950 0 0
Constable	2,888 0 0
Chalklin	2,824 0 0
Punnett (accepted)	2,779 0 0

For new Congregational chapel, Barking. Mr. W. F. Poulton, architect:—

Myers	£2,254 0 0
Bennett	1,950 0 0
Turner & Sons	1,877 0 0
Dove, Brothers	1,875 0 0
Morter	1,875 0 0
Perry	1,698 0 0

For four houses and shops, King street, Twickenham. Mr. Robert W. Edis, architect. Old materials allowed to be re-used:—

Jacklin	£1,700 0 0

For making first portion of new road and drain. Mr. Robert W. Edis, architect:—

Jacklin	£97 0 0

For alterations and additions to Somers House near Billingshurst. Mr. Robert W. Edis, architect. Old materials allowed to be re-used:—

Cane	£3,360 0 0
Fabian	3,285 0 0
Sharpington & Cole	2,697 0 0
Hardiman & Sandon	2,300 0 0

For the erection of a pubic house at Clapton, for Messrs. Courage & Co. Mr. Chester Cheston, jun., architect:—

Russell & Gray	£1,644 0 0
Chapman	1,545 0 0
Flint	1,533 0 0
Simms	1,498 0 0
Mann	1,428 0 0
Bowman	1,418 0 0
Hall	1,363 0 0
Kilby	1,345 0 0
Perry	1,330 0 0
Roberts & Strange	1,191 0 0

For residence, lodge, stables, and outbuildings, house fittings, hot-houses, &c., for Mr. Alderman Gabriel, at Wimbledon Park. Mr. J. Murray, architect. Quantities supplied:—

Brass	£8,076 0 0
Robinson	7,967 0 0
Thompson	7,868 0 0
Myers	7,830 0 0
Nicholson	7,645 0 0
Aviss	7,497 0 0
Patrick	7,368 0 0
Ayres	7,250 0 0
Duncanson & Moultrie	7,180 0 0
Brown	6,676 0 0
Longmire & Burge	6,336 0 0

For alterations to lodge, Kingston-on-Thames, for Mr. Winter. Mr. C. H. Luck, architect:—

Boxall	£260 0 0
Duncanson & Moultrie	226 0 0

For building four cottages, at Barrow-upon-Soar, Leicestershire, for Mr. A. Archer, Loughborough. Mr. T. W. H. Miller, architect. Quantities supplied:—

Greaves	£425 0 0
Sanders	410 0 0
Grundy	362 7 6
Barker	361 3 6
Bromhead	265 0 0
Wheatley (accepted)	262 10 0

For building manufactory at Kentish Town, for Messrs. Ash & Sons. Mr. John Belcher, architect:—

Browne & Robinson	£3,010 0 0
Colls & Co.	2,967 0 0
Lawrence	2,933 0 0
Coleman	2,829 0 0
Downs	2,796 0 0

For restoration of St. Andrew's Hall, formerly the Church of the Black Friars, Norwich. Mr. Barry, architect. Quantities supplied:—

Lacey	£2,870 0 0

For fitting and erecting shop at Messrs. Hodge & Son's premises, Millwall, Poplar. Mr. John W. Morris, architect. Quantities supplied. Net amounts, after making allowance for old materials:—

Heiser	£1,056 0 0
Sneffield	1,050 0 0
Langtree	945 0 0
Jeffrey	929 0 0
Munday	900 0 0
Watts	892 0 0
Enor	879 0 0
Salt	827 0 0
Hack & Son	715 0 0

For alterations at 27, Change-alley, Cornhill, for Mr. G. Taylor. Messrs. J Young & Sons, architects :—

Henshaw	£414 10 0
Chesham	405 0 0
King & Sons	387 0 0
Knight	271 0 0

For pulling down and erecting a Wesleyan Methodist chapel at Dartmouth-road, Sydenham. Mr. W. W. Jenkins, architect. Quantities supplied by Messrs. J. C. & G Lansdown :—

Add, if Front and Returns are faced of Bath Stone instead of Portland Cement.

Myers & Sons	£3,955	0	0	£329 0 0
Lawrence & Sons	3,833	0	0	310 0 0
Higgs	3,850	0	0	250 0 0
Pawley	3,782	0	0	250 0 0
Capps	3,736	0	0	226 0 0
Coils & Co.	3,697	0	0	273 0 0
Ward	3,625	0	0	433 0 0
Deacon	3,400	0	0	400 0 0
Thompson	3,368	0	0	200 0 0
Chinnock, Brothers*	1,350	0	0	100 0 0

* Accepted.

For dwelling-house and veterinary establishment, for Mr. Thomas Wells, Norwich. Mr. Barry, architect. Quantities supplied :—

Boardman	£1,920 0 0
Foyson	1,770 0 0
Murray & Son	1,726 0 0
Spinks & Wright	1,705 0 0
Downing	1,695 0 0
Lacey	1,685 0 0
Brooks	1,670 0 0
Brown & Bailey	1,649 0 0
Balls	1,640 0 0
Youngs & Breese (accepted)	1,595 0 0

For Great Hospital schools, Norwich. Mr. Barry, architect. Quantities supplied :—

Ford	£1,862 5 0
Rump	1,847 0 0
Ling & Balls	1,718 0 0
Spinks & Wright	1,678 0 0
Youngs & Breese	1,669 0 0
Murray & Son (accepted)	1,650 0 0

TO CORRESPONDENTS.

The Work of "a Monkey."—Will any of your readers be kind enough to inform me of a good practical rule or formula to ascertain the work done by a monkey of a pile engine of a given weight and falling a given distance? Thus, a monkey weighing 2 tons and falling 40 feet, what would be the force or work done by the blow?

S. C. E.

G. T. R.—W. H. (the architects of Ireland afford little information of their proceedings. The observation shall not be lost sight of).—F. W. (notice referred to, although it apply, was not addressed to Messrs. W. Reply to their note was given in same number. No discourtesy was intended).—T. D.—F. D.—J. L. And4 (we are not disposed to insert duplicate engravings).—H. B. & B.—W. R. (next week).—R. P. (ditto).—J. W. M.—An Old 'Freemason.—One of the Crafty Craft.—J. H.—G.—Mr. B.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p m.,** *on Thursday.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

THE *Illustrated London News*, Nov. 8, speaking of Benson's Watches in the Exhibition, says:—"Ranged around the base of the clock were the Watches which Mr. Benson exhibited, and which have been universally admired for the beauty and elegance of the designs engraved upon them. The movements are of the finest quality which the art of horology is at present capable of producing." Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch, adapted to all climates. Benson's Illustrated Pamphlet on Watches (free by post for two stamps) contains a short history of watchmaking, with descriptions and prices. It acts as a guide in the purchase of a watch, and enables those who live in Scotland, Ireland, Wales, the colonies, India, or any part of the world, to select a watch, and have it sent free and safe by post. J. W. BENSON, Prize Medallist, 33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

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JAMES GUTHRIE, Town Clerk

COACHMAKER'S CLERK WANTED, who is well acquainted with the business in all its branches, and who can undertake the counting house department, for which a liberal salary will be given.—Particulars in confidence, to be addressed to A. G. Charles Barker & Son's, 9, Birchin-lane.

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Halstead, May 26th, 1863.

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THE Advertiser, by trade a Joiner, seeks a SITUATION as GENERAL FOREMAN of Out or In-door Department. Has had the entire management for six years in a good West-end firm, of all building, repairs, alterations, &c.; purchasing materials, paying wages, and keeping books. Also the superintendence of cabinet and French polisher's shops. Referees to present employers. Address, B. S, Upper Dorset street, Bryanston square, W.

TO ARCHITECTS, SURVEYORS, AND ESTATE AGENTS.

THE Advertiser wishes to meet with a Permanent SITUATION on a NORLEMAN'S or GENTLEMAN'S ESTATE. Is a first-rate plumber, glazier, painter, and gilder, and has a good general knowledge of the other branches of the building trades.—Address, A. B. 8, Bedford-street, Holborn, W.C.

TO ARCHITECTS.

THE Advertiser is desirous to meet with a Gentleman as PARTNER who is in every way competent to take the CONDUCTION and MANAGEMENT of the Architectural Department of a long-established Office in the Midland Counties.—For particulars address, A. B. F. Post-office, Birmingham.

TO CIVIL ENGINEERS, CONTRACTORS, AND BUILDERS.

THE Advertiser, having had long practical experience in the construction of railways public and other works, desires an ENGAGEMENT to SUPERINTEND WORKS. Is thoroughly acquainted with estimating, preparing working drawings, measuring up, setting out, levelling, &c. References.—Address, A. B. Mr. Forster, 14, South Wharf-road, Paddington.

TIMBER TRADE.—The Advertiser, who has a thorough knowledge of the above, and can introduce some connexion, desires an ENGAGEMENT as TRAVELLER or SALESMAN.—Address, A. B. C. 15, Eastcheap, E.C.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser is desirous of a RE-ENGAGEMENT as JUNIOR CLERK.—Has been used to general practice. Terms moderate.—Address, J. H. Post-office, No. 65, King William-street, City, E.C.

AN ENGINEERING and ARCHITECTURAL ASSISTANT, engaged for the past sixteen years on plans, &c. for public works of water supply, gas, and town sewerage, and in designing and superintending the erection of private and other buildings, is now open to a permanent ENGAGEMENT. First class testimonials.—Address, A. C. E. 9, Trellick terrace, Vauxhall road.

TO ARCHITECTS AND SURVEYORS

THE Advertiser is desirous of a RE-ENGAGEMENT. Is a good draughtsman, capable of preparing working detail, and competition drawings; has a knowledge of preparing quantities, and is fully acquainted with the general routine of an Architect's and Surveyor's office.—Address, A. Z. Wrl'an House, Lincoln.

TO CIVIL ENGINEERS AND LAND SURVEYORS

THE Advertiser requires an ENGAGEMENT as DRAUGHTSMAN, to prepare railway plans, sections, parish maps, &c. Can survey and level. Terms moderate.—Address, W.G. Mr. Wenham, 2, Westmoreland-terrace, Horsecy road, N

TO BUILDERS AND SURVEYORS.

A YOUNG MAN, aged 25, the Son of a Builder in the Country, is desirous of procuring a SITUATION in either of the above offices. Is practically acquainted with different branches of the building trade. Can prepare drawings, take out quantities, and measure work. The object being to secure a situation in Town, would accept a small salary to commence with. Can give good references.—Address, C. G. 163, New North road, N.

TO ARCHITECTS

AN ARCHITECT'S ASSISTANT is desirous of an ENGAGEMENT either in town or country, town preferred. References as to competency, &c. can be given. Address T. D 6, Grove-terrace, Lesson Grove, N.W.

A YOUNG MAN wishes to ARTICLE himself for two years, to a CARPENTER and JOINER, who has served five years. Aged 21. Town or country.—Address, C. D ELSDON, Stationer, Old Brentford.

AS TRAVELLER.—A respectable Young Man, aged 29, who has filled a situation as above for the last seven years in the London trade in connexion with builders and contractors, wishes to meet with a similar APPOINTMENT.—Address, M. R. S. 4, Murray's-terrace, Londonderry-road, Camberwell, S.

TO ARCHITECTS.

A GOOD DRAUGHTSMAN OFFERS his SERVICES in preparing working detail and perspective drawings, colouring competition drawings, taking backgrounds, &c. Having some experience in artist, colouring, understands the requirements necessary to be attended to. Terms moderate.—Address, E.C.H. Post-office, Kingsland crescent, Kingsland road, N.E.

TO PLUMBERS, BUILDERS, AND OTHERS

A FIRST-CLASS Plumber and Gasfitter, who can fill up time at painting, is in want of a constant SITUATION. Address, J. T. 16, Bassett street, Tottenham court road

A YOUNG MAN, aged 30, WANTS CONSTANT EMPLOYMENT. Is a first class painter, glazier, and plumber, and perfectly understands the mixing of all colours. Has no objection to do paperhanging, if required.—Address, C. M. 14, Robert-street, Bedford row, W.C.

TO BUILDERS AND CONTRACTORS.

A YOUNG MAN is desirous of obtaining a SITUATION as FOREMAN of SMITHS. Would undertake the erection of kitchen, hot-water, and laundry apparatus, and ironwork of all kinds. Good references.—Address, R. H. Office of "The Builder."

TO PLUMBERS, &c.

A SITUATION WANTED, by a good PLUMBER, or as THREE-BRANCH HAND.—Address, A. Z No. 3, Christian place, Hanover-street, Peckham, S.E.

TO ARCHITECTS

AN experienced CLERK of WORKS, who has just completed a large job, is open to an ENGAGEMENT. Address, A. G. Office of "The Builder."

TO BUILDERS AND CONTRACTORS.

AN experienced Clerk of Works, who has been several years engaged on Government triennial contracts for works and repairs, superintending, measuring up, and making out the quarterly accounts, as per schedule, is desirous of a RE ENGAGEMENT, permanently or otherwise.—Address, C. W. 30, Edward-street, Hampstead-road, N.W.

TO ARCHITECTS

A FIRST-CLASS CLERK of WORKS, who has completed extensive works is open to an ENGAGEMENT. The highest references.—Address, H. G 11, Outwell-terrace, Paradise-road, Clapham, S

AN ARCHITECT and SURVEYOR'S ASSISTANT wishes to meet with an ENGAGEMENT. Is a good draughtsman, thoroughly understands construction, and would take the management of an office if required. Address, X. T. V Post-office, Newbury.

TO ARCHITECTS, &c.

A FULLY COMPETENT ASSISTANT, of eighteen years' experience, aged 33 years, is in want of a SITUATION. Understands every kind of perspective, working drawings, and details, Gothic and Classic. First rate testimonials. No objection to go abroad.—Address, B. L. Office of "The Builder."

TO BUILDERS

A BUILDER'S CLERK, of considerable experience in office duties, and possessing a practical knowledge of the joinery, seeks an ENGAGEMENT in a Confidential Situation. Reference to present employer.—Address, H. H. 47, Oldstreet, St. Luke's, E.C.

AS FOREMAN.—An experienced Practical MAN, a carpenter and joiner by trade, is open to an ENGAGEMENT as OUT DOOR or GENERAL FOREMAN. Country not objected to.—Address, H. E. 173, Drury-lane, W.C.

TO CIVIL ENGINEERS AND CONTRACTORS.

A CIVIL ENGINEER, of long practical experience, particularly in railway construction and management of permanent way, will accept a moderate salary as ASSISTANT or otherwise. Is very expeditious and correct in all branches of field and office work. First class testimonials, and references to men of eminence.—Address, H. W. Burkingyoung's Library, Kilburn, London, W.

TO ARCHITECTS.

AN Experienced ASSISTANT and first-class Designer, Perspective Draughtsman and good Colourist, is open to an ENGAGEMENT in town, as Assistant, or to take the management of an office.—Address, A. R. 121, Albany-street, Regent's Park.

TO ARCHITECTS, CIVIL ENGINEERS, AND SURVEYORS.

AN Experienced ASSISTANT requires an ENGAGEMENT. Is well acquainted with the various styles, constructional detail, and general routine of office; first class draughtsman and designer; thoroughly understands land-surveying and level-ing, and fully qualified to act as sage d general ASSISTANT. Terms and references. Address T. G. B. Chevalier Bowness and Son's, 19, Bell-yard, Temple Bar, W.C.

TO YOUNG ARCHITECTS AND OTHERS.

A PRACTICAL SURVEYOR, of much experience, Prepares and Revises SPECIFICATIONS, and gives Hints on Constructive Details.—Address, SURVEYOR, care of Mr. King, No. 1, Railway-place, Holloway, N.

A BUILDER'S CLERK wishes for an ENGAGEMENT. Is thoroughly acquainted with book keeping, can assist in drawing, estimating, &c. Has had fourteen years' experience with good finish in the building line, and recent trades. Can give excellent references Age 27.—Address, H. SELBY, 7, Grove-place, Lisson grove, N W

TO BUILDERS, LANDLORDS, AND OTHERS

A STEADY ACTIVE MAN, a Carpenter and Joiner by trade, wishes for EMPLOYMENT as FOREMAN to a Builder, or otherwise, understanding all the branches of the building trade; or to Repair Houses, Superintend Repairs, &c. where trust and confidence are required. The most respectable references can be given. Salary moderate.—Address, H H No. 28, Colebrook-row, Islington-green.

TO BUILDERS AND DECORATORS

AS WORKING or WALKING FOREMAN of Painters, &c. in town or country. The Advertiser, age 42, is a thoroughly practical painter and paperhanger, &c. To for a permanency small wages only required, or would undertake the management of a branch business in the painting line, having a knowledge of men-taining and estimating for the latter.—Address, H. B. 79, Frederick-street, Caledonian-road, N.

TO ARCHITECTS AND OTHERS

A YOUNG MAN, 20, wishes for a Situation. Can draw, trace, colour, and write well; has been in a civil engineer's office. Good references.—R. SMITH, 4, St. Andrew's terrace, Waterloo road.

TO ARCHITECTS AND BUILDERS.

AN efficient Assistant, experienced Quantity Surveyor and Estimator, of first class practice, is open to an ENGAGEMENT, to prepare finished and working drawings, specifications, bills of quantities, estimates, or measure up works. Age 32. Good reference.—Address G RUSSELL, 10, Carlisle Cottage, Mount-pleasant, Westminster-road, Lambeth.

WANTED, to PURCHASE, about 20 ACRES of LAND, in an elevated situation north of London, or north-west.—Address particulars to E. JAMES EDMESTON, Land Architect, 5, Crown-court, Old Broad-street, E.C.

BUILDING LAND TO BE LET, at Canonbury (Marquess road), at Lower Norwood, a most eligible site, commanding beautiful views, close to the station; at Croydon, &c. Also, at Edward's road, Bow, some cottages in course of erection. The usual advances of money to responsible parties. Apply at the Offices of Mr. J. EDMESTON, Architect and Surveyor, 5, Crown-court, Old Broad-street, E.C.

PHILBROKE ESTATE, at Leytonstone, on the Woodford and Loughton Railway, twenty minutes from Fenchurch and Bishopsgate Streets. This valuable FREEHOLD ESTATE (land-tax redeemed), surrounding the Station, healthy locality, gravelly soil, excellent drainage, water and gas laid down, roads made, and can be dug on the estate, is intended TO LET in Plots suitable for building detached and semi-detached villas. Repeated applications have been made for houses in this neighbourhood. For terms, apply to Mr. ATHEY, at the Surveyor's Office, Philbroke Estate, Leytonstone, Essex

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 40 yards only from the Estate, and the City is reached in twenty five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Kingston; some very eligible SITES in the Grove road, Mile-end, a few of which are adapted for shops, and large or very CHEAP PLOTS TO LET at Ealing.—Apply to Mr. KNIGHELLY, Architect, 25, Cannon-street.

VALUABLE BUILDING PLOTS, near ORDNANCE TERRACE, CHATHAM.—The Trustees of Watt's Charity, at Rochester, are desirous of receiving TENDERS for Fourteen Plots of BUILDING LAND, at or near Ordnance-terrace, in the parish of Chatham, Kent, TO BE LET (with immediate possession) on Lease, for the term of 99 years from Christmas, 1863. The Tithe-rent charge and Land Tax are redeemed. All the Plots is most eligibly and delightfully situate on the elevated ground between Ordnance-terrace and Fort Pitt, and commands extensive views of the River Medway, Dockyard, &c.; is adjacent to the Chatham Station of the London, Chatham, & Dover Railway, and is eminently adapted for the erection of Dwelling-houses and Villas of a superior description. TENDERS are to be sent in on or before SATURDAY, the 6th day of JUNE next, to the Office of Messrs. LEWIS & MARSH, solicitors, Rochester, where also a Plan of the Estate and a model draft Lease are deposited, and open for inspection previous and up to the day of Tender.—For further particulars of the several Plots, and conditions as to the Buildings and Leases, see printed particulars and conditions which will be issued 21 days prior to the day of Tender, and may be had of Mr. MARTIN BULMER, the Trustees' Surveyor, Maidstone and Strood; of Messrs. HARRISON & LEWIS, 24, Old Jewry, London, E.C.; of Mr WILLIAM HAYMEN (the Receiver of the Charity Estates); at the principal Hotels in Rochester and Chatham; and of Messrs. LEWIS & MARSH, Rochester.

TO ARCHITECTS, BUILDERS, and OTHERS.—TO BE LET, on Building Leases, at low ground rents, about 50 acres of most eligible BUILDING LAND, immediately adjoining the Colney Hatch Station, on the Great Northern Railway. Gravelly soil and good water. There is a great demand for villa residences in this neighbourhood. The connecting of the Great Northern Railway with the Metropolitan Railway makes this property within half an hour's ride of the City or West End.—Apply to Mr. S. BARKER BOOTH, Solicitor, 4, Gray's-inn-square.

BUILDING LAND in FLEET STREET TO BE LET, about 43 feet frontage, and 85 feet deep.—For terms apply to J JOHNSON, Esq. 9, John-street, Adelphi; or to Mr. JAMES ARDING, 62, Dunet-street, Fleet street; or Messrs RUSHWORTH, JARVIS, & ABBOTT, Saville-row, Regent-street, and 19, Charlesalley, Cornhill

BUILDING LAND or DILAPIDATED PROPERTY WANTED, near to Farringdon-street, about 1,500 square yards or in acres, within a mile to the north of about 120 feet, suitable for erection of a lofty factory.—Full particulars to be addressed to Messrs. ARDING & BOND, Surveyors, 23, Bedford-row, W.C.

FREEHOLD GROUND RENTS, CITY of LONDON.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on THURSDAY, the 18th of JUNE next, at TWELVE o'clock precisely, to receive PROPOSALS for the PURCHASE of FREEHOLD GROUND RENTS, on Premises let on Building Leases, having about eighty years unexpired, and severally situate Nos. 70 and 71, Watling street; Nos. 78 and 77, Newgate-street; and No. 4, Maidenhead-court, Aldersgate-street; particulars and plans of which may be had at this office, together with the conditions of sale. Tenders must be sealed, endorsed outside, "Tender for Ground Rent," and addressed to the undersigned at this office, and must be delivered in before TWELVE o'clock on the said 18th of JUNE next. The Commissioners do not bind themselves to accept any Tender unless the sum offered shall be deemed eligible. Parties tendering must attend personally or by an authorized agent on the day of treaty, and be then prepared (if their Tender be accepted) to pay the required deposit of 10 per cent. and to execute an agreement for the completion of the purchase agreeably to the conditions of sale.

JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, April 29, 1863

DESIRABLE BUILDING GROUND, at BALL'S POND, within 2½ miles of the Royal Exchange.—The Worshipful Company of Cutlers gave Notice that, on or before the 24th JUNE, 1863, they will be prepared to receive TENDERS (to be sealed and delivered at Cutlers' Hall, Cloak-lane) for LETTING, on a Building Lease, for 99 years, a PLOT of FREEHOLD GROUND (land-tax redeemed), situate in the Ball's-pond-road, about half way between the Ball's-pond and Kingsland turnpike-gates, and adjoining the Company's Almshouses, containing an area of about 22,100 feet, with a frontage of 166 feet on the high road, by a depth of 200 feet, walled in on two sides. The estate is adapted for the erection of four shops fronting the Ball's-pond-road, and nine private houses, or for a public institution.—For further particulars, apply to Messrs BEAUMONT & THOMPSON, Solicitors, 73, Lincoln's-inn-fields; or to Messrs. TRESS & CHAMBERS, Architects, 27, Queen street, Cheapside, E.C. at whose Office plans may be inspected.

LONDON and SUBURBAN LAND and BUILDING COMPANY, LIMITED. Incorporated under "The Companies Act, 1862."—Offices, No. 74, Penchurch street, City, E.C. Capital, 5,000*l.* (with power to increase), in 5,000 shares of 10*l.* each. Deposit 2*l.* per share, of which 1*l.* is to be paid on application and 1*l.* on allotment. No call to exceed 1*l.* per share, nor to be made at less intervals than two months between each, until the sum of 8*l.* per share is paid up, beyond which no further call is contemplated.

ABRIDGED PROSPECTUS

The objects of the Company are:—The purchase and sale of freehold and leasehold lands and hereditaments in England; the purchase, enfranchisement and sale of copyholds; the erection of dwelling-houses and other buildings; the purchase of reversions; the improvement of property by drainage and laying out, and making thereon roads, gardens, squares, ornamental grounds, or otherwise; the exchanging, letting, and leasing of property; the accumulation of moneys at interest on freehold, copyhold, and leasehold securities; the borrowing and taking up of moneys at interest, the carrying on the business of a Land, Building, Advance, and Investment Company in all its branches and departments; and generally to do all such other things as are incidental or conducive to the attainment of all or any of the above objects.

The Company is an embodiment and extension of the London and Suburban Freehold Land Society, which has been in active and successful operation for upwards of seven years, and which for the last nine years has paid a dividend of 7 per cent.

It is Company has, however, in view a wider field of action, as may be collected from the attainder of its objects, which may be given.

The Board of Directors is composed chiefly of gentlemen who have for many years taken an active and prominent part in the management of the London and Suburban Freehold Land Society, the stability of them having been on its direction.

The Company begins its duties free and unembarrassed, inasmuch as, excepting the usual preliminary expenses for preparation of the articles of association and the registration of the Company, "preliminary expenses," which words often signify the payment of large sums on the allotment of paid up shares to promoters,—form no item to them.

The Members of the Land Society have already subscribed for a large number of shares in the Company, and only be allotted as a premium of 2*s.* 6*d.* per share, and no application for shares at that premium will be entertained after the 30th proximo.

Prospectuses with forms of application and shares may be obtained at the offices, or by post on the applicant inclosing a postage-stamp to the Secretary, Mr JONATHAN TAYLOR.

TO BUILDERS, CABINETMAKERS, and OTHERS.—For SALE, a quantity of OAK, ASH, ELM CHERRY TREE, ABELE POPLAR, and SWEET SPANISH CHESNUT TIMBER, in plank and in the tree.—For further particulars apply to the Saw Mills, Lattimore-road, St. Alban's.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION Incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100*l.* to 1,000*l.* upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.

EDWARD HARPER, Secretary.

EXTENSIVE PREMISES TO BE LET on Lease, containing 110 feet frontage, with Three Six room Houses and Three Front Shops, with Stabling and large spacious Workshops for any purpose requiring space, in Henrietta-street, facing Oxford street, with immediate possession.—For particulars, apply to Mr. GIBBON, Old Cavendish-street

BUILDING LAND, WIMBLEDON.—TO BE LET, on ninety-nine years lease, a PLOT of FREEHOLD BUILDING LAND, situate on the Ridgway, commanding extensive and magnificent views of the Surrey hills, Wimbledon Park and the Valley of the Wandle. It is about one mile from the Station, and near a church.—Apply to Mr. W. M. OGDEN, Land Agent and Surveyor, Wimbledon, S.W.

PREMISES (BUILDER'S) TO BE LET, near Holborn, large WORKSHOP, YARD, and STABLE; gate entrance.—Apply at 21, Gloucester place, Kentish-town, between Twelve and Two or Five to Seven o'clock

LAND TO BE LET, for building villas of a respectable class, at Hendon, Middlesex, four miles from the Regent's Park. The estate is freehold, and comprises 300 acres. To a responsible party money would be advanced as the buildings progress For particulars, apply to CHARLES FREEMAN, Esq. 60, Lincoln's Inn-fields, W.C.

TO ARCHITECTS and SURVEYORS.—OFFICES in the House of a Solicitor, near the British Museum, are OFFERED.—Mutual business arrangements might be effected, particularly with a gentleman acquainted with benefit building, or similar societies.—Address, C. D. or personally, No. 6, Caroline-street, Bedford-square, W.C.

CHARING CROSS, PARLIAMENT STREET, or GREAT GEORGE STREET, or the neighbourhood. WANTED to PURCHASE, Freehold or Long Leasehold PREMISES. Apply to Messrs HARGRAVE, FOWLER, & BLUNT, 3, Victoria-street, Westminster.

FREEHOLD GROUND.—WANTED to PURCHASE.—The Trustees of the Parish of St. Mary, Islington, in the County of Middlesex, hereby give Notice that they require PARTICULARS of Five or Six Acres of FREEHOLD GROUND, within their Parish, FOR SALE, for the purpose of Erecting thereon a new Workhouse. Such particulars should be addressed to the Clerk on or before the 15th day of JUNE next, stating the situation, extent, and price required for the same. WM. HICKS, Clerk.
Parochial Offices, Islington, 27th May, 1863

TO BUILDERS and OTHERS.—TO BE LET, within half a mile of the Nine Elms Station, COMMODIOUS PREMISES, suitable for Workshops, &c. extending over an area of 150 feet by 55 feet, at present a brewery, but easily convertible; consisting of a brick building 55 feet long, 20 feet wide, and three floors high, suitable for carpenter's and joiner's shops, with steam-engine of 4 horse power, large sheds, stabling for eight horses, and two yards. For particulars, apply to Mr. J. H. BRIDGES, Paleon Brewery, Ipswich

NEW KENT ROAD.—DOVER PLACE, Saint Bartholomew's Hospital.—TO BE LET, from LADY-DAY next, on Repairing Leases for twenty-one years, the HOUSES numbered 17 to 27, inclusive.—For further particulars apply at Mr. HARDWICK'S Office, No. 1, Henrietta-street, Cavendish-square.
WILLIAM WILBY, Clerk.
St. Bartholomew's Hospital, May 28, 1863.

WANTED to PURCHASE, Freehold, or to Rent on a Long Lease, PREMISES, TENEMENTS, or LAND, containing an area of about 5,000 superficial feet, situate within one mile of the Royal Exchange Particulars to be addressed to JOHN GRIFFITH, Esq. 16, Finsbury-place South, E.C.

MANUFACTURING WATERSIDE PREMISES, occupying about an acre of ground. TO BE LET, on lease, direct from the freeholder, a building (term if desired, eleven) fully paved, MANUFACTURING PREMISES, situate at West Mam Abbey, Essex, a few minutes' walk from the Stratford-bridge Station of the North Woolwich Railway, with waterside frontage near the Channel Sea River. The ground occupies a site of about one acre. The buildings are spacious ground-floor erections, and there is a handsome and lofty brick chimney shaft.—For particulars, apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

ST. JOHN'S WOOD.—BUILDING GROUND, not far from Hamilton-terrace, TO BE LET, by the Freeholder, for a number of terrace villas, with 21-feet frontages. Ground-rent only five guineas each. Advances to Messrs. POWELL, Building Land Agents, 1, Queen's-row, Bayswater-road, W.

BUILDER'S PREMISES, HACKNEY.—TO BE LET, on LEASE, a capital YARD, with spacious workshops and office and with or without dwelling-house. There is a small stock of well seasoned material, which may be purchased at a valuation.—For particulars, apply to Mr. THOMAS BULL, Auctioneer, 61, Cornhill, E.C.

FREEHOLD LAND TO BE SOLD or LET on Building Leases:—Two Acres near Forest-hill Railway-station; One Acre adjoining Norwood Railway-station; Three Acres at Glengall Grove-road, Old Kent road.—Apply to Mr. MAY, Acorn Wharf, Old Kent road.

CITY of LONDON.—BARBERS' HALL.—TO BE LET, on a Building Lease, Nos. 33, 34, and 35, Monkwell-street, Wood-street, and a portion of the Court-yard Hall and Offices in the rear. For particulars and plans, apply to the Beadle, at the Hall; or to the Clerk, HENLEY GROSE SMITH, Esq. 4, Warnford court, Throgmorton-street, E.C.; or to Mr. C. J. SHOPPEE, Architect, 61, Doughty-street, W.C.

NORFOLK COAST.—HUNSTANTON, ST. EDMUNDS.—Eligible BUILDING LAND in the rising watering-place situated near Sandringham, the seat of H R H the Prince of Wales, TO BE LET, on very reasonable terms for the erection of first and second-class houses and villas. There is direct communication from London to St. Edmund's, via Cambridge and Lynn. The surrounding country is most attractive, the locality was famous for salubrity, the chalk and sand cliffs are bold and picturesque; the sea beach and sands are unequalled, and the fresh water in excellent. There is a chalybeate spring within a mile. The sewers are already laid down by the freeholder, under the best engineering advice, and the roads are made The existing accommodation is utterly insufficient for the summer and autumn visitors. Model drawings and specifications, according to which several houses have already been erected, can be seen, and all further information obtained, on application to Mr. C. W. PREEDY, at Hunstanton; Mr. F. PREEDY, the Architect of the Estate, No. 15, York-place, Portman-square; and of Messrs. WILLIAMS & JAMES, Solicitors, 62, Lincoln's-Inn-fields, London.

PENZANCE, CORNWALL.—The FEE SIMPLE, in hand, of NINETEEN ACRES of first-class BUILDING GROUND, all within 600 yards of the beach, and commanding full view of the sea, and adjoining the town of Penzance, will be SOLD, in lots, by AUCTION, at Penzance, on FRIDAY, JUNE 5th, 1863. The fee simple, subject to a lease now hanging on a life of eighty-one, in Six Acres of Building Ground in Penzance will be sold in lots by auction at the same time. The whole of this ground is at present under cultivation as market garden ground for early broccoli and early potato crops.—For particulars apply to RODD & CORNISH, Solicitors, Penzance
Penzance, April 23rd, 1863.

SUTTON, near the Station.—PLOTS of FREEHOLD BUILDING LAND FOR SALE. Land-tax redeemed, conveyance free. Also, PLOTS TO BE LET, on a Building Lease, for ninety nine years.—For plans, &c. apply by post, pre paid, to Mr. TRIBE, Builder, Sutton, Surrey, S.

TO BE LET, a capital WHARF and DRAWDOCK, known as "Searle's Wharf," most eligibly situated at the foot of New Westminster Bridge, and opposite the Houses of Parliament
This drawdock has been closed for some years, and is now about to be re opened.
From its excellent situation and the probability of the Scotland-yard Wharfs being closed at an early date by the Thames Embankment, a very valuable business may no doubt be depended on.
A residence is attached, which may or may not be taken with the wharf or drawdock.
Apply to Mr. W. HEWETT, 84, York-road, Lambeth.

BRICK MACHINE and ENGINE for SALE.—TO BE SOLD, a BRICK MACHINE (Bulmer's & Thorpe's Patent), capable of making 15,000 bricks a day. Also a STEAM ENGINE of 8-horse power, either together or separately.—Apply to W. H. HOLMES, Westgate-street, Newcastle-on-Tyne.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

HAWLEY NEW WHARF, CAMDEN Town, N.W.—JOHN KNOWLES having supplied the principal works in Sheffield for many years with fire-bricks, fire-clay, &c. has opened the above Wharf, where he is prepared to supply every description of fire bricks, lumps, tiles, &c. direct from the Works.—Sample and price on application.—Works: Wooden Box, near Burton-on-Trent.

BRICKS.
BEST RED KILN-BURNT COMMON BRICKS, in large quantities, can be had at the Dock, in the East Cowes Park Estate, on the River Medina, Isle of Wight

FINE BRICKS.
Best Red and White Facing Bricks.
White, Red, and Black Cutters.
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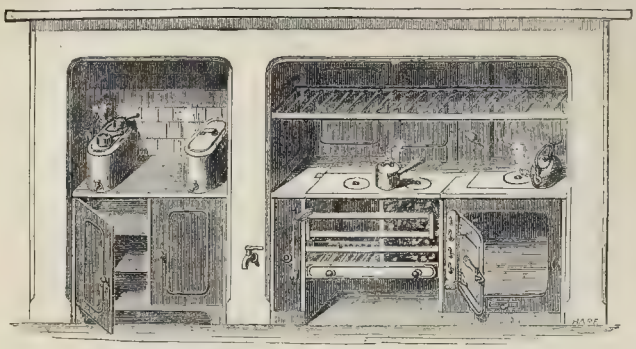
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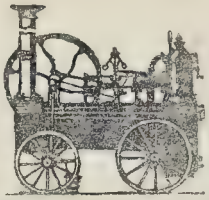
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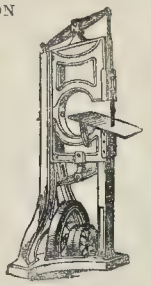
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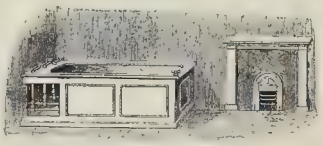
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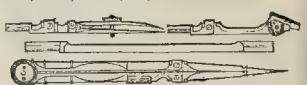
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10 by 8	12 by 9	12½ by 10½	14½ by 10½			
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11 by 9	13 by 9	13½ by 10½	13 by 11	10s. 9d.	12s. 3d.	15s. 18s.
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15½ by 10½	14 by 12	17 by 13	24 by 16				
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14½ by 11½	15 by 12	18 by 14	22 by 17				
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16 by 11	16½ by 12½	22 by 15	22 by 18	11s. 6d.	13s. 6d.	16s. 6d.	20s
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Under 1 foot super	1½	1¾	2	2½	2¾	2¾	3¼	4¼
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Under 3 feet super	2¼	2¾	3	4	3¼	3¾	4¾	6¾

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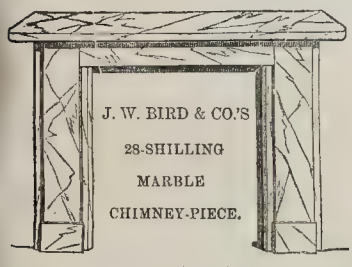
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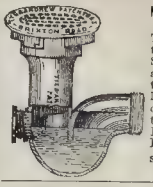

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T. L. & SON find it necessary to state that all the Ball and other Valves manufactured by them, have their NAME legibly marked thereon.



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

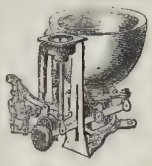
In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

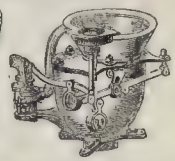
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

J. TYLOR & SONS' PATENT

REGULATOR WATER-CLOSETS.


Valve.


Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No intern valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate street, London.

MINTON, HOLLINS, & CO. Stoke-upon-Trent, beg to inform architects, the gentry, and others, that, in consequence of the increasing demand for their Encaustic and Mosaic Pavements, and with the view of facilitating the execution of orders, they have opened an additional Show-room, at their Establishment, No. 30, Conduit street, London, where experienced draughtsmen will be constantly in attendance, to afford all information required.

DRAWINGS and ESTIMATES, on the receipt of plans, will also be promptly furnished, on application at the Manufactory, Stoke-upon-Trent.

MINTON & CO. take the present opportunity of stating that they have always in stock a large and varied assortment of tiles, suitable for flower boxes, stoves, and other ornamental purposes.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield street North, City road Basin, N. Thirdly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and Thirdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufactories known so long as "The Terries," Tunstall, Staffordshire, as the first of the kind in the world.

MINTON & CO.

Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 30, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE-UPON-TRENT.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.

PAVING TILES in various colours and designs.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.

Dressed Blue Facing BUILDING and SEWER BRICKS.

Architects' designs carried out on the shortest notice.

Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent-road Bridge.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every rubbish street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depôt, Palace Wharf, Stangate, Lambeth, S.

SALES BY AUCTION.

VENEER KNIFE CUTTING MACHINE.

MESSRS. FULLER & HORSEY will SELL by AUCTION, on TUESDAY, JUNE 9th, 1863, at ELEVEN o'clock, on the PREMISES, 29, Eagle Wharf-road, New North-road, a very powerful VENEER KNIFE CUTTING MACHINE, capable of cutting from 16 to 70 veneers to the inch from wood 7 feet 11 inches long by 1 foot 6 inches wide, with rising and falling table 5 feet by 3 feet. Cast-iron planed bed, with screws, self-acting feed and reversing motion, overhead motion and driving shaft, made by Haley, Manchester. Also, a wrought-iron cylindrical STEAMING TANK, 5 feet diameter, 12 feet long. To be seen at any time by special order, which, with descriptive particulars, may be had of Messrs. FULLER & HORSEY, 15, Billiter-street, London, E.C.

15, Billiter street, 21st May, 1863.

REIGATE, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the WHITE HART, Reigate, on WEDNESDAY, JUNE 3, 1863, at TWO for THREE o'clock in the afternoon, fifty LOTS of FREEHOLD BUILDING LAND, situate close to the Town on the road from Reigate Town to Brighton, with frontages to the Lesborne and Howard roads. Nine tenths of the purchase money may remain on mortgage or contract at 5 per cent. to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained about ten days before the sale of Mr. T. BUCKLAND, Church-street, Reigate; at the principal Inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

NEW BARNET, HERTS.—Valuable Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, JUNE 8, 1863, at TWELVE for ONE PRECISELY, EIGHTY-EIGHT LOTS of eligible FREEHOLD BUILDING LAND, land tax redeemed, situate within a few minutes' walk of the Barnet Station on the Great Northern Railway, and commanding extensive and beautiful views of the surrounding country. The Midland Railway being now open, brings the property within half an hour's ride of the City, and makes it very desirable for persons wishing to reside a short distance from town. Nine tenths of the purchase money may remain on mortgage or contract at 5 per cent. to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of Sale may be obtained about ten days before the Sale, at the Railway Hotel and Railway Tavern, New Barnet; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

OLD ASYLUM, BEDFORD.—Excellent Building Materials.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on MONDAY, JUNE 1st, 1863, at TWELVE for ONE o'clock, on the PREMISES, close to the town of Bedford, the TENIB PORTION of the excellent BUILDING MATERIALS of the said Complete Lunatic Asylum; consisting of a large quantity of York paving, 50,000 stock bricks, brick bats, fine Kelloh stone carn se (the gable), quoins, string courses, and sills, brick pier with stone caps, and gates; a quantity of well-seasoned oak, com, timber, joists, rafters, floor boards, laths, purlins, wall plates, &c.; slates for roofs, iron gate and frame, iron bars and scabversade, casements with bronze fittings, sashes in frame, doors and frames, sash and other windows, &c. &c. May be viewed on Friday and Saturday before the Sale, at Catalogues may be obtained of the Auctioneer, 14, Moorgate street, London, E.C.; of Messrs. Foreman, &c. &c.

ACTON, MIDDLESEX.—A well stocked Orchard, and two valuable Freehold Building Land, five miles from the City.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, JUNE 8, 1863, at TWELVE for ONE o'clock, in SEVENTEEN LOTS, the well stocked ORCHARD and eligible FREEHOLD BUILDING LAND, with frontages to Bollo bridge-road, near to the village of Acton. Nine-tenths of the purchase money may remain on mortgage or contract at 5 per cent., to be paid in nine years by equal half-yearly instalments, but the whole or any part of the balance may be paid off at any time with notice.—Particulars, plans, and conditions of sale may be obtained at the Inns in the neighbourhood; of Messrs. RUSSELL & DAVIS, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale

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SALE OF PLANT.—TO ENGINEERS, MACHINISTS, CONTRACTORS, AND OTHERS.

MR. C. F. SMYRK is favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, Marlborough place, Old Kent-road, on MONDAY, JUNE 8, at TWELVE, a nearly new TRACTION-ENGINE, 25 horse power, recently at work in removing the Hampstead Reservoir, the contract being now completed; also several other powerful ENGINES, in working order, viz.—A 6-horse portable engine, by Gwynne's centrifugal pump, a 7-inch contractor's pump to work by hand and steam, a 3-throw pump with gearing and crank shaft, a Bowser and Cameron's patent pump quite new, a 6-horse steam engine and 12-feet boiler, a small donkey engine, a horse chaff cutting machine and gear with driving shaft complete, an oat mill, a mashing machine, cast pulleys, an oak and iron jack-spring chine, a gravel-sifting machine, a hoisting gear with loose and fast pulleys, tigger wheels, and break, 4-inch coleman's quoins, wrought-iron and frame lap grindstone, 1-cwt. portable forge bellows, anvil, and other effects.—May be viewed; and catalogues had three days prior, on the Premises; and of Mr. C. F. SMYRK, Auctioneer, Surveyor, and Valuer, 10, Newington place, Kennington road. S

Black Gelding, Light Spring Cart, Harness, and about 300 lots on sale to the Building Trade.—On MONDAY, JUNE 1st, at TWELVE for ONE punctually.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden terrace, Camden Town, 2,000 yellow, white, and pine BRICKS, deals, and battens; 4,000 feet of matched flooring; 125 squares of flooring; dry cut stuff, 5,000 feet quartering; 2,000 feet of die square mahogany and oak; 4,000 feet wide pine; 40 new 4-panel doors; scaffold poles, ladders; pony, cart, harness, &c.—Auction Offices, 2, Carlington-street, Hampstead-road.

GARDEN STATUARY.

MR. JAMES STEVENS is instructed to SELL by AUCTION, at CHURCH PLACE, Old Town, Clapham, Surrey, on FRIDAY, JUNE 5th, 1863, at TWELVE, a great variety of vases, statues, figures, and pedestals; fountains, dogs and lions couchant; and other ornaments for pleasure grounds. On view day previous to Sale, and catalogues of the Auctioneer, Clapham Common, S

HARROW.—A very desirable small Freehold Building Estate, most advantageously situate within half a mile of the Railway Station, with a frontage to upwards of a First class Railway Pass, and of Nomination to Harrow school.

MESSRS. EDWIN FOX & BOUSFIELD will SELL by AUCTION, at the MART, on FRIDAY, JUNE 12th, at TWELVE, in one or more lots, a valuable FREEHOLD ESTATE very desirably situate at Barrow, in the county of Middlesex, comprising about 15½ acres of eligible Building Land, possessing commanding frontages to two excellent leading roads, and affording great facilities for the erection of detached and semi-detached villa residences, with ample garden grounds, the supply of which in the neighbourhood is utterly inadequate to the demand.—May be viewed; and Plans had shortly; of R. S. CHANNOCK, Esq. Solicitor, 8, Gray's-inn-square; at the MART; and at Messrs. EDWIN FOX & BOUSFIELD'S Office, 41, Coleman-street, Bank.

NORTH LONDON RAILWAY KINGSLAND JUNCTION.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, on the PREMISES, near the Kingsland Station, early in JUNE, the excellent MATERIALS of about fifty houses and shops, by order of the Directors of the North London Railway Company.—Catalogues to be had at Offices, Kingsland road and Camden Town.

BUILDING MATERIALS, High street, Borough.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, JUNE 5, at TWELVE o'clock, all the valuable BUILDING MATERIALS of a spacious House, Shop, and Premises, No. 51, High-street Branch, opposite the new street; comprising sound brick work, lead gutters and pipes, useful timber, plain and pantiles, skylights, doors, wainscoting, mantle and other chimney pieces, small iron bands, handsome plate glass in front, and sash and plate glass sashes, iron columns, stone coping and cills, stoves, and useful fittings up.—May be viewed the day previous. Catalogues had of Messrs HAWES & WILLMOTT, Auctioneers, 82, Higher-street, Borough; of EDWARD PANSON, Esq. Architect, 7A, Laurence Pountney hill; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

DOCK STREET.—Materials for Two Warehouses to clear the site for the Enlargement of the Sailors' Home.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION on the PREMISES, on FRIDAY, JUNE 5, at TEN for ELEVEN, the MATERIALS and FITTINGS of TWO WAREHOUSES, a Dock street, London Docks; comprising about 150 squares of slating, sound timber, roofing and floor boards, doors, sashes, partitioning, panelling, stone paving, &c., and other materials. At the same time will be sold the fittings of Hilloths, walk boiler, tanks, and other plant, and No. 6 Well street.—May be viewed the day previous, and Catalogues had at the Office of E. L. BRACEBRIDGE Esq. Architect, High-street, Poplar; of Messrs. PULLEN, HORNE, & EVERSFIELD, 80, Fore street, City, and 40, Parliament-street, West minster.

THE CLIFF, SCARBOROUGH.—To BUILDERS, CONTRACTORS, &c.—Extensive Sale of Building Materials

MR. W. TASKER HART has received instructions from the Directors of the Scarborough Cliff Hotel Company, Limited, to SELL by AUCTION, on the PREMISES, on TUESDAY, JUNE 9th, the whole of the BUILDING MATERIALS, except the bricks, of the lodging or dwelling houses, Nos. 1, 2, 3, 4, 5, 6, and 7, and the two cottages situate on the east side of Sir Nicholas Cliff, and which are now being pulled down, and the materials thereof will be on the Sale of JULY, 1863; several of the houses have been built within the last eighteen years, are of a substantial character, and in the best description. Each house will be put up for sale separately. Sale to commence at ONE o'clock precisely. The whole of the houses will be open for inspection one week prior to the Sale.—Particulars of Sale and further particulars, apply to Messrs. HESP & MOODY, Solicitors, Scarborough; A. W. D. LEATHER, Esq. Solicitor, Leeds; CUTHBERT BRODRICK, Esq. Architect, Leeds, to Mr W. TASKER HART, Auctioneer, Scarborough; or at the Temporary Offices of the Company, 7, St. Nicholas Cliff, Scarborough.

BROMLEY, KENT.—Immediately adjoining the Shortlands Station, on the Mid Kent Railway, only ten miles from London Bridge.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, JULY 7th, at TWELVE, in nine Lots, of from eight to Sixteen Acres each (unless previously disposed of by private contract) the greater portion of the important and very valuable FREEHOLD BUILDING ESTATE known as Shortlands; comprising upwards of 120 acres, affording some of the most agreeable sites for building to be met with near London. Among the advantages offered are—the direct destines from the Railway, great facilities afforded by the railways for reaching all parts of the metropolis, the pure air, the plentiful supply of water, the rich scenery of the surrounding country, the beautifully undulating character of the land and its applicability for division so as to insure fine views as well as private retreats of the several properties into which it is proposed to be allotted. There can be no doubt as to the estate being one which will take very high rank in public estimation and the demand for first class houses in the district is already so great that it offers a valuable opportunity to those having a desire of entering into building operations on a large scale, as to gentlemen who may be in search of a residential estate near London. Particulars and plans (twenty days prior to sale) of Messrs. WHICHCORD, Esq. Architect, 16, Walbrook; of ROBERT RITCHIE, Esq. Architect, 7, Beaufort buildings, Strand; of Messrs. BURCHELLS, Solicitors, 5, Broad Sanctuary, Westminster; and of the Auctioneers, 83, Cheapside.

REIGATE. — Important and valuable FREEHOLD BUILDING LAND, situate near the London and Brighton Turnpike-road, on the south side of the town, being the remaining portion of the Cockshot Hill Estate.

MESSRS. NASH are instructed by the Devisees in Trust of the late John Dixon, Esq. to SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, London, on THURSDAY, the 11th day of JUNE, 1863, at TWELVE for ONE o'clock, about eight acres of valuable and highly attractive FREEHOLD BUILDING LAND, comprising the remaining portion of the Cockshot Hill Estate, having capital frontages to the south, partly to the new road connected therewith. It is elevated, being on the sand ridge, commands fine views, and is admirably adapted for the erection of first-class residences; also a FREEHOLD RESIDENCE, facing the turnpike road first in place at the moderate rent of £18 per annum, containing dining and drawing-rooms, six bed rooms, and dressing-room, attic, and convenient offices; the outbuildings include house, two-stall stable, &c.; well kept lawn and pleasure garden, and productive kitchen garden. The above estate is delightfully situate, and presents great attractions, being in a locality proverbially healthy, and the views the surrounding scenery extensive and magnificent. It is within a convenient distance of a very large, and the populous part of the South Eastern, Reigate, and Brighton lines of Railway, within an hour's ride of the City and West End, the most complete and first land, eligible for good residence, enhance these attractions to persons in search of either permanent or first-class investments.—Particulars of sale may be had at the principal inns in the neighbouring towns; at GARRAWAY'S, Change-alley, E.C.; of Messrs. MAPLES, BLAKE, & PEAKE, Solicitors, 50, Frederick place, Old Jewry, E.C.; of Messrs. CLUTTON, Surveyors, 5, Whitehall-place, S.W.; and of Messrs. NASH, Land Agents, Valuers, and Auctioneers, Reigate, Surrey

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SURREY.—Very Eligible Building Land, at Walton, a beautiful open and healthful locality, 1½ mile from the line of the South Western Railway, 21 minutes' ride from London.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT are instructed to announce for SALE by AUCTION, on FRIDAY, JUNE 26th (unless previously disposed of), about 125 acres of FREEHOLD BUILDING LAND, part of the Ashley Park Estate, extending from the railway station towards the town of Walton upon-Thames, a distance of about a mile and a quarter by the direct road, and occupying nearly the entire frontage. Besides very extensive and valuable frontages to the main roads in other directions. This land, which is all of a dry sound and gravelly soil, might be brought into immediate operation as sites for gentlemen's residences of the first class, and presents a highly important and most attractive building property, worthy the attention of large capitalists as a sound and lucrative investment. Particulars may be had by the successful result of the building operations which have taken place on the Oatlands-park Estate adjoining, though at a greater distance from the metropolis, and further from railway accommodation. The land is now divided via the, and is remarkable for beautiful plantations and trees from 30 to 50 years' growth, available in laying out the ground for first class villa residences, which are not to be sought for in this locality, and from the proximity to the railway station would readily secure tenants.—Further particulars may be obtained at the Offices of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Land Surveyors and Auctioneers, Station-row, Regent-street, W. and 10, Change-alley, Cornhill, E.C. who are authorised to negotiate a sale by private treaty.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, BROMPTON, S.W.

Notice of PRIVATE SALE of about 500 MARBLE CHIMNEY-PIECES, to be sold at very reduced prices (to save the expense of removal to the Brompton-road), in the following Marbles, viz:—statuary, Rouge Royal, Blue Jean, black Egyptian, black Brazils, Dove, California, St. Ann's, Rouge Jasper, Jeune Fleure, Brocatella, Genoa green, Irish Green, Blue Belge, Emperor's bed, Irish Basil, Campaine Melange, Vein, Sicilian, and various excellent specimens of British Marbles, varying in price from 12 los to 50l, and for economy of design, workman ship, and quality, not to be surpassed in England. Purchases to the extent of 20l and approved bills of three and four months will be taken, less 2½ per cent. cash. Purchasers from the country will be supplied with packing cases, and the same packed and delivered to any of the metropolitan stations for 1 per cent. on the amount purchased.

REDHILL, Reigate, Surrey.—Valuable Freehold Building Land.

MR. THOMAS PAGE begs to announce that he has received instructions from the Proprietors to SELL by AUCTION, at the MARKET HALL, Redhill, THIS DAY, the 30th of MAY, 1863, at FOUR o'clock in the afternoon punctually, a compact and eligible FREEHOLD ESTATE, containing 3a 3r 37p situate immediately to, among the London and Brighton turnpike road, and near to Salmon Corner. The property will be advantageously divided into seven plots of building land, each having extensive frontages to the London and Brighton turnpike, and the new road set apart, and in the course of construction, from Redhill to Wray Common. The depth of each plot constitutes an extensive area of land, and sufficient for the erection of a first-class residence. Each plot will be submitted separately, and payment of a considerable portion of the purchase money may (if required) be extended over a period of years. This property is surrounded by the estates of Philip Hubbard, Esq., Woods Rogers, and Salmon Corner. The property will be delightfully situated; the surrounding scenery embracing the beautiful woods of Gatton, the distant Surrey Hills, and a highly-diversified country not to be surpassed. The neighbouring residences are of a first class character, and good roads and water abound. The railway facilities are of the most complete description, London being reached within three quarters of an hour from Redhill Junction. Numerous daily trains. It is furthermore an established fact that the demand for superior residences is, in this locality, greatly on the increase.—Particulars and conditions are contained in attractive shaped plans, are being prepared, and may be had fourteen days prior to the sale, at the "Estates Gazette" Office, Fleet-street; at the customary Inns in the neighbourhood; of CLAUD J. GREG, Esq. Solicitor; of Mr. F. BONNY, Station-road; and of Mr. T. PAGE, Surveyor and General Valuer, Redhill, Reigate.

Extensive Sale of capital Timber, 10,000 Tiles, Garden Lights, Stone Paving, Slates, and Copper.

MR. FREDERICK INDERMAUR will SELL by AUCTION on TUESDAY, at ONE, on the PREMISES, opposite the Royal Oak, Water-lane, Brixton, Surrey: comprising large fir girders, rafters, plates, and quarterings, 3,000 feet of plank, battens, and lining boards, 1,000 feet of floor boards, oak oak panelling and partitions, panel doors, sashes and frames, dresser and 4 shelves, and other articles.—May be viewed, and catalogues obtained at the Auctioneer's Office, 190, Union street, Borough.

WINCHMORE HILL WOOD—ANNUAL TIMBER SALE.

MR. A. RILLIARDS will SELL by AUCTION, in the WOOD, between Highfield and Winchmore-hill, on WEDNESDAY, JUNE 3, at ONE, 400 OAK TREES, many of large dimensions and excellent quality; six beech and twenty ash; also 3,000 oak and 1,000 larch poles, and 2,000 faggots.—May be viewed. Catalogues obtained of the Bailiff, and of the Auctioneer, Tottenham.

TO BE SOLD, in consequence of the proprietor relinquishing the business, the Stock-in-Trade, Implements, and Goodwill of an old established BUILDER'S BUSINESS; consisting of every requisite necessary for carrying on a considerable trade.—Apply, by letter, to L. L. "County Times" Office, Chertsey.

TO PLUMBERS, PAINTERS and GLAZIERS. A BUSINESS TO BE DISPOSED OF, situate at Norwich, and well adapted for doing a large trade. Premises consist of shop 33 feet by 18 feet wide, and a four-roomed cottage, at the low rent of 22l. An excellent opportunity for a practical man with moderate capital. Apply to GEORGE FARMILOE & SONS, Lead and Glass Merchants, 118, St John street West Smithfield, E.C

TO ARCHITECTS, SURVEYORS, BUILDERS, &c.—JOHN EASTON, CONTRACTOR, will forward, on application, full descriptions of Excavating and Carting Out, Foundations, or Removing of any quantity of made Refuse. Address, 3 Post Boy Wharf, Gunnersbury road, Landseth, S.

TO ENGINEERS, ARCHITECTS, SURVEYORS, AND ESTATE AGENTS

GAS, WATER, DOCK, BRIDGE, RAIL, or SANITARY WORK, Iron Work construction generally; Architectural Designs and Working Drawings, Specifications, Quantities and Estimates, Dilapidations, Estate Plans, and every branch of Civil or Mining Work undertaken and executed on terms arranged Terms moderate.—BANNER & CO. 36, Essex-street, Strand, W.C.

DRAWING CLASSES for the study of Architectural, Mechanical, Perspective, and Ornamental Drawing, meet every MONDAY and FRIDAY evening, from EIGHT to TEN, at the London Mechanics' Institution, No 29, South-amptonbuildings, Holborn, conducted by Mr WM DAVY. Terms to the Public, 6s. per quarter; Members of the Institution, 3s. 6d. The new quarter now commencing.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding PATENTS (for cost and mode of procedure to be obtained gratis by the General Patent Company (Limited), 71, Fleet street, London. ROBERT M. LATHAM, Secretary.

W. W. NICHOLSON, Civil and Mechanical Engineer (many years with Messrs. Cubitt & Co. Builders), begs to inform his friends and the profession that he may be consulted on matters connected with the above branches, and is prepared to furnish Designs and Detail Drawings, Quantities for every description of Iron Work connected with Dock Building, Bridges, Iron Roofs, Warehouses, Railway stations, and general works, and supply Iron Work for the above purposes.

Offices, 17, King-street, Cheapside, E.C.

THE LIVERPOOL and LONDON FIRE and LIFE INSURANCE COMPANY.

Established in 1836, and incorporated by Special Acts of Parliament

Offices—1, Dale street, Liverpool; 2, Bank all, Poultry, London, E.C.

The ANNUAL REPORT for the past year shows the following results, which evidence the progress and position of the Company.

ACCUMULATED FUNDS, £1,417,298 8s 4d

Annual Premiums in the Fire Department ... £36,345

Annual Premiums in the Life Department £18,760

The Liability of the Proprietors is unlimited.

SWINTON BOULT, Secretary to the Company.
JOHN ATKINS, Resident Secretary, London

HAY'S PATENT WATERPROOF GLUE and INDIA-RUBBER VARNISH.—To ARCHITECTS, BUILDERS, PAPER HANGERS, &c. &c.—The WATER PROOF GLUE has been in public use upwards of seven years, and is used by coach-makers, &c. &c. The VARNISH for damp walls, previous to papering, coating zinc verandahs, &c. &c. Copy of a letter from Messrs. Rogers & Boulton, coach-makers, Glocester:—

"We have repeatedly used your Waterproof Glue as a preventive against damp, and have found it most valuable in preparing walls to receive paper. In one instance, where the walls were thoroughly saturated with moisture from earth filled against the outside, we used your varnish internally, and papered the surface, within a few hours of the application, with complete success. We have also used your preparation for coating a large number of cast-iron piles, at the Boulward, Portsea, for her Majesty's War Department."

Manufactory, Claudes-street, Portsmouth: Mr. GEORGE WEEKS, Manager. GEORGE C. WARDEN & CO. General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the office of "The Builder," No 4, York-street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, May 30, 1863.

The Builder.

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ILLUSTRATION.

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ROYAL HORTICULTURAL SOCIETY.
10TH JUNE, 1863.

UNCOVERING OF MEMORIAL OF EXHIBITION OF 1851.
In the Presence of their RR. HH.
THE PRINCE and PRINCESS OF WALES.
Cards of Admission, price 20s. if obtained ON or BEFORE the 9th of JUNE; and 30s. on the day.
A. MURRAY.

THE THIRD ANNUAL EXHIBITION of WORKS of DECORATIVE ART, at the Hall of the Painters' Company, No. 9, Little Trinity-lane, City, commences on MONDAY, the 1st JUNE, and continues for one month. Admission free, from TEN to SEVEN daily.
F. G. TOMLINS, Clerk.

INSTITUTE of PAINTERS in WATER COLOURS, founded 1831, as the NEW SOCIETY of PAINTERS in WATER COLOURS.—The ANNUAL EXHIBITION is NOW OPEN. Admission, 1s.—Gallery, 53, Pall Mall, opposite Marlborough House.
JAMES FAHEY, Secretary.

ARCHITECTS' BENEVOLENT SOCIETY.
PATRONS
Sir Robert Smirke. A. J. B. Beresford Hope, Esq.
PRESIDENT—Sydney Smirke, Esq. R.A.
TRUSTEES.
Philip Hardwick, Esq. R.A. | Charles R. Cockerell, Esq. R.A.
Geo. Gilbert Scott, Esq., R.A.
TREASURER—William Tite, Esq., F.R.S. M.P.
The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place; or by Mr. ALFRED HILL, 38, Tonbridge-street, Euston-road, W.C.
J. TURNER, Hon. Secretary, 15, Wilton-street.

BUILDERS' BENEVOLENT INSTITUTION.
An Election of Three Pensioners, two Males and one Female, was held on the 28th ult. at the London Tavern, Henry Lee, Esq. President of the Institution, in the Chair.

SUCCESSFUL CANDIDATES:	
William Taylor	3779
Thomas Hammond	3343
Mary A. Chirnside	3743
THE OTHERS WERE:	
W. Standfast ... 836	Mrs. Deacon ... 1997
W. Goodwin ... 1399	Mrs. Efford ... 347
R. Longstaff ... 497	Mrs. Clements... 455
J. Oliver ... 231	

June 5th, 1863.
A. G. HARRIS, Secretary.

TO the SUBSCRIBERS to the BUILDERS' BENEVOLENT INSTITUTION.—On behalf of MARY ANN HIRNSIDE, we return most sincere thanks to all those who so liberally and kindly recorded their votes on the 28th ult. in her favour, and thus secured her election.
JAMES ABBOTT & SONS.
Warwick-street, Regent street, June 2nd, 1863.

WILL CLOSE JUNE 30th.
ARCHITECTURAL EXHIBITION, 9, Conduit street, Regent-street, W. NOW OPEN daily, from 10 till 6. Admission, One Shilling. Season Tickets, Half-a-crown, admit at all times
JAMES FERGUSSON, F.R.A.S. }
JAMES EDMESTON, F.I.B.A. } Hon. Secs.
Also, in conjunction with the above, the Exhibition of the Society of Sculptors of England.
MORTON EDWARDS, Hon. Sec.

NOTICE of REMOVAL.
H. C. PRICE & CO.
WARMING AND VENTILATING ENGINEERS,
REMOVED FROM NO 2, DERBY STREET, WESTMINSTER, TO NO 14, PARLIAMENT STREET, S.W.
Where their business will be continued as heretofore.

BILLING'S PATENTS.—CHIMNEY TERMINALS, THROAT VALVES.
NOTICE to ARCHITECTS.—The Proprietors of the late Mr Billing's Patents have secured the services of Mr H. H COLLINS, M.I.B.A. of No. 10, Poultry, E.C. as the Consulting Architect, from whom full particulars and the reduced prices may be obtained; or from the Manager, Mr. TYLER, 12, Abingdon street, Westminster, S.W.

COMPETITIONS.

MONUMENT to be ERECTED in GENEVA. A Committee of Citizens of Geneva purpose to ERECT a MONUMENT in commemoration of the Return of their City to the Swiss Confederation, and therefore invite Sculptors and Architects inclined to undertake the execution of such a monument, to submit their models.—For particulars apply to the Swiss Consulate, 21, Old Broad street.

LIVERPOOL EXCHANGE COMPETITION.—NOTICE to COMPETITORS.—The Premium of 1,000l. has been AWARDED to THOMAS HENRY WYATT, Esq. Architect, 77, Great Russell street, London, the author of Designs bearing the motto "An bon Droit," with an anchor. The two Premiums of 250l. each have been awarded to Messrs CUNNINGHAM & AUDSLEY, Architects, Engineers, &c. No 3, Cook-street, Liverpool, the authors of the Designs bearing the motto "Labor et Honor"; and to WILLIAM FARNELL, Esq. Architect and Surveyor, 4, St. Nicholas-buildings, Newcastle-on-Tyne, the author of the Designs bearing the motto "Nobis Bene Nomine Male." The Designs will be publicly exhibited on and after MONDAY, the 8th instant, from ELEVEN a.m. to FIVE p.m. on each day. Competitors who desire to have their names published will be pleased to forward them at once to the undersigned. By order of the Directors,
Liverpool, 3rd June, 1863. A. T. SQUAREY, Secretary.

CONTRACTS.

TO STONE MASONS, MERCHANTS, and QUARRYMEN.—The Local Board of Health for the District of West Ham, in the County of Essex, require several thousand yards of GRANITE CURB, as they hereby invite TENDERS from those who may be willing to Contract with them for the supplies required in that line. Specifications and conditions may be examined, and Tenders obtained, by application to Mr MARSHALL, the Surveyor to the Board, at his Office, at Rokeby House, Stratford, E.; and Tenders are to be sent to me on or before MONDAY, JUNE 8th. By order of the Board,
CHARLES WILSON, Clerk.
Rokeby House, Stratford.

WEST HAM LOCAL BOARD of HEALTH.—The Local Board of Health for the District of West Ham, in the county of Essex, are prepared to receive TENDERS for LAYING GRANITE CURB, and also for supplying such road-metal and labour as may be required in making and repairing the streets called Stratford street, Newton street, Crawford street, Suburban street, Arkwright-street, Fulton street, Brunc-street, Upper, Middle, and Lower Fox streets, Montesquieu street, Rathbone street, Pitt-street, Burke street, and Clarkson-street all in Hallsville, within the district, according to plans, sections, specifications, and conditions prepared by Mr. MARSHALL, the Surveyor of the Board, and which may be seen at his Office, at Rokeby House, in Stratford, where also forms of Tender may be obtained, together with any further information required. Tenders, endorsed "Tender for Roads," are to be sent to me, on or before MONDAY, the 8th of JUNE next.—By order of the Board,
CHARLES WILSON, Clerk.
Rokeby House, Stratford

TO BUILDERS, &c.—CONTRACTS for a CHURCH.—TENDERS are required for the ERECTION of a CHURCH, at Cockermouth, in the county of Cumberland. Plans and specification will be deposited with Mr JOS HEWSON, Sun Hotel, Market place, Cockermouth, on and after TUESDAY, the 2nd of JUNE. Sealed Tenders, marked "Tenders for New Church," will be received by the Rev. H. L. FEXLEY, Cockermouth, up to WEDNESDAY, 24th JUNE, who will not be bound to accept the lowest or any Tender.—Further information that may be required, may be had on application to Mr. BRUCE, Architect, Whitehaven.

SOUTHEND GASLIGHT and COKE COMPANY.—The Directors of the above Company are prepared to receive TENDERS for a 40 feet GASHOLDER and GUIDE FRAME, and also for a BRICK TANK to contain the same. The plans and specification may be seen on application to Mr. JAB. Z CHURCH, C.E. Chelmsford, to whom the Tenders are to be sent, on or before the 10th of JUNE. The work is divided into two contracts—Builder's Work and Ironwork. The Directors do not bind themselves to accept the lowest or any Tender.—By order,
J. B. BRASIER, Secretary.
Gas Company's Office, Southend, May 27, 1863.

NEW GAOL for the HUNDRED of SALFORD To BUILDERS. The Committee of Justices for erecting a New Gaol for the Hundred of Salford, will shortly be prepared to receive TENDERS for the whole of the WORKS required in the CONSTRUCTION of the GAOL, on a plot of land adjoining the Manchester Assize Courts. The plans and specifications may be inspected, and general conditions and bills of quantities obtained, on a deposit of 2l. (to be returned in each case for the Tender), at the Offices of the Architect, Mr ALFRED WATERHOUSE, Royal Insurance-buildings, King street, Manchester, on and after the 1st of JUNE next; and sealed Tenders must be delivered to me on or before the 1st of JULY next. The Justices do not pledge themselves to accept the lowest or any Tender.
FREDCK. C. HULTON, Clerk to the Committee.
New Bailey-street, Salford, May 14, 1863.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to CONTRACTORS.—TENDERS are required for the CONSTRUCTION of a SEA WALL and SIX GROYNES, on the coast, in front of Eastney Batteries, Southsea.
Parties desiring to Tender for the execution of these Works must leave their names at this Office, on or before the 10th day of JUNE, 1863, and pay the sum of half a guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Portsmouth, May 26, 1863.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.—TENDERS are required, separately, for—
1.—COMPLETION of RE-COVERING with LEAD the UPPER PORTION of the ROOF of the ROTUNDA at WOOLWICH.
2.—RENEWING CEILING of Ditto.
3.—BUILDING a BOILER HOUSE, and FITTING HOT WATER APPARATUS to Ditto.
4.—FURNISHING SUNDRY FITTINGS, Ditto.
Parties desiring to Tender for the whole of these works in one contract must leave their names at the Office, on or before the 13th day of JUNE, 1863, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Woolwich, 26th May, 1863.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.
TENDERS are required for RENEWING PAVEMENT, and GAS and WATER-PIPES, at the Royal Military Academy, Woolwich Common.
Parties desiring to Tender for the execution of these works must leave their names at this Office on or before the 12th day of JUNE, 1863, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Woolwich, 28th May, 1863.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.—Tenders are required for REPAIRS, EXTERNAL PAINTING, and INTERNAL WHITEWASHING and PAINTING, to the SOLDIERS' BARRACKS and OUT-BUILDINGS, at Albany Barracks, Isle of Wight.
Persons desiring to Tender for this work must leave their names at this Office, or before the 9th day of JUNE, 1863, and pay the sum of half a guinea for the bills of quantities.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Portsmouth, May 25, 1863.

COAST GUARD CONTRACT.—Notice to Builders and Contractors.—Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Galloways, near Lydd, in the county of Kent, may inspect the drawings and specification at the Coast Guard Watch Room at Rye or at this Office, between the hours of TEN and FOUR, from THURSDAY, the 21st inst. to SATURDAY, the 6th of JUNE, (one next ensuing and both inclusive Sundays excepted).
Tenders for the same to this office not later than TWELVE o'clock at noon of the 8th of JUNE, under seal, and directed to the Commodore Controller General of Coast Guard, and endorsed "Tender for Galloways."
The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.
Dated this 15th day of May, 1863, at the Admiralty Coast Guard Office, 12, String Gardens, London, S.W.

TO BUILDERS.—Persons willing to TENDER for the ENLARGEMENT of ST. PHILIP'S CHURCH, Kensington, may see the plans and specifications at the Vestry of the said Church, on and after MONDAY, the 8th day of JUNE, between the hours of TEN and FIVE. Sealed Tenders to be delivered to the Rev. J. JACKSON CLAXTON, 7, Pembroke-road, Kensington, on or before the 16th of JUNE. The lowest nor any Tender not necessarily accepted.
Lichfield, May 26th, 1863 THOS. JOHNSON, Architect.

COUNTY PRISON, GLOUCESTER.—To BUILDERS.—The Visiting Justices are desirous of receiving TENDERS for the ERECTION of a GOVERNOR'S RESIDENCE in connection with the present County Prison, fronting to the south east angle of the County Prison. Drawings, specifications, and conditions of contract, may be seen at the Offices of Mr MEDLAND, the County Surveyor, Clarence street, Gloucester, on and after MONDAY, the 8th day of JUNE next. Tenders to be sent in, under seal, addressed to the Clerk of the Peace, Shire Hall, Gloucester, on or before the 22nd day of JUNE, endorsed "Tender for Governor's House, County Prison." The Visiting Justices do not bind themselves to accept the lowest or any Tender, as such must be subject to the approval of the next Trinity Court of Quarter Sessions.
Gloucester, 26th May, 1863.

GUILDHALL, LONDON, 3rd June, 1863.—The Committee for Letting the Bridge House Estates will meet at Guildhall, on TUESDAY, the 16th instant, at TWELVE o'clock precisely, to receive PROPOSALS for RENEWING LEASES of Several HOUSES and PREMISES, viz. Nos. 23 and 24, Great Jay, Dean's street, St. George's-fields; Nos. 23 and 24, White-street; and Nos 11, 12, 13, and 14, Collier's rents, Southwark; Nos. 1 to 24, Mary Ann-buildings; and Nos 6 and 7, Church-street, Deptford, as also Pieces of Garden Ground adjoining.—Plans of the Property may be seen, and further particulars and forms of Tender obtained upon application at the Architect's Office, Guildhall.
FERDINAND BRAND, Comptroller.

[For remainder of Contracts see next Page.

CONTRACTS.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY. To BUILDERS.—CONTRACT for STATION BUILDINGS.—The Directors of the London, Brighton, and South Coast Railway Company are prepared to receive TENDERS for the ERECTION of the STATION BUILDINGS, and other works, and LABOURERS' COTTAGES, at Seaford, at the Terminus of the Branch Railway now in course of construction from Newhaven to Seaford, in the county of Sussex. Drawings and specifications may be seen and copies of the quantities obtained at the Engineer's office, Longon, Brighton Terminus, on and after MONDAY, the 1st of JUNE next, also at the Station at Seaford, on and after the 8th of JUNE next. Tenders to be sent in, addressed to the undersigned, on or before NOON on MONDAY the 8th of JUNE next. The Directors will not be bound to accept the lowest or any Tender.

London Bridge Terminus, May 27, 1863.

BLACKFRIARS BRIDGE. — Notice is hereby given that the Bridge House Estate Committee will meet at the Guildhall, on TUESDAY, the 16th day of JUNE next instead of the 9th, day of JUNE, as previously advertised, to receive TENDERS for the ERECTION of a TEMPORARY BRIDGE across the River Thames, on the west side, and parallel to, the existing Blackfriars Bridge. The plans of the intended Bridge may be seen during any of the Works of Assistant Engineer's clerk, and further particulars, and a specification at the Office of the Engineer, JOSEPH CUBITT, Esq., No. 5, Great George-street, Westminster. The Tenders are to be delivered, sealed, at the Guildhall, before 12 o'clock on TUESDAY, the 16th JUNE, addressed to the Chairman of the Committee, endorsed "Tender for Temporary Bridge." The Committee, or such other Committee as may be appointed by the Court of Common Council, will meet at the Guildhall, on WEDNESDAY, the 17th JUNE, at 11 o'clock, when the Tenders will be opened, and the contract is expected to be immediately entered into. Each Tender must be accompanied by the name and address of one person who will become bound with the party tendering, in the sum of £10,000, for the due performance of the contract. The Committee do not bind themselves to accept the lowest or any Tender that may be sent in.

FERDINAND BRAND, Comptroller.

Guildhall, 18th May, 1863.

COUNTY of SURREY.—BRIDGE over the RIVER WEY.—Notice is hereby given, on the part of the Justices of the County assembled in Superior Court, that the CONSTRUCTION of a CAST IRON BRIDGE of Three Arches over the River Wey, together with the APPROACHES thereto, connecting a BRIDGE over the Wey at Bramley, in Guildford, with a separate TENDERS will be received for, for the IRON WORK, including Wrought Iron Piles and Screws, and for all the other Works whatsoever required for the Due struct, and for the said Bridges and the Approaches thereto, for the purpose of carrying the Highways in continuation of Woking-road and Bridge-road, including the Making and Completing of a portion of the existing Bridge for the purpose of connecting the Traffic during the Construction of the Bridges in question.—The Plans, Working Drawings, Specification, and forms of Tender may be seen at the Office hereinafter mentioned, between the hours of TEN a.m. and FIVE p.m. daily. Tenders are to be sealed up, addressed to the Clerk of the Peace, at his Office in Bridge-street, Guildford, on or before FIVE o'clock p.m. on SATURDAY, the 20th JUNE, and the Committee will not bind themselves to accept the lowest or any Tender. WORDSWORTH GREIG, Clerk of the Peace.

Record Office, North street, Lambeth, Surrey, June 1st, 1863.

BRISTOL LOCAL BOARD of HEALTH.—To PAVIORS and OTHERS.—The Local Board of Health of the City and County of Bristol hereby give Notice that they intend to CONTRACT for THREE YEARS, commencing the 29th day of SEPTEMBER next, for the performance of the undermentioned Works, viz.

CARRIAGEWAYS.

1st.—For Hauling Stones from any Place within the City and County of Bristol, and Laying Hoggin on the Streets.

2nd.—For Repairing and Re-casting Pitched Stones.

3rd.—For Hauling and Laying Road Pitching.

4th.—For Re-laying Bad Pitching.

Persons who may be engaged in the above Works are requested to deliver in their TENDERS at the Office of the said Local Board of Health, No. 14, Prince-street, on THURSDAY Morning, the 2nd day of JULY next, at TEN o'clock precisely, at which time the Committee will meet to determine upon the same. A printed specification of the Works to be done, and a Form of Tender may be personally had, either in person or by letter, post paid addressed to the Clerk, at the Office, No. 14, Prince-street, Bristol, where any further information may be obtained. Each party tendering will be required to give sufficient security, to the approval of the said Local Board, for the due and faithful performance of his Contract. The Local Board will not hold themselves bound to accept the lowest or any Tender. By order of the Committee,

JOHN G. HEAVEN, Clerk.

Local Board of Health Offices, 14, Prince-street, 11th May, 1863.

THE STRAND HOTEL COMPANY, (LIMITED).—To BUILDERS.—TENDERS are invited for the ERECTION of the above HOTEL. The drawings and conditions of Tender may be seen at the Office of the Architect, Mr. FRANCIS FOWLER, 67, Fleet-street, E.C., until FRIDAY, the 29th inst., on which day the Tenders are to be delivered and opened in the presence of the parties, at the Company's Office, at ONE. Each proposal to include all quantities for which separate prices are required to be stated, and to be returned duly sealed, by every Person who may be desirous of the Architect's Office. The Directors will not bind themselves to accept the lowest or any Tender. By order of the Board,

A. W. RAY, Secretary, 209, Strand.

Dated May 20th, 1863.

SALE of TRACTION ENGINES.—Notice is hereby given, that the Secretary of State for War is prepared to receive TENDERS for the PURCHASE of TWO BOYDELL'S TRACTION ENGINES, which are to be inspected and approved upon the Principal Superintendent of Stores, at the Royal Arsenal, Woolwich.

Tenders must be made on a printed form, which may be obtained on application to the Director of Contracts, War Office, Pall-mall, or to the Principal Superintendent of Stores, Woolwich, and are to be delivered at the War Office, on or before the 15th day of JUNE, addressed to the Under Secretary of State for War, and marked on the cover, "Tender for Traction Engines."

The Secretary of State reserves the right of rejecting any or all of the Tenders. HENRY HOWELL, Director of Contracts.

War Office, 1st day of May, 1863.

TO BUILDERS.—TENDERS are required for the several WORKS necessary for FINISHING TWO DETACHED VILLAS, Nos. 13 and 14, Wilmington-square, Bow. The said Villas may be seen on the Premises, and Plans, &c., will be shown on application to Mr. C. W. HOOD, 11, Bloomsbury-square. Tenders, duly signed, to be delivered at 11, Bloomsbury-square, by Noon, on WEDNESDAY, the 17th JUNE next. The lowest or any Tender will not necessarily be accepted.

TO SEWER CONTRACTORS.—The Board of Works for the Hulborn district will meet at the Board-room, in Little Gray's-inn-lane, on MONDAY, the 15th inst., to receive TENDERS for CONSTRUCTING a BRICK SEWER in Theobald's-road, commencing in pursuance of a Resolution passed by Mr. LEWIS H. ISAACS, C.E. surveyor to the District, at the Board's Office, and terminating in the centre of the Bagnigge Wells-road. Plans to be seen at the Office of the Board, from the hours of TWELVE and ONE o'clock, daily. Tenders to be delivered before ONE o'clock, on MONDAY, the 15th instant, and to be sealed up, and addressed to the Clerk of the Board, at the Office. Each Tender must be accompanied by a Deposit of £10, which will be returned to the Tenderer not accepted, and accepted Tenders returned until the contract and sureties have been executed. The Board do not bind themselves to accept the lowest or any tender.

S. W. HOPWOOD, Clerk.

Chancery-lane, 4th May, 1863.

TO BUILDERS, SEWER CONTRACTORS, and OTHERS.—The Vestry of the Parish of Bermondsey, Surrey, will meet at the Parish Workhouse, Spa-road, Bermondsey, on MONDAY, the 15th day of JUNE next, at SIX o'clock in the even ing precisely, to receive TENDERS from persons willing to CONTRACT for the UNDERMENTIONED SEWERS and REPAIRS to the SEWERS, OUTLETS, Drains, &c., within the parish for the term of three years, from the 25th day of [illegible] next, to the 24th day of JUNE, 1866. Printed forms of Tender may be obtained, and the drawings and plans inspected, on and after MONDAY the 8th instant, at the Vestry Offices, in Maltby-street, Bermondsey, between TEN and FOUR o'clock. The Vestry do not bind themselves to accept the lowest or any Tender. Persons tendering are required to attend the Board meeting to explain the Tender, if necessary.

GEO. H. DREW, Clerk.

Vestry Office, Maltby-street, June 3, 1863.

STRATFORD-UPON-AVON LOCAL BOARD of HEALTH.—CONTRACT No. 10.—REMOVAL of MUD, &c., from the River Avon.—To CONTRACTORS.—The Local Board of Health for the District of Stratford-upon-Avon are prepared to receive TENDERS from Persons willing to undertake the EXECUTING the following WORKS:—Removing and clearing out the mud and other deposit and matter from a part of the bed of the River Avon, at Stratford-upon-Avon, and other works in connection therewith.—The plan, conditions, and specification may be seen, and forms of Tender and an agreement, at Mr. THOMAS TAYLOR ALLEN, Surveyor to the Local Board, Bridge-street, Stratford-upon-Avon, on and after the 12th inst. Sealed Tenders endorsed "Tender for Removal of Mud from River Avon," to be sent to the Clerk of the Local Board, Schoolhouse, Stratford-upon-Avon, addressed "To the Clerk of the Local Board of Health," not later than TUESDAY, the 23rd of JUNE inst. The Local Board do not bind themselves to accept the lowest or any Tender.

HENRY O. HUNT, Clerk to the said Local Board.

June 2nd, 1863.

TO IRON FOUNDERS and CONTRACTORS.—The Vestry of the Parish of Bermondsey, Surrey, will meet at the Parish Workhouse, Spa-road, Bermondsey, on MONDAY, the 15th day of JUNE, instant, at SIX o'clock in the evening precisely, to receive TENDERS for the supply of such quantities of CAST IRON GULLY GRATES and FRAMES, Manhole Covers, Ventilating Gratings, Bedding Boxes, Side Entry Gratings, Horse Shoe Road Irons, &c., as may be required DURING the ensuing year from the 25th day of JUNE instant to the 24th day of JUNE 1864. Forms of Tender may be obtained, and further particulars known, on and after MONDAY the 8th instant, at the Vestry Offices, in Maltby-street. The Vestry do not bind themselves to accept the lowest or any Tender.

GEO. H. DREW, Clerk.

Vestry Office, Maltby-street, 2nd June, 1863.

PROPRIETARY COLLEGE, MALVERN.—To BUILDERS.—The Council of the Proprietary College, Malvern, are prepared to receive TENDERS for the ERECTION of the NEW COLLEGE. The plans and specifications can be seen at the Offices of the Architects, at Malvern, or Clifton, on and after THURSDAY, the 11th of JUNE. Each Tender must have been prepared by Mr. J. CLARK, of Leeds, to be sent in, the payment of one guinea. The Tenders to be delivered, under cover, to the Hon. Secretary, L. STEPHENS, Esq., M.D., Malvern, not later than TUESDAY, the 23rd of JUNE next, and marked "Tender for New College." The Council do not pledge themselves to accept the lowest or any other Tender. They will require good and approved security for the due performance of the Contract.

CHAS. HANSOM, Architect.

Clifton, May 29, 1863.

NOTICE to CONTRACTORS.—EXTENSIVE NEW WORKS at LEITH.—The Commissioners for the Harbour and Docks of Leith are prepared to receive TENDERS for the CONSTRUCTION of a RECLAMATION EMBANKMENT, Entrance Basin, Lock, Wet Docks, and relative Works, at Leith, in conformity with drawings, specification, and conditions, with form of Tender, all of which may be seen, and Proposals to accept their lowest or any Tender. The Tenders sealed and marked "Tender for New Wet Dock and Relative Works, at Leith" must be lodged with JOHN PRINGLE, Esq., Advocate, 11, Heriot-row, Edinburgh, on or before WEDNESDAY, the 1st day of JULY next.

20th May, 1863.

BUILDERS willing to TENDER for BUILDING TWO HOUSES at Chelsea, can inspect the drawings and specification, at the Office of the Architect, who reserves the right of rejecting the lowest or any Tender. Tenders are to be delivered MONDAY, JUNE 15, at TEN o'clock punctually.

HENRY M. CALLA, C.E. Architect.

Office, 2a, Westbourne-place, Eaton-square, S.W.

TO BUILDERS and CONTRACTORS.—Persons desirous of giving TENDERS for RE-BUILDING the CHURCH at PENCOMBE, near Leominster, can see the plans and specifications at the Office of the Architect. The Tenders are to be delivered to the Architect, on the 24th instant, and no pledge is given that the lowest will be accepted.

FRED'K NICHOLSON, F.I.B.A., Diocesan Architect.

Hereford, 30th June, 1863.

TO BUILDERS.—Parties willing to TENDER for the ERECTION of a PUBLIC HALL at TUNBRIDGE WELLS, in the county of Kent, may inspect the drawings at Messrs. Marshall COLBRAN'S, Esq. Tunbridge Wells. Copies of the specification [illegible] can be had on application, and Tenders to be sent to J. COLBRAN, Esq. on the 15th inst. endorsed "Tender for Public Hall." Neither the lowest nor any Tender will necessarily be accepted. Quantities by Mr. JOSEPH SIMMONS,

JAMES WILSON, F.S.A. Architect, 1, Belmont, Bath.

SAINT MARY, ISLINGTON.—To GAS FITTERS.—Notice is hereby given, that the Lighting Committee will meet at the Vestry Office, on WEDNESDAY, the 10th day of JUNE instant, at SEVEN o'clock in the Evening precisely to receive TENDERS and CONTRACT for the PAINTING and KEEPING in PAINT in REPAIR, from the 25th day of JUNE 1863, to the 25th day of JUNE 1866, the IRON RAILING, and the GAS LAMPS and PAINTING LAMP-POSTS and COLUMNS.—The Forms of Tender (which alone will be received) may be had, and particulars of the Work to be done, on and after the 1st of June, next, at the Vestry Office. Persons tendering for Contract must attend at the time and place above stated, with their Tenders sealed, and addressed "Tender for Gas Lamps." No Tender will be received after SEVEN o'clock, nor will any Tender be received unless it shall be delivered with Books of Bills and Price Work as the former, duly returned to those persons whose Tenders are not accepted, but will be returned in the other cases into the contracts successful, and in default of the Contractors being duly executed, the sums deposited shall be forfeited to the Vestry. The Vestry do not bind themselves to accept the lowest or any Tender.

JOHN LAYTON, Vestry Clerk.

Vestry Offices, Upper-street, June 1st, 1863.

THE Directors of the Great Central Gas Company are prepared to receive TENDERS for the TAR to be manufactured by them for the year ending 1st July, 1864. Particulars as to quantity and delivery may be obtained on application to the MANAGER, at the Works, New-cross-lane. Tenders to be sent in, or before WEDNESDAY, the 10th of JUNE next, 28, Cornhill-street, E.C. May 7, 1863.

TO BUILDERS.

CONWIL, near CARMARTHEN.—Drawings and Specification may be seen, and Tenders for RESTORING the PARISH CHURCH, may be seen at Mr. EBEN EVANS's, Conwil.

Tenders to be sent on the 20th JUNE to my Office, as below. The lowest or any Tender not necessarily accepted.

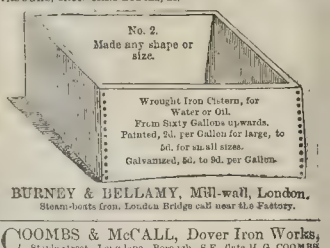
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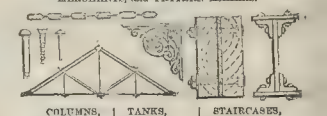
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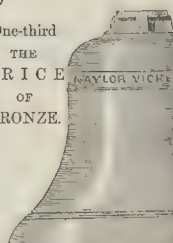
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Utrecht, 26th May, 1863.



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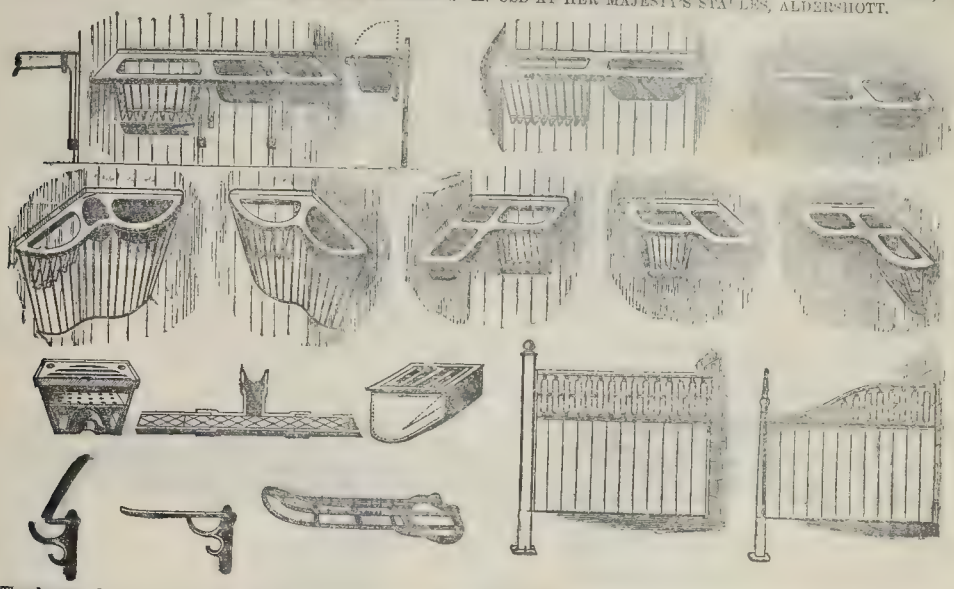
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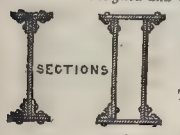
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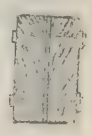
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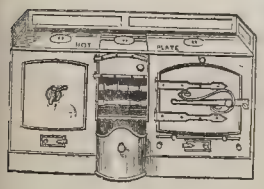
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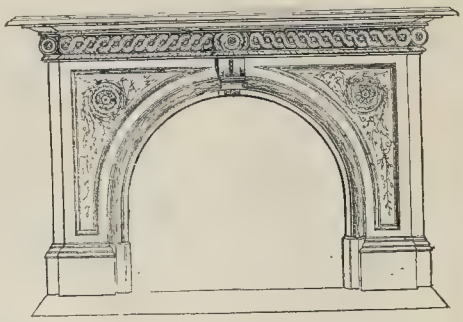
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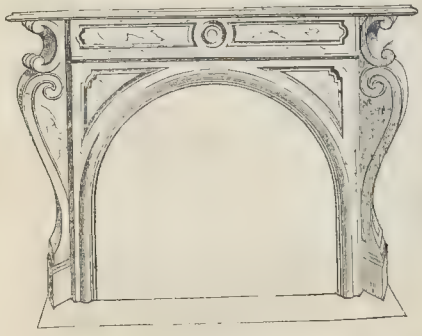
IS AT

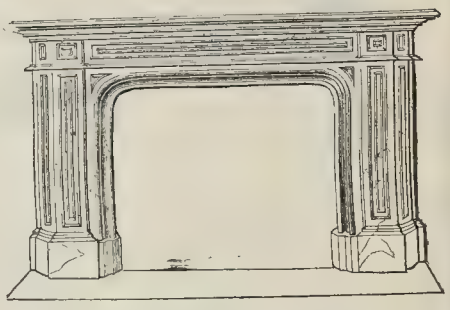
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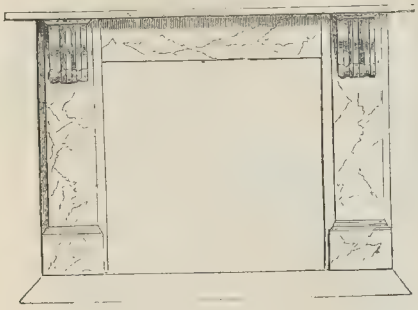
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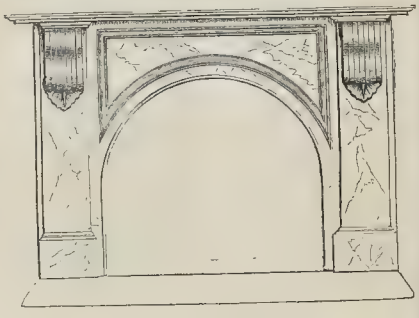












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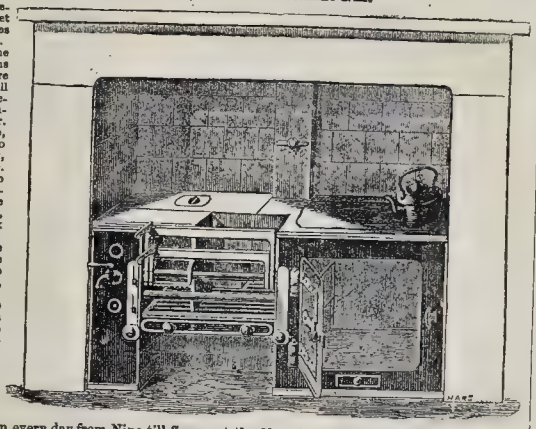
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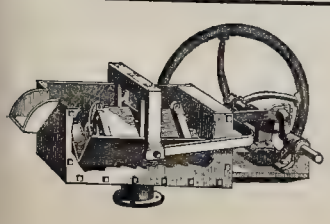
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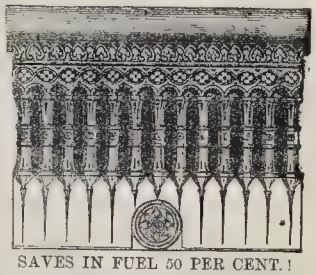
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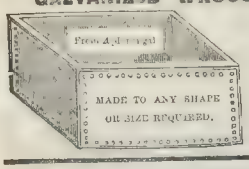
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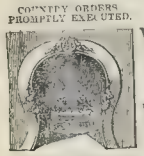
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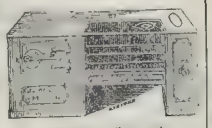
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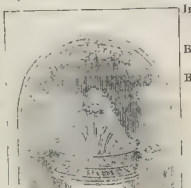
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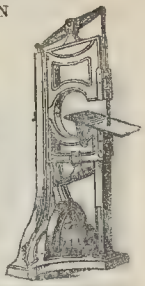
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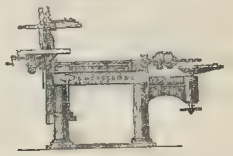


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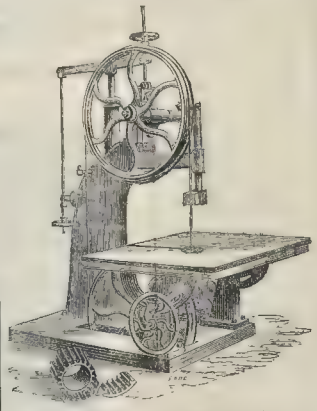
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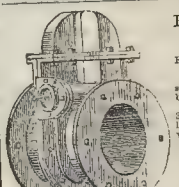
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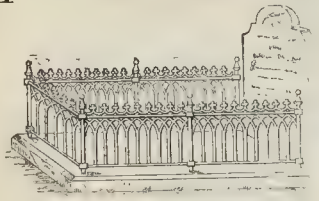
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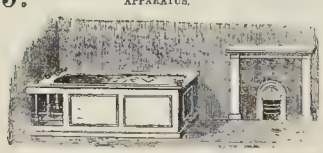
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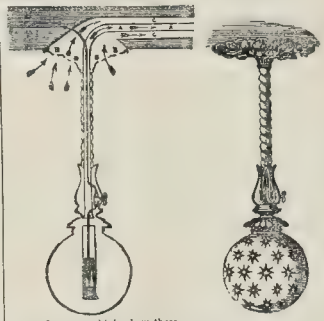
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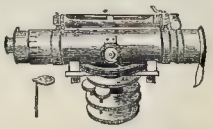
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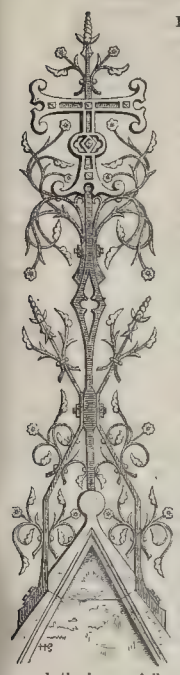
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The Builder.

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Gloster or Gloucester.



THE discoveries of Roman remains in Gloster have been so numerous from time to time, as to afford positive proofs of its having been a most important Roman station and city, previous to which, from the earliest date of civilization, it had been a town of the British and Saxons, and hence the various names which it had borne under these dominations;—by the British "Caer Glowe"—the fair city; by the Saxons, "Gleaucester;" by the Latins, "Glovina;" by the Romans, "Glevum." There are some differences of opinion, as must always be the case, as to periods so remote as those we are now speaking of, and when records even at the time were so scanty; but its propinquity to the river Severn, the Forest of Dean, and its position so central in the kingdom, must at all times have rendered the spot an important and necessary one, both in a civil and military point of view. As modern Gloster exists, so was its form (we have the strongest belief), when Roman: its four straight and wide streets meet in a centre from whence a striking view of the city could be taken then, as it can be at this very day: from these diverged smaller streets or lanes, many of them, doubtless, existing at the time of the Romans; and near to the spot once occupied by a very beautiful Gothic cross,—a very shrine of Christian architecture, now, alas! removed,—once stood, it is presumed, the Roman Forum or Capitol, and it may, with a very probable conjecture, have occupied the spot upon which the present Tolsey stands: still forensic.

Hare-lane, Here-lone, or Army-lane, leading to King's Holm or Homested, is a gravelly district, chosen probably on this account for the Roman burial-place and adjacent palace. It may be a fair conjecture that this road, or that of Back Hare-lane, running parellel with it, may have been lined with tombs, as at Pompeii. Vast quantities of Roman remains have been discovered here. Stone coffins with, in some instances, a leaden one inside. One of the former weighed upwards of 3 tons. In it was found a skeleton, on the *os frontis* or forehead of which was a hole, with the appearance of having been pierced with an arrow. More than a thousand skeletons have been discovered, from time to time, on this spot. Urns filled with ashes, spears, battle-axes, and various other military weapons, parts of helmets, breast-plates, Roman steelyards, gold rings, glass beads, a very large quantity of gold, silver, and copper coins of Tiberius, Nerva, Claudius, &c.; lamps, lachrymatories, &c.

The most recent discovery of Roman remains has been that only recently brought to light by Mr. Addison, whose residence adjoins them,—and which residence, it may be observed *en passant*, was that in which the late Richard Raikes, the founder of Sunday-schools, lived and died. In digging the foundations for some buildings Mr. Addison is erecting on his premises, he observed the workmen were constantly bringing up quantities of shaped stones about an inch square. Seeing this, he at once gave directions that care should be taken in the removal of the soil; and, at about 10 feet below the present level of the earth, he came to a Roman pavement. He determined to trace this discovery as far as his right would allow him to do so, and this enabled him to lay bare a roadway of upwards of 60 feet in length and about 15 feet in breadth; but there were unquestionable evidences of its extending much farther east and west, in all probability in the latter direction to a decorated pavement now in a cellar under an ancient building attached to the church of St. Mary de Crypt, and, till lately, used as a foundation school. There are indications of this having been a residence of some consequence, and it is by no means improbable that the neighbouring church has been built upon Roman foundations. Eastward we have little doubt this roadway reaches the old city walls, not unlikely the old Roman ploughed boundary of the city: this would give a length in the whole of 750 feet. It is presumed that this was an open roadway—probably a street. It is in excellent preservation, and likely to continue so for centuries to come; for the gentleman upon whose property this very interesting discovery has been made has, at a very considerable expense, arched the whole of it over with stone, thoroughly drained the flooring, and has, in fact, made a room in which he might entertain his friends. Among the *débris* of the soil removed was found also an interesting and well-carved piece of stone-work belonging once to the adjoining church of the Black Friars. It evidently formed the centre of the springing of two arches right and left: it was as perfect as when fresh from the chisel of the mason. In corroboration of the idea that the four main streets,—namely, the North, South, East, and West,—described the form of the Roman city, it should be stated that very many remains of Roman habitations have been found running parallel with the existing streets, and directly under the *foundation* of the *present houses*, and in all cases,—we believe there was no exception,—these pavements were found to go on under the adjoining dwellings right and left; but of course discovery was limited to the one under repair or demolition. It is, therefore, no great stretch of imagination to suppose that could the whole town be laid bare, the greater part of the old Roman Glevum would be revealed to the eye. Scarcely an old house, wall, or foundation is removed; but relics, Roman, Gothic, and of later periods are found. We had brought to us, while looking on at some alterations, a crucifix in excellent preservation, of about the time of Henry VII., and some coins, not quite so well preserved. Few cities of the present day have more to boast of than Gloster, in discoveries of this kind. Mr. Lysons, of Hempstead, a gentleman well known for his devotion to art, and a nephew of the celebrated antiquary of the same name, made a very interesting discovery a few years since: on removing some old houses on which the Gloucester bank or the adjoining dwelling stands, the fragment of a stone was found; it was moulded round, forming a kind of framework to a figure of a boy, holding, as it seemed somewhat affectionately, a cat, for both hands embraced it: this fragment of Whittington (?) extended as far as the hips; but what was really very remarkable, as well as fortunate, the whole of the lower part of the figure was discovered in a garden far from the upper portion of the body; the two are now together, and form as interesting a relic as can well be imagined: the moulding on the right of the boy has been broken off. It is not generally known that Whittington's family resided in Gloster, and, as it would seem, at this very house; but, as one would take it for granted, the history of the cat is a mere fable—a mere nursery tale: the real cat, the source of his wealth, may have been his favourite vessel of that name. Mr. Arkell, an intelligent and respected builder of this town, has, much to his credit, formed a very interesting little collection of antiquities, mostly Roman. Among them will be found three horse-shoes, one of solid silver, and another has that part of the shoe which would describe the frog of the foot of the horse, partly filled up by a plate of iron, to protect this tender part from spikes or stones, thrown out by the enemy to disable the cavalry; the other shoe is entirely filled up, and it has been conjectured may have been used for the purpose of making shoes on it.

In relation to the hypothesis that the present outline of the four principal streets of modern Gloster formed the ground-plan of ancient Glevum, we will add a few evidences more in favour of it. In the cellar of Crypt School, as already stated, a Roman pavement of a dwelling has been discovered; on the *opposite side of the street* another has been met with in a house adjoining the Ram Inn; on the south side, the Westgate-street, in a house formerly occupied by Mr. Parker, some steps were found leading from the ground to an upper apartment, and the shaft of a broken Doric column; columns of freestone under houses belonging to Mr. Broughton, Miss Jones, Mr. Tooby, and the County of Gloucester Bank; in some instances Corinthian capitals have been found with them; they were about 10 feet apart, uniform in size and proportion, extending a frontage of about 180 feet:* either these pillars must have belonged to a building of immense size,—larger, perhaps, than the size of the city would lead one to expect,—or they formed a street colonade; in either case, the effect must have approached the magnificent. We rather incline to the idea that it was a street decoration; from the proportions of the fragments left, it would give a height to the pillars alone of 30 feet, and if to this be added the cornice, &c., the whole elevation must have been of considerable altitude. In the same line, reaching to the cross, other Roman remains have been found: a tesselated flooring of a room under the ancient mansion of that most celebrated of misers James Wood, commonly called Jemmy Wood. This floor extended to the adjoining house. At a house further on, and one forming the angle at the High Cross, where the four streets meet, and opposite the present Tolsey, in removing some earth at a considerable depth, the workmen came upon two very large stones, which seemed to have formed part of a gateway, as the *iron hooks* upon which the gates were hung were still remaining in the stones. They were directly opposite to what we have presumed may have been the capitol. In the Northgate-street, in making some alterations in the house of Mr. T. Mee, a tesselated pavement was dug up. In the year 1806, as the workmen were engaged in digging the foundation for the new Blue Coat Hospital, they came upon the remains of a remarkably fine Roman pavement, running, as in the other cases, in a parallel direction with the street, extending from east to west some 30 feet, and from north to south 20 feet. A very perfect specimen of this pavement is now in the possession of Mr. Bond, seedsman, of Gloster; it is 6 feet square, with a diamond-shaped border about 12 inches wide; within this border is a star filling up the whole of the remainder of the pavement, and alternately with its radiations is an oval ornament, the centre decoration of the star being a serpent. There were other rooms, or rather the flooring of them, discovered here, proving it to have been an abode of consequence; and in a direct line from it, under a large old house belonging to Sir Thomas Crawley Bary, bart., the same kind of pavement seemed to extend.

Near the old Roman road, the "Irwin-street,"

* Clarke's "Architectural History of Gloster."

in a field, was discovered, in 1820, a tombstone, and in a sunken panel is a group representing a soldier, with a legionary sword by his side and a spear in his hand, in the act of striking a naked, prostrate foe,—a Briton, most likely,—who is trying to protect himself with a sword. This monument has on its cornice a figure, apparently of a lion, at each angle; and a female figure kneeling or lying in the centre, supporting herself on her hands. At the bottom is the following inscription:—

RVFVS . SITA . EQVES . CHO . VI : TRACVM . AN : XI :
STIP : xxii HEREDES . EXS . TEST . E : CVRAVE .
H . S . E .

of which the following translation may be given: "Rufus, commissary general of the equestrian order and officer of cavalry, commanding the sixth legion, having served eleven years in the Thracian army of cavalry and twenty-two years in the army, lies buried here. This monument his heirs have carefully erected according to the terms of his will."

In the Northgate-street a votive tablet was found, having on it figures of Æsculapius and Hygeia, in excellent preservation. It is now in Gloster.

In addition to these evidences, foot-pavements have at different times been discovered running exactly parallel with the present streets, forming altogether tolerably strong evidence that the ground-plan of Roman Glevum may be found in modern Gloster. Here, as elsewhere, Christian places of worship have been built over the remains of heathen temples.

If additional evidence were required to prove that the ground-plan of the present city was pretty nearly that of the Roman one, it could be forthcoming. Accident merely has brought to light all that has been hitherto discovered; no organised plan has been hitherto adopted; indeed, from the very nature of the ground explored, such a proceeding would have been impossible; but enough has been brought to light by these casual means to show that here, in these distant domains of Rome, once stood a city not inferior, perhaps, in importance and magnificence, to some in its own native Italia.

Few cities at one time contained so many ecclesiastical edifices as Gloster. So numerous, rich, and important were they that it gave rise to the adage, "As sure as God's in Gloster." Some of these have altogether disappeared, but many very fine and interesting remains of them still exist. Taking precedence of all others would be its fine and graceful cathedral church, matchless in some of its parts, and equal to most in its remaining ones. We may hereafter give some description of this most interesting structure,—of the judicious and extensive repairs carrying on there and in the adjoining deanery. At present we will briefly notice some of the more remarkable edifices in the city, with a few observations of our own which may perchance have escaped former notice. The curious and inquiring antiquary and lover of these relics of bygone times will, like ourselves, have doubtless explored unpromising-looking avenues; dirty, out-of-the-way, forgotten passages; and have found himself, seemingly, not a very welcome wayfarer into half-public half-private domains,—a sort of debateable ground with rights not well defined, in search of remains so dear to our pursuits and tastes; and in this search the chances are that he may have hit upon some undiscovered nook, and, may be forgiven for hoping it may have escaped the eager eye of some former pilgrim and predecessor. In these rambles, sometimes alone, at other times with the companionship of a sympathising friend, have we often wandered through the remains of the Black and Grey Friars, trying hard to restore in our mind the blanks in the buildings, some of which we have been enabled thus to replace satisfactorily enough, and in others we confess ourselves to have been puzzled and lost in conjecture.

The design of the church of the Black Friars or Dominicans can at this day be sufficiently well traced. It was cruciform, and the walls of the choir and transepts are now of the same size as originally built, but the nave seems to us to have been shortened; but how it extended further west is a somewhat difficult conjecture, as there appears to have been always a passage and archway leading to what is now termed the Black Friars-square. It is by no means unlikely that this square was the seat of the cloisters, and some decorative arches in its various sides lead one very reasonably to arrive at that conclusion, and if so, the archway above alluded to may have led out of the lower part of the nave, as is often the case, into the cloisters; and in that case the difficulty as to the nave having formerly been of greater length is solved. The church must have been a fine one, for it is lofty, and of noble proportions, and the windows are, like nearly all the church windows in Gloster, of large size. The interior is now divided into many stories, and occupied as dwelling-houses. On the south side of the quadrangle is situate the scriptorium; it is 75 feet long. The south wall is divided into recesses, each recess having a small window in it. This fine large room has been termed the dormitory; and these recesses are said to have been the receptacle for the beds, but we think incorrectly: for the divisions would only allow of a bed so placed as to have the window at the head of the bed—obviously an inconvenient arrangement. We incline to think, therefore, that a seat and a desk were the furniture of this little retirement, and its occupant was engaged in the task of either copying manuscripts, reading them, or illuminating missals. There is precisely a similar arrangement in the great cloisters of the cathedral, where its use is most satisfactorily accounted for; and, indeed, in some of our university libraries, the book-cases are so arranged in blocks as to leave recesses of a similar kind,—a design well worth following in our domestic libraries, when built of sufficient size. It is possible,—indeed, very probable,—that other parts of this great room may have been occupied as a dormitory. At the west end of it is another large and lofty room, with an elegant triplet window in its gabled end, and to which we affix the name of "refectory." In stepping this room we found it to have been nearly 100 feet in length. It may have been divided: though we think not. At all events, the roof is a continuous one. In a narrow passage, made so by modern encroachments upon the old building, are the remains of some very beautiful and perfect tracery. It seems to us to have been the heading of a large square window.

Not far from the Black Friars, on the opposite side of the Southgate-street, and close upon the church of St. Mary de Crypt, stand the remains of the Augustins or Grey Friars. Here again must have been a large community. The church, a lofty and very fine one, seems to have been originally of two aisles only, as is now the case at St. Michael's, and not as it has been described, of three—a centre and two side aisles. There were seven windows in each aisle, divided by buttresses, and this strengthens our belief that the aisles were originally two, for we do not see buttresses inside a building.* These windows, with its two magnificent eastern ones, were once glorious with tracery, the greatest portion of which has only very recently been destroyed to make way for the requirements of a school. In reviewing this destruction of noble edifices—noble in their structure, if we deny even the usefulness of their original destination, or their applicability to modern wants,—one cannot but deeply regret the adaptation of them to purpose so utterly out of character with their plan and appearance. After all has been done that can be done to transform and disfigure them, to deface their original architecture, they make when so altered unsightly buildings externally, and in almost every case internally inconvenient and uncomfortable dwellings. Careful supervision of these things, and a few protecting genii at a place, might enable us to save and restore those gorgeous structures, relics of other ages, upon which so much time and wealth have been expended, so much, indeed, that we can never hope to reproduce them. Day by day, almost, have we to mourn over wanton destruction of those noble productions of our clever ancestors; our cities robbed,—for it is a robbery,—of those monuments, which might, we venture to say, be made useful embellishments to even a modern town. Few places have been richer in its architecture than Gloster, and very few have greater reason to lament over its destruction. We see mechanics' institutions, lecture-rooms, libraries, concert-halls, springing up in most country towns, and that frequently at an outlay that would more than suffice to restore these interesting and beautiful edifices to their original state; and when so replaced, it would be found that their plan was admirably adapted to such wants as those; and what we should gain in beauty of structure requires not a moment's comment. We would recommend those who may have a voice in these matters to reflect on these remarks.

Within the compass of a hundred yards of the Grey Friars is St. Mary de Crypt Church, cathedral-like in form, and grandeur of detail; on its north side are the buildings formerly occupied by the priesthood. In the chancel of this church, which, like the whole of the building, is of lofty and graceful proportions, three sedilla have been brought to light. They are of fine design. Close at hand are a piscina and credence-table. On the north side another sedile of greater pretension was found, probably intended as a seat of honour for an occasional visitor—some church dignitary.

On removing the whitewash some very superior paintings were discovered. The walls of the chancel, as well as the sedilla, appear to have been thus decorated. The first niche of the western one represents the consecration of a bell; the next the lifting of the serpent in the wilderness; the third a procession, headed by a noble presenting a chalice to an abbot, who has a retinue of monks behind him. The whole has been rich in gold and colours. The large arched panels have been filled with paintings of life-size figures. Those on the right side, looking east, can still be traced; those on the south represent the adoration of the Magi. Another subject is the ascension from the tomb, with the attendant Marys and the sleeping guards, apparently in the most accurate costume of their period. The colouring in these paintings must have presented a most brilliant appearance, for they were glowing with gilding and rich and harmonious painting. In a chapel on the north side are two oblong holes, cut obliquely through the thick stone wall, so as to enable any person there desirous of doing so, to take a peep at what was going on at the high altar. These were in the Vulgate, as all know, called "squints." At Tormarton Church is one of much larger dimensions. At St. Nicholas Church, in this city, are two of these squints, of four compartments each, in the two aisles on each side of the altar.

The tower of St. Michael's Church has much of grandeur in it. It is massive, yet rich and graceful, and owes much of this effect, we venture to assert, to the *size* of its details, which, though great, are in due proportion. And here, we trust, we may be forgiven for remarking that the want of this boldness,—this height, and depth, and shadow,—is one of the greatest defects in our modern architecture, whether Gothic or otherwise. Had some of our recent buildings had the tabernacle work fashioned after the model of the superb tower of Gloster Cathedral, they would not, notwithstanding the skill and taste exhibited in them, have that tame and somewhat uninteresting look too many of them present to the eye. Smallness of detail was generally avoided by the skilful artists of yore, and whenever or wherever it prevails, it presents a frittered and toy-like appearance. Wonderful strides have been made in our architecture of late, we are free to admit; but we are still deficient in that boldness and grandeur of *detail* so truly effective and magnificent both in the older buildings of England and on the Continental ones.

The steeple of St. Nicholas has been remarkably fine in its height, proportion, and decoration. Its style is Perpendicular. The tower has three stories, the lower one having been originally open to the nave. All three stages are remarkable for the richness of their decoration, the upper one being most so. Its beautiful octagon steeple has been reduced to nearly half its original height, from the erroneous idea that it was unsafe. The rising of the ground of the street here has been very great. You have to descend a flight of many steps into the church. This reduces the height of the spire, already shorn of its fair proportions, and dwarfs the external walls of the church. On a door in the south porch is a very remarkable knocker. The lower figure is evidently intended to represent Satan: is the upper one tasting the forbidden fruit?

The Church of St. Mary de Lode has been considered the mother church of Gloster. If this be so, the distinction can now only apply to its tower and chancel; all beyond this is modern. In a recess in the chancel is a recumbent figure, said to have been the tomb of Lucius, the first Christian king of Britain; and there seem to have been grounds for the assertion. The objection that the figure is arrayed in priestly robes would rather tend, taking into consideration his conversion from Paganism to Christianity, to favour the idea. The chancel has been well restored. It is worth a visit.

* Since these notes were penned a spiral staircase has been discovered winding up a richly-decorated buttress, which divided what we were justified in considering the two great east windows. The accidental discovery of this stair, and the tracing out some large massive piers, convince us that here stood the tower of the church, occupying what we conceived to have been a south-east window. This tower must have been of great proportions, and very probably greatly injured at the siege of Gloster, as there are marks of cannon-balls in the east end of the Crypt church, just beyond it; but as the Black Friars was nearer the walls, and covered the church of St. Mary de Crypt, it must have protected the latter, and borne the brunt of the cannonade.

There may be seen a good tower and steeple at St. John's, but the body of the church is modern.

There are one or two fair examples of modern church architecture in Gloster; amongst the most worthy of notice is a new church in Worcester-street.

The Priory of Lanthony, lying on the outside south of the city, has the remains of a fine gateway leading to it, and one of the most magnificent stone barns in the kingdom; both for its size, which is very great, and for its graceful proportions. On an eminence a little farther on was a residence of the prior, for him to retire to when the Severn overflowed the grounds of the priory below. The house was then called the New Ark, now corrupted to Newark.

The Priory of St. Oswald, latterly called St. Katherine's, has some remains worth visiting; it must have originally been a magnificent structure. Remains of the nave and side aisles may still be traced, and it would not be difficult to point out the place once occupied by its transepts and choir. Some years ago a great portion of the building was sold by auction; still enough remains to interest the antiquary, to whom the tracing out and discovery of its parts will be, as they always are, a labour of love.

There is an interesting, solitary-looking, little old building in the lower part of the left side of Worcester-street, with its grey stone and lancet windows. It is considered to have been a secular dwelling of the period, and most probably was so.

At the meeting of the four streets once stood a beautiful structure,—the High Cross, the erection of which has been attributed to Richard III. This was by no means unlikely. He took his title from the place; he was a benefactor to it, and came hither immediately after his coronation; and, it has been stated, issued his mandate for the murder of the two princes in the Tower, from Gloster. It pleases us to adopt the former belief, but not the latter. From engravings of this structure, we find it to have been octangular in shape, and divided into two stages, surmounted by a spire; but the plates differ as to its termination: one of them finishing with a kind of crown or canopy; the other one represents it in steps, with iron flags or vanes, and an upright centre. We incline to think the latter to have been the original shape, and the former an alteration: both designs are effective.

The lower stage of the cross was embellished with eight richly decorated canopied niches, containing statues of King John, Edward III., Henry III., Queen Eleanor, Richard II., and Richard III. Two former sovereigns had most likely been displaced to make room for Queen Elizabeth and Charles II. This cross we believe is still in existence in some neighbouring gentleman's park, and should, with a fine old conduit, be restored to the city. This conduit stood on the spot lately occupied as a vegetable market, but now by the Corn Exchange. It was a graceful specimen of the Early Elizabethan period, though erected in 1643 by Alderman Scriven, and called Scriven's Conduit; it was crowned with a canopy of arches of the ogee form, terminated by a figure of Aquarius. It was removed, as usual, for *improvements*, but it is fortunately preserved intact, and now in the grounds of Mr. E. Hopkinson, at Edgeworth Manor.

Though much of the domestic early architecture of Gloster has been swept away, and chiefly within the last twenty-five years, the lover of antiquity will still find much to interest him in a ramble through this old cathedral town; to enumerate all here would be somewhat out of place. A taste for such matters generally directs the ardent inquirer: he would, like a true sportsman, find out the game quickly enough; and very likely, as a stranger, beat up that which a denizen of the place might not have noticed: what we see every day is frequently but little observed. Among some of the old domestic buildings still left we would name the "New Inn" in the Northgate: here, as is generally the case elsewhere, the oldest in the place. It was the hostelry frequented by the pilgrims flocking to the shrine of Edward II., whose murder, by a most cruel death, took place in Berkeley Castle, about fifteen miles from Gloucester: the air resounded "with the shrieks of an agonized king." There is an underground passage from this inn to the Cathedral, through which the pilgrims took their way to his tomb, a magnificent structure of canopied stone tabernacle work, still in perfect preservation. An alabaster figure of the king lies on an altar tomb under this fretted canopy. The figures in the niches of the altar tomb, probably of silver, have of course long since disappeared.

The open galleries of this ancient hostel still exist, and much of its ancient Gothic and other carvings. There is a fine foliated bracket on the right side of the entrance gateway; the corresponding one has been taken away for improvements. Even still more to be admired is an angle-post of very large size, on that side of the inn running up the New Inn-lane; it springs from the ground up to the first overhanging of the building, the angle of which it supports. It has been a large beam of solid oak, carved into rich canopy and crocket work, under which stands a figure of an angel; above this is a similar one, but without the figure, supporting the second projection of that story; over this runs a length of Gothic window tracery, extending originally the whole extent of the building, which occupies a considerable portion of the lane. The extent of this inn was great; from east to west, including stalls, it measured nearly 200 feet. Lower down, at another "New Inn," which leans as much out of the perpendicular as the celebrated Tower of Pisa, is a charming specimen of a Gothic spandril—Tudor most likely—stretching across its gateway; the gate itself under it still exists, but, to all appearance, it has not been closed for a hundred years. There is an inscription in old characters, as perfect as when cut by the carver, its sheltered position having preserved it. Another hostelry of the same date, about 1450 and 1460, may still be seen in the Westgate-street, opposite St. Nicholas Church. All these are, of course, perfectly well known; but there is always a rising generation to whom these things should be pointed out. In the four principal streets of Gloster, or the cross ones, and in the lanes many old houses may yet be seen, with their projections, corbels, brackets, and carved gabels; and in recommending the artist and the lover of the picturesque to see and judge for himself, we take our leave of this ancient city, reserving a notice of the Cathedral of St. Peter and the ancient Deanery for another opportunity.

REVIEW OF DESIGNS FOR LIVERPOOL EXCHANGE BUILDINGS.*

BEFORE proceeding with our review of the plans, as much misconception exists among the public on the question, we would desire to call the attention of all those interested in the architectural success of the new Exchange, to the desirability, if not absolute necessity, of employing the successful competitor, always supposing his designs be adopted, to carry them out. So many instances of failure have occurred when the opposite course has been pursued, that it is hardly within the bounds of probability that any other but the author could do justice, more especially to the artistic portion of conceptions emanating from the individuality of his own mind. Justice, moreover, demands it. To return to our description, in which, while adhering to the regular form best calculated for reference, we have sought to illustrate, by contrast or similarity, the designs placed by us in juxtaposition. Among the first we notice in the North Room is—

"Every Man's Work shall be made Manifest," (No. 2 on the list), which contains a square inelegant news-room, with four large piers and eight sets of coupled columns supporting a square coved ceiling, lighted with glass in the coves. The mode of lighting the corridor, as in many of the other plans, is not sufficiently displayed. The underwriters' room faces South Chapel-street. The exterior is rather elegant, the windows being very simply treated, having principally square reveals. The strings and cornices possess that continuity so essential to the unity of the whole design; but the breaks in the several fronts rather tend in the opposite direction. The cornices are bracketed, and Mansard roofs and circular turrets are liberally employed in obtaining a picturesque outline. An Italian tower, of the Venetian type, in the angle, is useless, uncalled for, and quite unsuited to the character of the place. The two diminutive conical roofs over the centre block are the weakest feature of all. It is also doubtful if there be glass enough in proportion to the wall space, and the news-room is decidedly too low. The style adopted is a mixture of French and what might be termed baronial Italian.

M (9).—An original style of treatment pervades the ornamentation of this design, which approaches the Venetian manner, though a little Frenchified. There is much of merit and originality in the details; but the parts are small, and the whole would be deficient in grandeur. Three square domes are the most prominent features;—one central, over the passage into Oldhall-street; the other two at the intersection of the wings. It does not appear quite clear why or for what reason the latter have been placed there at all, for certainly a *re-entrant* angle does not require accentuation. The whole of the west wing nearly is taken up with the news-room and underwriters' room, which occupies the south-west angle. On the opposite side of the passage or vestibule, from Rumford-street to the news-room, the author has consulted the taste of the *merchant* by providing a large *bar*. There is a large vestibule to principal entrance of the news-room. The drawings are well executed, and in every way creditable. The motto "Labor omnia vincit" would be more suitable in these than in the set that bears it. In the arrangement of the general offices this plan departs from the corridor type of the previously-mentioned designs, having side entrances and staircases, and is consequently cut up into distinct blocks of offices, with no means of communication between. We can hardly approve of this arrangement as equal to the other, nor would the *public* who were forced to mount more than one flight of stairs, presuming that a man may possibly have business at the same time with more than the tenants of one set of offices. Telegraph offices are shown, arranged in alternative plans, with side and centre entrances. The interior of the news-room is shown in an excellently-coloured perspective, and possesses, notwithstanding a glass roof, a church-like character. The taste displayed in the interior *detail* is not as commendable as the execution of the drawing: indeed, we thought sufficient had been said of late against placing an insulated entablature on a column to support an arch, to have prevented any one committing that blunder for some time to come. The columns are octagonal, but too much broken in form, and the whole interior has a Rococco appearance, especially distasteful to those who look for more studied and perfect detail and ornamentation. The room has still a very gorgeous effect; but the wisdom of placing a stained-glass window where so much glass is employed in the roof, we question. The room would also be hot. Generally these drawings are well studied, and the authors deserve praise.

"Sine Labore Nil" (6).—This design, apparently, is received with great favour. The plan has been contrived on the supposition that it would be better to preserve a space for the public in the position of the present arcades. This in itself is in contravention of the published instructions, though we should hardly think the committee will be severe enough to exclude it on this account. Honest, literal, straightforward, trusting competitors have just cause of complaint when encumbered with restrictions which the committee, when it comes to the point, never insist upon. Great tact and judgment are required on behalf of the competitors to distinguish between what the committee really want and what they only think they want; and it generally occurs that the one who strikes out an original course is the most successful, simply because he shows the committee what they never thought of before; still it is very unsatisfactory working, as it were, under the *ban* of the instructions. On this head we have before now spoken. The exterior is very telling, great richness and powerful light and shade being obtained by an arcaded treatment of the first and second floors with columns supporting a massive entablature and cornice. The spandrils of the arches are profusely decorated with sculpture. The top story has a range of narrow circular-headed windows. The defect of this design is the semicircular windows of the arcade on the second floor, which, while being an inconvenient method of lighting the offices on that floor, are awkward in appearance externally. It demands very great skill in so uniting the two stories as to obtain the proportion necessary for a good order, and yet preserving the appearance of two stories without awkward and ungainly contrivances. Probably in none is this so successfully accomplished as in "Labor omnia vincit," before described. The truncated and Mansard roofs had better have been left out or made less prominent, though we must do the author the justice of saying that the sky-line is much better managed than in many that adopt that form of roof. Dormer windows are introduced in places, we presume, to light the fourth story. A central tower marks the position of the principal entrance on to the "flags." The exterior is distinguished by a certain magnificence and breadth of treatment similar to Sansovino's Venetian palaces, but the French element has crept into the roofs. The arcade would be a boon to the public, but not to the shareholders. The news-room is square on plan,

* See p. 381, *ante*.

surrounded by a colonnade, with recesses at back, of questionable utility, forming a sort of undeveloped Greek cross, the whole crowned with an immense monotonously coffered dome, overpowering the colonnade and crushing it to the ground. The disproportion between the height of the order and dome is painful, if correctly represented in the interior perspective. In such a dome, simply divided in square coffers of similar pattern, there is neither beauty nor grandeur. The underwriters' room is in the south-west corner. The arcade, it is stated, can be divided into offices if it be thought better to employ the space in that way; but an alternative design of that description looks, if executed too plainly, an afterthought. The whole exterior of the basement and ground, in the event of offices being placed in lieu of the arcade, ought to be entirely remodelled.

"Absque Labore Nihil (8).—A handsome news-room a parallelogram in form, with offices on the south side, somewhat similarly arranged to "Labor omnia vincit." The underwriters' room occupies the north side in the space devoted, in the latter plan, to a court. A recess, forming a sort of diminutive wing on either side, looking out on the flags, is left for the retiring-rooms. A lofty Venetian tower occupies the north-west re-entrant angle. The author, like most of the others, has deemed his design incomplete without the truncated roof.

"Aleph" (7).—In plan the news-room is of the nave-and-aisles type, veiled with three barrel-vaults, and belongs to the same family as "Fair-play," the recesses for conversation being formed by a continuation of the aisles in a similar manner. The offices for brokers and others are arranged in separate blocks, and are inconveniently large, and the access to them is not well planned. The exterior is of arcaded character, very little stone being used in proportion to the area of glass. A spire, square on plan, occupies the north-west angle. The angles of the wings are *accentuated*, as in most of the designs.

"Non Quo sed Quomodo" (14).—A design peculiar in having a two-story order of deep square pilasters, instead of the usual three-quarter columns. The basement is rusticated, and the structure would possess a certain dignity of character, though the elevations are too simple and plain to prove very attractive. An attic story surmounts the whole. The façade to Rumford-street is shown with a recessed portico of square columns, of almost Egyptian severity and of doubtful utility; the influence of the back colonnade of St. George's Hall being very apparent. The news-room is a parallelogram, with a surrounding colonnade and two recesses facing the flags. The square piers of the colonnade would be a material objection, and the passage or surrounding cloisters would be useless for anything but exercise.

"Enterprise" (12).—The news-room is a parallelogram running north and south,—a direction contrary to its position in most of the plans; and we cannot see that any advantage is secured by so placing it, otherwise than its presenting a longer frontage to the flags. The ceiling takes the form of a semicircular vault. The exterior is Venetian in character, and crowned with rather diminutive Mansard roofs. The central octagonal campanile is not successful in design, and the exterior is meagre. It possesses no attic story, properly so called, but dormers light the rooms in the roof. The elevation is divided into two parts, in which it differs from most of the designs,—two stories plain and two stories under one order,—the usual arrangement being rustic basement order and attic. The corridors are central.

"Fides" (11) differs from most of the exteriors in treatment, being divided into two arcades in height, each containing two stories of windows. It is rather a relief to get out of the beaten track of architraves, pediments, intervening strings, and order above order; but the nightmare roofs must of necessity appear either in one form or another, and in this plan take the form of truncated square domes, arranged by the usual recipe on flanking angular towers to each wing, the central feature of the main quadrangular front being a similar roof of a larger character. It is really extraordinary that so many competitors should have managed to hit on this arrangement, the utility of these *large* decorations being not at all apparent, or at all proportionate to the profuseness with which they have been employed. It seems to have been a general impression that they must be got in somehow; and the above arrangement most naturally suggests itself to the mind. In the plan marked "Sine Labore Nil," though truncated roofs are employed, that of the west wing is continuous, the centre being brought forward in place of the angles, it forming far the most judicious composition; and the author, in his particulars, shows that he appreciates the quadrangular form, which, as we have before stated, many of the competitors have lost sight of. The offices in the centre of the west wing, it strikes us, would be dark, having only borrowed lights to depend upon. The ceiling of the news-room is coved and groined, with flat centre, and two arcades high; the plan of the room a parallelogram, lighted by windows in the south and east façades. The author of these plans exhibits, also, an alternative scheme, in which the news-room is square, and surrounded with offices; but the square form is not well adapted for so large a room. The elevation possesses very considerable merit; but it is questionable if the style of etching with warm brown lines is the most presentable way of exhibiting its beauty. We incline to the opinion that a good sepia drawing would have exhibited it to much greater advantage.

"Cosmopolitan" (10) is distinguished from all the others by a circular reading-room, with vestibules opening out east and west. The interior is evidently suggested by the Pantheon at Rome, but cannot vie with that structure in beauty. The corridors are central. The external elevation is one of a few with three-story pilasters, a very objectionable mode of composition. It has a central campanile. On the east wing are the ubiquitous flanking towers, while (certainly an original idea) the west has only one. The underwriters' room is situate in the south-west angle. The plan seems a very elegant one.

"Fortiter et Fideliter" (17).—A very handsome domed news-room singles out this plan. Among its class it is by far the noblest, most proportionate, and tastefully decorated, and is well represented in a perspective of careful, correct, and effective drawing in ink line. Four grand semi-circular arches support a segmental dome, which again is surmounted with an eye or dome of glass, by far the most effective mode of lighting a room of that form if taken in conjunction with the side lights. A two-story arcade, artistically treated, surrounds three of the sides, and the gallery so formed would be a useful and effective feature. The pendentives are nicely graduated, from the square to the base of the dome, forming a harmoniously proportioned and lofty hall. If we contrast the treatment of this interior with that in "Sine Labore Nil," it is much to the detriment of the latter, the half-developed pendentives of which are abrupt, and appear too weak, as they really would be, were they of brick construction, to support the immense dome. The segmental form of dome is adopted from very judicious motives, allowing of longer pendentives. The court to the north of the news-room appears to throw away space merely to light the corridors. It forms a vacuity the author did not know how to employ for anything more useful. The treatment of the exterior is original, but inferior to the internal design. The flanking towers again appear, but this time surmounted with ogive domes. The central passage is also flanked with similar towers and domes, giving it the aspect of the portal of an Elizabethan court, such as we see in the domestic architecture of that period. The windows are much too small; the chimneys *outré*; and the external design not generally suitable to the site and object. The interior and exterior might have been designed by different hands, so opposite in character are they. The underwriters' room is little better than a long corridor, the author not having placed his news-room well, though this might be remedied.

"A. B. C." (16).—A very suggestive motto. The drawings appear, from the style adopted, or rather the *manner* of the style, as if they had been got up fifty years ago, to which delusion the yellowness of the paper rather adds. The news-room is the only one of its class, being divided into nine smaller squares by four columns, from which nine equal domicular vaults spring,—a mode of covering the space not possessing the charm of variety or thoughtful composition,—a mere check-plan or draftboard pattern: it looks more like the crypt of a cathedral than a room devoted to such every-day work as reading the morning papers.

"Nobis Bene Nemine Male" (20).—A one-domed reading-room of Greek-cross type, apparently a favourite arrangement with the competitors; for while the parallelograms, as might be expected, are the most numerous, this form occupies the second position. The underwriters' room is oblique, the want of parallelism in the sides of the west wing forming a difficulty that all have not been able satisfactorily to surmount, though in some of the plans this is skilfully managed, among which may be mentioned "290," which has the underwriters' room canted round parallel with Rumford-street. The area left on each side of the news-room is objectionable from the loss of space occasioned thereby. The general arrangements are simple, but we cannot class it among the best plans. The exterior presents a neat columnar front, and the author deserves credit for avoiding the usual domes. Of all the plans revelling in an abundance of light this has the most solid-looking and sensible exterior. In no plan is so much window-space provided with an avoidance of a wiry and gridiron effect. There must, of course, be plenty of light, but solidity and breadth we would not willingly dispense with. The basement is ornamented with pilasters, not rusticated as is usual; the first and second stories contained under a Corinthian order crowned with an attic story. These plans may be best described as *sensible*, the cost, no doubt, also forming an element in the author's considerations.

"Alpha" (22), contains the usual parallelogram form of news-room, with a surrounding colonnade of piers and columns combined. The interior, from the management of the colonnade, most people would mistake for a sculpture gallery. The external design is of the common French character, sporting the invincible Mansard roofs. The first and second floor windows are circular-headed. The central feature is a well-developed tower and square dome of the Tuileries type. The wings are flanked with Mansard roofs, so large as to appear jostling one another. The basement is rusticated, but there is such a similarity in the designs of this character as to make description a mere repetition of what we have before written.

"Ω" (21).—A mere screen of columns and glass, wanting in solidity and unity, but possessing a good news-room and an underwriters' room in the north-east angle (re-entrant), with an adjoining court for light. The central dome to light the news-room is supported on heavy elliptical arches, the worst form of arch for such a span. We may contrast the interior of this room with that mentioned in our description of "Fortiter et Fideleter," very much to the advantage of the latter, the graceful sweep of the dome arches and pendentives of which is so accurately delineated in accompanying perspective. The corridors are central. Had the detail drawing of a portion of the exterior been hung it would have created a much more favourable impression than is conveyed by the general elevations alone. A court and gallery occupy the east wing. The "instructions" insist upon abundance of light, but it is never satisfactory or successful to design upon *one* idea, as in this and one or two other plans. The four small courts to light the corridor are objectionable. The accompanying description is written in an educated hand, but the author is a little too much engrossed with the notion of "light! light! abundance of light!"

"Veritas" (23).—The author would have done well had he left out his written description, or have been more careful in correcting it. Probably some young and inexperienced hand has produced this set, and sent them in merely for the sake of gaining practice and experience, and we sincerely hope he may profit by it.

"Ich Dien" (18).—The author seems to have been, like a few others, unable to bear up against the "instructions" respecting abundance of light: the result, therefore, is too much of a shop-front character. The elevation is divided into basement, two-story order, and an attic; and the centre is crowned with a circular campanile. The news-room approaches the square form, covered with a barrel vault, supported by coupled columns, and surrounded by offices. A large staircase occupies the north-east angle of east wing. The architectural design is wanting in high qualities.

"Cotton" (19).—A motto, we presume, thought taking with Liverpool brokers, whose business lies so much in that direction. The news-room adjoins the flags, Rumford-street, and South Chapel-street, and the mistake of not concealing the irregularity of the site, mentioned as to "Veritas," is also here committed. The two courts north of the news-room are very objectionable, and the courts in the building facing Tithebarn-street are not less so as sacrificing valuable space. The immense square dome over central passage drowns the whole composition. Generally there is more waste of space in this plan in the shape of courts than in any of the forty-four. The interior of the news-room is not elegant, and the semi-fluted coupled columns supporting the vaulted ceiling are objectionable in point of taste. A large cornice crowns the whole, with attic windows under, the usual flanking Mansard roofs again

appearing. The elevation generally is plain in design. We must complete our review next week.

We understand the first premium, 1,000*l.*, has been awarded to Mr. T. H. Wyatt, of London; the second, 250*l.*, to Messrs. Conningham & Audsley, Liverpool; and the third, 250*l.*, to Mr. Parnell, of Newcastle-upon-Tyne.

ON THE ART COLLECTIONS AT SOUTH KENSINGTON, CONSIDERED IN REFERENCE TO ARCHITECTURE.*

IT is easy to dilate in a merely general manner on the educational influence of museums and galleries of art. Everybody agrees that such collections are important objects of national concern, as civilizing and refining agencies; and there is an implicit belief in the minds of most people, that somebody else, entire classes in fact, are making a profound and earnest use of them in directly practical ways. Few care to think of museums as mere shows or places of pleasant recreation; though in truth, ninety-nine out of a hundred use them as such. I wish I could show that our national art-collections were as extensively frequented and as intimately studied by artists as the non-professional world imagines to be the case; but unfortunately, alike amongst architects, painters, and sculptors, the systematic students of our museums and galleries are but few in number: they are, I fear, but rare exceptions to the general rule of almost contemptuous indifference.

To point out in detail the positive educational value and relation of a collection to any given art or subject of inquiry, on the other hand, is not an easy matter: to begin with, it pre-supposes in the illustrator an adequate knowledge of the particular speciality, and a perfect acquaintance with the collection in question. In reference to the former qualification, it would be the height of presumption in me to omit to bespeak the kind indulgence of such an audience as the present: in the latter respect I have more confidence, inasmuch as this collection has grown up, in great measure, under my hands.

I am, I trust, sufficiently impressed with a sense of my own inability to deal adequately with this subject, and particularly with a feeling of the vastness, complexity, and inherent difficulty of the subject of architecture in general; for, as I estimate the province of architecture as a fine art, I am obliged to confess to myself that it includes, in a greater or less degree, nearly all the other arts; and that, to grasp and fully master all its branches, would seem almost a superhuman work, scarcely possible within the limits of a life.

As we all know, this was the view of the father of architectural literature, Vitruvius; but, if the ideal architect of Vitruvius seems to us a being of impossible perfections, what must be our estimate of that great master who shall grasp the enormous mass of knowledge and precedent which has accumulated since Vitruvius's day? Doubtless there is danger of confusing ourselves with visionary and impractical ideas; in other words, of forming an overstrained estimate of the extent and limits of architecture. I am convinced, however, that there is no evil in rating any art or concern at its highest value; and I shall, therefore, adhere to the highest view of the status of the modern architect.

But there have been men who have mastered the sum of all arts and practical knowledge of their epoch;—I allude to those true universalists the great artists of the period of the Revival in Italy; to Brunelleschi, Bramante, Leonardo da Vinci, Michelangelo, Raffaelle,—all architects in the fullest sense of the term.

Under our modern system of subdivision of arts and labour, the versatility of these great men seems to us inexplicable; and we are apt to look back to them in despair as to a superior race of beings. Rather let us ask on what system were their vast powers acquired. By what previous training, for instance, was Raffaelle enabled to give to the world the beautiful Pandolfini Palace; his Madonnas and life-like portraits; the great philosophical and religious fresco pictures of the Vatican; the arabesques of the Loggie, and the marble Jonah of the Chigi Chapel?

The answer I would give is,—Less by any methodic or strictly academic system of training than by a tacit belief in the inherent unity of art, which induced a habit of studying and taking daily—nay, even hourly—note of its monuments of every kind. It is well known that the vast and varied æsthetic knowledge displayed in the works of Raffaelle, setting aside his wonderful natural aptitude, resulted from the enthusiastic zeal with which he studied the monuments of precedent art around him.

But, it may be said, what has this to do with the question of modern museums? The Vatican in Raffaelle's day was not the vast art gallery it has since become. True, but to Raffaelle Rome itself was one vast museum. It is well known that Raffaelle was one of the most enthusiastic connoisseurs of the age—an eager collector, giving up much of his precious time to the acquisition of antique remains, either for himself or the enlightened princes and prelates who were only too happy to avail themselves of his knowledge and taste; and we have evidence enough, in his drawings and sketches, that every ancient relic he acquired was a lesson to him, its particular facts of design or *technique* being assimilated in his mind, transmuted by the subtle alchemy of genius, and reproduced in new and noble guise. Now, if we are to have Raffaelles and Michelangelos in our own day, I feel convinced they must be formed in the same way.

A principal object of my lecture to-night, then, is to show, that this metropolis contains in its various collections, a vast, perhaps an unequalled treasure of works of art, far beyond anything Raffaelle or Michelangelo can have had access to; and to impress upon young students and art-workmen in particular, the fact that, with such sources of instruction, the attainment of excellence in art is freely in their power,—that there is now, indeed, no excuse for ignorance,—that, in future, there need be no more, so called, self-taught architects—no blundering, half artists—no incompetent art-workmen, unable to get out of the old hackneyed grooves,—no more complaints, in short, of want of the means of instruction.

When Lorenzo de' Medici gave Michelangelo the run of his garden filled with antique statues, the boy quickly understood that he was expected to teach himself, and that there were masters all around him, each on his pedestal,—mute marbles, it is true, and yet speaking to him with the voices of Phidias, Scopas, and Praxiteles.

Here, too, is a garden better stored than the good Lorenzo's:—here, indeed, Michelangelo teaches in his turn!

I have not the felicitous expression of your excellent president, and therefore I the more admired the just and striking manner in which, in his opening address, he made it evident that the non-acquaintance of artists with precedent monuments of art led but to a laborious travelling over old ground, to a finding out of supposed novelties, which had nothing new in them,—in short, to a constant striving without any real progress.

I cannot but think that when a man knows little or nothing of what past generations have done, he will himself produce little or nothing of good for the future: for obvious reasons, the ignorant are rarely, if ever, original: it is impossible even for the most self-reliant or indifferent artist entirely to escape the influence of the monuments of art around him; and, if he be ignorant of the historical development of art, he will only the more easily be influenced by the passing fashion; that is, he will blindly follow some favourite model, who, for aught he knows, is but an imitator himself: need I say this is the great evil of our day?

It is an old objection, that too great a familiarity with precedent art is liable to enslave and deaden the inventive faculties. I shall not stop to expose this fallacy: it is, however, true, that at the present day we have too many special devotees of special styles, of which they know but the outer husk: this comes of getting a smattering only: it is exactly what a wider and more universal range of study would prevent.

Let us then see what the South Kensington Museum in particular offers to the architectural student.

In the first place, it must be borne in mind that the Museum is but, as it were, a creation of yesterday; that the collections are still rapidly growing; that they are only provisionally arranged; and that from necessary causes they are liable to continual shifting and displacement: at present, therefore, the Art Museum must be regarded as a rich treasury, in which all may make research; in which discoveries may be made, sometimes the more interesting even from their being unexpected; but not as a completely methodised institution.

It must not, however, be supposed that these art collections have been got together without design or definite system: on the contrary, a methodic and well-understood scheme has from the first been carried out.

The museum, on its first foundation in 1852 was specially intended to serve as an adjunct and necessary complement to the Government Schools of Art,—and, generally speaking, to forward the interests of industrial or ornamental design: with the latter view the incipient collection was, of course, soon made accessible to the public, and a new national museum was founded.

Two leading principles thereupon, as it were, came to the surface, and have never since been lost sight of: the first was, that it was not desirable to trench on the province of any existing public collection; and the second, that whatever were its range or speciality, it should be developed on the widest and most liberal basis; that the collection should in fact become *the* national museum in its own speciality. Now the nation already possessed a vast and rapidly-increasing collection of works of art of the classical epochs: the arts of Greece and Rome,—of all Pagan antiquity, in short,—were well represented at the British Museum; but there they stopped. A beginning, it is true, had been made in the direction of Mediæval art, but efforts in that direction were not very kindly looked upon by the governing body of that great institution; and whilst France, for instance, with her Musée de Cluny, possessed a most valuable and practically useful collection of works of Mediæval and Renaissance art, England had taken but the first timid step in that direction.

The work to be done was thus clearly indicated; and thenceforth the creation of a collection, illustrating all art, of what we may term the modern or Christian epoch, other than painting and its accessory developments,—branches already provided for elsewhere,—was undertaken; and I think we may now point with satisfaction to the progress made in ten years' time; for at this moment we have a collection almost as much superior to the Musée de Cluny as the latter was to the Mediæval collections of the British Museum in 1852. The South Kensington Museum, then, offers to all and especially to architects, as the true masters and leaders of all industrial artists, a treasure of works of decorative art in almost every vehicle, ranging from the first timid efforts of the Byzantine artists of the early centuries, when art awoke in Europe from the night of barbarism which had eclipsed the old Roman Empire; through the successive phases of Mediæval Christian art; Gothic, as it is still convenient to term it; Renaissance, or Cinque-cento in all its varieties,—Louis Quatorze, Rococo, Barocc, &c., down to the revived Gothic of our own day, and the brilliant and facile styles of modern France.

To follow all these phases in detail would be far beyond my present limits. I am embarrassed with the abundance of materials at my choice. I have selected,—not, it is true, at random, but with great indecision,—the beautiful objects you see before you, to serve me in some respects as texts for the imperfect and discursive illustrations which are, I fear, alone possible to-night. But, in the first place, let us say a few words on the great question of the present aspect of art in reference to the revival of obsolete styles; because I fancy it will occur to some of my hearers to suppose, that I am going to advocate an eclectic system of culling forms and details from first one object and then another, from styles and local peculiarities, from characteristic features induced by specialities of material or vehicle, &c.; and so forming as it were a modern composite order of architecture. Now this is exactly what I wish to guard against; and though I fear the endeavour is beyond my skill, I am most anxious to show that this is not the true use of precedent art; and that, on the contrary, as I have said before, the wider and more liberal are the studies of the true artist, the more completely exempt will he be from the enthralling influence of obsolete styles. My wish is to show, that a close and earnest analysis of beautiful works of art will not lead to their vulgar imitation; but, on the contrary, to a healthy perception of the great principles which are as it were latent in them, and which, when truly apprehended, will exercise such a general refining and instructive influence on the student as will strengthen and invigorate his original powers, and not warp and fetter them as the weak fibre of ignorance.

There is a great chain of art, as it were, reaching down from classical antiquity almost to our own times. I say *almost*, for the only sudden breaks in the links have been in our own day, by the eclectic revivals of the present century: we are now, in fact, operating a great Renaissance. Just as, in the fifteenth and sixteenth centuries, European society at large reverted with passionate eagerness to the arts and literature of classical

* By Mr. J. C. Robinson, F.S.A., &c., read at the Architectural Museum, on the 2nd instant.

antiquity; so now we, in this present age, are reviving Mediævalism,—we are even reproducing the Renaissance itself. Unhappily, however, these revivals are for the most part only literal resuscitations of extinct styles: from what cause I scarcely know, they nearly always lack that vitality, that creative or rather transmuting force, which, in the Middle Ages, laid hold of precedent art, and gave an entirely new colouring, fresh and distinctive garbs of beauty, to old and well-known forms: it is this which we cannot do now-a-days.

That there is great impatience of this thraldom of the styles, as I may characterize it, amongst young architects, I am quite aware; and on all hands we witness endeavours to escape from bondage; but these efforts, unfortunately too often take the shape of—earnest, it may be, but—inevitably cold-blooded attempts to achieve absolute originality. Now, I believe, there is some occult law in nature—some fatality, which makes itself felt in all such instances: whoever openly professes originality, usually achieves either novel ugliness and absurdity, or at best a new medleysome, glaring, and disjointed pasticcio.

What, then, remains for us? In plain words, how is the young architect to form a consistent and truthful style for himself? Certainly on the basis of learning and respect for previous canons:—we have already assumed this principle.

First and foremost, I hold that he must teach himself how to get professional knowledge—how to observe. Now there are two methods of looking at architectural monuments; I mean ancient buildings, and also such works of art as are on the table before us. The first is the historical or archæological view. This of course is very important to the architect: he should so critically study such works as to master their principal facts of style, in reference to their date and conditions of productions. Knowledge of this kind should underlie every other. In many ways, impossible to be specified, such knowledge will improve the practical judgment and power of the architect. Next, all these things should be studied *abstractly* or *analytically*; that is, taking up, for instance, any one of these objects; knowing, at a glance, all that is necessary about its history, origin, use, or intention. The student should ask himself, "And now what is the inherent æsthetic value of this object?" "What can I gather from it of direct use to me or my art?" "What particular facts of form, colour, materials, juxta-position of details, arrangement, contract, balance of parts, &c., can I learn from it?" "Can I assimilate, as it were, certain valuable facts embodied therein,—fortify my own perceptions thereby,—and in some future act of my art show that I have practically gained by this analysis?" Mind, I do not advocate any tedious turning and turning about, sketching, and note-writing, about every interesting specimen met with: life is scarcely long enough for this; but it is astonishing how rapidly,—intuitively as it were,—valuable facts and impressions are apprehended by the mind which has trained itself to habits of active observation and analysis of this nature: a few brief glances will then often tell the student more than he could detail in ten pages of description.

Let us take up this object, the famous Gloucester candlestick,—one of the bronze altar candlesticks of Gloucester Cathedral at about the year 1115; perhaps made at Gloucester, but more likely at Cologne.

Now, on our principle of culling knowledge from every source; if I had any particular subject uppermost in my mind, it is pretty certain I should be immediately struck with any fact or peculiarity seeming to have a bearing on that subject. Now, this is a specimen of very remarkable and indeed beautiful art in cast metal; and it strikes me that it offers valuable suggestions for the treatment of cast metal—cast-iron, I mean—employed on a grander scale; for observe how completely this utensil is architectural in treatment. Of course it was designed, and perhaps executed, by an architect,—by an artist, in short, who in all probability could have built a great minster, as well as executed its ritualistic furniture, and all with the same noble uniformity and congruity of style.

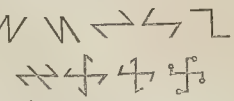
Doubtless the maker of this object was a cloistered monk, working to the glory of God in this his practical way. But let us consider this work. Have we not to all intents and purposes a rich and beautiful column, with its base and capital, intervening shaft, and central band or knop? Now it strikes me that the rich and intricate interlaced ornamentation is admirably suggestive for the modern treatment of cast-iron work. Of course, considered as a column, we might elongate its proportions to any extent, even to that of the slenderest shaft. Now the proper artistic treatment of cast-iron in architecture is a most interesting and important problem,—one that architects are bound to take serious note of; for it is certain that this material, whether we like it or not, will play a far more important part in architecture than it has hitherto done; and on the suggestive qualities of the material itself, together with a coincident reference to the peculiar treatment, the æsthetic expression, if I may so call it, of monuments in cast metal of past epochs or styles, alone, I think, can be gradually concreted the leading features of a consistent and genuine style of treatment of this new material. I have not time to dwell in detail on this matter, otherwise I could enlarge on the radical difference of artistic expression which should be made to prevail betwixt works in cast and wrought metal; how ornamentation in cast metal should not suggest carving in wood or stone; how, in consequence, it should rather be in full high relief, under-cut, or in open work, than in bas-relief; and taking up one specimen after another of different ages and schools from amongst our collections, I could show how leading principles were embodied and illustrated by them. But to show how intimately the different arts are connected with each other in the question of cast-iron ornamental architecture, we are not concerned with form alone: colour, also, forces itself strongly upon us. *We must paint iron. It cannot be left with its irregular coating of rust and dirt.* Iron architecture, moreover, naturally takes the shape of a slender framework or skeleton-shafts, girders, slender arch-bands, spandrils, string-courses, narrow horizontal fascia; and, generally speaking, a multiplicity of detail necessarily result from the physical qualities of the material; and the very meagreness, the linear character, and multiplicity of parts, at once suggest the use of colours as the natural means of giving emphasis, richness, and variety to decorative construction in this material. Here, then, at once a field of the widest and most interesting nature presents itself; and surely here, if anywhere, the trammels of bygone styles may be shaken off.

This one subject, colour as applied to interior architecture, would alone furnish ample matter for a lecture: it is a field in which precedent example will be most precious, and where, happily, this museum can boast an unequalled store of illustrative matter. For instance, there is first an admirable series of original drawings of painted wall decorations, from the principal monuments of Italian art: some of them are hung around this room; but here, again, the student must cull from indirect sources; and here, under my hand, occurs an original monument, which illustrates this theme in a very interesting manner. I allude to this splendid *chasse* or *reliquary* of the same period, and, perhaps, the same school, as the Gloucester candlestick: what, indeed, could be more suggestive than the striking contrasts of sculptured metal and brilliant colour here exhibited? How rich, and yet how harmonious and free from gaudiness are the *champlevé* enamels of this fine work. Note the admirable taste with which these miniature columns are picked out in gold and colours; each of different design, yet harmonizing perfectly one with another. Here is no want of balance; nothing fragmentary nor disturbing; no discordant contrasts interfering with the general repose or stability of the composition as a whole. In short, I cannot but regard this object, and others of similar style in our collections,—for instance, this beautiful enamelled tryptich,—as practical examples of the highest value; and I maintain that their great historical or archæological importance is at least equalled by their actual suggestive use to the art studied.*

ON GEOMETRICAL AND OTHER SYMBOLS.†

HAVING thus far paved the way for some further remarks on Freemasonic and other symbols, I must now revert, as I before proposed to do, to Mr. Godwin's very suggestive letters in the *Archæologia*; and also to what others have said of some of the symbols, including the hexalpha, not yet here treated of; before I can conclude with any suggestions of my own more especial origination on the general subject of geometrical symbols.

It will have been seen, by the selection, in my last letter, from the collection of mason-marks in the *Archæologia*, that a symbol resembling the letter N assumed a variety of modifications in the hands of the working guilds of the Freemasons. The N thus in fact becomes distorted, reversed, and compounded into a multiplicity of shapes, as for example thus;—



the exhaustion of the modifications of the simple or single N only constituting the basis of more complex modifications. Thus a straight line cuts it into its two terminal angles or halves, *as if to draw our attention to the duality and reversal of the angles:* then a second N takes the place of the dividing straight line; and we have thus the cross, combined with the terminal angles in various ways; one of which, the third last in the selection here given, is identical with a sectarian mark of the ancient Jains of India; and the last in order is a symbol known and regarded as of extremely ancient Chinese and Indian origin; and is also still in use from old times, even in this country, as a heraldic symbol; just as, by the way, the Y symbol also is, here and elsewhere, not only among laymen, such as the Conyngham family, but as "the pall," an official vestment of the Roman Catholic archbishops.

In all the varieties of the N symbol there is this one peculiarity,—that in each N there are two reversed angles, just as there are in the X or St. Andrew's Cross; and indeed in the Greek cross itself; although this latter may be regarded as showing forth a duality of decussating St. Andrew's Crosses, just as we have regarded the last three of the N symbols as displaying each a duality of these N symbols.* Here, then, in the N symbol, we have something very like an equivalent for the sexual union of the V and the Λ or feminine and masculine symbols of the Egyptians, as the true elements of this N symbol, as well as of the cross and the tau; and by putting the Λ and the V together thus ΛV, just as we did the reversed taus, of which Dr. Barlow speaks, thus $\frac{1}{T}$, we at once perceive that the N itself may be regarded as a compound symbol, made up of the Λ and the V, or masculine and feminine symbols, just as the St. Andrew's Cross also is. The more elongated forms of the N symbol, however, show this of themselves, and were probably intended, like the dividing line, to do so.

With these preliminary remarks, let us now turn again for a little to the letters of Mr. Godwin, in the *Archæologia*.

In the second of these letters, the author draws attention to a symbolical mark, which he illustrates by a drawing, from a monument at Westley Waterless, in Cambridgeshire. This mark had been called by others "a monogram probably of the artist by whom it was executed." It consists of the N symbol, flanked by a star and crescent, or sun and moon, and surmounted by a cruciform mallet or hammer. In reference to this compound mark, or "monogram," he gives a quotation from a work on Monumental Brasses, of which the following is a portion:—

"The occurrence of a similar device in two instances seems to show that it was not an individual mark. May it not have been the badge of some guild of masons? If so, it will suggest that the same minds that designed the architectural structures of the Middle Ages also designed the sepulchral monuments."

The great probability that this mark was not an individual one clearly appears, not only from the second example, which is also given, though it does not include the N symbol; but also, and chiefly, from the fact, shown by Mr. Godwin, that the N symbol itself is one of the most frequent and distinguished of mason-marks; and which, as he informs me, he has recently found, in various parts of Canterbury Cathedral, even accompanying and overriding, as it were, many other symbols;

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* To be continued. The lecture was illustrated by a large number of rare and beautiful specimens. At the close, Mr. Beresford Hope, president, proposed in warm terms a vote of thanks to Mr. Robinson, which was carried with acclamation.

† See pp. 273 and 245, *ante*.

* The simplicity of the form of the cross, and its aptness to serve as a mere mark, of whatever kind, cannot alter *the fact* that, in all ages, and in all countries, almost, it *has* been used *as a symbol*, denotive of certain religious principles, of universal significance,—heathen and pre-Christian no less than Christian, and American or Western no less than Eastern. I may here note, by the way, as to the Greek cross, that just as the Y symbol may be regarded as the yoni, so the Greek cross, especially in an ancient form used by the kings of Jerusalem, with bulbed or rounded head and arms, may, *on a like principle*, be regarded specially as a bisexual symbol.

and in one instance curiously distorted and elongated, and crossing a straight line like a sort of angularized caduceus of Mercury.

I may also here note that on the coins of the Ariarathes, a series of Persian kings who lived before Christ,* there is not only the N symbol, but the Λ, which overrides it; the Μ, a trinity of angles, which also appears among Mr. Godwin's marks; the T;† and the hexalpha; which last, in this instance, wants the base line of the lower triangle, and is thus made to assume the shape of an oracular tripod or altar, with small circles at the ends of each line, like those on the last of the cruciform N symbols given above from the collection in the *Archæologia*. These Ariarathan symbols are associated with the figure of Minerva, on whose hand is the usual diminutive winged "Victory," as it has been called; reminding one of the Virgin and Child, and also of the Hindoo gods and their wives, whom they hold, like small dolls, in their arms. The N symbol also appears on a coin of Amyntas, king of Galatia in the time of Strabo.

In a volume of engravings printed for the Spalding Club of Scotland, representations are given of many curious sculptured stones of ancient date, on almost all of which a symbol appears, which has been called "the broken sceptre," but which I recognized as an elongated modification of the N symbol, although I was not aware of the importance and the extensive use of this symbol till I afterwards saw Mr. Godwin's collection of mason-marks in the *Archæologia*. In most instances this Scottish symbol has something analogous to the head and butt-end of a sceptre or an arrow; and in one case it is entwined with a well-defined serpent, as if it were a broken caduceus. This N symbol, or "broken sceptre," is frequently laid across what has been called a "spectacle ornament;" but I scarcely think the form in question can possibly be considered to represent anything like spectacles; because, in one example of it, the surface of each of the two discs, or rounds, is studded over with knobs, as if to represent a setting of precious stones on one side of an opaque object; and it at once struck me as more probable that what was intended to be represented might be a small double mirror, one forming a handle to the other; or, indeed, a single mirror, with a co-symmetrical handle; the studded side being the back of the mirror: and sure enough, in my hurried glance over the plates, I came at last upon a veritable *mirror and comb*, placed together, at one side, as if to show more clearly what was intended to be signified by the similar but more prominent form combined with the N symbol. This single mirror closely resembled one of the discs of the double figure or symbol. And here I may note that on a Phœnician coin, found, I believe, at Citium or Cyprus, and engraved in "Higgins's Druids," p. 117, there is, on one side, a form which very much resembles the studded mirror, but without a handle; with an E and an 8, which might stand for the comb and the double or handled mirror; and it is also notable that on the same coin there are a cross and an animal something like a hippocampus or sea-horse, both of which, or the cross at least and some such animal, also appear on the sculptured stones of Scotland. The same two things, a cross and a half mammal half fishy or reptile looking animal, but called by Mr. Hodgson, of Newcastle-upon-Tyne, a basilisc, appear together also on a mythraic sculptured slab of the Roman period, found in the north of England; and what is more remarkable still, the star and crescent, or sun and moon, as in the monumental mark given by Mr. Godwin, here also appear; the whole, moreover, being enclosed in what has been called the fire triangle, or triangle with its apex upwards. I may here also observe that on a Roman altar, found at Maryport, and engraved in Dr. Bruce's "Roman Wall" (2nd Ed., p. 377), a water-jug is surmounted by a handled mirror, just as the triangle alluded to by Dr. Barlow is surmounted by the bird drinking out of it; the symbols being, perhaps, equivalent.

This altar is inscribed on one side to the *Genius loci*, with the words *Volanti vivas* on the reverse side.

As regards the mirror and comb, there is a curious magical traditionary superstition in Scotland; namely, that if, "on Hallowmas eve, when the night hags do glide," a maiden, at midnight, proceed to a solitary apartment, with a candle, and there *comb* her hair, before a *mirror*; the vision, *image*, or apparition, of *her true lover* will show itself in the mirror. The "magic mirror," too, is a well-known article, in use even at the present day; and not only in Egypt and India, and probably in China; but in Scotland, and also in England. Among the hill tribes of India the comb is held sacred, and is given by the priests to newly married persons. The double mirror, if it be such, may be denotive of the same duality of principles as those symbolized by the two angles of the N symbol, which is always dashed across it, very much in the distorted and elongated form of that one of the N symbols recently seen by Mr. Godwin at Canterbury Cathedral, and already specially alluded to as crossing a straight line somewhat like the serpent on the caduceus of Mercury. The N symbol itself, as well as the hexalpha and other kindred symbols made up of reversed angles may also be said to bear another relation to mirrors, inasmuch as their reversed angles are *images* one of the other, *reversed*, as images are in a mirror.

Mirrors and *Images* are of peculiar significance both in magical science and in the ancient mysteries, as well as in true religion. Thus Bishop Warburton, in his "Divine Legation of Moses," speaks of the "Shining Image" of Isis ("the Midnight Sun,") which Shining Image "appeared" by night to, and in fact *in*, Lucius or Apuleius; and Warburton says it is often referred to by the mystics, as representing the divine nature in general. This Shining Image was probably imagined to be identical with that *Image* of *Glory*, or Shining Image, alluded to by St. Paul in the following singularly mystical passage:—"We all, with open face, beholding, as in a glass [or mirror] the Glory of the Lord, *are changed into* the same Image, from Glory to Glory,"—from Image to Image, or the "glorious body," or body "full of Light," just as we nightly are from sleep to sleep in the body full of darkness.

The same idea of a shining image or likeness, or a luciform body, is given in such other Scriptural passages as the following:—"We know not what we shall be; but we know that when He [the Lord, at his second coming] shall *appear*, we shall be *like* him," for "this vile body *shall be changed into* the likeness [or Shining Image] of his glorious body;" going "in and out," or "ascending and descending," from glory to glory; or, in other words, mankind shall be made or created anew, in Paradise regained, or the *inward* kingdom of heaven, in the likeness or *Image* of God, as he was in Paradise lost. The same twofold principle of life or existence, one the Image or likeness of the other, is denoted in the myth of Narcissus seeing his *Image* in the *water*, and falling *in love* with this his own ghostly double, simulacrum, counterpart, or second self,—whom, according to Plato and Aristophanes, every one is *seeking*,*—as Isis sought Osiris, Ceres Proserpine, or as the Jews and Christians seek "the Lord for the body," into whose Image of Glory,—body full of Light, or Shining Image, "as in a glass,"—the counterpart of themselves,—*in* their own physical form—they (doctrinally) desire to be daily or nightly *changed*;—"dying daily," as from their own vile body, into his glorious body, in this divine transfiguration of ecstatic entrancement and God-possession.

'Every night to this life lost; in the Spirit all safe slept;
In ecstacy entranc'd till each morning;
Beyond fell Age's reach while in Youth's fair Fountain dipp'd;
Death conquering, and Grave ever scorning.
* * * * *
Every night in lucid rest; every limb array'd in Light;
Vile bodies into glorious brighten'd:
No sun needed for THE EYE: no eye needed for THE SIGHT.
Night itself by the Glory enlighten'd.
* * * * *
Every night a holy *day*, with an Angel lover spent,
In bliss divine, at will, never failing:
Thus pervading Flesh and Blood, God, indwelling, will prevent
Disease and death from ever prevailing.'

What has just been said of *Shining Images* also reminds us of the occasional *similitude* of the Ferocher to him who is protected by this guardian angel, or "*Image* of his Soul," as Maurice, not altogether incorrectly, calls it.

Much more might be said on this curious and interesting subject;—as in reference to the mirror of Venus, called "the divine mirror," and "the mirror of the Deity;"—to the use of the mirror in the Japanese temple crypts, cells, or "caverns of initiation,"—a "significant emblem of the all-observing EYE of the God Tensio Dai Sin;" —and to the Brahminical doctrine of the Soul, in abstract contemplation and divine absorption, *becoming* "the all-pervading undivided Brahma, as the face only remains, when *the looking-glass* in which it was *reflected* has been removed."*

As the N symbols on the Scottish sculptures and on the Ariarathan and Amyntasian coins are paralleled by the N symbols of the mason-marks and of the monumental and medallion-like compound mark also engraved in the *Archæologia;* so the star and crescent, or sun and moon, of the monumental mark are paralleled by a symbol, among the Scottish sculptures, which consists of the crescent or moon, *crossed by an open angle*, somewhat as the Freemasonic *square* is symbolically crossed by the open *compasses;* and as if the angle crossing the crescent were intended to denote the rays of a sun, and therefore took the place of the sun or "day star;" suggesting also the accordance of the elongated two-angled N symbol of the Scottish sculptures, and indeed of all the N symbols, and the interlacement of angles and of triangles, such as the hexalpha, as well, with both sun and moon conjoined in one. The cruciform mallet, maul, or hammer, suggests the hammer of Thor, or "the holy maul," by means of which, like the conjunction of serpents by Mercury's rod, marriage conjunctions were said to be consecrated or effected,—perhaps as Mars and Venus were linked together by the hammer of Vulcan; the marriage, of course, being still significant of the conjunction of two principles, a masculine and a feminine, a bridegroom and a bride, as are the various modes, including the N, of conjoining the Λ and the V, such, for example, as the following:—



and many others, all of them among the mason-marks in the *Archæologia*. It is notable that the fourth symbol, reversed, and surmounted by the sphere and cross, forms part of the arms of the City of London. The diamond-shaped symbol, with its lower angle shaded or dark, and the upper one light, appears among Freemasonic symbols, representing the pavement on which the temple as an emblem stands. The ⧖ is a curious symbol, not only used by the Freemasons and by the Buddhists, as already mentioned, but also repeatedly sculptured on certain slabs found on the site of ancient Carthage, and of which Mr. Godwin gives drawings engraved in the *Archæologia*. Sometimes this symbol has one end open and the other closed; and often one end is obviously and purposely made smaller than the other. Were there space to go into such minutiæ I believe that reasons could be given for some of these and other peculiarities in Masonic symbols; such as the twist or obliquity intentionally given to many of them; the N, for example; which more generally slopes, or *falls to one side*, than stands *upright*, or "on the square;" which, however, it sometimes does, as on the Ariarathan coins, and on the monumental mark given by Mr. Godwin in the *Archæologia*. As to the ⧓ form, I may note that this symbol has since been found at Canterbury, where it appears with the angles enclosed as triangles, thus ⧓; and hence, not only suggestive of the distinct recognition of the two separate and similar angles of the St. Andrew's cross and the lama, or ⧖, as indeed the open-angled form itself and the ⧗ seen by Mr. Godwin at Canterbury are; but also closely analogous to the hexalpha; though not precisely that; since the point or apex of each triangle in the hexalpha extends beyond the base line of the associated angle. The open angled

* See Smith's Mythological Dictionary, under the head of "Ariarathes."

† Maurice, in his "Indian Antiquities," gives an engraved figure of Diana with the T on her forehead in place of the crescent or moon. Did not the reversed tau, ⊥, then, denote the (inward) sun, as the T thus seems to have denoted that moon *in human form*, which reflects the light of this sun? Such a view would accord with my suggestion that the T may have denoted "the life that now is,"—the reflex, lunar, or concentrative life; and the ⊥, "the life to come," or the solar or radiative life of entrancement, physiologically and anatomically conjoined, in our physical organism, with,—and, as I shall endeavour to show, *precisely the reverse* of,—the lunar or concentrative life, or life of the ordinary waking state: indeed, it is self-evident that a concentrative principle and a radiative principle *must* be, thus far at least, the reverse of each other.

* See letter on Symbols in *Builder* of 15th January, 1859.

* *Asiatic Journal of Bengal*, vol. xiv. p. 124. On the Vedanta Philosophy.

figure, more or less varied, as in the acuteness of the angles, also appears at Canterbury Cathedral, as on many other edifices.

Having already said a good deal on the subject of open angles, in various forms, let us now see,—thus coming a little closer to the hexalphan climax,—what has been further said of symbolical *triangles*, which we thus observe to be sometimes alternatively or co-ordinately used instead of the open angles. And here, though we are much beholden to the Freemasons, as before, for what is known or believed as to the meanings or interpretations given of all such symbols as those I am treating of; nevertheless, I must confess that I have much less faith in the interpretations or explanations of the modern Freemasons than in their traditional forms, expressions, and symbols themselves. We will also find, I think, that the interpretations are neither very consistent nor very satisfactory. Still, we are bound to give these interpretations along with others, and especially since much more, it would appear, is to be found regarding both the symbols and their explanations among the Freemasons than anywhere else.

The triangle, according to Gadicke, quoted by the Rev. Dr. Oliver, in his "Dictionary of Symbolical Masonry," is

"A geometrical figure which every Freemason knows; and he must, in particular, study that triangle which has three equal sides, or which is called an equal-sided triangle. The ancient Egyptian priests expressed the origin of all things by the triangle; and, when they afterwards wished to describe the Godhead in its various attributes, they also adopted the triangle. The kind, good, gracious, and merciful God they delineated by the water triangle, ▽; and the just and angry God by the fire triangle △. The triangle, considered as a geometrical figure, is composed of three things, which, united, form one whole; viz., of three particular points and angles, by the union of which the triangle itself is formed, as one whole or complete figure. It is for this reason that it has been adopted as the symbol of the triune God. If we unite a ▽ with a △ we have a six-pointed star ✡ as a symbol of the perfect Godhead in all His attributes and works. If we surround this figure with a circle, there will be seven points in it if we include the centre point of the circle; which represents the sacred number seven."

On this interpretation of the symbolical meaning of the triangle it may be observed, that various explanations of what the ancient Egyptians symbolically meant by it are given; and according to Oliver himself, "in the hieroglyphics of Egypt we sometimes see the suppliant presenting a triangle to his God." Surely, then, the devotee did not conceive that his triangle represented either "the origin of all things,"—"the kind, good, gracious, and merciful God,"—or "the just and angry God:" none of these could he be "presenting to his God." It is much more likely that *this* presentation was meant to denote his own human life or person, in order that it might become God possessed, or "become the God," as Iamblichus describes the true chief purpose of all their devotional acts. Oliver, also, in his masonic plates, says, —"*The equilateral triangle*, with H T in the centre, *signifies Holy Temple*; or this temple shall be holy: this triangle was cast in gold." And then, again, if the triangle "has been adopted as the symbol of the *triune* God," does the interlacement of *two* triangles, or the hexalpha, denote two triune Gods? Much more likely is it here, too; that while the one triangle may denote the nature of the Deity, or the divine Spirit, the other may denote his "holy temple" or the human nature; since the true grand purpose of all religion is the accomplishment of a conjunction of the divine nature with the human; as is implied, for example, in all such Scriptural passages as these:—"We dwell in him and he in us, because he hath given us of his Spirit" (1 John, iv. 13). "God dwelleth in him and he in God" (1 John, iv. 15). "For ye are the temple of the living God; as God hath said, I will dwell in them, and walk in them" (2 Corinth. vi. 16).

Again, the ancient Egyptians are said to have denoted ecstacy or joy by the triangle; and this they may have done on the Buddhist and mystical principle that the Deity *is* himself the Rest or Repose in ecstacy which he gives to the human soul; and "This *is* the Rest wherewith ye may cause the weary to rest! This *is* the refreshing;" for, "in returning and in rest shall ye be saved:" "Return to me *and I will return to you*, saith the Lord:" "Return to thy Rest, O my soul." But this Rest is only given by the Holy Spirit, who is "the Spirit of Rest," as well as "a Spirit of Watching;" so that, on this idea, what the Egyptians ought, properly speaking, to have meant, and what they probably did mean, was just that the triangle here referred to symbolized the divine Spirit itself; and this would be quite in accordance with the Christian symbol of a triangle, surrounded by rays, and sometimes surmounted by a dove, to show that it denoted the Holy Spirit. Kircher, therefore, is probably somewhat more correct, or less incorrect or inexplicit, when he puts it thus; that the Egyptian symbol of the Deity was *a* triangle. But we have already seen that it is probable the ancient Egyptians also denoted the human nature as well as the divine by *a* triangle. There would thus be two symbolical triangles, just *such as we find in the hexalpha of the Egyptians themselves*, as well as of their cognate religionists the Hindus, and others, denotive of the marriage conjunction of the human nature with the divine, as in God possession, or the invocation of the oracular and ecstatic Spirit in the human body, as its "holy temple." This idea of the true meaning of the hexalpha is corroborated, as we shall see, by other evidence and reasoning.

Speaking of the equilateral triangle, Maurice, in his "Indian Antiquities," says that "when *illuminated* with a single jod, this initial letter, jod, denotes the thought—the idea—of God: *it is a ray of Light*, say the enraptured Cabalists, which *darts a lustre too transcendant to be contemplated by mortal eye*." The triangle, "now called the trowel," according to Oliver, in his Signs and Symbols, "signified equally the Deity, Creation, and Fire." Elsewhere he tells us that "a single triangle, bearing the secret name of God, was given to the Israelites on Mount Horeb."

In the "Asiatic Journal of Bengal," vol. xiv., pp. 633-40, I find it stated that "among the Cabalists, as well as among others whose systems originated in the same source, *the triangle, with its apex upwards, typified fire, as did that with its apex downwards water*." This so far accords with Gadicke's intimation as to the ancient Egyptians, that "the kind, good, gracious, and merciful God they delineated by the *water* triangle ▽; and the just and angry God by the *fire* triangle △." It was the water triangle, then, or the triangle with its apex downwards, that must have denoted the ecstatic Divinity, divine Spirit, or "Living Water" with the Egyptians; and this identification of the Holy Spirit, "the Comforter" with the attributes of kindness, grace, and mercy, as the highest good, or *summum bonum*, and the beneficent refresher and restorer, of man, in this "weary world,"—while the just, and angry, or wrathful principle is something very like its antithesis, and identifiable with the Father,—accords, so far, with Christian doctrine. The Christian mystics, moreover, taught that the human soul *per se*, or without the divine illuminating Spirit, is a dark and cold principle, of the nature of the wrathful principle itself; and the arch-mystic, Jacob Behmen or Böhme, identifies this wrathful and cold yet fiery principle not only with the human soul but with the attractive force throughout all creation; and it was this view of Bohme's that is said to have led Newton to investigate the nature and law of the Cosmical principle of attraction. This fiery principle Böhme, too, calls the dark principle, while "the Divine Sophia," or Divine Wisdom, "the spouse of the Soul," he identifies with the principle of Light, as the Holy Spirit, and Sabbath of Rest; and declares that the *fire* of the *Soul* ought to be *alight* with the illuminative *Spirit*, or "wrapped up into the holy Sabbath of Rest," as St. Paul was "caught up into Paradise .... the third heaven," within him, entranced *in the highest state* of perfection; "whether in the body or out of the body," as "a glorious *church*, without spot or wrinkle;" so that here, too, on the whole, we find the conjunction of the human nature with the divine to be what the two embracing triangles of the hexalpha probably denote in the architecture of the inward man and the temple of the Lord and Master of all.

Of the hexalpha, itself, which Dr. Oliver improperly calls the pentalpha, and the pentangle, he says,—

"In the Royal Arch Degree the name of God is depicted in the centre of old floor-cloths by a double interlacing triangle, thus ✡, inscribed within a dark circle, representing unlimited space beyond the reach of light, and the top representing the Light shining in darkness, and the darkness comprehending it not. This had been used as a Christian symbol *to denote the two natures of* Jehovah *the God-man*, for centuries before the Royal Arch Degree was ever thought of. In this form ✡, or this itself ✡, it was called the pentangle or Seal of Solomon, and the Shield of David, and was employed all over Asia as a preservative against witchcraft, in which superstition the Jews are said to have participated. It constituted the Pythagorean pentalpha, and was the symbol of health."

The pentalpha proper is an interlacement of reversed triangles as well as the hexalpha; and indeed the chief difference between them is that the pentalpha is made up of one continuous line ending where it began; but, from what is said of both, the hexalpha and the pentalpha have probably both had one and the same meaning. That of "God-man" is a meaning quite in accordance with what has already been concluded as to that probable meaning. It is somewhat strange, however, that as Dr. Oliver miscalls the hexalpha the pentangle and pentalpha; so he miscalls the pentalpha the hexad. Thus, in his "Theocratic Philosophy of Freemasonry," ed. 1856, p. 147, he says:—

"The duad represented [with the Pythagoreans] Light, and the pentad darkness The hexad or triple triangle was an emblem of Health. The hexad is to this day used among the Jews."

In his "Dictionary of Symbolical Masonry," however, he quotes Stukely, who more correctly calls the "triple triangle"—as Oliver terms it,—the pentalpha, and says that it is

"A pentagonal figure called Hygeia. The Pythagoreans used it as a mystical symbol denoting Health [*mens sana in corpore sano*, doubtless, in the highest and most transcendental sense; as implying the maturing, developing, perfecting, and health-bringing influence of the Holy Spirit on the human body *possessed* by it]. And the Cabalistic Jews and Arabians had the same fancy. It is the pentalpha or pentagrammon among the Egyptians, the *mark* of *prosperity*."

The interlacement of triangles assumes other forms than either the pentalpha, the hexalpha, or the kindred symbols already treated of. Just somewhat as the N symbol becomes duplicated by one N crossing another; so the pentalphan interlacement is sometimes farther complicated, showing a complete circuit of interlacing and reversed triangles, crosses, and various other symbolical outlines, thus



An example of this form of the interlacement of triangles, of large size, Mr. Godwin informs me, may be seen with a glass on the tower of a church in Sussex.

The hexalpha, however, is by far the most universal and distinguished, as well as the simplest and clearest, form of the interlaced and reversed triangles; and hence, perhaps, it is, that *it* is the form chosen by the Freemasons, and worn on the breast or neck as a permanent symbolical "jewel" of the Royal Arch degree; the true meaning of which the highest order of Freemasons *may* understand; but assuredly this is not the case with the lower orders; and the not very clear and consistent ideas of Dr. Oliver himself say little even for his knowledge on the subject. I may here, however, quote once more, as to the hexalpha, from his voluminous Freemasonic writings.

In his "History of Initiation," at p. 45, he states that in the caverns of initiation at Salsette, in India,

"Amongst an innumerable multitude of images and symbolical figures with which the walls are covered, the linga, or phallus, was everywhere conspicuous; often alone, and sometimes ..... typified equally by the petal and calyx of the lotus, the point within the circle, *and the intersection of two equilateral triangles*."

Maurice says that, in the Hindu initiations in these caverns, the candidates were plunged in *alternate* baths of *fire* and *water*. This reminds us of the two interlaced triangles themselves, the one denotive of fire and the other of water,—the one of the wrathful, fiery, restrictive, and attractive or concentrative principle, and the other of the beneficent and radiative, expansive, and luminous principle: it also reminds us of various symbolical and mythical ideas, indicating *alternation* as well as *reversal*.

Thus Dr. Barlow describes the *alternate reversals* of the T in Tuscan ornaments. Thus, too, we obtain a similar idea of alternation and reversal from certain rude sculptures at the entrance to the "transe" or passage leading into the "sorcery hall" of the Druidical rites at New Grange, in Ireland: there we find what has been called the water symbol, but which might more properly be called the fire and water symbol, since it is just a series of reversed angles, with their apices alternately up and down; or, in fact, just a series of N or M symbols, in a connected string; each N containing, in itself, an alternation and reversal of angles;—also a similar series of St. Andrew's crosses, laid, as it were, side-long, so as to form, when the tips of the stalks of the crosses meet, a series of diamond-shaped figures, in which the

angles or the Vs and Λs, or >s and <s rather, are also alternative and reversed. It is the alternation between the human state and the divine state,—between the waking state and the "God-possessed" state of entranced repose in the divine oracular Spirit,—which these and other symbolical and emblematical ideas of alternation and reversal seem to indicate; and the alternation between the waking state and the state of sleep may be taken as a type of such an alternation and reversal of the two life states, human and divine, in conjunction.

Thus, too, the Druidical "God of Mystery," Hu, is said by the Taliesin to have "lived and died *alternately*," just as Castor and Pollux "lived and died *alternately*;" each "dying daily," a "voluntary death;" the one dying in the other's life or revival, and living in the other's death or entrancement, every other "day,"—the day of Castor and the day of Pollux,—the outward day of the human life of the waking Soul, and the (nocturnal) day of the divine life of rest in the Spirit;—so "sharing an immortality between them." In like manner Proserpine, who is called "the life and death of all men," is said to have lived a "half existence" *alternately* in the regions below, and in the regions above. It was in allusion to just such an alternation that the Druidical Taliesin said, "I went the circuit: I *slept* in a hundred isles: through a hundred caers I *toiled*: a second time was I formed: I have died: I have revived;"—and "thrice have I been born;"—that was, "first *in* the egg" of the natural life of the "ovate," or pupil of initiation; next "out of the egg" into the second birth, or bird-life of the winged God, Hu, or the entranced and bard-life of the divine oracular Spirit; and thirdly, back into human life, like the birth of a *new* egg from the new bird-life; so having "gone the circuit,"—like the Freemasonic circuit or procession *with the sun*,—a diurnal circuit, of which hundreds of thousands of similar *alternations* were but a repetition of one and the same series, of alternations and reversals, which constituted, theoretically and figuratively, but not, it is to be feared, practically speaking, the twofold or mysterious life of the fully developed or perfected, divine, and "deathless brotherhood."

In the "Symbolical Interpretation" of the Hindu "Dream of Ravan," it is said:—"Man is a duality: he comprises two modes of existence,—one natural, one *reversed*;" and, according to Scripture, "the Flesh lusteth against the Spirit, and the Spirit against the Flesh; and *these two* are *contrary* one to the other." Neander, in his work on Christian Dogmas, speaks, from ancient doctrine [see vol. i. p. 92: Bohn], of "the *alternations* of the ecstatic and common state," and of "the *contrast* between the Divine and the human;" and the French Freemason, Chevalier Ramsay, alludes to the "double" state of the perfected, as being enjoyable "by turns,"—which, in truth, they must be if they accord with the alternations and reversals of sleep and waking; and if, as we are told, the perfected or "righteous have the promise of *the life that now is and* of that which is TO COME;"—*taking* "*root downwards, and* bearing fruit upwards."

All such Scriptural ideas, and many more than these, imply that *man's perfectly developed state*, like his imperfect, is still a twofold and conjugal state, involving a diurnal *alternation* and *reversal*,—an active waking, human life, in short, together with a life of divine and glorious rest, in "one tabernacle." This idea is also clearly embodied in such passages as this:—"We that are in this tabernacle do groan, being burdened; *not* for that we would be *unclothed*, but *clothed upon*,—["with our house which is from heaven,"—"*putting on* the Lord Jesus," the true "Light of the World"], that mortality might be swallowed up of life." Thus, too, the tabernacle in the wilderness, which was the model of the Temple of Solomon, the architecture of which is the Freemasonic architecture of the inward man, comprised two places, apartments, or houses, "the heavenly house," or "most holy place," and "the earthly house," or "holy place," divided by the vail, but *bound together*, for all that, by strong bonds or bars, that the whole might constitute "one tabernacle."

I fear I must now again pause without even yet having completed my self-imposed task; but I hope the curious interest of the subject will serve as a sufficient excuse for the length of this much more extended series of remarks on geometrical and other symbols, than I thought I had materials for at the outset.

I have yet to show the *reason* why precisely such forms as those of which I have been treating were probably chosen to symbolize the principles indicated.

J. E. DOVE.

THE FREEMASONS' HALL COMPETITION.

AT a meeting of Grand Lodge, held on Wednesday evening, whereat the proceedings were of a stormy character, and lasted till the small hours of the next morning, the committee on Grand Lodge Property made a report, recommending for the first premium the design marked "*L'Union fait la Force*;" for the second, "Stability;" and for the third, "Experientia." They had advised with two professional architects, Mr. J. T. Knowles and Mr. P. C. Hardwick, who agreed with them as to the two first, but for the third substituted the design marked with two intersecting triangles coloured red and blue. The committee, however, adhered to their own recommendation, and Grand Lodge confirmed it. The names of the successful competitors are,—1, Mr. F. P. Cockerell; 2, Mr. E. M. Barry, A.R.A.; and 3, Mr. Daukes.

These names were perfectly well known to us last week,—known to every one interested; in fact, in no case has the farcical and deceptive nature of the motto-system been made more obvious. By the course that has been pursued in this competition, giving two or three of the competitors information that could not be obtained by others, great injustice has been done.

THE EXHIBITION BUILDING OF 1862.

ON Wednesday night, at the Society of Arts, after a paper read by Mr. Hawes on "Results of the Exhibition of 1862," the Duke of Cambridge in the chair, a discussion ensued between Mr. Cole and Mr. Marsh Nelson, following upon an assertion by the latter, that Mr. Cole had not duly protected the interests of the Society of Arts in the negotiations between the contractors and the Government, and upon Mr. Nelson's comparison of the space in the buildings of 1851 and 1862, the space being stated by him to be less in the latter case than the former, and upon his reference to the defects of the 1862 building, some of which, he said, were incurable. Mr. Cole was able to deny that he had had any concern whatever with the negotiations; whilst he made an opposite statement to that of Mr. Nelson as to the space. Mr. Nelson was about to reply, showing that after the removal of the *annexes*, the structure purchased would contrast, as he had said, with that of 1851, and would involve waste of public money, but was stopped by the chairman.

A supplementary Civil Service estimate has been published, showing that a vote of 172,000*l.* is to be asked for, for the "purchase of land and purchase and alteration of buildings used for the purposes of the late International Exhibition." The following are the particulars of the vote:—

	Total Estimate for the Service	Vote Required for 1863 i.	Further Amount that may be reqrd.
	£	£	£
For the purchase of land and certain buildings from her Majesty's Commissioners for the Exhibition of 1851	120,000	67,000	53,000
For the purchase of existing Exhibition buildings from the contractors	80,000	80,000	—
For repairing altering, and eventually completing the building	284,000	25,000	259,000
Total.....	484,000	172,000	312,000

It thus appears that the total cost will be about half a million.

In reply to a series of questions put in the Commons by Mr. Gregory on the subject, the Chancellor of the Exchequer gave the following statement as to the estimated value of the building and site. The value of the building itself, he remarked, can best be judged by the agreement which was made between the commissioners and the contractors for erecting the building. The price which it was agreed to pay for what is termed the use and waste—that is, the temporary occupancy of the building—was 300,000*l.*; and the price which they were to pay in addition, if they purchased the building, was 130,000*l.*, making 430,000*l.* in all. The price which we shall propose to pay to the contractors for precisely the same object as was effected by the transaction I have just described is 80,000*l.*, in lieu of 130,000*l.* The site of the Exhibition building we have agreed to purchase for 120,000*l.*, together with certain buildings used as refreshment-rooms, which belonged to the commissioners. The estimated value,—and I think the moderately estimated value,—of that site for building purposes is 280,000*l.* The result was that 710,000*l.* was the estimated value of the property for the purposes of the market and as regards the site for the purposes of the commission as it was estimated between the commission and the contractors; and that value is, by a conjunction of circumstances, to be had by her Majesty's Government for 200,000*l.*

PROVIDENT INSTITUTION OF BUILDERS' FOREMEN AND CLERKS OF WORKS.

THE anniversary dinner of this Institution was held on Wednesday evening last, at the London Tavern.

Mr. A. J. B. Beresford Hope, F.G.S., occupied the chair, and was supported by Mr. W. Lee, M.P.; Professor Donaldson, president of the Royal Institute of British Architects; Mr. Gilbert Scott, R.A.; Mr. H. Hill, governor and treasurer; Mr. G. Jennings, Mr. G. Smith, Mr. R. Thomas, Mr. Patman, Lieut. Rogers, &c.

About 150 gentlemen having sat down to dinner; on the removal of the cloth,

The Chairman proposed the usual loyal and patriotic toasts, including the army and navy, and volunteers, for which Lieut. Rogers returned thanks. Mr. W. Lee, M.P., returned thanks for the House of Commons; observing that he would much prefer to see the chairman at the festive board than his political opponent at Maidstone. The hon. member added, that he had the greatest confidence in the wisdom and sagacity of Lord Palmerston, and that in his opinion the honour and well-being of the country were secure in his hands.

The Chairman, in proposing the toast of the evening, "Prosperity to the Provident Institution of Builders' Foremen and Clerks of Works," said it was somewhat difficult to dilate upon a subject the truth of which was self-evident and which nobody felt disposed to call into question. In the present case he was persuaded that there was not a single person who heard him who was not a well-wisher of the Institution. If he were to dwell at any great length upon the social advantages which accrued from such societies, and so forth, it was just possible he might be met by the rejoinder that they were assembled on a Wednesday and not a Sunday evening, and that they had come to eat a dinner, and not to hear a sermon. He would not, therefore, sermonize, but would venture to indulge in a few commonplaces. The Institution they were met to serve was a very good one. Such an institution might be supported in many ways. Its friends might dine support, speak support, or subscribe support. The ability to dine was undoubted: the capacity to speak was granted; and, therefore, what was wanted was the particular kind of support meant by subscriptions; and they should take care that their donations were not stopped in the block between London Bridge and the Southwark branch of the London and Westminster Bank. In looking at the balance-sheet of this society, he found that it differed from many similar institutions in this respect, that they lived on their income, and not upon their capital. They might not, it was true, be able to boast of as long a list of pensioners as other societies, but they might depend upon it that when others had eaten all their dinners, and were forgotten, their society would remain, respected, trusted, and useful. He recommended them to stick to their capital; for, if they did, their capital would stick to them. He need scarcely say that he sympathized greatly with the humbler class for whom, and by whom, the Institution had been founded. There were many professions which required good health and spirits, a sound frame, and a clear head. The builders' foremen and clerks especially required a combination of those qualities; for if they were deficient in them they could be of very little use to their employers. There were a thousand things connected with the building trade that required forethought, resolution, endurance, and ingenuity. There were also the winter's snow and the summer heat; and against these the foremen and clerks of works had to contend like soldiers on a perpetual campaign. Then there were the men who conceived the great works which the hands of others called into execution: but what would the designers be without the subordinates? The architects would be like generals without officers to command their regiments, viewing the physical perils of the position which the foremen and clerks of works had to contend with, and the integrity and talent which they brought to bear in

all cases where their services were enlisted. He thought they had peculiar claims upon the sympathy, not only of architects and builders, but of the public generally. He regretted that a greater number of the architects of the metropolis were not present, but he believed that many of those who would have otherwise attended were called away to an anniversary meeting elsewhere. In conclusion, he hoped the society would long continue to prosper, and to enjoy the confidence of the class for whose benefit it was originally promoted.

The Chairman next gave the health of Mr. H. Lee, the governor and treasurer of the Institution.

Mr. Lee returned thanks, and observed upon the gratifying circumstance that the Institution had now invested the sum of 2,900*l.*

The health of the patrons and subscribers having been drunk,

Mr. Kay, the corresponding secretary, read a list of donations, which included among others the following: the Chairman, 15 guineas; Mr. T. H. Lewis, 5 guineas; Mr. Gilbert Scott, 5 guineas; Messrs. W. Cubitt & Co., 10 guineas; Mr. R. Thomas, 5 guineas; Mr. W. Ellis, 5 guineas; Mr. C. M. Foster, 5 guineas; A. Z, 5 guineas, and 2 guineas annually; Mr. Jennings, 2 guineas; Professor Donaldson, 5*l.*; Messrs. Patman & Fotheringham, 5 guineas; Mr. H. Lee, 10 guineas; Mr. G. Baker, 5*l.*; Mr. H. Fielder, 5*l.*; Mr. Currie, 5 guineas; Messrs. Hobbs, Hart, & Co., 5*l.*; Messrs. Francis (Brothers), & Pott, 5 guineas; &c.; making a total of 165*l.*, irrespective of annual subscriptions.

Mr. Scott, in proposing the health of the Chairman, spoke of the obligations which the builders were under to a gentleman of his high social position, who had devoted a quarter of a century of his useful life to the particular arts of architecture and building. No wonder, then, that the architects and builders should feel deeply grateful to one who had exhibited so much practical sympathy towards them. The Chairman had observed, with truth, that the architects and builders could do little without the assistance of the foremen and clerks of works. They it was who bore the heat and brunt of the day; and if it were not for them it would be impossible to give form and substance to the designs of the architect or the exertions of the builder. No one could better estimate the value of an able and conscientious clerk of the works, for it was his misfortune to have been deprived of one by a fall from a scaffold; a circumstance which, he could truly say, was the most painful of any associated with his professional practice. That melancholy circumstance proved the value of a provident society like that which they had met that evening to commemorate; and he was happy to say that the Institution was, in the truest sense of the word, provident; because it was only in cases of accidental disability that its funds were drawn upon.

The Chairman, having acknowledged the compliment, proposed "The Architects and Engineers," coupling with the toast the name of "the learned, accomplished, and respected Professor Donaldson."

Professor Donaldson said that he had accepted the invitation to be present that evening as a private individual, and as an architect. Since that period his brother architects had conferred upon him the highest honour which it was in their power to bestow, by electing him to the office of President of the Royal Institute of British Architects. In that capacity he now attended, because he felt he was bound to do all the honour he could to an honourable society. He was sure that the architects present would agree with him that the chief responsibilities of an architect, after his plans were accepted, were, first, to get a competent clerk of the works; and, second, to secure a builder's foreman. In point of fact, the architect, the builder, the clerk of works, and the builder's foreman, were all bound up together; and it was impossible for any great work to be carried out successfully without their hearty co-operation. In his experience he had found the clerks of works and foremen, as a class, to be men possessed of great integrity, capacity, and ingenuity; and he was bound to state that, in the whole course of his practice, he had never found it necessary to discharge one. Approving as he did entirely of the Institution, he was bound, however, to state that he would like to see something more added to the allowances made to the recipients of their bounty in excess of the 4*s.*, 5*s.*, or 6*s.* per week now awarded. On looking over the balance-sheet he found that the sum of about 140*l.* only had been paid during the last year to pensioners and members. Looking, then, to the fact that 165*l.* had been contributed that evening in donations alone, he hoped the managers of the Institution would soon find themselves in a position to make some addition to the modest stipend now paid to the pensioners. He begged, in conclusion, to propose "The builders of the day,—the leading stars of the science of construction;" and to couple with the toast the name of Mr. George Smith.

Mr. Smith returned thanks, and said he was happy to be able to boast that he began as a builder, and hoped to end one.

The Chairman next gave "The Ladies."

Other complimentary toasts followed; after which the company separated.

A selection of vocal music was performed during the evening, under the direction of Mr. Fielding, assisted by Miss Poole, Miss Rose Hersee, &c.

BLACKPOOL PIER.

A NEW pier has been constructed for Blackpool. This place lies about midway between the rivers Ribble on the south, and Wyre on the north, facing the Irish Sea, in latitude 53 deg. 15 min. N; longitude, 3 deg. 1 min. W. It is situate in the township of Layton-with-Warbrick, in the parish of Bispham, and contains a population of about 4,000 settled inhabitants, whilst in the season which lasts from May to October, the visitors add some 14,000 to 16,000 to the number sojourning in the place. During the summer months alone upwards of 200,000 persons are brought by railway to this favourite watering-place.

The pier was designed by and has been erected under the supervision of Mr. Eugenius Birch, C.E., Loudon, the engineer to whom the people of Margate owe their landing and promenade pier, which was the first sea structure of the kind composed of ironwork resting upon iron screw piles. The contractors for the pier are Messrs. R. Laidlaw & Son, of Glasgow, Edinburgh, and London. The first column of the pier was fixed in May last year.

The pier is constructed almost entirely of iron, the only woodwork employed being that used for the deck and the fender piles at the head. The following are the dimensions of the pier:—Approach, 80 feet long; abutment, 120 feet long and 45 feet wide; main portion, 1,070 feet long and 28 feet wide; and the head, 135 feet long and 55 feet wide, giving a total length of 1,405 feet available as a promenade. The entire superstructure rests upon clusters of iron piles, vertically fixed into the ground by means of screws. The piles at the abutment and main body are wholly of cast iron, and those at the head are partly of cast and partly of wrought iron. The largest of the cast-iron columns are 12 inches in diameter, and of an average thickness of 1¼th, and the whole of the columns are filled with concrete, which imparts to them additional stability as a means of support. The piles are placed in clusters, as this mode of arrangement has been found by the engineer to answer in exposed positions; for, the piles being trussed together, and well secured longitudinally, transversely, and diagonally, by the rods and braces, are capable of sustaining sudden shocks of the sea, a most important consideration at this point of the coast, where there occurs an extraordinary rise of tide of 35 feet. The clusters are placed at intervals of 60 feet; and resting upon them are the main girders, constructed of wrought iron, and in lengths of 72 feet. The description of girder employed is that commonly known as the plate girder, which, for works of this kind, where great strength is required, is undoubtedly superior to that known as the open or lattice girder. Throughout the entire length of the pier an ornamental casting surmounts the main girder; and this forms a very good back for the sitting accommodation afforded by these girders. The head of the pier stands 50 feet above low-water line, and every means have been used to give it strength and stability. The total weight of iron employed upon the pier is 760 tons, consisting of 420 tons cast, and 340 tons wrought.

CLAYTON & Co.'s NEW WORKS.—The first stone has been laid of intended extensive engineering works on the banks of the Grand Junction Canal, in rear of the Harrow-road, for the firm of Henry Clayton & Co., of the Atlas Works, London, the inventors and makers of machines for brick and tile manufacture. The new works will occupy an area of nearly two acres. The architect is Mr. R. Palgrave. The quantities were supplied by Mr. P. Wilkinson. Contractor, Mr. G. Weller; clerk of works, Mr. Coultart.

MEMORIAL OF THE GREAT EXHIBITION OF 1851, AND OF ITS FOUNDER, THE LATE PRINCE CONSORT.

ROYAL HORTICULTURAL SOCIETY'S GARDENS.

HALF-A-DOZEN men have remained faithful to an idea for ten years, and are at last rewarded by its most complete and satisfactory fulfilment. Readers of our earlier volumes may remember of the difficulties which obstructed the proposed erection of a monumental tribute, in connexion with the Great Exhibition of 1851, to the Prince Consort, initiated in 1853 by Mr. Alderman Challis, then Lord Mayor: they will recollect, too, the selection, in competition, of the design by Mr. Durham; how that the illustrious Prince himself, afterwards, when the personal character of the Memorial was removed, gave his invaluable aid to the enlargement and completion of the design; that a site for it was obtained in the Gardens of the Royal Horticultural Society; and how, after the painful event for which the nation is still grieving, her Majesty the Queen and H.R.H. the Prince of Wales concurred in enabling the Memorial Committee to return to the original intention of the subscribers, which was,—to render the Monument a lasting tribute to the Great Founder of the Exhibition. Mr. Durham has now completed his work; and on Wednesday next, the 10th, it will be uncovered in presence of the Prince and Princess of Wales and every other member of the Royal Family, with the exception of the Queen, who will probably visit it previously with the utmost privacy. Foreign ambassadors, grand officers of state, the presidents of societies with which the Prince was connected, the Lord Mayor and sheriffs of London, 100 mayors of provincial towns, and various bodies interested, all in uniform, court dress, or robes of office, will take part in the procession and assist in doing honour to the occasion,—the inauguration of the first public monument raised to the memory of our BLAMELESS PRINCE. Sir Wentworth Dilke and the other officers of the Horticultural Society, in conjunction with the Memorial Committee, are sparing no pains to make such arrangements as may ensure a gratifying spectacle.

Not desiring to forestall our contemporaries by means of any facility we may accidentally possess, we shall confine ourselves at present to very brief particulars. The Memorial stands on a stone basement, erected to receive it by the Horticultural Society, at the head of the lake and facing the conservatory: this we have omitted in the view. The idea embodied is Britannia (typified by the Prince), supported by the four quarters of the globe,—marking that the Exhibition originated in England and was supported by all other nations. The monument is 42 feet in height and 18 feet across the base at the angles. The inscriptions are very full. On the south face are the names, incised and gilt, of all who were mainly interested in the Exhibition; on the east face is a complete list of the exhibiting countries; on the west are the salient statistics of the Exhibition; while the north face is thus inscribed:—

ERECTED
BY PUBLIC SUBSCRIPTION,
ORIGINALLY INTENDED ONLY TO COMMEMORATE
THE INTERNATIONAL EXHIBITION
OF 1851,
NOW
DEDICATED ALSO TO THE MEMORY OF
THE GREAT AUTHOR OF THAT UNDERTAKING,
THE GOOD PRINCE,
TO WHOSE FAR-SEEING AND COMPREHENSIVE PHILANTHROPY
ITS FIRST CONCEPTION WAS DUE;
AND TO WHOSE CLEAR JUDGMENT AND UNTIRING EXERTIONS
IN DIRECTING ITS EXECUTION
THE WORLD IS INDEBTED FOR
ITS UNEQUALLED SUCCESS.

ALBERT FRANCIS AUGUSTUS CHARLES EMANUEL,
THE PRINCE CONSORT.
BORN AUGUST 26TH, 1819. DIED DECEMBER 14TH, 1861.

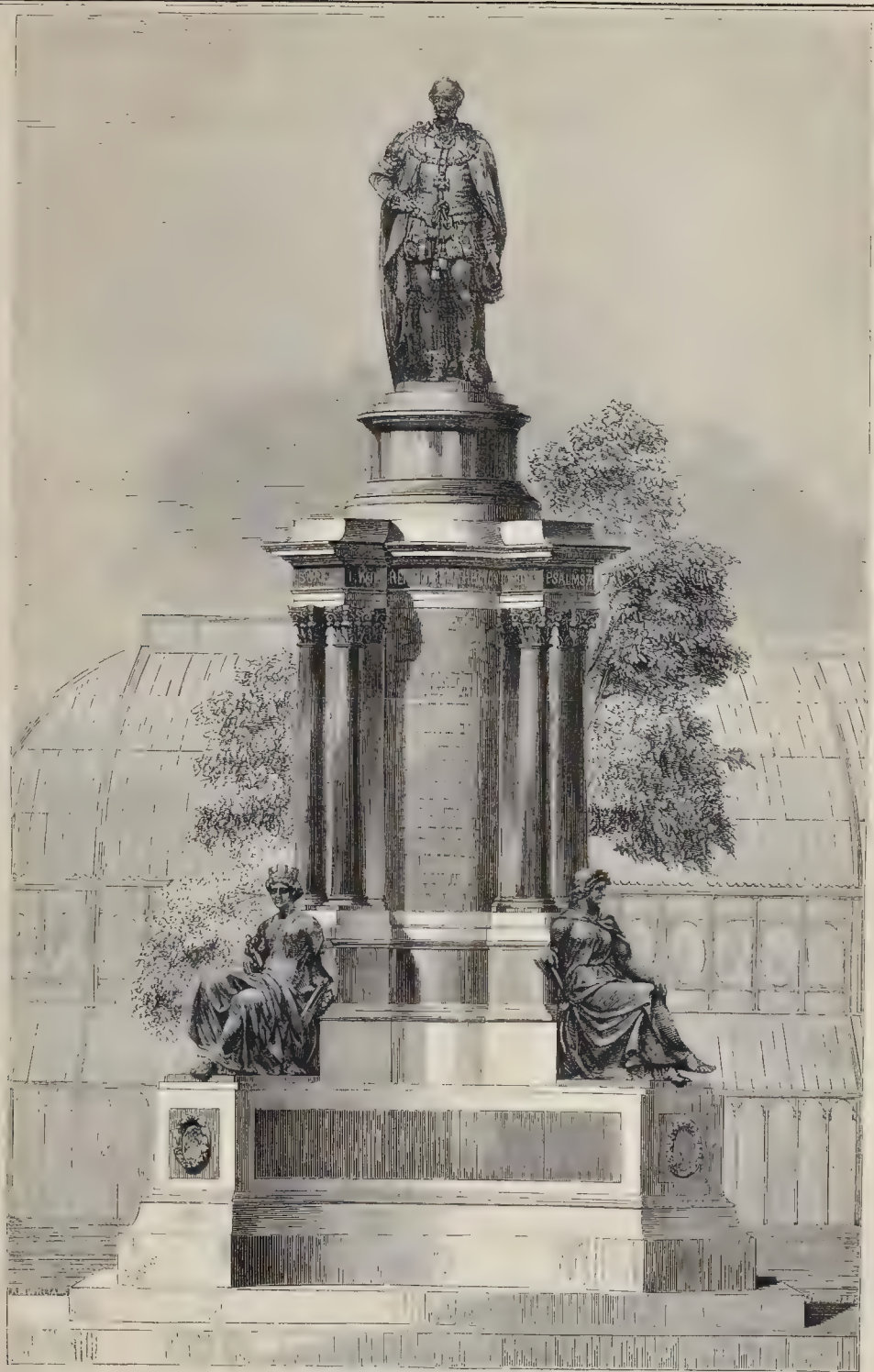
"He was a man: take him for all in all,
We shall not look upon his like again."

SCULPTOR.—JOSEPH DURHAM.

EXECUTIVE COMMITTEE:

THOMAS CHALLIS, *Alderman, Lord Mayor 1851, Chairman*
FRANCIS BENNOCH
T. B. BRANDRETH GIBBS.
GEORGE GODWIN, *Honorary Secretary.*
PETER GRAHAM.
S. CARTER HALL.

The body of the Memorial is of grey granite from the Cheesewring quarries: the columns and antæ and the panels in the plinth are of red polished granite from Aberdeen. The statue of the Prince, in the robes of the Great Master of the Bath, and the statues of the four quarters of the world, are of bronze, produced by Messrs. Elkington by means of the electrotype process. Of this same material, too, are the caps and bases of the columns, and the medals in the plinth. The Memorial is an important addition to the sculptural monuments of the metropolis, and places Mr. Durham in the front rank of his profession.



MEMORIAL OF THE GREAT EXHIBITION OF 1851, AND OF ITS FOUNDER, THE LATE PRINCE CONSORT: SOUTH KENSINGTON.——MR. JOSEPH DURHAM, SCULPTOR.

ARCHITECTURE OF SOUTH OF FRANCE.*

I MUST now call your attention to some civil and military works in the province; viz., the Palace of the Popes at Avignon, and the walls of Avignon, Villeneuve, and Carcassonne,—all of the thirteenth or fourteenth century. Than the Mediæval fortifications of Avignon, nothing more picturesquely bold can be imagined. They are so boldly machicolated, so grand in outline, and so varied in form, that one feels a sort of irritation against their modern successors, which give us the wretchedly low uninteresting earthworks that now are said to guard our modern towns.

These Avignon walls date from about the middle of the fourteenth century, and put us in mind of the frieze fortifications of Tolentino and such like towns in the Italian marches. And as Pope Clement constructed the Avignon walls, it is likely enough that their design may be owing to an Italian architect; the more so, as the heavy corbelled parapets were little used in France up to this date, the machicolations having been formed in wood until the end of the thirteenth century, with the exception of Auvergne, where stone was used a century earlier. But in another town of Provence, Carcassonne, we have the true French type of fortification of the thirteenth century. The walls throughout are nearly perfect *where not restored*; and, with the bold masses of Avignon in one's mind, have a somewhat feeble look, owing to the absence of the massive crowning corbelled parapet to which we are accustomed. The curtain walls are simple, plain, unbroken masses of masonry; whilst the towers that break their line, though picturesque beyond almost any other example in plan, have no further termination than a slightly-projecting eaves cornice, from which springs a high and conical slated roof. Mons. V. le Duc, as you well know, has exercised great ingenuity and research in planning the restoration of these walls, and has published most elaborate restorations of them in his "Dictionary," and in the national work produced under the auspices of M. Achille Fould. He there states that the upper parts were finished by timbered galleries, and has illustrated this restoration in a very interesting way in both the above works. The portions of the actual work, however, restored by him at Carcassonne, presents nothing of this; and the slight, slated roofs, which now finish the towers, have a most painfully meagre look; though it must, however, be said in justice to him, that the remains both here and at Bordeaux justify his restorations as actually carried into effect at Carcassonne. The other great work in Provence is the palace of the Popes at Avignon — a gigantic pile of the fourteenth century. It was half palace, half prison, with little of the beauty of the one or the massive grandeur of the other; and however interesting many of the details are, more especially of the interior, it owes its interest, I think, chiefly to its historical renown; and few would care to sketch its gigantic barren walls, except as they group picturesquely with the neighbouring cathedral and bridges. Before leaving Provence I must call your attention to one more peculiarity, which it shares, to a considerable extent, with Aquitaine: I mean the enormous, wide-spanned churches of one single aisle only on the plan, though on an enormously enlarged scale, of that of Avignon. Such is the great church of the lower town of Carcassonne, whose clear span must be 60 to 70 feet; the nave of Toulouse Cathedral, the span of which is still wider; and the nave of the cathedral of Bordeaux, 60 feet in span and 200 feet long. These churches have plain groined ceilings, and are, I suppose, about as bold and successful pieces of construction as one could well find; but no one comparing them with the aisled churches would wish to change the latter for these great plain rooms, although they have in the deep side altars a means of procuring bold shadows and decoration, and affording a massive abutment to the thrust of the groined roofs; and if the aisles are to be given up, as some propose with us, in order to give a clean and uninterrupted view, these southern churches offer models deserving of careful study. To make the contrast complete in the cases of Toulouse and Bordeaux, the choir has been added with aisles, to the aisleless nave; and no one seeing the two thus brought directly together could possibly hesitate in deciding between them. The difficult problem of the best form for our Protestant churches would not be solved by copying these southern ones; but no one entering deeply into the subject must overlook them.

I was not able to get a section of these enormously spanned roofs; but they seem to be fine pieces of construction; and I could see no sign of failure, though most of them, including the ribs, are of ordinary bricks.

I shall have to allude, shortly, to the very interesting cloisters of St. Trophime, at Arles, of various dates, from the thirteenth to the fourteenth centuries. But, beyond these, the remains at Avignon and the beautiful choir of Carcassonne, there seems no pointed work of any great interest in the province; whose skill in architecture seems to have suddenly stopped in the fourteenth century. In fact, the interest of Provence is in its Romanesque and thirteenth century work; and it is only at intervals, after their time, that one gets a few straggling examples of later styles; and I shall not detain you with any further allusion to them. Temptingly near to Provence lie Auvergne and Aquitaine, and the southern part of Anjou, with those interesting towns Limoges and Perigueux; but, most of these have been already well described, and I shall content myself by alluding to a few general points of interest.

With respect to the best known work, St. Front, at Perigueux, you had better lose no time in going to see it if you wish to see it at all. Most part of it is now nineteenth century work instead of the tenth; and the student may well give respecting it the same sarcastic reply that the American gave as to the restoration of the Colosseum, "It will be a fine building when it's finished." It was about half-finished, *i.e.*, half-rebuilt, when I saw it no long time since; and if you are very quick, you may, perhaps, arrive in time to see some of the old sculptured work before it is broken up for lime. Mr. G. Scott tells me that he tried, since I was there, and had no little trouble in seeing any even then. However, the great characteristics, the pendentives of the domes, remain or have been reconstructed like the old; and one sees, in a moment, that they are genuine Byzantine, and quite unlike the Avignon type; betraying, in fact, completely, their Venetian or Byzantine origin. The Venetian colony founded at Limoges in the twelfth century, accounts well enough for this; but it was too late to have much, if any influence, upon the architecture of Provence, most of whose characteristic works are of earlier date and seem to owe nothing to the Byzantines but some of their sculptured accessories.

I shall pass over this St. Front style, for it is well known and has been so often described that I should weary you now, perhaps, with the repetition; and I give you, as specimens of the Romanesque work of Aquitaine, the Cathedral (St. Caprais) of Agen, St. Croix and St. André at Bordeaux, St. Etienne (before 1218) and St. Sernin at Toulouse, and the singular church of Moissac—all of the eleventh or twelfth century.

Now, the first thing that strikes one in most of these churches, including that of St. Front, is the free use made of the pointed arches at a time when they were scarcely used at all in England, Germany, Northern France, or Italy. But here we find them quite naturalized and evidently to have been in use some time. In St. Front, of the eleventh century, all the main arches are pointed. At the beautiful church of Agen, nearly all the main arches are also pointed; and, after a very careful examination, I had every reason to suppose that they formed part of the same original work as that wherein the round arches occurred. At St. Sernin, Toulouse, and at Agen, again, we have the barrel roof in one part and the groined roof in another, pretty well contemporaneous, so far as I was able to judge.

At Moissac, the cloisters, dating, it is said, at the early part of the twelfth century, have all the arches pointed. These pointed arches certainly did not come, like St. Front's design, from Byzantium; but the ease and grace which they unite in outline in work of the same period, with the round, may give us a useful lesson in our use of them when we need them.

The next peculiarity is that of the great churches without aisles I have alluded to already. Both at Toulouse and Bordeaux cathedrals they are put in direct comparison with the aisled choirs added in the thirteenth century; and the picturesque effect of these latter place the inferiority of the plainer plan in a very striking point of view. Next to this, we are struck with the wonderful amount of sculptured ornamentation lavished on some of these churches. St. Front, indeed, is plain enough; but Moissac St. Croix at Bordeaux, and St. Sernin and St. Severin at Toulouse, have a wonderful amount of sculpture.

Now, throughout all the Romanesque work of Provence and Aquitaine that I have described, we get no regular eleventh or twelfth century work, such as we are used to in more northern parts. I do not remember, for instance, one single example of a cushion capital. Such ornaments as the chevron, tooth, beak, moulding, &c., which we find not only in Northern Europe but so far south as Sicily—wherever, in fact, the Norman was found—are comparatively rare. Altogether, we may, I think, class it as nearer to the Lombardic work of Northern Italy than to any other; but I believe that the one owes little, if anything, to the other, and that what little of the work of the South of France was not the result of native art, came as much from the Rhine as it did from Byzantium or the East. This Romanesque work in Provence is of no great importance in actual size or amount, but contains, in common with the more important Romanesque work of Germany, a vast amount of material for suggestion. Many of my hearers, and many, too, who can admire the Mediæval remains in general, quite think, no doubt, that our modern usages so utterly differ from those of the eleventh and twelfth centuries, or that their comparatively rude work had been so altered and improved, and so worked out and adapted in later times to later requirements, that this old work is scarcely worth the trouble of dissecting. To me, I confess, the feeling is quite different. I think that there is an amount of real genuine knowledge to be gained by the study of the twelfth and thirteenth century work, which makes it gainful and interesting beyond even that of the more beautifully finished and elaborated work of later times. True, all this is rude and rough, the sculpture wanting in grace, the mouldings in elegance, and the whole work, outline and details, wanting the finish of the Romans before and the Gothic architects after. But we see, in this same rude, rough work, a bold, masculine power of design, which seized on all the appliances within its reach, and used them indifferently, unfettered by the ties of any style to the required purpose of ornament or of use. They used the round arch where they wanted it, and they pointed where they wanted *that*. They took the spire-like form and contrasted it with the dome, as one sees so constantly in the Rhine churches. They used the groined roof, as at Agen and Toulouse, and on the Rhine, or the barrel vault as at Arles, and Avignon, and Toulouse; and all done with so skilful an eye for effect that the result is a fine, bold, strong outline, strong in contrast and yet not harsh.

Now I say that, with no wish to copy, we may learn no unprofitable lesson from this, at a time when fixity of design and fixity of style can scarcely be said to be the characteristic of our art; and I will go farther, and say that from these twelfth and thirteenth centuries we may get some lessons of real practicable value for our every-day practical work.

I never yet saw, in any church that it has been my lot to visit (and I include boldly in this the churches of Sir C. Wren, held up to us as models), any plan worked out so well for our Protestant worship as many of the great Rhine churches of the twelfth century—the Apostles' and St. Mary's at Cologne, for instance. And, take the old sculpture: think of the Roman Maison Carrée, and then on its rude successor in the cloisters of Arles. It is a bold comparison. I do not wish to say one word against the skill and the beautiful carving of the Corinthian capitals of the Roman temple—and no one can admire more than I do the fine effect of the continuous range of these capitals and columns, all alike to a hair's breadth, which build up the graceful outline of the Greek or the Roman temple;—but then, when you have grasped this effect, you have all. Look at the work in detail; and when you have seen one capital or one length of cornice, you will reckon it a sheer defect to find that it differs, no matter how little, from the rest. No art workman could go over the same ground in this way, over and over again, and care much for his work. But to take any other illustration: at Arles, each capital there is a separate study, worked out with care and skill. You have a veritable sermon in stones as you walk round the cloisters and see the Bible history traced gradually round it. A workman may take pride in that; and no workman who did not care for his work could make much of a hand of it. I do not say that we are to copy Arles; but I do say that these Arles workmen were in the right way, and that our art sculpture would be of a higher kind if we went some way in following them.

It seems strange that, when the French architects of the Romanesque times had got so far as to design and execute St. Sernin at Toulouse, and the Germans their great cathedrals of Spires and Worms, all this work should be suddenly stopped

* From a paper by Mr. T. Hayter Lewis, read at the Architectural Exhibition, on the 26th ult.; Mr. B. Ferrey in the chair.

and a new style at once begun; but it certainly was so, and these splendid works fell back into the past and left scarcely a successor.

Of the Gothic works that followed my time will allow me to say but little, though many of them, as the choirs of Carcassonne, Bordeaux, and Toulouse, and many of the other churches of the same date, are of very good and even fine character. I have given some sketches from Toulouse to show some very elegant examples and how very eccentric some of them are: in fact, any drawing does not, from its small size, show well enough how very eccentric this last is.

The South, however, is not the place for studying the Pointed architecture of France; and I shall not, therefore, detain you with it.

I must say a few words upon the modern architecture of France. It is a large subject, for in every town that I have seen the same sort of work is going on as at Paris; for it is quite a mistake to think that the Emperor gives his attention to Paris only: Lyons, Bordeaux, and other great towns come equally under his care; and new streets are there being cut, and new public buildings erected as at Paris. I need not describe the style; for throughout the provinces the same prevails as one sees throughout the new streets of the capital. One can scarcely give it the credit of great boldness or much novelty, its chief features being very delicately cut moulding, with a good deal of graceful ornament, the projections being slight, and almost the only variety given by projecting balconies, often of very good design, and by dormers carried up more or less boldly. In some cases, as the Palais de Commerce at Lyons, the Palais de Justice at Montpellier, the theatre at Avignon, the mass is treated with more originality; but, generally, the chief attention is given to the delicate finish of the details which the clear air and bright sun of France bring out well, but which would scarcely do in our climate, even if it were wished. Be it good or bad, however, the French seem to have worked out and to have adhered to this style, quite irrespective of anything before them; for there are few, very few, of their works that would remind us that they had (to go no farther even than Paris) such works as St. Germain de Pres, or Notre Dame, or the Temple, or that grand old building the Hôtel de Ville.

Now, as to the general arrangement of the Southern towns, it is a question really to be deeply studied by us; for not only is every town of note in our country being rapidly enlarged, and new towns, under the name of suburbs, being added to it; but, for the first time for many a century in our country (and nowhere else, so far as I know, in the whole world) are new towns being founded, *ab initio*, on the waste or the sea-sand, as have been in our time Birkenhead, Fleetwood, and Crewe; as though the old time of the colonists had come again; and it is our part to see that the old town is improved, and the new well designed, so far as lies in our power. Now, take the case of a traveller in an English town, confined to it by ungenial weather or by business; and, when the day's work is over, or the old church seen (if there be one), what more is there to see? The answer was, until quite recently, very simple, —Nothing. But in these French towns one may reckon pretty safely, even in those of very inferior size, to find a good museum of local antiquities and some very tolerable paintings. But the chief thing to be admired, so far as external look is concerned, are their public gardens, always placed so as to command, if possible, a fine view, most carefully planted and attended to, and with almost invariably some statues or fountain really worth seeing, and on which the art of some of their best sculptors has been employed.

I must now ask your attention for a short time to the restorations proceeding with the ancient buildings of the South, as well as of every other part of France; and I shall confine my notices to those to which I have already alluded, and which I have myself seen. It is a matter of great moment; for there is not one building that has not been, or is about to be, rubbed and pulled about and repaired, sculpture and all, until nearly every trace of its antique look has gone. These fine old walls of Avignon are now having their turn, and being rubbed, scraped, and brought to look as bright and new as though they were put up yesterday.

The two transepts of St. Front, Perigueux, have been rebuilt almost entirely; and I looked in vain to find one capital even that had been spared. In the amphitheatre of Nismes the old seats and podium are being rapidly pulled down and rebuilt, not cut out and restored, as we should do it, bit by bit only.

Arles is left for the present; but Carcassonne is sharing the fate of Nismes and Avignon. Those parts commenced upon are being, in fact, utterly rebuilt, so that no vestige of the old can be distinguished so as to settle the point (in many cases very doubtful) as to whether the restoration is a faithful one. Much of the restored work of the Romanesque parts of Carcassonne cathedral, for instance, is open to very grave doubts. In the courtyard of the cathedral I saw three very fine windows of large size put out regularly on the ground. There was scarcely a stone in them that could not have been used again; but I find that they were merely laid there to be more easily copied; and that new, with clear sharp arrises, were to be worked in the places of these time-worn, but still almost perfect old ones.

But the strangest case that I have yet seen is at the very interesting old church, St. Croix, at Bordeaux. I saw there, hanging up in the choir, a drawing of the proposed restoration, and took a rough copy of it. It is proposed there, to rearrange all the windows, doors, and arches of the front, which is a very irregular plan; to finish the tower and the front according to the architect's notion of what it ought to be; and to add on another tower, all quite new, at the west side, so as to match in design with the old work. I saw the foundations dug out for this; and, most certainly, there was no doubt that no tower or work of any sort had ever existed there to warrant this restoration. Now, when we can clearly see from existing remains what the original design was; I, for one, should no more object to its being now carried out, than I should object to the completion of Cologne cathedral. But when an old work like St. Front or St. Croix is rebuilt, the new parts, be they never so closely copied, will be *but* copies; and when they are subjects more of archæological interest than of intrinsic beauty, their value is gone; but to invade an old work like St. Croix, to alter and rearrange and to add to it, in the very face of the knowledge that the new work is a new design and no restoration at all, is to remove altogether one of the landmarks in the history of art; and we see the old church as improved and re-arranged by Abbadie of Angoulême, whose design we do not want, in place of the old which we do—work that had come to us direct from the hand of the old monk who reared it, and had left the mark of his time and of his race cut deeply in every moulding and carved in every leaf.

ELECTION OF DISTRICT SURVEYOR FOR HAMMERSMITH.

At the meeting on the 29th ult., the Metropolitan Board of Works proceeded to elect a surveyor for the district of Hammersmith. The result of the first vote to determine the six for whom subsequent votes should be taken was as follows:—

Sidney Godwin	24	J. Liddiard	9
T. E. Knightley	23	T. Allom	8
W. Lightley	22	J. W. Papworth	8
— Tolley	20	E. Adams	7
A. Peebles	17	J. Houle	5
H. S. Legg	15, 19	T. L. Benham	5
— Marshall	15, 15	— Elkington	5
S. Salter	14	— Nicholls	4
— Saunders	14	E. S. C. Baker	3
C. A. Long	10	F. Todd	1
H. Laxton	10	— Waller	1
E. Paraire	9		

Ultimately Mr. Knightley was elected to the vacant office.

DECORATIVE ART AT PAINTERS' HALL, LONDON.

THE Exhibition of Graining, Marbling, Writing, and Decorative Work, at Painters' Hall, is instituted by the Company of Painter-stainers, it will be remembered, to stimulate the exertions of those engaged in the painting trade; and consists of specimens of graining, marbling, writing, and decorative work. It opens on the 1st of June, and continues until the 30th. The public are admitted gratis.

The prizes consist of four silver medals, four bronze medals, four certificates of merit, and the freedom of the Company, the prizeholder paying only the stamp duty to the Government. There are four classes of work, viz., graining, marbling, writing, and decoration; and three gradations of merit.

The present Exhibition, the third at the Hall, includes the work of twenty-nine competitors. The awards have been made as follows:—

Marbling on wood, Henry Goodwin, bronze medal; marbling and graining on slate, Samuel Burnby, bronze medal; writing on canvas, G. Hewett, bronze medal; marbling on slate and wood columns, Charles Ross, silver medal; graining and marbling (capital woods), Alfred Tyndall, silver medal for graining, and certificate of merit for marbles; writing on glass (overdone with flourishes), W. J. Cloake, silver medal; imitation inlaid woods and ivory, Foster Spotiswood, silver medal; decorations, J. J. Lovegrove, bronze medal; writing and illuminating on glass, Beedoe Edmett, selected for bronze medal, but the writer had been awarded one in 1861.

After a somewhat careful examination, we feel disposed to indorse the awards made by the judges. The marbling, by Mr. C. Ross, and the imitation inlaid woods, by Mr. Foster Spotiswood, deserve particular praise. Amongst those who have not received medal or certificate we may name for commendation Mr. W. Pitman and Mr. J. J. Lovegrove.

The offers of the Company ought to lead to some higher efforts as to decoration than have yet been made.

On former occasions we have given full particulars of the Company and of its Hall.

ECCLESIOLOGICAL SOCIETY.

AT a meeting of the Committee held at Arklow House on May 19th, it was agreed to hold the Anniversary Meeting on Friday, June 19th, at eight p.m., at 9, Conduit-street: the subject of discussion to be The Basilican Arrangement of Churches. It was further agreed that the members of the society should be invited to meet at the Tower at 2·30 p.m., on that day, in order to visit the White Tower and other historical antiquities of the place, by the permission of the Lieutenant.*

The president (Mr. A. J. B. Hope) reported that he had been in communication with the Dean of St. Paul's on the subject of the removal of the grilles, according to the resolution of the committee at its last meeting. He was informed that nothing definite had been decided by the Dean and Chapter. He was requested to urge further that the old grilles—extended (if necessary) to fill the broader arches—should be replaced at the eastern part of the choir to separate it from its aisles. He was further requested to sign, in the name of the society, a petition to Parliament against the Ludgate-hill Railway viaduct.

The coloured cartoons designed by Mr. E. J. Poynter for a window, about to be presented by Mr. Foster White, the Treasurer of St. Bartholomew's Hospital, to the church of St. Bartholomew the Less, were also received from Messrs. Powell: the subject is our Lord's miracles of healing, and the design is very free and vigorous, but scarcely conventional enough (it was thought) for the material.

Various architects submitted designs which were discussed, including the designs for the sumptuous new church of St. Michael, Shoreditch, about to be built by private munificence.

Mr. Clarke called the attention of the committee to the possibility and expediency of preserving the remains of the Augustinian Church in Austin Friars, instead of substituting an entirely new design in the proposed reconstruction.

THE ARCHITECTURAL ASSOCIATION.

THE usual meeting of members was held on the 29th ult., at the House, in Conduit-street; Mr. Blashill in the chair.

The following gentlemen were, on ballot, elected members of the Association:—Mr. Saxon Snell, and Mr. John H. Swan. Mr. R. O. Harris was, on ballot, elected an ordinary member of the committee, in the room of Mr. E. L. Paraire, resigned.

The subject of delegates to attend the approaching meeting of the Architectural Alliance was again brought under notice; and on the motion of Mr. C. J. Adams, hon. secretary, seconded by Mr. Walter Paris, the following resolution was proposed, and after a short discussion agreed to:—

"That our delegates be requested to inquire whether it is the intention of the members of the Alliance to pass under their authority a list of professional charges, or simply to discuss and recommend such list to the individual associations; also whether it is their intention to deal with other important questions on the same principle; and, in the event of their finding that it is intended

* Persons interested in the society's pursuits (including ladies) are also invited to be present. By permission of the Lord de Ros, the White Tower, including the Norman Chapel, and the other historical antiquities of the place, will be open to the inspection of the party. The visitors are requested to mention the President's name to the Warders in charge, and are to meet in front of the Governor's House.

to finally decide on such questions in the meeting of the Alliance, that our delegates be requested to retire, and report to the next meeting of the committee of the Architectural Association."

Mr. Adams next read the report of the sub-committee on the affairs of the Association, containing a number of suggestions and recommendations.

Mr. Paraire expressed himself dissatisfied with the report, and moved that it be referred back to the committee, with a view to reconsideration as to certain points to which he called attention. After discussion, the consideration of the report was adjourned until the 13th inst.

Mr. Arthur Allom then read a paper "On Building Materials and their Adaptation," an abstract of which we will give in our next.

THE ACCIDENT ON THE BRIGHTON AND VICTORIA LINE.

UNDUE haste, to make up for lost time, and so to escape some other catastrophe, appears to have been the real cause of the appalling and fatal accident at Streatham, which so many of the survivors will have cause to remember to the last day of their lives, shortened as these lives may in many cases be in consequence, even where no visible injury resulted. There must certainly be something defective or dangerous in the line of railway near Streatham. The writer of this some time since saw an overturned train at this very spot; and on one occasion, as already recorded in the *Builder*, while he was in a train at the very same place, a signal-man, who had in vain been trying to signal its passage through the tunnel, came running in hot haste to the driver of the engine, sputtering out,—"It's of no use: it won't work: go through like h——." Had the steam or the fire been a little stronger, or had there been a little more weight or pressure on the valve, the result, in that case too, might have been a little more "like h——" than it fortunately happened to be. The incident, however, was significant and suggestive; and it is full time the public were looking (through their legislative representatives) a little more heedfully to their own safety in respect to such matters. In the House of Lords, it was properly remarked, in allusion to a proposal by Lord Brougham that the rapidity of trains ought to be restricted, that it was strict timing at every station (and we might add correct signalling) that was requisite much more than limitation of speed.

NEW PRESBYTERIAN CHURCH AT THROPTON, NORTH NORTHUMBERLAND.

A NEW Presbyterian church is in course of erection on the banks of the Coquet at Thropton, near the famed Simonsides, Northumberland. The scenery in this district is as wild and mountainous as that of North Wales. It is a region of hills. The hill tops rise one behind another and side by side for miles. The slopes are covered with short grass, interspersed with vast patches of heather, ferns, clusters of bilberries, solitary mountain-pinks, lances of foxgloves, and myriads of blocks and fragments of porphyry, deadened in tint by storms to the colour of a rain-cloud, presenting wonderful and inexhaustible beauties in detail, but appearing from a distance uninhabited and inaccessible billows of barren land. But, dotted about, some few miles apart, are small, grey stone houses, thatched with heather and ferns, occupied by shepherds in charge of the large flocks that pasture on the hill sides; and, as sparingly studded, in more sheltered places are the sturdy stone farmhouses of their owners. The shepherds are tall, sinewy, sunburnt men, remarkable for their primitive piety and learning; not a few possessing a knowledge of mathematics. Their regular attendance at places of worship involves walks of many miles to and fro their isolated dwellings. The area from which the congregation of Thropton Presbyterian church gathers together, for instance, is not less than from twelve to sixteen miles in length and breadth. The lithe forms of the stalwart shepherds, wrapped in their long woollen scarfs, lingering in groups near the kirk doors, after services, to say a kindly word to old acquaintance or make inquiry, perhaps, after a daughter in some distant service, are Sabbath pictures, in the quiet, grey, thatched villages among the hills, that it is pleasant to remember.

The new church at Thropton is close to the roadway, in the centre of the village. The site was determined by that of a former building, which it covers with some extension of space. The style adopted is that of the ancient priory church, at Brinkburne, a short distance down the river—Transitional Early English. To suit the requirements of the services, it consists of a nave only; but an ecclesiastical outline has been given by arranging the east end in a five-sided apsidal form, with hipped roof. A porch, on the north side, advances to the boundary line of the village street: over it rises a small tower, surmounted by a spirelet. A small vestry is placed on the south side, near the east end. The west gable end is lighted by a four-light window grouped, with tracery, under a pointed arch. Each plane of the apsidal end is pierced with a cusped lancet; and the rest of the fenestration consists of the same formed lights. They run round the building alternately with buttresses.

On Wednesday, the 27th ult., the foundation-stone of the vestry (the body of the church being already ready for the roof timbers) was laid, with due ceremony, by Mr. James C. Stevenson, South Shields, who placed, in a hollow made for its reception, a glass bottle containing the usual coins, newspapers, &c., and a writing stating that the stone had been laid in the presence of the North-umbrian Presbytery, the Rev. D. S. Feargus, minister, the elders, members of the congregation, the building committee, architect, and contractors. A substantial dinner terminated the proceedings.

When finished, the interior of the church will be fitted with three lines of sittings, leaving two ambulatories, at the west ends of which will be open fire-places—efficient heating apparatus being a matter of more than moment in Border churches. The pulpit and desk, and table of the precentor, will be placed in the centre of the apsidal end, where provision will be made for a stove. The roof will be open timbered, having arched ribs to the principal rafters, opposite every buttress: it will be covered with slates. Messrs. Hunter, Pyle, & Weatherstone, of Thropton and Rothbury, are the contractors. The architect is Mr. F. R. Wilson, Alnwick.

PROGRESS AND PUBLIC WORKS IN WORCESTER.

WORCESTER is still making considerable progress in improvement; and by-and-by its borders, says the local *Herald*, will be so changed as to constitute the ancient city an old picture with a new frame.

The arrangements for the Royal Agricultural Show, although not embracing permanent works, are noticed first by a writer in that paper in a "ramble round the city."

Battenhall-lane is a widely different locality to the narrow, dirty, and sometimes impassable highway till lately existing there. It is now a fine wide drive, with villas erected at various points of its route, which command charming views across the vale of the Severn; and ere long, no doubt, the whole line of road will be dotted with the cottages *ornées* of retired tradesmen, who, just now, have a passion for suburban retreats from business. Passing up the "lane," we arrive at the great show-ground for 1863. The site is about 30 acres in extent. In the centre and west side of the field are the sheds for implements. These will soon be roofed in and covered with sail-cloth. The sheds are upwards of 250 feet long, 20 feet wide, and 7 feet high. On the left-hand are offices for the director, steward, and builder. Further on is the cattle-yard. The contractor for the works on the show-ground was Mr. Manning, the society's regular contractor.

Wyld's-lane has long been distinguished for its narrow approaches from Sidbury. It is intended to lay out and improve it. Wyld's-lane is being widened all the way up; and, in order to do so, Mr. Hayes, contractor, has been engaged, under whose direction some small houses at the Sidbury end of the lane, and on the Red Lion side, have been pulled down. If the houses on the south-east side had been removed instead, Wyld's-lane would have formed a continuous line with the Bath-road. Portions of land and garden-ground at various points on the south-east side of the lane have been purchased, sliced away, and walled up, so as to make the outline of the highway regular, and the road itself wide enough for all purposes. Another road from the bottom of Red-hill, near the Seabright Arms, to join the Wyld's-lane road, is talked of, and has been staked out. Christ Church College have in contemplation to lease their lands in the Wyld's-lane and Perry-wood fields district, for the purpose of erecting villas on the rising ground in front of Perry-wood, and which will be approached by a bridge over the railway.

Railway works are in progress for the combined traffic of the Midland, Worcester and Hereford, and Severn Valley lines. There will be a large increase of sidings and other works, including the erection of a new platform on the east side of the station. The platform will be about 20 feet wide, and will be connected with the main one by a bridge. A large addition has been made to the area of the goods yard east of the passenger station, and another goods shed will be erected near to the present one. Cattle-pens are being constructed at the south-east end of the added area, and stables are being built at the east side. The present carpenters' shops will be cleared away, and new ones of a more permanent character erected on a site considerably to the south of their present position. On the completion of the works now in progress, there will be about six miles of sidings, and space sufficient for increasing them two-fold. Goods trains will no longer run into the passengers' station. A new road into the goods yard from Newtown-road has been constructed, and the extension of the sidings has metamorphosed the country near the station. The new engineering and locomotive offices are approaching completion. Among the alterations is the carrying of the sidings over the old roads leading to Virgin's Tavern and Newtown. Mr. Wilson, the engineer of the company, has had the management of the whole of the works.

PROVINCIAL NEWS.

Norwich.—Some commotion has been caused in this city, according to the local *Chronicle*, by a pamphlet published by Mr. R. N. Bacon, of the *Norwich Mercury*, animadverting upon the alterations of St. Andrew's Hall, and especially censuring the rebuilding of the porch to that edifice. Mr. Bacon, says our authority, calls upon the mayor "to stay so sacrilegious an innovation as this porch," but as its erection has already been commenced and carried forward some way, it is not at all probable that Mr. Bacon's wishes on this point will be met. Some fears have been expressed as to whether the Hall will be completed in time for the Festival. The work of demolition is now completed, and that of restoration has commenced. Over 1,000*l.* have already been subscribed towards the restoration fund by inhabitants of all parts of the city and county.

Luffenham (*Rutland*).—The following were the tenders for erecting a new rectory-house at North Luffenham:—Messrs. Jeffs & Roberts (Stamford), 2,426*l.*; Perkins (Easton) & Bagnall (Stamford), 2,500*l.*; Richardson (Stamford), 2,610*l.*; H. Bradshaw (Stamford), 2,690*l.*; J. W. Timms, 2,700*l.*; Simpson & Malone (Hull), 2,925*l.* The first named was accepted. The architect is Mr. Browning. Little Casterton stone will be used.

Grays, near Purfleet (*Essex*).—On Saturday morning a numerous company proceeded by train from Fenchurch-street to Grays, near Purfleet, to inspect and be present at the inauguration of the South Essex Waterworks. During the inspection Mr. Alfred Smee, the chairman of the South Essex Waterworks Company gave an account of the circumstances under which the undertaking had been founded and of the works which had been established. The water, he observed, was far superior to any now supplied to London. After explaining the properties of the water in detail, and stating that they intended to open the line to Brentwood that day, he called on Alderman Gibbon, who represented the Lord Mayor of London on the occasion, and who started the engine.

Longton (*Staffordshire Potteries*).—The new covered market and the enlarged townhall have been opened. The building, says the *Staffordshire Advertiser*, occupies an area of 5,070 square yards, with a frontage of 927 feet. Nearly the whole of the ground-floor is occupied for the purposes of the market; and the townhall is situate over that portion fronting the market-place. The site is very irregular, and consequently presented many difficulties. The building is in the Italian style; but, in consequence of the great frontage and the limited expenditure, effect has been obtained from the introduction of party-coloured bricks, with stone dressings, and a few Minton tiles; except that the townhall portion of the frontage is executed entirely with Hollington stone. The roof over the market is in three spans of about 55 feet each. The principalsare constructed with wrought-iron rafters and ties, the struts being of cast-iron. The roofs are boarded and slated. Light is obtained from large iron windows in the walls, and also from the roof by means of lantern lights, at an angle of 22½ degrees, running along the centre of each roof, and a ventilating chamber is formed

above the same. The centre roof forms a clerestory 10 feet higher than the side roofs, being 53 feet high to the apex. Ample means of entrance and exit are provided from the surrounding streets, and the loftiness of the market renders it almost free from draughts. A peculiar feature in the market is that along one side of it, fronting one of the principal streets in the town, a row of seventeen shops is provided, having a double frontage, one to the street and one to the market. Over these shops two galleries are provided at small expense, to be used for bazaars, auctions, &c. The total cost of the market, exclusive of that portion under the townhall, will amount to about 10,250*l.* The old townhall occupied about half the frontage of one side of the market-place, and the additions have extended it along the whole frontage, with a portico 32 feet wide in the centre. The interior of the hall has been remodelled. It now affords ample means of entrance and exit, and proper accommodation for public meetings, concerts, balls, &c. The interior is decorated with Corinthian caps and entablatures, and the external stone carving, representing groups of fish, fruit, flowers, &c., on the keystones of the portico, has been executed by Mr. F. Gladwin. The cost of the alterations and additions to the hall has been about 4,250*l.*, making a total cost for the market and townhall of 14,500*l.*, exclusive of architect's commission. The general contractor for all the work has been Mr. Randal Stap, of London.

CHURCH-BUILDING NEWS.

Reach (*Cambridgeshire*).—A clock for the church has been ordered from Mr. Benson, by the incumbent, the Rev. T. Preston, and is to be paid by public subscription. The church has recently been enlarged and beautified. The clock shows the time on a skeleton dial, 2 feet 7 inches in diameter, and strikes the hours on a bell of 1½ cwt. It is already fixed.

Cambridge.—The chief stone for a new church, for All Saints' parish, has been laid, opposite to the College. Mr. G. G. F. Bodley, of London, is the architect. The style will be that of the fourteenth century. The plan will consist of a nave and south aisle, there being five arches between them, with octagon columns and moulded capitals; a chancel, which will form the lowest stage of a central tower; with a vestry at the south-east angle. The chief entrance to the church will be through a porch, at the north-west corner from Jesus-lane. The arrangements of the interior, when completed, will comprise open seats in the nave and aisles, and stalls in the chancel. The arches which support the tower will be of lofty proportions. The nave and aisle will be lighted by windows of two and three lights having geometrical tracing in the heads. The tower, which will span the nave, will eventually be surmounted by a belfry stage, having two traceried windows on each side of the tower, and be finished by a lofty octagonal spire. The east end, which will be seen from the Barnwell-road, will have an east window of early tracery. The walls externally will be built throughout with Casterton and Ancaster stone, and the roofs covered with tiles. The works are in active operation, and will be so far carried out this year as to build the church and base of the tower with the 4,000*l.* now in hand. The tower and spire will be completed gradually, and new bells, font, organ, seats, and other necessary furniture obtained as further subscriptions come in. The spire is to be 180 feet high—estimated cost, about 1,000*l.*

Bringhurst (*Market Harborough*).—The church at Bringhurst has been for some years in a very bad state. The interior has been renovated. These walls have been cleared of plaster and whitewash. A new window has been cut just above the west or belfry door, and the small tower arch re-opened, which some years ago was blocked up to make the church warm. The two aisle arches are Norman, and were washed over. These have been cleared, and the caps thoroughly restored as far as practicable, some being much broken. The walls have been replastered, but are not to be whitewashed. There is a new stone floor, the ground being raised full nine inches above the old one. There are new open seats of deal, stained and varnished. A new chancel arch has been put in, for as they were repairing the old one it fell. An open timbered roof has been put up in the chancel. These and other improvements will cost about 500*l.* The chancel has been restored by the Ecclesiastical Commissioners, who are the patrons of the living. The cost has been about 200*l.* Mr. Christian was the architect. The works have been performed by Mr. J. Stanyon, mason, Harborough; and Mr. J. Loveday, carpenter, Kibworth.

Hertford.—The new Independent Chapel at Hertford, the first stone of which was laid in August last year, has been opened for public worship. The new building stands partly on the site of the old chapel at Cowbridge. The style is Transition. The dressings of the doors and windows are of Bath stone. The walls are faced with cut flints having white brick bands and quoins. The eaves-course is formed of white moulded bricks projecting from the walls. The capitals, bosses, and various parts of the stone work have been left in block. The chapel consists of a nave, with side aisles and transepts, which appear in elevation, but do not project beyond the aisles. At the west end of the chapel there is an organ gallery within a large arch; and at the east end there is a gallery for children. The roof, which is open-timbered, is supported on cast-iron columns, of chocolate colour, with foliated caps, into which mauve tints are introduced. From the columns spring large curved ribs which span the whole width of the nave, and form the principal brace of the roof. The clerestory is formed of wood, and is a continued series of trefoil-headed lights extending the whole length of the chapel. In the transept windows coloured glass is sparingly introduced in the centre, in the form of the hexalpha, which of late has been treated of in our columns. The seats are all open with low and slightly inclined backs. The old pewing of the chapel has been used. The chapel is lighted by two star-burners. The pews in the nave and aisles are estimated to accommodate 370 persons. The architects were Messrs. T. Smith & Son, of Hertford. The design has been carried out by Mr. H. Norris, of Hertford.

Cricklade (*Wilts*).—The parish church of Cricklade St. Sampson, North Wilts, is at present in a bad state. The Earl of Radnor is about to repair a part of one of the aisles, and the lessee of the rectorial tithes the chancel, and the parishioners, desire to put the other parts of the building into thorough repair, and to replace the pews by better arranged sittings, which will give increased accommodation. An estimate of the cost of these works has been made by Mr. Christian, of London, architect; and upwards of 2,000*l.* will be required to effect them. About half the sum required has been obtained, and the balance is to be raised by rate extending over a period of ten years.

Biddulph (*Staffordshire*).—The new church, just erected on Biddulph Moor, has been consecrated. The edifice is named Christ Church, and stands on an elevated plot of ground on the higher part of the moor. It is built of stone, in the Norman style, but plain in design. It consists of a nave and chancel, with vestry, and a recess on the south side for Sunday scholars. It will accommodate upwards of 300, more than 200 free. The building (exclusive of the burial-ground) has been erected at a cost of about 1,400*l.*; the contractor being Mr. Jos. Stanner, Biddulph; and the architects, Messrs. Ward & Son, Hanley.

Handsworth (*Staffordshire*).—The foundation-stone of a new church intended to supply the wants of the rapidly increasing population at Birchfield, in the parish of Handsworth, has been laid by the Earl of Dartmouth. The church is being erected from the designs of Mr. J. A. Chatwin, and comprises a clerestoried nave, apsidal chancel, side aisles, and transepts. The church will accommodate 612 adults. The extreme length will be 117 feet. The nave will be 84 feet long, and the chancel 33 feet; and the width of the nave and aisles together will be 48 feet 6 inches. The chancel will be 21 feet 6 inches wide. The interior of the building will be faced with Bromsgrove stone, with Bath stone dressings to the chancel arch and windows. The roof will be open-timbered. Hamstead stone will form the facing of the exterior, and the dressings to the doors, windows, &c., will be of Bath stone. The site is at the junction of the Heathfield and Birchfield roads, and was the gift of the late Mr. William Haughton. The edifice will cost 3,800*l.* Mr. Samuel Briggs, of Walsall, is the builder.

Chaddesley (*Worcestershire*).—The Church of Chaddesley is to be restored. Mr. Butterfield, of London, architect, was employed, and his plans included the scraping of the nave, opening its roof, removing the galleries, carrying the wall of the north aisle further out so as to give room for a double instead of a single row of seats in that aisle, and thereby compensating for the removal of the galleries; reseating the church, and filling the north chapel with seats and the organ; renewing all defective masonry; opening the western arch; stopping the western door under the tower with a window, and making an entrance in the south side of the tower wall instead. Also to rebuild the eastern portion of the south aisle, and remove from the south wall an archway, now blocked up, to do duty at the entrance-door under the tower. With regard to the chancel, the restoration of that portion of the edifice belongs to the lay impropriators. The tender of Mr. Lovett, of Wolverhampton, has been accepted for the works in the nave, &c., at 1,540*l.*, including 90*l.* for the south aisle, which, it is hoped, will be postponed for the present. Towards this sum 1,500*l.* have been promised; but this does not include architect's charges or extras.

Bristol.—The restoration and enlargement of the ancient church of St. James have been commenced. Mr. Scott, according the local *Times*, lately inspected the building; and the local architects, Messrs. Popes & Bindon, will give attention to the undertaking until its completion. The erection of a north aisle, and the enlargement of the chancel, will afford increased accommodation. ——At a meeting of the parishioners of St. Stephen, Mr. Fripp, architect, explained the present condition of the church, and the works contemplated to be carried out. From his statement it appeared that the walls are considerably out of the perpendicular, and that the roof is in an unsound state. It was estimated that some 560*l.* would be required to execute the repairs, while there was an estimate of 1,500*l.* for some further works, and it was said that for 5,000*l.* the church could be so renovated and restored as to render it safe for the next 400 or 500 years. The meeting, however, seemed to be of opinion that only the necessary repairs should be now undertaken; and the only question at issue was the manner in which the funds were to be raised. After some discussion, it was deemed advisable to give the matter further consideration, and the meeting was adjourned.

METHODIST CHAPELS.

Nottingham.—The first stone of the new Independent Methodist chapel to be erected in Great Freeman-street has been laid. The contractors are Messrs. Lamb & Stevenson, their tender being the lowest of the eleven sent in. The building will be of Early Gothic design The entrance is so constructed that a speedy exit from all parts of the interior, in case of fire or other emergencies, may be gained. Where the nave and transepts intersect a turret rises and crowns the whole. School-rooms and out-offices can also be erected according to the present plans. Near the eastern end of the chapel a platform will be raised, and from this the service will be conducted. Behind this platform will be the orchestra in which the choir will be placed The following is a list of the tenders:—Ward Ansell, & Co., 1,230*l.*; Claricoat, 1,220*l.*; Brassington, 1,219*l.*; Dawson, 1,219*l.*; Bradbury, 1,119*l.* Wright, 1,160*l.* 10*s.*; Bell & Wood, 1,136*l.* Slim, 1,128*l.*; Wood & Gilbert, East Bridgford 1,118*l.*; Lamb & Stevenson (accepted), 1,114*l.* 10*s*

Acock's Green (*Birmingham*).—The foundation stone of a Wesleyan chapel has been laid here. The building will be Gothic. The front and return ends will be faced with front bricks, varied with stone and coloured brick dressings. The inside will be fitted up with open stalls. The roof will be open, the ceiling being carried part way up the rafters, the better to allow for ventilation. The internal dimensions will be 45 feet long by 21 feet wide, and 18 feet from floor to ceiling. The chapel will accommodate about 200 persons, and will cost to erect about 400*l.* Mr. F. D. Johnson of Birmingham, is the architect; and Mr. W. Bennett, of Birmingham, the builder.

Bootle (*Cumberland*).—The foundation-stone of a new Wesleyan chapel has been laid in Balio road, Bootle. The edifice will accommodate some 800 persons. Mr. C. O. Ellison, of Liverpool is the architect; Mr. E. Hughes, of same town, the builder. The contract is for 3,300*l.*; but it is anticipated that the cost of the building will amount to 4,000*l.*, besides the heating apparatus, gas-fittings, and boundary wall.

Manchester.—The first stone of a new Wesleyan chapel has been laid at Openshaw. At the rear of the chapel a school will be erected. The chapel is to be built in the Anglo-Italian style, and will seat 610 persons. The works are being carried out by Messrs. Warburton, Brothers, builders, Harpurhey, under the superintendence of Messrs. Hayley & Son, of Manchester, architects. The cost, exclusive of lighting and warming, but inclusive of boundary wall, &c., will be about 2,600*l.* The architects, remarks the local *Courier*, have originally designed a smaller chapel only (in the

Gothic style), to occupy the site of the diminutive and insufficient Wesleyan chapel in Ashton-road; and the works were just about to be commenced when, by a donation of 1,000*l.* from Mr. John Ashbury, the committee were unexpectedly enabled to abandon their limited scheme, and to venture on the erection of the chapel, school, and outbuildings now described.——The foundation-stone of a new Primitive Methodist chapel has been laid in Hyde-road. The edifice will be a plain structure, having a red and white brick front, with dressings of stone. It will be 43 feet long by 31 feet wide; and the basement will be devoted to the schools. There will be forty-six pews, for about 300 persons, and further accommodation may hereafter be given by the erection of galleries. The cost is estimated at 800*l.* Mr. J. E. Smith is the architect, and Mr. C. Genney and Messrs. Hoyland, of Bradford, near Manchester, are the contractors.

Southport.—The foundation-stone of a new Wesleyan chapel, to be erected in Duke-street, Southport, has been laid by Mr. Fernley, at whose sole expense the building is to be raised. The chapel is to be a stone building, in the Early English style, to contain about 800 sittings. The interior measurement will be 111 feet by 57 feet, exclusive of transepts. There will be a nave, side aisles, apse, tower, clerestory, and two vestries, but no gallery. The architects are Messrs. Starkey & Cuffley, Manchester. Contractors:—Mr. Riding, bricklayer; Messrs. Ellis & Hinchcliffe, masons; Bowden & Edwards for the remainder of the work. Clerk of the works, Mr. G. Ogg.

Boroughbridge.—The chief stone of a new Wesleyan chapel and schools has been laid here. The chapel will be in the Early English style. The plan is a parallelogram, the internal length being 55 feet and the breadth 38 feet. There will be galleries on two sides and one end, supported by quatrefoil iron columns, with moulded capitals. The roo is to be open-timbered, with Gothic arches springing from column to column; and the rafters will be overlaid with boards, and the whole of the woodwork stained and varnished. The chapel will seat 400 persons. The estimated cost of the whole, including land, drainage, fencing, warming and lighting, &c., is 1,300*l.* The works are progressing by the several contractors, viz., Mr. Leaf, woodwork; Mr. Taylor, brickwork; Mr. Thornton, stone work; Mr. Daggett, plumbers' work, &c. The plans, &c., have been gratuitously supplied by Mr. Thornton, of Boroughbridge.

MONUMENTAL.

THE present Mayor of Hull (Mr. Moss) has had an interview with Mr. Earle on the subject of the statue of her Majesty ordered by the late mayor, Mr. Z. Pearson, who became bankrupt; and arrangements have been made, we understand, whereby the statue will be taken to Hull, and formally inaugurated in the People's Park, for which it was originally intended, in a few months' time. It is the unanimous wish on the part of the inhabitants that the Prince and Princess of Wales should visit Hull on the occasion, and that the former should officiate in the inaugural ceremony.

During the sitting of Parliament last year a monument was erecting at Hughenden Manor, Buckinghamshire, the seat of the Right Hon. Benjamin Disraeli. Its object was unknown till the session was over, and Mr. Disraeli for the first time saw this tribute erected without his knowledge—to the memory of his father, the late Isaac Disraeli. The inscription is as follows:—"In memory of Isaac D'sraeli, of Bradenham, in this county, Esq., and Hon. D.C.L. of the University of Oxford; who, by his happy genius, diffused among the multitude that elevating taste for literature which, before his time, was the privilege only of the learned. This monument was raised in affectionate remembrance by Mary Anne, the wife of his eldest son, the Right Hon. Benjamin Disraeli, lord of the manor, Chancellor of the Exchequer, 1852, 1858, 1859; and now, for the sixth time, knight of the shire." The monument is placed prominently on the summit of a high hill, flanked by woods, opposite to the elevation upon which the manor-house stands, and can be seen from many places at a considerable distance. The monument is in the Renaissance style: it is built of Bath stone, upon a rustic base. In the centre of the shaft there is a medallion of the elder Disraeli. The monument is 50 feet high, and is the design of Mr. E. B. Lamb, of London, architect.

The long-talked-of project of a monument to the memory of Tyndale, the translator of the Scriptures, has at length taken a practical turn by the laying of the foundation-stone on Nibley Knoll, a spot in the parish where Tyndale was born. The site is a lofty eminence, from which the whole county of Gloucester is presented in one panorama. The monument will be in the form of a cenotaph, of Hampton-Common stone, erected from a design supplied by Mr. Teulon, of London. The cenotaph will consist of a tower, 26 feet square at the base, rising to 22 feet, and by gradations to 16 feet 6 inches, and diminishing 2 feet above that. The entire height will be 111 feet, exclusive of the terminal, which is proposed to be a reflector. The entrance will be on the east side, and there will be a staircase inside to ascend. The cardinals will be filled with sculpture. The top of the erection will be terminated with a machicolated cornice. Within the doorway a place will be provided on which to chain a Bible, and there will be a book-rest on the outside, on which the public may read the work.

THE STAGE.

Royal Italian Opera.—Mario and Madlle. Patti have been admirable in "Il Trovatore," the latter more so, considering her youth and *physique* than even her warmest admirers could have anticipated. The strange proceedings with which her name has been recently mixed, would seem to bespeak for her additional sympathy. The revival of the "Prophète," a few evenings ago, with its gorgeous colourings, both musical and scenic, raised the house to enthusiasm; Tamberlik and Madame Didiée supporting the two main parts. *La Gazza Ladra* is announced for Saturday, with a strong cast, including Madlle. Patti.

Her Majesty's Theatre.—The daily papers have spoken with praise of the new ballet here, *Bianchi e Negri*. Less comprehensible rubbish was surely never set before a public. Mdlle. Amalie Ferraris is an admirable dancer nevertheless.

Princess's Theatre.—"Court and Camp," the drama (from the French) with which Mr. George Vining has inaugurated his management of the theatre, is full of bustle and incident, and affords a capital part for himself, which he plays with great spirit and vivacity. He is aided—so far as the plot will allow—by Mr. Belmore, Miss Amy Sedgwick, and Miss Lydia Thompson; but the villain of the piece, the *Conte Salviata*, comes out flatly from the hands of Mr. Charles Verner. Versailles at night with a fountain; the destruction of Lawfeld Mill; and the Watteau *Fête*, with which the piece concludes, are the three great scenes, and do infinite credit to Mr. F. Lloyds, who shows in them inventive power as well as artistic skill. Mr. Vining must not forget that he has in Mr. Belmore a real actor, and should give him something to do whereiu he may show that he is so.

The Olympic.—Mr. Neville has never done anything so good as *Robert Brierly*, in Mr. Tom Taylor's drama of every-day life, called "The Ticket of Leave Man." Mr. Neville has a good future before him if he continue as he has begun. Mr. Telbin has produced two capital scenes for the play, a suburban tea garden, with which it opens, and a city churchyard, with which it closes. Both are excellent. The piece is very interesting.

COMPETITION.

Girls' Industrial Schools, Coventry.—In answer to a correspondent in last week's *Builder*, I beg to inform him and others interested in this competition, that the successful competitors were Mr. Pratt and Mr. Nevill, both residing in Coventry. As the designs were all submitted under motto, it may appear a strange coincidence to those who are not familiar with competitions, that out of twenty designs sent in, the two to which premiums were awarded were the designs of residents in Coventry; but to those who are familiar with competitions, I am sorry to say it is not at all singular. R.

FIGURE DRAWING FOR ARCHITECTS.

WILL you allow me to call your attention to the following? Such articles are sure to do good; and perhaps some day the Institute may think fit to have a life class in its rooms, open to all members; for depend upon it there will be no advancement in our profession until the architect can draw the figure.

In the meanwhile, in order to expedite the good time, I most respectfully leave it to your consideration to reprint the article of the *Standard*. It is in the main but only too true, although a notable exception should have been made with regard to the figures in Mr. Hardwick's design, which, to my certain knowledge, were drawn by an architect.

The School of Art at South Kensington on its side might do a great deal more good if it were to teach the figure at once instead of disgusting the beginner with their objectionable book, "Dyce's Outlines." W. BURGES.

*** The article in question, in noticing the drawings by students in the schools now exhibited at South Kensington, thus proceeds:—

"We cannot help avowing here that it seems to us that the Academy should insist that their students should all pass a satisfactory examination in perspective and geometry; and that the architects in their turn should declare that no one, unless he were able to demonstrate that he could draw the human figure, should be recognized as an architect. How necessary this is was proved by the late exhibition of drawings for the Prince Consort's memorial. In all these designs, where the architect pretended to show how sculpture should be employed, the drawing of the human figure was beneath contempt, not excepting even Mr. Scott's chosen design. We do not flinch from our duty in making these remarks; for we think, from what is before us in this present exhibition of pupils' studies at South Kensington, that the course here established promises a higher artistic education than can at present be obtained anywhere else in Europe. The best proof of the correctness of our assertion is to be found in the reports of the foreign jurors of the International Exhibition. These gentlemen, headed by M. Michel Chevalier, testify their absolute amazement at the progress of England in the domain of taste. 'The upward movement,' writes M. Chevalier, 'is visible, above all, among the English.' 'The whole world has been struck with the progress which they have made since the last Exhibition in designs for stuffs and in the distributions of colours, as also in carving and sculpture, and generally in articles of furniture.' M. P. Merimée distinctly pronounces—'It is particularly in what concerns the application of art to industry that England manifests the happiest and most notable improvement. A new school has been founded on a plan admirably devised for the industry, and neither care nor money has been spared to render it worthy of its mission.' The director of the Royal Industrial Italian Museum at Turin, Signor G. Devincenzi, declares his opinion that there is not 'any other institution that has been of more advantage both to the progress of industry and of the industrial education of the country.' By his advice the Italian Government have established a museum on the same principles at Turin; and the director is sanguine that 'nothing will be more useful to promote the progress of Italian industry and of the national education.'"

SHAKSPEARE'S MORTAL REMAINS.

WILL you allow me to endorse your opinion that the remains of the great Bard of Avon should not be disturbed. Pleasant leafy Stratford-upon-Avon, at any season, and more especially when seen after a summer shower, when the scarlet passion-flowers, climbing up the fronts of some of the quaint houses, are full of rain, and the gravel-paths are newly washed with the drippings from young linden trees; and the river, as it skirts the churchyard, is chequered with cloud shadows, appears as fit a resting-place for the great master of song as it was a birthplace; and the latter no man chooses. The removal of the body of Mary, Queen of Scots, by her son James I., from Peterborough Cathedral to Westminster Abbey, twenty-five years after burial, took place four years before the death of Shakspeare. This ceremony, with a recognition of the possibility of a similar post-humous honour in stone for himself, may have given rise to the sentiment attributed to the sexton and stone-cutters. F. R. WILSON.

LIMITS TO RESPONSIBILITY OF MASTERS FOR INJURIES TO WORKMEN.

IN the Bail Court on May 26th and 27th, the cases Sullivan (administratrix) *v.* Booth, and Leahy *v.* Booth, were decided in sittings at *Nisi Prius* before Mr. Justice Mellor and a Common Jury.

It appeared that the defendant had bought several lots of buildings in Hungerford-market, which were to be taken down, and the materials were to be removed. The deceased Sullivan and the plaintiff Leahy were two of the workmen, or labourers, employed upon the work of demolition. On the 21st of June the defendant came upon the premises and superintended the work that was going on at Lot 1. There was a stone flooring above the shop: some of the stones weighed as much as two tons. The defendant ordered the men to remove this stone flooring; but, as they did not work sufficiently fast for him, he ordered the deceased and Leahy to assist. The men proceeded to use levers to remove one of the stones, which tilted up and fell down, taking the deceased with it, through a floor into the cellar, a distance of 35 feet, and the deceased was crushed to death and Leahy injured. It was alleged that this arose in consequence of the stones or flooring not having been properly supported by props at the time.

Evidence was led, *pro et con.*; and, after counsel for all parties had urged the interests of their respective clients,

Mr. Justice Mellor proceeded to sum up the case; and, as regarded the law upon the subject, which is one of great importance to masters and servants, said:—If a master is to be made responsible under all circumstances, it would be a very dangerous thing to be a master. No doubt under many circumstances the master is responsible for damage done by his servants, because he has the power of selecting them; but it has been established, by a multitude of cases, that a servant cannot maintain an action against a master for an injury resulting from the carelessness or negligence of a fellow-servant; and

you will see the principle upon which this goes. The principle is this,—that a servant when he engages to serve a master undertakes to run all the ordinary risks of the service, which include the negligence of other servants: the master does not warrant to the man he engages that he will be responsible for the negligence of all his servants. But if a master negligently select or choose an incompetent servant, and give him the general superintendence of the particular work, and the power of giving directions how it is to be carried out, the master is responsible. If the master intrust the direction to a foreman or a manager,—for it is impossible for a master to be personally attentive to or cognizant of all that takes place,—therefore, if he give the superintendence of the work to a foreman, and give him power to give directions, and do nothing more than generally look and see how the work is going on, that is not such an interference as will make a master liable: the mere encouragement to go on with the work is not such an interference as will make the master liable. The interference that will make the master liable is that which supersedes the authority given to the servant. If they thought there was no negligence by Hollingsworth [the foreman], then there would be an end of the case. If they thought Hollingsworth did not use reasonable precautions; yet if they thought the master reasonably warranted in employing Hollingsworth, the master would not be liable. If the master employed a skilful workman, it was not necessary for him to give specific directions.

The jury returned a verdict for the defendant in both cases; but they thought the defendant might have used more caution.

LIABILITY OF SURVEYORS.

THE case of Young *v.* Davis has at length been definitely settled by the Exchequer Chamber. At the Oxford Assizes, in July, 1861, an action was tried before Mr. Justice Keating, between Joseph Young, of Oxford (plaintiff), and William Davis and Richard Davis, surveyors of the parish of Alkerton, near Banbury (defendants). The case was this. In November, 1860, Joseph Young was proceeding down Alkerton-hill, when he fell and broke his leg,—as he alleged, through the negligence of the surveyors in not filling up a hole at the bottom of the footpath, into which he fell. The defendants insisted that as the hole was there when they took the office of surveyors, and for many years prior to that time, they were not liable for the accident. After a lengthened trial before a special jury, a verdict was returned for plaintiff, for 150*l.* damages and costs. The defendants succeed in setting aside the verdict, and the plaintiff appealed to the Court of Exchequer Chamber, and on the 15th ult. the case came on for argument before the Lord Chief Justice Cockburn and other Justices, when the Court decided that the verdict in favour of the defendants was a correct one, and confirmed it accordingly. They held that the 5 & 6 William IV., cap. 50, did not throw upon surveyors a new liability; and that the action was not maintainable.

CASE UNDER BUILDING ACT.

MR. JOHN WARNER was summoned, on the 2nd inst., to the Wandsworth Police-court by the District Surveyor, under the Building Act, for that, after digging out for the foundations to five houses in Battersea Fields, he had filled in dry brick rubbish to receive concrete, instead of laying it on solid ground. The magistrate held that no objection could be made thereto, inasmuch as no building had been commenced, and dismissed the summons.

Books Received.

Catalogue of Macfarlane's Cast-iron Manufactures. Fourth edition. Vol. I. Architectural Appliances. Bedford-street, Strand.

THIS volume might be more correctly styled a book of engravings than a mere catalogue; and it must have cost more than a trifle in the getting up.

The branches of trade to which Messrs. Macfarlane & Co. (of Glasgow and London) have directed their attention are somewhat peculiar, and have been almost entirely developed by themselves; evincing an amount of originality and striking individuality rarely to be met with in a manufacturing firm. The amount of detail given in this catalogue enables the most inexperienced person thoroughly to understand what is described. The price list also, at the end of the catalogue, has peculiar features, simplicity of reference and completeness being their aim. The want of this desideratum we have long complained of in reference to most manufacturers' books.

The erection of Messrs. Macfarlane & Co.'s works at Glasgow (the Saracen Foundry, formerly in Saracen-lane, now in Washington-street) is a matter we would also especially notice. A general view of the building is given as the frontispiece to the volume under notice, and enables us to form an opinion as to its merits. In the erection, while keeping strictly in view the requirements of their business, the fresh purpose-like novelty of many of the features shows what may be accomplished in even the most smoky description of public works. On a first glance at the structure the campanile-like stalk in the foundry yard first attracts attention; and forms, indeed, one of the most conspicuous and striking portions of the general design. It rises, we understand, to a height of about 135 feet, and is about 12 feet 6 inches square at the base, the lower portion forming a pedestal, from which start pilasters of white brick, three on each facing, having red brick panels between. The pilasters, which lend an appearance of graceful lightness to the shaft, are carried up nearly to the top of the stalk, and are there connected by arches, springing from enriched capitals, above which again a cornice is placed, constructed of white and red brick boldly moulded and appropriately enriched to suit the nature of the material. An ornamental cast-iron cresting with angle finials and gilt bannerets surrounds the whole; looking like a crown, on what, though but a chimney, is yet in its way a work of art.

The general design of the building is after the Venetian type. The front to Washington-street is mainly occupied by the warehouses, which have a frontage of 104 feet in length, and are flanked north and south by stone screen walls surmounted by ornamental iron crestings. The walls are built in narrow courses of blue stone with dressings of white Kenmuir stone, a massive-looking sloped basement extending along Washington-street, being of a dark toned freestone. The main cornice is formed by a large cast-iron moulded gutter, supported by foliated iron brackets, alternating with gargoyles in the gutters, this again surmounting a deep splayed stone frieze course. An ornamental eave cresting is secured to the roof immediately above the cornice. The roof is pavilioned in three sections, the central span being the greatest, the ridges on all sides supporting ornamental crest rails with corner terminals and bannerets. As "art-workers" in iron, Messrs. Macfarlane seem to have lavished the resources of their skill and long experience in making their foundry an evidence of what they can do. The ornamentation of the building is all iron. The architects were Messrs. Boucher & Cousland.

Miscellanies, Historical and Biographical; being a Second Series of Essays, Lectures, and Reviews. By WILLIAM S. GIBSON, M.A., Barrister-at-Law. London: Longman & Co.

OUR readers and the general public are well acquainted with Mr. Gibson as a popular writer. The present volume is mainly a reprint from *Bentley's Miscellany*, *Household Words*, *The Ecclesiologist*, and the *Morning Post*. It comprises essays, topographical, scientific, biographical, historical, and miscellaneous. Among the topographical essays are those on Alnwick and Auckland Castles, Finchale Priory, Byron at Newstead Abbey, Summer Days in Scotland, and others. The scientific essays include those on Art Treasures at South Kensington, Impressions of the International Exhibition, the British Association at Oxford, and others; and there are various biographical and historical essays, well written and entertaining.

The World's Debt to Art. By A. J. B. BERESFORD HOPE. London: Ridgway. 1863.
The Condition and Prospects of Architectural Art. By A. J. B. BERESFORD HOPE. London: John Murray. 1863.

WE are glad to see that Mr. Beresford Hope's valuable lecture, "The World's Debt to Art," delivered in the Town Hall at Hanley in February last, and reported in our pages at the time, is published in pamphlet form; as well as the same gentleman's address on "The Condition and Prospects of Architectural Art," delivered by him at the Architectural Museum, in March. We reported this last address at very considerable length when it was delivered; but many will be glad to find it as perfected by the author, and in a handy form. In his spoken address Mr. Hope disappointed some warm friends of the Museum, by the limited view he took of its scope. These limits, we are glad to see, are made not so obvious in the printed lecture. The Architectural Museum that we look for must be a great deal more than a collection of specimens of the architectural art of the thirteenth, fourteenth, and fifteenth centuries, valuable and important as these are.

VARIORUM.

THE American "Annual of Scientific Discovery; or, Year-book of Facts in Science and Art for 1863," edited by D. A. Wells, A.M. (London: Trübner & Co.), has been published. It sustains its reputation as an interesting and valuable record of progress;—not forgetting, of course, what has been done with war appliances.——"Half-hours with the Microscope. By Edwin Lankester, M.D. Illustrated from nature by Tuffen West. A new edition. London: Hardwicke." Our former commendation of this very interesting volume has been fully justified by the fact that seven thousand copies have already been sold, and that it is now in its third edition. Dr. Lankester has made several important additions, consisting of fresh matter, interspersed with wood-cuts, descriptive of the compound microscope and its various appendages.

Miscellanea.

ALBERT MEMORIAL FOUNTAIN AT QUEENSBURY.—The people of Queensbury, a town of about 10,000 inhabitants, situate in the hilly district about midway between Halifax and Bradford, have just celebrated the inauguration of an Albert memorial fountain. The event was made the occasion of a general holiday.

"THE CANOE, THE RIFLE, AND THE AXE."—The descriptive and pictorial entertainment, which Mr. J. K. Lord is giving under this title, at the Egyptian Hall, conveys a good deal of entertainment; but it wants light and life, and these must be given to it if it is to become popular. Pauses while the pictures are being changed are depressing, and should be avoided. "Go along! Keep moving," is a useful maxim for those who would "entertain."

A CATHEDRAL PLUNDERED OF ONE OF ITS BELLS!—Our contemporary the *Worcestershire Chronicle* publishes the startling announcement that one of the great bells of Worcester Cathedral, weighing five hundredweight, has recently been stolen, it is not known how or when! but it must have been within the last few months. The missing bell is probably broken up and no longer in existence by this time, and will never more be seen, whatever be the fate of the audacious thief.

ANTIQUITIES OF SOUTHAMPTON.—A correspondent of the *Hampshire Independent* points out some alterations now proceeding at the Bar Gate, and at the ancient Maison Dieu, or God's House. It is to be hoped the corporation will take care they are not destroyed or defaced; also the remains of the old town wall, which is still perfect, till it reaches the Eastgate, formerly in East-street. The Maison Dieu, in Winkle-street, is being re-faced with stone. The walls are of great thickness—nearly 3 feet. The Wardens and Fellows of Queen's College will no doubt take care that the monument erected by Lord Delaware, which bears the following inscription, is preserved:—

> Richard, Earl of Cambridge,
> Lord Scrope, of Masham,
> Sir Tho. Grey of Northumberland,
> conspired
> To murder King Henry V. in this town,
> As he was preparing to sail with his army,
> Against Charles VI, King of France,:
> For which conspiracy they were executed,
> And buried near this place,
> In the year MCCCXV.

It should be cased with wood during the alterations. There are other ancient remains in the chapel, which ought not to be removed or defaced.

EASTERN ARCHÆOLOGY.—The following is taken from an interesting communication by MM. Melchior de Vogüé & Waddington, published in the *Revue Archæologique*:—"I ask permission to take you with us into the mountains between Antioch, Aleppo, and Apamée, on the right bank of the Oronte. I am nearly tempted to refuse the name of ruins to a number of towns almost intact, and whose view transports the traveller to the midst of a lost civilization. In exploring those deserted streets, those abandoned courts, those porticoes in which the vine twines around mutilated columns, an impression is felt similar to that experienced at Pompeii. In fact, all those cities, to the number of more than 150, in a space of from 30 to 40 square miles, form a whole from which it is impossible to detach anything; and belong to the same style, same system, and same date,—that of the primitive Christian epoch, extending from the fourth century to the seventh of our era. The spectator is transported into the midst of Christian society—not the hidden life of the catacombs, nor the humiliated, timid, and suffering existence which is generally imagined; but a free, opulent, artistic life, in large stone houses, perfectly disposed with galleries and covered balconies, handsome gardens planted with vines, presses for making wine, cellars and stone cisterns for containing it, large underground kitchens, and stables: in squares, surrounded with porticoes, are elegant baths, magnificent-columned churches, flanked with towers, and encompassed by splendid tombs: crosses and monograms are sculptured in relief on the doors, and numerous inscriptions may be read upon the monuments. All these Christian towns were abandoned on the same day, probably at the period of the Mussulman invasion."

OZONE.—Dr. Cook, of the Bombay Presidency, has been conducting experiments with ozone. In 1861 he discovered that all trees yield ozone,—not the coniferæ only; and that the ozone increased as the foliage was at once luxuriant and in a position to enjoy a free supply of air. He believes he has proved that charcoal also is a producer of ozone. The Bombay Government has called on Dr. Cook to sketch a plan for the systematic registration of ozone throughout the Presidency.

RAILWAY TRAFFIC RETURNS.—The traffic receipts of railways in the United Kingdom amounted for the week ending the 16th of May, on 10,677 miles, to 553,441*l.*, and for the corresponding week of last year, on 10,237 miles, to 527,999*l.*, showing an increase of 440 miles, and of 25,442*l.* in the receipts. The gross receipts on fourteen railways amounted in the aggregate, on 7,290 miles, to 429,816*l.*; and for the corresponding week of 1862, on 7,036 miles, to 414,112; showing an increase of 254 miles, and of 15,704*l.* in the receipts.

THE HYDRAULIC PRESS.—At an official trial of Messrs. Westwood, Baillie, & Co.'s new 28-inch hydraulic press, erected in Woolwich dockyard, for bending and preparing armour-plates; the first test consisted of a trial of two 4½ inch armour-plates, made hot, forming a thickness of 9 inches of solid iron, which were placed in the press and bent to a curve of seven-eighths in the breadth of the plates in less than five minutes, at a pressure of 1,000 tons on the whole surface of the piston, the pump making 130 revolutions per minute. In the second trial the plates were adjusted so as to bring the pressure near the centre of the plate. The pump was then worked up to 1,539 tons by indicator, bending the two slabs of iron to a curve of one-half in their breadths. The third and last trial consisted of a simple test of the working of the pump and the strength of the press. The pump worked up to about 1,600 tons and exhibited no visible signs of weakness.

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.—A *conversazione* in connexion with the Society for the Encouragement of the Fine Arts was held on the 27th ult., at the Mansion House. Sir R. W. Carden occupied the chair. The gathering was rendered interesting by the presence of a party of New Zealand chiefs, dressed in the costume of their country. The chairman announced that the medals for 1862 had been awarded as follows:—In Historical Painting—To Mr. E. Crowe, for his picture of "De Foe in the Pillory," No. 457 in the Royal Academy Exhibition. In Genre—To Miss E. Osborn, for "Tough and Tender," No. 487 in the Exhibition of the Society of British Artists. In Landscape—To Mr. F. Danby, for "Evening," No. 350 in the Royal Academy Exhibition. In Water-colour Painting—To Mr. F. W. Burton, for "The Wife of Hassan Aga," No. 280 in the Exhibition of the Water-Colour Society; and to Mr. J. H. Mole, for "A Leisure Hour," No. 59 in the Exhibition of the New Water-Colour Society. In Architecture—To Mr. E. W. Godwin, for his design for "Northampton Townhall," now being erected, No. 8 in the Architectural Exhibition.

THE LUDGATE-HILL DISFIGUREMENT.—At the meeting of the Common Council, on the 28th ult., Mr. Deputy Fry, chairman of the Improvement Committee, brought up a report touching the proposed railway viaduct across Ludgate-hill. They stated that they had sought the advice of eminent engineers and surveyors as to the practicability of the connexion between the London, Chatham, and Dover Railway and the Metropolitan Railway being made by means of a tunnel; and at a consultation held on the subject, and at which were present Mr. Harrison, C.E., Mr. Bidder, C.E., Mr. Penrose, and Mr. Haywood, the engineer of the City Commissioners of Sewers, those authorities were unanimously of opinion that a perfectly practicable railway could be made from the bridge now constructing across the river to the Metropolitan Railway station in Victoria-street, by a tunnel under Ludgate-hill;—that such line would be cheaper in its construction than that which the company had authority to make;—and that it would enable the main station to be on a level with Farringdon-street, instead of being raised 18 or 20 feet above the ground, as the one at present proposed would be. Mr. Fry added that since the report had been prepared, Mr. Greenhill, the engineer, had submitted to him a plan which had for its object to combine in one bridge the two bridges which were about to be erected at Blackfriars, the railway bridge passing below the other, and forming a connexion with the Metropolitan Railway, and in a manner to obviate the necessity of a viaduct across Ludgate-hill.

A WOODEN LIBRARY.—An odd work is being carried out for exhibition at the Permanent Industrial Exposition in Vienna. It is a wooden library, that is, a hundred octavo volumes, the covers of which are formed of wood; the backs of bark, inscribed with the names of the trees they are made from; and the interiors of specimens of the leaves, flowers, fruits, &c., of the trees.

GUILD OF LITERATURE AND ART.—The long dormant Guild of Literature and Art has held its first practical meeting, Mr. Dickens, Mr. John Oxenford, Mr. Charles Knight, Mr. W. Wills, and others being present. The Society, it is stated, has determined to abandon the Life Assurance qualification, which is found in practice to be attended with difficulty and hardship. The Sickness Fund is also given up. The qualification will therefore consist of a payment of an entrance fee of two guineas, and a subsequent annual payment of one guinea. Three free dwelling-houses, with necessary fixtures and fittings, are forthwith to be erected on a piece of land, of two acres, given by Sir E. Bulwer Lytton; the remainder of the income of the Guild to be devoted to the granting of annuities to professional members.

THE METROPOLITAN SEWAGE QUESTION.—A printed letter, signed "Richard Dover," has been sent us with reference to the advertisement issued by the Metropolitan Board of Works for "tenders for the disposal of the sewage." In this letter Mr. Dover, of course, advocates the adoption of his own deodorizing and precipitating process. He charges the Board with disingenuousness and want of perspicacity in not at once adopting this process in preference to any other; since it had been favourably spoken of by their own engineer, Mr. Bazalgette, and others; and he urges that they ought to be "constrained to adopt that system" so approved. The House of Commons, he suggests, ought to make new and full inquiries respecting the utilization of the sewage, as "the Metropolitan Board either wants the disposition or is not sufficiently educated and disinterested or impartial to do so."

PROPOSED RESTORATION OF THE CHURCH OF ST. BARTHOLOMEW, SMITHFIELD.—A numerous meeting of the parishioners and others interested in the restoration of the ancient parish church of St. Bartholomew-the-Great, West Smithfield, has been held in the vestry room of the church, the Rev. John Abbiss, A.M., the rector, presiding. This church is a Norman structure of peculiar interest, dating from 1102 to 1123. There are but few specimens of architecture so entirely Norman as this; and it has been for many years a source of grief to the lovers of ancient art that so noble an edifice, exhibiting every facility for complete restoration, should have been allowed to continue in its present mutilated and degraded state. Resolutions approving of the restoration were passed, and a committee appointed to receive subscriptions, which were at once commenced, and the sum contributed in the room exceeded 800*l.* The total estimated amount required is about 4,000*l.* Mr. T. Hayter Lewis and Mr. W. Slater are the architects consulted.

BOROUGH OF LIVERPOOL: REPORT OF BUILDING SURVEYOR.—The 25th annual report of the building surveyor of the borough of Liverpool has been printed by order of the local health committee. It states that the erection of inferior dwellings under 12*l.* per annum has considerably decreased during 1862, compared with the average of former years. From this it is assumed that the demand for this class of property is fully met in the borough. During the past year, dwellings with a rental varying from 12*l.* to 25*l.* per annum, amounted to 1,145, against 1,040 in 1861: the new dwellings with a rental varying from 25*l.* to 35*l.* per annum, were 208, against 102 in 1861; and the new dwellings with a rental varying from 35*l.* and upwards, 141, against 62 in 1861. There is a very large reduction in the number of houses constructed with cellars for separate occupation. In 1861 there were 199 premises built on this principle, out of a total of 1,250, which was an improvement on many former years. In 1862, only 21 dwellings were thus constructed, out of a total of 1,516. In every instance of houses erected in streets provided with sewerage, water-closets have been insisted upon. The midden is said to be gradually disappearing from the Borough. Mr. Rishton concludes by saying, "It is simply an act of justice to the builders to state that in nearly every instance when plans of houses submitted for consideration have been found objectionable, the suggestions of the committee for improving their sanitary and other arrangements have been cheerfully complied with."

DWELLINGS FOR THE INDUSTRIOUS CLASSES.—A meeting is to be held this, Saturday morning, at the Mansion House, to complete the formation of an association to further the erection of dwellings, as introduced by Alderman Waterlow.

OPENING OF THE GRAND CAVOUR CANAL AT TURIN.—Prince Humbert, the heir apparent to the Italian Crown, presided at the ceremony of letting water into the Grand Cavour Canal on the 1st inst. An immense concourse assembled to witness the proceedings.

PETROLEUM OR PARAFFINE FOR LIGHTHOUSES.—At a recent meeting of the Liverpool Dock Board, a report from the Marine Surveyor on some experiments made with petroleum was read. From this it appeared that the oil burned for ten minutes, giving a good flame, when an explosion took place, blowing the lamp to atoms. The lamp used was the ordinary lighthouse lamp as at present in use, and the disaster is partly to be attributed to the fact that the lamp in question was unsuited for the description of oil to which it was applied; but partly also, we should think, to neglect of testing the oil and the use of too volatile a quality of it. The degree of heat, however, may be so great as to render all such oils improper for such a purpose.

THE ARUNDEL SOCIETY.—The fourteenth annual meeting of the members of this society was held on the 2nd inst., at their rooms in Old Bond-street, under the presidency of Lord Elcho, M.P., one of the members of the council. His Lordship was supported by Mr. Layard, M.P., Mr. W. Stirling, M.P., Mr. C. Buxton, M.P., the Bishop of Landaff, and others. In opening the business of the meeting, Lord Elcho congratulated the society on the steady advance that had been made during the last year. The society had struggled on from its foundation in 1858 for several years with only 400 members, and with its financial affairs and its engagements to its subscribers both sadly in arrear; but, owing chiefly to the active co-operation of Mr. Layard, it had steadily advanced until the present time, when they could boast of 1,650 members, an annual income of 4,000*l.*, and a balance in hand of nearly 800*l.* He more particularly congratulated the members on the latter fact, for it meant largely increased means of copying works of art now fast decaying, with a view to future publication.

SYDNEY AND MAITLAND, ANCIENT AND MODERN.—Twenty years ago Sydney *was* Sydney, but was far from being the Sydney it now *is*. The *James Baines* came in some time since from Liverpool, in sixty-four days, and her mail weighed seventy-five tons. Seventy-five tons of letters and newspapers was not the weight of a ship's mail to Sydney twenty years since: seventy-five pounds would be nearer the mark. "The Rocks" is a designation given to the undulating eminence which rises to Flagstaff Hill and falls to Lower George-street and Miller's Point. The Rocks *were* The Rocks twenty years ago, but they were not the Rocks they now *are*. Houses of eight small rooms let, four years since, for 150*l.* per annum, and a wine-vault opposite Wynyard-square for 14*l.* per week; but The Rocks were formerly *given* to old convicts, constables, and others to build huts on. The Rocks were considered worthless, and it is a well-known fact that "I'll sell my plot for a bottle of rum" was an offer often made, and plots sold for as many bottles of rum as they would now fetch thousands of pounds. It is very much less than the third of a century ago since a bushranger, the noted Jew boy, and a few companions, armed to the teeth, rode into the midst of a few bark huts and small houses, levying black mail on the unresisting inhabitants, bidding any wishful to oppose them to "bring their coffins with them." The bushrangers rode off at their leisure, and the few bark huts and small houses which constituted the Maitland of those days remained. Now the scene is changed indeed. Splendid steamers arrive daily, and twice daily, at a suburb of Maitland, having traversed the coast marine on their voyage hither from the metropolis of the colony. A railway 16 miles in length unites the coal-port of Newcastle to the many thousand peopled town into which the few bark huts and small houses of twenty and thirty years ago have grown. Maitland has divided into east and west, with many handsome public and private buildings. There are now found here churches, chapels, kirks, schools of art, mills, and stores of very handsome exterior and very capacious dimensions; whilst the suburbs and country adjacent contain towns and populations vying with the former population of the capital of New South Wales itself.—*Vanderkiste's "Lost, but not for Ever."*

FALL OF A CHIMNEY AT WIGAN.—A chimney of an iron foundry at Wigan has fallen to the ground, fortunately after the whole of the workmen had been alarmed. The chimney was 90 feet high, and in its fall it crushed the pattern shop.

TURKISH BATHS.—The half-yearly meeting of the London and Provincial Turkish Bath Company (Limited) took place on the 23rd ult., at the Hammam, Jermyn-street, when the report of the board of directors was unanimously adopted, and a dividend was declared upon all the paid-up capital at the rate of 6*l.* per cent. per annum.

BIRD'S EYE PHOTOGRAPHS FROM A BALLOON.—An attempt has been made by Mr. Negretti, by aid of Mr. Coxwell's balloon, to obtain photographs at a considerable height in the air. The photographs thus obtained are not as yet very successful; but it has been ascertained to be quite possible to take photographs in such a position. The chief difficulty arose from the rotary motion of the balloon, which Mr. Negretti thinks a change an the form of the car would obviate: he also contemplates new arrangements of the photographic tpparatus, and means to try again.

RESTORATION OF WINCHESTER CITY CROSS.—The citizens have resolved, with the approval and aid of the corporation, to open a subscription for the restoration of the cross of Winchester. At a recent meeting a committee was appointed to carry out the object in view; and Mr. Scott named as the architect to be consulted. At the meeting the Rev. C. Collier said the origin of the Cross was involved in obscurity, but, from researches he had made amongst the muniments in the custody of the Town Clerk, in conjunction with Mr. F. Baigent, he found that in 1440 it was spoken of as the High Cross, the "Altem crucem." One record showed that in Bishop Fox's time a poor Dutchman, who had been brought before the warden for reading his Dutch Bible, was sentenced to be led round the Cross with the Bible in his hand three times by Kingsmill, the city crier, and from thence back to the market, where the book was to be cast into a fire. From this it would appear that this was never a market cross, but one of the High Crosses where the laws were declared, proclamations made, judgments delivered, corpses rested, sermons preached, and sometimes malefactors executed.

HARBOURS OF REFUGE.—The annual return states that at Dover the extent of the foundations of the Admiralty pier, or west arm of the harbour, is now 1,675 feet, and the length of the quay level, 1,539 feet. The sum of 549,000*l.* has already been voted for these works, and 60,000*l.* will be required to be voted now, leaving 41,000*l.* of the estimate to be voted next year: the work should be completed in November, 1864. At Alderney the outer ends of the sea and harbour walls of the western breakwater are now 1,418 yards from the shore, or 148 yards short of the limit ordered. The base of the breakwater extends to 1,636 yards from the shore: 12,000 tons of stone have been deposited in the base below low water. The sum of 1,027,000*l.* has been voted for these works, and a vote of 80,000*l.* will be required this Session: the estimate was 1,300,000*l.* At Portland the net expenditure has reached 954,260*l.* The total quantity of rough stone deposited in this breakwater from the commencement is no less than 5,170,760 tons. The divers have now completed the levelling of one-half of the area, under the foundation courses of the masonry for the north head and fort, and have set about one-third of the bottom course.

MONASTERY AT GORTON, IN LANCASHIRE.—The foundation-stone of a monastery has been laid at Gorton, by the Very Rev. Canon Benoit, secretary to the Roman Catholic Bishop of Salford. The monastery is being raised by Franciscan monks (Recollets), of whom there are at present five, together with a number of lay brothers, resident at Gorton. The site is in Gorton-lane, between the Roman Catholic schools and the temporary residence of the order. The building will comprise a church dedicated to "Our Ladye and St. Francis," 180 feet long by 50 feet broad, in which there will be a choir for the accommodation of sixty monks; transepts; six confessionals; and several chapels. There will be cloisters for the monks and accommodation for guests within the monastery. A portion of the basement will be fitted up as a workshop, in which a considerable amount of time will be spent by the monks. The building will be of brick, faced with stone; will be surmounted by a tower at the west front; and will have a frontage of 280 feet; the whole possessing pretensions to architectural beauty. The estimated cost is 8,000*l.* The architects are Messrs. Pugin & Hanson.

STEEPLE JACK: A RIVAL TO BLONDIN.—The other day the inhabitants of Walker, on the Tyne, were astonished to see a man walking round the top of the high chimney at the Walker Alkali Works. How he had got there seemed a mystery, as the chimney was sending forth its usual smoke, and there was no scaffold or any visible means there to enable him to get up; but on inquiring, says the *Gateshead Observer*, we found this bold man to be a Mr. Delooze, employed by Mr. Wylde, of Manchester, who makes it his business to repair and fix lightning conductors to high chimneys, &c., and who had adroitly thrown a line over the chimney, by means of a large kite, and by this means had fixed stronger ropes and tackle, and had drawn himself up to his perilous-looking position. From this beginning he and his assistants have since formed a scaffold round the chimney, reversing the usual mode of scaffolding, by commencing at the top, in place of from the ground. The chimney is so damaged by muriatic acid gas, and out of repair, that it is unsafe, and it is intended to remove about eight or ten yards off the top.

THE VENTILATION OF THE HOUSE OF COMMONS. — Mr. D. Griffith having asked the First Commissioner of Works whether it would not be better to ventilate the house by opening the windows than by the present means,—Mr. Cowper said that, in his opinion, if the windows were opened as the hon. member proposed, the air would neither be so cool nor so pure as that which they had. The hon. member was in a mistake in supposing that the air came from a cellar. If the hon. member would take the trouble to go below he would see that the air was admitted in a natural way to the chamber below. There it was purified by being washed in a stream of water; and it was afterwards passed through canvas, where more floating impurities were extracted. It then came under the floor of the House, travelling at the rate of 1 foot per minute. This air was, in cold weather, warm; and in warm weather, it was ice down below. The object was to keep the air in all seasons at a uniform temperature of 64 degrees upon the thermometer. On Friday night, when the hon. member asked the windows to be opened, the thermometer stood on the outside at 78, and in the House at 65; and consequently, if his wish had been gratified, air 13 degrees warmer than that which they were breathing would have poured into the House.

DUNDEE.—Some further progress is being made towards the amendment of the eccentric distribution of premises in the streets and lanes of this town. In Seagate extensive premises have just been erected for Messrs. Jaffé's business. The front of the new building is in the Venetian style, and extends along the Seagate about 90 feet, and is 40 feet high from the pavement to the top of the parapet. This range is 82 feet wide, and consists of four stories. The first, second, and fourth are intended for warehousing purposes, and the third for offices. The buildings behind this front range consist of a basement and main story, the area being about 65 feet square. On the east of this, adjoining Sugar House Wynd, is a space appropriated for the engine and boiler-house, and the large covered court for loading and despatching goods. Altogether there will be upwards of 15,000 square feet of warehouse room for the brief storage of goods waiting packing and exportation. The premises have been designed, under the direction of Mr. J. H. Luis, the resident partner of the firm, by Mr. Jas. Maclaren, of Dundee, architect. The contractors were Mr. John Caird for the mason work; Messrs. Kidd & Son for the wright work; Messrs. Crabbe, Urquhart, & Gibson for the slater, plumber, and plaster works respectively. Messrs. Robertson & Orchar furnished the castings used in the construction; and Messrs. Carmichael are engaged upon the machinery.

TENDERS.

For nave and chancel of church, Caterham, Surrey. Mr. R. W. Drew, architect. Quantities supplied by Mr. J. A Bunker:—

Myers & Sons	£3,465 0 0
Turner & Sons	3,153 0 0
Newcomb	3,012 0 0
Carruthers	3,000 0 0
Child & Son	2,949 0 0

For enlargement and restoration of the parish church of Wootton St. Lawrence, near Basingstoke, Hants. Mr. John Colson, architect:—

Thorn	£2,377 0 0
Hillery	2,248 0 0
Budden	2,150 0 0
Newman	1,994 0 0
Rogers & Booth (accepted)	1,929 0 0
Hayden	1,859 0 0
Rabbit	1,839 0 0

For Parsonage House, Kentish Town. Mr. Henry Baker, architect:—

Aney	£2,405 0 0
Mansfield & Son	2,370 0 0
Brass	2,343 0 0
Holland & Hannen	2,268 0 0
W Cubitt & Co.	2,253 0 0
Piper & Wheeler	2,198 0 0

For alterations at Hare Hatch, Berks. Mr. H. Baker, architect:—

Wheeler	£350 0 0
Hollis	300 0 0
Owthwaite	294 0 0

For the restoration of Turweston Church. Mr. Henry Woodyer, architect:—

Cooper	£1,393 0 0
Cleradge	1,311 0 0
Sparrow	1,284 0 0
Denney (accepted)	879 0 0

For new chapel at Peckham. Mr. S. K. Bland, architect. Quantities supplied:—

Higgs	£2,000 0 0
Dearsly	1,940 0 0
Colls	1,925 0 0
Cook	1,920 0 0
Wilcs	1,902 0 0
Simms	1,766 0 0
Thompson	1,734 0 0

For residence at Peckham. Mr. S. K. Bland, architect. Quantities supplied:—

Higgs	£650 0 0
Cook	650 0 0
Colls	649 0 0
Wilkes	614 0 0
Dearsly	599 0 0
Simms	599 0 0
Thompson	580 0 0

For School at Peckham. Mr. S. K. Bland, architect. Quantities supplied:—

Wilkes	£460 0 0
Higgs	400 0 0
Simms	394 0 0
Colls	365 0 0
Dearsly	363 0 0
Thompson	340 0 0
Cook	300 0 0

For building new church of St. Bartholomew, Islington. Mr. Edwin Clare, architect. Quantities supplied by Mr. Weymouth:—

Axford	£5,880 0 0
Nash	5,289 0 0
Brass, Brothers	5,240 0 0
Conder	5,177 0 0
Adamson	5,190 0 0
Mansfield & Son	5,045 0 0
Foster	4,997 0 0
Simms	4,978 0 0
Dove, Brothers	4,880 0 0

For alterations at the Three Tuns Tavern, Hatton-garden. Mr. W. Paice, architect. Quantities supplied:—

Simms	£472 0 0
Stevens	315 0 0
Hart	292 0 0
Stead	279 10 0
Emery	278 0 0
Henshaw	268 1 6
Bottom & Co. (accepted)	247 0 0

For additions to house near Watford. Mr. Bartleet, architect:—

Manfield	£5,608 0 0
Conder	5,407 0 0
Wood	5,373 0 0
Downs	5,340 0 0
Rider	5,332 0 0
Piper & Wheeler (accepted)	5,255 0 0

For house, Hertfordshire. Mr. Bartleet, architect:—

Rider	£5,636 0 0
Conder	5,510 0 0
Wood	5,362 0 0
Downs	5,219 0 0
Culshaw	4,748 0 0
Hitch (accepted)	4,410 0 0

For rebuilding No. 198, Tottenham-court-road, and for building new show-rooms and warehouses in rear of ditto, for Mr. J. H. Heal. Messrs. Lockyer & Morant, architects:—

Anson	£5,382 10 0
Cubitt & Co.	5,980 0 0
Lucas, Brothers	5,296 0 0
Holland & Co.	5,273 0 0
Piper & Wheeler	5,230 0 0
Tracey & Co.	5,011 0 0

For chapel at Wood-green, Tottenham. Messrs. Linder & Gifford, architects:—

Patman & Fotheringham	£1,793 0 0
Hull & Son	1,695 0 0
Child	1,620 0 0
Linzdell	1,620 0 0
Sharpington & Cole	1,597 0 0
Dove, Brothers	1,575 0 0
Peacock	1,575 0 0
Sawyer	1,449 0 0
Clarke	1,399 0 0

For rebuilding Daronen Church, Montgomery. Messrs. Poundley & Walker, architects:—

Jones	£837 0 0
Jones & Roberts	829 0 0
Jones (Poole)	799 0 0
Porteus	769 0 0
Evans & Son	660 0 0
Williams	660 0 0

For building five cottages at Netley, Hampshire, for Mr. James Budden. Mr. F. L. Pedley, architect.—

Bostock	£1,349 9 0
Chapman	1,292 0 0
Sanders (accepted)	1,238 0 0

For the erection of an addition to oil-cake mills, Hammersmith. Mr. G. H. Simmonds, architect:—

Bass	£959	0	0
Ennor	770	0	0
Wood	789	0	0
Bird	729	0	0
Jacobs	718	0	0
Hurst	704	0	0
Eyles	676	0	0
Chamberlen (accepted)	639	0	0

For alterations and additions to Verandah Cottage, Great Malvern, for Mr. R. Clarke. Mr. E. C. Alfatt, architect:—

M'Caun & Everal	£895	0	0
Warner	895	0	0
Allen (accepted)	840	0	0

For additions to Caterham Cottage, Surrey, for the right Hon R. Lowe, M.P. Mr. James K. Colling, architect:—

Myers & Sons	£2,312	0	0
Bird	1,850	0	0
Dove, Brothers	1,655	0	0
Hardiman & Scandon	1,527	0	0
Kirk (accepted)	1,400	0	0

For the new works of the Crays Gaslight and Coke Company, Kent. Mr. Alfred Penny, engineer:—

Builder's and Engineer's Work.

Ismay, Smith, & Co.	£3,546	18	0
Oakes	3,340	0	0

Builder's Work only.

Munday	1,850	0	0
Miller	1,700	0	0
Allen	1,490	0	0
Simms (accepted)	1,490	0	0

Engineer's Work only.

Sam Cutler, jun.	1,789	0	0
Graizebrook	1,770	0	0
Holmes & Co.	1,650	0	0
Cliff	1,424	6	4
Geo. Cutler & Co.	1,400	0	0
Laidlaw & Son (accepted)	1,345	0	0
Horton	1,289	0	0

Mains, not decided.

Guildford Hospital.—Mr. Matthews, of Dover, wishes stated that his tender was accepted, but that he decided to agree to some stipulations not known before ordering.

TO CORRESPONDENTS.

D.—Chicken.—A. M.—J. B. W. (York House was in the Strand).—Architect and Mason.—A Mason.—G.—D.—E. A. T.—W. H. S. (did give name of architect).—D. B.—E. H.—J. H. T.—T. K. (shall have attention).—A. C.—W. M.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTICE.—*The responsibility of signed articles, and letters read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p m.,** *on Thursday.*

NOTICE.—*All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and not to the "Publisher."*

The *Engineer* of August 15th, in its description of Benson's Great Clock, says: "It is the best and unmistakeably the best-finished clock in the Exhibition." Benson's new show-rooms contain clocks designed by the first artists of the day, and include clocks for the drawing-room, dining-room, bed-room, library, hall, stair-case, bracket, carriage, church, turret, railways, counting-house, with musical, astronomical, and every description of clock, from the cheapest to the highest quality of which the art is at present capable. Church and turret clocks specially estimated for. Benson's Illustrated Pamphlet on clocks and watches (free by post for two stamps), contains a short history of clock and watch making, with descriptions and prices; it acts as a guide in the purchase of a clock or watch; and enables those who live in England, Ireland, Wales, the Colonies, India, or any part of the world, to select a clock.—J. W. Benson received a Prize Medal and honourable mention. — 33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

ADVERTISEMENTS.

GARRAWAY'S COFFEE-HOUSE, Cornhill, on FRIDAY, JUNE 12th, at THREE o'clock,
TIMBER . . . . . 500 Loads, Foreign and Colonial.
DEALS and BATTENS . . 100,000 Pieces, ditto ditto.
And other WOOD GOODS.
BEMAN & CO. Brokers, 3, Crooked-lane, Cannon-street, E.C.

TO CARPENTERS, BUILDERS, CONTRACTORS FOR GENERAL REPAIRS, and OTHERS.—LAUREL GROVE, ANERLEY, PENGE near the London Tavern

MR. PEAKE is directed to SELL by AUCTION, on the PREMISES, as above, on WEDNESDAY, JUNE 10, 1863, at TWELVE o'clock, in Lots, without the least reserve, about

1,000 Yellow and White Deals,
2,000 Yellow and White Battens,
500 14-inch best Yellow Archangel Boards,
300 Yellow Planks,
3,500 Inch, 1, and 1½ inch Flooring Boards,
Pine Planks, and other useful Material.

May be viewed on the 3 Morning of Sale. Catalogues obtained on the Premises; at London Tavern, Anerley; Crooked Billet, Penge; Holly Bush, Upper Norwood; and at Mr PEAKE'S Offices, 41, Tooley-street, Southwark.

THE CLIFF, SCARBOROUGH.—To BUILDERS, CONTRACTORS, &c.—Extensive Sale of Build ng Materials.

MR. W. TASKER HART has received instructions from the Directors of the Scarboro uch Cliff Hotel Company, Limited, to SELL by AUCTION, on the PREMISES, on TUESDAY, JUNE 16, 1863 the whole of the BUILDING MATERIALS, except the bricks, of the lodging or dwelling houses, Nos 1, 2, 3, 4, 5, 6, and 7, and the five stables situate in the eastside of St. Nicholas Cliff, and which buildings are to be pulled down, and the materials cleared away on or before the 8th of JULY, 1863. Several of the Houses have been built within the last eighteen years and contain iron grates and timber of the best description. Each house will be put up for sale separately. Sale to commence at ONE o'clock precisely. The whole of the materials will be open for inspection one week prior to the Sale. For catalogues of sale and further particulars, apply to Messrs. HENRY A. MOODY, Solicitors, Scarborough; A. W. D. LEATHER, Esq. Solicitor, Leeds; CUTHBERT BRODRICK, Esq. Architect, Leeds; or Mr WM TASKER HART, Auctioneer, Scarborough; or at the Temporary Offices of the Company, 7, St Nicholas Cliff, Scarborough.

MIDDLESEX.—Freehold Building Land and Villas.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, on TUESDAY next, JUNE 9, at TWELVE for ONE, in Lots at GARRAWAYS, Cornhill, a valuable plot of FREEHOLD BUILDING LAND, now required and ripe for building, situate in the Junction Road, Holloway and having frontages of 250 feet in the Belgrave-road, with 150 feet depth superficial by well-set houses, about 60 Lots, Part with front brick-headed Villas Nos. 1, 2, 3, and 4, York Villas, near the above road, well let at from 22/ to 24/ per annum each.—For plans and particulars and conditions, apply to Messrs TALBOT & TASKER, Solicitors, 37, Bedford row; at Garraway's; and at the Auctioneer's Offices, Camden-town.

NORTH LONDON RAILWAY.—CITY EXTENSION.—MATERIALS.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, on WEDNESDAY, JUNE 24th, and TWO FOLLOWING DAYS, on the PREMISES near the Kingsland Gate, at TWELVE precisely each day, the excellent MATERIALS of about 90 Houses, Shops, and Villas, situate in Kingsland-green, Dalston Lane, Rosebery Place, Forrest Row, and other streets, comprising 80 tons cast iron stock bricks, 200 squares moulded flooring, 17 squares slates, 30 tons lead, plate glass and other sash-frames, shop fixtures and fittings, nearly new iron and stone counters, &c. 2 single pannel doors, sashes, stoves, grates, and a large number of panelling, and other useful items. May be viewed day previous, and Catalogues had at the Auctioneers' Offices, Camden Town and Kingsland green

UPTON E, near Forest gate Station and Wanstead.

MR. JOHN M. DEAN will SELL by AUCTION, at the MART, on THURSDAY, JUNE 25 at TWELVE, in Lots three Lots, a desirable FREEHOLD RESIDENCE, with stabling, coach-house, green house, and about three-quarters of an acre of Land and a pleasure ground & main for a family of respectability, and about nine acres of remunerative freehold Building ground, situate at Upton near the Forest gate Wanstead, Snaresbrook, & c. A most picturesque and delightful locality within easy reach of the City and convenient for the building trade. The Title will be submitted to the requirements of the Land Board of Health.—May be viewed, and particulars and cards of sale, with plans, may be had 14 days prior to the day of sale, at the Mart; of Messrs. ADLEY & SHARP, Solicitors, 1, Gt Ormond, Lincoln's Inn-fields, W.C.; Dog Inn, Upton, and of Mr JOHN M. DEAN, Auctioneer and Surveyor, The Grove, Stratford, E.

IMPORTANT TO ARCHITECTS BUILDERS, DECORATORS AND OTHERS.—Sale of nearly new pieces of French and English PAPER HANGINGS, about 300 Reels in all; also MARBLE CHIMNEY PIECES, and PATENT WATER CLOSET CONTAINERS, with Pans, &c. complete.

MR. EDWIN WHITE will SELL by AUCTION, at 12, HOLBORN BARS, and 1, CASTLE STREET, HOLBORN, on TUESDAY NEXT, at TWO o'clock precisely, the above mentioned items, in numerous lots. View on Monday and morning of sale. Catalogues may be had.

HIGHGATE.—23 Acres of Freehold Building Land.

MESSRS. WINSTANLEY have received instructions to offer for SALE, by AUCTION, at the MART, on THURSDAY, JUNE 25, in lots, the remaining portion of the BROOKFIELD ESTATE, beautifully situate on the southern slope of Highgate Hill, and comprising about TWENTY THREE ACRES of LAND, suitable for building purposes, having extensive frontages, and commanding picturesque views. The land is very favourably from one to three acres, and many purchasers an opportunity to erect residences of a smaller class for their own occupation, and for the accommodation of persons carrying on business there in the City or at the West-end. The property is, at present time, in the combined advantage of its great railway and omnibus communication with a portion of the property, with the probability shortly of increased facilities, is within the privileged district, and a few minutes' walk only of the Highgate Grammar School.—Printed particulars may be obtained of Messrs. RANKEN, FORD, LONSDEBOROUGH, & LONSDBOROUGH, Solicitors, No. 3, Old Square, Lincoln's Inn, W.C.; of Messrs. DEW & CO. Solicitors, 2, Bennett's-hill, Doctors' Commons, E.C.; at the Place of Sale; and of Messrs. WINSTANLEY, Paternoster-row, E.C.

FREEHOLD BUILDING LAND, close to the Norwood Junction Station on the London, Brighton, and South Coast Railway, at which upwards of 100 trains stop daily for the London Bridge and Victoria stations, and only a short distance from a railway station on the Mid-Kent and Addiscombe Railway, about nine miles from London

MESSRS. WINSTANLEY have received instructions to offer for SALE by AUCTION, at the MART, Bartholomew-lane, on WEDNESDAY, the 1st of JULY, in fifty lots, the valuable FREEHOLD PROPERTY, known as the ENMORE PARK ESTATE, land tax redeemed and tithe-free; consisting of about twenty-three acres of most eligible building land, desirably situate between Woodside green, South Norwood, in the parish of Croydon, and the Norwood Junction station, commanding extensive views of the surrounding picturesque scenery, and within a short distance of the Crystal Palace. The estate possesses important frontages to the roads, and its principal roads, and presents rare advantages for the erection, on the plan of other residences for which there is a ready demand, and is healthy. The lots vary in quantity from one to about half an acre to two and a half acres, and in the hands of building capabilities this property offers attractions of no ordinary character. To be viewed. Printed particulars, with plans, may be had (only two days preceding the sale) at Croydon, of Messrs. DRUMMONDS, ROBINSON, & TILL, Solicitors; of Mr. JOHN BERNEY, Surveyor; at the Greyhound Inn, the Bedford Arms, Caterham-road, and the South Norwood; and in London, at the Place of Sale, and of Messrs. WINSTANLEY No. 10, Paternoster-row, E.C.

TO ARCHITECTS

PARTNERSHIP.—The Advertiser, who has had considerable experience in the profession, wishes to enter the Office of an ARCHITECT, of well-established practice, for a few months, with a view to a PARTNERSHIP. Address, A. C. A. Mercury Office, Derby.

TO CLERKS of WORKS.—Does EDWARD BELL, Clerk of Works, know that his Wife has only received from him 2l. since last June. She thinks he has misplaced confidence in those he contracted to send it.—Please write to your unhappy Wife, at Mrs Stoker's, St Martin's, Stamford, Lincolnshire.

OUT-DOOR FOREMAN.—WANTED, an experienced and energetic Man (Carpenter by trade), to TAKE CHARGE of a JOB. Also, a FOREMAN of BRICKLAYERS.—Address, B. R. 8a, Worsh pstreet, Finsbury.

PADDINGTON.—WANTED, in the Vestry Clerk's Department, a Junior ASSISTANT, not under 16, nor over 21 years of age. He must be a neat, expedit cus writer, and possess a good knowledge of accounts. Salary to commence at not less than 40/ per annum; but depending upon age and qualifications. Applications, accompanied by testimonials and specimens of handwriting, to be forwarded to me at this place, on or before WEDNESDAY, the 17th inst.—Applicants to be in attendance on the following morning (THURSDAY) at 11 A.M. o'clock.—By order,

FREDK AVELING, Vestry Clerk.

Vestry Hall, Harrow road, June 4th, 1863

TO PLUMBERS.

WANTED, in the Country, a First-class PLUMBER. To a competent man the situation would be permanent. Wages, 24s. per week.—Apply, with reference from last employer, E C Post-office, Stafford, Salop

TO PAINTERS' FOREMEN.

WANTED, a thoroughly efficient FOREMAN of PAINTERS. One capable of undertaking the three branches preferred. Constant employment. None need apply except with first-class testimonials as to capacity and character.—Address, by letter only, stating age, wages required, and where last employed, to Messrs. J. SEWELL & SON, Builders, 65, Aldersgate-street, E.C.

WANTED, a BUILDER'S CLERK, who is a good draughtsman, penman, quick and correct at accounts.—Address, stating age, capabilities, salary required, and references, to T. Y. L. 3, Strand.

WANTED, an ASSISTANT CLERK in a Surveyor and Architect's Office.—Apply to G. A. Y. No. 34, Eagle street, Red Lion square, W.C.

TO SHOP FOREMEN.

WANTED, in a City Jobbing Shop, a respectable, active, and experienced SHOP FOREMAN. None need apply unless possessing good character, security, and having filled a similar situation before.—Address by letter, stating full particulars, to A. B. No 1, George street, Mansion House, E.C.

WORKING FOREMAN WANTED, for Gothic Smith Work and Fitting.—YOUNG & DOVEY, 7, John Dalton street, Manchester

WHARF CLERK WANTED.—One accustomed to the lime and cement trade preferred.—Apply, by letter, stating age, salary required, and where last employed, A. B. Office of "The Builder."

WANTED, in a TIMBER MERCHANT'S OFFICE, an experienced CLERK. One who understands the trade and is quick at accounts. Unexceptionable reference required. The situation is a permanent one.—Address, stating age, where last employed, salary, &c. to A B, Post-office, Chelmsford.

WANTED, a Good SMITH, used to Gothic or Architectural Metal work.—Apply, Architectural Metal-work Co., Chelmsford Birmingham

WANTED, a good PLUMBER, ZINC-WORKER, PAINTER, and GLAZIER. Reference required. Constant employment. Applications from SIX to NINE, p.m.—Apply at Laurel Cottage, Well street, South Hackney.

TO CARPENTERS AND OTHERS

WANTED, THREE good CARPENTERS and JOINERS. Applications from SIX to NINE, p.m.—Apply at Laurel Cottage, Well street, South Hackney

WANTED, in a Contractor's Office, a sharp active LAD. Must be a good arithmetician. One who could draw out a job would be preferred.—Apply, by letter only, to J. W. S. Vacation not likely to obtain it.

WANTED, in an Architect's Office, a good JUNIOR ASSISTANT. Lads for tracing.—Address, P. P. care of Messrs. Staunton, 9, West Strand, W.C.

HALSTEAD LOCAL BOARD OF HEALTH.

WANTED, a Competent Person to undertake the duties of SURVEYOR, INSPECTOR, and COLLECTOR, under this Board, at a Salary of 35l. These offices have been held in conjunction with that of Assistant Overseer to the Parish of Halstead, with an additional Salary of 50l.—Applications to be made to me on or before SATURDAY, the 13th of JUNE next.

G. P. ARDEN, Clerk to the Board.

Halstead, May 21st, 1863

BIRMINGHAM WATER WORKS COMPANY.

WANTED, by the Birmingham Water Works Company, at the Pumping Station, at Aston juxta-Birmingham, an ENGINEERING FOREMAN, in the room of Richard Weeks, deceased. He will be required to have a thorough knowledge of Corliss and other Pumping Engines, and to have practical knowledge in repairing and putting them in. He must also be able to keep an account of the working of the engines, wages, &c., and of all materials received and used on the premises.—Apply, by letter, to Mr HENRY LEDSAM, Engineer to the Birmingham Water Works Company, Parade-street, Birmingham

WANTED, an APPRENTICE, with Premium.—Apply to JOHN TAYLOR, Gramer, No. 5, Compton-street, Brunswick-square, W.C. Inventions Prize Medals, International Exhibition and Painters' Company.

TO SIGN AND GLASS WRITERS.

WANTED, a good HAND.—Apply to H. F. SCOTFORD, 7, Great Dover-street, Borough.

TO BUILDERS, PLUMBERS, AND HOUSE DECORATORS.

WANTED, by a Young Man, a SITUATION AS PLUMBER, &c. Used to the superintendence, with practical knowledge of all the branches. Good reference.—Address, W. W. Office of "The Builder."

WANTED, a SITUATION as CLERK in a Builder's office. Has been in the trade six years; the last three in a very eminent firm.—Address, Y. C. 4, Commercial-place, Commercial-road East.

WANTED, an ENGAGEMENT as Assistant to a Surveyor or Engineer. Well acquainted with the usual routine of main drainage and sewerage works.—Address, H. Y. B. office of "The Builder."

TO ECCLESIASTICAL WORKERS AND OTHERS.

WANTED, by a practical, steady, persevering Young Man, a SITUATION in the MEMORIAL BRASS ENGRAVING. Competent in the making and fitting on of Inscriptions. Address, H W care of H. Tingcroft, 9, Beaumont-street, Oxford-street.

WANTED, by a competent Draughtsman, a SITUATION in an Architect's, Builder's, or Surveyor's Office. Can have an excellent reference from the gentleman last engaged with.—For further particulars address, J. C. C. care of Mrs. Coates, 17, West Smithfield, City, E.C.

TO BUILDERS, DECORATORS, &c.

WANTED, a RE-ENGAGEMENT in town or country, as WORKING FOREMAN of PAINTERS, &c. Is also a good plain and decorative paper hanger, and used to glazing and distempering. If for a permanency, small wages will be accepted. Has also a knowledge of measuring and estimating for painters' and paper hangers' work. Good reference as to character and ability. Age 42.—Address, H. C. 12, Orange-street, Red Lion square, W.C.

TO MASTER BUILDERS, &c.

WANTED, by a respectable, steady Young Man, aged 21, a permanent ENGAGEMENT to attend on a Plumber, or Handy Man in the Three-branch Line. Town or country. Three years' good references.—Addr.ss, G. B. B. 51, Walton-street, Chelsea, S.W.

WANTED, by a good plain and decorative Paper-hanger and Painter, a constant SITUATION. Town or country.—Address, R. X. Y. Office of "The Builder."

TO BUILDERS AND OTHERS

WANTED, by Two practical Men, Carpenters and Joiners, WORK by the PIECE, in Town or country Address, by letter, A. B. 22, Rheidol-terrace, N.

TO GENTLEMEN, BUILDERS, AND OTHERS.

WANTED, by a good practical Carpenter and Joiner, any quantity of JOINER'S WORK, to Prepare and Fix Piecework. Unexceptionable references both as to character and ability.—Direct to A. B. care of Mr. Pollard, 22, Robert terrace, opposite St. Luke's Church, Chelsea, S.W.

TO PLUMBERS AND BUILDERS.

WANTED, by a first-class PLUMBER, a SITUATION. References as to character and ability unexceptionable.—Address, C. W. 3, Trafalgar-place, Merton-road, Tooting Surrey.

TO BUILDERS.

WANTED, by an experienced Young Man, a SITUATION as IMPROVER to the Carpentering and Joinery, who has been at the business a little more than three years. Address, H. B. No. 1, Havelock-street, William street, Caledonian-road, Islington, N.

TO ARCHITECTS AND SURVEYORS.

WANTED, EMPLOYMENT, by a Youth aged 17, who can copy and ink in drawings, trace, tint, &c. and is fully acquainted with the routine of an Architect's office. Salary not so much an object as an opportunity for improvement. Good references can be given.—Address, B. C. 42, Gower-street, Bedford square.

TO PAINTERS AND GRAINERS, &c.

WANTED, by a steady Young Man, a SITUATION as IMPROVER in the above, or to learn GRAINING, &c. Good references, &c.—F. B. Post-office, Kingston, Surrey.

TO LAND AGENTS AND SURVEYORS.

WANTED, in July, a SITUATION, by a Young Man, who has served his articles, and been seven years in an office.—Apply to H. G. Post-office, Andover.

TO ARCHITECTS, ENGINEERS, OR BUILDERS

WANTED, by a respectable Young Man, a permanent SITUATION as DRAUGHTSMAN, in either of the above offices. Understands drawing, coloring, and c nstruction. A situation under a member of the Baptist profession prefer.ed. References first class.—Apply, stating terms, &c. to Y. N. Office of "The Builder."

WANTED, by a Sculptor, DESIGNING, MODELLING, and CARVING, in Figures, Busts, and Ornamental Art, for various trades, in the highest style of art. Also for sale, the Royal Arms, in terra cotta, 12 feet at base, in fine preservation.—Address, R. 24, East place, Kennington road, S.

WANTED, PIECEWORK, by an experienced Staircase Hand, in all its branches. The highest references.—Address, R. R. 11, Ebury-square, Pimlico, S.W.

WANTED, a Temporary ENGAGEMENT in an Architect's Office, as DRAUGHTSMAN.—Address, A. B. 17, Chenies street, W.C.

WANTED, by a Practical STAIRCASE-HAND, a RE ENGAGEMENT. Can take charge of a joiner's shop. First class reference.—Address, Y. Z. 19, Cross street, Blackfriars road, S.

WANTED, by a thoroughly-practical Man, a SITUATION as SHOP-FOREMAN of JOINERS; or to Take Charge of a Job. Can produce 30 years' references as to ability, &c. to fill either capacity.—Address, G. M. 81, Westminster Bridge-road, Lambeth.

TO ENGINEERS, BUILDERS, AND OTHERS

WANTED, a RE-ENGAGEMENT as ASSISTANT DRAUGHTSMAN, by a Young Man who is neat and expeditious, and willing to oblige. Salary not so much an object as a permanent engagement.—Address, G. 2, Abney-cottages, Chapel road, Stamford hill, N.

TO BUILDERS AND PLUMBERS.

WANTED, a SITUATION, by a good Plumber and Gasfitter. Good references can be given.—Address, T. VERNON, 39, North street, Manchester square, W.

TO CARPENTERS AND JOINERS.

WANTED, by a Young Man, a SITUATION as an IMPROVER. Been six years at the trade.—Address, G. H. Post-office, Lamb's Conduit-street, Bedford-row.

TO ARCHITECTS OR CONTRACTORS

WANTED, by an experienced Clerk of Works, a RE-ENGAGEMENT in that capacity, or as Foreman to a Contractor. Has been employed in both capacities by the late eminent at large jobs. Good references will be given.—Address, E. F. G. Office of "The Builder."

TO ARCHITECTS, &c.

WANTED, by a first-rate Perspective Draught man and Designer, well acquainted with Gothic and Classic working drawings and details an APPOINTMENT in an office, or as CLERK of WORKS.—Address, F. CHILDS, Office of "The Builder."

TO BUILDERS AND OTHERS

WANTED, by a practical Man, of good experience, a SITUATION as CLERK, FOREMAN, or SUPERINTENDENT on a Gentleman's Estate. Has had experience in the manual and office al. Can get up plans, working drawings, set out and measure up work.—Address, W. W. Office of "The Builder."

WANTED, by a respectable Young Man, who has been four years at his trade, a SITUATION as IMPROVER in a Joiner's Shop. Good references given if required.—Address, M. M. 1, Southampton street, Strand, W.C.

TO ARCHITECTS AND SURVEYORS.

WANTED, an ENGAGEMENT, by a good Draughtsman, well and practically acquainted with surveys, quantities, measuring up, &c. Midland counties preferred. Good reference.—Address, J. M. W. Office of "The Builder."

TO PLATE-GLASS COMPANIES.

WANTED, by an experienced Young Man, a SITUATION as FIRST or SECOND CUTTER. Unexceptionable references.—Address, L. M. 14, West-street, Smithfield, E.C.

WANTED, a SITUATION, as BUILDER'S CLERK. Good bookkeeper and draughtsman. Has a thorough, practical knowledge of the business.—Address, A. Y. 27, Offord-road, Barnsbury, N.

TO BUILDERS AND IRONMONGERS.

WANTED, a SITUATION, by a good Jobbing Hand. Used to hot water and gas fitting. Good references, if required.—Address, A. PENSON, 39, North-street, Manchester-square, London, W

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

WANTED, an ENGAGEMENT, by a Clerk of Works, or as Superintendent of Work, Estimator, and Draughtsman, or as Assistant Surveyor. A Joiner, acquainted with the other branches, setting out and superintending work, keeping books, taking out quantities, &c. First-class references.—Address, Q. E. D. at Shaw's Library, 236, Oxford-street, W.

TO CARPENTERS AND JOINERS.

WANTED, by a steady Young Man, aged 20, who has been five years at the trade, a SITUATION as IMPROVER, town or country.—Address, W. J. Post office, Fyfield, Ongar, Essex

WANTED, by a steady Man, a JOB as JOBBING BRICKLAYER and PLASTERER. Is a good distemperer. Wages moderate. Can be well recommended.—Address, W. H. 40, East-street, Manchester-square

TO ARCHITECTS AND CIVIL ENGINEERS.

THE Advertiser, an Experienced CLERK of WORKS of fifteen years' standing, is open for RE-ENGAGEMENT. Testimonials and references from gentlemen of great eminence in the profession.—Address, R. H. 1, Mount-terrace, Herculesbuildings, Lambeth, S

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THE Advertiser, a first-class Draughtsman, measurer, and quantity taker, will be happy to render occasional ASSISTANCE on moderate terms; the advertiser is also in a position to execute instructions for quantities, specifications, tracing, &c. in the most expeditious manner.—Address, X. Y. Z. Mr. Horne's, Lithographer, 7, Warwick-court, Gray's Inn, W.C.

TO BUILDING SPECULATORS AND OTHERS.

THE Advertiser, who has good taste and ability, and has been largely engaged as an Architect and Surveyor on Estates and Buildings of a first-class commercial character, as well as those for investment and for domestic use, and who has practically studied economy in cost of design and construction, will be glad to ADVISE or ASSIST, to give rough sketches, prepare designs, working drawings and details, with specifications, quantities, and estimates; or will undertake the arrangement of contracts and disputed accounts.—Address, A. C. Z. 2, Great College-street, London.

THE TIMBER TRADE.—WANTED, by the Advertiser, a SITUATION as CLERK and BOOKKEEPER in a Timber-yard. No objection to travel. First-class testimonials.—Address, L. F. Post-office, Birmingham.

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THE Advertiser, who has had considerable experience in designing, preparing perspective, competition and other drawings, a good draughtsman and colourist wishes for an ENGAGEMENT with an Architect.—Address, R. V. 2, Vincent street, Brompton, S.W.

TWENTY POUNDS BONUS. — Any ARCHITECT or BUILDER who shall FIND TWO YEARS' CONSTANT EMPLOYMENT, for a good DRAUGHTSMAN and COLOURIST, shall receive, at the expiration of the time, a BONUS of TWENTY POUNDS. Good reference. Salary, 30s. per week.—Address, J. H. Office of "The Builder."

THE Advertiser desires an ENGAGEMENT with a Builder, as DRAUGHTSMAN and CLERK. References to two of the most eminent firms in London.—Address, H. S. No. 2, Little Russell-street, Bloomsbury, W.C.

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THE Advertiser, who is a good Draughtsman, understands book keeping by single entry, and is a quick calculator, wishes for an ENGAGEMENT as DRAUGHTSMAN or CLERK in a good Practical Office. Salary is of minor importance, as the Advertiser wishes for immediate employment and improvement. Address, A. W. Office of "The Builder."

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THE Advertiser, an ex-general Contractor, wishes for an ENGAGEMENT as SUPERINTENDENT of WORKS, ESTIMATOR, &c. or any other capacity where energy and experience are required. Practically Bricklayer and Carpenter. Age 36.—Address, P. T. W. Office of "The Builder."

PLUMBERS and BUILDERS in want of an experienced PLUMBER and GASFITTER (aged 26), with unquestionable character as to qualifications and ability, can hear of the same by addressing to J. N. 3, Bell-yard, Fleet-street. Town preferred.

OCCASIONAL ASSISTANCE.—An experienced ARCHITECTURAL DRAUGHTSMAN is open to give OCCASIONAL ASSISTANCE on moderate terms. First-class references.—Address, X. G. S. News-rooms, 103, Cheapside, E.C.

BUILDER'S FOREMAN or CLERK of WORKS.—A respectable man, 44 years of age, of very great experience in Conducting and Setting out Work, is in want of an ENGAGEMENT in Town or Country, he has a perfect knowledge of drawing, and is by trade a Carpenter.—Address, N. B. 2, Somerset-place, St. Mark's-road, Camberwell-new-road.

TO MASTER BUILDERS.

A STAIRCASE HAND, of twenty years' experience, having finished a large job, is open to take any quantity of STAIRS or HANDRAILS, by the PIECE. No objection to superintend in any large firm.—Address, GEORGE BODLEY, 6, Chapel-street, Lower-road, Islington, N.

AN ARCHITECTS ASSISTANT, of Ten years' experience, accustomed to prepare working drawings from rough sketches, &c. &c. is desirous of an ENGAGEMENT. Most satisfactory certificates and references. Salary required moderate.—Address X. K. X. Office of "The Builder."

TO ARCHITECTS AND ENGINEERS.

A THOROUGHLY competent QUANTITY SURVEYOR, with a portion of his time unoccupied, will be happy to ASSIST Architects or Engineers in the preparation of plan lities, measuring up, taking Working Specifications, &c. either in London or the country.—Address, B. P. Office of "The Builder."

TO BUILDERS.

A YOUNG MAN, practically acquainte with the Building Trade, and who has had charge of Jobs, desirous of an ENGAGEMENT in the above office. Can prepa drawings, take out quantities and measure work. A small sala would remunerate.—Address, G. C. Star Coffee House, Islington green, N.

TO ENGINEERS.

A YOUNG MAN, aged 18, who has serve four years of his time as practical engineer, is desirous finish his term under transfer or otherwise, in a drawing office whe he would be constantly employed.—Address, C. J. H. 33, Paradis street, Birmingham.

A YOUNG MAN, aged 20, who can draw copy, trace, and colour well, wishes to obtain a SITUATIO in town or country. Has been in a Civil Engineer's office.—SMITH, 4, St. Andrew's-terrace, Waterloo-road.

A GENTLEMAN who has been for man years Manager of a large Architectural Practice, and is no appointed Surveyor to an influential company, would be glad ASSIST Architects and others in the PREPARATION of th Designs, Specifications, and Working Drawings upon terms mo advantageous to his employers than their engagement of off assistance. The Advertiser would, where desired, undertake t whole conduct of the works, and supply the quantities at a fix price. References will be given to gentlemen who have entrusted t Advertiser with the conduct of works costing 100,000l. and testim nials from some of the most eminent architects and engineers. Address, OMICRON, Deacon's News-rooms, Leadenhall-street, E.C

A S TRAVELLER.—A respectable Your Man, aged 29, who has filled a situation as above for the l seven years in the London Trade, in connexion with builders a contractors, wishes to meet with a similar APPOINTMENT.—Addre M. H. S. 4, Murray's-terrace, Londonderry-road, Camberwell, S.

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A PRACTICAL SURVEYOR, of muc experience, Prepares and Revises SPECIFICATIONS, a gives Hints on Construction or Details.—Address, SURVEYOR, care Mr. King, No. 1, Railway-place, Holloway, N.

TO ARCHITECTS, BUILDERS, &c.

A PRACTICAL CARPENTER ar JOINER, of active business habits and good address, desires ENGAGEMENT as CLERK of WORKS or FOREMAN. He is efficient draughtsman, quick estimator, and is thoroughly versed setting out and measuring up every description of artificers' wo Good references. Age 34 years.—Address, IONIC, care of Mr. Rober 6, West square, Southwark, S.

TO BUILDERS.

A BUILDER'S CLERK, of considerab experience in office duties, and possessing a practical kno ledge of the joinery, seeks an ENGAGEMENT in a Confidenti Situation. Reference to present employer.—Address, H. H. 47, C street, St. Luke's, E.C.

AN ENGINEERING and ARCHITE TURAL ASSISTANT, engaged for the past sixteen years plans, &c. for public works of water supply, gas, and town sewera and in designing and superintending the erection of private and pu buildings, is open to a permanent ENGAGEMENT. First cl testimonials.—Address, A. C. E. 9, Trellick-terrace, Vauxhall-ro Pimlico, London, S.W.

A GENTLEMAN, having completed h Articles in one of the first offices in London, desires an E GAGEMENT in a Gothic Office in Town. Salary moderate.—Addr ALPHA, 11, Brecknock crescent, Camden road, N.W.

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A LONDON SHOP FOREMAN desirous of meeting with an ENGAGEMENT in the coun Salary 3l.—Address, A. E. J. 21, Sidney square, Mile-end, E.

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A Experienced ASSISTANT requires ENGAGEMENT. Is well acquainted with the various st constructional detail, and general routine of office; first-c draughtsman and designer; thoroughly understands land-surve and levelling, and fully qualified to act as a good general ASSISTA Terms and references, address T. G. B. Chevalier Bowness & So 12, Bell yard, Temple Bar, W.C.

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A N experienced WORKING FOREMA WANTED.—Apply to J. PEASE, Upholsterer, Halifax.

TO MASTER PLUMBERS.

A YOUNG MAN wishes to IMPRO himself in the above Line. Is just out of his time. Age 2 No objection to the country.—Address, B. C. 4, John-street, W field-road, Paddington.

TO MASTER MASONS.

A YOUNG MAN, aged 18, wishes ARTICLE himself to the STONE and MARBLE MASON for three years. Has had two years' good experience.—Add J. B. K. 11, Berwick-street, Pimlico, London, S.W.

A FIRST-CLASS PLAIN and DECOR TIVE PAPERHANGER, DISTEMPERER, &c. is open fo ENGAGEMENT, piece or day work.—Address, W.C. 13, Little Coll street, Westminster, S.W.

A FIRST-CLASS CLERK of WORKS OPEN to an ENGAGEMENT.—Address, G. W. 12, Gresh terrace, Pownall-road, Dalston, N.E.

TO ARCHITECTS, &c

A N experienced ASSISTANT is open a RE-ENGAGEMENT. He is thoroughly competent to out fair, working, detail, and perspective drawings, good at const tion, can take off quantities, and otherwise will up in office wor Address, K. T. S. Office of "The Builder."

TO ARCHITECTS OR BUILDERS.

A THOROUGHLY EFFICIENT s PRACTICAL CLERK of WORKS is open to an ENGA MENT. Country not objected to.—Address, W. B. Office of " Builder."

TO RAILWAY COMPANIES AND OTHERS.

AS PLUMBER and GASFITTER WANTED, a SITUATION, as above. Good character be given. No objection to go abroad.—Address, S. WOOD, 47, Ja street, Oxford street, W.

TO ARCHITECTS AND BUILDERS

A N efficient ASSISTANT, DRAUGHT MAN, and experienced QUANTITY SURVEYOR, E MATOR, and MEASURER, of first-class practice, is open to ENGAGEMENT.—Address, G RUSSEL, 10, Carlisle Cottage, M clanford, Westminster road, Lambeth.

G. R. would attend and render temporary assistance in preparin bills of quantities, estimates, &c.

TO ARCHITECTS.

A N Experienced ASSISTANT and Fi class DESIGNER, Perspective Draughtsman, and draughtsman, is open to an ENGAGEMENT, in Town, as ASSISTAN or Clerk of Works.—Address, A. R. 121, Alb street, Regent's Park.

PLUMBER is in WANT of EMPLOY-MENT. Can fill up time in painting or glazing. Good refer ence every.—Address, W. M. Plumber, 2, Stacey-street, Comp ert, Soho.

LYTECHNIC.—All the Lectures and Entertainments as deliv r d before their Royal Highnesses th and Princess of Wales, the Prince and Princess of Hesse r Pepper's Ghost Lecture, Saturday at 4 and 8, and every y at half-past 1 and 8. Von Weber's Grand Opera of "Der s." Engagement of Herr Susanna for his remarkable imita birds and other animals. Entirely new series of dissolving f Poland and the Poles, with Lecture by J. Millard, Esq. de the Ri ht s and Wrongs of that Country. Pneumatic Wonders Kite, Esq. N B—The Ghost Illu ion was invented by s. Es., C K and has since been improved and patented by Dircks & Pepper.

A WLEY NEW WHARF, CAMDEN TOWN, N.W.

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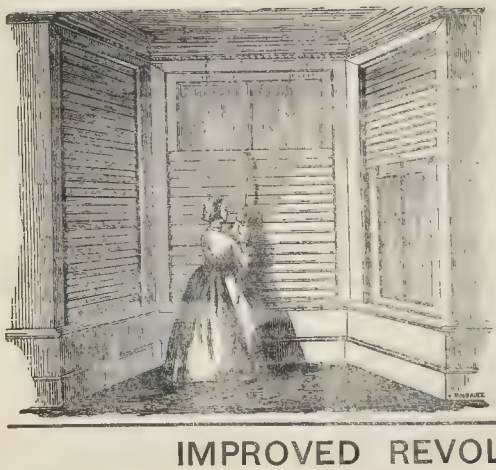
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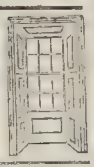
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¾-inch Flooring	11s. 6d. to 12s. 0d.	13s. 0d.	per Square.
⅞-inch "	12s. 0d. to 13s. 0d.	13s. 0d. to 14s. 6d.	"
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Yellow Battens ..... £11 10s. per 120
¾ White Matched Lining ..... 12s. per square.
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¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d.	per square.
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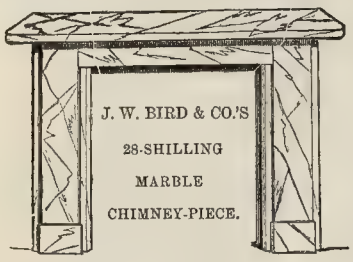
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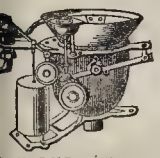
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One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

PRIZE MEDAL, 1862.

HAMILTON & CO.

No 10, GREEK STREET, SOHO-SQUARE, LONDON, W.

Sole Manufacturers of

C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL

PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gliders' Graiers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

IMPORTANT to BUILDERS and PAINTERS Genuine White Lead, 20s. per cwt.

Linseed Oil, 3s. 9d. per Gallon; Boiled Oil, 4s. per Gallon.

Turpentine, 8s. per Gallon.

Fine Pale Oak Varnish, 9s. per Gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W.

Every article for the Trade at the lowest prices.

TURPENTINE.

GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.

Sample gallons may be obtained at the Manufacturers', price 4s.

GARROD & COMPANY,

Varnish, White Lead and Colour Manufacturers,

56, Upper Thames street, London, E.C.

TO REMOVE or CLEAN OLD PAINT, VARNISH, &c. use NAENIARE & CO.'S PATENT LETHICIUM,

which does it in twenty minutes. Sold at 5s. per gallon. Also Brushes to apply and remove, 2s. per pair.—For particulars, apply at 11, St. Andrew's hill, London, E.C. Success guaranteed.

N.B. Country orders must contain a cheque or Post office order.

NOTICE.—Builders and Decorators will

find superior and unparalleled advantages in MEAD'S PATENT STAINS, comprising the rich oak, satin wood, wainscot, Spanish mahogany, &c.; they far surpass anything ever seen, and entirely supersede paint for the interior woodwork of dwelling-houses, being admirably adapted for the castle, the magnificent hall, the library, the drawing-room, and the miniature cottage; also for church work, merchants' and bankers' offices, railway stations, schools, &c. &c.—To be had of T. J. HOGG, 3, Brunswick-place, City-road, E.C.; Price 8s. per gallon. Post orders will have best attention.

IMPORTANT to BUILDERS.—This new system of staining cathedrals, churches, libraries, halls, &c. to resemble rich oak, &c. is most magical and exquisite, and only requires a trial to prove the estimated advantages realized in the finishing of work. Those who have not yet tried it should do so, being less expensive than the common articles.

HAY'S PATENT WATERPROOF GLUE

and INDIA-RUBBER VARNISH.—To ARCHITECTS, BUILDERS, PAPER-HANGERS, &c. &c.—The WATER-PROOF GLUE is a special and damp, and is suitable for contractors, joiners, coffin-makers, &c. &c. The VARNISH for damp walls, previous to papering, coating zinc verandahs, &c. &c. Copy of a letter from Messrs. Rogers & Booth, contractors, Gosport:—

"We have repeatedly used your Waterproof Glue as a preventative against damp, and have found it most valuable in preparing walls to receive paper. In one instance, where the walls were thoroughly saturated with moisture from earth filled against the outside, we used your varnish internally, and papered the surfaces, within a few hours of its being applied, with complete success. We have also used your preparation for coating a large number of cast-iron piles, at the Gun wharf, Portsea, for Her Majesty's War Department."

To be had from all Ironmongers, Oil and Colourmen, &c.

Manufactory, Chandos-street, Portsmouth: Mr. GEORGE WEEKS, Manager. GEORGE C. WARDEN & CO General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

PLASTER ENRICHMENTS.

CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,

249, EUSTON ROAD ST. PANCRAS.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO. LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME obstructions removed, and CAP JUNCTIONS of any size inserted in the event of further connections being required without breaking a pipe, or disturbing the flow of sewage.

They require no more labour in the laying down, and are supplied at the same prices as the ordinary Socket Pipes.

SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, S.; or from the WORKS, near POOLE, DORSET.

Illustrated Lists with full Particulars and Prices may be obtained of

WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

A GOOD DRAWING-DOCK AND LANDING WHARF.

*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent-street, W.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

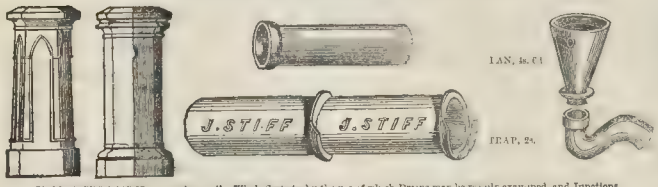
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further communication.

Manufactured as per

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for Ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



HENRY DOULTON AND CO.'S

PATENT COMBINED SMOKE AND AIR FLUES.

BY THIS INVENTION PERFECT DRAUGHT AND COMPLETE VENTILATION CAN BE SECURED.

THE air-flue follows the line of the smoke-flue, the passages being quite distinct. The heat from the smoke-flue causes a current, which carries off the vitiated air admitted by junctions near the ceiling. The pipes or blocks are *all made to bond with ordinary brickwork.*

Where the blocks come together, each air-flue has a lip or projection, which enters the next block and completely shuts off the air-flue from the smoke-flue at the joint. This lip, with dowels at the opposite corners of the blocks, also holds the lengths firmly together.

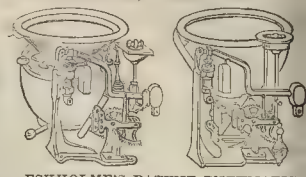
Curves are made to suit any inclination.

Manufactured in terra cotta for smoke-flues equal to 12 in. 10 in. and 8 in. diameter, with ventilating-flues of proportionate size.

Small models will be forwarded to architects on application to

Henry Doulton & Co. High-street, Lambeth

GUEST & CHRIMES, FOUNDRY a
GENERAL BRASS WOR S, Rotherham; and 37, Southam
ton street, Strand, London, W.C.
London House, Mr. THOMAS BEGGS.

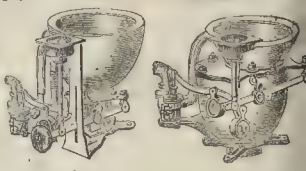


ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient a simple, free from all smell, and requires no Cisterns, service box cranks, wires, or levers, but is complete in itself ready for attac to any ordinary house service pipes. It is supplied in th situation, at equally efficient, differing only as to the style fitting up. A second class quality is also manufactured. The Regu lators are usefully applied to the ordinary Pan Closet, alike dispensi with all cisterns, service boxes, levers, cranks, wires, &c. The Re gulator is supplied separately, as well as connected to ordinary din Servants' and Cottage Water Closets.

Chimnies Patent Hitch pressure Stops and Double Loose Valves a Screw Down Cocks; Improved Self-acting and Full Water-Clos Patent Absolute Water Waste Preventer; Plumbers' and G Fitters' Brass Work of every description. Drawings, Descriptio Prices, and Testimonials will be forwarded per post on application as above.

J. TYLOR & SONS' PATEN
REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of wa to each closet, so that, however small the fall of water, perfect flu ing is insured. Any number can be worked by one supply pipe. Patern-valves cranks, or wires required. The Closets can be seen ation at the Manufactory, and Illustrated Catalogues had on ap dion to the Manufacturers, J. TYLOR & SONS, Warwick ha Newgate-street, London

TERRA COTTA and Fine STONEWAR
POTTERY, warranted to stand Frost.

JOHN M BLASHFIELD, STAMFORD POTTERY, STAMFOR LINCOLNSHIRE, has greatly improved and economised the man facture of TERRA COTTA and Fine STONEWARE for ARCHITE TURAL PURPOSES He is able to make it of various new colours, as to harmonize with Marble, Portland, and other Stones, and eq in hardness of texture.

A Medal at the International Exhibition was awarded, in Class Section C, Architectural Objects, for "Perfection in manufacture a beauty of form." A Medal was also awarded for "Terra Cotta."

Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusta Capitals, Crosses, Terminals, Vases, Statues, Brackets, Cornices, G den Edging, Guttering, six, nine, and twelve inch Paving Tiles, &c.

Also Plain and Mosaic Pavements for Halls, Churches, Conser tories, &c. in all colours.

London Office, 377, Oxford-street, W.

PEAKE'S TERRO-METALLIC TILE
PIPES, &c.—Notice is hereby most respectfully given, that t LONDON DEPOT for this WARE is REMOVED to No 21 Wh Macclesfield-street North, City-road Basin, N. Sully, that the tr term, "TERRO METALLIC," is the exclusive right of the Proprie and Sully, that the "Reports of the Juries," page 581, of the Ge Exhibition, note the grant of a First-class Medal and rank the Ma facturers known as long as "The Tileries," Tunstall, Staffordshire, the first of the kind in the world.

MINTON & C
Have REMOVED FROM ALBION PLACE, BLACKFRIA TO 60, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON TRENT.

STAFFORDSHIRE RIDGING and ROO
ING TILES, Plain and Ornamental, in Blue or Broseley col PAVING TILES in various colours and designs.
Blue Vitrified, Grooved and Chequered Paving for stables, pa ways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBIT 1862.

IMPERISHABLE TESSELATE
PAVEMENTS, combining a highly decorative and economi substitute for ordinary floors of their perishable coverings. MAW CO'S Pattern Book, designed by M. Digby Wyatt, esq. together wit special design and estimate of cost adapted to any given dimension hall, passage, conservatory, verandah, frieze, &c. will be sent on ap cation to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. n open at the Galeries of the Architectural Exhibition, 9, Cond street, free.
London Agents—W. B. SIMPSON & SONS, 456, West Strand, wh have on view a great variety of Specimens of the Pavements.

DURABILITY of GUTTA PERCH
TUBING.—Many inquiries having been made as to the D BILITY of Gutta Percha Tubing, the Gutta Percha Company have pl ure in giving publicity to the following extr. FROM SIR RAYMO JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial "March 10th, 1858.—In reply to your letter received this morni respecting the Gutta Percha Tubing for Pump Service, I can st with satisfaction, it answers perfectly. Many builders other persons have lately examined it, and there is not the l material difference since the first laying, which is several ye ago, I am informed that it is to be adopted generally in the houses that being erected here."
N.B. From this testimonial it will be seen that the CORROS WATER of the ISLE of WIGHT has no effect on Gutta Per tubing.
THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

CLINTON & OWENS, LATE
BENJAMIN FOWLER & CO. Whitefriars-street, Fleet-street, London,
MANUFACTURERS OF PUMPS AND HYDRAULIC MACHINERY OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DOMESTIC, AGRICULTURAL, OR MANUFACTURING PURPOSES, OR FOR CONTRACTORS' USE, TO BE WORKED BY HAND, HORSE, WATER, WIND, OR STEAM POWER.

Portable Steam Engines, Powerful Single and Double-Barrel Pumps, Centrifugal Pumps, and Boring Tools for Contractors' Purposes, ON HRIE.

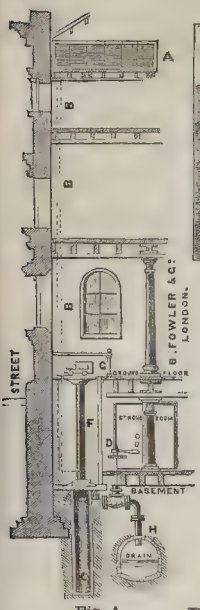
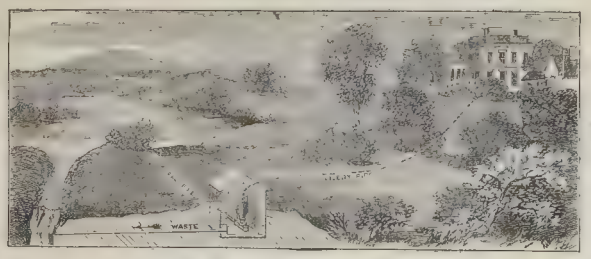


Fig. A.



THE LANDSCAPE SKETCH ABOVE SHOWS

THE IMPROVED HYDRAULIC RAM.

This is a simple Self-acting Machine for Raising a considerable Supply of Water for Use in Public or Private Establishments where a fall can be secured from a Stream, Brook, or Springs. Messrs. FOWLER have fixed a great many Hydraulic Rams in various parts of the country, for raising from 600 to 7,000 or more gallons per day to elevations varying from 20 to 300 feet, and from 100 yards to several miles in length. The fullest particulars and estimates will be handed on application.

No. 37 SHOWS A SET OF

TREBLE-BARREL PUMPS WITH HORSE GEARING,

For Raising Water from DEEP WELLS for the SUPPLY of TANKS in MANSIONS and PUBLIC BUILDINGS. Messrs. CLINTON & OWENS also Manufacture and Erect every other Form of Pump for Deep or Shallow Wells for Hand or other Power.

Fig. A SHOWS

A HYDRAULIC LIFT,

Worked by Pressure from a Cistern. Suited for Banks, Warehouses, and other Buildings. Messrs. FOWLER also Manufacture such Lifts to be worked by Hand Pumps, where pressure cannot be obtained from a Cistern.

CLINTON & OWENS

MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

UMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE, STEAM-ENGINES, WATER-WHEELS, TURBINES, HOISTS, WARMING AND DRYING APPARATUS, BATHS, GAS-WORKS, AND FITTINGS.

ESTIMATES WILL BE HANDED ON APPLICATION.



No. 37.

PRICE LISTS OF PUMPS FREE BY POST.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.
BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 "	2 15
4 "	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 15s

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

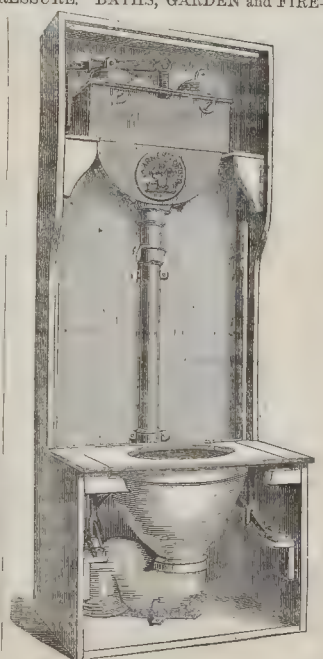
2½ inch	£4 4 0
3 "	5 5 0
3½ "	6 6 0

Larger sizes when required.

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 "	4 0 0

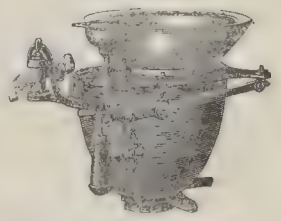


IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	£2 0
Basin and Trap, with	0 5

Further Description, with Sectional Drawings will be sent on application.



No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0

Sunk Handle, extra	0 2 0
Blue Basin, extra	0 1 0

No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Prices, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

VENEER KNIFE-CUTTING MACHINE.

MESSRS. FULLER & HORSEY will SELL by AUCTION, on TUESDAY, JUNE 16th, 1863, at ELEVEN o'clock, on the PREMISES, Eagle Wharf-road, New North-road a very powerful VENEER KNIFE-CUTTING MACHINE, capable of cutting from 16 to 70 veneers to the inch from wood 7 feet 11 inches long by 4 feet 8 inches wide, with rising and falling table 5 feet by 8 feet. Cast-iron planed bed, with screws, self-acting feed and reversing motion, overhead motion and driving shaft, made by Haley, Manchester. Also, a wrought-iron cylindrical STEAMING TANK, 5 feet diameter, 12 feet long. To be seen at any time by special order, which, with descriptive particulars, may be had of Messrs FULLER & HORSEY, 13, Billiter-street, London, E.C.

13, Billiter-street, 21st May, 1863.

VALUABLE FREEHOLD AND COPYHOLD BUILDING LAND, WHITECHAPEL, occupying a site of about six acres.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at the MART, on WEDNESDAY, JULY 1, 1863, at TWELVE o'clock, in one LOT, a most important SITE of FREEHOLD and COPYHOLD LAND, about six acres, situate in the rear of the White Chapel Distillery, Bucks row, abutting upon the Eastern Counties Railway, from which a siding might be formed. And with approaches from Winchester street, Bethy street, and other adjoining streets. For the erection of any large manufacturing establishment this property is of large value, from its space and proximity to the City. Printed particulars are in course of preparation with plan, and may be had of Messrs. TENNANT & OAKLEY, Solicitors, Raymond's-buildings, Gray's-inn, W.C.; of Messrs. BOCKETT, SON, & BARTON, Solicitors, Lincoln's-inn-fields, W.C.; at the Mart; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, BROMPTON, S.W.

Notice of PRIVATE SALE of about 200 MARBLE CHIMNEY-PIECES, to be sold at very reduced prices (to save the expense of removal to the Brompton-road), in the following Marbles, viz.:—Statuary, Rouge Royal, Black and Gold, Black, Sienna, Burdille, Dove, California, St. Ann's, Rouge Jasper, Jeune Fleure, Brocatella, Genoa Green, Irish Green, Siena Reign, Emperor's Red, Irish Fossil, Campanne Melange, Sicilian, and various excellent specimens of British Marbles, varying in price from 1l. 10s. to 50l.; and for elegancy of design, workmanship, and quality, not to be surpassed in England. Purchasers to the extent of 30l. and 50l. approved bills of three and four months will be taken, less 25 per cent cash. Purchasers from the country will be supplied with packing-cases at the same packed and delivered to any of the metropolitan stations for 1 per cent. on the amount purchased.

HARROW.—A very desirable small Freehold Building Estate, most advantageously situate within half a mile of the Railway Station, with a privilege to residents of a First class Railway Pass, and of Nomination to Harrow School.

MESSRS. EDWIN FOX & BOUSFIELD will SELL by AUCTION, at the MART, on FRIDAY, JUNE 19th, at TWELVE, in one or more lots, a valuable FREEHOLD ESTATE, very desirably situate at Harrow, in the county of Middlesex, comprising about 16½ acres of eligible Building Land, possessing convenient frontages to two excellent leading roads, and affording great facilities for the erection of several detached and semi-detached villa residences, with ample garden grounds, the supply of which in the neighbourhood is utterly inadequate to the demand. May be viewed, and particulars had previous to the Sale of CHANNOCK, Esq. Solicitor, 8, Gray's-inn-square; at the MART; and at Messrs. EDWIN FOX & BOUSFIELD'S Office, 41, Coleman-street, Bank.

NORTHAMPTONSHIRE. — The DALLINGTON ESTATE, in the parish of Dallington, near to the town of Northampton, in freehold, nearly three fees and subject only to a trifling land-tax; comprising Dallington Hall, a large, elegant, and substantially-erected mansion, with several capital fitting, and numerous offices and appurtenances, consisting chiefly of market-gardens and accommodation lands, in immediate contiguity to Northampton, a great portion adapted for building purposes; the whole extending over 145a. 1r. 16p. Also the advowsons of the Vicarage of Dallington, and nearly the whole of the Village, the Manor of Dallington, with its sporting rights and privileges, various Fee farm Rents, &c.; rising a-side lieds of iron stone, which have produced royalties exceeding 1,000l. per annum during the last three years, the rental, including the royalties, woodlands, &c. being about 5,000l. per annum.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION, at the MART, near the Bank of England, on TUESDAY, JULY 7, at TWELVE, in one or two lots, this important FREEHOLD ESTATE, comprising Dallington Hall, a substantial stone built mansion, pleasantly situate, close to the church and village, and overlooking some finely-timbered park lands, with plantations, excellent fishponds, &c. It contains fifteen bed rooms, large reception-rooms, a fine oak staircase and secondary staircase, and good domestic offices; extensive stabling and coachhouses, laundry, brewhouse, &c.; capital flower-gardens and pleasure-grounds, two walled kitchen gardens, with winery, conservatory, forcing pits, productive orchard, &c. The kennel of the Pytchley Hounds is within a few miles. The agricultural lands are of first-rate quality, and in the hands of highly respectable tenants. They are in an excellent state of cultivation, and the farmhouses and homesteads are in a good state of repair, and afford ample convenience for the proper cultivation of the land.

There are numerous occupations, consisting of market garden and accommodation lands, a considerable portion of which will, doubtless, be required shortly for building purposes, as the town of Northampton is rapidly spreading in the direction of the estate; also the Wheatsheaf Inn, in the village, and numerous cottages, nearly the whole of the village, with the exception of the almshouses and schools, is included; also Dallington Mill, which being so close to Northampton, is adapted for a good trade. The tenant of Dallington, with its sporting rights and privileges, the capital covers and plantations, known as Dallington-heath. The advowson of the vicarage of Dallington, with good vicarage house, situate, surrounded, and about 60 acres of very valuable glebe land, and the rent charge of 21l. 3s. 6d. per annum; various fee farm rents, amounting to about 50l. per annum, valuable beds of stone-pits, which have produced royalties amounting to upwards of 1,000l. per annum during the last three years. The estate, which forms an uninterrupted domain of 1,408 acres, is situate within a mile and a half of Northampton by Dallington-heath, and which possesses the advantages, both of a residential landed property and a large extent of town lands, rapidly increasing in value, and of, as yet, only very trifling out-goings, being entirely freehold, the land-tax only 87. 11s. 4d. per annum, will in the first instance be submitted to auction, in one lot, offering an opportunity for a most influential local influence. In the event of a sale not being effected in one lot, it will be immediately divided into two lots, when lot 1 will comprise the mansion, woodlands, plantations, farm lands, cottages, and village property, advowson, manor, fee-farm rents, &c., in all about 1,150 acres, forming an exceedingly compact landed estate; and lot 2 will comprise 255 acres, close to Northampton, consisting of market, garden, and accommodation land, Dallington Mill &c. forming an important tract of land, producing a large annual income, and capable either of being gradually converted into building land, or of immediate operations in a building scheme of large scale. Particulars, with plans, may be had of Messrs. HILLIARD, DALE, & STRETTON, Solicitors, 3, Gray's-inn-square, W.C.; of GEORGE ANNESLEY, Esq. No. 61, Lincoln's-inn-fields, W.C.; of Mr. W. J. PEIRCE, Auctioneer, Northampton; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 16, Waterloo place, Pall mall, S.W.

ST PANCRAS FREEHOLD LAND SOCIETY. -The last portion of valuable Freehold Building ground at Hornsey, Holloway, Peckham, and Sudbury, giving 100 feet frontage.

MR. W. H. MOORE is instructed by the Mortgagees to SELL by AUCTION, at GARRAWAY'S, on THURSDAY, JUNE 18th, at ONE, in 24 lots, valuable FREEHOLD BUILDING LAND: comprising three plots on the first Seven Sisters'-road Estate, nine plots on the Upper Holloway Estate ten plots on the Peckham Rye Estate, and seven plots on the Sudbury Estate, which confer a right of scholarship to the public school at Harrow, and the usual advantages of reduced railway tickets Particulars, &c at Garraway's; of J. WELLS, Esq. Solicitor, 23, Feroy-street, W.; and at the Auctioneer's offices, 9, George street, Euston-road, adjoining the Gower street Railway Station.

FENCHURCH STREET.—Building Materials of Two Houses.

PULLEN, HORNE, & EVERSFIELD are instructed by the Hon. Commissioners of Sewers to SELL by AUCTION on the PREMISES on FRIDAY, JUNE 12, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FIXTURES of TWO HOUSES and PREMISES, Nos 100 and 102, Fenchurch-street, comprising sound bath stone, Portland stone, slates, plain tiles, sashes, doors, panelled partitions, wainscoting, linings, marble and other chimneypieces, shop fronts, sound floor boards, lead gutters, cisterns, pipes, stoves, and various useful fittings up—May be viewed on the day previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

GREAT WESTERN RAILWAY.—Clearance sale of Property in the Goods and Passenger Department

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Great Western Railway Company, to SELL by AUCTION, at the GOODS STATION, Paddington, on MONDAY and TUESDAY, JUNE 15th and 16th, a large quantity of Miscellaneous PROPERTY: comprising, a 20-horse power steam-engine, 50 tons of new iron of various descriptions, tile-making machine, washing and mangling machine, pig lead, block tin, copper and brass, 80 casks of cement, dry walnut-tree planks, tobacco, tea, leather, linen and woollen rags, spirits of wine, brandy, &c.; also the unclaimed property in the Passenger Department, comprising the usual assortment of wearing apparel, umbrellas, desks, railway-wrappers, and numerous other effects.—May be viewed on FRIDAY and SATURDAY previous, with catalogues only, which may be had at 6d. each, of Messrs. PULLEN, HORNE, & EVERSFIELD, 41, Parliament street, Westminster, and 80, Fore street, City.

TO CONTRACTORS, BUILDERS, AND OTHERS.—Surplus Plant and Materials

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the GROUND, adjoining the Railway Station, King's cross, near York road, New Town, York road, and Chas's place, Gray's Inn lane, on TUESDAY, JUNE 16, and following day, at TWELVE, in lots, by order of John Jay, esq. in consequence of the completion of the Metropolitan Railway Works, the remaining portion of the valuable and extensive SURPLUS MATERIALS and PLANT, comprising trolleys, dobbin carts, navvy, crowding, and leaving off barrows, timber and rails, chairs and keys, crowbars and cast iron, iron and wood skips, wrought iron wheeling plates, stone paving slates, two capital mortar mills, extensive steam washing engines, 300 loads of capital timber, in all sizes, and 'balk, planks, scantling, struts, sleepers, &c.; a large quantity of centering, scaffold-poles and boards, corrs, screens, ladders, grindstones, carpenters' benches, 10 tons of cast iron wheels, and numerous other effects.—May be viewed the day previous. Catalogues had at the Places of Sale; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C and 40, Parliament-street, S.W.

A Stock of Builders' Ironmongery, new Sashes, 2,000 feet of Oak Sills and Scantling, Marble and Slate Chimneypieces, White Lead and Colours, Paperhangings, a nearly new Marquee, Iron Stable Fittings, and various effects for absolute sale

MR. W. HOLLINGSWORTH will SELL by AUCTION, at his SALE ROOMS, 14, High Holborn, on MONDAY next, at TWELVE o'clock, a variety of BUILDERS' GOODS; also a valuable steam-engine, enamelled mangers, stallposts, 300 iron sheep and cattle hurdles, iron pig-sty and guttering, 1 pair foundry stoves and ranges, paperhangings, and various articles used by builders and carpenters May be viewed and catalogues had on Saturday.

NEW BARNET, HERTS. Valuable Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY JUNE 8, 1863, at TWELVE for ONE, FORTY EIGHT LOTS of eligible FREEHOLD BUILDING LAND, land-tax redeemed, situate within a few minutes' walk of the Barnet Station on the Great Northern Railway, and commanding extensive and beautiful views of the surrounding country. The Metropolitan Railway being now open, brings the property within half an hour's ride of the City, and makes it a very desirable locality to reside a short distance from town. Nine tenths of the purchase money may remain on mortgage or contract at 5 per cent. to be paid in eighteen by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of Sale may be obtained more than seven days before the Sale, at the Railway Hotel and Refreshment Rooms, New Barnet; of Messrs. RUSSELL & DAVIES, 70, Coleman-street, London, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

ACTON, MIDDLESEX.—A well-stocked Orchard, and valuable Freehold Building Land, five miles from the City.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, JUNE 8, 1863, at TWELVE for ONE, a well-stocked ORCHARD and eligible FREEHOLD BUILDING LAND, with frontages to Bilio bridge road, near to the village of Acton Nine tenths of the purchase money may remain on mortgage or contract at 5 per cent. to be paid in nine years by equal half yearly instalments, but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained at the Inns in the neighbourhood; of Messrs. RUSSELL & DAVIS, 50, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale

CROYDON, SURREY.—Excellent Building Materials.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES close to the town of Croydon, on MONDAY, JUNE 22, 1863, at TWELVE for ONE o'clock precisely the FIFTEENTH PORTION of the excellent BUILDING MATERIALS of some of the Houses belonging to the Addiscombe College, comprising about seventy lots of large quantity of bats, paving stone, stone sills and coping slates for roofs, stoves, wainscoting and grates, about 100 squares of sound joists, floor boards, roofing boards, lintels, purlins, &c.; chimney pots, iron water pipes and gas piping dressed, &c. &c. May be viewed on the Friday and Saturday previous, when Catalogues may be had at the Yard of the Foreman on the Estate; and of the Auctioneer, 14, Moorgate-street, E.C.

PLUMSTEAD, KENT.—Freehold Estate, comprising a brick-built House, Five Cottages, outbuildings, and about Two-and-a-half Acres of Land, suitable for Villas.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the TOWN HALL, Woolwich, on FRIDAY, JUNE 26, 1863, at SIX for SEVEN o'clock in the evening, a FREEHOLD ESTATE, consisting of a brick built House, containing attic, tile roof; on the second floor, two large bedrooms, first floor, four rooms; ground floor, two large bedrooms, two parlours, store-room, kitchen, cellars, &c. A specious two-story Villa, and Nos. 1 and 2 Cottages, in all let at two rates of market garden Land in the rear; land tax redeemed; suitable for building purposes; situate off the high road from Woolwich to Erith, within a short distance of the Arsenal Station, and near to the Plumstead Station on the North Kent Railway. The whole will be first offered in one lot and if not sold, the premises will be offered in two lots, and the land in twenty two lots for building purposes. Nine tenths of the purchase money may remain on mortgage or contract at five per cent. to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained two days before the sale, of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; of Mr. JOHNSON, on the Shooter's Hill Estate; of Mr. R. GREEN, Richard-street, Woolwich; and at the Place of Sale.

WIMBLEDON, SURREY Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, JUNE 22, 1863, at TWELVE for ONE o'clock, in 62 lots, the remaining portion of the valuable FREEHOLD BUILDING LAND, free from tithe and land-tax, with frontages to the new road called Hartfield-road, close to the Wimbledon Station, on the main line of the London and South-Western Railway. Nine-tenths of the purchase money may remain on mortgage or contract, at five per cent. to be paid in nine years by half-yearly instalments, but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained two days before the sale, of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; and of the Auctioneer, 14, Moorgate-street, E.C.; and at the Place of Sale.

ADDISCOMBE COLLEGE, CROYDON, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the GREYHOUND INN, Croydon, on TUESDAY, JUNE 30, 1863, at SIX for SEVEN o'clock in the Evening, a further portion of this eligible ESTATE, late the property of the Hon the East India Company, consisting of about 32 Lots of eligible FREEHOLD BUILDING LAND, with frontages to the St. James's and Park-roads. The lots are well adapted for a good class of Villa Residence. The property is within ten minutes' walk of the New and East Croydon Station; about a mile of that at West Croydon; and with the Addiscombe Railway is completed the station will be on the estate, thus bringing the property in constant communication with the City and West End at all times of the day. Nine-tenths of the purchase money may remain on mortgage or contract at five per cent to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained of Messrs. PULLEN, HORNE, & EVERSFIELD, 41, Parliament street, Westminster, and 80, Fore street, City; and at the principal Inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale

EAST HAM, ESSEX.—Fine old Family Mansion, formerly a Royal residence, with beautiful grounds, and 30 acres of Land, situate within a mile of the Railway, and valuable for building purposes

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, JUNE 16, at TWELVE, in four lots (unless previously disposed of by private contract), the very valuable COPYHOLD ESTATE, known as Greenstreet House, situate close to the Barking-road, in the parish of East Ham, Essex; comprising a spacious family mansion, containing ten bed chambers and two dressing-rooms, three reception-rooms, including a capital drawing-room, 32 feet 6 inches square, with a handsome panelled hall, 37 feet by 20 feet; corridor or picture gallery, 50 feet in length; and extensive domestic offices; large coach-house, with granary over for forage; eight brick cottages, double coach-house, laundry, gardener's cottage, aviary, cowhouse, and other requisite outbuildings; beautiful lawn and ornamental grounds, adorned with several magnificent cedars and other choice trees, picturesque evergreens, and flowering shrubs; the whole enclosed within a high wall, rendering it delightfully retired and private; productive fruit and vegetable gardens, orchard, and pasture land of very rich quality. In the grounds is the famous Anne Boleyn's Tower, from which a very extensive view is obtained; adjoining are several enclosures of rich meadow and arable land, also four cottages, the whole comprising nearly 30 acres. The property was formerly a palace of King Henry VIII.'s, and a considerable portion of the original architecture is in good preservation; the beauty of the grounds is probably unequalled within a like distance of London, and in addition to its attractions as a residence, the whole is exceedingly valuable for building purposes. The estate is a deep gravel, and there is an abundant supply of fine spring water -Particulars of Messrs. LOXLEY & MORLEY, Solicitors; and of Messrs. DEBENHAM & TEWSON, Auctioneers, 80, Cheapside.

KENT—A small Freehold Estate of 24 acres, in one of the most beautiful parts of the county, offering a choice site for a residence.

MESSRS. DEBENHAM & TEWSON will SELL by AUCTION, at the MART, on TUESDAY, JUNE 16, at TWELVE, a FREEHOLD ESTATE, called Gedge's or King's Farm, situate near Mattell's green, in the parish of Brenchley, about a mile and a quarter from Paddock Wood Station. It consists of upwards of 24 acres of prime arable, orchard, and hop land, and is now in occupation of J. M. Hooker, esq. The property occupies an elevated position, the views from it are superb, it contains a good spring of water, has an extensive frontage to a turnpike road, is within easy distances of Tunbridge and Tunbridge Wells, and affords a very desirable opportunity for a gentleman who seeks a site for a residence in this highly attractive district Particulars and plan of WILLIAM DAY, Esq. Solicitor, 1, Queen-street, Mayfair; and of Messrs. DEBENHAM & TEWSON, 80, Cheapside.

UNRESERVED SALE.—SUTTON, SURREY.—FREEHOLD HOUSES AND BUILDING LAND

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on FRIDAY, JUNE 19, at TWELVE, without the slightest reserve, TWO FREEHOLD DWELLING-HOUSES, situate in Carshalton grove, near the Sutton Station, in the most healthful part of the Sutton, each having six rooms, washhouse, and good gardens. Also Seven Plots of valuable Freehold Building Land, adjacent; comprising in all nearly two acres, fronting the new road recently projected over land, leading out of the high road from Sutton to Carshalton, within two minutes' walk of the Sutton Station, on the London and Brighton Railway.—Particulars of H. CHILD, Esq. Solicitor, Paul's Bakehouse-court, Godliman-street; and of the Auctioneers, 80, Cheapside.

COLNEY HATCH.—TO BUILDERS AND OTHERS.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on FRIDAY, JUNE 19, at TWELVE, in two lots, the CARCASES of SIX DWELLING HOUSES, Nos 12 to 18, St. John's-villas, Springfield-road, pleasantly situate within five minutes' walk of the Colney Hatch Station. Each house stands on a plot of ground 150 feet deep; is planned to contain five rooms, kitchen, and washhouse, and moderately estimated to produce a rent of 22l. when finished. Lease and ground rent to subsist for a long term, at a ground-rent.—Particulars of H. B. FARRINGTON, Esq. Solicitor, 32, Bucklersbury, and of the Auctioneers, 80, Cheapside.

SALE OF PLANT—TO ENGINEERS, MACHINISTS, CONTRACTORS, AND OTHERS.

MR. C. F. SMYRK is favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, Marlborough-place, Old Kent-road, on MONDAY, JUNE 8, at TWELVE, a nearly new TRACTION-ENGINE, 25 horse power, recently at work in repairing the Hampstead Reservoir, the contract being now completed; also several other powerful ENGINES, in working order, viz.:—A 6-horse portable engine, a Gwynne's centrifugal pump, a 7-inch contractor's pump to work by hand and steam, a 3-ditto ditto, sand crank shaft, a Bowser and Comer's patent derrick crane, note new, a 6-horse steam cauldron and 13-feet boiler, a small donkey engine, a horse chaff cutting machine, a quantity of wheels complete, an oat-and bean-crushing machine, a gravel-sifting machine, a hoisting gear with loose and fast pulleys, upwards of 100 feet of strong 3-inch manilla rope, wrought-iron door and frame, large grindstone, two portable forge bellows, anvil, and other effects.—May be viewed; and catalogues had three days prior, on the Premises; of Mr. C. F. SMYRK, Auctioneer, Surveyor, and Valuer, 19, Newington-place, Kennington road, S.

Under a Bill of Sale.—To Builders and Others.—Two capital Carts, lightly used, useful Mare, Harness, two Circular saw Benches, 2,000 feet of Spanish and Walnut Planks, large quantity of Ash Planks and Elm Boards, Beech and Birch Planks, Hickory Shaft-gay Planks, quantity of Birch Mahogany Boards, Birch Planks and Battens, &c., Builder's and Saw Mills Plant and Stock for immediate sale.

MESSRS. F. HALL & SON have received instructions to SELL by AUCTION, on TUESDAY, JUNE 9, 1863, at ONE o'clock precisely, on the PREMISES, adjoining the King's Arms, Chester-street, Kennington lane, the STOCK and PLANT of Mr. WILLIS, BUILDER, as above, comprising red and pale brick, yellow, white and picture pavior, deals and battens, cut various; red pots and white pipes, deals and battens, white, 20 feet usually in one length, a few feet of new seasoning and matured; a quantity of built, seasoning, cottage posts, ten stacks of new laid cant to joists, plates, and quartering; walnut-tree, five loads of cant to joists, new flooring, floor boards, one stack, one square timber, two capital circular saw benches, with set of cast steel saws, band, slabbing, cross cut, and complete; two carts, useful mare, harness, and about 40 tons of building materials and fittings, remnant from various buildings and repairs, and other miscellaneous effects May be viewed, and catalogues had on the Premises; and of the Auctioneers, Chester street, Kennington.

[For remainder of Auctions see p. xi.

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The Builder.

Architect, Engineer, Operatives & Artist.

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INSTITUTE of PAINTERS in WATER COLOURS, founded 1831, as the NEW SOCIETY of PAINTERS in WATER COLOURS.—The ANNUAL EXHIBITION is NOW OPEN. Admission, 1s.—Gallery, 53, Pall Mall, opposite Marlborough House.
JAMES FAHEY, Secretary.

WILL CLOSE JUNE 30th.
ARCHITECTURAL EXHIBITION, 9, Conduit street, Regent-street, W NOW OPEN daily, from 10 till 6. Admission, One Shilling. Season Tickets, Half-a-crown, admit at all times.
JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, F.I.B.A. }
Also, in conjunction with the above, the Exhibition of the Society of Sculptors of England. MORTON EDWARDS, Hon Sec.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON.
On TUESDAY Evening next, at 7.30, a LECTURE will be delivered in the THEATRE, on "ARCHITECTURE, its Purpose and its Place among the Arts." By T. GARRIER PARRY, Esq.
PRIZES of 2l. and 5l. for Wood Carving, and 5l. 5s. and 3l. 3s. for Coloured Decoration, are now offered to artist workmen, who may obtain full particulars, and also cards for the Lectures, of the Attendant in the Museum; at the Office of "The Builder;" or by letter to the Hon. Sec. at 13, Stratford-place, W.
A. J. B. BERESFORD HOPE, President.
GEORGE GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

ECCLESIOLOGICAL SOCIETY, 73, New Bond street, London, W.
The Twenty-Fourth ANNIVERSARY MEETING of the ECCLESIOLOGICAL SOCIETY will be held on FRIDAY, JUNE 19th, at EIGHT p.m. in the Gallery of the Architectural Exhibition, No. 9, Conduit street, Regent-street.
The business of discussion will be the BASILICAN ARRANGEMENT of CHURCHES.
The Members of the Society and persons interested in the Society's pursuits, are invited to meet the President (Mr. Beresford Hope) and the Committee at 2.30 p.m. precisely, on the day of Meeting, at the Tower of London. By the kind permission of the Lord de Ros, Lieutenant of the Tower, the White Tower, including the Norman Chapel, and the other Historical Antiquities of the place, will be open to the inspection of the party. The visitors are requested to mention the President's name to the Warders in charge, and are to meet in front of the Governor's House.
Ladies are invited both to the visit to the Tower and to the Evening Meeting.

NOTICE of REMOVAL. H. C. PRICE & CO.
WARMING AND VENTILATING ENGINEERS,
REMOVED FROM NO. 2, DERBY STREET, WESTMINSTER, TO NO. 13, PARLIAMENT STREET, S.W.
Where their business will be continued as heretofore.

COMPETITIONS.

MONUMENT to be ERECTED in GENEVA.—A Committee of Citizens of Geneva purpose to ERECT a MONUMENT in commemoration of the Results of their City to the Swiss Confederation, and therefore invite Sculptors and Architects inclined to undertake the execution of such a monument, to submit their models.—For particulars apply to the Swiss Consulate, 31, Old Broad-street.

HEATH VILLE ESTATE.—NOTICE to COMPETITORS. The premium of Thirty Guineas has been awarded to EDWARD MILNER, Esq. of Dulwich Wood, Sydenham, the author of designs bearing the motto "Spero Melora." The second premium of Fifteen Guineas to Mr. HENRY JAMES, Architect, of Wolverhampton, the motto being "Masonic Emblems." The unsuccessful competitors will have their designs returned on application to Mr. MATHEWS, Solicitor, College court, Gloucester.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE TO BUILDERS.
TENDERS are required for the ERECTION of QUARTERS for the Families of Married Soldiers, at Netley Hospital, in the County of Hants.
Parties desiring to Tender for these works are required to attend at the Office on TUESDAY, the 30th day of JUNE, 1863, at TWELVE o'clock, to appoint a Surveyor to take out the quantities in conjunction with the Government Surveyor. Each party will be required to pay the sum of one guinea for the quantities.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Netley, 6th June, 1863.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of QUARTERS and STABLES for MILITARY TRAIN, at Netley Hospital, in the County of Hants.
Parties desiring to Tender for the execution of these works must leave their names at this Office, on or before the 30th day of JUNE, 1863, and pay the sum of Ten Shillings and Sixpence for the bills of quantities, which will be forwarded to each party, as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Netley, 6th June, 1863.

TO BUILDERS, &c.—CONTRACTS for a CHURCH.—TENDERS are required for the ERECTION of a CHURCH, at Cockermouth, in the county of Cumberland. Plans and specification will be deposited with Mr. JOS HEWSON, Ship Hotel, Market place, Cockermouth, on and after TUESDAY, the 23rd of JUNE. Sealed Tenders, marked "Tenders for New Church," will be received by the Rev H. L. FUXLEY, Cockermouth, up to WEDNESDAY, 24th JUNE, who will not be bound to accept the lowest or any Tender. Further information that may be required, may be had on application to Mr. BRUCE, Architect, Whitehaven.

COUNTY PRISON, GLOUCESTER.—TO BUILDERS.—The Visiting Justices are desirous of receiving TENDERS for the ERECTION of a GOVERNOR'S RESIDENCE in connection with the present octagon building at the south-east angle of the County Prison. Drawings, specifications, and conditions of contract, may be seen at the Office of Mr. MIDLAND, the County Surveyor, Clarence-street, Gloucester, on and after MONDAY, the 8th day of JUNE next. Tenders to be sent in, under seal, addressed to the Clerk of the Peace, Shire Hall, Gloucester, on or before the 22nd day of JUNE, endorsed "Tender for Governor's House, County Prison." The Visiting Justices do not bind themselves to accept the lowest or any Tender, as such must be submitted to the approval of the next Trinity Court of Quarter Sessions.
Gloucester, 29th May, 1863.

GUILDHALL, LONDON, 3rd June, 1863.—The Committee for Letting the Bridge House Estates will meet at Guildhall, on TUESDAY, the 16th instant, at TWELVE o'clock precisely, to receive PROPOSALS for REPAIRING LEASES of Several HOUSES and PREMISES, viz. Nos. 55 and 56, Union-street, St. George's-fields; Nos. 23 and 24, White-street; and Nos. 11, 12, 13, and 14, Union-street, Borough; Nos. 1 to 24, Mary Ann-buildings; and Nos. 6 and 7, Church-street, Deptford; and Two Pieces of Garden Ground adjoining. Plans of the Property may be seen, and further particulars and forms of Tender obtained upon, application at the Architect's Office, Guildhall.
FERDINAND BRAND, Comptroller.

BLACKFRIARS BRIDGE.—Notice is hereby given, that the Bridge House Estate Committee will meet at the Guildhall, on TUESDAY, the 16th day of JUNE next (instead of the 9th day of JUNE, as previously advertised), to receive TENDERS for the ERECTION of a TEMPORARY BRIDGE across the River Thames, on the east side of, and adjoining to, Blackfriars Bridge. The plans of the intended Bridge, and specifications of the Works to be executed, may be seen, and further particulars obtained, upon application at the Office of the Engineer, JOSEPH CUBITT, Esq. No. 6, Great George-street, Westminster. The Tenders must be sealed up, addressed to the Bridge House Estates Committee, endorsed "Tender for Temporary Bridge at Blackfriars," and left at the Committee's Office, Guildhall, before TWELVE o'clock on TUESDAY, the 16th JUNE; and the parties Tendering will be expected to be in attendance at Guildhall on that day at ONE o'clock. The Committee do not bind themselves to accept the lowest or any Tender that may be sent in.
FERDINAND BRAND, Comptroller.
Guildhall, 18th May, 1863.

STRATFORD-UPON-AVON LOCAL BOARD of HEALTH.—CONTRACT No. 10.—REMOVAL of MUD, &c. from the River Avon.—To CONTRACTORS.—The Local Board of Health for the District of Stratford-upon-Avon hereby give notice that they are prepared to receive TENDERS for EXECUTING the following WORKS:—Removing and clearing out the mud and other deposit and matter from a part of the bed of the River Avon, at Stratford-upon-Avon, and other works in connexion therewith. The plan, sections, and specification may be seen, and forms of Tender had, on application to Mr. THOMAS TAYLOR ALLEN, Surveyor to the Local Board, Bree street, Stratford-upon-Avon, on and after the 12th inst. Sealed Tenders, endorsed "Tender for Removal of Mud, &c. from River Avon," must be sent to the Office of the Local Board, Scholar's lane, Stratford-upon-Avon, addressed "To the Clerk of the Local Board of Health," not later than TUESDAY, the 23rd of JUNE inst. The Local Board do not bind themselves to accept the lowest or any Tender.
HENRY O. HUNT, Clerk to the said Local Board.
June 1st, 1863.

CONTRACTS.

BRISTOL LOCAL BOARD of HEALTH.
To PAVIORS and OTHERS.—The Local Board of Health of the City and County of Bristol hereby give notice that they intend to CONTRACT for THREE YEARS, commencing the 29th day of SEPTEMBER next, for the performance of the undermentioned Works, viz.:—

CARRIAGEWAYS.
1st.—For Hauling Stones from any place within the City and County of Bristol, and Laying the same in the Streets.
2nd.—For Re-pitching and Re-laying old Pitched Stones.
3rd.—For Hauling and Laying Rag Pitching.
4th.—For Re-laying Rag Pitching.
Persons wishing to engage in the above Works are requested to deliver in their TENDERS at the Offices of the said Local Board of Health, No. 14, Prince street, on THURSDAY Morning, the 2nd day of JULY next, at TEN o'clock precisely, on which day the Committee will meet to determine upon the same. A printed specification of the Works to be done, and a Form of Tender may be previously had, either on personal application or by letter, post paid, addressed to the Clerk, at the Offices, No. 13, Prince street, Bristol, where any further information may be obtained. The party contracting will be required to give sufficient security, to be approved of by the said Local Board, for the due and faithful performance of his Contract. The Local Board will not hold themselves bound to accept the lowest or any Tender.—By order of the Committee
JOHN G. HAVEN, Clerk.
Local Board of Health Offices, 13, Prince-street,
14th May, 1863

PROPRIETARY COLLEGE, MALVERN.
To BUILDERS.—The Council of the Proprietary College, Malvern, are prepared to receive TENDERS for the ERECTION of the NEW COLLEGE. The plans and specifications can be seen at the Offices of the Architect, at Malvern, or Clifton, on and after THURSDAY, the 11th of JUNE. Bills of quantities have been prepared by Mr. J. A. CLARK, at whom he had on the payment of one guinea. The Tenders to be delivered, under cover, to the Hon. Secretary, L. STUMMES, Esq. M.D. Malvern, not later than TUESDAY, the 23rd of JUNE, endorsed "Tender for New College." The Council do not pledge themselves to accept the lowest or any other Tender. They will require good and approved security for the due performance of the contract.
CHAS. HANSOM, Architect.
Clifton, May 29, 1863.

NOTICE to CONTRACTORS.—EXTENSIVE NEW WORKS at LEITH.—The Commissioners for the Harbour and Docks of Leith are prepared to receive TENDERS for the CONSTRUCTION of a RECLAMATION EMBANKMENT, Entrance Basin, Lock, Wet Dock, and relative Works, at Leith, in conformity with drawings, specification, and conditions, to be seen in the Offices of their Engineers, A. M. RENDEL, Esq. No. 8, Great George-street, Westminster; and GEORGE ROBERTSON, Esq. New Dock Works, Leith. Copies of the specification and conditions, with form of Tender, and of a bill of quantities, prepared for the convenience of contractors, may be obtained, by payment of three guineas, on application to Mr. RENDEL or Mr. ROBERTSON. No Tender made in any other form than that above referred to will be entertained; and the Commissioners do not bind themselves to accept the lowest or any Tender. The Tenders, sealed and marked "Tender for New Wet Dock and Relative Works, at Leith," must be lodged with JOHN PHIN, Clerk to the Commission, 14, Heriot row, Edinburgh, on or before WEDNESDAY, the 1st day of JULY next.
20th May, 1863.

NEW CHAPEL and SCHOOL-ROOMS, WATLING STREET, CANTERBURY.—Builders willing to CONTRACT for the above building, may see the plans, specification, and conditions, on and after THURSDAY, the 18th JUNE, daily, between NINE a.m. and FIVE p.m. by application to Mr. ANDREW PINNELL, 101, Parade, Canterbury. Tenders (sealed and endorsed) to be delivered to the Rev. VALENTINE WARD, 9, St. George's place, Canterbury, not later than MONDAY, the 29th of JUNE, at TWELVE o'clock noon. For any information, and for copies of the quantities, apply to the Architect. The lowest or any of the Tenders not necessarily accepted.
W. F. POULTON, Architect,
Victoria-road, Reading.

TO ROADMAKERS and OTHERS.—TENDERS are required for LAYING IN DRAINS and FORMING ROADS and PATHS to the Grove House Estate, Ealing, in close proximity to the railway station.—Particulars may be obtained of Mr. C. JONES, Surveyor, Hanwell Villa, Uxbridge-road, Ealing. The Freeholder does not bind himself to accept the lowest Tender.

DELAMERE, CHESHIRE.—The Commissioner in charge of her Majesty's Woods and Royal Forests hereby gives notice that TENDERS will be received for the ERECTION of a FARM-HOUSE and OFFICES, a HOMESTEAD, BAILIFF'S HOUSE, and LABOURERS' COTTAGES, at Delamere, near Hartford, in the county of Chester. Drawings and specifications may be inspected, on application to Mr. SAWYER, at the Abbey Arms Inn, Delamere, after the 10th instant, and further particulars can be obtained, on application to Mr. JOHN CLUTTON, 9, Whitehall-place, Westminster. Tenders to be sent in on or before the 22nd day of JUNE, addressed to the Hon. JAMES R. HOWARD, Office of Woods, Whitehall place, Westminster, S.W., endorsed "Tender for Works at Delamere."—The Commissioner does not bind himself to accept the lowest or any Tender.

TO BUILDERS and CONTRACTORS.—Parties willing to TENDER for the ERECTION of a NEW WESLEYAN CHURCH at Blackheath, Kent, may see the plans and specification on and after JUNE 18th, at the Offices of Messrs. MAYHEW & CALDER, Architects and Surveyors, 4, Charing cross, or at my Office, 1, Belmont, Bath. Tenders, directed "To the Committee of the New Wesleyan Church, Blackheath," to be sent to J. B. INGLE, Esq. 2, the Grove, Belmont Hill, S.E. on or before the 25th JUNE. Quantities are taken out, and can be obtained for each copy. Neither the lowest nor any other Tender will necessarily be accepted.
JAMES WILSON, F.S.A. Architect.
1, Belmont, Bath.

For remainder of Contracts see next Page.

CONTRACTS.

WANTED, CARRARA MARBLE CHIPPINGS. The smallest pieces, even the dust, if clean, will answer the purpose. Quote lowest price per ton, and the quantity per week that could be supplied.—Address, P. G. Post-office, 231, Blackfriars-road.

GAS WORKS TO BE SOLD or LET. TO BE LET, by TENDER, for a term of seven, fourteen, or twenty-one years, at the option of either party, all those GAS WORKS and PREMISES, situate at St. Ives, in the county of Cornwall, known as the "St. Ives Gas Works, comprising a gas-house, dwelling-house, coke-yard cellar, coke-house, and yard, with the plant thereto belonging, and a commodious piece of ground adjoining the same. These works are conveniently situated, near the sea, at a low level, and are capable of great extension. A considerable length of new mains has recently been laid, the whole is well worthy the attention of enterprising capitalists. The taker will be required to enter into a lease containing the usual covenants, and to execute a counterpart thereof.

For viewing the premises, and for further particulars, application may be made to the undersigned, to whom sealed Tenders, stating the utmost rent that will be given, should be forwarded on or before the 1st day of JULY next, soon after which the person whose Tender may be accepted will have notice thereof. The proprietor would not object to sell the works at a fair value.

W. TOLMIE TRESIDDER, Solicitor, St. Ives.

Dated St. Ives, 6th June, 1863.

CROYDON. — To BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of a RESIDENCE, to be built on the Haling Park Estate, can see the plans and specification at the Office of the Architect, on and after FRIDAY the 19th instant. Tenders to be sent in not later than WEDNESDAY, 1st JULY, at TWELVE o'clock.

JOHN BERNEY, Architect and Surveyor.

61, North-end, Croydon, 11th June, 1863.

TO CONTRACTORS.—To SLATE QUARRYMEN.—TENDERS are WANTED for the MAKING of ROOFING SLATES from two quarries situate at Honister, near Buttermere, Cockermouth, Cumberland, and within 300 yards of each other. One of these quarries is wrought by the rope practice, the other by ladders and coke candle lights. Also, the REMOVING of 2,000 cubic yards of OLD QUARRY RUBBISH, at Bowscar Quarry, situate at the mile's distant from the others. Contractors to have the use of waggons and rails for removing and working the same.—Apply to SAMUEL WRIGHT, Slate Merchant, Cockermouth, who will treat for the same. The proprietor does not pledge himself to accept the lowest or any Tender.

Cockermouth, 9th June, 1863.

TO ROAD-MAKERS. — BROMLEY, KENT.—TENDERS are required for FORMING and MAKING about two miles of ROADS. A plan, specification, and conditions may be seen every day at my Office.—Tenders to be sent to me on or before TEN o'clock on FRIDAY, the 26th JUNE next market on the ground. Tender for Roads." The Owner does not bind himself to accept the lowest or any Tender.

16, Walbrook. JOHN WHICHCORD, Architect.

TO BUILDERS.—Persons willing to contract with the Justices of the County of Kent, for the ERECTION of a POLICE STATION at SEVENOAKS, may see the plans and specifications at the Office of the County Surveyor, Maidstone, any day, except Sundays, between the hours of TEN and FIVE. The work is to be tendered for agreeably to the Form of Tender to be obtained at the County Surveyor's Office, where sealed Tenders, endorsed "Tender for Sevenoaks Police Station," are to be delivered by NINE o'clock a.m. on THURSDAY, the 25th instant; and persons desirous of tendering are to be in attendance at the Courts of Justice, Maidstone, at HALF-PAST TWELVE o'clock on that day. Neither the lowest nor any other Tender will be accepted unless approved of in all particulars; and security will be required for the proper performance of the contract.

H. A. WILDES, Clerk of the Peace.

Maidstone, June 8, 1863.

TO SEWER CONTRACTORS and OTHERS.—THE WORSHIPFUL COMPANY OF HABERDASHERS are desirous of receiving Tenders for the DRAINAGE and WATER SUPPLY of their PENSIONERS' ALMS-HOUSES at Horton. Plans and specifications of the intended works may be seen at the Office of the Surveyor, Mr. WILLIAM SNOOKE, 6, Duke-street, London Bridge, S.E. on and after MONDAY next. Tenders, addressed to "The Clerk," to be delivered at Haberdashers' Hall, Gresham-street, not later than WEDNESDAY, the 24th of JUNE, at TWELVE o'clock. The Governors do not bind themselves to accept the lowest or any Tender. JOHN CURTIS, Clerk.

June 11th, 1863.

WYCOMBE UNION.—PARISH of CHEPPING WYCOMBE.—To HOUSE and LAND VALUERS, ESTATE AGENTS, ENGINEERS, &c. OTHERS.—Notice is hereby given, that the Guardians of the Poor of the Wycombe Union are prepared to receive TENDERS up to the 27th of JUNE instant, for the VALUATION of the whole of the RATEABLE PROPERTY in the Parish of CHEPPING WYCOMBE, pursuant to an order of the Poor-law Board, issued under the provision of the 6th & 7th Wm. IV. cap. 96, with the following are among other conditions imposed by the Guardians.—That the valuers to be selected must, upon the receipt of any Tender, shall be subject to the approval of the Poor-Law Board. That the valuer shall be bound to complete his valuation on or before the 25th of DECEMBER next. That the valuer shall also be bound to sign this valuation in case of appeal before the Union Assessment Committee, Special and Quarter Sessions, for seven years from the date of his contract, he being called only by the sums allowances provided by the regulations of the committee. Parties may be required to attend. The valuer to have the use of the maps belonging to the city churchwardens and overseers, and which are in possession of the parish clerk. The acreage of the parish is 6,000. Population, according to last census, 4,175; number of houses, 760. Tenders must be sent to be left at the Union-House, on FRIDAY, the 27th of JUNE next endorsed "Tender for the Valuation of Chepping Wycombe." The Guardians do not bind themselves to accept the lowest or any Tender. By order of the Board,

THOS. J. REYNOLDS, Clerk to the Guardians.

High Wycombe, 3rd June, 1863.

TO BE LET, by TENDER, for a term of five years, or from year to year, that long-established and well-accustomed Spirits Vaults and Public House known as the DOLPHIN INN, situate in the chief thoroughfare in the principal business part of the borough of Hanley, Staffordshire Potteries. The tenancy may commence in August next, and Tenders, addressed to the Arbitration of the late Mr. ALDCROFT, Esq. Uxbridge Stoke-on-Trent, will be received by him, on or before the 1st of JULY next. The Advertisers are not bound to take the highest or any offer; but they will select, without prejudice, the most eligible applicant.

THE Board of Works for the Fulham District, Office, Broadway House, Hammersmith, hereby give Notice that they are desirous of receiving TENDERS for the SUPPLY of GRAY PIT PLINTS, to be delivered in such quantities and at such times as may from time to time be required by the Board or their Surveyor. Orders for Plints to be delivered alongside of either of the Wharfs or Draw Docks on the banks of the Thames and Pulham, as may be directed at such times, for a period of twelve months, as may be required. Parties intending to tender are to state what time they will allow for the unloading of the barge from the time of notice to the Surveyor, or Overlooker, being delivered. The Plints to be of the best quality, and to be subject to the satisfaction of the Surveyor; and should they at any time be delivered of a larger size than is approved of by the Surveyor, the whole to be broken to the required size by the contractor, without extra charge beyond the amount of contract. The Tenders to be sent in on or before TEN o'clock on the forenoon of the 17th JUNE, 1863, addressed to the Chairman of the Board of Works for the Fulham District, and endorsed "Tender for Plints." The Board of Works have to state that no separate quotation for the delivery of the Plints will be entertained. The Board do not bind themselves to accept the lowest or any Tender.—By order,

W. LOVELY, Clerk.

BUILDERS willing to TENDER for the ERECTION of an EIGHT-ROOMED DETACHED VILLA, at Camberwell, are requested to forward their names, &c. to the undersigned; who does not, however, bind himself to reply to all letters, or to accept the lowest or any Tender.

R. W. WIBLETT, Surveyor.

36, Southampton-buildings, Chancery-lane, W.C.

TO BUILDERS.—The Guardians of the Poor of the Parish of St. Mary, Rotherhithe, are desirous of receiving TENDERS for the ERECTION of an INFIRMARY, at the rear of the Workhouse, Deptford Lower-road, Rotherhithe. Plans and specification can be inspected at the Office of Mr. GEORGE LEGG, Architect, 61, King William-street, London-bridge, between the hours of TEN and FOUR. The Tenders to be delivered at my Office, No. 61, Parish-street, Rotherhithe, on or before TWELVE o'clock at noon of the 18th JUNE now last. The Guardians do not bind themselves to accept the lowest or any Tender.

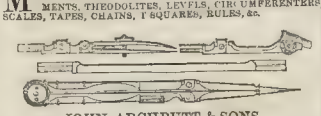
June 11, 1863. R. SHAPTO HAWKS, Clerk.

TO CONTRACTORS, ROADMAKERS, and OTHERS.—TRANMERE IMPROVEMENT ACT, 1863.—The Local Board for the District of Tranmere, as authorised by the above Act, require TENDERS for the construction of a MAIN SEWER in the Valley leading from Whetstone-lane southwards, with the requisite Junctions, Branches, Manholes, Gullies, and Ventilating Shafts, and for the MAKING of a ROAD over the same, being a length of about 3,600 yards. Plans, sections, and specifications, &c. may be seen on application to Mr. W. A. RICHARDSON, C.E. Surveyor to the Local Board, at his Office, Holt-hill, Tranmere, on and after MONDAY, 22nd JUNE next, and copies of the specification and form of Tender may be obtained on payment of 1l. Sealed Tenders, made on the printed forms only, to be addressed to me, and left at my Office not later than THURSDAY, 23rd JULY next. Contracts and bonds will be prepared by the Law-clerk to the Local Board at the expense of the contractors. Security will be required for the due performance of the work. The Local Board do not bind themselves to accept the lowest or any Tender. By order,

GEORGE LLOYD, Law-clerk to the Local Board.

Public-office, Holt-hill, Tranmere, 25th May, 1863.

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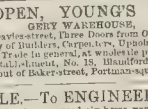
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Price 2s. 6d. post free.

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NOTICE.—To CONTRACTORS, BUILDERS, and OTHERS. Five hundred yards of SAND, five hundred yards of GRAVEL, and BALLAST, for SALE cheap.—N.B. A Good Stock of Rubbish.—Apply, Mr HOLGATE, Bonner's-road, near Cambridge-heath gate.

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A SECOND-HAND Iron Rack CIRCULAR SAW BENCH, and a small DOUBLE MOULDING MACHINE TO BE SOLD cheap.—Apply to S. WORSSAM & CO. Saw Mill Engineers, King's road, Chelsea, S.W.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE, No. 2½, Davies-street, Three Doors from Oxford-street. For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell hangers, and the Trade in general at wholesale prices. In connection with an old Established, No. 18, Blandford street, Manchester-square, running out of Baker-street, Portman-square, London, W.

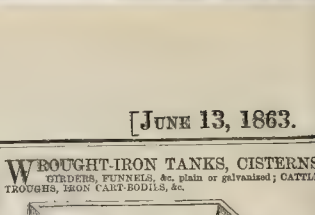
FOR SALE.—To ENGINEERS and CONTRACTORS.—A very good six horse power portable STEAM-ENGINE (by Messrs. TUXFORD). In good working condition. Also a Builder's MORTAR MILL. May be seen at the Works, New England, Peterborough-road, Fulham. Price, &c. apply at the Works, or to STEPHEN DAWSON, Contractor, Spalding.

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COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 193, Great Guildford-street, Borough, S.E. inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.

GENERAL IRON FOUNDERS, MERCHANTS, and PATTERN MAKERS.

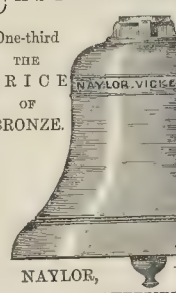


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S. WORSSAM & CO. beg to announce that they have purchased of Mons. Perin, of Paris, the exclusive right to SELL his celebrated BAND SAW BLADES (the superiority of which, wherever they are used in the United Kingdom, S. W. & Co. have always large assortments of these Saws at their Works, 3, KING'S-ROAD, CHELSEA, S.W., where also the Band Saw Machine exhibited by Mons Perin in the Western Annexe, International Exhibition, is now on sale.

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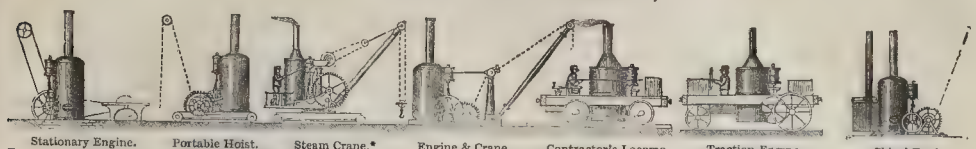
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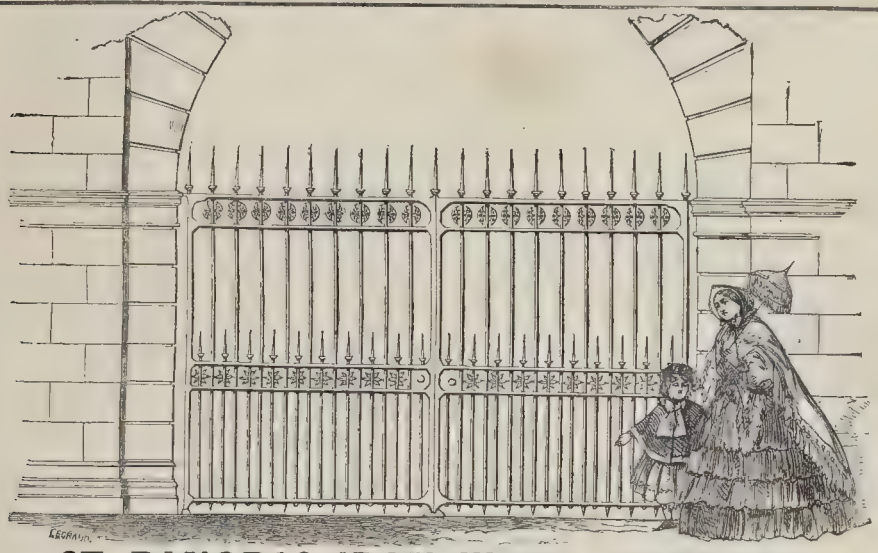
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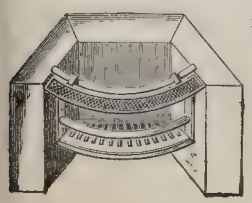
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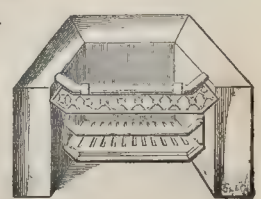
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FOR BED-ROOMS, COTTAGES, SERVANTS' OFFICES, BARRACKS, SCHOOL-ROOMS, WAREHOUSES, CHARITABLE INSTITUTIONS, &c.



			With Langing trivet.			
			£.	d.	£.	d.
18 inches wide, 10 inch bars			7	6	8	6
21	,,	12 ,,	10	6	12	0
24	,,	15 ,,	13	0	15	0
27	,,	18 ,,	16	0	18	0
30	,,	21 ,,	18	0	—	
36	,,	24 ,,	30	0		
38	,,	27 ,,	38	0	Extra strong.	
42	,,	30 ,,	42	0		

These Stoves give a considerable heat with a small consumption of coal.



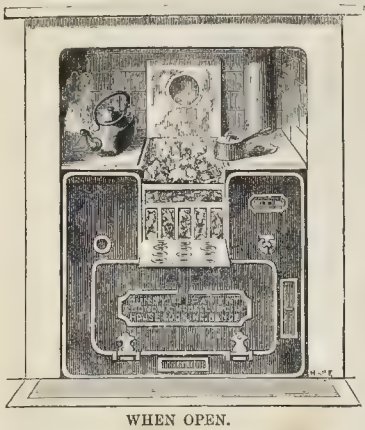
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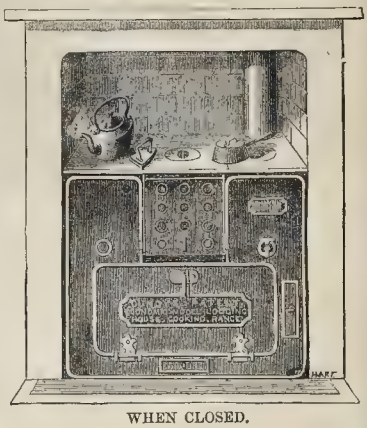
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CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of



WHEN CLOSED.

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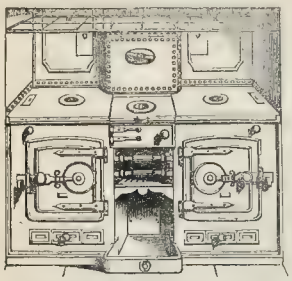
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They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*, Chimney-pieces, from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth-plates.

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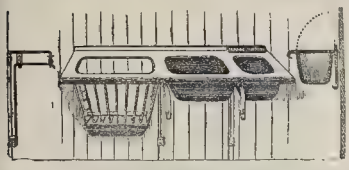
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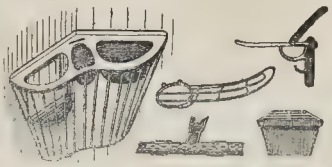


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PATENT KITCHEN RANGES.

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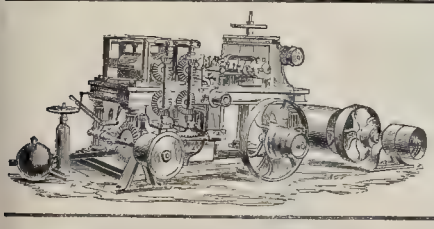
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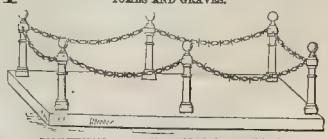
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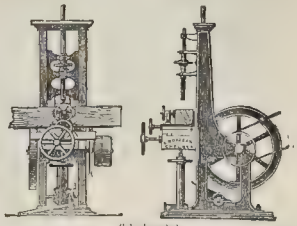
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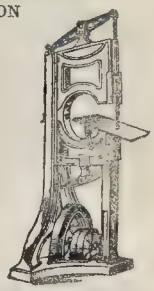


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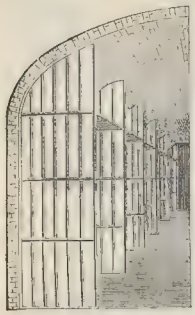
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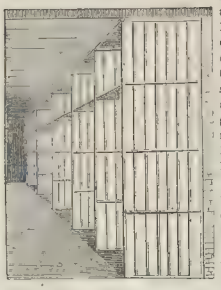
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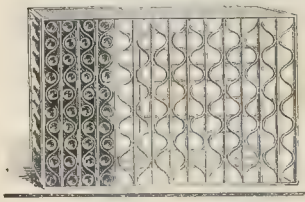
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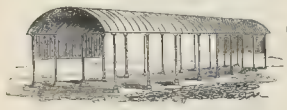
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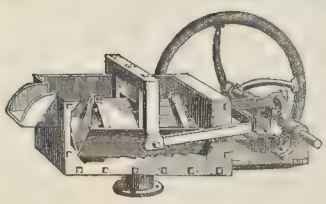
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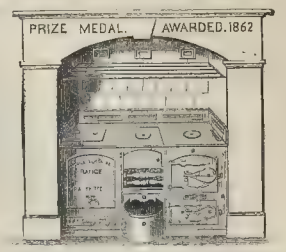


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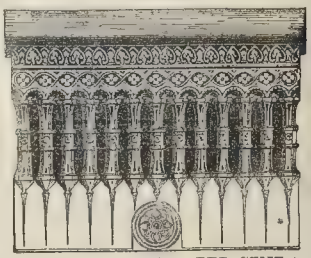
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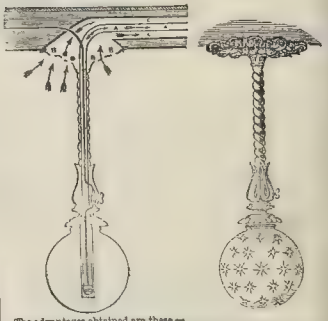
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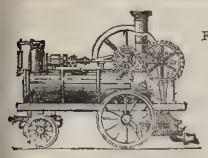
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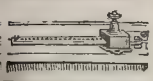
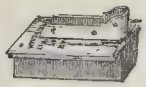


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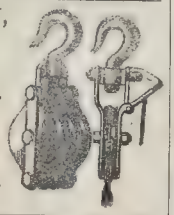
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VOL. XXI.—No. 1062.

The Architectural and Horticultural Decorations of Kensington Gardens.



IN our public parks and gardens we have nothing to show that can be compared with those of Versailles, the Tuileries, the Luxembourg, or even the Garden-Park of Brussels, if the adjuncts of statuary, fountains, and imposing architectural features are to be taken into consideration. Yet, in the lofty and luxuriant woods of Kensington, with the fresh green glades that extend far and wide beneath the shading branches of the noble trees, and in the spacious grandeur of the Broad Walk, we possess that which our foreign visitors allow to be unique as a metropolitan promenade.

At this season Kensington Gardens are in all their glory. The white and red hawthorns are covered as thickly with their bloom as in woods twenty miles away from the smoke of London; the double red and double white varieties being trees of goodly size; and they not only fill the scene with beauty, but at the same time scatter through the fresh spring air the fragrance of their exquisite perfume. Then there are the lofty horse-chestnuts, drawn up in the masses of the woods to a picturesque and lofty height, sprinkled, a week ago, to the very tops with their noble spikes of flowers that made them look like forest trees covered with the bloom of hyacinths. At this early season, too, all the foliage is still unsullied by those dusky hues which so quickly deaden the brightness of the various shades of young and tender green of the unlucky trees which expand their summer vestment in too close proximity to a vast aggregation of countless chimneys, whose copious outpourings of the dingy smoke of our coal fires make the summer brilliancy of London foliage so very brief. While, however, the foliage of Kensington Gardens retains its freshness, it is perhaps unrivalled, at all events unsurpassed, by that of any metropolitan promenade in Europe. But its chief beauties do not result from the works of the present generation, nor even from the care of recent management,—they are the consequence of the care and taste exercised by the artistic planters and distributors of the ground in the last century. It will not, therefore, be uninteresting to examine the present state of the gardens, with the view of ascertaining whether the most is now made of the inheritance that has come down to us.

As regards the architectural decorations, the first attempt in our day was the erection of the bridge over the Serpentine, some thirty or forty years ago, and this is still the best modern architectural feature in the gardens. It is simple in character, and its regular and undisturbed lines contrast pleasingly with the varied forms of the surrounding foliage. The almost unbroken lines of very simple architectural structures are always pleasing in contrast with the irregular forms of untrimmed woods, and the elliptic arches of this bridge, have, at the same time, a free and flowing air, which seems to harmonize more softly with water than the more cramped form of the semi-circular arch. The recent constructions at the head of the river are far less happy in their effect. They are too confused in their main outline, much over-ornamented and broken up in effect, and consequently do not offer a satisfactory contrast to the intricate outline of the surrounding foliage by the exhibition of simple and continuous lines. A little has been attempted in the way of statuary as a decorative feature in these last-named arrangements, but not felicitously. The unhappy Jenner, banished from Trafalgar-square, seems exercising a kind of forced presidency over some abortive attempt at a watercure, in a far from attractive manner; instead of which a few groups, not portraits, but of fanciful and poetic character, would have been far more in place. It is a site that might be fittingly enough decorated with statuary of the kind suggested, but is not a situation for the memorials of national worthies, either medical, military, or Mediæval. There are other parts of the gardens in which statuary either of a poetic or iconic character might be introduced with much better effect. Even good casts, in frost-proof cement, from some of the finest works of antiquity might be, if well placed, of great value as decorative features; but works, original works, from the chisels of living native artists would, of course, be far better. The site which lends itself with singular advantages to the introduction of statuary of a high class is the Old Broad Walk.

A series of statues on each side, at suitable distances, along the wide strip of turf in front of the open masses of trees, would produce a very noble effect; and the mere matter of cost is by no means an insuperable objection. In the line of this walk, too, opposite the palace, and between the walk and the round pond, is a proper site for a grand fountain. Not a little tazza, with a small squirt in the middle; nor yet, on a larger scale, a basin surrounded with a moulding, and having the squirt principle multiplied into several additional squirts; but a really fine work of art;—a composition in which the highest efforts of the sculptor and the architect should be blended, in a manner worthy of a national work. Instead of such an object, we have, in the present state of this part of the gardens, the view of an old brick house, by courtesy called a palace, which, as the American traveller said of the Roman ruins, is wretchedly out of repair. Even the grass plots in front of the building are only fenced in by some ragged privet hedges, full of gaps, which would be a disgrace to a third-rate tea-garden.

To this it may be added that a very squalid portion of the kitchen gardens of the establishment are in full view, where a straggling gardener or two may generally be seen at work, in covering or uncovering with worn-out tarpaulin, a very unregal range of cucumber frames. Turning away from these examples of the present mode of managing this beautiful national domain, and looking in an opposite direction, across the round pond, the spectator perceives a specimen of landscape gardening of the old grand school, which has come down to us in all its perfection of full growth, and all the beauty of ripe maturity; and only seems waiting to be turned to good account by the hand of an English Le Notre of the present day, if he is to be found. The three openings in the wood, which from this point are seen diverging from the wide space of green surrounding the pond, bear the true stamp of the high and large school of garden-art which produced the stately effects of the great gardens of Versailles, yet with the tone of far greater simplicity of treatment, and a wholesome feeling for more natural effect, which distinguished the English school of landscape gardening from the days of the Brownes to those of the Reptons; and this national peculiarity must not be lost sight of while seeking the introduction of suitable decoration. We must not have terraces of brick, and stone, and marble, and balustrades, and steps, and gravel, and pavement, and countless other features of the same class, to the exclusion of trees and turf, and flowers; but, the terrace, with its architectural dressings; and statuary, with its suitable accessories, must play a subordinated part to the existing features of the scene, in their present character, as specimens of nature reduced by art to certain regular forms, whether of mass or detail. The terrace-work, if any were introduced, should emanate from the grand architectural composition of the fountain, which should emphatically form its central object of any architectural dressing in this part of the gardens, as the plash of masses of falling water, would form a blending link with the natural features beyond. Statuary would find its proper place, alternating with noble vases of grand design along the old and new Broad Walks; and stone summer-houses, similar in style to the old one which still exists in tolerable repair in front of a mass of trees not far from the bridge, might be introduced as terminal objects to the great masses of wood which form the noble glades that radiate from the pond; but then they should be superior to the old model. Such an object is capable of great beauty.

The main enclosure of the gardens, especially that which separates their southern boundary from Hyde Park and the road to Rotten-row, ought also to receive artistic attention, and be made worthy of the most important and beautiful of our public promenades. The new gates on that side of the garden are well executed. But then there is a poor little hovel by way of a lodge actually in sight of this gate, and the old palisading forming a continuation to that on each side of the gates is wretched indeed, and quite unworthy of the situation.

The most successful piece of pure horticulture carried out under the recent management of the gardens is the new walk with plantation of trees, shrubs, and flowers, leading from the Kensington end of the Broad Walk to the Rotten-row entrance to the gardens. The walk is about 15 feet wide, and is formed of fine shingle, the light creamy tone of which is very agreeable; and when, in the bright morning sun, the shadows of the larger trees and shrubs cast a soft grey chequering across it, at intervals leaving irregular spaces of bright light between, the effect is very charming. A week ago (and perhaps still), the perfume of abundant wall-flowers, mingling with that of the hawthorn in full bloom, lent an additional charm to this beautiful walk, the borderings of which are in a thriving and healthy state. Promenaders are induced to linger long in this pleasant place, not only by the interest which the attached names of all the trees afford, but also by the exceedingly luxurious resting-place, in the form of handsome benches, the seats and backs of which are contrived in a leaning position, just at the angle which affords the most agreeable support. In speaking of the interest which the public evidently take in the attached names of the trees and shrubs, none of which are without their ticket, it should be remarked that there are several herbaceous plants in flower which at once attract attention, and which have no attached name at all. This is an omission which ought to be supplied. It may, however, be considered that, as the season has scarcely yet arrived for putting out the bedding plants and other border plants, the few herbaceous perennials now in flower may have tickets with names attached when the whole summer show of border flowers is exhibited.

So far the horticultural management may be said to be successful; but to other parts of the gardens the same remark cannot be applied. It is especially in situations which are favourite ones with the public that neglect and mismanagement seem to have occurred. The aspect of water, for

instance, is always attractive, especially when enlivened by the movement and striking plumage of various kinds of waterfowl; and it is, therefore, to the banks of the river that a large number of the promenaders in Kensington Gardens direct their steps. Yet here we find, instead of horticultural care, the utter wretchedness of squalid neglect. The south side of the water, from the bridge to the head of the river near to the Bayswater-road, which might be made the pleasantest part of the Gardens, is a mere scene of desolation. Some of the rhododendrons, it is true, are in a thriving state, and the aspect of a healthy bush of hardy rhododendron, merely as an evergreen shrub, without reference to its gorgeous blossom, is very pleasing; but only the perfectly hardy kinds are available for such a purpose. Yet in these plantations it would seem that some of the tenderest varieties have been tried, and the consequence is that they are in a dead or dying state, and produce a most wretched appearance. In most cases the dead plants remain, utterly destroying the agreeable aspect of the living ones; while in other cases they have either been removed, or have rotted away, leaving blanks almost as unsightly as the blackened skeletons just alluded to. The whole of the ground between the shrubs in the plantations has evidently not been dug, or even hoed and raked this season; and the wrecks of plants of last year's growth, decaying leaves, and a few rank weeds growing between, are sad evidences of neglect. It may be asserted that the aspect and general character of the situation is not favourable to flower culture, which one looks for in the front of these masses of shrubs; but the luxuriant growth of a few self-sown foxgloves show what a good effect might be obtained by the introduction of a few hardy herbaceous plants, if well selected with reference to the situation. Even if this were deemed impracticable, surely a little trim neatness might be managed without an over-exercise of ingenuity or outlay; but instead of this we find the reverse; and wherever the shrubberies cease and the green turf is allowed to extend to the water's edge, it is sadly broken up, and in a bad state.*

In addition to these defects, there is another in the management of this part of the Gardens, which arises from an impracticable attempt to establish a series of plant nurseries, for the general use of the parks, in this part of Kensington Gardens. Here we have, therefore, between the patches of neglected shrubberies (which might with more care be made very ornamental) small plantations of holly, privet, laurustinus, hawthorns, box, or pots of ivy—looking as miserable as it is possible to conceive—so miserable, that a nurseryman would at once cast them out, as worse than valueless, considering their aspect alone as detrimental to his credit as a cultivator. These hopeless attempts at creating stock plantations of young trees and shrubs at Kensington should be at once abandoned. The plants necessary for the continual renewals that must necessarily take place in metropolitan gardens should be reared in the purer air of Windsor or Hampton Court, where a few acres could easily be set apart for such a purpose, as well as for raising a succession stock of border flowers to keep the fronts of the shrubbery and the flower-beds continually fresh and gay throughout at least nine months of the year.

We have in Kensington Gardens not only a site, but also the great first elements of a public garden, in the shape of fine trees and beautiful turf, to enable us, under efficient management, to create the most beautiful public metropolitan garden in Europe; but at present, where nature and the original planting have done so much, the present management, and the available artistic talent of the day, have not done enough,—certainly not all that the public has a right to expect.

* Since this article was written, some geraniums have been planted here.

FOR ARCHITECTS AND SURVEYORS: ASTRONOMY.

MEMBERS of a profession or calling who aim at success through restricting themselves to study of what seems to relate only to the calling, must almost necessarily be narrow-minded men. They can never take high rank in professions enlisting, and requiring, exercise of mind. These have objects and aims that change with every fresh demand for services of the professor. The workman who has made pins' heads for the best years of his life, without thinking of another craft, will simply be thrown into starvation one day by the invention of a machine. But the architect, or follower of one of the so-called learned professions, must hold that there is *nothing foreign* to him; or scarcely can he be architect, or useful member of either of the "faculties." Practical architect, this day he is appealed to in some matter which presupposes his knowledge of the sciences,—geometry and mechanics, geology, chemistry, those relating to the motions of fluids, and others assumed to have been mastered as the foundation of his structural skill: artist-architect he should hardly be ignorant of optics, more than of the history of architecture and the examples. But, even yet, the sum stated of his requirements is not complete. No scheme of education issued from institute or college, concerns itself with, or could take in, the whole of that "liberal education" which is the office of the higher order of schools; and of which the theory may be described, scarcely with exaggeration, to be that of imparting, besides the primary education and the knowledge of languages, an acquaintance with the rudiments of everything. So much of this education as would enable the future man to "interest his heart in everything" that became the question of *experts*, or the topic of sections in an association or a congress, ought to be common in schools and colleges; yet, much as these have progressed since the period once spoken of by a nobleman who has been prime-minister of England, as the "pre-scientific age" in which he had been educated, we fear such modest standard has not been entirely reached.

The various branches of natural history, the laws of thought, the principles of political economy and monetary transactions, agriculture and the production of food and clothing, and the chief processes of manufactures, should have an entrance opened to a knowledge of them in early life. Each of these departments of information, he would be a bold man who would say it could not concern the professor of whatever calling, to be in the position to take up and pursue. We presume to say of one science, astronomy, of all, the grandest, that it is one which even the architect cannot creditably or wisely hold as foreign to him.

Suppose a being endowed with the utmost conceivable human powers of observation, thrown on this earth, what would be the first subject of his contemplation? The heavens. Conceive his powers to comprise the knowledge that it has been permitted to accumulate; and could there be an art, or anything belonging to nature in a single planet, that should mix with his admiration of the universe beyond, unless it be the creation of that mind which has been able to measure the distances and periods of time computed by astronomical science. To have elaborated proofs of the rotundity of the earth, of its magnitude, its rotation on its axis, and its motion round the sun, to have found means of determining longitude and latitude by observations of time and the heavenly bodies, to have accounted for the seasons and climates, and changes of day and night, to have measured every dimension of length or distance from the earth, a moving object, and to be able to predict the recurrence of phenomena, to a second of time: these are some of the achievements of a science which has had one great architect amongst its professors.

There is an eminent member of the Chancery bar, who was once heard to say that he did not know the use of astronomy. Perhaps he did not know of the "Nautical Almanack," the handbook of the seaman, which has to be compiled always some years in advance; or that it is by astronomical observations founded on the truths discovered by astronomers, that, as much as by the compass, voyages out of sight of land are made. But, sad would be the future, and wasteful the use of powers that have been consigned to man, should all research into Nature's laws be abandoned, except that of which the immediate utility could be proved. It might not all at once add to the happiness of humanity, to show that the earth's antiquity is not less than 100,000 years; and the world may have got on very well up to the time at which it was discovered there was a planet distant from the sun upwards of thirty times the 95 millions of miles which the earth is, and requiring 164½ years to complete the circle of its orbit. Science is not in a healthy condition unless pursued for the reward merely of satisfaction in the unfolding of truth, or unless the lesson of humility comes with the contrast between the ever-widening area and the human power that seeks to penetrate the unknown. As discipline for the mind in every sense, there is probably no study which can take higher rank than that of astronomy, founded as it is on precision of observation, and on that geometry which has been called the soul of our own art. The astronomical and architectural pursuits of Wren had, doubtless, a near relationship.

There is, however, one department of astronomy mingling with geography, which is important to the surveyor, and of which, therefore, the knowledge is something more than elegant accomplishment for the architect. This branch of science has been named, probably in Germany, and not quite satisfactorily, mathematical geography. It includes all that is ordinarily taught in schools as the use of globes, and something more, as for instance the different projections of the sphere used in the construction of maps. This entire subject is treated of in a small volume which is now before us.* The work originated in a want noticed by Mr. Laurie, of a compendium in the English tongue, distinct from the matter which might be found interwoven with the details of astronomical science in the works of some writers, as Herschel in his "Astronomy;" where, however, as allowed, the foundation of the subject has been expounded in a full and masterly manner—though chiefly for the use of the advanced student. Other writers, or most of them, says Mr. Laurie, had confined their attention to some department, as that of map-projections, without entering on the subject as a whole. A distinct work, in Germany, Brettner's "Mathematische Geographie," was found; and the first idea seems to have been that of a translation. Mr. Dick, however, who undertook the task, finding deficiencies in Brettner, merely adopted it as a basis for a new work in which he drew assistance from the best sources in English, French, and German. The result is certainly a valuable text-book or work of reference.

The author does not profess to have "popularized" the subject according to the current notion expressed by the term. Mr. Laurie urges, with truth, that though salient points may be presented in a form to save trouble, the reader may fall under the delusion that he knows the facts nearly as well as if he had undergone the trouble; and that the "method of procedure—unfortunately, not seldom adopted—seems to be admirably calculated both to enfeeble the intellectual powers, and also ultimately to destroy in earnest minds every particle of genuine interest in the subject."

Various matters explained are, preliminarily, the chief lines and points in the heavens, and the apparent movements of the sun, moon, and stars, and afterwards the several proofs of the earth's rotundity; the points, circles, and positions, on the celestial sphere, and those on the surface of the earth, with the method of determining the position of a star and the longitude and latitude of a place; the magnitude of the earth, and the mode of measuring an arc on the surface, and that of triangulating; the rotation of the earth on its axis, including the proofs derived from vibrations of a pendulum, and the eastward tendency of falling bodies; the motion of the earth round the sun, and amongst the proofs of it, one derived from the aberration of light, and another from analogy of the movements and phases of Venus; the elliptic form of the earth's orbit, and the laws of Kepler; and the phenomena resulting from the earth's form and motions. Chapters also are devoted to Refraction and Twilight, to the Moon, and to the Heavenly Bodies generally, and to descriptions of the Terrestrial Globe, and of maps and projections.

The numerous diagrams in the pages of the work, with only one or two exceptions, where letters of reference are omitted or misplaced,—as they are far too apt to be in popular scientific works,—are designed so as to be exceedingly serviceable to their object of explanation. Still, and with all the merit which the work has, it can scarcely be

* "A Compendium of Mathematical Geography: for the use of Students and Candidates for Public Examinations;" by A. H. Dick, M.A., Lecturer on Geography, Free Church Normal College, Glasgow; with a preface by J. S. Laurie. pp. xvi. & 238. London: Longman & Co., 1863.

deemed a substitute for the ordinary methods of instruction in the Use of the Globes, and for public lecturing, which so especially adapts itself to the work of instruction in astronomy. The book is one admirably fitted to lie next to such a manual as Keith's on the Use of the Globes; and it almost requires the globes to be at hand, as well as the aptitude in trigonometrical calculations which we would assume every architect to possess, in order that the matter which it contains may be followed and thoroughly understood. Greater prominence of the description of the artificial globe, aided by cuts, might have been given with good effect. But, as this Compendium is, the study of it by the class out of which our own readers are formed, may be richly rewarded.

Geography, according to Mr. Dick, is to be divided into three branches: mathematical, physical, and political. The first would treat "of the shape, size, and motions of the earth in space, and of the different phenomena resulting from these motions;" the second would regard "as its objects all the phenomena connected with the land, the sea, and the atmosphere;" whilst political geography would inquire "into the divisions of the earth's surface among men, and the constitutions, customs, and commercial relations of the states which these divisions form." Mathematical geography, therefore, as already shown, may be considered as a branch of astronomy; and we regard it as the especial merit of the present work, the having given to all who are like our friend the barrister, the opportunity of discovering that the observation of the heavens, and the determination of lines and points therein, are necessary to the understanding and description of the configuration and movements of the earth. The understanding is as necessary to the solution of problems of daily occurrence,—the phenomena of distant objects, and the difference of time by changes of longitude in travelling,—as it is to the surveyor or the navigator.

To determine exactly the position of a place, or object, requires the solution of three problems. These are:—1, to determine the direction of a meridian line, or plane of a great circle, crossed by the sun at noon: 2, to determine how far along that line, the place lies from the equator: 3, to determine how far, measuring along the equator, the meridian lies from the meridian of a certain other place. The meridian of the place may be found exactly with the aid of a telescope, a chronometer, and a sextant. With the sextant we note two moments, one before and the other after noon, when a star or the sun has the same altitude; the chronometer gives the interval of time, half of which is the moment of crossing. We can then determine the moment of crossing for the next day, and arrange a telescope, called a transit-instrument, so that at the instant next day, the star will be in the telescope-axis sweeping perpendicularly in the plane of the meridian. Having found the meridian, the latitude is determined by taking the sun's altitude when passing the meridian, deducing therefrom the zenith distance, finding the sun's declination or distance from the equator, on the day of observation (this is given in the Almanack), and taking for the latitude the sum or difference of these, according as the sun and the place or ship are on the same or different sides of the equator. The determination of the longitude resolves itself into the finding the difference of time between a place on the first meridian as that of Greenwich, and that of the place whose longitude is required, and allowing 15° to every hour, *eastward* if the time at the place be in advance of that at the first meridian, *westward* if it be behind.

To find the length of a degree of latitude in miles, in order to multiply it by 360, and get the circumference of the earth, we may find two places on the same meridian where a star stands one degree further from the zenith at one place than at the other, and measure the distance on the earth. But as the earth is flattened at the poles, the observation must be checked by others. The measurements along the earth can seldom be made, of any length, in one line; so that they have been made sometimes along several meridians, with junctions between the short lengths, at right angles; or the meridian line has been arrived at by triangulating about it from the datum of a short base line carefully measured at any suitable place, the height of the points of the triangles being reduced "to the horizon," and in cases where the sides of the triangles exceed fifteen miles, making a further correction for the sphericity, or rather ellipsoidity, of the earth, of which they partake. The States of the New World have adopted lines of latitude and longitude as their boundaries, rather than the lines of rivers or mountains. Surveyors in those states therefore, must be astronomers.

The understanding of the calendar, and not merely the knowledge of the period of, but of the reasons for, the change from Old to New Style, is not a matter without importance to the reader of the biography of architects, if not to the student of architectural history. Such knowledge may save him from some blunders. But into the explanation of this, and of the phenomena of the tides, and into that of the changes of the moon, we cannot enter more than by saying that there is given in each case explanation that may be valued by many of our readers; albeit in some of the matter amplification might have been usefully made.

The chapter on "Maps and Projections" will be found useful. A plane surface cannot be made truly to represent that of the earth, without foreshortening. Different methods or projections have been devised, to reduce the distortion as much as possible. These are enumerated by our author as five. The five are the orthographic, the stereographic, the globular or equidistant, the conical, and Mercator's projections.

The orthographic is as the name shows, the system of architects' drawings, and therefore is one that in the representation of a hemisphere, is almost useless as regards islands and continents which happen to fall near the edge of the circular space of representation. In plans of very small areas, such as are the chief business of the "surveyor," the distortions are not perceptible.

"In the stereographic projection," in the words of Mr. Dick, "the eye is supposed to be on the surface of one hemisphere, and looking inwards through the transparent globe to see the opposite hemisphere drawn, as it were, on an immense sheet of glass passing through the centre of the earth, just as we see the objects outside of a window apparently drawn upon the panes." In the stereographic projection, as contrasted with the orthographic, every circle or curve other than the meridional, or circle in the plane of the eye, becomes a circle or curve in the projection; and every spherical triangle on the surface, becomes a similar plane triangle. There is distortion, however, in the drawing of a hemisphere thus projected, parts at the circumference being magnified whilst those near the centre are diminished; but it is less than in the orthographic method, where the dimensions in the drawing are regularly lessened as the object is situated nearer and nearer to the circumference. Whether the projection be made on the plane of a meridian or that of the equator, the earth is taken to be a perfect sphere. In a stereographic projection of the sphere on the plane of the horizon of London, the eye is supposed to be placed at the antipodes of London, "and viewing the opposite hemisphere from within, in such a way that London occupies the centre of the field of view." Further explanation of this mode of projection would require to be given at some length, and with the aid of diagrams. Each of the methods ought to be within the knowledge of architects. But we may proceed to explain some of those which have been only named.

As already shown, the stereographic and orthographic projections, alike, do not represent equal spaces on the globe by equal spaces in the projection: the orthographic projection diminishes spaces as they approach the circumference, below their true proportions; the stereographic magnifies them. In the orthographic, as may be said, the eye is at such an infinite distance that the rays of vision are practically parallel; in the stereographic, it is supposed to be exactly on the circumference of the earth. Some station between these two positions of the eye has been sought, so that the projection would represent equal spaces on the globe by equal on the map. The object is *nearly* attained in a projection in which it is supposed that the eye is at a distance beyond the surface of the opposite hemisphere, "equal to the sine of 45 deg. on the circumference" of one of the great circles of the earth. "Such a projection is called the globular. In constructing it, those spaces on the plane which represent equal spaces on the globe are often made *exactly* equal to each other. In this case it is named the equidistant projection." In constructing a map of the eastern or western, or the northern or southern hemisphere, a circle is first turned; and diameters at right angles are drawn. The quadrants are divided each into nine equal parts, each part representing 10 deg. Each radius is also divided into nine equal parts. In the eastern or western hemispherical map, then, three points will be found given for the delineation of the parallels of latitude, the curves being segments of circles of which the centres are all on prolongations of the perpendicular meridional or central line. For the meridians right and left, segments are struck from centres which are on prolongations of the equatorial line, passing through the marked points on the radius, but cutting the circumference at two points, the poles. In the case of the northern, or southern, hemisphere, the parallels are struck as equidistant concentric circles, and the meridians are drawn as radii. The equidistant projection is that commonly employed in the construction of maps of the world. Its defect is that, although equal spaces on the globe are represented by equal spaces, and the proportionate *size* of different countries is preserved, still, lines, as the parallels and meridians which cross at right angles on the sphere, cross at different angles in the projection: therefore *shape* of the countries must be distorted. In the map of the northern or southern hemisphere, that is to say, the projection on the plane of the equator, the dimensions of countries near the equator are exaggerated in longitude.

In another system, the conical projection, a meridional line, as *datum*, is supposed passing tangentially to the sphere from a point above the pole; and, where it would touch, a circle on the sphere described by the revolution of the latter, is taken as the *datum*-parallel. In projecting the map of England, the meridian of 2° west longitude is chosen as a central meridian; and the 53rd parallel of latitude as the central parallel. The revolution of the globe, carrying the tangential line, would describe a hollow cone. If we suppose this opened out, the parallel-circle on the sphere will be represented by an arc of a circle in the developed cone. The parallels above and below, will however be larger on the cone than on the sphere, and the parts about them magnified. The difference however will be trifling when a narrow zone of the sphere is concerned. The middle, or *datum*-meridian is represented by a perpendicular line. To represent the middle parallel, which should pass through the middle of the map, we must find the length of a tangent to the sphere on the middle meridian; and from the centre describe the arc. From the same centre, we describe the arcs of the other parallels, only varying the distances according to the length of a degree; since degrees of latitude, owing to the flatness of the sphere at the poles, vary at different distances from the equator. To represent the meridians of longitude we measure on the parallels, distances which may be obtained from a table of the lengths of degrees of longitude in different latitudes, and trace the meridional arcs through the points so obtained. In this system of development there is but little distortion. What there is will be principally towards the edges of the map. On the globe, the meridians and parallels intersect at right angles. In the projection, the spaces may be regarded as the same as those on the globe; the lines do not cut at right angles, and the space is not a rectangle; but the angles differ but little from the right angle; and the spaces have nearly the same extent in proportion one to another as they have on the surface of the earth. In finding the parallels above and below the central, or *datum* parallel, trigonometrical tables may be employed. An adaptation of the conical method was invented by Delisle for a map of Russia. Here the side of the cone instead of being taken as a tangent, cuts off a small portion of the sphere, or intersects it in two places, each being exactly in the middle between the central and one of the extreme parallels. The errors are thus more distributed.

In Mercator's projection, the surface of the earth is supposed to be represented on that of a hollow cylinder circumscribing the sphere. If the surface of the globe divided into gores by the meridians, be supposed perfectly elastic, and each gore lifted up at the two ends and applied to the inner surface of the cylinder, and thus stretched at every point except the equator, and varyingly with the distance from the equator, we shall have taken one step towards a map on Mercator's system. Evidently thus far, the form of the different parts on the surface of the sphere must be changed. There is one way of preventing the change of form. This is by lengthening the distances between the parallels as they recede from the equator. Such a representation laid open, as if the cylinder were slit up along one of the meridians, constitutes a Mercator's chart. The chart is useless for the study of geography; but it is of great service to the navigator. The shortest distance between two points on the earth, is the arc of a great circle which joins them. But except on a meridian, or on the equator, it is impossible to sail along such an arc without constantly changing the direction of the vessel. The only great circle that makes always the same angle

with the meridians, is the equator; and to keep on any other great circle, the direction of the vessel would require to be constantly changed, or set to cross the meridians (which tend always north and south) at different angles. This is too difficult for most navigators. Some *one direction* is required, cutting the meridians always at the same angle. Such a line is called a rhumb line, or loxodromy; and it is only necessary to rule a straight line, to lay it down, on Mercator's chart. There is indeed some difference between sailing by the loxodromy and sailing on the arc of a great circle; and tables have been published to assist the latter method; but after all, the simpler method of navigation is generally preferred.

In map-drawing, there are different methods of representing relief with accuracy which is not attempted in ordinary maps. In contour-line maps, the differences of elevation are shown by lines, each of which joins parts that have the same level, the coast line being generally, if not always and of course, the lowest; and the lines being farthest apart where the country slopes gradually, and close where the slopes are steep. In shaded maps, lines are drawn from one contour curve to the other, all of the same thickness, and, says the work before us, "invariably separated from each other by one-fourth of the distance of the contours between which they are drawn;" so that the shade is darkest where the ground is steep, and faint where there is but a gentle slope. This method has been adopted in the Government maps of France and the United States. In the Saxon method, which is very generally used in Germany, there are no contour lines; the slopes are expressed by shading lines alone, whilst a level is left without shading. The direction of the lines is always that of the greatest slope. Ground with a slope of 45 degrees is all shade, or black, and for every difference of 5 degrees down to the perfect level, a change is made by the introduction of white. This portion of the work before us, or relating to maps, is one of those portions to which greater development might have been given. The English maps which accurately depict the features of countries and districts are few, very expensive, and not remarkable for accuracy. We should be glad to know of a sufficient account of the methods of representation used in foreign countries, as shown in maps which were in the Exhibition of last year.

As a book to be read in connexion with attendance on lectures, and with the working of problems on the globes, this Compendium which we have used as a text, must be considered as having great value; and as we have shown, it contains matter which is of importance to students of our particular profession.

LIVERPOOL EXCHANGE BUILDINGS COMPETITION.*

"LABOR et Honor" (26).—This design, to which one of the second prizes has been awarded, has a central tower and flanking towers surmounted with truncated domes. It is beyond the ken of man to conceive why this arrangement has been hit upon so often, for it cannot be considered either to possess great beauty in itself, any peculiar suitability to the site, or the slightest claim to utility. Given a form beautiful in itself, and ten to one nineteen out of twenty competitors would treat it in such a manner as to completely conceal that from which it derives its peculiar effect. We consider the arrangement of broken roofs, prominent towers, and consequent tall chimneys, from the verticality of the lines, the composition most fitted to destroy the repose, simple unity, and continuity of the quadrangular form. To judge of this we need but examine the present buildings, which, though really possessing no one beauty of detail or other merit than that of continuity, congruity, and simplicity, do not fail to please most minds. Many of the competitors seem to have forgotten that the Townhall will form one side of the quadrangle, and that the proposed buildings will be in a measure a continuation of Brown's Buildings and the Liverpool and London Chambers, and, consequently, in general outline should harmonize with them. It may be objected that this would tend to monotony, but it need not necessarily be so, for in able hands the details might be made to completely relieve it from that fault. The great merit of "Labor omnia vincit," apart from good drawing, is that it preserves the continuity of the present buildings, and would thoroughly harmonise with them without in the least copying their details or peculiar features.

In justice to the author of "Labor et Honor" we must say that where he fails it is in common with most of the competitors. The drawings are characterised by great mechanical neatness and finish. In the exterior there is, in conjunction with much *correctness*, a want of imagination and warmth, the treatment apparently being to take a window of one pattern and repeat it with little variation all round the building in that story. The plans are beautifully neat in execution. A circular tower occupies the north-west angle. The underwriters' room is situate in South Chapel-street. The corridors are central, lighted by well-holes. A side entrance to the Telegraph Office and Stock Exchange, as provided in many of the plans, would be a convenience not perhaps thought of by the author. The central passage is divided into two archways. The news-room takes the form of a Greek cross, and is surmounted by a central dome supported upon a flat ceiling and *beams* 60 *feet span*. Such an arrangement is both unstructural and inelegant, and we hope the merchants may be preserved from any such deformity. The plan generally is simple and good, excepting in the arrangement of the west wing, which seems hardly to have had the consideration devoted to it which its important character demands.

"Patavi et Computavi" (39).—By way of contrast we may be allowed next to allude to the designs bearing this motto. The whole bear the marks of hurried execution, and the author would have done himself more justice by leaving out the unfinished and roughly-executed exterior perspective. The news-room is in plan of the Greek cross type, but more developed than any of the others. Whether this would prove an advantage or not in point of utility we are not prepared to say; but the interior perspective shows a lofty and noble room, surmounted externally with a dome for ventilation. Though rather heavy-looking, we think this is due more to the *loaded* execution of the perspective than to its general form, but a little more elegant ornamentation would improve it. An absence of ornament and sculpture pervades the exterior, which might have been made much more attractive and effective by their introduction. The lower story is rusticated, and the first and second floors are united under one arcade spanning two window spaces. These arcades might have been treated in a more varied manner, but the author is aware of the value of a continuous horizontal line, as shown in a cornice of massive dimensions carried completely round the building.

"Res non Verba" (13).—This set of drawings is hung in a better place than it is entitled to, while "Au Bon Droit" (with a cross), a most elaborately got up and in many respects excellent design, is placed in the last room, with more than half the drawings face down on the table. The elevation of No. 13 has a poverty-stricken appearance, and the news-room is awkward in shape, while the general offices are arranged in separate blocks, and a number of small courts are studded over the plan. The author states that he has taken Brown's-buildings and the Liverpool and London Chambers as a guide; but, in our opinion, he has fallen very far short of either of those structures, whether we consider the plan or the exterior. The elevation is divided by a pilastered order on the first floor, which is lighted by small circular-headed windows; while the second story contains windows with the common type of pedimented heads, looking in places sadly too widely spaced apart. The central passage is shown two stories high,—an objectionable arrangement. The author recommends himself to favourable notice from the fact of having had very great experience in the arrangement and lighting (?) of offices; and states he is at present engaged in erecting a large block of them in Liverpool,—a piece of information which might with better taste have been left out; and we would recommend all architects who have the reputation of their profession at heart to abstain from such disclosures, which are unfair if intended to influence the committee, and if their design do not support their claim by exhibiting very high merit, is calculated to get them laughed at.

"Au Bon Droit" (with a cross), (38).—The author of this elaborate set of drawings has evidently undertaken them in a thorough and commendable spirit. The central tower with domed roof, surrounded with sculpture, after the manner of the Tuileries, forms the most prominent object in the external elevation. Perhaps a little less sculpture than is shown would have the effect of strengthening the outline, which has rather a ragged effect. Flanking towers have been avoided with good taste, while the elevation of the west wing to Rumford-street is decidedly handsome and effective, especially from the manner in which the portico, surmounting the entrances to the news-room is treated. A square and large tower, with Mansard roof, occupies the north-west angle,—a well-selected feature, judiciously placed. We do not object to Mansard roofs, if used with caution; but the injudicious sprinkling of them all over a design is to be condemned. In the present instance, it is unquestionable that it would be a fine ornament seen in perspective from Chapel-street, and, together with the dome, would relieve the monotony of that narrow street. The news-room is transeptal, with apsidal ends, and would, if it be faithfully represented in the interior view, possess grand proportions and tasteful decoration. The perspectives of the exterior, of which there are several, do not, to our mind, exhibit the design to as great an advantage as the geometrical elevations, the weakest point about the whole composition being again the window dressings. The details have been studied from every point of view, nor has apparently the consideration of any one point been neglected by the author, who deserves all praise for the thoroughness of his studies. A corridor surrounds the news-room on the first-floor, and the plan generally is a good one. The side elevations to Rumford-street, Exchange-street East, and flags, are, to our thinking, the cleverest in point of varied treatment.

"A Townsman" (32), "who hopes that the plans so presented may not be considered the less worthy because they *are* the work of a 'townsman.'"—The news-room, a parallelogram, occupies the whole south end of the west wing, and is lighted by windows from the surrounding streets. A side entrance from Chapel-street is provided, in which the present differs from most of the designs. The underwriters' room faces Rumford-street, but the author has forgotten the door. Two courts occupy the west wing to the north of the news-room, an arrangement objectionable from the offices between having to depend solely on borrowed light. The water-closets and lavatories are all situated in the top story, for which the tenants, we are inclined to think, would not be thankful. The composition, as in all of the French designs, again presents the inevitable flanking towers and central Mansard roofs; but, in this case, so broken as to carry the impress of a French château. The manner in which the perspective is etched in brown does not suit the style adopted being more adapted to the portrayal of a Gothic cottage. The interior perspective is by the same hand, showing a coved ceiling, supported by columns with foliated capitals and bracketed beams. The character of the detail and decoration of the walls, beams, and ceiling, though the Corinthian order is employed, approaches the Elizabethan manner more than that of any style we are acquainted with. To describe the exterior is unnecessary, as it cannot be distinguished by words from the other designs of the same class.

"Bursa" (5).—An elegant and originally designed central tower, and an Italian façade treated in a Gothic manner, possessing both breadth and solidity, combine to render this a pleasing, though not a grandiose design. The archway to central passage is cleverly treated, and avoids that dwarfed appearance so peculiarly destructive of architectural effect. The author can hardly have seen the site, or he would not have shown the dwarf palisading across the flags. The interior of the news-room would have a fine effect, being lighted with windows above a columnar arcade. An avoidance of pretentious effect, and a certain originality of detail convey to our mind a more pleasurable feeling than would a dozen Louis Quatorze picturesque groups of building. Architects forget while applying that and other French styles, the fact of the buildings erected about his reign being on an immense scale, occupying a vast area of ground, and consequently requiring a treatment more as groups than as connected blocks. The pediment under the low truncated roof of wings is an original and not an unsuccessful way of varying the horizontal monotony of a perfectly level crowning member, to see which in all its native ugliness we must refer to the design marked "Experiment." The corridors are central, a court occupies the east wing, and the arrangement of the plan appears generally convenient. The principal defect of the façade is the want of elevation above the attic window.

"Au Bon Droit" (with an anchor) (25).—This design the first prize of 1,000*l.* has been awarded. It contains a news-room, a parallelogram on plan, whose side, with six recesses, face flags, and contains in all 1,450 square yards. The entrance, in common with a good many others is only about 12 feet wide, quite inadequate either in appearance or proportion to the room it leads to. Three open courts give light in the

* See pp. 381, 399, *ante*.

same wing, two being brought down to light the offices and corridors on the ground-floor, the other terminating at the ceiling of the underwriters' room, which, in conjunction with side windows, it is intended to light. In the east wing two similar courts are shown, distinguishing this plan from the majority, which usually show a more concentrated arrangement of lighting area. The Telegraph-office faces Exchange-street East, and the stockbrokers' offices face the flags, the arrangement in this respect being peculiar, while the facilities and advantage afforded by a through passage in this wing are very evident. The author has evidently considered the undertaking in a commercial point of view, which he states in his particulars, and has succeeded in producing a very sensible plan. The underwriters' room is in the south-west angle, with a secretary's room adjoining. Columns divide the passage into Oldhall-street. The room for sales by auction is in the basement of the north-west angle, a good position for it from the levels of the ground falling that way. Some of the interior offices are likely to be dark. The oblique passage into Chapel-street is rather an eyesore. The interior of the news-room strikes us as being low; but the gallery above the retiring-rooms would prove a convenience, and from the arcade treatment internally would be far from unpleasing. Three domes light this room, the ceiling being coved and groined. On the exterior its position is not sufficiently marked, so important a room demanding a more distinctive treatment. There is a want of substance about the back elevation. The principal façade shows an arcaded basement, an order above with wide intercolumniation spaced for two windows, an entablature broken around each three-quarter column, in several instances supporting nothing but an inverted bracket, and the cornicione crowned with large dormers to light the attic.

"Three Circles" (30), presents rather a Belgian appearance, the central tower, lantern, and campanile, being well designed, original, and peculiar. The little domed roofs in the angle are, however, not worthy of admiration, and the exterior is, if anything, too formal. The street communications are well devised, the plan bearing the marks of careful study. The news-room is of the Greek cross type, with staircases for the offices in the angles. The corridors are widened out in places, and are lighted with well-holes. The dome of the reading-room is lighted with side windows, the proportions of the interior elegant, with sufficient length of pendentives to destroy the abrupt change from the square to the circle. It is one of the best proportioned and most elegant of its class.

"Suo Marte" (31).—A meagre design exteriorly, and possessing on plan the peculiarity of a circular underwriters' room, fitted into the shoulders of a transeptal news-room, with apsidal end, the interior of which does not recommend itself from the possession of any peculiar excellence or elegance. The window-dressings are of most common-place description, between panelled and widely-spaced pilasters. Some of the competitors really must have some spite against the good people of Liverpool from the desire they seem to evince to have a hand in ruining a good building.

"Colonnade" (40), as its title implies, has a colonnade along the principal façade in connexion with two entrances from Chapel-street and Tithebarn-street, not however returned in the wings: a sort of compromise between the present arcade and the offices required by the committee. The news-room is a parallelogram of good proportions, with underwriters' room in south-west angle. The drawings display a refined taste, but are two slightly executed to attract public attention in a competition; the author, though a tasteful draughtsman, having evidently not had time to do himself more justice. The elevations are perhaps wanting in marked character; but tasteful conceptions, which require close inspection, pervade the detail. The style may perhaps most fitly be described as French, treated in an Italian manner.

"Delta" (44), has awkwardly-shaped underwriters' room, and the oblique passage into Chapel-street still more objectionable, from the "kink" in it. A very tall campanile forms the central feature. The order employed is two stories high, with circular-headed windows or arcade between.

"Once More" (41).—A motto possessing a very deep meaning, for truly architects are seduced into competition, though previously unfortunate, by the treacherous determination to try "once more," and if still unfortunate to throw up competition for ever; but the ambitious soul requires many reverses before giving up. This is one of the few designs not carried the full height around the block. The main buildings are very high, containing five stories, while the north-west angle of wing is kept down considerably lower, behind which rises the news-room crowned with a pyramidal roof. The plan is arranged in distinct blocks of offices, for which "hoists" would be very necessary. The treatment of the façade is peculiar, having a flat pilaster carried up four stories; but broken by the floor lines and strings, and planted on it a smaller pilaster two stories high. The general appearance is flat, and we cannot congratulate the author on the design of the central circular campanile.

"Experiment" (42).—One that we hope may never be made again. The style adopted is described as "Greek," for which an action for libel might be sustained against the author with every prospect of success. The interior of the news-room, though very low, is, to a certain extent, a redeeming point. The "experiment," we presume, is the arcade, two columns in breadth, planted on the flags, and carried completely round the quadrangle; why returned on the south side, at present open, is not apparent.

"Agenda" (43).—The offices are arranged in distinct blocks. The mistake of supposing the Chapel-street and Tithebarn-street front the principal one, the author is alone in having committed.

"Lux" (36).—No less than fifteen distinct roofs and towers appear in the front elevation in the foreground, middle distance, and background. To describe this design would only be to repeat what we have said of twenty others, so we must remain content with remarking that the central piers supporting the dome of the news-room are very objectionable, from the space they occupy.

"Fiat Lux" (37).—An elaborate set of drawings, designed with one idea in view. The broken entablature of the east wing occupied with glass being a feature which would prove ruinous to the architectural character of any design. The Rumford-street elevation is recessed in the centre over the news-room entrance. The design possesses merit, but not originality.

"Harold" (34).—A combination of a monastery, cathedral, and college. Full of gables, breaks, and traceried windows, utterly unsuited to the purpose for which it has been designed. The news-room, externally and internally, appears like a collegiate chapel. The author complains that his assistant was taken ill three weeks previous to the time allowed for sending in the designs.

"Iota" (33).—A plainer version of "Harold."

"Speravi" (27).—Exterior of one order, three stories high, and old-fashioned Classic treatment.

"Spes et Patientia" (28) contains an irregular news-room, lighted by side windows. The angles, again, are *accentuated*, with Mansard roofs. The lower story has an arcade, evidently suggested by Brown's-buildings, but contains nothing demanding special attention.

"Utile Dulci" (29), would make an excellent block of Manchester warehouses, but is unfitted to the present occasion. Perhaps the most severely and depressingly monotonous of all the designs, the horizontal lines being quite overpowering.

"N.B." (24), contains a news-room, a parallelogram, lying east and west, not sufficiently high, and it is not quite evident from the drawings hung how it is proposed to light it. The elevation consists of lower story, order, and attic, bare in design. The elevation to Tithebarn-street is the best.

"Dandolo" (35).—The news-room is a mere screen of glass, which, however excellent it may be for a market or crystal palace, is unfitted to the present object. The plan is on the central corridor system. The building is crowned with truncated roofs.

In concluding our notice of the designs, we may say, while being animated by a desire to do strict justice to the competitors, who have generally devoted so much valuable time and labour to perfecting their designs, we cannot help acknowledging to a certain degree of disappointment at the result of the competition. We had hoped that so great an opportunity would have brought forward something possessing higher qualities than the premiated designs; the first of which, while being in every way a well-studied and practical plan, perhaps one of the most completely developed of the forty-four, we cannot place in the very first rank, even as a plan; nor do we consider that the greatest accommodation can be attained by the arrangement adopted; while, as an architectural composition, it is manifestly inferior to several of the designs we have mentioned. The plan certainly possesses the merit of combining some of the good points of several; but so many small open courts are, we think, objectionable; and the disposition of the news-room, by which the *main* entrance is in the centre of the flank, will not be conducive to grandeur, nor is it the best place to enter such a room. A vestibule of more spacious dimensions is a *sine qua non;* nor in any is this better managed than in "Labor Omnia vincit," which only requires more study to make it among—if not—the best of the plans. To see the necessity of greater accommodation for ingress and egress than is provided for in "Au Bon Droit" (with an anchor), we have only to point to the present, which, providing equal accommodation for a room not half the size, is still insufficient.

Respecting the cost of the several plans, we think that this point has been magnified into a bugbear. With an equal area of ground covered, an equal surface of walling, as there must necessarily be where the height and number of the stories have been fixed, barring the towers, there could not be such a difference in the cost but what might be surmounted by judicious modification.

Our notice has already extended beyond our limits; so with this we must conclude.

ON BUILDING MATERIALS AND THEIR ADAPTATION.

IN Mr. A. Allom's paper on this subject, read at the Architectural Association, as mentioned in our last, he observed that the diffuse nature of the subject rendered a satisfactory arrangement of a paper bearing upon it one of considerable difficulty. It seemed to him, from an examination of the remains of ancient buildings, that the practice of the arts of construction in early times must have been better understood than was generally supposed. The earliest records of works of construction were contained in the Holy Scriptures; and it was evident that the people who could construct such temples as those in Syria and Asia Minor must have had considerable knowledge of the art of building. Were it otherwise, such traces of the manners and customs of the ancients would not have remained to us. History showed that even in the earliest times, the builder was not restricted in the variety or quality of his materials, as there was Scripture authority for the fact that the country was full of goodly cities, and the houses full of all good things. The tomb of Rachel, which was 3,590 years old, might still be seen; and it was evident that the masons had not used cement in its construction. This absence of cement no doubt accounted for the utter extinction of form and shape in the remains of ancient buildings to be found in Palestine. The *débris* of those buildings might still be seen in the shape of immense stones, weighing many tons, which were scattered about in all directions, and utilized by the semi-barbarians who now inhabited the districts in which they were found. The walls of Jerusalem were built without cement: the joints were fairly worked; and a portion of the structure was what is now termed "rusticated." The stones were fitted close to each other, and clamped with lead or iron, as in the present day. The enormous magnitude of the works of the ancients showed the progress of civilization; but it also proved the existence of bondsmen, or of forced labour for the benefit of the great and wealthy. The remnants of monolithic erections in various parts of the East were, he thought, an evidence of a barbarous state of society, as they were neither the result of science nor art, but rather the attempts of human pride to construct enduring monuments of their own power; with what result, their shattered ruins and confused history mournfully testified. Referring to a period within the memory of living men, the reader commented upon the wonderful progress of mechanical art during the last half-century. Steam, as a motive power, had revolutionized the arts of construction; had increased the supply of building materials; had facilitated the mechanical process of labour; had cheapened all manufactured articles, and had extended advantages which formerly were attainable only by the rich to the poor: it had, in fact, transformed the pigmy into a giant. Referring next to foundations, and the importance of exercising the utmost care in respect to them, Mr. Allom referred to the concrete bridges in France, and also the bridge at Maidenhead. At the Kingston waterworks, he stated, the river-wall had failed in consequence of the alternate action of the rise and fall of the water. Cast-iron caissons and hollow cisterns filled with concrete, which might be termed monolithic columns, had now taken the place of heavy pieces of masonry. The new Hungerford Railway Bridge was a fine specimen of the

new system of bridge-building; but he suggested, with all due deference to the engineers, that the cylindrical columns might be much improved in appearance by having coloured or gilded lines introduced above the water-line. The use of similar columns, placed at equal distances, might be brought into requisition for the embankment of the Thames; and by that means the many places of business requiring water-carriage might be retained. Having called attention to new inventions with regard to foundations and the modes of avoiding damp, the reader next alluded to the present system of bringing stone to London in the block, and afterwards breaking it up and dressing it. Stone-bricks might, he thought, be made out of the *débris* of those stones, and at a price not exceeding that of ordinary bricks. Brickmaking was formerly more of a trade than an art, but great improvements had been made in it of late years, and bricks might now be obtained of any colour from pale straw to black. The use and abuse of coloured bricks was in itself a suggestive subject; and it seemed to him that the modern attempt to introduce a Victorian style in bricks showed neither a true knowledge of the use of the material nor a taste for art. Its application too often resulted in mere surface patterns, which, from their hideous form and inharmonious colouring, produced the most unpleasant effects. The introduction of iron as a staple of building material had to a great extent superseded the heavier portions of carpenter's work. Iron girders were now in general use instead of balks of timber; and, as far as bridge-building was concerned, there was no doubt that iron would in future take the place of all other materials. Having given some instances of the continued and successful application of stucco in private and public buildings, a medium which he said was daily gaining in favour, he called attention to a new material for temporary roofs, invented by Rigg & Co., which was composed of canvas covered with a water-proofing substance without vegetable oil as a basis; and, consequently, not liable to the desiccating action of the sun; so injurious to other descriptions of temporary coverings.

In conclusion, he stated that the practical and theoretical branches of the subject were so intimately connected that one was almost useless without the other. A student who merely devoted himself to the theoretical study of his profession would be entirely at the mercy of the builder and mechanic for the realization of his conceptions; and although he might have succeeded hitherto in deceiving his employers as to his practical acquirements; yet the time was coming when, thanks to the public examinations of architects lately inaugurated by the Institute, such a practitioner would soon be found out and cast into the shade.

But as regarded the practice and development of architecture as a fine art, he looked with dismay at the superior chances enjoyed by those who had solely devoted themselves to the study of the practical part of their profession: such a candidate for examination would, he feared, pass muster when the man of real artistic genius would go to the wall. The mere acquirement of the A B C of practical knowledge did not require an unusual amount of mental acumen, whilst the principles and practice of true art were studies that require a superior intellect, were a greater task, and would last a man his lifetime, and such as very, very few, if any, completely master. Unfortunately, the centralizing tendency of modern society was apt to unduly magnify the importance of a name; and thus we saw a few of our leading architects with such a constant accession of new works that it was physically impossible that they could individually devote that study and personal superintendence to their realization that the development of art required, or the interests of the public demanded. But fortunately for the younger men the demand for architecture on the part of the public was increasing so rapidly that it afforded occupation to many whose names had scarcely appeared at the surface, but who, no doubt, would eventually become well known and respected in their profession. He had always thought that to the Architectural Association was due a great share of the creditable advancement that had been made in the profession during the last fifteen years. It had been a school of art when there was no other, and how it had succeeded its rising members and talented students testified. It now only remained for them so to combine the practical with the theoretical that men of education and taste would honour them for their artistic abilities at the time that they felt implicit confidence in their knowledge of building materials and their application.

UNCOVERING THE MEMORIAL OF THE EXHIBITION OF 1851.

ON Tuesday, the Queen visited the Horticultural Society's Gardens, to inspect the Memorial of the 1851 Exhibition, a view of which we gave in our last, and was received by officers of the Society, the Memorial Executive Committee, and the sculptor, Mr. Durham. Her Majesty expressed, in unmistakable terms, her admiration of the monument.

On Wednesday, it was formally uncovered in the presence of the Prince and Princess of Wales, and the other members of the Royal Family; all the great officers of state, the foreign ambassadors, presidents of scientific and artistic societies, and fifteen or sixteen thousand other persons being present. The daily papers have fully described the proceedings. We supplement our notice of last week, with the address of the Memorial Executive Committee, which was read by a member of that body:—

May it please your Royal Highness,—In the year 1853 a meeting, convened by the Lord Mayor of London, Thomas Challis, Esq., M.P., and presided over by him, was held in the Mansion House, to consider the propriety of erecting some Memorial of the Great Exhibition of 1851, in connexion with a tribute of admiration to its great Founder, the Prince Consort, your Royal Highness's illustrious and lamented father. The propriety of the step was at once recognized; and it was resolved unanimously, as well by the country at large as by the meeting, that the Exhibition "was an event of the greatest importance to the nations of the world, by enabling them to observe the relative influence of science, art, and national characteristics upon production, by furnishing the means of a valuable review of the past, and by marking a new starting-point for the future progress of productive industry and giving it an increased stimulus." The meeting saw, too, with the wise author of the undertaking, that its tendency had been to promote useful intercourse between all peoples, and to induce in them feelings of goodwill towards each other. Money was accordingly subscribed for the erection of a Memorial, and active steps were taken to obtain a place for the intended Monument on the site of the Exhibition in Hyde Park. Artists of all countries were invited to submit drawings and models in competition; and ultimately, out of nearly fifty, the design sent in by Mr. Joseph Durham was selected.

The endeavours to procure a site in the park having failed, we, the Executive Committee, who had met with difficulties that might not have been anticipated, sought the aid of the Prince Consort. This was at once freely accorded on the condition, characteristic of His Royal Highness's noble self denial, that the Memorial should be in no way personal, but one to which he could himself subscribe. The Royal Horticultural Society granted the fine site before which we now stand, on land belonging to the Royal Commissioners for the Great Exhibition, and therefore appropriate, the Commissioners themselves concurring in the grant; and from that time till the very last, His Royal Highness continued to give consideration and personal assistance of inestimable value in completing and carrying out the project. Guided by his cultivated judgment, and aided by an increase of the funds, the design was enlarged and improved to its present form; and the last public act of the Prince in London was the approval of the statue of Her Most Gracious Majesty the Queen, then intended to surmount the Memorial.

A letter from your Royal Highness, after the painful event that had plunged the nation into grief, conveying the will of the Queen that instead of her Majesty's statue that of her beloved husband should crown the Memorial, and offering on your Royal Highness's own part to present the statue proposed to be thus placed—a letter which touched the heart of the country—enabled us to carry out the original desire of the subscribers, which was, emphatically, to offer a public and lasting tribute in connexion with the Great Exhibition of 1851 to the good Prince—"to whose far-seeing and comprehensive philanthropy" (as now recorded on the face of the Memorial) "its first conception was due, and to whose clear judgment and untiring exertions in directing its execution the world is indebted for its unprecedented success."

We take the liberty of expressing our great satisfaction with the admirable manner in which Mr. Durham has executed the commission confided to him. He has produced a work that we believe to be honourable alike to himself and to the country; and we trust this feeling will be generally shared in, especially by those eminent persons who assisted in the Great Exhibition, and whose names he has consequently recorded on enduring granite.

In concluding this brief account of our proceedings, we tender most grateful thanks to the Queen for the interest her Majesty has been pleased to show in the progress of this work, and the all-important assistance thus rendered us in our self-imposed labour. And we pray heartily and devoutly that Almighty God may, in His goodness, long preserve her Majesty's life—a life most precious to her loyal and loving people.

It only remains for us to acknowledge most respectfully the anxious readiness with which you, Sir, accompanied by the illustrious Princess whom all the kingdom welcomes with open heart, and by your Royal Brothers and Sisters, have graciously taken part in the proceedings of to-day. We offer in the name of the subscribers our earnest thanks, and we solicit that your Royal Highness will now be pleased to command the uncovering of the Memorial."

The Prince read clearly this reply:—

"I have listened with an interest which I am sure will be shared by all present to the details which you have given in connexion with the Memorial to my lamented and revered father, and which we are assembled this day to inaugurate.

As a son, I cannot but be deeply affected by that part of your address in which you have referred to the beloved parent whose aid and counsel were never wanting where work was to be done, or where difficulties were to be overcome. I am confident that our proceedings in commemorating so proud a year in England's annals would have met with his approval; and I am sustained in the part which, in obedience to the Queen's commands, I have undertaken, by a conviction and grateful sense that the sympathy of the entire nation accompanies me.

I have now the pleasure of directing that this Memorial, of which the artist may well be proud, be uncovered."

The whole of the proceedings passed off satisfactorily. The effect of the crowded gardens, as seen from the balcony in which the addresses were read, was charming.

We desire to add to the particulars given in our last, that in the architectural portion of the Memorial Professor Smirke, R.A., co-operated with the sculptor, to the great advantage of the monument.

GUILDHALL ON THE 8TH OF JUNE.

IN the regretted absence of Mr. Bunning, the City architect, through ill-health, the corporation placed the decoration of the Guildhall and surrounding apartments, to fit them for the ball given in honour of the Prince and Princess of Wales, in the well-tried hands of Mr. Crace, who set himself to bring out by means of colour and gilding the main architectural features of the structure, and succeeded in producing a very effective and striking interior. We offer him our congratulations on the result.

The panels of the tracery which form the ornamentation of the walls are filled with decorative work, introducing the arms of the Lord Mayors of the City of London from the time of Fitz Alwyn, in the year 1190, upwards. The columns are brought into prominence by diapered work in gold and colour; and from them spring temporary arched principals of canvas and plaster; which, however, does not prevent the roof from being the least satisfactory portion of the whole. Round the top cornice are ranged banners of the various livery companies, the Royal arms, and arms of various cities in the kingdom, so as to carry up the colouring of the walls below towards the roof. At the eastern end of the hall is a raised daïs, upon which is a cloth of estate, bearing the arms of the Prince and Princess, with their united initials, and the badge of England, Scotland, and Ireland. On the tracery of the walls at this end are placed the arms of the sovereigns of England, as well as the arms of foreign sovereigns who have partaken of the hospitality of the city of London. At the western end of the hall is erected the orchestra; the front formed with looking-glasses, with drapery, and with suits of armour, and plants ranged in front of the glasses.

We may state, with regard to the principals, that these were manufactured by Messrs. Jackson, of Rathbone-place, from the designs of Mr. Crace, and executed in a fortnight. The reception-hall, which fills the space of Guildhall-yard, consists of two floors; that above being laid as a supper-room; the whole having been erected from the designs of Mr. Allen, the principal assistant in the City architect's office. The decorations of this room included the series of tapestries belonging to Mr. Attenbury, mentioned by us some time since.

The gold casket to contain the freedom of the City, presented to the Prince on the occasion, was manufactured by Mr. J. W. Benson, and seemed to be, from the distance at which we saw it, a work of great merit. It is decorated with blue enamel, and the ornaments are of Cinque-cento character. The outline and general effect are good.

THE DUBLIN EXHIBITION PALACE AND WINTER GARDEN.

THE foundation-stone of the Dublin Exhibition Palace, of which we published a view and plan some short time since, was to be laid by the Lord Lieutenant of Ireland on the 12th instant; and although the contracts for the works are not yet finally decided upon, the excavations for the foundations are being proceeded with vigorously.

The tender of Messrs. Beardwood & Son, of Dublin, in conjunction with Messrs. Rankin, of Liverpool, has been accepted.

The architect, it will be remembered, is Mr. Alfred Jones.

The company's surveyor, Mr. H. S. Snell, gives us the following statistics, which will enable our readers to judge of the extent of the works:—

The total weight of iron used will be upwards of 1,100 tons; consisting of 950 tons of cast iron, 150 tons of wrought iron, and about 20 tons of bolts, washers, screws, and other small parts. The total number of pieces in the above ironwork is nearly 46,000; viz., 9,700 castings, 9,200 pieces of wrought iron, 22,000 bolts, and 5,000 screws. The glass in the sides and roofs would cover an area of 2¼ acres, and the flooring area is 3½ acres.

The accepted tender for the concert-halls, complete, is stated to be a fraction over 2d. per foot cube.

BUILDERS' BENEVOLENT INSTITUTION.

A GENERAL MEETING of the subscribers to the above charitable institution was held at the London Tavern on the 28th ult., for the purpose of electing three pensioners. Mr. Henry Lee, president, occupied the chair.

Among the gentlemen present were Mr. G. Plucknett, treasurer; Messrs. Joseph Bird, W. Hutcheons, R. Watts, sen., W. Phillips, Richard and Geo. Head, R. Richardson, W. Nicholson, T. Cozens, J. Thorn, T. Stirling, J. Williams, W. Harrap, W. C. Anderson, G. Burge, G. Dines, G. Spencer Smith, &c. On the election of the three candidates on this occasion, there is a total number of forty-five pensioners on the funds.

At the close of the poll Mr. Thorn, one of the scrutineers, read over the list, when it was found the following were the successful candidates:—

Thomas Hammond, aged 81; William Taylor, of Southampton, aged 76; Mary Ann Chirnside, of Cleveland-street, Fitzroy-square, aged 68, widow of Henry Chirnside, late pensioner on the funds of the Institution.

The Chairman, in announcing the return of the successful candidates, said he regretted that, out of a list of ten, who were all equally deserving, their funds only permitted them to elect three; and that nothing would have given him greater pleasure than for all to have been returned. He, however, would inform those who had that day met with disappointment, that there would be another election in November next, when some of the number would be returned. He concluded by urging the recommendation of the charitable principles of the Institution on their friends and wealthy members of the trade.

Mr. Plucknett moved a vote of thanks to the chairman for his presence and conduct in the chair. He said that, during that gentleman's presidency, through his personal interest, the funds had exceeded those of any previous year.

Mr. J. Bird having seconded the proposition, it was unanimously carried.

Complimentary votes were then passed to the scrutineers, Messrs. Thorn, Cozens, Stirling, and other officers.

JAPANESE ORNAMENT.*

IN this, our third article upon Japanese ornament, we purpose considering speaking or symbolic forms, and accounting for those peculiarities of the style which result from known causes.

Ornamental styles have arisen which have had no further object than that of pleasing. Others have concerned themselves especially with appealing to the faith or wants of the persons addressed by it. There are symbolic styles of ornament, and styles which are wholly æsthetic in character.

Greek ornament, for instance, was made up of forms created and arranged only with the hope of their beauty delighting those who beheld them. Mediæval ornament consisted largely of forms of a speaking character. The trefoil was not merely employed in this latter style on account of its graceful contour, but as an emblem of the Holy Trinity. Cruciform ornaments were not made because they were peculiarly pleasing, but as symbols of the cross of Christ and of the crucifixion. Even flowers were used as ornaments, because holy persons fancied they set forth Christian actions. Thus Mediæval art, being symbolic, addressed the understanding, and Greek ornament, being æsthetic, addressed the taste. Japanese ornament is in part symbolic, and in part of an æsthetic character. Certain forms are intended merely to please by their beauty, while others are to become cherished on account of their significance. The sacred bean (*Nelumbium speciosum*), is a symbolic element of Japanese and Chinese ornament; but what it signifies we have not fully discovered.

Some light is thrown upon it by a series of objects shown by Remi Schmit & Co., in the late International Exhibition. These were seven in number, and appeared at first sight to have no purpose,—they appeared as so many mere ornaments. This, however, was not the case. Their number would of itself indicate that they had a use, and this their structure tends to confirm. The chief member of each was the sacred bean. This flower was wrought in relief, and was enamelled in the manner of the Claissonné vases. In treatment it was simple and natural, yet the most perfect form of the lily was chosen for the flower, and all deformities were carefully disregarded. The lily was about 3 inches in diameter, and the entire object about 10 inches in height. The flower rested on a brass stalk about 5 inches in length. This rose from a basal mass, on which were wrought waves indicating the water from which the flower naturally springs. At each side of the stalk of the flower, and resting on the base, are ornamental members; but these do not appear important in the composition. Throughout the parts already described these objects were all very similar, but each differed. On the centre of the lily flower rested, in one case, the anthemion ornament, of which we spoke in our first paper, in one of its richest varieties; on another rested a curious fret; on another a canopy fringed by curtains; and in no two was this terminal ornament alike.

A cup formed of a portion of a human skull, massively set in gold (the skull was said to be that of Confucius), was, perhaps, the object of chief attraction in the Chinese Court of the late Exhibition. Upon the gold margin of this cup the same ornaments occur that rise from the lilies of which we have been speaking. The cup has been said to be sacred. The presence of these forms upon it would tend to confirm this opinion, as the lily ornaments are associated with religious rights. There are seven lilies, one for each day of the week. Each seems to speak of a religious duty to be performed. It is much like telling of the sun's day, the moon's day, Tuisco's or Mars's day, and of the claims of each day of the week. These objects are associated with religion. It is in religion that symbolism always has its rise.

The sacred bean is much used in the ornamental compositions of the Japanese and Chinese; but it is a speaking form. Wherever it occurs it speaks. It is to the Japanese and Chinese as fully a speaking form as the trefoil ever was to us, even though St. Patrick taught the doctrine of the Trinity by it.

In Japanese ornament there are many symbolic forms, and many compositions which express the faith of the people. We constantly find the dragon in Japanese and Chinese ornament, either grasping a ball in a paw, or seizing at or disgorging a sphere. Such compositions present to us an eclipse or a lightning storm, as understood by the nations who produce them. Lightning issues from a thunder-bolt when crushed by the fierce grasp of a dragon. An eclipse takes place when a dragon swallows the sun; and the luminary again shines when disgorged. This is the faith of the Chinese and Japanese. Every dragon which we see squeezing the thunderbolt, or in contest with the sun, is an expression of the faith of its producers. While speaking of subjects expressed in forms of a more or less ornamental character, we may notice what such expression involves.

In order to the representation of the thunderstorm there must be a dragon, and a ball, and lightning flashes; and with these clouds are usually associated. The ball would easily be rendered, and the production of lightning flashes would involve the expenditure of no great skill. Clouds, however, are difficult to treat, and artpower of the highest order may find scope for its exercise in the production of a spirited dragon. Lightning is generally represented by both the Chinese and Japanese, as irregularly-waved elongated bifurcated members, with attenuated points. Clouds are variously treated, and much skill is manifested by some of their conventional forms. They are usually bounded by curves terminating at their ends in small volutes, and are of irregular forms (fig. 1). In Japan they frequently occur in the Mediæval cusped shape also (fig. 2); indeed, the coincidence between the clouds of the two ages is so complete, that it would be in some cases impossible to discover, from the form merely, in which they originated. Fig. 3 shows the moon borne upon clouds.

Clouds are skilfully treated and beautifully rendered in Japanese art. In the production of a dragon there is much room for the exercise of fancy. A fabulous creature may have any form. Usually the dragon is represented as a kind of reptile, a species of lizard or alligator. None but a believer in dragons could draw these ideal beasts with the power and energy with which we often see them portrayed in the works of China and Japan. The fierceness of the monster, who in his wrath squeezeth forth the lightning, must be felt to be set forth with power. As given by either nation it is always full of life. And usually there is as much ferocity or even agony given in the form as there is life. No nation ever has had the power of producing monsters so full of energy and life as the dragons of Japan and China. The delineation of these subjects demands a conventional treatment of clouds, lightning, and the dragon, in the production of which the art of which we write is peculiarly successful. There are many speaking forms employed in Japanese ornament, but there is great difficulty in discovering precisely what they express. Contradictory statements are made respecting their utterance: hence we content ourselves with the illustrations of symbolism which we have already given. Japanese art is in part symbolic and in part æsthetic.

The student of Japanese art cannot fail to observe small ornamental devices on many objects. Small circular compositions, squares formed into groups, and solitary rosettes, occur on many of the best lacquered articles. And these frequently appear as independent ornaments amidst the branches of a plant, or dispersed between the parts of loose and continuous scrollwork. Considered in an ornamental point of view, these often give to the ornament a fragmentary character. Their nature, however, explains their object. They are crests.

Japanese crests are usually more simple than our own. They often consist of a familiar object, as a fan, but more frequently of some ornamental device. One before us, as we write, consists of four wedge-shaped leaves, with three-lobed points radiating from a centre (fig. 4); another of a circle, in which is contained a flower formed of three bilobate petals (fig. 5); another of four small squares with boundary lines broader than the space they enclose—the four squares being arranged into one larger square; another is a fan, the web of which is a mere broad band of the form of an arc: no corrugations or plats are indicated on it; another consists of a trefoil leaf with serrated margins, similar to that of the common strawberry-plant, and three small heads of flowers. The three points of the leaf are directed downwards, and the heads of flower rise from behind. The flower heads are not those of the strawberry plant. Another is a dragon coiled, as though in great agony, into a circle. Another is shown in fig. 6. These are crests which we have met with on many articles—on wall-papers, boxes, mirror-stands, metallic mirrors, writing-cases, and other objects to which art is applied. Many of the small and disconnected objects on Japanese articles are crests, and the purpose of those which are not may yet be understood.

Circular compositions have great favour with the Japanese. We observed an earthen bowl in the late Exhibition decorated entirely with circular arrangements of flowers. A friend copied about fifteen of these groups, and these were not all. No two were alike. On many saucers, cups, and other articles of Chinaware there were two or three of these circular arrangements. A tray was decorated with three such ornaments, one of which is given in fig. 7. About half the Japanese wall-paper which we have seen have circular patterns upon them (fig. 8). Circular compositions are more common with the Japanese than groups of any other form. This seems to be accounted for by most crests being circular. A loyal subject may possibly use upon his walls the crest of the prince whom he serves; but of this we cannot speak with certainty. The poor in all countries seem to imitate what the more wealthy do. Crinoline is no sooner worn by the rich than the poor also procure it, or a cheap substitute for it. If ladies of the first rank wear dresses decorated with stripes, women of the lower ranks will wear stripes also. It has been rightly said, that whether monkeys are degraded men or not, this is certain—that men are inveterate apes. The lower always ape the higher.

This tendency of the human mind to imitate would account for the prevalence of circular ornaments in Japan. If the upper classes of society have their articles studded over with circular crests, the lower grades will either copy the forms used by the higher, or produce similar ornaments. They will cover their articles with circular flower groups, or arrangements of animals, or conventional forms. Circular ornaments they will have for the upper classes have them. As the upper classes place these crests upon articles of common domestic use, and upon their walls, we find the circular ornaments of the lower classes upon all kinds of objects.

This seems to us a probable explanation of the frequent occurrence of these circular ornaments, but it may not be correct. It is only surmise on our part, and may consequently be very far from truth. The Japanese may have a strong partiality for groups of this character, and these groups may have no further object than that of gratifying the taste. The crests, however, are generally circular.

What we have said is sufficient to guide us in forming a tolerably correct idea of the nature of Japanese ornament, and a reasonable opinion of works in the Japanese style. By a correct knowledge of art, we can say whether works

* See pp. 308, 364, *ante*.

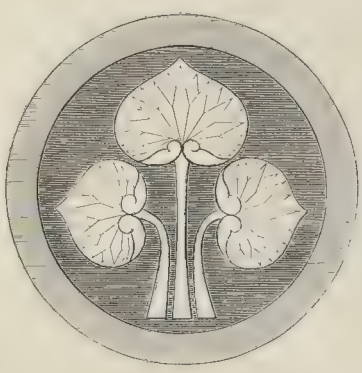


FIG. 6.

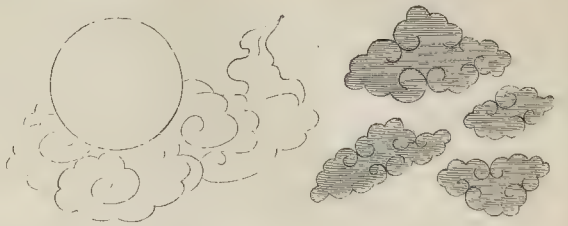


FIG. 3. FIG. 1.



FIG. 2.



FIG. 7.



FIG. 8.

JAPANESE ORNAMENTATION.

in the style offered to our notice are true, or whether they falsely represent the style they set forth. The use of ornament which belongs to another age is never desirable; and the use of ornament belonging to a people of foreign faith should never be adopted. That mode of expression by words which had currency even in the court five hundred years back, would now be considered low and inelegant by people of the middle classes of society. We have advanced during the last five hundred years, in our language at least. We should have correspondingly progressed in our arts, but we have not. Yet the art of the Middle Ages is not appropriate to us. It might be modified, it may be, to answer our present purpose, as the language has been. So might the ornament of other nations; but as they stand, no style of ornament which has expressed the faith, or satisfied the requirements, of people with a different faith and dissimilar wants to our own, is appropriate to us.

Rather than copy ornamental forms, we should extract the good from all styles, and appropriate it to our purposes. We should borrow principles rather than forms. The sacred bean does not address our understanding: it is no more to us than any other flower: hence for us to use Japanese ornament, as it stands, would not be desirable. But if we use it we should employ its noblest qualities, and select from it those forms which are of an æsthetic rather than a symbolic character. We certainly should, in all cases, avoid the mean features of a style, and employ those only which are exalted. These considerations of Japanese ornament will aid us in selecting the true art qualities from the Japanese,

FIG. 4.





FIG. 5.

if we must follow the fashions of the French, and produce designs in the style of a worthy character. While we cannot approve of copying the ornaments of any style, we yet think that more real art is to be found in Japan than in many countries whose ornament we largely use; hence, if we cannot produce original decorations, and must copy others, we may, with advantage, study and appropriate Japanese ornaments.

STREET ARCHITECTURE, LEEDS.

AUCTION ROOMS, EAST PARADE.

THE building of which we give a view is in the course of erection for Messrs. Hepper & Sons, close to the Town Hall and near the railway station, under the direction of Mr. George Corson, architect. The basement comprises dining-room and porters' room, under the offices; furniture store-room, under the auction-room; and covered yard, with access from Park Cross-street. There are no rooms over the yard or the auction-room; over the offices there is one large room for estate sales.

The front is entirely of stone, from Harehills quarries; the wall-stones are boasted; the dressings rubbed, with bands of red sandstone to arches and under the gables. The shafts to the porch and ground-floor windows are of polished red granite; those to the windows of the estate-room and stairs are of serpentine.

The porch, which is semi-circular on plan, will remain open during the day, and be closed at night by shutters folding and sliding into recesses on each side.



ARCHITECTURE OF THE PROVINCES: AUCTION ROOMS, LEEDS.—MR. GEORGE CORSON, ARCHITECT.

ON THE ART COLLECTIONS AT SOUTH KENSINGTON, CONSIDERED IN REFERENCE TO ARCHITECTURE.*

I FEEL that I am yet only on the threshold of my subject. I had intended to have taken a chronological method as the most convenient; that is, going from century to century, to pass rapidly in review the different classes and modes of art to which each age and country gave rise, at least as they are illustrated by actual monuments in the Museum; but it is obvious we have only time for a few disconnected examples. Now the Museum is very rich in Byzantine or Romanesque art, in my opinion a most original and interesting phase,—one, moreover to be studied rather in decorative utensils and objects of a portable nature, than in great buildings, which, in the lapse of so many centuries, have nearly all perished or lost their original character. The first great awakening of art in Europe took place in Germany, under the successors of Charlemagne; and the second Otho, by his family connexion with the Byzantine court, introduced all manner of skilled craftsmen from the East, whose varied and ingenious technical processes took root and speedily bore more excellent fruit than in the East itself. Western Europe was then preparing to take that great stride onwards, which speedily led it to dominate over the East alike in arts and arms. The great old city of Cologne was, as I believe, thenceforth, perhaps for at least two centuries, the prime centre of art in Europe: thence proceeded those noble works in metal, such as the seven-branched candelabra, the so-called trees of Milan, Brunswick, Essen in Westphalia, Hildersheim, Prague, and I fear I must class our own Gloucester candlestick as a work of this school, though I would fain believe it to be of English origin. I know, for instance, nothing of any age superior either in design or technical execution to that stupenduous work, the "Albero" of Milan Cathedral, a production unquestionably of German art. Now, here under my hand are several objects of great interest of this period.

The beautiful Champlevé enamels we have already alluded to are of prior origin, and of much higher merit than the better known and more abundant ones of Limoges. Our Museum affords numerous examples of both. Then, again, what a mine of varied instruction is presented by the numerous monuments in carved ivory—the croziers, book-cover plaques, diptychs, the mosaics, nielli, and book illuminations of this fertile period. In all these branches the Museum affords characteristic specimens.

At this early time, moreover, textile art had arrived at singular perfection, and I cannot but allude to an important collection of specimens in this class, which the Museum has recently acquired,—I mean the extraordinary gathering of ancient fabrics, and articles of costume formed by that distinguished archæologist, Dr. Franz Bock, canon of Aix-la-Chapelle. I am happy to announce that the Museum has acquired upwards of one hundred specimens from that collection; and I trust the remainder of the series, making in all about 450 pieces, will ultimately be secured. I have hung around some few examples, but by no means the most important, for the bulk of the specimens are not yet ready for exhibition.

Now, this collection alone is a treasure of flat ornamentation of the most admirable and diversified kind. From the sixth or seventh century downwards, there is a complete series of the most exquisitely beautiful textile fabrics ever produced,—chiefly the splendid tissues of Byzantium, the costliest products of the looms of Cologne, of Bruges, Venice, and Palermo. This collection in its entirety is, and will, doubtless, ever remain unique and unapproached in importance. Not a few of the specimens, for instance, have been the shrouds and rich pontificals of ancient ecclesiastics rescued from the tomb; others the envelopes of relics; many, indeed, relics themselves, having been the known vestments of sainted ecclesiastics, preserved from generation to generation in their own churches and monasteries.

Now our English Mediævalists are beginning to take note of textile art as within their province. Here, then, is a boon to them; but I need scarcely say that, for all art in which colour and geometrical or flat ornament is concerned, for wall-diapers, painted glass, &c., the truly beautiful stuffs of the Middle Ages, dwarfing into insignificance as they certainly do, all our modern products, are an indispensable source of study.

We now come to that great era of art which I may, perhaps, for want of a better title, still be allowed to call the Gothic system or style. I do not employ the term "*Christian Art*" simply on account of its too great comprehensiveness; though it is here, in a certain sense, very properly applied, inasmuch as we have now a new and perfectly original art-system, in which Pagan antiquity had absolutely no share, and to which it was radically and essentially antagonistic. I shall not occupy your time with æsthetical or historical speculations as to the origin of this Gothic architecture. It was the spontaneous and genuine expression of a peculiar state of society in Western Europe. Chivalry, the feudal system, and the ardent unquestioning faith, stimulated by romantic mysticism, of the Roman Catholic Church, produced, in fact, in the thirteenth and fourteenth centuries, an art so wonderfully complete and original, so rich and varied, and yet so inflexible in its leading principles and forms, that it seems impossible either to take from or add to it. It seems to me, indeed, that the greatest tribute we can pay to this system is to avow that we must be content with a humble and loving imitation of it, or its entire abandonment.

The Museum is very rich in works of this great phase of art. We may commonly class works of the Mediæval Gothic period under two heads, namely,—Ecclesiastical, and Secular or Domestic. Generally speaking, from obvious causes, objects in the latter class are the more rare. There are, nevertheless, to be found many most interesting and suggestive works of Domestic origin. I may specify the numerous and diversified series of coffrets or caskets in every possible decorative material, iron, brass, wood, ivory, leather, &c., carved, painted, embossed, chiselled: every variety of manipulation with the hammer and file, the graving-tool, or the gouge, may be here seen; each instrument fashioning its appropriate material into forms of beauty; differing as widely as possible in their decorative expression or styles one from another; modified again by the different modes of view of the respective nations of Mediæval Europe. Here we may note French Gothic, differing with an infinity of shades of variation from the neighbouring Flemish and German contemporary versions;—England, again, displaying its own beautiful peculiarities; and Italy and Spain, southern lands where the Gothic never fairly struck root, nevertheless offering us occasionally motives of admirable originality and beauty. Then let us take into consideration the goldsmiths' or metal-workers' craft. Here are splendid altar-crosses, reliquaries, monstrances, chalices, &c., in rich array; drinking-cups, salt-cellars, mazer-bowls; and in the more robust art of the blacksmith,—what an admirable series of locks, handles, hinges, knockers, coffers, &c., does this collection offer for the direct practical study of the architect and designer for industrial art! How completely in this phase of art, for instance, may we study the natural and consistent, and, therefore, most artistic treatment of wrought as opposed to cast metal? How completely may we note that the hammer and the file have, as it were, a language of their own, whilst, at the same time, we never see this language misapplied?

In wood and ivory carving the Museum also possesses fine works of Gothic art; and here, again, their use to the architect and the art-workman is often direct; but I must dwell no longer on this style. We will pass to the next great phase—the Renaissance—the Quattro-cento and Cinque-cento of the Italians, and, as I suppose, I ought to say, the Elizabethan of our own country; though this last designation, applying, as it does, only to one particular period, by no means adequately responds to the foreign terms which, from the poverty of our English art nomenclature, we are obliged to make use of. We are now coming nearer to our own times; and naturally we have a greater abundance and variety of art-monuments than of the earlier epochs. The diversity of styles, generic, national, or local and individual, not less than the vast variety of modes and processes, now renders it hopeless even to attempt any general review of the specimens in this extensive category; and, as our time is so limited, I shall select for notice one or two classes of works only, which seem to bear upon matters of special interest at the present moment.

My own predilections are strongly in favour of Italian art of that truly wonderful epoch the fifteenth century; and I agree with, as I think, the majority of writers and connoisseurs, that the so-styled Fine Arts—Painting, Sculpture, and Architecture,—at the close of the fifteenth and beginning of the sixteenth century, attained *in Italy*, to a crisis or pitch of perfection, beyond which, speaking in a general manner, it was impossible to carry them, and at which level they could not be permanently maintained. Our eloquent President, if I recollect rightly, in his opening address, somewhat discountenanced the idea of crisis or culminating points in art; nevertheless, I am almost tempted to adopt the notion, that there is some occult law of development for society, or the world at large, analogous to that of the growth and decay of individuals: that the world of art, at all events, does in reality pass through repeating cycles, as it were, of youthful progress, manly perfection, and the decrepitude of age; and that, for instance, ancient art attained to its culminating point in the age of Phidias and Praxiteles, and then for many centuries gradually declined; the sacred flame of art at last waning to the feeblest glimmer in the dark night of universal barbarism, so having reached the lowest point; then again there was a slow but certain revival, till at last it grew again to a second sun-like blaze, in the full light of which stand out the giant forms of Donatello, Brunelleschi, Michelangelo, Raffaelle, &c. Have we passed the lowest point of decline since this? or are we again, with fluctuating intervals of apparent revival, slowly moving in a downward path? I would fain believe that we are again marching onwards in a fresh career, and that the next great dwelling-place of art will be in this our own England. But, I am digressing when there is no time to lose. It is now not a little difficult to choose amongst the mass of treasures in this division of our collection.

The Italian sculptures, I need scarcely say, offer examples of exceeding value to architects. Some of them, such as the marble singing-gallery of Santa Maria Novella, are, indeed, in themselves, complete architectural monuments, practically illustrating numerous points in the application of decorative sculpture on set architectural forms. Moreover, a careful consideration of other specimens, which at first sight might appear to have no direct bearing upon architecture, will, I think, well repay the student: most instructive facts and suggestions may, indeed, often be gleaned from figures or *relievi* viewed as detached specimens, even when there is no certain record of the monuments they originally adorned;—for instance, in the works of that truly great artist, Donatello: and here I am happy to say, that no other museum, not even that of Florence itself, can boast such a series of original works of Donatello and his scholars as this. What wonderful power there is here displayed of dealing with the principles of *relievo!* Sometimes, for instance, we may see apparently the most harsh and abrupt forms in high relief, disagreeable and even repulsive in themselves, assuming the most beautiful and consistent aspects when placed in their proper light, or considered with reference to the part they were destined to subserve in a general architectural composition; and, on the other hand, modes of *relievo* so refined and delicate, so very low or flat, as to be almost as it were like painting on marble; and in this manner we may see the most crowded and elaborate subjects most distinctly and strikingly rendered, and yet with a repose and tranquility of aspect of itself most beautiful. And this, perhaps, when the work was intended to adorn some plain wall space, enlivening it with richly-storied sculpture, without interfering with its obvious stability and breadth of effect. Here occurs to me a striking and most original instance of this mode of treatment; and I cannot forbear to specify it, both because it is almost unknown and also from its remarkable suggestiveness. I instance that most noble and original Italian Renaissance church San Francisco at Rimini, where the entire surface of the marble interior walls of one side of the nave, with its chapels, are covered with sculptures, apparently carved in the mass of the walls after their erection, and not laid on or encrusted,—quite, in fact, on the principle of the ancient Egyptian and Assyrian wall-sculptures. Nothing in Italian art ever struck me as more beautiful or more generally remarkable than the grand figures of saints and angels, of almost colossal proportions, filling the vast wall-spaces of this church; and I could not fail to note the skilful manner in which the degree or style of relief was varied in every part, to suit the light which illumined its particular position.

These noble sculptures are believed to be mainly the work of Luca della Robbia; and here the mention of this great artist brings me to the consideration of an art which is believed to have owed its origin to him; which has a particular interest for us at the present time, now that efforts are being made to revive it; and of which the Museum possesses a complete and unrivalled series of specimens;—I mean the works in glazed or enamelled terra cotta, generally known as

* By Mr. C. J. Robinson, F.S.A. See p. 401, *ante*.

Della Robbia Ware. But first let me apologise for having dwelt at such disproportionate length on the matters already passed in review.

I find I must give up the idea of taking into consideration many special branches of art, in many respects as important as those we have touched upon: the objects in the various categories of mosaics, marqueterie or intarsiatura work, wood-carving, in innumerable applications, especially as here illustrated in the fine series of Italian carved furniture; the cassoni, chairs, cabinets, &c.; then again the works in metal, of iron and monumental bronze, illustrations of the various processes of *repoussé* work, chiselling, damascene work, niello, &c., painted glass and enamels; processes and productions, in short, without number. I can but allude to them in order to dismiss them from our consideration; and in doing so I am conscious that my lecture to-night has been but an irregular and spasmodic attempt to grasp a subject too vast to be treated within such limits. In conclusion, then, I will ask your permission to dwell for a very brief space on the subject of Italian ceramic wares; and in particular on those enamelled terra cottas, as one which has for many years specially engaged my attention. Our collection of Majolica and Della Robbia wares is undoubtedly the most important in existence. I do not separate the two classes of productions, because they are in fact only different manifestations of the same art. We have, indeed, a most important and unique series of works painted on the flat, in the manner of Majolica plates, by Luca della Robbia himself: I allude to the twelve large circular medallions from the Campana collection, representing impersonations of the twelve months, and which there is little doubt were portions of the famous ceiling of the writing-cabinet of Cosmo de' Medici, particularly mentioned by Vasari. My travelled hearers will here, doubtless, be reminded of the bacili or circular painted plates let into the walls and campaniles of so many ancient Italian churches. Now, what an admirable suggestion does this adaptation of ceramic art alone offer to us? In what a variety of ways might we decorate not only exterior façades, but also the ceilings and interior walls of our buildings with enamel-painted pottery and terra-cotta *relievi!*

Amongst the Majolica wares, what beautiful types both in design and execution may we not find for decoration of this kind: take note of the splendid lustred plates, which might now be so readily and so cheaply reproduced: what magnificent effects might not the curved surfaces of such brilliant wares, concave or convex as the case might be, be made to produce, gleaming in the rays of the sun, like diamonds, rubies, and emeralds. Why should we not have rich architecture jewelled, as it were, with such novel ornaments? And then, considering the Della Robbia Ware proper, what a field is there here! Why should not details of every kind be executed in this durable material,—doorways, pilasters, friezes, decorative medallions, &c., to any extent? The incrustation of precious marbles, which we see in Italy; the panels of porphyry, serpentine, &c.; might be imitated, or rather superseded by the still more brilliant coloured surfaces of enamelled earthenwares.

Not that the improved technical processes at the command of the modern potter have as yet carried enamelled terra-cotta work further than of old: the technical perfection of the Della Robbia wares, indeed, is not their least remarkable characteristic: let me point to the huge medallion, 11 feet in diameter, so conspicuous an object in the north court of the Museum, displaying the arms and devices of King René, of Anjou, within a noble border of fruit and foliage: this magnificent specimen, doubtless, from the hand of Luca himself, till within the last few years, had remained in its original position on the exterior of a villa, in the neighbourhood of Florence, ever since the period of its execution,—at least four hundred years; and except where it has been wilfully or accidentally damaged, it is literally as perfect as the day it was made; and the climate of Florence is, I believe, quite as inimical to the preservation of such works as that of England: the extremes of heat and cold are, indeed, much greater than in this country. But our modern English Della Robbia wares as yet do not give promise of such absolute durability.

Our practical potters, in fact, should come and study the works of Della Robbia in our Museum, technically and scientifically, just as architects and art-workmen should take them into consideration from the point of view of art.

We should note, for instance, what exquisite and appropriate qualities of glaze, texture of surface, and colour these old wares present; so different from the glaring whiteness and crude glossy enamels of their modern imitators. In the original specimens the white glaze is subdued to a beautiful creamy grey tint, in order that it should not contrast too vividly with the surrounding stonework of the wall in which it was to be inserted: all the other colours, moreover, especially the blue, are broken and subdued in like manner; and for the same reason the enamel glaze is mat rather than too bright, the white having all the full rich texture of marble, which it was designed to imitate. Fine specimens of Della Robbia ware, in short, are models of ceramic excellence, as much superior to their modern imitators in technical respects as they are as works of art.

The true secret of this excellence is that the great Florentine artist knew exactly what he wanted; he knew the precise qualities he wished to produce; whereas our modern imitators, both here and abroad, are floundering about for want of his refined judgment and intelligence in art, and not because they are unable to master technical difficulties.

I must now bring my lecture to a close: from what I have said it will, I hope, be gathered that I also, in the appropriate and suggestive words of your President, am an advocate for "a free and scholarly art,"—for a proper use of the glorious legacy of the past; and I feel that we are on safe ground in commending to all, both lay and professional men, the objects and efforts of a society like the Architectural Museum—inasmuch as the aim and efforts of that institution are alike definite and practical; its action and the spirit which animates its energetic supporters, moreover, eminently healthy; a spirit especially characteristic of this free country, and scarcely possible elsewhere.

In endeavouring to illustrate the bearing which the more extensive and important Art-Collection of the State has on your special object, Architecture,—though I have made no allusion to the admirable collections of the Architectural Museum also housed within these walls,—I have by no means been insensible to the fact, that this collection created, and mainly sustained, as it has been, by individual or private zeal and devotion to the cause of art-education, is by no means the least useful feature of the great assemblage of monuments of art which have already made South Kensington one of the chief art-centres of the world.

METEOROLOGY IN CONNEXION WITH HEALTH.

A CAREFUL record is kept by a department of the Manchester and Salford Sanitary Association with reference to the climate of that great town and the surrounding neighbourhood.

At present, even in Manchester, the means of obtaining reports as to the atmosphere and the effect upon health, are but limited; for there are but few observers who possess standard instruments; it is to be hoped that, as time rolls on, there will be an improvement in this respect. From the observations which have been already made it is shown that, during the winter of the year 1861-2, the large amount of radiation in the suburban districts caused a great diminution of temperature in those districts; and we have, consequently, a lower temperature in the suburbs than in the centre of cities during winter. The great consumption of fuel in large cities like Manchester tends, to some extent, to increase the effect just alluded to.

In the summer half of the year the dense atmosphere of Manchester prevents the solar rays acting with their full force; and, consequently, we have a lower temperature in the centre of Manchester than in the suburbs. The mean weekly and diurnal ranges of temperature are also much less in the city than in the suburbs, owing to the same cause. There are other details to which we need not now particularly refer.

At a time when only three ozonometers were placed at three stations, it was observed that ozone could not be detected in the centre of Manchester. At Old Trafford it occurs, often in large quantities, with the wind from S.E., S.S.W., W., and N.W.; but none with the wind in any other direction. It is also rarely found when the temperature is excessively low, unless it is accompanied by a strong wind from one of the points above named. At Thelwall it appears to exist with the wind from all points of the compass, especially if the air is warm and moist. At Ollerenshaw ozone exists in large quantities when scarcely any can be detected at the other stations. It also occurs in very large quantities with easterly winds.

The following are notes of the effects of the atmosphere on some diseases:—As regards measles, in 1860, and the first part of the year 1861, this complaint in Manchester was not prevalent, and fluctuated considerably, and did not show any increase or diminution with the changes of temperature; but in the autumn of 1861, as soon as the temperature began to fall, measles rapidly increased, and continued to do so until the close of the year: 66 per cent. of its fluctuations rise and fall inversely as the degree of temperature, thus strengthening the opinion expressed by the Meteorological Sub-Committee of the Sanitary Association, that measles are materially affected by changes of temperature, increasing generally with its fall. We believe that the same will be found to be the case in connexion with typhus and other fevers; and we have often expressed an opinion that this is to a considerable extent caused by closing windows and other apertures in the crowded houses of the poor. On the approach of cold weather the matter should be investigated more carefully than has yet been done. We believe that it is wrong to attribute fevers especially to the summer heat.

Whooping cough began to rise suddenly in the week ending January 12th, after the severe cold of Christmas, 1860. From that time it increased steadily in Manchester, pursuing its course apparently unaffected by changes of temperature, until it reached the extreme height of fifty-six new cases in the week ending November 23, 1861.

Bronchitis and catarrh, influenza and pneumonia, are included under one head, and their course shows the influence of low temperature in predisposing to these affections.

The disease sank to its lowest point (100 cases) on July 27th, and was again very low on August 31st, when the temperature began to diminish decidedly after having been high for eleven weeks.

The record of the committee shows that diarrhœa and dysentery are materially affected by the summer heat: influence was produced on those disorders by a temperature of more than 60 degrees. When the temperature first rises above 60 degrees, a great impulse is given to this disease; and it is when the temperature remains long above this point that a great number of cases of diarrhœa may be expected. In the week ending July 6th, the temperature fell below 60 degrees, and the disease seemed to be checked for a time; but in the week ending July 20th, when the temperature again rose above 60 degrees, it spread rapidly and continued very high until September 1st, when the temperature was again lower.

By the co-operation of Dr. R. D. Thompson, of London, the Manchester Meteorology Committee have been enabled to compare some conditions of Marylebone with those of the last-named town.* We find that in 1861 the death rate of Marylebone was 24 per 1,000, as compared with 31 per 1,000 in Manchester. Notwithstanding the difference of the death rate, there is in proportion to the population a larger amount of sickness reported in Marylebone than in Manchester. Is this to be explained by the greater facilities which exist in London of obtaining hospital and other gratuitous relief?

For the first few months,—from September, 1860, to November, 1861, inclusive,—the diseases of the zymotic class, as small-pox, chicken-pox, measles, scarlatina, and whooping-cough, were much more prevalent in St. Marylebone than in Manchester; and chicken-pox and scarlatina remained so during the whole period. Small-pox, although very low throughout this period, began to prevail most in Manchester; and, in the autumn of 1861, the measles and whooping-cough rose considerably over the rate of London.

Diarrhœa was throughout the period more prevalent in London than in Manchester, and rose to 1,900 new cases in August,—nearly four times the number that were noted in Manchester; but bronchitis and catarrh, erysipelas and dysentery, constantly prevailed much more in Manchester than in London.

All these differences in the prevalence of various diseases at the two places,—if they should continue to appear in future years,—would point to most interesting subjects for future inquiry;—for instance, the influence on disease, not only of climate, drainage, &c., but also of occupations and trades, and of the various impurities in the atmosphere of these cities. It is only by the careful collection of facts, and by the comparison of the health and sanitary conditions of various places,

* The record of cases includes those occurring in Manchester; those occurring in Marylebone, in the pauper, charitable, and public institutions; and those in London in ten charitable institutions.

that we shall be able to arrive at the true effect of various agencies upon man. We trust that the day is not far distant when we shall have sanitary societies firmly established in each of the metropolitan districts, and in the towns and even villages throughout the land. The local good which would result from this would be immense; for besides the active operations of those societies, they would have great power in obliging the authorities to perform their duties; and the facilities which might thus be afforded for comparing facts would be most valuable.

FROM ROME.

AT the last meeting of the Archæologic Academy Signor Grifi, an *employé* in the Ministry of Public Works, read an interesting paper on the statue of Augustus found at Prima Porta, in the ruins of Livia's Villa, called "ad gallinus albas" (from the circumstance of a bird having fallen into the empress's lap, with an olive-branch in its beak). He assumed the age of the subject represented, forty-six (to us the head seemed younger), and that the naked feet were one indication of apotheosis, as seen in other likenesses of Augustus deified. Dwelling on the elaborate reliefs of the cuirass, he conjectured that the Aurora in her chariot was allusive to the fact of Augustus's birth at dawn of day; the other figures to his victories, Actium, Sicily, Spain, Dalmatia. This statue's height (strangely reported by a Roman journal at 11 feet) is only 10 palms; and it is announced that the Government decides to purchase it for 8,000, or, according to other reports, only 6,000 scudi. The last discovery among the same ruins is a spacious chamber underground, with walls and roof perfect, adorned by painting, tints still vivid, of arabesque character in design, flowers, fruit, birds, &c., pleasingly treated. At Ostia have been found the ruins of a temple to Sylvanus.

Mr. Gibson has just finished his very graceful statue of a dancing-girl, suggested by a study of Cerito's movements on the stage. Mr. Spence is executing, and has nearly ready, for Mr. John Grant Morris, of Liverpool, a statue of Flora Macdonald, the heroine of the Stuart cause, celebrated in the story of the Pretender in Scotland; here represented in sorrow after the young prince's departure; seated, mournful and pensive in aspect; the face one of classic beauty overshadowed by grief, but calm; the attitude well expressing the mood of mind. This is the fourth nationally Scottish subject the artist has treated—Highland Mary, Jeanie Deans, the Lady of the Lake, preceding—and all eminently successful.

THE JEWRY WALL, LEICESTER.

AT a recent meeting of the Leicestershire Architectural Society, Mr. Henry Goddard communicated the following paper on the wall:—

"Excavations having been made in front of the Jewry-wall to ascertain its depth and the extent of its foundation, I felt desirous of examining, measuring, and making a correct drawing of the structure. I have done so, and have pleasure in exhibiting the drawing for the inspection of the committee of the Leicestershire Architectural and Archæological Society, with an elevation and section of the wall, and the dimensions of the details.

The wall consists of four arches, with a niche between the two central arches. The present level of the passage between the wall and the church has been considerably raised above the level originally existing in the Roman period. Hence, the piers which sustain the arches or barrel roofs sink below the pavement 7 feet 6 inches. At this depth a line of loose concrete is met with, 14 to 18 inches thick, which probably lay immediately beneath the Roman road or pavement.

The excavation and piers continued downwards below the level about 11 feet. This fact showed that the piers and barrel roofs did not project beyond the face of the wall seen in the recesses more than 4 feet 6 inches; the piers having a perpendicular face of Roman tiles and stone of regular masonry down to the lowest foundations.

The projection of the piers being only 4 feet 6 inches, and the latter showing no connexion with any building in an easterly direction—that is, towards the church of St. Nicholas,—I cannot suppose the fabric to have been a temple, as some antiquaries conjecture it to have been: in my opinion it was the western entrance to the ancient city, having two gateways; and I am the more fortified in this opinion by the remembrance that some years ago, in excavating for the foundation of a building in Talbot-lane, I discovered remains of a paved road, of considerable width, in a direct line between the Jewry-wall and the Watt's-causeway, which connected the town anciently with the Roman road call the Foss-way.

Between the two central arches was a niche for a statue. At the northern end of the Jewry Wall was an arched recess, which, being close to one of the gates, may have formed a sentinel's room. In the wall here were two narrow apertures, with circular heads, intended perhaps for the use of the sentinel in looking out and watching the approach of strangers. At the Southern extremity of the Wall is a similar, but wider recess, having a like purpose, namely that of a guard chamber for the use of sentries. Formerly, a cottage stood in this arch, which was taken down some years ago.

Let me now invite the attention of this society to the dilapidated and unsafe state of this very interesting work of antiquity. Some years since some person cut away nearly the whole of the piers below the barrel roof in order to provide a shelter in which to hang ladders, to protect them from the influences of the weather. On examining the top of the Wall, I find that that portion of it which would have given strength, by counterbalancing the overhanging roof, is perished and gone. Consequently, I consider the overhanging arches are in a very dangerous condition; and if brick piers are not immediately built for their support, we shall very soon see but little left of this remarkable specimen of ancient art and ingenious architecture."

It was resolved that means ought to be taken to preserve the remains, and the secretaries were instructed as to the course proposed to be adopted.

Mr. Vincent Wing communicated some observations upon "The present requirements of Gothic Architecture in order to a successful competition with the works of antiquity."

A PERMANENT COMMISSIONER OF PUBLIC WORKS.

ON the motion for going into committee of supply in the Commons, on the 5th inst.,

Mr. B. Cochrane moved, "That for the sake of obtaining greater unity of design in our public buildings, and with a view to the efficiency and economy of the public service, it is desirable a permanent Commissioner of Public Works and Buildings, or other officer, should be appointed to the present Board of Works." The honourable member said he thought the House would generally agree that in all public improvements there should be unity of design, and as much economy as possible consistent with efficiency. Such unity of design they must admit was not to be seen in the public buildings of London; and he should be able to prove that whatever improvements had been made, had been carried out at a great sacrifice of public income, in consequence of the management of the Office of Works. He would ask any honourable gentlemen who had observed the state of public works in Paris, whether they were not struck by the different manner in which they were carried out from that witnessed in this country? This arose from the fact that here there was no unity in the management of public works. But he was very anxious that the House should take nothing on his own assertion; and if hon. members would walk with him in imagination through some parts of the metropolis, he should be able to point out so much absurdity in the mode in which public works had been conducted, that he thought they would afterwards agree to the motion he now proposed. Mr. Cochrane then expatiated on the merits or rather the demerits of Buckingham Palace, the National Gallery, the monuments in Trafalgar-square, &c., and the mismanagement connected with various public works, such as the State Paper Office, the Record Office, and the Law Courts question, &c.

In reply, Mr. Cowper said his hon. friend had led the House a very agreeable tour round the buildings in London, enlivening his description by illustrations of considerable point; but it was remarkable that all the more important of these illustrations entirely demolished the argument which the hon. gentleman was endeavouring to urge upon the House. The instances which he had quoted of vacillation of purpose, change of mind, and useless expenditure of money, all occurred at periods when either there was a permanent commissioner at the head of the Office of Works, or when the Board of Works consisted of one Parliamentary head and two permanent commissioners.

Mr. Cowper then went into particulars in order to prove the truth of what he had asserted; and he concluded by saying:—The hon. gentleman had referred to Paris; but he had failed to see the distinction there was between the two cases. In the first place the prefect in France was a municipal officer, and more resembled the chairman of the Metropolitan Board of Works than the First Commissioner of Works. But the real difference between Paris and London was that the funds in the former case were ample, and more than were required for any improvements that were thought necessary; whereas the means at the disposal both of the municipal authorities and the Government for the improvement of London were much too small to carry out the large and important works that were urgently needed.

The House was also addressed by Sir John Shelley, in support of the motion; by Sir M. Peto, in advocacy of the French system, and against our own; and by Lord John Manners, against the motion, which was by leave withdrawn.

ARCHITECTURAL PUBLICATION SOCIETY.

THE annual general meeting of the subscribers was held in the Gallery, Conduit-street, on the 29th ult.

The chair having been taken by Mr. James Pennethorne,

Mr. Arthur Cates, the hon. secretary, read the report of the committee and the balance-sheets of the accounts of the society. The balance-sheets appended showed,—

"The receipt and expenditure for the several years, and that the total receipts for the thirteenth year, 1860, have been, subscriptions, 345*l.* 10s.; other receipts, 170*l.* 19s. 9d.; together, 517*l.* 9s. 9d.; and the expenses of the year, 456*l.* 10s. 1d., leaving a balance of 61*l.* 19s. 8d. to be carried forward in favour of the succeeding year, 1861, the accounts for which show a balance of 236*l.* 6s. 11d. available for the completion of the issue for that year (now in hand), and a balance of subscriptions already received for the year 1862 (fifteenth), of 206*l.* 8s. 9d., to meet the cost of the parts now in preparation for issue;—the total balance in hand being 475*l.* 19s. 8d., of which amount 430*l.* is placed on deposit account with the Union Bank of London in the name of the treasurer."

Mr. Pennethorne, in moving the adoption of the report, congratulated the members on the services rendered by all those who devoted so much time and attention to the interests of the society, and the production of the "Dictionary of Architecture;" and he expressed his satisfaction with the careful, although gradual manner in which the work was produced. He insisted that the first object of the society was to produce a complete work, that should become a standard book of reference, and indispensable to both the architect and the man of taste; and therefore he thought that it would be better to be slow than to admit any imperfections. He pointed out the manner in which the discussion at the last annual general meeting had influenced the committee in dealing with the articles in the part recently issued, and the principle of condensation applied to the scientific articles. He alluded in feeling terms to the loss the society had sustained by the withdrawal from the committee of Mr. J. M. Lockyer, whose knowledge and abilities had, from the foundation of the society, been ever employed for the advantage of the members.

Some few explanations having been made in reply to inquiries from members, the motion was unanimously adopted.

A vote of thanks to the committee and treasurer was proposed by Mr. T. W. Plum.

Mr. H. Bowman seconded the motion. The work in hand was one which merited the support of every member of the profession, and the list of subscribers should be far more numerous than it was. He believed that the slow issue of the Dictionary acted prejudicially in this matter, and prevented many from subscribing who would otherwise do so; and he particularly mentioned a very general and hurtful belief that the book would eventually be issued at a lower price.

Mr. J. Papworth alluded to the course pursued by some publishers in re-issuing books at a very great reduction in price, but shortly after the original publication; and he stated what he considered as a guarantee that this would not be the case with this society.

Mr. Cates gladly replied to Mr. Bowman's inquiries; especially as he (Mr. Bowman) must be considered as in some degree representing the numerous and influential subscribers of Manchester and the North. Each member of the committee was as much personally interested in the speedy completion of the Dictionary as any individual subscriber could be; but with them rested the responsibility of producing a satisfactory and complete work; and while admitting that by adopting the ordinary system of compilation, the remainder of the Dictionary might be produced very rapidly; he deprecated, in strong terms, adoption of any such course by which the value of the the work already issued would be much diminished. The difficulty of obtaining accurate information on the simplest matters was remarkable. As to the fear expressed by Mr. Bowman that the price might at some future period be lowered, to the disadvantage of the subscribers, he expressed his conviction that the declaration of the committee that they would never

allow a single copy to be sold for less than the subscription price, would be strictly carried out. The stock was all paid for, and in the custody of the Society, and no debt existed, or was ever likely to be incurred.

Professor Smirke, R.A., regretted to find that any one doubted that the Society intended, so far as they were concerned, to fulfil the pledge they had put forward, of not allowing the books to be sold under the publication price, and thought that not the least apprehension of such a contingency need be feared. He wished it were possible to hasten the work to completion. A large accession of new subscribers would, he thought, materially assist in producing this desirable result.

The resolution having been unanimously adopted, Mr. Smirke moved a vote of thanks to Messrs. Wyatt Papworth and Arthur Cates, the honorary secretaries,—to the former for the labour of arranging and utilising the "*indigesta moles*" of information and suggestions, and of condensing and collecting it, and reducing the whole mass to that concise, symmetrical, and harmonious form in which it appeared; and to his colleague, Mr. Cates, they were much indebted for the manner in which the business was conducted and the accounts arranged. This and other votes of thanks, to the local honorary secretaries, to the contributors of sketches and subjects for illustration, and to Mr. Octavius Hansard for his services in preparing them for publication, proposed by Mr. St. Aubyn and seconded by Mr. Wyatt Papworth, were carried unanimously;—also a vote of thanks to the chairman.

LINCOLN DIOCESAN ARCHITECTURAL SOCIETY.

THE annual meeting of this society has been held at Sleaford. The proceedings opened with divine service in the church; after which the fabric was briefly remarked upon by the Rev. Ed. Trollope, and attention drawn to its chief beauties and points of interest by Mr. Kirk. The members and their friends afterwards assembled in the large room of the Corn Exchange, when the chair was taken by the Marquis of Bristol, and a paper upon "The Family of Carre of Sleaford," was read by Mr. Maurice P. Moore, F.S.A. The next business of the day was a visit to the Castle site, on the outskirts of the town. Here some excavations had been made, which revealed portions of the foundations in a fine state of preservation; and by the aid of a ground-plan Mr. Kirk succeeded in giving his hearers an idea of the former position, extent, and strength of the structure. Returning to the Corn Exchange, we took a brief glance of some of the rubbings of brasses, photographic sketches, and water-coloured drawings on the walls.

The Excursion left the Market-place, at two o'clock, and visited some of the churches of the neighbouring district. The programme of the route was through the villages of Kirby Laythorpe, Asgarby, Ewerby, Howell, and returning through Heckington to Sleaford. A numerous company of ladies and gentlemen made the excursion in between twenty and thirty carriages.

The evening meeting took place in the Corn Exchange, at eight o'clock, when papers were read by the Rev. Canon Marsden, Professor of Archæology in the University of Cambridge, and Sir Gardner Wilkinson; the former entitled "Observations on certain Remains of Roman Art, at Ancaster;" and the latter, "Long and Short Work."

On the following day the party left the Market-place at ten o'clock, and visited the following churches: — St. Botolph's, Quarrington; St. Peter's, Ranceby; St. Martin's, Ancaster; St. Mary's, Wilsford; Kelby; St. Michael's, Haydor; St. Thomas à Becket's, Aunsby; St. Mary and All Saints', Swarby; and St. Dionysius's, Silk Willoughby.

The public dinner, which was attended by ladies as well as gentlemen, took place in the Corn-Exchange, at half-past six o'clock; and at eight the evening meeting was held in the same room, when a paper was read by the Rev. E. Trollope, entitled "Shadows of the Past History of Sleaford."

ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.

THE Lord Lieutenant having consented to receive a deputation from the reorganised Institute, the following gentlemen waited upon his Excellency, viz., Messrs. Charles Lanyon, J.P., president; Jacob Owen, V.P.; S. Symes, W. G. Murray, E. H. Carson, J. M'Curdy, and J. J. Lyons. The president explained the objects of the Institute, which are for "the general advancement of civil architecture, the promotion and facilitating of the knowledge of the arts and sciences connected therewith, the formation of a library and museum, the establishment of uniformity and respectability of practice in the architectural professions," &c.; and having read the list of newly-selected officers and council, the president respectfully solicited the honour of his Excellency's acceptance of the office of "patron" of the Royal Institute.

Lord Carlisle replied in brief terms, dwelling upon the improvement that had taken place, of late years, in the architecture of our cities and towns, and concluded by expressing his gratification in accepting the office to which he had been elected.

AMSTERDAM MUSEUM COMPETITION.

THE commission constituted to settle as to the erection of a Museum of Works of Art in Amsterdam appeal to architects of all countries for designs. It is intended as a monument to the memory of the first sovereign of the reigning dynasty. The architectural style and the materials to be used are to be regulated not only by the monumental intention of the building, but by its purpose, which is, the exhibition of works of the Dutch school, especially those of the sixteenth and seventeenth centuries. The cost is not to exceed 500,000 florins of the Low Countries.

The author of the design considered the best is to receive a premium of 1,500 florins; the author of the second, 300 florins.

The designs and particulars are to be sent in by the 1st of February, 1864.*

COMPETITIONS.

Frome.—The Committee appointed to carry out the scheme for new Public Baths, in honour of the marriage of the Prince of Wales, having advertised for designs, those by Mr. C. J. Phipps, architect, have been selected.

Windsor.—The committee appointed to carry out this work have been engaged during the past fortnight in receiving and examining the five sets of plans sent in to compete for the new church. For the better performance of this duty Mr. Christian, architect, was selected as their assessor. The designs most approved were by Mr. A. Blomfield and Mr. Norton. The latter, after negotiation, has been adopted. Eight builders have been selected to send in tenders, viz.—Messrs. Wheeler, Snowball, Hollis, Lawrence, Cleave, Holden, Gray, Fassnidge, and Myers.

PROPOSED STREET FROM THE STRAND TO HIGH HOLBORN.

A CORRESPONDENT, "M.," urges the formation of a direct street from the Strand up Newcastle-street, continuing in the same line through Clare Market to the corner of Portsmouth-street, Lincoln's-inn-fields; thence through the west side of Lincoln's-inn-fields, through Gate-street, and Little Turnstile into High Holborn, nearly facing Day & Martin's. The advantage of this course is this, that two-thirds of the distance is already made; and the cutting through Clare Market diagonally will open up a district, to say the least of it, which requires ventilating. The fact that one side of Little Turnstile is now pulled down, gives force to the proposition. If the houses there be rebuilt, a narrow passage, allowing only two persons to pass at one time, will be perpetuated.

ANTIQUITY OF MAN:

THE ASSERTED DISCOVERY AT LILLE.

As we supposed, the statement to which we were induced by the high character of the *Siècle*, especially,—wherein we first saw the paragraph which has been going the round of the French press,—to give increased publicity, though with great reservation as to the facts, turns out to have been an invention. We have now before us the original number of the *Echo du Nord*; and not the slightest indication, by heading or otherwise, do we find in that henceforward *trustworthy* authority, more than in journals upon which it succeeded in imposing, that the assertions in the paragraph were less authenticated by the signature of the *rédacteur* of its *Chronique Locale*, than matters of information following the paragraph. Geologically regarded, there was manifest improbability that human remains should be found in the *calcaire grossier* of the Oise, which is of the Eocene formation, of a date long antecedent to the first appearance of all recent species of plants and animals. It seemed just possible, however, that there had been some petrifaction; and that, if so, the question which has lately received so much attention might be affected one way or the other. As the result is, the *Echo du Nord* has not only brought disgrace upon the French press, in relation to serious questions that are being followed up in a manner which is creditable to men of science of the two countries; but it has succeeded in causing much annoyance to those Frenchmen who are most to be honoured for the services they have rendered to the question of the antiquity of the Human Race. The *Abbevillois* has treated English men of science at least, with more respect.

It may have been noticed that one of the latest expressions of opinion, by M. Elie de Beaumont, the best known in England of French geologists, is not at all favourable to the antiquity of the *strata* at Abbeville, in which the jaw-bone was found. There is a letter in a recent number of the *Athenæum*, on the other hand, referring to discoveries at Gibraltar, which seem to bear on the question.

* A copy of the programme may be seen at our publishing office, York-street.

DECORATIVE HOUSE PAINTING.

A CORRESPONDENT, "Thomas Kershaw," after objecting to some of the awards on the works exhibited in Painters' Hall, says,—It is high time something should be done to place this business on a better footing. It is too much in the hands of builders and agents, who know but little of the business, and merely use it as a matter of pounds, shillings, and pence. This accounts for so much bad painting being done. The architects have it in their power to alter this to a great extent, by giving each tradesman his own special work. By this means we should have better workmen, better materials used, and the customers better satisfied.

IMPROVED WORKING-CLASS DWELLINGS FOR LONDONERS.

ON Saturday a meeting of merchants, bankers, and others desirous of co-operating with a view to improve the homes of the working classes of London, was held at the Mansion House, Lord Stanley presiding.

It is proposed to form an association of twenty or thirty gentlemen, protected by the Limited Liability Act, and having a capital of 25,000*l.* to 50,000*l.*, to be invested in the erection of a series of blocks of improved dwellings.

Lord Stanley, in the course of his opening speech, said they were profiting by the experience which others had at their own cost obtained for them: they would be able to avoid errors of detail; and, in the main, he thought they would differ from their predecessors chiefly in this, that they would look rather to the accommodation of families than of single men, and not to the highest amount of rent which the better class of persons among the labouring classes could afford to pay, but to what was necessary to make the undertaking remunerative to themselves as an association. In the first place, it was simply impracticable to attempt to lodge the labouring population of London in a manner otherwise than remunerative to those who did it. What they had to go upon was the experience which Mr. Waterlow had obtained in erecting a block of buildings in a crowded part of Finsbury. Mr. Waterlow said that for a sum of 25,000*l.*, including all preliminary expenses, and also the dividends for one year on the capital during the period of construction, they would be able to put up blocks of buildings for the accommodation of 200 families. The gross estimate was 25,000*l.*; and assuming that each house on a moderate estimate would be let for about 15*l.*, that would give a gross return of 3,000*l.* a year, or 12 per cent. on the gross outlay. From that if they deducted, in respect of ground-rents, cost of supervision, the occasional loss on rooms unoccupied, and other incidental expenses, 50 per cent. on the returns, a net return of 6 per cent. would still be left after the payment of all expenses. He was glad to see that a sum of 14,000*l.* had already been subscribed towards the object in view.

Mr. Waterlow explained his plan more in detail; and several other gentlemen addressed the meeting.

A working or provisional committee was then nominated for carrying out the undertaking, composed of Lord Stanley, as chairman, Alderman Waterlow, Alderman Finnis, Mr. Samuel Morley, Mr. Henry Edwards, Mr. Travers Buxton, and Mr. Ellis. The chairman took shares to the extent of 500*l.*

CHURCH-BUILDING NEWS.

Birmingham.— The new cemetery for the borough, at Witton, of which we have already given details, and also views of the buildings, has now been formally opened.

Castleford.—It is proposed to build and endow a church at Allerton Bywater, to hold about 230 persons; and to form that portion of the parish of Kippax into a separate district, having a resident clergyman. It is hoped 2,000*l.* may be raised by subscriptions for this purpose. Subscriptions to nearly one-half the amount have been already promised.

Newcastle-upon-Tyne.—An endeavour is being made to procure the means of removing the high wall of St. John's Church, and erecting a palisading. The churchwardens have appointed a committee for the purpose.

Carlisle.—The new free church of Scotland, lately erected on the Warwick road, has been opened for divine service. The sole contractors for the building were Messrs. Nelson, of this city; the design having been furnished by Mr. Raeburn, architect, Edinburgh. The total cost of the church will be about 1,650*l.* The design is Gothic, but plain and simple in external appearance. It is built of red freestone: a square tower rises from the west corner of the front elevation to the height of 75 feet. From each corner of the tower rises an ornamental turret crowned with the national emblem of Scotland; and a finish is given to the opposite corner by another turret of similar design. The west side of the building is divided into four bays by buttresses. The other side of the church is left for the present in an unfinished state, the intention being to erect a manse on the vacant space adjoining as soon as the congregation are in a position to do so. The principal entrance is by an arched doorway gained by a flight of steps from Warwick road; and access to the interior is obtained from each side of an entrance hall. The building is surrounded by a palisaded area. The interior is in keeping with the exterior, and is plain, with pews arranged down each side and a row in the centre. A gallery runs round three sides of the church, and in every part space has been economised. Daylight is admitted by a triplet window at each end as well as by side lights. The church is capable of accommodating above 700 people. Beneath is a hall to be used as a Sunday school and for other purposes.

Dumfries.—The Buccleuch-street United Presbyterian Church at Dumfries has been opened. It has been built from designs by Mr. Alexander Crombie, architect, and is of the Early Gothic style of architecture; the doorways, however, being partly of the Second or Decorated style. The front—the north gable—is to Buccleuch-street. In the interior the roof is open, and the galleries extend along both sides and the north end of the building. The main beams of the roof are stained in imitation of oak, and the other woodwork varnished. The contractors were—for mason work, Messrs. J. Crackstone & Son, Maxwelltown; joiner work, Mr. R. M'Courty, Dumfries; painting and glazing, Mr. R. Coltart, Dumfries; plastering, Mr. W. Thompson, Glasgow; slating, Mr. T. Adair, Dumfries. The entire cost will be about 2,000*l.*

Glasgow.—The foundation stone of a United Presbyterian Church has been laid in East Campbell-street. It is to accommodate 1,400 sitters, and the edifice will cost about 5,000*l.* The new building is being erected on the old site. The walls are already considerably advanced,—and the church, it is expected, will be opened about the end of the year.

STAINED GLASS.

Chester Cathedral.—A stained-glass window has been executed for the north side of the apse by Messrs. Heaton, Butler, & Bayne, of London. The principal subjects are Mary at the Feet of our Lord, and the Resurrection of Lazarus. Beneath these are smaller subjects, viz, Jairus's Daughter, the Widow of Nain, Paul raising Eutychus, and Peter raising Dorcas. In the tracery is the general Resurrection. The window was the gift of Mrs. Massey, of Moston Hall, near Chester.

Lincoln Cathedral.—The Revs. A. T. & F. H. Sutton have added another stained-glass window to the nave of Lincoln Cathedral. The subjects are taken from the life of Samuel.

Algarkirk Church (Lincolnshire).—The rector has placed a memorial window at the west end, which will form a contrast to the chancel window at the east end. The stonework of the window consists of six lights, with flowing Decorated tracery. The lower lights are some 15 feet in height. The glass comprises a series of eighteen subjects arranged in three tiers, the whole being canopied after the manner of ancient glass—coeval with the style of the stonework. The tracery is filled with floriated designs comprising sacred emblems, angels, &c. The subjects of the upper and lower tiers refer to our Lord's Death and Resurrection, arranged triplet-wise: thus, on the upper range, on the left, three divisions are devoted to the subject of our Lord's Entombment: on the right the spaces are in like manner devoted to the Resurrection. At the lower part of the window are two triplets similar in disposition to those just described. In the one case are shown the Maries, St. Peter, and St. John journeying to the sepulchre, upon which is shown seated the Guardian Angel: in the other, our Lord is shown appearing after his Resurrection to the Maries. The middle tier of subjects represent six mercy works of our Lord in "Raising from the Dead," and "Healing the Sick:" these subjects, instead of being arranged in triplets, as in the other cases, are complete, one in each light. The rector intends also filling the north and south transept windows. The artists of the west window were Messrs. Clayton & Bell.

Peterborough Cathedral.—Mrs. Edmunds, widow of the late Rev. Payne Edmunds, LL.B., the late rector of Theddlethorpe and Mablethorpe, Lincolnshire, has signified her intention of placing a memorial window in this cathedral. The window selected contains two perpendicular lights, the subject of one being the Magi worshipping and offering Presents to the Infant Jesus, and the other a representation of Christ blessing Little Children. The artist is Mr. A. Gibbs, of London.

All Saints', Norwood.—The east window of All Saints' Church, Norwood, has been filled with stained glass by Messrs. Heaton, Butler, & Bayne, of London. The subjects are the Crucifixion, Resurrection, and Ascension. The figures between the subjects are the four Evangelists. In the tracery is the subject of the Angels appearing to the Shepherds. The window was a gift of a parishioner.

SCHOOL-BUILDING NEWS.

Ipswich.—The new National Schools for Trinity district parish, which have been erected at an expense of about 1,400*l.*, raised by subscription, are completed. The site is the gift of Mr. J. C. Cobbold, M.P., and is a field at the back of Albion-street, and not far from the gasworks, in the centre of a very poor and populous district.

Dodworth, near Barnsley.—By the liberality of Mr. T. W. Vernon Wentworth, a Church of England School is about to be erected for the benefit of the inhabitants of the Gilroyd district; and the foundation-stone has just been laid. Mr. Amos Taylor is the architect, and Mr. W. Ingham the contractor for the mason-work.

Jarrow.—The schools erected at Jarrow as a memorial of the late Mr. Cuthbert Ellison have been formally opened by the Bishop of Durham. The schools are plain in external appearance. They have cost upwards of 1,200*l.*, the greater part of which has been defrayed by Sir Walter and Lady James.

PROVINCIAL NEWS.

Oswestry (Salop).—A Public Hall Company has been formed here, and Messrs. Bidlake & Spaull, architects, have been instructed to prepare working drawings and obtain tenders for a public hall. The directors expect to have the foundation stone laid in July. The hall is to be in the Italian style, with a tower over the entrance; and the large hall is to be 82 feet long and 36 feet wide, capable of accommodating 750 people. The reading-room will be 25 feet by 28 feet; and the building will also contain a library, coffee and smoking rooms, class-rooms, kitchen, hall-keeper's bedroom, retiring-rooms, &c.

Langport (Somerset).—The Local Government Act has been adopted here by the owners of property and ratepayers of the borough and parish. There were twelve for and twelve against it, and the chairman gave his casting vote in favour of the Act.

Falmouth.—The excavations for the Falmouth Hotel have been commenced. The hotel will contain about forty bed-rooms, coffee-rooms, sitting and smoking rooms, and on every floor there will be bath-rooms. A short tunnel is to be carried from the grounds to the beach, for the purpose of sea-bathing; and convenient stabling and offices will be erected contiguous to the building. There will be an approach road from the railway station to the house, and the grounds will be laid out with shrubberies. Shares have been taken up to the amount of more than 16,000*l.*, the whole capital being 20,000*l.*

Holyhead.—A new stone pier, nearly 500 yards long, extending through the large area under Tan-y-ran from the railway station to the old pier, has been commenced here. The London and North-Western Railway have contracted with Messrs. J. & C. Rigby, of Royal Victoria Harbour, Holyhead; and we understand that the whole works will cost at least 250,000*l.*

WORK DONE BY A "MONKEY."

IN answer to the query of "S. C. E.," in the *Builder* of the 30th ult., I beg to say that the effect of the blow given by a fallen body is proportional to its weight multiplied by the velocity with which it strikes. This velocity is found from the formula

$$v = \sqrt{2gh}$$

g being the force of gravity, or 32 feet, and h the height fallen through. Thus, if the "monkey" weighs 2 tons and falls 40 feet, we may consider the work done as equal to $2\sqrt{64 \times 40}$ in tons, or about 100 tons. E. WYNDHAM TARN, M.A.

Books Received.

London Scenes and London People. By ALEPH. London: Collingridge, City Press, Aldersgate-street. 1863.

THIS is a well got up and pleasant gossiping volume of anecdotes, reminiscences, and sketches of places, personages, events, customs, and curiosities of London city, past and present; and is well adapted to instruct, in a light and introductory way, the general reader on these subjects. The following graphic sketch of Lombard-street in 1805 will give some idea of the writer's style:—

"I have a vivid recollection of Lombard-street in 1805. More than half a century has rolled away since then; yet there, sharply and clearly defined before the eye of memory, stand the phantom shadows of the past. I walked through the street a few weeks ago. It is changed in many particulars: yet enough remains to identify it with the tortuous, dark vista of lofty houses which I remember so well. Then there were no pretentious, stucco-faced banks or offices: the whole wall surface was of smoke-blacked brick: its colour seemed to imitate the mud in the road; and, as coach or waggon or mail-cart toiled or rattled along, the basement stories were bespattered freely from the gutters. The glories of gas were yet to be. After three o'clock p.m., miserable oil lamps tried to enliven the foggy streets with their 'ineffectual light,' which through dingy, greenish squares of glass you might observe tall tallow candles, dimly disclosing the mysteries of bank or counting-house. Passengers needed to walk with extreme caution: if you lingered on the pavement, woe to your corns! If you sought to cross the road, you had to beware of the flying postman or the letter bag express. As six o'clock drew near, every court, alley, and blind thoroughfare in the neighbourhood echoed to the incessant din of letter-bells. Men, women, and children were hurrying to the chief office, while the fiery-red battalion of postmen, as they neared the same point, were apparently pleased to bank the diligence of the public, anxious to spare their corpuses. The mother post-office for the United Kingdom and the colonies was then in Lombard-street, and folks thought it a model establishment. Such armies of clerks! such sacks of letters, and countless consignments of newspapers."

VARIORUM.

THE January part of the *Proceedings of the Kilkenny Archæological Society* is a very good one. It is illustrated with representations of a remarkable casket of ivory or tusk of the walrus, covered with carvings of animals, birds, lizards, and knot work, which is preserved in the Ducal Museum, Brunswick. The great peculiarity of the casket is that on slips of bronze, at the bottom, with which the plates of ivory are bound together, is an inscription in Runic letters. Professor Stephens, of the University of Copenhagen, in the paper accompanying the illustrations, gives ingenious reasons for thinking that the coffer was made by Nethi, an Irish artist settled in Northumbria, for Eli, or St. Eligius, or Eloy, Bishop of Noyon and Tournay, in Gaul, in the first half of the seventh century! The casket is one of rare interest; even if the date of it turn out to be not quite so remote as this. The bronze settings *may* have belonged originally to an earlier work; although we confess the illustrations give no reason to think so.——*The Children's Friend*, Part I. (Kent & Co.), is a good sixpenny worth of tales and poetry, likely to please those for whom it is printed. In reprints the author's name should be given.——"Barr's Improved Rent-book. Birmingham: Barr, 91A, New-street." This useful little penny card book, as we may call it, is so prepared that it can be used for two years from any date, and

contains in addition a blotting leaf and rent-table; and is got up in a neater and better manner than the usual rent-book for weekly tenants.——"Brief Biographies of Inventors of Machines for the Manufacture of Textile Fabrics. By Bennet Woodcroft, F.R.S. London: Longman & Co. 1863." In this volume there are well-written recasts of the narratives as to John Kay, Richard Arkwright, Samuel Crompton, Edmund Cartwright, Joseph Marie Jacquard, William Radcliffe, Richard Roberts, Joshua Heilman, and Lewis Paul. ——*The National Magazine*. Tweedie, Strand." The June part (No. 80) of this magazine contains an article on "Personal and Relative Beauty," illustrated by a steel engraving; and one on "The Royal Academy;" besides the usual variety of readable matter.——We have also received the June number of the boys' periodical called *Young England* (Tweedie), devoted to the instruction and amusement of the educated youth of the British empire. The first article in it is one on "Ragged Schools," with an illustration; and there are several other good articles, with various illustrations.

Miscellanea.

ELECTRO-TELEGRAPHIC PROGRESS.—The telegraphic cable which is to unite the coast of Spain with England will extend from Corunna to Falmouth, a distance of 600 miles.

ALBERT MEMORIALS.—The Birmingham Statue is to be erected at the top of Paradise-street, if the Corporation give their sanction to the proposed site.——The Clock Memorial at Rye has been fixed in the ancient tower of Landgate, and the event was celebrated by a public dinner. The clock cost 100*l*.

WOOD CARVING, SOCIETY OF ARTS.—We hear that about eighty specimens have been sent in, in reply to the offered premiums, and that the adjudication will be made this week. The council have named as judges Messrs. M. D. Wyatt, J. G. Crace, P. Graham, and John Bell: the Society of Wood Carvers have named Messrs. Anstey, Burgess, Reeve, and Broads.

PROTECTION OF IRON FROM RUST.—In reference to the remarks on p. 373 of the *Builder*, quoted from a discussion at the Society of Arts on this subject, a correspondent, "Joseph Hayes," builder, says,—"Red lead, and one-third litharge made into paint with nut oil instead of linseed oil, would last much longer. Nut oil is more durable: it will stand the weather much longer than any other oil in paint."

MONUMENTAL.—The design for the Hollings's Memorial, at Leicester, selected by the committee, and locally exhibited, is that of Mr. Chamberlain, of Birmingham. The second design submitted in competition was by Messrs. Stevenson & Newenham, of London and Halifax. It has been suggested that a joint memorial, in honour of Sir Thomas White, William Wiggeston, and Alderman Newton, might very suitably stand in the centre of the Haymarket, and that a Gothic cross like this second design would be sufficiently high, without taking up too much space. Although drinking fountains are not popular in Leicester, there is no better site for one, and this idea is carried out in the design alluded to.

ST. THOMAS'S HOSPITAL.—A general court of the governors of this hospital was held last week, to receive a report of the proceedings of the Grand Committee in continuing the negotiation with the governors of Bethlehem Hospital, and also to receive the Grand Committee's suggestions with a view to prevent any further delay in fixing on a site for a new hospital. Sir John Musgrove, president of the hospital, took the chair, and there were about fifty governors present. The general report of the committee was read. It stated that, on the 20th of January last, the Grand Committee communicated to the governors the particulars and plans of seven sites:—1. Bethlehem Hospital; 2. Fishmongers' Company's land, Walworth; 3 and 4. Surrey Gardens; 5. Land behind Newington Church; 6. Myatt's ground, Camberwell New-road; and 7. Lambeth Thames Embankment. The Grand Committee reported that they expected the concurrence of the general court, that it was useless to press their negotiations with Bethlehem Hospital further. If the Newington site could be obtained, the committee unhesitatingly preferred it; but, failing that, they saw but little difference between the Surrey Gardens and Myatt's ground. On the motion of Mr. Tite, the report was received, and ordered to be printed and taken into consideration on the 28rd instant.

BRITISH INSTITUTION.—The annual exhibition of works of the Old Masters is now open here, and includes fine pictures by Murillo, Rembrandt, Canaletto, Gainsborough, Hobbima, and Romney.

ARCHITECTURAL SOCIETY OF NORTHAMPTON.—At a recent meeting of the committee for local antiquities, various objects of interest were exhibited, and the Rev. H. L. Elliot read a paper, on Kingsthorpe Church, which is now undergoing extensive alterations, under the supervision of Mr. Slater, architect.

MECHANICAL ENGINEERS IN LIVERPOOL.—At a recent meeting of the Liverpool council, a letter was received from Mr. W. M'Gregor, chairman of the Institution of Mechanical Engineers, requesting the patronage of the mayor to the proposed session of that society in Liverpool in August next, and for his influence in obtaining the gratuitous use of the small concert-room in St. George's Hall, for the purposes of the Society, on the 4th, 5th, 6th, and 7th of the month. It was resolved that leave be granted for the use of the room.

ST. ANDREW'S HALL, NORWICH.—The architect entrusted with the restoration of this building, Mr. T. D. Barry, writes,—"Will you permit me to say that no doubts whatever are entertained, either by the restoration committee, the contractor, or myself, that the works will be completely finished by the 7th of August next. I desire to make this statement in order to satisfy such of your readers as may be interested in the Musical Festival, which takes place in the middle of September."

PROPOSED NATIONAL MONUMENT TO SHAKSPEARE.—At Drury Lane, on the 30th inst., a grand dramatic *mélange* will be given in aid of the funds for a national metropolitan monument to Shakspeare, under the presidency of Mr. Macready; the Prince and Princess of Wales having signified their intention to be present. The performances will consist entirely of Shaksperian *chefs d'œuvre*, selected from eleven of his plays, and will introduce sixty eminent actors, who have spontaneously given their aid to the cause. The hon. secretary is Mr. Adolphus Francis, of 43, Cumberland-street, Hyde Park.

FIRE AT WESTMINSTER PALACE.—The Houses of Parliament have had a narrow escape from destruction by fire. It seems that a flue from the kitchen passes over the wooden roof of the lobby leading from the library to the members' tea-room. A brick had become displaced from this flue, and the heat caused the wooden roof to ignite. There had been a smell of burning noticed throughout the morning, but it was three o'clock in the afternoon before the discovery that the building was on fire was made. Then a waiter passing along the lobby noticed it, and the alarm was speedily given; and, in a very short time, all danger was passed. On a strict examination all beyond was found to be safe.

FEVER AT BOSTON, AND ITS SANITARY COMMITTEE.—Notwithstanding the painful fact that fever of a malignant kind is raging in Boston, and carrying off its victims one after another almost daily; the Sanitary Committee of the Local Board, "we are informed, on reliable authority," says the *Lincolnshire Chronicle*, "are perfectly listless and apparently quite indifferent in the matter, for they have not had a single meeting for more than six months!" Since writing the above, adds our authority, it has come to our knowledge that no less than five children now lie dead in Tydell-street from the effects of fever and diphtheria. The latter disease is extremely prevalent, not only in the town, but in the country adjacent as well.

SUB-CONTRACTOR'S NEGLIGENCE.—The defendant in the action Blake *v.* Thirst, in the Court of Exchequer, had contracted with certain town commissioners to make a sewer, and agreed not to underlet without consent of their engineer, who did consent; and defendant then underlet the excavating, watching, and lighting, to one Neave. Neave made a hole in the road, but did not sufficiently protect, watch, or light it; and in consequence a child fell in and was injured. The question was whether the defendant, as contractor, or Neave, as sub-contractor, was liable. The Lord Chief Baron said, "It seems to me to be a very plain case. The hole in the road, which was the cause of the injury, was made by the defendant, or under his immediate direction: the hole so dug was not protected, watched, nor properly lighted, in consequence of which the accident occurred; and I think the defendant is himself liable for it." In this opinion the rest of the Court concurred.

ARCHITECTURAL ASSOCIATION: VOLUNTARY ARCHITECTURAL EXAMINATION CLASS.—On Saturday the class and other members of the Association will proceed to view Waltham Abbey, under the guidance of Mr. Burges. Train from Bishopsgate, 2·40 p.m. On Wednesday, 17th inst., the subject of consideration is "Mensuration." The subject for sketch, "A drawing showing the drainage of a house, with rain-water tank and cesspool."

DISCOVERIES IN THE ISLE OF RHODES.—M. Salzmann is pursuing his excavations in the Isle of Rhodes. *La Chronique des Arts* states that he has recently discovered some ornaments in gold and silver likely to interest archæologists, especially a necklace with seven *plaques*, adorned with figures of centaurs, the style of which recalls at the same time that of Greece, Asia, and Egypt.

CREETOWN GRANITE.—The largest granite monument in the Undercliffe Cemetery, Bradford, is the Smith Memorial Obelisk, just erected by Mr. Sim, of Glasgow, on the brow of the hill, 300 feet above the level of the Bradford valley. It is a monolithic needle, erected on a solid granite basement and pedestal. The material is silver-grey granite, from Wigtown Bay, the same as that for which Mr. Sim received a medal at the International Exhibition of 1862.

ALBERT MEMORIAL CHURCH, COLLYHURST, MANCHESTER.—The foundation-stone of this church was laid on the 6th inst. The site has been given by Sir O. Mosley, Bart. The Church will be of the Geometrical style of architecture, with nave 90 feet by 46 feet in one span, with hammer-beam groined open roof, chancel, organ-chamber, and vestry. The tower and spire will be at the west front. The external walls will be of red bricks, relieved with white and blue bricks, and stone dressings to the doors and windows. All the seats will be open, stained and varnished, with accommodation for 704 persons. The choir seats are in the chancel. The cost of the church, including enclosing the site, heating apparatus, lighting, &c., will be 3,900*l*. The works are being executed by Messrs. Clark & Jones, builders, under the superintendence of Mr. John Lowe, architect, both of Manchester.

THE ENGINEERING DEPARTMENT OF INDIA.—In the *Engineer's Journal* of Calcutta there is a leading article, on 1st April last, in regard to the letters which have appeared in the *Builder* and the *Friend of India* on this subject, in which the editor says:—"We are convinced, by information drawn from various reliable sources, that great misconception exists in many quarters at home with regard to the advantages of the Government service in India, not only among engineers, but among the public generally; and in so far as the writer of the letter in the *Builder* endeavours to remove false preconceptions, and therefore to prevent future disappointment to successful candidates, we think his communication may do good. As the writer has himself experienced the disappointment against which he endeavours to warn others, and writes under a certain sense of injury, allowance must be made for some slight exaggerations which are manifestly not intentional. Finally, then, we admit that the prospects of the civil engineers might be and we think should be improved. A more liberal scale of pay and pension might be offered with advantage to the service, with a view to inducing a larger number of educated men to offer themselves for the appointments. So far, however, as data are before us, we think the disappointment experienced by certain of those who have already joined, is rather due to their having formed undue expectations of the advantages of Indian service, than to unfair treatment."

TENDERS.

For a house and boundary-walls, at Tufnell Park, Holloway, for Mr. W. Day. Mr. George Truefitt, architect

Warne (accepted)	£1,986 0 0

For new offices, Gas Meter Company:—

Kirk	£4,777 0 0
Simms	4,448 0 0
Hardiman	4,328 0 0
Hill	4,275 0 0
Perry	4,200 0 0
Fish	4,148 0 0
Masers	3,995 0 0

For Mr. Dawson's residence, Sydenham:—

Coleman	£7,823 0 0
Nye	6,639 0 0
Patman	6,490 0 0
Pritchard	6,401 0 0
Ashby & Horner	6,390 0 0
Browne & Robinson	6,355 0 0
Conder	6,257 0 0
Sawyer	5,995 0 0

For additions to house at Leatherhead, for Mr. Thomas Chitty. Mr. F. J. Dibble, architect:—
Batchelar (accepted) £440 0 0

For a pair of labourers' cottages, Walton-on-the-Hill, for Mr. J. P. Fischer. Mr. F. J. Dibble, architect:—
Wesley £349 0 0
Vincent 320 15 0

For a pair of semi-detached villas, at Western Elms, for Mr. J. Wilson. Quantities furnished. Messrs. Cooper & Goulding, architects:—
Barnicoat £1,400 0 0
Norris (accepted) 1,393 0 0

For a pair of semi-detached villas at Erleigh, for the Reading Land and Building Company. Quantities supplied. Messrs. Cooper & Goulding, architects:—
Button £1,610 0 0
Norris 1,465 0 0
Simonds (accepted) 1,375 0 0

For four cottages, at Brunswick-terrace, for Mr. H. Neall. Quantities not supplied. Messrs. Cooper & Goulding, architects:—
Grover £733 11 0
Barnicoat 710 18 0
Norris 703 4 0
Waite (accepted) 667 10 0

For pulling down and rebuilding No. 67, Chancery-lane. Mr. A. W. Blomfield, architect. Quantities supplied by Mr. J. A. Bunker:
Mansfield & Son £2,336 0 0
Clemence 2,179 0 0
Child & Son 2,103 0 0
Patman & Fotheringham 2,089 0 0
Turner & Sons 2,031 0 0
Browne & Robinson 2,008 0 0

For church, &c., St. John's Wood:—
Stride £7,663 0 0
Patman 6,885 0 0
Griffiths 6,875 0 0
Piper & Wheeler 6,604 0 0
Clark 6,490 0 0
Cowland 6,321 0 0
Lamb 5,979 0 0
Manley & Rogers 5,972 0 0
Wardle & Baker 5,510 0 0
Simms 5,388 0 0

For Albion Outfall, Brighton —
Simms £13,923 0 0
Dethick 9,638 0 0
Docwra 7,500 0 0
Aird & Son (accepted) 6,818 0 0

For the Baptist chapel, Sansome-walk, Worcester
Hayes, sen. £3,177 0 0
Wood & Son 3,084 0 0

For the erection of stables in Duncan-street, Islington, for the directors of the London General Omnibus Company. Mr. P. Tosh, architect:—
Davis £997 0 0
Simms 850 0 0
King 609 0 0
Bowman 498 0 0
Kilby 485 0 0
Mann (accepted) 468 0 0

For works at Kidderminster, for Mr. Thomas Lea. Quantities supplied. Messrs. Lockwood & Mawson, architects:—
Whiteley £21,500 0 0
Illingworth 20,367 0 0
MacCann & Everal 20,298 0 0
Wood & Son 19,950 0 0
Lovatt 19,850 0 0
Thompson 19,419 0 0
Simmonds 19,309 0 0
Ankrett 19,000 0 0
J. & W. Beanland 18,990 0 0
Nelson 18,450 0 0
Thornton, Bros. 17,850 0 0
Parnell (accepted) 17,755 0 0

For premises, High-street, St. Neot's, Hunts. Messrs. Lander & Bedells, architects:—
Bray £1,425 0 0
Elliott 1,387 0 0
Sharpington & Co. 1,355 0 0
Ellis 1,135 10 0
Mann 1,123 0 0
Osborn 1,025 0 0
Widman 845 10 0

For a pair of residences, Horsham-road, Dorking, for Mr. Goddard. Mr. F. J. Dibble, architect:—
Inkpen £1,350 0 0
Hamblin 1,190 0 0
Lynn & Dudley 1,134 0 0

For three shops and premises, London Bridge, for Messrs. Findlater, Mackie, Todd, & Co. Mr. Habershon, architect:—
Powell £1,929 0 0
Rawlins 1,891 0 0
Sawyer 1,846 0 0
Brighton 1,837 0 0
Newman & Mann 1,808 0 0
Colls & Co. 1,724 0 0
Downs 1,669 0 0
Brass 1,553 0 0
Coleman 1,439 0 0

For school-room, Park Chapel, Crouch End. Messrs. Lander & Bedells, architects:—
Wagstaff £980 0 0
Little 839 0 0
Patman 798 0 0
Dove, Bros. 795 0 0
Sharpington & Co. 759 0 0
Carter 727 0 0
Child 717 0 0
Hill & Son 695 0 0

Additions to parsonage at Skidley. Mr. William Kerby, architect —
Richardson (accepted) £378 0 0

For alterations and additions to Christ Church, Hull. Mr. William Kerby, architect:—
ACCEPTED TENDERS.
Excavator, Bricklayer, Mason, and Plasterer.
Sergeant £804 13 0
Carpenter and Joiner.
Smith £345 0 0
Plumber and Glazier.
Merrikin £124 5 0
Slater.
Smith & Co. £76 8 0
Painter.
Wardale £73 0 0

For the erection of silk-mills, &c., at Dartford, Kent, for Messrs. Keymer & Co. Messrs. Tillott & Chamberlain, architects. Quantities supplied:—
Willis £7,778 0 0
Cannon 7,743 0 0
Brass 7,687 0 0
Ashby & Sons 7,350 0 0
Piper & Wheeler 7,117 0 0
Hill, Keddall, & Robinson 7,050 0 0
Fish 7,040 0 0
Ward & Co. 7,016 0 0

For the enlargement of a coal-hoist, at Crown Wharf, Deptford, for Messrs. Corrall & Co. Messrs. Tillott & Chamberlain, architects. Quantities supplied:—
Ashby & Sons £1,759 0 0
Piper & Wheeler 1,729 0 0
Ward & Co. 1,553 0 0
Hill, Keddall, & Robinson 1,423 0 0

For rebuilding No. 71, City-road. Messrs. Laws & Dennison, architects. Quantities supplied. —
Bishop £1,720 0 0
Pask 1,676 0 0
Seabey 1,644 0 0
Ramsay 1,387 0 0
Loft 1,325 0 0

For the erection of three houses and offices, Havelock-road, Hastings, for Mr. John Phillips. Mr. H. Carpenter, architect. Quantities supplied:—
Jones £2,396 13 0
Harmand 2,385 10 0
Vidler 2,375 0 0
Longhurst 2,353 10 0
Howell (accepted) 2,260 0 0

For the erection of two houses, Edward's-road, St. Leonard's-on-Sea, for Mr. Jones. Mr. H. Carpenter, architect. Quantities supplied —
Longhurst £1,448 10 0
Jones 1,443 16 0
Harman 1,430 0 0
Howell 1,409 0 0
Kenwood 1,395 0 0
Vidler 1,389 0 0
Parks 1,342 0 0
Wood 1,243 0 0
Page (accepted) 1,166 5 0

For the erection of houses on the Old-street Estate (block A), for the Worshipful Company of Ironmongers. Mr. G. Russell French, architect. Quantities supplied by Mr. H. W. Sass:—
Rider £2,790 0 0
Thompson 2,723 0 0
Piper & Wheeler 2,649 0 0
Page 2,610 0 0
Pritchard 2,612 0 0
Brass 2,583 0 0
Lawrence & Sons 2,529 0 0
Cannon 2,399 0 0
Eastman (accepted) 2,290 0 0

For church to be built at Formby, near Liverpool. Mr. Henry Clutton, architect. Quantities by Mr. Crocker —
Parker & Son £4,800 0 0
Glaister 4,614 0 0
Holme & Nicol 5,658 0 0
Myers & Sons 5,450 0 0
Mullins 5,693 0 0

For villa at Muswell-hill, for Mr. O. Vidler. Mr. C. Hambridge, architect:—
Bishop (accepted) £2,000 0 0

For restoration of Stogursey Church, Somerset. Mr. Norton, architect.—
Woodford £1,740 0 0
Streeter 1,730 0 0
H. Davis 1,681 0 0
M. Davis 1,678 0 0
Pearse 1,525 0 0
Wall & Hook* 1,522 0 0
Shewbrooks & Son 1,498 0 0
Durke 1,396 0 0
Brock 1,345 0 0
* 20*l.* extra for repairs to top of spire.

THE *Times*, Sept. 15, speaking of Benson's Modern and Antique Watches in the Exhibition, says:—"As affording the most striking contrast, Mr. Benson shows with these a fresh exhibition of modern watches, with cases made from prize designs at the South Kensington Museum, some of which are fine specimens of engraving." Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch, adapted to all climates. Benson's Illustrated Pamphlet on Watches (free by post for two stamps) contains a short history of watchmaking, with descriptions and prices. It serves as a guide in the purchase of a watch, and enables those who live in Scotland, Ireland, Wales, the colonies, India, or any part of the world, to select a watch, and have it sent free and safe by post. J. W. BENSON, Prize Medallist, 33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

TO CORRESPONDENTS.

J. L.—H. B. & B.—T. H. L.—C. N. B.—T. B. S.—H. & F.—J. G. N.—G. L.—E. W. C.—C. B.—T. H. T.—W. K.—J. B.—T. R. S.—M. C. L.—F.—T. & C. E. W. F. (any one might fancy we had never commented on the doings of a competition committee).—P. M. H. (next week).—Audax (ditto)—E. S.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

FREEHOLD BUILDING LAND, adjoining the extensive Workshops and Manufactory of the South Eastern Railway at Ashford, Kent, TO BE SOLD by AUCTION, by

MESSRS. BAYLEY & SON, on the LAND in Wheeborough, on MONDAY, JUNE the 22nd, 1863, at SIX o'clock in the evening, in fifty lots, about TEN ACRES of valuable FREEHOLD BUILDING LAND, situate at Aylesford Green, in the parish of Willesborough, in the county of Kent, between Cadworth road and the South Eastern Railway Manufactory. No lot contains a frontage of less than 60 feet. The Vendor will make all the roads and approaches, and dedicate them to the public. The Land contains good brick earth, and building stone may be obtained close by. Plans of the estate, with printed particulars and conditions of sale, may be had of Mr. THOMAS PERKINS, Willesborough; of the Auctioneers; or Messrs. FURLEY, HALLETT, & CREERY, Solicitors, Ashford.

OLD KENT ROAD.—Capital Building Land; nominal Ground-rent.

MR. H. SOWDON will SELL by AUCTION, at the MART, on FRIDAY, JUNE 19, at TWELVE, a very desirable PIECE of BUILDING LAND, situate in Devonshire-grove, Old Kent road, near the Half-way House, having a frontage of 214 feet, and containing in the whole 3r. 10dp. Lease, fifty seven years, at a remarkably low ground-rent.—May be viewed. Particulars, plan, and conditions of sale, had of JOHN STEAVENSON, Esq. Solicitor, 25, Gracechurch-street, E.C.; at the Turk's Head Tavern, Old Kent-road, S.E.; at the Mart; and at Mr. H. SOWDON'S Office, 294, Old Kent-road, S.E. and 2, Moorgate-street, E.C.

UPTON E., near Forest gate Station and Wanstead.

MR. JOHN M. DEAN will SELL by AUCTION, at the MART, on THURSDAY, JUNE 25, at TWELVE, in Fifty-three Lots, a desirable FREEHOLD RESIDENCE, with stabling, coach house, green-house, and about three-quarters of an acre of Land laid out in pleasure grounds, &c. suitable for a family of respectability; and about nine acres of most eligible freehold building ground, situate at Upton, near the Forest-gate Station of the Great Eastern Railway, and only a short walk from Wanstead, Snaresbrook, &c. a most pleasant and delightful locality, with easy access of the City by rail and omnibus. The estate will be submitted in plots suitable for the erection of superior residences, for which the neighbourhood is well adapted. The plots will be bounded by well made roads properly kerbed and drained in conformity with the requirements of the local Board of Health.—May be viewed, and particulars and cards of sale, with plans may be had 14 days prior to the day of sale, at the Mart; of Messrs. DIGBY & SHARP, Solicitors, 1, Finsbury-circus, E.C.; Spotted Dog Inn, Upton; and of Mr JOHN M. DEAN, Auctioneer and Surveyor, The Grove, Stratford, E.

TO THE TIMBER AND BUILDING TRADES

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden terrace, near the Railway Station, the Old Eagle, Camden Town, on MONDAY, JUNE 15, at TWELVE for ONE, a capital MOULDING MACHINE, by Sellers, with 4, 6, and 9 inch blocks, heads, and battens; 10 squares of flooring, 3 and 4 feet of white pine, 200 feet of mouldings, large quantity of red and white deals, all kinds of deal cutting, slating, battens, panelling, twenty doors, ladders, poles, brickwork, &c.—Auction Offices, Camden street, Hampstead road

TO PIANOFORTE MAKERS, BUILDERS, CABINET-MAKERS, CARPENTERS, and OTHERS. Stock of a Timber Merchant, Light Cart, Two capital Horses, &c.

MR. HOLLINGSWORTH will SELL by AUCTION, at the YARD, 11, Caroline place, Hampstead-road, near Chalk Farm, on MONDAY next, JUNE 15th, at ELEVEN for TWELVE, the remainder of Clay PINE and YELLOW DEAL BOARDS, PLANKS, and JOISTS; also 30 dozen ready white and sycamore legs and bases, cleats, oak, and pine boards, oak, cedar, cheap, and walnut veneers, stock, and various builders' effects.—On view on Saturday. Catalogues at the Yard; and at the Auction Offices, 14, High Holborn.

TO BUILDERS and OTHERS.—100 new Deals, Scaffold Poles, 1,000 feet of York Paving, about half-inch, 20,000 feet of new Mouldings, Shop-front, with plate-glass.

MR. INDERMAUR will SELL by AUCTION, on THURSDAY, JUNE 18, 1863, at ONE on the PREMISES, 1, Wardle-street, Portland street, near the St. Paul's, Walworth, sound TIMBER, as girders, rafters, joist floor, and lining boards, partitioning, register doors, ranges, 20,000 plain tiles, stone coke, and earths; marble chimney-pieces, two, four, and six-panel doors and frames, two carpenters' benches, firewood. May be viewed. Catalogues had on the Premises; at the St. Paul's; or at the Auctioneer's Office, Union st. ect, Borough

A VACANCY occurs in an Auctioneer and Estate Agent's Office for a respectable Youth, as RESIDENT ARTICLED PUPIL, or he may reside with his friends. He will have every opportunity of gaining a thorough practical knowledge of the business. Address, stating age, to A. B. 41, Beaconsfield gardens, Vauxhall Bridge-road, S.W.

ARTICLED PUPIL required by an ARCHITECT, who is prepared to efficiently qualify a well-educated Young Gentleman for the Profession, within a short term.—Address, S. W. 19, Cresent terrace, Millbank.

BOROUGH of BLACKBURN.—WANTED, a DRAUGHTSMAN and GENERAL ASSISTANT, in the Local Surveyor's Office of this Borough. Salary, £1 10s. per week. Information and all particulars as to the duties to be performed, may be ascertained on application to the Town Clerk, or to the Local Surveyor, Townhall, Blackburn. None but a skilled and competent hand need apply.—Applications (in own handwriting), with testimonials to ability and competency of character, steadiness, and sobriety, may be sent to the Town Clerk's Office, on or before SATURDAY, the 27th day of JUNE instant, endorsed "Application for Draughtsman."—By order, HENRY SAWARD, Town Clerk

Townhall, Blackburn, June 5, 1863.

TO SURVEYORS

THE EASTBOURNE DISTRICT LOCAL BOARD are desirous of receiving applications for the Office of SURVEYOR and INSPECTOR of NUISANCES. The salary will be 150*l.* per annum. The person appointed will be required to give such security as the Board may approve for the due performance of the duties of the office. The bye-laws regulating the duties may be seen, and any other information obtained, at the Office of the Board.—Applications, with testimonials, to be addressed to the Clerk, and delivered at the Office of the Board, 7, Terrace, Eastbourne, on or before the 7th day of JULY next, endorsed "Application for Appointment of Surveyor."—By order of the Board,

J. H. CAMPION COLES, Clerk.

RIVER WITHAM DRAINAGE.—WANTED, immediately, a SURVEYOR of the Witham Drainage. His duties will be to superintend the sea and inland sluices, bridges, banks, and all other works of drainage throughout the several districts, which extend from Lincoln to Boston, and thence to Wainfleet; and to take the entire practical management of the working of the drainage, under the directions of the General Commissioners. Also to COLLECT the RATES and TAXES and BANK RENTS of the Drainage. The surveyor and collector will be required to prove for all such assurance as he may find necessary, to pay travelling expenses, and to give security to the extent of 2,000l. By the resolutions of the General Commissioners of the 6th inst. it is prescribed that the person to be appointed shall be a thoroughly efficient practical man, possessed of sound knowledge of engineering, particularly as applied to the purposes of drainage. In the event of his duties being satisfactorily discharged, he will be at liberty, by special permission of the General Commissioners, to undertake other engineering duties, but not to engage directly or indirectly in trade or any other business. The salary is 500l per annum, with house, estimated as worth 20l. a year, free of rent, rates, and taxes. Applicants will not be required to attend personally, unless specially requested. Applications in writing, stating age, and the nature of the previous experience of the applicant in engineering works, and previous testimonials, are to be addressed (postage paid), marked "Witham Drainage Surveyorship," to "The Clerk to the General Commissioners, Boston," on or before THURSDAY, the 2nd day of JULY next.—By order,

F. T. WHITE, Clerk to the General Commissioners.

Witham Office, Boston, June 8, 1863.

TO GLASS PAINTERS.—Competent Hands, thoroughly accustomed to Gothic Figure-work, WANTED, by Messrs. CLAYTON & BELL, 311, Regent street. None but those well able to meet the above conditions need apply.

THERE is a VACANCY in an Architect's Office for a Youth as an IMPROVER. He must be able to trace and draw expeditiously, and must be a good penman.—Address, by letter, in own handwriting, to Mr. COLLINS, 61, Torrington-square.

WANTED, in the Office of a Surveyor and Agent, a CLERK, who writes and prints well, and understands land surveying and can Map neatly.—Address, stating salary required, to M. E. M. Office of "The Builder."

WANTED, immediately, a GENTLEMAN, with a thorough knowledge of Gothic Architecture. First-class references required.—Apply, personally, to the Librarian of Institute of British Architects, 9, Conduit-street, W. between THREE and FOUR, on SATURDAY; or by letter, to ALFRED WATERHOUSE, Manchester.

WANTED, an experienced BUILDER'S CLERK as BOOKKEEPER, and to make himself generally useful in the office.—Address, stating age, salary, and references, to BUILDER, Post-office, Malvern.

TO BUILDERS' FOREMEN

WANTED, a thoroughly practical SHOP FOREMAN of JOINERS. He must be competent to make detail and working drawings, measure up work, &c.—Apply by letter, in own handwriting, to B. B. General Post-office, Birmingham.

CIVIL ENGINEERS, ASSISTANTS, AND PUPIL.

WANTED, an ASSISTANT, to SET OUT and SUPERINTEND RAILWAY and Other Work; also a DRAUGHTSMAN, to Prepare Working Drawings, &c.—Address, enclosing copy of testimonials, with salary required, to T. M. M. LANSDOROUGH, C.E. Bradford, Yorkshire.—A VACANCY for an ARTICLED PUPIL.

WANTED, SMITHS used to Ornamental Work; also, IRON-FITTERS, and a GAS CHANDELIER MAKER.—Apply to T. BRAWN, Architectural Metal Works, 61, Clement street, Birmingham.

TO GRAINERS AND WRITERS.

WANTED, a first-class Man for the country. Must be a good OAK GRAINER. A married man preferred, as the situation is for a constancy.—Address, R. H. D. Office of "The Builder."

TO PLUMBERS, &c.

WANTED, a good THREE-BRANCH HAND. A constant situation to a steady, respectable man Address, stating age, references, and wages, to W. C. 2, Weare-street, Bath-road, Bristol.

TO GRAINERS AND MARBLERS.

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TO SURVEYORS AND ENGINEERS' ASSISTANTS.

WANTED, an ASSISTANT, for a Few Weeks. Must be well acquainted with levelling and drainage works.—Apply, by letter, with full particulars, to O. P. T. 37, Colville-road, Westbourne-grove, W.

WANTED, an experienced ESTIMATING and MEASURING CLERK, one used to London trade preferred.—Address, stating last engagement, age, and salary, to Y. Z. Y. Office of "The Builder."

WANTED, a good SASH MAKER; one used to Piece work. Also some good FIXERS. None need apply but such good characters, and as at be first class workmen.—Apply to WM. C. PAWLEY, Builder, Sydenham.

WANTED, a good SAW-MILL FOREMAN, capable of working and instructing others to work rack bench, moulding frame, plan ng and moulding machine, and of sharpening saws. Good references will be required, and all applications to be addressed to SAMUEL WORSSAM & CO Saw-mill Engineers, 304, King's-road, Chelsea.

WANTED, a WINDOW-GLASS CUTTER.—Apply by letter, stating salary and reference, to R. P. TATE, 31, Holborn Hill, London, E.C.

WANTED, an ENGAGEMENT as ASSISTANT to a Surveyor or Engineer. Well acquainted with the usual routine of an office and sewerage works. Address, R. Y. B. Office of "The Builder."

WANTED, by a respectable Young Man, who has been four years at his trade, a SITUATION as IMPROVER in a Joiner's Shop. Good references given if required.—Address, M. M. 10, Southampton-street, Strand, W.C.

TO ARCHITECTS AND SURVEYORS.

WANTED, by the Advertiser, a RE-ENGAGEMENT. He is a neat and quick draughtsman, can take off quantities, and has a thorough knowledge of construction.—Address, W. F. 34, St. Mary-at-hill, Tower street, E.C.

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WANTED, a SITUATION as GRAINER. Can fill up his time with painting and glazing, or Take Charge of Work if necessary.—Address, A. G. 3a, James street, Marlborough-road, Chelsea.

TO ARCHITECTS AND SURVEYORS.

WANTED, an ENGAGEMENT, by a good Draughtsman, well and practically acquainted with surveys, quantities, measuring up, &c. Midland counties preferred. Good reference.—Address, J. M. W. Office of "The Builder."

WANTED, a SITUATION as BUILDER'S CLERK. Is a good bookkeeper and draughtsman. Has a thorough practical knowledge of the business.—Address, A. Y. 27, Offord-road, Barnsbury, N.

TO BUILDERS, GLASS MERCHANTS, GLASS CUTTERS, AND OTHERS

WANTED, by the Advertiser, who has been thirteen years in business, a SITUATION as PRACTICAL CUTTER and GLAZIER, or to Manage a Small Business in Town or country. A number of respectable references can be given.—Address, C. W. At Mr. Keppell's, 31, Molyneux street, Edgware-road.

WANTED, by an experienced Young Man, a SITUATION as GLASS CUTTER and GLAZIER. Good reference. Address, J. P. No. 1, North street, Maida-hill, W.

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WANTED, by a good Writer, Decorator, and Glass Embosser, a SITUATION as generally useful Pencil Hand, &c. Can be well recommended.—Address, W. R. No 16, Charles street Hampstead-road, London.

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WANTED, by a Young Man, a SITUATION in a Builder's or Contractor's Office. He is competent to prepare estimates, working and finished drawings take out quantities, write specifications, measure up work, &c. He is also practically acquainted with the business.—For particulars address J. A. C. 50, Westmoreland-place, City-road, N.

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WANTED, an ENGAGEMENT as CLERK of WORKS, or Superintendent of One or More Jobs. Used to large numbers of men, and has a practical knowledge of building generally, from the excavation to the decoration.—Address, B. T. A. Office of "The Builder."

TO IRONMONGERS, BUILDERS, &c.

WANTED, by a Practical Man, aged 30, a constant SITUATION as SMITH, BELLHANGER, and GASFITTER. Is thoroughly acquainted with hot-water work. Good reference. Town or country.—Address, A. P. Mr. Hosier's, 34, Windsor-terrace, City-road.

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WANTED, a SITUATION as JUNIOR ASSISTANT in an Architect's, or Clerk in a Builder's, Office, in town; aged 20; had four years' experience in a similar office, and can give satisfactory references.—Address, D. R. 8, Forest street, City.

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WANTED, by a Young Man, aged 30, a SITUATION as PLUMBER, PAINTER, and GLAZIER.—Address, E. K. 11, West-street, Walworth road.

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WANTED, by a practical Plumber and Gasfitter, a SITUATION. If a Permanent one, no objection to fill his time up at Painting.—Address, H. BOUENE, No 47, James-street, Oxford-street, W.

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WANTED, an ENGAGEMENT, by a Clerk of Works, or as General Assistant, Estimator, and Draughtsman to a Builder, or as Assistant Surveyor. A joiner; acquainted with the other branches, setting out, and superintending on works keeping books, taking out quantities pricing estimates, &c. References to first-class London builders and others.—Address, Q. E. D. at Shaw's Library, 256, Oxford-street, W.

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WANTED, by a respectable Young Man, EMPLOYMENT as BELL HANGER, GAS FITTER, LOCKSMITH, &c. Can turn his hand to all kinds of Jobbing. Town preferred.—Address, W. B. Post-office, Reigate.

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AN active, energetic Young Man, of extensive practical experience in the provincial and metropolitan Building trade, manual and official, seeks a suitable Permanent ENGAGEMENT. Can make plans, take out quantities, prepare estimates, set out shop and other work, keep books, superintend, and measure up work. References to leading London and provincial Builders, &c.—Address, O. H. K. care of Mr. Leggett, St. Clare, 21, North Audley street, London, W.

TO ARCHITECTS, &c.

AN experienced ASSISTANT is open to a RE ENGAGEMENT. He is thoroughly competent to set out fair, working, detail, and perspective drawings. Good at construction, can assist in taking off quantities, and otherwise well up in office work.—Address, F. N. N. Office of "The Builder."

TO ARCHITECTS, &c.

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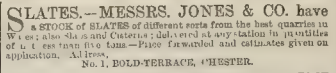
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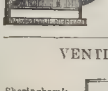
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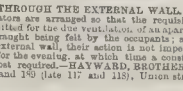
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	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	33s. 6d.	33s. 6d.	39s. 6d.	45s. 0d.
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Small Squares not exceeding 9½ inches by 7½ inches.

Ins. Ins.	Ins. Ins.	Ins. Ins.	Ins. Ins.	Per 100 feet.			
6 by 4	7 by 5	8 by 6	9 by 7	4ths.	3rds.	2nds	Best.
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Squares not exceeding 14 inches by 11 inches.

				Per 100 feet.			
10 by 8	12 by 9	12½ by 10½	14½ by 10½	4ths.	3ds.	2nds.	Best.
10½ by 8½	12½ by 9½	13 by 10	15 by 10	10s. 9d.	12s. 3d.	15s.	18s.
11 by 9	13 by 9	13½ by 10½	13 by 11				
11½ by 9½	12 by 10	14 by 10	14 by 11				

Squares not exceeding 20 inches by 18 inches.

				Per 100 feet.			
15½ by 10½	14 by 12	17 by 13	24 by 16	4ths.	3rds.	2nds.	Best.
16 by 10	14½ by 12½	18 by 13	29 by 17	11s. 6d.	13s. 6d.	16s. 6d.	20s.
14½ by 11½	15 by 12	18 by 14	22 by 17				
15 by 11	15½ by 12½	22 by 14	24 by 17				
15½ by 11½	16 by 12	24 by 14	29 by 18				
16 by 11	16½ by 12½	22 by 15	22 by 18				
13 by 12	17 by 12	24 by 15	24 by 18				
13½ by 12½	18 by 12	22 by 16					

Orchard-house Sizes, as recommended by Mr. Rivers.

Ins. Ins.	15 oz.	21 oz.	
20 by 12	4ths..... 11s. 6d.	4ths..... 15s. 0d.	Per 100 feet.
20 by 13	3rds..... 13s. 6d.	3rds..... 19s. 0d.	
20 by 14	2nds..... 16s. 6d.	2nds..... 25s. 6d.	
20 by 15	Best..... 20s. 0d.	Best..... 30s. 0d.	
20 by 16			

Squares Cut to Sizes not on List

	15 oz.				21 oz.			
	4ths	3rds	2nds	1st	4ths	3rds	2nds	1st
Under 1 foot super.	1½	1¾	2	2½	2½	2¾	3¼	4¼
Under 2 feet super.	1¾	2	2½	3	2¾	3	4	5½
Under 3 feet super.	2	2½	2¾	3½	3	3½	4½	6
Under 3 feet super	2½	2½	3	4	3½	3¾	4¾	6½

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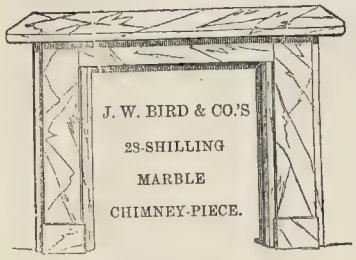
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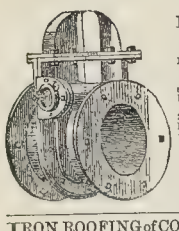
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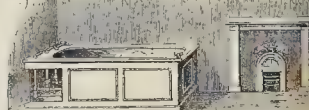
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PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
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TO BUILDERS, CONTRACTORS, &c
PORTLAND CEMENT.—JAMES NESBIT is prepared to supply Portland Cement of superior quality and strength, at such a price as will enable Builders to use it for purposes from which the high price usually charged has hitherto prevented its being used. Terms on application.—Berney Arms, Portland Cement Works, Burgh Castle, Great Yarmouth.

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MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

PAINTED GLASS WINDOWS and MURAL DECORATION.
LAVERS & BARRAUD,
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GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
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CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
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SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, fern cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

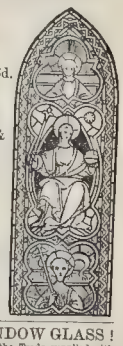
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Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental, Rough, Rolled, and Patent Plate. Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at
GRIBBLE'S CITY GLASS WAREHOUSE,
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SECOND-HAND PLATE-GLASS WANTED, with or without mahogany sashes and doors, for two shop-fronts.—Address, T. O. M. Stanesly's Post office, 179, Sloane-street, S.W.

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Notice.—MIDSUMMER RENEWALS.
Mercantile and Dock Insurances at the Reduced Rates.
The business of the Company exceeds £1,000,000.
The duty paid to Government for the year 1861 was £3,076, and the amount insured on farming stock £1,036,782.
A bonus of three-fifths of the profits periodically made to parties insuring, who have thus from time to time received sums amounting in the aggregate to £40,884.
The rates of premiums are in no case higher than those charged by the other principal offices making no returns to their insurers.
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JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

J. MILLS,
110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET
(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

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TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices for cash

Real sash and Frames, Boxing Shutters, Doors Staircases, Hand rails, and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot houses, and Conservatories, on the most improved principles.

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Spruce.	White.	Yellow.
½ inch, from 12s.	14s. 9d.	14s. 6d. per square.
⅝ " 14s.	13s. 6d.	14s. 6d. "
¾ " 16s.	15s. 6d.	15s. 6d. "
1 " 16s.	15s. 6d.	15s. 6d. "
1¼ " 17s.	18s. 6d.	18s. 6d. "

180 feet run of 7 inches, 140 feet run of 9 inches to the square.

White Battens, 9d. 10s. per 120, 12 feet.
Yellow ditto, 10d. ditto ditto.
4 inch Match Boards, 14s per square.
⅝ " 14s. "
¾ " 16s. "
Venetian Blind Laths, 6s. per 10½ feet sup.

CHARLES CUTLER,
SURREY SAWING AND PLANING MILLS, CHURCH STREET, KENNINGTON.

FLOORING! DEALS! MAHOGANY!
100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
5,000 Yellow Battens..... from £10 10s. per 120
2,000 Spruce ditto ..... from £9 per 120

SPRUCE DEALS, 2s. 6d. each.
FIR TIMBER 55s. PER LOAD.
Scaffold Poles ..... 1½d. per foot

YELLOW DEALS, £16 PER 120.

SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	White (not Spruce).	Yellow.
⅝-inch Flooring	11s. 6d. to 12s. 0d.	13s. 0d. ..... per Square.
¾-inch "	12s. 0d. to 13s. 0d.	13s. 0d. to 14s. 6d. "
1-inch "	14s. 6d. to 16s. 0d.	15s. 6d. to 18s. 6d. "
1¼-inch "	18s. 0d.	20s. 0d. to 22s. 0d. "

YELLOW DEALS, 3 by 9, from...£16 10s.

Yellow Battens ..... £11 10s. per 120
½ White Matched Lining ..... 12s. per square.
½ Yellow ..... 16s. "

J. TERRY & SON, 109, BOROUGH ROAD, S.E.

REDUCED PRICES.
BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.				Laths, 2s. per Load.	
Yellow Deals, sound and good	£16	0	0	per 120, or 3d. per foot.	
Spruce Deals	15	0	0	"	2½ "
Yellow Battens, excellent quality.....	10	10	0	"	1s "

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

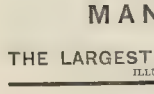
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MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

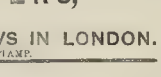
Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.



MOULDING WORKS.
SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.



Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

GREATER REDUCTIONS.—
Yellow Deals, from 9s. 9d.; Spruce, from 8s. 6d.; Pine Plank, from 9s. 3d.; Mahogany, 6d.; 9x4 Yellow Battens, 11s. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 13s. 9d.; ¾ White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

DRY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
JOHN COUMBE'S,
LADY LAKE'S GROVE, MILE-END-GATE.

JOSEPH & ALFRED ROSLING
beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,
30,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER YARD, MANCHESTER.

LATHWOOD.—Best and largest Stock of
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STEPHENS'S STAINS for WOOD.
A SUBSTITUTE for PAINT, and at HALF the COST

Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. E. H. CHICHESTER, of Chittlehampton, near South Molton:—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

NOTICE.—Builders and Decorators will
find superior and unparalleled advantages in WEALL'S PATENT STAINS, conquering the rich oak, satin wood, wainscot, Spanish mahogany, &c.; they far surpass anything ever seen, and entirely supersede paint for the interior woodwork of dwelling-house, being admirably adapted for the castle, the magnificent hall, the library, the drawing-room, and the minature cottage; also for church work, merchants' and bankers' offices, railway stations, schools, &c. &c.—To be had of T. J. HOGG, 3, Brunswick place, City-road, E.C.; Price 8s. per gallon. Post orders will have best attention.

IMPORTANT to BUILDERS.—This new system of staining cathedral church, libraries, halls, &c. to resemble rich oak, &c. is most magical and exquisite, and only requires a trial to prove the estimated advantages realized in the finishing of work. Those who have not yet used it should do so, being less expensive than the common articles.

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(successors to THOS. KENT & CO.), the celebrated
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*** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT and CROWDEN & GARROD, are stamped on the Brushes.

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KENT'S PAINTING BRUSHES
are all stamped G. B. KENT & CO
And are manufactured solely by G. B. KENT & CO.
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Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

PATENT GRAINING APPARATUS.—
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One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person not having his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW Patent Graining Tool Manufacturer, 33, High-street, Marylebone Louden, W.

N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post office order for 22s.

PRIZE MEDAL, 1862.
HAMILTON & CO
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKIN'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graniers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants &c. are supplied on the lowest terms. Price Lists forwarded on application.

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PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 9d. per Gallon; Boiled Oil, 4s. per Gallon.
Turpentine, 8s. per Gallon.
Fine Pale Varnish 8s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Colesbill-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

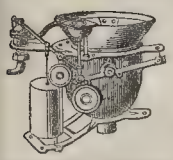
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GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.

Sample gallons may be obtained at the Manufacturers', price 4s.
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TO REMOVE or CLEAN OLD PAINT
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NAENIARE & CO.'S PATENT LETHICIUM
which does it in twenty minutes. Sold at 3s per gallon. Also Brush to apply and remove, 2s. per pair.—For particulars, apply at 21, St Andrew's-hill, London, E.C. Success guaranteed.

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No. 57. Self-Regulating Pan Closet. No. 1. Lambert's Ball Valve. No. 6. High-Pressure Bib Valve. High-Pressure Stop Valve.

FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH-PRESSURE VALVE COCKS,

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T. L. & SON find it necessary to state that all the Ball and other Valves manufactured by them, have their NAME legibly marked thereon.



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GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

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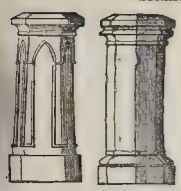
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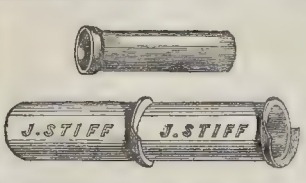
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







PAN, 4s. 6d.

TRAP, 2s.

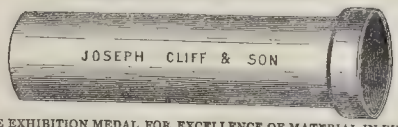
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

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ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE, BOTH ROUND AND EGG-SHAPED.

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DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.;

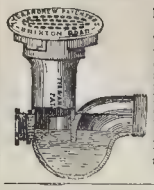
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Specimens of the Silicates and Aluminates, and of their applications, may be seen at the CONSTRUCTIONAL DEPARTMENT, SOUTH KENSINGTON MUSEUM.

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PATENT FLUO-SILICIC INDURATIONS for the PRESERVATION of STONE, CEMENT, and other like materials. The Company apply to the surface of Stone, Cement, &c. a solution of Fluo-Silicic Acid, and Silicate of Potash. These are the only patents which combine the use of that most valuable agent, Fluo-Silicic Acid. Bath, Caen, and other soft stones, when treated by the Company's solution, become extremely hard. The great expense of high ornament to buildings in hard stone has been an obstruction to Art; but since the Fluo Silicic process can as readily be applied to soft stone after it is carved, that obstruction exists no longer. The Fluo-Silicic at once permanently arrests the decay of all stone.—For further information, apply to the Manager of the Company, Mr. DUDLEY, Architect, as above.



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SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

INTERNATIONAL EXHIBITION, 1862.
CLASS 35, NO. 6849.

3s. 9d.



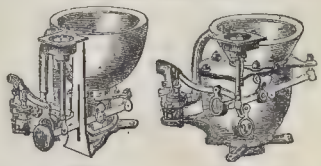
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In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

J. TYLOR & SONS' PATENT
REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cistern valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate-street, London.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO'S Pattern book, designed by M. Digby Wyatt, esq., together with a special design and estimate (if cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 426, West Strand, who have on view a great variety of Specimens of the Pavements.

MINTON & CO.
HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Brosely colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Paving BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Firstly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and Sirdly, that the "Reports of the Juries," page 681, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

HAY'S PATENT WATERPROOF GLUE and INDIA-RUBBER VARNISH.—To ARCHITECTS, BUILDERS, PAPER HANGERS, &c. &c.—The WATER-PROOF GLUE is a special anti-damp, and is suitable for contractors, joiners, coffin-makers, &c. &c. The VARNISH for damp walls, previous to papering, coating zinc verandahs, &c. &c. Copy of a letter from Messrs. Rogers & Booth, contractors, Gosport:—

"We have repeatedly used your Waterproof Glue as a preventive against damp, and have found it most valuable in preparing walls to receive paper. In one instance, where the walls were thoroughly saturated with moisture from earth filled against the outside, we used your varnish internally, and papered the surface, within a few hours of its being applied, with complete success. We have also used your preparation for coating a large number of cast-iron piles, at the Gunwharf, Portsea, for her Majesty's War Department."

To be had from all Ironmongers, Oil and Colourmen, &c.

Manufactory, Claude-street, Portsmouth; Mr. GEORGE WEEKS, Manager. GEORGE C. WARDEN & CO. General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 141, Fleet-street, London.

These Pencils are prepared in various degrees of hardness and shade.

H H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
	B B B B ditto ditto.

M medium.

Sold by all the principal Stationers in town or country.

SALES BY AUCTION.

VENEER KNIFE-CUTTING MACHINE.

MESSRS. FULLER & HORSEY will SELL by AUCTION, on TUESDAY, JUNE 16th, 1863, at ELEVEN o'clock, on the PREMISES, Eagle Wharf-road, New North road, a very powerful VENEER KNIFE-CUTTING MACHINE, capable of cutting from 16 to 70 veneers to the inch from wood 7 feet 11 inches long by 4 feet 6 inches wide, with rising and falling table 5 feet by 8 feet. Cast-iron planed bed, with screws, self-acting feed and reversing motion, overhead motion and driving shaft, made by Haley, Manchester. Also, a wrought-iron cylindrical STEAMING TANK, 6 feet diameter, 12 feet long. To be seen at any time by special order, which, with descriptive particulars, may be had of Messrs. FULLER & HORSEY, 15, Billiter-street, London, E.C.

Ye, Billiter-street, 21st May, 1863.

VALUABLE FREEHOLD AND COPYHOLD BUILDING LAND, WHITECHAPEL, occupying a site of about six acres

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at the MART, on WEDNESDAY, JULY 1, 1863, at TWELVE o'clock, in one LOT, a most important Sale of FREEHOLD and COPYHOLD LAND, about six acres, situate in the rear of the Whitechapel Distillery, Bucks-row, abutting upon the Eastern Counties Railway, from which a siding must be formed. Also, the approaches from Wentworth-street Selby-street, and other adjoining streets. For the erection of any large manufacturing establishment this property is of large value, from its space and proximity to the city. Printed particulars are in course of preparation, and with plans, may be had, this day had of Messrs. TENNANT & DARLEY, Solicitors, Raymond's-buildings, Gray's-inn, W.C.; of Messrs. BUCKETT, SON, & PARTON, Solicitors, Lincoln's-inn-fields, W.C.; at the Mart, and of Messrs. FULLER & HORSEY, Billiter street, London, E.C.

CROYDON, SURREY.—Excellent Building Materials.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the town of Croydon, on MONDAY, JUNE 22, 1863, at TWELVE for ONE o'clock precisely (SEVENTEENTH PORTION OF THE VERY USEFUL BUILDING MATERIALS of some of the buildings belonging to the Addiscombe College, comprising about 80,000 bricks, a large quantity of lath, paving stone, and rubble; a handsome cast-iron stove, windows and frames, deal timber, consisting of beams, joists, floor boards, roofing boards, lintels, purlins, &c.; chimney pots, iron water piping and sashing, fencing, &c.—May be viewed on the Friday and Saturday before the sale. Catalogues may be obtained of the Foreman on the Estate; and of the Auctioneer, 11, Moorgate-street, E.C.

PLUMSTEAD, KENT.—Freehold Estate, comprising a brick-built House, Five Cottages, Outbuildings, and about Two-and-a-half Acres of Land, suitable for building purposes

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the TOWN HALL Woolwich, on FRIDAY, JUNE 26, 1863, at SIX for SEVEN o'clock in the evening, a FREEHOLD ESTATE, consisting of a brick-built House, containing attic in roof; on the second floor, two large bedrooms, first floor, four rooms; ground floor, two large bedrooms, two parlours, store-room, kitchen, &c. A commodious two-story House, Five Cottages, and about two acres of market garden Land in the rear; land tax redeemed; suitable for building purposes; situate off the high road from Woolwich to Erith, and a short distance of the Arsenal Station, and near to the Plumstead Station on the North Kent Railway. The whole will be first offered in one lot, and if not sold, the premises will be offered in two lots, and the land in twenty-two lots for building purposes. None-tenths of the purchase money may remain on mortgage or contract at five per cent, to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained ten days before the sale, of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, E.C.; and of Mr. JOHNSON, on the Shooter's Hill Estate; of Mr. R. GREEN, Richard-street, Woolwich; and at the Place of Sale.

WIMBLEDON, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, JULY 6, 1863, at TWELVE for ONE o'clock, in 63 Lots, the remaining portion of the valuable FREEHOLD BUILDING LAND, free from tithe and land tax, with frontages to the new road called Hartfield-road, to the Wimbledon Station, on the main line of the London and South-Western Railway. Nine-tenths of the purchase money may remain on mortgage or contract at five per cent, to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained ten days before the sale, of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; and of the Auctioneer, 14, Moorgate-street, E.C.; and at the Place of Sale.

ADDISCOMBE COLLEGE, CROYDON, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the GREYHOUND INN, Croydon, on TUESDAY, JUNE 23, 1863, at SIX for SEVEN o'clock in the Evening, a further portion of this eligible ESTATE, late the property of the Hon. the East India Company, consisting of about 32 Lots of eligible FREEHOLD BUILDING LAND, with frontages to the St. James's and Park-roads. The lots are well adapted for a good class of Villa Residences. The property is within ten minutes' walk of the New and Handsome Railway Station, a mile of that at West Croydon; and when the Addiscombe Railway is completed the station will be on the estate, thus bringing the property in constant communication with the City and West End at all times of the day. Nine-tenths of the purchase money may remain on mortgage or contract at five per cent, to be paid in nine years by half yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained about ten days before the sale, of Mr. PALACE, South Lodge, Addiscombe Road, Croydon; at the Station in the neighbourhood; of Messrs. RUSSELL & DAVIES, 59, Coleman-street E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, BROMPTON, S.W.

Notice of PRIVATE SALE of about 200 MARBLE CHIMNEY-PIECES, to be sold at very reduced prices to save the expense of removal to the Brompton rooms, the following Marbles, viz.: Statuary, Rouge Royal, Black and Gold, Black, Sienna, Bardilla, Dove, California, St. Ann's, Rouge Jasper, Jeune Fleure, Brocatella, Genoa Green, Irish Green, Blue Belgic, Emperor's Red, Irish Fossil, Campan Melange, Vein, Sicilian, and various excellent specimens of British Marbles, varying in price from 1l. 10s. to 30l.; and for elegancy of design, workmanship, and quality, not to be surpassed in England. Purchases to the extent of 50l. and 50l. approved bills of three and four months will be taken, less 25 per cent cash. Purchasers from the country will be supplied with packing cases, and the same packed and delivered to any of the metropolitan stations for 1 per cent, on the amount purchased.

ELIGIBLE OPPORTUNITY FOR BUILDING.—BISHOP'S WALTHAM, HANTS.

MR. R. AUSTIN is favoured with instructions to SELL by PUBLIC AUCTION, at the CROWN HOTEL, Bishop's Waltham, on TUESDAY, JUNE 16, 1863, at ONE for TWO o'clock, the LEASES of many very valuable BUILDING SITES, with frontages to the Winchester and Portsmouth main turnpike roads, and near the improving town of Bishop's Waltham (which has long been noted for its salubrity), close to the Railway Station, and overlooking an ornamental sheet of water and the picturesque old Palace Ruins, having extensive and charming views over a hill-and-dale and well-wooded country, within about thirty minutes' distance of Portsmouth, Southampton, and Winchester, and about 2½ hours from the metropolis. The Bishop's Waltham Clay Works and Messrs. Blanchard's Terra-cotta Factory, employing many highly parliamentary, together with the railway and important works of improvement now in progress at Bishop's Waltham, make these sites very desirable for building purposes. The public are informed that they would not now have the opportunity to purchase these much-coveted building sites but for the recent enfranchisement of the land.—Plans to be seen at the Offices of the Auctioneer, 20, Portland street, Southampton, and Bishop's Waltham of whom particulars may be obtained.

GREAT WESTERN RAILWAY.—Clearance Sale of Property in the Goods and Passenger Department.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Great Western Railway Company, to SELL by AUCTION, at the GOODS STATION, Paddington, on MONDAY and TUESDAY, JUNE 22nd and 23rd, at TEN for ELEVEN, a large quantity of Miscellaneous PROPERTY: comprising, a 20-horse power steam-engine, 50 tons of new iron of various descriptions, fitters-making machine, washing and mangling machine, pug lead, block tin, copper and brass, 80 casks of cement, dry walnut-tree planks, tobacco, rice, leather, several cases of artificial flowers, linen and woollen rags, wine, brandy, &c.; also the unclaimed property in the Passenger Department, comprising the usual assortment of wearing apparel, umbrellas, bags, railway wrappers, and numerous other effects.—May be viewed on FRIDAY and SATURDAY previous, with Catalogues only, which may be had at 6d. each, of Messrs. PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, and 8a, Fore street, City.

TO CONTRACTORS, BUILDERS, AND OTHERS.—Surplus Plant and Materials

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the GROUND, adjoining the Railway Station, King's cross, St. George's Wharf, Agar Town, York road, and Chalk-place, Gray's-inn-lane, on TUESDAY, JUNE 16, and following day, at TWELVE, in lots, by order of John Jay, as in consequence of the completion of the Metropolitan Railway Works, the remaining portion of the valuable and extensive SURPLUS MATERIALS and PLANT, comprising trollays, dobbin carts, navvy, crowding, and bearing-off barrows, blocks and falls, chains and slings, wrought and cast iron, round and work skips, wrought iron wheeling plates, stone paving, slates, two capital river barges, two steam wash boats, 40 loads of capital timber, in sticks and balk, plank, die square, struts, sleepers, &c.; a large quantity of centreing, scaffold-poles and boards, carts, screens, harness, ropes, engineers' and contractors' boarded erections of sheds, an engine and other effects. May be viewed the days previous. Catalogues had at the Places of Sale, and of PULLEN, HORNE, & EVERSFIELD, 8a, Fore street, E.C. and 40, Parliament street, S.W.

FOR SALE by PUBLIC AUCTION, in the SALE-ROOM, at P. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, 24th day of JUNE, 1863, at ONE o'clock precisely. (Luncheon at Half-past Twelve o'clock.) For account of Importers

25,000 Spruce Deals, Battens, and Ends
5,000 Quebec Pine Deals
4,000 St. Petersburg Red and White Wood Deals
5,000 Onega Red Deals and Battens
1,000 4 by 11 inch Fresh Red and Yellow Deal Deals
3,000 Fresh Swedish Deals and Battens
4,000 Fresh Christiana Deals
200 Loads Quebec Board Yellow Pine
150 Loads Quebec Red Pine
500 Loads Quebec Pine
10 Loads Quebec Oak
200 Loads Fresh Memel Timber
40 Loads Fresh Memel Oak
80 Waimscot Oak Logs
300 Loads Dantzic Redwood Timber
200 Loads Swedish Timber
100 Norway Masts
1,000 Ditto 4 to 6-inch Spars
200 Ditto 4 inch Ditto
2 m 22 feet Rickers
40 Fathoms Hemlock, Dantzic, and St. Petersburg Lathwood
10,000 Palings
Flooring.

With other Goods
Catalogues will be issued a the Week of Sale.
F. K. BARNES & SONS, Brokers.
Canons' Marsh, Bristol, June 9th, 1863.

HIGHGATE.—23 Acres of Freehold Building Land.

MESSRS. WINSTANLEY have received instructions to offer for SALE by AUCTION, at the MART, on THURSDAY, JUNE 25, in lots, the remaining portion of the BROOKFIELD ESTATE, beautifully situate on the southern slope of Highgate Hill, and comprising about TWENTY-THREE ACRES of LAND, available for building purposes, having extensive frontages, and commanding picturesque views. The lots will vary in quantity from one to three acres, affording to purchasers an opportunity either to erect residences for their own occupation, or to build for the accommodation of parties carrying on business either in the City or at the West-end. The property has, at a short distance, the great advantage of the Railway, and it combines communication with all parts of the metropolis, with the probability shortly of increased facilities, is within the privileged district, and is free from rates, and from the Parochial School.—To be viewed. Printed particulars may be obtained of Messrs. RANKEN, FORD, LONGBOURNE, & LONGBOURNE, Solicitors, No. 4, South-square, Gray's Inn, W.C.; of Messrs. REED, REW, & CO., Solicitors, 2, Henrietta-street, Covent Garden, W.C.; at the Place of Sale; and of Messrs WINSTANLEY, Paternoster row, E.C.

FREEHOLD BUILDING LAND, close to the Norwood Junction Station on the London, Brighton, and South Coast Railway, at which upwards of 100 trains stop to and from London Bridge and Victoria daily, and only a short distance from an intended station on the Mid-Kent and Addiscombe Railway, about nine miles from London

MESSRS. WINSTANLEY have received instructions to offer for SALE by AUCTION, at the MART, Bartholomew-lane, on WEDNESDAY, the 1st of JULY, in thirty lots, Lot 1 being the FREEHOLD PROPERTY, known as the ENDMILE PARK ESTATE, land-tax redeemed and tithe free: consisting of about twenty-three acres of most eligible building land, desirably situate between Woodcote Lodge, near South Norwood, in the parish of Croydon, and the Norwood Junction Station, commanding extensive views of the surrounding picturesque scenery, and within a short distance of the Crystal Palace. The estate possesses important frontages nearly 6,000 feet to capital roads, and presents excellent sites for the erection of villas or other residences, for which there is a growing demand in the locality. Lot 2 will be a large quantity from 40 to 50 acres, and Lot 3 about half an acre to two and a half acres, and in the hands of building capitalists this property offers attractions of no ordinary character. To be viewed. Printed particulars, with plans, may be had, twenty-one days preceding the sale, in Croydon; of Messrs. DRUMMONDS, ROBINSON, & TILL, Solicitors; of Mr. JOHN BERNEY, Surveyor; at the Greyhound Inn, the Bedford Arms, Wyndham road, and the Windmill, St. James's-road, Croydon common; the Jolly Sailor, South Norwood; and in London, at the Place of Sale; and of Messrs. WINSTANLEY, No. 10, Paternoster-row, E.C.

BISHOPSGATE STREET WITHIN.—TO BUILDERS, CONTRACTORS, TOOL DEALERS, AND OTHERS

MR. MARSH has received instructions from the Directors to SELL by AUCTION, on the PREMISES, on TUESDAY, JUNE 30th, at ONE o'clock, punctually, the whole of the Valuable MATERIALS and FIXTURES of the National Provincial Bank of England, 112, Bishopsgate Street Within, in consequence of the site being required for the re-building of new banking premises: including about 35 squares of slating, oak and fir timber in rafters, joists, and principals; 2 doors, 4 by 9 feet, of polished mahogany, and other doors; 75 pairs of elegant sashes; a handsome stone staircase, with large landing; York and Portland Stone, in paving, steps, cornices, string courses, sills, plinths, architraves, and stone pediment and portico; about 1,000,000 sound stock bricks; 20 tons of lead, in flats, gutters, hips, cesterns, and pipes; mantels and other chimney pieces, stoves, ranges, fittings, and effects.—May be viewed two days prior to the Sale, and Catalogues obtained on the Premises; of JOHN GIBSON, Esq. Architect, 13, Great Queen-street, Westminster, and at Mr. MARSH'S Offices, 2, Charlotte-row, Mansion House.

STRATFORD, ON THE CHOBHAM ESTATE.

MR. JOHN M. DEAN will SELL by AUCTION, at the SWAN INN, Stratford, on TUESDAY, JUNE 23rd, at FOUR p.m. in Eighteen Lots, Fifty-six Plots of valuable FREEHOLD BUILDING GROUND, having an aggregate frontage of 1,107 feet on Leyton-road, Lavett-road, Chobham-road, Chandos-road, and Temple Middlene, by depths of from 140 to 150 feet, and being some of the most eligible plots on the estate. The land is pleasantly situate, in a particularly dry and healthy locality, within easy access of several railway stations, and bounded by good well made roads.—Particulars, with plans, may be had of H. HARRIS, Esq. solicitor, 34a, Moorgate-street, E.C.; at Messrs. MADOX & WYATT, 30, Clement's-lane, E.C.; SWAN, Stratford; and of Mr. JOHN M. DEAN, Auctioneer and Surveyor, The Grove, Stratford, E.

FARM AND SLATE QUARRY, SOUTH DEVON.—An excellent Farm, with large and valuable Slate Quarry, in the Parish of Ugborough, near Ivybridge, Devon, twelve miles from Plymouth, and close to three important Stations on the South Devon Railway. TO BE SOLD by AUCTION, by

MR. JOHN MALLET, on MONDAY, the 13th day of JULY next, at the LONDON INN, Ivybridge, at TWO o'clock for HALF-PAST in the afternoon, either together or in the following lots (subject to such conditions as will be then and there produced, viz.: the FEE SIMPLE of all that BALTON or FARM, called "Wood and Blowdens," situate in the Parish of Ugborough, Devon.

Lot 1 comprises a good FARM-HOUSE, with all necessary farm buildings, and SEVENTY-SEVEN ACRES (be the same more or less) of superior orchard, meadow, arable, and pasture land, in the occupation of Mr. Richard Cole, as tenant thereof, for a term of seven or fourteen years from Lady-day, 1863. Also a SLATE QUARRY, measuring about four acres of same estate, which has been in work about a century, and which is now held under lease for a term of twenty-one years from the 24th JUNE, 1858, by E. T. Rose, of Wembrook, producing a large quantity of slate of a very superior quality. About fifty acres of the farm contain slate of the best description, and several acres more of the quality of slate, the rock being intersected.

Lot 2. Two superior COTTAGES, one of which is fit for the residence of a respectable family, having eight rooms, and the other cottage adjoining five rooms, with necessary outbuildings and Two Good Gardens and a Field of Land, containing 3a. 0r. 23p or thereabouts

The WHOLE of the PROPERTY is TITHE-FREE, and LAND TAX REDEEMED.

The above property being full of slate rock, within a mile and a half of the Stowford Siding, and also at two miles from Ivybridge and King Bridge-road, and on the South Devon Railway, only seven miles from the Port of Plymouth, and nine miles from Totnes, gives great facilities for sending slate to all parts of the kingdom. Such an opportunity for a spirited capitalist or company to enter into the slate trade is very seldom to be met with. From the great facilities for sending off the quarry by rail and water, it is quite certain that a large profit can be realised. To parties in search of desirable investment this estate presents an opportunity of more than ordinary advantage. The farm is pleasantly situated, and many good sites for building cottages could be let on the property. The market towns for cattle are Ivybridge, two miles (monthly); Modbury, three miles, ditto; and Totnes, nine miles, ditto. There is good trout fishing in the neighbourhood. Further particulars may be had on the premises, or may also be obtained of him; of the Auctioneer, Ashprington, near Totnes; or of Mr. WALTER FRIEND, Solicitor, Post-office Chambers, Exeter.

Dated 3rd June, 1863.

OLD BROAD STREET.—Highly important Freehold Property, close to the Stock Exchange, Royal Exchange, Bank of England, and other public buildings, occupying an area of upwards of 1700 square feet.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE by AUCTION, at the MART opposite the Bank of England, on FRIDAY, 26th JUNE, at TWELVE o'clock, unless previously disposed of by Private Contract, the very valuable FREEHOLD PROPERTY, comprising the site of Nos. 8, and 9, Old Broad-street, with the vacant ground in the rear adjoining the noble building recently erected by the Great Marine Insurance Company, fronting upon the Bank of London, and nearly opposite one of the entrances to the Stock Exchange. It possesses a frontage of 37 feet, extends in extreme depth about 60 feet, and has an area of 1,700 feet, and presents to any public company an opportunity rarely to be met with of securing a site for offices in one of the very best and most valuable situations in the City of London. To be viewed. Particulars, had 21 days prior to the sale, of W. PAYHAM, Esq., Solicitor, 17, Old Broad street, at the Mart, and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

IMPORTANT FREEHOLD PROPERTY in Wray Park, Reigate, comprising the Residence, with its garden and pleasure-ground, and several Pieces of Building Ground.

MR. JOHN LEES has received instructions from the Proprietor to SELL by AUCTION, at the MART, opposite the Bank of England, on THURSDAY, 23rd JUNE, at TWELVE o'clock, a most valuable and valuable FREEHOLD PROPERTY, bounded by Wray Park-road, Brighton-road, and Reigate-road, and including six residences, each pleasantly situated and commanding extensive views, a short distance from St. Mark's Church, in the Reigate town Railway station on the South-Eastern Railway, a mile and a half from Red-hill Junction, and only thirty minutes' journey by rail from London. The houses are planned with regard to the requirements of a family, and are known as Meadow-hill, Wray Park, Wray-mount, and Temple Court, having stabling, Mansion Villa, and two other residences with suitable accommodation, the whole having rates, gardens and pleasure grounds. The property of building ground possesses a frontage to the Wray Park-road, Brighton-road, and Reigate road, and are admirably adapted for the erection of gentlemen's residences, the whole containing an area of nine acres, and being of the value of upwards of 200 per annum. Particulars may be obtained of Messrs. PEPER ROAD, PRITCHARD, & WILTSHIRE, Estate Agents, &c. No. 28, Poultry, London; of Messrs. WATSON & SON, Solicitors, No. 13, Bouverie-street, Fleet street, London, and Hammersmith; at the Auction Mart, and of Mr. JOHN LEES, Estate Agent and Auctioneer, Reigate, Surrey.

THE CLIFF, SCARBOROUGH.—TO BUILDERS, CONTRACTORS, &c.—Extensive Sale of Building Materials.

MR. W. TASKER HART has received instructions from the Directors of the Scarborough Cliff Hotel Company, Limited, to SELL by AUCTION, on the PREMISES, on TUESDAY, JUNE 16, 1863, the whole of the BUILDING MATERIALS, except the bricks, of the lodging or dwelling houses, Nos. 1, 2, 3, 4, 5, 6, and 7, and the five cottages situate on the east side of St. Nicholas Cliff, and which said buildings are to be pulled down, and the materials cleared away on or before the 8th of JULY, 1863. Several of the houses have been built within the last eighteen years, and contain iron grates and timber of the best description. Each house will be put up for sale separately. Sale to commence at ONE o'clock precisely. The whole of the houses will be open for inspection one week prior to the Sale.—For conditions of Sale and further particulars, apply to Messrs. J. & J. MOODY, Solicitors, Scarborough; A. W. D. HEATHER, Esq. Solicitor, Leeds; CUTHBERT BRODRICK, Esq. Architect, Leeds; to Mr. WM. TASKER HART, Auctioneer, Scarborough; and at the Temporary Offices of the Company, 7, St. Nicholas Cliff, Scarborough.

To TIMBER MERCHANTS, CABINET AND PIANOFORTE MAKERS, BUILDERS, AND OTHERS

MESSRS. J. C. CLEMMANS & SON will SELL by AUCTION, at 4, BOUNDARY STREET, SHOREDITCH, on TUESDAY, JUNE 16th 1863, at TEN for ELEVEN, with at reserve, the entire well-assorted STOCK of Mahogany and Timber therein. To view the day prior to and morning of sale. Catalogues to be had on the Premises, and of the Auctioneers, No. 1, Spital square, Bishopsgate, and 21, Holywell-row, Finsbury-square.

ST. PANCRAS FREEHOLD LAND SOCIETY.—The last Portion of valuable Building Land, giving Votes for the County.

MR. W. H. MOORE is instructed by the mortgagees to SELL by AUCTION, at GARRAWAY'S, on THURSDAY, JUNE 18, at ONE, in twenty-two lots, valuable FREEHOLD BUILDING LAND, comprising three plots on the Red Seven Acres road Estate, nine plots on the Upper Hollway Estate, ten plots on the Perkins Rye Estate, and seven plots on the Guilford Building Estate, near the Holloway station, which confer a right of sole airship to the public school at Harrow, and the usual advantages of reduced railway tickets. Particulars, &c. at Garraway's; of J. WILLIS, Solicitor, No. 32, Percy-street, W.; and at the Auctioneer's Offices, 6, George-street, Euston-road.

[For remainder of Auctions see p. 432.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, June 13, 1863.

The Builder,

A JOURNAL FOR

Architect, Engineer, Operative & Artist.

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ROYAL ACADEMY of ARTS. — The EVENING EXHIBITION will commence on MONDAY next, the 22nd of JUNE, and continue open every evening. Admission (from Half-past SEVEN till Half past TEN), SIXPENCE. Catalogues sixpence. JOHN PRESCOTT KNIGHT, R.A. Sec.

INSTITUTE of PAINTERS in WATER COLOURS, founded 1831, as the NEW SOCIETY of PAINTERS in WATER COLOURS.—The ANNUAL EXHIBITION is NOW OPEN. Admission, 1s.—Gallery, 53, Pall Mall, opposite Marlborough House.

WILL CLOSE JUNE 30th.

ARCHITECTURAL EXHIBITION, 9, Conduit street, Regent street, W. NOW OPEN daily, from 10 till 6. Admission, One Shilling. Season Tickets, Half-a-crown, admit at all times.

JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, F.I.B.A. }

Also, in conjunction with the above, the Exhibition of the Society of Sculptors of England. MORTON EDWARDS, Hon Sec.

ARCHITECTURAL ASSOCIATION.—A SPECIAL BUSINESS MEETING will be held on FRIDAY EVENING next, JUNE 27th, to commence at EIGHT o'clock—

"To consider the propriety of adding to the Rules, and (if the proposal be agreed to) to add to the Rules the following:—

"The President of the Voluntary Architectural Examination Class *ex officio* a Member of the Committee of the Association."

CHARLES J. ADAMS, } Hon.
H. AITWOOD REEVES, } Secretaries.

COMPETITIONS.

TO ARCHITECTS.—The Deal and Walmer Public Rooms Company (Limited) are desirous of receiving PLANS, ELEVATIONS, SECTIONS, and SPECIFICATIONS for BUILDING ASSEMBLY ROOMS, LECTURE ROOM, and OFFICES. The whole outlay not to exceed 2,000*l*. A commission of 5*l*. per cent. on the cost of building, will be paid to the architect whose plans are adopted, to include a proper supervision of the works. The drawings, &c. to be forwarded under motto, to the Secretary, on or before the 20th JULY, 1863, and of whom further particulars may be obtained, on application.—By order of the committee,

Deal, June 13, 1863. J. B. EDWARDS, Secretary (pro tem.).

CONTRACTS.

TO BUILDERS.—Persons desirous of TENDERING for the RE-SEATING of the newly-built CHAPEL at East Leake, in the county of Nottingham, may inspect the plans and specification, and see the pattern seat, at the Chapel, East Leake, on and after MONDAY, the 22nd day of JUNE next. Sealed Tenders, endorsed "Tenders for Re seating Chapel, East Leake," to be sent to C. ANGRAVE, Esq., East Leake, near Notting ham, on or before TUESDAY, JUNE 30, 1863. The lowest or any tender will not necessarily be accepted.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE TO BUILDERS.

TENDERS are required for the ERECTION of QUARTERS for the Families of Married Soldiers, at Netley Hospital, in the County of Hants.

Parties desiring to Tender for these works are required to attend at this Office on TUESDAY, the 30th day of JUNE, 1863, at TWELVE o'clock, to appoint a Surveyor to take out the quantities in conjunction with the Government Surveyor. Each party will be required to pay the sum of one guinea for the quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Netley, 6th June, 1863.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of QUARTERS and STABLES for MILITARY TRAIN, at Netley Hospital, in the County of Hants.

Parties desiring to Tender for the execution of these Works must leave their names at this Office, on or before the 30th day of JUNE, 1863, and pay the sum of Ten Shillings and Sixpence for the bills of quantities, which will be forwarded to each party, as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Netley, 6th June, 1863.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.—TENDERS are required for the RENEWAL of the SLATING, LEAD GUTTERS, VENTILATOR COVERS, and FLASHING, and for the REPAIR of BOARDING under SLATING and GUTTERS of the west wing of the Cavalry Barrack, Brighton.

Parties desirous to Tender for the execution of these works must call or send their names to this Office, between the hours of TEN a.m. and FOUR p.m. (Sundays excepted), from the 18th to 23rd of JUNE, 1863, inclusive, where they will receive every information to enable them to take out their quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Brighton, 15th June, 1863.

PRINTING CONTRACT.—The Committee for Finance of the Vestry of the Parish of St. Mary Abbott's, Kensington, in the county of Middlesex, will meet at the Vestry Hall of the said parish, on TUESDAY, the 30th day of JUNE inst. to receive TENDERS and CONTRACT for the PRINTING required by the said Vestry during the year, commencing on the 1st day of JULY next.—Printed forms of Tender and further particulars can be obtained on application at my Office as above, where Tenders are to be delivered, sealed, and endorsed "Tender for Printing," on or before FOUR o'clock on MONDAY, the 29th day of JUNE inst. No Tender will be received except it be made upon one of the said printed forms. The Vestry does not bind itself to accept the lowest or any Tender.

By order, REUBEN GREEN, Clerk of the Vestry.

Vestry Hall, High-street, Kensington, June 15, 1863.

PARISH of ST. MARY ABBOTT'S, Kensington, in the county of Middlesex.—CONTRACT for BROKEN BLUE GUERNSEY GRANITE. The Works, Buildings, and Sanitary Committee will meet at the Vestry Hall, Kensington, on FRIDAY, the 26th instant, to receive TENDERS for the SUPPLY of 1,000 yards of BROKEN BLUE GUERNSEY GRANITE, to be delivered at the Draw Dock, Hammersmith, free of all tolls and charges, and in such quantities at a time as may be directed by Mr. JAMES BROADBRIDGE, the surveyor to the Vestry, the whole quantity to be delivered within one month after the acceptance of the said Tender. Form of Tender and further particulars may be obtained on application at Mr BROADBRIDGE'S Offices, Vestry Hall aforesaid. Tenders to be sealed, and indorsed "Tender for Granite," and to be delivered at my Office by or before FOUR o'clock in the afternoon of FRIDAY, the 26th instant. No Tender will be received unless made upon one of the said printed forms. The Vestry do not bind themselves to enter into a written Contract, and to pay the expense thereof.

By order, REUBEN GREEN, Clerk of the Vestry.

Vestry Hall, Kensington, June 15th, 1863.

PARISH of ST. MARY ABBOTT'S, Kensington, in the county of Middlesex.—CONTRACT for BROKEN FLINTS.—The Works, Buildings, and Sanitary Committee will meet at the Vestry Hall, Kensington, on FRIDAY, the 26th instant, to receive TENDERS for the SUPPLY of 5,000 Yards of BROKEN FLINTS, to be delivered at the Draw Dock, Hammersmith, free of all tolls and other charges, and in such quantities at a time as may be directed by Mr. JAMES BROADBRIDGE, the surveyor to the Vestry. The whole quantity to be delivered within two months after the acceptance of the said Tender. Form of Tender and further particulars may be obtained on application at Mr BROADBRIDGE'S Offices, Vestry Hall aforesaid. Tenders to be sealed, and endorsed "Tender for Flints," and to be delivered at my Office by or before FOUR o'clock in the afternoon of FRIDAY, the 26th instant. No Tender will be received unless made upon one of the said printed forms. The Vestry do not bind themselves to accept the lowest or any Tender. The Contractor to enter into a written Contract, and to pay the expense thereof. By order,

REUBEN GREEN, Clerk of the Vestry.

Vestry Hall, Kensington, June 15, 1863.

LIVERPOOL CORPORATION WATER-WORKS.—To CONTRACTORS and PIPELAYERS.—The Council of the Borough of Liverpool desire to receive TENDERS for EXCAVATING TRENCHES and LAYING a LINE of 20-INCH WATER PIPES, from a point near Prescot to Green-lane, near Liverpool, a distance of about 8,650 lineal yards. The line is chiefly along the high road from Liverpool to Prescot. Plans and sections can be seen, and specifications with form of Tender obtained, on application and payment of one guinea, at the Waterworks Engineer's Office, 58, Hotham street, Liverpool, on and after WEDNESDAY, the 17th inst. sealed Tenders, directed to the Town Clerk of Liverpool, and marked "Tender for Pipelaying, &c." to be delivered at the Town-hall, Liverpool, not later than TWELVE o'clock on THURSDAY, the 25th inst. The Council do not bind themselves to accept the lowest or any Tender.—By order,

WM. SHUTTLEWORTH, Town Clerk.

Town-hall, Liverpool, June 13th, 1863.

CONTRACTS.

WEST HAM LOCAL BOARD of HEALTH.—The Local Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS for LAYING GRANITE CURB, and also for supplying such Road Metal and Labour as may be required in making and repairing the streets called Eagle-street, Arthur street, Poplar street, Emily street, High street, Nelson-street, Francis-street, and Lilliput-road, all in Hallsville, within the said district, according to plans, sections, specifications, and conditions prepared by Mr. MARSHALL, the Surveyor of the Board, which may be seen at the Office, Rokeby House, in Stratford, where also forms of Tender may be obtained, together with any further information required. Tenders, endorsed, "Tender for Roads," are to be sent to me on or before MONDAY, the 29th day of JUNE instant. By order of the Board,

CHARLES WILSON, Clerk.

Rokeby House, Stratford, E. June 18, 1863.

WEST HAM LOCAL BOARD of HEALTH.—The Local Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS for the CONSTRUCTION of a SEWER and ROAD, to be called Shirley-street, Hallsville, being within the district of the said Board, according to plans, sections, specifications, and conditions prepared by Mr. MARSHALL, the Surveyor of the Board, and which may be seen at his Office, Rokeby House, Stratford, where also forms of Tender may be obtained, together with any further information required. Tenders, endorsed "Tender for Sewer and Road," are to be sent to me on or before MONDAY, the 29th day of JUNE instant.—By order of the Board,

CHAS. WILSON, Clerk.

Rokeby House, Stratford, E. June 18th, 1863.

TO BUILDERS.—Persons desirous of TENDERING for PULLING DOWN and RE BUILDING a Set of FARM BUILDINGS at Wood-end Farm, in the parish of Kempston, and for Building a Pair of Cottages near to the Farm, the property of Jos. Tucker, Esq. of Fareham, Bury, may see the plans and specifications at the house of Mr. EDWARD WHITE, at Wood-end Farm (who will show the site of the buildings), from MONDAY, the 22nd, to MONDAY, the 29th JUNE (inclusive). Tenders are to be sent in on or before TWELVE o'clock on MONDAY, the 29th JUNE, 1863, to WILLIAM WATSON, Surveyor, Henlow, Biggleswade. The lowest or any Tender will not necessarily be accepted.

Henlow, 17th June, 1863.

AYSGARTH PARISH CHURCH, Wensleydale, Yorkshire.—To BUILDERS and OTHERS.—Plans, drawings, and specifications for the RESTORATION and partial RE-BUILDING of the above may be inspected at the Vestry of the said Church, from MONDAY, the 29th inst. to SATURDAY, the 11th of JULY. Quantities will be furnished by post to such parties as have received Tenders from them. Tenders, endorsed "Tenders for the Restoration of Aysgarth Church," to be forwarded to J. GREEN, Architect, Portsmouth, near Todmorden, on or before the 14th of JULY next.—The Committee do not pledge themselves to accept the lowest or any Tender.

TO LIGHTERMEN, CARMEN, and OTHERS.—The Directors of the Chartered Gas Company are prepared to receive TENDERS for the LIGHTERAGE and CARTAGE of COALS, in accordance with a specification, printed copies of which may be obtained at the Company's several Offices, Hornsey-road, Westminster; Goswell-street, St. Luke's; and Curtain-road, Shoreditch. Proposals to be sent in on or before FRIDAY, the 26th instant, addressed to me, and indorsed "Tender for Lighterage and Cartage."

JOHN ORWELL PHILLIPS, Secretary.

Horsefery-road, Westminster, June 12th, 1863.

METROPOLITAN IMPROVEMENTS.—BUILDING LAND, at Southwark, Mile End, and King-street, Covent Garden. The Metropolitan Board of Works hereby give Notice that they are prepared to receive TENDERS from parties who may be willing to take, on building leases, certain Plots of GROUND situate respectively in Southwark-street, Southwark, in the county of Surrey; Burdett-road, Mile End; and King-street, Covent Garden, in the county of Middlesex.

Particulars, conditions of sale, form of Tender, and every information may be obtained in the Superintending Architect's Office at the Office of the Board, between the hours of NINE a.m. and FOUR p.m.

The Tenders must be on the printed forms supplied at the Office of the Board, and be delivered, under separate sealed covers, endorsed "Tender for Land at Southwark, Mile End, Old Town, or King-street, Covent Garden, as the case may be, and addressed to the Clerk of the Board, at the Office of the Metropolitan Board of Works, Spring gardens, S.W.

The Board do not bind themselves to accept the highest or any Tender.

JOHN POLLARD, Clerk of the Board.

Spring gardens, Charing Cross, 21st May, 1863.

TO STONEWARE PIPE-MAKERS and OTHERS.—The Sewers Committee of the Local Board of Health of the City and Borough of Bath are desirous of receiving TENDERS for the SUPPLY of GLAZED STONEWARE SEWAGE PIPES for TWELVE MONTHS. The probable quantity required will be 2,500 feet of 12-inch, 6,000 feet of 9 inch, 300 feet of 8-inch, with junctions and bends. The pipes to be of the best quality, free, and to be supplied from time to time in such quantities as may be required, from a depôt, to be provided by and at the cost of the Contractor, in Bath, where a sufficient stock must be kept in hand to meet the demand. Tenders upon the printed forms, sealed, and endorsed "Tenders for Pipes," and addressed to the Sewers Committee, 6, Orange Grove, Bath, to be sent in on or before SEVEN o'clock in the forenoon of THURSDAY, the 25th JUNE, 1863. A sample 6-inch, a 9-inch, and a 12-inch pipe, with maker's name painted thereon, also to be delivered with each form for Tender, free of all charge, such pipes to become at once and remain the property of the committee. The committee do not pledge themselves to accept the lowest or any Tender. Forms of Tender to be obtained from Mr. ALFRED MITCHELL, Engineer, 6, Orange Grove, Bath.—By order of the committee, ALFRED MITCHELL, Engineer.

June 16, 1863.

[*For remainder of Contracts see next Page.*

CONRACTS.

NEW CHAPEL and SCHOOL-ROOMS, WATLING-STREET, CANTERBURY.—Builders willing to CONTRACT for the above building may see the plans, receive bill, and candition, at, and after THURSDAY, the 18th JUNE inst. between NINE and FIVE p.m. by applying to Mr. ANDREW PENFIELD, Builder, Parade, Canterbury. Tenders sealed and endorsed to be delivered to the Rev. VALENTINE WARD, 9, St. George's-place, Canter ury not later than MONDAY, the 29th of JUNE, AT TWELVE o'clock, noon. For any information, and for copies of the quantities, apply to the Architect. The lowest or any of the Tenders not necessarily accepted.

W. F. POULTON, Architect,
Victoria-road, Reading.

GAS WORKS TO BE SOLD or LET.—TO BE LET, by TENDER, for a term of seven, fourteen, or twenty one years, at the option of either party, all those GAS WORKS and PREMISES situate at St. Ives, in the county of Cornwall, known as the "St. Ives Gas Works, comprising a gas-house, dwelling house, office, coal cellar, coke-house, and yard, with the plant thereto belonging, and a convenient number of gas holders for the same. These works are conveniently situated, near the sea, at a low level, and are capable of great extension. A considerable length of new mains has recently been laid, and the whole is well worthy the attention of enterprising capitalists. The taker will be required to enter into a lease containing the usual covenants, and to execute a counterpart thereof.

For viewing the premises, and for further particulars, application may be made to the undersigned, to whom sealed Tenders, stating the utmost rent that will be given, should be forwarded on or before the 1st day of JULY next, soon after which the person who so Tender may be accepted will have notice thereof. The proprietor would not object to sell the works at a fair value.

W. TOLMIE TRESIDDER, Solicitor, St. Ives.

Dated St. Ives, 6th June, 1863.

TO BUILDERS.—Persons willing to contract with the Justices of the County of Kent, for the ERECTION of a POLICE STATION at SEVENOAKS, may see the plans and specifications at the Office of the County Surveyor, Maidstone, any day, except Sunday, between the hours of TEN and FIVE. The work is to be tendered for agreeably to the form of Tender to be obtained at the County Surveyor's Office, where sealed Tenders, endorsed "Tender for Sevenoaks Police Station," are to be delivered by NINE o'clock in the forenoon of THURSDAY, the 25th instant; and persons desirous of tendering are to be in attendance at the Courts of Justice, Maidstone, at HALF PAST TWELVE o'clock on that day. Neither the lowest nor any other Tender will be accepted unless approved of in all particulars; and security will be required for the proper performance of the contract.

H. A. WILDES, Clerk of the Peace.

Maidstone, June 8, 1863.

WYCOMBE UNION.—PARISH of CHEPPING WYCOMBE.—To HOUSE and LAND VALUERS, ESTATE AGENTS, ENGINEERS, and OTHERS.—Notice is hereby given, that the Guardians of the Poor of the Wycombe Union are prepared to receive TENDERS up to the 27th of JUNE inst. not for the VALUATION of the whole of the RATEABLE PROPERTY in the Parish of CHEPPING WYCOMBE, pursuant to an order of the Poor-Law Board, issued under the provision of the 6th & 7th Wm. IV. cap. 96, and the following are among other conditions to be posed by the Guardians. That the contract be entered into upon the acceptance of any Tender, of all the rolls subject to the approval of the Poor Law Board. That the valuer shall be bound to complete his valuation on or before the 25th of DECEMBER next. That he shall also be bound to support his valuation in cases of appeal before the Union Assessment Committee, Special and Quarter Sessions, for seven years from the date of his contract, being paid only by the scale of allowances provided by the regulations of the committee or courts he may be required to attend. The valuer to have the use of the maps belonging to the county rate and overseers, and which are deposited in the vestry of the parish church. The acreage of the parish is 6,260a. Population, according to last census, 4,153; number of houses, 907. Tenders are to be sent to me not later than SATURDAY, the 27th of JUNE next, addressed "Tender for the Valuation of Chepping Wycombe." The Guardians do not bind themselves to accept the lowest or any Tender. By order of the Board,

THOS. J. REYNOLDS, Clerk to the Guardians.

High Wycombe, 3rd June, 1863.

TO BE LET, by TENDER, for a term of five years, or from year to year, that long-established and well-accustomed Spirits Vault and Public House known as the DOLPHIN INN, situate in the chief thoroughfare in the principal business part of the borough of Stoke-upon-Trent, called Stoke-upon-Trent, will be entered upon in August next; and Tenders, addressed to the Administrator of the late S. ALCOCK, Esq. Cobridge, Stoke-on-Trent, will be received up to JUNE 30th, 1863. The Advertisers are not bound to take the highest or any offer; but they will select, without prejudice, the most eligible applicant.

TO CONTRACTORS, ROADMAKERS, and OTHERS.—TRANMERE IMPROVEMENT ACT, 1863.—The Local Board for the District of Tranmere, as duly formed by the above Act, require TENDERS for the construction of a MAIN SEWER in the Valley Heading from Whetstone-lane southwardly, with the requisite Junctions, Branches, Manholes, Gullies, and Ventilating Shafts, and for the Making of a ROAD over the same, being a length of about 4,000 yards. Plans, sections, and specification, &c. may be seen on application to Mr. W. A. RICHARDSON, C.E. Surveyor to the Local Board, at his Office, Hoylake, Tranmere; and after MONDAY, 22nd JUNE next, and copies of the specifications and form of Tender may be obtained on payment of 1l. Sealed Tenders, made on the printed form only, to be addressed to me, and left at my Office not later than THURSDAY, 23rd JULY next. Contracts and Bonds will be prepared by the Law clerk to the Local Board at the expense of the contractors. Security will be required for the due performance of the work. The Local Board do not bind themselves to accept the lowest or any Tender. By order,

GEORGE LLOYD, Law Clerk to the Local Board.

Public-office, Hoylake, Tranmere, 24th May, 1863.

TO BUILDERS.—NEW BAPTIST CHAPEL, KEIGHLEY.—All Contractors willing to TENDER for the whole or any portion of the WORKS, are requested to send applications for sight of quantities per post to the undersigned not later than MONDAY, the 22nd instant.

PAULL & AYLIFFE,
India-buildings, Cross street, Manchester

Dated 16th June, 1863.

TO BUILDERS. — Persons desirous of CONTRACTING for the ERECTION of TEN HOUSES at Newington, near Sittingbourne, Kent, may see plans and specifications on application to Mr. F. T. COLWELL, Architect, 9, Princes-terrace, Prince of Wales-road, Haverstock-hill, on and after WEDNESDAY, JULY 1st. Tenders to be sent in not later than FIVE o'clock JULY 8th, sealed, and endorsed "Tender for Pemberton-terrace, Newington, Kent."

LANCASHIRE and YORKSHIRE RAILWAY.—The Directors are prepared to receive TENDERS for the CONSTRUCTION of a RAILWAY from the New Bolton Street Station, in Salford, to the Victoria Station, Manchester. Plans may be seen, specifications and Forms of Tender obtained, at the Engineer's Office, Hunt's Bank, Manchester, on and after MONDAY, the 22nd JUNE instant. Tenders properly enclosed and sealed to be delivered at the Secretary's Office, Manchester, not later than TWELVE o'clock on MONDAY, the 6th JULY proximo.

WILLIAM S. LAWN, Secretary

Manchester, 15th June, 1863.

TO BUILDERS. — Persons desirous of TENDERING for the ERECTION of a CHAPEL, SCHOOL-ROOMS, &c. at Redruth, in the county of Cornwall, can inspect plans and specifications at the Office of THOMAS SIMPSON, Architect, Nottingham, on and after FRIDAY, the 19th, and FRIDAY the 26th day of JUNE; and at the Vestry of the United Methodist Free Church, Redruth, on MONDAY, the 29th day of JUNE, until SATURDAY, the 11th day of JULY. Sealed Tenders to be delivered at the Offices of Mr. THOMAS SIMPSON, Nottingham, not later than the 15th day of JULY, endorsed, "Tender for Chapel." The lowest or any Tender not necessarily accepted.

BRISTOL LOCAL BOARD of HEALTH.—To PAVIORS and OTHERS.—The Local Board of Health of the City and County of Bristol hereby give notice that they intend to CONTRACT for THREE YEARS, commencing the 29th day of SEPTEMBER next, for the performance of the undermentioned Works, viz.:—

CARRIAGEWAYS.

1st.—For Hauling Stones from any place within the City and County of Bristol, and Laying the same in the Streets.

2nd.—For Re-pelling and Re-laying old Pelled Stones.

3rd.—For Hauling and Laying Rag Pitching.

4th.—For Re-laying Rag Pitching.

Persons willing to engage in the above Works are requested to deliver in their TENDERS at the Office of the said Local Board of Health, No. 13, Prince street, on THURSDAY Morning, the 2nd day of JULY next, at TEN o'clock precisely, on which day the Committee will meet to treat upon the same. A printed specification of the Works to be done, and a Form of Tender, may be previously had, either on personal application or by letter, post paid, addressed to the Clerk, at the Offices, No. 13, Prince-street, Bristol, where any further information may be obtained. The party contracting will be required to give sufficient security, to be approved of by the said Local Board, for the due and faithful performance of his Contract. The Local Board will not hold themselves bound to accept the lowest or any Tender.—By order of the Committee,

JOHN G. HAVEN, Clerk.

Local Board of Health Offices, 13, Prince-street,
14th May, 1863.

TO BUILDERS and CONTRACTORS.—Parties willing to TENDER for the ERECTION of a NEW CHURCH at Blackheath, Kent, may see the plans and specification on and after JUNE 18th, at the Offices of Messrs. MAYHEW & CALDER, 7, Clement's-inn, Strand, Offices, Saturdays, Both Tenders directed "To the Committee of the New Wesleyan Church, Blackheath," to be sent to J. B. INGLE, Esq. 2 the Grove, Belmont Hill, S.E. on or before the 29th JUNE. Quantities are taken out, and can be obtained for 1l. each copy. Neither the lowest nor any other Tender will necessarily be accepted

JAMES WILSON, F.S.A. Architect.
1, Belmont, Bath.

TO PAVIORS and OTHERS.—The Commissioners of Sewers of the City of London will meet in the Guildhall, of the said City on TUESDAY, the 30th of JUNE, 1863, at HALF-PAST TWELVE o'clock precisely, to receive TENDERS for RELAYING the CARRIAGEWAY PAVEMENT on the south, the east, and west sides of St. Paul's Churchyard, agreeably to a specification which may be seen at this Office. Persons tendering are required to give the names and addresses of at least two substantial householders as their sureties to enter into bond with the contractor for the due performance of the contract. The Commissioners do not pledge themselves to accept the lowest Tender, or any, unless deemed satisfactory, and no Tender will be received after TWELVE o'clock on the day of treaty.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, June 16, 1863.

TO CONTRACTORS, GAS ENGINEERS, and BUILDERS.—TENDERS are required by the Portland Gas Company for the CONSTRUCTION and ERECTION of GASWORKS at Portland, Dorset, near the Victoria Lodge Inn, consisting of Retort House, Gasholder and Tank, Stores, Workshop, Office, Foreman's House, &c. Tenders may be given separately for the performance of the following works:—To provide all labour and materials for the erection of the several buildings, construction of tank, wells, setting retorts, &c and to paint the same with three coats of paint, and one of primer. To provide and fix the whole of the ironwork properly belonging to the gas engineer. Tenders to be given for laying pipes from Gasworks to the town of Chiswell, and therein, as required, at per yard lineal; and also for services of iron from mains to consumers' houses. The Tenders are to be sent in, or or before the 1st of JULY, 1863, to R. N. HOWARD, Esq. Solicitor, East-street, Weymouth, sealed, and marked "Tenders for Portland Gasworks," or "Buildings," or "Ironwork," as the case may be, at whose Office the plans and specifications can be examined. Any information respecting the same can be obtained of Mr R. N. HOWARD, or of Mr. ROBERT BENNETT, Architect and Surveyor, Portland-place, Weymouth. The Company do not bind themselves to accept the lowest or any Tender. Power to invite Tenders in detail, parts to be settled by Architect, or according to scheduled prices or contract price.

R. N. HOWARD, Solicitor.

Dated, Weymouth, June 12, 1863.

BUILDERS willing to TENDER for the ERECTION of a FARM HOUSE, OFFICES, and HOMESTEAD, in the county of Suffolk, are requested to COMMUNICATE, in the first instance, by letter, to Mr. WILLIAM F. GOSLING, Architect, Iona House, High street Camden-town, N.W.

TO BUILDING MATERIAL DEALERS, &c.—TO BE SOLD by TENDER, the valuable MATERIALS of No 64, Bishopsgate street Within.—Particulars to be obtained, and Tenders to be received by Mr. T. C. CLARKE, Architect, 157, Leadenhall-street, up to and inclusive of WEDNESDAY, the 24th of JUNE next.

BUILDERS willing to TENDER for the ERECTION of a DETACHED HOUSE and OFFICES, near the Railway Station, Red-hill, are requested to communicate in the first instance, by letter, to Mr. WILLIAM F. GOSLING, Architect, Iona House, High street, Camden Town.

TO BUILDERS.—Persons desirous of Contracting for the ERECTION of a PARSONAGE HOUSE, OFFICES, and STABLING at Shotton, in the County of Durham, may see the drawings and specification on and after TUESDAY, the 23rd inst., on application at the Office of W. HAY, Esq. Bridge-street, Sunderland, between the hours of TEN A.M. and FIVE P.M., or at the Office of the Architect, EWAN CHRISTIAN, Esq. 8a, Whitehall-place, London. Tenders to be delivered at the Architect's Office on or before JULY 4, next. The Architect does not bind himself to accept the lowest Tender.

TO BUILDERS.—Persons desirous of Contracting for the ERECTION of a PARSONAGE HOUSE, OFFICES, and STABLING at Bole, in the County of Lincoln, may see the drawings and specification on and after TUESDAY, the 23rd inst. on application to the Rev. H. STOCKDALE, Beckingham, Gainsborough, or at the Office of the Architect, EWAN CHRISTIAN, Esq. 8a, Whitehall-place, London. Tenders to be delivered at the Architect's Office on or before JULY 4, next. The Architect does not bind himself to accept the lowest Tender.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL & CO Builders of Carts, Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation

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Vans, Waggons, Dobbin and other Carts, specially adapted for exportation, Pug-mills, Jack-rolls, Trolleys, and Portable Railways. Scaffolding, Ladders, Hurdles, Trestles, Steps, &c. Lent on Hire.

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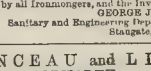


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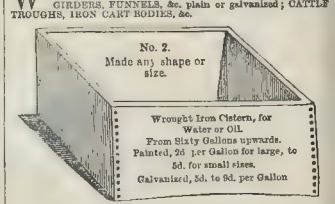
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SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

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PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

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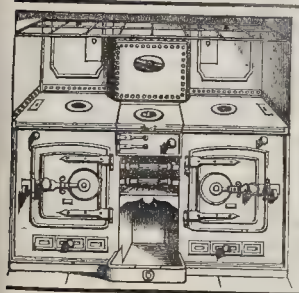
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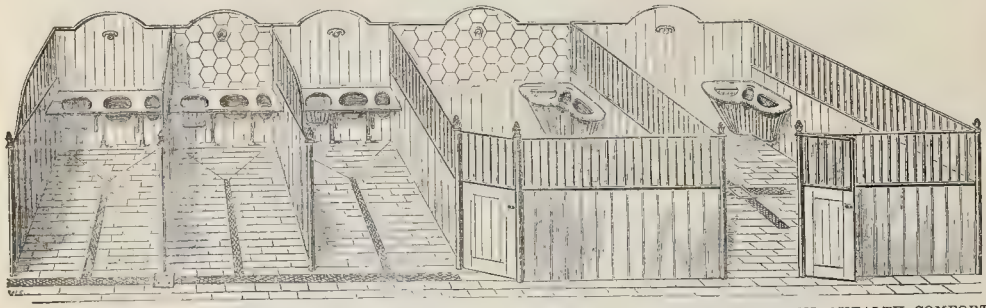
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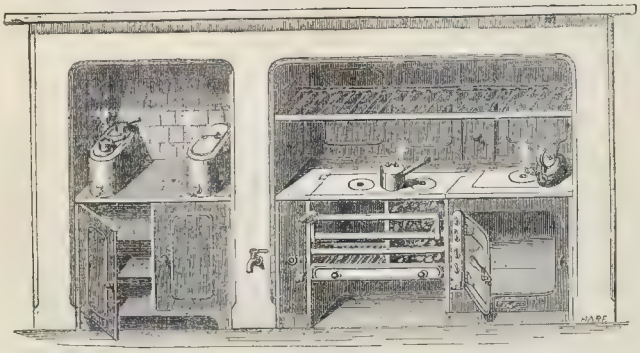
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This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

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So universally known as to need no description; but to prevent the substitution of spurious imitations, it is necessary to see that the

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is STAMPED THEREON, such only being genuine and warranted by the Maker.

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30 inches ..... 22s.
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MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

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PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS.

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

GALVANIZED WROUGHT IRON CISTERNS AND TANKS,



SERVICE PIPE, BRASS BALL VALVES, &c.

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CISTERNS, FROM 30 TO 150 GALLONS,

ALWAYS IN STOCK.

Prices delivered in London.

A DISCOUNT TO THE TRADE, BUILDERS, &c.

BROWN & GREEN'S
PATENT KITCHEN RANGES.

PRIZE MEDAL, 1862.

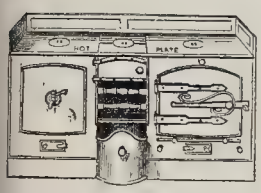
These Ranges combine the latest improvements with great simplicity and durability. They afford facility for roasting meat in front of the fire without interruption to the action of the oven, hot plate, boiler, &c. The Ovens are well ventilated, and perfect either as roasters, or for baking bread or pastry. For Efficiency, Economy, and Ventilation, and

CURE OF SMOKY CHIMNEYS,

these Ranges are unequalled. They are of all sizes and prices; and the large ones, fitted with Bath and Steam Apparatus, &c. form the most complete appointment for large establishments. Designs, &c. may be had on application at THE LONDON WAREHOUSE,

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"One of the best arrangements of the 'Kitchener.'"—See *Builder*, Sept 6, 1862.



THE LEAMINGTON PRIZE KITCHENER.

These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within Five Miles.

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WHOLESALE AND MANUFACTURING IRONMONGERS,

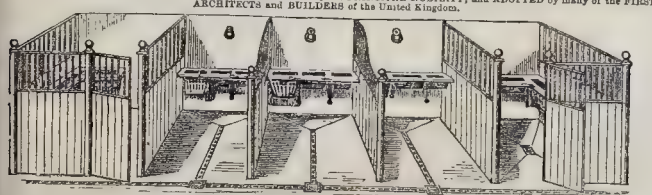
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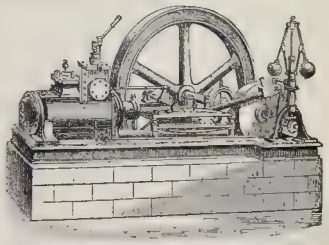
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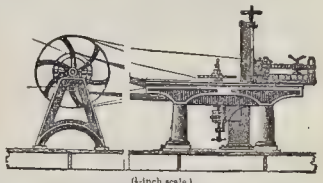
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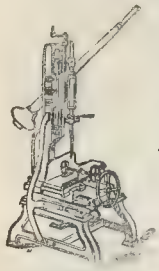
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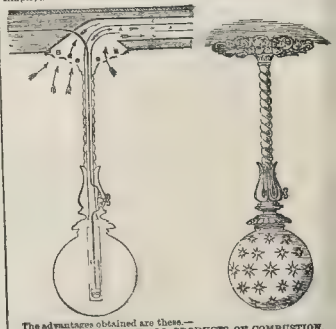
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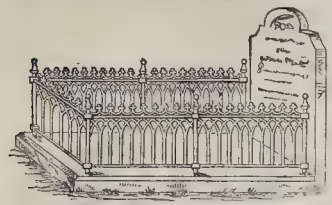
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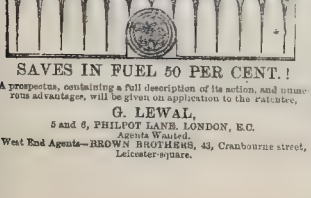
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VOL. XXI.—No. 1063.



The Pantheon of Rome.

HE disencumbrance of the Pantheon from unsightly modern buildings around its circular walls, is one of the judiciously ordered works of the present Pontificate, but, as yet, far from carried out to the extent requisite; the greater part of the rotunda, and the whole of its rear being still obstructed by houses of the meanest description. These works, in 1854, led to the discovery of an interesting and yet quite unknown feature,—a portico, as it appears, flanking at the eastern side the principal front still so imposingly complete; though what is now uncovered consists merely of marble pavement, at a level much lower than that of the great portico preserved entire, with a rectilinear basement projecting below the segment of the circle on the east, in the best style of lateritial brickwork, pierced at regular intervals by quadrate niches, probably for sculptures, but of what original altitude cannot be determined, the upper part of this whole substructure being ruinous. Above rises the first story of the rotunda to the height of nearly 40 feet, surmounted by a cornice in several courses of simple moulding. Above this is another story, about 30 feet high, surrounded by constructive arches of different spans, the wider and narrower in symmetric alternation. The cornice to this story is formed of consoles above a triple string-course of moulding; highest rises another story of less altitude, but strengthened by the same system of constructive arches; and the cornice of this, immediately under the cupola, resembles the lower with consoles and moulding,—the whole in the finest and still perfectly compact brickwork. This temple is the most remarkable example of what ecclesiastic rule has done to preserve, but also to disfigure, the monuments of Paganism in Rome. Association and antithesis impart a special interest to Christian rites within its walls; yet it is, of all this city's churches, one of the least frequented, and one of those in which the celebrations of the ritual year pass through their cycle with least splendour or attractiveness. A forlorn neglect seems to overshadow the edifice and its purlieus; its magnificent portico is ill-kept and squalid-looking; the pavement, where antique, dilapidated, and for the most part ill-restored in brickwork. An effort of the imagination is required to transform for the mind's eye, the actual church of S. Maria ad Martyres into the temple dedicated to all gods under Augustus. Instead of being, as now, disadvantageously looked down upon from the upper, and little raised above the lower level of a sloping piazza, it was approached by five steps, whose elevation is almost buried, but one being fully and another partially uncovered. The tympanum of the frontispiece was adorned by a bronze relief, now only traceable in the wide blackened surface of the cavities of the numerous pivots by which the whole was fastened. On the acroterium at the apex stood the statue of Jupiter hurling thunder-bolts in a chariot, also bronze, and in accordance with the supposed subject of the relief below, Jupiter fulminating against the rebel giants. On the two lateral acroteria were (it is believed) bronze bulls Tiles of gilt bronze covered the cupola, which were carried away, with the many spoils from this city's noblest buildings, by the imperial robber Constans II., A.D. 663. The brickwork of the rotunda had a coating of stucco, probably ornamented; and along the highest cornice, at the back, are still traces of terra-cotta decoration that may have been further carried out on this surface. In two niches between the four antæ of the pronaos, within the portico, stood the statues of Augustus and Agrippa, now lost beyond recovery. Of the majestic colonnades dividing this portico into three naves, with sixteen shafts of red or grey granite, with Corinthian capitals and basements in white marble, are preserved thirteen columns, the shafts above 56 palms high, with three restored, also antique and of red granite, though brought from another building, the capitals and basements modern, in travertine; and above these columns, at the portico's eastern end, the travertine architrave and cornice are also new. In the interior are fifteen Catholic altars, six of which stand within pillared ædiculæ, once occupied by images of gods. The large tribune opposite the entrance, now serving for choir and high altar, was the Pagan sanctuary where incense burnt before the statue of Jupiter Ultor. Before six lateral apses occupied by other modern altars, still stand the superb fluted columns, with corresponding pilasters (shafts 32 feet high), the greater number of giallo-antico, the rest of Phrygian paonazzetto, tinted yellow to resemble the hue of that Numidian marble. The attic is entirely despoiled of its incrustation of finest coloured marbles and porphyry pilasters; the fourteen windows once opening on its circuit are now walled up; and the vast concave of the coffered dome is now a surface of cold whitewash, instead of being incrusted with gilt bronze and silver laminæ,—a decoration which one of Rome's modern writers vaguely states to have perished "through the ignorance of past times."

The dedication of the Pantheon was celebrated by Agrippa, amidst other pomps, on occasion of his marriage with the unworthy daughter of Augustus. In the sequel to successive disasters from lightning, that most injurious to the building in the time of Trajan, this temple was restored by Adrian, Antoninus Pius, Septimus Severus, and Antoninus Caracalla; on occasion of the repairs by which last emperors, it is supposed, were raised the porphyry columns before the six ædiculæ, in lieu of the marble caryatides (sculptures mentioned by Pliny among the ornaments of this interior) that formerly supported their pediments.* After the restoration by Adrian, that emperor gave the edifice the yet new character of a basilica, where he occasionally administered justice. Conformably to which appropriation, it is conjectured, were then added pilasters along the attics, for the sake of resemblance to the similar number in other such imperial basilicas (*vide* Canina, *Architet. Rom.*, p. I, c. 4). The record of the restorations by Septimius and his son is preserved on the architrave, with date answering to 202 of our era, telling that,—PANTHEVM VETVSTATE CORRVPTVM CVM OMNI CVLTV RESTITVERVNT. But this, from below, is entirely illegible; and the only epigraph still quite distinct, as we stand on the piazza, is the original one, in very large letters, on the frieze: M. AGRIPPA L. F. COS. TERTIVM FECIT. —the date answering to B.C. 27. The originally destined connexion with the Thermæ raised by the same signal benefactor of Rome, and son-in-law of Augustus, is still evident from existing ruins, most conspicuous among which is the remnant, for the best part concealed by paltry houses in a narrow street, of *another* great rotunda, with cupola and central orifice for light, popularly called *Arco di Ciambella*, from the form of the bronze decoration,—a circlet binding that orifice,—discovered long ago in the vicinity, and whimsically compared to a ring-shaped sweet biscuit (*ciambella*), of which the Romans are fond; besides which remains is another considerable pile of brickwork, left by those Thermæ, behind the *Accademia Ecclesiastica* on the piazza "della Minerva," best seen from a diverging street,—*Via di S. Chiara*,—but also neglected and obscured. In Piranesi's drawings, engraved 1756, we see the principal mass of these ruins, not merely in the semicircle of a great hall, but also two adjacent stories of Doric arcades, the upper lighted by square windows between the arches, all which has since been suffered to perish.

The Christian dedication of the Pantheon was in the year 608, effected by Pope Boniface IV., with permission, then requisite for such proceedings even to the already powerful Roman bishops, from the Emperor Phocas. From the year 399 it had remained shut, in consequence of the decree of Honorius and Arcadius, requiring all the temples of Pagan worship to be closed; another decree, of the same year, enjoining that such edifices, though unused, should still be preserved entire, having saved this most illustrious one from the fate which eventually struck down in irreparable ruin other magnificent fanes of Rome—as Aurelian's temple to the Sun, demolished in the sixth century, and Adrian's to Venus and Rome, in the seventh century. Originally dedicated to Jupiter Ultor, Mars, and Cybele, the Christianized Pantheon was first consecrated to the Supreme Being, the Virgin Mary, and all Martyrs; but again, in 834, dedicated anew by Gregory IV. to All Saints, on which occasion, it is said, was instituted the festival for the Church's universal observance on the 1st November, that for centuries continued to attract multitudes of pilgrims to the celebrations in *S. Maria ad Martyres*, a plenary indulgence being then accorded by the Popes. The church now became a basilica, where the pontiffs attended for the solemn *cappella* at Pentecost, and during a sermon preached before them on the mystery of that day's commemoration, showers of roses rained down from the cupola upon the antique pavement of marble, porphyry, and granite, still, though much broken, preserved in its principal material.

The injuries and alterations suffered by this classic building form not the least strange details in its singular history. Popes of the seventh and eighth centuries did much for its repair, in no way so effectually as through the supply of a leaden covering for its demolished cupola by Gregory III. In 1153, Anastasius IV. built a papal palace contiguous to it; but, in the two following centuries, the conditions of the Pantheon seem to have reached the very zero of desolation and disfigurement. The accumulation of soil had necessitated the construction of steps to descend *into* its portico from the piazza; shops and paltry houses rose between the columns; a ponderous belfry was built upon the cupola, or (more probably) on the flat roof of the atrium. After the return of the Papal Court from Avignon began the period of restorations, first of which attempted, for this edifice, was the renewal of the cupola-leads by Martin V.; next, the clearing of its colonnades from those vile encumbrances by Eugenius IV. (see the contemporary account by Flavio Biondo). During the works for this last purpose was found the superb urn of porphyry, long ignorantly supposed the sarcophagus of Agrippa, which, now forms the tomb of Clement XII. in the Corsini Chapel at the Lateran; and then were also disinterred fragments of a bronze chariot-wheel, a horse's foot, and a bronze head, supposed that of Agrippa from the colossal statue

* The work of Diogenes, an Athenian; and one of these statues is supposed to be extant in the *Braccio Nuovo* of the Vatican Museum. So conjectures Nibby; but in the official catalogue the caryatide there is said to be from the group sustaining the portico of the Pandrosia Temple at Athens.

in the portico. Even *after* the judicious attempt, under Pope Eugenius, to reintegrate the beauty of the edifice, its colonnades again became encumbered by booths and houses, which were removed in 1525, as both Flaminius Vacca and Fulvio bear witness; and a *third* time, as shown in an engraving of the early years in the seventeenth century, was it necessary to clear this noble portico of similar defilements, effected when the traffic on the piazza was suppressed by Paul V. Urban VIII. replaced the column wanting at the eastern side; and the two others lost, at the same side, were supplied by Alexander VIII., in 1662, not indeed with the antique, but with correspondent granite shafts found in excavations near the French church, S. Luigi, in this neighbourhood. Pope Urban spent 15,000 scudi on the Pantheon; threw down the Mediæval belfry, but replaced it by two other structures, veritable specimens of the pepper-box style, whose hideous obtrusiveness is now the great disfigurement to the front view of the classic elevation. Still worse was the spoliation (a well-known story) of the portico, deprived by that pontiff of all the gilt bronze clothing its ceiling, as other parts were, at the same time, robbed of details in the same material, the entire weight, 450 250 lb.,—the nails alone weighing 9,374 lb.,—partly to be employed for Bernini's baldacchino to the high altar of St. Peter's, but (an appropriation less worthy, and under such government surely less becoming) in much the greater amount, no less than 448,286 lb., to be cast into cannons for the S. Angelo Castle! (Torrigio, S. Grotte Vaticane, who tells us that eighty cannons were thus produced). Then did the dauntless Pasquino put forth his famous epigram, "Quod non fecerunt barbari fecerunt Barberini;" but strangest of all is the record read to this day, on tablets at each side of this church's portals, vaunting Pope Urban's achievement as among the *fasti* of his reign! Almost the only ancient bronze-work left is in the lofty portal, whose valves are ornamented in a simple but tasteful style, the nail-heads wrought into rosettes along the borders inclosing panels. It surprises us to find so enlightened a sovereign as Benedict XIV. added to the list of spoilers by his ill-counselled procedure of removing for various church decorations, from the attic of this building its entire incrustation in precious marbles, Laconic, Thessalian, and Phrygian, besides all the porphyry pilasters dividing its windows, with capitals and bases of giallo antico—an irreparable loss, observes Emile Braun, because thus was sacrificed the best extant exemplification of the polychrome system applied by the ancients to architecture. Not contented to fulfil merely the invidious task assigned, the architect on this occasion gave carved frontispieces, of his own inventing, to the pediments of the fourteen niches, once serving for windows, and all of rectilinear form, around this attic!

The chapel of St. Joseph, the most richly (*not* tastefully) adorned among all in this church, is the oratory of a congregation celebrated in Rome's artistic annals, the academy styled "Virtuosi of the Pantheon," founded in 1543, by Desiderio Adjutorio, a canon of the chapter here officiating, who also originated this sanctuary to the academicians' patron saint. Their members publish a competition for prizes, bimestral and biennial, in painting, sculpture, and architecture, the subjects prescribed, and artists of all nations, if professing the Roman Catholic religion, invited to concur. Their body is formed of forty-five residents in Rome,—sculptors, painters, and architects in equal numbers, and thirty correspondents, not including honorary members. The prizes given are, for the bimestral, a silver medal with the portrait of Raffaelle; for the biennial competition, a gold medal with the head of Gregory XVI., under whose patronage this system was restored by the academicians. In the Pantheon, at an angle between the portico and the rotunda, they have a locality for exhibiting the designs of competitors, with an artistic library and collection of their professors' portraits.* The festival of St. Joseph, celebrated under their direction, is the grandest of the religious observances held within the Pantheon's walls.

To appreciate this celebrated building we should ascend its cupola, for which permission must be obtained from an architect in the employ of Government (Martinucci, who obligingly complies, and sends the *custode* with keys). Its circumference exceeds by three palms that of St. Peter's cupola, but the Vatican copy has the advantage by more than thirty palms in height. We reach this classic dome by a staircase in the lateral compartment, appropriated to the Virtuosi, and first make half the circuit of a sloping platform, without parapet, carried round the base of the drum. In front, above the portico roof, we see the remnant of an antique water-channel in bronze, fastened immediately under the eaves by iron rods, but never restored from its present unserviceable state. An epigraph under this tells that, in the year 1808, two artisans measured the height from the pavement to the cornice round the orifice, 202 palms, stated by English writers at 143 feet; height of dome, 71½ feet. The very steep stairs formed in the leads by which we mount to the apex are flanked by a complete chapter of heraldry in the numerous crests with epigraphs upon the leaden surface at each side, recording repairs by popes and cardinals. Two, in the name of Nicholas V., date 1451, around the orifice (diameter 28 feet), are still perfectly entire, the outer rim, of bronze, sloping to a considerable width, on which one may stand or recline, to look down from this indeed dizzy height upon the attic and pavement of the temple, and obtain a glimpse of the inner cornice round that opening, also bronze, in a style of graceful ornamentation, with folial and egg moulding. The view of the city hence is one of the finest, its aërial architecture of towers and domes, and the grand sweep of mountain distances around the Campagna, here impressing as a truly majestic panorama.

During almost every winter the Pantheon becomes inaccessible, and its rites are suspended for some days, owing either to the descent of violent rains through its open roof, or the rising of the Tiber waters on the low ground in front. Amid such circumstances as in the latter case, whilst the stately colonnades are reflected on the dull surface of yellow water, their basements, with steps and pavement, sometimes deeply submerged, this sublime architecture is more striking than under any other effects, except, indeed, the spiritual solemnity of moonlight.

An accessory admired by Byron and Madame de Stael in the Pantheon has been wanting since 1820, when Pius VII. engaged Canova to remove from the oval niches within its circuit the busts of distinguished artists, not only those buried here, but others that had been long accumulating in such honourable location, to be hence transferred to the Capitol, these forming a nucleus to a new museum, the protomotheca of the illustrious in art's several walks, either Italian or whose genius was fostered by Italy. In the original niches, however, five busts still remain, without any epigraphs; and in a sixth is that of Cardinal Rivarola, a benefactor to this church, the illustrious dead reposing in which are numerous, besides the greatest,—Raffaelle,* Pierin del Vaga, Giovanni da Udine, Taddeo Zuccari, Annibale Caracci, Baldassare Peruzzi, and Flaminio Vacca.

The statement that the architect engaged for the invidious task of stripping off all the rich marbles and porphyry from the Pantheon's attics, at the same time added *curving* pediments to the fourteen niches, formerly open windows, cannot, we believe, be confirmed. That he added frontispieces of his own invention is certain; but these features, as we now see, are *triangular;* nor have we any account of their having been altered since the time of Benedict XIV. Fortunately, Piranesi's drawing still gives a faithful representation of this interior as it existed prior to that period (1747), where we see four porphyry pilasters, with giallo-antico bases and capitals, between each window. To supply the place of that antique decoration, the attics were then painted on stucco, and a series of quadrate panels introduced between the niches, with a wretched attempt to imitate coloured marbles. In four of those recesses were placed large figures of saints, tinted in chiaroscuro, on flat boards, to *represent* sculpture—one among several details in the worst possible taste that disfigure the interior of this noble building. In one of the internal niches of the portico, once occupied by colossal statues, is a coarsely-executed figure, in painted wood, of the "Dead Christ." The pictures and statuary over the altars are rather below mediocrity. Over one is an antique coffer, inside a glass case, for a hundred years the depository of the *Volto Santo* (handkerchief of St. Veronica), placed here by Boniface IV., it is said, when the Pantheon was first consecrated to Christian rites; thence removed to S. Spirito, and eventually to St. Peter's; being, in all probability, an early picture of the ascetic Byzantine school. The present high altar, rich in marbles, was raised by Clement XI., in lieu of the Mediæval one that stood, with an inclosed choir and baldacchino, more in advance of the apse, towards the centre of the area. Four porphyry columns had been taken from the antique ædiculæ to support that altar's canopy; and when the Mediæval chancel was swept away, no canopy being wanted for the new altar, those columns were not replaced, as good taste would have suggested, but set aside, two were eventually sold for unknown destination, the others at last brought to the Vatican library, by order of Pius VI.; their places in the ædiculæ being still occupied by columns of grey granite. Though so much of neglect and disfigurement is to be charged against Mediæval Rome in the story of this building, a high sense of its importance is indicated in the official oath taken by senators to popes in the twelfth century (quoted by Mabillon from Cencius Camerarius), pledging themselves to support the pontiff, to defend and secure (or *recover*) St. Peter's, the City of Rome, the Leonine City, the Castle of Crescentius (St. Angelo), the Senate, the Mint, and S. Maria Rotonda. This church appears under a striking and novel aspect when the only attractive religious rites, as directed by the Academy of Virtuosi, are held here for the feast of their patron, St. Joseph; and on the 26th of April last we attended those ceremonies, the area of the majestic circle being now filled with people, troops on duty with helmets glittering in the sun, the cupola resounding to strains of triumphant music from a full orchestra, the light softened by an awning stretched across its central orifice; and for this occasion, we were glad to observe, no meretricious decorations had been admitted to conceal architecture by swathings or hangings, as done to an offensive degree at high festivals in other Roman churches.

It is traditionary that Michelangelo ascribed the portico and body of the rotunda to Agrippa, the first story of the interior to Adrian, and the attics, or entire upper story of the Pantheon, to Septimius Severus.

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* The *idea* of this institution has been attributed to Raffaelle; the artists of his school may be said to have founded it, and chosen the above-named canon of this church for their president, or rather patron.

* The discovery of Raffaelle's remains through the exertions of the Virtuosi Academicians, and the reinterment (or rather immuring) after exposure for eight days to multitudes of spectators, in September, 1833, are sufficiently well known. Both the original cenotaph, with a Latin distich by Bembo, and another recording this second funeral, are set into the walls near the Madonna statue, over an altar, Raffaelle's gift, and beneath which he desired to repose.

TWICE BURIED.

IN connexion with the proposition to remove the remains of Shakspeare, some notes suggest themselves.

Burial is generally spoken of as the "last office" we can perform for the dead; but in turning over the pages of English history we come to the names of so many persons who have been twice buried that this expression would almost appear to need qualification. In our own time we have seen the remains of Napoleon exhumed from their resting-place in St. Helena, and conveyed with all the honours of a full naval escort to his beloved France, and there entombed beneath the grand Dome des Invalides, by his nephew, the present Emperor. Madame Mere, propped up with pillows on her crimson damask couch and breathing her last, with her mind full of tender memories of her dead son and visions of the future renewal of the dignities of his family, could scarcely have foreshadowed a more brilliant and solemn ceremonial than that with which this tribute was paid.

The gallant Hotspur was twice buried. After the battle of Shrewsbury his body was interred at Whitchurch by Lord Furnival. The victor, however, had it torn out of the grave and placed between two mill-stones close to the pillory at Shrewsbury. It was then beheaded, drawn, and quartered. The head was sent to York; the quarters to London, Chester, and Newcastle; the fourth being retained at Shrewsbury. Nearly four months after the battle, on the 3rd November, 1403, Henry yielded to the solicitations of Hotspur's widow, and issued writs authorizing the mayors and sheriffs of these towns to deliver up to her the respective portions they held in charge, for burial. The writs for the delivery of the head of the gallant knight was made out in the following form:—

"The King to the mayor and sheriffs of the city of York, greeting. Whereas of our special grace we have granted to our cousin Elizabeth, who was the wife of Henry de Percy, chevalier, the head and quarters of the same Henry, to be buried: we command you that the head aforesaid you deliver to the same Elizabeth, to be buried according to our grant aforesaid. Witness the King at Cirencester, the 3rd day of November."

The sorrowing lady, after collecting the remains of her husband, thus cruelly scattered according

to the inexorable fashion of the times, had them interred at York. She was left with one infant son, who, fifty years afterwards, was also slain upon the field of battle.

After James I. was firmly seated upon the English throne he resolved that the remains of his mother, the beautiful Mary, Queen of Scots, should be placed side by side with those of other monarchs in Westminster Abbey. Accordingly, in the ninth year of his reign, they were disinterred, and removed from Peterborough Cathedral for this purpose. The register of All Saints' Church, Huntingdon, has the following entry:—"October, 1612, 6 day. The Queene of Scots' corps brought into this church ye 6 day." Huntingdon is thus shown as one of the places at which the funeral procession halted for the night.

Oliver Cromwell, Lord Protector of England, in his lifetime, by the wonderful reverse in his posthumous fortunes, was adjudged a traitor immediately after his death, and his mortal remains, which had been interred with much pomp and ceremony in Westminster Abbey, were exhumed by order of Charles II., and hanged in chains at Tyburn. After this indignity they were buried under the gallows. They are said to have been secretly taken up, and more recently interred in the centre of Red Lion-square. His son-in-law, Ireton, who died in Ireland, but whose body had been brought to England and buried in Westminster Abbey, was also twice buried; for, as is well known, his body, with that of Bradshaw, was likewise suspended at the gallows, and thrown into the same pit that received Cromwell's.

The history of the incorruptible body of St. Cuthbert is another case in point. It was buried in A.D. 686, in the island of Lindisfarne, then frequently threatened by the Danes. On his death-bed St. Cuthbert is believed to have charged the monks of the priory not to leave his remains to be desecrated by the Danes, should they actually land. Nearly two hundred years after this event they made an incursion, and put the monks to flight, who, mindful of the traditional promise of their predecessors to their dead bishop, took his remains with them. From time to time they appear to have inspected the body, which, to their great awe, wonderment, and delight, never presented the least symptoms of decay. They wandered about with it for many years, finally settling at Chester-le-Street. About the time of the Norman Conquest the monks then in charge of it resolved to return to Lindisfarne, and set out in a body for this purpose. On their road thither they received an indication from the ark in which the dead saint was carried, that he wished to remain where he was then deposited. This happened to be at Durham. A temporary shelter made of branches was improvised, and the saint placed within it, whilst a church was immediately commenced for his ultimate reception. Seventy-six years after the completion of this edifice, called White Church, William de Carilepho brought home from Normandy improved views of the capabilities of architecture, and set about building the superb cathedral church which still crowns the rocky banks of the Wear. The remains of St. Cuthbert were placed in the new building, in a shrine made of costly marble and glittering with gold. From this period down to the Reformation it was visited by kings, nobles, and crowds, who presented so many offerings that the shrine became the richest in the kingdom. We now come to the most remarkable facts connected with St. Cuthbert's history. The commissioners sent down to Durham by Henry VIII. opened his shrine and examined the saint. We may conclude that they would have been glad to detect any imposture; but they added their testimony to the incorruptness of the body. They averred that his "carkas" was perfect with the exception of the tip of his nose. After taking the jewelled vessels and ornaments from the oak chest in which the body reposed, they buried St. Cuthbert beneath the spot on which his shrine had stood. But this was not his final burial. In May, 1827, some repairs were needed near the site of the once gorgeous shrine, and the workmen employed to effect them opened the vault in which Henry's commissioners had deposited the saint's remains. There lay within it an oak chest, the lid and part of the sides of which had fallen in. We quote now from a local newspaper paragraph of that date. "When the mass of powdered wood was taken away, an entire skeleton was found, swathed in vestments of linen and silk, which were also much decayed: a portion, however, of the robes was still remaining, richly worked in silk and gold tissue, and containing some valuable *dates*. At the lower part of the chest or coffin were laid several detached bones, two full-grown skeletons, and the cranium of a child. A small square tablet of wood, covered with a thin lamina of metal, was placed upon the body. There were also found in the coffin the fragments of an ivory comb of large dimensions, and a small silver cross; but no crucifix, crosier, ring, or any other article of value. These antique relics, after being inspected by several gentlemen, were carefully collected and replaced in the vault, which was afterwards closed, and the alterations intended to be made in that part of the cathedral suspended."

This was, perhaps, all that took place before the workmen who opened the vault. But a more critical examination must have been made. For, close to the glazed compartment in Durham library, containing the illuminated missals it cost the monks of old so much care to write, is a flat glass case, similar to those under which conchological and entomological specimens are placed in museums: in this case, neatly folded, are the robes of the saint, the cross, and the comb. The last has a thread or two of gold wire intertwined about it. St. Cuthbert—rigid ascetic that he was in his hermit life—was buried for the third time stripped of his robes: it is a popular fancy that only three persons know where. On the death of either of these the secret is imparted to a new confidant to make up the trio.

These are a few of the most prominent instances on record of the transportation of the remains of dead persons for reburial. The treatment of the body of the accomplished Scottish monarch James IV., after his death on Flodden field, should be mentioned among these notes. After the battle it was identified by Lord Dacre as it lay pierced with arrows, the neck exhibiting a fearful gash, and the left hand being nearly severed from the arm in two places. A contemporary chronicler says it was first removed to Berwick, where "the bodye was bowelled, embawned, and cered, and secretlye, amongst other stuffe, conveyed to Newcastell;" whence, after quiet was restored, the victorious Surrey returned to court, with "the dead bodye of the Scottish king, and brought it to Richmond," as a present to Queen Catherine. But trustworthy Stowe gives the following curious particulars of its ultimate fate:—

"After the battle, the bodie of the same king being found, was closed in lead, and conveyed thence to London, and to the monastery of Sheyne, in Surrey, where it remained for a time, in what order I am not certain, but since the dissolution of that house, in the reygne of Edward VI., Henry Graye, Duke of Suffolk, being lodged and keeping house there, I have been showed the same bodie so lapped in lead, close to the head and bodie, thrown into a waste room amongst the old timber, lead, and other rubble. Since the which time workmen for their foolish pleasure hewed off his head; and Launcelot Young, master glazier to Queen Elizabeth, feeling a sweet savour to come from thence, and seeing this same dried from all moisture, and yet the form remaining, with the hair of the head and beard red, brought it to London, to his house in Wood-street, where for a time he kept it for its sweetness, but in the end caused the sexton of that church (St. Michael's, Wood-street), to bury it amongst other bones taken out of their chauncell." What became of the body, thus decapitated after death, there is no evidence to show. We have word of more unburied heads. The widow of Sir Walter Raleigh preserved his head in a casket to the day of her death; and after this it was as reverently preserved by his son. The daughter of Sir Thomas More conserved the head of her father in a like manner.

In the days of the Crusaders several pious nobles directed that their hearts should be buried in the Holy Land. The heart of Edward I. was buried in Palestine. Conversely, one of the ancient Percies, dying in the Holy Land, desired that his heart should be carried to Whitby Abbey, and there interred. Richard Cœur-de-Lion bequeathed his heart to the citizens of Rouen: it was buried in their cathedral. But the most curious facts connected with the *post-mortem* treatment of this organ in the Middle Ages are to be found in French history. The proud Chatelain de Courcy, unfortunately enamoured of another noble's wife, died on his passage homewards from the Holy Land, where he had been dangerously wounded. He charged his squire to embalm his heart and carry it to the lady of his love. The husband of the fair one, however, intercepted the squire on his errand, and obtained possession of the heart, which he ordered his cook to dress and serve up. When his lady had eaten it, he grimly told her it was the heart of her lover. She sickened and died. This was not a solitary case. Raimond de Chateau Roussillon cut off the head of a troubadour who had written songs in praise of his lady, and tore out his heart with his own hand. After having it cooked, and seen that his wife had eaten it, he asked, "Do you know that meat, Madam?" She replied that she did not, but that she had found it exceedingly good. Upon which he held up to her affrighted gaze the bleeding head of the poet. Rendered valiant by fear, she declared it should be the last morsel she would ever eat; and, as her husband advanced towards her, sword in hand, she threw herself from a balcony and was killed by the fall.

As there are several persons who have been twice buried, so there are many that have not been buried at all;—the lady in the College of Surgeons, for instance. The crypt of Ripon church is fantastically lined with bones and skulls arranged with geometrical precision in neat patterns. The church of St. Ursula, in Cologne, is adorned in the same fashion. In the latter edifice the bones are in the church itself in the light of day. They are arranged systematically on shelves which line the walls. The shelves and partitions are screened with floriated tracery, of great diversity of design, every compartment exhibiting a variety. These bones are declared to be those of eleven thousand martyred virgins who perished with St. Ursula!

Farther up the Rhine, there is a church, near Bonn, where, in a vault into which visitors are shown—after they have viewed, in due order of sight-seeing, a certain staircase said to have been the property of Pontius Pilate—there are seen arranged in two rows, with a pathway up the middle, twenty-five lidless coffins, each containing the brown, dry, shrivelled, leathery body of a monk in his habit and cowl. These have lain there, according to the guide, for 400 years.

In the caves of the Capuchins, of Palermo, the dead, hanging by hooks to the walls, and otherwise arranged in cases along galleries for convenience of inspection by mourners and sight-seers, can hardly be said to be buried. All are dressed in good clothing, according to their condition of life, of the fashion of the period at which they, severally, died; some in evening dress, patent leather boots, and kid gloves; young ladies in silks and satins, with wreaths upon their heads; monks in their habits, &c. They are carefully attended to, neatly arranged, dusted, and labelled by the Capuchin brethren, who are the guardians of the place. Their fee for these posthumous services is about 4*d*. They have a mode of preserving a life-like appearance in the dead by washing the body with a solution, and by fixing glass eyes in the sockets; but this is an extra of very considerable expense, and not frequently incurred by the friends of the departed. It may have been to some such process that St. Cuthbert was indebted for a celebrity of 1,200 years' duration.

We have two more notes concerning the royal dead. The first concerns William the Conqueror. The commotion that ensued upon his death is well known. The corpse lay upon the ground for three hours almost in a state of nudity, quite disregarded; his nobles, knights, and servants all bent upon securing their own interests. When order was restored, and the interment about to take place, a voice from the crowd threw the multitude into consternation: it said—"He whom you have praised was a robber. The very land on which you stand was mine. By violence he took it from my father; and, in the name of God, I forbid you to bury him in it." The man was called aside, and paid 60*s*. for the grave, and promised the full price of the land. The king was then buried in a stone coffin. According to Baker, when Coligni took possession of Caen the tomb was broken open by his soldiers, and some of the bones of the departed monarch were brought to England, 1562. Curiously, Coligni was not allowed to rest in his grave like other people. Catherine de Medici caused his head to be embalmed, and sent it to Rome.

Our second note is a passage from the diary of Mrs. Godolphin, the beautiful and pious friend of Evelyn, and ancestress of the ducal house of Leeds: it relates to the Duchess of York, first wife of James II. "The D—— dead, a princess honoured in power, had much witt, much money, much esteeme: she was full of unspeakable tortur, and died (poore creature) in doubt of her religion, without the Sacrament, or divine by her, like a poore wretch; none remembered her after one week, none sorry for her: she was toat and flung about, and every one did what they would with that stately carcase."

CAN OWNERS OF BUILDING-GROUND GIVE UP ROADS TO BE KEPT IN REPAIR BY THE PUBLIC, WITHOUT HAVING PREVIOUSLY SEWERED AND PAVED THE ROADS?

A CASE of considerable importance to the several interests connected with building-ground in the environs of towns, came before the justices of the Queen's Bench, on the 6th of this month. It related to the formation and "dedication" to the public, of a street or way, by the owner of the ground. The object of such dedication of course is to place the *onus* of the reparation of the way upon the public, or its representatives: it is therefore very important that these latter should be able to require that the road be delivered to them in a proper state, or complete in all that is essential to the public health. Streets, or urban ways, it is obvious, may involve as essential, more than might be required in roads in the country. Much difficulty has arisen from the manner in which various Acts for purposes of local government, have been piled upon one another. In the present case ("The Queen on the prosecution of William Bass *v.* The Inhabitants of the Township of Dukinfield,") the conflict was between the jurisdictions established under the General Highway Act, and under the Public Health Act and the Local Government Acts. Several points apparently are still left in an uncertain state; but the case between the parties in Dukinfield having been decided, the matter has appeared important enough for us to avail ourselves of the short-hand writer's notes of the judgment, and of our own notes of the arguments, with a view to laying this case in the main, before our readers.

The General Highway Act, without quoting the words, we may say, provides that no road made by any private person shall be deemed to be a highway repairable by the inhabitants, unless it shall have been previously put into good repair to the satisfaction of the surveyor of highways, and of two justices of the peace: moreover, the surveyor is to call a vestry; and if the road be deemed not of sufficient utility to justify expense of repairs, then the party is to be summoned to a special sessions in order that the question may be determined. By the Public Health Act of 1848, the Board of Health of a district are to exercise the surveyorship of highways, and have the power of declaring the way to be a highway repairable out of the rates.

The question was, which of the two jurisdictions should apply where roads or streets are formed on land newly-covered with buildings; that is, whether the owner of the land, or the inhabitants of the town or district generally, are to bear the expense of sewering, paving, and flagging; seeing that under the Highway Act, all that is necessary is to put the road into repair for purposes of traffic, without the sewering, &c.

The whole law in favour of the defendants, was not at first so clear as might be supposed. The inhabitants of the township of Dukinfield, with the exception of parts under a different Act, and except so far as they may be affected by the Public Health Act, are liable by ancient usage, to repair their roads. In 1853, the road in question was commenced by the landowner, Mr. Astley; and it was completed in 1854, being macadamized, and was used by the public. In May, 1858, the landowner gave notice to the Dukinfield Board of Health of the intended dedication. On the 14th of June, the Board wrote that the road not having been sewered, levelled, paved, flagged, and channelled, to their satisfaction, they could not adopt it as a highway. No vestry was called, the reason perhaps being that there was no such body. On the 30th of August, the landowner got two justices to certify the road as a Highway under the General Highway Act: the certificate was afterwards enrolled at quarter sessions; and in April 1859, the Board were informed that after the 18th of October following, the landowner would deem the road to be repairable out of the rates. In June 1859, the Board gave the landowner a counter-notice as to the reparation of the road by him, or threatening the alternative of their doing the work at his expense. The landowner repaired the road up to the date he had named. After that time, it fell into a state of non-repair, until in October 1860, an information was laid against the Board for not repairing the road under the Highway Act. Eventually an indictment issued, which was turned into a special case. Pending the proceedings, the Local Government Act of 1861 was in Parliament; and a memorial of the inhabitants of Dukinfield to the Secretary of State, urging the introduction of a clause repealing the clause in the Highway Act so far as it regarded places under the authority of any local Board of Health, was met by the suggestion that a case should be laid before the court. The question to be decided was, whether there was the conflict between the jurisdictions, or whether by the adoption of the Public Health Act by a district, the clause in the Highway Act as to the dedication and adoption of a private way, is superseded as regards the district.

Mr. Welsby, for the landowner, argued at great length that there were in fact two modes of proceeding. That under the Highway Act, which did not require the sewering, &c., would be always available, unless the position which he described as taken by the Board were correct, and which he contended was not so, that no owner of land could dedicate a way to the public without their permission or assent.

Mr. Mellish, for the defendants, showed that owners of land could not be held in a position to avoid expenses of sewering, paving, &c., where within the districts of Boards of Health. If once the road could be made a highway, the Board would have no means of compelling the owner to sewer it.

In the judgment, Mr. Justice Wightman said that the landowner had treated the case "as if it were strictly under the provisions of the Highway Act, and without reference to the provisions of the Public Health Act;" and that he had supposed he had done everything required by the 23rd section of the Highway Act: he had indeed given notice to the surveyor (the surveyor being the Local Board of Health); and he had obtained the approval of two justices; but he had "not obtained 'the satisfaction' of the surveyor." Now the question in this case was, whether it was "sufficient for him to have complied with the terms of the Highway Act," or whether he was not also bound by the provisions of the Public Health Act. The powers of the Board, as given in the 69th section of the latter Act, were, Mr. Justice Wightman said,—

"'That in case any present or future street, or any part thereof (not being a highway),' which is this case, 'be not sewered, levelled, paved, flagged, and channelled to the satisfaction of the Local Board of Health,' that is, the surveyor of the highway, 'such board may by notice in writing to the respective owners or occupiers of the premises fronting, adjoining, or abutting upon such parts thereof as may require to be sewered, levelled, paved, flagged, or channelled, require them to sewer, level, pave, flag, or channel the same within a time to be specified in such notice.' They have not done that in this case, though they might have done it. Then by the 70th section it is enacted that 'if any present or future street not being a highway at the time when this Act is applied to the district in which it is situate, be sewered, levelled, paved, flagged, and channelled to the satisfaction of the Local Board of Health, the said local board may, if they shall think fit, by notice in writing put up in any part of the street, declare the same to be a highway, and thereupon the same shall become a highway.' It is said, the local board might, if they pleased, have required Mr. Astley to have flagged and channelled and so on, this proposed new street, and if he had not done it, they might have done it themselves and have charged him the expenses, and might if they so pleased have declared it to become a highway; but that is not inconsistent with its having become previously a highway repairable by the parish at large under the provisions of the 23rd section. It appears to me that to that extent, the provisions of the 23rd section of the Highway Act are superseded, and in effect overruled, by the sections to which I have alluded in the Public Health Act, and certainly to this extent, that the road must be made in a substantial manner and to the satisfaction of the surveyor. Now what is meant by 'substantial manner?' 'Substantial manner' no doubt must have relation to the situation of the road and the nature of it. What might be sufficient on a road over a common, might be very insufficient in a public street which is to form part of a district to be entirely covered with houses, as is the case here. It might be that to get it repaired in a substantial manner it was necessary to 'pave' and 'channel' it in the manner provided by the 69th section; and therefore without that, there not being the assent of the surveyor of this being done to his satisfaction, it seems to me the case is not sufficiently complied with by Mr. Astley under the 23rd section, and that enough has not been done to enable him to say this has become a highway, merely by the way being made to the satisfaction of the two justices. It requires also the satisfaction of the surveyor,—that is, the satisfaction of the local board. It is enacted expressly that it must be to their satisfaction; and, therefore, it seems to me the defendant is entitled to our judgment, as the case is not governed by the 23rd section of the Highway Act; and the section of the Highway Act has not been sufficiently complied with to take it out of the provisions of the Public Health Act."

Mr. Justice Blackburn, in expressing concurrence, refrained however from expressing opinion upon many questions that had been started, and which had arisen from the words which the Legislature had thought fit to use. That which was enough to decide the case, was the point mentioned by Mr. Justice Wightman.

"The common law, as we may call it, enabled any man to dedicate the ground which belonged to him, as a highway, to the public; and then the common law followed as a consequence, that it was repairable by the inhabitants of the district, with the liability of repairing the highways within that district."

Upon that, he continued, came the Highway Act, which for the first time puts a provision that no road should become repairable by the parish unless several things had been done, including the substantial formation of the road, of the width required by the Act, by the person proposing to dedicate; and (in the words of Mr. Justice Blackburn) "to the satisfaction of the surveyor of the highways, or any two justices of the peace." Then came the Public Health Act, "which certainly," said the judge, "is worded so as to occasion very considerable difficulty to see how it is to be worked in future." The 68th section transfers streets being or which may become "highways," that is "highways repairable within the district," and vests them in the local board, and enjoins the board to "'cause such streets,' that is, all those that have become highways, 'to be levelled, paved, flagged, channelled, altered, and repaired, as and when occasion may require;' so that the obligation there to repair those that have become highways is this, that having become highways they shall be repairable by the district; and that is cast on the local board," &c. On several points, Mr. Justice Blackburn expressed doubt; but he considered the 23rd section of the Highway Act as binding; he laid stress upon the fact that the road in question was an intended *street* in the popular acceptation of the term, as well as a street within the definition given in the Public Health Act, and said:—

"Then, that being so, before they can call on the surveyor,—before they can make it a highway under the Highway Act (supposing that still to apply),—it is necessary that it should be made in a substantial manner, to the satisfaction of the surveyor, as well as to the satisfaction of two justices."

It was plain, he said, that the Legislature contemplated that before an intended street were made into a highway, it should have been sewered, &c., at the expense of the owner, and to the satisfaction of the local board. The local board might not be bound to see to all this, in every case; but in that of such a street as the present, they had a right to see that it was made as suited to the street of a town. He laid also some stress upon their power to express dissatisfaction, even should they be wrong; though admitting he was not aware if there were any machinery for compelling a just decision by the surveyor. It was clear that such machinery had not been set in motion, in the case then before the court.

Judgment, therefore, was for the defendants.

PROPOSED PURCHASE OF THE EXHIBITION BUILDING.

ON Monday last Lord Palmerston moved the House of Commons in committee of supply for a vote of 67,000*l.*, as part of 120,000*l.* for the purchase of the land at South Kensington on which the buildings occupied by the International Exhibition of 1862 still stand.

His lordship first alluded to the inferiority of London as compared with other first-rate towns in regard to the character of its buildings. The cause, he remarked, was the great value of ground. The improvement between Oxford-street and Holborn cost, in purchase of land only, about 57,000*l.* per acre. The improvement in Charlotte-street cost 67,000*l.* per acre. The land for the improvement between Coventry-street and Long-acre cost 119,000*l.* per acre. When it was proposed to increase the width of the new street between Blackfriars Bridge and the Mansion House from 70 feet to 80 feet, it was found that that addition of 10 feet to the width of the street would involve an additional outlay of 100,000*l.* A few years ago, continued his lordship, there was a vacant space near St. Paul's: I cannot say what fraction of an acre it was; but when the City of London were asked to leave that unoccupied in order to give space around the magnificent Cathedral of St. Paul's, the answer was that that land, small as it was, was worth 60,000*l.*, and that the City did not feel justified in acceding to the proposal. Not only is the price of land in London high, but the same cause operates in provincial towns. In Manchester land is sold by the square yard, and produces about 50,000*l.* per acre, in some places 60,000*l.*, and in certain spots as high as 200,000*l.* At Birmingham, land held by the North Western Railway was sold at from 57,000*l.* to 60,000*l.* per acre. At Liverpool land has been sold at 30*l.* a square yard, or nearly 150,000*l.* per acre; and in other less good parts it fetches 100,000*l.* per acre. I say, then, that the national progress of wealth and civilization tends to add greatly to the value of land covered by buildings in the interior of the town; and, admitting that there are certain requisites for the development

of the public establishments and buildings, the question arises where land for that purpose can be acquired.

Now, we hold that the land held at Kensington by the Commissioners of 1862 does afford the means of providing for our immediate and prospective wants, and that we are able to get land there upon terms infinitely cheaper than those upon which land can be acquired nearer the centre of the town. In the first place, we want a Patent Office and Museum. We think that about three acres would be sufficient. We want an addition to the British Museum. One calculation has been that eight acres would be required: that, probably, is more than would be necessary. Five acres have been named as a near approximation, and three acres are the smallest that immediate wants require. We have collected at some expense and trouble a number of most interesting portraits of distinguished men connected with the history of the country. That collection is very ill-placed; for where it is it cannot be seen; and it is urgently desirable that we should have a better building in which to place that portion of the collection. We have a museum at Kensington full of most interesting and instructive productions, and a committee of the House one or two years ago strongly recommended that an addition should be made to that institution for the purpose of containing more conveniently the things which are there to be found. Suppose that land was to be bought for these purposes in the metropolis at the rate at which land in that situation would probably be acquired, the calculation is as follows:—If eight acres were acquired at the Museum—I do not think that so much would fairly be requisite—the land would cost 390,000*l.*, and the building 824,000*l.*, making a total of 1,214,000*l.* If five acres were sufficient, the land would cost 240,000*l.*, and the buildings 567,000*l.*, making a total of 807,000*l.* And if only three acres were acquired the land would cost 150,000*l.*, and the buildings 300,000*l.*, making a total of 450,000*l.* For the extension of the Patent Museum three acres might perhaps be got for 100,000*l.*, and a suitable building erected thereon for 100,000*l.* The Kensington Museum had been calculated to cost for its extension in 1864, 25,000*l.*, and in 1865, 25,000*l.* The Portrait Gallery would require about half an acre: that would cost 25,000*l.*, and the building to be erected upon it 25,000*l.* Now the proposal we have to make is one which I think the committee will see is very economical. It gives us a greater quantity of land at a far cheaper rate. The arrangement that is proposed is that the public should purchase seventeen acres of land belonging to the commissioners, and covered by the building in which the Exhibition took place. For that land the commissioners are willing to take 120,000*l.*, the cost per acre being about 7,000*l.*, whereas in other parts of the metropolis the cost of land per acre would be 50,000*l.*, 60,000*l.*, or more. Well, in addition to that, there is the existing building; and we think it would be good economy to purchase that building and adapt it to the purposes for which we want accommodation. Sundry people think that we should divide the ground from the building, and let the contractors carry away the building materials.

If the present building were taken away, you would want to build a Patent-office, which would cost 100,000*l.* The enlargement of the British Museum would cost 240,000*l.* You would want an addition to South Kensington, which would cost 40,000*l.*; and you would want to expend 25,000*l.* more, making 405,000*l.* By this plan you have to pay 80,000*l.*, and 286,000*l.* ultimately for alterations, making 366,000*l.* to be set off against 405,000*l.*, leaving a saving of 39,000*l.* or 40,000*l.* This is also to be considered:—When we begin a public building, architects step in: the Institute of Architects also steps in. It is said that plain buildings are not suitable; that ornament is required; stone fronts are reckoned necessary; people say they are not content to have brick covered with cement. We all know that taste is a very dear enjoyment; and, depend upon it, if you set to work,—that ground being clear,—employed a distinguished architect, or called upon a number of distinguished architects to give a plan, you would be running into an expense infinitely greater than we propose; and I don't know but that, on the whole, we shall get a building more creditable to the country and better adapted for the purpose for which we require it. If the House determine, as I trust it will not, that the buildings should not be purchased, the opportunity of buying the land is, I think, one not to be lost. We propose, for the convenience of discussion, to take the votes separately.

A smart discussion followed, in which Mr. Gregory contended that on the plan of making a cheap bargain the Government were going to involve the House in the most useless and reprehensible expenditure. They were going to purchase an enormous building without knowing in the smallest degree what would be the cost of the maintenance of the structure. He objected to the proposal because it would have the effect of drawing into one focus all the different institutions of the country—a principle upon which the House of Commons had more than once protested. He did not wish to see all the institutions of the country coming into the grasp of a clique. He begged to move the rejection of the vote.

The Chancellor of the Exchequer replied to Mr. Gregory, and various other members took part in the discussion.

The result was a majority of 267 to 135 in favour of the Government proposal to purchase the land; and the farther consideration of the question, as regarded the buildings, was postponed.

There can be no question as to the desirability of the purchase of the land at the price given by the Government. The Commissioners' surveyor valued the land at 500*l.* per acre per annum, and we have reason to believe this is not excessive. This amount, capitalized at the rate of thirty years' purchase, represents a total value of 247,500*l.*; or at thirty-one years' purchase (the price already obtained for some of the Commissioners' other land), 255,750*l.* Then there is the value of the refreshment-rooms. The Commissioners have expended a sum exceeding 10,000*l.* in the erection of the arcades in and upon which the rooms have been constructed; and an additional sum of about 30,000*l.* was expended in the erection of the refreshment-rooms themselves. The land on which they stand is also worth a very considerable sum. It is evident, therefore, that at 120,000*l.* the country has a very great bargain. The Commissioners stipulate that the buildings on the land "shall be permanently used 'for purposes connected with science or the arts,' those being the words employed in the Act under which the Department of Science and Art hold the portion of the estate now occupied by them," and they thus fulfil their trust.

Touching the proposed purchase of the old building, a great outcry is being raised; public meetings have been held to protest against it; and the Institute of Architects have appointed a meeting for Monday next for the same purpose.* A considerable amount of feeling has been imported into the discussion, and is easily understood. An important profession was more than slighted on the occasion of the erection of the building; and the building itself externally is for the most part ugly and unsatisfactory. Here, however, it is; and the question is whether, wanting house-room as we do for various collections and institutions, it should not be bought for the value of the old materials,—the money it would bring as old bricks, glass, and iron columns and girders. After looking into the matter somewhat carefully, we should not put this at so large a figure as 80,000*l.* The Government surveyors, however, with greater facilities, believe this to be the value; therefore so let us consider it. To pull down the solid brick building in the Cromwell-road, comprising the picture-galleries, well lighted and admirably adapted for their purpose, would be an act of extravagant foolishness,—a sin and a shame. The purchase of this at the price the bricks and glass in it would bring, we look upon as an act that would be approved of by nine out of ten of the population if it were polled. A fire-proof floor, and increase of light to the lower part, where we might hope to see a Museum of Architecture worthy of the country, would render the building well fitted for its intention; while, touched by the hand of an accomplished architect, it might be made to take such a form as would be no disgrace to the taste of the age. Our impulse would be to let the contractors clear away the rest of the building; but we doubt if calmer inquiry would sanction the determination. The country wants immediate accommodation, and here it can obtain it at a cheap rate. Even if we used the structure as it is, without any large expenditure, for eight or ten years, the materials would bring nearly as much then as they would now, and we might make the next Great Exhibition pay for a better building in its place. Looking at the question in many ways, with no love for the structure, and without a bias to either side, we arrive at the conviction that if the Government be prevented from buying the building at the price of old materials, a very extravagant and unwise act will be committed.

* "To consider the propriety of presenting a petition to Parliament against the grant of any public money for the purchase of the building of the International Exhibition, on the grounds that, both in design and structure, the building is unsuitable for a public gallery or museum of art." At a noisy meeting held on the 17th, at St. James's Hall, and presided over by Mr. Beresford Hope, it was resolved (an amendment being lost), "That this meeting has learned with regret and surprise the proposal to purchase the International Exhibition building about to be submitted to Parliament by the Government, and it earnestly deprecates so imprudent and wasteful an expenditure of public money." And afterwards, "That a petition should be sent to Parliament, praying it not to sanction the proposed purchase of the building." At a meeting of the "Society for the Encouragement of the Fine Arts," it was resolved,—"That the proposed purchase of the International Exhibition building, with a view to its permanent retention, is objectionable, it having been constructed under pressure to meet temporary purposes, which have been served; the design being in violation of architectural taste, and the structure for the most part is neither stable nor weatherproof, and requiring, for any permanent use, to be rebuilt." A petition to Parliament against the purchase of the land and buildings, and against the removal of the national collections, was also adopted.

ARCHITECTURE, ITS PURPOSE AND PLACE AMONGST THE ARTS.

THE ARCHITECTURAL MUSEUM.

THE last of the present series of lectures was delivered on Tuesday evening, the 16th, by Mr. T. Gambier Parry. After a few introductory observations, the lecturer said,—Before any subject can be studied with success, it is most necessary to begin with understanding what it really means. Now, about architecture, it is no easy matter to say what it means. Many definitions had been given of it, but he doubted the possibility of a perfectly full definition being given of any Fine Art. One most accomplished writer of the day has said that architecture is nothing more nor less than ornamental or ornamented "construction." Another most original author has defined it as the art which so disposes and adorns the edifices raised by man for whatever uses, that the sight of them may contribute to his mental health, power, and pleasure. They both are very true. The first is very downright—the second very æsthetic. But all fine art lies beyond the limit of a definition, because the very idea of a definition implies a limit. Art, in its nature, is illimitable. We love art, because it is like ourselves. We all love and long for sympathy,—even the most ungracious do,—although they would probably scout the idea. That is why all men love nature because it is sympathetic. The clouds which dance and shine about the setting sun, are to one man a perfect picture of happiness and fantastic gaiety; to another their bright forms and changing colours find a counterpart in his mind of bright and changing futures; but still he has pleasure in gazing on them, because they are so beautiful, that they sooth while they recall his sorrows. And thus it is with art. Its power is not in its representing nature, but that its mission is to seize those elements in the mystery of all we call nature, which produce wonderful effects upon us, and thus to interest our thoughts or to engage our affection. We certainly live, for some reasons, in times of great advantage; we are mounted so high up on the ladder of time, that our view is only limited by our own individual power of sight; for the objects are innumerable and the horizon boundless. Of all the avenues of the past, down which we trace the history of our fellow-men, their aspirations and their weaknesses, there are few so full of interest as that of architecture. In that still live thoughts in its ruins—their concentrated thoughts. In all are marked the clear lines of their progress and decline. Look closer, and in the bold broad features of its monuments you trace the vigour of a rising race, the struggle of its youth, the development of its power; and, still further, the refinement of its civilization, and then the too sure sign and symbol of its decay. All are there traced as with a finger of fire. Look closer still, and you see the individuality of a nation's character; the nobility or the meanness of its social state; its political worth; its vigour or depravity. Thus it is that it may be most truly said, the nations of the past still live in their monuments. The inscriptions may be lying vanities, but in their architecture are records of certain truth. We read them as though they were of yesterday, because art is a common language to all mankind. Architecture has had a common origin in all times and countries. He spoke of it entirely as a fine art, apart from building, just as thought is from pen and ink. But architecture is entirely a constructive art. Its whole beauty depends on its construction. The moment it transgresses good construction, it trans-

gresses the laws of good taste. That word "taste" is associated with the vaguest notions of variety. He did not believe that good taste was capable of varying. He believed that its laws were capable of being most clearly written. Indeed, its whole code might very clearly be comprised in the words "good sense." These are delicate as well as strong words; and, taken as a motto, they will bear no vulgar interpretation. The idea of architecture lies in the intention rather than in the act of the builder; and according to the success or propriety in expressing that intention we call it good or bad architecture. The first work with a most genuine architectural intention, has been the mere setting up a stone to testify to an event, to record it for ever, and to tell all men the fact. A mere stone, without science in its erection or ornament on its surface, may do this. You may say "No, that was a monument, not architecture." He granted that it was a monument, and the very rudest conceivable. All he contended for was, that in that rude monument lay the very germ of that yearning for expression which was developed into all the fine arts; and that in a history of architecture, the history of monoliths should stand as chapter the first. A mere plain wall may be a most thorough piece of architecture without a shadow of elaborate ornament, when used with some clearly marked expression, no matter how elementary the idea it contains, whether merely that of rude display or that of power and defiance, as the cyclopean work of the Oscans was evidently intended to produce. If we trace up its history by a comparison of its ornaments, our attention will at last be drawn up its many ramifications to that spot to which the eyes of all nations turn as the home of their common forefathers. Even the American Indian points northward whence his race descended to their present hunting-fields, acknowledging an original home beyond the northern passage. The traditions of Asiatic and European concentrate upon it as the spot whence races, languages, and arts all silently assent to trace their origin. There can be little doubt that forms of ornamentation have travelled in our direction from the East. Very many of them which characterize the earlier forms of European art bear too strong a resemblance to what we know to have been long before in favour in the East, to be mistaken. But with architecture in its larger sense it need not have been so. Architecture has always been a human necessity. The common obligation to follow the natural law of mechanics, and to be bound by the nature of materials, may have led tribes, without a tradition of relationship, to adopt precisely the same methods of construction and ornament. Long before the day of that questionable happiness, when tenderer civilization began to take the place of wild and hardy independence, there were men with whom an impulse much akin to the aspirations of religion forced them to look forward in vague search for something which their common life could not satisfy, and their common language could not express. This poetic sense of the good and beautiful formed its first utterance in the rude measure of a hymn; and thus art began. Then men began to be bound together more closely. Their sympathies were roused, and the idea of nationality began to be sacred. Under such influences three styles of architecture have arisen; or rather, he had better perhaps express it, three distinct architectural systems have been developed, mechanically and decoratively antagonistic to each other. They are the types of all the styles which have ever existed, and that ever can exist. He meant the Egyptian and the Gothic, and that which spreads over the extreme East, which, for want of a better name, he should call Chinese. The first of these, the Egyptian, was based on an idea of strength and stability. In construction, it was simple and rectangular. It trusted for artistic effect (exclusive of its colour and its statuary) to vastness of bulk and length of line, of which the spare relief of carved capitals and hollow cornice only added to the majestic simplicity. Gothic, on the contrary, was constructed exclusively with reference to the use of the arch. Its most striking effect was that of lightness and height, and its idea of beauty was as much that of the truthful expression of its construction as that of more ostensible ornament, for which it pressed into its service all the most beautiful forms it could collect (from the great treasury of Nature). The third typical style, which he had rather vaguely called the Chinese, appeared to him to differ from the other two principally in having, neither constructively nor artistically, any principles at all. Anything is fish that comes to its net. But what could be expected of a people whose ideas of beauty are founded on their own ugly type of humanity, which they delight to honour by still further refinements of distortions? From these three central influences; that is, from the horizontal principle, the upright principle, and the no principle at all, architecture must be derived. All true forms of architectural art have been based on simple good judgment and practical common sense. And just as now from the examination of most ancient languages, the roots of some primæval tongue are traced; so does the genealogy of art lead to a centre of common origin,—a centre, not of place, but of nature; a centre which marks significantly the unity of the human race, the oneness of their physical necessities, the following the same principles, and the expression of the same ideas. In this, of course, he referred only to the similarity of first principles; similarity of ultimate result as the rare exception. Distant nations, who have no record of communication, have never developed their arts alike, with one solitary exception. Mere savages living at each other's antipodes, may have carved the knobs of spears and tomahawks alike, and had war paint and tattoo patterns as similar as if handed down with rigour of sanctity from their first gifted inventor; they may have built alike, and have made their wooden villages, on the surface of lakes alike, from the bronze or iron age of mankind to the era of the first Doge of Venice. Their minor arts also may have been alike traceable to their ornaments, to the universal instinct and love of beauty in the simplest forms. The one remarkable case of similarity between most distant nations (which remains still to be explained) is that between certain arts practised by the first civilized inhabitants of Central America and those of the Egyptians. A similarity of national character would certainly induce a similarity of arts, because arts have always been fostered under the influence of statecraft, national government, and national state religion. But we have no means of tracing any similarity of influences between them. Living at the antipodes of each other, the two most civilized nations of their respective hemispheres developed systems of art which bear a surprising relationship to each other. In the use of hieroglyphics they had hit upon the same method of writing; in architecture the same principle of building. Their system of building is carried out into a system of architecture, with points of similarity too remarkable to be derived from the common requirements or common instincts of the two nations. The relationship of styles in other countries better known to us is very simple. Everywhere is the same tale told of power and wealth going to the shrine to consecrate the arts to the dignity of the state and the honour of religion; and everywhere architecture seems to have been the art on which they lavished all the resources of ingenuity and genius which craft of prince, ambition of priesthood, or superstition of populace could command. The remains of palaces, temples, and all other monuments, bear so great an affinity to each national style that we may take for granted that domestic buildings must simply have followed in their wake, at a respectful distance. The arts of Egypt and Assyria acted and reacted upon each other. That of India was a more florid development of them. Greece owed every architectural principle to them, with the most deliberate and masterly adoption. She lopped the flowers from the fair gardens of her neighbours, and then sowed the seed at home, that, when they bloomed again, they might be only Greek. We are accustomed to attribute to her influence all that afterwards was developed upon Italian soil; but the first rays which dawned on Italian civilization may rather be traced to an Assyrian sun. The Greek influence only developed among the unartistic Romans what they had first borrowed from the first settlers of Etruria. If Greece had set the example of borrowing, she Grecianized the loan. Rome followed her tempting example, for her people had no originality. But the result was widely different. Rome borrowed from two sources, which, in spite of her alliance, proved discordant,—Greece and Etruria; and it was in her attempt to combine them that the principles of true Classic art were first violated. Their artists had little power, their artisans little discrimination. Splendour of conquest, splendour of show, splendour of luxury, were the ruling passions. And the arts were degraded in being made to serve them. How could a people create what was not in their hearts? They lost even the glory of their borrowed beauties. Their republican virtues were lost in the pride of their prosperity. The genius of the arts left them and joined their enemies, then a barbarous but more worthy race, the Goths. And now we have come in the line of this broad sketch, to art reviving under Christian influences. Europe had been revolutionized; opinion, social principles, and therefore social wants, were all changed. Art had to begin again. People were in earnest. They worked earnestly; but the commonest art principles were unknown to them. Old things were not ransacked to be copied, but to be used. The old religion had treated the new one roughly. But now the tables were turned; and the rude Christians ruthlessly pressed everything to their new uses. Nothing fitted anything else. But, working as they did with an honest recklessness of all criticism, the result was sure and the reward great. As their religion was antagonistic to the religion of the old world; so were those arts which grew up under its inspiration, and flourished to do it honour. Untaught as were their first workmen, with rough hands and rude tools they hacked art into shape again. They built and carved whatever was in their thoughts. Their work was the embodiment of their own rough sincerity. And then as they quieted down in calmer times, and thought more gently, and felt more tenderly; so, too, was their work more tender and refined; their walls rose higher, and with them their pillars and their arches. Every feature was free. As with their faith, so with their art. All had been thraldom, now all was freedom. Art breathed freely in the fresh atmosphere of its young life. The people were true to her, and the monuments of those Christian ages bear the impress of their truth, their vigour, their energy, and their devotion. We live in the days of intellectual revolution: never was there such a harmony of contradiction as at present. In former times epochs were marked by special characteristics. What will ours be called by future generations? In domestic life it will probably be called the comfortable epoch;—in social life the discontented epoch. But in art it will be most certainly looked upon as the era of struggle. Our failures will be understood if not pardoned, and our difficulties appreciated. Never were there in art greater difficulties than now. Condemnatory criticism is easy enough. It is all very well to say what we ought to be, because we have the failures and successes of other ages clearly before us. But here is all our trouble. In other ages one idea prevailed at a time, and arts rose to a most perfect concert by their entire harmony. But now, unfortunately, we live in a most disturbed atmosphere. Much learning has made us mad. Everybody knows, or is expected to know, everything. The result is that we are suffering from a plethora of technical knowledge. But knowledge never made artists, nor science arts. They came of a higher source and stand on a higher level. The fact is, that our imaginations have lost their way in a labyrinth of multiplicity. The quieter spirit of former times was more akin to the art spirit. Activity is now-a-days too commonly confounded with bodily and physical movement. But he by no means wished to put art upon stilts. Art needs no balloon to float above the atmosphere of common life—far otherwise. But it does need freedom from that atmosphere of vulgar presumption which is now choking it. The eyes of the public are now so confounded, that they do not know what to think. Our difficulty lies in our diffuseness. The architecture of the ancients attracted within and around its own works those sister arts, without which it never considered itself complete. But in this there was no diffuseness: all worked together with one spirit to one end. There was a good catholic repudiation of any right of private judgment. Whatever they were, Theban or Ninevite, Athenian or Goth, the builder raised the pile, and made it as beautiful as his art could devise; the painter covered the walls; the sculptor filled his allotted spaces. If one was a Greek, they were all Greeks, and only knew and cared for what was Greek; if one was a Goth, they were all Goths, and only knew and cared for what was Gothic. So they worked, each family apart, one in the warmth and sunshine of the south, the other in the bleak rain; but each as a family of brothers: they worked with success, while we, as a nation of rivals, work with confusion. It was hopeless in this country, when high and low were entangled in a labyrinth of occupation, to expect that our people should ever attain to that perception of what is true and good in art which was attained by others in quieter times, when contemplation and time existed as possibilities. People now do not like the trouble of thinking about art, nor of looking below the surface. Abstract beauty is simply a bore, and the symbolism of inward meaning by outward form is poohpoohed. It has been a most unhappy prejudice,

and most common among Englishmen, that it is undesirable that England should become an artistic nation. They forget that when art was at its zenith in Greece, that country was also at the zenith of its glory, and of the vigour of its personal courage, and its manly virtues, self-devotion, and generosity—faculties which we honour, but have never surpassed. Where arts flourished they spoke the mind of a nation; architecture has been the art in which all nations have rejoiced, and in which national creed and social life have been reflected. Having referred at some length to the relation of architecture to the other arts, Mr. Parry concluded his lecture, of which the foregoing is an abstract, as follows: The recognition of universal beauty leads to one or other of two ends—confusion by admixture — truth by subordination. The arts, therefore, to work well together, must practise self-denial. Architecture has been in its purest style the great central influence in the art of civilization. Their combination with architecture has forced them up to a high ideal. I recognize the exquisite beauty of the most imitative art so long as there be mind in it, and not matter only. But the higher the ideal the greater the art, if it can but attain to it. The combination, therefore, of those arts must reach the acme of all human power, which fulfils the yearning of that his highest aim. Look, then, at what a position an architect holds in the world of art if he be worthy of the profession which he makes. Study of all art is needed for such a course as his, for of his art I conclude—and with this I conclude this short review of it—that as gold is among colours, so is architecture among the arts: it is that round which they meet in perfect harmony; and thus, with its sister arts about it, it is that great treasure-store of the genius of our fellow men in ages long gone by; a golden harvest, a precious legacy, left sacred in their safe-keeping for us, to delight our highest sense, to elevate our sentiments, and to discipline our hearts.

The President (Mr. Hope) said,—Your cheers have forestalled the motion which I was going to submit. It was that we should give, according to usage, not formally, but from the heart, our thanks to the thoughtful and eloquent lecturer of to-night. The testimony which Mr. Gambier Parry bore to the position of architecture amongst the arts comes very forcibly from one who is not a one-handed man, who is not an admirer and practiser of one art only. He spoke of the unity of all the arts, of the universal law of beauty which we are all craving after, but which none of us have attained; but which, the more we have not attained it, the more we will strive to compass it. He spoke of the monolith as the first chapter in art. Some of us who have gone by the Serpentine know that it is also the last chapter. I do not say the lowest, as that might be libellous. The last chapter but one is close at hand in the form of the Exhibition building. Whether volume two may open with something better, whether the first chapter of the new series may be something which we may look on with pride and admiration, time alone can tell. With respect to ourselves, we have had seven lectures this session. We have had no meeting for the distribution of prizes, as we thought that a new start in that matter would be a good thing. We offered prizes, and though the works sent in were meritorious, they were not so good as they ought to have been. We only got our money's worth for our money. We have now offered few prizes, but these are of considerable pecuniary amount; and we have given a long day—so long that the prizes will not be given until next year. The first meeting of next session will probably be held for the distribution of the prizes. Let us keep up this good free school of English art, both in its collection, its lectures, and its prizes—a school for which hitherto we have been humbly, earnestly, and trustfully striving. I so take my leave of you for the session of 1863.

WOOD CARVING EXHIBITION.

THE offer of premiums to wood carvers, made by the Society of Arts in conjunction with the Society of Wood Carvers, with whom, through Mr. Lock, the proposition originated, has brought seventy-six works, including a few pictures, photographs, and carvings sent for comparison by the latter society. A greater extension of this part of the scheme (a collection of works of past men) was desired, but has not been obtained on the present occasion. The almost entire absence of architectural carving, and of such works as display any marked genius and feeling for the characteristics of any of the great styles of ornamental art, is strange. The extreme poorness of the specimens including the human figure, also, is discreditable to London workmen, when it is considered what opportunities they have at all the schools of design for modelling and drawing the figure. The great majority of the best carvings, imitations of natural life, are the productions of carvers either resident now in the provinces or who received their art-education there.

The largest display is made from Warwick, with its 10,000 inhabitants. From this little town has proceeded some of the finest wood-carvings executed in this country. The fame of Wilcox, the founder of the school of carving there, and his successor, Kendall, are well represented on the present occasion.

From Warwick we may note came the three well-known sideboards; Cookes' Kenilworth buffet, as it was called, shown in the 1851 Exhibition, and afterwards purchased for 1,800*l.*, and presented to Earl Warwick when he came of age (now in Warwick Castle); one, by the same firm, made for Mr. West, of Alscot Park, near Warwick, illustrative of English sports, at a cost of about 1,500*l.*; and Wilcox's sideboard, made for Mr. Lucy, at Charlecote Hall, costing about the same sum. Wilcox, forty years ago, went as a simple journeyman to Cookes, and afterwards amassed in business as a carver and cabinet-maker a large and most valuable stock; valued indeed, at the time of his death, four years ago or less, at more than 20,000*l.*

Some of the best works have been seen before, or are by men who have made a reputation, Mark Rogers, Perry, Wallis, Dojardin, the late W. Bevan, and others. Works by Meiklejohn, Strapp, Collins, Bryant, Flipping, &c., deserve notice.

The objects of the Wood-carvers' Society are very praiseworthy, and they have lately opened their doors for the first time since their foundation, thirty years ago, to art-patrons, employers, artists, and all well-wishers of art, whether wood-carvers or not, who may become honorary subscribing members at a guinea annually. This, it is hoped, may be the means of bringing to them the money and influence that they stand in much need of to enable them to work out their objects. They have also altered their laws so as to admit wood-carvers resident in the provinces to become members on payment of 2s. 6d. entrance and 2s. 6d. annual subscription, entitling them to the use of their library of 400 volumes, and collection of casts, &c., during any temporary residence in London.

THE DEANERY, GLOSTER.

SOME important and interesting repairs are now being carried on at the Deanery, Gloster, under the direction of Messrs. Fulljames & Waller, and the superintendence of their clerk of the works, Mr. Ashbee. So extensive, indeed, are the repairs and restorations, that the whole of the building has been almost gutted to remove the monstrosities which have been gradually accumulating, to disfigure one of the most interesting buildings of the Domestic kind in the kingdom. The removal of these, the knocking down of lath and plaster walls, &c., may be watched with almost momentary interest. Gothic doorways, Norman windows, columns, capitals, and passages are constantly peeping out and gradually fully developed. Here is a perfect galaxy of architecture—Saxon, say some; Norman, early and late Gothic, Elizabethan, or rather that of her successor James I. It is very seldom, if ever, that such examples are to be found in the domestic abodes, the houses of men, as can be met with here; and that this building was devoted to such purposes there can be no doubt. From the earliest period it was the lodging of the priors; down to the time of the new arrangement in Henry VIII.'s time, it was so tenanted; after that the priors' lodging changed its name and occupants, and it became the deanery; and during these different eras none of the alterations suggested by the fashion or requirements of the day have been discreditable to the period or taste of the times, but the latter. It is scarcely possible to conceive anything in worse taste than the abominations set up as improvements during the later deans' reign. The whole of the really old, interesting, and beautiful work was covered over, and, so far fortunately, where it was possible, with some wretched plaster attempts at Chinese Gothic, and even this a failure; and where some ornamented projection was too bold to be smoothed down with the trowel, it was by the maimers of the day ruthlessly chipped off. Luckily, it was possible to cover over and conceal much, for there was no stint of lime and hair; so with this conglomeration, thick ceilings, and some other shifts of the day by which the previous lofty rooms were split into two, we have still left some charming specimens of Norman shafts; capitals, arches, and windows, of the fifteenth century; and where it is possible by any means to adapt the old rooms to modern uses, no opportunity is suffered to escape of doing so. For instance, in the case of an old Norman one, in later times degraded to the office of a cellar and pantries, it is by the new arrangement intended to convert it into a useful room; its windows, with their early Norman zigzag ornaments, will be opened, and the whole will be so renovated that we may safely assert a much more comfortable room will be made not only here, but elsewhere, than any of the later deans had, with all their fancied alterations and improvements.

There is on the side of the Deanery adjoining the west end of the Cathedral, into which it is imbedded so as almost to form an integral part of the west façade, a fine old Norman room, which has been of yore, no doubt, the chapel for the private use of the prior, but latterly shut up.

The Chinese Gothic window, which partially filled up the lofty pointed-headed one with its Norman zig-zag ornaments, has been removed, and one in accordance with its original character has been substituted. This room will hereafter be the library of the Deanery; underneath this is a room less lofty, but resembling the upper one in its details; at the east end of it is a flight of steps leading into the great cloisters, and immediately on the left of this is another door, affording ingress from the Deanery into the cloisters; and this was the way, most probably, by which the prior passed from his lodgings through the great cloisters* into the Cathedral. The sides of this lower Norman room are lined with stone seats, probably for the use of those waiting for an audience with the prior, to whose abode this lobby was an entrance. Immediately on the outside entrance to the left has been a succession of arches resembling a cloister, of Norman construction; many of the shafts and capitals are in good preservation, and where they have been injured sufficient has been left to authorize a restoration as it originally existed. It is proposed to make this cloister the future entrance to the Deanery; and for this purpose it is very well adapted. Through a door-way here we get into what was the late hall; to make way for which all that could interest us in this place has been destroyed, and we are left with few materials to conjecture what it may once have been. Up an ugly staircase, aged about 100 years, we have on our left that part of the building which we take to be of the fifteenth century; and here, on breaking through the lath-and-plaster partition-wall, some 2 feet from the old wall, a beautiful Gothic stone lantern was brought to light, as perfect as it was the day it was finished. It is a bracketed one, divided into five compartments for light, and in which the horn glazing is still to be seen. It is, of course, attached to or let into the wall, although standing prominently from it, and has altogether a most charming effect. Its preservation was doubtless owing to the circumstance of the lath partition being carried up 2 feet from it: had it been necessary, there would have been no hesitation in chipping it to pieces. Near to it are a Norman shaft and foliated capital, corresponding with those in the cloister above alluded to as the future entrance to the Deanery, but which have been cut away to make room for the present hall and staircase. Close at hand, too, are the remains of a spacious spiral staircase, forming a portion of the building, which we take to be an addition of the fifteenth century.

It seems pretty certain that the whole of this façade has been an addition to, and an encroachment on, the Norman one, cutting it off abruptly, as now seen. Probably the Norman front extended farther north, and in this case it must have presented a very beautiful front. The modern requirement of the Deanery would not of course allow of a restoration of this front, and we should be thankless indeed if we did not feel well content with what is being so liberally done.

Most of the rooms on this side of the Deanery have been altered at different periods from the time of James I. downwards. The late drawing-room—a large apartment—is panelled with some curious old carved work of James's time, in excellent preservation. On the other side we come to the Norman building, with its windows and

* We designate them the "great cloisters," for Gloster Cathedral revels in two; the greater and lesser cloister, both now existing, and both distinct from that which we have termed a cloister in the Deanery.

mouldings of Norman zig-zag work: it has originally been divided into two stories, the upper having an open chestnut timber roof, said to have been a dormitory for the monks: they must have been noble rooms, the dimensions being, if we stepped them accurately, 46 feet by 27 feet. It is intended, we are informed, to convert the lowermost of these fine apartments into a drawing-room; but we have heard with regret—we hope it may not be true—that it is proposed to diminish these fine proportions by taking off sufficient room to make a private library. Doing this would destroy a very fine apartment, and one by no means too large for so high a dignitary of the church, and one which, when furnished according to the requirements of the day, would not be found by any means uncomfortably large. If the dean requires a library here, there is room for one close at hand at the east end. Opposite the old Norman chapel is a low doorway, leading to a wide lobby; might not this be sufficiently enlarged for the purpose? or, if not, just beyond it, we believe, this small study or book-room might be found. Let us venture to hope, too, that the spirit of Norman ornamentation in the future drawing-room may be retained. It is capable of much gorgeous decoration; gilding and colours may be freely made use of, and the walls painted in fresco; and when thus adorned a dean even might be excused from being proud of a taste so worthily displayed. At the back part of the Deanery, and abutting on the Miller's Green, where anciently stood the mill of the abbey, is a fine old timber-built room. Formerly it had its open wooden roof, and many fine "napkin" panels still attest its former magnificence. It was at one time suggested to pull down this room, but it has since been decided to retain it. Its dimensions are about 38 feet by 30 feet.

On examining closely a large painted window in the chapel of the Deanery, richly decorated with the chevron, or zigzag ornament, the clerk of the works discovered that it had been a re-use of the mouldings of a round-headed window, worked up into one of pointed form; and this was proved by the separate pieces not fitting, as of course they would not, the perpendicular rise of the window; the joints had therefore to be made good with mortar. It will be interesting to revisit the Deanery when it is completed.

THE REGISTRATION OF PREVENTIBLE DISEASES.

IN a sanitary point of view this is a matter of almost as much importance as the registration of the causes of death; for, by a careful management, we should thus be enabled to form a more correct idea of the localities in which preventible diseases rage than we have at present any means of obtaining. The medical officers of parish districts are already obliged to record the particulars of the cases which they are called upon to attend. This is a matter which does not cause much trouble, and might be easily managed also by private practitioners. For a sanitary purpose it would be only necessary to give from such records the account of cases of typhus and other fevers, small-pox, cholera, and similar diseases which are to a great extent preventible.

As an instance of the value of such reports, it is worth while to mention that, being anxious to know the extent to which small-pox had prevailed in the Thornhill district of St. Mary's, Islington, we sent to Mr. Lamb, who has charge of the parish cases, and requested him particularly to let us know how the overcrowded houses let in tenements in Upper Bemerton-street were affected with this complaint. We at once obtained from this gentleman the following list from his book of the small-pox cases which had been under his care. The figures refer to the numbers of the houses in which his cases occurred in Upper Bemerton-street:—Nos. 36, 36, 57, 59, 35, 36, 27, 36, 6, 67, 35, 67, 27, 6, 67, 67, 18, 69, 41.* The following arrangement will show the number of cases in particular houses more clearly:—No. 6, 2 cases; No. 18, 1; No. 27, 2; No. 35, 2; No. 36, 4; No. 41, 1; No. 57, 1; No. 59, 1; No. 67, 4; No. 69, 1. This is a record of cases occurring only amongst those who are so poor that they can claim medical relief from the parish; but even the extent of this one particular disease, so far as is here shown, corroborates the opinions which we have before given of the effects likely to result from the overcrowding of these tenements. This, however, is but a small part of the small-pox cases which have occurred in this locality; for many whose families were attacked were attended by the neighbouring surgeons; and of the numbers of these we are unable to obtain any correct account. If there were in practice a compulsory system of recording all such cases, we would be able, with some degree of accuracy, to know how far small-pox, fevers, &c., have prevailed here; and to note to what extent contagion can be traced from house to house.

We believe that a large majority of the medical profession would gladly devote a small portion of their time in this way for the general good; but, for the sake of uniformity, it might be necessary to have some distinct and compulsory means of obtaining such medical returns by a Parliamentary enactment. Convenience for the reception and arrangement of the returns would also be requisite; but this might perhaps be easily managed in connexion with the department of the Registrar General at Somerset House. It would not be necessary to keep the original certificates, as in the case of the births, marriages, and deaths, which require so much space; for we should only need a clear report for periods of three, six, or twelve months: these should be arranged in some way for reference. This *desideratum* may seem to some not easy to manage; but if its importance were duly appreciated, there would be little difficulty in realizing it.

As regards the registration of deaths, Dr. Lankester has shown, at a recent meeting of the Metropolitan Association of Medical Officers, the need of some changes. After alluding to the functions of the coroner, Dr. Lankester statcd, that instead of an inquiry as to the cause of sudden or suspicious death emanating from him, the matter seemed now to be delegated to the coroner's constables. "Any one seemed fitted for that office as now carried out. The oldest man in Marylebone was one of the coroner's beadles. The coroner had thirty-three beadles in his district, when six properly qualified men would do the work both cheaper and better." Dr. Lankester further said that there is a defect in the present law, inasmuch as a *medical* certificate of death is not necessary. A private person may say that he saw the person die: this, he thought, was a fault in the present system of registration. And even the certificate of a medical man as now given was very deficient. Such certificates often merely stated that the medical man last saw the deceased alive at such a time. The coroner also urged the necessity for the registration of still-born children; for which there was now, strangely enough, no provision. This, no doubt, leads to the destruction of many infant lives. In a conversation which followed the above remarks, it was agreed that inquests ought to be held upon persons who died from wilful neglect of vaccination; also in cases of death from typhoid fever, diarrhœa, &c., which were traceable to the neglect of proper drainage, &c., after due and proper notice.

The only fear is that such a system, however useful, might become oppressive to the public. Everywhere, however, we now find medical men corroborating the opinions which we have for years expressed. To keep poor people in the neglected, undrained, and filthy fever dens in which many are, by force of unfortunate circumstances, obliged to live, is as wicked and wilful poisoning, as if the death were caused by the deliberate administration of chemical drugs or poisons.

* These occurred from November 27, 1862, to April 27, 1863.

AN INFANT NURSERY IN AGAR TOWN.

SLOWLY, and as the leases of the property fall out, or are otherwise disposed of, the wretched and unwholesome cottages which have been planted on the soil here are giving way to more substantial buildings; the road-ways and foot-paths are in course of improvement; and before long the peculiar and unsanitary conditions of which we have so often complained will cease to exist. Anything more ruinous and dilapidated than the cottage-dwellings which are still standing at the rear of the St. Pancras Workhouse could not be easily conceived; and many of these are occupied by industrious hardworking women who go out day after day to wash or work. Many of these persons have families of young children, some of them infants, and have to arrange for keeping the little boys and girls from the streets. Miss Agar and other persons who take an interest in the district have shown an anxious care.

There are schools for boys and girls, the church, the soup-kitchen in the season, the visiting of the clergymen and Scripture readers, and other arrangements, which show that the poor here are well cared about; but besides these there is an infant school, to which is attached an infant nursery, which has been found to be a great advantage.

Several attempts have been made to establish these institutions in different parts of the metropolis; but for the most part these experiments have been attended with but little practical effect: the reason of this has not been that such places are not wanted; but some of them have been placed in wrong situations, or not managed in a sufficiently homely manner to suit the taste of the persons who have the greatest need to send children into safe keeping during their absence on business.

In Agar Town, a house of the ordinary kind has been as conveniently arranged as such a thing is possible for the uses of the infant school and nursery. They open at six o'clock in the morning; so that women may leave their children as they go to their various employments. The charge for the care and food of each infant a day is 3d.; but the mother may also leave other young children who attend the school, if they take their food with them, at a cost of 1d. a-day each. The great advantage of this plan is evident.

We have no doubt that the association of infant schools with nurseries, managed with due regard to the preservation of health, and in a plain and unpretending manner, might be usefully carried out in many of the London districts. The people who need this accommodation will in course of time see the advantage of it; but until this occur such establishments will require a certain amount of pecuniary support.

THE RELIEF OF THE COTTON-SPINNERS.

FROM a circular compiled for the Central Executive Committee, and signed John W. Maclure, Hon. Sec., it appears that the returns for May are in all respects satisfactory. Employment is greatly on the increase, and the recipients of relief greatly on the decrease. Since 25th April, 13,451 persons had gone on full work, besides at least 5,000 more not returned. The Boards of Guardians have had a reduction of cases to relieve, from 184,172 to 160,890, and the local committees a reduction of 46,856. The expenditure of the local committees in May was 74,900*l.*, or 14,443*l.* less than in April. The local committees anticipate no great addition to their funds for the future, and it is hoped the Legislature will step in with loans for public works. This the Government are now doing by means of the Bill in Parliament to facilitate loans. Among the principal clauses of this Bill are the following:—

"(3.) Any such loan may be made to any such local authority [entitled to exercise the powers of the Local Government Act], whether such local authority has or has not power to borrow under their local Act, independently of this Act.

"(4.) The total amount to be lent under this Act to any local board or local authority shall not exceed such amount as, together with any sum borrowed by such local board, or local authority, before the passing of this Act, and remain unpaid at the time of any such loan being made under this Act, would be equal to two years' assessable value of the property assessable within the district in respect of which any such loan under this Act may be made.

"(5.) The interest payable in respect of every such loan under this Act shall be at the rate of 3*l.* 10*s.* per centum per annum.

"(6.) The period for repayment of any such loan shall not exceed thirty years, except where the total amount lent under this Act exceeds such amount as, together with any sum already borrowed and unpaid as aforesaid, would exceed one year's assessable value of the property assessable within the district, in which case the period for repayment shall not exceed fifty years.

"(7.) The repayment of any such loan and of the interest thereon shall be secured on all or any of the rates leviable by the local board or local authority on which the loan is made."

Progress is being made towards the obtainment of loans, and the commencemcent of public works in the cotton-spinning district.

At Burnley the authorities have had consultations with Messrs. Rawlinson and Farnall on the subject; and desirable improvements have been suggested, such as the paving of streets, the formation of a new reservoir, and the raising of the embankment of the old compensation reservoir, the draining of the cemetery, and the laying down of an intercepting sewer. It was calculated that about 500 able-bodied men could be selected to be set on work of this description.

At Bolton a conference of a similar kind has been held. It appeared from the proceedings of the various committees that the waterworks committee would require 10,000*l.* for the new reservoir in course of erection. The streets committee consider they could beneficially expend 15,000*l.* in sewerage works. The markets committee and sanitary committee would require to borrow nothing for the small outlay they require; while

for the erection of a townhall, if agreed upon, from 20,000*l.* to 25,000*l.* would be required. The carrying out of these works was earnestly urged by some members of the council, and opposed by others.

At Ashton-under-Lyne, also, Messrs. Rawlinson and Farnall have been consulted. A great many difficulties were raised by several members of the council. Mr. Farnall said the question was, how were the working classes to be kept? He showed that benevolence would not continue unless something were done; but if the best were done, then the committees would assist. If 30,000 able-bodied men could be set to work, and could maintain themselves, every one would take two off, and thus the funds got rid of 90,000 people, and then the committees would be prepared to assist those who could not assist themselves. Mr. Rawlinson then gave his opinion at length on the general question of work, and on skilled and unskilled labour, and answered many questions.

HÜBSCH, ARCHITECT, BADEN.

A LETTER from the banks of the Rhine to the *Correspondance de Rome* says,—We have lost an artist of remarkable talent, the architect Hübsch, first director of buildings in the Grand Duchy of Baden. He was well known in Rome, where he studied in 1817, and whither he returned several times in order to carry on further the study of the history of art. The magnificent monuments of Carlsruhe are due to him, as well as a great number of churches in the Grand Duchy of Baden, and in other parts of Germany.

One of his last works is the restoration of the Cathedral of Spires, in the Romanesque style, with the Necropolis of the German Emperors, among whom rests Rodolphus of Habsburg. The termination of this magnificent cathedral is due to King Ludwig, of Bavaria, who generously provided for the greatest part of the expenses. The Emperor Francis Joseph, as a descendant of Rodolphus of Habsburg, contributed also to this undertaking; and as the necropolis contains, among other tombs, that of the Emperor Adolphus of Nassau, the Duke of Nassau wished also to contribute to the restoration of the cathedral.

Churches were for Hübsch a work of predilection. He was constantly found ready to work gratuitously for the glory of God and the service of religion.

He published several works on the theory of architecture and its history. The most celebrated work, which took up the last years of his life, has for its title, "Ancient Churches according to Monuments and Ancient Descriptions," text with an atlas of sixty-three plates: Carlsrhue, 1862. This book constitutes a new era for the history of sacred architecture. The Christian monuments from Constantine to Charlemagne are described in no other work in so exact and complete a manner; and it not only represents churches still existing, but recomposes also, by the help of ancient authors, those that no longer exist. Hübsch had all the qualities necessary for such a work. A learned artist and a consummate archæologist, he had himself examined the greater number of the monuments illustrated in his work; and for the most important he had renewed his studies several times. From his long studies and deep researches conclusions of the highest importance have resulted for the history of art. Contrarily to the opinion commonly adopted by writers who content themselves with superficial studies, he shows that the Christian architecture of antiquity was by no means an imperfect formation which was to find its progressive development in the Romanesque period, and the Gothic formation in the points of Christian character and artistic value. Hübsch recognizes and admires, in that primitive architecture, a perfect, grandiose, independent creation, analogous to the contemporary period of the literature of the fathers of the fourth and fifth centuries. The plates and text of the book are thoroughly completed, and a new edition of it with a French text is to be immediately published.

TRADES' UNIONS AND WORKING MEN'S CLUBS.

LAST week the council of the Working Men's Club and Institute Union received a deputation appointed by the London Trades' Council to ascertain the precise relations of working men's clubs to trades' societies. The Council of the Union was represented by Mr. Thomas Hughes, B.A., Mr. Russell Scott, Mr. John Bainbridge, Miss Isa Craig, Miss S. A. Davis, Mr. Alfred Alaric Watts, and others; and the members of the Trades' Council present were—Mr. Odgers, Mr. Facey, Mr. T. J. Dunning, Mr. William Allan, Mr. Cremer, Mr. Applegarth, Mr. Coulson, &c. Mr. Scott opened the conference by stating that the council of the Institute Union, having become convinced that a certain passage in their publications gave an impression not consistent with a strict neutrality on the question of trades' unions, had resolved, at their last meeting, to expunge them. A long discussion then took place, and the following points were unanimously agreed to:—The Union could take no part either for or against trades' societies, whose objects, and those of working men's clubs, were clearly diverse; nor could the council of the Union say whether a trade society would be allowed to hold its meetings in any particular club-house, the settlement of all such questions resting with the local committees; but certainly no club where a trade society should meet would on that account be severed from the Union. On the contrary, it was considered advisable to encourage all working men's societies engaged in the pursuit of objects neither illegal nor immoral, to conduct their business at clubs, instead of, as at present, at public houses. Members of trades' societies would join working men's clubs as private citizens, and not as trades' unionists; but a trade, friendly, building, or co-operative society could apply to the committee of a club for permission to conduct its business on the club premises, on payment of a small rent. The letting of premises by the local club committee to the society would not identify the former with the latter; and in case of a strike, for instance, the council of the Institute Union would not think of interfering, unless the trades' unionists excluded or expelled from the club those who were non-unionists. In any case, the council could only expunge the name of a club from the list of associations in union. These views having been very distinctly stated, in reply to the questions proposed to the council, the members of the deputation declared themselves perfectly satisfied, and tendered their hearty thanks for the manner in which they had been received, as well as for the explanations given. It is understood that the deputation will present a report to their constituents, recommending the members of trades' societies throughout Great Britain to assist in carrying out the objects and plans of the Club and Institute Union.

WATERWORKS AT HAY, NEAR HEREFORD.

The waterworks for this town are now completed, and many of the inhabitants are already availing themselves of the supply, which is constant, and with a head of 300 feet.

The reservoir, 175 feet by 54 feet, and 11 feet in depth, is supplied by a mountain stream some half a mile distant, which is diverted, and then passed through a filter, 6 feet in depth, of gravel and sand, before entering the reservoir, where it is joined by two springs obtained by boring about 30 feet to the rock (old red sandstone formation). Previously to these supplies entering the mains from reservoirs they have to pass through another filter-bed, on the ascension principle, formed of slabs (Ransome's patent), with a pressure of 12 feet. The supply is thus filtered by descent and ascent.

The works, including the laying of about three miles of 5, 4, and 3-inch mains, with hydrants, valves, &c., have been completed for 1,800*l.* Mr. Harcourt Thompson, C.E., who was the originator of the scheme, has also carried it out. The land and water required were granted to the company for ever, by Mr. Henry Allen, of Oakfield House, Hay, in return for a yearly acknowledgment of 3*l.* 3*s.* for right of way over the mains, springs, waterways, &c., in case of accidents or other casualties.

THE SANITARY STATE OF NEW YORK.

THE report for 1862 of the New York City Inspector asserts that the sanitary condition of New York is superior to that of London, and that this city is actually more healthy than any other great metropolis in the world. Nevertheless, as the *Tribune* admits, streets are unsewered, houses undrained, and there are 6,000 families living "in underground cellars, without air, without light,—undrained receptacles of stagnant water, in which decent cleanliness is nearly impossible, and tolerable health wholly so." And it is not from want of power in the City Council to put an end to this wholesale sacrifice of health and life that so glaring an evil is allowed to continue: the Common Council have the power, if they only choose to exert it. The *Tribune* also states that "tenement houses are but little improved since their horrors were first revealed. As in the underground cellars, more space, more air, more light, and the most ordinary conveniences for cleanliness are required to make them fit for human dwellings, and the enforcement of some internal police regulations for sanitary purposes is still opposed or neglected by the cupidity of owners, indifferent to any system of improvement except in the matter of rents and their prompt payment." The city still tolerates slaughter-houses and fat-boiling and bone-boiling establishments in its thickly-peopled districts, and it is even asserted in the inspector's report that their number is constantly increasing.

THE ARCHITECTURAL ASSOCIATION.

THE usual meeting of members was held on Friday, the 12th inst., at the House, in Conduit-street; Mr. T. Blashill, in the chair.

The President announced that the following names were submitted for nomination of office bearers for the ensuing year 1863-4:—For president, Mr. T. Roger Smith; vice-president, Mr. R. Phené Spiers; committee, Messrs. Molecy, Reeves, Ridge, Bayne, Julian, Paris, Lewes, and Turner; treasurer, Mr. C. J. Adams; solicitor, Mr. F. Truefitt; Auditors, Mr. T. M. Rickman and Mr. B. A. C. Herring; curators, Messrs. C. H. Lewes and J. Johnson; honorary secretaries, Mr. C. J. Adams and Mr. J. Douglas Mathews.

The adjourned discussion on the consideration of the report of the sub-committee on the affairs of the Association generally was resumed by Mr. Paraire, who took exception to certain of the statements in reference to the accounts, and to certain suggestions or recommendations of the committee. In conclusion, he moved that the report be referred back to the general committee for reconsideration. This resolution led to a desultory and somewhat personal discussion, in the course of which explanations were offered by members of the committee. Ultimately an amendment, to the effect that the sub-committee was entitled to the confidence of the Association, was agreed to. A resolution conveying the confidence of the meeting in Mr. Adams, the honorary treasurer and one of the honorary secretaries, was also agreed to.

At the conclusion of the debate, which was protracted to so late an hour as to preclude the possibility of reading the paper of the evening,

Mr. T. Roger Smith observed that, as the Association had done him the honour of nominating him to the presidentship for the ensuing year, he intended to use his influence to arrange so that a fair hearing should be given to those gentlemen who were prepared to read papers. He regretted that, owing to protracted preliminary discussions during the last few evenings of meeting, it was impossible to follow up the reading of the paper by that subsequent debate, which, he had no doubt, the members generally would desire to participate in.

It was announced that, at the next meeting, Mr. North would read a paper on Chichester Cathedral; and that, should time permit, Mr. T. R. Smith would call attention to the subject of summer sketching. *

NORTHERN ARCHITECTURAL ASSOCIATION.

A SPECIAL meeting of this Association was held on Wednesday, the 10th inst., in the Old Castle, Newcastle-on-Tyne; Mr. Thomas Austin in the chair.

The following were appointed delegates to the forthcoming meeting of the Architectural Alliance:—The Vice-President (Mr. T. Austin), Mr. Pritchett, and Mr. T. Oliver.

Mr. Pritchett said that of the two points of business which they were desirous of bringing before the Alliance, one was the adoption of a scale of professional charges, to be recommended, not in the nature of an authoritative order, but from a desire that such a scale might be adopted as would prove of advantage to the members. Those of them who had seen the *Builder* of the 6th, would understand why the recommendation should take that form. Some of the London Societies

* *Voluntary Architectural Examination Class.*—On Wednesday next, the 24th instant, Mr. C. H. Smith will give a lecture on Geology and Building Stones. On this Saturday, the 20th instant, the class will visit St. Bartholomew the Great, Smithfield, at half-past two.



DUNSDALE.——*Entrance Doorway.*

had given instructions to their delegates that if anything of this kind were attempted to be crammed down their throats they should retire. They had adopted a scale of charges themselves with advantage, and he thought that scale should be brought forward at the Alliance meeting as the nucleus of a scheme of the kind to be submitted to them for their adoption. They found that their own scale was not perfect in some respects; and that was as regarded valuations. They had in their scale no fixed charges for valuation. The charges under this head seemed to be framed under the assumption that all valuations would be carefully made valuations with a view to a sale. But Mr. Austin had called their attention to the cursory valuation for a mortgage and that sort of thing, which was not provided for in the present scale.

The Chairman said that their honorary solicitor had made some remarks which threw new light upon the subject of valuations. It appeared that legally there was no difference between the duty of an architect in the case of a mortgage and in the case of a sale, as he was responsible for the accuracy of the valuation in both cases. But unfortunately their practice was not so; and how to square their practice with the law he was rather at a loss to know.

Mr. Oliver having stated his views as to the mode in which the matter should be brought before the Alliance,

Mr. G. W. Hodge said that with reference to the question of a valuation for mortgage, if he on behalf of a client proposing to lend money on a house, wished to be advised as to the value of the property, and with that view took the precaution of having the opinion of an architect or valuer, he could not for the life of him see how the architect was to get rid of the responsibility of advising.

Some discussion took place on this point, after which it was resolved:—

"That the delegates from this Association be requested to bring before the meeting of the Alliance, to be held in London, on the 1st of July, the question of a scale of professional charges for its adoption, and the recommendation of such scale of charges to the Allied Societies;" and "That the delegates from this Association be requested to bring before the Alliance the question as to the desirability of drawing up a circular to be sent to the promoters of all public architectural competitions, pointing out what the members of the Alliance consider the proper course to be adopted in the preparation of conditions and instructions, and the adjudication of premiums."

DUNSDALE; WESTERHAM, IN KENT.

DUNSDALE is the residence of Mr. Joseph Kitchin, and is situate close to the village of Westerham, in Kent. The house occupies a picturesque eminence, surrounded by pleasure-grounds of moderate extent, which have been laid out by Mr. Milner, the landscape-gardener (late of the Crystal Palace). A small portion of a former house is incorporated with the new building. The accommodation is as usually provided and disposed in a gentleman's house of the size. The walls are built of local stone, dressings included, except a few blocks of Caen stone for carving. The square tower marks the entrance, which happens to be on the quarter most removed from the line of approach; the drive having, in fact, to pass almost entirely round the house. In accordance with this circumstance, if not also in pursuance of a sound abstract rule, all faces of the building are equally carefully designed and well finished. The architect says a good house is like a good square of infantry: it looks you full in the face all round. The builder was Mr. Myers, of London: the architect, Professor Kerr.

The entrance doorway is placed on the ground story of the square tower, and is formed of Caen stone. The arrangement of design is of the simplest kind, and the effect is left wholly to the art of the carver. Natural foliage supplies the subject throughout; and, being delicately executed, produces a pleasing effect. A massive oak door (in fact, a good old bit of carpenter's Gothic, stripped and re-dressed) completes the design.

ST. JAMES'S, WESTMINSTER.—A public meeting is to be held in the new Vestry Hall, Piccadilly, on the 30th inst., to form, as we understand, a building-improvement committee, with especial reference to the opening of Rupert-street.



DUNSDALE; WESTERHAM, IN KENT.—Professor Kerr, Architect.

DISTRICT SURVEYORS AND RAILWAY COMPANIES.

THE district surveyor of Clerkenwell has appealed to the Metropolitan Railway Company for compensation for the injury inflicted on him by the occupation of the intended new street by their premises, whereby he says a loss of possibly seven or eight hundred pounds will result to him, with the addition of a permanent yearly abstraction from his income, as the ground is alienated for railway purposes.

CAMBRIDGE SCHOOL OF ART.

THE distribution of medals, prizes, and certificates, in connexion with this school, took place at the Town Hall on the 5th inst., under the presidency of the Master of Trinity College, supported by the Earl Granville, Mr. Cole, Mr. Beresford Hope, &c. The lady patronesses present were Lady Affleck, Mrs. Bateson, Mrs. Humphry, and others. The company was numerous, and highly respectable. For an hour previous to the commencement of the proceedings, there was a sort of promenade in the adjoining room, where a collection of works of art was exhibited.

Earl Granville, in his address, alluded to the great progress in art which this country had displayed at the last International Exhibition,—a progress fully recognized by the Germans, Italians, and French; and the highest practical art compliment which the French could pay us was to imitate our schools of art, as they have done. In allusion to the local school his lordship said there were great advantages belonging to the town which made it peculiarly favourable for art study. The Fitzwilliam Museum, for instance, both as to the building itself and as to its contents, was infinitely valuable to any one who pursued artistic studies; giving, as it did, specimens of works of art both of past ages and of the present. Again, as decorative art, he referred them to the woodwork at Queen's College, to the numerous exquisite stained-glass windows, and to a variety of other works in wood, stone, and metal, which made Cambridge very rich in this respect; and what they had just seen in an adjoining room showed that art was appreciated by all classes in this town and university, and that many objects of great value were possessed by the people here.

Mr. Hope urged that in the University, where mathematics and literature were so successfully studied, a cultivation of the knowledge of the beautiful should not be neglected. It was a matter in which the University ought to move; and he hoped it would not be lost sight of.

CESSPOOLS AND TYPHOID FEVER AT GALASHIELS.

DR. BRISBANE having been consulted by the local commissioners as to the connexion of the town cesspools with fever, and the consequent desirability of getting rid of the cesspools, has reported that the facts as to *typhoid* fever for some years past, prove the connexion of such fevers with the cesspools. As to the precise nature of this connexion, he says, — "That outbreaks of typhoid, enteric, or gastric fever, are essentially connected with defective drainage is now an almost universally acknowledged fact. Whether the fever poison is generated *de novo* by decomposing sewage, or merely *fostered* thereby, may admit of some doubt; but no doubt whatever exists as to the intimate relation between outbreaks of gastric fever and the emanations from sewage, or other putrescent substances. The continued fevers met with in this country have been divided into four classes by Dr. Murchison:—1, *febricula*, due to errors in diet, heat, fatigue, &c.; 2, *Relapsing fever*, due to famine; 3, *Typhus fever*, due to overcrowding and destitution; 4, *Typhoid*, or *gastric fever*, due to causes above stated. It is notorious that *relapsing* fever is never met with in Galashiels, and *typhus* rarely, the species of fever almost always met with being febricula, or gastric. Again, it is sufficiently established that the latter fever generally prevails most in autumn, particularly during dry, warm seasons, the high temperature favouring decomposition, while the defect of water prevents the efficient removal of the putrid substances thus generated. The causes of any disease being known, and these being *remediable*, it behoves our sanitary authorities to direct every legitimate and available means towards the eradication of these." It must be understood, he adds, that I believe the above cause is an equally fertile source of other and more formidable epidemics—diphtheria, cholera, &c. The quality of the water has also much to do with the health of the community.

CHURCH-BUILDING NEWS.

Lambeth.—St. Philip's Church, Lambeth, which has been for a long time past in course of erection in the Kennington-road, has now been consecrated. The fund for the erection and endowment was commenced at the close of the year 1849. It now amounts to nearly 14,000*l.* There needs but 200*l.* to complete the whole work that has been undertaken; viz., the purchase of the site, the erection of the church and parsonage, and the securing a permanent endowment of 200*l.* a year to the incumbency.

Thetford.—The first stone of the chapel for the use of the inmates of Thetford Union House is about to be laid by Lady Walsingham. The building, which is intended to accommodate 150 persons, will be in the simplest Gothic style, 48 feet long by 21 feet inside. The contract for the mason's work has been taken by Mr. J. Palmer, of Thetford; that for the woodwork by Mr. J. Scott, of West Tofts. The whole amount required for the work, upwards of 300*l.*, will be supplied by voluntary subscription.

Eton.—In addition to the improvements lately effected in the chapel of Eton College, a complete process of decoration has just been completed at the east end, immediately beneath the great window, an example of colour and gilding applied to architectural stonework. The panelling above the sedilia on the south side will also be decorated, having on the north side an ancient-coloured tomb erected to the memory of Provost Murray. Thus the whole space within the altar-rail, by its polychromatic arrangement, stands distinct from the rest of the chapel. The entire work has been executed by Messrs. Harland & Fisher, of London. The whole expense of this decorative work has been defrayed by the Rev. J. Wilder, one of the Fellows of the college; who, by many former contributions, has added greatly to the beauty of the interior of the chapel.

Tackley (*Oxon*).—The restoration of Tackley Church is making progress under Mr. Franklin, of Deddington. Three new windows are already put in, and the whole exterior has been cleaned and pointed. On removing the plaster from above the chancel arch, faint traces of a coloured design were found; representing, apparently, a figure seated in the centre, and an angel on each side offering incense to it. Low round arches were also discovered, built up in the walls, over which the present church, of more recent date, had been constructed. 500*l.* are still wanting to complete the alterations proposed by the architect, Mr. Street.

Spaldwick (*Hunts*).—The ancient church of this village, having been closed for several months past, is now re-opened. The interior, which had fallen into a state of dilapidation and decay, has been restored under the superintendence of Mr. R. W. Edis. A new roof has been placed over the south aisle, and releaded: the old and unsightly pews have been removed and replaced with open seats: the belfry, which had been separated from the nave by a screen of wood and plaster, has been laid open, displaying the belfry arch, before entirely hidden. The old pavement throughout the church has been replaced with new tiles; and a warming apparatus, by Rimington, has been introduced. In the chancel, improvements have been made. Five windows in the nave have been filled with cathedral glass, interspersed with Powell's quarries of various designs, the porch restored, and the new south and west doors inserted. The seating, chancel-stalls, prayer-desk, and belfry-screen were executed by Mr. Poole, of Kimbolton; and the stonework by Mr. Tomson, of Cambridge.

Ely.—The new lantern tower of Ely Cathedral, which is designed as a memorial to the late Dean Peacock, is progressing. The upper portion of the two south-eastern bays has recently been unmasked. Mr. Hill, of London, has undertaken the task of covering the whole of the external woodwork with lead; and a staff of workmen, under the direction of Mr. Warde, have commenced operations upon it. The canopied panels of the choir-stalls are being filled with carvings, in alto-relievo, of the principal incidents of Bible history; subjects from the Old Testament being placed on the south side, and those from the New Testament on the north side; of which two, representing the betrayal of our Lord and his being taken before Pilate, have recently been added. The work of decorating the ceiling of the nave roof, begun by the late Mr. L'Estrange, is once more progressing under the direction of Mr. Gambier Perry.

King's Cliffe (*Northamptonshire*).—The church of St. Leonard or All Saints, Cliffe Regis, has been re-opened for divine service, after a restoration of the interior. The open seats are of oak, the carving on the bench ends having been copied from the old examples here; and which, with the pulpit and reading-desk, were brought from Fotheringhay Church. The early carving has been preserved. The floor has been paved with Maw's encaustic tiles. The restoration has been carried out by Mr. Bradshaw, of Stamford; the architect being Mr. Browning. The outlay has been between 1,200*l.* and 1,300*l.*; and of that sum about 200*l.* were required before the re-opening.

Kenilworth.—The parish church of Kenilworth has for many years been in a state of dilapidation and decay. It is now proposed thoroughly to repair and restore the fabric; to clear away the galleries, which, besides being in a tumble-down state, obstruct the light and air; and to re-seat the church throughout in such a way as to provide the necessary accommodation for the parish. An enlargement of the church is also projected—the seats to be free for the poor and strangers. The cost of such enlargement will be about 400*l.* Plans for carrying out these objects—at an estimated cost of 2,500*l.*—have been approved by the parish, provided 2,000*l.* be raised before August 1st, 1864.

Tunstall (*Staffordshire*). — During a recent thunder storm the tall spire of St. Mary's Church, Tunstall, was struck by lightning, and five yards of the stone-work of the topmost portion were completely destroyed. The falling masses of stone crushed through the roof of the church, destroying a number of pews usually occupied by the Sunday school children, but fortunately just missing the organ. At a meeting of gentlemen of the town as to the best course to be pursued, the Rev. R. Hawes, incumbent, in opening the proceedings, said that he had long ago mentioned the necessity of having a lightning conductor to the spire of the church. There was on the top of it a large iron cross, a solid iron ball, and a long sheet of iron capping the stone; and he knew from the laws of electricity that, as there was no conductor, if the lightning should ever strike that iron it must necessarily shatter the stone of the spire. The Birmingham Fire Insurance Company, in whose office the church had been insured, had, in reply to a communication, written a very curt letter, stating that they were not legally liable. He had obtained the opinion of Mr. J. M. Hay, architect, of Liverpool, and Mr. John Burns had, at his own request, examined the spire. Mr. Burns's suggestions were that three iron bands, secured with twenty-four bolts, made with a T-head, should be let in the stonework; the damaged stone to be cut out and replaced with good sound stone, well bedded and pointed; the top to have a bar of iron anchored, and to extend to the top; a copper cross and cock, with a lightning conductor, to go up through the cock and stand 12 inches higher. The work would cost about 95*l.*, and the spire so restored would be as strong as if rebuilt. It would not be impaired by the ringing of the bells. The 95*l.* included taking out the fractured stones on the north side of the two arches. Mr. C. Malpas reminded Mr. Burns that one stone of the spire would weigh a ton, upon which Mr. Burns said he could raise a new stone that weight, but the expense would be increased thereby to the extent of about 20*l.* The report of Mr. Hay, who had carefully examined the spire, stated that the lightning, attracted by the heavy iron vane, cross, and sheathing on the apex, had shattered the top stones and rent the spire along the course of the north-west angle. The method of restoration he suggested was to take the spire entirely down to the level of the top of the tower, and so much of the north and west sides of the tower as would then be necessary. The masonry of the belfry story was not well bound together, and the mortar between the joints in most cases had entirely perished. The probable cost of scaffolding and re-erecting the spire would be about 350*l.* The cost of taking down the spire and finishing the tower, with the pinnacles and slated roof, or lead flat, would be 250*l.*; but that he should not recommend for the sake of its durability and appearance. A third plan had been suggested to him; viz., leaving the lower part of the cone of the spire, and carefully re building the west side, tieing in the angles as the work proceeded; but the prudence and economy of that plan were problematical, and he decidedly recommended the

first plan. The meeting adjourned to ascertain what amount the gentlemen of the town would give towards the construction of a new tower, as suggested by Mr. Wedgwood, or towards the repairs of the tower and spire, as suggested by Mr. Hay. The roof of the church is at present undergoing repair. This church was considerably damaged during a storm on the 6th of January, 1839, when three of the pinnacles of the tower were knocked down.

Keynsham (Somerset).—The parish church of Keynsham has been re-opened, after undergoing a restoration, at a cost of over 4,000*l.* The general contractor was Mr. J. Bennett, of Bristol; Mr. H. W. Sheppard, of Keynsham, executing the mason's work, stone carving, &c.: the painting and decorating were performed by Mr. J. C. Hill, of Bristol; the wood carving, restoring the aisle, screens, &c., by Mr. Shipp, of Bristol. The architect was Mr. B. Ferrey, the diocesan architect. The chancel has been restored by the Duke of Buckingham. A new oak roof has been placed in the chancel, and a new window, while the walls have been cased with freestone. The roof is supported by carved freestone corbels, representing various figures, and executed by Mr. Margetson, of Bristol. The stone arches supporting the roofs of the north and south aisles have been rebuilt. A new roof of Westmoreland slate has been placed on the nave, and the roofs of the aisles have been taken down, cleansed and replaced. The inner roof or ceiling of the nave is open woodwork, with carved devices, supported on handsomely carved corbels. The church has been re-pewed, and will accommodate 1,000 persons. The seats are of stained deal, and open, 400 free. The arch dividing the chancel from the nave is new, and of freestone. At the east end of the north aisle the base of the old tower has been thrown open, and two new arches placed there. Over one of these arches is a traceried window, presented by the architect.

PROVINCIAL NEWS.

Bisley (Gloucestershire).—The re-opening of the Wells took place with some ceremony on Ascension Day. The works consist of five Gothic fountains, two large washing-troughs, a dog and horse trough, each in a separate place, and a large pool for cattle. The former form five sides of an octagon, and each fountain flows from a short spout in a niche surmounted by a pediment. In each of these is carved some subject, as the plume of the Prince of Wales, the interwoven monogram "A.E.A.," &c., &c. Above all the inscription, "O ye wells, bless ye the Lord, praise Him, and magnify Him for ever," runs the entire length of the erection. The whole is denominated "The Wells," and is permanently supplied with a copious supply of water, flowing from the rock on which stands the village church.

Malvern.—Mr. J. V. Hornyold has just erected a mansion at Blackmoor Park, near this town. The building is situate in the midst of a park of fine old elms and oaks, about 200 yards from the site of the old house. It is in the Tudor style, and is of brick, with Bath stone dressings. The main entrance is on the south by a *porte-cochère*, projecting from the front about 20 feet, having on the top a balcony, and three arches on the south, west, and east sides, being infilladed by windows on the west and east sides. A flight of steps leads to the house. The windows are mullioned, and on the south side they are flush with the front, but on the west side there are three bays. The roof is pitched, with bands of ornamental slates, chimneys, and coping. In the centre of the lawn is a fountain, and round the ground runs a palisading. The building is erected from plans furnished by Mr. D. Brandon, of London. The builders are Messrs. G. Myers & Sons, of the same city; foreman, Mr. Bellamy.

Swindon.—An attempt is about to be made to erect a Corn Exchange at Swindon. It appears that, since 1856, the quantity of wheat sold at Swindon market has declined from 34,000 qrs. to 18,000; and it is believed that the falling off is attributable to the want of proper accommodation.

Liverpool.—At a select vestry, the proceedings of the Workhouse Committee on a new fever hospital having been read, Mr. Peck, in moving their confirmation, stated that the committee had paid much attention to the plans for the new fever hospital. The plans had been approved by the Workhouse Committee; and they had resolved to ask powers to borrow a sum of 5,000*l.* for the purpose of completing the building; but, inasmuch as Mr. Wylie had since said that his estimate of 5,000*l.* was rather under the mark, they now thought it advisable to ask power to borrow 6,000*l.* The plans were approved and adopted.—— In pursuance of a recommendation by the Finance Committee of the Town Council, it was agreed to accept tenders for the completion of certain portions of work connected with the erection of the new Public Offices in Dale-street. Mr. Stewart stated, in the Council, that the tender of Messrs. Newall for Dumfriesshire granite for the lower plinth of the building was at the rate of 4*s.* per cubic foot. The six Aberdeen red granite door-cases which Mr. Macdonald tendered to supply were of the same description as that of St. George's Hall, and which was also supplied by Mr. Macdonald. He undertook to supply the six door-cases worked to drawings for 676*l.* The next tenders on the list were for the more important works of the buildings in pursuance of the recommendation of the Council. They had themselves selected a number of parties, to whom they sent plans and specifications; and, in pursuance with their plan, they were bound to accept the lowest tender. Messrs. Parker & Son's tender for the mason work was the lowest of the tenders received; and Mr. Stewart moved that this tender be accepted, which amounted to 22,008*l.* The next tender was one to which the same remarks would apply; and they recommended that the tender of Messrs. Holme & Nicol be accepted for the brick-work, excavators', and labourers' work. The tender amounted to 10,895*l.* The motion was agreed to.

COMPETITIONS.

Wesleyan Chapel, Lozells, Birmingham.—The design of Mr. J. G. Bland, architect, has been selected in competition for the proposed new chapel, which is to accommodate eleven hundred persons. The building is in the Gothic style, and faced with parti-coloured brickwork. The length is 84 feet, and the width 53 feet. The front of the chapel will face George-street; and in this elevation there are two entrances, one on either side, that on the left hand being under a tower surmounted by a slated spire 120 feet in height.

Malvern Proprietary College.—It appears to be proved by the evidence of the person employed to see to the unpacking and arrangement of the competitive designs, that some, at any rate, of the drawings illustrating the design which has been selected, arrived many days after the time stipulated for their reception. It is quite useless for us to expose and condemn such proceedings. Architects have themselves to thank for the existing state of things. The very same men who feel themselves aggrieved now would compete again next week if the opportunity occurred, and "take the chance" of accidents running in their favour. The whole system is rotten and foul.

Nottingham.—For two churches to be erected in Nottingham, restricted to Nottingham architects:—

St. Anne's Church, called No. 1.—Mr. R. Clarke was appointed architect. Messrs. Hine & Evans, first premium, 20*l.*; Mr. J. S. Norris, second premium, 10*l.*

St. Saviour's Church, called No. 2.—Messrs. Sutton & André, architects. Messrs. Sutton & André, first premium, 20*l.*; Mr. J. C. Gilbert, second premium, 10*l.* Mr. Ewan Christian, architect, was called in as referee.

Contemplated Buildings, Leigh Woods, Clifton.—The first premium for laying out the property of Sir Greville Smyth, Bart., now the site of Leigh Woods, has been given to Mr. Meyer, of London; the second, to Messrs. Pope & Bindon. Bristol and Clifton should watch well the contemplated proceedings, which may destroy much of the romantic beauty of the Nightingale Valley. Arrangements in time might prevent the injury.

THE STAGE.

Royal Italian Opera, Covent Garden.—Mons. Obin, who made his first appearance in "Roberto il Diavolo" a few nights since, is an acquisition. He is a good sound singer, with an excellent head and figure for the part. The representation as a whole is satisfactory; the *spectacle* superb. Madlle. Fricci is making way with the public. The view of a ruined church and cloisters for the resuscitation scene, with the fitful appearance of the moon capitally managed, is quite beautiful; but (always a "but") why are we never to have in this opera chronological correctness? Robert I., Duke of Normandy, surnamed "the Devil," died in the eleventh century. "The story is extant, and written in very choice Italian." But the church represented is a fourteenth century work, unmistakably and correctly. The public, however, are not scrupulous in such matters, mostly knowing nothing of the right and wrong of the case. They accept the scene for its beauty; and, from that point of view, so do we, without a qualification. Patti, in "La Gazza Ladra," is charming.

Her Majesty's Theatre.—The production of M. Gounod's "Faust, at this house, has proved a great success, and will probably save Mr. Mapleson the necessity of any further effort in the direction of novelty. The story, full of philosophy and teaching, and which ever touches the heart; the singing and the acting of the principal performers, Madlle. Titiens, Madlle. Trebelli, Sig. Giuglini, and Mr. Santley; and some appropriate and fairly painted scenery, the "Kermesse," Margaret's garden, and the street scene with church, aid the good music of the composer,—music which, if we mistake not, will live. The version of the story followed is precisely that of the Princess's, and the recollection of Mr. C. Kean's remarkable performance of *Mephistophiles*, may be one reason why Signor Gassier's assumption of the part, well as he sings a portion of it, does not please us. The old men's chorus at the commencement of the second act, and the soldiers' chorus in the fourth act, "Gloria Immortale," produce enthusiasm.

MENDICANT SCHOOL BUILDERS.

A CLERGYMAN, rather celebrated for his epistolary mendicancy, some time ago sent one of his circulars to the secretary of the Charity Commissioners, and received in return *one penny stamp.* Determined to keep up the fun of the thing, he acknowledged it on the largest sheet of post paper, inclosing also a formal receipt, with the following lines, the whole being forwarded to the donor in a most official-looking envelope. The lines ran thus:—

"Once on a time, a clerical petitioner
Called on a certain Charity Commissioner,
Made a low bow, declared his name and place,
And briefly gave a statement of his case.
'Two parish schools my lot has been to build.
And see those schools with lively youngsters fill'd:
I thought my work was done, but 'tis not so,
For children in my district thickly grow.
Now, these will turn out bad ones, I expect,
Unless another school I can erect,
In which to fit their minds with wholesome food,
And train their hearts to what is right and good.
Respectfully I ask you, Are you willing
To give a trifle towards my school—a shilling?'
The needy knife-grinder of Canning's tale,
O'er whom the patriot made such piteous wail,
Received about as much substantial aid
As this poor parson when his plea was made.
I will not say the secretary *swore*;
But, rising up, he show'd the priest the door,
And said, 'A Charity Commissioner, 'tis true,
I am; but there's no charity for you;
Not though your cause be good, your reasons many—
But stop, you cassock'd beggar, there's *a penny!*'"

"DECORATIVE HOUSE PAINTING," AND THE BUILDING TRADE GENERALLY.

YOUR correspondent, "Thomas Kershaw," says, and very truly, "it is high time something should be done to place this business on a better footing. It is too much in the hands of builders and agents who know but little of the business, and merely use it as a matter of £. s. d. This accounts for so much bad painting being done. The architects have it in their power to alter this, to a great extent, by giving each tradesman his own special work."

This well applies to every branch of the building trade. If we turn back and examine the customs of a century or two since, we might ask ourselves the simple question—what was the origin of the City Companies? In the long list of them we find no "Builders' Company," although the *mechanics* or *labourers* who worked at the Tower of Babel are termed *builders* as we say at the present time. We have distinct companies, such as the "Tylers' and Bricklayers'," the "Masons'," the "Plasterers'," the "Carpenters and Joiners'," the "Plumbers'," the "Painters'," the "Paper Stainers'," the "Glaziers'," the "Smiths'," the "Slaters'," the "Paviours'," &c.: whence arises, then, the *builder*; and why should one man amalgamate the whole of the trades, professing to understand the whole, when in many cases he knows little or nothing of any one of them. Time was, and now is, that it is presumed a seven years' apprenticeship is not too long to become fully initiated into the art and mystery of *one* of the trades only. If architects were to do as our forefathers did, have each tradesman to perform his own work, we should not see such enormous differences in the amounts of tenders as we occasionally do in your pages. Moreover, men should not be allowed to arrogate to themselves any one

branch of the building trade if they cannot produce vouchers of their knowledge and ability, and be fully qualified to perform the works they profess to be masters of; for at the present time we have men who call themselves builders, who have been fishmongers, barbers, tailors, butchers, brokers, dealers in second-hand building materials, &c.; and these forsooth are patronized by some architects. These *builders* have never had a tool in their hands, and know as much of the use of the plumb rule and level as a pig does of dancing. Such men are the ruin of the *trade*, professing to know all, but in fact knowing nothing. C. FOSTER.*

THE PROPOSED NATIONAL ALBERT MEMORIAL.

I AM neither an architect nor even an engineer, therefore the criticism that I am about to make on the proposed Albert Memorial, of which you gave an engraving on May 23rd, must not be attributed to professional jealousy.

When once a man has raised himself to the head of his profession, the British public is of so docile a nature that they seldom venture to form an independent opinion, thinking that whatever such a man propounds must be right. I, however, cannot help thinking that no architect should be considered in the light of an "*imperator supra grammaticam*," and that public opinion, in addition to professional opinion, might be advantageously brought to bear on the proposed memorial.

Every one must allow that one of the greatest of all defects in a structure is the appearance (even without the reality) of weakness and instability. Is not this the case in Mr. Scott's design? Is not the mass of the superstructure enormously disproportioned to the comparatively slender columns, which it seems to crush under its overpowering weight? Is one not, also, impressed with the idea of an uncompensated outward thrust against the heads of the columns?

I have always understood it to be a rule of Classic architecture that the contrast of plain and ornamented parts is essential for the production of a good effect, and that excessive ornamentation is a sin against good taste. Are not the same fundamental rules of good taste as applicable to Gothic as to Classic architecture? Is not the profusion of ornament carried to a vicious excess in the design before us, where in fact, with the exception of the shafts of the columns, not a square foot of plain surface is left in the whole building?

AUDAX.

HOUSES IN FLATS.

SIR,—For some years I have had frequent occasion to seek houses or apartments (for several months' occupation) in London or at the coast, for a family where, as is very often the case, the accommodation of four or five good-sized rooms upon one level has been extremely desirable. And to find these has been almost an impossibility. Only very high-rented "villa residences," or a few remaining old-fashioned and ill-built tenements requiring extensive repairs, can offer it; yet people seem ready enough to take these if they can afford the cost. They probably find that it is convenient to be able to move furniture without difficulty from one room to another; that the service of the house is conducted with less labour; consequently, fewer servants and greater economy; and the discomfort of having many flights of stairs in the house and between the various rooms, is recognised and felt in at least one out of four families.

I wish, therefore, to understand why this desideratum is not provided for the public? Why are only houses of "two and two up rooms," attainable by the majority of families? Why should not buildings with even seven or eight or more rooms, on one level, be procurable? The low-built villa is, of course, where ground is dear, too expensive for those who cannot afford 200*l.* per annum rent. But why cannot they have houses built in the Continental manner, with eight or ten rooms on each floor; shut off from the rest of the building, and forming a separate establishment? One house above another, in fact, instead of side by side. This has been done in Pimlico, in Victoria-street, and Ashley-place, and I hear with good results. I know personally three families living there, and they are all highly satisfied with their accommodation. On the contrary, I hear everywhere dissatisfaction expressed with our present usual houses, and a general testimony from the ladies of each family, that the stairs in London tire them, and waste their servants' time, and that the French system of building is more convenient. I hear continually the question, "Why are there not houses built like those in Victoria-street, in a healthier and more attractive part of London?" Would these buildings be more expensive to construct than other rows of houses? Is it more costly to erect a large building capable of being let in six single-floor houses, than six houses, side by side, with six double flights of stairs in each? Would not, indeed, some of the expenses be diminished, as the providing the service pipes, &c.? I should be glad if I could learn from the *Builder* that any such houses were now in progress in other localities besides Pimlico. I believe there are many ready to rent them. A LADY.

* This letter represents four others to the same effect.—ED.

WHAT IS A PROPER SUPPLY OF WATER FOR A PRIVATE HOUSE?

WILL any of your correspondents or readers who are competent to answer the question, kindly inform me whether or not water companies are compelled to supply any specified quantity of water per head daily to their ratepayers, and also whether landlords are bound to provide a proper cistern, receiver, or butt, to contain an adequate supply of water for the necessities of their tenants?

The point is one I think of general public interest, and I would illustrate it by my own individual case.

I pay heavy water-rates, but have not half sufficient water supply for the use of my family. My house is comparatively a modern one, but has hitherto only been occupied by three individuals. My family, with servants, consists of eleven. The slate tank to hold our water is 4 feet long by 3 feet wide, and 1¼ foot in depth from the mouth of the waste pipe; holding about 15 feet of water only for the drinking, cooking, and washing purposes of eleven persons, for the cleansing of two water-closets, and watering a garden. Of course the closets and garden get but a very poor share. This, however, is not our full average supply, inasmuch as no water comes in on Sundays, and the Saturday's supply has to serve for two days. My landlord says the tank served for the former tenants, in the aggregate three people, and it must serve for me. Although I live in a thickly-populated neighbourhood, I left my house this morning, a smart-looking one in a favourite spot, without one drop of water in the tank, and the only resources open to my family being the unpleasantness of borrowing from more fortunate neighbours, or waiting patiently the capricious rounds of the turncock.

I think tenants must have some remedy in such a case, and not be compelled to purchase their own tanks or endure the miseries of a half-civilized place. BIS DAT QUI CITO DAT.

ARE WE TO HAVE FRENCH OR ENGLISH GOTHIC?

SIR,—What you remarked about Italian Gothic in a recent number is applicable to French also. Everything Gothic done at this moment is French, or would-be French. The Gothic of France is very beautiful and expressive of French thought; but to transplant it to England is as absurd as to suppose the English language could ever convey the beauties of Molière, or French the character of the writings of Shakespeare. The noblest of distinctly manly traits is lost in this effete struggling after sensation by the use of strange forms. This French and Italian work only makes effect by its new appearances. It is new to the English eye,—strange. It does not please except by its novelty and strangeness. It is a "foreign sensation." English architecture ought to be English in spirit and appearance. To make it foreign is to show an utter disregard to our feelings, sentiment, landscape, habits,—in short, to our nationality; and I conceive it to be wanting in high noble feeling. It shows a want of love for national beauties and qualities. Surely an Englishman ought to be English. Surely England possesses a poetic charm of its own wholly opposed to Continental habits. Moreover, we can introduce all that is necessary, beautiful, and useful, without losing our own traditions; but modern works look like bad *copies* of French or Italian Gothic, and they show no English spirit,—they are not founded on English tradition. This columnar Italian brick architecture is not English. Before closing, one word about the future of sculpture. Our modern sculpture has no *life* in it: it wants "go:" it has no design. O. O. O.

COMPENSATION CASE.

THE TRUSTEES OF SHARP'S ALLEY ESTATE *v.* THE METROPOLITAN RAILWAY COMPANY.

ON the 27th ult. the compensation to be paid for the freehold property situate in Sharp's-alley, Cow-cross-street, was determined by a jury at the Sheriff's-court, Red Lion-square; Mr. Serjeant Hayes acting as assessor.

Mr. Hawkins, Q.C., appeared for the trustees; and Mr. J. H. Lloyd and Mr. Horace Lloyd for the Company.

The property is leased to four tenants, for terms expiring at different periods, and ranging from about four years and a half to twenty years.

Mr. Lewis H. Isaacs, surveyor to the trustees, estimated the value, including 10 per cent. for compulsory sale, at the sum of 10,079*l.* 17*s.* 6*d.*, made up as follows:—

Present value of unexpired term	£1,948	10	6
Present value of reversion of improved rental	7,215	0	0
	9,163	10	6
Add 10 per cent. for compulsory sale..	916	7	0
	£10,079	17	6

Mr. Peter Broad's estimate was 9,169*l.*: Mr. E. l'Anson estimated the value of the property at 10,237*l.*: Mr. Edmund Woodthorpe's estimate was 9,096*l.* 2*s.* 5*d.*; Mr. G. Perry's, 11,340*l.*; Mr. John Barnett's, 9,129*l.* 16*s.*; and Mr. Fenton's, 9,009*l.*

On the other side, Mr. Shaw, of Christ's Hospital, considered 6,101*l.* a fair value; Mr. Clarke, of the firm of Farebrother, Clarke, & Lye, gave 6,083*l.* as his estimate; Mr. Charles Lee, 6,563*l.*; and Mr. Penfold, 6,895*l.*

After a speech in reply to the evidence by Mr. Hawkins, the assessor left the case with the jury, who returned a verdict of 8,250*l.* for total compensation.

ARCHITECTS' ACTIONS.

Weblе v. *The Royal Dramatic College.—Dismissal of an Architect.*—The plaintiff in this case (Court of Common Pleas) was an architect, and he sued to recover a sum due for work done, and also damages for having been dismissed from the appointment of architect for building the Royal Dramatic College at Mayberry, near Woking. The defendants paid into court 36*l.* Is, and denied their liability beyond that sum. They also justified the dismissal of the plaintiff upon the ground that he had not obeyed the instructions given him.

The plaintiff's case was that, in 1859, the defendants issued a circular inviting architects to supply drawings for the Dramatic College; and it was stated that the successful competitor should be employed as architect. The plaintiff sent in drawings with the motto, "I'll win if I can," and his design having been accepted, he was appointed architect. He superintended the building of some of the almshouses; and in June, 1861, he prepared plans for the central hall, which he estimated would cost about 5,000*l.* or 6,000*l.* His counsel stated that various alterations were made in this plan at the suggestion of the Council; and, indeed, the plan was so altered that the cost of carrying it out would have been about 18,000*l.* This was a sum which the Council said they could not afford; and they passed a resolution dismissing the plaintiff as architect, but not stating any definite reason for so doing. The plaintiff had received 200*l.* or 300*l.* for work done, and the balance which he claimed was about 1,100*l.* more.

In the course of the trial it was suggested by the Judge (Byles) that the case was one which could not be satisfactorily tried before a jury, involving as it did a vast number of details. Upon this suggestion a consultation took place between the counsel, which, after about three-quarters of an hour, resulted in an arrangement being come to.

Mr. Hawkins (for defendants) said that his clients were very desirous that it should not be supposed that, in acceding to a reference they wished to avoid contesting the claim to the end. He was not instructed to say anything against Mr. Webbe as an architect; but they believed that they had a substantial answer to the action; and, indeed, they would not have come into court had they not been persuaded of this.

A verdict was, therefore, entered for the plaintiff, subject to a reference.

PATENTS CONNECTED WITH BUILDING.*

GLASS ROOFS AND ROOF-LIGHTS.—*O. J. & J. Showell.* Dated October 14, 1862.—This invention relates to a mode of constructing glass roofs or roof-lights in such manner as to render them water-tight without the use of putty or cement, and so that they may be capable of giving way to slight movements arising from expansion and contraction, and from other causes; and the invention consists in the use of glass sheets or plates with their two opposite parallel edges turned at right angles, or thereabouts, to the plane of the sheet or plate, and in arranging such sheets or

* Selected from the lists in the *Engineer*.

plates so that their turned edges will come together, the edges being placed either up or down. If upwards they are covered with a cap: if placed downwards they enter a gutter, the caps or gutters being made of metal or other suitable material.

ROTATIVE TRAVELLING CRANE.—*J. Wright.* A communication. Dated September 30, 1862.—This invention is carried out as follows:—On a stand or framing, of suitable weight and strength, the inventor places an engine and boiler, which, through a pinion on the main shaft, gives motion to a large cog-wheel fastened on the spindle of the drum, on which is coiled the chain passing from it to the extremity of the jib, and terminating in a hook or its equivalent in the usual manner. A tie-rod passes from the extremity of the jib to the extreme rear of the machine, by which means the weight of the boiler, engine, and machinery, counterbalances the weight of the substances or materials to be lifted. The whole apparatus turns on a circular rail round a pivot supported on a frame.

MANUFACTURE OF BRICKS, DRAIN, SANITARY AND OTHER PIPES, TILES, QUARRIES, &c.—*S. Holland.* Dated October 6, 1862.—This invention consists, essentially, in forcing the column of clay or other plastic substance through dies for the manufacture of bricks, pipes, tiles, and other articles of like manufacture, by hydraulic pressure, as described. Machinery constructed according to this invention is said to be especially suited to be worked by manual power, but can also be worked by steam or other power.

BEAMS, GIRDERS, BRIDGES, AND VIADUCTS.—*D. S. Sutherland.* Dated October 10, 1862.—The object of this invention is the construction of a beam, girder, bridge, or viaduct that shall be self-contained, while retaining the distinctive features of a suspension bridge, that is to say, the power exerted by means of the anchorage or otherwise in the maintenance of a suspension bridge is applied and diverted by the patentee in another form and direction, viz., within the structure itself. He effects this by means of a combination of compression or straining beams, and of suspension bars or tension rods.

CHIMNEY-TOPS.—*J. Durant.* Dated October 11, 1862.—This invention consists in forming the chimney-can so that its base may be either circular, square, or polygonal. The patentee does not claim anything new in form or construction. The upper portion of the stalk is encircled by a corrugated conical cap, the lower end of which, with the corrugations, cover, project over, and encircle the upper portion of the stalk, the upper part of the conical cap being of nearly the same diameter as the stalk, which it also encircles and rises above. On the outside of the upper portion of the conical cap is fixed another corrugated cap of rather smaller dimensions than the last mentioned. The effect of the corrugations of these caps is to form channels on the outside, which cause the exterior atmosphere to rush through the different channels upwards; and in like manner the air instead of passing downwards is carried off by the same chamber. Within a small rib or bar over the top of the can is suspended a double conical valve or float: the spindle of the valve passes through an eye or slip in the rib, and allows the valve to rise or fall. When acted upon, the diameter of the valve being less than the top of the can, the smoke reflected from its conical surface passes easily off, and similarly the down draught is carried through the corrugated channels of the comb: the brush in the cleaning of the chimney can also pass out at the top, the valve being raised up by it above the level of the mouth.

ROOFING TILES.—*E. Hooper.* Dated 28th October, 1862.—The patentee claims, first, the construction and employment of tiles or slabs having sunken channels upon their upper surfaces free from any rebate, shoulder, or raised portion that would prevent the tiles from lying close together on their general surfaces, which channels are more or less covered by the tile or tiles above them, and having further grooves formed on their under surfaces, which grooves fit exactly over the before-mentioned channels in the tiles beneath, thus forming drips over the same. Secondly, the construction and employment of tiles having channels and grooves, as described in the first claim, in combination with such a form of the tiles that the meeting corners of two contiguous tiles are cut off, so as to form meeting edges in which notches are made for intercepting the passage of the water, substantially as described. Thirdly, the construction and employment of tiles or slabs made or cut out of any suitable material, in which those corners that come in contact with other tiles or slabs lying in the same plane are cut off to such an extent as to afford the requisite amount of lap, so as to maintain the external edges of the tiles upon the roof in continuous lines; the particular shape, general formation, and arrangement of the tiles affording, at the same time, the most efficient covering and protection from the rain, with the least amount of lap, and without the necessity for stopping of any kind; thus insuring the greatest possible economy in weight and material.

MANUFACTURE OF BRICKS, TILES, SLABS, &c.—*G. Lindermann.* Dated 27th October, 1862.—This invention relates, first, to a method of bringing the clay or other plastic material into a condition for being moulded. For this purpose the patentee causes it to be forced through slits or other openings formed around the periphery of a cylinder, and through which it is again propelled, so as to be delivered to any convenient receptacle, or at once into moulds. When the articles are formed by being forced through moulds, and then cut off, he causes them to abut against a surface retained by levers, which, when the material has been severed, turns downward and deposits the moulded article on to a travelling apron or other such apparatus. Another part of the invention relates to the construction of hoppers for delivering plastic materials to rollers or other apparatus which are to operate upon it, and consists in forming the sides of such hoppers of travelling surfaces.

PURIFICATION OF LEAD.—*E. S. Tudor.* Dated 28th October, 1862.—This invention consists in subjecting the lead melted in a furnace, pot, crucible, or any other suitable vessel or apparatus, to the action of litharge or other oxide of lead in a state of fusion or semi-fusion.

COMPOUND OR MATERIAL FOR COATING OR COVERING METALLIC AND VEGETABLE SUBSTANCES TO PRESERVE THEM FROM CORROSION OR DECAY.—*C. S. Duncan.* Dated 28th October, 1862.—The patentee proposes to use marine glue, gutta-percha, india-rubber, shellac, copal, mastic, vegetable or mineral pitch, tar, resin, iodine, sulphur, creosote, or asphalte, bitumen, and coal tar, in combination with one or more of the following substances:—Alumina, schist, quartz, slate, silex, or flint, marble, or pozzolano, sand, sand stone, cement (natural or artificial), chalk, glass, emery, tripoli, white oxide of zinc or of lead, or the litharge or red oxide of lead, in every case reduced to a fine and nearly impalpable powder, in proportions varying from one-fourth part to five parts of these powdered materials to one part or more of the before-mentioned plastic substances. The materials are then to be heated, so as to reduce them to a plastic or semi-liquid state, and he also heats the metal or metals to be coated with the compound to a moderate temperature; and while in this heated state he lays on the coating with brushes or by any convenient method. Immediately after the coating has been laid on the metal, wood, or other body to be preserved, and before it is allowed to cool, the compound is to be covered with a layer of one or more of these mineral powders before mentioned in a warm state, in order to entirely remove all stickiness or tack. When the compound has become cool, the surface may be brought to a smooth or polished exterior by rubbing it with any ordinary substance used for rubbing down or polishing mineral or metallic surfaces.

Books Received.

Wills from Doctors' Commons: a Selection from the Wills of Eminent Persons, proved in the Prerogative Court of Canterbury, 1495—1695. Edited by JOHN GOUGH NICHOLS and JOHN BRUCE. Printed for the Camden Society. 1863. THIS is quite a new quarry of historical and literary interest, and one which will not be easily or soon exhausted. It is to Justice Cresswell that the public owe that permission which has heretofore been uniformly refused to all who desired to print or publish testamentary documents of literary interest; and to Mr. Nichols and Mr. Bruce for the Camden Society, that we are indebted for the first fruits of that permission. The present volume contains upwards of thirty wills of interesting men and women of old times, such as Sir Thomas Gresham, Sir Hugh Myddelton, Sir Peter Lely, Isaac Oliver, Sir Francis Drake, John Hampden, Prince Rupert, Cecily Duchess of York, Dame Maud Parr, &c.

The Camden Society, as well as the public, may be congratulated on the final success of the endeavours which the Society has for some years been making to render the materials for our social history stored up at Doctors' Commons available for literary purposes.

VARIORUM.

"THE Crystal Palace Penny Guide" contains the largest amount of interesting information, illustrated, that has ever yet been offered for that coin. It is worth more than the money even to one who may never expect to use it in the building. It is to be hoped it may serve to recal to the multitude the fact that the Crystal Palace was intended to be something more than a concert-room and tea-garden.——"The Halfpenny Time Table" has for motto "Single and Simple." The intention is to furnish the public with separate tables for all the important towns, giving the traveller all the information necessary for the journey he may wish to undertake, without the trouble of wading through a volume of time tables. It will serve many, but will not supersede "Bradshaw."——A Map showing the Sources of the Nile, as discovered by Captains Speke and Grant, has been published by Mr. James Wyld (West Strand). As in many other cases, now that the problem is solved, it seems strange that it remained so long in doubt. The unsettled condition of the country, and the various tributary streams which led inquirers off on either side of the real line will assist to explain it. One Lopez, a Portuguese, in the sixteenth century, seems to have pointed out as the source a lake in the position of that now called Victoria Nyanza, and which Speke and Grant show to be such; and the lake is shown in the atlas accompanying "Bowen's Complete System of Geography," published about 116 years ago. We are not disposed to regard this, however, as at all lessening the honour due to our countrymen.——"A Popoular Treatise on Photography; translated from the French of D. Van Monckhoven. By W. H. Thornthwaite. Illustrated. London: Virtue. 1863." We have no doubt a treatise by Van Monckhoven on photography must be a good one; but is it not remarkable that we should require to go to the Continent for such a treatise while we have men such as Fox Talbot,—and not a few of them,—of far more eminence in the science or art of photography than Van Monckhoven, amongst us?

Miscellanea.

THE SULTAN AND HIS PHOTOGRAPH.—A petition, covered with some 25,000 signatures, was lately presented to the Sultan at the Sweet Waters, by a deputation of sixty persons representing nearly every section of the native population of the capital; praying his Majesty to sit for his photographic portrait, that copies of it might be had for circulation all over the empire. Along with it was presented a short adjoint-petition, from the members of the *corps diplomatique*. His Majesty intimated his readiness to comply with the wish of the petitioners. Cartes of Sultan Abdul Aziz will now, therefore, be as plentiful as those of the most popular "subject" of the day.

ASSYRIAN DISCOVERIES.—M. Delaporte, the French Consul-General at Bagdad, has just made an archæological discovery on the banks of the Euphrates, not far from ancient Babylon, and close to the Jewish village of Kiffel. He has explored, at the funereal monument known for ages past by the name of Ezekiel's tomb, a sepulchral excavation serving as a series of tombs, and containing statuettes and other objects of admirable workmanship. M. Delaporte thinks that the burying-place is that of the family of a Greek officer in the reign of Alexander or one of his successors. Other tombs exist in the locality.

DRINKING FOUNTAIN. — A Gothic drinking-fountain, which has been erected by the Metropolitan Free Drinking Fountains' Association, in the Regent's Park, near Gloucester Gate, was opened to the public on the 6th. This fountain is the gift of Mrs. Henry Edmund Gurney, and was designed by Mr. Jackson, of Maida Hill, the sculptor who executed the fountain in St. James's Park, to which we have already alluded. We understand that this is the second fountain which has been presented by Mrs. Gurney. It is stated that nearly a quarter of a million people drink daily at the fountains already erected by the Association in various parts of the metropolis; but, notwithstanding the amount of good thus conferred upon the thirsty wayfarers of London, the Society is in absolute need of funds to enable them to carry on the movement.

MOVING A CHIMNEY.—A remarkable work has been accomplished at Worcester, Mass. The chimney-stack at the ironworks of Nathan Washburn, which is 100 feet high, having in it 60,000 bricks, and weighing 170 tons, was moved a distance of 150 feet and turned partly round, without the slightest accident, and not even a brick was dislocated?—*Commercial Bulletin.*

THE RAILWAY AND BRIDGE ACROSS THE MERSEY AT RUNCORN.—The works will now be vigorously proceeded with by Messrs. Brassey & Ogilvie, the contractors. Vessels have been discharged in the Bridgwater Docks, laden with working machinery and materials, and other vessels chartered. Oak trees standing on the proposed line have been felled, and a fine sycamore tree on Castle Rock, one of the most conspicuous ornaments of the town, has shared the same fate.

IMPROVEMENT IN PLATE-GLASS MIRRORS.—The scientific news from Russia tells us of the discovery of a means whereby the mercury used in the manufacture of looking-glasses may be so hardened as to be rendered defiant of humidity, friction, or blows. The plate-glass thus prepared may consequently be transported to any distance without fear of damage; and the silvering being accomplished by a cheaper process than any yet known, the glass is ten or twenty per cent. cheaper than at present.

PORTSMOUTH.—It has been resolved by the town council to adopt the Local Government Act for Portsmouth. The mover of the resolution, in the course of his remarks made special allusion to a court in the borough, known as Hope-place, in which sickness and death had continually occurred through the want of proper sanitary measures, and also made reference to the advantages derived by many towns in which the Act had been adopted, and amongst which he named Banbury, Weston-super-Mare, and other places, in all of which the rates had been limited, which could also be done in this town, in which he showed that 70,000*l.* could be immediately raised by only making a six-penny rate, and which sum would be entirely liquidated by the continuance of the rate for thirty years. He also called attention to the doings of the present Board of Outwards Commissioners, from whom he said that he should take a long farewell with an immense deal of pleasure. The majority in favour of the adoption of the Act was 43 against 8.

DISMISSAL OF CLERK OF WORKS AT CONSTANTINOPLE: PENNY WISE, POUND FOOLISH.—The House of Commons, in committee of supply on the civil service estimates, resolved to withhold the salary of the clerk of works at the palace of the British embassy at Pera, thereby voting against the Government by a majority of 74 to 68. The question was one of 400*l.*, which Mr. Cowper explained to be a higher salary than would otherwise be given, because of the great distance from home, and the consequent necessity and advantage of employing a gentleman of higher professional understanding and responsibility than the corresponding officer at Paris (the only other clerk of works connected with our embassies), whose salary was only 180*l.* Notwithstanding the efforts of Mr. Cowper and Lord Palmerston to make the majority understand the duties of a clerk of works, and the necessity for some check upon local tradesmen in repairing the palace, in order to prevent undue or improper expenditure, or scamping of work; the hon. members betrayed a strange stupidity and misunderstanding on the subject. One clear idea seemed to be that the clerk of works was intended by the Government to be a check—not upon the ambassador's building tradesmen, but upon the ambassador himself! and this being the idea, it was easy of course to show how absurd it was to imagine that a clerk could be any real check on so high a functionary. Another notion was that the clerk must necessarily spend as much as possible, otherwise his salary might amount to 100 per cent. on the amount expended, instead of the usual 5 per cent. of an architect! A zinc roof and some new furniture had been required as extras for the palace last year, it seems, at a cost of some 1,000*l.* or so: *hinc illæ lachrymæ.* The palace at Pera, by the way, is not merely the dwelling of our ambassador, but of all his officers and attendants as well. The Turkish painters, carpenters, plumbers, slaters, &c., will doubtless rejoice to hear that their natural enemy, the clerk of works, is to be dismissed; and if, without control or check or superintendence, they give good work at moderate prices, and only where and when such work is really needed, the Turks must indeed be an upright and honest, self-denying race, as well as a skilful.

THE SOCIETY OF ARTS' CONVERSAZIONE.—The council of the Society of Arts gave a *conversazione* on Friday evening, the 12th inst., at the Kensington Museum, which was numerously attended. A novel feature in the performances of the Artillery band was that of Mendelssohn's part-songs, "The Hunter's Farewell" and "The Summer Song," both admirably given, and a solo by Kücken, "Hie thee, Shallop." These evening gatherings are boons to a large number of persons.

THE ARTISTS' BENEVOLENT FUND.—The anniversary dinner of this excellent institution was held on Saturday night, 13th inst., in the Freemasons' Tavern. The chair was occupied by Mr. W. B. Beach, M.P.; and the company included Mr. Roberts, R.A., Mr. Foley, R.A., Mr. Doo, R.A., Mr. Humphreys, and a number of other gentlemen connected with art. The annual report of the committee states that, since the establishment of the fund, the sum of 24,721*l.* 2s. 3d. has been distributed in relieving the widows and orphans of British artists, and that fifty-three widows have received annuities during the past year amounting to 765*l.*, and fifteen orphans the sum of 61*l.* 5s. Mr. Dimond, the hon. secretary, announced that the subscriptions received amounted to 542*l.*

ACCLIMATIZATION OF ANIMAL AND VEGETABLE PRODUCTS.—The third annual report of "the Society for the Acclimatization of Animals, Birds, Fishes, Insects, and Vegetables within the United Kingdom," has been printed [Offices, 3, Duke-street, Adelphi, London]. We are glad to see from this report that this much-wanted Society is making rapid progress in that acquisition of members on which its future utility and fame must be based. At the period of the last annual meeting the number of annual subscribers was 48, and of life members, 24: at present there are 139 annual subscribers and 46 life members,—a clear increase of more than 135 per cent. per annum. The Society is already in active working order as regards the importation of useful and interesting animal and vegetable products of other countries, such as Chinese sheep, Japanese and other deer and fowls, Honduras turkeys, prairie grouse, and Virginia quails. Pisciculture also is in progress, and we hear that a company for the propagation of salmon, oysters, &c., is being formed. A method of safely transporting salmon ova to Australia has now been discovered;—that is, encased in ice; but how the ice withstands the heat of the tropics we do not know. Silk-worms are also occupying the attention of the society; and, in the vegetable world, Chinese yams, arrow-root, bunch grass, and Lima beans.

THE MAGNETO-ELECTRIC LIGHT AT DUNGENESS.—Some further reports on the progress of this "magnificent" light, as a committee of the Trinity House have called it, have been printed by order of the House of Commons. In one, dated 8th April, 1863, the secretary says:—"The light has now been exhibited at Dungeness for a period of nine months; and during that time has, with some brief exceptions (generally attributable to want of care on the part of the attendants), been maintained without break or failure, showing a light of exceeding power and intensity, which Mr. Faraday, who took as his standard the revolving light at Grisnez, with which, at equal distances it was of equal power, estimated to be eight times that of a first order fixed dioptric light (see his report No. 1). Every part of the machines and engines has worked well, although one of the boilers has just required repair, causing a pressing demand from the engineer for the third spare boiler, which he has suggested as necessary. The lamps and lenses have been gradually improved until they may now be said to be perfectly satisfactory, and have been under the charge of the ordinary light-keepers, possessing no more than the usual ability of such persons. The engines and machines have been under the charge of two engineers." Various minor objections, however, to the light as it exists, are stated in these reports; but some of these are vitiated by the discovery that the chief engineer has had to be dismissed recently on account of intoxication. Professor Holmes replies satisfactorily to the objections in a separate pamphlet, and Professor Faraday also discusses some of them. The light seems to be visible at from twenty to thirty miles' distance, but occasionally not so far, a circumstance which Professor Faraday ascribes on certain occasions to local haze. The Trinity House authorities, however, admit the superior advantages of the light in respect to penetrative power and star-like brilliancy, although other first-class lights they regard as practically sufficient.

ANTIQUITIES.—The *Korrespondent von und für Deutschland* contains the following interesting notice from Turin:—"The excavations at Pompeii are carrying on most actively. A few days ago, a cradle was found, constructed exactly after the same swinging system in use now throughout Europe. Besides this, there were brought to light gladiators' fights, popular games, battles, &c., carved in wood, and moveable through an ingenious but simple mechanism. These exemplify better than any drawing the details of the motions, the tactics, and the mode of warfare, and also the extraordinary dexterity of the gladiators. This find has created a very great sensation."

MEMORIAL OF CANON LEVINS AT ARDEE.—It has been resolved to carry out the following recommendation of Mr. J. J. M'Carthy, architect, whom the committee consulted, as to a memorial of the late Canon Levins, of Ardee:—"I recommend that the memorial to the late Very Rev. John Levins consist of a chancel, to be erected behind the altar of the present chapel, and opening into it by a large chancel arch; also a suitable high altar and reredos. The window over the present altar could be removed and placed over the altar in the chancel. I would recommend, moreover, that the remains of Father Levin should be removed to the centre of the chancel, and a monumental brass laid in the floor marking the exact place of his sepulture. An inscription should be also placed in some convenient and appropriate part of the chancel, stating that the entire chancel, its furniture and decorations, are the monument of the late Very Rev. Canon Levins, erected by his parishioners."

THE CLIFTON SUSPENSION BRIDGE AT BRISTOL. The wire coils of the temporary bridge necessary for the construction of this work have been passed across the Avon. A thin rope was lowered from the Clifton buttress, and the end conveyed across the river in a boat to the Leigh side, and then attached to a thick hawser, which was hauled across and secured. The first of the wire coils, 1,100 feet in length, and weighing two tons, was then successfully suspended across the chasm at St. Vincent's rocks, under the superintendence of Messrs. Cochrane & Airey. Nine coils of this kind having been suspended, a strong cradle will be attached to two of them and swung down to the centre of the chasm, and in this the workmen will commence bolting the planks for the platform, gradually completing this stage as they near the inclines, the declination of which is about 1 in 2½. This platform completed, a "traveller" will be attached to one of the wire cables; and the chains, &c., will be conveyed to any part of the platform, above which the suspension-bridge will be erected. Looking up at the men at work, a few days ago, their position seemed critical.

MEAT MARKET, SMITHFIELD.—COMPENSATION. From a report of the proceedings of the Markets Improvement Committee of the Corporation, relative to their proceedings under the "Metropolitan Meat and Poultry Market Acts, 1860 and 1862," made up to the 16th of April last, we learn that of the thirty-seven freeholders' claims thirty-five were submitted to reference, one was settled by agreement, and one by a verdict in the Lord Mayor's Court, that claim having been considered of an exorbitant character, and the claimants refusing to submit to arbitration. The whole of the eight claims of joint leaseholders and occupiers were arranged by agreement, as also were the remaining fifteen claims for compensation of occupiers only. Of the freeholders' claims, but one party obtained the amount claimed, the remainder having been agreed to at an average of about two-thirds of the sums asked for as compensation. The joint claims of leaseholders and occupiers were disposed of for less than one-half the amount charged, as also were those of the occupiers only. Subjoined we give a summary of the claims settled:—Freeholds—claims amounted to 100,316*l.* 5s. 10d.; settled, about 60,931*l.* 10s. 3d. Leaseholds—5,349*l.* 19s. 3d. claimed; settled at 4,249*l.* 12s. 9d. Leaseholders and occupiers—claims, 15,753*l.* 19s. 8d.; settled at 7,180*l.* And occupiers only — claims, 2,897*l.* 12s. 1d., settled at 1,170*l.* 10s. Total claims, 124,317*l.* 16s. 10d.; settled for about 75,531*l.* 13s., or about 11,372*l.* 15s. 7d. more than half the total amount claimed by the sixty-three claimants. The largest claim was 17,626*l.*, the settlement being by verdict, arbitration being declined, when the amount of the assessment by the jury was only 9,200*l.*, namely, 8,650*l.* for the property and the payment of a rent-charge of 20*l.* a year valued at 550*l.* The lowest amount of claim was 10*l.*, and that sum was paid to the claimant by agreement.

STEAM TRUMPETS.—A good deal has been said lately in London about "steam trumpets" as a mode of signalling on railways. It appears that these instruments are the invention of a Dr. Upham, of Boston. About a year ago he obtained the use of two locomotives for the purpose of an experimental talk by the sounds of the steam-whistle. The inventor had attached several contrivances to the whistle in the shape of bells, trombones, and clarionets; and by means of these he was enabled to represent the sounds of the alphabet by very different sounds. He found that by their means he could convey a message to a distance of three miles, which could be heard and understood even amid the more immediate sounds produced by the movement of a railway train. The doctor has, it is said, found it possible, by the simple trumpet, to transmit any message, however long or complicated, the distance of a mile. So far as the public ear is concerned, anything would be preferable to the present diabolical screech of the iron horse.

A METROPOLITAN MAIN TRUNK UNDERGROUND RAILWAY.—A project is suggested by Mr. Charles Baylis, of the Poultry, for constructing a Main Trunk Underground Line of Railway, to commence at Stratford, to be carried down the Bow, Mile-end, and Whitechapel-roads, through the City, down Holborn, Oxford-street, and Bayswater-road, and to terminate at Shepherd's Bush. In connexion with the construction of this line of railway, it is also suggested that four lines of rails at the least should be made, and chambers should also be constructed for depositing gas and water-pipes, telegraph-wires, &c., and for any other purposes that may be considered advisable. It is concluded, that if such a railway were constructed, legislative interference would almost become unnecessary, as every other railway company would have but one object in view; namely, to arrange the best modes of bringing their traffic on the line now proposed. Would not the necessity of crossing the Thames by a north and south line of underground railway, however, make this latter line more like the criterion or key to the level of all the other lines than an east and west one?

YORKSHIRE ARCHITECTURAL SOCIETY. — On Tuesday, the 9th instant, this Society paid a visit to Halifax. There were about sixty members and friends present, a considerable portion of them having been brought by a special train from York *viâ* Leeds. They met in the saloon of the New Assembly Rooms, Halifax, where they were joined by the mayor (Mr. John Crossley), Colonel Akroyd, and a number of the members of the Halifax Literary and Philosophical Society. A paper was read by Mr. P. O'Callaghan, of Leeds, on "The Primæval Architecture of the British Islands." The Society then adjourned, and proceeded to inspect the Piece Hall and the Halifax parish church. Here a paper was read by Mr. F. A. Leyland, Halifax, on "The Antiquities of Halifax, and the Church of St. John the Baptist, Halifax." The party next viewed the new Town Hall, the splendid buildings in Crossley-street, Princess-street, and Crown-street; All Souls' Church, All Souls' Cemetery Chapel, &c.; and then were entertained to luncheon by Colonel Akroyd, at Bank Field.

DUBLIN EXHIBITION PALACE AND WINTER GARDEN.—The Lord Lieutenant laid the first stone on the 12th inst. In the course of his reply to an address presented to him, his Excellency said,—"I rejoice sincerely that among the multiplied instances of the increasing enterprise and improving taste of this committee,—among the number of ecclesiastical, collegiate, municipal, and commercial structures which rise on every side of us,—one spot should be set apart for bringing rational and refined entertainment within the reach of all classes, and adding to the public stock of blameless amusement. It will, indeed, be the best, though we do not wish it to be the only, reward of the friends and patrons of this enterprise, when they shall be enabled to see large numbers of their fellow citizens, with their wives and families, issuing, perhaps, from humble homes, and closing the labours of the counter and the factory in the unrebuked enjoyment of the beauties of nature and the treasures of art. The list which your address presents of the varied attractions which are to be gathered in this favoured spot portrays an enchanted scene, where Flora is to girdle the shrine of every Grace and every Muse. I feel, however, that we have no need to resort to fable or to fancy when we find our undertaking fostered and supported by the genial patronage of Leinster, the untiring benevolence of Guinness, the practical energy of Dargan. May the blessing from on High allow, prosper, and hallow our work!" Amen! say we, of London.

PARIS EXHIBITION.—At the Palais de l'Industrie the Exhibition of Industrial Arts is to be held on the 15th of August next. The applications from exhibitors have been unusually numerous. The upper story of the building will be reserved for the retrospective museum for industrial artists, and for works of artistic competition; while the grand nave, arranged as a garden in the French style, will be devoted to specimens of manufacture and objects of the constructive arts.

THE LATE LORD HERBERT.—A monument in marble, the work of Mr. Phillip, of Vauxhall Bridge-road, has just been placed in the parish church of Wilton, to the memory of the late Lord Herbert of Lea. The monument consists of a recumbent figure with clasped hands, resting on a tomb, with two angels at the head. The figure, an excellent likeness of his lordship when young, is admirably carved; and around the top of the tomb is a brass with the following inscription:—"Sidney, Lord Herbert, second son of George Augustus, eleventh Earl of Pembroke, born 16th September, 1810; died 2nd August, 1861. Blessed are the dead which die in the Lord; they rest from their labours. Founder of this church. *In pace.*"

DESTRUCTION OF WELBECK ABBEY TOWER BY LIGHTNING.—For some time past workmen have been employed in altering Welbeck Abbey, Notts, the seat of the Duke of Portland, and on Saturday last a storm of a serious character visited that place. About one o'clock at noon the storm was raging at its height, and a thunderbolt descended upon the tower, striking it with such force that the four-dial tower clock was completely demolished and old Welbeck's tower split down, the report of thunder and the fall of the old pile causing great alarm among the workpeople. There have been several severe thunder-storms in Nottingham and the surrounding neighbourhood during the last week or two, and vegetation generally has been greatly benefited.

THE LARK NAVIGATION.—The report of Mr. Burnell, C.E., on the project for re-opening this navigation, has been received, according to the *Bury Post*. Mr. Burnell is fully of opinion that the undertaking would be successful in a commercial point of view, and that it is just what the town requires to revive its trade. The old system of cloughs and staunches will be abandoned; and the depth of the water produced by them will be compensated for by the bed of the river being lowered. The number of locks between this town and Mildenhall will be reduced to thirteen, with falls varying from 4 feet to 7 feet 6 inches. The whole cost of the improvements, including the extension of the navigation up to the town, with docks, &c., is estimated at 18,000*l*.

DONCASTER.—The new Wool and Cattle Market is to be opened on the 6th of June. This structure has been erected at the expense of the Corporation on the site of some dilapidated buildings at the angle of the Corn-market with the Parsonage yard. The new erection is in unison with the architectural design of the covered Corn-market. It covers an area of 1,866 yards, being 140 feet in length, and 120 feet wide, which is nearly three times the size of the covered Corn-market. The area of the building is divided into three parts by four rows of metal pillars, which support upon perforated cast-iron girders three pitched roofs, similar to those seen in railway stations, and the centre one of which contains a skylight. The span of each roof is 40 feet. Altogether the roof stands upon 37 pillars, which run in rows of eight lengthwise and seven crosswise. There is a uniform distance of 20 feet between each pillar. The pillars are hollow, and act as water conductors. An ornamental moulded spouting skirts the roof, forming a cornice to the eaves. The new building is open to the Corn-market, but is enclosed by high iron palisades. The principal entrance is from the Parsonage-yard. The interior of the building is to be provided with portable iron sheep-pens; so that, apart from the wool season, it will be devoted to the purposes of a cattle-market. The cost of the whole will be about 1,500*l*. The contractors have been Messrs. T. & C. Anelay, of Doncaster, for the brick and stone-work; Mr. Wooller, of Laister Dyke, near Bradford, for the iron-work; Mr. J. Hill, of Bradford, the slating; Mr. Harrison, of Doncaster, the wood-work; and Messrs. Marrison & Marshall, Sheffield, the plumbing. Mr. Butterfield, the corporation steward, aided by Mr. Anelay, his clerk, have personally superintended the prosecution of the building, which may now be said to be finished, with the exception of a small part of the slating, and asphalting the floor. The design was by Mr. Butterfield.

TENDERS.

For three model cottages at Croydon, Surrey, for the Rev. Mr. Fitzwigram. Mr. J. Taylor, architect:—

Deacon	£495 0 0
Dover	475 0 0
Nine	465 0 0
Pollard	460 0 0
Goden	379 0 0
Evans	365 0 0

For three shops in Tooley-street, for Messrs. Findlater & Co.:—

Powl	£1,929 0 0
Rawlings	1,891 0 0
Sawyer	1,845 0 0
Brighton	1,837 0 0
Newman & Mann	1,808 0 0
Colls	1,724 0 0
Downs	1,662 0 0
Brass	1,553 0 0
Coleman	1,439 0 0

For alterations for the Gas Meter Company, Kingsland-road. Mr. William Lee, architect:—

Kirk	£4,777 0 0
Simms	4,448 0 0
Hardiman & Sandon	4,328 0 0
Hill, Keddell, & Robinson	4,275 0 0
Perry	4,2 0 0 0 0
Fish	4,148 0 0
Maeers	3,995 0 0

For residence at Leamington, for Mr. J. Furnival. Mr. A. Johnson, architect. Quantities supplied:—

Marriott	£2,689 0 0
Hardwick	2,669 0 0
Briggs	2,550 0 0
Gascoyne	2,544 0 0
Ramsay (accepted)	2,495 0 0

For building a warehouse at Worcester for Mr. John Morton. Mr. George Truefitt, architect:—

Wilson	£746 0 0
Wood & Son (accepted)	520 0 0
Hemming & Son (too late)	494 6 6

For two semi-detached villa residences, Nottingham-park. Messrs. Hine & Evans, architects:—

Hill	£1,825 0 0
Ward & Co.	1,674 0 0
Simpson & Lynam	1,655 0 0
Barker	1,643 0 0
A. & R. Dennett & Co.	1,598 0 0
Willimott (accepted)	1,595 0 0

For rebuilding the nave and vestry of the church of St. Giles, Darlton, Notts. Messrs. Hine & Evans, architects:—

Lee & Tomlinson (accepted)	£537 0 0

School-house for Lady Sitwell, Renishaw, Derbyshire. Messrs. Hine & Evans, architects:—

A. & R. Dennett & Co.	£545 0 0
Lee & Hopkinson (accepted)	699 0 0

For the erection of a villa residence at Sonning, Berks, for Mr. C. H. Witherington. Mr. W. Brown, architect:—

Kendell	£1,123 0 0
Day	949 0 0
Dodd	925 0 0
Wheeler	920 0 0
Scarle	859 0 0

For the erection of a model Homestead, at Rose-hill, Oxon, for Mr. T. Rogers. Mr. W. Brown, architect:—

Matthews	£2,900 0 0
Day	2,821 0 0
Lawrence	2,768 0 0
Wheeler	2,750 0 0
Woodroffe	2,725 0 0
Kendell	2,446 0 0

For the erection of stabling at Farnborough, Hants, for Mr. W. Knell. Mr. W. Brown, architect:—

Edwards (accepted	£300 0 0

For taking down and rebuilding residence at Creek Mill, Batterses, for Mr. Denny. Mr. Charles Bowes, architect. Quantities supplied:—

Adamson & Sons	£689 0 0
Bass	670 0 0
Thornton	663 10 0
Lathey, Brothers (accepted)	648 0 0

For additions to Messrs. Lambert's factory, Nottingham. Mr. R. Clarke, architect. Quantities furnished:—

Brassington	£6,130 0 0
Ward, Ansell, & Co.	5,600 0 0
Fish	5,498 0 0
Dennett	5,199 0 0
Willimott	5,183 0 0
Dawson	5,025 0 0
Acton	5,010 0 0
Wright	4,942 0 0
Claycoot	4,900 0 0
Rushworth	4,859 0 0
Haw & Woolf (accepted)	4,699 0 0

For the excavator's, bricklayer's, mason's, and slater's work, to be done in the erection of a residence in the Beulah-road, Tunbridge Wells, for Mr. George Diggens. Mr. James Blundell, architect:—

Walker	£358 7 6
Hammond	340 10 0
Plasterer's Work.	
Mason	145 10 0
Twort	140 10 0

For detached residence at Hornsey. Mr. J. W. Reed, architect. Quantities supplied:—

Bond	£1,305 0 0
Mann	1,293 0 0
Glenn	1,284 0 0
Sleap	1,248 0 0
Hill & Son	1,247 0 0
James & Ashton	1,213 0 0
Carter	1,197 0 0
Sale	1,185 0 0

For extension of Southport Pier, &c.:—

Campbell, Johnson, & Co.	£5,000	0	0
Hardyside & Co.	3,963	10	0
J. & J. Cliff	3,133	5	7
W. & J. Galloway (accepted)	3,000	0	0

For additions to residence, No. 83, High-street, Guildford, for Messrs. G. W. & F. A. Crooke. Mr. Henry Peak, architect :—

T. & J. Loe	£1,112	0	0
Strudwick	1,102	0	0
W. Mason & Son	1,093	0	0
Pollard	1,010	0	0
Wadey	974	0	0
Smith	970	0	0
Beagley	914	10	0
Garnett (accepted)	890	0	0

For works to mansion, &c., at Burwash, Sussex. Mr. E. Habershon, architect :—

Bagucly	£2,736	0	0
Simms	2,399	0	0
Constable	1,750	0	0

For two houses in Oakley-street, Chelsea :—

Jennings	£2,630	0	0
Simms	2,106	0	0
Robson	2,025	0	0
Kilby (too late)	1,946	0	0
Dabbs	1,840	0	0
Gray	1,690	0	0
Avery (accepted)	1,525	0	0
Marshall	1,300	0	0

For alterations, &c., at 27, Montague-square. Mr. H. S. Joseph, architect :—

Hackforth	£698	0	0
King & Son	598	0	0
Newman & Mann	562	0	0
Clarke & Mannooch (accepted)	549	0	0

For the erection of a warehouse in Commercial-street, Whitechapel, for Mr. M. Levy. Mr. H. H. Collins, architect :—

Fish	£2,790	0	0
Newman & Mann	2,745	0	0
King & Sons	2,590	0	0
Stapp	2,565	0	0

Tender for erection of a warehouse, Saracen's Head-yard, Aldgate, for Mr. Whorlow. Mr. N. S. Joseph, architect :

Newman & Mann	£1,715	0	0
Ennor	1,689	0	0
Lawrence & Sons	1,634	0	0
King & Sons	1,580	0	0

Coast Guard Station, Sheerness.—The Lords of the Admiralty have accepted the tender of Mr. Simms for this work. The amounts are not made public. They have also accepted the same contractor for a station near Rye.

TO CORRESPONDENTS.

"*Colour of Furniture.*—A correspondent, "T." is anxious to know if any who can inform him how the peculiar tone of colour for rich modern continental furniture is obtained.

R. P.—B. & Co.—C. D.—A.—W. W.—J. E. R.—One interested in the competition—T. O. G. B.—E. B. (apply to Registrar in Office).—J. D.—H. T. E.—Mrs. M. B.—O. H. H. (letter has been forwarded).—Reparatus.—Minster Church.—S. D. W.—H. P.—R.—J. H.—M. C. J.—J. W. R.—J. B.—Mr. S. (should send architect's name).—T. & A.—G. V.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

All Advertisements cannot be received for the current week's issue later than FIVE o'clock, p.m., *on Thursday.*

NOTICE.—*All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and not to the "Publisher."*

THE *Morning Post*, of September 29th, when describing Benson's Great Clock in the Exhibition, says: "The large clock in the centre transept is a fine piece of mechanism, one of the largest chiming." Benson's new show-rooms contain clocks designed by the first artists of the day, and include clocks for the drawing-room, dining-room, bed-room, library, hall, staircase, bracket, carriage, church, turret, railways, warehouse, counting-house, with musical, astronomical, and every description of clocks, from the plainest to the highest quality of which the art is at present capable. Church and turret clocks specially estimated for. Benson's Illustrated Pamphlet on clocks and watches (free by post for two stamps), contains a short history of clock and watch making, with descriptions and prices; it acts as a guide in the purchase of a clock or watch; and enables those who live in Scotland, Ireland, Wales, the Colonies, India, or any part of the world, to select a clock.—J. W. Benson received a Prize Medal and honourable Mention.—33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

ADVERTISEMENTS.

About 13,000 feet of Mahogany, and above 3000 lots suitable for the Building Trades

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden terrace, Camden Town, on MONDAY, JUNE 29th, at TWELVE for ONE, 40 Lots of MAHOGANY, 2,500 yellow, white, and pine planks, deals, and battens, flooring, quartering, die square, birch, cut stuff, four panel doors, slating battens, pantile laths, poles, ladders, &c.—Auction Offices, 2, Cardington-street, Hampstead-road.

BISHOPSGATE-STREET WITHIN.—TO BUILDERS, CONTRACTORS, PAVIORS, AND OTHERS

MR. MARSH has received instructions from the Directors to SELL by AUCTION, on the PREMISES, on TUESDAY, JUNE 30th, at ONE o'clock, in detail, the whole of the Valuable MATERIALS and FIXTURES of the National Provincial Bank of England, 112, Bishopsgate-street Within, in consequence of the sale being required for the re-building of new banking premises: including about 35 squares of slating oak and fir timber in rafters, joists, and girders; 200 squares of flooring, capital walnut, mahogany, and other doors; 75 pairs of elegant sashes; a handsome stone staircase, with large landing, York and Portland Stone, in paving, steps, cornices, stringcourses, sills, pumbhan-lp-sters, Landsome pediment and portico; about 1,000,000 sound stock bricks; 20 tons of lead, in flats, gutters, hips, cisterns, and pipes; marble and other chimney pieces, stoves, ranges, fittings, and effects.—May be viewed two days prior to the Sale, and Catalogues obtained on the Premises; of JOHN GIBSON, Esq. Architect, 13, Great Queen-street, Westminster; and at Mr. MARSH'S Offices, 2, Charlotte-row, Mansion House.

VALUABLE OAK TIMBER.—In the parishes of Darenth and Stone, Kent.

MR WILLIAM HODSOLL is instructed by CHARLES COLYER, Esq. to SELL by AUCTION at the RAILWAY TAVERN, Greenhithe, Kent, on FRIDAY, JUNE 26th, 1863, at THREE o'clock, 167 capital OAK TIMBER TREES, 11 Oak Tellers, and 5 Elm Trees; also 20 excellent Oak Trees, lying near the end of Gravel Hill lane, Darenth; JAMES WILSON, of Darenth Wood, will show the lots; of whom also catalogues may be had, and of Mr. WILLIAM HODSOLL, Auctioneer, &c. Farningham, Kent.

TO ARCHITECTS.—The Gentleman who, under the initials and address of "A B Post-office Wellington-street, Strand," RECEIVED, on or about 6th MAY, TESTIMONIALS from a Clerk of Works, at Windsor, will greatly oblige by returning the same.

MR. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLORIST, AND LITHOGRAPHER.
Removed from 31, Montague-street, Russell square,
to 58, TORRINGTON-SQUARE, W.C.

PARTNERSHIP.—An excellent opportunity offers for any party with a small capital to join the advertiser in a lucrative BUSINESS at the West-end, unattended with risk, where a handsome competency might be made in a few years. A gentleman having a knowledge of machinery and saw-mills would be preferred.—For particulars, apply to J. H. Dolphin Saw-mills, 12, Tottenham-street.

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PARTNERSHIP.—The Advertiser, who has seen much practice principally South London, at Provincial Offices, wishes to JOIN with ARCHITECT of well established practice; a premium will be given according to advantage offered.—Address, W. W. "Mercury" Office, Derby.

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HENRY SAWARD, Town Clerk.
Townhall, Blackburn, June 5, 1863.

BANSTEAD and EPSOM DOWNS RAILWAY.—WANTED, 500 NAVVIES and 50 BRICKLAYERS on the above line.—Apply to the FOREMAN, on the Works; or at Mr. GARRETT'S Offices, 10, Great George street, Westminster.

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REQUIRED, a CLERK, competent to SURVEY LAND and BUILDINGS accurately, and prepare Plans. He must be a neat draughtsman and good penman, and willing to take part in the general business of the Office. State salary required. Apply to F. H. care of Mr. Foster, No. 114, Fenchurch-street

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WANTED, in an Architect's Office, an ASSISTANT, thoroughly conversant with detail and construction, experienced, and a neat draughtsman.—Address, in own handwriting, stating age, references, and salary required, to A. W Vestry Hall, Back road, St. George's-in-the East.

TO CLERKS OF WORKS—GAS WORKS.

WANTED, a CLERK of WORKS, accustomed with the CONSTRUCTION of small GAS WORKS. None other need apply. By letter, stating salary expected, to A. B. care of Messrs. SPON, 16, Buckingham, E.C.

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WANTED, ONE or TWO good HANDS at ROOF WORK. None need apply but those of steady habits.—Address, stating wages, to Messrs. BROWN & SON, Slate Merchants, &c. Chelmsford.

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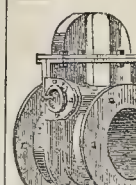
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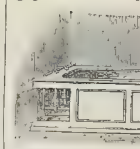
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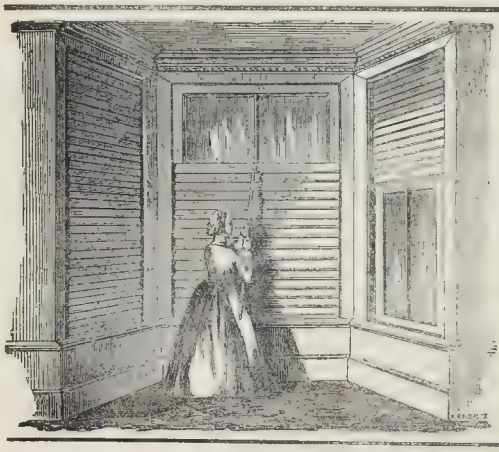
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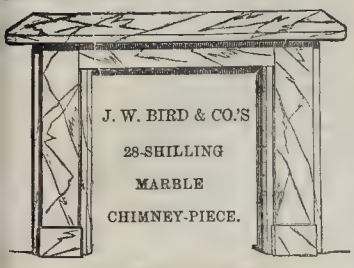
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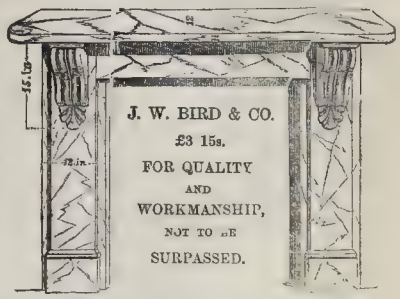
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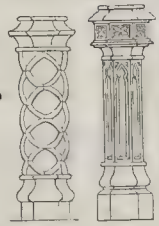
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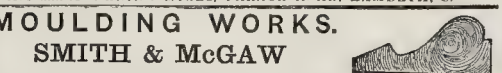
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MANUFACTORIES AND WHARFS:
3, CANAL ROAD, KINGSLAND ROAD, and FRINDSBURY, on the MEDWAY, KENT
REEN'S PATENT PORTLAND
CEMENT, made at their Frindsbury Works, of unequalled Quality, Strength, and Colour, supplied to Shippers and the Trade
. & CO.'S IMPROVED ROMAN CEMENT
and PLASTER of PARIS
oarse and fine), made at their Kingsland Works, and as universally known and approved of during the last half century, may be had (fresh ground daily) by Shippers and the Trade.
. & CO.'S CHALK LIME, made at their Kingsland Works, of excellent quality and well burnt, may be had fresh from the Kilns as drawn daily.
ROUND GREY LIME for CONCRETE,
round by machinery, fresh as required, in any quantity.
REYSTONE LIME.
LASTERERS' HAIR. LATHS.
LAIN PAN RIDGE and FOOT TILES.
EMENT and TERRA-COTTA CHIMNEY
OTS of every description and pattern.
EENE'S and MARTIN'S CEMENTS.
AND, POTTERY WARE, &c. &c.
Orders and Letters addressed to 3, Canal road, Kingsland; or to y Offices, 79, King William-street, City, will receive immediate ention.

OLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
LATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON,
ICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

ESTABLISHED 1852.
ORTLAND CEMENT WORKS,
MORDEN WHARF, EAST GREENWICH.
EDWIN HOLLICK,
anufacturer of PORTLAND CEMENT of the best quality only, for the English and Foreign Markets.
Vessels loaded alongside.
NOT CONNECTED WITH ANY OTHER HOUSE.

ORTLAND, ROMAN, and PLASTER
CEMENT MANUFACTORY, on the River Medway, Strood, nt,
Messrs. LARK, FLETCHER, & CO.
prepared to supply their CEMENTS of the BEST QUALITY, and ADVANTAGEOUS TERMS, either direct from the Manufactory, from White Lion Wharf, Bankside, London.
.B. Shipping Merchants' and Brokers' Orders promptly executed.

OURBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and
Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

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LIME, CEMENT, and BRICK MERCHANTS.
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WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Where can be obtained, if required,
GREY STONE LIME, CHALK, and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOR JAMBS.
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YELLOW and PALE MALM CUTTERS, FACINGS, FACIONS, SECONDS BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED BUILDERS
STAFFORD-SHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS
TERRO METALLIC GROOVED SCARLE BRICKS, CHANNEL BEADS, and CLINKERS, also DUTCH CLINKERS
Patto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS BLUE, RED, and BUFF
DUTCH ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c
WELSH, NEWCASTLE, and STOURBRIDGE FIRE BRICKS, HEARTH and TILES, of every description and size
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c
RED DRAIN PIPES, TILES, and CHIMNEY POTS
TERRA-COTTA CHIMNEY POTS CHIMNEY TOPS GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch
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GREY STONE LIME.
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7, NORTH WHARF ROAD, PADDINGTON, W.

HALKIN HYDRAULIC LIME, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, N.W. the same as used in the construction of the Liverpool Docks, &c. and so long approved for its strong cementitious and concreting powers for submarine purposes, can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground and in bags and barrels. The limestone can be had in full cargoes; also L. J. & Co's Roman Cement, in barrels, which is of a very superior quality, and warranted pure. Orders to be accompanied by a banker's reference.—Apply to the Works; or to E. & W. AARON, Agents, 66, South John street, Liverpool

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STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours
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The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
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THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
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Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
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To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

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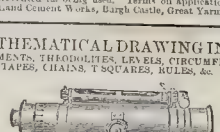
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PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

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Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
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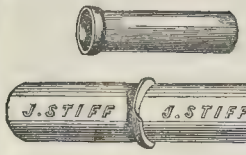
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IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

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STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



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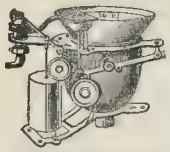
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T. L. & SON find it necessary to state that all the Ball and other Valves manufactured by them, have their NAME legibly marked thereon.



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The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

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GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

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3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

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ORIGINAL ANTI-CORROSION PAINT.

Patronised by

THE BRITISH GOVERNMENT, | H.R.H. THE PRINCE CONSORT, | RAILWAY & CANAL COMPANIES.
THE RUSSIAN GOVERNMENT, | MOST OF THE NOBILITY & GENTRY, | COLLIERIES, IRONMASTERS, &c.

It is extensively used at home and abroad for all kinds of

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And has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUTBUILDINGS, AGRICULTURAL IMPLEMENTS, MACHINES, CONSERVATORIES, PARK FENCING, GATES, &c., IRON ROOFING, BRIDGES, HURDLING, and every description of IRONWORK; while for

PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,

And every kind of Brick, Stone, Compo, &c. it is unrivalled, presenting the appearance of fine cut stone.

The Anti-Corrosion is lower in price and lasts twice as long as the best White Lead.

The Anti-Corrosion is a Powder, sold in all colours, and will keep any length of time.

OIL, TURPENTINE, AND BRUSHES.

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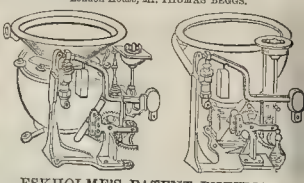
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(SUCCESSORS TO THE INVENTORS),

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NO AGENTS THROUGHOUT THE UNITED KINGDOM.

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ton-street, Strand, London, W.C.
London House, Mr. THOMAS BEGGS.



ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient a
simple, free from all smell, and requires no cisterns, service box
cranks, wires, or levers, but is complete in itself ready f r atte
ment to any ordinary house service pipes. It is supplied in th
manufactor, all equally efficient, differing only as to the style
fitting up. A second class quality is also manufactured. The Regul
tors are usefully applied to the ordinary Pan Closet, alike dispensi
with all cisterns, service boxes, levers, cranks, wires, &c. The Reg
lator is supplied separately, as well as connected to ordinary dir
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Chinese Patent High pressure Single and Double Loose Valve a
Screw Down Cocks, Improved Self-acting and Full Water-Close
Patent Absolute Water Waste Preventer; Plumbers' and G
Fitters' Brass Work of every description. Drawings, Description
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J. TYLOR & SONS' PATEN
REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of wat
to each closet, so that, however small the fall of water, perfect flus
ing is insured. Any number can be worked by one supply-pipe.
cistern-valves, cranks, or wires required. The Closets can be seen
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tion to the Manufacturers, J. TYLOR & SONS, Warwick-la
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TERRA COTTA and Fine STONEWAR
POTTERY, warranted to stand Frost.
JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD
LINCOLNSHIRE, has greatly improved and economised the manu
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in hardness to Granite
A Medal at the International Exhibition was awarded, in Class 1
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Moulded Bricks, String Courses, Copings, Cills, Tracery, Balustr
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den Edging, Guttering, Tiles, and twelve inch Paving Tiles, &c. &
Also Plain and Mosaic Pavements for Halls, Churches, Conserv
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London Office, 377, Oxford-street, W.

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1862.

IMPERISHABLE TESSELATE
PAVEMENTS, combining a highly decorative and economic
substitute for ordinary floors of their perishable coverings MAW
CO.'S Pattern book, designed by M. Digby Wyatt, esq. together with
special design and estimate of cost adapted to any given dimensions
hall, passage, conservatory, verandah, frieze, &c. will be sent on appl
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May be seen at the Exhibition of Building Inventions, &c. no
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have on view a great variety of Specimens of the Pavements.

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HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS
TO 30, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

STAFFORDSHIRE RIDGING and ROOF
ING TILES, Plain and Ornamental, in Blue or Broseley colou
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pat
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Dressed Blue Paving BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

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PIPES, &c.—Notice is hereby most respectfully given, that th
LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf
Macclesfield-street North, City-road Basin, N. 2ndly, that the trad
term, "TERRO-METALLIC" is the exclusive right of the Proprietor
and 3rdly, that the "Reports of the Juries," page 681, of the Grea
Exhibition, 1851, note the grant of a First-class Medal and rank th
Manufactories known so long as "The Tiler-es," Tunstall, Stafford
shire, as the first of the kind in the world.

HAY'S PATENT WATERPROOF GLUE
and INDIA-RUBBER VARNISH.—To ARCHITECTS
BUILDERS, PAPER-HANGERS, &c. &c.—The WATER-PROOF
GLUE is a special anti-damp, and is suitable for contractors, joiners
coffin-makers, &c. &c. The VARNISH for damp walls, previous t
papering, coating zinc verandahs, &c. &c. Copy of a letter fro
Messrs. Rogers & Booth, contractors, Gosport:—
"We have repeatedly used your Waterproof Glue as a preventiv
against damp, and have found it most valuable in preparing walls t
receive paper. In one instance, where the walls were thoroughly
saturated with moisture from earth filled against the outside, w
used your varnish internally, and papered the surface, within a few
hours of its being applied, with complete success. We have also use
your preparation for coating a large number of cast iron pipes, at the
Gunwharf, Portsea, for her Majesty's War Department."
To be had from all Ironmongers, Oil and Colourmen, &c.
Manufactory, Chandos-street, Portsmouth: Mr. GEORGE WEEKS
Manager. GEORGE C. WARDEN & CO. General Agents, 13, London
street, London, E.C. where specimens of its application can be seen.

CLINTON & OWENS, LATE
BENJAMIN FOWLER & CO. Whitefriars-street, Fleet-street, London,
MANUFACTURERS OF PUMPS AND HYDRAULIC MACHINERY OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DOMESTIC, AGRICULTURAL, OR MANUFACTURING PURPOSES, OR FOR CONTRACTORS' USE, TO BE WORKED BY HAND, HORSE, WATER, WIND, OR STEAM POWER.

Portable Steam Engines, Powerful Single and Double-Barrel Pumps, Centrifugal Pumps, and Boring Tools for Contractors' Purposes, ON HIRE.

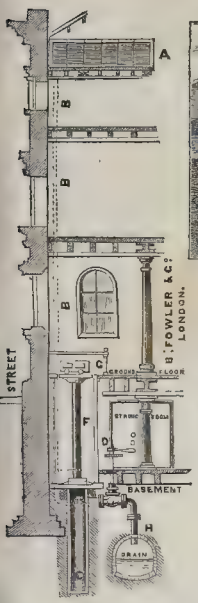


Fig. A.



THE LANDSCAPE SKETCH ABOVE SHOWS

THE IMPROVED HYDRAULIC RAM.

This is a simple Self-acting Machine for Raising a considerable Supply of Water for Use in Public or Private Establishments where a fall can be secured from a Stream, Brook, or Springs. Messrs. FOWLER have fixed a great many varying from 10 to 300 feet, and forcing through main pipes from 50 yards to several miles in length. The fullest particulars and estimates will be handed on application.

No. 37 SHOWS A SET OF

TREBLE-BARREL PUMPS WITH HORSE GEARING,

For Raising Water from DEEP WELLS for the SUPPLY of TANKS in MANSIONS and PUBLIC BUILDINGS. Messrs. CLINTON & OWENS also Manufacture and Erect every other Form of Pump for Deep or Shallow Wells for Hand or other Power.

Fig. A SHOWS

A HYDRAULIC LIFT,

Worked by Pressure from a Cistern Suited for Banks, Warehouses, and other Buildings. Messrs. C. & O. also Manufacture such Lifts to be worked by Hand Pumps, where pressure cannot be obtained from a Cistern.

CLINTON & OWENS

MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

PUMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE, STEAM ENGINES, WATER-WHEELS, TURBINES, HOISTS, WARMING AND DRYING APPARATUS, BATHS, GAS-WORKS, AND FITTINGS.

ESTIMATES WILL BE HANDED ON APPLICATION.



No. 37.

PRICE LISTS OF PUMPS FREE BY POST.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.
BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

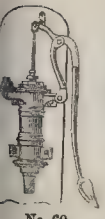
2½ inches £2	10
3 „ 2	15
4 „ 3	15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth, From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c., is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

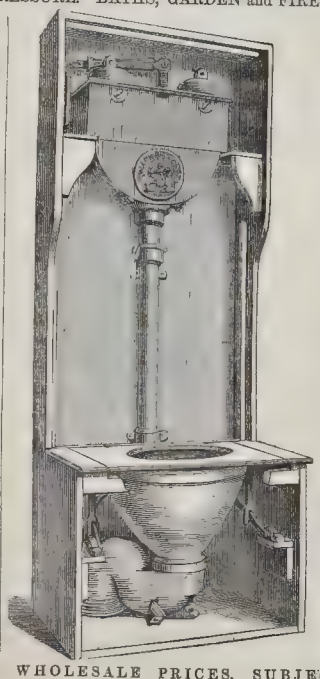
2½ inch £4	4	0
3 „ 5	5	0
3½ „ 6	6	0

Larger sizes when required.

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch..... £3	10	0
3 „ 4	0	0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete £4	10
Ditto Work without Wood Case £2	0
Basin and Trap, W. 0	5

Further Description, with Sectional Drawings will be sent on application.



No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin.....£2 0

Sunk Handle, extra 0	2 0
Blue Basin, extra 0	1 0

No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

TO BUILDERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on MONDAY, JUNE 22, 1863, at WEMYSS'S Stock on the PREMISES, 48, Southampton row, Bloomsbury, and Lambs-lowe mews, Guilford street, Russell-sq. lot 1 lt, without reserve, the remaining STOCK of a BUILDER, including about 6-ton of yellow, white, and pine boards, 2 2-in. 4-in. quarterings 20 in. sash frames, roofing boards 12 new panel doors, 4 sift. 1-poles boards, cords, and pullegs, 1 20 gross screws, blocks and falls, hand-truck, 4 cast-iron fire-proof safes, and other effects. To be viewed the morning of sale, when catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E C

VALUABLE FREEHOLD AND COPYHOLD BUILDING LAND, WHITECHAPEL, comprising a site of about 3½ acres.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at the MART, on WEDNESDAY, JULY 1, 1863, at TWELVE o'clock, in one LOT, a most important site of FREEHOLD and COPYHOLD LAND, about six acres, situate in the parish of the Whitechapel Distillery, Brick-row, abutting upon the Eastern Counties Railway, from which a siding might be formed. And with approaches from Winchester street, Selby street, and other adjoining streets. For the erection of any large manufacturing establishment this property is of large value, from its space and proximity to the City. Printed particulars are in course of preparation, and with plans, may be shortly had of Messrs. TENNANT & DARLEY, Solicitors, Raymond's buildings, Gray's inn, W C; of Messrs. BOCKETT, SON, & BARTON, Surveyors, Lancaster-in fields, W C; at the Mart; and of Messrs. FULLER & HORSEY, Billiter street, London, E.C.

CROYDON, SURREY.—Excellent Building Materials.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the town of Croydon, on MONDAY, JUNE 22, 1863, at TWELVE, for ONE o'clock precisely, the FIFTEENTH PORTION of the excellent BUILDING MATERIALS of nine of the buildings belonging to the Addiscombe College, comprising about 50-load bricks a large quantity of lath, paving stone, stone sills and coping slates for roofs, stones, window and frames, joists, timber, consisting of bressumers, joists, floor boards, rooting boards, lintels, purlins, & c.; chimney pots, iron water piping and gas piping, firewood, &c &c.—May be viewed on the Friday and Saturday before the sale. Catalogues may be obtained of the Foreman on the Estate; and of the Auctioneer, 14, Moorgate-street, E.C.

PLUMSTEAD, KENT.—Freehold Estate, comprising a brick built House, Five Cottages, Outbuildings, and about Two-and-a-half Acres of Land, suitable for building purposes.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the TOWN HALL, Woolwich, on FRIDAY, JUNE 26, 1863, at SIX for SEVEN o'clock in the evening, a FREEHOLD ESTATE, consisting of a brick built House, containing slate in roof, on the second floor, two large bed-rooms, first floor, four rooms; ground floor, two large bed-rooms, two parlours, store-room, kitchen, scullery, &c. A spacious two story House, Five Cottages, about two acres of market garden Land in the rear; land tax redeemed; suitable for building purposes; situate off the high road from Woolwich to Erith, within a short distance of the Arsenal Station, and near to the Plumstead Station on the North Kent Railway. The whole will be first offered in one lot; and if not sold, the premises will be offered in two lots, and the land in twenty-two lots for building purposes. Nine-tenths of the purchase money may remain on mortgage or contract at five per cent to be paid in nine years by half yearly instalments; but the whole or any part of the same may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained ten days before the sale, of Messrs RUSSELL & DAVIES, 59, Coleman-street, E.C.; and at the Auctioneer, 14, Moorgate-street, E.C.; and at the Place of Sale.

ADDISCOMBE COLLEGE, CROYDON, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the GREYHOUND INN, Croydon, on TUESDAY, JUNE 30, 1863, at SIX for SEVEN o'clock in the Evening, a Portion of that eligible ESTATE, late the property of the Hon. the East India Company, consisting of about 32 lots of eligible FREEHOLD BUILDING LAND, with frontages to the St James's and Park roads. The lots are well adapted for a good class of Villa Residence. The property is within ten minutes walk of the New and East Croydon Station; about a mile of that at West Croydon; and when the Addiscombe Railway is completed the station will be on the estate; thus obtaining the property an instant communication with the City and West End at all times of the day. Nine-tenths of the purchase money may remain on mortgage or contract at five per cent, to be paid in nine years by half yearly instalments, but the whole or any part of the same may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained ten days before the sale, of Messrs RUSSELL & DAVIES, 59, Coleman-street, E.C.; and at the Auctioneer, 14, Moorgate-street, E.C.; and at the Place of Sale.

WIMBLEDON, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, JUNE 29, at TWELVE for ONE o'clock, in 61 lots, the remainder of the valuable FREEHOLD BUILDING LAND, free from tithe and land tax, with frontages to the new road called Hartfield road, close to the Wimbledon Station, on the main line of the London and South Western Railway. Nine-tenths of the purchase money may remain on mortgage or contract at five per cent, to be paid in nine years by half yearly instalments, but the whole or any part of the same may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained ten days before the sale, of Messrs RUSSELL & DAVIES, 59, Coleman-street, E.C.; and at the Auctioneer, 14, Moorgate-street, E.C.; and at the Place of Sale.

UPTON E., near Forest gate Station and Wanstead.

MR. JOHN M. DEAN will SELL by AUCTION, at the MART, on THURSDAY, JUNE 25, at TWELVE, in Fifty three Lots, a desirable FREEHOLD RESIDENCE, with stabling, coach house, fresh house, and 4a. 3r. three-quarters of an acre of Land laid out in pleasure grounds, &c. suitable for a family of respectability; and about nine acres of rich eligible freehold building ground, situate at Upton, near the Forest gate Station of the Great Eastern Railway, and only a short walk from Wanstead, Stratford, &c. a most pleasant and delightful locality, within a few acres of the City by rail and omnibus. The estate will be submitted in plots suitable for the erection of superior residences, for which the neighbourhood is well adapted. The plots will be bounded by well made roads properly kerbed and flagged, and let in conformity with the requirements of the local Board of Health.—May be viewed, and particulars and conditions of sale had at the Mart; of Messrs. LIGHLY & SHARP, Solicitors, 1, Cornwall-terrace, Royal Mint-street, E.C.; Spital Dog Inn, Upton; and of Mr. JOHN M. DEAN, Auctioneer and Surveyor, the Grove, Stratford, E

13, High Holborn.—The STOCK IN-TRADE of an IRONMONGER, iron hurdles, stall-posts and divisions, stable fittings, brass goods, sand and numerous effects used by the Carpenter and Builder.

MR. HOLLINGSWORTH will SELL by AUCTION, at his SALE ROOMS, as above, on MONDAY next, JUNE 22nd, at ELEVEN for TWELVE, a large assortment of Black and General IRONMONGERY, stoves, ranges, gutter pipes, hanging, mantle and slate chimney-pieces, 2 tons white lead and colours, common dog-grates, nails, screws, sashes, scantling, screw-jacks, lathes, &c. &c.—Catalogues on SATURDAY.

Extensive Sale of Capital Timber, 10,000 Tiles, Garden Lights, Stone Paving, Slates, and Coping.

MR. FREDERICK INDERMAUR will SELL by AUCTION, on THURSDAY, at ONE, on the PREMISES, opposite the Royal Oak, Water-lane, Brixton, Surrey; comprising large fir poles, rafters, plates, and quartering, 4,000 feet of plank, match, and lining boards, 1,000 feet of flooring boards, ancient oak panelling and partitions, panel doors, sashes and frames, dresser and shelves and other articles.—May be viewed; and catalogues obtained at the Auctioneer's Office, 130, Union-street, Borough.

GREAT WESTERN RAILWAY.—Clearance Sale of Property in the Goods and Passenger Department.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Great Western Railway Company, to SELL by AUCTION, at the GOODS STATION, Paddington, on MONDAY and TUESDAY, JUNE 22nd and 23rd, at TEN for ELEVEN, a large quantity of Miscellaneous PROPERTY, comprising a 20-horse power steam-engine, 50 tons of new iron of various descriptions, tile-making machine, washing and mangling machine, 1 cwt. lead, block tin, copper and brasses, 80 pieces of cement, dry white ash tree planks, tobacco, mice, leather, several cases of artificial flowers, linen and woollen rugs, wine, brandy, &c; also the undermentioned property in the Passenger Department, comprising the usual assortment of wearing apparel, umbrellas, bags, railway wrappers, and numerous other effects.—May be viewed with Catalogues only, which may be had on application at the OFFICES, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, and 89, Fore street, City.

WOOD STREET, CITY.—Building Materials of Four Large Houses

PULLEN, HORNE, & EVERSFIELD are instructed to SELL on the PREMISES, on FRIDAY, JUNE 26, at TWELVE o'clock, all the VALUABLE BUILDING MATERIALS and FIXTURES of the Six as Warehouses and Premises Nos 101, 102, 103, and 104, Wood street, chiefly comprising sound brickwork, about rafters, joists, and other useful timber, slates, plain tiles, sashes, doors, partitions, wainscoting, flooring, and a set of cast-iron fittings. May be viewed the day previous, and Catalogues had of PULLEN, HORNE, & EVERSFIELD, 89, Fore street, E C and 40 Parliament street, S W.

No 19, MILLBANK STREET To SCULPTORS, MASONS, BUILDERS, AND OTHERS

PULLEN, HORNE, & EVERSFIELD are instructed by Mr J Uhny, Agent for Count Luzzon & Son, to SELL by AUCTION at the MARBLE WHARF, 19, Millbank street, Westminster, on TUESDAY, JUNE 30th, at ELEVEN for TWELVE o'clock, a large assortment of MARBLE, in Blocks and Slabs, consisting of statuary, vein, sicilian, Sienna, and other varieties; also several thousand feet of slabs, in 3-inch forms, &c. Approved bills at four and six months.—May be viewed two days prior, and Catalogues had at the Place of Sale; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, and 89, Fore street, City.

BUILDING MATERIALS.—Milk street Clearance

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on MONDAY, JUNE 29 at TWELVE, in lots, all the valuable BUILDING MATERIALS and FIXTURES of two houses and warehouses, Nos. 7 and 8, Milk street, Cheapside; comprising sound brickwork, about rafters, joists, and other useful timber, slates, plain tiles, sashes, doors, panelled partitions, wainscoting, iron rails, marble and other chimney pieces and interior fittings, cast-iron fronts, sound floor boards, lead flats gutters, cisterns and pipes, iron columns and railings, store copings and sills, stoves and various fittings.—May be viewed on Saturday previous and Catalogues had at the Architects Office, Guildhall and of PULLEN, HORNE, & EVERSFIELD, 89, Fore street E C and 40, Parliament street, S W.

WALWORTH ROAD Extensive Sale of Building Materials

PULLEN, HORNE, & EVERSFIELD are instructed by the Worshipful Company of Fishmongers to prepare for SALE by AUCTION on the PREMISES, the first week in JULY, all the valuable BUILDING MATERIALS of about 23 HOUSES, situate on the Walworth road, from the Obelisk to Prospect Place and Crown square. Further particulars in a few days, when Catalogues may be had of Mr. H. TOWSE, Fishmongers' Hall, of RICHARD SUTTER, Esq. Architect, 28, Penshurst street; and of PULLEN, HORNE, & EVERSFIELD, 89, Fore street, E.C. and 40, Parliament street, S.W.

HIGHGATE.—23 Acres of Freehold Building Land

MESSRS. WINSTANLEY have received instructions to offer for SALE by AUCTION, at the MART, on THURSDAY, JUNE 25, in lots, the remaining portion of the BROOKFIELD ESTATE, beautifully situate on the south side of Highgate Hill, and comprising about TWENTY THREE ACRES of LAND, suitable for building purposes, having extensive frontages, and commanding pictures views. The Land will be sold in lots from one to three acres, affording to purchasers an opportunity either to erect residences of smaller houses for their own occupation, and for the accommodation of parties carrying on business in the City or at the West end. The property has, at a short distance, the combined advantage of frequent railway and omnibus communication with all parts of the metropolis, and the Local Board of Health of increased facilities, is within the privileged district, and a few minutes' walk only of the Highgate Grammar School.—To be viewed, Printed particulars may, on and after the 1st of June, be had of Messrs. KING, LONGBOURNE, & LONGBOURNE, Solicitors, No. 4, South square, Gray's Inn, W.C.; of Messrs. FEW & CO. Solicitors, 2, Henrietta-street, Covent Garden, W.C.; at the Place of Sale; and of Messrs WINSTANLEY, Paternoster row, E C

FREEHOLD BUILDING LAND, close to the Norwood Junction Station, on the London, Brighton, and South Coast Railway, which upwards of 200 trains stop to and from London Bridge and Victoria daily, and only a short distance from an intended station on the Mid Kent and Addiscombe Railway, about nine miles from London

MESSRS. WINSTANLEY have received instructions to offer for SALE by AUCTION, at the MART, Bartholomew-lane, on WEDNESDAY, the 1st of JULY, in thirty lots, the valuable FREEHOLD PROPERTY known as the ELMORE PARK ESTATE, land tax redeemed and tithe free, consisting of about twenty three acres of most eligible building land, pleasantly situate between Windmill-road, Croydon, and the parish of Croydon, and the Norwood Junction Station, commanding extensive views of the surrounding picturesque scenery, and within a short distance of the Crystal Palace. The estate possesses upwards of a quarter of a mile of frontage to good roads, and presents excellent sites for the erection of villas or other residences, for which there is a growing demand, in the locality; the lots will vary in quantity from about half an acre to two and a half acres, and in the hands of building capitalists the property offers attractions of no ordinary character. To be viewed. Printed particulars, with plans, may be had, twenty-one days previous to the sale, in Croydon; of Messrs. DRUMMONDS, ROBINSON, & FIL, Solicitors; of Mr. JOHN BERNEY, surveyor; at the Greyhound Inn, the Red Lion Inn, Spurfield, and Windmill, St. James's road, Croydon common; the Jolly Sailor, South Norwood; and in London, at the Place of Sale; and of Messrs. WINSTANLEY, No 1, Paternoster-row, E.C.

BROMLEY, KENT.—Charming BUILDING SITES for Gentlemen's Residences.—Immediately adjoining the Shortlands Station, on the Mid Kent Railway, only ten miles from London Bridge. Unrivalled for subdivision in Villa lots, or for the erection of first-class Mansions, with several acres of land to each

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, JULY 7th, at TWELVE, in nine Lots, of from about 10 to 20 Acres each (unless sooner sold in one Lot by private contract) the greater portion of the important and very valuable FREEHOLD BUILDING ESTATE known as Shortlands comprising upwards of 120 acres, and offering one of the most agreeable sites for building to be met with near London. Among the advantages offered are—the short distance from the station, the great facility of access to all parts of the metropolis, parts of the metropolis, the pure air, the plentiful supply of water, the rich scenery of the neighbourhood, the beautifully undulating character of the land and its applicability for various styles of house, the views as well as privacy to each of the separate properties into which it is proposed to be allotted. There can be no question that the estate in one which will have very high rank in public estimation, and the demand for first class houses in the district already so great that it offers equal inducements to the one who may be desirous of entering into building operations on a large scale, as to gentlemen who may be in search of a residential estate near London. Particulars and plans, now ready, of JOHN WHICHCORD, Esq. architect, 16, Wallbrook; of ROBERT RITCHIE, Esq. Architect, 7, Beaufort buildings, strand; of Messrs. BURCHELLS, Solicitors, 5, Broad Sanctuary, Westminster; and of the Auctioneers, 30, Cheapside.

OLD BROAD STREET. Highly important Freehold Property, close to the Bank of England, Royal Exchange, Bank of England, and other public buildings, occupying an area of upwards of 1,700 square feet.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE by AUCTION, at the MART, opposite the Bank of England, on FRIDAY, 26th JUNE, at TWELVE o'clock (unless previously disposed of by Private Contract), the very valuable FREEHOLD PROPERTY, comprising the site of Nos 8 and 9, Old Broad street, with the vacant ground in the rear, and including the noble building recently erected by the Ocean Marine Insurance Company, abutting upon the Bank of London, and nearly opposite one of the entrances to the Stock Exchange. It possesses a frontage of 67 feet, extends in extreme depth about 67 feet, occupies an area of 1,700 square feet, and presents a most valuable opportunity rarely to be met with of securing a site for offices in one of the very best and most valuable situations in the city of London.—May be viewed, and particulars had of the TAILER, Tree, Southgate; at the Cock, Bowes Manor; the Angel, Edmonton; of Messrs WILDE, REES, HUMPHRYS, & WILDE, 51, Chancery lane; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

HARROW, MIDDLESEX.—Highly important and valuable Freehold Estate, close to a railway station, having a frontage to the Uxbridge road of nearly a mile, and possessing great advantages for building

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, in the month of JULY, a very valuable FREEHOLD ESTATE, known as the Dairy Farm, situate close to the Sudbury Station, on the London and North Western Railway, four miles from Harrow, and only 8 from the metropolis; consisting of a substantial farm, cottage, gardens, farm yard and buildings, and several enclosures of principally fine rich dairy and meadow land, in a high state of cultivation, and containing upwards of 137 acres. The property has a most important frontage of nearly a mile in extent to the road leading from London to Harrow; it is beautifully situate, and extremely valuable for building purposes, and may be subdivided into numerous plots with very considerable advantage and profit.—May be viewed, and particulars had of Messrs DAWES & SON, Ancient court, Throgmorton street, Mr ROBERT FORSTER, Land Agent, Potter's green, Edgware; Mr GEORGE LOWE, Surveyor, Bowling hall street; the King's Head, Harrow; the Mart; and of Messrs NORTON, HOGGART, & TRIST, 62, Old Broad street, Royal Exchange

IMPORTANT SALE.—To Builders, Contractors, and Others.—Boston, Lincolnshire

TO BE SOLD by AUCTION, in the month of JULY next, a valuable FREEHOLD ESTATE, situate in Witham street, in Boston aforesaid, consisting of excellent BUSINESS PREMISES, comprising a newly erected dwelling house, office, and shop, with extensive yards, timber, iron, and other sheds, stables, a large yard, and other premises. A very extensive and lucrative business has been carried on the premises for a series of years, and the same is in the occupation of Mr. Benjamin Bell, Builder, deceased, and are now of the Executors in Trust under the will.—To view the premises, and for further particulars apply to JOHN CARR HEIGHAM, of Boston aforesaid, Ironmonger, and Mr. ROBERT MARSHALL, of the same place, Chemist and Druggist; or at the Offices of Mr. FREDERICK COOKE, Solicitor, Boston.

Boston, June 15th, 1863.

BARKING ROAD. Very Eligible Building Ground, near the Thames Iron Works.

MR. JOHN WALLEN has received instructions to SELL by AUCTION, on THURSDAY, 9th of JUNE, in numerous valuable BUILDING PLOTS, having frontages to the High Barking Road, on Burbury, Woodstock, Wood mason and Crawford Streets, and on the intended new street to lead from the High Barking Road to Hallsville, nearly to the Canons Iron Works. The activity prevailing in the great establishments in this vicinity, the erection of additional works, the improvement of the Docks, and the increase of the Commerce, combined with the large amount of the Labour to be brought forward, render this an unusually favourable opportunity for profitable and secure investment.—Descriptive Particulars and Plans at the Place of Sale; of Messrs GELLATLY & SON, Solicitors, St. Michael's-alley, Cornhill; and of Mr. JOHN WALLEN, 68, Old Broad-street, E.C. and Romford.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, BROMPTON, S.W.

Notice of PRIVATE SALE of about 200 MARBLE CHIMNEY-PIECES, to be sold at very reduced prices (to save the expense of removal to the Brompton Premises), including the following Marbles, viz.—Statuary, Sienna, Royal, and Sicilian, Black, Spanish, Brocatella, Genoa Green, Irish Green, Blue Belge, Emperor's Red, Irish Fossil, Campanella Mélange, Vein, Siennas, and various rich and valuable Foreign and British Marbles, varying in price from 1l. 10s. to 50l.; and for elegance of design, workmanship, and quality, not to be surpassed in England. Purchased for cash at 2s. and 2s. 6d. approved bills of three and four months will be taken, less 2½ per cent. cash. Purchasers from the country will be supplied with packing cases, and the same packed and delivered to any of the metropolitan stations for 1 per cent. on the amount purchased.

IMPORTANT FREEHOLD PROPERTY in Wray Park, Reigate, comprising Six Residences, with gardens and pleasure-grounds, and several Plots of Building Ground.

MR. JOHN LEES has received instructions from the Proprietor to SELL by AUCTION, at the MART, opposite the Bank of England, on TUESDAY, 23rd JUNE, at TWELVE, in one or more lots, a very compact and valuable FREEHOLD PROPERTY, bounded by Wray Park road, Brighton-road, and Raglan-road, and including six residences, occupying an elevated position, commanding extensive views, a short distance from St. Mark's Church, and the Reigate Town Railway Station on the South-Eastern Railway, a mile and a half from Redhill Junction, and only three quarters of an hour's ride from London. The houses are planned with regard to the requirements of a family, and are known as Meadow Croft, Helena Lodge, and Temple Court, having stabling, and Herald in Villa, and two other residences without stable accommodation, the whole having extensive gardens and pleasure grounds. The remaining lots of building ground possess a frontage to the Wray Park road, Brighton road, and Raglan-road, and are admirably adapted for the erection of good residences, the whole occupying an area of about nine acres, and being of the value of upwards of 90l. per annum.—Particulars may be obtained of Messrs PEIER BROAD, PRICHARD, & WILTSHIRE, Estate Agents, &c. No. 28, Poultry, London; of Messrs. WILSON & SON, Solicitors, No 15, Bedford-street, Strand, London, and Hanmer-smith, at the Auction Mart, and of Mr. JOHN LEES, Estate Agent and Auctioneer, Reigate, Surrey.

[*For remainder of Auctions see* p. 451.

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The Builder.

Architect, Engineer, Operatives & Artist.

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ROYAL ACADEMY of ARTS.—The Exhibition of the Royal Academy is open: in the day, from Eight till Seven; admission, one shilling; catalogue, one shilling. In the evening, from Half-past Seven till Half-past Ten; admission, sixpence; Catalogue, sixpence.
JOHN PRESCOTT KNIGHT, R.A. Secretary.

INSTITUTE of PAINTERS in WATER COLOURS, founded 1831, as the NEW SOCIETY of PAINTERS in WATER COLOURS.—The ANNUAL EXHIBITION is NOW OPEN. Admission, 1s.—Gallery, 53, Pall Mall, opposite Marlborough House.
JAMES FAHEY, Secretary.

ROYAL INSTITUTE of BRITISH ARCHITECTS, No. 9, Conduit-street, Hanover-square, W.
VOLUNTARY ARCHITECTURAL EXAMINATION.
The next Examination will be held on MONDAY, 26th JANUARY, 1864, and the following days of the week.
Candidates are required to deliver their Applications and Recommendations on or before SATURDAY, 12th DECEMBER, 1863.
The fees will be as follows:—
Class of Proficiency ..... Two guineas.
Class of Distinction ..... An extra fee of One guinea.
These Examinations are intended to be held annually, at the end of the month of January, and are open to all British subjects, under certain regulations, copies of which, together with forms of examination, list of books recommended, copy of questions used in the last Examination, &c. may be obtained, price one shilling each, at the Institute, 9, Conduit street, Hanover-square, W.
The necessary forms to be filled up can be obtained of the Honorary Secretaries, after the commencement of the session, in November next.
(Signed) JOHN P. SEDDON,
CHAS FORSTER HAYWARD, } Secretaries.

ARCHITECTURAL ALLIANCE.—The ANNUAL MEETING of DELEGATES from the Allied Societies will be held in the Architectural Rooms, 9, Conduit street, Hanover-square, on WEDNESDAY, JULY 1st, at 12 noon.
The Annual Dinner will afterwards be held at Rougnet's, Castle-street, Leicester square, at SIX o'clock.
Tickets, including wine, 10s 6d. each.
Members of any of the Allied societies may obtain orders for admission to the meeting or dinner from their delegates; other members of the profession by applying to me
J. P. PRITCHETT, Hon. Sec. *pro tem.*
Darlington, June 23rd, 1863.

WILL CLOSE JUNE 30th.
ARCHITECTURAL EXHIBITION, 9, Conduit street, Regent-street, W. NOW OPEN daily, from 10 till 6. Admission, One Shilling. Season Tickets, Half-a-crown, admit at all times.
JAMES FERGUSSON, F.R.A.S. }
JAMES EDMESTON, F.I.B.A. } Hon. Secs.
Also, in conjunction with the above, the Exhibition of the Society of Sculptors of England.
MORTON EDWARDS, Hon. Sec.

COMPETITIONS.

TO ARCHITECTS.—It is intended to erect a GRANITE OBELISK on a public thoroughfare, about 80 feet by 160 feet—"The Pasha," at Totnes, in memory of the late Mr. W. J. Willis, who perished whilst exploring the interior of the great Australian Continent. Designs and specifications for the said purpose may be sent to the undersigned on or before the 9th of JULY, 1863. The cost of the erection of the said obelisk not to exceed £50. £5 5s. will be given for the design adopted.—Further information may be obtained of J. RICES, Hon. Sec. to the Memorial Committee.
Totnes, June 24, 1863.

LIVERPOOL EXCHANGE COMPANY (LIMITED).—The UNSUCCESSFUL CANDIDATES can have their PLANS RETURNED immediately, on communicating with the undersigned, 10, Water-street, Liverpool.
A. T. SQUAREY, Secretary.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of an INFANT SCHOOL and SCHOOL-MISTRESS'S QUARTERS, at Hounslow Barracks, in the county of Middlesex.
Persons desiring to Tender for these works must leave their names at this Office, between the 10th and 15th of JULY, 1863 (during the hours of ELEVEN am and THREE pm) both days inclusive, and pay the sum of half a guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, London District, 11, James-street, Buckingham Gate, S.W. June 24, 1863.

WAR DEPARTMENT CONTRACT.—NOTICE TO BUILDERS.
TENDERS are required for the ERECTION of QUARTERS for the Families of Married Soldiers, at Netley Hospital, in the County of Hants.
Parties desiring to Tender for these works are required to attend at this Office on TUESDAY, the 30th day of JUNE, 1863, at TWELVE o'clock, to appoint a Surveyor to take out the quantities in conjunction with the Government surveyor. Each party will be required to pay the sum of one guinea for the quantities.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Netley, 6th June, 1863

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of QUARTERS and STABLES for MILITARY TRAIN, at Netley Hospital, in the County of Hants.
Parties desiring to Tender for the execution of these Works must leave their names at this Office, on or before the 30th day of JUNE, 1863, and pay the sum of Ten Shillings and Sixpence for the bills of quantities, which will be forwarded to each party, as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Netley, 6th June, 1863.

TO BUILDERS.—Persons desirous of TENDERING for the RE-SEATING of the newly-built CHAPEL at East Leake, in the county of Nottingham, may inspect the plans and specification, and see the pattern seat, at the Chapel, East Leake, on and after MONDAY, the 22nd day of JUNE next. Sealed Tenders, endorsed "Tenders for Re-seating Chapel, East Leake," to be sent to C. ANGRAVE, Esq. East Leake, near Nottingham, on or before TUESDAY, JUNE 30, 1863. The lowest or any Tender will not necessarily be accepted.

WEST HAM LOCAL BOARD of HEALTH.—The Local Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS for LAYING GRANITE CURB, and also for supplying such Road Metal and Labour as may be required in making and repairing the streets called Eagle-street, Arthur street, Poplar street, Emily street, Ivy street, Nelson-street, Francis street, and Lilliput road, all in Hallsville, within the said district, according to plans, sections, specifications, and conditions prepared by Mr. MARSHALL, the Surveyor of the Board, and which may be seen at his Office, at Rokeby House, Stratford, where also forms of Tender may be obtained, together with any further information required. Tenders, endorsed, "Tender for Curb," are to be sent to me on or before MONDAY, the 29th day of JUNE instant.—By order of the Board,
CHARLES WILSON, Clerk.
Rokeby House, Stratford, E. June 18, 1863.

WEST HAM LOCAL BOARD of HEALTH.—The Local Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS for the CONSTRUCTION of a SEWER and ROAD, to be called Shirley-street, Hallsville, being within the district of the said Board, according to plans, sections, specifications, and conditions prepared by Mr. MARSHALL, the Surveyor of the Board, and which may be seen at his Office, Rokeby House, Stratford, where also forms of Tender may be obtained, together with any further information required. Tenders, endorsed, "Tender for Sewer and Road," are to be sent to me on or before MONDAY, the 29th day of JUNE instant.—By order of the Board,
CHAS. WILSON, Clerk.
Rokeby House, Stratford, E. June 18th, 1863.

LANCASHIRE and YORKSHIRE RAILWAY. The Directors are prepared to receive TENDERS for the CONSTRUCTION of a RAILWAY from the New Bailey-street Station, Salford, to the Victoria Station, Manchester. Plans may be seen, and specifications and forms of Tender obtained, at the Engineer's Office, Hunt's Bank, Manchester, on and after MONDAY, the 22nd JUNE instant. Tenders, properly endorsed and addressed to the Directors, must be in the hands of the undersigned not later than TWELVE o'clock on MONDAY, the 6th JULY prox no.
WILLIAM S. LAWN, Secretary.
Manchester, 15th June, 1863.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a CHAPEL, SCHOOL-ROOMS, &c at Redruth, in the county of Cornwall may inspect plans and specifications at the Offices of THOMAS SIMPSON, Architect, Nottingham, on and after FRIDAY, the 19th, until FRIDAY, the 26th day of JUNE; and at the Vestry of the United Methodist Free Church, Redruth, on MONDAY, the 29th day of JUNE, until SATURDAY, the 11th day of JULY. Sealed Tenders to be delivered at the Offices of Mr THOMAS ROSKROW, Bookseller, Redruth, not later than the 15th day of JULY, endorsed, "Tender for Chapel." The lowest or any Tender not necessarily accepted.

CONTRACTS.

TO CONTRACTORS, ROADMAKERS, and OTHERS.—TRANMERE IMPROVEMENT ACT, 1862.—The Local Board for the District of Tranmere, as authorised by the above Act, require TENDERS for the construction of a MAIN SEWER in the Valley leading from Whetstone Lane southwardly, with the requisite Junctions, Branches, Manholes, Gullies, and Ventilating Shafts, and for the MAKING of a ROAD over the same, being a length of about 350 yards. Plans, sections, and specifications, &c, may be seen on application to Mr. W. A. RICHARDSON, C.E. Surveyor to the Local Board, at his Office, Holt hill, Tranmere, on and after MONDAY, 22nd JUNE next, and copies of the specifications and form of Tender may be obtained on payment of 1l. Sealed Tenders, made on the printed forms only, to be addressed to me, and left at my Office not later than THURSDAY, 23rd JULY next. Contracts and bonds will be prepared by the Law clerk to the Local Board at the expense of the contractors. Security will be required for the due performance of the work. The Local Board do not bind themselves to accept the lowest or any Tender.—By order,
GEORGE LLOYD, Law clerk to the Local Board.
Public office, Holt hill, Tranmere, 20th May, 1863.

TO BUILDERS. — Persons desirous of CONTRACTING for the ERECTION of TEN HOUSES at Newington, near Sittingbourne, Kent, may see plans and specifications on application to Mr F. T. COLWELL, Architect, 9, Princes-terrace, Prince of Wales's road, Haverstock-hill, on and after WEDNESDAY, JULY 1st. Tenders to be sent in not later than FIVE o'clock JULY 8th, sealed, and indorsed "Tender for Pemberton-terrace, Newington, Kent."

TO PAVIORS and OTHERS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said city on TUESDAY, the 30th of JUNE, 1863, at HALF-past TWELVE o'clock precisely, to receive TENDERS for RELAYING the CARRIAGEWAY PAVEMENT on the south, the east, and west sides of St. Paul's Churchyard, agreeably to a specification which may be seen at this Office. Persons tendering are required to give the names and addresses of at least two substantial householders as their sureties to enter into bond with the contractor for the due performance of the contract. The Commissioners do not pledge themselves to accept the lowest Tender, or any, unless deemed satisfactory, and no Tender will be received after TWELVE o'clock on the day of treaty.
JOSEPH DAW, Principal Clerk.
Sewers Office, Guildhall, June 16, 1863.

TO CONTRACTORS.—TO BE LET, the several Works required in the ERECTION of four pairs of Semi-detached VILLAS, at Mount Boyd, Manningham, Bradford.—The plans and specifications may be seen, and the bills of quantity obtained at our Offices, in Bradford, from THURSDAY, the 25th, until SATURDAY, the 4th JULY, 1863, and on which last mentioned day Tenders must be delivered to us before TWELVE o'clock at noon. The lowest Tender will not necessarily be accepted.
LOCKWOOD & MAWSON, Architects.
43, Kirkgate, Bradford; 10, Lincoln's-inn-fields, London.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY COMPANY.—TO CONTRACTORS.—LONDON BRIDGE TERMINUS ENLARGEMENT.—CONTRACT No 1.—The Directors of the London, Brighton, and South Coast Railway Company are ready to receive TENDERS for the CONSTRUCTION of a NEW STREET and SEWER, about 340 yards in length, in the Parishes of St. Thomas and St. Olave's, Southwark, and County of Surrey.—Plans and specifications of the proposed Works may be seen at the office of Mr. FRED. D. BANISTER, Resident Engineer, London Bridge Terminus, on and after MONDAY, the 29th inst. and sealed Tenders in the prescribed form only, endorsed "Tender for New Street," must be delivered to the undersigned not later than Two o'clock in the forenoon of MONDAY, the 13th of JULY next. The Directors will not be bound to accept the lowest or any Tender.
FREDERICK SLIGHT, Secretary.
London Bridge Terminus.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY COMPANY.—TO CONTRACTORS.—LONDON BRIDGE TERMINUS ENLARGEMENT.—CONTRACT No 2.—The Directors of the London, Brighton, and South Coast Railway Company are ready to receive TENDERS for the EXECUTION of the necessary WORKS required in ARCH OVER the SPACE situate between the existing London Bridge Terminus and a New Street to be formed in the Borough of Southwark and Parish of Saint Olave, for the Enlargement of the said Terminus, and comprises an area of about 17,700 superficial square yards.—Plans, drawings, and specifications of the proposed Works may be seen, and all necessary information obtained at the Office of Mr. FRED. D. BANISTER, Resident Engineer, London Bridge Terminus, on and after MONDAY, the 29th inst. and sealed Tenders in the prescribed form only, endorsed "Tender for Arching" must be delivered to the undersigned not later than Two o'clock in the forenoon of MONDAY, the 13th of JULY next. The Directors will not be bound to accept the lowest or any Tender.
FREDERICK SLIGHT, Secretary.
London Bridge Terminus.

BIDEFORD BRIDGE.—To BUILDERS and MASONS.—TENDERS for the REPAIR and PARTIAL EXTENSION of some of the PIERS of Bideford Bridge, will be received by the Bridge Committee at the Stannary Court, on or before the 8th day of JULY next. The specification and description of the work may be seen at the Office of the Bridge Steward, on and after the 24th instant. The Committee do not pledge themselves to accept the lowest or any Tender.
CHARLES HOLE, Bridge Steward.
Bideford, 20th June, 1863.

REIGATE GAS COMPANY. TENDERS are required for the ERECTION of a NEW GAS TANK, at the Works of this Company at Reigate. A plan and specification may be seen, and the terms known, on application at my Office, at Reigate. It is desired that the Tenders may be sent in not later than the 7th day of JULY next. The Directors do not bind themselves to accept the lowest or any Tender.
WM. THORNTON, Old Bank, Reigate.

For remainder of Contracts see next Page.

CONTRACTS.

AYSGARTH PARISH CHURCH, Wensleydale, Yorkshire.—To BUILDERS and OTHERS.—Plans, drawings, and specifications for the RESTORATION and partial RE-BUILDING of the above may be inspected at the Vestry of the said Church, from MONDAY, the 29th inst. to SATURDAY, the 11th of JULY. Quantities will be furnished by post to such parties as have applied for them. Sealed Tenders, endorsed "Tenders for the Restoration of Aysgarth Church," to be forwarded to J. GREEN, Architect, Perlethorpe, near Tadcaster, on or before the 14th of JULY next. The Committee do not pledge themselves to accept the lowest or any Tender.

TO CONTRACTORS.—To SLATE QUARRYMEN.—TENDERS are WANTED for the MAKING of ROOFING SLATES from two quarries situate at Honister, near Buttermere, Cockermouth, Cumberland, and within 400 yards of each other. One of those Quarries is wrought by the usual practice, the other by ladders and naked candle lights. Also, the REMOVING of 2,000 cubic yards of OLD QUARRY RUBBISH, at Easedale Quarry, situate at one mile distant from the others. Contractors to have the use of waggons and rails for removing and working the same.—Apply to SAMUEL WRIGHT, Slate Merchant, Cockermouth, who will treat for the same. The proprietor does not pledge himself to accept the lowest or any Tender.

Cockermouth, 6th June, 1863.

TENDERS are required for the ERECTION of TWO VILLAS and STABLING, to be built at Muswell-hill. The drawings may be seen on application to the Architect, H. BLACKWELL, E., 36, Chancery-lane, W.C.

NORTH MIDDLESEX GAS WORKS.—TENDERS are invited for the BUILDINGS and EXCAVATORS WORK for the above WORKS about to be ERECTED at HENDON. Plans and bills of quantities may be seen at the Office of the Contractors, R. LAIDLAW & SON, 8, Bankside, Southwark, S.E. to whom Tenders must be delivered on or before THURSDAY next, 2nd JULY, 1863.

TO BUILDERS.—WANTED, ERECTED, TWO SMALL DETACHED VILLAS (north London).—Apply by letter to H. B. care of Mr. Spalding, 2, Albion-place, Barnsbury, N.

DRY LIME PURIFIERS.—The Oxford Gaslight and Coke Company are desirous of receiving TENDERS for the SUPPLY and ERECTION of TWO DRY LIME PURIFIERS, ten feet square, and four feet deep. Drawings and specification may now be seen at the Company's Works. The Tenders to be sent in on or before FRIDAY, 3rd JULY next, addressed to the Chairman of Directors, marked "Tenders for Purifiers." The Directors do not bind themselves to accept the lowest or any Tender.—By order of the Committee, CHARLES HENWOOD, Engineer.

THE RYE PATENT SLIP and DOCK COMPANY (limited).—The Directors are desirous of receiving TENDERS for a SLIP of 300 feet long in its ways, with a Cradle, 100 feet long. Drawings have been prepared in detail, and can be seen on application to the Company's Engineer, Mr. R. C. MAY, 3, Great George-street, Westminster; or to Mr. HENRY STOCKS, Market-street, Rye. The Tenders to be sent in to Mr HENRY STOCKS, at the above place, on or before the 6th day of JULY next, at NOON. The Directors reserve to themselves the power to reject the lowest or any Tender.

Rye, 20th June, 1863.

TENDERS are required for the ERECTION of Three DWELLING HOUSES and Two Shops, at Battersea.—Builders willing to TENDER can see the plans and specifications at the Office of W. WALLEN, Esq. Architect, Dowgate-hill Chambers, E.C. on and after THURSDAY, 2nd JULY next. Tenders to be delivered on THURSDAY, 16th JULY, endorsed "Tender for Houses and Shops, Battersea Rise." The lowest or any Tender will not necessarily be accepted

TO BUILDERS, - SUSSEX. — GREAT BENTLEY FARM.—Builders desirous of sending in TENDERS, for the ERECTION of a new HOMESTEAD at Great Bentley, about two miles from Hayward's Heath Station, on the London and Brighton Railway, on the property of W. H. Sergison, Esq. can see the drawings and specifications on application to Mr. DENDY, on the Farm, at Great Bentley, on and after the 27th inst. Tenders to be sent in, under cover, to Messrs. CLUTTON, 9, Whitehall place, Westminster, S.W. on or before MONDAY, the 13th day of JULY. Messrs. CLUTTON do not bind themselves to accept the lowest or any Tender

UNITED KINGDOM ELECTRIC TELEGRAPH COMPANY (LIMITED).—The above Company is prepared to receive TENDERS from responsible parties for the ERECTION of a LINE or LINES of ELECTRIC TELEGRAPH between the following places:—Leeds and Newcastle-on-Tyne, Newcastle-on-Tyne and Edinburgh, Edinburgh and Glasgow, and for certain branches in connexion with the above Lines. Such Tenders to be forwarded to the Company's Office, by TUESDAY, the 7th day of JULY next, and to be marked "Tenders for the Erection of Lines." Tenders may include the whole of the above Works, or a portion or portions of the same. The Directors do not bind themselves to accept the lowest or any Tender. Full particulars, and a copy of the specification, may be obtained after MONDAY next, the 29th instant, by parties desirous of Tendering, on application at the Company's Office, No 237, Gresham House, Old Broad Street, London, E.C. where specimens of the arms and insulators to be employed may be inspected.—By order, W. ANDREWS, Secretary.

June, 1863.

TO BUILDERS.—TENDERS are required for the various WORKS in ERECTION of a STUFF WAREHOUSE, proposed to be built in Leeds-road, Bradford. The drawings and specifications may be seen and bills of quantities can be obtained, at my Office, from WEDNESDAY, the 24th inst. to THURSDAY, the 2nd of JULY next, on which day Tenders are to be delivered. E. MILNES, Architect, 39, Hall Ings, Bradford.

June 24, 1863.

TO GAS ENGINEERS and CONTRACTORS.—The Directors of the London Gas Company (Limited) are desirous of receiving TENDERS for the ERECTION of their WORKS. The plans and specifications may be seen, and further particulars obtained, at the Office of the Solicitors of the Company, Messrs. COPEMAN & SON, Lincoln's-inn-fields; or from the Engineer, Mr. THOMAS H. MERIVEN, the Works, Bury Saint Edmund's. Sealed Tenders to be delivered at the Solicitors' Office, at 1 o'clock, on or before 24 FRIDAY, the 31st day of JULY next, at TWELVE o'clock at Noon. The Directors do not bind themselves to accept the lowest or any Tender.

MAIDSTONE SEWERAGE.—To CONTRACTORS and OTHERS.—Persons willing to contract with the Commissioners of the Maidstone Pavements to LAYING IN about 1,900 yards of PIPE SEWERAGE in the Len Valley, and 800 yards of 3 inch PIPE into the River Medway, with cesspools, traps, gratings, and other works, are requested to deliver Tenders for the same at the office of Messrs. BEALE & HOAR, Maidstone, on or before the 14th day of JULY, 1863. Plans and a specification of the work may be seen at the office of Mr. BULMER, Maidstone, on and after WEDNESDAY, the 1st JULY. The Committee of Commissioners do not bind themselves to accept either the lowest or any other Tender, and security will be required for the proper performance of the works.—By order of the Committee, BEALE & HOAR, Clerks.

Maidstone, June 24, 1863.

TO BUILDERS and IRONFOUNDERS.—Parties desirous of TENDERING for the several WORKS required in the ERECTION of the FIRST PORTION of a COMBINO ESTABLISHMENT to be built in Thornton-road, Bradford, may see the drawings and specifications, and obtain bills of quantities, at my Offices, from WEDNESDAY, the 1st, until WEDNESDAY, the 8th of JULY next, on which day Tenders are to be delivered.

E. MILNES, Architect.

39, Hall Ings, Bradford, June 24, 1863.

TO CONTRACTORS and IRONFOUNDERS.—The Highway Committee of the Corporation of the Borough of Nottingham are prepared to receive TENDERS for the CONSTRUCTION of about 2,300 feet of Outfall SEWERAGE, for the Meadows District; also for the Supply of about 600 feet Cast-Iron Tubing, 2 feet 6 inches diameter.—Plans and specifications may be seen at my Office; and Tenders must be delivered, free of cost, on or before TUESDAY, the 7th day of JULY next, and before six o'clock p.m. of that day. The lowest or any Tender will not necessarily be accepted. M. O. TARBOTTON, Corporation Surveyor.

Public Offices, Nottingham, 24th June, 1863.

TO BUILDERS and CONTRACTORS.—PARISH of SAINT PANCRAS, in the COUNTY of MIDDLESEX.—Notice is hereby given, that a joint Committee of the Directors of the Poor and of the Vestry of the Parish of Saint Pancras will meet on MONDAY, the 13th day of JULY, at the Board-room of the Workhouse, in King's-road, Pancras-road, to receive separate TENDERS from persons willing to CONTRACT for the ERECTION of New LUNATIC WARDS, with Dormitories over, and of a DINING HALL with Dormitory over, pursuant to plans and specifications to be seen daily, on or after MONDAY next, the 29th day of JUNE, between the hours of TEN and FOUR o'clock, at the Office of Mr. WM. BOOTH SCOTT, C.E. Chief Surveyor to the Vestry, No. 10, Edward street, Hampstead road, where further particulars and forms of Tender may be obtained. The said Joint Committee hereby give notice, that neither the Directors of the Poor nor the Vestry of the said Parish of Saint Pancras will supply quantities of the several Works, or be in any way responsible for quantities which may be taken out by any person. Good security will be required for the due performance of both Contracts, and the written consent of both sureties must be forwarded with each Tender. The Joint Committee do not bind themselves to recommend the acceptance of the lowest or any Tender. Sealed Tenders to be delivered, addressed to me, at the Vestry Office (adjoining the Workhouse), King's-road, Pancras-road, by or before TWELVE o'clock at noon, on the said MONDAY, the 13th day of JULY. By order, FRANCIS PLAW,

Vestry Clerk, and Clerk to the Directors of the Poor.

Vestry Office, June, 1863.

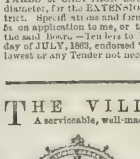
ATHERSTONE GRAMMAR SCHOOL.—TO BUILDERS.—Persons desirous of TENDERING for the BUILDING of the SCHOOL HOUSE, DOMESTORIES, and KITCHEN-OFFICES, can inspect the drawings and specifications at the Girls' School, North street, Alkerton, on and after MONDAY, JULY 6th. Sealed Tenders to be sent to the Architect on THURSDAY, JULY 16th, 1863. The Trustees do not pledge themselves to accept the lowest or any Tender, and all necessarily subject to the approval of the Charity Commissioners. RT. JENNINGS, Architect.

Atherstone, June 23rd, 1863.

MERTHYR TYDFIL LOCAL BOARD of HEALTH.—To IRONFOUNDERS.—The above Board is desirous of receiving TENDERS for the SUPPLY of about 10,000 YARDS of CAST-IRON SOCKET PIPES, from 2 inches to 8 inches diameter, for the EXTENSION of the WATER SUPPLY of their district. Specifications and forms of Tender may be had on payment of 5s. on application to me, or to Mr. SAMUEL HARPUR, Surveyor to the said Board.—Tenders to be delivered to me on or before the 13th day of JULY, 1863, endorsed "Tender for CAST-IRON PIPES." The lowest or any Tender not necessarily accepted.

J. W. RUSSELL, Clerk.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.

A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,283.

JOSEPH FAIRER,

Turret Clockmaker to Her Majesty's War Department,

188, St. George-street East, London.

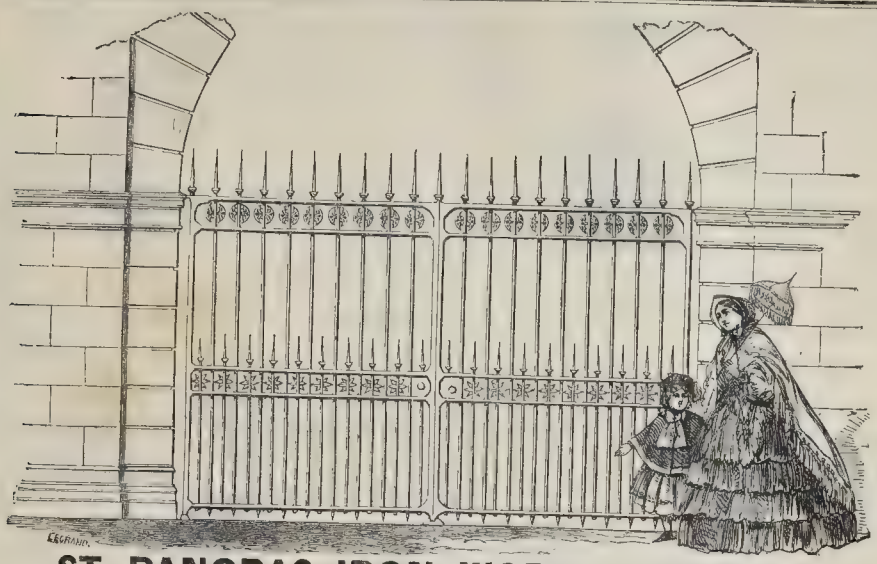
DENT, CHRONOMETER, WATCH, and CLOCK MAKER by special appointment to Her Majesty the QUEEN and H.R.H. the PRINCE of WALES, and MAKER of the GREAT CLOCK for the HOUSES of PARLIAMENT, Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks

Ladies' Gold Foreign Watches	5 to 15 guineas
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	18 "
Strong Silver Lever Watches	8 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do Silver do.	25 "
Marine Chronometers	25 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have [illegible] Testimonials from Engineers, Civil and Mechanical, [illegible] RAYMOND BARLOW, Esq., Bart. VENTNOR, ISLE of WIGHT. Sound Testimonials [illegible] Mr. Hall, Jun., Sanitary Engineer, Bath, after [illegible] Tubing for Drainage Purposes, [illegible] with perfect satisfaction, it answers perfectly. Many Builders and [illegible] have [illegible] and [illegible] [illegible] [illegible]



ST. PANCRAS IRON WORK COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

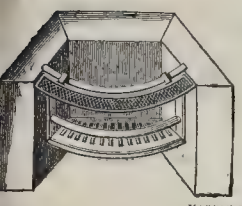
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CIRCULAR STAIRCASES.
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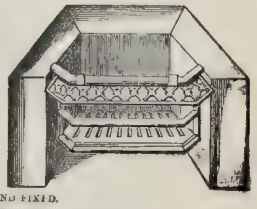


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FOR BED-ROOMS, COTTAGES, SERVANTS' OFFICES, BARRACKS, SCHOOL-ROOMS, WAREHOUSES, CHARITABLE INSTITUTIONS, &c.

			s.	d.		With hanging trivet. s.	d.
18 inches wide, 10 inch bars			7	6		8	6
21	,,	12 ,,	10	6		12	0
24	,,	15 ,,	11	0		15	0
27	,,	18 ,,	16	0		18	0
30	,,	21 ,,	20	0		—	
36	,,	24 ,,	30	0			
38	,,	27 ,,	36	0	Extra strong.		
42	,,	30 ,,	42	0			

These Stoves give a considerable heat with a small consumption of coal.



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MARBLE OR STONE FENDERS, WITH METAL FITTINGS AND TILE HEARTHS COMPLETE, SUPPLIED AND FIXED.

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MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



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RAILWAY BRIDGE BUILDER.
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TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



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ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
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They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.
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Rain Water Pipes	3-in.	6d.	4-in.	1s. per yard.
Eaves Gutter	3-in.	6d.	4-in.	6d. ,,
O G Gutter	4 in.	11d.	4½ in.	1s. ,,
Sash Weights		5s. per cwt.		

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30 inches ..... 22s.
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34 inches ..... 54s.
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Best Cut Clasp and Rose Nails.
1½-in. 1¾-in. 2-in. 2¼-in. 3-in.
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Best Sheet Cut Floor Brads, 11s. per cwt.
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Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4d. per inch.

Best ditto, with Fire-brick Back, from, per inch, 5d.

Berlin Black, with Bright Bead, 35s. each.

Cast Rain-Water Pipe,
2-in. 2½-in. 3-in.
8d. 10d. 1s. per yard.

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O G Gutters, with Clips on,
4-in. 4½-in.
11d. 1s. per yard.

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IN EVERY VARIETY OF DESIGN AND COST,

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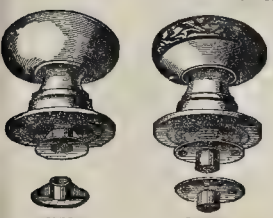
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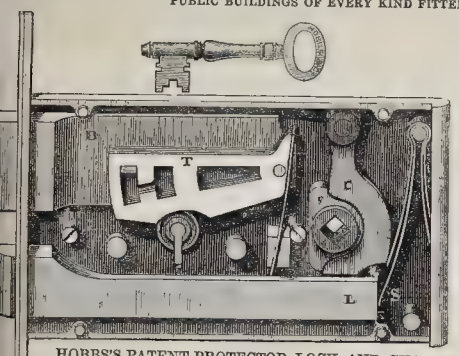
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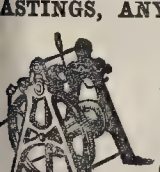
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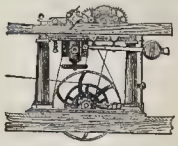
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Will stick single mouldings of any pattern and of any width not exceeding 6 inches, at rates varying from 12 to 28 feet a minute. It will also make sash-bars, mould skirting, or cut out eaves, trough-ing, &c.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

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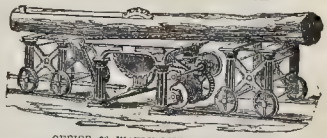
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PATENTEES,

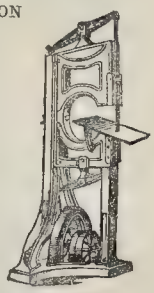
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For Cutting out Sweeps and Circles.

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CAST STEEL Piston Rods, Crank Pins, Connecting Rods, Straight and Crank Axles, Shafts, and Forgings of every description.

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CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.

This drawing represents a Range 4 feet long, 3 feet 4 inches high, and 17 in. deep.

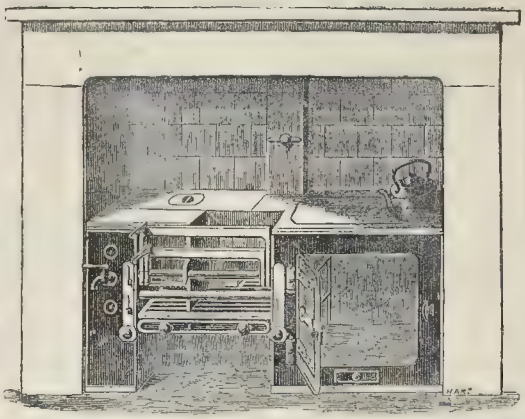
The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,



Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

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PRIZE MEDAL, 1862.

These Ranges combine the latest improvements with great simplicity and durability. They afford facility for roasting meat in front of the fire without interruption to the action of the oven, hot plate, boiler, &c. The Ovens are well ventilated, and perfect either as roasters, or for baking bread or pastry. For Efficiency, Economy, and Ventilation, an

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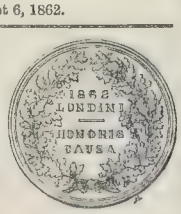
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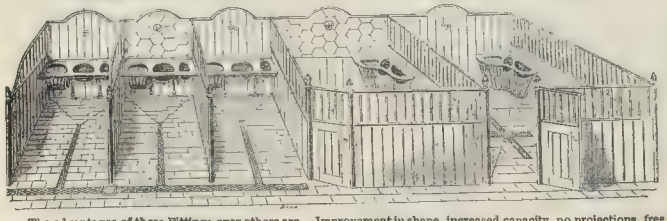
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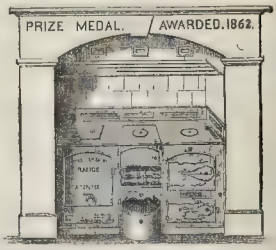
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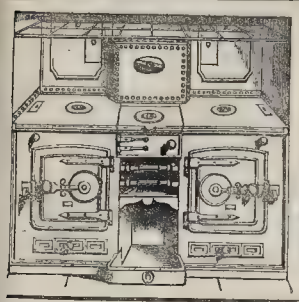
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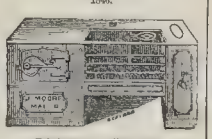
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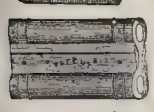
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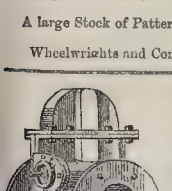
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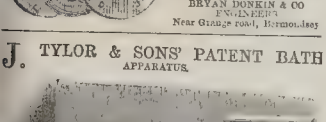
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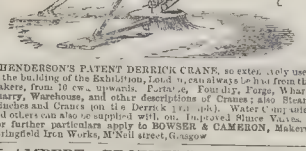
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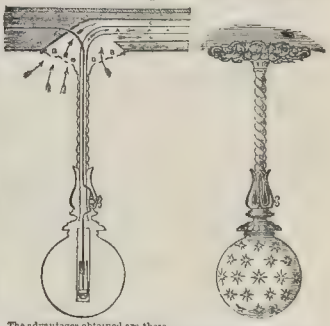
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The Builder.

VOL. XXI.—No. 1064.

The Right Use of "Models" in Architecture of our Time.



IN the assertions which, during the present state of architecture, are volunteered in place of sound criticism, there is no fallacy more persistent in showing itself, than one that concerns the use of examples. It rears its head not less venomously for having been scotched some hundred times. The public who proclaim that they "know nothing about architecture," but that they "know what pleases" them; orators in the House; writers in the newspapers; the architect's patrons, lay and clerical; and far too large a number even of those calling themselves architects, and who therefore should be *artists*; are constantly found crying for some one thing, a work or a style, to be applied by them, not so much to the proper use of examples,—that is in the way of lessons, conducing to good art, and often by showing what to avoid,—as in the way of things to be moulded from, to be followed, to be imitated,—in short, to be copied, actually, however non-confessedly or non-ostensibly. This absence of perception of our *art*, is shown by the common phraseology of persons expressing disapproval of a particular design, that the work is in "no style," or that it is "unlike anything ever seen before;" whilst it is quite clear that the work can have no merit as art, unless it be to a certain extent *unlike*. We have written too much on the danger attending an engrossing pursuit of novelty, to render possible any misconception of our meaning. Novelty is an essential element in *art*: more than this, we have little present need to say.

The sections of the public to whom we have adverted, are forgetful that *art* is not the reaching up to the excellence of particular models,—be they even the best,—not more, a combination merely, of the elements of all,—but is a combination and utilization *plus* a reaching from the "models," to the grasp of something new and beyond. Suppose that portion of the architecture of the Louvre in which the Caryatides are introduced, to be the finest composition possible for an attic, or the crowning story of a pavilion; reproduction of the composition would, we maintain, be opposed to the very principle of art, as well as unworthy of a nation. That which is once done with good result, becomes a standard of excellence: future works must go beyond this recorded standard; or they must avoid all chance of its suggesting itself in a comparison with them. Be they equal to the standard, or reproductions, or be they inferior to it, they are alike deficient in the most important quality and object of architecture, namely, art. These are truths; and to contradict the assertion of them, is to yield up the practice of architecture at once and altogether.

The *métier* of an artist, indeed, is not to explain what should be done. The purpose, or mission, of the branch of art, is the *production* of works, rather than the exposition of the manner of producing them; which explanation, moreover, is not within the scope of language. It is forgotten, as repeatedly it is,—and as repeatedly we have had to say,—that there are not terms capable of conveying the exact meaning required in speaking of, or describing, particular works, or in pointing out in detail the course which should be taken in the production of a good design. The *Times'* correspondent writing from the battle-field of Chancellorsville, more than doubts his ability to describe features of the ground,—debarred as he was from the use of a plan, which would have explained the movements of the armies immediately. Drawing holds a similar essential position, as informing medium, to architecture. We can only say, looking to some of the terms used in want of those which would be accurately descriptive, that "model" is not something of which only a cast is to be taken; and that "imitation" is not the mere production of a *fac-simile* or an adaptation. Without then for a moment considering that mere originality is *art*,—as some architects consider, judging from their designs,—we only admit, as we have said, the originality as a requisite, whilst urging a certain utilization of *models* likewise.

But it is curious to note how the greatest efforts to set these which we have called truths, before readers, are met by persistent obliquity in the vision of what constitutes art, and of what should be the course taken by such a journal as our own. Scarcely any style of architecture existent in remains of buildings, has failed to have its admirers, who have become copyists of it; and scarcely one of the succession of styles has failed to be pointed out to ourselves as deserving our exclusive illustration and advocacy. We find that an English art-journal is not the only instance of this position. French architects, it seems, there are, who can make the demand for models exclusively of a style or class, and treat lightly opportunities for gathering the lessons which are derivable from examples of every class; and in France, where more than in other countries, we believed it was *art* that was the thing appreciated, our profession seems to have yet to grasp the full idea of what the thing is, and to find out that the knowledge of examples is but subservient.

Few have written so well in either country, on the æsthetics of architecture, as M. César Daly, starting with the first volume of his *Revue Générale de l'Architecture*, three or four and twenty years ago, at a time when some of those who now may be considered as contributors to progress, had scarcely dipped pen in ink. Yet, M. Daly has not escaped a demand from a section of his readers, for something to be followed. He has deemed it necessary to reply to two objections in particular, brought against his manner of conducting his review.* These objections were not by any means undeserving attention. We have some interest in noting what they were, and the terms in which they have been replied to; and we believe similar interest should be taken by all who feel themselves concerned with the condition of architecture in this country, whether they be considered as readers of our journal or not. It seems that, as in this country, so in France, the art is deemed to be in a state of confusion; and the existence is supposed to have been discovered, of minds wanting in decision, and needing to be sustained and guided in the right path. Frenchmen who hold the views referred to, of the character and tendencies of the epoch in art, therefore, have asked the editor of the *Revue*, how it was that he could "consent to publish fragments of art taken from all periods without distinction;" and why, "being able to choose amongst so many fine models," he gave "modern works," such as now and then were "far from being irreproachable." In his reply, M. Daly first examines the main question relating to an indecision resulting from the absence of generally-accepted principles,—or, absence of faith, national or of race, in the matter of art; and then he shows what would be consequences of, and what ought to be the course opposed to, *exclusivism*. He concludes that liberty of the artist is the sole way of safety for the art, and that Liberty is begotten of Science. As to sustaining the undecided, and guiding them, he asks whether all would agree as to the path leading to the truth. Is the course, he asks, to be on the side of antiquity, or the Middle Ages, or the Renaissance? Supposing it to be said, it is to the Renaissance we should tend, is it to the Italian style of the Medici, the French of Louis XII. and Francis I., or the English of the Tudors? Should not other epochs be allowed to prefer their rights, as those of the Louis, from the thirteenth to the sixteenth of the name? And the East, with its art so luxurious, at once so sparkling and so harmonious in colour, that like barbarians we stand amazed with it; would it offer nothing for imitation? Would there not be, on the contrary, there, some path in which it might also be well to guide the undecided steps of the artist? These questions, the editor of the *Revue* intimates, go especially to those who demand of the past, æsthetics, and a style, for the present,—the eclectics being able to do no more than applaud liberalism, and innovators being bound to do as much. Of accord for the denial of all new art, the historic schools of architecture are condemned also, under pain of perishing, to deny one another; for, a classic who would make a concession to the Gothic school, for example, would cease to be a classic: he would enter at a bound, into the camp of the eclectics. Should it be from this atmosphere of intolerance and negation, that we should obtain the bright flame destined to show the path of the true, the beautiful, and the useful? M. Daly is persuaded, as we are, of the contrary; and he has "the conviction that to cause architecture to prosper in these periods of trial, the efforts of all are useful—even necessary,—that we must not repulse any worker." He would plead the cause of all the historic schools against the exclusive pretensions of each; for, all have rendered great services to art. "It is by their parallel operation," he well observes, "that studies of comparative architecture have become possible, and that we are even able to raise ourselves to the grand questions of the general physiology of architecture." Unfortunately, these good effects, he continues, have been enfeebled by the exclusive spirit appertaining to the historic schools. That spirit was inevitable until the unity of the architectural movement in its progression under diverse forms, through different ages, had become suspected; but it might now form, for the art which ought always to be progressing, a barrier difficult to be got over.

The consequences of *exclusivism* are distinguished by M. Daly, as those which are "intellectual," and those which are "moral." As to the intellectual consequences, before stating the case as affecting architecture, he refers to the knowledge of languages. He who knows only one language is the slave of that language: he who knows several languages, on the contrary, is their master. Amplifying the saying of Charles V., that he who knew only one language was but a man, whilst that he who knew three languages was worth three men,—he says:—

> "He who knows but one language, but one literature, really knows but one people, and partakes of the prejudices of it. The partial or very restrained knowledge can then become a source of errors. One would judge ill, in effect, of a physiognomy, of which one saw but the profile.
>
> Every book is a strong-box. To appropriate the contents of it, a key is necessary, that is to say the knowledge of the language in which the book is written. The more one knows of languages, the more keys one has, and the more treasures of truth one can open or draw: the better one is protected from error,—prejudices of peoples destroying themselves always, those on one side by those on the other."

Applying these truths to architecture, he says:—

> "Every system of signs, of symbols, of representations, having for its effect to express the sentiments, or to put the intelligence of men in communication, is a language. Architecture in this point of view is also a language, but a language that has undergone as many revo-

* "Nos Doctrines: Réponse à Deux Objections adressées à la Direction de la *Revue de l'Architecture*."

lutions and radical transformations as its history presents distinct styles.

The architect who has studied but one style of architecture, is like a Frenchman knowing only his maternal tongue: he is the slave of that style, which imposes itself upon him each time that he tries a composition of art.

And this tyranny is so entire, that possessed himself by a form of art of which it is impossible for him to shake off the yoke, he is able to possess in return this form of art, only by an incomplete knowledge: *he* is then possessed, but he does not possess. The same in effect as a Frenchman totally ignorant of Latin, is only imperfectly master of his national tongue, the architect who occupies himself with but a single style of architecture, can know it only very incompletely, ignorant as he is of the origin, of the first cause of existence, and of the successive transformations of a series of the forms of art that his style of predilection has received by tradition of styles anterior.

Is it not that the knowledge of the rules of grammar or of the general philosophy of languages, gives a know edge, an appreciation more perfect, of the special grammar of each tongue?

In the same manner, and *à fortiori*, can one demand if it be possible to possess thoroughly a particular style of architecture, when one has remained absolutely stranger to all the other historic styles of that art?"

It may be seen that this, with which we can thoroughly agree, would not be at all inconsistent with the advocacy of the *practice* of but one style; and on that subject we should expect to find M. Daly in accord with us.

As to the moral consequences of *exclusiviem*, M. Daly says:—

"The knowledge of a single style of art creates the exclusive love of that style. The artist with the heart the best endowed, with intelligence the richest, becomes then naturally sectary, man of party. He knows in effect, only the beauties and the merits of the style of art which he has studied; he ignores the merits and the beauties of other styles.

The knowledge of all the styles, on the contrary, renders the artist tolerant, because that he is initiated in the resources belonging to each style."

He says that studies that have the character of universality, create *enthusiasm*; whilst very restrained and special habits of mind lead to fanaticism. The patriotism of a man who has travelled, will be a nobler feeling than that of him who has never quitted home.

"Enthusiasm illumines; fanaticism renders gloomy. The first knows; the second ignores.

Enthusiasm contains affection; fanaticism carries in itself hatred. Enthusiasm is fruitful; fanaticism is sterile.

In fine, fanaticism conciliates itself with slavery: enthusiasm desires liberty."

Without falling into the extravagance of regarding every classic as a fanatic, or every eclectic as an enthusiast, our friend desires merely to show where one of the doctrines would find logically its end, and what is the career opened to the other. Fanaticism in favour of an exclusive style of the past, lately active in France, he perceives, however, has become much calmed through the obligations of modern life, and from the demand upon architects for the *rédaction* and rapid execution of numerous *projets*. Through these circumstances, architects have become penetrated with a larger and more tolerant spirit, so that to the greater part of those who still repulse the doctrine of eclecticism,—for want of comprehending that it is necessarily the doctrine of every period of transition, and of such period only,—doubt at least has supervened as to the final efficacy, that is to say the durable *renaissance*, of the style of their predilection.

The architect of our day, says M. Daly, can contemplate the promised land of art, and know which way to direct his steps, only on the condition of passing over all the steps of the pyramid that the genius of architecture has successively elevated since the commencement of the associations of men. Master of all styles, or at least initiated into the sentiments they express, the architect, if he be but an erudite and intelligent man,—a man of taste whom the ardent flame of poesy has not touched,—will reproduce the past; but he will do so by choice, and introducing the transformations which the knowledge at once of ancient and modern things, will dictate to him. But with genius, he will not rest on the isthmus of passage from the old world to the new: he will create,—going forward to the land whose existence presents itself, though it is figured not as yet upon the maps of the geography of the art. In either case, man of knowledge or creator, the architect amiliar with the history of his art will march at least in full light, and in the entire possession of his liberty; for, "Liberty is the daughter of Science, whilst Slavery is born from Ignorance." On such considerations, M. Daly justifies his editorship comprehending the review of the entire past, as facilitative of progress in the right path.

"The past forms the *detritus* which redoubles the active fecundity of the present, and prepares the rich harvests of the future. The past, moreover, contains the germ of that which is to be, as the acorn contains the oak, as the child at the mother's breast contains in strength the man enjoying the plenitude of his faculties. But it is the entirety of the past that contains this germ, and not any fragment whatsoever,—neither one sole race, nor one sole country, nor one sole epoch, nor one sole historic style."

M. Daly not merely will continue to give in the *Revue* "fragments of art taken from all epochs," but in addition to his work on the architecture of Paris in the time of Napoleon III., he announce, as about to appear, a special publication of fragments of different dates, from the commencement of the Renaissance in France, to the end of the reign of Louis XVI. He admits that he has given in the *Revue*, modern works that are not irreproachable, but defends the course, seeing that he is conducting a work which is a review of contemporary architecture. He asks whether the publication of admirable works alone, and the registration of the architectural movement, are always reconcilable.

It is interesting to note the account of the changes that have supervened in France, since 1839, when the *Revue de l'Architecture* was established. At first the old Classic school dominated with the tyranny of confident ignorance. The few *ateliers* where something new was sought, even though in the unworked veins of antiquity itself, were reputed to be dangerous and detestable disseminators of revolution. The Mediæval school next flamed in the architectural sky; and it also, in its turn, tried, for a moment, to play the little despot. But at this hour, no school predominates in France over the others; no one of the constellations of architecture shines with an exceptional splendour; and in spite of some isolated stars, and individual masters, there is equality in the different groups, which will soon form, under the influence of eclecticism, merely a general nebulosity, but one from which sooner or later a new sun will disengage itself,—the resplendent sun of future art.

There is much in these views and statements, that should be interesting to those who watch the growth of architecture, the art, on this side the Channel. The reasoning that we have tried to condense is in harmony with our own; and readers of the *Builder*, without assuming there is nothing to be said on our own part, especially in emphasis of our long-since-proffered arguments in favour of practice of some one nominal style, whilst of the study of all styles in their individuality, as in their influences derived and exerted,—in short, in favour of a certain unity, helping to the public appreciation of architecture, and perception of the *art* in it, but in favour of a gathering, by architects, from every ground,—would not be much mistaken in reading the words of M. Daly as those we might use, were our own course of proceeding the matter in debate.

JOHN GWYNN, R.A., ARCHITECT.

A BIOGRAPHICAL SKETCH.

WHEN about to prepare, for the "Dictionary of Architecture," the necessary account of the professional works of this architect, I failed to find more than a very brief notice of some bridges attributed to him. After many inquiries I was directed to what appears to be the only available memoir of Gwynn. This is given in the "Biographical Illustrations of Worcestershire," by John Chambers, 8vo., Worcester, 1820, pp. 504-6. As this account of him is all but unknown, and as the works, attributed to Gwynn, are also but little known to biographers in general, I have incorporated the material obtained in my own researches, and the information most kindly obtained by many friends residing in the localities of the several works, with the above account, in the endeavour to produce some better memorial of this architect. Even in the "History of the Royal Academy," published last year by William Sandby, a very meagre memoir is given not only of Gwynn, but of the other architect Academicians; though he might have availed himself of the earlier volumes of the *Builder* for much valuable material; and might even have had a glance at a few of the names already given in the "Dictionary" above mentioned.

I have entirely failed, for reasons hereafter explained, in obtaining the year of Gwynn's birth, and any account of his early life. Shrewsbury is stated as the place of his birth, on the copperplate set in the first stone of the "new bridge" in that town. A local antiquary notifies to me that, "after much inquiry, I could never ascertain the time of his birth: the parish registers here have been searched, but hitherto without success." In the course of the perusal of several works for the purpose of this memoir, I noted that Dr. Adams, afterwards Master of Pembroke College, at Oxford, was an old friend of Dr. Johnson's, and had been rector of St. Chad's, Shrewsbury. Is it not likely that the parish of St. Chad's was Gwynn's birthplace, and that Dr. Adam's acquaintance with him led to his introduction and employment at Oxford, as will be shown hereafter? This is the more probable as a Samuel Gwynn, who died in 1790, aged sixty-three, is with his wife and three children, buried in St. Chad's churchyard. But there is no proof of any connexion with them,—and another family of the same name was living in Shrewsbury at the same period, whose descendants do not claim relationship with John Gwynn. The Rev. Hugh Owen, the author of the "History of Shrewsbury," 4to., 1810, who supplied the memoir to Chambers's work, writes, "I very well remember Gwynn when I was a boy . . . and I have often heard him call himself a native of Shrewsbury, which place I believe he left in early childhood." Boswell, in his "Life of Dr. Johnson," is quoted by Owen for the statement that Gwynn "was of a respectable family long settled in Shrewsbury, and which is not extinct there yet. Who his father was I know not."

The earliest notice of his name I have discovered is attached to his first publication, an "Essay upon Harmony as it relates chiefly to Situation and Building," 8vo., London, 1734; and if my notes are correct, another edition appeared in 1739. A copy of this work has not come under my notice. The next mention of it is also in regard of the publication of "An Essay on Design, including Proposals for Erecting a Public Academy to be supported by Voluntary Subscription (till a Royal Foundation can be obtained) for Educating the British Youth in Drawing and the several Arts depending thereon," 12mo., 1749, price 1s. 6d. In this year he also published a small plan, being a reduced copy of that by Sir C. Wren, for rebuilding the City of London after the fire of 1666, as mentioned in his subsequent work, "London and Westminster," &c. This plan I have not seen: it is sometimes said to have been attached to the "Essay on Design," &c.; but it is not to be found in the copy of that work in the libraries of the Royal Academy and of the South Kensington Museum. In 1752, he published a third work, "Qualifications of a Surveyor," 8vo.; not seen by me; and in 1755, he published, in conjunction with Samuel Wale, the engraver, afterwards a brother Academician, the well-known large engraving of the Transverse "Section of St. Paul's Cathedral decorated according to the original intention of Sir C. Wren:" this was engraved by E. Rooker; the decoration and sculpture being attributed to Wale,—who, Owen says, was a designer of book-plates; died in 1786; and who was often assisted by Gwynn in the architectural parts of his backgrounds,—Gwynn at one time residing in the same house with him. Sandby adds, that Wale "was of service to him in the literary part of his publications." Besides being an Academician, Wale was the first Professor of Perspective in that establishment. This plate is so well known to the profession, and forms so good a decoration over the chimneypiece of the Council Room of the Royal Institute of British Architects, that it will require no further notice, with the exception that the statement on the plate is corroborated by a reference in Gwynn's last work (p. 118), who notes his acquaintance with Stephen Wren, from whom he probably obtained the memoranda of Sir C. Wren's original ideas for decorating the interior of the Cathedral. Owen says, "This section was drawn, I believe, from actual measurement: its companion print, an elevation of St. Paul's, was begun to be engraved by Lowry, who never completed

it." In this year (1755) Gwynn was associated with Isaac Ware, James Payne, Thomas Sandby, and others, as a committee for carrying into effect the proposed "Royal Academy of London for the Improvement of Painting, Sculpture, and Architecture."

At this time Gwynn must have been rising into notice as something more than a mere writer and publisher of a print: Owen says, "He was never largely employed as an architect, though he possessed unquestionable talents and considerable taste." The first portion of this remark will perhaps be considered erroneous when the reader comes to the conclusion of this account, as the following remarks would rather tend to prove a large occupation. Soon after 1755 Sir William, then only Mr., Chambers, was introduced to the Prince of Wales, afterwards George III.: the introduction "originated in an accidental occurrence. Mr. Joshua Kirby, having been appointed by Lord Bute to instruct his Royal Highness in the principles of perspective, his lordship intimated to Kirby that a preceptor was required to instruct his Royal Highness in architecture. Kirby immediately consulted his friend Gwynn, a very eminent and ingenious architect, who erected several public buildings in and about London. [If he did, they are not known.—W. P.] Kirby solicited Gwynn to undertake the proposed honour; but Gwynn, with great modesty, declined the proposal, observing to Kirby, in his usual unassuming manner, 'that he (Gwynn) had never been solicited to attend at court; but if allowed to offer an opinion for selecting a proper person, qualified to give the Prince instruction in architecture, he would recommend Kirby to apply to Mr. Chambers, who had lately returned from Italy, and had acquired great taste and knowledge; which, combined with his accomplished manners, rendered him the most eligible person to be selected for the purpose.' On this recommendation of Gwynn's, Mr. Chambers was shortly afterwards introduced to Lord Bute; and from this, his early patronage at Court, with the assistance of influential friends, he commenced his career as an architect of the first eminence."—Mulvany, "Life of Gandon," 8vo., Dublin, 1846, p. 162.

The year 1759 brings forward the first actual professional work by Gwynn. The City of London advertised for designs for a new bridge over the river Thames at Blackfriars. The advertisement appeared in August:—

"The committee for building a bridge from Blackfriars . . . will meet at Guildhall on Thursday, the 4th day of October . . . to receive all such plans, elevations, and estimates for a stone bridge, as any person or persons shall then think fit to offer for their consideration."

On November 1st (about ten weeks being allowed) upwards of fifty plans and models were submitted to the committee. A notice (valuable for its detail) in the following year, January 12—15, shows that the

"Designs . . . reduced to eleven, are those that have been presented by the following gentlemen:—
Mr. Chambers, Surveyor of the Works to her Royal Highness the Princess Dowager.
Mr. Ware, Draughtsman to the Board of Works; two designs.
Mr. Gwynn, known by his drawing of the section of St. Paul's.
Mr. Milne, who finished his studies in Italy.
Mr. Barnard, who built Kew Bridge.
Mr. Smeaton, who lately rebuilt Edystone Lighthouse.
Mr. Phillips, a builder; three designs.
Mr. Dance, the City Surveyor."

Ultimately three designs were selected: two of these had semicircular arches (one of them being by Gwynn), and the other had elliptical arches: this was by Mylne, and was the design subsequently carried out. "At this time," says Boswell, in his "Life of Dr. Johnson," Croker's edit., p. 118, "there being a competition among the architects of London to be employed in the building of Blackfriars-bridge, a question was very warmly agitated whether the semicircular or elliptical arches were preferable. In the design offered by Mr. Mylne, the elliptical form was adopted; and, therefore, it was the great object of his rivals to attack it. Johnson's regard for his friend, Mr. Gwynn, induced him to engage in this controversy against Mr. Mylne; and, after being at considerable pains to study the subject, he wrote three several letters in the *Gazetteer* in opposition to his plan." These letters appeared in the *Daily Gazetteer* of December 1st, 8th, and 15th, 1759, with answers to them. This paper is not in the British Museum Library, but a long account of the controversy will be found in the "Life of Dr. Johnson," by Sir J. Hawkins, 8vo., 1787, pp. 373-8. It is said that the committee of selection were unanimous in their choice of Mylne's design, and that there was a considerable opposition, out of doors, of elliptic *versus* semicircular arches: probably Mylne's design was the only one of the former shape, but I have not seen any statement that it was so: the novelty may have produced more than its share of the excitement. The approved design was submitted to eight of the leading scientific professors of that day; who reporting favourably on the principles displayed, it was eventually adopted and executed. This bridge, it is scarcely necessary to add, is on the eve of destruction from its now total unfitness for the overgrown traffic of the metropolis, as well as on account of its somewhat unsafe state, owing to the undermining it has experienced from the increased scour of the river.

In 1761 he added to his publications a fourth work, entitled "Thoughts on the Coronation of George III.," in 8vo., of which I have not been able to meet with a copy: this was "corrected by Johnson" (Boswell); and in 1766 he produced his fifth publication, entitled "London and Westminster Improved, Illustrated by Plans. To which is prefixed a Discourse on Publick Magnificence; with Observations on the State of Arts and Artists in this Kingdom." 4to., London. To this work Boswell refers, when he wrote,—

"He [Johnson] published nothing this year in his own name; but the noble dedication to the king, of Gwynn's 'London and Westminster Improved,' was written by him."

To this observation Croker has added, in a note, p. 181,—

"In this work, Gwynn proposed the *principle*, and, in many instances, the *details*, of the most important improvements which have been made in the metropolis in our day. A bridge near Somerset House—a great street from the Haymarket to the New-road—the improvement of the interior of St. James's Park—quays along the Thames—new approaches to London Bridge—the removal of Smithfield market, and several other suggestions on which we pride ourselves as original designs of our own times, are all to be found in Gwynn's able and curious work. It is singular, that he denounced a row of houses *then* building in Pimlico, as intolerable nuisances to Buckingham Palace, and of these very houses the public voice now calls for the destruction. Gwynn had, what Lord Chatham called 'the prophetic eye of taste.'"

[A correspondent of *Notes and Queries*, ser. I, xi. 406, referring to the publication in question, by Gwynn, attributes this last remark to Mr. D'Israeli.] This book remained apparently in obscurity, until the *Literary Gazette*, No. 473, of the date February 11th, 1826, p. 93, and No. 532, March 31st, 1827, p. 202, drew attention to the apparent prophecies and the proposed alterations for the improvement of the metropolis contained in that work; which gave a renewed value to it, caused it to be sought for in the trade, and has now rendered it a somewhat scarce book. A copy is in the library of the Institute: it is well worth a perusal for the sensible and practical remarks contained in it, as well as for the clearly written style of the observations laid before the readers. Hunt, in his "Tudor Architecture," 4to. 1830, p. 23, also endorsed the opinion of the *Literary Gazette*:—"It is a singular fact," he writes, "that in this work John Gwynn pointed out almost all the designs for the improvement of London which have been *devised* by the civil and military architects of the present day." Owen says:—"It is supposed that his friend Johnson wrote, or at least greatly assisted him in writing, 'London and Westminster Improved,' the materials of which were his own. . . The dedication Johnson *certainly* wrote." Most probably all Owen's knowledge of this matter was obtained from Boswell's account above noticed. In this year also (1766) he was one of the many artists who signed the roll of the "Incorporated Society of Artists of Great Britain;" the other architects being W. Chambers, G. Dance, J. Donaldson, John Donowell, Joseph Gowpy (Goupi?), Charles Middleton, James Paine, John Platt (Plaw?), W. Tyler, and John Vardy. This society, the forerunner of the Royal Academy of Arts, held its first exhibition in the rooms of the Society of Arts, &c., in the Adelphi, in 1760, and the eight succeeding ones at their rooms in Spring-gardens. In the first year Gwynn exhibited "A Design in Architecture for the Reception of the Arundel and Pomfret Collection of Antique Statues, Busts, &c., in the University of Oxford;" and "One of the Three Designs for a new Bridge at Black Fryers, as presented to the Committee." In 1761 "A Design for a Triumphal Arch, in lieu of a transitory firework, to celebrate the successes of the present War, and the re-establishment of Peace. *Note.*—The said arch may be commodiously erected either at Hyde-park-corner, or Holborn-bars, supposing Middle-row as a public nuisance taken away." (Mem., a *public nuisance* also in 1863!) In 1762 "A Design for a Bridge at Blackfryars," in 1763, "A Sketch of Part of St. Paul's;" in 1764, "Section of St. Paul's through the middle as high as the Peristyle of the Dome, Decorated" (was this the drawing for the engraved section already noticed?); in 1766, "A Drawing showing what is proposed for finishing the East End of St. Paul's, the Historical Part by Mr. Wale;" and in 1768, "Two Designs for a Bridge over the Severn at Shrewsbury." He did not exhibit in the years 1765 and 1767. These particulars of his earlier designs have been obtained from the catalogues of the society, a complete set of which are fortunately preserved in Sir John Soane's Museum: the British Museum only possesses the catalogue for the second year, 1761; while the Royal Academy, where one would expect to find a set, has not, I believe, a single copy.

In the year 1768, on the foundation of the Royal Academy of Arts by King George III., Gwynn had the good fortune to be nominated a Royal Academician, together with William Chambers (treasurer), Thomas Sandby, and George Dance, the younger. I say, the good fortune, for what works he had executed to have had that honour bestowed upon him are not indicated by the foregoing list; and there were some few other architects who from the number of their productions would have more merited the distinction, such as James Paine, for one. I think "friendship" must have had something to do with it. It was not until many years subsequently that the system of "diploma drawings" being deposited with the Academy was introduced, so that the institution does not possess any specimen of his talents.

In 1769, at the first exhibition of the Royal Academy, he had a drawing of "Alterations of an old Room in Shropshire," at which time he was, and had been for a few years, living in Little-court, Castle-street, Leicester-fields. In this year, June 29th, was laid the first stone, from his design, of the English, the East, the Stone, or the New Bridge,—for by all these names it has been described,—at Shrewsbury, over the river Severn.

"The extent of the bridge is 400 feet. It is built of the fine stone of the Grinshill quarry, on seven semicircular arches, crowned with a fine balustrade. The central arch is 50 feet in width, and 40 feet in height, from low-water mark. The two arches at the extremities are 35 feet wide and 20 feet high. The breadth between the balustrades is 25 feet. . . . Perhaps in the construction of the bridge, utility was sacrificed to ornament; for, owing to the great height of the centre arch, the road over it has an ascent and descent rather steep and inconvenient. It has been observed that the intention of the architect in giving this capacity to the centre was to afford a freer vent to the frequent floods of the Severn. The total cost amounted to upwards of 16,000*l.*"—"Beauties of England, &c.: Shropshire." 8vo., 1813. p. 83.

It was completed in 1774, at a total cost of 10,794*l.*, or a total expenditure of 15,710*l.* The design was neatly engraved on a small scale by E. Rooker: a print of it (published by J. Taylor, 56, Holborn), is in the King's Collection in the British Museum, with the date, "May, 1768," in red ink: there is also "A Plan for Making the Upper Road to Tenbury, &c., at St. John's," having Gwynn's name erased. Respecting this bridge, the *Oxford Journal* of January 15, 1774, records: "We hear from Shrewsbury that the whole of the last arch of the magnificent bridge now erecting at that place was entirely turned and keyed in, in less than twelve days;—the diameter of which is 41 feet 9 inches, and the suffiet [*sic*] 25 feet 6 inches. This arch contains 181 tons of stone; not one of which is less than a ton, and some of them upwards of five."

In 1770 he exhibited a drawing of his design for the "Bridge to be built at Worcester over the river Severn." The above-named Collection contains a drawing showing a "Plan and Elevation of the Intended New Bridge, July 24th, 1770," with his name to it; an "Elevation of the Old Bridge;" a "Plan and Elevation of a Wooden Bridge," probably a temporary structure whilst the old one was being demolished; and a "Plan of the River and Streets adjoining the Bridge." There is also a neatly-engraved plan, &c., of the bridge by E. Rooker, from his own drawings, forming a companion plate to that of Shrewsbury, and which appears to have been executed for Nash's "History of Worcestershire," fol., London, 1782, ii. App. cxv. This bridge was commenced 25th July, 1771, and was completed in 1780 or 1781. The expenses of building it, opening and completing the avenues, and forming the quays, are said to have amounted to 29,843*l.*

"Worcester Bridge," says Green, in "History of Worcester," 4to., 1796, ii. 16, "was erected from a design, and under the direction, of the late ingenious Mr. John Gwynn, architect. This elegant structure is of stone, and consists of five semicircular arches, springing 5 feet above the lowest water. The diameter of the centre arch is 41 feet; the span of the others declining in a very small proportion. The extent of the bridge from bank to bank is about 270 feet, and its width between the parapets near 25 feet, of which a flag pavement, of 4 feet on

each side, is provided for foot passengers. The ends of the bridge are returned by a range of balustrades, extending 72 feet, between which and the river are considerable lengths of flag pavement, 12 feet wide, leading through arches designed for towing-paths, to prevent interruption to carriages, &c., passing over the bridge. At the west end two very ornamental toll-houses are erected. To make the approaches to the city correspond with the elegance of this structure, the avenues on either side of the river have been laid open to a very commodious extent: its quays are rendered more spacious, convenient, and easy of access; and a very handsome street, 40 feet wide, which derives its name from its vicinity to the bridge, has been built, thereby connecting the Broad-street and others with this important access to the city."

Green also gives the inscription on the foundation-stone, and adds that,—

"On the western side of the river a bold, spacious line of road, elevated to a height that insures a free passage over the meadows across which it is thrown, even in times of the deepest floods to which the Severn is subject, leads in an easy and graceful curve to the suburb of St. John's, where, to the north, on the road to Ludlow, is a grand terrace of near a mile in length, commanding a most extensive prospect of the city; comprehending, in one view, the river, the bridge, the cathedral, all its churches, St. Peter's only excepted, and nearly all the principal edifices in the town, from the Tything, its northern, to Digley, its southern extremity, forming, on the whole, one of the finest approaches to it that any town in England can boast."

These roads are no doubt represented in the drawing by Gwynn as above described.

In 1771 he exhibited a "Design to make Whitehall a Part of the British Mussum, by the addition of a centre piece opposite the Horse Guards." There now follow works to be executed in another and an important city. Dated January 10th of the same year, is a drawing in the Royal Collection of a "Plan of Bocardo and Parts adjacent." This adjoined or was part of the North Gate at Oxford, and was the civic prison, in which prisoners for debt were confined, and in which it is believed the martyrs Cranmer, Ridley, and Latimer were imprisoned. The plan shows the proposed improvements for widening the streets of the city at that part, and for pulling down some of the houses adjoining St. Magdalen's and St. Michael's Churches. This drawing was probably made in anticipation of his appointment, 14th May, 1771, of Surveyor to the new Board of Commissioners of the Oxford Paving Acts, who had obtained, in 1771, an Act of Parliament for taking down the old Magdalen Bridge, and for making approaches thereto. Also for taking down the old East and North gates of the city. This Board still exists. Many of the following notes have been obtained from the Minute Books through the kindness of a local friend. "7th June, 1771, by a letter read from Mr. Gywnn, it appeared he was engaged at Bridgenorth" (I have not ascertained what works, if any, he might have been executing there: the bridge was not rebuilt till after his death). "On the 21st June, 1771, Gwynn's plan for the temporary bridges was approved, and his salary fixed at 150*l.* per annum, 'to commence at Midsummer next, for three years certain, and for one year more if thought necessary.' He received instructions at various times to set out roads, to make plans for widening streets, to measure paving and other works, to make drains, and otherwise to superintend, by himself or his deputy, the various business of the Corporation. He was to advertise for specimens of stone for the new bridge, and to view the different quarries in the neighbourhood. 17th January, 1772, a model of half the bridge was ordered at an expense not exceeding 60*l.*" The design for the new Magdalen Bridge he exhibited at the Royal Academy in this year, in which it was also commenced "under a contract with the builder, Walker, for 6,979*l.*, but it cost 8,200*l.*: though it appears not to have been finished until 1782, it is not clear that Gwynn was employed thereon after Midsummer 1779."

For some time I was at a total loss for a description of this Magdalen Bridge. No work that I looked into gave more than its length, cost, and a date. At last I remembered having seen an old guide-book at the British Museum: on reference I obtained "The New Oxford Guide," sixth edition corrected and enlarged, without date, but the year may easily be fixed, as it refers to the Act of Parliament passed in 1771, and states that "the narrow and incommodious passage at East Gate has been opened, which affords a prospect of Magdalen College, and renders this equal to the magnificence of the High-street; and the elevation of a sumptuous stone bridge is already adopted, from a design of that most ingenious artist, Mr. John Gwynn."

It also states that,—

"North Gate, usually called Bocardo, the only City gate lately remaining, has also been demolished; and the removal of this nuisance perhaps produces the most striking effect of any of these modern improvements."

Turning to the end of the volume, I came upon another copy of the same work, also called the "sixth edition, corrected and enlarged." This edition, after reciting the same words describing the East Gate improvements, says,—

"This bridge, which crosses the two Branches of the Cherwell, has an uncommon Appearance, and owes much of its beauty to an Island that divides the Streams, both above and below; which has given an opportunity of forming large Recesses in the Centre: these serve to break the vast length of Line, and afford an agreeable Station on each side for viewing the Profile. It consists of eleven Arches, five of which are of small dimensions, and serve chiefly as passages of communication, but will likewise be useful as Waterway in high Floods. The Avenues when completed, will be spacious and elegant; and the Carriageway, being nearly level, forms a grand Terrace of 526 feet in length, and upwards of 28 in breadth; the whole of which will strike the eye at one view. Over the centre arch are to be placed, on one side the Arms of the University, and on the other those of the City of Oxford; together with emblematical Figures representing the Sciences, &c. The Piers are relieved with rusticated Columns, corresponding in character with the front Archstones; and the Keystones alternately with Heads and Shells. The Wall that fills the intermediate space between the two Bridges is pannelled. The Parapet is composed of a noble Ballustrade, richly decorated with Sphinxes, Vases, and Lamps, &c. But a more perfect Idea of this magnificent Structure will be formed from the annexed Plate, engraved by [M. A.] Rooker."

The plate is an engraving the size of the page (small 8vo.) of the "Plan and Elevation of Magdalen Bridge at Oxford, Begun in MDCCLXXII," and shows a bridge of three semicircular arches and two for footways, about 110 feet in length, over *each arm* of the river, connected by a causeway 200 feet in length, on the island, having a small archway in the middle. I fear the work has not been carried out to the full intent of its architect, whose name is given on the plate. This illustration is the only one I have seen giving a good general view of the bridge. A drawing of "the old Magdalen Bridge over the River Cherwell" is in the Royal Collection above named; which also contains his drawing, dated October, 1772, showing "Plan and Elevations for a General Workhouse for the City of Oxford,"—the House of Industry, as it is called,—"a neat stone building of two stories in height, and 237 feet in length. The contract was 4,030*l.*" (Wade's "Walks in Oxford.") He also erected the market at Oxford. The Royal Collection contains the original drawing, dated 2nd October, 1773, of the plan and elevations of the lower part of the market, with the signatures of the commissioners agreeing to it. "The market was to be opened December 21st, 1774. The minute-book of the Market Commissioners proves that 'the design and estimate of Mr. Gwynn for the internal arrangements, as well as the elevation fronting the High-street, having been approved, that gentleman was chosen for the architect, his plan being facilitated by the subsequent assent of the Duke of Marlborough to the request of the committee that he would on his part build the houses forming the elevation in conformity with the architect's suggestion.'" (Papers published in the *Oxford Chronicle*, 1859.)

"A new General Market," states the "New Oxford Guide," before quoted, "upon an extensive scale, is erected between the High-street and Jesus College-lane: Which Market is universally allowed to exceed everything of the Kind in this Kingdom. At the south Entrance, from the High Street, it contains forty commodious Shops for Butchers;—North of these eight others, equally commodious, occupied by Gardeners, &c., between which are two spacious Collonades for Poultry, Eggs, Bacon, Cheese, &c. &c., divided into forty Stalls; and beyond these, extending quite to Jesus College Lane, is a large Area for Country Gardeners, Fruit, and divers other Commodities. There are likewise three Avenues running through in direct Lines, intersected by another in the Middle, affording a free Currency of Air; and in the Front four elegant and commodious Houses have been erected, which give an additional Ornament to one of the finest Streets in Europe. * * * The whole extent of the Ground appropriated to the purpose of erecting this Market, is from North to South 347 feet, and from East to West 112, of which the annexed plate exhibits an accurate Plan and Elevation."

This is a companion plate to the before-mentioned one of the bridge, and also has Gwynn's name to it, and the date, "erected 1774." The colonnade is now removed.

In 1774, whilst still engaged upon the bridge at Shrewsbury, Boswell records that he, with Dr. Johnson, being at that place on "Saturday, Sept. 10th, sent for Gwynn, and he showed us the town." He also gives an amusing account of a trip to Oxford. "On Tuesday, 19th March, 1776, we were taken up by the Oxford coach. He was accompanied by Mr. Gwynn, the architect. * * * Gwynn was a fine lively rattling fellow. Dr. Johnson kept him in subjection, but with a kindly authority. The spirit of the artist, however, rose against what he thought a Gothic attack, and he made a brisk defence. 'What, sir, you will allow no value to beauty in architecture or in statuary? Why should we allow it, then, in writing? Why do you take the trouble to give us so many fine allusions, and bright images, and elegant phrases? You might convey all your instruction without these ornaments.' Johnson smiled with complacency; but said,—'Why, sir, all these ornaments are useful, because they obtain an easier reception for truth; but a building is not at all more convenient for being decorated with superfluous carved work.' ..... Gwynn at last was lucky enough to make one reply to Dr. Johnson, which he allowed to be excellent. Johnson censured him for taking down a church which might have stood many years, and building a new one at a different place, for no other reason but that there might be a direct road to a new bridge; and his expression was, 'You are taking a church out of the way that the people may go in a straight line to the bridge.' 'No, sir,' said Gwynn; 'I am putting the church *in* the way that the people may not *go out of the way*.' Johnson (with a hearty loud laugh of approbation): 'Speak no more. Rest your colloquial fame upon this.'" (Croker's edition, p. 481.) A few days afterwards, at a dinner "given at University College on St. Cuthbert's Day, there were present Dr. Wetherell, Johnson, Boswell, Coulson, Scott, Gwynn, Dr. Chandler, the traveller, and [Dr.] Fisher, himself then a young Fellow of the college." (Croker's edition, p. 483.)

I have neither been able to recover the name of the church referred to in the above conversation with Dr. Johnson (is it at Bridgenorth?), nor those of the "several mansions" attributed to him in the short account by W. Sandby; nor those of the "several public buildings in and about London," mentioned by Mulvany. The only other erection to which his name has as yet been attached is the bridge at Atcham, near Shrewsbury, over the river Tern; or "the New Tern Bridge," as it has been called. It consists of a single arch of 100 feet span, by far the largest of any that Gwynn had erected: I am unfortunately unable to give any further description of this work. "In December, 1783," says Owen, "he was presented with the freedom of this city (Worcester), in testimony of his merit in planning and finishing Worcester bridge, and for his indefatigable exertions in completing the works. He was also the projector of the several avenues leading thereto; which together, will remain a lasting monument of his skill and ingenuity. They who remember the state of this city near the river, on both sides, and compare it with its present form, must necessarily bear testimony to his great merit. Had he lived, he would have seen what he had much at heart, the completion of the new road from Henwick to St. John's, which is one of the most beautiful approaches in the kingdom."

His Will is to be seen in the principal registry of her Majesty's Court of Probate. It is dated 25th February, 1786, and describes him as "late of the parish of St. Clement, in or near the city of Worcester, architect," and "formerly of St. Martin's-in-the-Fields, in the city of Westminster." A portion of this will is so remarkable, that no memoir of John Gwynn could be concluded without the following paragraphs, given for the first time; besides noting the value of the other information it affords:—

"Also I give and bequeath to my said brother Richard Gwynn (of Liverpool), and his assigns, one clear annuity of eight pounds to be paid him by my said trustees '* * * * (out of the personal estate), and "out of the residue of the interest of my personalty, pay and apply any sum not exceeding the sum of thirty pounds (per annum) for the maintenance and education of my said natural son Charles" (Gwynn, otherwise Sansenil, son of Ann Sansenil), "till he shall be of a proper age to be put out apprentice, and then do and shall out of the accumulated rents and interest of my property, put and place him out apprentice to a painter, sculptor, architect, or either a seal or copper-plate engraver, if he should like any one of those professions, or to any other he is most fit for and likes. And I wish him to learn Drawing of a good master (if he has a genius for it) prior to his being put to any one of the before-mentioned professions, and to be instructed in Geometry and Mathematics. And I desire my said trustees to supply him with reasonable pocket-money and other necessaries till he is of the age of twenty-one years, when I give him the residue of my personal estate, and all the interest which shall then have arisen. And I give him the property of my book entitled 'London and Westminster Improved,' and the plates thereto belonging. And I do desire him to publish the most useful of my drawings. But if my said son Charles should die in his minority without leaving issue, then I give a moiety of my personal estate that shall be then remaining to the President of the Royal Society, London, for the time being, in trust that he do and shall put the same out upon Government security, and pay annually the dividends due thereon to such persons as in the opinion of the said President and a majority of that society shall deliver the best discourse on the following subjects, viz., 'Which promotes the happiness of mankind most, and the universal good and benefit of society—the establishment of societies of learning, literature, and the dead languages,—or the establishment of societies of ingenious, honest industry. And whether the law on the present plan does not bring into this kingdom more poverty and distress than it does good.' The said President to advertise for candidates and to pay the premium to whom it shall be adjudged. The other moiety I give in like manner to the President of the

Royal Academy, London, for the time being, to put the same out upon like security, and divide the dividends into two premiums, one-half part or premium to be given annually by the said President and majority of that society to the best die engraver, or for a bust, statue, or composition. The other half-part or premium for the discovery of anything that will be useful to mankind in arts, mechanicks, manufactures, or husbandry. But if my said son Charles should leave issue in his minority, I give the whole of my personal estate equally (if more than one) to such issue." * * * * *

In proving the Will he was described as being very ill when it was made; and that he died on or about the 27th February, 1786, only two days after the execution of it.

As in this Will he desired to be buried in the "graveyard of St. Oswald's Hospital in Worcester," with a tablet stating his birth, death, and age, it was hoped that this and certain other information would be readily obtained. Until this Will was inspected by me, his burial-place was always stated in a different locality. Thus Owen says, "He died February 31st, 1786, and was buried in the church of Henley-upon-Thames, where an elegant monument is erected to his memory." I will show, subsequently, to whom this monument was raised, but here merely draw attention to the date of "31st February," as an error altogether. A professional gentleman at Worcester, to whom I applied in the matter, very kindly troubled himself to hunt among the memorials in St. Oswald's Hospital: "After spending a long time," he writes, "in examining the tombstones, I was at last fortunate enough to find Gwynn's and his son's: they are built in a brick wall dividing the two burial grounds. They are close together, both of them half-worn away, and portions of the inscriptions illegible. Over that to John Gwynn is carved in basso-relievo a broken column, a scroll, and a T square. The column is placed upon a pedestal, on the die of which appears to have been a small bust of Gwynn not more than two or three inches. The stones appeared to me to have been worked by ordinary masons. The following are the inscriptions, so far as I could make them out:—

'Here lies interred the body of John Gwynn, Esq., Architect; Member of the Royal Academy; Author of London and Westminster Improved; Born at Shrewsbury, on the . . . Died February . . . 1786.'

The inscription to the son runs thus:—'Here lies interred the body of Charles Gwynn, son of John Gwynn, who died 10 . . . 1796, aged . . . . years.'

"There appears to be something added, but it is quite illegible: the 10th, I must add, is doubtful." Feeling that this result was very unsatisfactory, and that the *actual information wanted* had the appearance of being advisedly erased, I again troubled my friend, and he replied, "If you found the very scanty information in my last letter tantalizing, I fear you will consider the present still more so. I to-day called for the fourth time upon the Rev. — Jones, the chaplain at St. Oswald's, to obtain a sight of the register; making sure that I had nothing else to do than to turn to the years 1786 and 1796 to find all the information you required. I found the last general entry to be in 1783; and under 1789 is the following note:—'The Act of Parliament took place for paying threepence duty to the King for each burial, so that from this time our poor Brethren only of the Hospital, who are exempt from the tax, will be registered.'"

So in consequence of these two circumstances we are left in ignorance of Gwynn's age and day of death, unless the 27th February be considered correct. Being thus left in doubt also as to the result of the proviso in Gwynn's Will, I further requested my friend to search the Probate Court, at Worcester; but "neither the names of Gwynn nor of Sansenil are to be found in the books." Another friend has searched the books at the Court at Hereford, and equally without success. Lichfield is the last official resource where it can be ascertained if the son died after having attained his majority, and how the property was disposed of by him; but the following facts may be considered a sufficient conclusion of the point. I applied to the Royal Academy to ascertain if that Society ever came into the possession of a moiety of the personalty. The result is unsatisfactory, in so much that apparently the only information to be obtained is, that Gwynn's death was reported in 1786: the contents of the Will were "reported to the Council, 20th June, 1798," when the solicitor was directed to inquire into the affair. Thinking that the records of the Royal Society might throw a little more light on the subject, I applied for such particulars as could be found. The following have been kindly forwarded to me:—"June 28th, 1798. The Society's solicitor reported the filing of a Bill in Chancery against the Royal Society on the question following:" (then follows the clause of the Will relating to the bequest.) "The council were unanimously of opinion that the objects of the said bequest were totally foreign to the purposes for which the Society was instituted, and therefore should be refused if the court shall approve their so doing. As no further mention of the question appears, it may be concluded that the court was satisfied. The Bill was filed by Mary Gwynn." Who was Mary Gwynn? The widow of Charles Gwynn it may be presumed. He thus appears to have died under age; and, leaving no issue, the property would be divided for the bequests. Both societies appear to have refused to accept; consequently the wife would obtain the property, and to her advantage, otherwise she would have been left without a provision. The Will is a peculiar one.

Among the few other criticisms which have appeared on Gwynn's works, and which have not been noticed herein, the two following may be quoted: the first is from Dallaway's "Anecdotes of the Arts," &c., 8vo., 1800, pp. 121-2;—"The approach to the city of Oxford over Magdalen Bridge, built by Gwynn, is unique in point of effect and the first impression it communicates of the grandeur of the seat of the Muses. Whether it be a bridge or a causeway, the double columns are, at least, useless, for they add nothing to its support. I am aware of Mylne having adopted them at Blackfriars; and I think not happily; for the original purpose of the pillars is not ornament, but support. The architect of the Magdalen Bridge, it will be allowed, had a most impracticable ground to work upon; and his bridge at Worcester is a proof of his skill, where he had a single river only to cross. England is famous for that species of architecture." Owen, however, is more general:—"His Worcester Bridge was his best production: that of Shrewsbury is a beautiful elevation, but very faulty in point of convenience; as is the neighbouring bridge at Atcham. The bridge at Oxford has little to recommend it; but his new market in that city, which was one of the finest modern markets erected in this kingdom, did him credit." "Worcester Bridge," writes a local friend, "was a work showing a great amount of architectural merit; but its effect is now quite spoiled, owing to the ugly overhanging cast-iron work introduced for the purpose of widening the roadway, in 1841." May we hope that the good people of that city will spend a few shillings in having the inscriptions on the gravestones recut where legible? and a note on them of the fact. Has any local antiquary copied them? By this means, perhaps, the missing words could be obtained.

As to his general character and appearance, Owen remarks that Gwynn "was lively, quick and sarcastic; of quaint appearance, and odd manners. . . . Dr. Johnson was fond of his lively humour, and odd, and sometimes keen, sallies. . . . He was, I believe, poor, but high-spirited, and of unimpeachable integrity." Mr. Pidgeon, of Shrewsbury, the Borough Treasurer, an able antiquary, has, I am informed, in his possession, an admirable portrait of Gwynn, painted by Zaffanii, or Zoffany, as the name is usually written: this picture ought to be in the collection either of the Royal Academy or of the Institute of Architects, and for such a purpose Mr. Pidgeon would probably be disposed to part with it. The portrait was presented to him by the late Rev. W. G. Rowland, of Shrewsbury, who died in 1851, in his 82nd year. His exertions in favour of, and his connexion with, the establishment of schools of art and places for art education, is worth more than a passing notice: his own remarks on the subject, besides the early publications, are contained in "London, &c., Improved," and must have tended greatly to the formation of the Royal Academy of Arts. His studies on the subject of bridge-building, at a time when this country had had to accept the services of Labelye at Westminster Bridge, in 1738, although Mylne and others vindicated our reputation in 1759, is also another point for enlarged comment in such a biography. Mr. Sydney Smirke, in "Suggestions," &c., 8vo., 1834, p. 23, writes favourably of Gwynn's favourite project, "the formation of a permanent board or commission for superintending and controlling the architectural embellishments of London;" a suggestion uppermost in the minds of many even during this year.

He appears to have spelt his name "Gwyn" early in life: thus, in the work published in 1749, the dedication is signed "J. Gwyn," while the vignettes have "J. Gwynn" to them; and the dedication in the volume of 1766 is signed "Gwynn." The plans in the royal collection have his autograph "J. Gwynn," and I have kept to this spelling throughout this paper. His name is also met with as "Gwynne" in some publications.

If any of your readers possess the early printed works referred to herein as not having been seen, I should be greatly obliged by permission to peruse them: they might contain some passage assisting this purpose. I have ascertained that the library at Shrewsbury does not possess any of them. Inquiries might also be made as to what became of his drawings (named in the Will) after the death of his son. Where are the copperplates of the "London and Westminster," &c.? also named in the Will.

In conclusion, I must express my deep obligations to Mr. Nicholson, F.I.B.A., of Hereford; Mr. William Jeffrey Hopkins, F.I.B.A., of Worcester; Mr. Edward G. Bruton, F.I.B.A., of Oxford; and those to whom they applied, for their kindness in furnishing many particulars, without which this memoir could not have been so fully developed.

As in the early portion I have referred to the mis-statement of the burial-place of Gwynn, and stated that I would explain to whom the monument was erected, I here add a copy of some lines in ink, at the back of one of the drawings in the Royal Collection: they speak for themselves:—

"These plans for paving the City of Oxford, and building of Magdalen Bridge, &c., were executed by William Hayward, of Shrewsbury, under Mr. Gwynn, Architect. An amiable young man, who afterwards contracted for the building of Henley Bridge, Com. Ox.; but, before he began his labour, God called him to everlasting rest.

Over the south door of the south aisle of Henley Church is a Marble Urn and Tablet, with this inscription:—

'1782.
Near this place was buried the remains
Of William Hayward, of Shrewsbury,
Architect,
In the 42nd year of his age.
Who had contracted for building the bridge
Over the River Thames in this Town,
But died here before he had begun upon the work,
Which has since been erected after the design
Of that truly ingenious man.'"

WYATT PAPWORTH.

ON THE CHANGE OF FORM ASSUMED BY WROUGHT IRON AND OTHER METALS WHEN HEATED AND THEN COOLED BY PARTIAL IMMERSION IN WATER.

A PAPER, descriptive of experiments on this subject, read at a meeting of the Royal Society, by Lieut.-col. H. Clerk, R.A., shows results which may be usefully brought before our readers. It appears that a short time ago, when about to shoe a wheel with a hoop-tire, to which it was necessary to give a bevel of about 3-8ths of an inch, one of the workmen employed suggested that the bevel could be given by heating the tire red-hot and then immersing it one-half its depth in cold water. This was tried, and found to answer perfectly, that portion of the tire which was out of the water being reduced in diameter. The tire was 3 inches wide, ½ inch thick, and 4 feet 2 inches in diameter.

As this result was curious and not generally known, I considered it desirable, says the writer, to institute some further experiments in order to try how far, by successive heatings and coolings, this change of form could be augmented, and also whether the same effect could be produced on other metals than wrought iron.

The experiments were made on cylinders of wrought-iron of different dimensions, both hollow and solid; immersed, some to one-half of their depth, others to two-thirds; also on similar cylinders of cast-iron, steel, zinc, tin, and gun-metal.

The specimens experimented on were all accurately turned in a lathe to the required dimensions, which were carefully noted: they were then heated to a red heat in a wood-furnace used for heating the tires of wheels. As soon as they had acquired the proper heat, they were taken out and immersed in water to one-half or two-thirds of their depth (as stated in the experiment). The temperature of the water ranged from 60° to 70° Fahr.

The specimens were allowed to remain in the water about two minutes, in which time the portion in the air had lost all redness, and that in the water had become sufficiently cool to handle. These alternate heatings and coolings were repeated till the metal showed signs of cracking or giving way.

It will be seen by an inspection of the figures that the general effect is a maximum contraction of the metal about 1 inch above the water-line; and that this is the same whether the metal be immersed one-half or two-thirds of its depth, or whether it be 9, 6, or 3 inches deep. With wrought-iron the heatings and coolings could be repeated from fifteen to twenty times before the metal showed any signs of separation; but with cast-iron after the fifth heating the metal was cracked, and the hollow cylinder separated all round just below the water-line after the second heating. Cast-steel stood twenty heatings, but was very much cracked all over its surface. As respects the change of form of cast iron and steel, the result was similar to that in wrought-iron, but not nearly so large in amount. The cast-iron did not return to its original dimensions, but the smallest diameter was about 1 inch above the water-line.

Tin showed no change of form, there being apparently no intermediate state between the melting-point and absolute solidity. Brass, gun-metal, and zinc showed the effect slightly; but instead of a contraction just above the water-line, there was an expansion or bulging.

Mr. Stokes, the secretary of the Royal Society, says,—The cause of the curious phenomenon described by Colonel Clerk in the preceding paper seems to be indicated by some of the figures, especially those relating to hollow cylinders of wrought-iron, which are very instructive.

Imagine such a cylinder divided into two parts by a horizontal plane at the water-line, and in this state immersed after heating. The under part, being in contact with water, would rapidly cool and contract, while the upper part would cool but slowly. Consequently by the time the under part had pretty well cooled, the upper part would be left jutting out; but when both parts had cooled, their diameters would again agree. Now, in the actual experiment this independent motion of the two parts is impossible, on account of the continuity of the metal: the under part tends to pull in the upper, and the upper to pull out the under. In this contest the cooler metal, being the stronger, prevails, and so the upper part gets pulled in, a little above the water-line, while still hot. But it has still to contract on cooling; and this it will do to the full extent due to its temperature, except in so far as it may be prevented by its connexion with the rest. Hence, on the whole, the effect of this cause is to leave a permanent contraction a little above the water-line; and it is easy to see that the contraction must be so much nearer to the water-line as the thickness of the metal is less; the other dimensions of the hollow cylinder and the nature of the metal being given. When the hollow cylinder is very short, so as to be reduced to a mere hoop, the same cause operates; but there is not room for more than a general inclination of the surface, leaving the hoop bevelled.

PARIS.

THE "Pavillon de Flore," at the south end of the Palace of the Tuileries, which had become insecure in the foundations, was taken down two years ago. It is now rebuilding, and the walls are completed to above the mezzanine story. When finished it is to be called the Pavillon de Napoleon III. The façade of the Station "du Nord" is constructed as far as the stonework is required, and the cornice has received its embellishment of statuary. The new Grand Opera, near the Boulevard des Capucines, is progressing rapidly: the walls are at present about 8 feet high. A very elaborate model of the edifice, with all its architectural decorations, is in the Exhibition of Modern Art, now open in the Palace of Industry in the Champs Elysées.

The Palace of Auteuil, as it is named, of which illustrations have been in the *Builder*, will exceed in superficial space the International Exhibition Building at South Kensington. It is making very slow advances: the foundations are formed: the stonework of the walls, with very small exception, is not more than 12 feet above the surface. It will be a stone building entirely, with glass roofing. Very few workmen are employed on it—certainly under a hundred,—and there is no possibility of its being opened this year, although it is so advertised constantly. The situation is *triste*. The front comes very near to a road planted with trees on each side; and on the opposite side of the road, close to it, rises the heavy earthwork forming the fortifications of the city: the other sides are shut in by thick plantations, so that the building appears to lie in a hollow, from whence there is no prospect beyond 100 yards. At present there is a railroad from the Station de l'Ouest, which goes no farther than Auteuil, nearly all the way constructed in a cutting, and which is totally incompetent for any great conveyance of passengers.

The Exhibition of Modern Art, now open in the Palace of the Champs Elysées, and to which we have already referred, consists of 2,923 subjects; pictures, sculptures, and other branches of fine art; among which are forty-two drawings of architecture, and thirty-six engravings of architectural subjects. There is scarcely anything of striking note, architecturally. M. Bournichon exhibits three drawings of the episcopal residence erected at Algiers for the bishop: M. Delarocque has a project of restoration of the ancient church on Montmartre; A. Etex, sculptor, a design for a swimming school in the Bois de Boulogne, near Passy; L. Juste, five drawings of a newly-erected communal school, founded by the Chamber of Commerce, in the Avenue Trudaine, a very plain affair. There is a good drawing of the new church of St. Bernard, erected last year in Paris by A. J. Magne, Gothic in style. M. Duthoit has two large elaborate coloured drawings of the interior of the mosque of St. Omar, at Jerusalem, called the Church of the Rock by Christians, and believed by Mr. Fergusson to have been the burial-place of our Saviour. These, and ten drawings of the Temple of Augustus at Angora, in Asia Minor, are the principal subjects in the Exhibition.

WHERE IS ST. THOMAS'S HOSPITAL TO STAND?

AT a meeting of the Governors of St. Thomas's Hospital, held on the 23rd, it was resolved, on the motion of Mr. Tite, after some opposition,—

"That the joint meeting of a deputation from the Hospitals of St. Thomas and Bethlehem, formerly proposed by this hospital, and sanctioned by their General Court, having been accepted by the governors of Bethlehem Hospital, this Court requests the president and treasurer, with five other members of the Grand Committee, to meet a similar deputation from Bethlehem as soon as possible, with a view to ascertain whether it is probable that an arrangement can be made for obtaining that site on terms mutually advantageous; and in the event of the Grand Committee not being satisfied that such an arrangement can be made within a reasonable period of time, that they be authorized and requested to continue their negotiations with the Metropolitan Board of Works for the purchase of the site on the proposed south embankment of the river, and to report all the proceedings to this Court."

The medical staff of St. Thomas's have pronounced strongly in favour of the Stangate site on the proposed embankment of the Thames. The area is said to be nine acres, and the price talked of about 100,000*l*. All the arguments that have been used to prove that the governors of Bedlam ought to remove, go in aid of our original urging that the new St. Thomas's Hospital should be erected out of the heart of the Borough, and where pure air and sufficient area could be obtained. The medical officers like both the sites named, Stangate and Bedlam, because they are actually a mile or so from Guy's. It is perfectly preposterous to assert that Southwark proper requires two enormous hospitals to supply its wants. Why, then, not endeavour to give the metropolis *one* hospital where every patient may at all times have a *chance* of recovering? We wonder if there be a competent medical man of credit brave enough to assert that this is the case now. We sincerely hope, with the greatest regard for Mr. Tite, that he may fail in both the negotiations authorized by his resolution. If we do not err, he is himself fully persuaded of the desirability of getting St. Thomas's into a health-giving atmosphere. The greatest mistake a public man can make is in being false to his own convictions. If Mr. Tite would do what he *thinks* right, and let foolish people go to the devil their own way, he would find the result more satisfactory in the long run, and achieve what he ambitions,—solid fame.

THE NATIONAL SCHOOLS OF THE METROPOLIS.

FOR some time past we have watched with interest the working of several of these establishments; and, while acknowledging the vast amount of benefit which they confer, we are forced to confess that there are some points in their management to which it is very necessary to direct earnest attention. It may be that the faults to which we refer are not due to the system so much as to the difficulty of procuring that amount of regular attendance on the part of the children which is necessary to carry out properly the plan of education.

We will for the present more especially confine our remark to the schools for boys. In many of these there will be found intelligent lads of the ages from eleven to thirteen, who have made very satisfactory progress. These it will be seen, however, in nine cases out of ten, have been in very regular attendance; and have also been in training from an early age. It is unfortunately the case that a large number of boys, particularly those who are over eight years of age, cannot be well depended upon for regular attendance; and many thousands of boys leave school for some kind of employment before they have reached their eleventh year. It is, therefore, of the greatest consequence that every exertion should be used to make the most of the very limited time which is at the disposal of so many scholars. The main aim of these schools should be to give to children the power of reading and writing correctly, and a mastery of the simple rules of arithmetic. As matters are at present managed, there seems to be much discursive instruction which does not lead to very practical good results. In the infant schools especially we find that it is generally a very long time before the children can read clearly or spell simple words. Here, as in other classes, there is a great deal of superficial knowledge gained: the boys get a sort of glimmering idea of geography, natural and other history, chemistry, &c., &c. This is, however, for the most part a parrot-like learning by rote; and when the boys leave the school the chief part of it is forgotten.

No one could offer any objection to the system of giving general instruction, provided it did not interfere with what is to these boys the more necessary and solid groundwork of education: we mean the ability to read and write with facility; for this, when once thoroughly obtained, can never be lost; and with this power, in these days of cheap books, and libraries easy of access, all the means of knowledge are at the disposal of those who choose to search for it.

Every energy should be directed to the point to which we have just referred; and it is of consequence that great attention should be paid to the children in the younger classes. Unfortunately, this is frequently neglected, or the master takes most interest in the higher classes; and the others are left too much in the care of boy-teachers, some of whom are not well qualified for their important duty.

We have taken some trouble to examine at their homes a number of the children of the working classes who attend these schools, as to their degree of proficiency; and the result is for the most part very unsatisfactory.

Having questioned the scholars in several of the schools, we went to a day-school kept by an elderly lady who taught in the old fashion; and there could be no doubt of her greater success in teaching reading and writing: some children who had been there only four months, and who, when they went to the school, did not know their letters, could read the Testament well, and spell most words. The evident cause of this is that the children are made to direct their entire attention to this first and most necessary means of education. Seeing this result, it is worth while to inquire if it might not be an advantage to go back, to a certain extent, to the old plan, in the younger classes of the national schools.

A TOUR IN THE TOWER.

THE Lions at the Tower are numerous;—though the live lions are no longer to be found there. Six or seven centuries before the establishment of zoological gardens had been thought of in England, the keeping of ferocious animals, brought from distant countries, was a custom with our monarchs and nobility. Henry I. had a collection of lions, leopards, and other strange beasts, at his manor of Woodstock; and in subsequent times we find mention of them as kept in the Tower of London. In 1252, King Henry III. sent to the Tower a white bear, which had been brought to him as a present from Norway, and the sheriffs of London were commanded to pay fourpence every day for his maintenance: in the following year an order was given to them to provide a muzzle for the said bear, and an iron chain to hold him in the water and likewise a long and stout cord to hold him when *fishing in the river Thames*.

Two years after this an elephant was presented to the king by Louis, king of France. He was landed at Sandwich to the astonishment of the people, who crowded to see him from all parts of

the country. The expense of the elephant also seems to have fallen upon the corporation; for on being brought to London, the king gave directions to the sheriffs of the City, to cause a house to be built for him in the Tower, 40 feet long by 20 feet wide. In the succeeding reigns mention is made of the king's lions, leopards, bears, and other wild beasts, kept in the Tower. This likewise seems to have entailed cost upon the City; for we find that, in the time of Edward II., the sheriffs of London were directed to provide a quarter of mutton every day for the king's lion there; and about the same time frequent orders were given to pay sixpence per diem for the maintenance of the king's lion, and the like for his leopard, and three-halfpence daily for the wages of their keepers, when several esquires who were confined there as prisoners were allowed but a penny a day for their support.

King James I. sometimes amused himself and the court with combats between the animals, and by baiting them with dogs. On June the 3rd, 1604, the king took with him the Duke of Lennox, with divers earls and lords, and caused a lion and lioness to be put forth, and a live cock to be thrown to them, "which," says the account, "being their natural enemy, they immediately killed. A lamb was next put in, yet this they did not offer to hunt; but next, when the king ordered a fresh lion to be brought out, and two mastiffs to be let in upon him, a furious battle ensued."

We do not hear in the old times of the ill health and premature death of the animals; but Mr. Bayley, in his "History of the Tower," published in 1821, remarks,—"The menagerie was formerly very fine and extensive; but now, perhaps from bad management or the inexperience of their keepers, many of the beasts have died, and the collection has greatly diminished." In 1834 the menagerie was removed altogether.

The existing lions were visited by members of the Ecclesiological Society and their friends, as our readers knew would be the case, on Friday in last week. The muster was a strong one; and much pleasure was manifested at various points in the route, especially in the Norman Chapel in the White Tower. This chapel has been restored carefully. For years it was filled with records, and allowed to remain in a discreditable condition. We engraved a view of it some time ago, and again and again protested against the neglect of it. It is with great gratification, therefore, we see the change. Our readers may remember it has a semicircular apse, and a large triforium, without a clerestory. It is vaulted with stone. Built towards the end of the eleventh century, under the direction of Gundulph, it is pointed to show that Norman architecture was not then in a very advanced state, the joints being somewhat large, and the openings without mouldings. The cushion capitals show the *tau* as an ornament in the centre: one capital on each side at the square end of the church has a little extra ornamentation. A new pavement has been laid, of cream-coloured tile with an incised ornament. Mr. Beresford Hope, who led the party; Lord de Ros, Lieutenant of the Tower; Mr. J. H. Parker, and Mr. Charles Baily pointed out and discussed the peculiarities of the structure; and, on the motion of Mr. Godwin, thanks were voted to the authorities for what had been done to restore and preserve it. Afterwards thanks were given to Mr. Salvin for the manner in which the restoration had been carried out. As we are not about to follow precisely the footsteps of the party, we may here note that besides those already named we noticed in the bevy of visitors Mr. Ferrey, Mr. Gordon Hills, Mr. Slater, Mr. Salvin, Mr. T. Roger Smith, Mr. Edward Hall, Mr. Truefitt, the Rev. Benjamin Webb, Mr. D. Brandon, Mr. J. G. Crace, Mr. Burges, Mr. Garling, Mr. Hakewill, Mr. Hayward, Mr. Knightley, and many others equally well known to our readers.

The new armories which have been formed in the White Tower are arranged with great taste. About 60,000 rifles are in standings: the sword-bayonets form railing round well-holes, and, with sabres and ramrods, are combined with very great variety in the decoration of the roof. One of the most ingenious efforts is shown in the facia of an opening in the ceiling, wherein the gun-locks and bent ramrods are so used as to produce all the effect of a piece of hammered iron scroll-work.

During the last twenty years great changes have been made throughout the fortress, which, although they have not generally improved the picturesque appearance of the place, have in some instances added to the stability of several buildings, and are of advantage in a sanitary point of view. Within the time mentioned the long range of barrack-rooms of indifferent aspect, and still imperfectly supplied with light and ventilation, has taken the place of the Armory of Queen Elizabeth's reign, which was destroyed by fire. The Beauchamp Tower, both inside and outside, has been restored: the marks made by the prisoners have been skilfully cleared of whitewash which had been allowed to disguise them. Some illustrations of these will be found in a previous volume. Few parts of the Tower have so much to interest as the chambers in this building. The walls speak. These are now open to visitors,—a matter for satisfaction; for not long since it was used as a mess-room by some of the officers of the garrison: the apartments were disfigured by unsightly modern furniture, and not much care was taken of the stone records cut by early occupants.

Leaving the Beauchamp Tower, and standing with our back towards the Norman keep, allowing as little as possible of the barracks to come into the view, the scene has much to interest, although a commonplace brick house near the church, and the pavement substituted for the turf from which the Tower green took its name, are rather out of harmony. On the right side of the picture is the little church of St. Peter-in-Bonds, in which lie many headless bodies. There is the site of the scaffold, marked by dark-coloured stones: and the decayed trees which still remain remind of the fine avenue which formerly flourished here. Old records state that in years gone by this was the scene of tournaments and other gay assemblages. Many pictures come to mind when standing on this spot;—Lord Hastings suddenly seized, brought by order of Richard of Gloucester, and with little preparation, beheaded on a block of timber which chanced to be here for the purpose of making some repairs; or the sad morning when Lady Jane Grey and her unhappy husband were put to death. Opposite is a long range of buildings, called the Lieutenant's lodgings, which belong to the time of Henry VII. and Henry VIII. A part of this gabled structure, although modernized with windows that do not correspond with the carved weather boards and highly pitched roofs, still has a quaint aspect, as our slight sketch shows (fig. 1). The Princess Elizabeth was for some time kept a prisoner here by Queen Mary. There are many other associations connected with these lodgings, but we must not linger upon them further than to note that it was here Guy Fawkes and the gunpowder plot conspirators were examined. A tablet and some other memorials of this event were placed in one of the rooms in James I.'s time, but have been removed or covered by new decorations.

In the winter season the black, broken trunks and branches of the trees here do not hold out much promise; but in the spring time they bud cheerfully; and here and there, in openings in the pavement, young trees have been planted which may supply the place of the decaying ones. Within St. Peter's, in front of the altar, Queen Anne Boleyn, and many other historical personages, lie buried. Outside, a brass plate has been recently fixed in granite to mark the spot where Anne was beheaded in 1536. Near the altar, on the north side, there is a characteristic monument to Sir Richard Blount and Sir Michael Blount, his son, who were both lieutenants of the Tower. Sir Richard died in 1564, and Sir Michael in 1592. On the opposite side of the chancel there is a curious monument of the time of Charles I.; and at the west end, on the floor, is an altar-tomb, with two effigies, black and ill-cared for, to preserve the memory of Sir Richard Cholmondeley, lieutenant of the Tower, and his wife. There are some other monuments, which we must pass over, with the exception of a little stone on the floor, which records that Edwards, the keeper of his Majesty's regalia, who was so roughly treated by Blood and his associates when they made the attempt to steal the crown, is buried there. In the vestry are some coffin-plates which were found in the place where the Scotch rebel lords, Balmerino, Kilmarnock, and Lovat, were interred. St. Peter's was erected in the reign of Edward I., on the site of an earlier building; but the windows and other prominent features are much later in character, *possibly* belonging to the reign of Henry VIII., when the church was injured by fire; and these were, moreover, restored within a comparatively recent period. These windows, by the way, led a distinguished antiquary, on the occasion of the visit to which we have referred, aided by a kindly desire he entertains to make every building seem as *young* as may be, to give hastily the date of Henry VIII. as that of the building. The condition of this church (part of the history of England) is abominable. Although, as Macaulay writes, death is there associated "with whatever is darkest in human nature and in human destiny, with the savage triumph of implacable enemies, with the inconstancy, the ingratitude, the cowardice of friends, with all the miseries of fallen greatness and of blighted fame;" it demands at our hands the most careful preservation.

Wandering eastward from the church, specimens of ordnance captured in various wars or made from guns taken in distant lands, are found worthy of examination; but there is nothing architectural to be seen which is satisfactory to the eye. At the Jewel Office, the exterior appearance is most distasteful; all the ancient aspect has been destroyed. The contents have, however, a rare interest. In very early times, the jewels and other insignia of royalty were placed for safety in the religious houses, but most generally in the treasury of the Temple; and it was not, perhaps, before the reign of King Henry III. that they were deposited in the Tower of London.

When the king went abroad his crown usually accompanied him; and on the return of Henry III. from France in 1230, he commanded the Bishop of Carlisle to replace the jewels in the Tower as they had been before; which is the first mention, probably, of their being kept there.

In the year 1230, the jewels were taken to Reading by the Master and Almoner of the New Temple, and delivered to King John, preparatory to his celebrating the feast of Christmas in that town. In the ninth year of the reign of this monarch he received a large crown and other precious articles from Germany, and which seem to have been of the most splendid description. Edward III.'s expensive wars obliged him to pawn his crown and jewels to the merchants of Flanders; and soon after the accession of his grandson, Richard II., they were placed in the hands of the Bishop of London and the Earl of Arundel, as security for the sum of 10,000*l.*, which that monarch had borrowed of John Philpot and other merchants of London. Even Henry V., of famous memory, to enable him to carry on his wars, pledged his great collar to the Mayor and Commonality of London, as security for the sum of 10,000 marks; and in the following year, having obtained large sums from the nobility and others, empowered Thomas Chitterne, keeper of his jewels, to deliver them to those persons, as pledges for the repayment of their respective loans. Henry VI., too, on several occasions, was reduced to the necessity of pawning his jewels in order to raise money.

Visitors now, however, will find them all safe at home, with many additions, and should not fail to examine them. They will go also of course to the ancient armory, a splendid collection, and which should be more so, as we have often said. We do not yet find that presiding knowledge there that would lead to the removal of blots and the perfecting of the collection. It ought to become a most complete school of its kind. The public go there to look along the line of mounted effigies of English kings, correctly and incorrectly named; to compare the war and tilting armour of various periods; to note the exquisite workmanship of some; to contrast the huge iron coat of Henry VIII. with that worn by him when a boy; these again with the leather coats and helmets of Cromwell's days; and trace the decline of the use of breastplates and other metal personal defences as firearms became more deadly in their effect. Inducement, however, for something more than this should be held out.

Going to the south-east of the White Tower, the Salt Tower has been rebuilt in its old shape, and other works are in progress. West of the Salt Tower, towards the Bloody Tower, are now a range of warehouses and some plain buildings, about seventy or eighty years old. On this site formerly stood that portion of the fortress which was for several centuries occupied as a royal palace. From this to the White Tower there was a means of communication with the chapel and the apartments which were used on state occasions and the meetings of the council. It is to be regretted that no view of this ancient home of English royalty seems to have been preserved.

Great changes have taken place at Traitors' Gate. The water from the Thames has been shut off. Boats do not now go,—

> "On through that gate misnamed, through which before
> Went Sidney, Russell, Raleigh, Cranmer, More."

A very rough sketch of it made some time ago must serve to suggest its aspect (fig. 4). No visitor should pass without examining this spot. Here a steam-engine, used for driving the machinery and employed for hoisting and packing the various materials of war, now works with its puffing noise. The contrast of this with the old world ideas is striking. The black archway of the Bloody Tower; the portcullis, which with its complete apparatus for working it we have before

SCRAPS FROM THE TOWER OF LONDON.



FIG. 1.—THE LIEUTENANT'S LODGINGS, TOWER GREEN.



FIG. 2.—PART OF THE MOAT LOOKING EASTWARD TOWARDS QUEEN ELIZABETH'S WALK.



FIG. 3.—ENTRANCE NEAR THE WARDER'S LODGE; LOOKING WESTWARDS TOWARDS THE MOAT.



FIG. 4.—TRAITORS' GATE.

engraved (the only perfect one remaining in England); the massive door, and other features are but little changed since the time when, it is said, the youthful King Edward V., and his brother the Duke of York, were murdered here. The traditions of the Tower state that the bones of the young princes were found in a chamber in the basement of this tower; but the remains which were removed as such to Westminster Abbey, in the reign of Charles II., were discovered below a staircase in the White Tower. A brass tablet at the foot of the staircase now records the belief in this discovery.

We have before now given some particulars of the interior of the Bloody Tower, but since we did so several prisoners' marks, within and near the recess of a window of an apartment close to the entrance from Tower-green, have been found, on removing some of the plaster and whitewash with which the place had been covered; and further search will probably show more of these interesting relics. One of them seems to have been cut by one Rossel, a Scot, who was probably one of the Scottish Royalists captured by Cromwell. The prisoner refers to his sufferings in the cause of his country and his chief, and commits himself to the will of the Supreme Almighty God, to whom his ills are known. His father's life had been spent in loyal service to his chief, but he had died in time of peace. He asks for the divine protection, and that it may please the Lord of the life of man to incline his enemies to peace.

The Bell Tower, in which the alarum bell of the fortress is hung, has been of late much changed in appearance. Buildings, which had been erected against it have been removed, and parts of it have been faced. The same operation seems to have been carried on throughout the whole length of this inner portion of the Tower defences.

Although it is not an improvement in a pictorial point of view, the draining of the moat must improve much the health of the garrison and the surrounding neighbourhood. Parts, as shown in our sketch (fig. 2), are now used as a parade-ground for the troops. In others grotto work has been constructed, and little gardens are laid out. At any time, however, if needed, the water could be brought in again from the Thames at very short notice.

Next to the Bloody Tower and Traitors' Gate the most picturesque part now remaining is the entrance near the Warder's Lodge, of which we give an engraving (fig. 3); and with this we must end our little tour in the Tower.



SQUARE CHURCH, HALIFAX.—MR. JOSEPH JAMES, ARCHITECT.

SQUARE CHURCH, HALIFAX.

AMONG the many new and handsome structures erected of late years in the town of Halifax, this is one of the most conspicuous, inasmuch as it is almost the first that strikes the eye of the traveller as he enters the town from the railway. It has been built by the side of the chapel erected during the last century in the old-fashioned style then in vogue; and the contrast between the two chapels adds one more proof that the prevailing improved taste for ecclesiastical buildings is not confined to the Establishment. The new chapel of the Independents has been erected mainly through the instrumentality of Sir Francis Crossley and his brothers, to whose united liberality the town is in other ways very largely indebted.

It has been the endeavour of the architect so to adapt the forms and details of Gothic architecture as to make them conform to the requirements of the form of worship used by the Congregationalists.

The form of the building is that of a nave with cloisters on each side, north and south transepts, with a tower and spire in the angle, formed by the junction of the latter with the nave, a small spirelet on the opposite side, and a projection for the organ in place of the usual chancel. The nature of the site has, however, greatly cramped the architect.

The eastern end of the nave, shown in our view, abuts upon the square road, the gable rising to the height of 78 feet, surmounted by a metal cross. In the upper part of the gable is a four-light window, beneath which is a large window of seven lights, 36 feet in height, the mullions terminating at the top with circles, with suitable tracery.

Under this window is the entrance to the seats on the ground-floor of the nave, by a deeply-recessed doorway, having a double niche on each side, and surmounted by a small gable. The foliage on the capitals of the pillars, as well as the whole of the carvings, have been well executed by Mr. J. W. Seale, of London. The pillars are of serpentine marble. The door itself is of oak, with richly foliated hinge-irons. The sides of the nave are divided into bays by deep buttresses, within which run the cloisters,—rather low-covered passages into the transepts, entered by doors in the first bay, and lighted by broad flat-arched windows in the other bays. The ends of the transepts have, on the ground stage, three single-light windows, and in the gables wheel-windows, about 16 feet in diameter, filled in with tracery.

The tower and spire mount up to about 235 feet, including the lofty vane, and have in the second stage a large illuminated clock, by Messrs. Moore, of Clerkenwell.

Within, the architect has been compelled to consider more closely the requirements of Independent worship than the peculiarities of the Gothic style. These requirements are, of course, that the pulpit should be the main object, subsidiary to nothing, and seen by all; and the roof should be so constructed as to convey to every corner of the building the inflections of the voice of the preacher.

This plan enables the former to be easily accomplished. There is a nave 95 feet long, 45 feet broad, and 45 feet high, with a transept on each side; the eastern end of the nave 28 feet wide. Two passages, 6 feet 6 inches wide, and flagged with stone, run up the nave. All the pews are of oak, of uniform pattern, with low backs, and each furnished with book-boards, cushions, carpet, and drawer for books. The passages are also carpeted. At the end of the chapel is a raised dais, surrounded by a light oak railing, with a kneeling-board outside, and with appropriate communion table and chairs inside. The pulpit, which is of Caen stone, may be ascended from either side by a low flight of broad steps, also in Caen stone, but with encaustic tiles inserted, the balustrade being pierced with circular openings inclosing pierced quatrefoils. The pulpit itself springs independently of this ascent, and is octagonal. Upon the eight sides of the base are sunk medallions, charged with the sacred emblems of the Passion, in the following order:—1, the cross; 2, the sacred monogram, I. H. S.; 3, the crown of thorns, the hammer, and nails; 4, the ladder, the sponge upon a reed, and the spear; 5, an angel; 6, the seamless coat; 7, the scourge and the post; 8, the emblem of the Holy Spirit. The mouldings over are carved with vine-leaves and corn, and each of the sides of the pulpit itself is a double arch, a pinnacle from the front arch being continued upwards and outwards to support the book-board.

In order to secure the required acoustical properties of the building, the architect has adopted a five-sided panelled ceiling, the whole of which has been coloured and emblazoned from his designs.

The trusses of the roof spring from the side walls from carved caps, supported by marble shafts resting upon corbels, each carved with angelic busts. These figures have each a flat nimbus, and their wings are folded backwards, and they are represented in the following acts:—1, the angel ringing the sacred bell; 2, angel playing the triangle; 3, angel playing the viol; 4, angel playing the tabret; 5, angel unrolling a scroll; 6, angel playing the harp; 7, angel playing the cymbals; 8, angel in the attitude of adoration.

The whole of the windows are filled with quarried glass, with a sparing use of deep colours, by Messrs. Lavers & Barraud, of London.

Accommodation is provided for 1,240 sitters, and there is an ample vestry in the rear of the building, with a separate entrance.

The whole of the works have been designed by Mr. Joseph James, of London, and carried out by Messrs. J. & W. Beauland, of Bradford; Mr. J. Dilworth being clerk of the works.

The total cost has amounted to about 18,000*l*.

THE LAW OF THE FOOTPATH.

NO one who has been acquainted with the streets of London for the last half-century can fail to be struck by the increased and daily increasing difficulty of locomotion, without wishing for some definite regulations that might render a walk through the streets more easy and agreeable than at present. I have long hoped that the necessities of the case might have led to some police regulations; but, having waited in vain, I venture to offer a few suggestions for regulations which, if carried into practical operation, would greatly modify the evil, and render a large proportion of those who traverse the streets on foot willing supporters of any defined legal or police regulations on the subject.

Carriage and horse traffic has long since engaged the attention of the Legislature, and an Act of Parliament prescribes its course. I do not, therefore, propose to touch upon that traffic further than to lament that the provisions of that Act are not more rigidly enforced. My remarks are, therefore, directed entirely to persons on foot, for whom (as far as I know) there is no law beyond *custom*, which is but little known beyond the City, and as little heeded by the majority, who are either ignorant of the custom of the City, or are too snobbish to be guided by any other motive than that of intense selfishness, so observable in the manners of the present day.

We have high authority for the proverb, "Train up a child in the way he should go, and he will not depart from it." It is with children, therefore, I would begin, by teaching them *practically* the *right* and the *wrong* side of the path they walk upon. Nothing could be more simple than the lesson; and even amusement might be afforded in the practice of it.

The rules would be as follows (and they are, in fact, the rules of the road at sea established by law):—When walking keep the *right* shoulder to the wall; and if there are others on the same path do not struggle out into the middle of it. When *passing* another person, consider that person as part of the wall, and pass with the *right* shoulder nearest to him.

When two persons are *meeting*, let *each* keep the *right* shoulder to the nearest wall on his *right* hand, and a collision is impossible.

When two persons are *crossing* from different directions, the person whose *right* shoulder is nearest to the other should give way, and allow the other to pass in front of him.

These rules, few and simple as they are, would, if taught to children as an amusement, soon produce a sensible effect; and if enforced by law, would render all well-disposed persons supporters of that law.

I am now about to undertake a more serious work, a suggestion for the movement of crowds, or people in masses, such as may be seen in the streets on occasions of illuminations, &c. The *principle* is exactly the same as that I have adverted to, but upon an extended scale. Let *all* persons on the foot pavement, on *each* side of a street, move along it with the *right* shoulder in the direction of the wall, and the whole difficulty is surmounted; and upon these *special* occasions let large printed fingers, pointing in the proper direction, be pasted on every lamp-post.

If this system were enforced by authority, the "roughs," who enjoy themselves on these occasions, would soon meet their match in the well-disposed, who go out to see the sight only, and who would readily assist the police in enforcing *known* regulations for maintaining order.

HOME-GROWN FRUITS.

THE scarcity of such homely and wholesome fruits as apples and pears, plums, and even grapes, all of which can be grown both cheaply and well, throughout England, Scotland, and Ireland,—a scarcity with limited exceptions, as in the apples of Herefordshire and other parts of the West of England,—is somewhat surprising. It is the opinion of Mr. Roach Smith, who has recently drawn attention to this subject,* that the plantations of fruit-trees in this country do not exceed those of the time of Charles II. And what may be the result of such a scarcity of wholesome fruits on the health of the community, or what the extent of disease to which it gives rise, it is hard to say. But there can be no doubt that great evil must have resulted, and must still result. The children in Christ's Hospital on one occasion were so infested with cutaneous eruptions that they had to be dispersed; and it was discovered that the evil arose from a deficiency of fruit and other vegetable food. There cannot be a doubt that man is essentially, or by nature, a frugivorous animal. It has been wrongly concluded from the formation of his teeth that he was designed to be carnivorous, but his dental conformation closely resembles that of the monkey tribe, and these are not carnivorous, but frugivorous; the teeth mistakenly supposed in man to have been designed for tearing flesh, being in fact those requisite for disorganizing fleshy fruits. There is an undue leaning in the English mind towards animal food, even if we regard mankind as omnivorous; and it is well known that men as well as horses can be sustained in good condition by a strictly vegetable diet. We are not inclined, however, to insist on an exclusively vegetable diet: indeed, such food as milk—mother's milk itself—is animal in its nature, and what food can be more wholesome than good milk or fresh eggs? Nevertheless, vegetable food, and particularly fruit, is far too little used in this country, with the exception of that universal favourite the potato—the *pomme de terre*—which Cobbet, fortunately, in his mad hatred of it, did not succeed in casting out of use.

The planting of apple, pear, and other fruit-trees ought to be far more general than it now is; and the fruit hence far more abundant. Heavy crops might be grown in ground where other vegetable products would not thereby be hindered from coming to maturity. Gooseberry and currant-bushes are also a profitable crop, and ought to be greatly increased. We have often urged the advantage of planting the waste spaces on each side of railways; and were apple and pear trees, and such like, cultivated on the thousands of acres throughout the country thus lying waste, as Mr. Smith suggests, an important increase of revenue would accrue to the companies. In France the advantage of planting waste spaces with fruit-trees is better known than with us.

DINNER TABLE DECORATIONS.

SIR WENTWORTH DILKE'S offered prizes for groups of fruit and flowers for the dinner-table produced considerable competition at the last flower show in the Horticultural Gardens. The prizes were gained by Lady M. Rokeby, Mrs. J. W. Bliss, and Mrs. Walter Fawcett; while "commendations" were bestowed upon the productions of Mr. Alfred Salter, Lady C. Kerrison, and Lady Holmesdale. The jurors of this department were the Marchioness of Waterford, the Countess of Bessborough, and Lady Dorothy Nevill. The groups submitted were generally a great improvement upon the exhibition of last year, and with few exceptions there was something to be admired in all. The one which obtained the first prize had a gorgeous centre of tropical birds, on branches of fern, but was much confused with grasses falling from glass tubes which made it inelegant in form, and the side pieces did not carry out the central idea. Opinion, in which we coincide, was decidedly against the selection of it for the first prize. The second prize group was very good: the sides were arranged according to Mr. March's design. The delicate yellow of the roses, with the blue corn-flower, and

* On the Scarcity of Home-grown Fruits in Great Britain; with remedial suggestions. By C. R. Smith. In a letter to Joseph Mayer. Liverpool: Brakewell, Cook-street. 1863.

the deep red cherries with the white arums below were beautifully contrasted. The top of the centre was spoiled by a red parroquet; but it undoubtedly deserved, for the care bestowed and its effectiveness, to stand before No. 1. Mrs. Walter Fawcett's group was an improvement on the very excellent design for which that lady received a prize last year, and, like No. 2, certainly deserved to stand before No. 1. It was carried out in pink and white, and was remarkably graceful in outline. As touching the whole, we would say the grouping of *fruit* and flowers for decoration does not seem to us altogether desirable. If fruit be placed upon a table, it is of course at the service of the guests, and if removed the design is at once destroyed.

THE LATE HERR L. FÖRSTER, ARCHITECT.

WE hear with great regret of the death of Herr Ludwig Förster, of Vienna, on the 16th instant, in the 67th year of his age. Förster was the editor of the *Bauzeitung*, and an architect of several important buildings. He had been ailing for some time, and a few months since went to Venice in search of health. He was a man of sound judgment, of the noblest principles, notable for his firmness of character, and was held in deservedly high estimation at Venice, where, as a politician also he took part in the leading liberal movements of the day.

DISTRICT SURVEYORS AND RAILWAY COMPANIES.

WITH reference to a paragraph in our last, Mr. Sibley says he has received a communication from the company, in which they deny liability. He has sent them a further communication, in which he says:—

"In order to expose the entire futility of the arguments adduced, I have only to inquire, whether in the event of the absorption of the whole of my district by the Metropolitan Railway I should or should not be entitled to compensation? I have yet to learn that parliamentary powers can admit of confiscation as a principle. My course of proceeding in the matter will be by memorial to the Board of Trade, and, through Lord Derby, to the House of Lords."

The question is one that the district surveyors as a body should take up.

THE MURDER OF A MILLINER.

MR. DAWSON is to ask the Home Secretary whether his attention has been drawn to the case of Mary Ann Walkley, deceased, and the wording of the verdict delivered by the coroner's inquest impannelled to investigate the circumstances of her death; and if it would not be desirable and humane to introduce legislation for the purpose of limiting and defining the hours of labour in millinery and other establishments where females are employed. The case is this. Mary Ann Walkley, aged twenty, in the employ of Madame Elise, Court dress-maker, 170, Regent-street, working with thirty others, was taken ill; and on Monday morning in last week, her sleeping companion found her dead in bed. The medical evidence at the inquest was to the effect that the bed-rooms were decidedly unfit places for any one to sleep in, and more particularly in the state of health in which the deceased had been. The jury returned the following verdict:—"That the deceased died of apoplexy; but there is too much reason to fear that her death was greatly accelerated by working long hours in a crowded workroom, and sleeping in a close, badly ventilated bed-room." An affecting appeal is made in the *Times* by one of this poor girl's fellow-workwomen, with the signature of "A Tired Dressmaker." She says:—

"I work in a crowded room with twenty-eight others. We are called in the morning at half-past six; and in ordinary times we work until eleven at night; but occasionally our hours are much longer: on the Friday before the last Drawing-room we worked all night, and did not leave off until nine o'clock on Saturday morning. At night we retire to rest in a room divided into little cells, each just large enough to contain two beds. There are two of us in each bed. There is no ventilation: I could scarcely breathe in them when I first came from the country. The doctor who came this morning said they were not fit for dogs to sleep in. Although we do not complain of our house, which is better conducted than many, we should be so glad if some plan could be discovered by which we could get a little less work and a little more air." The Earl of Shaftesbury has called the attention of the House of Lords to the subject; and Earl Granville expressed a hope that Lord Shaftesbury would himself bring in a bill as to it, although he felt that there were difficulties in the way, as had been shown by a committee on a former bill.

This death is a practical illustration of the evils of overcrowding, pointed out by us *ad nauseam*. Hundreds of young girls are thus sacrificed every year; but as death does not always occur so suddenly as in this case, and there is no coroner's inquest, the cause escapes condemnation. There must be legislation to stop this wholesale murder.

CHURCH-BUILDING NEWS.

Cromer (*Norfolk*).—The church here has been restored by Mr. J. H. Brown, of Norwich, architect, at a cost of 1,400*l.*, and at the sole expense of Mr. B. Bond Cabbell. Messrs. Somers & Chapman were the builders.

Ely.—We are requested to state that the covering with lead the external woodwork to lantern tower of Ely Cathedral was undertaken by Mr. Matthew Hall, of Marylebone, plumber.

Costock (*Notts*).—The parish church of St. Giles, Costock, has been re-opened by the Bishop of Lincoln. Nearly a year has elapsed since the restoration of the church, as regards the nave and the general structure, was first commenced. The architect for the restoration was Mr. Scott; and the contractor, Mr. S. Hall, of Leicester. The tracery of the windows has been restored. The plaster ceiling, which formerly formed the roof of the edifice, has been removed, to make way for an open woodwork roof of high pitch; and some of the rafters in the chancel, which are probably five hundred years old, were found to be in such a sound condition as to be fit for further use. The whole of the nave was restored at the expense of Mr. Wild, of Costock Hall. The nave is now re-roofed with high-pitched timber, the beams and open rafters being framed polygonally, and a piece of the ancient wall-plate is framed in. A portion of the west wall of the nave, formerly the eastern wall of the tower, has been removed, and a new two-light window put in its place. There has also been a complete light inserted in the south side of the nave. The estimated cost is rather under 900*l.* The chancel arch is new, and the altar has undergone some renovation. Mr. Scott designed the communion rails, but none of the other carving was executed under his direction. The lamps were designed by the Rev. Frederick Sutton, of Catton, Norfolk.

West Retford.—It being intended to enlarge and restore the parish church of St. Michael, at West Retford, tenders for carrying out the work have been obtained as under. The amounts are irrespective of the value of the old materials, which have been variously estimated at from 170*l.* to 280*l.*:—

Messrs. Tomlinson & Son, East Retford	£1,822
Mr. Job Hopkinson, East Retford	1,770
Mr. John Wilson, West Retford	1,727
Messrs. Wilson, East Bridgeford	1,579
Mr. Charles Cawthorne, East Retford	1,522

The last tender was accepted.

Shenfield (*Essex*).—Shenfield Church has recently been restored by Mr. Bartlett, of Brentwood. This is one of the very few that have clustered oak columns of solid timber with carved capitals and bases. Formerly the arches connecting these columns were of oak also: these will be replaced; the iron shafts that had been introduced being removed. The chancel arch will likewise be of oak, with proper mouldings. The interior of the church will be much enlarged by throwing the base of the tower open within, and enlarging the chancel. Greensted Church, near Chipping Ongar, Essex, has, or had until recently, a portion of its exterior walls formed of roughly-hewn oak-trunks.

Waldron (*Sussex*).—The men employed upon the erection of the new church, at Cross-in-Hand, in this parish, have had a rearing feast at the expense of Mr. J. G. Boucher. The meu, abont forty in number, were presided over by Mr. Atkinson, the foreman of Mr. Alexander Cheale, who placed a liberal supply of refreshments upon the table, and who is the contractor for the building, at a cost, it is said, of from 1,200*l.* to 1,500*l.*, which expense is borne by Mr. Boucher, the proprietor of Heatherden estate, in this parish. Mr. Cheale has also just completed the restoration of Waldron parish church, at a cost of 1,500*l.*

Little Horsted (*Sussex*).—The parish church of Little Horsted has just been restored and reconsecrated. The church, which is situate on an eminence, and is near the residence of Mr. Barchard, at whose cost the work has been done, formerly consisted of a chancel, nave, and tower, with a small vestry; the whole being of various styles of architecture. The tower remains nearly as before, and is Perpendicular. The chancel did not stand in a direct line with the nave, but was turned about two feet in a more north-easterly direction, which peculiarity the architect has preserved. The new work is built of axed sandstone, from the forest, with Bath stone dressings. The floors, excepting where boarded, are laid in Minton's tiles. The seats are all of oak; those in the chancel, as are also the chairs there, being carved. A reredos of marble mosaic surmounts the altar table, running up to the stained glass window, the gift of Mrs. Barchard. An oak roof, tiled in bands, covers the church, and a small stone turret has been added to the tower, which seems never to have been finished before. A new peal of bells has been got from Mr. Mears, of Whitechapel. Mr. Scott was the architect; and Mr. T. Cane, of Brighton, the builder.

Havant (*Hampshire*).—A clock has been ordered from Mr. Benson, of London, for the church here, to be paid for by the local board of health. It will show the time on two dials, each 5 feet in diameter; strike the hours on a bell of 18 cwt.; and the four quarters on two bells, respectively 8 cwt. and 10 cwt.; wheels of gun metal. A condition in the contract for this clock is, that the interior arrangement of the tower is not to be disturbed in any one particular.

Winchester.—The new church of Itchen Abbas, in the Norman style, erected on the site of the ancient Norman edifice (which consisted of a nave and chancel), has been consecrated by the Bishop of Winchester. The designs were by Mr. William Coles, city surveyor, and the contractor was Mr. Charles Fielder, of Ear-end, the price being about 1,100*l.* In the pulling down of the old church it was found that the original floor of it had been destroyed at some distant date, and another put in at a considerably lower level, 1 foot 9 inches, this change being shown by the bases of the Norman chancel arch pillars. This arch, which is ornamented with the billet moulding, and the south arch of the nave, are the only parts of the original church retained in the present edifice, which consists of a nave and chancel, in length 58 feet in the clear, and two transepts, 46 feet 8 inches in length. The pavement is of Poole tiles in red, buff, and black colours, except in the chancel, where the tiles are from Minton's manufactory, the pattern being taken from those of St. Cross Church, and bearing, like them, the monitory legend in ancient lettering, "Have mynde." The east window is decorated with stained glass, representing the symbols of the sacrament (the Pelican), and of the Saviour (the Lamb), from the manufactory of Mr. C. Gibbs, of London. The benches and seats, which will accommodate 200 persons, including thirty-two seats for children in a gallery over the vestry and heating room, are in stained deal, as also are the open timbers in the roof. The apparatus for heating is by Messrs. Haden & Son, of Trowbridge. The three bells (two ordinary bells and a sanctus), from Warner's foundry, are placed in a bellcote at the apex of the western gable, the eastern gable being decorated with a cross. The east window on the exterior presents the appearance of a two-light window, having a circular opening above the centre of the arch. Inside, these are converted into one window, by bands of transition ornaments. The stonework was by Mr. S. Newman.

Malvern.—The foundation-stone of the Cowley Park new church has been laid. The building, when finished, will accommodate over 300. It will consist of nave, aisles, and chancel, the former being 46 feet by 42 feet, the latter 25 feet by 20 feet. It is intended to extend the nave 19 feet, so that the whole length of the structure will be 90 feet. The design, which is of Gothic character, is the work of Mr. Street, of London; and the contractor is Mr. Griffiths, Eldersfield; Mr. Jos. Griffiths, brother to the contractor, being foreman. The land on which the church is being built is the gift of Earl Beauchamp. There will also be room for the rector's house, school-rooms, and cemetery.

Acornbury (*near Hereford*).—The church here according to the *Hereford Times*, has been re, opened after restoration by Mr. Scott and under the superintendence of Mr. Chick. There was an immense accumulation of soil around the walls, so that there was a descent of two or three steps into the interior; a condition which created a damp and unhealthy atmosphere. Near the porch a wall ran westward to a distance of about 20 feet

and was overgrown with gigantic ivy, which had entwined itself in the walls of the church to such an extent as completely to destroy the south-west angle. This angle had, therefore, to be entirely taken down and rebuilt. With this exception, the original walls remain; but the foundations have been underpinned, the accumulated soil cleared away to admit of proper drainage, and the walls themselves re-pointed. It was also found that the walls had bulged considerably, and this has been remedied by four tie-rods. The roof has been covered with Broseley tiles, and the "dove-cot" has given place to a bell-turret of oak, with shingle spire surmounted by a vane. The geometrical crosses at the east and west gables remain untouched; the art of stone-carving having, according to the judgment of Mr. Scott, not made such advance as enables us to improve upon these. Internally, the floor has been elevated nearly to a level with the outer ground, and has been paved with Godwin's black and red tiles.

Eardisley (*Hereford*).—A clock has just been erected in the church here by the parishioners out of compliment to Mr. W. P. Herrick, who has recently expended between 2,000*l.* and 3,000*l.* in the restoration of the church, which is shortly to be opened. The clock is by Mr. Bosworth, and the dial plate faces the turnpike road leading from Hay to Kington.

Cilrheyden (*Pembrokeshire*).—The new church here has lately been opened by the Bishop of St. David's. It has been built, at a cost of about 1,100*l.*, from the designs of Mr. Withers, architect. The plan consists of nave, 58 feet by 22 feet; chancel, 28 feet by 18 feet; vestry, and south porch. The walls are of local stone, with Box ground stone-dressings. The roof is open-timbered, covered with slate, and red tile ridge and crest. A double bell-gable at the west end contains the ancient bells, and is surmounted by a weather-cock 65 feet from the ground. The seats are all low and open, and are all formed of Quebec red pine. The passages and chancel are paved with Staffordshire tiles, and the reredos is a composition of tesseræ, stone, and marble. The style is Geometrical Decorated. The builder was Mr. C. J. Davies, of Newcastle Emlyn.

Congleton.—The new church in Odd Rode will be built as a memorial to the late Mr. Randle Wilbraham, by his family, on an elevated site in the centre of the lower part of the township. It will bear the name of All Saints' Church. The work has been commenced. The style is Geometrical Decorated, though that of the chancel partakes more of the Early English character, with a considerable amount of decoration. There will be a memorial chancel at the east end of the south aisle, under which, but opening outwardly, will be a vault for the use of the Wilbraham family. For the large east window the painted glass has been given by the Hon. Catherine Arden, niece to the late Mr. Wilbraham. The stone of which the walls will be built is from the quarries at Kerridge: the facings on the outside will be of Mow stone, as also the ashlar linings in the interior. The arches, shafts, and other ornamental portions will be of Hollington stone.

Bebington (*Cheshire*).—The parish church of Bebington has just had put up in it a *reredos* of Caen stone, elaborately ornamented, and inscribed with the Ten Commandments; and also a memorial window, by Mr. Wailes, of Newcastle, under the centre of which is inserted an engraved brass, by Messrs. Hardman, of Birmingham. These will form memorial of the late Rector Feilden. The expense a has been borne by subscription. The *reredos* has been executed by Mr. Stirling, from designs by Messrs. Hay, architects.

Liverpool.—The chief corner-stone of a new Wesleyan Methodist chapel, in connexion with the Seacombe circuit of that denomination has been laid, at the junction of Laird-street with Conway-street, near Claughton. The erection of the chapel, with a school attached, is a home missionary undertaking. The land has been given by Mr. Wm. Jackson, M.P. About one-half the necessary sum of 1,200*l.* has been contributed for the erection of the building. The architects are Messrs. W. & J. Hay, of Liverpool; and the builder is Mr. J. Westmoreland, of this town. The area of the ground on which the chapel is being erected is 87 feet by 70 feet. The chapel fronts Conway-street. It is in the Early Decorated style, and consists of a central nave, to which are attached a vestry and two small rooms, behind which is a large class-room. The length of the chapel itself interiorly is 56 feet, the width 30 feet, and it will accommodate about 400 persons. The height from the floor to the apex of the roof is 29 feet. Over the principal entrance there is to be a rose window, and the gable is surmounted with a belfry. The chapel will be principally built of Stourton rubble, with Stourton stone dressings.

STAINED GLASS.

Bitton Church (*Gloucestershire*).—The five-light Perpendicular east window of Bitton Church has lately been filled with painted glass by Ward & Hughes, of London. The design consists of an arrangement of subjects. The principal subject, embracing the three centre lights, is the "Ascension." The figures are well proportioned, and the apostles grouped below seem possessed with the most reverential feeling, beholding the ascending Saviour, who is surrounded by an auriole of angels. The side lights, and below the three centre lights, are panels which form the setting, or, as it were, the frame of the picture, which occupies the three centre compartments. The two side lights are filled with four subjects, in medallions upon a ruby ground, viz., "The Nativity," "Baptism," "Crucifixion," and "Resurrection." At the foot of the principal subject are the words,—"This same Jesus which is taken up from you into heaven, shall so come in like manner as ye have seen Him go into heaven." Beneath this are the three ornamental panels with entwined scrolls. At the foot of the glass, and running across through the five lights, is the dedication and memorial inscription, setting forth that it is erected in honour of God, and in affectionate memory of several members of the Hollings and Boscawen families, who died in India; with the text, "But the souls of the righteous are in the hand of God, and there shall no torment touch them."

All Saints', Langport (*Somerset*).—A memorial window has been erected in this church by Capt. Stuckey, in memory of his grand-parents, the late Mr. and Mrs. Stuckey, of Hill-house. It represents the birth, burial, resurrection, and ascension of Jesus, and was manufactured by Mr. Gibbs, of London.

Calne Church (*Wilts*).—A new east window, with stained glass by Mr. Clutterbuck, of London, has been presented to this church by the Marquis of Lansdowne. The edifice is about to be restored on plans by Mr. Slater, architect.

South Ossett Church (*Yorkshire*).—A stained glass window has been put up at the east end of the chancel to the memory of the late Mr. J. F. Carr, of Carr Lodge, a magistrate and deputy lieutenant, by his widow. The subjects of the window are arranged in three bands of colouring across the three lights, the panels being separated by narrow bands of grisaille white glass crossed by coloured stripes. The subjects are the following from the life of our Lord:—The Annunciation, Nativity, Baptism, Temptation, Agony in the Garden, Crucifixion, Sepulture, Resurrection, and Ascension. The tracery contains our Lord in Glory, with angels on either side in attitudes of praise. The whole of these subjects are upon a diapered blue ground. The window was designed and painted by Mr. F. Preedy, of London.

All Saints', Newcastle.—The two windows erected some years ago, during the incumbency of the late Rev. Robert Green, M.A., have been removed, and placed in the north and south windows immediately above the pulpit. The north contains the figure of Peter, the south that of Paul, each surrounded with ornamental foliage, suspended from which are the armorial bearings of the various subscribers. The chancel has been improved by the opening up of the centre window; and instead of two there are three memorial windows now inserted. The centre window contains the group of the Crucifixion: the north window contains the Resurrection of our Lord; and the south window contains the group of the Ascension of our Lord.

Glasgow Cathedral.—Three new windows have just been erected in Glasgow Cathedral, and as additions to the series of Bible illustrations now nearly completed. The subjects of the windows follow each other in chronological order, the nave containing exclusively subjects from the Old Testament. The artists have not followed the order of the series in the execution of the windows; and consequently it is only now that the plan of the whole becomes obvious, as the spaces are filled with painted glass. No. 1, the subject of which is Adam, is only now erected: the four following subjects—Noah, Abraham, Isaac, and Jacob—have been in their places for some time: within the last week or two Adam, Joseph, and Moses have been added, completing the plan on the north side so far as the triplet windows are concerned. The first window is one with three subjects—namely, "The Expulsion from Paradise," "Labour the Consequence of Transgression," and "Sacrifice the Means of Reconciliation." Colour is obtained by the introduction of angels in all the subjects. This window is the gift of Mr. Scott, of Kelby; and is executed from the designs of Mr. Frees, a Viennese artist, pupil of Kaulbach. The next new window is the gift of Sir James Campbell, and of his brother, Mr. Campbell. The subjects are from the history of Joseph, and the artist was Professor Liebertz. The window, with events from the history of Moses, is by Mr. H. Ainmiller, and is erected to the memory of the late Mr. Ewing, of Strathleven, by his nephews. The centre subject is "The Brazen Serpent;" the first, "The Finding of the Child Moses;" the last, "The Consecration of Joshua."

METROPOLITAN CHURCH BUILDING.

New Church in Pimlico.—On Saturday last Earl Grosvenor, M.P., laid the chief stone of a new church, which it has been determined to erect in St. George's-square, Pimlico. The church, which is dedicated to St. Saviour, is in the district of St. Gabriel and the parish of St. George, Hanover-square, and is to be erected at the expense of Mr. George Cubitt, M.P. for East Surrey, and will have an ecclesiastical district assigned to it. The proceedings connected with the inauguration of the new building were of a somewhat unusual character. Mr. Cundy is the architect. During the last few years the neighbourhood has so largely increased, that it was thought desirable to erect the new church, although, through the exertions of Mr. Belcher, a new iron church was opened only a few months since on the banks of the river. This temporary church it is intended to enlarge.

New Chapel in the Walworth-road.—The foundation stone of a new Wesleyan chapel has been laid by Sir Morton Peto, Bart., M.P. This chapel is to be erected upon the large piece of vacant ground at the commencement of the Walworth-road, and on the southern side. It is intended for the use of the church and congregation now meeting in Lion-street, New Kent-road, and is rendered indispensable by the approaching termination of the lease of the present building, erected in 1806. The site will have a double frontage, one in the Walworth-road, and another in a new street, by which facilities will be secured for the erection of school buildings apart from the chapel, and for which a special fund has been opened. The chapel will have 800 sittings, besides pews for 100 Sunday scholars. Adjoining the chapel will be built on the ground floor a lecture-hall to hold 150 persons, with ministers' and deacons' vestries; and in the upper floor two large class-rooms and a ladies' vestry. The estimated cost is 5,200*l.*, part of which has already been raised.

St. Thomas's, Camden Town.—The Church of St. Thomas, Elm-road, Camden New Town, was consecrated on the 18th inst. by the Bishop of London.

St. John's, East Dulwich, Surrey.—On the 18th inst. the foundation stone of the new Church of St. John the Evangelist for this district was laid by Mr. C. J. Selwyn, Q.C., M.P., who has presented a site for the purpose. A public meeting was held in October, 1861, to consider the want, which has been much felt, of increased church accommodation for the neighbourhood; but since that time many impediments have arisen to prevent the committee from carrying out the resolutions which were then passed. The difficulties are, however, now overcome, with the exception that funds are required. The estimated cost of the church is about 6,650*l.* More than half that amount has already been subscribed, and the committee are using strenuous endeavours to raise the required sum; being compelled to look to others, besides the residents in the district, for assistance. There are to be sittings for 850, 200 at least of which will be free, for the use of the poor. The architect is Mr. Charles Baily.

PROVINCIAL NEWS.

Bradford.—The Beaumont Testimonial Drinking Fountain has been opened for use. It is situate at the Undercliffe entrance to Peel Park. The style of architecture adopted is Romanesque. The whole structure is raised on two broad steps of octagonal shape 13½ feet square. The lowest course of the fountain itself is circular, consisting of one stone 8½ feet diameter; and as the original intention was that this stone should form a reservoir of water for the use of dogs, it is hollowed

out and moulded on the edge, much after the fashion of the basin of an ordinary fountain. From the centre of this basin rises a square plinth and moulded base, supporting the body of the structure, which is also square, with polished granite shafts at each angle, supporting on carved capitals a semicircular arch or archivolt. Within these arches, and between the granite shafts, are four niches, one on each side, containing groups of natural foliage, whence issue four small streams of water, which are received into as many basins, in the form of large shells of polished Sicilian marble, resting on grotesque heads as corbels. Above the archivolt the monument becomes octagonal, and is surmounted by a lamp, the top of which is 28 feet above the ground. The supply of water is regulated by push-valves. The designs and details were by Mr. E. Milnes, architect; and the contract has been carried out by Messrs. F. Stake & Co., sculptors.

York.—The old Masonic Hall in this city having been removed in order to effect the Blake-street improvement, the members of the craft determined upon the erection of a new hall, which has just been completed and opened with Masonic ceremonial. "The new Masonic Hall," says the *York Herald*, "though possessing some claim to architectural merit as seen from the exterior, was never intended for mere outside show. A serviceable building, with proper interior accommodation, was the prime consideration, and well has that been obtained. Few persons merely glancing at the building from Blake-street would imagine that it was the cover to a classic hall, 40 feet long by 30 feet wide, with walls divided into panelled compartments by lofty pilasters, surmounted by Corinthian capitals, with proper bases, and large and fully-ornamented frieze and arched mouldings, from which, on a coved cornice, the horizontal ceiling rests. The ceiling is divided into three compartments, two of which admit light through stained glass, whilst the centre is appropriately filled with stained glass, and the centre with Masonic symbolism. The hall is entered by means of folding doors; and, turning to the right or left under the organ-loft, you are at once in the presence of the strangest compound of forms and objects, that are truly a puzzle to the uninitiated; and you wonder what the thrones, pedestals, implements of workmanship, orders of architecture, books, globes, brazen columns, mysterious paintings, quaint carpets, &c., can be for; and, having most signally failed in elucidation, you return once more to an examination of the room itself and see that one end has two sets of projecting columns slightly raised from the other sides by a platform. There is a throne between these columns, and a slender panel on each side which we are mysteriously informed are for statues of St. John. Looking from the raised platform you face where you have entered, and here is the organ-loft, supported by square columns. Returning by the way you have come, there is a spacious vestibule, on each side of which there is a preparing and reception room, and on the right a semicircular staircase leading to a room for the assembling of the members. This room is about 30 feet long, with a fireplace at each end. It also has an entrance to the organ-loft, and looks down into the body of the hall. The doorway is supported by Corinthian pilasters. The front is of stone, and the windows are of plate glass. The north side is of divisional compartments of brick, from a stoned dado and quoined cornice. The other sides, facing private property, are plain. The architect was Mr. J. E. Oates, a brother of the order. It is intended to decorate the interior with colour. The following tradesmen, all residents of this city, have executed the various contracts connected with the work, viz., Mr. Thomas Kelleyn, bricklayer; Messrs. Bowman & Co., freemasons; Mr. W. Coates, joiner; Messrs. Hodgson, plumbers; Messrs. Cattley, slaters; Mr. Henry Young, plasterer; Mr. John Fryer, smith, &c.; and Mr. Gibson Hartley, painter."——Some definite action has at length been taken with regard to the erection of a covered market and corn exchange in York. The agriculturists are to have a conference with the corporation on the subject.

REPORT OF THE ECCLESIOLOGICAL SOCIETY.

At the annual meeting of the Society, held on the 19th instant, the report of the committee was read. It brought under review various works, for the most part already mentioned in our pages. We take a few passages:—

"We are glad to announce that, although nothing has yet been done towards the restoration of the chapter-house of Westminster this year, yet the Chancellor of the Exchequer has registered the application for a future year.

The committee authorized the president to petition against the spoiling of the view of the west front of St. Paul's Cathedral by carrying a railway viaduct across Ludgate-hill. They fear that the scheme of destroying some of the City churches is not unlikely to be put into operation, in spite of all opposition; but it is satisfactory to have to record that, within the last few days, the parishioners have successfully resisted a scheme put forward under the auspices of the Bishop of London's Act for the demolition of the remarkable church of St. Mary Woolnorth (Hawkesmoor's *chef d'œuvre*), which it was proposed to destroy for the convenience of the General Post-office.

The committee desire to call the special attention of church-restorers to the necessity of providing, in their specifications, for the preservation of ancient remains. Great scandal was justly caused during the year by the fact that the contractor for the repairs at Hexham Abbey claimed as his own, and sold a painted triptych which was discovered during the progress of the works. The beautiful alabaster fragments from the reredos of Toft Church, near Cambridge, which are exhibited this evening, escaped the fate of being considered as 'old materials,' by the zeal of Messrs. Rattee & Kett, the woodcarvers to the Society.

In the colonies we have to notice Mr. Slater's designs for Labuan Cathedral, and for a small church at Sarawak. Mr. Hamilton has designed a church for the English residents at Stockholm. One at Genoa is also in contemplation. From Sydney we hear of the steady progress of the cathedral. All the painted windows, which will form a complete iconographical series, are in hand by Messrs. Hardman. One of them, representing the life of St. Andrew, to be placed in the north transept, and to be made by Messrs. Hardman, is presented by Mr. Kemp, our honorary member.

Our notices of Foreign Ecclesiology are this year unfortunately scanty. The completion of the west façade of Santa Croce, at Florence, must be recorded: as also the negative result of the competition for a west façade to the Duomo, for which Mr. Burges sent a design. The works at Notre Dame, Paris, by M. Viollet Le Duc, are not yet completed. We hear with regret that the scrapings and restorations of the churches at Caen have been most destructive; and the same complaint reaches us from Belgium as to the proceedings of the Royal Commission in that country. The works at Cologne Cathedral proceed steadily under the care of M. Voigtel, M. Zwirner's successor. M. Statz has designed a (Roman Catholic) church for Potsdam, and has restored the abbey church of München-Gladbach, in Rhenish Prussia.

The restoration of the Papal Palace at Avignon, by M. Viollet Le Duc, is immediately to be commenced. M. Abadie is busily engaged in the demolition and reconstruction of the domes of S. Front, Perigueux. At Nismes a costly church, dedicated to St. Perpetua, is almost ready for consecration.

Religious painting at home must be represented this year by the completion, by Mr. Preedy, of the mural paintings as designed by Mr. Le Strange for the east end of St. Alban's, Holborn; also by a triptych, executed by Mr. Westlake for Messrs. Lavers & Barraud, for St. Mary's, Aberdeen; and by a 'Majesty,' by Mr. Smallfield, placed at the back of the recessed tomb, already referred to in St. Andrew's, Wells-street. Abroad we hear in particular of the painted decorations of a church at Alby; and our honorary member, M. Guffens, of Antwerp, has painted a fine altar-piece for Notre Dame St. Nicholas, in Eastern Flanders."

The subject fixed for discussion was the Basilican arrangement of Churches.

PRIZES FOR WOOD CARVING: SOCIETY OF ARTS.

THE following are the awards of the judges:—

First Division: Human Figure in Alto or Bas Relief.—First prize of 8*l.* and the society's silver medal, *not awarded.*

Second prize of 4*l.* to James Meiklejohn, 29, William-street, Regent's-park, for "Apollo Playing to the Shepherds," alto relief, in oak.

Third prize of 3*l.* to G. Rumford, 9, Ecclestone-street, for "The Rose Bud," a child's head in lime-tree.

Second Division: Animal or Still Life.—First prize of 8*l.* to Mark Rogers, 111, Tachbrook-street, Pimlico, for a panel, in walnut wood, of dead game, in a wreath of oak, blackberry, fern, &c., intended for the decoration of dining-room, sideboard, or chimneypiece,—modelled and carved by him.

Second prize of 4*l.* to be divided between — Green and Charles Humphriss, with honourable mention to T. H. Kendall, their employer, for "Life and Death," modelled by T. H. Kendall; executed by T. H. Kendall, — Green, and Charles Humphriss.

Third prize of 3*l.*, to W. Perry, 5, North Audley-street, Grosvenor-square, for the "Willow Wren" (property of Miss Burdett Coutts), "Robin in the Oak" (box wood), "Thrush" (lime-tree), "Nightingale and Hawthorn," "Sedge Warblers and Dragon-fly" (property of W. M. Coulthurst, Esq.).

Third Division: Natural Foliage, Fruit, or Flowers, or Conventional Ornament in which grotesque figures or animals may form accessories, preference being given where the work is of an applied character for ordinary decorative purposes, as representing commercial value:—

First prize of 8*l.*, to T. H. Baylis, 69, Judd-street, Brunswick-square, for his "Casket in box-wood,"

Second prize of 4*l.*, to T. H. Kendall, of Warwick, for "Paper-knife, stiletto, and Christmas box."

Third prize of 3*l.*, to R. Flipping, for "The fish and shell panels," portions of sideboard exhibited by Messrs. Gillow & Co.

Two extra prizes are awarded by the Society of Arts, of 2*l.* each, to J. M. Leach, of Louth, Lincolnshire, for a panel for the pilaster of a cabinet, designed and executed by him; and to C. J. Herly, of 2, Camden-place, South-street, Taunton, for a door panel, designed and executed by him.

THE GUILDHALL LIBRARY.

THOSE who, in years gone by,—say from fifteen to twenty years since,—visited this valuable collection, were generally struck with the quiet and somewhat monastic air of the place in the centre of the great and bustling city. No hermit in his cell in distant parts, in the times of old, could be much more secluded than the worthy librarian was, from morning till night, for many days throughout the year, notwithstanding there was here to be found information in connexion with the history of the metropolis, with other important matters which could not be elsewhere obtained. Now, however, the aspect of this library is much changed, and it is pleasant to see the considerable company which invades this once solitary place. Of late years there has been a more enlightened arrangement here than formerly. Besides books of antiquarian and historical interest, there have been introduced works of standard and general importance and value, magazines and other periodicals; and now those who can obtain permission (and this we believe is readily given to respectable persons by common-councilmen and other City authorities), may take the books home to be read. We may see stalwart and substantial citizens with their railway-bags, and younger men on their way to or from their offices, getting changes of volumes; and the number of readers in the rooms is also largely increased: many besides come to see the curiosities,—most of them found on the site of the Royal Exchange,—which have been collected here. There seems to be a desire on the part of the managers of the library to extend its usefulness and make it a notable City institution; but to the great masses of the population within the London corporation limits this library is not likely to be ever available to any great extent.

For the credit of London city, it is really essential that the citizens should move with the spirit and intelligence of the age; and that they should not allow the library any longer to be eclipsed, as it now is, by such splendid institutions as the Free Library at Manchester, and the Free Libraries and Mechanics' Institutes of other large towns. Instead of setting an example to other places—to those great districts which have grown in all directions around the City, and to provincial towns—the city of London has been slow to move in any matter which has had for its object the spread of general knowledge.

It is now some time since an unsuccessful attempt was made to open a Free Library in the City. Ideas have improved even since that time; and we should like well to see some of those able and liberal-minded citizens who made the attempt before, now endeavour to reinforce their strength as much as possible, and *try again.* We believe that on the last occasion, if but a moiety of those who had a voice in the matter had attended the meeting in the Guildhall, the ill-judged opposition would have been defeated; and the motion for the formation of a Free Library would have been carried by a large majority.

The sum for the support of such an institution as this would be so trifling a poundage upon the rateable property of the City, and so much good would arise from such a library, that it is discreditable, if not worse, to allow the matter to remain longer undone.

DWELLINGS FOR THE POOR: THE MONEY QUESTION.

I HAVE not heard that Mr. Peabody's gift to the poor of London has stimulated other men to follow his example for their benefit. Mr. Alderman Waterlow was at work for them long before Mr. Peabody came to their assistance; and what was done for them by gentlemen at the Mansion House on the 6th inst., seemed to be in consequence of the Alderman's success as a builder for the higher class of workmen. As is well known, this gentleman has erected a block of buildings in Mark-street, Finsbury; and on his outlay for these

buildings, he expects to get 8 or 9 per cent. It seems that he has lately signed a contract for three more such blocks, and expects from them similar interest results. Lord Stanley presided at the Mansion House meeting; and, on the experience and statements of Alderman Waterlow, he and his coadjutors are confident that they can erect blocks of buildings for the accommodation of 400 families (say 2,000 persons), for 50,000*l.*, on which outlay they expect to get a clear interest of 6 per cent. Their rents are to range from 7s. 6d. to 8s. a-week. Lord Stanley truthfully said that the lower classes of labourers could not pay a rent of 5s. a-week; and to this he added, "*what could be done for them was a problem requiring solution*, but which the meeting did not then undertake to solve."

My real business in this letter requires me to note the way in which Alderman Waterlow prepared his ground for his first block of buildings. A party of public men convivially opened them on the 14th of last March; and on the 16th the *Times*, the *Daily News*, and other papers, reported this event. The *Times* said that to prepare his ground for them the Alderman had to "demolish a lot of wretched dwellings which encumbered it;" and the *Daily News*, in a leader, said that "thirty or forty houses—wretched houses it may be—have, we believe, been pulled down, and sixty or eighty families have been sent adrift to find what homes they can in the already overcrowded courts and alleys of the neighbourhood. Others are waiting in fear and trembling for their turn to be driven out; and they look upon the model dwellings with anything but friendly feelings." Further on, well warmed to his subject, the editor said, "We hope that no dwelling, however wretched, will be pulled down without another which can be let at the same rental being erected in its place." Were this done it would considerably alter the Alderman's interests and calculations, I think. Nevertheless, I must express my regret that when Lord Derby framed his Bill to compel railway authorities to build as they destroyed, he was not prescient of the Alderman's building intentions; for surely, had he been so advised, he would, by a special clause in his Bill, or that legislation being questionable, by such an appeal to the Alderman's convictions of duty to poor labourers as would have saved them from the suffering described.

My purpose is to deal with Lord Stanley's suggested but put aside problem; but before I touch it let me say, once for all, that it is a fearful thing for such men as our higher class workmen to be compelled to occupy such dwellings as they generally do; and that the sooner they have fair opportunity to move into houses befitting their growing intelligence and respectability the better for themselves and all the interests which connect them with this world and the next.

Lord Stanley neglects a problem which I, in common with you, Sir, and many other men, have been upon for long years. The difficult point in it is the money question; for it has been said by Royal and other eminent men, that unless 7 or 8 per cent. can be realized on such investments men will not touch them. This is said now; and is the saying a mere echo or a prostrating truth? This question leads to another: Are all men, *on all occasions*, come to such a pass on interest questions that nothing short of 6 or 8 per cent. will satisfy them on their investments? Why, for ages, and year by year up to this time, millions of money have been invested in landed and funded securities without a chance of getting interest as high as 5 per cent. The workable acreage of this kingdom does not give the owners of it 5 per cent.,—the greater portion of it much less; yet men will have it on such terms, as all men of the world well know. In this place it is not necessary for me to say why men will so invest year by year millions of money: it is quite enough for me to say that they do; and that it is done on considerations satisfactory to their own impulses and judgments in the disposal of their money. I cannot close this paragraph without noting a singular trait in men,—not, I think, so much in their characters as in their habits. A man shall be found determined to be the owner of a great estate at any price;—largely indifferent on the question of his income for his capital in his rents. But no sooner is he in the possession of the estate than he shall be found keenly huckstering over the price of half-a-score of cottages for his labourers. This is a curious trait in habits; and, on my experience and observation, I must believe it too general among all classes of wealthy men. They purchase and build for themselves with a certain recklessness; but, when it comes to the question of housing their dependents, they are too often Mammonists;—will show that they know the value of a pound as well as their neighbours.

Between ourselves, my belief is that the Devil has an insidious hand in the matter: he is very active in apparent trifles, which, nevertheless, are connected with awful moral consequences; and it will be well for mankind to escape from such Satanic thraldom in habit with as little delay as possible.

But to come nearer my proper purpose in this letter, and through a matter for which motive may be declared. We have here, in London, thousands of men who year by year give—not invest—large sums of money to sustain societies and missions occupied with the interests of mankind in this world, and that to which we all hasten. I emphatically say that this is done on no mere philanthropic impulses. It is the result of personal resolution. They are personally grateful to the Giver of all good things; and what they do in the ways here indicated is done on conviction of personal duty to GOD and their fellow men. In a word, what they do in all such cases is done on the movings of exalted principle within them; and, in another word, when we can excite some principle in men (I shall not stop to canvass its quality) which shall dominate considerations of interest, on trifling investments for dwellings for the poor, we shall be close to a practical solution of our problem.

At the Mansion House, the other day, Mr. Alderman Finnis (all honour to him) appealed for such dominating principle when he asserted that "as masters and employers they were doing great injustice to the poor by pulling down their dwellings without providing others." Possibly Alderman Finnis alluded to the late destruction of houses by his brother alderman; or he might have darkly hinted at a similar destruction by the gentlemen around him. With that I have nothing to do in this place. My business is to direct attention to the tens of thousands of loathsome sin-creating dwellings to be found all over London, and to ask, Is it not a crying "injustice" to allow responsible human beings to tenant them? Then the principle which compels such declaration will be to such men the principle which shall also compel them to spurn away from their thoughts considerations of high interest for such money as they may hereafter invest to give such fearfully miserable occupants better dwellings. If happily this stirring principle shall be found within many men, then our important problem will be nobly solved.

And for the practical solving of it what trifling investments men will have to make when they set about the matter in earnest—what paltry sacrifices of interest! On the 27th of last December Mr. Taylor read a paper before the Society of Arts on "Cottage Buildings and Sanitary Appliances;" and, in the discussion which followed the reading of it, Mr. C. Asprey declared himself ready to give 100*l.*, or invest it to carry low interest, in furtherance of the matter. Very well; and in honour of the offer I will, for my present illustrative purpose, limit my calculation to 100*l.* investments. Now, in our London commercial directories there are, I believe, over 100,000 trading firms, and in the "Court Directory" over 12,000 names. Directly and indirectly all those persons employ, or are importantly ministered to by, the London labourers and workmen; and were it possible to rouse each of them to the investment of 100*l.* for the purposes of this letter, then over 11,000,000*l.* would be obtained. I may say that, as a result of much careful inquiry and calculation, good use could be made of even this enormous sum for our building purposes. I am no wild enthusiast in the matter of getting money together for public purposes. I have lived too long, and know the world too well, to let enthusiasm override my judgment in such calculations and expectations; but this I will fearlessly say, as a result of inquiry, that should any man roundly and publicly assert, that all our Directory men are so indifferent to the injustice indicated by Alderman Finnis as to be hopelessly deaf to all such investment appeals, come from whom they may presently, that thousands of them would, on the instant, prove his mistake by action in the matter.

P.

LIGHT AND AIR CASE.

Phillips v. *Willraham*.—This was a motion (in the Vice-Chancellor's Court) to commit the defendant to prison for breach of an injunction, restraining him from erecting any building, on the site of a house which formerly belonged to him, in Carey-street, Lincoln's-inn-fields, in such a manner as to interfere with the access of light and air to certain chambers belonging to the plaintiff. The plaintiff is the owner in fee simple of a set of chambers, situate on the ground-floor, and in the area of No. 7, New-square, Lincoln's-inn. One of the windows of the chambers on the ground-floor looks out on a small yard belonging to the chambers; and the plaintiff now complained that the defendant had so constructed the new house which he had built upon the site of the old one, as to obstruct the admission of light and air to the chambers on the ground-floor. Since the injunction was granted the plaintiff had on a former occasion moved to commit the defendant for a breach of it; but as the defendant, before that motion came on, commenced pulling down the obstruction complained of, the motion was withdrawn on the defendant paying the cost of it. This, then, was the second breach of the injunction complained of by the plaintiff.

The Vice-Chancellor said that the defendant admitted that he had raised the roof which rose from the wall opposite to the window of the plaintiff's chambers one foot, and the evidence showed that he had also raised the wall on the outside of the yard. By the way in which the defendant had rebuilt his house access of light and air to the plaintiff's chambers was impeded; and as this was the second breach of the injunction by the defendant, there must be an order for his committal, and he must pay the costs of this motion.

RIGHTS OF YEARLY TENANTS TO WINDOWS.

IN *Jacomb* v. *Knight*, it was decided that a common tenant from year to year was entitled to an injunction to restrain the tenant of an adjoining house, *belonging to the same landlord*, from obstructing windows, although such windows had not been enjoyed for twenty years. The ground of the decision was that, inasmuch as the landlord himself could not have derogated from his own grant by stopping the windows, any tenant claiming under him must be in the same position. Also, that although the tenancy of the plaintiff was created by word of mouth, it gave to the plaintiff the same rights of light as if it had been by a formal document; and that, notwithstanding as soon as the bill was filed the landlord gave the plaintiff notice to quit; that did not take away his right, but only affected the amount of damages to which the plaintiff was entitled.

WATER! WATER! WATER!

IN reference to the communication of your correspondent "*Bis dat qui cito dat*," if all who want *water* wrote to you, I should say that the mere catalogue of the names of the writers would suffice to fill one *Builder*, though in a "dry" way to all readers.

I occupy a house in this richly-stuccoed neighbourhood, called by the vulgar "Pimlico," but in refined language named "*South* Belgravia." There are *four* persons in the house, and we are often "*quite dry*" on Sunday evening, and through the greater part of Monday. Even to the time I am writing this, 4·30 p.m., there has been *no* welcome sound of water coming in. Certainly I think that, considering I pay the Water Company three pounds (3*l.*) per annum, I should not be left without that useful article for one-seventh of my time.

However, my object in addressing you is, *not* to grumble about my individual wrongs, but to suggest what I consider a simple remedy for the "dry" condition of so many Londoners. It is this; viz., that the water companies should have the supply turned on *late* on Saturdays and *early* on Mondays, instead of as now *rather earlier* on Saturdays and *later* on Mondays than during the other days of the week.

We may congratulate ourselves on the recent defeat of Mr. Somes's Beer Bill. What a state we should have been in, if the Legislature had "cut off" the beer on the very day upon which the water is "cut off!"

Pray do, for a short season, turn your attention to the turncocks. It is with great confidence that I ask you to do so; as, being a constant reader of your periodical, I know full well that you very strongly hold the opinion that to be without water is as unhealthy as it is uncomfortable.

A DRY ONE.

Miscellanea.

ARTIFICIAL SLATE.—An artificial Slate, for use in schools, &c., is spoken of as invented by a Mr. J. N. Pierce. Almost any material, it is said, may be coated with this slate as with a wash, and then written or drawn on. The wash may be put on paper or linen, which may be rolled up.

DESTRUCTION OF WELBECK ABBEY TOWER.—For some time past workmen have been employed in altering Welbeck Abbey, Notts, the seat of the Duke of Portland, and a storm lately visited that place, and a thunderbolt descended upon the tower, striking it with such force that the four-dial tower clock was completely demolished and old Welbeck's tower split down, the report of the thunder and the fall of the old pile causing great alarm among the workpeople.

A NEW RAILWAY DANGER.—The *Smyrna Mail* of June 2nd contains the following:—We continue to receive alarming accounts of the ravages committed by the locusts. The swarms have in many cases lodged on the Ottoman Railway, and compelled the engine-drivers to proceed with great precaution. The locusts, on being crushed with the engine on the rails, make them excessively greasy and slippery, so that the wheels will scarcely bite. Sand has been dropped on the rails to give the wheels a hold.

DISCOVERY AT COMBE ABBEY (COVENTRY).—The workmen employed in the restoration and rebuilding of this structure, the seat of Earl Craven, while engaged in taking up the floors of the east cloisters of the Abbey, preparatory to the re-erection of that wing, made the discovery of eight stone coffins, with bones, and also a lead coffin, which were in a perfect state of preservation. It is supposed that they belonged to monks connected with the old abbey. It is intended to re-inter the coffins and bones in the new chapel about to be built in the abbey.

DAMAGES AGAINST RAILWAY FURNACES.—A case has been tried in the Jury Court, Edinburgh, before Lord Barcaple, in which Messrs. Cooper & Wood, bottle-manufacturers, Portobello, claimed 1,000*l.* damages against the North British Railway Company, for injury sustained by the house and grounds of Baileyfield, Portobello (of which the pursuers are proprietors), from smoke, dust, and gases discharged from the defenders' works for converting and hardening iron rails. A large number of scientific witnesses, including chemists, medical practitioners, architects, and horticulturists, were examined on both sides. The evidence was to a great extent conflicting, but it seemed to be proved that the vegetation had, since the erection of the furnaces, been considerably injured, and that the comfort of the occupation had been interfered with. The jury were divided in opinion, but by a majority of nine to three they found for the pursuers, with 200*l.* damages.

THE HAMBURG INTERNATIONAL EXHIBITION.—The example of England in establishing the noble precedent of International Exhibitions, after finding imitators in the United States, France, and elsewhere, has at last aroused the emulation of the phlegmatic Germans. The free city of Hamburg will next month be the scene of an "International Agricultural Exhibition," to commence on Tuesday, the 14th, and continue one week. The Exhibition Committee have entered into negotiations with various steamship and railway companies, to obtain reduced tariffs on freight for contributions from numerous points on the Continent. The most important agricultural societies of all countries, including our own Royal Agricultural Society, have promised to give all the aid and support in their power. The proposed Exhibition will be held on the "Heiligengeistfeld," or "Field of the Holy Spirit," just outside of the city of Hamburg.

ELECTRIC STEERING APPARATUS.—The increase in the size of the ships of the royal navy, as well as of those in the mercantile marine, has rendered necessary many important changes and improvements in the construction and working of these vessels. In respect to steering, electricity is at present regarded as the only means of ensuring rapidity and accuracy. A new plan has just been tested, it is said successfully, on the trial trip of the *Royal Oak*. The apparatus is the invention of Mr. Gisborne, C.E. The communication between the captain and the helmsman and engineer is maintained by means of a coil of conducting wires. The wires are covered, by Messrs. Silver's process, with a thin coating of indiarubber, not thicker than the finest film of silk, but protected by tarred hempen cable. The motive power is a small galvanic battery, which, when charged, will remain permanently in action for twelve months. On the paddlebox, bridge, forecastle, or any other place convenient for the captain, there is fixed a circular dial-plate with a handle or knob fixed to the revolving arm, and upon the rim of the dial the words "port," "steady," "starboard," "hard." A small box is placed before the helmsman, upon the face of which are metal flaps corresponding in number and covering the orders that may be transmitted by the apparatus. For the engineer the arrangement is of a similar character, the words on the dial-plate being "stop," "ahead slow," "half speed," "full speed," "back half speed," "back full speed," and so on. To insure accuracy, the helmsman or engineer sends back a signal to the captain; and every order transmitted is registered, and remains permanently in sight until another order is sent.

PROGRESS OF WESTERN IDEAS IN THE EAST. The Emperor of China, wishing to show some distinction to the foreigners who helped him in the hour of need against his rebel subjects, has had some gold and silver medals struck, not unlike the Crimean and Italian medals.

POST-OFFICE SAVINGS BANKS.—A Parliamentary return states that there are now 1,882 Post-office Savings Banks in England, 140 in Wales, 345 in Scotland, 286 in Ireland, and 10 in the Islands. There is a total of 360,320 depositors in these banks, who have deposited 2,755,052*l.*, and have withdrawn 640,030*l.* up to the 31st day of March, 1863.

WESTMINSTER PALACE.—Sir M. Peto asked the First Commissioner of Works whether any contract had been entered into with Mr. Szerelmey to arrest the decay of the stone of the New Palace of Westminster; and if so, under what advice the First Commissioner acted in entering into such further contract with Mr. Szerelmey pending the report of the commission which recommended that nothing further be done in the use of the process of Mr. Szerelmey. Mr. Cowper said that no contract was now pending. A contract had been entered into in 1860, but no works were proceeded with under it, and it was not now in force.

AWARD OF PRIZES TO THE SWEDISH AND NORWEGIAN INTERNATIONAL EXHIBITORS.—The distribution of the prizes awarded to the Swedish and Norwegian exhibitors at the International Exhibition of 1863, took place on the 3rd of May, in the Grand Hall of the Bourse. The king deputed his brother, Prince Oscar, to present the prizes to the successful candidates. According to the *Social Science Review*, the prince urged upon the assembly the necessity of their efforts in aid of the success of every Exhibition, but more especially of the Scandinavian Exhibition proposed to be held at Stockholm, and almost unanimously agreed to by the Society of Arts and Manufactures of Sweden. He afterwards presented the prizes to the successful candidates, and also some Swedish decorations from the king to the sculptor Molin and the artist Berg.

WALKING ON DEEP WATER.—Some interesting experiments have been performed on the ornamental water in the Crystal Palace grounds, to test the power of a man to walk through water in an upright position. A number of scientific persons assembled to witness the proceedings. The man who was to operate had on one of Stewart's patent floats, which consists of two air-tight vessels, one fitted under the chest and the other down the back, and communicating with each other by a tube. These being worn under the ordinary clothes were not visible to the public. Having satisfied the company of the perfect buoyancy of the float, he next proceeded to put on a pair of Stewart's propellers. These are a kind of small paddle to fix on each heel, and so arranged that when the foot moves forward it cuts through the water edgewise, but as soon as it is subjected to a lateral pressure the paddle shifts, so as to offer a broad flat surface of resistance to the water. This simple arrangement enabled the man to walk about much the same as if he were on land.

ACCIDENTS.—Part of the old quay at Maryport, nearly opposite the Custom House, has fallen suddenly into the harbour, owing, it is said, to rain which had fallen.——While a steam traction-engine, weighing 11 tons, was driven across the suspension-bridge at Earith, in Hunts, two of the cast-iron girders supporting the roadway snapped with a loud report. The planking and timber-work of the floor were fortunately strong enough to hang up the broken girders, while the engine pursued its journey safely across. Some timbers have been secured to the broken girders, by direction of the Isle of Ely surveyor, so as to make the bridge temporarily passable for loads of moderate weight.——The coffer-dam which covered the mouth of the Great Low-water Basin at Birkenhead has given way. The gap is through the centre of the dam, and forms an opening of about 100 feet in width, or one-third of the distance across. All the work within the basin was finished, and ready for the admission of the water, with the exception of a small portion of the excavations immediately within the dam. The rush of water, besides breaking and driving in the material forming the dam, swept away some temporary shores and staging alongside the walls of the basin. No damage whatever was done to the masonry, the gates, the sluices, or any of the permanent work of the low-water basin. The rush of water has deepened the basin 9 feet, it is said; but where the material has gone to does not appear.

REGENT'S PARK. — The flower garden in Regent's Park has been opened to the public. It is situate on the west side of the long walk near the Colosseum. Several stone vases are interspersed in different parts of the garden, and contrast with the flowers, now in full bloom. The Gothic drinking fountain, given by Mrs. Gurney, is also a convenience to the frequenters of the park, as it is placed near Gloucester-gate.

BURLINGTON HOUSE AND THE NATIONAL GALLERY.—In reply to a question in the Commons last week, Mr. Cowper said that a scheme had been for a considerable time under the consideration of the Government for erecting a new National Gallery in the rear of Burlington House, leaving the existing National Gallery entirely in the hands of the Royal Academy; and until some decision had been arrived at on the part of the Government, he had thought it expedient that the ground at the back of Burlington House should be appropriated to the temporary use of the Volunteers, for the purposes of drill.

DISCOVERY OF A SAND-IMBEDDED TOWN IN FRANCE.—A singular discovery, it is said, has been made on the French coast, near the mouth of the Garonne. A town has been discovered buried in the sand, and a church has already been extracted from it. Its original plan shows it to have been built near the close of the Roman empire. The original paintings, its sculptured choir and capitals, are adorned with profuse ornaments, which are attracting a large number of visitors. This is all that remains of those cities described by Pliny and Strabo, although the Gulf of Gascony abounds in ruins of ancient cities.

THE CHURCH OF ENGLAND ON THE CONTINENT.—The church of Creuznach, near Bingen, on the Rhine, has been formally opened for the service of the Church of England. The burgomaster, town authorities, church committee, German pastors, and the English clergy present, entered the building in procession. The choir of an old German church, which had become a ruin during the Thirty Years' War, having been given in 1856 by the authorities to the English community, has now been thoroughly repaired, chiefly at the expense of Mr. H. Moor, of Brighton, as announced in *Galignani's Messenger*. The stone-work of the ancient windows has been restored, and stained glass placed in various situations.

WALL DECORATIONS, HORSHAM, SUSSEX.—The chancel of St. Mark's Church has been decorated throughout in a polychromatic arrangement by Messrs. Harland & Fisher, of London. The ceiling is studded with gold stars in the panels, and the intersecting ribs picked out in bright colours. The jambs of the window — a three-light lancet — have a trailing pattern of passion-flower all round them, upon an alternately banded ground of light blue and buff. The walls, as far as the springing of the window arches, are treated chiefly in diaper work of murray colour and chocolate in various arrangements, and from this point to the roof spring vine foliage and fruit in chocolate and buff. A cornice on either side is coloured to correspond with the ribs on the roof, with the emblems of our Lord's passion corbelled out beneath it. The salient points and architectural features are all emphasised with bright colours and gold, which is but sparingly used in other parts. The chancel arch itself is decorated in tints of cold grey, to serve as a framework.

WOOD SAWING MACHINERY. — Messrs. Easton & Amos, of the Grove, Southwark, have just obtained a patent for an invention of improved machinery for sawing wood. In order to secure the log from rising with the drag of the saw on its bed while being cut, the patentees keep it down by means of pressing rollers or bowles carried by vertical water cylinders, in which stationary pistons are inserted, their rods being pendant from a transverse beam of the saw-frame. The upper and lower ends of each cylinder are brought into communication by an outside pipe, which allows of the water which fills the cylinder to pass from one to the other side of the fixed pistons. The water forms an elastic packing between the piston and the lower ends of the cylinder, and serves to retain the bowles of the cylinders in contact with the timber when once lowered in contact therewith. As this machine would be required to operate upon baulks or logs of varying thickness, the cylinders are fitted with a vertical rack in gear with pinions for raising and lowering the cylinders: by this means the position of the cylinders may be adjusted to suit varying sizes of timber. The *Mechanics' Magazine* of June 19th, by aid of diagrams, describes various other peculiarities and advantages of this machinery.

THE PRINCESS'S THEATRE.—Mr. Walter Montgomery, put forward and kept back by Mr. Fechter for many months, made a satisfactory first appearance last week at the Princess's, in "Othello," having transferred his services without leave. He showed himself to be greater as an elocutionist, perhaps, than as an actor, but was not wanting on some of the occasions demanding the exhibition of continuous passion. We desire to see more of him. Mr. Marston's *Iago* was an admirable piece of acting.

NEW SCHEME FOR A LONDON AND PARIS HOTEL.—A limited company is being got up for the establishment of a "through system" of hotel accommodation between London, Paris, and elsewhere, with couriers for travelling customers. It is proposed to purchase Meurice's Hotel in Paris, and first-class hotels in Boulogne and Folkestone, and also Crockford's club house and adjoining property on which to erect a new hotel. The capital of the company will be 400,000*l.*, in 20,000 shares of 20*l.* each. Temporary offices have been opened at No. 53, St. James's-street, S.W., and elsewhere.

HALIFAX SCHOOL OF ART.—The fifth annual examination has just taken place. A greater number of medals has been awarded this year than on any previous occasion; and besides, the character of the works is higher than usual. Out of thirty-six works in competition nineteen medals had been awarded, whilst three others received "Honourable Mention." Eight of the successful medal works have been selected for national competition at South Kensington. The prizes offered by the local art patrons have stimulated the students. The number of medals taken this year is considerably above the average, as last year there were but fourteen. Considerable attention has been directed to the higher branches of study, and medals taken for design as applied to manufacture and architecture for the first time.

MONUMENTS TO GOETHE, SCHILLER, AND LESSING.—A dispute has been for some time going on at Berlin as to the question of precedence between Schiller and Goethe in the centre of Gensd'armen-markt and before the theatre. The foundation stone of the Schiller Monument had been laid precisely in the centre; but a Goethe Committee obtained permission to erect a Goethe Monument also, and they requested the Schiller committee to move their stone a little to one side so that neither Schiller nor Goethe should have the precedence. This the Schiller committee refused to do, and hence the *ideal* row. At last a happy thought occurred to some one that a Lessing committee should also be formed, and Lessing occupy a place as well as Goethe and Schiller, leaving Schiller in the centre. At first the Goethe committee assented; but at last they repented of their assent; and the question of precedence appears to be now as far from a settlement as ever. A paper war is still going on about this business.

GAS.—The beneficial consequences of a steady reduction of price to an extremely low standard were never more remarkably displayed than by the liberal and intelligent management adopted by the Plymouth Gas Company, whose successive boons to the public, which the public have as successively repaid by increased patronage, we have repeatedly had occasion to record. The price from Michaelmas next is to be 2s. 9d., as announced at the annual meeting recently held. The chairman in opening the meeting said he had no particular observations to make: he could only express his gratification by saying that the company was never in a more prosperous state; the proceedings of the company during the past year having exceeded their most sanguine expectations. The report was read and adopted: the directors were re-elected; and it was decided that 10s. be paid on the original shares; 7s. 6d. on the additional shares; and 2s. 3d. on the new additional shares; commencing on the 1st of January. While gas is cheaper in Plymouth than in Newcastle itself, the shares are doubled in value. When the Bill for the "additional shares" was proposed, the directors met with great opposition, and a rival company was threatened, although the price of gas in Plymouth was then much lower than in other towns. The company was, therefore, under the necessity of limiting the dividends on those shares to 7½ per cent. The liberality, however, always shown by the company to the town should now be acknowledged by an amended Bill to equalize the limit of the dividends of these "additionals" with that of the original shares, and we are sure the town would be benefited in the end. Even now the public lights (which are contracted for at a higher price) are to be reduced to 2s. 6d. per light. Such a company deserves encouragement.

ORNAMENTAL SCULPTORS' SOCIETY.—The designs for caps sent in reply to advertisement in our columns are to be seen at the rooms of this society, 9, Holywell-street, Westminster.

UNDERGROUND STREAMS: POLLUTION.—The Court of Queen's Bench has just decided, in a sharply-contested case, that a right of action lies by the owner of a stream against any person who by mining operations or otherwise causes a pollution of the waters of the stream, even although the polluting matter has to travel for a distance of two miles, and reaches the stream by an unknown and subterranean channel.—*Hodgkinson* v. *Ennor*.

CHAPEL, THETFORD UNION HOUSE.—On Thursday, the 11th, the first stone of a chapel for the use of the inmates of the Thetford Union House, was laid by Lady Walsingham. The building, which is of the simplest Gothic style, will accommodate 150 persons, and will supply a want which has been greatly felt. The contract for the mason's work has been taken by Mr. J. Palmer, of Thetford; that for the woodwork, by Mr. J. Scott, of West Tofts.

THE SHAKSPEARE FUND.—Mr. and Mrs. Charles Kean have consented to read this (Friday) evening, at St. James's Hall, passages and scenes from the plays of Shakspeare, in aid of the fund now being raised for the purpose of erecting a national memorial of the poet. The readings of these accomplished *artistes* in Dublin last year raised the utmost enthusiasm in the audience. The present is an opportunity to hear them which will not occur again for a long time to come.

NEW ORPHAN ASYLUM AT SLOUGH.—The building, which abuts on the Slough railway station, was formerly known as the Royal Hotel, and stands in spacious grounds; but to meet its future requirements very large additions have been made to the original, comprising a school-room and dining-hall, 74 feet in length, built on the south side, surrounded by a terrace, while an extra story has been raised for dormitories, &c. The entire building, as converted, is in the Italian style, from the designs of Mr. T. M. Nelson, architect. The interior has also been renovated and improved; the baths, lavatories, and nearly the whole of the rooms fitted with patent warming apparatus, of Messrs. May, of Holborn; and the ventilation has also been attended to. The inauguration took place on Wednesday, the Prince and Princess of Wales presiding on the occasion. Professor Sterndale Bennett composed a cantata, which the ladies and gentlemen of the Royal Academy of Music performed. The route from Windsor to Slough was gaily decorated with flags and banners.

ERECTION OF A BRIDGE BY A "WORKING" COMMITTEE.—For a number of years past a committee has been in existence in Partick, near Glasgow, for the purpose of improving the old Church-road, which has from time immemorial crossed the Kelvin by stepping-stones. This committee was composed of gentlemen who could never agree as to how they should carry out the duties devolving upon them. Lately, however, a public meeting was held in Partick, at which the committee gave in their resignation, and at which another committee of *working* men was appointed. To the agreeable astonishment of the inhabitants the committee at once set about the purchase of iron, with which they made four substantial trusses, and then procured wood for the bridge. During two or three weeks the committee's spare hours had all been busily employed in preparing the timber; and on Saturday before last they proceeded, to the number of between 100 and 150, to the spot with all the materials, and *in two hours and a half*, according to the *Glasgow Mail*, completed a "substantial and commodious structure," bridging the Kelvin by a single span of 120 feet in length. The work was done in the presence of hundreds of spectators, two instrumental bands lending their charm of music to aid in the good work. The men engaged at the lower part of the bridge were obliged to work standing in two or three feet of water all the time.

TENDERS.

For the completion of villas at Selhurst Park:—

Simms	£988 0 0
Hollidge	865 0 0
Clerihew & Lascelles	840 0 0
King	795 0 0

For chapel, Mile End-road:—

Kelby	780 0 0
Warner	630 0 0
Withers	600 0 0
Goodman	580 0 0
Simms	575 0 0

For school and master's house, Strutley-street, King's Norton, Worcestershire. Mr. C. W. Orford, architect. Quantities supplied by Mr. F. W. Fiddian:—

Harwicke	800 0 0
Wilson	790 0 0
Matthews	765 0 0
J. Chilcs	749 0 0
T. Chilcs	743 14 0

For repairs, decorations, &c., at No. 47, Cambridge-terrace:—

Sansums	£320 9 0
Mason & Son (accepted)	302 0 0

For passenger station and four cottages at Seaford, for the London, Brighton, and South Coast Railway Company:—

Simms	£2,993 0 0
Sawyer	2,893 0 0
Morling	2,814 15 0
Davey	2,750 0 0
Fabian	2,691 0 0
Reynolds	2,469 0 0
Simmonds	2,359 0 0
Perry (accepted)	2,277 0 0

For warehouse, Little Knightrider-street, Doctors' Commons. Mr. Mathews, architect:—

Axford & Co.	£2,100 0 0
Sims	2,089 0 0
Ramsey	1,995 0 0
Newman & Mann	1,952 0 0

For new school at Edmondthorpe, Leicestershire. Materials for walling found. Mr. R. W. Johnson, architect:—

Clifton	£838 0 0
Neale	695 0 0
Fast	620 0 0

For alterations to a residence at Kettering, Northamptonshire. Mr. R. W. Johnson, architect:—

Margetts	£516 0 0
Hawthorn	500 0 0
Henson	499 0 0

For new premises at the corner of New Southwark-street, Borough, for Messrs. Mait & Davenport. Messrs. Searle, Son, & Yelf, architects. Quantities supplied:—

Clemence	£8,148 0 0
Sands	8,100 0 0
Turner & Son	7,998 0 0
Dove, Brothers	7,963 0 0
Higgs	7,843 0 0
Rider	7,830 0 0
Downs	7,240 0 0
Hill, Keddell, & Robinson (accepted)	7,236 0 0

For a pair of semi-detached houses, at Croydon, for Mr. Wm. Chambers. Mr. James Tolley, architect. Quantities not supplied:—

Rawlins	£1,963 0 0
Rowland	1,135 0 0
Vincent	1,100 0 0
Richardson	960 0 0

For extension of tannery premises at Godalming, for the West Surrey Tanning Company. Mr. Henry Peak, architect. Quantities supplied:—

Moon & Son	£1,982 0 0
Mason & Son	1,925 0 0
Hallett	1,900 0 0
Wood & Munn (part accepted for the pits only)	1,823 0 0
Pollard (part accepted for the buildings only)	1,647 0 0
Smith	1,640 0 0
T. & J. Loe (withdrawn in consequence of an error)	1,369 0 0

Decorations, &c., to the Vestry Hall of St. George the Martyr, Borough-road, Southwark:—

Wilson	£98 16 0
Smith	87 17 0
Higgs	66 0 0
Wood	59 0 0
Brazier & Son (accepted)	53 0 0

For erecting offices, &c., No. 30, Mark-lane, and offices in the rear, for Mr. R. P. S. Standish. Mr. J. Clarke, architect:—

	No. 30, Mark-lane.	Offices in the rear.
Rider	£3,355 0 0	£1,185 0 0
Marsland	3,300 0 0	1,150 0 0
Timpson	3,765 0 0	1,072 0 0
Ashby & Sons	3,521 0 0	1,063 0 0
Patrick & Son	3,494 0 0	980 0 0
Faulkner	3,450 0 0	1,020 0 0
Coleman	3,300 0 0	920 0 0
Hardiman & Sandon	3,248 0 0	900 0 0

For upper portions of premises, New Southwark-street. Messrs. Searle, Son, & Yelf, architects:—

Clemence	£8,148 0 0
Sands	8,100 0 0
Turrner & Sons	7,998 0 0
Dove, Brothers	7,963 0 0
Higgs	7,843 0 0
Rider	7,840 0 0
Downs	7,240 0 0
Hill & Co. (accepted	7,236 0 0

Died, on the 23rd inst., at his residence, Pelham-crescent, Brompton, GEORGE GODWIN, Esq., aged 73: widely beloved and respected.

TO CORRESPONDENTS.

A DOMESTIC BEREAVEMENT suffered by the Conductor of this Journal must serve to account for some omissions in the present number.

A. W. (a price for "*labour only*" does not include any materials).—W. E. C. C.—T. L. D.—R. B.—T. R. (we hope to give a notice next week.)—H. M.—Mr. N.—F. R. W.—P. le N. F.—R. R.—G. P.—J. H.—A. S.—J. M. M. (the insertion of such inquiries would be inconvenient. There are very good paving bricks of the kind mentioned)—J. M.—C. F.—Subscriber from the First.—F. D. B.—S. P.—T. S. G.—C. P.—J. W.—J. S.—W. G. S.—H. B.—F. P.

We are compelled to decline perusing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; notunecessarily for publication.

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

THE *Standard*, Nov. 15, speaking of Benson's Watches in the Exhibition, says:—"It has evidently been Mr. Benson's object to render them rivals in point of beauty of decoration to the elegant Swiss knicknacks, and at the same time to preserve the characteristics of an English watch—strength, durability, and accuracy. In point of decoration his watches are certainly unsurpassed." Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch, adapted to all climates. Benson's Illustrated Pamphlet on watches (free by post for two stamps) contains a short history of watchmaking, with descriptions and prices. It acts as a guide in the purchase of a watch, and enables those who live in Scotland, Ireland, Wales, the Colonies, India, or any part of the world, to select a watch, and have it sent free and safe by post.—J. W. BENSON, Prize Medallist, 33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

ADVERTISEMENTS.

FOREST HILL.—Freehold Building Land.

MR. H. O. MARTIN will SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, 6th JULY, 1863, valuable PLOTS of BUILDING LAND in Parcels as at the Mart, and at the Auctioneer's Offices, 18, Adam-street, Adelphi.

STRATFORD.—Removed under order of Assignees and under Bill of Sale.

MESSRS. KEMP & CO. will Remove and SELL by AUCTION in the Large Room at the YORKSHIRE GREY, High street, Stratford, near the Gate on THURSDAY next, JUNE, without any reserve, 12,000 pieces of PAPERHANGINGS, in various designs, and 200 lots of Builders' Ironmongery, suitable to builders, parties repairing, and others. View morning of sale, and Catalogues at Place of Sale, and Auction Offices, 27, Coleman-street, Bank.

MR. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN, ARTISTIC COLORIST, AND LITHOGRAPHER.
Removed from 21, Montague-street, Russell square, to 78, TORRINGTON-SQUARE, W.C.

E. MILNES, Architect, 30, Hall Ings, Bradford, is in immediate WANT of a first class ASSISTANT.

BANSTEAD and EPSOM DOWNS RAILWAY.—WANTED, 500 NAVVIES and 50 BRICKLAYERS on the above line.—Apply to the FOREMAN, on the Works; or at Mr. GARRETT'S Offices, 19, Great George-street, Westminster.

LATH-RENDERS WANTED.—Address, 20, Woodland-terrace, Newington-road, Ball's pond.

REQUIRED, in a Quantity Surveyor's Office, a steady, intelligent LAD, able to square dimensions and trace drawings, &c. Apply, stating terms, and in own handwriting, to R. L. C. 8, Union-court, Old Broad-street, E.C.

TO PLUMBERS.—The Trustees of Mrs. Ann Newton's Charity, for placing out every year One Boy (clerically to the parish of St. James Westminster, APPRENTICE to some respectable Trade, with a Premium of Thirty-one Pounds, will meet at the Vestry Hall, next St James's Church, Piccadilly, on FRIDAY, the 3rd of JULY next, at SIX o'clock in the Evening precisely, to receive APPLICATIONS for such Apprentice, aged 13 years, from persons carrying on the above mentioned Trade, for which the boy has expressed a preference. Any further information required may be obtained daily, between TEN and FOUR o'clock, at the Parochial Office, next the Workhouse, in Poland-street, Oxford-street, where the boy may be seen. Every Applicant for the Apprentice must attend the above meeting in person, and bring a card containing his name, address, and business, with two references as to character, &c. None but householders need apply.—By order of the Trustees,
GEORGE BUZZARD, Clerk.

TO ARCHITECTURAL DRAUGHTSMEN.
WANTED, a Thorough Man of Business, to act as ASSISTANT MANAGER. He must be a good draughtsman and designer, also a good correspondent, and accustomed to early business hours.—Apply, with specimens of drawing, to J. WEEKS, Horticultural Works, Gunter's-grove, Brompton

WANTED, a good SMITH and BELL-HANGER.—Apply to G. GILBERT, Ironmonger, Tunbridge Wells.

WANTED, a CLERK, by an extensive BUILDER and CONTRACTOR. He must be able to make plans, sections, and detail drawings, take out quantities, and measure up work. Applicants to state age, and salary required, with references as to character and ability.—Address, by letter, 359, Office of "The Daily Post," Birmingham.

WANTED, immediately, a PLUMBER and Two JOINERS. If satisfaction be given, the above trades will be permanent.—Address, G. W. care of Mr. W. Brackett, 2, 3, Parade, Tunbridge Wells.

WANTED, a FEW strong, active LADS, aged 16 to 17, to learn the art and trade of a MARBLE POLISHER, under agreement for four years. If from the country, preferred.—Apply, by letter, to Mr. PELTON, 1, Earl-street, Westminster.

WANTED, a PARTNER, in a good JOBBING BUSINESS. A Carpenter preferred, with a small capital.—Address, A. B. 11, Pilgrim-lane, Kennington, S.

WANTED, a CLERK of WORKS, of good practical knowledge, more especially in concreting and brickwork (but not necessarily a draughtsman). Terms two guineas per week. Distance, forty miles from London. Reference required. Apply to G. B. MUSSELWHITE, Architect, Basingstoke.

WANTED, on the Bushey Park Estate, Teddington, several good BRICKLAYERS, either to take brickwork by the rod, or daywork at London prices. Also some Bricklayers' Labourers, and a few Plasterers. None but steady good men need apply. Inquire at the Office on the Estate.

WANTED, immediately, TWO steady, competent WORKMEN, who thoroughly understand timbering and supporting ground, similar to a tunnel entrance. Quite useless for others to reply. State age and other particulars.—Address, AGENT, care of Station Master, Jarrow-on-Tyne, Gateshead.

WANTED, a few good BRICKLAYERS. Address, in the first place, T. U. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS' CLERKS.
WANTED, an experienced CLERK, who can make drawings, take out quantities, write specifications, &c. None need apply who are not thoroughly practical and energetic.—Address, in own handwriting, stating where last engaged, age, &c. W. B. care of Mr. Herbert, 88, Cheapside, E.C.

WANTED, immediately, in a BUILDER'S OFFICE, a respectable YOUTH acquainted with the Business. Address, in own handwriting, stating salary required, age, and where last employed, to B. E. N 80, Prince's-street, Lambeth, S.

TO ARCHITECTURAL DRAUGHTSMEN.
WANTED, a GENTLEMAN, thoroughly competent to get up competition drawings; must be able to put perspective views in pencil—colouring, although desirable, not requisite. Apply to Mr. JOHNSON, Architect, 26, King William-street, Strand.

TO ARCHITECTS.
WANTED, an ENGAGEMENT, by an efficient Assistant, who has a thorough knowledge of Gothic architecture, and is accustomed to design and prepare working and detail drawings, &c. from rough sketches.—Address, E. B. L. Office of "The Builder."

TO NOBLEMEN AND GENTLEMEN HAVING ESTATES.
WANTED, by a Young Man, a CONSTANCY, as PAPERHANGER, PAINTER, and GLAZIER. Can turn his hand to plumbing if required. Wages, 24s. per week.—Address T. L. at Mr. Burgess's, Wheathampstead, Hertfordshire.

TO ARCHITECTS.
WANTED, a SITUATION as CLERK of WORKS. Has a thorough and practical knowledge of the building trade.—Address, J. A. Z. Office of "The Builder."

TO BUILDERS AND OTHERS.
WANTED, by an experienced Young Man, a carpenter and joiner by trade, a SITUATION as an OUTDOOR FOREMAN.—Address, H. E. Office of "The Builder."

WANTED, by a Young Man, aged 23, a Constant SITUATION as WRITER and GRAINER. Would fill up his time at plain painting. Wages moderate. No objection to be country.—Address, DELTA, Office of "The Builder."

TO ARCHITECTS, ENGINEERS, AND BUILDERS.
WANTED, by a thoroughly practical and efficient CLERK of WORKS, of more than ordinary experience in first-class works, a RE-ENGAGEMENT. Testimonials of the highest order.—Address, Mr. J. BARKER, Harefield, Uxbridge.

TO TIMBER MERCHANTS.
WANTED, by the Advertiser, a SITUATION as FOREMAN, SALESMAN, or CLERK, in a Retail Timber yard. Can make himself generally useful. No objection to the country.—Address, Mr. SARGENT, 4, Webber-street, Blackfriars-road, S.E.

WANTED, by a Young Man, a SITUATION as an IMPROVER to the GRAINING, WRITING, and MARBLING. Would have no objection to fill up his time in the Plain Painting. Good references.—Address, F. GRAY, 36, Old Compton street, Soho.

WANTED, by an experienced Young Man, a SITUATION as GLASS CUTTER and GLAZIER. Good reference.—Address, J. P. 1, North-street, Maida Hill.

TO IRONMONGERS AND BUILDERS.
WANTED, a SITUATION, by an experienced Hand, as FOREMAN, or JOBBING HAND. Used to hot-water and gasfitting.—Address, S. WOOD, 33, North street, Manchester-s, are, W.

TO BUILDERS AND PLUMBERS.
WANTED, by a PLUMBER, a SITUATION. Has been used to hot-water and gasfitting. Qualification at 1 character can be given.—Address, H. WOOD, 47, James-street, Oxford-street, W.

TO ENGINEERS, SURVEYORS, &c.
WANTED, EMPLOYMENT, by a Youth, of 16, who is a good draughtsman in mapping and plan drawing, and has a good knowledge of railway, land, and engineering, surveying, levelling, &c. Salary not so much an object as an opportunity for improvement. Good references can be given.—Address, G. V. Office of "The Builder."

TO NOBLEMEN, LANDED ESTATE PROPRIETORS, ARCHITECTS, &c.
WANTED, by a practical CARPENTER, a SITUATION on an estate, or otherwise, as general working FOREMAN. Understands drawings, converting timber, and thoroughly conversant with all branches of the building trades.—Address, A. G. Mr. White's, 146, Great Portland-street, W.

TO ARCHITECTS AND SURVEYORS.
WANTED, by a practical Clerk of Works, a SITUATION in that capacity. Is used to measure up works and make working drawings. Good reference will be given.—Address, A. B. C. 25 and 26, Chapel-street, Curtain-road, Shoreditch.

WANTED, a SITUATION, as BUILDER'S CLERK. Good book keeper, draughtsman, and has a thorough knowledge of the business.—Address, A. Y. 27, Offord-road, Barnsbury, N.

TIMBER TRADE.
WANTED, by the Advertiser, a SITUATION as CLERK, SALESMAN, and TRAVELLER, in an English and Foreign Timber-yard.—Address, L. M. O. Post-office, Redland, Bristol.

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WANTED, a SITUATION as GENERAL or WORKING FOREMAN of PAINTERS, &c. or to TAKE the ENTIRE MANAGEMENT of a BUSINESS, a respectable, well-educated Man, of great experience, and a thoroughly practical workman, in every department, including gilding, writing, graining, &c. Perfectly conversant with every description of measuring, abstracting, estimating, and accounts.—Address, "BETA," Office of "The Builder."

TO BUILDERS AND OTHERS.
WANTED, by a thoroughly practical Man, a Carpenter by trade, aged 30, a SITUATION, to take the entire Charge of a Job, or as Foreman of Carpenters. Good references; three years with last employer.—Address, A. R. 1, Francis-street, Regent's-square, W.C.

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WANTED, a SITUATION, by a Young Man, a JOINER, to WORK or TAKE CHARGE of WOOD-WORKING MACHINERY. A first-rate saw-sharpener. No objection to go out for a shop or fill up time at the bench.—Address, W. R. 84a, Whitechapel road.

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WANTED, by a steady Young Man, a SITUATION as PLUMBER. Can do plain zinc work and gasfitting.—Address, G. W. No. 8, Duke-street, Lincoln's-inn-fields, London.

TO BUILDERS, GLASS MERCHANTS, GLASS CUTTERS, &c.
WANTED, by the Advertiser, who has been thirteen years in business, a SITUATION as PRACTICAL CUTTER and GLAZIER, or to Manage a Small Business in Town or country. A number of respectable references can be given.—Address, C. W. at Mr. Keppella's, 21, Molyneux-street, Edgware-road.

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WANTED, by the Advertiser, a RE-ENGAGEMENT. He is a neat and quick draughtsman, can take off quantities, and has a thorough knowledge of construction.—Address, W. F. 34, St. Mary-at-hill, Tower-street, E.C.

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WANTED, by a handy Man, who has had the general repairs of about two hundred houses, a SITUATION on PIECEWORK, as Paperhanger, Painter, and Glazier. Can do white-washing, colouring, and jobbing work generally. Is willing to make himself generally useful. Good character and testimonials if required.—Address, T. C. care of Mr. Shaw, 16, Orange-street, Bethnal Green-road.

WANTED, by a CLERK of WORKS, an ENGAGEMENT. Sixteen years' experience. First-class references. Joiner by trade.—Address, CHARLES EDWARDS, at Shaw's Library, 258, Oxford street, W.

TO PLUMBERS AND OTHERS.
WANTED, by an experienced Hand, aged 36, a permanent SITUATION as PLUMBER or Three-branch Hand. No objection to the country.—Apply to G. H. No. 37, Lamb's Conduit-street, W.C.

TO POTTERS.
WANTED, by an experienced and practical Man, a SITUATION as FOREMAN to a Brown Stone or Bristol Ware Pottery. Has filled a similar situation in Lambeth for many years.—Address, A. B. care of Mr. Thomas, 53, Lincoln's-inn-fields.

WANTED, by a Young Man of thoroughly steady and sober habits, a permanent SITUATION as PAINTER and PAPERHANGER. Has been with last employer. Wages 24s. per week. Country preferred.—Address, A. O. care of Mrs. Knoty, 8, Upper Weymouth-street, Marylebone.

WANTED, by an Architect and Surveyor's ASSISTANT, a SITUATION. To go abroad preferred. Good references in London and Manchester.—Address, ALPHA, Post office, Manchester.

WANTED, a SITUATION, as ORNAMENTAL MODELLER, either with an Ironfounder, Silversmith, or Architectura. Modeller. Highest references. Salary moderate.—Address, A Post office, Whitechapel, London.

WANTED, to APPRENTICE, IN-DOOR, a steady respectable Youth, to a CARPENTER, WHITESMITH, or MACHINIST.—State premium to Mr. S. HAYHURST, Enslaus, near Oxford.

WANTED, an ENGAGEMENT as ASSISTANT to a Surveyor or Engineer. Well acquainted with the usual routine of an office and sewerage works.—Address, R. Y. B. Office of "The Builder."

TO PLUMBERS AND BUILDERS.
WANTED, by a Young Man, an experienced Plumber and Hot Water Fitter, a SITUATION, and would not mind filling up his time at the other Branch. Good references given from his late employers.—Address, C. W. Office of "The Builder."

WANTED, by an Architect and Surveyor, a practical ASSISTANT, accustomed to the conduct of works, preparing working details, measuring up and settling building accounts, &c.—Address, stating terms and particulars, to S. C. care of Mr. Schrader, 45, St. Mary Axe, E.C.

TO PAINTERS AND GLAZIERS
WANTED, by a good Tradesman, a SITUATION, in town or country.—Address, J. E. 12, Victoria-road, Kentish town

TO BUILDERS, &c.
WANTED, by the Advertiser, an ENGAGEMENT in an Office, or to Take Charge of a Job. Is a good practical draughtsman, measurer, and estimator, well used to office or out door work. Sixteen years' experience. First class references. Terms, 2l. 2s. per week.—Address, R. E. Post-office, 32, Grange-road, Bermondsey.

TO ARCHITECTS.
WANTED, Evening or Occasional EMPLOYMENT, by an Artistic and Practical DRAUGHTSMAN. Eighteen years in the profession. Terms moderate.—Address, PIRANESI, Office of "The Builder."

TO ARCHITECTS.
REQUIRED, by an ASSISTANT, an ENGAGEMENT in an Architect's Office. Terms moderate.—Address, B. F. 15, Anderson-street, Chelsea, S.W.

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JUNIOR ASSISTANT.—The Advertiser, aged 21 (five years' experience), wishes for an ENGAGEMENT as above. Is quick and careful at his work, and understands fully the routine of an architect's office. No objection to a builder's office. Moderate salary.—Address, W. 41, Museum-street, W.C.

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A SURVEYOR, of good position, will be glad to TREAT with Architects for taking out quantities, measurement of works, writing specifications, or advising and assisting in the execution of constructive details and drawings generally.—Address, EDWARDS, Post-office, 9, High Holborn.

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AS WALKING or WORKING FOREMAN of PAINTERS, &c. Every way qualified. References to eminent builders in London. Wages very moderate.—Address, H. J. 184, High Holborn, W.C.

A THOROUGHLY PRACTICAL CLERK of WORKS who has just completed some extensive works, is desirous of a RE-ENGAGEMENT.—Address, J. H. T. Office of "The Builder."

AN ASSISTANT, thoroughly up in Gothic design and detail, a good and rapid draughtsman, well acquainted with office work generally, and qualified to take the management in the absence of the principal, desires an immediate ENGAGEMENT. Salary, £2 2s. per week. References to eminent London architects.—Address, X. X. 8, Sussex street, Bedford-square, W.C.

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A YOUNG MAN wishes to IMPROVE himself. Wages but a very secondary consideration, provided he is put to good work.—Address, J. E. 55, Euston-road, N.W.

TO RED POTTERS AND DRAIN PIPE MAKERS.

A THOROUGHLY GOOD HAND in the above trade is in want of EMPLOYMENT.—Address, A. B. care of Mr. Jordan, 71, Amelia-place, Villa-road, Plumstead, Kent.

AN ENGINEERING and ARCHITECTURAL ASSISTANT, engaged for the past sixteen years on plans, &c. for public works of water supply, gas, and town sewerage, and in designing and superintending the erection of private and other buildings, is now open to a permanent ENGAGEMENT. First class testimonials.—Address, A. C. E. 5, Trellick-terrace, Vauxhall-road, Pimlico, S.W.

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A STEADY YOUNG MAN from the country wishes for a SITUATION in a good West-end firm, where he may improve himself.—Apply to E. P. 8, Jerusalem court, St. John street, Clerkenwell

A THOROUGHLY practical PAINTER, PAPERHANGER, plain or ornamental GLAZIER, or DISTEMPERER, &c. desires EMPLOYMENT. Is fully competent to take charge of work or a business, Town or country.—Address, REFONSE, 98, Hampstead-road, N.W.

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A RESPECTABLE YOUNG MAN is desirous of obtaining Permanent EMPLOYMENT as STONE MASON. He has a knowledge of Mensuration, and can keep accounts. Unexceptionable references. A shop in London would be preferred. Address, H. WARREN, Barnet-street, Sandwich, Kent.

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A PRACTICAL Managing Shop Foreman, of superior abilities, is prepared to treat with a London or first class provincial builder.—Address, C. S. B. 7, 84, Thomas-street, Islington, N.

AN active, energetic Young Man, practically experienced in the provincial and metropolitan building and contracting business, manual and official, seeks a suitable permanent ENGAGEMENT as GENERAL ASSISTANT, with a builder or surveyor.—Address, G. J. K. care of Mr. Leggett, Stationer, 21, North Audley-street, London, W.

A FIRST-CLASS Writer, Gilder, and Heraldic and Ornamental Painter desires an ENGAGEMENT. He is a thorough practical draughtsman and painter.—Address, A. Z. 30, Duke-street, Grosvenor-square, W.

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Sir Minto Farquhar, bart M.P. Chairman.
Charles William Curtis, esq. Deputy Chairman.

Henry Hulse Berens, esq.	John Labouchere, esq.
H. Bonham-Carter, esq.	G. Shaw Lefevre, esq.
Chas. F. Devas, esq.	John Martin, esq.
Francis Hart Dyke, esq.	Rowland Mitchell, esq.
Sir Walter R. Farquhar, bart.	James Morris, esq.
James Goodson, esq.	Henry Norman, esq.
Thomson Hankey, esq. M.P.	Henry R. Reynolds, esq.
John G. Hubbard, esq. M.P.	Abraham J. Roberts, esq.
Frederick H. Janson, esq.	Henry Vigne, esq.

AUDITORS.

Lewis Loyd, esq.	Henry Sykes Thornton, esq.
Cornelius Paine, jun. esq.	Noel Whiting, esq.

Thomas Tallemach, esq. *Secretary* Samuel Brown, esq. *Actuary*.
LIFE DEPARTMENT.—Under the provisions of an Act of Parliament, this Company now offers to new Insurers EIGHTY PER CENT. OF THE PROFITS, AT QUINQUENNIAL DIVISIONS, OR A LOW RATE OF PREMIUM without participation of Profits.
Since the celebration of the Centenary of the Company in 1821, the amount of Profits allotted to the Assured has exceeded in Cash value 800,000*l.* who in representing equivalent Reversionary Bonuses of 1,058,000*l*
After the Division of Profits at Christmas 1860, the Life Assurances in force, with existing Bonuses thereon, amounted to upwards of 4,700,000*l.* the Income from the Life Branch 227,884 per annum, and the Life Assurance Fund, independent of the Capital, exceeded 1,618,000*l*
LOCAL MILITIA and VOLUNTEER CORPS.—No extra premium is required for service therein.
LOANS granted on Life Policies to the extent of their values, if such values be not less than 50*l*
ASSIGNMENTS of POLICIES.—Written notices of, received and registered.
MEDICAL FEES paid by the Company, and no charge for Policy Stamps.
Notice is hereby given, That Fire Policies which expire at Midsummer must be renewed within fifteen days at the Office, or with Mr. SAMS, No. 1, St. James's-street, corner of Pall-mall; or with the Company's Agents throughout the kingdom; otherwise they become void.
Losses caused by Explosion of Gas are admitted by this Company.

NORWICH UNION FIRE INSURANCE SOCIETY.
Notice—MIDSUMMER RENEWALS.
Mercantile and Dock Insurances in the Reduced Rates.
The business of the Company exceeds 70,000,000*l.*
The duty paid to Government for the year 1861 was 83,076*l.* and the amount insured on farming stock 10,056,762*l.*
A bonus of three-fifths of the profits periodically made to parties insuring, who have thus from time to time received sums amounting in the aggregate to 440,000*l.*
The rates of premium are in no case higher than those charged by the other principal offices making no returns to their insurers.
For prospectuses, apply at the Society's Offices, Surrey-street, Norwich, and 6, Crescent, New Bridge-street, Blackfriars, E.C.

PHŒNIX FIRE ASSURANCE COMPANY, Lombard-street and Charing-cross, London. Established in 1782.
TRUSTEES AND DIRECTORS.

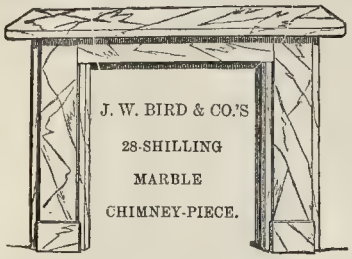
Delmus Burton, esq.	Kirkman D. Hodgson, esq. M.P.
Travers Buxton, esq.	William James Lancaster, esq.
Octavius Edward Coope, esq.	John Labouchere Maconn, esq.
William Cotton, esq.	John Tho. the Onley, esq.
John Davis, esq.	Benjamin Shaw, esq.
George Arthur Puller, esq.	Wm. Jones Thompson, esq.
Charles B. Goodhart, esq.	Sir Benjamin Tollemache, bart.
James Alexander Gordon, esq.	Matthew Whiting, esq.
Edward Hawkins, junr. esq.	

AUDITORS.

John Hodgson, esq.	Peter Martineau, esq.
Joseph Samuel Leecher, esq.	

SECRETARY—George William Lovell.
ASSISTANT SECRETARY—John J. Broomfield.
Insurances against Loss by Fire are effected by the Phœnix Company in a very descriptions of Property, in every part of the world, on the most favourable terms.
The promptitude and liberality with which its engagements are always met by this Company are well known; and the importance of its relations with the public may be estimated from the fact that since its establishment it has paid more than Eight Millions Sterling in discharge of Claims for Losses by Fire.
Insurances with this Company expiring at Midsummer must be renewed within fifteen days thereafter, or they will become void.
Receipts are now ready at the principal Offices, Lombard-street and Charing-cross, and with the respective Agents throughout the United Kingdom.

MARBLE & STONE CHIMNEY-PIECES FOR THE MILLION.



PRICE LIST ON APPLICATION.

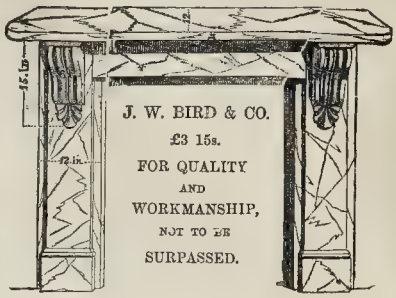
A Stock of 500 *always to choose from at*

J. W. BIRD & CO.'S,
THE EMPORIUM,
145 & 143½, EUSTON ROAD,
N.W.

A Marble Box Chimney, with 8-inch piers, as Illustrated, for 28s. and fitted to any opening up to 3 feet square.

STONE DITTO, WITH BEAUTIFUL MOULDED CAPS, FOR SEVEN SHILLINGS.

Monuments and Tablets in great variety, equally low in price.
Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.
A VACANCY FOR AN OUT-DOOR APPRENTICE.



THOMAS MILLINGTON,
GLASS MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.
Reduced Tariff for Sheet Glass.

The Agricultural Hall, Islington, containing an Acre of Glass, was supplied by me. Mr. Rivers, and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured me with orders for home use and for exportation.

SHEET GLASS.
In Cases for cutting up, in Sizes as Manufactured.

	300 feet.	200 feet.		
	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	33s. 6d.	33s. 6d.	39s. 6d.	45s. 6d.
Thirds do.	42s. 0d.	42s. 0d.	49s. 0d.	56s. 6d.
Seconds do.	62s. 0d.	64s. 0d.	74s. 6d.	85s. 6d.
Best do.	88s. 6d.	88s. 6d.	103s. 6d.	118s. 0d.

CRYSTAL SHEET GLASS.
For Pictures and best glazing purposes.

Averaging 16 oz. to the foot.

Best quality, in cases of 300 feet	100s.
Second quality, in cases of 100 feet	82s.

Averaging 30 oz. to the foot.

Best quality, in cases of 100 feet	160s.
Second quality, in cases of 100 feet	82s.

SQUARES, IN 100 AND 200 FEET BOXES.

Small Squares not exceeding 9½ inches by 7½ inches.

Ins. Ins.	Ins. Ins.	Ins. Ins.	Ins. Ins.	Per 100 feet.			
6 by 4	7 by 5	8 by 6	9 by 7	4ths.	3rds.	2nds	Best.
6½ by 4½	7½ by 5½	8½ by 6½	9½ by 7½	9s. 9d.	11s. 3d.	13s. 9d.	16s. 9d.

Squares not exceeding 14 inches by 11 inches.

10 by 8	12 by 9	12½ by 10½	14½ by 10½	Per 100 feet.			
10½ by 8½	12½ by 9½	13 by 10	15 by 10	4ths.	3ds.	2nds.	Best.
11 by 9	13 by 9	13½ by 10½	13 by 11	10s. 9d.	12s. 3d.	15s.	18s.
11½ by 9½	12 by 10	14 by 10	14 by 11				

Squares not exceeding 20 inches by 18 inches.

15½ by 10½	14 by 12	17 by 13	24 by 16	Per 100 feet.			
16 by 10	14½ by 12½	18 by 13	20 by 17	4ths.	3rds.	2nds.	Best.
14½ by 11½	15 by 12	18 by 14	22 by 17	11s. 6d.	13s. 6d.	16s. 6d.	20s.
15 by 11	15½ by 12½	22 by 14	24 by 17				
15½ by 11½	16 by 13	24 by 14	29 by 18				
16 by 11	16½ by 12½	23 by 15	22 by 18				
13 by 12	17 by 12	24 by 15	24 by 18				
13½ by 12½	18 by 12	22 by 16					

Orchard-house Sizes, as recommended by Mr. Rivers.

Ins. Ins.	15 oz.		21 oz.	
20 by 12	4ths.	11s. 6d.	4ths.	15s. 6d.
20 by 13	3rds.	13s. 6d.	3rds	19s. 0d.
20 by 14	2nds.	16s. 6d.	2nds.	28s. 6d.
20 by 15	Best.	20s. 0d.	Best.	30s. 0d.
20 by 16				

Per 100 feet.

Squares Cut to Sizes not on List

	15 oz.			21 oz.		
	4ths	3rds	2nds	1st	4ths	3rds	2nds	1st
Under 1 foot super	1½	1½	2	2½	2½	2½	3¼	4½
Under 2 feet super	1½	2	2½	3	2½	3	4	5½
Under 3 feet super	1	2½	2½	3½	3	3½	4½	6
Under 3 feet super	2½	2½	3	4	3½	3½	4½	6½

Glass Tiles, in Sheet and Rough Plate. Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.
COLOURED GLASS AND ROSETTES, FLUTED, GROUND, AND EMBOSSED GLASS, OF EVERY DESCRIPTION.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead	30s.	Fine Oak Varnish	10s. to 12s.
Anti-corrosion Paint	28s. to 34s. per cwt.	,, Carriage	12s. to 14s. per gallon.
Linseed Oil Putty	8s.	Patent Dryers	28s. to 42s. per cwt.

Linseed Oil	3s. 9d.
Boiled Oil	4s. 2d. per gallon.
Turpentine	8s. 6d.

Milled Lead in Sheet and Pipe of all sizes. Old Lead bought or taken in exchange. Lift Pumps, Water Closets, and Plumbers' Brass Work of all kinds, subject to the fluctuations of the Markets.

NET CASH.

CROWDEN and GARROD
(successors to THOS. KENT & CO.), the celebrated
PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
. Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT and CROWDEN & GARROD, are stamped on the Brushes.

STAINING DEAL TO IMITATE ALL KINDS of WOODS. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Tint, 5s. per gallon; Dark Oak, 6s. per gallon; Mahogany, 8s.; Rosewood, 8s.; Walnut, 8s. Varnish of RAYLOR'S Stains may be had at the Factory, No. 4A, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

STEPHENS'S STAINS for WOOD. A SUBSTITUTE for PAINT, and at HALF the COST.
Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H CHICHESTER, of Chittlehampton, near South Molton:—
"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."
H. STEPHENS, Chemist, 12, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

KENT'S PAINTING BRUSHES
are all stamped G. B. KENT & CO
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

PATENT GRAINING APPARATUS.—
TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

TO PREVENT BLISTERS, AND
REMOVE OLD PAINT, VARNISH, &c.
USE NAENIARE & CO.'S LETHICUM. Sold at 8s. per gallon. Also, Brushes to apply and remove, 8s. per pair.—For circulars, &c apply at 11, St Andrew's-hill, E.C. London. Success guaranteed
N.B. Country orders must contain a Cheque or Post office Order.

IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 9d. per Gallon; Boiled Oil, 4s. per Gallon.
Turpentine, 8s. per Gallon.
Fine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 80, Upper Ebury street, and 45, Cobridge street, Pimlico, S.W.
Every article for the Trade at the lowest prices

PRIZE MEDAL, 1862.
HAMILTON & CO.
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-ROUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graiuers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

BLACKERTON MINERAL.—An Economical Paint, of good body and superior quality, for external or internal purposes, of every description. Dries quickly, and is very durable. Mixed with whitelead, it makes a capital lead colour; and with yellow ochre, a good bronze or invisible green. Price, 5s. per cwt.—Apply to Mr. W. SANSOME, General Merchant, near the Railway Station, Taunton, Somerset.

THE ANCHOR BRANDED TURPS.—
"FACTS ARE STUBBORN THINGS."

Ten Thousand Gallons of this TURPS have been sold during the first three months of its introduction to the trade.
Manufactured only by CARLESS, BLAGDEN, & CO. HOPE CHEMICAL WORKS, Hackney Wick, N.E.
City Office, 2, New London-street, near the Blackwall Railway Terminus, E.C. where samples and all particulars may be had.
Sold by all Oilmen.
N.B.—Ask for the "Anchor Branded Turps."

TURPENTINE.
GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.
Sample gallons may be obtained at the Manufacturers', price 4s.
GARROD & COMPANY,
Varnish, White Lead and Colour Manufacturers,
56, Upper Thames street, London, E.C.

MINTON, HOLLINS, & CO. Stoke-upon-Trent, beg to inform architects, the gentry, and others, that, in consequence of the increasing demand for their Encaustic and Mosaic Pavements, and with the view of facilitating the execution of orders, they have opened an additional Show-room, at their Establishment, No. 50, Conduit street, London, where experienced draughtsmen will be constantly in attendance, to afford all information required.
DRAWINGS and ESTIMATES, on the receipt of plans, will also be promptly furnished, on application at the Manufactory, Stoke-upon-Trent.
MINTON & CO. take the present opportunity of stating that they have always in stock a large and varied assortment of tiles, suitable for flower boxes, stoves, and other ornamental purposes.

INDIA-RUBBER MILL BANDS,
WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator for the admission of Pure Air.

THROUGH THE EXTERNAL WALL.
These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough, London.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Baryte from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.

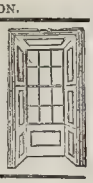
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S INN LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

J. MILLS,
110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET
(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

FLOORING! DEALS! MAHOGANY!

100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
5,000 Yellow Battens ..... from £10 10s. per 120
2,000 Spruce ditto ..... from £9 per 120

SPRUCE DEALS, 2s. 6d. each.
FIR TIMBER 55s. PER LOAD.
Scaffold Poles ..... 1½d. per foot

YELLOW DEALS, £16 PER 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	White (not Spruce).	Yellow.	
¾-inch Flooring	11s. 6d. to 12s. 0d.	13s. 0d.	per Square.
¾-inch "	12s. 0d. to 13s. 0d.	13s. 0d. to 14s. 6d.	"
1-inch "	14s. 6d. to 16s. 0d.	15s. 6d. to 18s. 6d.	"
1¼-inch "	18s. 0d.	20s. 0d. to 22s. 0d.	"

YELLOW DEALS, 3 by 9, from...£16 10s.

Yellow Battens ..... £11 10s. per 120
⅝ White Matched Lining ..... 12s. per square.
¾ Yellow ..... 16s. "

J. TERRY & SON, 109, BOROUGH ROAD, S.E.

REDUCED PRICES.

BUILDERS AND CARPENTERS, AND OTHERS,

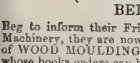
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

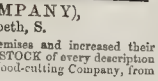
Three-quarter inch Flooring (well prepared) 11s. 6d. per square.				Laths, 28s. per Load.	
Yellow Deals, sound and good	£18	0	0	per 120, or 3d. per foot.	
Spruce Deals	15	0	0	"	2½ "
Yellow Battens, excellent quality	10	10	0	"	1½ "

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

MOULDING WORKS.
SMITH & McGAW





(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 6d.; Pine Planks, from 2s. 3d.; Mahogany, 6d.; ¾ Yellow Battens, 11s. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 13s. 3d.; ¾ White, from 11s. 6d. Carriage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

FLOORING, MATCH BOARDS, DEALS &c. as low as advertised. White Battens, 9f. 10s. per 120 12 feet; Yellow ditto, 10f. ditto ditto. ¾ Match Boarding, 14s. per square; ½ ditto, 10s ditto. Venetian Blind Laths, 2s. 6d. per 100 feet super.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

DRY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
JOHN COUMBE'S,
LADY LAKE'S GROVE, MILE-END-GATE.

JOSEPH & ALFRED ROSLING beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER YARD, MANCHESTER.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the River Thames.—For further particulars apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c Baltic Wharf, Pimlico, London, S.W. five minutes' walk from the Victoria Station.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, fern cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

STAINED-GLASS WINDOWS, for CHURCHES and DWELLINGS,
(PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.)



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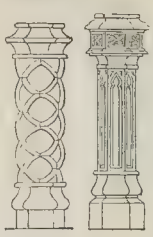
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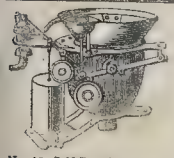
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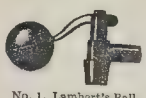
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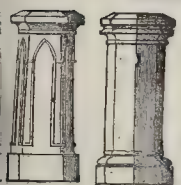
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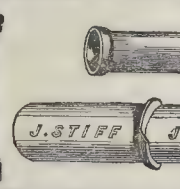
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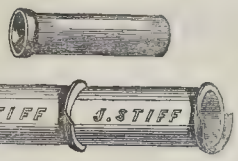
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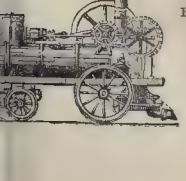
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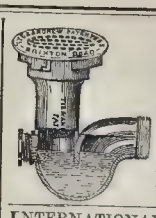
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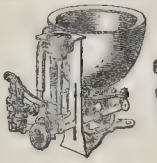
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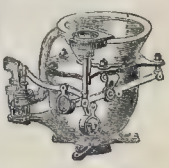
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The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is secured. Any number can be worked by one supply-pipe. No cistern valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate street, London.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

MINTON & CO.

Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

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STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Brseley colour.

PAVING TILES in various colours and designs.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.

Dressed Blue Facing BUILDING and SEWER BRICKS.

Architects' designs carried out on the shortest notice.

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JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent-road Bridge.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield street North, City road, Basin, N. Finally, that the trade term, "TERRO METALLIC," is the exclusive right of the Proprietor; and finally, that the "Reports of the Juries," page 561, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Terras," Tunstall, Staffordshire, as the best of the kind in the world.

HAY'S PATENT WATERPROOF GLUE and INDIA RUBBER VARNISH.—To ARCHITECTS, BUILDERS, PAPER-HANGERS, &c. &c.—The WATER-PROOF GLUE is a special anti-damp, and is suitable for contractors, joiners, cabinet-makers, &c. &c. The VARNISH for damp walls, previous to papering, coating zinc verandahs, &c. &c. Copy of a letter from Messrs. Rogers & Booth, contractors, Gosport:—

"We have repeatedly used your Waterproof Glue as a preventive against damp, and have found it most valuable in preparing walls to receive paper. In one instance, where the walls were thoroughly saturated with moisture from earth filled against the outside, we used your varnish internally, and pasted the surface, within a few hours of its being applied, with complete success. We have also used your preparation for coating a large number of cast iron piles, at the Admiralty Pontoon, for her Majesty's War Department."

To be had from all Ironmongers, Oil and Colourmen, &c.

Manufactory, Chandos-street, Portsmouth: Mr. GEORGE WEEKS, Manager. GEORGE D. WARDEN & CO. General Agents, 13, London-street, London E.C. where specimens of its application can be seen.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These Pencils are prepared in various degrees of hardness and shade.

H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
M medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country.

SALES BY AUCTION.

VALUABLE FREEHOLD AND COPYHOLD BUILDING LAND, WHITECHAPEL, occupying a site of about six acres.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at the MART, on WEDNESDAY, JULY 1, 1863, at TWELVE o'clock, in one LOT, a most important site of FREEHOLD and COPYHOLD LAND, about 6 acres, situate in the rear of the Whitechapel Distillery, Bucks-row, abutting upon the Eastern Counties Railway, from which a siding might be formed. And with approaches from Winchester street, Selby street, and other adjoining streets. For the ere tion of any large manufacturing establishment, this property is of large value, from its space and proximity to the City. Printed parti ulars are in course of preparation, and with plans, may be shortly had of Messrs. TENANT & DARLEY, Solicitors, Symonds's-buildings, Gray's inn, W.C.; of Messrs. BOCKETT, SON, & BARTON, Solicitors, Lincoln's-inn-fields, W.C.; at the Mart; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

FREEHOLD BUILDING LAND, close to the Norwood Junction Station on the London, Brighton, and South Coast Railway, at which upwards of 100 trains stop to and from London Bridge and Victoria daily, and only a short distance from an intended station on the Mid Kent and Addiscombe Railway, about nine miles from London.

MESSRS. WINSTANLEY have received instructions to offer for SALE by AUCTION, at the MART, Bartholomew lane, on WEDNESDAY, the 1st of JULY, in thirty lots, the valuable FREEHOLD PROPERTY, known as the ENMORE PARK ESTATE, land-tax redeemed and free from all incumbrances, about twenty-three acres of most eligible building land, desirably situate between the Stanhope and South Norwood roads, in the parish of Croydon, and the Norwood Junction Station, commanding extensive views of the surrounding picturesque scenery, and within a short distance of the Crystal Palace. The property has a frontage to the above roads of nearly 8,000 feet to capital roads, and presents excellent sites for the erection of villas or other residences, for which there is a growing demand in this locality; the lots will vary in quantity from about half an acre to two and a half acres, and in the hands of building capitalists this property offers attractions of no ordinary character. To be viewed Tuesday and Wednesday, with plans, map, &c., of which twenty-one days preceding the sale, in Croydon, of Messrs. DRUMMONDS, ROBINSON, & TILL, Solicitors; of Mr. JOHN BERNEY, Surveyor; at the Greyhound Inn, the Bedford Arms, Stanhope road, and the Windmill, St. James's-road, Croydon-common; the Jolly Sailor, South Norwood; and in London, at the Place of Sale; and of Messrs. WINSTANLEY, No. 10, Paternoster-row, E.C.

BROMLEY, KENT.—Charming BUILDING SITES for Gentlemen's Residences. — Immediately adjoining the Shortlands Station, on the Mid Kent Railway, only ten miles from London Bridge, eligibly laid out for occupation in Villa lots, or for the erection of first-class Mansions, with several acres of land to each.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, JULY 7th, at TWELVE, in nine lots, of from eight to Sixteen Acres each (unless previously sold in one lot by private contract) the greater portion of the important and very valuable FREEHOLD BUILDING ESTATE known as Shortlands; comprising upwards of 120 acres, affording some of the most desirable sites for building to be met with near London. Among the advantages offered are—the short distance from the station, the great facilities afforded by railways for reaching all parts of the metropolis per mile, the plentiful supply of water, the rich scenery of the neighbourhood, the beautifully undulating character of the land and its applicability for division so as to insure fine views as a necessary to each of the separate properties into which it is proposed to be all tted. There can be no question that the estate is one which will take very high rank in public estimation, and the demand for villas and first-class houses in the district already so great that it often equal inducements to those who may be desirous of entering into building operations on a large scale, as to gentlemen who may be in search of a residential estate. Lots and Plans, and plans, now ready, of JNO WHICHCORD, Esq., Architect, 16, Walbrook; of ROBERT RITCHIE, Esq., Architect, 7, Beaufort-buildings, Strand; of Messrs. BURCHELLS, Solicitors, 5, Broad Sanctuary, Westminster; and of the Auctioneers, 80, Cheapside.

IMPORTANT SALE.—To Builders, Contractors, and Others.—Boston, Lincolnshire.

TO BE SOLD by AUCTION, in the month of JULY next, a valuable FREEHOLD ESTATE, situate in Witham street, in Boston, consisting of excellent and substantial BUSINESS PREMISES, comprising a newly erected dwelling house, office, large carpenter's and stonemason's shops, timber, lime, and other yards stables, a large wharf, and other premises. A very extensive and lucrative business has been carried on the premises for a series of years past, and the same were lately in the occupation of Mr. Benjamin Scoffin, Builder, deceased, and are now of the Executors in Trust under his will. To view the premises, and for further particulars apply to Mr. JOHN CARTWRIGHT, of Boston aforesaid, Ironmonger, and Mr. HOBERT MARSHALL, of the same place, Chemist and Druggist; or at the Offices of Mr. FREDERICK COOKE, Solicitor, Boston.

Boston, June 18th, 1863.

DEVON.—St. MARY-CHURCH, near TORQUAY.—Desirable Business Property for Sale; also a large Stock of Marble, Madrepores, &c. TO BE SOLD by AUCTION, by

MESSRS. MANLEY & CHAVE, at GRENSLADE'S MANOR HOTEL, St. Mary-Church, on TUESDAY, the 14th day of JULY next, at TWELVE o'clock precisely, the DWELLING HOUSE and BUSINESS PREMISES lately occupied by Mr. John Woodley deceased. The stock in trade will be taken and at the principal thoroughfare of St. Mary Church, and will, with easy distance of the important and still increasing town of Torquay, the dwelling house is well built and very commodious, and contains, in addition to the ordinary apartments for residence, boat shops, well adapted to any business; and immediately adjoining is a large yard, with extensive and convenient workshops, stables, and other necessary outbuildings. For upwards of fifty years the business of an extensive Marble and Madrepore Manufactory, which acquired great celebrity, has been carried on by the late proprietor and his predecessors, and a rare opportunity is now afforded to parties seeking to embark in such an undertaking without the risk attending a new establishment. The Babbacombe and Petitor Marble and Madrepore Quarries are in close proximity, and there are other quarries of an important character in the immediate neighbourhood; the premises are, however, well adapted for any other business where situation and space are of great importance. The property is held for an absolute term of ninety-nine years, which commenced on the 25th MARCH, 1847, and is subject to an annual ground rent of 9l.

Immediately after the Sale of the above, and on the following day, an AUCTION will be held on the PREMISES, for the DISPOSAL in lots, to suit the convenience of Purchasers, of a large Assortment of articles in ENGLISH and FOREIGN MADREPORES, and of UNMANUFACTURED MATERIALS, TOOLS, IMPLEMENTS, MACHINERY, &c. In the above are contained many Chimney-pieces, Inlaid Tables, Brackets, Vases, Pedestals, &c. &c. all manufactured from the most beautiful specimens of Marble, of the most elegant designs and workmanship. Also, about 500 tons of Unmanufactured rich Sicilian, Irish, Black, and English MARBLE, the greater portion of the latter having been taken from the most noted Devonshire quarries. Marble Manufacturers, Builders, Agents, and Others will find the above well worthy their attention.—To view, and for all further particulars, application may be made to the Auctioneers, Victoria Parade, Torquay, of whom catalogues of the stock may be obtained a week before the day of sale; or to Messrs. KITSON, Solicitors, Torquay.

Torquay, 19th June, 1863.

N.B.—Should the above Property be previously disposed of by Private Contract, due notice will be given thereof

Salvage from Fire.—BUILDER'S STOCK and quantity of Materials removed from the General Post-office.

F. HALL & SON will SELL by AUCTION, on WEDNESDAY, JULY 1st, at ONE o'clock, on the PREMISES, near the Sir Sidney Smith, Chester-street, and Chester Garden's, Walcot-place, Kennington-road, an assortment of MATERIALS as above: comprising about 100 squares of capital flooring, 3-and boards, various thirds, mahogany hard and pine, 1,000 feet of 4-inch bevy, 5,000 feet of new and old quarterings, 4-4 pressfittings, various, 2 excellent long fall ropes, 2 sticks of timber, and other effects.—Catalogues on the Premises; and of the Auctioneers, 1, Thurloe-terrace, Wandsworth road.

BUILDING MATERIALS.—Milk-street, Cheapside

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on MONDAY, JUNE 29, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FIXTURES of two Houses and Warehouses, Nos. 7 and 8, Milk-street, Cheapside: comprising sound brickwork, stout rafters, joists, and other useful timber, slates, plain tiles, sashes, doors, panelled partitions, wainscoting, lining, mantels and other chimney-pieces and interior fittings, warehouse fronts, sound floor boards, lead flats, gutters, cisterns and pipes, iron columns and railings, stone copings and sills, stoves, and various fittings-up. May be viewed, and Catalogues had at the Architect's Office, Guildhall, and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

WALWORTH ROAD.—Extensive Sale of Building Materials.

PULLEN, HORNE, & EVERSFIELD are instructed by the Worshipful Company of Fishmongers to SELL by AUCTION, on the PREMISES, on TUESDAY, JULY 14th, at TWELVE, all the valuable BUILDING MATERIALS of about 25 Dwelling houses, Shops, and Premises, situate on Crown row, in front of the Walworth-road, Prospect-row, and Crown-square.—Further particulars in a few days, when Catalogues may be had of W. B. TOWSE, Esq., Fishmongers' Hall; of RICHARD SUTER, Esq. Architect, 28, Penchurch-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament-street, S.W.

No. 19, MILLBANK-STREET.—TO SCULPTORS, MASONS, BUILDERS, AND OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by Mr. J. Udny, Agent for Count Lazzani & Son, to SELL by AUCTION, at the MARBLE WHARF, No. Millbank-street, Westminster, on THURSDAY, JULY 2nd, at ELEVEN for TWELVE o'clock, a large assortment of MARBLE, in Blocks and Slabs; consisting of statuary, vein, sicilian, Sienna, and other varieties; also several thousand feet of slab, garden figures, &c. Approved bills at 3 and 6 months will be required for all sums above 5l. May be viewed on the premises had at the Place of Sale; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

BISHOPSGATE-STREET WITHIN.—TO BUILDERS, CONTRACTORS, TIMBER MERCHANTS, AND OTHERS.

MR. MARSH has received instructions from the Directors to SELL by AUCTION, on the PREMISES, on TUESDAY, JUNE 30th, at ONE o'clock, punctually, the whole of the Valuable MATERIALS and FIXTURES of the National Provincial Bank of England, 112, Bishopsgate-street Within, in consequence of the site being required for a new building of new banking premises: including about 35 squares of slating, oak and fir timber in rafters, joists, and girders; 200 squares of flooring, capital wainscot, mahogany, and other doors; 75 pairs of elegant sashes; a handsome stone staircase, with large landing; York and Portland Stone, in paving, steps, cornice, stringcourse, sills, plinths and pedestals, handsome pediment and portico; about 1,000,000 sound stock bricks; 20 tons of lead, in flats, gutters, hips, cisterns, and pipes; marble and other chimney pieces, stoves, ranges, fittings, and effects. May be viewed two days prior to the Sale, and Catalogues obtained on the Premises; of JOHN GIBSON, Esq. Architect, 14, Great Queen street, Westminster; and at Mr. MARSH'S Offices, 9, Charlotte-row, Mansion House.

FARM AND SLATE QUARRY, SOUTH DEVON.—An excellent Farm, with large and valuable Slate Quarry, in the Parish of Ugborough, near Ivybridge, Devon, twelve miles from Plymouth, and close to three Railway Stations on the South Devon Railway, TO BE SOLD by AUCTION, by

MR. JOHN MALLET, on MONDAY, the 13th day of JULY next, at the LONDON INN, Ivybridge, at TWO o'clock for HALF-PAST in the afternoon, either together or in the following lots (unless a Purchaser shall in the meantime have been declared treated), viz.:—the FEE SIMPLE of all that BARTON or FARM, called "Wood and Blowdens," situate in the parish of Ugborough, Devon.

Lot 1 comprises a good FARM-HOUSE, with all necessary farm building, and SEVENTY SEVEN ACRES (be the same more or less) of superior orchard, meadow, pasture, and arable land, in the occupation of Mr. Richard Cole, as tenant thereof, for a term of seven or fourteen years from Lady Day, 1861. Also a SLATE QUARRY, containing about four acres of estate, which has been worked, and about a century, and which is now held under lease for a term of twenty-one years from the 24th JUNE, 1853, by E. T. Roe, esq. M.D. producing a large quantity of slate of very superior quality, and fifty acres of the farm contain slate of the best description, and several acres could be granted thereout, for roads being given to Lot 2.

Lot 2. Two superior COTTAGES, one of which is fit for the residence of a respectable family, having eight rooms, and the other a cottage adjoining. Four rooms, with necessary outbuildings. Two good Gardens and a Field of Land, containing 3a. 0r. 23p. or thereabouts.

The WHOLE of the PROPERTY is TITHE FREE, and LAND TAX REDEEMED.

The above property being full of slate rock, within a mile and a half of the Stowford Siding, and about two miles from Ivybridge and King-bridge-road stations on the South Devon Railway, only 10 miles from the Port of Plymouth, and nine miles from Totnes, gives great facilities for sending slate to all parts of the kingdom. Such an opportunity for a spirited capitalist or a company to enter largely into the slate trade is very seldom to be met with. From the great facilities for sending off the goods by rail and water, it is quite certain that a large profit can be realised. To persons desirous of mercantile investment this estate presents an opportunity of more than ordinary advantage. The farm is pleasantly situated, and many good sites for building can be found on the property. The market towns for sale are Ivybridge, two miles (passable); Modbury, three miles, ditto; and Totnes, nine miles, ditto. There is good trout fishing in the neighbourhood. Foxhounds are kept at Ivybridge, and hunt the country immediately around. For viewing application may be made to Mr. HENRY SOPER, the owner, at Wood Cottage, on the property, on Tuesdays, Wednesdays, and Thursdays. Plans and particulars can also be obtained of him; of the Auctioneer, Ashprington, near Totnes; or of Mr. WALTER FRIEND, Solicitor, Post-office Chambers, Exeter.

Dated 3rd June, 1863.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, Oxford-street.

Notice of PRIVATE SALE of about 200 MARBLE CHIMNEY-PIECES, to be sold at very reduced prices (to save the expense of removal to the Brompton road), in the following Marbles, viz.:—Statuary, Rouge Royal, Black and Gold, Black, Sienna, Bardilla, Dove, California, St. Ann's, Rouge Jasper, Jeune Fleure, Brocatella, Genoa Green, Irish Green, Blue Belgic, Emperor Red, Irish Pearl, Campaine Melange, Vein, Serpian, and various excellent specimens of British Marbles, varying in price from 12s. 10s. to 50l.; and for elegancy of design, workmanship, and quality, not to be surpassed in England. Purchases to the extent of 30l. and 50l. approved bills of three and four months will be taken, less 25 per cent. cash. Purchasers from the country will be supplied with packing-cases, and the same packed and delivered to any of the metropolitan stations for 1 per cent. on the amount purchased.

TO TIMBER MERCHANTS, CABINET AND PIANOFORTE MAKERS, BUILDERS, AND OTHERS

About 13,000 feet super. of Mahogany, and other well assorted Stock, in all upwards of 50 lots.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden Town, on MONDAY, JUNE 29th, at TWELVE for ONE, 49 logs of MAHOGANY, 2,500 yellow, white, spruce, and pine planks, deals, and battens; flooring, quartering, die-square birch cut stuff, four panel doors, moulding machine and mouldings, slating battens, pantile laths, pews, lockers, &c.—Auction Offices, 2, Curlington-street, Hampstead road, near the Euston station

BENEFIT of CREDITORS.—9,700 Pieces of PAPERHANGINGS, 120 Marble Chimney-pieces, 700 feet Gilt Room Mouldings, and 24 Register-stove Containers and Pans. Removed from the Factories for convenience of sale.

MR. EDWIN WHITE will SELL by AUCTION, without reserve, at the SALE ROOMS, 12, Holborn bars, and 1, Castle street, Holborn hill, on TUESDAY next, at ONE for TWO precisely, an Excellent STOCK of French and English PAPERHANGINGS, comprising golds, flocks, satins, grounds, scraps, dados, and sienna marbles, oaks, &c.; an important Stock of Chimney-pieces, in foreign marbles; 17 feet White Lead and Oil cut, and other items.—May be viewed, and catalogues had on Monday, and morning of sale.

ADDISCOMBE ESTATE, near Croydon, Surrey.—The portion of this Estate to be OFFERED FOR SALE, at the GREYHOUND, Croydon, on TUESDAY, the 30th inst. at SIX for SEVEN o'clock, overlooks the Park, and is one of the best sites for the erection of good Villa Residences, which in this neighbourhood let as soon as they are built.

WIMBLEDON, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, JUNE 29, at TWELVE for ONE o'clock, in 69 Lots, the remaining portion of the valuable FREEHOLD BUILDING LAND, free from tithe and land tax, with frontages to the new road called Hartfield-road, close to the Wimbledon Station, on the main line of the London and South Western Railway. Nine-tenths of the purchase money may remain on mortgage or contract, at five per cent. to be paid in nine years by half-yearly instalments, but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained ten days before the sale, of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; and of the Auctioneer, 14, Moorgate-street, E.C.; and at the Place of Sale.

ADDISCOMBE COLLEGE, CROYDON SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the GREYHOUND INN, Croydon, on TUESDAY, 21st SEPT., 1863, at SIX for SEVEN o'clock in the Evening, a further portion of this eligible ESTATE, late the property of the Hon. the East India Company, consisting of about 32 Lots of eligible FREEHOLD BUILDING LAND, with frontages to the St. James's and Park-roads. The lots are well adapted for a good class of Villa Residences. The property is within ten minutes' walk of the New and East Croydon Station; about a mile of that at West Croydon; and when the All Lecombe Railway is completed the station will be on the estate, thus bringing the property in direct communication with the City and West End at all times of the day. Nine-tenths of the purchase-money may remain on mortgage or contract at five per cent. to be paid in 9 years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time on short notice. Particulars, plans, and conditions of sale may be obtained ten days before the sale, of Mr. PALACE, South Lodge, Addiscombe; at the principal Inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

OLD ASYLUM, BEDFORD.—Excellent BUILDING MATERIALS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on MONDAY, JULY 6th, 1863, at TWELVE for ONE o'clock, on the PREMISES, close to the town of Bedford, the ELEVENTH PORTION of the excellent BUILDING MATERIALS of the late County Lunatic Asylum: consisting of large slate sills, iron girders, 40,000 stock bricks, a large quantity of fine Kelsh stone quoins, sills, string course, coping, and cornice for gable, &c.; a large quantity of well-seasoned oak rafters, beams, joists, wall-plates, boards, &c.; slates for roofs, York paving, stone steps, brick-bats, fire-wood, scrapers in stone, iron frames, &c.; sash and other window, door, and frames, paving bricks, &c. &c.—May be viewed on the Friday and Saturday before the sale, and catalogues may be obtained of the Auctioneer, 14, Moorgate-street, London, E.C.; and of the Foreman on the Estate.

ADDISCOMBE, CROYDON, SURREY.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to (the town of Croydon, on TUESDAY, JULY 21st, 1863, at TWELVE for ONE precisely, the SIXTEENTH PORTION of the excellent BUILDING MATERIALS of the Military College at Addiscombe, and comprising about 100 squares of Lead Roofing, consisting of five inches Hainneyderes, large slate slabs, and small marble paving slabs, a large quantity of York paving, Portland stone coping and blocks, Portland stone windows and frames with shutters, a quantity of excellent folding and other doors, a water-closet with bath and seat, a bright stove, iron work and lead timber, consisting of joists, purlins, gutters, ridging, trough leads, pipes, principals, firewood, &c. &c. May be viewed Wednesday or Thursday preceding the sale. Catalogues may be obtained of the Foreman on the Estate; and of the Auctioneer, 14, Moorgate street, London, E.C.

REDHILL, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on FRIDAY, JULY 24th, 1863, at ONE o'clock, in about fifty lots, a further portion of the eligible FREEHOLD BUILDING LAND, situate on the turnpike road from London to Brighton, on the slope between Ridgway and the Redhill Station on the Brighton road, adjoining the Royal Oak Inn, and near to the Redhill Station, on the London, Brighton, and South Coast Railway. Nine-tenths of the purchase-money may remain on mortgage or contract at 5 per cent. to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained before the sale; at the principal Inns in the neighbourhood; of Mr. THOMAS BUCKLAND, Chancery-street, Reigate; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

LEYTONSTONE, within five miles of London.—To BRICKMAKERS, CONTRACTORS, BUILDERS, and OTHERS.—Eighteen Acres of valuable Freehold Land, comprising a quantity of excellent brick earth; also a detached Freehold Residence.

MESSRS. C. C. & T. MOORE will SELL by AUCTION, at the MART, on THURSDAY, JULY 9th, at TWELVE, in two lots, TWO PARCELS of FREEHOLD LAND, desirably situate at Harrow green, Leytonstone, with considerable frontage to Harrow green Lane and the turnpike-road. One field (8a.) is secured by existing leases for a long term at a gross rental of 8l. per annum, which renders the land very eligible for brick-making and building purposes. Also a detached 12 roomed residence, Estate Office, and Yard fronting the high road, private to the Park, and a few minutes' walk from the Leytonstone Station of the Woodford Railway, with stable, coach-house, granary, well stocked orchard and garden, in all 2a. 3r. 20p. frontage to the road; let to a tenant at 42l. per annum.—Particulars in plans may in early post be obtained of JOHN OTWAY, Esq. Solicitor, Stratford-grove, E.; at the Inns in the neighbourhood, and at the Auctioneers' Offices, Mile-end-road, E.

BUILDING MATERIALS.

MR. C. F. SMYRK will SELL by AUCTION, on the PREMISES, facing Police-court, near Rye-lane, Peckham, on MONDAY, JULY 6, at TWELVE for ONE, the Lots of useful useful MATERIALS, in long timbers, flooring and lining boards, stone paving, fittings, and fixtures of every description. Catalogues on the Premises, two days prior; and of Mr. C. F. SMYRK, Auctioneer, Surveyor, and Valuer, 18, Newington-place, Kennington-road.

WILLESLEY TIMBER SALE, 1861.—TO BE SOLD by AUCTION by

MR. CHUBB, on TUESDAY, the 7th day of JULY, 1863, ONE HUNDRED and FORTY-SEVEN LOTS of prime OAK, ASH, ELM, POPLAR, and other TIMBER TREES, Cord Wood, Gate and Fencing Poles, &c. now out down, on the Willesley Estate. The actual result will be given. WILLIAM PEAT, the woodman, will show the lots, of which catalogues may be had, of or of the Auctioneer, Ashby-de-la-Zouch. Willesley is one mile from the Ashby-de-la Zouch Station, on the Leicester and Burton Railway. The Auctioneer will thank purchasers to meet him at the Goose Pen Toll bar, on the Moira road, to partake of Luncheon, at TEN o'clock, and proceed to SALE at ELEVEN o'clock.

[*For remainder of Auctions see* p. ix.

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The Builder,

Architect, Engineer, Operatives & Artist.

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INSTITUTE of PAINTERS in WATER COLOURS, founded 1831, as the NEW SOCIETY of PAINTERS in WATER COLOURS.—The ANNUAL EXHIBITION is NOW OPEN. Admission, 1s.—Gallery, 53, Pall Mall, opposite Marlborough House. JAMES FAHEY, Secretary.

ARCHITECTS' BENEVOLENT SOCIETY.
PATRONS.
Sir Robert Smirke. A. J. B. Beresford Hope, Esq.
PRESIDENT—Sydney Smirke, Esq., R.A.
TREASURER.
Philip Hardwick, Esq. R.A. | Charles R. Cockerell, Esq. R.A.
Geo Gilbert Scott, Esq., R.A.
TREASURER—William Tite, Esq. F.R.S. M.P.
The List of Subscribers and Annual Report may be obtained of the Secretary at the Institution. Applications will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place; or by Mr. ALFRED HILL, 7, Doubridge-street, Kensington-road, W.C.
J. TURNER, Hon. Secretary, 15, Wilton-street.

BUTCHERS' CHARITABLE INSTITUTION, Waltham Green. The ALMSHOUSES erected in memory of the late Prince Consort, from the offerings of Henry Wells, esq. will be Inaugurated TUESDAY, JULY 14th. Persons wishing to benefit the Institution can obtain Tickets of—
B. VENABLES, Esq. Clement's Inn, Newgate Market.
J. BUILER, Esq. Treasurer, Newgate-Market
R. F. POPHER, Esq. Hon. Secretary, Newgate-street.

WORKING MEN'S CLUB and INSTITUTION UNION.—The ANNUAL MEETING will be held at THREE p.m. The Right Hon. LORD BROUGHAM in the Chair.—Cards of admission can be obtained at the Office of the Union, 15, Southampton-buildings, W.C.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.
PRIZES to ARTIST WORKMEN are now offered For WOOD CARVING, 20s and 5s; and for COLOURED DECORATION, 20s and 5s.—Particulars may be had by letter addressed to the Hon. Secretary, at 14, Stratford-place, W.
A. J. B. BERESFORD HOPE, President
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

THE First Annual PUBLIC MEETING, and DISTRIBUTION of the MEDALS and PRIZES obtained by the students of the MARYLEBONE and WEST LONDON SCHOOL of ART, 1862, Portland road, W.) will take place in the MARYLEBONE COURT HOUSE, Marylebone lane, Oxford street, on TUESDAY Evening, JULY 14th, at EIGHT o'clock,
The Right Hon. A. J. B. BERESSFORD HOPE, Esq. President of the School, will be in the Chair.

BILLING'S PATENTS.—
CHIMNEY TERMINALS, THROAT VALVES
NOTICE to ARCHITECTS.—The Proprietors of the late Mr Billing's patents have secured the services of Sir H. H. GOLLINS, M.R.I.B.A. and F.S.A. Secretary to the Institute of Architects, 29, Lincoln's-inn-fields, as the Consulting Architect, to whom all applications for information as to the practical application of the same, and the reduced prices may be obtained from the Manager, Mr. TYLER, 12, Abingdon-street, Westminster, S.W.

COMPETITIONS.

TO ARCHITECTS.—It is intended to erect a GRANITE OBELISK on a public thoroughfare, about 80 feet by 160 feet—"The Parade," at Totnes, in memory of the late Mr W J Assheton Cantiloe. Designs and specifications for the proper purpose may be sent to the undersigned on or before the 24th of JULY, 1863. The cost of the erection of the said obelisk not to exceed £60. A fee will be given for the design adopted.—Further information may be obtained of J. REED, Hon. Sec. to the Memorial Committee.
Totnes, June 24, 1863.

TO ARCHITECTS and OTHERS.—The CHELTENHAM MONTPELLIER GARDENS COMPANY (Limited) has been formed with the object of laying out the MONTPELLIER GARDENS as a place of Public ENTERTAINMENT and Resort, and of ERECTING thereon a BUILDING suitable to these purposes. The Building is required to contain a Hall adapted to Concerts and other assemblies, capable of receiving from 2,000 to 3,000 persons, and communicating with convenient suite rooms. It must also contain a Museum, Library, and Lecture room, and Apartments adjoining the Building, and an Orchestra in the Gardens. The Grounds, which are nearly nine acres in extent, are resting that, and bounded on three sides by public roads. They are at present levelled and turfed, but provision to be left out as Pleasure grounds, the regard being had to the Building before mentioned, and to the preservation of the fine existing trees. The future outlay should not exceed about but a plan which within present expenditure of about half that sum, might be carried out progressively hereafter, without meanwhile appearing incomplete, would be preferred. The Directors being now desirous to obtain Plans for carrying out these objects, hereby offer £50 as a first prize, and £25 as a second prize, for the Plans which in their opinion shall be first and second in order of merit. Each set of Plans to be accompanied by an Estimate, and these for which the prizes are awarded to become the property of the Company. A Working Survey of the Ground may be inspected at the Offices of Messrs WINTERBOTHAM, BELL, & CO. Cheltenham, the Company's Solicitors, to whom any further inquiries respecting the Advertiser next may be addressed. The Plans must be distinguished only by a motto, and must be forwarded to the Secretary, in a closed envelope, directed to Sir ALEXANDER RAMSAY, Bart. Chairman of the Company, on or before the 1st day of SEPTEMBER next.—By order of the Board.
Cheltenham, 24th June, 1863. JOSIAH JESSOP, Secretary.

THE Directors of the Great Central Gas Company will be prepared on WEDNESDAY, JULY 15th, to receive TENDERS and DESIGNS for the ERECTION of an IRON and SLATE ROOF, with glass louvre over workshop 60 feet dimensions, and of building, 93 feet by 21 feet 6 inches.—Further particulars may be had on application to the Engineer, at the Works, Bow Common-street, E.C.

Tenders to be addressed to the Directors, at their Offices, 23, Coleman-

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS. TENDERS are required for the ERECTION of an INFANT SCHOOL and SCHOOL-MISTRESS'S QUARTERS, at Romsiss Barracks, in the county of Hants.
Persons desiring to Tender for the work must leave their names at this Office, between the 9th and 14th of JULY, 1863, during the hours of ELEVEN a.m. and THREE p.m. both days inclusive, and pay the sum of Half a Guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, London District, 11, James-street, Buckingham Gate, S.W. June 24, 1863.

MAIDSTONE SEWERAGE.—To CONTRACTORS and OTHERS.—Persons wishing to contract with the Commissioners of the Municipal Borough for LAYING about 2,000 yards of SEWERS with SEWER PIPE into the River Medway, with the necessary Manholes, Traps, gratings, and other Works, are requested to deliver Tenders for the same at the Offices of Messrs. BEALE & HOAR, Maidstone, on or before the 14th day of JULY, 1863. Forms and a specification of the work may be seen at the Office of Mr. BULMER, Maidstone, on and after WEDNESDAY, the 1st JULY. The Committee of Commissioners do not hold themselves to accept either the lowest or any other Tender, and security will be required for the proper performance of the works.—By order of the Committee,
BEALE & HOAR, Clerks.
Maidstone, June 24, 1863.

TO BUILDERS and IRONFOUNDERS.—Parties desirous of TENDERING for the several WORKS required in the ERECTION of the FIRST PORTION of a COMBING ESTABLISHMENT to be built in The Broad-road, Bradford, may see the drawings and specification, and obtain forms of tender, at my Offices, from WEDNESDAY, the 1st, until WEDNESDAY, the 8th of JULY next, on which day Tenders are to be delivered.
E. MILNES, Architect
20, Hall Ings, Bradford, June 24, 1863.

TO PAINTERS, DECORATORS, and OTHERS.—The Vestry of the Hamlet of Mile and Old Town will meet at the Vestry Hall, Bancroft-road, Mile-end-road, on WEDNESDAY, the 8th day of JULY next, at SEVEN o'clock p.m. to receive TENDERS for the DECORATION with INTERIOR PAINTING of VESTRY HALL and OFFICES. The Works are to be done pursuant to drawings and the terms of a specification, which may be inspected, and any further information obtained, at the Vestry Hall, between the hours of TEN and ONE o'clock. The Contractor will be required to enter into a Contract, to be prepared by the Clerk to the Vestry, at the expense of the Contractor, and to give bond of Sureties for the due performance of the Contract. Tenders, conveyed at my Office before THREE o'clock on the Afternoon of the day of meeting. The Vestry do not bind themselves to accept the lowest or any Tender.
THOMAS PRICE, Clerk to the Vestry.
Vestry Hall, Bancroft-road, June 23th, 1863.

CONTRACTS.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY COMPANY.—CONTRACTORS LONDON BRIDGE TERMINUS ENLARGEMENT.—CONTRACTS No. 1.—The Directors of the London, Brighton, and South Coast Railway Company are ready to receive TENDERS for the CONSTRUCTION of a NEW STREET and SEWER, about 350 yards in length, in the Parishes of St. Thomas and St. Olave's, Southwark, and County of Surrey. Plans and specifications of the proposed Works may be seen at the Office of Mr. FRED. D. BANISTER, Resident Engineer, London Bridge Terminus, on and after MONDAY, the 29th inst. and sealed Tenders in the prescribed form only, endorsed "Tender for New Street," must be delivered to the undersigned not later than TEN o'clock in the forenoon of MONDAY, the 13th of JULY next. The Directors will not be bound to accept the lowest or any Tender.
FREDERICK SLIGHT, Secretary.
London Bridge Terminus.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY COMPANY.—CONTRACTORS LONDON BRIDGE TERMINUS ENLARGEMENT.—CONTRACTS No. 2.—The Directors of the London, Brighton, and South Coast Railway Company are ready to receive TENDERS for the EXECUTION of the necessary WORKS required for MAKING the SPACE to be between the existing London Bridge Terminus and a New Street to be formed on the Eastern side of Southwark and Cox's Walk, for the Enlargement of the said Terminus, and comprise an area of about 1,700 superficial square yards. Plans, drawings, and specifications obtained at the Office of Mr FRED D BANISTER, Resident Engineer, London Bridge Terminus, on and after MONDAY, the 29th inst. and sealed Tenders in the prescribed form only, endorsed "Tender for Archive," must be delivered to the undersigned not later than TEN o'clock in the forenoon of MONDAY, the 13th day of JULY next. The Directors will not be bound to accept the lowest or any Tender.
FREDERICK SLIGHT, Secretary.
London Bridge Terminus.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a CHAPEL, SCHOOLROOMS, &c. at Redruth, in the county of Cornwall may inspect plans and specification at the Office of THOMAS SIMPSON, Architect, Nottingham, on and after FRIDAY, the 26th inst. until FRIDAY, the 24th day of JUNE, and at the Vestry of the United Methodist Free Church, Redruth on MONDAY, the 29th day of JUNE, and SATURDAY, the 11th day of JULY next. Tenders to be delivered at the Offices of Mr THOMAS ROSCROW, Bookseller, Redruth, not later than the 15th day of JULY, endorsed, "Tender for Chapel." The Lowest many Tender not necessarily accepted.

BARTON-UNDER-NEEDWOOD, near BURTON-ON-TRENT. TO BUILDERS.—Persons desirous of offering TENDERS for the proposed ENLARGEMENT, RE-SEATING, and other WORKS at the above Church, may see the Plans and specification, and obtain further information at our Offices, 45, Friar-gate Derby, until the 18th of JULY inclusive, after which no application will be received. The lowest Tender will not necessarily be accepted.
STEVENS & ROBINSON, Architects.
June 25, 1863.

TO BUILDERS and CONTRACTORS.—PARISH of SAINT PANCRAS, in the COUNTY of MIDDLESEX.—Notice is hereby given, that a Joint Committee of the Vestry of the Parish of Saint Pancras and the Board of Works for the Parish of Saint Pancras will on MONDAY, the 13th day of JULY, at the Board-room of the Work-house, in Kingsland, Pancras-road, be prepared to receive separate Tenders from persons willing to CONTRACT for the ERECTION of a NEW LAUNDRY, with Detached Messroom, and of a DINING HALL with Dormitory over, pursuant to plans and specifications to be seen at the Offices of the Board of Works, on and after MONDAY next, the 29th day of JUNE, and at the Offices of TEN and FOUR o'clock, at the Office of Mr. WM BOOTH SCOTT, C.E. Chief Surveyor to the Vestry, No. 10, Edward street, Hampstead-road, where further particulars and forms of Tender may be obtained. The said Joint Committee hereby give notice, that neither the Directors of the Poor nor the Vestry of the said Parish of Saint Pancras will supply quantities of the several Works, or in any way responsible for quantities which may be taken out by any person. Good sureties will be required for the due performance of both Contracts, and the written consent of each Surety must be obtained and filled with each Tender. The Joint Committee do not hold themselves to be bound to accept the lowest or any Tender. Sealed Tenders to be delivered addressed to me, at the Vestry Office, adjoining the Workhouse, Kingsland Pancras-road, on or before TWELVE o'clock at noon, on THURSDAY, the 16th day of JULY.—By order,
FRANCIS PLAW,
Vestry Clerk, and Clerk to the Directors of the Poor.
Vestry Office, June, 1863.

ATHERSTONE GRAMMAR SCHOOL.—TO BUILDERS.—Persons desirous of TENDERING for the BUILDING of the SCHOOL HOUSE, DORMITORIES, and KITCHEN, School Room, and Studio, and Stables at the Grammar School, North street, Atherstone, are asked on MONDAY, 13th inst. Sealed Tenders to be sent to the Architect on THURSDAY, JULY 16th, and the Trustees do not hold themselves to accept the lowest or any Tender, and all necessary particulars to be had of the Clerk to the Commissioners.
Atherstone, June 23rd, 1863. RT. JENNINGS, Architect.

MASBROUGH NATIONAL SCHOOLS.—TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of the NEW SCHOOLS at Masbrough, Rotherham, may obtain lithographed copies of the quantities for the upon making application, by letter, to W. WHITE, Esq. Architect, 32, Wilmington-street, London, W. after the 30th MONDAY, JUNE 29. Plans and specifications may be seen from MONDAY, JULY 6th, at Masbrough, on application to the Rev. H. MASTER WHITE. Sealed Tenders to be sent in by or before TEN a.m. on SATURDAY, JULY 18th, to the Rev. H. MASTER WHITE, Masbrough, Rotherham. The Advertiser does not bind himself to accept the lowest or any Tender.

[For remainder of Contracts see next Page.

CONTRACTS.

LONDON GENERAL OMNIBUS COMPANY, LIMITED.—The Directors are desirous of receiving TENDERS for the CREATION of STABLES at BLACKWALL. Specification may be had on and after the 9th instant at the Company's Works at Bucknall's, the same to be unassigned on or before ELEVEN o'clock on THURSDAY morning, the 9th JULY. The Directors do not bind themselves to accept the lowest or any Tender. By order,
A. G. CHURCH, Secretary.
31, Moorgate-street, 25th June, 1863.

TO BUILDERS.—The Board of Management of the North Surrey District School will meet at the District School, Perge, near the Ashtead Station of the Epsom Railway, on MONDAY, the 20th day of JULY instant, at TWO o'clock in the afternoon, to receive and open and read TENDERS for ALTERATIONS and ADDITIONS to the DISTRICT SCHOOL. Tenders to be sealed and endorsed, "Tender for Alterations and Additions to District School." No Tender will be received after TWO o'clock, nor considered, unless it be made in the form prescribed, and the party or parties tendering be in attendance. Satisfactory securities will be required for the due performance of the Works; and the Board do not pledge themselves to accept the lowest or any Tender. The plans, specifications, and forms of Tender and Contract may be seen, and further particulars obtained, at the Office of the Architects, Messrs. CHURCH & RICKWOOD, William-street, Woolwich, S.E. or on application to the Superintendent at the District School, on and after the 10th day of JULY instant, between the hours of NINE and SIX (Sundays excepted). GEORGE FREDERICK MERRIMAN, Clerk.
Clapham Common, 1st July, 1863.

EXTENSION of STAFFORD COUNTY GAOL.—To BUILDERS and CONTRACTORS.—Parties disposed to TENDER for extensive ADDITIONS to the above building, may inspect the plans, specification, and conditions of contract at my Offices, in Stafford, on and after THURSDAY the 16th day of JULY, until SATURDAY, the 1st day of AUGUST. Bills of quantities will be furnished at a charge of two guineas for each copy, such two guineas being returned to those parties who submit tenders for the works. Tenders, sealed and properly endorsed, to be delivered at my Office by TEN o'clock a.m. on SATURDAY, the 1st day of AUGUST next. Security will be required for the due performance of the contract, but neither the lowest nor any Tender will be accepted unless satisfactory in all respects.
ROBERT GRIFFITHS, Architect and County Surveyor.
Eastgate-street, Stafford, June 24, 1863.

CITY of LONDON.—BARBERS' HALL.—TO BE LET, on a Building Lease, Nos. 33, 34, and 35, Monkwell-street, Wood-street, and a portion of the Court-yard Hall and Offices in the rear.—For particulars and plans, apply to the Beadle, at the Hall; or to the Clerk, HENLEY GROSE SMITH, Esq., Warnford-court, Throgmorton-street, E.C.; or to Mr. C. J. SHOPPEE, Architect, 61, Doughty-street, W.C.

FREEHOLD LAND TO BE SOLD or LET on Building Leases.—Two Acres near Forest hill Railway station; One Acre adjoining Norwood Railway-station; Three Acres at Glengall Grove-road, Old Kent road.—Apply to Mr. MAY, Acorn Wharf, Old Kent road.

TO BE LET, a capital WHARF and DRAWDOCK, known as "Searle's Wharf," most eligibly situated at the foot of New Westminster Bridge, and opposite the Houses of Parliament.
This drawdock has been closed for some years, and is now about to be re-opened.
From its excellent situation and the probability of the Scotland-yard Wharfs being closed at an early date by the Thames Embankment, a very valuable business may undoubtedly be depended on.
A residence is attached, which may or may not be taken with the wharf or drawdock.
Apply to Mr. W. HEWETT, 84, York-road, Lambeth.

BUILDING LAND, UPPER NORWOOD, close to the Crystal Palace.—TO BE LET, for the erection of small VILLAS, a piece of resilence much needed, and certain to let before completed. Advances if required.—Apply to Mr. T. K. GREEN, Architect, 23, College hill, Cannon-street, E.C.

ELIGIBLE BUILDING LAND TO BE LET, on 99 years' Lease, in the best part of Stoke Newington, where houses are in great demand. Brick on the estate, and supplied at a low price.—Apply to Mr. RODDA, Bouverie-road, Church-street, Stoke Newington.

LAND, situate on Bromley-hill, Kent, TO BE LET on Building Lease, suitable for the erection of villas for residence or investment, they being in great demand in that locality. The Land is within ten minutes' walk of the Shortlands Station, and is beautifully well laid out. There are a well, 1 tent and a half of white sand and dry grave, and a supply of very fine spring water.—Apply to JOHN WIMBLE, Esq., 2, Walbrook, E.C.

BUILDING LAND TO BE LET, at Canonbury (Marquess-road), at Lower Norwood, a most eligible site, commanding beautiful views, close to the station; at Croydon, &c. Also, at Edward's road, Bow, some carcases for completion. The usual advances of money if respectable parties.—Apply at the Offices of Mr. J. EDMESTON, Architect and Surveyor, 5, Crown-court, Old Broad-street, E.C.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. The soil is gravel, and the healthy, and water excellent. The Shenfield-road Station is about only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause enabling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Kingston; some very eligible SITES in the Grove road, Millwall, a few of which are adapted for shops, and large and very CHEAP PLOTS TO LET, at Ealing.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

GUILDHALL, 24th June, 1863.—The COMMITTEE for LETTING the CITY'S LANDS will meet at Guildhall, on WEDNESDAY, the 8th JULY next, at ONE o'clock precisely, to receive PROPOSALS for LEASES of a HOUSE, 22, Tottenham-court-road, a House No. 18a, Rosewell-street, a House No. 20, Old-street, St. Luke's, and a House No. 53, Fair-street, Finsbury.—Plans of the Property may be seen, and further particulars and forms of Tender obtained, upon application at the Architect's Office, Guildhall. FERDINAND BRENCH, Comptroller.

RICHMOND, SURREY.—FREEHOLD LAND TO BE LET for Building, including Mansion to be converted, situate near the centre of the town and railway station. Apply to view at Sutfield House, Paradise-road, and for terms to Mr. W. HULSON, Architect, 19, Bennet's-hill, E.C.

TO BUILDERS and OTHERS.—TO BE LET, on building leases, about 130 ACRES of very eligible FREEHOLD LAND, commanding extensive and picturesque views over Bushey Park and the Thames; near railway station; gravelly soil.—Apply to W. WOOLLINGTON, Esq., 23, Cork-place, Commercial-road, E.; or to Messrs. KENT & SONS, Solicitors, Hampton, S.W.

BUILDER'S PREMISES, HACKNEY.—TO BE LET on LEASE, a capital YARD, with spacious Workshops and Office and with or without Dwelling-house.—For particulars apply to Mr. THOMAS BULL, Auctioneer, 60, Cornhill, E.C.

HOUSE WANTED to PURCHASE, within ten miles of London, in Kent or Surrey, containing eight rooms, with large garden.—Address, Mr. WOOD, Chandos House, Chobham-road, Stratford, Essex.

BUILDING LAND TO BE LET, for the ERECTION of SHOPS and HOUSES, on a main road, within two miles of Charing Cross. Boat, Tax, and rail to City. Advances made. Houses LET before finished. Apply to H. BATES, The Priory, Wandsworth road, S.

BERKS, opposite to the Wellington College, and close to the Railway Station.—TO BE SOLD, 300 acres of FREEHOLD LAND, to which the attention of public institutions and builders is especially invited. The situation high, dry, and particularly healthy. Light soil; the land gently rising; having the advantage of a plantation belt, with important and extensive frontages, and situated on the north of a wood. Brick earth is on the estate; also farm-houses and buildings, which will be found useful.—Particulars and plans, apply at Mr. ROBINSON'S Auction and Estate Offices, 7, Wilton-place, Pall-mall, S.W. where a plan may be seen. The quantity of land would be divided, if required.

SUTTON, near the Station.—PLOTS of FREEHOLD BUILDING LAND FOR SALE. Land-tax redeemed; conveyance free. Also, PLOTS TO BE LET, on a Building Lease for ninety-nine years. For plans, &c. apply by post, pre-paid, to Mr. FRIBE, Builder, Sutton, Surrey, S.

BUILDING LAND TO BE LET, on lease, situate in the best part of Norwood, within ten minutes' walk of the Crystal Palace, and commercially adjoining the Grove Hill Station. The eligible building ground is suitable for detached or semi-detached villas, which are in great demand. Money can be advanced to builders, if required.—Apply on the premises. For particulars, apply, personally, to Mr. WILLIAM BACKHOUSE, Architect, 42, Southampton-buildings, Chancery-lane, W.C.

BUILDING LAND TO BE LET, at Beckenham, where large houses let or sell before finished. Money advanced, if required.—Apply to Mr. B. PARKS, Lewisham. There are now seven built and occupied.

TO BUILDERS. TO BE SOLD (a genuine concern) a small HOUSE and SHED, with lead flat. Has been for many years the residence of a builder. The yard has been used as a commission yard. The whole, with the goodwill, builder's plant, a quantity of building materials, and lease, of which thirty-four years are unexpired, at the small ground-rent of 2l. 16s. per annum, to be sold for 285l. in consequence of the death of the occupier.—Apply to Mr. CHRISTIAN, House Agent, 4, Commercial place (opposite Jamaica-street), Commercial-road, E. between the hours of Six and Nine p.m.

NEW KENT ROAD, DOVER PLACE. Saint Bartholomew's Hospital.—TO BE LET, from LADY-DAY next, on Repairing Leases for twenty-one years, the HOUSES numbered 17 to 22, inclusive.—For further particulars, apply at Mr. HARDWICK'S Office, No. 1, Henrietta-street, Cavendish-square. Tenders are to be received up and delivered at the Clerk's Office within the Hospital, on TUESDAY, the 14th day of JULY next, at a Quarter before ELEVEN precisely. WILLIAM WILBY, Clerk.
St. Bartholomew's Hospital, June, 1863.

TO MANUFACTURERS, PAPER-MAKERS, and OTHERS.—TO BE LET, or the LEASE SOLD, a first rate MILL and FACTORY, with both water and steam power, spacious buildings, nine acres of land, and excellent plant, situate 5 miles from the London Docks, near to the Thames, and adjoining a railway.—For further particulars and terms, apply to Mr. F. WALKER, Solicitor, Church-lane, City.

TO SPECULATIVE BUILDERS.—A PLOT of LAND, on a main road near Wandsworth, TO BE LET, for the Erection of a Pair of Villas. 700l. to be advanced at five per cent on the work progressed. Sand sufficient on the ground.—For particulars apply by letter to ALPHA, 2, Tavistock street, Covent Garden, W.C.

TO BUILDERS.—Advantageous Opportunity.—LAND TO BE LET, for Semi-detached Villas. Freeholder will make liberal advances.—Address, FRANK COLLINS, Esq., Messrs. Abrahams & Co. 53, Great Portland-street, Cavendish-square.

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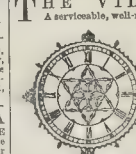
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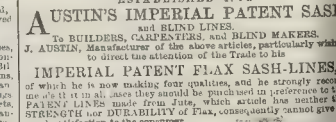
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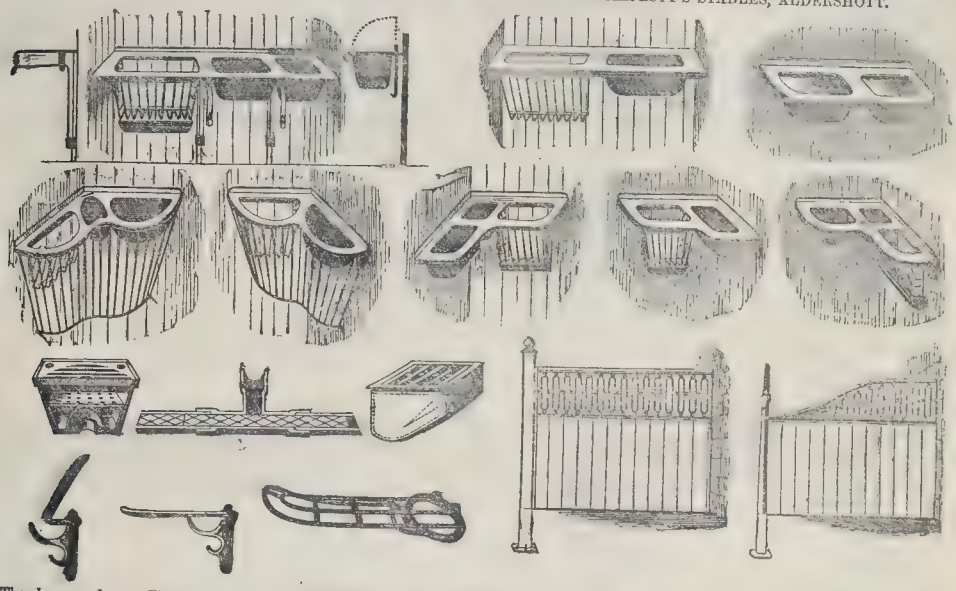
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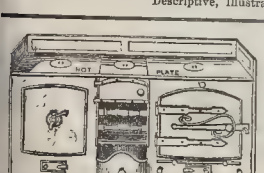
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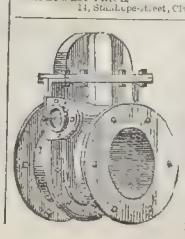
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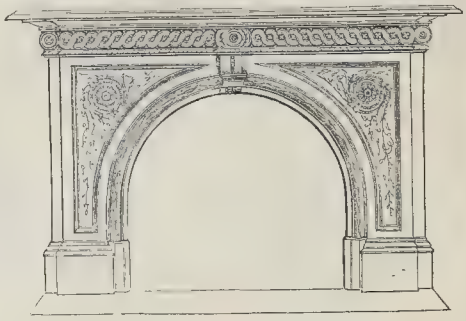
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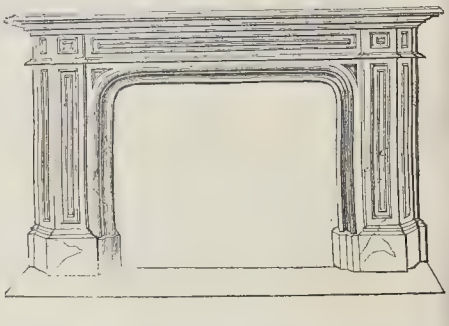
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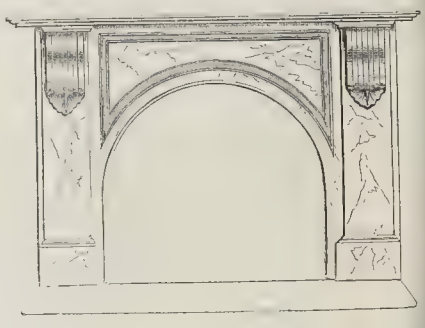












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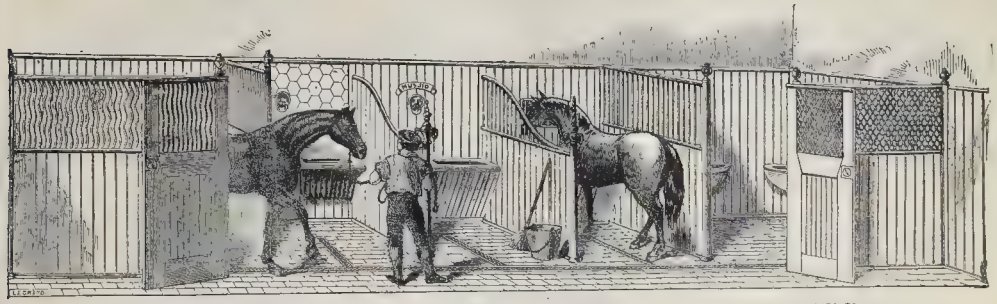
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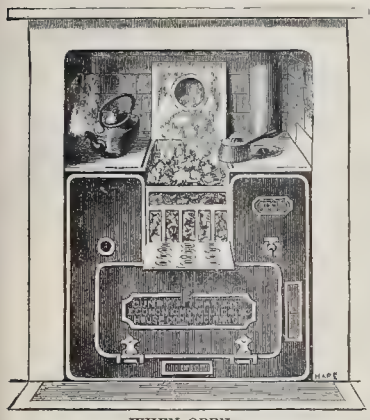
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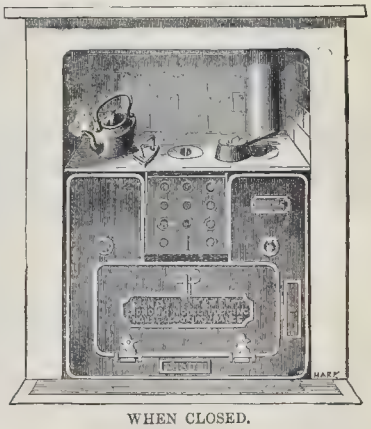
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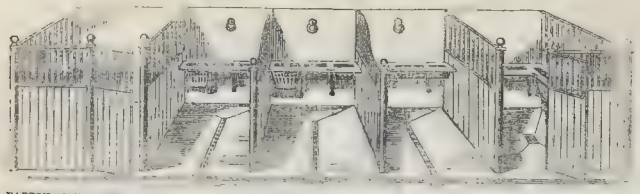
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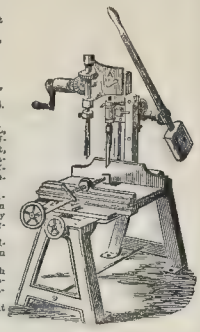
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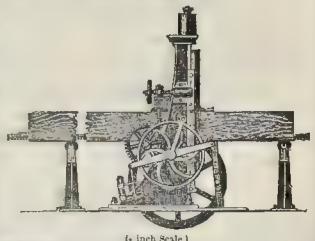
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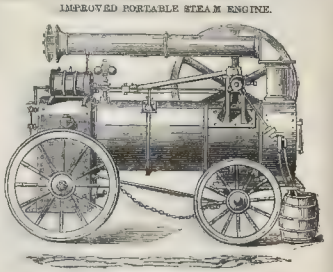
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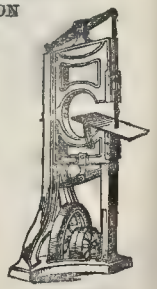
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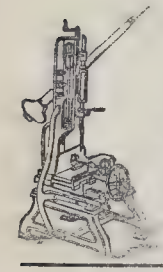
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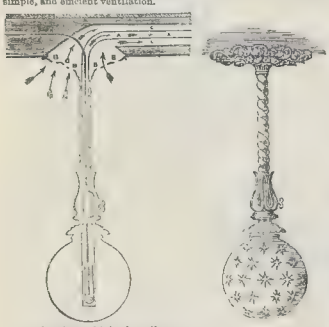
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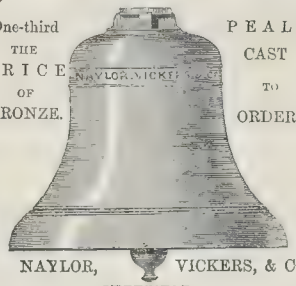
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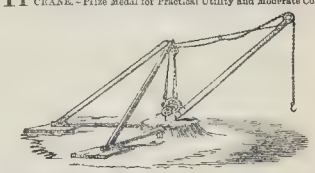


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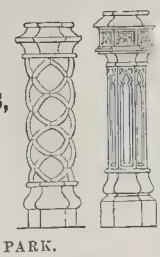
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The Builder.

VOL. XXI.—No. 1065.

Gateshead Town Hall Competition.



IN many respects this has been a remarkable competition; not the least curious part of it being that only eleven architects out of the host in the United Kingdom responded to the invitations to compete. The offer of 100*l.* premium for the best design of a town-hall, and 50*l.* for the second best, advertised in our columns, induced Edinburgh, Belfast, Leeds, Sunderland, and Gateshead, to send a single design apiece: Newcastle contributed seven designs, two of them being the work of one architect · the metropolis and other large towns gave no heed. One of the reasons of this paucity of response consisted, possibly, in the vagueness of the conditions of competition. These were (together with a plan of site) to be obtained by payment of five shillings. They covered a page of foolscap; but failed to give two important pieces of information,—the scale on which the designs were to be drawn, and the sum of money to which the probable cost of the building was to be approximated. These points were left open. The consequences of this are, that the designs are drawn to various scales, and that the estimates range from 8,000*l.* to 25,000*l.* Three of the designs are estimated at 15,000*l.*; one at 8,700*l.*; two at 18,000*l.*; one at 9,500*l.*; one at 19,000*l.*; two at 25,000*l.*: thus between the highest and the lowest there is no less a difference than the goodly sum of seventeen thousand pounds. The drawings are placed for exhibition in the council-room of the existing town-hall, Gateshead. They are severally labelled with the names of the respective competitors, and the estimated cost of each design.

The site at the disposal of the council consists of an irregular oblong strip of land, wider at one extremity than it is at the other, now strewed with ruined buildings, and with the rubbish that so frequently accumulates upon building sites in towns. One end of it faces a sloping main street, called West-street; the other, a less acclivitous street, called High-street. Of the two long sides, one skirts the back yards and backs of houses in Nelson-street; and the other the fronts of a long row of small houses, called Swinburne-place. It will be seen that three sides of the site are bounded by the fronts of streets. It must be also mentioned that the council intimated in their conditions that a part of the High-street end of their space might hereafter be appropriated for the purpose of a covered market; and they directed that the principal front of the town-hall should face towards West-street.

The accommodation required by the council comprised a council chamber (area about 1,000 superficial feet), two committee-rooms (area of each from 300 to 400 superficial feet), a mayor's chamber, offices of the town clerk, a suite of three rooms, a muniment-room, offices of the town surveyor (two rooms), offices of the town treasurer (one room), office of the chief constable (one room), a police office, at least six prisoners' cells, which must be above the level of the ground, a police court (area about 1,200 superficial feet), a magistrates' retiring-room, offices of the clerk to the magistrates (three rooms), a court-room for the holding of the county court (area about 1,200 superficial feet), a judge's retiring-room, offices for the officials of the county court (two rooms), a residence for the chief constable (six rooms), a large room suitable for the use of a public body (area about 1,000 superficial feet), nine rooms in connexion therewith, and a public hall to seat 1,000 persons (independent of the platform), with the necessary retiring and refreshment rooms. These numerous conveniences were considered insufficient by some of the competitors, who have added offices for the board of guardians, relieving officers, and overseers; a paupers' waiting-room; an apartment for four fire-engines, public urinals and lavatories, and hustings.

The council, after reducing the designs from which to make a choice to those of Messrs. Thompson, Newcastle; Johnstone, Newcastle; and Lamb, Gateshead, to which that of Mr. Watson, Newcastle, was subsequently added, have selected the designs of Mr. J. Johnstone for the premium of 100*l.* The estimated cost of this design is 8,750*l.* The second premium they have awarded to Mr. J. E. Watson, whose estimate amounts to twenty-five thousand pounds. The total area proposed to be covered by the two designs is by no means so varied in extent as the sum total of the estimates. The first premiated plan covers an area of 220 feet by 120 feet; the second, at three times the price, would cover a space measuring 224 feet by 128 feet. Before going into details we may mention that both these gentlemen have given a parallelogramical plan, leaving the rest of the irregular site out of consideration. Neither of these designs shows any special arrangement to suit the site, and, should either of them be carried out, it will yet have to be shown what the authors intend to do with the surplus. In Mr. Watson's front intended for West-street, there are upwards of 60 feet of frontage left unappropriated; in Mr. Johnstone's there are upwards of 70 feet unoccupied. Nor has either of them kept in view the important condition that a part of the site may hereafter be appropriated for the purposes of a covered market. A third design, effective and complete, by Mr. Lynn, Belfast, makes use of the whole of the breadth of the West-street front, in an arrangement which divides the required buildings into three distinct groups, the county and police courts occupying one, the town-hall buildings proper the second, and the public hall and large room the third. The want of any guide as to probable expenditure has led this gentleman to suggest that either portion of his design could be built without the other, and the remainder at a future time; and to add, with a corresponding vagueness, that they could be built for 15,000*l.* We conclude that the total estimate is referred to, although from this suggested separation of parts it is not quite clear whether this sum, as ticketed to the drawings, is to cover the expense of the whole or part. The fear of exceeding the cost, disregarded by Mr. Watson and Messrs. Adamson & Ross, authors of the other 25,000*l.* design, has suggested a further dismemberment of this design. An imposing campanile ornaments one wing of the front; this it is hinted, "though adding to the effect of the design," could be dispensed with altogether should economy be an object. A thoughtful design by Mr. A. M. Dunn disposes all the buildings towards the Swinburne-place edge of the site, leaving the portion facing the back of Nelson-street laid out in approaches, circular carriage-drives, fountains, &c. Mr. Lamb, Gateshead, considers and covers the *whole* site, showing an actual design for the proposed markets conspicuous to the High-street. Mr. Wardle, as further fruits of the indefiniteness of the conditions, altogether condemns the provision in the instructions for the markets, and states "I am of opinion that the whole of the ground from West-street to High-street would be just sufficient, after deducting what would be required for streets as approaches to the markets and standage of carts to erect a market, without taking any for the purpose of a town-hall, and therefore suggest that after taking off sufficient ground for a town-hall the remainder should be laid out as first-class shops and houses."

The first prize design is founded on the Gothic style. It is two stories in height at the high part of the site, and three stories at the lower side. The plan, as we have said, is a parallelogram. The main front faces West-street; the north front forms one side of Swinburne-place. There are no towers, nor pinnacles, nor buttresses. The triplet windows of the middle story are cusped under acutely pointed openings of a triangular form. Those of the upper story are divided into three lights by mullions, formed of a pillar, the cap of which, midway in the height of the opening, supports the mullions which run into the straight window heads. The only movement is afforded by the centre of the west front, which slightly projects and is higher than the returns, and terminates in three gables, the centre one of which rises higher than and bisects the main hipped roofs. The leading feature of this centre is the council-chamber, lighted by three large windows; from the lower story a small cusped arched portico with an enriched parapet makes a bold projection. Passing beneath the portico, the plan provides a very spacious entrance-hall, or hall of communication, 70 feet by 45 feet—a feature peculiar to this design. Out of this a flight of steps, having a muniment-room under them, gives entrance into a central public hall, 92 feet by 40 feet (exclusive of gallery), 37 feet high); around this centre there is a corridor, and beyond this there is a fair disposition of the various offices. The Swinburne-place front has an entrance affording access to the county court and board of guardians' offices. Beginning with the West-street end of this front there are, first, the three offices for the town surveyor, and then, following one another down the street, the w.cs. and lavatories, the judge's retiring-room, the county court, 42 feet by 30 feet, room for the jury, waiting-room for witnesses, entrance to the offices of this department of the service, the county court waiting and summons office, the private office of the clerk of the county court, the overseer's office and relieving officer's waiting-rooms. On the upper floor above these are retiring and refreshment rooms, and returning towards the West-street end a paupers' waiting-room, relieving officer's room, and a board of guardians' room over, and as large as the county court, 42 feet by 30 feet. On the side facing the backs of the houses in Nelson-street, where there is space to make appropriate approaches, there is the residence of the chief constable and entrance to the police court offices. Ranged on this side, then, on the ground floor, are, coming down from West-street, first the offices of the magistrates' clerks, then retiring-room for the magistrates, the police court, 42 feet by 30 feet, the witness-room, charge-room, entrance, chief constable's kitchen, public urinals at the corner, three cells for males and three cells for females, and small airing-grounds or yards, 25 feet by 15 feet, occupying the front next High-street. On the second-floor, retracing our steps, is the chief constable's house. All the chamber-doors are on the first-floor landing—three bed-chambers and dressing and drawing room,—an arrangement that is suggestive of pantomimic performances and constantly recurring blunders. Over the charge-room is a place of deposit for stolen goods, and adjacent are the police inspectors' departments; and over the magistrates' retiring-room and the offices of the magistrates' clerks are those of the town clerk. On the same

floor, facing West-street, is the spacious council-chamber, flanked on either side by a committee-room.

The second prize design, estimated at 25,000*l.*, is in the Italian style. It has a much more showy exterior than the first prize, as might be expected from the difference in cost, but is not so conveniently planned. The variation in price is in some measure accounted for by the finish of the estimate, which includes heating. The estimates of Mr. Johnstone include no such completeness; even the vaults, though shown in the plans, under the public hall, with separate entrance thereto, which for the purposes of letting would yield the corporation a good rental, were not taken into consideration. Mr. Watson places his police-court and county court, each 41 feet by 30 feet, to face the intended site of the market. This is an oversight and a consequence of not taking the markets into consideration according to the instructions. A court, of all places, should be in a quiet neighbourhood. The first prize design has an advantage in the plan in this respect. There is a portico to the West-street front, beyond which there is but a narrow entrance into the public hall, placed like that of Mr. Johnstone, in the centre of the plan. It measures 120 feet by 58 feet, by 50 feet high, with sittings on the ground-floor for 1,000 persons, and in a gallery at the High-street end for 224 persons. There is a corridor running round the four sides of the hall, from which access to the different offices is arranged. This corridor is 12 feet wide. The public entrance from the market site to the police and county courts are not much wider—14 feet by 12 feet. The Swinburne-place wing contains cells for prisoners in the basement, with windows looking on to the houses of Swinburne-place. On the ground-floor there are successively offices for magistrates' clerk (adjacent to the police-court), refreshment-rooms, w.cs, ladies' retiring-room, cloak-room, entrance and staircase, chief constable's office, treasurer's room, muniment-room, and town clerk's office. At the corner of West-street, in the upper story in this wing, are the offices of clerks to the magistrates, over the town clerk; town surveyor's offices, respectively 20 feet by 14 feet, and 20 feet by 35 feet, over the treasurer's; then the staircase, serving here as approach to the chief constable's residence, which occupies the space over the magistrates' clerk's and refreshment rooms, upon the first-floor "flat" system. He has five bed-rooms, a sitting-room, 22 feet by 22 feet, and a kitchen, but no scullery. An extravagantly-wide corridor (12 feet) leads to them; and yet the doors of the pantry, kitchen, and sitting-room are so focussed in a small lobby that it will be always difficult to tell which is which. The centre of the West-street front contains mayor's chambers on the ground-floor, and committee-rooms and hustings on the first-floor. The return wing, facing the backs of houses in Nelson-street, contains council-chamber, 48 feet by 21 feet, at the West-street corner; committee-rooms adjacent, ladies' retiring-room, and cloak-room; county-court offices on the ground-floor; and large room for public bodies, 48 feet by 21 feet, and seven offices adjacent, on the first-floor. The exterior of the centre of the pile next West-street is ornamented with a lofty octagonal lantern tower surmounted by a domed cupola, with pyramidal spire rising from the centre. The wings and centre of all the fronts of this design are advanced. The basement on the Swinburne-place side is rusticated with square windows, and over this, round three sides of the building, are two rows of imposing round-headed windows and a costly arrangement of a Corinthian column between each, and at the angles of each advanced wing. Each angle has a low Mansard roof ornamented with metal cresting.

The hasty sketches by Messrs. Adamson & Ross, drawn to a very small scale, indicate a building that is estimated to cost 15,000*l.* Like the larger number of competitors, these gentlemen place their buildings rectangularly, by which arrangement a great portion of them would be out of sight in the perspective of West-street to passengers until they were close upon them. In other respects the design differs materially from other plans. The large room, 46 feet by 22 feet 6 inches, and the public hall, 80 feet by 55 feet (100 feet with gallery), and the council-room, 39 feet by 27 feet, face West-street, from which they have convenient access by portico and entrance-hall,—the large room being placed in the direction of Swinburne-place, and the large hall on the opposite of the entrance. By this means the length of both room and hall is fully seen. The hall is made a conspicuous feature. It has a very high-pitched roof, perforated with small dormers like the Hôtel de Ville of Louvain, and is furnished with a tall square Venetian tower and spire, around the base of which there is a superabundance of gables and gablets. In the interior, it is plastered to the shape of an acutely-pointed Gothic arch throughout. There are two galleries to the hall, one of which projects from the wall very high up to the apex of the pointed ceiling. The windows and details generally are of good Domestic Early Gothic detail; but the windows of the council-chamber are of a character akin to cloisters. The authors have made a mistake in sending into the competition sketches so flimsily drawn, which, however meritorious as to design, bear no comparison with the elaboration of other designs.

The design of Mr. Lynn, Belfast, estimate 15,000*l.*, adopts a contrary arrangement to those to which the prizes have been awarded. It is very conscientiously worked out, and exhibits much thought and labour. Mr. Lynn gives a picturesque perspective in brown ink, in which there are two small towers in view besides the campanile, high-pitched roofs, a great deal of pointed arched arcading, a louvre, oriels, and porticoes, with diminutive arcade work for the parapets. There is a free use of arcading in other parts; and arcades in the basement of the campanile stepping up with the stairs, forming a constructional ornament. The plan is irregular, and follows the peculiar line of site. A main defect lies in the fact that the great hall, 109 feet by 56 feet, is neither brought into view nor made a central feature. What appears to be the hall, with high roof, louvre, and oriel in the West-street front, is only the council-chamber. The hall is buried against the backs *and windows* of the houses in Nelson-street. In this position, access can only be gained by a corridor 100 feet long and 17 feet wide. There are two entrances in Swinburne-place, the first leading to an entrance-hall, from which some of the offices open; the second affording facility to the police and county courts. The chief constable's house is placed at the farthest point possible from the courts, being made a prominent feature at the upper end of the West-street frontage, which can scarcely be looked upon as a convenient arrangement.

The design by Mr. A. M. Dunn, Newcastle, estimated at 15,000*l.*, is also thoroughly and carefully worked out. He makes two main fronts, one to face West-street, the other the backs of the houses in Nelson-street, between which and the building he places the carriage-drives, and ornamental grounds and fountains before mentioned. The police court, 46 feet by 30 feet, and county court, 50 feet by 30 feet, are in this plan both placed in the Swinburne-place front, where they would be open to the same objection as if adjacent to the markets—noise, more especially as the position of the proposed frontage limits the width of Swinburne-place to 25 feet. The same objection must be made to the placing of the way in and out for four fire-engines in this narrow street. The main hall here, 100 feet by 50 feet, occupies the centre of the front, facing the back of Nelson-street; but, being set back and on the ground-floor, and not of a conspicuous height, will be lost in the perspective from the main streets. In the interior it is elegant, though severe-looking, having ribs panelled on edge, and the interstices flat panelled. The muniments are better disposed here than in any design, being placed in a light and dry place,—a tower. The perspective view of the design loses much of its effect from being treated as a cartoon in pencil. It shows to the West-street front a tall tower, with massive corbelled parapets at the base of a spirelet, an arcaded recessed portico, and the principal front of the county court, with council chamber, 50 feet by 30 feet, over it, lighted by a very large bow window. The fenestration of the main hall consists of double lights, of a Venetian type, under round arches.

Mr. John Lamb, Gateshead, has a comprehensive design, estimated to cost 14,600*l.*, of a neat Italian character. This plan may be called quadrangular, having for its High street end the covered markets alluded to. The centre of the plan is a quadrangle, or open court or street, entered from West-street under arches through the main front, providing thus a direct thoroughfare from West-street to High-street. Around this open space are grouped the buildings required. The hall occupies the length of line down Swinburne-place. The town-hall offices are kept to the high end of West-street, and the police and county courts, with their necessary suites of offices, are placed to face the back of Nelson-street, though approached from the inner quadrangle. This is the only design that thoroughly considers the question of a market with the site. It makes the market a particular consideration, and shows a central tower over it, that would appropriately face High-street. But there is a drawback to this otherwise careful design in the spot selected for the public hall, assembly-rooms, and rooms in connexion therewith;—these features would be lost in Swinburne-place.

It would be impossible to urge the objection to the 19,000*l.* design of Mr. C. N. Anfield, Leeds, that it looked like a row of shops or houses, or a club-house, or like anything else but a public building. The centre of the principal front is formed by a large costly tower, covered by a cupola, which would amount in execution to as much as all the rest of the buildings put together. From this centre there are wings, the ends of which are advanced, and finished with tall Mansard roofs, ornamented with lofty metal crestings and very heavy ornamental *fleur-de-lys* lead-hips. There are heavy and expensive parapets, besides sculpture, a double row of quatrefoil panels, with carved corbels and columns to swell the cost. In this plan the police and county courts are placed in the West-street front wings, just described as terminating in Mansard roofs. The chief constable's residence is placed to face the site of the future markets. The hall, as in other parallelogramical plans, is in the centre, surrounded by a corridor, lighted by skylights, with the various rooms for public bodies and refreshment on one side, and the council chamber and refreshment on the other. The elevations are bold, but heavy; and expenditure is lavished in unnecessary ornamental features, which would tend to curtail the provision of necessary accommodation.

Mr. M. Thompson, Newcastle, in his two designs has made two very different arrangements: they both differ from those of any other competitor. In his design, estimated to cost 8,000*l.*, in good Italian, he cuts the site up in this way:—There is a block of building, with a central tower, to face West-street, with a police-court adjoining it, in Swinburne-place, beyond which there is an open court. Behind the houses in Nelson-street, isolated from the Swinburne-place side of the site by a large open court, stands a sort of basilica—this is the great hall, 96 feet by 48 feet. The entrance to this hall is on the same side of the front: it is approached by a flight of steps. Beneath, this design places a large room under the High-street end of the hall, and divides the remainder of the basement space into nine rooms, marked one after another, room, room, room; all of which open into a central corridor. There is an alcoved end to the hall, an idea which is repeated below, and again to a large refreshment-room adjoining the hall to match; as well as in this author's second design. Perhaps for an estimate so much lower than the average we ought not to expect much elaboration of convenience; but we are certainly struck with the poverty of arrangement that gives access to the police-court from the public stairs, with no lobby or antechamber, in which persons interested in what was going forward, but still having no particular place assigned them, could wait. Mr. Thompson appears to have been in some uncertainty as to the apportionment of the different offices, as some of the original names have been altered. The office for the county court officials is corrected in pencil to magistrates' retiring and spare room; the hall-keeper's room has been likewise subsequently assigned to the county court officials.

The second design by this author, seen from West-street, is three distinct blocks of buildings. They are only associated together with the proposed ironwork and gates in front of them, and proposed fountain in central space. Standing in the centre, in the distance, is the front of the hall, with side galleries to seat 1,280, with its separate entrance. Close to the West-street, at the extremities of the site, are the other two blocks; one being the police-court, with cells under, and offices for chief constable; the opposite block being the county court, with council chamber, treasurer's office, and town clerk's. The isolation of these blocks, with their separate entrance, necessitates communication one with the other only by traversing the open air spaces between. The spaces surrounding the other three sides of the hall are allotted respectively to butchers', butter, eggs, and vegetable market. Below the hall the public room and nine consecutive rooms are placed, as in the former plan. The style is a mixture of Gothic and Renaissance.

Messrs. J. Moore & Sons, Sunderland, have treated their design, estimated at 18,000*l.*, as a Rath-haus or Hôtel de Ville of continental association. In the centre of the front rises a lofty, slender tower, the base of which, approached by broad steps, forms a porch. On either side from

this centre depart uniform blocks of buildings, perforated with large pointed arches, with rims in coloured bricks, filled with single sheets of glass. The end of the roof is finished with an odd pinnacle or flag-staff, supported by flying buttresses. This design is set rectangularly on the site. On entering beneath the tower by a lofty flight of external steps, visitors would find themselves in front of a long corrider, terminating in a transverse corridor, in which they would probably be lost, as doors of all sorts of courts and offices communicate directly with it. Laid across the site beyond this corridor is the great hall, 168 feet by 60 feet, with gallery at both ends: the only design which has placed the hall in this position. Both hall and courts have semicircular ceilings; and there is a further novelty in an odd arrangement of a narrow open court between the hall and other municipal buildings, showing external girders intended to resist the thrust of the hall roof. The different departments of the service are thus disposed:—The county court and offices and treasurer's offices are kept on the right hand of the entrance; the police-court, with chief constable's dwelling, office, cells, and other police requisites, on the left hand. The refreshment-rooms are at that part of the site that would face the cattle market, if the council had determined to be instructed by Messrs. Moore. The principal drawing in the elaborate set illustrating the designs is a highly coloured *elevation*, with figures and waggons in the foreground in perspective. Messrs. Moore appear to have been afraid to venture upon perspective for illustrating their buildings.

Mr. Wardle's design, estimated at 15,000*l.*, is suited to the site; that is to say, the frontage follows that of the line of roadway in West-street. With that exception the arrangement is not very dissimilar to the prize plans, although not so convenient. There is a hall with side galleries, end gallery, and upperside platforms in the innermost centre of the blocks of building, and around these are grouped the smaller requisites. The county court and council-chamber are placed at the west end; the police court and constable's residence at the market end; the Swinburne-place and Nelson-street sides are occupied by the various offices. Mr. Wardle shows his hall towering above the other buildings, with a series of thirty-two round-headed windows lighting it. At the four angles of the fronts of the building are square advanced wings, ornamented with stone balustrades; iron balustrades also surmounting the heavy cornice of the great hall. There is also a profusion of Corinthian columns, very heavy cornices, and ill-shaped vases and chimneys.

Mr. T. Reay's plan for 18,000*l.* is probably that of a very junior professor of the art, who should learn to walk before he runs. We need only mention that he shows a heavy stone Gothic spire coming out of the slate roof over the town clerk's office; and that scoffers might say his design is in the Batty Langley style.

There cannot be two opinions about the general excellence of the designs. There are certainly but few of them; but they are, for the most part, of more than average merit: the evident work of men who each thought himself likely to be the successful competitor. The council may blame themselves for any discrepancies they may find. It would, perhaps, be difficult to offer a better digested plan than that to which they have accorded the first premium; while, on the other hand, if they have the requisite funds, it would be unwise to adopt the elevations without further consideration. It is very seldom that a public opportunity occurs of setting a standard and making an improvement. In the present instance, after the number of suggestions the council have obtained, and the two plans they have absolutely purchased for the modest expenditure of 150*l.*, it would be unpardonable if the building were not in every way worthy of the town. At a council meeting held on the 9th ultimo, it was resolved that the town clerk should be instructed to require Mr. Johnstone to furnish them with additional proof that the design submitted by him could be executed for the sum named; and that a similar communication should be addressed to Mr. Watson.

ARCHITECTURE AT UNIVERSITY COLLEGE.—At the distribution on July 1st, the following obtained prizes:—Architecture.—Fine Arts.—1st year, 1st prize, R. Groom. Fine Arts.—2nd year, 1st prize, H. Wood. Construction.—1st year, 1st prize, G. J. Taylor. Construction.—2nd year, 1st prize, J. T. Edmeston. Civil Engineering.—1st prize, F. N. Thorowgood.

SOME NOTES FROM FRENCH TOWNS.

Boulogne-sur-Mer.—The bathing establishment having been found too small for the constantly increasing visitors, the municipality have erected one of great solidity, and on a much larger scale. In appearance it has some similarity with the Duke of Buccleuch's new mansion, at Whitehall, with high-pitched roofs at the four angles. A dyke was formed in front, as it is built more in advance to the sea than the former, but it was broken down in a violent storm last February. In spite of all the engineering contrivances, the port continues to fill up with the sand brought down from the hills by the river Liane. A *guide d'eau*, as it is called, is shifted in the other harbour, with a view of cleansing the channel. It is a wooden contrivance, of a series of triangles at intervals, on a long beam, and proves of very little use. There is also just adopted a floating dredger, worked by steam, which is hoped to become useful. A great dock is in progress, on the south or Capecure side of the harbour, about 1,000 feet in length, 300 feet in width, and 30 feet deep, with sluices to retain the water, so that ships may always remain afloat. But the funds given by Government are so insufficient, that it advances very slowly. It is said to be capable of containing at least twelve large vessels of war. On the sand-hills between this great dock and the beach a battery of six guns is mounted. A dozen more guns are ready to be mounted, making a rather formidable defence to the port. In the town two new churches have been built; one at Capecure, Gothic in style, as the French understand, or rather do not understand it. The other church, on the high road to Paris, is better. There are many good points in it: the style is modern Roman. In the vestibule of the museum there are two old capitals, which were found among some ruins in the upper town. They have each a portcullis and rose alternately. The custode of the museum called the Portcullis a "grille," and said that it was adopted by Henry VIII., to show the natives that he meant to keep them under the "*grille!*"

Calais.—This town remains much the same as it was when the English first flocked over in 1815. Scarcely another dwelling-house has been erected, and nothing having the smallest reference to architectural beauty has been added to any pre-existing building. The railway terminus on the quay is no more than an ill-arranged shed, quite unequal to its important traffic. The east pier has begun to be lengthened to the extent of about 200 feet; and it is said that a fort will be constructed there when it is completed, the great extension of the two piers having rendered the well-known "Fort Rouge" useless for the defence of the port. A new and lofty lighthouse has been erected on the ramparts, to replace the ancient shapeless block near the town-hall, which latter is in a discreditable condition of decay. The famous Hôtel Dessin, in the Rue Royale, has been converted into a public museum, and to some other communal uses. During some repairs in the old church a small doorway was discovered in the wall, which had been plastered up. It is now cleaned, and is in excellent preservation, having a square head over a cinque-foiled arch. The spandrils are filled by a sculptured head wearing a fool's cap in high relief, in one; and a dog's head, similarly accoutred, in the other. On the *place d'armes*, or market-place, the footpaths have been flagged on three sides. In all the other streets the rough paving remains, to the great discomfort of pedestrians.

What was formerly the *Basse Ville*, about a quarter of a mile beyond the town gates, is now become the thriving town of St. Pierre, and owes its extent to the bobbin-lace trade, which was established here about thirty years ago by some Nottingham weavers, who quitted England during the disturbances of breaking the lace-frames by the Luddites. This industry has become here of great extent. Large factories have been built. Upwards of thirty tall chimneys indicate its manufacturing activity.

A very handsome town-hall has been erected. The basement is rusticated. The principal story consists of five windows, with suitable dressings, separated by engaged Corinthian columns, surmounted by a bold cornice, crowned with vases. An English church has been erected, and was opened for divine service early this year. It is presumed to be Gothic, but of a very unsatisfactory design, according to the canons of this style.

Amiens.—A building of pretentious appearance has been erected for the purposes of a museum. The style chosen is Renaissance, but very bare of the ornate details it requires; and the contents of the museum are equally sparse.

The restoration of the façade of the cathedral has nearly reached the base, and has been conscientiously executed. Internally, one of the side chapels has undergone polychromic decoration, but is very unsatisfactory, from its close approach to oil-cloth patterns.

About half a mile from the city are the gravel-pits of St. Acheul, where the worked flints have also been found. The workmen have usually a specimen or more to sell to strangers, for the modest price of half a franc each, besides fossil bones and shells, and generally find purchasers.

Abbeville.—This ancient city has put on a modern face externally, the principal streets having the footpaths paved with flag-stones; but the antiquary must regret the general destruction of the carvings which decorated several houses. They have been wantonly swept away, and nothing has replaced them but plaster. The late A. W. Pugin has recorded in his works the elaboration of these wooden-fronted houses. As every city in France appears desirous of erecting a testimonial statue to a distinguished native, so the inhabitants have found no more important individual than Lesueur, a musician, to honour by a bronze statue. The cathedral, like many other ecclesiastical edifices in France, is shored up internally with massive timbers. Its condition is alarming, and there are no funds to secure it permanently. The French people rely on the Government to do everything: such a procedure as a subscription by private individuals is never dreamt of.

Abbeville has of late become of great interest to geologists, from the gravel beds in the vicinity. They are situate about half a mile beyond the walls, and, as all know, have become objects of intense discussion among the *savans* as to the antiquity of the formation, and of the shaped flints which have been found there. M. Boucher de Perthes, resident in a handsome mansion in the Rue de Minimes, and to whom we referred recently, has for a considerable time collected all that the gravel-diggers have found, and has formed a museum of them, and of many other objects such as engage the antiquary, in his abode. Visitors are freely admitted to view the contents on application. The number of the tooled flints, or "*haches*," is about 1,200, the whole of which M. de Perthes has offered to the Government, and his offer has been accepted.

Orleans.—The cathedral dedicated to the Holy Cross, of which it pretends to possess a fragment, is in a very unsatisfactory condition, and great fears are entertained of its durability for any length of time. The spire on the intersection of the nave and transepts has gone visibly over from the perpendicular—the vaulting of one of the side chapels has been so sadly cracked that it has been taken down and is being re-built—while an immense mass of solid timber framing has been erected under the porch and the towers at the west end. The entire fabric, viewed externally, has a rickety appearance.

Orleans is the city, *par excellence*, of Joan of Arc. She gives her name to a fine newly-constructed street leading from the Rue Royale to the west front of the cathedral. The original statue by the Princess Mary of Orleans is placed in the Museum: a bronze copy of it, presented by Louis Philippe, stands at the intersection of the steps leading up to the principal entrance of the Hôtel de Ville. Another bronze statue of the heroine is appropriately placed at the foot of the bridge on the south side. Here she is in the attitude of rushing forward, sword in hand, carrying a flag in the other hand, as if she were again storming the city. On the Place Martroi she is also honoured by an equestrian statue. On the pedestal the events of her life are displayed in elaborate *bas reliefs*. In a narrow lane, named the Rue Tabourg, a small heavy timber door of ancient date, numbered 35, opens into a passage leading to a court-yard, in which stands a respectable-looking house, occupied by a boy's boarding-school, called the "Pension Vautroy." On entering the "Salle de Reception," a door in a corner being opened, leads up three stone steps into a small apartment called the *Salon* of Joan of Arc. It is pretended that this small room and the one over it were actually occupied by her. The walls of this lodge of a couple of rooms are about 3 feet in thickness, perforated by small windows, protected externally by iron bars. The ceiling is waggon-domed, constructed of stone, and enriched with sculpture, in low relief, of scrolls, masks, and chimeras, of dogs with the heads of serpents, each carrying a nude female. The upper room has a similar ceiling, only differing by having on the shield a boar, instead of a pelican, which is on the shield in the lower room.

The city has still remaining many houses of the

Renaissance period, presenting numerous details of great elegance, internally and externally. Some of these are said to have been the residences of Agnes Sorel, Francis I., and Diana of Poitiers,—the façade of the last has been carefully restored. A new mansion, with elegant details of the same style, has been erected in the street leading from the railway station to the *place d'armes*.

Rouen.—This famous city is full of interest for the artist and architect, although many of its ancient houses have been demolished for the construction of two new and wide streets. One, called the Rue Impériale, is finished; the other, only having the ground cleared, is to be called the Rue de l'Impératrice. Both these streets lead northwards from the river. The iron spire which was erected to replace the one destroyed by fire a few years ago, has never been completed for want of funds; the remainder, about 20 feet in height, is standing in an adjoining yard. In the church of St. Ouen a new pulpit was erected in 1861. It is in the style of the fourteenth century, and is highly creditable to the architect, M. Desmaret. The sounding-board is crowned by an open-work spire, 15 feet high, adorned with statuettes. The entire construction is of oak. The old pulpit was removed, having been the scene of the sudden death of the *curé*, who fell dead while coming down the steps. Workmen are employed in this church in repairing the windows and readjusting the stained glass. The Hôtel de Ville is a modern building, and contains, in the upper story, the collection of pictures belonging to the city, about 600 in number. The staircase leading to it is of grand dimensions, with banisters of cast iron, of elegant design. It winds round the four sides of the space it occupies, and is said, in the guide-books, to resemble the staircase of Somerset House, to which it has small resemblance.

The newly-made street called the Rue Impériale leads from the stone bridge on the Seine to the northern Boulevards. At its extremity here the city and departmental museum has been lately erected. It is rich in relics of antiquity; many architectural remains, of size, are placed in the garden, while lesser ones of statues, busts, and tombs are preserved in the interior. The door of Corneille's house is among its rarities; also a signature of William the Conqueror to a charter; a few fragments of the heart of Richard Cœur de Lion in a crystal box; and some fine stained glass windows of the thirteenth and sixteenth centuries.

The Hôtel Bourgtheroulde is in a most degraded condition: the famous sculptures are dropping to pieces from the effects of the weather, and will shortly be obliterated unless some means of protection are adopted. The house itself is inhabited by various humble persons; a discount office is on the ground floor. These sculptures, if not to be preserved on the spot, would be an interesting addition to the Mediæval antiquities at the South Kensington Museum, and perhaps might be easily obtained. Besides, they are elucidatory of our own national history. The elegant Fountain de la Crosse, in the street of that name, has been entirely restored, with the greatest success, in all its delicate details of ornament and tracery. Bronze statues of Boildieu and Corneille, on handsome pedestals, adorn the Boulevards on the quay. It ought to be mentioned that the beautiful Palace of Justice has been completely restored in its pristine beauty of elaboration.

WOOD CARVING IN ITALY.

A MEETING was held in the rooms of the Society of Arts on the 26th ult., to receive the award of the judges, which we printed in our last. The Council of the Society of Arts do not seem to have given that publicity to the intention that they usually do; and the result was, as we are informed, a very small meeting. Mr. John Bell presided, and Mr. M. D. Wyatt made some observations on the state of wood-carving in Italy and France.

In the course of his observations, Mr. Wyatt said: In comparing the technical arts of Italy with those of other countries of Europe, it was always to be remembered that Gothic art was an importation rather than a creation. The great abbeys and cathedrals of England and France, sumptuously decorated with carved stall-work and screens, had many of them reached a pitch of rare perfection before the Germans transplanted the Pointed style to the North of Italy. The wandering Greeks, who, during the early part of the thirteenth century, were the principal artificers in Italy, unquestionably possessed a power of minute carving in wood which their descendants had retained to the present time, as might still be seen in the curious tablets decorated with multitudes of almost microscopic figures, which were produced in the monasteries of Mount Athos and the Levant. It was not, however, until some time after the revival of sculpture under the Pisani that Italian wood-carving made any conspicuous figure. The most complete set of Gothic stalls he remembered was that which existed in the Cathedral of Palermo. In general style of execution they differed little from contemporary works of the early part of the fifteenth century in the Western countries of Europe. In the mixed style, half Gothic, half Renaissance, much very beautiful ecclesiastical wood-work had been executed, and in the stalls of the Chapel in the town-hall of Sienna, a very remarkable specimen of the skill the Italians had acquired in the combination of wood-carving with marquetry in the early part of the fifteenth century, was to be met with. The stalls of the Church of St. Francis, at Assisi, were little less remarkable. From about the year 1300, a large number of graceful ivory carvings were produced in Italy, proving that in cabinet objects very considerable dexterity prevailed. These differed from the co-temporary works of France and England, mainly in the amount of marquetry by which they were adorned; this art there is no doubt the Italians acquired from their early intercourse with the nations of the East, by way of Pisa, Genoa, and Venice. From whatever source this decorative adjunct might have been acquired, there was no doubt that it tended to greatly enrich the effect of the furniture, and general decorations in ornamental woods, which, from the year 1400 onward, increased and multiplied in the palaces and churches of that nursery of the arts. It was, however, with the great revival of antique art that they must mainly associate the creation of a great school of wood-carving in that country. To Donatello and Brunelleschi must be awarded the honour of having first devoted their attention to the production of real artistic sculpture in wood. Fellow students at Rome, they had together examined all the relics of antiquity preserved in that locality, and, until the later circumstances of his career drew Brunelleschi altogether away from sculpture to the practice of architecture, they executed many beautiful works, more or less in rivalry. The most notable instance of this is recorded by Vasari, who relates that Donatello, having been engaged to execute the crucifix in wood, now preserved in the church of Santa Croce, at Florence, showed it to Brunelleschi, who reproached him with his having made his Christ too much like a countryman. A coolness ensued between the friends; and, in order to vindicate his superior ability, there was no doubt that Brunelleschi threw all his soul into the execution of the still more beautiful crucifix, which was one of the greatest treasures of the present day in the Church of Santa Maria Novella, in the same city. The story ran that, when Donatello went to look at Brunelleschi's work with him, he had his apron full of eggs and cheese, which, on catching sight of the crucifix, he let fall, and, turning to Brunelleschi, said, "Thou art gifted to make Gods; I, countrymen only." Whatever the relative position of the two artists might have been at that early period in their career, there was no question as to the infinite superiority Donatello ultimately attained in every class of his art; and he (Mr. Wyatt) knew no master whose productions were more worthy of study by the wood-carver of the present day. He excelled especially in the art of contrasted relief, and in a consummate knowledge of the effects to be produced upon the quality of shadows by undercuttings, and the use of reflecting surfaces.

No one, since the days of the Romans, whose works he so profoundly studied, had so well succeeded in giving effect in the lowest possible relief. Some of his most remarkable works scarcely exhibited a greater salience in any part from the ground than about a quarter of an inch, and yet, by a careful attention to the delicate undulations of the surface, and knowing exactly where to incise, he had managed to produce an amount of dramatic expression and apparent rotundity which was almost incredible. Happily, through the excellent taste and praiseworthy exertions of Mr. Robinson, the South Kensington Museum now contained an invaluable collection of the works of that artist, and of his most able contemporaries, which could be rivalled in no other country of the world. Among their contemporaries and successors, the most notable in the art of wood-carving were probably Baccio d'Agnolo, the author of the great "*cantoria*" from the church of Santa Maria Novella, at Florence, now in the South Kensington Museum; and Benedetta and Giuliano da Maiano. Because the names of a great number of such artists were not preserved to us, it was by no means to be supposed that there was any dearth of skilful professors of that art, since the multitude of monuments which abound in almost every church, monastery, and palace in Italy, left no doubt, not only of their number, but of their talent and most prolific industry. The objects which their energies were principally concentrated upon were carved doors, screens, pulpits, linings to rooms, fittings to sacristies and shops, such as the "*spezzerie*," or drug stores, attached to many of the principal monastic establishments.

In furniture, two objects were particularly selected for decoration by the wood carver, the one the great chest, or *cassa panca*, in which the linen and many of the valuables of an Italian household were usually preserved, the upper portion of which served as a settle or large seat; the other, the *cassone*, or large chests, in which the trousseau of the bride, and sometimes her dowry, were generally kept. The cabinet was a later piece of furniture, and attained its greatest perfection in the great ebony cabinets wrought with marvellous skill at Venice, in the latter part of the sixteenth century, and subsequently well imitated in France and Germany; one, in the possession of Mr. Holford, in this country, was of the highest order of excellence. For the design of wood-carving as applied to church decoration on a large scale, the ablest artists were employed, while the execution was intrusted to the ordinary makers of furniture, who had their shops in all the principal cities. Thus, at Perugia, might still be seen, in the church of St. Agostino, the carvings in the choir by Angelo Fiorentino, after the designs of Pietro Perugino. These were enriched with the most graceful marquetry. The example of Perugino was followed in the same city by his great pupil Raffaelle, whose arabesques on the stalls of the Church of S. Pietro dei Casinensi, executed by Stefano da Bergamo, were probably the most beautiful specimens of wood-carving now extant in Italy. Michelangelo, too, in his early years, paid considerable attention to wood-carving, and executed a very fine crucifix for the monastery of San Spirito, at Florence, in the year 1493. Although there was little left so pure in style as these, there was an infinite abundance of that which was more florid, but scarcely less dexterous, in design and execution.

The fittings of the great halls in the ducal palace at Venice were admirable examples of this bold design and florid execution, which attained its climax under Andrea Brustolini, while all over the country there were still scattered masses of rococo work, which must have cost vast sums of money, and rarely failed to exhibit a judicious application of the art to architectural embellishment, however faulty in good taste the separate details might occasionally appear to be. The school of Bernini, which, in its florid manner, never hesitated before the difficulties which it presented to the workman in the realization of the fanciful conceptions of the principal designs, no doubt laid the foundation of that overwrought style, which, passing into France, fluttered and twisted in grotesque, but occasionally very beautiful, combinations of form about the principal monuments of architecture produced during the reign of Louis XIV. The French (as well as the Germans, represented in this country by the immortal Holbein) of the sixteenth century acquired from the Italians a much purer and more elegant style, and, in combination of arabesque with well-proportioned mouldings and agreeable conventional ornament, it would be difficult to surpass the bulk of the work produced in the reigns of Francis I. and Henry II.

The doors from the church of St. Maclou, at Rouen, by Jean Goujon, of which he (Mr. Wyatt) was fortunate in procuring casts for the Crystal Palace, would well repay the most careful study on the part of any wood-carver of the present day, since, although much dilapidated, in the general scheme of their composition they left little to be desired. The old dexterity of her artists had not been altogether lost in Italy, since it would be in the memory of those present that the large cabinet produced by Barbetti, of Florence, in the Great Exhibition of 1851, successfully competed with the productions of a similar nature of every other country. At Paris, in 1855, in the late Italian Exhibition, and in that of last year, Barbetti still further distingnished himself, and with Giusti, of Sienna, manifested the fact that under proper direction the Italians at present might fairly rival their great predecessors. Among the contributions from Rome they would no doubt remember a door, beautifully carved and enriched with marquetry, forwarded by the Pope, and intended for one of the apartments of the Vatican. It was his (Mr. Wyatt's) earnest hope that they

might at least imitate the Italians in a more serious use of wood-carving than they had hitherto done.

The very item last mentioned, that of ornamental doors, could but an emulation be excited as to whose house should have the most beautiful in this country, would suffice to give employment to more than he saw around him for many a long year. They might now walk from one end of the metropolis to the other and scarcely see a single recent external evidence of the power which they certainly possessed, and which that exhibition demonstrated, of enlisting wood into the service of architectural beauty. He trusted that the time was not long distant when they would again see that material really used as it ought to be, not simply worked upon the carpenter's bench, but dealt with more artistically in the studio of the wood-carver. If such a result was to be obtained, it was essential that those who practised the art should occupy themselves more with the principles of its judicious combination and arrangement on a large scale, and less with the superficial minutiæ of a pheasant's wing, than they now did. In fact, they must for a time neglect the cuticle, in order to rightly apprehend the structure of the skeleton.

Mr. Lock moved a vote of thanks to the chairman, and to Mr. Digby Wyatt, for their assistance on this occasion. The wood-carvers felt much indebted to the Society of Arts, for the valuable aid they had rendered them in the furtherance of this art.

These votes having passed, the meeting separated.

ARCHITECTURAL MUSEUM OF THE ROMAN TABULARIUM.

POGGIO, commencing his antiquarian studies on the Capitoline Hill, laments: — "Oh, how greatly is *this* Capitol different from that of which our Maro sang—

'Aurea nunc, olim silvestribus horrida dumis,'

so much so that his lines might be suitably converted into

'Aurea quondam, nunc squalida spinetis vepribusque referta.'"

("De Variet. Fortunæ," l. 1.) Looking around him on this spot, the learned Florentine first notices what remained of the Tabularium (record-office, or public archives), which he describes as "arcades of two stories inserted in modern buildings, now a public receptacle for salt;" uses to which this imposing ruin of the ante-imperial period was appropriated for nearly two centuries after Poggio's time, being first cleared out by order of Paul V. Its substructures date from the year of Rome 578; the upper stories, built by Scipio Nasica, from the year 594; and the last repair, or restoration, was by the Consul Q. Lutatius Catulus, B.C. 78, recorded in an epigraph given by the Florentine and by Nardini, who found it extant in the seventeenth century. Notwithstanding all the vicissitudes and even conflagrations from which it has suffered, this edifice exists at the present day in its lower stories, with a portico of eleven archways (all but one blocked up), and the traces, rather than ruins, of a Doric colonnade, still in majestic reality, though indeed much marred by the heavy, common-place buildings of the municipal palace above. When the Mediæval seat of the Roman senate was restored on this site, a work begun in 1405, and completed by Nicholas V. about 1450, these arches were built up, as we now see, in the masonry called by Italian writers *saracenesca*, thrown down, to open a single one of their orifices, about twenty-six years ago. Discovered fragments, and one remnant in its place, show that the colonnade of half-pillars was in peperino, like the rest of this building, with capitals and cornice in travertine, the shafts cut in facets to one-third their height, the upper part fluted. Above was another portico, probably Ionic, of which remain no ruins. The peperino here used, in enormous squared blocks, is of the species from Gabii, called *lapis Gabinus*; and this antique front, bounding the Forum northward with fine effect, as it rises behind temple-columns and triumphal arch, measures 240 feet in length, and 37 feet in height. Several oblong apertures in the lower part of its structure were made in the Middle Ages, to give light to the ground-floor corridor, then probably inhabited; and the walls thrown up in the archways have been pierced by similar windows.

The entire elevation remained long hidden by mean houses, which were not removed till 1839, on occasion of some works for enlarging or improving the prisons located in the Tabularium, which continued to serve as a debtors' gaol till the beginning of the present pontificate. Pius IX. ordered its appropriation for worthier uses,—to become a museum of antique architecture, enriched by all the more valuable remains of the Forum temples. Before this period its interior had been but partially explored or accessible, and various interesting discoveries have subsequently been made in its dim recesses, facilitating a general apprehension of its plans, and justifying the inference that the ancient corresponded in limitations with the modern edifice, which in fact stands on the same foundations. Along its ground-plan extends a corridor in which are concealed the immense buttresses that support the whole weight; and the stairs descending to that interior have been discovered, tolerably preserved, though now no longer accessible. At the same time was found another staircase leading from the upper story to the Forum, and having egress at a portal behind the Temple of Vespasian (or, as some consider it, that of Saturn), probably shut by that emperor's desire on account of its having been the approach through which the Vitellian faction entered the capitol in the assault against Vespasian's party. That portal indeed may still be distinguished in its outline, with an arched head, filled up by masonry, behind the temple's ruins. In that civil conflict, A.D. 69, the Tabularium was fired, its archives burnt, and the principal edifices in the capitol, including the great Temple of Jupiter, consumed. Vespasian placed in *this* building, that seems to have been mainly preserved from the flames (owing to its powerful construction no doubt), copies of the 3,000 bronze tablets, senatus consults, and plebiscita instead of those lost, dating from the city's earliest historic origin; and then ensued the dedication of the new temple to Jupiter, attended with the utmost pomp, and all the ceremonial of ancient worship, as fully described by Tacitus (l. iv. c. 53). A second time destroyed by fire, soon after Vespasian's death, it was again restored, with greater magnificence, by Domitian, the gilding alone at a cost of 12,000 talents,— above $2\frac{1}{2}$ millions sterling. We enter the Tabularium from the western side of the palace under the fortifications of Nicholas V., passing through an antique ingress with horizontal lintel, in the same massive stonework as the front towards the Forum; here indeed partly repaired, though in much the greater part retaining its huge quadrate blocks firm and uninjured by the lapse of nineteen centuries. The long dim-lit corridor we are now admitted into shows the singular effects of the action of salt in corroding its masonry, so that the wall-surfaces resemble strata of rocks, rough and rugged, rather than a structure of stonework. A certain sense of awe is created by the massive architecture, so hoarily antique, the long-drawn perspective, and solemnized tone of this interior. We learn that the corridor where we now stand, on the upper story above the Forum, served for communication between the two *clivi* of the Capitoline Hill, and was therefore paved with polygonal lava blocks, of which Nibby discovered, in 1830, some remnants (see his *Roma Antica*); that the ærarium (or treasury), a public library, and halls for declamation, were connected with this edifice, besides the national archivum for which it specially served.

Before examining the architectural antiques now deposited here, one can scarce conceive of the exquisite delicacy, the elaborate fantasies, and variety of invention bestowed by the Romans on the adornment of their public buildings. Most beautiful among these fragments are the great frontispieces from the temples of Vespasian and of Concord, restored, under the direction of Canina, and with admirable skill, by four marble-cutters, who spent eight years on this task. In the cornice and frieze of the Vespasian Temple the egg moulding is mostly new; the mensolæ (very graceful) are almost entirely antique; the rosettes entirely so, and remarkable in being all different in design as well as unequal in scale. On this frieze are an interesting illustration of the sacrificial worship, reliefs of the several implements and sacred vessels, patina, aspergillum, Flamen's *galera*, &c. The frontispiece of the Concord Temple required a fuller restoration than the other; but is so ably accomplished that, as it stands before us, its effect is of surpassing grace and richness; its frieze having an ornamentation chiselled in parallel leaf-like forms, concave, surmounted by a cornice of acanthus foliage (antique, except one only of the sculptured plants); each pair, in the graceful series, divided by a long upright lanceolate leaf, rather like the aloe. From the Julian Basilica we see a massive plain cornice bearing the words, in large letters, LIVIA UXOR— AUG. MATER—evidently to honour the wife of Augustus, during the reign of Tiberius, her son; likewise from the same ruins, the fragment of a coffered ceiling with rosettes, and a lion's head projecting outwards; a Corinthian capital, restored most carefully from numerous pieces, the upper part only antique, and curious in the detail of a ram (the custode calls it a *goat*), couchant at each angle, to support the abacus. Permission may be obtained from the municipality for copying any of these antiques; and the students of the French Academy have made drawings, we understand, from most of them. The selection and restoring of all this museum's contents were confided to Canina. From this lower corridor we ascend to a higher one, of similar extent, and parallel with this, reached by a staircase whose lowest and seven uppermost steps are ancient, of travertine, the walls and vaulting above being tufo, in small blocks, laid with a good deal of cement, the surfaces left quite rough, as if for incrustation, in hewn stonework. At the summit of the stairs is a finely-built brick archway, the work of Michelangelo. In that higher corridor the masonry is like that of the passage through which we ascend, but adorned by columns now built into brick pilasters, for security; so that we see nothing of the marble incrustation the custode reports about. Hence, through archways fenced by railing, we look into an outer range, a third corridor, also parallel, corresponding to the front of the municipal palace immediately above, and said to be the site where the historic Fasti were deposited. Near the western extremity of the central corridor are the entrances to two chambers and a staircase, discovered in 1850, by Canina. The custode (an intelligent specimen of his class) having been an eye-witness, describes interestingly the scene when the great archæologist, relying on sure authorities, measured by paces the length of the corridor up to this point, where he desired the workmen to begin; and the task of breaking through the ancient walls proved so difficult that fourteen days passed before they could penetrate into the chamber above the stairs. Through the narrow gap then made we enter this quadrate chamber, in profound darkness, and see by torch-light a gaping abyss, where the staircase descends under horizontal vaulting of most massive construction in travertine, similar to that of the walls around us, formed in enormous squared blocks, without cement. This vault is a striking example of the Etruscan style followed by the Romans in their architecture till a comparatively late period; and, when the custode lowers his torch, the effect of the lurid light on that stupendous masonry, the sense of mystery, and the historic associations, so impress, that, on a first visit, it seemed to us as if no other scene in Rome brought before the mind with more vivid reality the tragic catastrophes described by Tacitus, in whose pages is the graphic narrative of the fierce struggle, the principal scene of which is before us,—the assault and taking of the Capitol by Vitellius's soldiers, and the conflagration that ensued. We cannot now descend this staircase; but its foot was reached, and the depth explored, when first opened, on which occasion were found a number of ivory styli, different in shape and size, now in the Capitoline Museum; also several skulls, which were allowed a last resting-place in sacred ground, at the S. Lorenzo cemetery. Another chamber, contiguous and larger, is entered by a breach in these enduring walls, and communicates with the upper flight of the same staircase, of which remains but a trace in the groove that crosses the masonry slanting on one side, and terminates at a doorway, now only traceable in the outlines filled up with stonework. The construction of this larger chamber is in immense quadrate masses of reddish lithoid tufo, without cement, divided at intervals by half-columns in the same stone, now covered with brick for better support; and above these runs a plain cornice of similarly massive character. The vault here is so little elevated above the slope of the stairs, as evidently to have been made after the latter had been cut off, or at least become unserviceable. Platner and Urlicks ("Beschreibung Roms") describe, as seen about twenty years ago, the ruins of small, low chambers, almost filled by fallen material, above the first story of corridors: the origin of these, whether antique or Mediæval, these writers consider doubtful; and the actual site where the Fasti and public treasure were deposited in the Tabularium, they believe cannot be decided. Within late years has been found the epigraph of the consul Catulus, lost since the seventeenth century.

One more attraction of the Tabularium is the view from the archway spread above the Forum, in which all the ruin-groups of that region and the Palatine, with a noble background of mountains,

are presented so strikingly that, familiar as one may be with these antiquities severally, their aggregate here impresses as quite new, and formed into a picture of surpassing beauty. This is, rather than any other, the point for a photographic view of the celebrated centre.

Another Architectural Museum of recent origin in Rome, is far more richly supplied than that on the Capitol, though not alike interesting for the site it occupies, the one filling a considerable compartment of the Sculpture Gallery in the Lateran Palace, founded by Gregory XVI. The specimens of decorative detail, *ornato*, in that collection, from various classic ruins, are of singular beauty, some most delicately elaborated, others remarkable for boldness not less than grace of design. Neither of these museums is yet provided with a catalogue.

The superb temple of Jupiter Capitolinus has left not one fragment of ruin on the high terrace where the Aracœli church has taken its place; but a curtain of brickwork, clothing the steep sides of the Capitol beneath, is a visible remnant of its substructures; and recently some chambers, here opening within the mount from that surface of ancient wall, have been brought more agreeably within reach of inspection, the slope between the northern approach to the Capitol, and the great staircase leading to that church's front (hitherto in the same vile condition to which such waste ground is commonly abandoned in Rome), being now transformed into a pleasant garden, where cactuses and aloes grow, and a fountain gushes in the midst. Four small vaulted chambers of brick masonry, well preserved, are thus more easily visited, opening from this new garden, and only fenced by iron railings; another similar, converted into a workmen's lumber-room, being reached from the Capitoline piazza, and sometimes accessible when a door chances to be left open.

THE TEMPORARY DECORATION OF PUBLIC BUILDINGS.

MUCH money is often lavished upon the festal decoration of public buildings with so little success, that a few words on the most evident causes of failure, according to the views of the writer, may not be out of place. Elaborate attempts at external decoration for daylight effect, combining the profuse employment of evergreens, mottoes, and allegorical paintings in imitation of sculpture, though seeming to promise good results in the hands of a master of the art of holiday ornament, have been made before now to produce almost positive ugliness. They have certainly not been the means of imparting additional beauty to the buildings they were intended to adorn. The same may be said of our attempts at architectural illumination. The night effects have been almost as unsuccessful as the daylight ones; the attempts to light up the exteriors of our public buildings in accordance with their architectural forms having often proved failures in very opposite fashions; in some instances being tawdry, and in others altogether ineffective, and certainly wanting in that brilliancy which should always be the aim in public illuminations.

But it is not intended in the present remarks to discuss in detail the causes of failure in external decorations, either for daylight or night effect: it is to internal decorations that these observations are addressed. It would seem to be only by accident that such efforts at temporary decoration are occasionally successful, as the occasions of even partial success very rarely occur. One of the most common mistakes is the overloading the architectural features of a suite of apartments with unmeaning draperies. This is the almost only method adopted in Catholic countries on the great festivals of the Romish Church, and the result is all the more fatal to the internal architecture of the churches from an awkward attempt to make these dressings accord with the architectural structure of the building. What, for instance, can be more wretched than the effect of the interior of St. Peter's at Rome, when arrayed in all the faded trumpery of scarlet and gold hangings during the performance of some of its more important services? It is easy to imagine what the noble pilasters of that wonderful building, with their beautiful inlays of the richest marbles, must lose by being covered up with long strips of scarlet cloth, rendered tawdry by imitation panellings of tarnished gold lace. Such dressings as these, fitted to each architectural feature, so as to be *tied* on for festive occasions, and folded up and put away for another time when each festival is over, make up a sort of masquerading costume in which it is thought to render this magnificent edifice more beautiful on the different great *festas* of the church of Rome. All attempts to produce elaborate decorative effects by such means, especially when in a set form, to be repeated, time after time, are even more objectionable than the pink and white calico festoonings of our own attempts at giving additional effect to our great halls, or other public buildings, on high days and holidays. It is, however, with a more solid and ambitious class of temporary ornament that I would deal. In the first place, a strong veto ought to be put upon the use of rough and careless gilding. When surfaces have not been properly prepared, the effect produced by gilding is precisely of the gingerbread character, the gold leaf adhering imperfectly, and consequently having that rough but vulgarly gaudy effect which characterises the gilding of pastry or sweetmeats.

Nothing is so effective as gold when soberly employed, and when its artistic application has been carefully and tastefully considered, and its mechanical application rendered perfect by fitting preparation; but nothing is more offensive and coarse than such plasterings of gold or Dutch metal as one meets with in the decorative attempts at country fairs, or that of theatrical scenery when seen too closely, and by daylight. The candle-light effect of such rough gold work is bad enough; but its daylight effect is worse. The haste with which temporary decorations are often carried through may be urged in extenuation of their coarse character; but then, in reply, it may be stated that something of a different class should be attempted.

Nobody understands better than Mr. Crace, for example, the application of colour and gilding to the interiors of buildings of a Mediæval character, especially in the form of those charming Gothic diapers by which vast spaces of plain wall may be rendered attractive, and the various details of column and cornice be made to receive additional piquancy and beauty. We have seen how his decorations of this kind redeemed the interior of the Exhibition Building of 1862. But the question is, how far such decorations ought to be seriously, and with seeming permanence, applied to such a building as the ancient civic hall of our metropolis, which is an important and venerable monument, and ought not to have its face too recklessly stuck about with gold leaf by way of placing it in holiday trim. Such decorations, even when good,—and some of the painted ornaments employed there are very well conceived, and even well executed,—are not fitted for, and do not produce the effect of, temporary festal ornament. They raise the question in the mind of the critical spectator, "Can they be washed off to-morrow? and will they come off when washed? and how is the bad gilding to be scraped off?" Decorations devised to do honour to a special occasion ought not to suggest questions of this kind. They ought to exhibit at once unmistakable evidence of being freshly prepared for the occasion, and the occasion only. If, therefore, effects of *painted* diaperings be considered absolutely necessary, they should be executed on canvassed frames, and columns and capitals might be cased in a similar manner. But such a decoration, *fully* carried out, would be too scenic and theatrical; and a far better effect, and one much more consistent with a temporary decoration, would be produced by panellings of rich diapered silks, fitted to such portions of the walls as were entirely without ornament, while columns should be festooned with rich and massive silks of similar character, and happily contrasting colours, just beneath the mouldings of the capitals; and from the loopings up of the drapery, the heavy silk cords by which the looping up was effected should descend the whole length of the column, forming a reedwork of silk, the massive tassels resting on the mouldings of the base; and being kept in place by a circling of the same silken cord, surrounding the column at its base, upon its upper moulding, on which it should rest. Halfway down the column, shields or ornamented tablets might be *suspended*, bearing armorial devices, or complimentary and allegorical subjects; and in the frames and dressings of such shields or tablets gilding (well done) might be used with good effect. Or, these suspended ornaments might be oval or octagonal mirrors, framed in gold, and wreathed with real or artificial flowers. Here is a kind of decoration for columns, either single or clustered, which would be splendid, and yet *evidently* temporary, and which would enrich the architectural forms without concealing them. Beneath the straight lines of cornices, similar festoonings of red silk damask might be used; or, where economy was an object, simply coloured muslin or calico, further enriched by massive fringes; and from the loopings up, to break the monotony of extended surfaces of plain wall, large shields or tablets might be suspended, about which wreaths of flowers might play, and gracefully stray from one tablet to another in elegant and symmetrical lines. When masses of colour are required, a large plain surface should be selected, and drapery of some unichrome tone be suspended from some striking apparent support at the top, from which plain and regular folds at equal distances should extend to the bottom, which should be enriched with a very deep and rich border. Upon the plain surface of this drapery badges, shields, mirrors, enlaced ciphers, or paintings, designed for the special occasion, and fitted to oval or octagon frames, might be suspended. To these features may be added mottoes gracefully embroidered on silk, to be girt round columns with rich cording and tasselling, or wound spirally down them. In short, there is no end to the legitimate features of temporary decoration; the main characteristic of which ought to exhibit unmistakable evidence of its *temporary* character. It should produce the effect of an artistic flash, adding beauty to some already beautiful spot, for a brief space of time—as a gleam of sunshine in a shady nook—a glistening ripple on a lake—a rainbow on the soft grey of an expanse of cloud.

H. NOEL HUMPHREYS.

SPIRE REPAIRS.

THE spire of Christ Church, Coventry, has been restored. All the decayed angle ribs have been taken out and new ones have been inserted: all the joints have been pointed with Portland cement and sharp sand: the vane and ball have been taken off and regilded. The works were undertaken by Mr. G. Frith, the well-known Coventry steeple-climber, who has recently repaired the spires of St. Michael's and the Holy Trinity of this city. Coventry can now boast of the three tall spires glittering with newly-gilded vanes. The whole of the works were finished much to the satisfaction of the churchwardens, as Mr. Willerton (who is one of them) tells us, and without the slightest accident. The height of the spire is 200 feet. Access was gained to the top of the spire by flying a kite, by means of which all necessary stages and tackle were fixed.

WEST BROMWICH AND KENTISH TOWN WORKING MEN'S CLUBS.

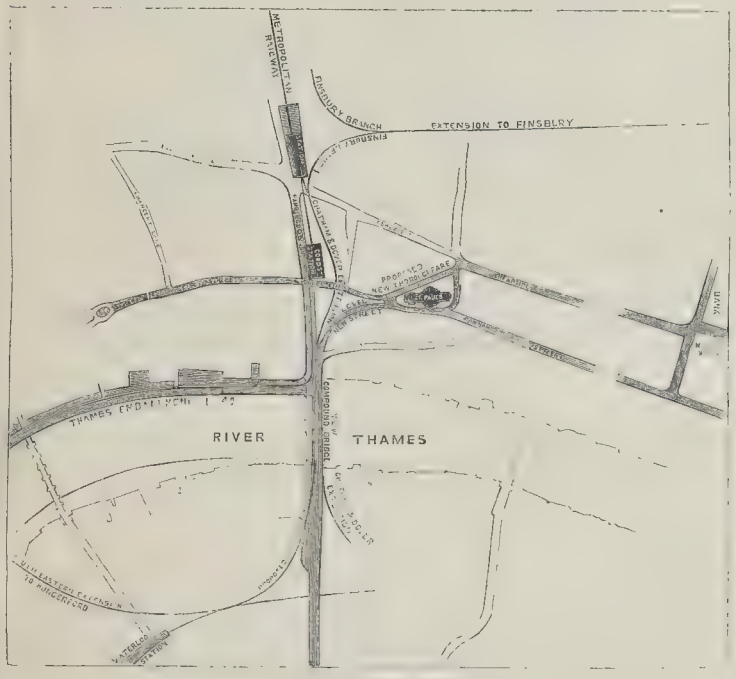
THE first Working Men's Club in West Bromwich was inaugurated by a public meeting, held on Wednesday, the 24th ult., in St. George's Hall, attended by seven hundred working men, and presided over by Lord Calthorpe. The meeting was in all respects successful. Among the speakers were the Earl of Lichfield (Lord-Lieutenant), the Rev. Henry Solly (secretary of the Working Men's Club and Institute Union), Mr. John Jones, (secretary of the South Staffordshire Adult Education Association), and the Rev. C. B. Snepp, M.A. A report of the action of the provisional committee appointed at a meeting held in January last, was given by Mr. J. P. Bell; and it appeared that the preliminary expenses (about 80*l.*) had been met by the principal employers of labour. One of the most telling speeches of the evening was that of the Earl of Lichfield, who said he was convinced that of the efforts made to benefit the working classes, none deserved the support of all interested in their welfare more than the present. Resolutions, commending the club to general support, and affirming the desirability of affiliating it to the union, were unanimously adopted.——A public meeting, to call attention to the club and institute started for the districts of Camden-town, Kentish-town, and South Hampstead, was held on Monday evening, in the National School, Hartland-road, Kentish-town, Lord Ebury in the chair. There were present several hundred working men, who were addressed by the noble chairman on the advantages of the clubs, and the extension of the movement for their formation, by the activity of the central society, of which Lord Brougham was president; and by Mr. H. Harpen, the Rev. Edward White, M.A., the Rev. Henry Solly, Mr. Noel, the Rev. C. Lee, M.A.; the Rev. S. Nunn, Mr. Watkins, and Mr. R. Buchan. The movement in this locality originated in consequence of the published reports of the success of the Scarborough Club. One gentleman has undertaken to guarantee the rent of a house for the first year, and two gasfitters have volunteered their labour towards fitting up the premises. A dense artisan population surrounding the spot will have their physical comfort cared for by the supply of well-cooked food from an hour early in the morning, and other arrangements.

SUGGESTED NEW BRIDGE AT BLACKFRIARS.

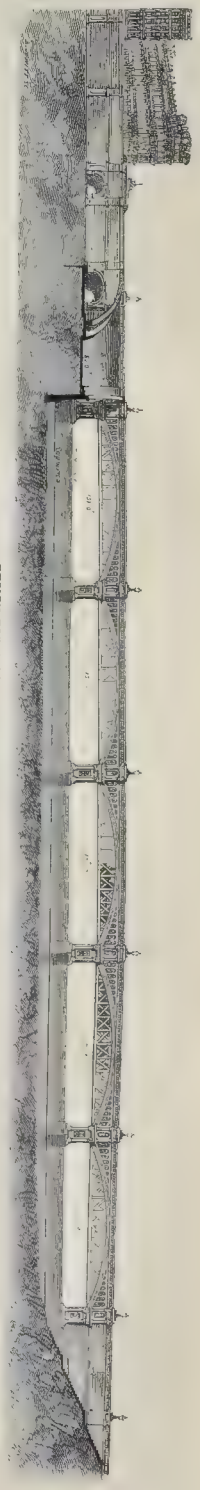
FOR several days past the model of an iron bridge, combining public traffic with free transit for intercommunion of railways north and south of the Thames, as designed by Mr. Greenhill, C.E., has been exhibited at Guildhall, and has excited much public interest. The peculiarities and advantages of the plans set forth are, first, that one bridge, and that on the site of the still standing crazy structure, in direct line of the existing main thoroughfares, may suffice for all intercourse. Secondly, that the present central line of streets (Bridge-street and Farringdon-street) will accommodate four lines of rails, laid under arches, and descending by an easy gradient to the point of junction with the Metropolitan Railway-station in Victoria-street, and this without necessitating the purchase and demolition of buildings as contemplated, at a cost of nearly half a million; and thirdly, the raising of the Holborn and Ludgate hollows to the level of fair trotting ground.

The extensive alterations prefigured by the plan, and made palpable to the eye by models of the streets, with their respective proportionate levels, and modes of conjunction, do certainly appear startling, and wear the aspect of "*une idée Napoléenne*" — taking root upon British soil. But of late so much has been published and *talked* as to the great Thames embankment, of the new *Corporation-street* from Blackfriars to the Mansion House, of the threatened street from Earl-street to St. Paul's, through Doctors' Commons—of the raising of Holborn valley through *civic enterprise*; as also of Ludgate-hill by means of the same "*vis inertiæ*," that what might otherwise amaze, only excites admiration, or approval, or mayhap the remark that Royal entertainments, State processions, and banqueting do not altogether occupy Corporate attention, nor wholly absorb City revenues.

The great objects of the project under review are, as professed, to make the approaches to, and the levels from, the bridge, which is 85 feet wide, suitable to the levels of the Chatham and Dover and of the Metropolitan Railways, and to obviate the necessity for a second bridge across the Thames, which, if erected in juxta-position with the public



PLAN OF PROPOSED ARRANGEMENTS.



DESIGN FOR A COMPOUND BRIDGE AT BLACKFRIARS.

thoroughfare-bridge, must not only impede the navigation in this part of the river, where there is a cross current; but, however ornate or beautiful both may be, the effect must prove most unsightly. The gradient from the bridge for four lines of railway to the station in Victoria-street, is proposed to be 1 in 86 to Ludgate-hill, and thence to the station on a level, and underground; thus avoiding the necessity for a viaduct over Ludgate-hill, the same levels being suitable for extension, underground also, to Smithfield or Finsbury. The double lines of arches along Farringdon-street will raise the valley throughout its whole extent, and thus being *au niveau* to the traffic, will adjust the old grievances of the Ludgate-hill and Holborn hollows; improving also Fleet-street, Skinner-street, Holborn-hill, and Stonecutter-street, the last being now a flight of steps to the market.

Beyond these objects, the plans would also secure easy access between Earl-street and William-street, under the railway, by an arch; free communication between New Bridge-street and Upper Thames-street, by a gradient of 1 in 37; communication between Earl-street and the Thames Embankment, either under the first arch of the bridge or by going into William-street and round the gas-works.

In addition, a wholly new street, nearly level, is laid down, to connect the line with Cannon-street. This would be about 1,000 feet in length, and would have issue at St. Paul's, abating three or four houses only, which confront the cathedral; and, while it intruded only upon property which is now comparatively worthless, would be enormously enhanced in value. But perhaps the most daring suggestion is to open a thoroughfare north of St. Paul's, abating and throwing back the line of commercial houses, together with the Chapter-house; thus securing an open route which might divide the aggregate traffic of London's centre into two great streams, the one to pass by Cheapside and the other by Cannon-street.

The new street meditated by the corporation and the Board of Works, leading from Earl-street to the Mansion House would, by this arrangement, be wholly unnecessary; but the great difficulty to be encountered in amending the error of our ways in this particular instance, is the repugnance of the Church to chime in with popular reforms, or to yield a foot even of a cemetery to popular necessities.

There are many points—such as the widening of Queen-street and other lateral approaches; the formation of a line connecting the Thames em-

bankment with New Bridge-street, at a gradient of 1 in 40; the mode of dealing with the Fleet Sewer, &c.; but the foregoing prefigures the chief characteristics of the conception. The question is, has the Board of the Chatham and Dover Railway resolved to carry out the plans laid before Parliament—to perpetrate the Ludgate tunnel "*in alto*," and to drop by gravitation therefrom into the abyss of the Victoria Station? Is there to be no *grand passenger station* for all the northern and southern concurrent railways at Ludgate-hill? The omission of such a provision, close to this heart's-core of the metropolis, would be most improvident and unwise.

It is true that the scheme set forth on the Guildhall table is large. So, also, is that for embanking and limiting the ever-swelling flood of Father Thames. The nearly-faded echoes of long-promised improvements in Holborn and Ludgate valleys have familiarized the multitude with great, though yet abortive conceptions: the practical civic demonstration of what has been carried out in Moorgate-street and Cannon-street, not to speak of the dreamy visions which the demolition and twenty years' desolation of Victoria-street (or either of the streets so named) may occasion;—all these, and the opening of Holborn Bars, Chancery-lane *terminus*, and Temple Bar, with a hundred other blots of our wealthy and luxuriant City, may be effected by the perpetuation of the coal duties. Public companies can and do effect wonders: behold only Hungerford and its bridge, for examples.

The question of cost, even in great public improvements, is also to be regarded. Mr. Greenhill sets forth that the erection of a temporary, or *third bridge*, to serve for traffic during the demolition and reconstruction of the old one, may be avoided, by utilizing that now in progress for the Chatham and Dover Railway. What a relief would this afford to trade and navigation during three or four years, if under corporate management! Then half a million would be saved in the purchase of ground for the projected railway, besides that the tolls for all the lines which he proposes to pass through his bridge tunnel might pay interest on the outlay, for that structure, at least.

As to the aspect of the proposed bridge, a sketch is given in this number of the *Builder*; the span of the arches, five in number, being 150 feet for each, and the headway being 24, 26, and 28 feet respectively: whether the total abatement and reconstruction of Bridge-street, *which is certainly the very best in the City*, may outweigh the other palpable advantages of this scheme, or whether the Chatham and Dover line is not too far advanced to recede, remains to be seen. Still, as a commentary and proof that civic renovations and improvements do not sleep through dearth of suggestion, this notice is presented by

QUONDAM.

TWO PAINTINGS FROM THE CATACOMBS.

WE have much pleasure in announcing, as an archæological event, the publication of two paintings from the catacombs at Rome, accompanied by a learned dissertation from the Abbate Arcangelo Scognamiglio. The first of these was discovered by him two years ago; the second had not before been published in a form which was sufficiently faithful. We translate from the *Monde* some observations on the work. The dissertation proves, first, in a satisfactory manner, that these paintings are found in the cemetery or catacomb of Priscilla the elder. It was excavated in the estate of that Roman lady, who lived in the time of the Apostles, and who, according to Tillemont, was baptised by St. Peter. It is interesting to observe that, among the authorities referred to, the author quotes that of two pilgrims from Salisbury, who came to Rome in the seventh century, and who have both left, in Latin, an account of their journey. The first is entitled, "An Account of the Churches of Rome;" and the second, "The Holy Places of the Martyrs in the Neighbourhood of Rome." He also quotes William of Malmesbury, who wrote in the eleventh century the "Topography of the Sacred Places of Rome," contained in his "History of the Kings of England."

The way into the cemetery of St. Priscilla is now through a staircase to be found in a kind of yard at the back of a farm-house. This staircase is not very ancient; but it is the only one accessible at present. Formerly, there were as many as six which gave access to the cemetery, which may give an idea of its extent. As soon as you enter into it, you are struck at once by a special character of its primitive period, namely, the large size of its vaults. The first architect who directed its excavation did so in accordance with a method differing from that followed in the other catacombs of Rome; where corridors and narrow passages between two walls are ordinarily found. Here the architect has endeavoured to contrive a succession of chambers or grottos communicating together, and destined to the burial of the dead as well as to the meetings of the faithful. Having afterwards observed that this first system could not be followed without exposing the cemetery to total ruin, he abandoned it, and adopted the more ordinary one as affording more security.

The Christians of the fourth century, to prevent the inevitable destruction of this part, erected throughout its extent numerous pillars intended to keep up the whole. As far as the author has been able to ascertain by active researches, there must be four stories of excavations; one only of which is now accessible, without extreme fatigue. According to appearances, it may be stated that these excavations proceed to a vast extent, the precise dimensions of which cannot be determined, on account of the obstacles created by heaps of earth, either left at the time of excavation or brought thither by subsequent accidents. In the part which we shall visit, the chambers or crypts which have served as chapels are numerous, and adorned with paintings; the chief ones, even, have their arcades decorated with Greek ornaments of a perfectly pure character, consisting of the rolled acanthus-leaf. The apsis preserves traces of mosaics, remains of sarcophagi, with figures in a good style; fragments of inscriptions, generally in fine letters, in which may be read names belonging to ancient Roman families, are also met with. The Church must have met in Rome, at an early period, with distinguished minds and influential personages, to whom she even then gave to understand that the ornaments of art could not be more nobly employed than in surrounding the remains of her faithful and martyrs, or in serving as a decoration for her sanctuaries.

The *loculi* (cavities intended for the reception of corpses in the thickness of the rock) are now for the most part without the slabs which closed them, and the corpses which they contained. Enough, however, is still found there to ascertain the mode of burial used in this cemetery. The bodies were wrapped up in a layer of lime contained between two winding-sheets, the one to preserve them from the contact of the lime, the other to keep it close to the body.

After having gone through these imposing excavations, you arrive at a crypt which is so fine and rich in ornaments of the best taste, that the name of the *Greek Chapel* has been given to it. It is hollowed out from the live rock in the shape of a Latin cross. On the wall to the right is to be found a cornice with stucco consoles of the greatest elegance. In the upper part, in the middle of the vault, was bored a light-hole, now obstructed. The ground of this vault is painted red; from the four corners elegant garlands set out, in the midst of which may be seen a figure draped in a white pallium. The finish of all these details displays a specially skilful execution. On one side, the transverse nave, or transept, ends in a square plan; the present entrance is at that point. At the other end, which is in an apsidal form, may be read two inscriptions, in Greek characters, painted in red on the wall. The part of the crypt facing the ancient doorway is also curved in the form of an apse. Below it, on the two side walls, two large frescoes have been painted. On the right is a Roman lady, with her arms extended in the attitude of prayer; by her side two personages are extending their hands towards her. A young man in a *pallium* seems to be speaking to her; behind may be seen a pavilion. Opposite, the same lady re-appears with two young men, who are placing a crown on her head; then comes a woman with her head uncovered, and a youth holding, like her, his arms extended. On considering attentively those paintings, they would almost be believed to be by the same artist as the *Nozze Aldobrandini*, from their being so much alike in the colouring, the draperies, and the freedom and correctness of the drawing. The author of this analysis had the good fortune, last year, of meeting the Abbate Scognamiglio, while he was doing the honours of his dear catacomb to the most worthy of appreciators, to Mgr. Gerbet, the illustrious Bishop of Perpignan, who has so well made known to us *Christian Rome*. It is to be remarked that these paintings have so much expression and life that the hand of a Raffaelle might be thought to be found again in them at an interval of fourteen centuries.

The same crypt contains also other frescoes, more or less damaged, the subjects of which are "The Adoration of the Magi," "Moses striking the Rock," and the cured "Paralytic carrying his Bed away." But the two paintings now published have a special importance. On the right of the first may be seen the Blessed Virgin seated, wearing a tunic without sleeves, and a veil on her head which does not go beyond the shoulders. She is suckling the Divine Child, who has His eyes turned towards the spectators. On the left is a personage standing, about thirty-five years of age, bearded and clothed with a pallium, which leaves the right shoulder uncovered. He seems to be familiarly talking with the Blessed Virgin. This personage can be no other than St. Joseph.

In the judgment of experienced artists and antiquaries, among whom may be mentioned Count Auguste de Bastard, this monument must date from the first part of the first century, about the reign of Domitian. Great skill is not needed to recognize this. It requires only to have a certain knowledge of ancient paintings. From the regularity of the drawing; the freedom and success of the pencil-stroke; from the grace and energy of the expression, a work of the good period may be recognized. The very nature of the plaster, which is only found in Rome in the monuments of the first century, is a convincing proof of it. Connoisseurs observe the nobility of attitude, the chasteness of the draperies, the firmness of look, the life which animates those figures.

The second painting, which is reduced to a scale of one-third of the size of the original painting, shows us, in the middle of it, a person whose stature surpasses that of the others; her features are those of youth. She stands with extended arms, and her head is covered with a veil, which is brought forward over the left temple and falls down to the shoulders. She wears buskins, and a tunic with broad sleeves. On her right is an old man, seated on an episcopal chair (*cathedra*); he wears a tunic, and, over it, the garment called the *penula*, with its hood. He seems to have a tonsure; his hand points to a person placed opposite to him. By his side stands a young girl, with her head uncovered, and holding a veil; a little further back is another personage. On the left of the middle figure may be seen the Blessed Virgin seated on a throne (*cathedra*); she is holding the Divine Child, and seems to give it suck. Her head is uncovered; her hair, turned behind her ears, returns slightly under them to form two curls; the young girl standing on the opposite side has her hair arranged in the same manner.

The comparison of this painting with others of a well-known date, makes it to be ascribed to the second century of the Church, according to the judgment of connoisseurs.

The two paintings are reproduced in chromolithography, and may be had for fifteen francs in Paris, at Mademoiselle de Haut's, 26, Rue de Grenelle, St. Germain.

THE NATIONAL PORTRAIT GALLERY.

AT a day not far distant, the English Portrait Gallery, if properly managed, will become a collection of great curiosity and interest. Much will, however, depend upon the manner in which the pictures are selected, and the care which is taken to procure works of artistic merit, well representing our national worthies. When a suitable place is provided, it will be necessary to make some better and more systematic arrangement than is at present to be found in Great George-street.

In a well-arranged portrait-gallery the pictures should be hung according to their date, and classed in groups, which would exhibit together the likenesses of our great men who have lived during each quarter or half century, since the time when portrait-painting began to be generally practised.

So far as regards oil-paintings, there will be little found worth hanging before the reign of Henry VII.; but there are drawings, as we have already hinted, effigies, and coins, which might be usefully collected. In the reign of Henry VIII. and of Queen Elizabeth there were many remarkable portraits produced by foreign painters. Several of those of the latter date are remarkable for their artistic merit, careful finish, and apparent fidelity as regards likeness. Then comes the famous time of Vandyke, and so on to the days of Sir Joshua Reynolds, Hogarth, Gainsborough, Lawrence, and other worthy successors. In addition to the interest of the portraits, it would be both useful and instructive to see these works thus arranged, in accordance with their particular date, so that they would show the progress and varieties of the English school in this department of art.

There might also be advantage from grouping

the pictures of men or women together who have during their life time been much in the habit of meeting together. For instance, Queen Elizabeth should be surrounded by the representations of those famous statesmen and others who added so much to the glory of her reign. In the same way, we would like to see Dr. Johnson close to Sir Joshua Reynolds, Goldsmith, and Burke. Hogarth might have his surroundings, in which Captain Coram and others would find place; and around Sir Isaac Newton there might be clustered a brilliant array of talent. In like manner we should see the Stephensons, the Brunels, and other famous men of our time.

The method of hanging at which we have hinted would require ample space; but this should not be spared; for we know of nothing in a picture-gallery which has such an unpleasing effect as the placing together picture after picture over every foot of the wall.

In the British Museum, in the Natural History Gallery, as we pointed out at the time of the establishment of the new portrait gallery, there is a considerable number of portraits, which are so placed that they can be scarcely seen. Some of these have much artistic merit, and are, moreover, pictures of eminent individuals. A selection from these might be most usefully made for the National Portrait Gallery.

In connexion with this subject there is a matter well worthy of careful attention: we allude to the collection of enamel and miniature portraits which, during a period of about 300 years, have been produced in large numbers, and which, in many instances, have great beauty.

In the private collections of royalty and the nobility there are numerous miniatures which are of the greatest interest; and it would be worth while to collect for the public use portraits of this kind, which would be suitable in a gallery of English worthies.

BRIGHTON.

A PROJECT is now fairly on foot for the construction of a new pier opposite Regency-square. A company, under the name of the Brighton West Pier Company (Limited), has been formed, the directors of which include gentlemen of high standing in Brighton. The pier is to be a promenade and landing-place. It is to be constructed of iron, and is to extend 1,000 feet into the sea, and to be 30 feet wide. This is 134 feet shorter, but 17 feet wider, than the present Chain Pier, which was originally constructed in 1823: at the head of the new pier it is proposed to erect covered buildings, with reading, smoking, and refreshment rooms, &c.

Mr. William Ranger, the commissioner appointed by the Home Office to inquire into the matter of the improvements at the top of North-street, has attended for that purpose at the Town-hall. The Local Board are the promoters of the scheme, and the whole of the notices have been given. North-street and West-street have great traffic passing along them, and the improvements proposed in North-lane and Duke-street would relieve them of a considerable portion. The intended alterations in Queen's-road, include the taking away of the Odd Fellows' Arms beer-shop and two slaughter-houses adjoining on the west side at the south end, and the White Lion Inn and slaughter-houses on the east side, south end. The top of North-street, where several streets converge, being very dangerous and narrow, this would widen the space and improve the gradient. During the proceedings the commissioner intimated that he could hold out no hope of the order being confirmed this Session; and, after some discussion, the inquiry terminated.

The corporate seal has been affixed to the agreement with Messrs. John Aird & Son, for the construction of an outfall and works in front of the Junction-road. The surveyor reported that it would be desirable to appoint a clerk of works, to specially superintend the extension of the outfall; and Mr. George B. Jerram was appointed at a salary of 2½ guineas per week. The council confirmed the committee's proceedings.

On the proceedings of the Works Committee was a letter from Mr. Somers Clarke, on behalf of gentlemen with whom he had been associated on the subject of the Brighton drainage, inquiring of the Town Council what course it was intended to pursue in regard to the plan of drainage submitted, at the suggestion of Sir Francis Goldsmid, by Messrs. McLean & Wright. The committee resolved, "That Mr. Clarke be informed that the scheme of drainage of Messrs. McLean & Wright, with other schemes, is under the consideration of the Works Committee of the Council." The Council confirmed this.

The new Church of St. Anne, which has recently been erected at the top of Burlington-street, Marine-parade, has been consecrated. The church has not much ornamentation. The pulpit is of stone, and the aisles are paved with red and black tiles, while the ceilings are of varnished wood.

ARTISTICAL PAPERHANGINGS.

IN our notice of the Architectural Exhibition we spoke with commendation of the excellent paperhangings there produced by Messrs. Woollams from the designs of Mr. G. T. Robinson, architect. We have before us now a couple of books of papers issued by the firm this year. In conjunction with Mr. Robinson they are working in the hope of doing something to raise the very low standard of designs for paperhanging; and, with this end in view, Messrs. Woollams have this year brought out a series of Mediæval paperhangings, ranging from the thirteenth to the sixteenth centuries, and have further commissioned the same architect to prepare a series of Greek designs for next year's issue. They hope, by following out this system, to produce something better in purity of style than the medley which at present crowds the market. These designs, as we noticed before, consist in chief of conventional treatment of natural foliage, such as the hawthorn (9,276), buttercup (9,275), shamrock (9,272), passion flower (9,262), ivy (9,252), pomegranate (9,241), wood-sorrel (9,236), wild geranium (9,225), clover (9,223), lily, as fleurs-de-lys, and also in less heraldic treatment, and the rose. Five of these designs are exclusively ecclesiastical in their character, and intended for oratories, mission churches, and for the temporary decoration of churches.

The colouring is chiefly based on the law of simultaneous contrast without the intervention of any boundary line of negative quality.

The majority of the patterns are exceedingly satisfactory, and not expensive. We have to repeat our acknowledgment to Mr. Robinson and Messrs. Woollams. Every endeavour to raise the industrial arts and to put within reach of moderate means tasteful adornments for houses has our best wishes, and deserves our best words.

THE ISLINGTON REFORMATORY AND RAGGED SCHOOLS.

IT is some years now since we noticed a large barn-like building in Bryan-street, Caledonian-road, which had been arranged for the above purpose. After a severe struggle, and by the earnest exertions of various individuals, this institution was extended; the number of boys, who sadly needed reformation, was increased; and, from want of sleeping room, it became necessary to rent two or three of the adjoining houses. This was, however, found so inconvenient that it was determined to raise a suitable building on a piece of ground close by, in Copenhagen-street; and this, as our readers know, was opened not long ago.

On calling the other day, we found the establishment in excellent working order. The ragged school is numerously attended, and efficiently presided over by the teachers. In the well-arranged kitchen, the kitchen-boy was busily engaged cooking the dinner, and seemed to pride himself not a little on the promising appearance of the potatoes and the beef under his care. Near the kitchen is the dining-hall, in which the boys take their meals; and close by is a spacious lavatory, supplied with plenty of cold water, and with baths which can be provided with hot water. Care is taken that all the inmates are thoroughly washed once a week at the least. Many of the boys when first brought here are in a dirty and neglected condition; and no doubt the cleanliness of the skin, and the plain but neat-looking and clean dresses provided are important steps towards improvement. The dormitories are of sufficient size; and care has been taken for ventilation, not only here, but also in other parts of the building. The rows of beds are clean and comfortable. The dormitories are managed with a kind of military precision: boys promoted to the rank of corporals have to report cases of sickness or misconduct.

No boys convicted of crime are admitted here; but most of them have committed offences which, in nine cases out of ten, would ere long have led to conviction and to prison. Besides boys driven here by distress, there are some belonging to persons in better condition, who can afford to pay for their support. It is unfortunately a fact, that in many instances parents who have both means and general intelligence, lack that amount of firmness and right management of children which is essential to proper subjection and good conduct. Often the sons of tradesmen and manufacturers are led away by those in the father's employment who are much older than themselves; and it would be very beneficial to boys of this stamp to be under the kind but firm rules of such an institution as this. It has been hinted that the reception of boys of this class might be liable to interfere with arrangements for those in more distressed condition: we do not think that this would be so to any great extent; for, in every case in which the parent has the means, and it can be shown that it would be to the advantage of a boy, a sum that would be adequate, or even more than adequate, for his support, would be charged. This, however, is a matter which requires consideration. There are, at all events, instances of persons who would gladly get rid of children, even for a time, at a comparatively cheap rate. We merely suggest the idea, in the hope that it may lead to some practical results.

In a visit to the workshops we found in one room a number of boys in the care of a superintendent, and engaged in cutting wood: in another place there were shoemakers; in another tailors: in the latter it was both painful and laughable to see the small boys endeavouring to cross their legs into the unnatural and unwholesome position which is orthodox amongst this body of workmen: improvements have been suggested, and few but tailors can see the necessity of thus deforming themselves.

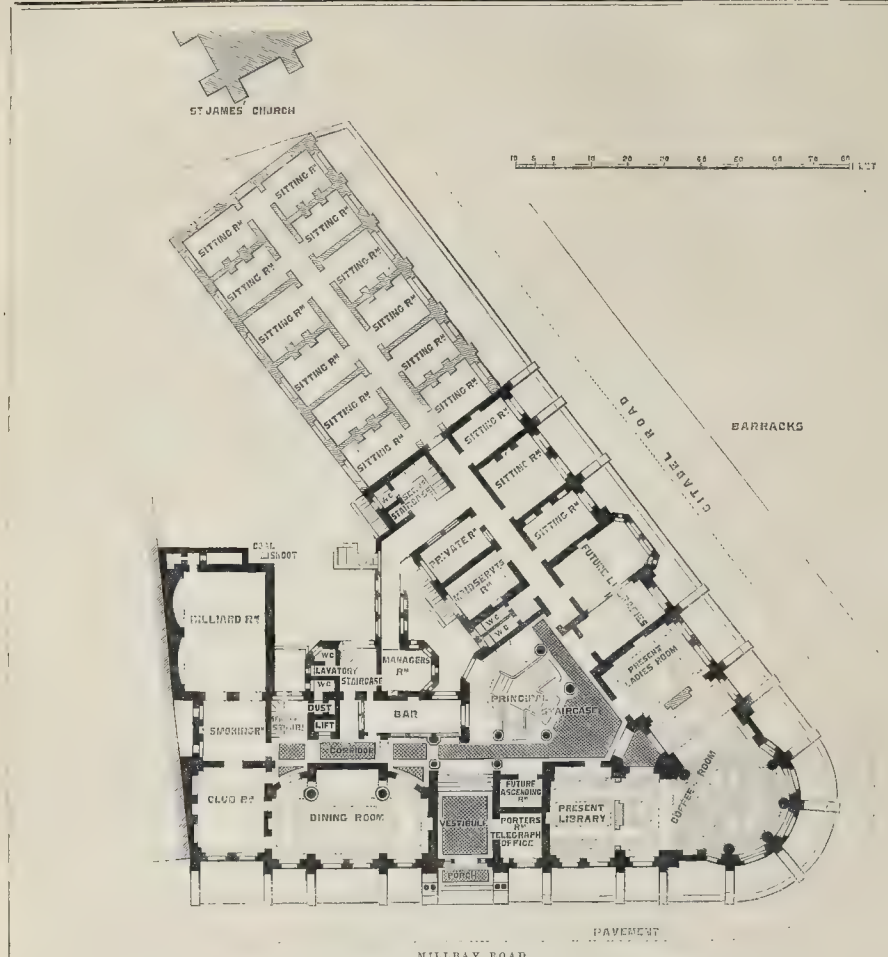
For the most part the boys looked in good health, happy and contented. On asking them how they happened to be there, several said, "Because I have been a bad boy, sir." In some instances, when spoken kindly to, the tears rolled down their cheeks. There were, however, obstinate spirits amongst them who had not the grace to see that they were bad; and upon whom, we fear, neither kindness nor violence will have much effect in the way of reformation.

At present the interiors look rather rough, the brickwork not having been covered; but no doubt this defect will soon be remedied. Meanwhile we strongly recommend this establishment to the support of the large district of Islington, which alone contains a population greater than that of most of the chief towns of England. It would be of advantage if those who are desirous of doing good were to pay a visit to Copenhagen-street.

WATER SUPPLY IN LARGE BUILDINGS.

FROM time to time we have directed attention to the necessity there is, in all great buildings, of a proper water supply. In the General Post-office at St. Martin's-le-Grand, so complete is the system of carrying water-pipes throughout the building, with taps, hose, &c., that, except from a deficiency of supply from the main, or inexcusable neglect of duty, a fire, to any extent, is almost impossible in this structure. We have alluded to the same provision in some of the large metropolitan manufactories; at the Marquis of Salisbury's house, at Hatfield; and in some other places. There is, however, a sad neglect of these provisions in many most important buildings; particularly in those immense warehouses near the river; several of which have suffered so severely from fire.

In our churches and cathedrals a water supply of this description should be provided; for in most instances, gas lighting and heating by stoves have been carried out to an extent which was not thought of formerly; and, in consequence, the danger is greater. In theatres care in this respect is especially necessary; and yet, in the metropolis and many of the large towns, this means of saving life and property is not rightly attended to. At the British Museum, which is not fire-proof, we doubt, although there are fire-engines kept on the premises, whether the means of obtaining an immediate supply in necessary parts be sufficient. At the Houses of Parliament this need seems to have been very well attended to; and it is probable that, but for this, we should have had to record, in the recent fire, a large extent of mischief. This accident, fortunately so slight, also shows the great care which is necessary not only in the construction but also in the arrangement of flues, particularly in such buildings as this; for if the outbreak had taken place at night, or if the powerful water force had not been immediately at hand, the damage might have been immense.



THE DUKE OF CORNWALL HOTEL.——*Plan of Principal Floor.*

THE DUKE OF CORNWALL HOTEL, PLYMOUTH.

THE building of which we give illustrations (to be called "The Duke of Cornwall Hotel") is about to be erected at Plymouth, for the Plymouth Hotel Company, on a large space of ground recently occupied by private houses, and exactly opposite the railway terminus in Millbay-road, at its junction with the Citadel-road. Occasion has been taken to improve the five important streets meeting at this point by widening the roadway of each; improvements not easy to effect considering that the concurrence of three distinct corporate bodies besides the authorities at the Admiralty had to be obtained.

To those who do not know the locality, we may observe that the Citadel-road leads to "The Hoe," one of the most remarkable public parks in this kingdom, comprising a fine combination of sea and land scenery, the eye ranging over the whole harbour, far out to sea beyond the Breakwater, and enjoying at the same time the landscape of Mount Edgecumbe and the adjoining slopes as well as of the towns.

From the plan it will be seen the hotel comprises a large and lofty coffee-room, dining-room, smoking and club-rooms, on the ground-floor, and the usual necessary arrangements for the manager, bar, porter, telegraph, luggage-lift, &c., &c.

The necessary height for the more important rooms is obtained by introducing a mezzanine floor. Besides this there are four floors of sitting rooms, with bath-rooms and other conveniences on each floor. These have been arranged for the accommodation not only of families and persons occupying several rooms, but also for gentlemen requiring but one apartment to themselves.

At present it is intended to erect only a portion of the general plan, but this includes all the principal apartments. When, however, the whole is completed, it will contain upwards of 200 rooms.

The chief peculiarity in the plan seems to be the staircase, which is circular, and is placed in the inner angle of the corner, the most central part of the building, and at the same time close to the entrance, the lift or ascending-room, the coffee-room, and the wing of private apartments to be erected hereafter.

The stairs are to be constructed of Portland stone, carried on wrought-iron strings, which are to be visible so as to form part of the constructive decoration of the building. The general system of internal decoration, if decoration it may be called, is to be extremely simple but substantial, inasmuch as the girders which carry the floors [in the coffee-room, &c.], are to be visible, and form in themselves the panelling of the ceilings, while the cornices, window-frames, and so on, are to be wrought in a manner to correspond with them. It would be desirable, perhaps, to add a little colour to this, lest the work should appear too heavy or massive for the purpose intended; but this will probably be done at some later period,—the great object at present being to supply, as soon as possible, the want of first-class accommodation. Of the exterior elevation our readers may judge from the engraving. The windows, placed as they are in groups, with the circular turret, and the tower-like erection at the angle of the building, give a play of light and shade, in place of the warehouse or cotton-mill character sometimes seen in these buildings of many windows, while the unbroken line of balcony on the first-floor serves to unite the whole. The dressings of the windows are of Plymouth limestone, without any mouldings whatever: the window heads are of Tamar granite. It was intended to use terra cotta for certain parts, such as chimney shafts, &c.; but this has been abandoned owing to motives of economy. The architect is Mr. C. Forster Hayward, of London. The contract for the execution of the works has been taken by Messrs. Call & Pethick, of Plymouth.

OPENING OF NEW ALMSHOUSES IN SOUTHWARK.

AMONG the buildings interfered with by the extension of the railway system in the borough of Southwark, has been that designated in parochial records as "The College," or St. Saviour's Almshouses. The institution consisted of sixteen dwelling-houses and a chapel. These having been required for railway purposes, the parochial authorities have erected and opened an equal number of dwelling-houses and a chapel, on a piece of ground situate in Hamilton-road, Lower Norwood.



THE DUKE OF CORNWALL HOTEL, PLYMOUTH.—Mr. C. Forster Hayward, Architect.

BRIDGES OF LARGE SPAN.

ON this subject the *Engineer* has some obser-ations which may interest our readers. They n thus:—Something was said, a year ago, of . Oudry's scheme for bridging the Straits of essina by a single span of 1,000 mètres, or 280 feet—the proposed structure being, of ourse, upon the suspension principle. This pro-osition exceeded in boldness that made a few ars before, by John A. Roebling (the engineer the Niagara Railway Suspension Bridge), to oss the river Mississippi at St. Louis by a single spension span of half a mile. The Atlas Works, Sheffield, were, we were confidentially informed, gaged upon the steel bars for M. Oudry's great idge; but we, perhaps, run no risk in saying at, if these bars have left Sheffield they have ot reached Messina. The proposed bridge, we ay observe, would have nearly five times the an of the great opening (676 feet) of the late ungerford Bridge, the chains of which are now eing erected over the 702 feet span at Clifton. e do not wish to attach the word "impossible" anything of which there is the least ground for ope in engineering, but very large suspension ans must be made upon improved principles if ey are to give satisfaction. The Lambeth idge, with its three spans, of the moderate idth of 280 feet each, does not quite satisfy us at, even with Mr. Barlow's mode of stiffening e roadway, such structures are likely to come to general favour. It is true that the wires of e cables of the Lambeth Bridge were twisted gether, instead of being bound up as a bundle straight parallel fibres, in the manner of the bles of the Freiburg and the American wire idges; and the twist so put in has yielded under rain, the cables being thereby lengthened, by hich the joints of the diagonal bracing have en thrown more or less out of the positions they ere intended to occupy. So great was this retching at first, that the stone paving originally tended to be applied to the bridge, and which ad been in part placed upon the platform, was und to be inadmissible, and wooden blocks had be substituted. The saddles of many of the rtical suspending bars appear to have already pped to some extent upon the cables, thereby using chafing, which, however slight in amount, not likely to conduce to the permanent strength the bridge.

Tubular, plate, and lattice girders, which are, thin the limits of their application, preferable any other form of bridge, are only able to sup-rt their own weight over spans of between 500 feet and 2,000 feet, and would not be safe more than one-third of the span at which they uld thus break down. This is supposing them be made of iron, and of about the ordinary pro-rtionate depth. If, as would appear, we are on e eve of a vast and cheap production of steel, or homogeneous iron," if that title be preferred, we ay succeed with even wider spans. It is not cer-in either that a greater relative depth of girder truss might not be adopted with advantage. In ste iron this cannot, perhaps, well be done, espe-lly when the great quantity of material then quired for stiffening, or to resist buckling, is nsidered. There is a depth, for every truss or rder, in which the strength is a maximum for a ven quantity of material—supposing a prescribed rangement of the material in the sides, as the ate form, lattice, &c. The deeper the girder or uss, the less the strain and necessary metal in e top and bottom chords, and the greater the antity of material in the sides. If the strains tween the top and bottom flanges are taken on llow wrought-iron columns and tension bars, a ep truss may be made of large span with con-derable economy of material. We have no very rge spans to refer to in illustration, but the inciple is the same in moderate spans. Thus in paper lately read before the Institution of Civil gineers, two bridges, a truss and a plate girder, re described. The dimensions, strains, weights, , may be given as follows:—

	Truss.	Plate.
an.....	125 ft.	96 ft. 10 in.
pth	23 ft.	7 ft. 6 in.
ight per lineal foot of		
ach girder for single line	5 cwt.	3¼ cwt.
ximum strain produced by a live load of 3,000 lb. per lineal foot of both girders.....	3½ tons tension 4½ tons compn.	6 tons 5½ tons

In the plate girder the web varied from ⅜ inch to ⅞ inch in thickness, while the angle irons and top strips would, if spread out over the whole surface of the web, have amounted to more than inch of additional thickness. In the case of the truss, however, of 38 feet wider span and more than three times the depth, the whole of the parts forming the sides, or, indeed, the whole of the truss, excepting the top and bottom flanges, would not, if spread out upon a flat surface of the length and height of the truss, have amounted to as much as ¼ inch in thickness. How far open trussing could be applied with advantage to trusses 60 feet deep, and corresponding to, say 600 feet span, would be seen on trial. For such a span a depth of 60 feet would of course require but two-thirds as much iron in the top and bottom flanges or cells as would be required for a truss of the same span and only 40 feet deep, corresponding to $\frac{1}{15}$th the span. In trusses or girders over 25 feet in depth, and where trains are to run upon the level of the bottom flange, the sides can be braced one from the other, with a comparatively small quantity of iron. This is done in the large railway lattice bridge—six spans of 397 feet each—over the Vistula. It is one of the advantages of the lattice system that it can be made of greater proportionate depth than the plate girder, without increasing the quantity of iron for a given span in the sides, and with a corresponding saving of iron in the top and bottom flanges. In other words, the lattice can be applied to wider spans than the plate girder, for a given strain per unit of section. The late Captain Moorsom, it will be recollected, designed a railway bridge with two lattice spans of 600 feet each, for crossing the Rhine, at Cologne. This bridge received the prize from the Prussian Government, and the strains per unit of section were, we believe, very moderate.

A ROPE BRIDGE.

THE newspapers have lately described a mode of communication across the river Dee, at Abergeldie, near Balmoral, "by means of a rope suspended by two poles rigged with pullies." It may not be uninteresting to know that one of these poles was a magnificent ash tree, probably some centuries old, but now deprived of its head; the other the stem of a very substantial fir-tree, fixed in the ground on the opposite side of the river. Between them, on a strong rope, is suspended a cradle, capable of containing not only "parcels," but two persons. This cradle descends by its own weight from one side, and is worked up the ascent on the other by the hands of the person crossing. In the year 1829, at the time of the great floods in the rivers in the north of Scotland, all means of communication across the Dee, for sixty miles, was interrupted, except this "primitive contrivance." One stone bridge was washed away, and three others rendered impassable. This "primitive contrivance" (or fly-boat, as it is called) has also had its misfortunes. One winter's night, some years ago, the rope broke, and a young man and his bride were drowned in the river below. In days before railways, but after mails had been greatly accelerated, letters reached this distant region every alternate day on the fourth morning from London. The postman's horn was the signal for the "fly-boat," in which he crossed with his letters; and, after having finished his breakfast with as much dispatch as was needed in those days, he recrossed the river by the same conveyance; and, having rejoined his horse bearing the mail, he continued his journey up the country to Braemar.

THE ARCHITECTURAL ASSOCIATION.

THE concluding meeting of the Association for the session 1862-63, was held on Friday evening, the 26th ult., at the House, in Conduit-street; Mr. T. Blashill in the chair.

The following gentlemen were nominated for election:—Mr. Leonard Macon, 12, Carlton-chambers, Regent-street; Mr. William Hill, 2, Highgate-place, Birmingham; and Mr. Thomas Frederick Proud.

The Chairman observed that as, by the rules of the Association, members nominated at the present meeting could not be elected until the first meeting of next session, it might be desirable that they should in the mean time be admitted to the meetings of the Voluntary Examination Class, which would assemble as usual during the recess.

Mr. Adams (hon. sec.) said that some regulation of the kind would be desirable; and a resolution was passed accordingly, admitting all nominated members to the Voluntary Architectural Class during the recess.

A resolution was also passed, appointing the president of the Voluntary Examination Class an *ex officio* member of the committee.

The following gentlemen were then unanimously elected office bearers of the Association for the ensuing year:—

President, T. Roger Smith. Vice-President, R. Phéné Spiers. Committee, Messrs. Molecey, Bayne, Lemon, Reeves, Julian, Brooks, Ridge, Paris, Lewes, Tarver. Hon. Treasurer, Charles J. Adams. Hon. Solicitor, Francis Truefitt. Auditors, T. M. Rickman, B. A. C. Herring. Curators and Librarians, C. H. F. Lewes, John Johnson. Hon. Secretaries, Charles J. Adams, J. Douglas Matthews.

Mr. C. North next read a paper on the Cathedral of Rochester, which he prefaced with some observations on the early history of the town, its castle and fortifications. Referring to the cathedral itself, he observed that the Norman cathedral consisted of a nave, aisles, and transept, occupying the position of the present west transept, with lantern at the intersection; short choir and apsidal at the east end, probably built on the old Saxon remains. All that at present remains of the west front is the beautiful doorway with the arcading over; small portions of the arcading under the turrets; and the south turret and spire of what might be termed the façade proper. Half of the original south tower also remained. The author condemned the restorations of Mr. Cottingham, which he described as modern Vandalism. He was glad to say, however, that in modern times the authorities of the cathedral not only understood but appreciated the beauties of the building. The Norman chapter-house attached to the cathedral was worthy of mention. The west end was divided into two stages, the lower one with the entrance-door, and a window on each side, and three large lights on the upper stage to correspond. The diaper and details were of the richest description, and the remains of the arcading in the cloisters bore evidence of considerable taste. The tympanum of one of them still retained traces of the zodiac round the edge, with Scripture subjects in the centre. The paper was illustrated with a series of drawings and photographs.

At the conclusion, Mr. T. R. Smith offered some observations in reference to out-door sketching, suggesting the best materials to be used, and best *modus operandi*.

A vote of thanks was subsequently passed to both gentlemen for their papers.

The services of the president, vice-president, committee, and honorary officers of the Association, were also acknowledged in a vote, which received the cordial approval of the meeting, and the session was brought to a conclusion.

THE CASUAL POOR.

VISCOUNT RAYNHAM has done good service in bringing the management of the casual wards of the metropolitan workhouses under the notice of the House of Commons. His lordship referred to a case in which the authorities of one of those institutions refused, upon his representation, to admit a poor woman and her children into one of these harbours for the destitute. After asking the President of the Poor-law Board if the authorities at the workhouses had a right to refuse a refuge to the casual poor except when the casual wards were filled to suffocation, Lord Raynham gave notice of his intention to introduce a bill for providing proper accommodation for the casual poor.

With regard to the question put by Lord Raynham, Mr. Villiers said, that he had not received notice of the refusal to admit the casual poor: he could, therefore, give no information on the subject; but he would suggest that the proper authority to make complaints of such a nature to was the Poor-law Board; and then, if no redress was obtained, the subject could be brought under the notice of Parliament. We doubt, however, as matters are at present managed in the metropolis in connexion with the care of the casual poor, if the Poor-law Board is to be depended upon for the proper protection of a most miserable and helpless portion of our population. Long experience shows that very great hardships are suffered, particularly in the winter time, by numbers of houseless men, women, and children. We could mention many cases under our own observation which clearly prove that better regulations than those existing are needed. In the newspapers we often read sad accounts; and there can be no doubt that hundreds of instances of neglect occur which are never generally heard of. What is wanted for the assistance of the casual poor is, prompt and immediate rescue, and the prevention of the disgrace to us of allowing human beings to perish in the roadways of this great city.

We know that there are many difficulties in connexion with the management of the casual wards; that some parishes and unions furnish more extensive accommodation and kinder treatment than others; and that to these places the poor flock, who have been turned away from other workhouses. There is also much deception to deal with; and there are many who, if obliged to do so, could afford to pay for their lodgings, but who come night after night to sleep in the workhouse: there are thousands, however, who are driven to this resource by actual and stern necessity, and many of these are very hardly dealt with. We know of a case in which a poor charwoman, hard-working and honest, but out of work, and driven to desperation by refusal of casual relief, complained to a magistrate; and ever since, when compelled occasionally to go into the workhouse, she is treated precisely as those are who have committed some infraction of the regulations of the house; the purpose evidently being to impress paupers with the idea that to complain to a police magistrate is against the Poor-Law regulations, and as such punishable by the petty local authorities.

The casual wards are often the means of introducing fevers, small-pox, and so on, into the workhouses. Some of them are still so badly ventilated and ill managed that they are proximate causes of disease; and it would be right to consider if it would not be of general advantage for the united parishes of the metropolis to provide, in suitable positions, shelters for the casual poor: at any rate it is very necessary, if this be not done, that when the police find, or have their attention directed to, persons who are roaming in a destitute state in the streets at night, they should be empowered to demand admission for them into any workhouse. Not long since a poor woman (who died shortly afterwards) was taken, while in the pangs of childbirth, to one of these places, and was refused admission because she did not belong to that parish, but came from a short distance over its border. We could give many similar instances of hardship connected with the treatment of the poor by their "guardians," and we earnestly hope that Lord Raynham will persevere with his intention of bringing on the matter for discussion in the House of Commons. We must offer no premiums for pauperism: but men and women must not be allowed to die of want in the streets.

CHELMSFORD NEW RACE STAND.

THE old building of boards, which on more than one occasion was mistaken by the traveller for one of the ancient tithe-barns, has disappeared, and in its place, and with its front in the opposite direction, a substantial brick structure has risen up, under the hands of Mr. T. C. Moss, the contractor, from the arrangements of the architect, Mr. J. F. Clarke.

The new stand occupies an area of 73 feet by 40 feet—about four times as spacious as the old building. The western façade is broken by the projection of a porch with rusticated pilasters and moulded cappings, from which springs a semicircular rusticated arch with keystone, with the date of the present year engraved upon it. Similar arches spring from arches on either side. Above the porch is the ladies' retiring-room. This part of the building is finished with cornice and parapet at the sides, and a semicircular tympanum in the front. The hall is entered from the porch, from which a staircase gives access to the gallery and inner standings. The refreshment-room, 29 feet by 20 feet, has an entrance from the hall. The lawn is also reached through its folding doors, opposite to the entrance of the porch.

The lawn is of a spacious character, containing not less than 13,000 square feet. The iron fence, which forms its boundary from the course, has two iron gates,—one for ingress, where payments are made; the other for egress. Adjoining the lawn, on the north, and separated by a continuance of the iron fence, which sweeps round to the iron hand-railing of the stone standings is the jockeys' yard. This yard is further inclosed by brick walls. Within this inclosure there is a communication with that portion of the stand which is set apart for the use of the committee, reporters, weighing and retiring room for the jockeys, &c. At the entrance to this yard from the corner is placed, within an inclosure, the judge's chair.

The stone standings are of substantial character, being composed of turned work, or arches of brick, upon which the standings are stepped up in solid brickwork, and covered with York stone landings 2 feet 9 inches in width, thus allowing two persons to stand in depth. There are eight of these steps or standings, which are calculated to accommodate comfortably 600 persons. In addition to this, beyond the line of demarcation formed by the columns which support the roof and the ornamental railing between them, rise in regular gradation other standings of similar dimensions, but of wood, constructed upon trussed principals of a most substantial character. They are four in number, besides the terminal or platform, 10 feet in width, and the entire length of the building. In this, the covered portion of the stand, sitting and standing room is provided for other 600 persons.

Upon the solid stone standings are a series of hand railings, four in number, painted blue; the columns of the roof, with the railing at their lower portion, painted white and blue; the aërial roof and the pendental facier in parti-colours red, white, and blue. There is a flag-staff upon each hip of roof.

The entire area of stand, lawn, and other inclosures is equal to 190 feet by 110 feet, or upwards of 20,000 square feet. The cost of the buildings, alteration of course, and contingent expenses, will exceed 2,000*l*.

MONUMENT NEAR BERNE.

IN the parish church of Hindelbank, near Berne, there is a celebrated tomb, similar to the one represented in your Number for April 11th. It is below the level of the floor of the chancel; and, for protection, is covered with a pair of folding trap-doors.

The stone is marvellously represented as broken in three pieces by the force of the mother and child rising through the fissures. It was executed by M. Jean Auguste Nahl, to the memory of the wife of the pastor of the village, who died at an early age in child-bed. An inscription in German runs across the stone,—broken, of course. A French translation is annexed to an engraving of the tomb, which I purchased in the village, a copy of which I beg to send you. It was written by the celebrated M. de Haller.

H. T. ELLACOMBE, M.A.

Me voici, Seigneur! avec l'enfant que tu m'as donné,
Entends-tu la trompette! elle a brisé la pierre
Qui couvrait ton cercueil,
Du tems et de la mort voici l'heure dernière;
Plus de maux . . . plus de deuil.
Enfant de ma douleur, à la voix maternelle
Sors de ton long sommeil;
La ciel s'ouvre . . . au bonheur l'éternité t'appelle
A l'instant du réveil!

Dans cette heureuse espérance
A été déposée ici la dépouille mortelle
de
MARIE MADELAINE LANGHANS,
Née WÆBER,
Qui nasquit le 8 Août, 1723, et mourut la veille
De Pâques, 1751, arrosée des larmes de son Epoux,
GEORGE LANGHANS,
Pasteur à Hindelbank.

THE APPLICATION OF STEAM POWER TO THE THAMES BARGES.

EVEN so lately as five-and-thirty years ago there might be seen on coally Tyne some hundreds of grim-looking vessels, each of rude proportions, and propelled either by means of long sweep oars, or by a large single square sail. It is said that these barges, or "keels" as they were called, were built upon the same model as the Danish ships which invaded the northern coast 800 or 900 years ago. These keels were employed in conveying the coals from the numerous collieries along Tyne-side to the ships, into which the black diamonds were cast by slow and tedious hand labour. In order to save all this trouble, wooden staiths were made to project from several of the colliery tramways on the east of Newcastle into the deep water of the river, so that the ships might lie to, and the contents of each coal-waggon be passed directly into the hold of the vessels. This gave rise to great opposition from the keel-men, a powerful and sturdy race, who were only prevented from committing mischief and destroying the staiths by the active interference of the authorities and the soldiery. Of this once numerous black fleet, which sailed to and fro at every tide, not a single vessel remains. The locomotives on the colliery railway lines bring the coals to convenient points, where they are shot with wonderful rapidity into the steam and other vessels.

When looking at the picturesque barges which, laden with so many commodities, navigate the Thames; steering often with so much difficulty against wind and tide; we have often thought of the north-country keels, and wondered that improvement has not taken place in connexion with the Thames vessels. The delay caused by the wind and in waiting for the tide is great; but we notice that an attempt has been made to prevent this. The Thames coal-barges are a slower and more helpless craft than were the "keels" of the Tyne; but the other day we saw a powerful steam-tug drawing with great rapidity more than half a dozen of these vessels against the stream and in the teeth of a contrary wind. No doubt this plan will soon come into considerable use, for inconvenience and loss are often caused by delay in the delivery of many kinds of goods; and before long it is likely that vessels for the same purpose, but of a different construction, and moved by steam on the railways which will so soon pass through the metropolis to many points, will cause barges to disappear from the face of the Thames in the same manner as the keels have vanished from the Tyne. The use of steam on the Regent's Canal is working well, and the number of boats in this way supplied has been increased.

BUILDING NEWS FROM NEW ZEALAND.

SEVERAL public buildings of consequence are about to be constructed in each town. In Lyttelton the site is prepared for a hospital overlooking the west end of the town. A town-hall is also talked of, for which a very imposing plan has been prepared by Mr. Igglesden, the town surveyor. In Christchurch preparations are being made for a new council-chamber, which will form an addition to the present block of Government buildings. A court-house is at last about to be erected not far from the same block. Close to the town a new gaol, of considerable dimensions, is about to be commenced; and on the lunatic reserve a hospital is to be immediately begun.

By far the most important building yet contemplated is a cathedral. The sum of 12,000*l*. was subscribed for this purpose in a single forenight, and the list has since been augmented by the sum of 3,000*l*. Little has yet been done, however, by the Commission entrusted with the management of the funds, beyond preliminary discussion.

The general building trade is very active, and both carpenters and timber command high rates. Latterly work has been much hindered by want of hands, and skilled workmen have been readily engaged at 13*s*. to 15*s*. a day. Both public and private works of comparative magnitude have occupied the trade to such an extent that builders appear, according to our authority, the *Lyttelton Times*, of 8th April last, to have been unable to meet the demand for private dwellings which are very difficult to be obtained in the neighbourhood of Christchurch. With good bricks,—and the finest can be made here,—and a fine stone ready to hand in any quantity, we may reasonably expect, says this paper, before long to see Christchurch put on a new dress more worthy of the capital city of a flourishing settlement.

With the growing prosperity of the Canterbury province, the operations of the public works department extend with such ramifications over the whole of the country, that anything like a distinct account of the works in hand has become impracticable.

At the Lyttelton and Christchurch Railway the Moorhouse tunnel makes steady progress, and the contractors are pushing on the works in order to be able to open the line between Ferrymead and Christchurch in September next.

Amongst works of arterial drainage are the clearing of the rivers Avon, Heathcote, and Halswell, works of considerable importance to the districts through which these rivers pass.

The instruments and wire required for the extension of the telegraph to the Otago frontier have been ordered from England, and Mr. Alfred Sheath, the Government superintendent of telegraphs, is about to proceed to the south to make arrangements for its further extension to Dunedin and Invercargill.

The new immigration barracks are now in course of erection at Christchurch, under the direction of the district engineer. The contract for the new Lunatic Asylum, from a design by Mr. Dobson, has been let to Mr. F. Jenkins, of the Ferry-road sawmills, for 3,000*l*. The building is to accommodate 30 persons, and is to be built on the north side of the Lincoln-road, about three miles from Christchurch. The Government have also decided on building, from a plan prepared by the provincial engineer, a new jail, to hold 120 prisoners on the separate system, at an estimated cost of 30,000*l*. Police-barracks and lock-up are also in course of erection at several places.

hey have hitherto been greatly wanted. The lesigns for these buildings have been prepared nder the immediate direction of the Commissioner f Police. At Timaru a small hospital is to be ommenced immediately, as also a public powder nagazine.

The towns of Lyttelton and Christchurch are till running a race of improvement, although, s heretofore, the capital takes precedence of the ort town. Both town councils are discussing the uestion of water supply.

Many roads are still in progress in various parts f the colony.

CHURCH-BUILDING NEWS.

Nottingham.—The foundation stone of the new ndependent Chapel which is being erected by the nembers and congregation of Castle-gate meeting-ouse, on the site of the old chapel in that street, as been laid. The building is now nearly ad-anced to the height of the plinth, and will be in he Venetian style; treated, however, in a free manner; several parts bearing evidence of the predilection of the architect for the Gothic style. The materials will be brick, with stone dressings. The architect has placed the windows, both in the ide and front elevations, in deep recesses. The hapel will front Castle-gate, and the façade will onsist of a centre, with two wings projecting, with ornamental cornices round, containing the gallery staircase. The height of the front to the apex of the gable will be upwards of 60 feet, the extreme width of the front 66 feet, and the length 103 feet. The main entrances will consist of two doorways, divided by a granite shaft. A feature n the interior will be an arcade running the entire ength of the chapel, supported upon coupled iron shafts. The ceiling will be in five spans, or arches, divided into panelling by the cross ribs of the roof. Two large vestries are placed immediately behind the pulpit, and under the organ gallery.

Arborfield (*Berks*).—The old Parish Church being inconveniently located, a new church has been built on a new site, and the Lord Bishop of Oxford has just consecrated it. The architect is Mr. J. A. Picton, of Liverpool; and the builder Mr. Hughes, also of Liverpool. The architecture of the church is that of the fourteenth century, and consists of the nave in five bays (geometrical pointed), with a chancel having an apsidal east end; and there is an open timber roof throughout the church. The floor is paved with Minton's tiles, those in the chancel being encaustic. The church is seated with open benches, having carved bench ends. At the west end is the tower, with broach spire, the tower being in three stages, with buttresses at the angles. The exterior of the whole building is faced with flints, having dressings of Combe-down stone.

Croydon.—The foundation-stone of a Roman Catholic Church has been laid at Croydon. The design is Gothic, and the edifice will consist of a church, to accommodate about 400 or 500 persons, with school-rooms for girls, boys, and infants, making provision for about 200 children. It is the intention to build contiguous residences for two priests. The church will be built in the usual cruciform shape. It will be 100 feet long, 35 feet wide, and 60 feet high from the first floor to the bell-turret. The chancel will be raised four steps from the level of the church, which will have its principal entrance looking towards the west, fronting the Wellesley-road, to be approached by an ornamental flight of two steps. There will be a sacristy and reception-room, each of which will measure 10 feet by 17 feet. The probable outlay for the church, schools, and priests' residences will be nearly 4,000*l.* The architect is Mr. Pugin, and the builders are Messrs. Smith & Son, of London and Ramsgate.

Chatham.—A new Roman Catholic church has been opened for divine service at Chatham, by the Roman Catholic Bishop of Southwark. The church stands near the station of the London, Chatham, and Dover Railway. Its external appearance is plain, being almost all brick. The nave is 100 feet long by 50 feet wide. There are a centre aisle and two aisles and two arcades of five arches each. The architect was Mr. Clutton.

Burgess Hill.—The new church for the parishes of Keymer and Clayton has been consecrated. The church stands on a slight eminence, about five minutes' walk from the Burgess Hill Railway Station. It has cost the committee the sum of 5,000*l.* The edifice is built of native red brick, with Bath stone dressings, and is in the Decorated style of architecture, consisting of nave, chancel, north and south transepts, south aisle, tower and spire, and vestry. The nave is 79 feet by 24 feet 6 inches, and is separated from the south aisle by three arches, with columns of Bath stone. It has three windows on the north side, and a clerestory of seven windows, with three round lights, four of which windows are on the south side, and three on the north, the south wall of the tower intercepting the fourth at the north-west corner. The chancel is 26 feet by 24 feet 6 inches, and between it and the nave is a moulded arch, with shafts and capitals carved in tracery. The chancel is lighted by four windows: that in the extreme east is a five-light, mullioned window, with tracery in the heads, and the others are three-light windows, two on the north and one on the south side. Under the east window, and above the altar, is the monogram "J. H. S." in gold, on a blue ground. The two transepts are 23 feet by 23 feet 6 inches. In the north transept is a doorway and porch, and above it is a wheel window: there are also six single-light windows. Both transepts are divided from the nave by an arch. The south transept has a wheel window above two double-light windows in the south end, and a single-light window on each side. The aisle has two quatre-foil windows and three others, one with three lights: it is 54 feet by 11 feet 6 inches in extent. The altitude of the church is 48 feet from the ground to the apex of the roof. The tower, which is situate at the north-west corner of the nave, is 40 feet high, and is surmounted by a spire of 61 feet. The inside of the fabric of the church is surface dressed, with decorations of coloured bricks, and has labels of red and black tiles round the arches. The pulpit is of red and black bricks, ornamented with others of various colours, and is lined with wood.

Steyning.—Some extensive repairs are about to be made to the old church of Steyning. It was agreed to raise 800*l.* by rates, if another 400*l.* were given by voluntary contributions. A committee was appointed, and tenders asked from several builders. Mr. Fabian, of Brighton, was lowest, and was therefore accepted, amounting to 900*l.* odd; but it is presumed the expense will not stop at this tender.

Maidstone.—The new church of St. Paul, Maidstone, since its erection, has had several additions in its interior fitments. The blank appearance of the wall at the east end of the church, under the high chancel window, has been relieved by the erection of a reredos, designed in the style of architecture corresponding with the church, the material used being Caen stone, with marble columns of varied kinds. The work has been carried out by Messrs. Sutton & Vaughan, builders, Maidstone, from designs prepared by the architects of the church, Messrs. Peck & Stephens, Maidstone. In addition to the reredos, Mr. W. Balston, and the Rev. E. Balston, have, at their own cost, fitted the windows of the chancel with stained glass, designed and executed by Messrs. Hardman, of Birmingham. The windows in the chancel are four in number, and are of two lights and tracery each. The subjects chosen are, in one window, the Gathering of the Manna by the Israelites in the Desert, and the miracle of our Lord feeding the multitudes. In the tracery of this window is the Angel bringing Food to Elijah. The second window represents the widow of Sarepta receiving the prophet Elijah, and the miracle of meal and oil, as also the changing of water into wine at the marriage feast at Cana. In the tracery is the subject of the Ravens bringing Bread to the Prophet Elijah. In the third window are the Last Supper and the Crucifixion, and in the tracery Melchisedec offering up Bread and Wine. The fourth window comprises the Descent of the Holy Ghost and the Baptism of our Lord.

Marlborough.—St. Peter's Church has been re-opened. The cost of the repairs—re-pewing and apparatus for heating the church, including architect, clerk of the works, &c., will probably amount to 2,900*l.*, in aid of which the parish has granted by rate 1,000*l.* An east window for the south aisle, &c., have been provided through friends. The work of restoration has been carried out under the superintendence of Mr. Wyatt, diocesan architect, by Messrs. Marquis & Monroe, of Bristol. Mr. Baverstock, of Marlborough, has acted as clerk of the works.

West Buckland (*Somerset*).—The old church of St. Peter has been rebuilt and consecrated. The entire cost of the work is about 1,000*l.* The new church is built in the Geometric style, and consists of a nave, porch, south aisle, and chancel, with organ and robing chamber on the north side. Underneath is a chamber containing Messrs. Haden's apparatus for heating the edifice with hot air. The aisle has a lean-to roof, with a clerestory of three trefoils over, in the wall of the nave, and is divided from the latter by an arcade of three arches, supported by monolith columns of Devonshire marble. The chancel arch is supported by short columns of the same material, which is also used for the shafts of the credence-table, east window, and sedilia. Some colour is introduced into the interior by the use of Ham-hill stone alternately with Bath stone in the several arches. Maw's encaustic tiles are also laid in bands round the walls of the nave, at the level of the roof corbels, and round the arches of the chancel and east window. The roofs are all open. Open seats have been introduced. The dimensions of the church are as follow, viz.:—Porch, 6 feet 6 inches by 6 feet 3 inches; nave, 43 feet by 18 feet; height to wall plate, 22 feet 6 inches; south aisle, 40 feet by 12 feet; chancel, 18 feet by 15 feet; height to wall plate, 15 feet; organ chamber, &c. About half an acre has been added to the churchyard; and at the west end, opposite the tower entrance, is placed a lich-gate, surmounted by a cross. The works have been executed by Mr. John Cock, jun., of Southmolton, from the designs of Mr. R. D. Gould, of Barnstaple, architect.

Ashford (*Devon*).—Mr. Dendle, of Barnstaple, builder, has recently completed a new chancel to the church of Ashford, under the superintendence of Mr. R. D. Gould, architect. The style is Early Decorated. The east window is of three lights, and painted by Gibbs, in memory of the Rev. — Blackmore, formerly vicar of the parish. The floors are laid with Maw's tiles. The roof is of oak, with massive couples, and the boarded spaces painted blue.

Llyswen (*Brecon*).—The parish church here has been re-opened for divine service. Nothing has been retained of the original building except the foundations and the baptismal font. It is built of native stone, and the old style, which has been preserved, is Early English. The chancel windows are plain lance-lights, and those in the nave double lance-lights with foliations. It has a porch of stained pine, with stone roof, the church also being covered with stone. The pews are of stained pine. The tower is placed at the south end. The church will accommodate about 200, and the cost amounts at present to about 950*l.* Mr. Charles Evans, of Talgarth, was the builder.

Stafford.—The enlargement of Christ Church has been lately commenced. It has been found necessary to add 320 new sittings, making a total of 870. The amount required is about 1,000*l.* or 1,100*l.* The contemplated alterations consist of an enlargement of the transept at each end to the extent of 13 feet; replacing of the side walls, which form the support of the roof on each side, by large Gothic arches, resting on stone pillars; and the addition of side aisles. The chancel will be carried back a distance of 15 feet, and the organ gallery will be brought forward 6 feet. The present high pews will be replaced by seats of a different construction. The builders are Messrs. Adams & Pemberton, of this town; and the architect is Mr. T. W. Goodman, of London.——The memorial stone of a new Wesleyan chapel has been laid on the site of the former edifice in Chapel-street, Stafford. The new chapel will be 55 feet in length and 45 feet in width, approached by three distinct entrances from the main street; the central entrance, consisting of a covered arcade, communicating with the two side entrances, which will afford access by stone staircases to the galleries, extending along three sides of the structure. At the rear of the chapel will be a small and three larger vestries. The general form of the edifice—a form necessitated by the impossibility of gaining side lights—is that of the basilica; and the style of architecture is Romanesque. The principal façade consists of a central gable, pierced with a large wheel window of stone; having aisles of lower elevation on its sides, the one next the minister's house screened from view by a square tower, about 80 feet high, rising above the main gable or clerestory, and crowned with a pyramidal roof and metal vane. The clerestory, affording the main source of light and ventilation, will be pierced with semicircular-headed windows, disposed in triplets. This portion of the edifice will rest on a continuous bressummer or supporting beam, superimposed on light cast-iron pillars, and relieved with large semicircular brick arches; these features openly exposed to view from the interior; the bressummer being wrought and moulded, and the arches having moulded labels and soffits. The interior of the chapel will be very simple in character, the roofs and galleries open-timbered, with ceilings of plaster beneath the subordinate spars. It will accommodate about 800. The exterior will be wholly faced with red pressed bricks, relieved with straw-coloured brick and local stone, disposed in voussoirs, corbel and string courses, and bands of variegated brickwork

in patterns. The building has been designed by, and is being executed under the direction of, Messrs. Hayley & Son, of Manchester, architects. The builder is Mr. Wm. Moss, of Stafford. The total cost, including warming apparatus, railing, and other charges, will be about 2,300*l.*

Over (Cheshire).—The new church of St. John, Over, has been consecrated. The edifice has been built chiefly at the cost of Baron Delamere. It is built of Runcorn stone, and has a tower and spire 140 feet high. It is in the Geometrical Gothic style of architecture, having nave, side aisles, chancel with chantry, and vestry on the north side, and porch, the under portions of the tower being a baptistery. The church has sittings for 550 persons, 460 free. The timbers of the roof are exposed to the church, the principals resting on carved corbels. The chancel arch is moulded, the inner order supported on grey Westmoreland granite shafts, having carved caps and corbels, the arch being enriched with sprigs of foliage. The floors are laid with encaustic tiles, those in the chancel and baptistery being of a more ornate design. The chancel and west windows of the nave are filled with painted glass by Messrs. Ward & Hughes, of London. The east window contains subjects from the life of our Lord. The church is heated by hot-water apparatus, supplied by Hancock & Son, of Fenton, Staffordshire. The gas-fittings are of polished brass, by Messrs. Peard & Jackson, of London. The organ is by Mr. Bevington, of London. The cost of the church was about 5,000*l.* Mr. John Douglas, of Chester, was the architect; and Mr. Richard Beckett, of Hartford, the contractor.

Blackburn.—The foundation-stone of an Independent church has been laid in Montague-street, Blackburn. The edifice is to accommodate nearly 1,800 persons, and is from the design of Messrs. Lockwood & Mawson, architects, of Bradford and London. Mr. H. Sellars is the contractor. It is estimated to cost upwards of 7,000*l.*

Doncaster.—The spire of St. James's Church is being taken down, and in its place one of greater dimensions and height will be erected. The spire now in course of removal was 10 feet in diameter, both at the square and octagon, and 95 feet high: the new one will be 120 feet in height; 13 feet across, both at the square and octagon; and superior in regard to the mouldings, especially at the belfry stage. Two bands of diaper work will divide the spire into three equal parts. The ashlar will all be of Ancaster stone. Mr. E. B. Denison, Q.C., defrays the cost, which will be 800*l.* Mr. Teale is the architect, and Mr. Athron the contractor for the work, which is to be completed by the 1st of November next.

Ainderby, Northallerton (Yorkshire). — Mr. Benson has been making a clock for the church of this place. It shows the time on two dials, each 5 feet in diameter; and strikes the hours on a bell of half a ton.

Ripley (Yorkshire).—A clock has been erected in the church here, at the expense of General Ingilby, the brother of the patron of the living. It strikes the hours on a bell of 10 cwt., and shows the time on a 4-feet dial. Mr. Benson was the maker.

Muston (near Scarborough).—The committee appointed to carry out the re-building of Muston church (which was partially unroofed and otherwise injured during a severe gale last winter), have recently received several designs for rebuilding the same; and have selected one submitted by Mr. W. B. Stewart, of Scarborough, architect, who has received instructions to advertise for tenders and to proceed with the erection of the building at once. The style is Early English. The plan comprises nave, chancel, north aisle, vestry, and south porch. A bell gable crowns the west elevation. It is proposed to use Whitby stone for the dressings; and stone from Gristhorpe (which has been given by Mr. Beswick), for the main walls.

STAINED GLASS.

Pennycross Chapel.—A memorial stained window has just been erected in Pennycross Chapel, near Plymouth, by Major Fitz Gerald, 33rd (Duke of Wellington's) regiment, together with a tablet to the memory of his wife. The window is the design of Mrs. Elphinstone Holloway, of Belair, near Plymouth, and was executed by Mr. Wailes, of Newcastle-on-Tyne. The tablet was executed by Mr. Bovey, of Plymouth, who superintended the work.

South Ossett Parish Church.—A stained-glass window has been put up at the east end of the chancel of this church to the memory of the late Mr. J. F. Carr, of Carr Lodge, a magistrate and deputy lieutenant, by his widow. The subjects of the window are arranged in three bands of colouring across the three lights, the panels being separated by narrow bands of grisaille white glass crossed by coloured stripes. The subjects are the following from the life of our Lord:—"The Annunciation," "Nativity," "Baptism," "Temptation," "Agony in the Garden," "Crucifixion," "Sepulture," "Resurrection," and "Ascension." The tracery contains "Our Lord in Glory," with angels on either side in attitudes of praise. The whole of these subjects are upon a diapered blue ground. The window was designed and painted by Mr. F. Preedy, of London.

Old Church, Ayr.—Two stained-glass windows, the production of Messrs. Ballantine & Son, Edinburgh, have been erected in this church. The large east window (in the Sailors' Gallery) consists of two upright lancet windows, and a central top shape. In the lancets are illustrations of "I was hungry and ye gave me meat," "I was naked and ye clothed me." In the top shape an anchor is introduced, in allusion to the Sailors' Gallery, above which the window is situate, with the motto, "Which hope we have as an anchor of the soul, both sure and steadfast." The whole of the compartments are surrounded by a bordering of green, white, and yellow foliage on a ruby ground. The subjects are surmounted with crocketed canopies; and in the basement, which is divided by capped pillars, the shield, crests, and monograms of the Boswell family, who erected the window as a memorial, are introduced. The other is a small twin light window on the right side of the pulpit, and is also a memorial. In the lights are introduced illustrations of Christ healing the sick, and Christ giving sight to the blind, and the subjects are surrounded by a bordering of white, blue, and green foliage on a ruby ground. The window in the Trades' Gallery was also erected by Messrs. Ballantine.

Limerick Cathedral.—The window, purchased by public subscription, for the west end of this cathedral, in memory of the late Sir Matthew Barrington, has just been erected by Messrs. Clayton & Bell. Extensive alterations in the tower have been made during the last five months for this memorial. The centre lancet has been opened to its original height; and the floor, which hitherto dwarfed the proportions of the window, is raised considerably higher, thus adding to the general loftiness of the building. The following is a list of the subjects forming the Barrington Memorial:—The left hand, or south, lancet, contains the "Pentecost," "Ascension," "Journey to Emmaus," "SS. Peter and John at the Sepulchre." The centre light is filled in with "The Lamb and Banner," "Noli Me tangere," "Women at the Sepulchre," "Christ bearing His Cross," "Agony in the Garden," "The Last Supper." The right hand, or north lancet, exhibits "Christ's Baptism," "Christ among the Doctors," "Flight into Egypt," "The Nativity." Each of these subjects is alternated by angels bearing in either hand a sceptre and regal orb. This is the third window which Messrs. Clayton & Bell have erected in this cathedral during the past three years. It has a character of its own, differing from the east window; and that placed by Mrs. Westropp in the south transept gives a variety in "the dim, religious light" which it pours down. Another window by the same artists is on its way for the cathedral. The memorial from members of the Barrington family is to be placed over the tomb of Sir Matthew.

PROVINCIAL NEWS.

Colchester.—A new Rectory-house is in course of erection for the incumbent of St. Leonard's, under the superintendence of Mr. H. W. Hayward, of this town, under whose direction the Parish Church has been partly restored. The contractor for these works is Mr. S. C. Mansfield, of Colchester and London.

Malvern. — We are asked to state that the foreman of the raising of the superstructure of the mansion at Blackmoor-park was Mr. Woodley, a bricklayer by trade, Mr. Bellamy being foreman carpenter.

Holbeck.—The foundation-stone of a new workhouse has been laid here. The old workhouse was a small and inconvenient building, very ill-adapted for a proper working out of the new Poor-law system. The guardians therefore determined, with the sanction of the Poor-Law Board, to erect a larger and more convenient building, in which a proper classification of the sexes could be carried out. Having obtained a plan from Mr. Hill, architect, the guardians advertised for tenders, and eventually let the various works necessary in the erection of the workhouse. Messrs. B. Woolley & Son are the principal contractors.

Inverness.—The promoters of the new hall meant to be erected in Union-street are meeting with fair success, nearly 1,500*l.* having been taken up in shares. It is intended to secure a site on the north side of the street, and near the centre, the lower part of the building to be occupied by shops. The proposed hall is meant to be 81 feet long, 50 feet wide, and 35 feet high, with seats for 1,200 persons, and provided with the usual adjuncts of such a place.

SCHOOL-BUILDING NEWS.

St. James's, Keyham (Devonport).—New parochial schools have been opened here. The schools consist of three large rooms, and together form the north side of a quadrangle, of which the church of St. James forms the south side: the east side will be hereafter occupied, should the means be procured, by a parsonage house, abutting on the church, and by two residences for the school teachers, which will adjoin the block of school buildings. The whole quadrangle is surrounded by roads, and will, when completed, form a group. The boys' school-room is L-shaped, the long arm being 55 feet long and 20 feet wide, and the return end, which inclines to the south, 2 feet long and 18 feet wide. A class-room, 15 feet by 16 feet 6 inches, is at the north, adjoining which is the porch or lobby, which is entered from the north. The girls' school-room, 56 feet long and 20 feet wide, is a continuation of the longer arm of the boys' school-room; but, owing to the conformation of the ground, on a level 5 feet above it. The western wall is pierced by an arch 15 feet by 12 feet, through which communication is secured, and provision made for the increased accommodation of large gatherings of persons for intellectual or social purposes. The whole of the buildings are constructed with limestone, in rand dom rubble work; the walls being 2 feet thick throughout. The window and door dressings are of Bath stone. The roofs are of Memel deal, are all open to the timbers, and of high pitch, and are covered with Delabole slate. At the west end of the ridge of the girls' school is placed an ornamental bell-cot, surmounted by a gilded vane. The style of the buildings has been designed with a view to harmonize with the church, which is of the Early Geometrical period, but rendered as plain and inexpensive as possible to meet the funds provided for the buildings. The schools and class-rooms contain an internal area of 4,319 square feet, and provide accommodation for 720 children. The designs have been furnished by Mr. J. L. St. Aubyn, architect, of London; and the work has been completed by Mr. T. May, builder, of Stoke Damerel, who erected the church of St. James fourteen years ago.

Newcastle (Staffordshire). — The Wesleyans have purchased the property formerly belonging to the corporation, and occupied as public baths situate in School-street; and on part of the site the erection of new schools, from plans gratuitously furnished by Mr. Roberts, of Trentham, has just been commenced by the contractor, Mr. Thomas Lowe, of Newcastle. The schools will be under one span of roof, and the roof will be of iron; the walls being of brick. There will be two large class-rooms, with other small rooms, and two dwellings, one for the chapel-keeper. The building will have a south-west frontage. It will be 80 feet long by 44 feet wide, and 15 feet high to the eaves. It will be fitted up with sanitary conveniences, and heated with Redfern's hot-air apparatus. The corner-stone has been laid.

Wordsley.—The new National School recently erected at Cote-lane, at a cost of about 650*l.*, has been opened. The room and gallery are built with two wings, forming a right angle with the gallery in the centre corner, with the view of giving the teacher an additional command of the whole school whilst conducting a lesson in the gallery. The clock and bell in the turret are for the most part the gift of Miss Girdlestone. The architect was Mr. S. Smith, of Stourbridge.

Tunbridge.—The foundation stone of the new school, at Tunbridge, has been laid. The building will be in the Gothic style,—Early Decorated Period. The total length of the building will be 204 feet, the width being 34 feet, and the height 40 feet to the top of the parapet, and 57 feet to the top of the roof. With the schoolmaster's residence on one side (slightly altered), and the chapel on the other, the new school will form three sides of a quadrangle, facing the street. An ornamental railing will form the fourth side, and the area will be laid out in gravel walks and grass plots

On the ground floor of the building will be the principal school-room, 74 feet long, 30 feet wide, and 25 feet high; the dining-hall for the boys, 40 feet long, 25 feet wide, and 25 feet high. There will also be on the ground floor four class-rooms, varying in size, the average being about 19 feet square. On the same floor will be a master's library, and a sixth form library. On the first floor there will be five other class-rooms and masters' sitting-rooms, or studies. The sleeping departments will be divided into two parts, consisting of 34 cubicles for the senior boys, one for each boy, and of dormitories for 27 junior boys, three boys to each dormitory. The compartments will be divided by a partition of framed deal, 7 feet high, the height of each dormitory and cubicle, from the floor to the highest part of the arched roof being 20 feet. In the central tower will be three bed-rooms, for the assistant masters. It is proposed to heat the principal school-room, dormitories, and dining-rooms by hot water pipes, and the other rooms by stoves. All the staircases are to be of York stone. The building will be faced with sandstone from a quarry close by the town, and will be dressed with Southborough sandstone. The architect is Mr. E. H. Burnell; the builder, Mr. G. Punnett, of Tunbridge; and the clerk of the works, Mr. W. L. Rowe.

Bedingham (*Norfolk*). — The new parochial school buildings here have been opened. The new school is situate on a rising ground, in almost the centre of the inhabited portion of the parish. The buildings themselves are of a simple character. They consist of a school-room and teacher's cottage, in the Domestic Tudor style, and are constructed of red bricks, a diaper pattern of dark grey bricks having been introduced into the facings of the cottage, and stone sparingly used in the gables and buttresses of the school. The school itself is 32 feet long and 16 feet wide, lighted from the north, east, and south. It has an open-timbered roof, with framed and braced principals, resting upon stone corbels. The main entrance to the school is through an open-timbered porch, with carved spandrills. The woodwork throughout is of deal, and in the principal construction has been wrought clean, stained, and varnished. The design was supplied by Mr. Thomas Lloyd, of Norwich, who also superintended the execution of the works, the contract for which was taken by Mr. R. Darby, of Bungay, by whom the buildings have been erected. The total cost of the new school and teacher's residence, including the purchase of the site, draining and fencing, and school fittings, was about 450*l.*

Oldbury.—Schools in connexion with the Church of England are to be erected at Oldbury. A short time since the committee advertised for designs to be sent in, and twelve architects responded to the invitation. The committee have selected the one sent in by Mr. Edward Holmes, of Birmingham. The building will comprise a boys' school, 70 feet long and 32 feet wide; a girls' school, 52 feet long and 18 feet wide; and infants' school, 42 feet long and 22 feet wide; and, with three large class-rooms attached, will accommodate nearly 550 children. A detached residence for the master will be erected on the site. The style adopted is Early English. The walls will be built of brick, with Bath stone in the dressings and heads of the principal windows. The roof timbers will be visible inside, and stained and varnished.

Horton (*Bradford*).—A new church school-room has been opened at Little Horton Green. It has been erected at the sole cost of Mr. F. S. Powell, M.P. The scheme includes a large church, which, we believe, it is expected will be opened before the close of the year. The present building consists of a school-room 67 feet by 21 feet, class-rooms 20 feet by 14 feet, a distinct gallery 16 feet by 12 feet, and lobbies for scholars and the general public, besides a small room for committee meetings. The style is the Domestic Gothic of the thirteenth century. The building has been undertaken by Mr. Israel Thornton, of Bradford; the total cost being about 1,700*l.* Messrs. Mallinson & Healey, of Bradford, were the architects.

Auchterless (*Aberdeenshire*).—The new schools at Badenscoth, in the parish of Auchterless, have been publicly inaugurated. The buildings, which will cost about 800*l.*, are constructed after a plan by Mr. Watt, Rayne, who is also the builder. The main part of the building, which contains the schools, faces the turnpike-road, and has a frontage 60 feet in length. The boys' school-room is in the north end, and measures 36 feet by 18 feet, and attached to it in the form of a projection, in the front, is a class-room of about 15 feet by 12 feet. The girls' school, in the north end, is nearly the same size as that for the boys, but there is no class-room attached. The height of the schools from floor to ceiling is 14½ feet. Dwelling-houses for both teachers are attached in the form of wings to the main building. At the back of the building are a playground and set of office-houses for each of the schools; and in the front there will be small gardens, the whole being enclosed by a stone and lime dyke.

Bampton.—The first stone of the new parochial schools was laid a few days since. The buildings will consist of two school-rooms, for 156 children, constructed of walling stone from the neighbourhood, with Bath stone dressings, and are being carried out under the direction and from the designs of Mr. W. Wilkinson, of Oxford.

COMPETITIONS.

New Offices for the Lancashire Insurance Company.—The premiums for the best designs for the new offices of the company, to be erected at the corner of St. Ann's-square, were awarded by the directors on Saturday. The first, of 200*l.*, was given to Mr. Thomas Turner, Glasgow and Belfast; the second, of 100*l.*, to Messrs. Pennington & Bridgen, Essex-street, Manchester; and the third, of 50*l.*, to Messrs. Johnston, Lichfield, & Risley, Red Lion-street, Manchester. There were twenty-nine competitors.

The Gibson Hospital.—The late Mr. Wyatt George Gibson, having by his will left 5,000*l.* for the building of a hospital for the town of Saffron Walden and the neighbourhood, the committee, acting in compliance with this bequest, have now under their consideration a variety of designs, which have been sent in for competition by architects, and are deposited at the town-hall for inspection. These each give a perspective and front elevation, and are severally in the Italian, modern and ancient Gothic, Elizabethan, Grecian, Old English, and Norman styles! The hospital will be erected in the Park-wall Allotment-gardens, adjoining, and is intended to front, the London-road.

The New Church Schools, Oldbury.—The committee of the new schools to be erected in connexion with the Church of England a short time since advertised for designs, and twelve architects responded to the invitation. The committee have selected the one sent in by Mr. Edward Holmes, of Birmingham. The buildings will comprise a boys' school, 70 feet long and 32 feet wide; a girls' school, 52 feet long and 18 feet wide; an infants' school, 42 feet long and 22 feet wide: with three large class-rooms attached, the schools will accommodate nearly 550 children. A detached residence, for the master, will be erected on the site. The style adopted is the Early English. The walls will be built of brick, with bath stone in the dressings and head of the principal windows. The roof timbers will be visible inside, and stained and varnished.

HOW TO DRESS A WALL.

IT is difficult sometimes to make an old wall look handsome. The *Gardeners' Weekly Magazine* describes how one was treated that had in its day warmed many fine crops of peaches, apricots, cherries, and plums. By degrees the trees had perished; and at last, when cleared of their branches and shreds, it had very much the appearance of having been afflicted with small-pox, for it was regularly and deeply pitted all over with nail-holes, the result of many years' training upon it of the fruit-trees. It might have been the spontaneous growth upon it of some lovely tufts of the wall linaria, or toad-flax, with little ivy-shaped leaves and lilac flowers, that put into the mind of my old friend the converting the wall into a perpendicular fernery. He first of all thrust into some of the large holes in the wall tufts of common polypody, making their creeping roots comfortable with turfy peat, and securing them from falling out by means of a piece of copper wire passed across the hole and held to the bricks by small staples. As these were found to flourish, and give the wall somewhat the aspect of a ruin, he began to make holes to plant others, and by degrees the wall was covered with hartstongue, asplenium adiantum, the wall rue fern, the mountain polypody, the alpine cystopteris, and dozens of others that bear drought patiently and naturally inhabit rocks and waysides. In the shady chinks next the buttresses he managed to coax the British maidenhair to make luxurious fillets of herbage; and at the foot of the wall there were tufts of lastrea, osmund royal, and other ferns which the wall itself refused to nourish. The majority of these held their verdure far into the winter: the hartstongues and common polypodies were usually quite green the whole year round; and during the winter their rich dottings of golden spores sparkled in the most cheerful manner against the dark background of sheets of ivy and red brick. Of course the wall itself was crowned with snapdragons, wallflowers, and other gay tenants of ruined towers, or pines, that make riot of man's work, and glorify the decay of art with the triumphs of nature.

WORKMEN'S DWELLINGS PAID FOR OUT OF WORKMEN'S FUNDS.

I READ the letter of "P." in the last number of the *Builder*, and desire this may be considered as a supplement to it. The Government hold a fund amounting to upwards of 363,000*l.*, being accumulated *profits* of savings banks, for which no interest is ever paid to the banks. I contend that this interest should be applied annually in erecting workmen's dwellings, and that the rents should accumulate in augmentation of the general fund. Assuming the calculation at the Mansion House meeting to be correct, dwellings for more than 100 *families* might be erected *annually*.

I have already laid the scheme before the Chancellor of the Exchequer, who has practically, at least, the control of the fund in question; but of course he is not anxious to give up the interest I require for accomplishing my object. The Savings Bank Act, passed in the reign of George IV., does not require the Government to pay interest for this profit fund; nor does it authorize the Government to retain it. Then I argue that as the profit arises from a *trust* fund, it ought to be applied for the benefit of the *cestui que trust*; or, failing to find him (which is the case), for the benefit of the class to which he belongs.

If only a portion of the energy shown by the gentlemen who are promoting the erection of dwellings for the working classes were devoted to embodying my scheme in a Bill to be presented to Parliament, any appeal to the public for funds would be rendered unnecessary. W.

LAW OF THE FOOTPATH.

SIR,—Thanks for your sensible notice on this subject in your last *Builder*. But will you once again implore all gentlemen, rich and poor, to spit into the road and not on the footpath? The present practice, at all times most offensive, is now very grievous to those who are obliged to

FOLLOW THE FASHION.

P.S. Could not a clause be inserted in one of the Bills now before Parliament, regulating the thoroughfares, inflicting a fine for making the pavements filthy?

THE BURIAL OF EDWARD I.

THE writer of the excellent article "Twice Buried," contained in your impression of the 20th June, appears, notwithstanding the evidently careful research which his paper manifested, to have accepted upon questionable grounds the statement which he records, that the heart of Edward I. was buried in Palestine. There is very little doubt that such was the monarch's dying wish, and that he gave injunctions to that effect, as also that his body should not be buried, but should be carried at the van of the English army until Scotland should be reduced. But, although he seems to have bequeathed 32,000 pounds of silver to defray the expenses of transporting his heart to the Holy Land, little or no attention appears to have been paid to this wish, or, rather, it was perhaps considered unadvisable to comply with it. His body was removed from Burgh, where he died, to Waltham, where it lay in state seventeen weeks, and was subsequently interred in Westminster Abbey. In 1774 the body was exhumed at the solicitation of the Hon. Daines Barrington, with the view of ascertaining the truth of certain historical allegations, to which some doubt had been attached. The height of the king appears to have been, as nearly as possible, 6 feet 2 inches; but, so far as any examination was made, there was nothing to indicate any disproportionate length of the legs, so that the name of "Longshanks" which he acquired appears hardly to have owed its origin to such a cause.

Your readers, if they desire, will find a very interesting paper on the subject, written by Sir Joseph Ayloffe, in the third volume of the "Archæologia," published by the Society of Antiquaries of London in 1775. W. M. B.

SECOND PORTION OF WORKS SELECTED BY PRIZEHOLDERS IN THE ART-UNION OF LONDON.

From the Royal Academy.—Sit Up, by A. Provis, 50*l.*; Sophia Western, S. Sidley, 40*l.*; Meaning Mischief, A. F. Patten, 38*l.*; Fort d'Ambleteuse, J. J. Wilson, 25*l.*; Near Tible Hedingham, Essex, E. L. Meadows, 25*l.*; The Thames, at Great Marlow, A. Barland, 25*l.*; Watermill on the Thames, near Pangbourne, J. J. Wilson, 21*l.*; Castell Dinas Bran, Llangollen, North Wales, F. H. Henshaw, 20*l.*; Cottages, East Kent, J. J. Wilson, 20*l.*; In Thorsgill Wood, Yorkshire, H. J. Boddington, 20*l.*; Rea.y for the Opera, A. B. Clay, 15*l.*; At Vale Crucis, Llangollen, T. Dearmer, 10*l.*; The Orange Girl, H. Darvall, 10*l.*; Toby, A. Cooper, 10*l.*

From the British Institution.—Trawlers getting in their Nets, Yorkshire Coast, J. Meadows, sen., 30*l.*; Will you Buy? E. G. Girardot, 25*l.*; View near Haslemere, Surrey, J. B. Smith, 20*l.*; The Past, Miss K. Swift, 20*l.*; Harvest Time, H. B. Gray, 20*l.*; The Ice Cart, Winter Evening, G. A. Williams, 15*l.*; Spring, C. Jones, 15*l.* Love me, love my Dog, C. J. Lewis, 15*l.*; The Shortest Way Home from School, Miss E. Brownlow, 10*l.*; The Church Farm, Waltham, St. Lawrence, J. Dearle, 10*l.*; Holmwood Common, Dorking, Surrey, S. Bennett, 10*l.*; Granny, J. M. Barber, 10*l.*

From the Society of British Artists.—Labour's Sanctities, T. Heapy, 63*l.*; Going to the Ferry, J. Tennant, 50*l.*; Morning on the Thames, J. Tennant, 50*l.*; In the Fields, Worcester, B. W. Leader, 50*l.*; View looking up Loch Lomond, A. Clint, 50*l.*; View from Rustall Common, J. Tennant, 47*l.* 5*s.*; Conway, C. L. Coppard, 40*l.*; Cows at the Spring Pool, G. Cole, 40*l.*; A Path through a Welsh Wood, H. J. Boddington, 35*l.*; Scene near Richmond, Surrey, J. Tennant, 35*l.*; The Country Doctor, H. H. Emmerson, 35*l.*; Winter Scene—Farmyard, W. Lerry, 25*l.*; Near the Mumbles, J. Webb, 25*l.*; The Cap and Feather, E. J. Cobbett, 21*l.*; Cottages by the Sea, C. Hemy, 20*l.*; A Still Pool on the Llugwy, North Wales, G. Mawley, 20*l.*; A Yellow-hammer's Nest, T. Worsey, 20*l.*; In Bickleigh Vale, Devon, F. Foot, 15*l.*; On the Thames, near Bisham, H. J. Boddington, 15*l.*; Tintern Abbey, from Chepstow Road, T. Whittle, 15*l.*; Near Saffron Walden, Essex, E. L. Meadows, 15*l.*; Sunny Hours, E. Holmes, 15*l.*; Harvest Time, W. W. Gosling, 15*l.*; The Beaver Pool on the Conway, E. A. Pettitt, 12*l.* 12*s.*; Italian Boy with Dancing Dolls, J. A. Fuller, 10*l.* 10*s.*; Artillery Practice, J. A. Fuller, 10*l.* 10*s.*; A Surrey Lane, F. W. Baker, 10*l.*; The Cottage in the Lane, Kent, J. J. Wilson, 10*l.*; A Bit by the Cornfield, W. W. Gosling, 10*l.*; Sheep, Miss Desvignes, 10*l.*; Waiting for a Bite, H. Hardy, 10*l.*

From the Institute of Painters in Water-Colours.—A Flood on the Conway, North Wales, D. H. Mckewan, 47*l.* 10*s.*; The Old Hall, Hardwicke, Derbyshire, W. Bennett, 42*l.*; My Mother bids me bind my Hair, &c., H. Warren, 40*l.*; Sennen, Cornwall, J. G. Philp, 20*l.*; Trahbach from the Moselle, Mrs. W. Oliver, 15*l.* 15*s.*; Sad, J. Absolon, 15*l.* 15*s.*; Ostend Beach, E. Hayes, 11*l.*

From the Society of Painters in Water-Colours.—A Norwegian Fjord, on a calm Summer's Night, G. Rosenberg, 35*l.*; The Thames at Richmond, W. C. Smith, 35*l.*; Cornfield, Gatton, C. Davidson, 35*l.*; Domaso—Lago di Como, W. C. Smith, 25*l.*; Arundel Park, D. Cox, jun., 25*l.*; Gipsy at a Spring, O. Oakley, 20*l.*; View in the Campagna of Rome, A. Glennie, 18*l.*; Sunset at Gotha, W. Callow, 15*l.*; At Antwerp, W. Callow, 15*l.*; River Side, Early Morning, H. Gastineau, 10*l.*

From the Female Artists.—Grandmother's Lesson, Miss B. Newman, 15*l.*

From the Royal Hibernian Academy.—Game, W. Duffield, 21*l.*; Flood in the River Dargle, County Wicklow, J. Faulkner, R. H. A., 50*l.*

DECISIONS UNDER METROPOLITAN BUILDING ACT.

USE OF IMPROPER MATERIALS.

SEVERAL builders were summoned to *Hammersmith Police Court*, before Mr. Dayman, by Mr. Gutch, the district surveyor of Paddington, for having constructed the walls of certain houses of bricks put together with lime mixed with a large proportion of mould and mud of an inferior quality and insufficient strength; and for not enclosing the said houses with walls constructed of brick, stone, or other hard and incombustible material, properly bonded and solidly put together with mortar or cement.

It was agreed that the summons against Mr. Jonathan Brown should be the first taken. (Mr. Clarke, solicitor, appeared to conduct the proceedings for Mr. Gutch; and Mr. Besley appeared to defend Mr. Brown). The evidence given was confined to one of his houses, known as the "Gateway House," in Westmoreland-road. Mr. Clarke called the district surveyor, and he said he had examined the house, and found that a mixture of mud and lime was used instead of proper mortar. He produced a portion of the material taken from the walls of the house. The walls were consequently not properly put together. He said what he produced were the scrapings from the macadamized roads, with a very considerable portion of horse-dung. The house would not stand, in his opinion, any great strain. In cross-examination he only complained of the mortar used in the inside of the house. He had not seen any signs of cracks in the exterior. Mr. Besley—"Do you think the house will fall down in the course of the next ten years?" Did not think it would.—"In the next twenty-five years?" Could not say. If there was any great pressure it might.

Mr. Ellis, surveyor, said he had examined the house, and the mortar was composed of mud and a little lime. It was impossible that it could unite as it ought with the bricks. All he could state was that it was not built with a proper material. He could not say it would not last twenty years: it would depend on how it was used.

Mr. Besley then called Mr. Parker, surveyor, and he said he had been accustomed to survey buildings for twenty-three years. He had examined the houses, and the walls were solid and capable of resisting as much pressure as other ordinary houses. He also produced some of the mortar, and said one-half of the houses were built with the same sort. There was no sign of want of solidity in the walls, and therefore no danger could arise from it.

Mr. Clarke submitted that the magistrate should inspect the buildings; but he declined, as he always felt it his duty to decide by the evidence adduced.

Mr. Dayman considered that Mr. Gutch had only been actuated by a desire to discharge his duty; but he thought a sufficient case had not been made out against Mr. Brown. The evidence was very conflicting, but still no one had said that the houses would not stand for twenty years, and therefore the public were protected for that period. It would be, under all the circumstances, hard on the builder to decide against him.

The summons was ultimately dismissed.

In a similar case against Mr. Kellond, as to the houses 4, 5, and 6, Burlington-road, Paddington (where a cross wall fell during the works), contradictory evidence of the same kind was given on both sides. It was urged, too, by the builder, that the work had advanced considerably before the district surveyor had attended. The cause of this, Mr. Gutch said, was illness through overwork in surveying the erections put up in his district on the occasion of the Royal Procession. The magistrate wished the matter to go to arbitration, but the builder would not consent; and ultimately Mr. Dayman said he should dismiss the summons: at the same he wished it to be known that he was not altogether satisfied the building had been erected within the meaning of the Act.

LIGHT AND AIR.

Martin v. *Clark.*—This was a motion (in the Vice Chancellors' Courts, June 26, before Vice-Chancellor Sir W. P. Wood) to restrain the defendants, the Committee of the Hampden Gurney Memorial Schools, now in course of erection in Upper Berkeley-street, Hyde Park, as a testimonial to the late vicar of St. Marylebone, from continuing the building so as to interfere with the ancient rights of the plaintiff, who was a tailor, and the owner of two houses immediately adjoining the intended schools.

The motion was opposed on the ground that the plaintiff had acquiesced in what had been done by the defendants, and that he had been so dilatory in the matter as to have lost his right to equitable relief.

The Vice-Chancellor held upon the evidence and the communications that had passed between the parties that the plaintiff had not precluded himself either by acquiescence or delay from his right to relief in this court. It might, no doubt, be a very proper case for the parties to arrange between themselves, but in the meantime the plaintiff was entitled to an inquisition to restrain the defendants from further raising any part of their buildings, so as to hinder or impede the access of air and light to the plaintiff's houses to his damage and injury.

RATING.

The Queen v. Morrish: at Bail Court.—The defendant was the contractor for supplying the public with refreshments in the western section of the International Exhibition of 1862. By the agreement entered into between the Commissioners and the defendant he had the right of selling refreshments to the public in a portion to be appropriated to the contractor of 40,000 square feet. The contractor was to erect all requisite counters, and to make cellars, &c., requisite for carrying on the business of the refreshment department. A poor-rate was made for the parish of Kensington on the 11th of August. The defendant's name was placed on the rate. The defendant appealed against the rate, and a special case was framed for the opinion of this Court. The great point was whether this was such an occupation as rendered the defendant liable to be rated. It appeared that the defendant had a private entrance to the department, but he was locked out of the other parts of the Exhibition.

Mr. Prentice, in support of the rate, urged that this was an occupation by the defendant for his own benefit, and that that fact made him liable. He had a separate entrance, and had the exclusive right to the 40,000 feet, and he had made cellars.

Mr. Justice Wightman said, the licence to sell refreshments upon the premises of the Commissioners would not of itself be such an occupation as would make the person who had the licence liable to be rated. It seemed to the Court that all the erections were merely subordinate for the exercise of the licence. Taking the whole matter together, it was never in the contemplation of the Commissioners that he should have the occupation of that portion in which the licence was to be exercised. The defendant could not have turned out the Commissioners if they were within that portion of the building. The defendant had not the exclusive occupation.

Judgment for the appellant.

MARYLEBONE SCHOOL OF ART.—The first annual public meeting and presentation of prizes will take place in the Court-house, Marylebone-lane, on Tuesday evening, the 14th of July next, at eight o'clock. The President in the chair. Those who feel interested should attend.

Books Received.

Beeton's Dictionary of Universal Biography. London: Beeton.

MR. BEETON'S dictionaries are valuable additions to the library: from their close type and economical production they must carry interesting and useful knowledge into hands heretofore excluded from much which he has since presented to them. There is one feature in this new dictionary of which we must make a note. It includes brief biographies of living men who have made themselves eminent. The advantage of this would be unquestionable could it be done in an unobjectionable and efficient manner; but many critics will demur to its propriety or discretion in a universal biographical dictionary. We can observe a kind of trimming of terms between life and death, so as to adapt the matter to the possible or eventual death of the living, which is not pleasant: in some cases this may arise from a fear that even while the compiler writes the subject of the biography may be no longer in the land of the living; and indeed the reader must be often mystified and uncertain whether it is meant to be inferred that while the compiler wrote the subject of his memoir were really dead or alive; and sometimes must be led to believe that he was dead while in truth he was yet alive. Thus, for example, we find it said of Professor Simpson, of Edinburgh, who was certainly alive when the notice of him here was written; as, in all probability, he still is; that "he was professor of midwifery in the University of Edinburgh, and physician accoucheur in Scotland to her Majesty Queen Victoria." Of his scientific knowledge, it is said that it "was both various and profound." Now, it may be easy to fence so far with these objections by replying that her Majesty being now a widow, he can no longer be her accoucheur for Scotland; but even though he had resigned his professorship, the whole tenor of the notice is prepared clearly for the eventuality of the death of a then living man, and gives the false impression accordingly that he is already dead. On the whole, however, the work is well and ably done.

VARIORUM.

"The Hovel and the Home; or, Improved Dwellings for the Labouring Classes; and how to obtain them. By Ebenezer Clarke, jun. Tweedie, Strand." Although this pamphlet has specially in view the interests of several societies, assurance, building, and others, in some of which Mr. Ebenezer Clarke, jun.'s, name appears, nevertheless it contains much useful matter on the subject of which it treats.——A paper by Mr. Serjeant Burke, read at a general meeting of the Society for Promoting the Amendment of the Law, on the 1st of June, on "The Present State of the Law of Copyright in Literature and the Fine Arts, with a View to its Amendment," has been printed in a separate form. In this paper Serjeant Burke points out the salient defects of our present copyright law, and proposes that the whole of the Acts relating to copyright should be consolidated into one statute or a single code, some of the chief clauses or heads of which he suggests. Something evidently ought to be done and must be done to reform our copyright system; and a simplification into one code seems a good idea to begin with.——Catalogues of the Maps and Plans and other Publications of the Ordnance Survey of England and Wales, Scotland, and Ireland, up to a recent date, have been printed for sale at her Majesty's Stationery Office, under the authority of Colonel Sir Henry James, R.E., F.R.S., the director, at Southampton; so that any special map, parochial, county, or other, with its price, may now be ascertained without trouble or delay.——Amongst the valuable reading books published by Messrs. Hogg & Sons, we may especially point to "Half-hours with our Sacred Poets," edited with biographical sketches by Alexander H. Grant, M.A. This selection, which is made with good discretion, ranges from Richard Rolle (134-9), and Chaucer (1328 to 1400), down to Tennyson and Mrs. Fotherby, and includes the works of eighty-two poets. It is a book to last.——"The Flower of Christian Chivalry," from the same publishers, is another of their series of "Books with a Meaning." It includes sketches of the life of St. Bernard of Clairvaux, Savonarola, Pinel, Granville Sharp, and others.——The July number of "London Society" has some good papers, especially one on "Dickens's Dogs," proving the genial novelist to be the "Landseer of fiction." The Number is

illustrated by T. Morten, M. Morgan, W. Brunton, Walter Crane, W. M'Connell, J. D. Watson, and James Godwin: enough, surely, for a shilling.

Miscellanea.

CHURCH-BUILDING ACCIDENT IN CHINA.—At Canton an unfortunate accident has occurred to the new church which was just on the eve of completion, the tower of which fell down; whether from bad foundation or bad material in the building is not yet known.

THE WELLINGTON MONUMENT FOR ST. PAUL'S. The public impatiently ask, and well they may, what progress is made with the monument and monumental chapel in memory of the late Duke of Wellington, determined on some years ago? Perhaps Mr. Stevens, who was commissioned to execute the monument, will enable us to give a quieting answer?

A BOAT! A BOAT!—A suggestion which appears to be "out of the question" sometimes contains an unseen germ; so we print the following:—May I ask through your pages whether it would be impracticable in building a ship to build *into it* a boat whose bottom should go with the outer timbers of the ship; but so contrived that, in case of great emergency, the boat could be knocked out readily, and drop into the sea, without the usual difficulty of lowering a boat in such times of excitement. If a boat so built in, or fastened in, could have a false bottom containing the oars and ropes, so attached that she would be self-impelled into the water, perhaps half a minute in time of extreme emergency might place a life-boat at the service of a sinking ship.—H. B.

A SUBSTITUTE FOR TURPENTINE.—Mr. Cave, M.P., chairman of the West India Committee, has received a letter from Jamaica containing a scheme which has caused great interest in the island, for using rum, instead of spirits of turpentine, in the preparation of paint. The present price of turpentine is 10s. a gallon; that of rum in bond from 1s. 4d. to 2s.; but the duty amounts to 10s. 2d. in addition; and it is suggested that rum rendered unfit for drinking, either by a mixture of creosote or naphtha, such as is now used in methylating spirits of wine, might be admitted duty free as a desiccant of paint, for which it has been proved by experiment to be well fitted. The revenue would not suffer, as the spoilt rum would come into competition with a duty-free article, and considerable relief would be given to the painting trade, which is in many places almost brought to a stand by the high price of turpentine. It is understood that Mr. Cave has brought the question before the proper authorities, and that it is still under consideration. The stock certificates to bearer, the issue of which is now authorized by law, are not expected to be put forth until January.

THE ROYAL FORESTS IN ESSEX.—The select committee of the House of Commons appointed to inquire into the condition and management of the Royal forests in Essex sketch in their report the various inclosures which have taken place in these forests. With regard to Waltham Forest, they think that the forestal rights of the Crown, which have been sold to such great extent, though producing nothing to the revenue, have contributed to keep in a state of wild forest land a considerable space of open ground in the neighbourhood of the metropolis, which has been a source of health and recreation. They report that a considerable extent of ground in Waltham Forest has been inclosed without any consideration being paid for the forestal right of the Crown; and they recommend that immediate steps be taken by the Crown to assert its right and to abate such inclosures. With regard to the remaining portion of Waltham Forest, they recommend that the sanction of Parliament be obtained for its inclosure; that the rights of the several parties interested be ascertained; and that provision be made, partly by these means and partly by purchase, for securing an adequate portion of the forest for the purposes of health and recreation. With regard to the King's Wood, Hainault, they report that the result to the Crown by the disafforestation has been that it now possesses a compact estate in severalty of nearly 1,900 acres, let on lease at a rental of 4,000*l.* a year, instead of a doubtful income of about 500*l.* a year from lands in a state of neglect, and subject to all kinds of waste and encroachment; and that all the expense of conversion to a profitable condition has been defrayed out of produce growing on the estate itself.

"ARCHITECTURAL ALLIANCE."—The general meeting was held in London on Wednesday last. We may return to it.

HAMPSTEAD HEATH.—In the House of Lords Lord Chelmsford, when their lordships were in committee on the Leases and Sales of Settled Estates Act Amendment Bill, moved the insertion of a clause giving power to Sir Thos. Wilson to get rid of the obligations imposed upon him in regard to Hampstead Heath. After some little discussion the clause was agreed to.

SANITARY AND SOCIAL PROGRESS IN ITALY.—The Italian Government is directing attention to the sanitary state of the country, and to the establishment of institutions for the improvement of the condition of the humbler classes. A report on vaccination of considerable interest has been drawn up by Dr. Carenzi, the Conservator of Hospitals. A meeting was lately held at which the Prince Amédée (the Duc d'Aosta) and the Minister of instruction were present, to consider the best means of giving employment to the poor and industrious.

SCULPTURE BY MR. JOHN STEELL, R.S.A.—The Standard Life Assurance Company is at present erecting a new office in Sackville-street, Dublin. The front to the street is of the Grecian type of architecture, with columns and pediment; and the tympanum is to be filled with sculpture. The subject is the parable of the Ten Virgins—a subject originally selected by Mr. Steell for the Edinburgh office, some twenty years ago. The figures are about life-size, and are boldly relieved. The work is executed on four blocks of freestone, from Binny Quarry.

WORCESTER DIOCESAN ARCHITECTURAL SOCIETY.—The first excursion for the present year has just taken place. The members and their friends assembled at the Evesham station, and proceeded in carriages to the following churches:—Bengeworth, Offenham, South and Middle Littleton, and Cleeve Prior, the party being everywhere welcomed by the incumbents and churchwardens. The architectural characteristics of the various buildings were pointed out by Mr. J. Severn Walker, who also mentioned a few historical particulars connected with the parishes visited, all of which, except Cleeve, formerly belonged to the Abbey of Evesham, and at most of them the abbots had manor houses or granges. Returning to Evesham, a party of between twenty and thirty dined at the Crown Hotel. The Rev. F. Hopkinson, LL.D., occupied the chair, and Mr. Severn Walker the vice-chair. The usual loyal and other toasts were drunk, after which a peep was taken at the Evesham churches on the way to the station; time not permitting Hampton church to be visited, as had been intended.

CLIFTON SUSPENSION BRIDGE.—The wire ropes which span the Avon, and which connect the piers on the Somersetshire and Gloucestershire sides of the river, are now finally adjusted. Six out of the nine are on one level, the two centre ones being 3 feet apart, and the others on each side of them 1 foot apart. On these a platform of boards placed transversely and bolted to the wires will be formed. Three feet and a half above this level are two ropes directly over the outside of the wires of the platform, which form a handrail; and 14 feet above the platform is the rope on which the "traverser" is fixed. This "traverser" is a frame of iron, with two pulleys running on the rope with a pair of light blocks on each end, by which are suspended the boards to be carried out for the platform and afterwards the links for the bridge, the latter, weighing 6 cwt. each, being carried out singly. A similar machine will be placed on the Leigh-woods' side, and each will carry out, on the whole, 1,500 links. On Thursday the cradle, which is constructed of light angle irons with wooden floor, and runs on four pulleys attached to the handrail, was put together and lowered down the wire ropes. It is about 7½ feet square, weighs 7 cwt., and is capable of carrying five or six men. It is so constructed that the six wires of the lower level run through it, leaving a space for the men to adjust the boards of the platform transversely on the wires while they are inside the cradle. The construction of the platform is now being proceeded with: it is being connected to the handrails by ties of hoop iron and bolts, 5 feet apart, and when complete will make a secure pathway, 7 feet wide from pier to pier. From this platform will be fixed some 350 tons of iron for one side of the chains, and the whole temporary bridge will then have to be taken down, and the wires again payed out at a sufficient distance to enable the men to form the chains of the other side of the permanent bridge.

SCULPTURE.—Mr. Stirling, of Liverpool, has just completed a statue of H.R.H. the Prince Consort, life size, dressed in the robes of a Knight of the Garter. It is to be sent to Hastings, and to occupy a niche in the Memorial Clock Tower just completed there, of which we published a view some little time ago.

GAS.—The Salisbury gas company intend reducing the price of their gas to 5s. 6d. per thousand feet.——The Cuckfield company who last year reduced their price from 10s. to 8s. 4d., speak of another reduction. The former reduction appears to have brought a considerable surplus, which is left as a reserve fund, but does not yet suffice for a dividend. The directors are, therefore, taking the right way to secure one in time to come.——The Kelso gas company have declared a dividend of 10 per cent.

PETROLEUM EXPLOSION.—A great explosion and conflagration took place a few weeks since at Oil City, Pennsylvania, by the petroleum in some boats catching fire. Oil City town was shaken by the explosion, as by an earthquake. The noise was heard twenty miles distant, and the conflagration was seen as far. Great damage was done to property by the fire. No other substance, it appears, gives out such dense smoke as burning petroleum.

"GLOUCESTER DEANERY."—Sir: In the *Builder* of June 20th we observe a capitally-written article upon "Gloucester Deanery." We will, however, thank you to supply an unintentional omission in it. The restoration of the west fronts are being carried out under the superintendence of Mr. Fulljames, the able architect of the *Dean and Chapter*, the cost thereof being paid by them. All the other works will be carried out under our superintendence, as the architects to the *Dean* of Gloucester. We regret, however, much as we desire to restore the interior to its original integrity, that the limited outlay contemplated will prevent our doing so to the fullest extent of our wishes.—WARING & BLAKE.

BEDFORDSHIRE ARCHITECTURAL SOCIETY.—The annual public meeting of this society has recently been held. A large party assembled at St. Paul's Church, and having, attended by the Vicar, spent some time in its inspection, proceeded to St. Mary's for the same purpose, where they were met by the Rev. C. Brereton, who with Mr. Hurst pointed out the more remarkable features of the building, and the recent alterations and additions. Mr. Bloxam also remarked upon the early portions of the church, especially the upper stages of the tower. The Old George Inn was next visited, as were also the remains of the House of Grey Friars, called the "Priory." St. Peter's Church was the last object which engaged the attention of the party, who were then entertained by the Rev. W. G. Fitz Gerald at St. Paul's Vicarage, and by the Rev. J. W. Haddock, hon. secretary of the society, at his residence. The meeting took place in the afternoon at the Working Men's Institute in Harpur-street. Mr. Bloxam read a paper, in which he gave an account of various brasses and other objects of interest connected with Bedfordshire. Mr. C. L. Higgins then read a paper on the Monuments in Turvey Church; the Rev. W. Airy one titled "A Monograph of Bedfordshire Domesday;" and Mr. G. Hurst one on the Churches of Bedford.

CITY IMPROVEMENTS.—Several cases of compensation for improvements in the city of London have just been decided by special juries, under the presidency of Mr. Under-Sheriff Burchell, at the Sheriff's Court, Red Lion-square. In the first case the trustees of Lady Hatton's Charity, or "God's Providence," as it was called, for the poor of St. Andrew's, Holborn, was heard on Friday. The original sum of 250*l.* was vested in 1454 at Smithfield-bars, and the rent in 1779 was 35*l.* a year, and it had increased in 1850 to 110*l.* The premises, in the occupation of Messrs. Preston & Sons, chymists and druggists, were required for the new Metropolitan Meat and Poultry Market. The claim was 3,630*l.*, and the jury awarded 3,000*l.* In the next case Messrs. Preston & Sons claimed compensation for being compelled to remove from the premises, where their family had carried on business for 100 years. The claim made for such removal and loss sustained was 9,057*l.*, and after a long inquiry the jury gave 4,205*l.* 10*s.* In the third case, a claim by a Mr. Dismore against the corporation for premises required for the same purpose, a verdict was taken by consent for 800*l.* During the hearing of the cases evidence was given of the great increase in the value of property in the city of London in consequence of the several projects started, and it was stated that "fabulous" prices were now demanded.

NEW BARRACKS FOR THE HOUSEHOLD CAVALRY. A new site is being looked out for by the authorities on which to erect a barrack for a regiment of the household cavalry, the lease of the Knightsbridge Barracks having nearly expired. Chelsea or Kensington will probably be the spot selected.

INDIAN RAILWAYS.—Mr. Jules Danvers, in his annual sketch of the position of Indian railways, of which he is Government director, reports that 2,528 miles are now open for passengers and goods. The great triangular railway connecting Madras with Bombay, Bombay with Delhi, and Delhi with Calcutta, will be complete in about twelve months more. The amount already raised for these works is forty-eight millions and a quarter, which large sum is in the hands of only 31,400 persons, an average of 1,500*l.* each. The shares are evidently used for permanent investments almost exclusively.—*Spectator.*

DISCOVERY OF ROMAN REMAINS IN CHESTER.—The remains of a Roman hypocaust have been discovered on the site of the old Feathers Hotel, Bridge-street, which is now being pulled down for the purpose of town improvement, by the Marquis of Westminster. The extent of the hypocaust is about 23 feet square, height of the pillars 32 inches, quadrangular, with a cap of the uniform size of 12 inches, distance between each pillar respectively 13 inches and 6½ inches, number of pillars already exposed about 60. The tiles (perforated) from age and other causes, were fractured when discovered, with but few exceptions. Lord Westminster has ordered that the pillars, &c., remain as discovered until he visits Chester.

ANOTHER NEW METAL—SIDERIUM.—The new metals, we suppose, are envious of the new asteroids, and are doing their best to keep pace with them in revealing themselves to modern science. Another new metal has just been discovered. In the development of his invention for the production, on a commercial scale, of the metal magnesium, which it is hoped will at no distant period be extensively used as a substitute for silver, Mr. E. Sonstadt, of Loughborough, has, it is said, discovered a new metal in the "carcasse" remaining when the chloride of magnesium is obtained by evaporating and igniting the chlorides of magnesium and sodium. In many of its reactions this new metal corresponds almost precisely with iron, for which metal it has probably hitherto been mistaken. The new metal appears, at present, to occur invariably in connexion with magnesium, which cannot be entirely freed from it.

STATUES FOR A CHURCH AT LIVERPOOL.—Two statues, one of the Virgin and Child, the other of St. Joseph, from the studio of the Roman sculptor, George Maria Benzoni, have lately been placed in the church of St. Bartholomew, Rainhill. The height of each statue, says the local *Journal*, is 3 feet 9 inches, and they are executed in the finest Carara marble. The statue of the Virgin, while still in Rome, was, by the order of the Pope, brought to the Vatican for his inspection, when he blessed it. It remained at the Vatican, by order of the Cardinal Antonelli, till after the 16th of March, 1863 (on which day the Papal Consistory was held), that the assembled cardinals might have an opportunity of inspecting it. The figure of St. Joseph represents the record of the Evangelist,—"Joseph rising up from sleep, did as the angel of the Lord had commanded him." The statue is modelled after one of the same saint in the possession of the Pope. The figure of St. Ann teaching the Virgin, in the great Exhibition of 1862, in marble, was by the same artist.

STRANGE ACCIDENT IN PORTSMOUTH DOCKYARD.—In the north-east portion of the dockyard is a large iron salt-water tank, standing on lofty iron columns over some stores of oak planking. It is 160 feet long, 40 feet wide, and 5 feet deep, and is kept filled with salt water to assist in quenching any fire which might break out in its neighbourhood. About 70 feet of the iron plates forming one side of the tank have given way, and been hurled with the water into the roadway. The tank was built up of cast-iron flanged plates, fastened together with bolts, nuts, screws, &c., in the usual manner. Some of the plates have been separated at the fastenings, the nuts having been torn off the screw ends of the bolts by the pressure of the water. In other instances the iron plates have been broken through diagonally, like pottery ware. The weight of the water in the tank was calculated at 890 tons, and the pressure against the side at about 50 tons. The wrought iron tie-rods in the interior of the tank were very much eaten away at their junction with the cast-iron plates, where they had been submerged in the salt water.

ST. ALBAN'S ARCHITECTURAL SOCIETY.—The eighteenth anniversary meeting of this society was held in the Assembly-room, Townhall, on Wednesday, 17th ult. The chair was taken by the Rev. Dr. Nicholson, vice-president. The Rev. O. W. Davys, of Wheathamstead, read a paper on "Local Peculiarities in Architectural Designs."

ARCHITECT'S CERTIFICATE ON BUILDING CONTRACT.—Where a contract was that the builder should be entitled to draw, "provided the architect shall certify that the works are carried out to his satisfaction," it was held that the certificate need not be in writing, but that a verbal approval was sufficient.—*Roberts* v. *Watkins.*

"MILTON HALL," FOR CAMDEN-TOWN.—Mr. Ludbrook is erecting a commodious hall adjoining his residence in Hawley-crescent, Camden-town, for religious purposes. The building will comprise a large hall to seat 400, spacious school-room, classrooms, to be used without regard to sect or party; but smoking and intoxicating drinks will be prohibited. The hall, which is in the Tuscan style, is being built by Mr. William Proctor, and will cost about 1,000*l.* It will be opened in August next.

THE COLCHESTER ART EXHIBITION.—A glance at the catalogue of this Exhibition of the Colchester Literary Institution at the Town-hall, which was opened on the 22nd June, shows it to have been an interesting collection. Among the many good and valuable works of art we observe a full-length portrait, by Gainsborough, of the Rev. Sir Henry Bate Dudley, Bart., never before exhibited; the contributor being Mr. J. Oxley Parker.

THE KEADBY BRIDGE AND THE BRIDGE ACROSS THE OUSE.—An Act for the erection of a bridge across the Ouse in connexion with the North Eastern Railway (Hull and Doncaster Branch), has just passed a committee of the House of Commons. The bridge is to be made with openings of 120 feet span, whilst the Keadby Bridge openings are only 60 feet. One of the vessels sunk by a collision with the Keadby bridge is embedded in the Trent, at the foot of the bridge, and some of the piles are being driven right through it.

COMMISSION ON SALE OF PROPERTY.—The rule which is well established was affirmed recently by the Court of Common Pleas, that where an auctioneer entrusted with the sale of an estate is the *causa causans* of the sale (as, for instance, by advertising and putting up the estate for sale by auction, which the afterwards purchaser attended), he is entitled to his commission, even though before the actual sale the vendor withdrew the property from sale by him.—*Green* v. *Bartlett.*

ARCHITECTURAL ASSOCIATION.—VOLUNTARY ARCHITECTURAL EXAMINATION CLASS.—On Saturday, 4th inst., the members will go to St. Alban's by the train leaving Euston-square at 2.15 p.m. Next Wednesday (8th July) Mr. C. H. Smith has consented to follow up his remarks on geology by treating of limes and cements. After that day, during the vacation of the Association, the meetings of the class will be held on Fridays. Mr. Chas. Fowler will lecture on Foundations, Shoring, and Under-pinning on Friday, 17th July, 1863.

NEW MUSICAL HALL AT DEPTFORD.—The West Kent Music Hall Company (Limited) proposes to raise a capital of 30,000*l.* in 6,000 shares at 5*l.* each (1*l.* per share payable on allotment), for the purpose of purchasing the lease of a piece of ground for a place of amusement, and erecting on a portion of it a music hall for Greenwich, Deptford, New Cross, Lewisham, and surrounding neighbourhoods. The music hall is to be capable of accommodating 3,000 persons, and will be in the Renaissance style. The ground is said to be extensive, and is, we suppose, to assume the form of tea-gardens. It is at present connected with the "Lord Duncan" Tavern.

PUBLIC WORKS (MANUFACTURING DISTRICTS) ADVANCES BILL.—In committee on this Bill the Chancellor of the Exchequer said it was estimated that, should the present distressed state of Lancashire unhappily continue during the ensuing winter, it would be necessary within the next twelve months to expend a sum of about 2,000,000*l.* on useful public works in the manufacturing districts; of which sum about 1,500,000*l.* would probably be required before the commencement of next session. That sum he proposed to make up of 300,000*l.* now available, and 1,200,000*l.* which he moved that the Treasury be authorized to issue out of the Consolidated Fund, upon the security of local rates. The motion was agreed to.

THE KINGSTON-ON-THAMES DRAINAGE.—After many debates and much difference of opinion, the town council of Kingston-on-Thames have unanimously passed a resolution to the effect that "the drainage committee be now instructed to obtain the names of some competent gentlemen, not less than four, from whom the council may select one to advise the committee as to the best way of carrying out the plan lately adopted by the council for the drainage of the borough, and also to superintend the same; and that the committee lay the names, with the terms of each, before an early meeting of the council."

MR. CHURCH'S PICTURE OF ICEBERGS.—Mr. Church, the American painter, who exhibited the "Falls of Niagara" some time since, went out with the gentleman who published recently a book called "After Icebergs with a Painter," and he now shows his share of the gathered fruit in the shape of a large picture of the "sensational" class, very interesting and very clever. If Mr. W. Beverley had done it for Mr. Gye, at Covent Garden, we should have considered it *just* possible that he had thought as much of effect as of truth: but there seems no reason to believe that Mr. Church has done anything more than depict what he saw. It is to be reproduced in chromo-lithography by Messrs. Day, and seems made for the purpose. The picture should be seen.

PRINCESS'S THEATRE.—Mdlle. Stella Colas is an *actress:* and that is saying something in these times. Notwithstanding the distressing accent in a place where the multitude should be taught how to speak their own language, her power of expressing emotions, and that, too, powerfully, her evident genius, and charming appearance, render her an acquisition of no small value. Such a *Juliet* has not been seen for some years. Mr. Walter Montgomery plays *Romeo* with discretion and taste; and with Mr. George Vining, the manager, for a most gallant and vivacious *Mercutio*, Mr. Marston as the friar, Mrs. Marston the nurse, and Mr. Belmore the apothecary, a most satisfactory and striking representation of the tragedy is given; one that should fill the house for many nights to come.

THE SHAKSPEARE FUND.—Mr. and Mrs. Charles Kean's readings at the St. James's Hall, proved eminently satisfactory, as we anticipated would be the case, and were listened to with the greatest delight. A statement that has been distributed shows that the fund is progressing:—

"This fund was established in October, 1861, to accomplish the following objects:—1. The purchase of the gardens of Shakspeare at New Place. 2. The purchase of the remainder of the Birth place Estate. 3. The purchase of Anne Hathaway's cottage, with an endowment for a custodian; 4. The purchase of Getley's copyhold, Stratford-on-Avon; 5. The purchase of any other properties, at or near Stratford-on-Avon, that either formerly belonged to Shakspeare, or are intimately connected with the memories of his life; 6. The calendering and preservation of those records at Stratford-on-Avon which illustrate the poet's life, or the social life and history of Stratford-on-Avon in his time; and 7. The erection and endowment of a Shakspeare Library and Museum at Stratford-on-Avon. During the short time that the fund has been in existence, great progress has been made towards securing the accomplishment of its first object—the preservation of the site and gardens of New Place."

TENDERS.

For new offices, No. 30, Mark-lane, City. Mr. Clarke, architect

Rider	£5,049 0 0
Marsland & Son	4,950 0 0
Stimpson	4,837 0 0
Ashby & Sons	4,524 0 0
Partrick	4,474 0 0
Faulkner	4,470 0 0
Coleman	4,220 0 0
Hardiman & Sandon (accepted)	4,148 0 0

For rebuilding Foston Hall, near Derby. Messrs. Hine & Evans, of Nottingham, architects. Quantities supplied:—

Simpson & Lynam	£6,390 0 0
Young	6,270 0 0
A. & R. Bennett	6,259 0 0
Lilley & Elliott	6,142 0 0
Thompson & Fryer (accepted)	6,050 0 0

For painting and decorating St. George's Vestry Hall, Borough-road, Southwark:—

Wilson	£98 16 0
Smith	87 17 0
Higgs	65 0 0
Wood	59 0 0
Brazier (accepted)	53 0 0

For new house and shop, High-street, Wandsworth, for Mr. William Simpson. Mr. Charles Bowes, architect:—

Nicholson & Sons	£993 0 0
Thornton	978 15 0
Adams & Sons	958 0 0
Easton	930 0 0

For works at 9, Mincing-lane:—

Gale	£561 0 0
Simms	547 0 0
Piper	520 0 0
Macey	490 0 0

For finishing six houses at Croydon. Mr George Trueffitt, architect :—

Holledge	£755	0	0
Carter	722	0	0
Allen (accepted)	690	0	0

For villa residence and stable, Roehampton Park, for Mr. C. H. Job. Mr. W. W. Gwjther, architect. Quantities supplied :—

Gregg	£3,173	0	0
Rowe	2,882	0	0
Ariss & Sons	2,852	0	0
Adamson & Son	2,805	0	0
Hill & Sons	2,795	0	0

For rebuilding the White Hart public house, No. 199, Tottenham-court-road, for Mr. Wm. Stebbing. Mr. Wm. Arthur Baker, architect. Quantities taken out by Mr. R. Richard-on :—

Harrap	£1,839	0	0
Walton	1,755	0	0
W. & F. Smith	1,669	0	0
Tracey & Co.	1,659	0	0
Scrivener & White	1,616	0	0
Simmonds (accepted)	1,498	0	0

For alterations to the schools of St. Mary, Haggerstone. Mr. J. Brooks, architect. Quantities supplied :—

Conder	£912	0	0
Heoshaw	864	0	9
Mecars	689	0	0
Dover	669	0	0

For a tavern at Merton, Surrey, for Mr. J. T. Paul. Mr. George C. Handford, architect. Quantities supplied by Mr Gritten :—

Braithwaite	£1,105	0	0
Smith	1,100	0	0
Stimpson	1,075	0	0
Rhodes & Roberts	1,073	0	0
Adamson & Sons (accepted)	937	0	0

For houses and shop, at Lowestoft, Suffolk, for Mr. T. Clarke Mr. W. Oldham Chambers, architect :—

R. Rix & Parker	£1,695	3	0
Swatman	1,639	13	0
G. Rix & Tuck	1,618	9	0
Newson & Nelson (accepted)	1,478	7	6

For making certain alterations in Union-street Chapel, Brighton. Mr. Horatio N. Goulty, architect :—

If Seats circular on plan.

Ticehurst	£493	0	0	....	£537	0	0
Patching	429	0	0	....	469	0	0
Hayles	430	7	6	....	446	2	0
Cheesman*	408	0	0	....	469	0	0

For Painter's Work.

Sendall & Son*	£128	10	0

* Accepted.

For villa for Mr. Hitchcock, at Sydenham. — The tender of Mr. J. W. Sawyer, of Dulwich, is accepted.

For Schools, &c., Dulwich. Messrs. Banks & Barry, architects.—The tender of Mr. Sawyer is accepted.

For warehouse, Knightrider-street, City :—

Axford	£2,109	0	0
Simms	2,089	0	0
Burton	2,040	0	0
Ramsy	1,995	0	0
Newman & Mann	1,952	0	0

TO CORRESPONDENTS.

P.—Lazarus (3rd cubical feet).—J. T. Glasgow (we shall be glad to hear from you).—Mr. H.—D. R.—A. Long (is not quite right).—H. & Co.—J. J. & Co. (get your prospectus revised and made English and intelligible).—Monument (such a pigment has been given. We cannot repeat).—T. B.—G. L.—W. F. P.—H. G.—F. C.—W. S.—W. O. R. G.—Mus. A.

We are compelled to decline pointing out books, and giving estimates.

Statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication

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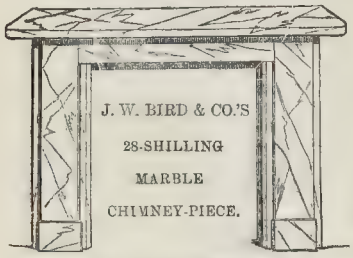
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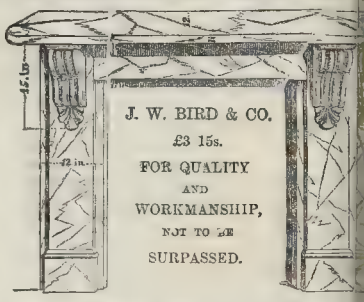
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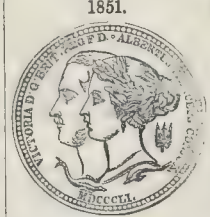
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REVOLVING IRON AND COPPER SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super. according to description and quality, inclusive of the Gearing for raising and lowering them.

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Have Reduced the Price of their Patent Revolving Wood Shutters, with IRON HINGES, to 2s. 6d. per foot; or with Strong Web Hinges, at 2s. per foot.

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NEW PATENT REVERSIBLE SELF-ACTING [FRANCIS & CO.] WOOD REVOLVING SHUTTERS COIL EITHER WAY.

Wood Revolving Shutters, with Gear Work for Shop Fronts, &c. complete .....from 2s. per foot super.
Self-acting Wood Revolving Shutters, for Private Houses, &c. complete ..... 2s. 6d. per foot super.

Improved Strong Durable Iron Revolving Shutters, with Gear Work for raising and lowering the same, suitable for Banking Houses, &c. complete .....from 3s. per foot super.

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REVOLVING SHUTTERS, TWO SHILLINGS PER FOOT.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

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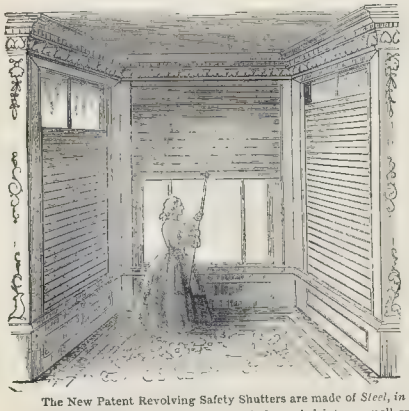
AND 4, MARKET STREET, MANCHESTER.

CLARK'S Patent Self-Coiling Iron Shutters, 3/ per Foot.

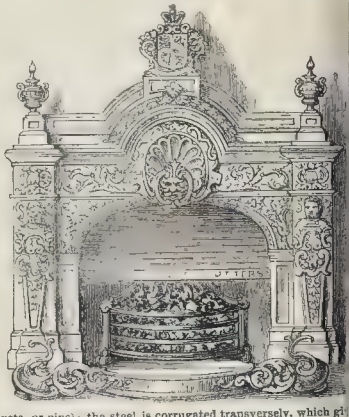


CLARK'S Patent Self-Coiling Wood Shutters, 2/6 per Foot.

The utility of Revolving Shutters for closing Shop Fronts, Windows of Private Houses, Fireplaces, and every description of opening, is universally acknowledged; bu the cost has hitherto prevented their general adoption. This objection Messrs. CLARK & CO. have met by introducing their PATENT SELF-COILING SHUTTERS, Steel, Iron, and Wood, which, in addition to being less expensive than the ordinary shutters, have the advantage of being remarkably simple, and, consequently, not liable get out of order. The Wood Shutters are constructed of laths of wood rebated together, having numerous mortises, through which pass a series of tempered steel band causing the Shutters to be Self-Coiling, and rendering them proof against Burglars.



CLARK'S PATENT SELF-COILING STEEL SHUTTERS, 3/6 per Foot.



The New Patent Revolving Safety Shutters are made of *Steel, in one sheet* (without either chain, links, rivets, or pins); the steel is corrugated transversely, which gi the appearance of laths, and enables them to be coiled into a small space. The corrugations render the Shutter exceedingly rigid, transversely and remarkably pliable, a self-coiling longitudinally. They are light, and can be pushed up and drawn down without the aid of machinery of any description. It is absolutely impossible for them get out of order.

From the strength and hardness of the material of which they are composed, and being in *one sheet*, they cannot either be cut or broken through, as there is no open or a lever or other instrument to be inserted as in the ordinary lath shutter, rendering them doubly secure, as any attempt to break through or open them will give immediate alarm through the building. Their numerous advantages, coupled with the lowness of price, must insure their universal adoption, both in SHOP FRONTS PRIVATE HOUSES.

These Shutters are Manufactured solely by the Patentees, Messrs. CLARK & CO. and are the only Revolving Shutters made that do not require machinery or gearing apparatus, while the cost is the same as the ordinary Lifting Shutters.

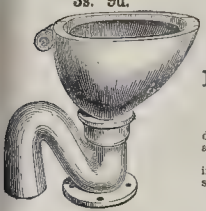
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The only Medal "for Stone Ware" has been awarded to

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In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

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INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.
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GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
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CRANES,
BLOCKS,
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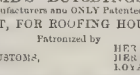
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The Anti-Corrosion is lower in price and lasts twice as long as the best White Lead.
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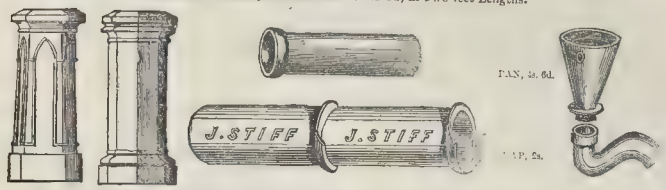
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STRAIGHT TUBES, with SOCKET JOINTS, in Two feet Lengths.

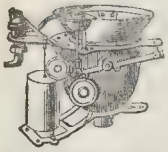


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No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



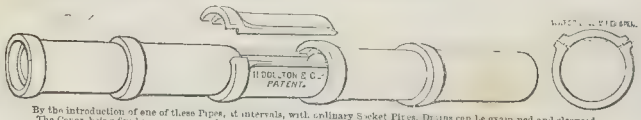
High-Pressure Stop Valve.

FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH-PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves manufactured by them, have their NAME legibly marked thereon.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fired in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.

MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required) without breaking a pipe, or disturbing the flow of sewage.

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, adjoining the WORKS, near POOLE, DORSET.

Illustrated Lists with full Particulars and Prices may be obtained of

WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

A GOOD DRAWING-DOCK AND LANDING WHARF.

*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent-street, W.

THE FLUO-SILICIC STONE-PRESERVING COMPANY, LIMITED.

39, CHARING CROSS, S.W. & 12, COPTHALL COURT, THROGMORTON STREET, E.C.

PATENT FLUO-SILICIC INDURATIONS for the PRESERVATION of STONE, CEMENT, and other like materials. The Company apply to the surface of Stone, Cement, &c. a solution of Fluo-Silicic Acid, and Silicate of Potash. These are the only patents which embrace the use of that most valuable agent, Fluo-Silicic Acid. Bath, Caen, and other soft stones, when treated by the Company's solution, become extremely hard. The great expense of high ornament to buildings in hard stone has been an obstruction to Art; but since the Fluo-Silicic process can be applied as readily to soft stone after it is carved, that obstruction exists no longer. The Fluo-Silicic at once permanently arrests the decay of all stone.—For further information, apply to the Manager of the Company, Mr. DUDLEY, Architect, as above.

BARTLETT, BROTHERS, & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash.

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.;

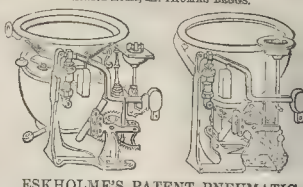
PATENT SILICEOUS PAINT, FOR COATING STONE, CEMENT, STUCCO, &C.

Specimens of the Silicates and Aluminates, and of their applications, may be seen at the CONSTRUCTIONAL DEPARTMENT, SOUTH KENSINGTON MUSEUM.

GUEST & CHRIMES, FOUNDRY a

GENERAL BRASS WOR S, Rotherham; and 37, Southa lou street, Strand, London, W.C.

London House, Mr. THOMAS BEGGS.



ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient simple, free from all smell, and requires no cisterns, service box cranks, wires, or levers, but is complete in itself ready for atta ment to any ordinary house service pipes. It is supplied in th qualities, all equally efficient, differing only as to the style fitting up. A second class quality is also manufactured. The Regu tors are usefully applied to the ordinary Pan Closet, alike depen with Cisterns, service boxes, levers, cranks, wires, &c. The Re lator is a simple, but perfect, as well as connected to ordinary dir Service Main Cottage Water Closets.

(Chrimes's Patent High Pressure Single and Double Loose Valve a Screw Down Cocks; Improved Self-acting and Pull Water-Clos Patent Absolute Water Waste Preventer; Plumbers' and G Fitters' Brass Work of every description. Drawings, Descriptio Prices, and Testimonials will be forwarded per post on applicat as above.



UNDERHAY'S PATEN

REGULATOR CLOSETS for c stant or intermitting supply, dispens with Cisterns, Service Boxes, Valves, Lev Cranks, &c. &c. Much time is saved fixing, and a better flush of water obtain in use.

Pan, Valve, Self-acting, and Servan Closets on this principle, may be seen the Works. They are very cheap, th efficiency is guaranteed, 50,000 of the have been sold, and no instance of failu has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPT of the late firm of C. BOTTEN & SON,

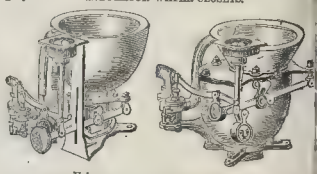
F. G. UNDERHAY

now manufactures on HIS OWN ACCOU his Patent Regulator Water-Closets, Valv Gas Meters, &c. on the same premises.

CRAWFORD PASSAGE, CLERKEN WELL, LONDON, E.C.

J. TYLOR & SONS' PATEN

REGULATOR WATER-CLOSETS.

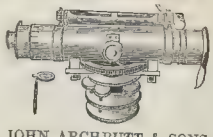


Valve. Pan.

The Regulator Valve gives perfect control over the supply of wat to each closet, so that, however small the fall of water, perfect flus ing is insured. Any number can be worked by one supply pipe N cistern-Boxes, cranks, or wires required. The Closets can be seen i action at the Manufactory, and Illustrated Catalogues had on appl cation to the Manufacturers, J. TYLOR & SONS, Warwick-lan Newgate-street, London.

MATHEMATICAL DRAWING INSTRU

MENTS, THEODOLITES, LEVELS, CIRCUMFERENTER SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,

20, WESTMINSTER BRIDGE ROAD, LAMBETH,

Near Astley's Theatre.

Respectfully inform the Public that their Illustrated Price-List wil forwarded free on application. The prices will be found remark only low. Every article warranted. Second-hand Instruments of al kinds, by the best makers, always in stock.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13.

Only Medal awarded for "excellence of construction of Mathematica Instruments."

T SQUARES.—W. F. STANLEY,

late STANLEY & ROBINSON'S IMPROVED. Recommended in "The Engineer," "Builder," an "Practical Mechanics' Journal." 42-inch, 5s. 6d.; 36-inch, 4s. 6d.; 30-inch, 3s. 6d.; 24-inch, 2s. 6d. and 4s.

Mathematical Instruments of every description of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use.

Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s 6d post free.

STANLEY'S IMPROVED DRAWING PEN

INDIA-RUBBER HOSE and TUBING fo

Watering Gardens, Lawns, Washing Carriages, Windows, &c. JAMES LYNE HANCOCK, Manufacturer has a stock of all sizes Also,

BRASS HAND BRANCHES, with SPREADERS, STOP-COCKS JETS, and UNION JOINTS, to connect the Hose to Cisterns.

RUBBER FIRE-ENGINE HOSE, for HALLS, MANSIONS, &c. with the necessary Fire branches and Brass Union Screws.

Illustrated Price Lists on application.

JAMES LYNE HANCOCK,

VULCANISED INDIA RUBBER WORKS

266, Goswell-road, London, E.C.

IRON HOSE-REELS for winding up Garden Hose when out of use

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

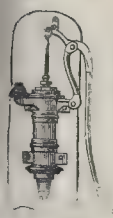
2½ inches	£2 10
3 „	2 15
4 „	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth, From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

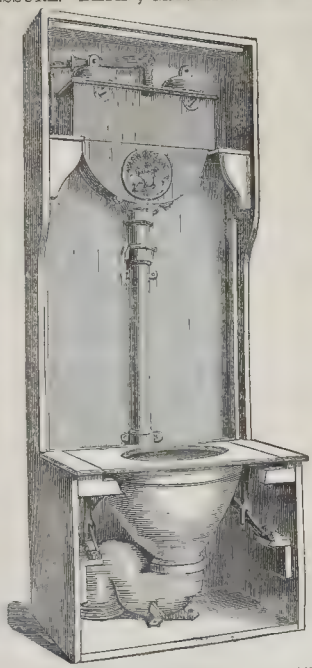
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 „	5 5 0	
3½ „	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 „	4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	2 2 0
Basin and Trap, W.	0 15 6

Further Description, with Sectional Drawings will be sent on application.



No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0

Sunk Handle, extra 0 2 6

Blue Basin, extra 0 1 0

No. 149½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

CLINTON & OWENS, LATE

BENJAMIN FOWLER & CO. Whitefriars-street, Fleet-street, London,

MANUFACTURERS OF PUMPS AND HYDRAULIC MACHINERY OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DOMESTIC, AGRICULTURAL, OR MANUFACTURING PURPOSES, OR FOR CONTRACTORS' USE, TO BE WORKED BY HAND, HORSE, WATER, WIND, OR STEAM POWER.

Portable Steam Engines, Powerful Single and Double-Barrel Pumps, Centrifugal Pumps, and Boring Tools for Contractors' Purposes, ON HIRE.

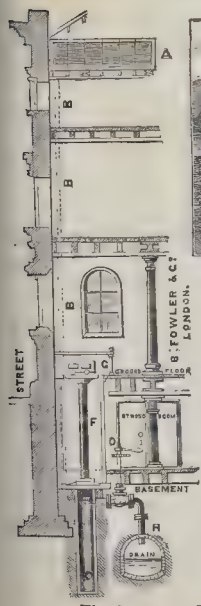
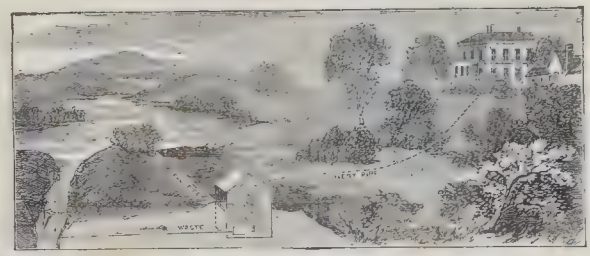


Fig. A.



THE LANDSCAPE SKETCH ABOVE SHOWS

THE IMPROVED HYDRAULIC RAM.

This is a simple Self acting Machine for Raising a constant public Supply of Water for Use in Public or Private Establishments where a fall can be secured from a Stream. Brook, or Spring. Messrs. FOWLER have fixed a great many Hydraulic Rams in various parts of the country, for raising from 5 to 6 or more gallons per day to elevations varying from 40 to 300 feet, and forcing through main pipes from 50 yards to several miles in length. The fullest particulars and estimates will be handed on application.

No. 37 SHOWS A SET OF

TREBLE-BARREL PUMPS WITH HORSE GEARING,

For Raising Water from DEEP WELLS for the SUPPLY of TANKS in MANSIONS and PUBLIC BUILDINGS. Messrs. CLINTON & OWENS also Manufacture and Erect every other Form of Pump for Deep or Shallow Wells for Hand or other Power.

Fig. A SHOWS

A HYDRAULIC LIFT,

Worked by Pressure from a Cistern. Suited for Banks, Warehouses, and other Buildings. Messrs. C. & O. also Manufacture such Lifts to be worked by Hand Pumps, where pressure cannot be obtained from a Cistern.

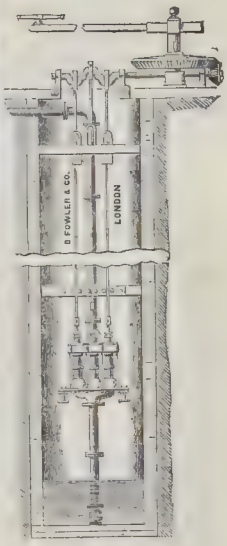
CLINTON & OWENS

MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

PUMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE, STEAM-ENGINES, WATER-WHEELS, TURBINES, HOISTS, WARMING AND DRYING APPARATUS, BATHS, GAS-WORKS, AND FITTINGS.

ESTIMATES WILL BE HANDED ON APPLICATION.



No. 37.

PRICE LISTS OF PUMPS FREE BY POST.

SALES BY AUCTION.

SAW MILLS, CANADA ROAD, ROTHERHITHE

MESSRS. FULLER & HORSEY, in conjunction with Messrs. BROWN & ROBERTS, are instructed to SELL by AUCTION, on THURSDAY, JULY 9th, 1863, at ELEVEN o'clock, in the PREMISES, Canada Wharf, Rotherhithe, in lots, the PLANT and UTENSILS of the CREOSOTING WORKS, including 2 wrought iron creosoting cylinders, 6 and 7 feet diameter, 42 and 70 feet long, with valves, pipes, and cranes; a 10 horse power high-pressure steam engine and boiler; set of extra cast iron pipes; 2 wrought iron tanks 20 feet by 8 feet, and 5 feet 6 inches deep; 4 wood flume tanks; 800 feet of wrought-iron steam-pipe and cocks; 4 strong trollies and 2 tanks; 2-ton portable crane, on carriage; double-purchase crab; weighing-machine; portable forge, 2 bottle-jacks; 150 yards of double tram rail; circular saw bench, self-acting, planing, grooving, and oscillating machine, by "Worsam;" shafting, pigeon and leather bands, grind stone, stocks and dies, and a selection of smiths' shop and shed; portable foreman's office and fittings; 30 barrow planks; town cart, on springs; gas fittings and other effects—To be viewed on TUESDAY next, the 7th inst., from 10 o'clock in full on the Premises; of Messrs BROWN & ROBERTS, Throgmorton-street; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

PLANT OF THE CREOSOTING WORKS, CANADA WHARF, ROTHERHITHE

MESSRS. FULLER & HORSEY, in conjunction with Messrs. BROWN & ROBERTS, are instructed to SELL by AUCTION, on THURSDAY, JULY 9th, 1863, at TWELVE o'clock, on the PREMISES Canada Wharf, Rotherhithe, in lots, the PLANT and UTENSILS of the CREOSOTING WORKS, including 2 wrought iron creosoting cylinders, 6 and 7 feet diameter, 42 and 70 feet long, with valves, pipes, and cranes; a 10 horse power high-pressure steam engine and boiler; set of extra cast iron pipes; 2 wrought iron tanks 20 feet by 8 feet, and 5 feet 6 inches deep; 4 wood flume tanks; 800 feet of wrought-iron steam-pipe and cocks; 4 strong trollies and 2 tanks; 2-ton portable crane, on carriage; double-purchase crab; weighing-machine; portable forge, 2 bottle-jacks; 150 yards of double tram rail; circular saw bench, self-acting, planing, grooving, and oscillating machine, by "Worsam;" shafting, pigeon and leather bands, grind stone, stocks and dies, and a selection of smiths' shop and shed; portable foreman's office and fittings; 30 barrow planks; town cart, on springs; gas fittings and other effects—To be viewed on TUESDAY next, the 7th inst., from 10 o'clock in full on the Premises; of Messrs BROWN & ROBERTS, Throgmorton-street; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

WIMBLEDON, SURREY. Eligible Freehold Building Land.

MR. WHITTINGHAM has to announce that Lots 72 to 76, and lots 112 offered to auction on the 29th ultimo, were sold. The remaining lots may be purchased by Private Contract on application to the Auctioneer, 14, Moorgate-street, E.C.

ADDISCOMBE, CROYDON, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM has to announce that Lots 145 to 147, 230 to 235, 237 to 241, 243 to 252, offered by auction on the 30th ult. were sold. The remaining lots may be purchased by Private Contract on application to the Auctioneer, 14, Moorgate-street, E.C.

OLD ASYLUM, BEDFORD.—Excellent BUILDING MATERIALS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on MONDAY NEXT, 6th inst., at TWELVE for ONE o'clock, on the PREMISES, close to the Midland Railway, in the Borough of Bedford, the whole of the BUILDING MATERIALS of the Military College Asylum, consisting of large slate shelves, iron girders, 40 cwt. stock bricks, a large quantity of fire-bricks, fire-grates, slate, string courses, etc. 12, and rooms for gable, &c.; a large quantity of moulded stone, pattern, bonnet, and small plain bricks, &c.; slates for roofs, York paving, stone steps, 8 tickets, fire-wood, scrapers in stone, iron frames, &c.; sash and other window, shower and other baths, 2 gates, &c.—To be viewed on the Tuesday and Saturday before the Sale and catalogues may be obtained of the Auctioneer, 14, Moorgate-street, London, E.C.; and of the Foreman on the Estate.

ADDISCOMBE, CROYDON, SURREY.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES close to the town of CROYDON, on FRIDAY, JULY 10, 1863, at TWELVE for ONE precisely the SIXTEENTH PORTION of the excellent BUILDING MATERIALS of the Military College Asylum, comprising a large quantity of York paving, Portland stone sills and blocks, wide oil copings, large sash and frames with shutters, &c., a quantity of excellent folding and other doors, 4 wrought iron and mahogany seat, 4 cast steel stove rails and fender, consisting of 4 pairs of ornamental standards, 4 rails, and fender, 4 pairs of firewood, &c. May be viewed Wednesday and Thursday preceding the sale. Catalogues may be obtained of the Foreman on the Estate; and of the Auctioneer, 14, Moorgate-street, London, E.C.

REDHILL, SURREY. Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on FRIDAY, JULY 24th, 1863, at TWELVE for ONE o'clock, a further portion of the eligible FREEHOLD BUILDING LAND, free of tithe and land tax, and situate on the London and Brighton road. The slope between Redhill and Garlick's-road, and on the Reigate-road, close to the Redhill Station, and within the fraunchise of the Brighton, Portsmouth, and South Coast Railway. One-tenth of the purchase money and no interest, mortgage or contract at 5 per cent., to be paid on June 25, 1864, by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Rates and taxes, and all charges, will be discharged before the sale, by the proprietor of the freehold land; of Mr. THOMAS BUCKLAND, Church street, Redhill; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and on the Place of Sale.

LEYTON, ESSEX.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on FRIDAY, JULY 24, 1863, at TWELVE for ONE o'clock, in FOUR LOTS, Parts of Lots of eligible FREEHOLD BUILDING LAND, free of tithe and land tax, with frontages to the Avenue-road, Grange Park, Leyton; also a few lots fronting the Southern Outfall Sewer, and Orange-roads. The property is suitable for first-class villas or good cottage residences, and is situate within ten minutes' walk of the Low Leyton Station, on the Eastern Counties Railway, and within a mile and a half of the Stratford and Tottenham Station, on the Great Eastern Railway. The sale is peremptory and will not be put off on any account. The facilities for the early erection of houses, and the advantages enjoyed by the neighbourhood in the matter of railways at Stratford, and the great and increasing demand for houses in the locality, render this property peculiarly adapted for building profit or rent.

The purchase money may be paid by a deposit of 10 per cent. and the remainder in nine years by half-yearly instalments, with interest at 5 per cent., but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions may be obtained about ten days before the sale of the Lessee, Mr. Henry Keay, Leyton; of Messrs. RUSSELL & DAVIES, Solicitors, 59, Coleman-street, London, E.C.; and of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

CHARING-CROSS RAILWAY.—CITY TERMINUS.—BUILDING MATERIALS.—To BUILDERS, CONTRACTORS, PAVIORS, and others.

MESSRS. WILLIS & HARROW are instructed with instructions for the contract to SELL by AUCTION, on the PREMISES, on THURSDAY, JULY 16, 1863, at ONE o'clock precisely, the valuable and useful MATERIALS of the property known as the Steel Yard, Upper Thames street: consisting of three long ranges of warehouse and other buildings, and comprising about fifteen tons of lead in pipes and gutters, the iron square of shafting, 50 neo plain tiles, a large quantity of Yorkstone and granite paving, loose blocks of portland and granite stone, timber in roofs and floors, floating boards, doors, window frames, and iron guards, iron rails and pipes, and a variety of useful effects.—May be viewed the day prior to sale, and catalogues had on the premises, of the Contractors, Office, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, Auctioneers and surveyors, 3, Newman's-court, Cornhill, E.C. and West Moseley, Surbiton, Surrey.

THE NEW METROPOLITAN MEAT and POULTRY MARKET.—Furniture, Bar Fittings, and Utensils of a Public House.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL, by AUCTION, on the PREMISES, on FRIDAY, JULY 10, at TWELVE, the HOUSEHOLD FURNITURE, BAR FIXTURES, and UTENSILS of the New Inn, Smithfield; comprising the usual bedroom, parlour and kitchen requisites, linen, mirrors, dining tables, useful chimney glass, and modern carpets; also modern bar counter, metal top ditto, spring mattresses, fountains, taps and pipes, safe and desk, malt gauge and sundry effects; 4 fixed desks, 6 deal tables, gas fittings, kitchen requisites, stoves, and other useful trade fixtures; also, the enclosure and drain pipes of cattle lairs, 12 pens, and slaughter houses, large drain pipes, and other effects. May be viewed the day previous. Catalogues had at the Architect's Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, 89, Fore street E.C. and 40, Parliament-street, S.W.

JERMYN-STREET, ST. JAMES'S.—BUILDING MATERIALS.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on WEDNESDAY, JULY 15th, at TEN for ELEVEN o'clock, the BUILDING MATERIALS, FIXTURES, and FITTINGS of stables at 1 and 2 Mason's-yard, in Jermyn-street, known as Mason's-yard, Jermyn-street; also in Bolsover-street, Wells-street, Jermyn-street, and in Mason's-yard, Piccadilly. May be viewed, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 89, Fore street, E.C.

WALWORTH ROAD.—Extensive Sale of Building Materials.

PULLEN, HORNE, & EVERSFIELD are instructed by the Worshipful Company of Fishmongers to SELL by AUCTION, on the PREMISES, on FRIDAY, JULY 17th, at TWELVE, all the valuable BUILDING MATERIALS of about 25 Dwelling houses, Shops and Premises situate and known as Nos. 1 to 9, of the Walworth road, Prospect row, and Crown square — Ferrl or Turrets in 4 lots; 4 slate tablets (Caledonian quarries) of W. B. TOWSE, Esq.; 4 mahogany Hall, Parlour, and Kitchen doors, Iron Area rails, Iron-bound street; and of PULLEN, HORNE, & EVERSFIELD, 89, Fore street, E.C. and 40, Parliament street, S.W.

Upwards of 11 000 feet super. of Handsome Mahogany, in Forty Lots, and about 300 other lots of Builder's Goods and Stock in general,—To Cabinet, Pianoforte, and Bedstead Makers, Carpenters, and Others

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden terrace, Camden Town, on MONDAY, JULY 13th, at TWELVE for ONE, 2,000 yellow, white, spruce, and pine PLANKS, DEALS, and BATTENS; 300 squares of 1-inch, 1-inch, ¾ inch, and 7-inch prepared yellow and white flooring; 17,750 feet of Hoop iron and nails, 5 forty-light 3-inch sheet casements, 2 ditto 24-light ditto, 3 cast-iron boiler tops, 100 yel low and white deals, cut in various thicknesses; twenty squares of 8-inch-edge and thirty squares of match-board, forty dozen panelled lights, sliding battens, twenty new four-panel doors, &c.—May be viewed the Saturday prior to the Sale and catalogues had on the Premises and of the Auctioneers, 2, Cardington-street, Hampstead-road, London.

IMPORTANT SALE To Builders, Contractors, and Others.—Boston, Lincolnshire.

TO BE SOLD by AUCTION, in the month of JULY next, a valuable FREEHOLD ESTATE, situate in Witham street, in Boston aforesaid, consisting of excellent BUSINESS PREMISES, comprising a newly erected dwelling house, office, large carpenter's and wheelwright's shops, timber, flume, and other sheds, stables, a large yard, and other premises. A very extensive and lucrative business has been carried on the premises for a series of years past, and the same are held on lease for the benefit of Mr. Benjamin Bolt, Builder, deceased, and are now in the occupation of Mr. Bolt's widow. Further particulars may be had on application to Mr. JOHN ANDREW JACKSON, of Boston aforesaid, Estate Manager, and Mr. ROBERT MARSHALL, of the same place, Chemist and Druggist; or at the Offices of Mr. FREDERICK COOKE, Solicitor, Boston.

Boston, June 15 h, 1863

GEORGE MITCHELL'S MARBLE and STONE WORKS WALTON STREET, BROMPTON, S.W.

Notice of PRIVATE SALE.—Veined and Statuary MARBLE CHIMNEY-PIECES, to be sold at very reduced prices (to save the expense of removal to the Metropolis), in the following Marbles, viz.:—Statuary, Rouge Royal, Black and Gold, Black, Sienna, Bardilla, Dove, California, St. Ann's, Rouge Jaspar, Jeune Fleuro, Brocatella, Genoa Green, Irish Green, Blue Belge, Emperor's Red, Irish Fossil, Campane Melange, Vein, Sienna, and Antique Egyptian specimens of British Marbles, varying in price from 12. 10s. to 20l.; and for elegancy of design, workmanship, and quality, not to be surpassed in England. Purchasers to the extent of 50l. or upwards, signed bills of three and four months will be taken, less 2½per cent. Purchasers from the country will be supplied with packing cases and the same packed and delivered to any of the metropolitan stations for 1 per cent. on the amount purchased.

KINGSBURY, Middlesex.—Important and valuable Freehold Estate, situate within six miles of Hyde Park corner, in front of Kilburn Gate, intersected and bounded by good roads, possessing great advantages for building, and offering an exceedingly favourable opportunity for purchasers or speculators.

MESSRS. WEATHERALL & GREEN have received instructions to offer for SALE by AUCTION, at the MART, opposite the Bank of England, on TUESDAY, JULY 7, at ONE o'clock precisely, in one lot, the very valuable and important FREEHOLD ESTATE known as Blacked Hill Farm, beautifully situate at Blacked Hill, about six miles from the Welsh Harp, in the Edgware Road, and two miles from Kilburn Gate, and within easy access of both the Willesden and Sudbury Stations on the London and North-Western Railway. It comprises a comfortable homestead, with farmyard and enclosed by stabbing, cart-lodges, piggeries, barns, and labourers' cottage, together with several enclosures of fine rich dairy and meadow land, in a high state of cultivation, containing upwards of 100 acres. The property has many important and valuable frontages, more especially to the road which runs Willesden-lane, and also to the Kingsbury-lane. It is beautifully timbered, and situate upon the brow of a hill, commanding delightful views of great extent, offering an unusual opportunity for the creation of a gentleman's residence, or addition which its situation with the town, and the extraordinary demand for land in this immediate locality, ensure the certainty of its becoming in a few years, if judiciously sub-divided into lots, one of the most valuable properties in the north-west suburb of London. It has been in the occupation of Mr. William Warner for the last 34 years as yearly tenant, at a very low rental, but it may be fairly estimated to command 350l. per annum.—Particulars, with plans, are now ready, and may be obtained at the Welsh Harp, Edgware Road; at the Auction Mart; of Messrs. ROGER, BEWES, & ROGER, Solicitors, Stonehouse, Devon; of Messrs. BELL, BRODRICK, & BELL, Solicitors, New Church Chambers, E.C.; and of Messrs. WEATHERALL & GREEN, Land Agents, Surveyors, and Auctioneers, 92, Chancery-lane, London

TO BUILDERS, CONTRACTORS, AND OTHERS.—NEARLY NEW SCAFFOLDING, &c.

MESSRS. GLASIER & SON will SELL by AUCTION, on the GROUND at the end of Allen street, Kensington, on THURSDAY, July 9th, at TWELVE for ONE o'clock, in Lots, the valuable SCAFFOLDING, which have just been erected large works in that neighbourhood, the capital nearly new SCAFFOLDING, &c. comprising about 1,000 standard and other poles, 1,000 small battens, 6 double and 30 putlogs, cross, 4 rails, water and wash tubs, wheeling planks, lavvy barrows, pails and jokes, several ladders, mortar-boards, gauging-boards, screws, cords, handle shaves, hand-carpenters' benches, and other effects.—May be viewed the day prior and morning of sale, and catalogues had on the ground; at the Devonshire Arms, Wright's-lane, Kensington; and of CHARLES GLASIER, Chandler's Cottages, and of the Auctioneers, 41, Charing-cross, S.W.

BUILDING MATERIALS.

MR. C. F. SMYRK will SELL by AUCTION, on the PREMISES, facing Palace-court gate, Rye-lane, Peckham, on MONDAY, JULY 6, at TWELVE for ONE, 150 lots of sound useful MATERIALS, including timber, flooring and floor boards, stone paving, fittings and fixtures of every description. Catalogues on the Premises, two days prior; and of Mr. C. F. SMYRK, Auctioneer Surveyor, and Valuer, 18, Newington-place, Kennington-road.

LEYTONSTONE, within five miles of London.—To BRICKMAKERS, CONTRACTORS, BUILDERS, and others. Eighteen Acres of valuable Freehold Land, containing a quantity of excellent brick earth; also a detached Freehold Residence.—

MESSRS. C. C. & T. MOORE will SELL by AUCTION, at the MART, on THURSDAY, JULY 9th, at TWELVE, in Two Lots, TWO PARCELS of FREEHOLD LAND, desirably situate at Harrow green, Leytonstone, with convenient frontage to Harrow green-lane and the turnpike road. One field of fine brick earth, which reduces the land very eligible for brickmaking and building purposes. Also a detached 12 roomed residence situate on the land fronting the high road, opposite the Bell Inn, and a few minutes' walk from the Leytonstone Station, of the Woodford Railway, with stabling, coach house, granary, well stocked orchard and garden, with two lots, Two

The Builder,

Architect, Engineer, Operatives & Artist.

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WILL CLOSE ON THE 25TH INSTANT.

ROYAL ACADEMY of ARTS.—The EXHIBITION of the Royal Academy is OPEN in the day from EIGHT till SEVEN o'clock.—Admission, 1s. Catalogue, 1s. In the evening from Half past SEVEN to Half-past TEN.—Admission, 6d Catalogue, 6d. JOHN PRESCOTT KNIGHT, R.A. Secretary.

INSTITUTE of PAINTERS in WATER COLOURS, founded 1831, as the NEW SOCIETY of PAINTERS in WATER COLOURS.—The ANNUAL EXHIBITION is NOW OPEN. Admission, 1s. Gallery, 53, Pall Mall, opposite Marlborough House. JAMES FAHEY, Secretary.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

PRIZES to ARTIST WORKMEN are now offered. For WOOD CARVING, 20l and 5l: and for COLOURED DECORATION, 5l 5s, and 3l 3s.—Particulars may be had by letter to the Hon. Secretary, at 13, Stratford place, W.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer
JOSEPH CLARKE, Hon. Sec.

THE First Annual PUBLIC MEETING, and DISTRIBUTION of the MEDALS and PRIZES obtained by the Students of the MARYLEBONE and WEST LONDON SCHOOL of ART (1862, Portland road, W.) will take place in the MARYLEBONE COURT HOUSE, Marylebone lane, Oxford street, on TUESDAY Evening, JULY 14th, at EIGHT o'clock.

A. J. B. BERESFORD HOPE, Esq. President of the School, in the Chair.

THE METROPOLITAN BUILDING ACT, 1855. Section 37.—The Institute of British Architects hereby give notice, that an EXAMINATION of PERSONS desirous of obtaining a CERTIFICATE of COMPETENCY to perform the duties of DISTRICT SURVEYOR, will take place at the Rooms of the Institute, No. 9 Conduit street, Hanover square, W. on FRIDAY, the 31st day of JULY, at TEN o'clock in the forenoon. Persons desirous to be examined must give notice before TUESDAY, the 21st day of JULY, send an application, which must be accompanied by a testimonial, according to a form to be previously obtained at the Rooms of the Institute.

JOHN P. SEDDON,
CHAS. FOX-TER HAYWARD, } Hon. Secs.
Conduit street, July 8, 1863.

RESTORATION of the CHURCH of ST. BARTHOLOMEW the GREAT, West Smithfield.

The Rector and Churchwardens invite all interested in this fine Specimen of Norman Architecture to meet in the CHURCH on MONDAY next, JULY 13, at TWO p.m. when Mr. Beresford Hope, Mr. Tite, M.P. Rev. Professor Willis, Mr. J. H. Parker, Rev. T. Rogo, and others, are expected to offer remarks upon the past and present state of the building.

ROYAL MASONIC INSTITUTION for BOYS.—The COMPETITION PLANS and DESIGNS for the New Building will be EXHIBITED at FREEMASONS' HALL, Great Queen street, Lincoln's Inn-fields, from TUESDAY, the 14th, to SATURDAY, JULY 18th, both inclusive. Admission free from Nine a.m. to Eight p.m.

FREDERICK BINGES, Secretary.
Offices: 10a, Great Queen street, W.C. July 6th, 1863.

RAMSGATE.—CHATHAM HOUSE COLLEGE SCHOOL, established sixty years. Terms (an all-round education) 40 guineas. Assistant-masters, graduates of English and Foreign Universities. Youths are prepared for university and other examinations, and for Indian and commercial pursuits. The domestic arrangements insure health and comfort to the scholars. Terms moderate. Principal, the Rev. T. STANTIAL, M.A. Oxon, of whom further information may be obtained.

A PLAN of the Portman Barracks BUILDING SITE may be seen at Mr. BARLOW'S Office, 11, Portman-street, W.

TO BUILDERS.—WANTED, BUILDERS, to build on land close to a railway station, and within three miles of London. Liberal advances made.—Apply by letter to G. B. 6, Windsor-terrace, City-road.

NOTICE.—MESSRS. FREEN & CO. of No. 3, Canal-road, Kingsland road, and Frendsbury, Kent, Roman and Portland Cement and Plaster of Paris Manufacturers and Lime Burners, with a view to meet the requirements of their numerous friends at the West-end of town, intend OPENING a WHARF, on the 1st of August next, at 17, MILLBANK STREET, Westminster, where every description of goods connected with their trade may be obtained. Orders addressed as above will receive prompt attention.

COMPETITIONS.

TO ARCHITECTS and OTHERS. The CHELTENHAM MONTPELLIER GARDENS COMPANY (Limited) have been formed with the object of laying out the MONTPELLIER GARDENS as a place of Public ENTERTAINMENT and Resort, and of ERECTING thereon a BUILDING suitable to these purposes. The Building is required to contain a Hall adapted to Concerts and other Assemblies, capable of receiving from 1,500 to 2,000 persons, and communicating with convenient ante-rooms. It must also contain a Museum, Library, and Lecture-room, and Apartments for a resident Secretary. It is further desired to have Racket-courts adjoining the Building, and an Orchestra in the Gardens. The Grounds, which are nearly nine acres in extent, are rectangular, and bounded on three sides by public roads. They are at present levelled and turfed, but require to be laid out as Pleasure-grounds, due regard being had to the Buildings before mentioned, and to the preservation of spaces for Promenades and Archery, Bowling and Croquet Lawns. The entire outlay should not exceed 6,000l. but a plan which, with a reserve of one-third of this sum, might be carried out progressively hereafter, without meanwhile appearing incomplete, would be preferred. The Directors being now desirous to obtain Plans for carrying out the works, hereby offer 50l. as a first prize, and 20l. as a second prize, for the Plans which, in their opinion, shall be first and second in order of merit. Each set of Plans to be a companied by an Estimate, and those for which the prizes are awarded to become the property of the Company. A Working Survey of the Ground has been prepared, and may be inspected at the Offices of Messrs. WINTER-BOTHAM, BELL, & CO. Cheltenham, the Company's Solicitors, to whom any further inquiries respecting this advertisement may be addressed. The Plans must be distinguished only by a motto, and must be forwarded to the Secretary, in a closed envelope, directed to Sir ALEXANDER RAMSAY, Bart. Chairman of the Company, on or before the 1st day of SEPTEMBER next.—By order of the Board.

Cheltenham, 9th June, 1863. JOSIAH JESSOP, Secretary.

TO ARCHITECTS.—The GUARDIANS of the WEST LONDON UNION, in the City of London, do hereby give notice that they are desirous of receiving, and hereby invite Architects to send in, DESIGNS and PLANS for the ERECTION of a NEW UNION WORKHOUSE up in Pond at Holloway, in the Parish of St. Mary, Islington. Accommodation will be required for 500 persons, male and female. The Guardians will be willing to pay Premiums for three Sets of Plans which shall, in their opinion, best meet their requirements, viz.—for the first, 100l.; for the second, 60l.; and for the third, 40l. The three Sets of Premiated Plans are to become the property of the Guardians, who will not bind themselves to adopt either design, but will be at liberty to modify either premiated design in any way they may think proper; nor will they be bound to employ the Author of either to carry out the work; but, in the event of his being selected for that purpose, the premium to merge in the Architect's Commission. Each Set of Plans must be distinguished by a motto, and accompanied with a sealed envelope, containing the name and address of the Competitor, and having a similar motto to that on the Plan or Design, which envelope will not be opened until after the plans are awarded upon. The Plans, and everything intended to be submitted therewith, must be enclosed in a sealed cover, endorsed "Plan for West London Union Workhouse," and addressed to me at my office, 5, St. Andrew's-court, Holborn, E.C. and delivered on or before the 21st day of AUGUST next. The Guardians will pay to the Architect selected to carry out the Work, a commission of 5 per cent. on the outlay, to include all Plans, Drawings, and specifications, and all attendances necessary to complete the same, and all charges of extras for any description will be allowed. All the Plans and Designs, except the premiated ones, will be returned, carriage free, on application being made to me, accompanied with the corresponding sealed letter unopened; and no further liability by the Guardians, or claims to any remuneration will be allowed in respect of the Plans received beyond the amount of the Premiums herein set forth. The Guardians give notice that economy of structure will be an important consideration in the selection of Designs; and should the lowest Tender to be hereafter received for the erection of the Workhouse buildings and premises exceed in amount by 10 per cent. the Architect's estimate, they will not be bound to use the Designs and Plan, nor to pay any premium for the same.—Plans of the ground, and full particulars and information that may be required, can be had on application at my Office.—By order of the Board,

JOHN PONTIFEX, Clerk to the Guardians.
5, St. Andrew's-court, Holborn, July, 1863.

COUNTY of SOMERSET.—To ARCHITECTS. The Committee appointed by the Court of Quarter Sessions for the County of Somerset, at the last Spring Session, are prepared to receive PLANS and ESTIMATES for the ERECTION of BUILDINGS for MILITIA STORES in the neighbourhood of Bath.—Particulars may be obtained at the Orderly Room of the second Somerset Militia, No. 4, Hempstead street, Bath.

EDWIN LOVELL, Clerk of the Peace.
Wells, Somerset, July 1, 1863.

CONTRACTS.

ATHERSTONE GRAMMAR-SCHOOL.—To BUILDERS.—The TIME for Receiving TENDERS for Works to the above school is EXTENDED from the 10th to the 21st JULY, 1863. ROBERT JENNINGS, Architect.
Atherstone, 8th July, 1863.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of an INFANT SCHOOL and SCHOOL-MISTRESS'S QUARTERS, at Romulus Barracks, in the county of Middlesex.

Persons desiring to Tender for this work must leave their names at this Office, between the 10th and 15th of JULY, 1863 (during the hours 7 ELEVEN a.m. and THREE p.m.) both days inclusive, and pay the sum of half a guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, London District, 11, James-street, Buckingham Gate, S.W. June 23, 1863.

BARTON-UNDER-NEEDWOOD, near BURTON-ON-TRENT.—To BUILDERS. Persons desirous of offering TENDERS for the proposed ENLARGEMENT, RE-SEATING, and other WORKS at the above Church, may see the Plans and Specifications, and obtain further information at our Office, 45, Friar gate, Derby, until the 18th of JULY inclusive, after which no application will be received. The lowest Tender will not necessarily be accepted. STEVENS & ROBINSON, Architects.
June 30, 1863

EXTENSION of STAFFORD COUNTY GAOL.—To BUILDERS and CONTRACTORS.—Parties disposed to TENDER for extensive ADDITIONS to the above building, may inspect the plans, specification, and conditions of contract at my Office, in Stafford, on and after THURSDAY, the 16th day of JULY, until SATURDAY, the 1st day of AUGUST. Bills of quantities will be furnished at a charge of two guineas for each copy, such two guineas being returned to those parties who submit tenders for the works. Tenders, sealed up and properly endorsed, to be delivered at my Office by TEN o'clock a.m. on SATURDAY, the 1st day of AUGUST next. Security will be required for the due performance of the contract, but neither the lowest nor any Tender will be accepted unless satisfactory in all respects.

ROBERT GRIFFITHS, Architect and County Surveyor.
Eastgate street, Stafford, June 24, 1863.

TO BUILDERS. — CHRIST CHURCH PARSONAGE, Blackburn.—Persons desirous of TENDERING for the several TRADES required to erect and ERECT the above, may inspect the drawings and specifications at the Architect's offices, 18, Cooper street, Manchester, from the 13th to the 17th inst. at Christ Church Schools, Blackburn, from the 17th to the 20th instant, both dates inclusive. The Tenders to be addressed to the Rev. R. MOSS, 1, Trinity Church, not later than 6 p.m. on the last date. The lowest Tender not necessarily accepted. N.B. The quantities of each Trade have been taken out, and can be had on application to the Architect.

JAMES STEVENS, Architect.
Manchester, July 11th, 1863.

TO MASONS and PAVIORS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City on TUESDAY, the 21st JULY, 1863, at HALF PAST TWELVE o'clock precisely, to receive TENDERS for RELAYING the CARRIAGE WAY PAVEMENT of LEADENHALL STREET and MANSION HOUSE STREET and RELAYING the FOOTWAYS of FLEET STREET, agreeably to specification to be seen at this Office. Persons tendering are required to give the names and addresses of at least two responsible householders as their sureties to enter into bond with the Contractor for the due performance of the Contract. The Commissioners do not pledge themselves to accept the lowest Tender, or any, unless deemed satisfactory; and no Tender will be received after TWELVE o'clock on the day of treaty.

JOSEPH DAW, Principal Clerk.
Sewers' Office, Guildhall, 7th July, 1863.

LLANELLY MAIN DRAINAGE WORKS.—TOWN DIVISION.—The Llanelly Local Board of Health are prepared to receive TENDERS for the EXCAVATION and CONSTRUCTION of about 4,000 lineal yards of Brick Main SEWERS, and 500 yards of BRANCHES, for the drainage of part of the town; and also for the Construction of the necessary Street Gullies, Manholes, and other WORKS connected therewith, in accordance with Plans and Specifications, which may be seen at the office of Mr. EDWARD BAGOT, C.E. Surveyor to the Board. Sealed Tenders, marked "Drainage Works Contract, No. 1," are requested to be sent in before NINE o'clock on SATURDAY morning, the 25th day of JULY instant, addressed to the Clerk of the Board. It may be observed that the Board do not pledge themselves to accept the lowest or any of the Tenders. By order,

Llanelly, July 4, 1863. FRED L. BROWN, Clerk.

METROPOLITAN BOARD of WORKS. To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give notice, that they will meet at the Office of the Board, Spring gardens, on FRIDAY 24th day of JULY next, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of a GASMETER TESTING HOUSE, STORE ROOM, and LABOURERS' COTTAGE, at Scott Abbott street, Westminster. Parties intending to tender are only to obtain plans, sections, specification, form of Tender, and other particulars, on application to Mr. FURSEY, at the office, Spring gardens, between the hours of NINE a.m. and FOUR p.m. on SATURDAYS between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 23rd of JULY next. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at the office before FOUR o'clock on THURSDAY, the 23rd of JULY next, at the latest, with the envelope indorsed on the face thereof with the parties' names. It must be understood at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the works.

JOHN POLLARD, Clerk of the Board.
Spring gardens, S.W. July 8, 1863.

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a CHAPEL, SCHOOL-ROOMS, &c. at Redruth, in the county of Cornwall may inspect plans and specifications at the Offices of THOMAS SIMPSON, Architect, Nottingham, on and after FRIDAY, the 10th inst. FRIDAY, the 24th day of JUNE; and at the Vestry of the United Methodist Free Church, Redruth, on MONDAY, the 29th day of JUNE, until SATURDAY, the 11th day of JULY, sealed Tenders to be delivered at the Offices of Mr THOMAS ROSKROW, Bookseller, Redruth, not later than the 15th day of JULY, endorsed, "Tender for Chapel." The lowest or any Tender not necessarily accepted.

ABERDEEN WATERWORKS EXTENSION GRAVITATION SUPPLY from CAIRNTON — The Commissioners under "The Aberdeen Police and Waterworks Act, 1862," are prepared to receive TENDERS for CONSTRUCTING and MAINTAINING the requisite WORKS, consisting of the aqueduct (about twenty miles long) for conveying water from the River Dee at Cairnton to Aberdeen, with the reservoirs, filters tanks, conduits, hydraulic engine, cast-iron pipes, wrought-iron tubes, and other appurtenances. The plans and specification of the works, with general conditions of contract, may be seen at the Commissioners' Office, 50, St Nicholas-street, Aberdeen, and sealed Tenders are required to be delivered on or before MONDAY 17th AUGUST, 1863, at TEN o'clock in the forenoon, addressed to "The Commissioners of Police, Aberdeen," marked "Tender for Waterworks." Persons desirous of contracting may submit offers for constructing and maintaining the whole of the works, or any portion or portions, section or sections thereof, as are particularly defined and described on the plans and in the specifications and general conditions. The cost and wrought-iron work forming one of the sections for which a distinct Tender may be made. The Commissioners do not pledge themselves to accept the lowest Tender or Tenders, nor any Tender, unless the same shall be satisfactory in all respects, and the securities approved.
GEORGE MILNE, Clerk of Police.
Aberdeen, 8th July, 1863.

MOUNT PLEASANT WESLEYAN CHAPEL, Thornehills, near Sheffield.—Builders willing to CONTRACT for the above BUILDING may see the plans and specifications on and after JULY 11th, 1863, at Messrs NEWTON, CHAMBERS, & CO.'S Iron-office, Mill and stat on, Shaffield. Tenders, sealed and indorsed to be delivered to the Rev S. H. BURTON, Thornehills, on JULY 25th instant. The lowest or any of the Tenders not necessarily accepted.
JAMES WILSON, F.S.A. Architect.
No 1, Belmont, Bath

TO BUILDERS. — Parties disposed to TENDER for the ERECTION of a DINING and RECREATION HALL, and other Works, at the County Asylum, Stafford, may inspect the Plans, specifications, and conditions of Contract, at my Offices in Stafford on and after SATURDAY, the 18th day of JULY, until SATURDAY, the 25th. Bills of quantities will be prepared and furnished at a charge of 1l. 1s. per copy, which will be returned to all parties who submit Tenders for the works. Sealed Tenders, properly endorsed, must be delivered at my Office, by TEN o'clock, a.m. on MONDAY, the 27th of JULY next, but neither the lowest nor any Tender will be necessarily accepted. Security will be required for the due performance of the works.
ROBT. GRIFFITHS, Architect and County Surveyor.
Eastgate-street, Stafford, 30th June, 1863.

TO BUILDERS and ROAD and DRAINAGE CONTRACTORS — ARTIZANS' MODEL DWELLINGS, West Hill Park, Halifax.—TENDERS are required for the ERECTION of the 15 new HOUSES, and the Fences and Outbuildings connected therewith. Drawings and specification may be seen, and could be had of Contract, may be seen upon application to Mr J. D Taylor, Central Buildings, Halifax, on and after MONDAY, 29th inst. and Tenders must be delivered before SIX o'clock p.m. on MONDAY, 3rd day of AUGUST. Tenders may be for the whole of the Works or in separate trades. Bills of quantities and forms of Tender will be supplied upon payment of 5 shillings. Applicants for the same to be made to Mr TAYLOR on and after 6th inst. No Tender will be received except upon the forms furnished with the quantities. Tenders are required also, for the Formation of Roads and Drainage in connexion with the above and future Dwellings. Drawings and quantities as before
PAULL & AYLIFFE, Architects,
India Buildings, Cross street, Manchester.
Dated 2nd July, 1863

TO BUILDERS, PAVIORS, and OTHERS. The Drapers' Company are desirous to receive PROPOSALS for PAVING, and for SPRINKLING, PAVING, or otherwise treating the PLAYGROUND of a BOYS' SCHOOL, in the Leighton-road of London, having an area of about 2,000 yards. Such proposals with estimates, to be delivered at Drapers' Hall, Throgmorton-street, E.C. on the 15th day of JULY inst. Further particulars and plans of the ground, may be seen at Drapers' Hall, or at the Office of HERBERT WILLIAMS, Esq. Architect, 32, Old Broad-street, E.C.

WANTED, DOMESTIC FILTERS.
Persons desirous of supplying the above are invited to send TENDERS to BALDWIN CRAHAM, 1 Kew-terrace, Ely, Cambridgeshire, on or before the 25th day of JULY, stating price, description, area and thickness of filtering medium, mode of cleaning, quantity of water capable of being passed in 24 hours, together with reference to persons who have the same in use.
Ely, 9th July, 1863.

TO BUILDERS.—Persons willing to CONTRACT with the Justices of the County of Kent, for the ERECTION of a POLICE STATION, at Charlton, in Greenwich parish and special district, at the Office of the County Surveyor, Maidstone, any day except Saturday, between the hours of TEN and FIVE. The work is to be divided for agreement into Form or Tender, to be obtained at the County Surveyor's Office, where Model Ground-plan, endorsed "Tender for Charlton Police Station," are to be delivered by NINE o'clock, a.m. on MONDAY, the 27th instant, at which persons tendering are to be in attendance at the County Surveyor's Office, Maidstone, at HALF-PAST TWELVE o'clock on that day. Neither the lowest nor any other Tender will be accepted unless approved of in all particulars, and security will be required for the proper performance of the Contract.
H. A. WILDES, Clerk of the Peace.
Maidstone, July 10, 1863.

TO SEWER CONTRACTORS and BUILDERS. The Vestry of the Parish of Chelsea will meet at the Board Room, at the Vestry Hall, Kings-road, on TUESDAY, the 21st day of JULY instant, at THREE o'clock in the afternoon precisely, for opening TENDERS from persons willing to CONTRACT for the CONSTRUCTION, in Arthur-street, of about 250 Feet run of BRICK SEWER, 3 feet 9 inches high, 2 feet 6 inches wide, and one Brick thick; and other Works, according to a specification and drawing, which may be seen at the Office daily between the hours of TEN and FOUR. Parties Tendering must appear personally or the day the Tenders are opened. The expense of the Contract to be paid by the Contractor, upon the execution of the same. Sealed Tenders, signed by the proposed Contractor, with the names and description of two sufficient sureties for the performance of his Contract, are to be left at the said Office before TWELVE o'clock on the said 21st inst. The Vestry do not bind themselves to accept any Tender.
By order,
CHARLES LARKE, Vestry Clerk.
Vestry Hall, King's-road, Chelsea, July, 1863.

COLSTON'S HALL, BRISTOL. — To BUILDERS. The Directors of the Colston's Hall Company, Limited, are desirous of receiving TENDERS for the WORKS required in the ERECTION of their proposed BUILDING, which embraces an area of about 18,000 superficial feet, with terrace ranges of 100 feet and 150 feet respectively. The materials will be taken out by the Architects, at the expense of the Company, and will be supplied, free of charge, to such of the competing tradesmen as are desirous of availing themselves of them. Parties willing to contract for the whole or any branch of the works are requested to forward their names to the Architects, on or before the 14th instant, and to state what branches of the work they propose tendering for, and whether any, or which, bills of quantities will be required by them. The Directors will not pledge themselves to accept the lowest or any other Tender.
FOSTERS & WOOD, Architects.
6, Park-street, Bristol, July 1, 1863.

TO CLOCK-MAKERS. — Birkenhead Cemetery.—The Birkenhead Improvement Commissioners are prepared to receive TENDERS from parties willing to CONTRACT for the FORMATION and COMPLETION of a proposed ROAD and other works now or hereafter therewith, near the Roxborough Turnpike Gate, and within their district, according to the plan and specification which may be seen at the house of Mr WM SMITH Surveyor to the Board, West street, Harrow. The Board do not bind themselves to accept the lowest or any Tender. Tenders to be sent in to me on or before SATURDAY, the 25th instant, endorsed, "Tender for new Road."—By order of the Board,
Harrow, July 7, 1863. WM WINKLEY, Clerk.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
Also Manufacturers of the Patent India rubber Knife-boards, Cocoa nut Fibre Door Mats, Matting, &c.
T. KENT and CROWDEN & GARROD, are stamped on the Brushes.

STAINING DEAL TO IMITATE ALL KINDS of WOODS It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Tint, 5s. per gallon; Dark Oak, 6s. per gallon; Mahogany, 8s.; Rosewood, 8s.; Walnut, 8s. Varnishes for NAYLOR'S stains may be had at the Factory, No. 4a, James street, Oxford street; also Manufacturer of Improved Knotting and Decorative Varnishes.

STEPHENS'S STAINS for WOOD, A SUBSTITUTE for PAINT, and at HALF the COST
Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev B. H CHICHESTER, of Chatsworth, near South Molton:—
"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, to render the inside the church."
H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

THE ANCHOR BRANDED TURPS.—
"FACTS ARE STUBBORN THINGS."



Ten Thousand Gallons of this TURPS have been sold during the first three months of its introduction to the trade.
Manufactured only by CARLESS, BLAGDEN, & CO. HOPE CHEMICAL WORKS, Hackney Wick, N.E.
City Office, 2, New London street, near the Blackwall Railway Terminus, E.C. where samples and all particulars may be had.
Sold by all Oilmen
N.B.—Ask for the "Anchor Branded Turps."

PRIZE MEDAL, 1862.
HAMILTON & CO.
No. 10, GREEK STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graners' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c are supplied on the lowest terms. Price Lists forwarded on application.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very easily used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his interest would not be without them. Specimens will be sent upon the receipt of a stamped directed envelope addressed to T KERSHAW, Patent Graining Tool Manufacturer, 83, High-street, Marylebone, London, W.
N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post office order for 22s.

KENT'S PAINTING BRUSHES are as stamped G. B. KENT & CO.
And are manufactured solely by G B KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

TO PREVENT BLISTERS, AND REMOVE OLD PAINT, VARNISH, &c.
USE NAEMARE & CO'S LETHICUM. Sold at 5s. per gallon Also, Brushes to apply and remove, 5s. per pair.—For circulars, &c. apply at 11, St Andrew's-hill, E.C London Sucess guaranteed.
N.B. Country orders must contain a Cheque or Post office Order.

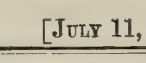
IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 9d per Gallon; Boiled Oil, 4s per Gallon.
Turpentine, 8s. per Gallon.
Fine Pale Oil, 5s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Rosoy Street, near 45, Cubitt-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

TURPENTINE.
GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour
Sample gallons may be obtained at the Manufacturers', price 4s.
GARROD & COMPANY,
Varnish, White Lead and Colour Manufacturers,
75, Upper Thames street, London, E.C.

NOTICE.—For Church Work, Libraries, Halls School, Offices, Railway and all Public Buildings.—IMPORTANT to BUILDERS.—MEAD'S PATENT ROYAL OAK STAIN, to be had of J. J. HOGG, 3, Brunswick place, City-road, and at the Works, Acton, Essex. 8s. per gallon. Post orders will have best attention and object. Those who have not yet used the above should do so, the improvement is great and far surpasses anything else ever seen, the effect being very superior, giving a rich, mellow, finish to the work, entirely surpassing paint, it therefore merits special attention from the Trade. See also MEAD'S PATENT SATIN WOOD, MAHOGANY, WAINSCOT, WALNUT, which are highly valued by Furniture and Fixture Workers.

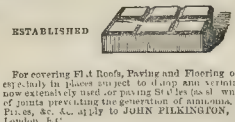
DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving public notice to follow a letter from SIR RAYMOND JARVIS Bart VENTNOR, ISLE of WIGHT—Sept 3rd Instant.—"Mary Jane, 1862.—In reply to your letter of the 1st instant, respecting the Gutta Percha Tubing for Pump Service, I am satisfied with its action, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least appearance of the pipe giving down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here"
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

POLONCEAU and LIMMER ASPHALTE.
ESTABLISHED 1838



For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as at Windsor), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. apply to JOHN DARLINGTON, 15, Park street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Floorings, Barn Floors, &c. with instructions to lay it down.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS) 17, Union street, and 103, Great Guildford street, Borough, S.E. Inventor of the Rotary Shop Front, Patentee of the Tubular Railings new Compensating Girder Truss, &c. &c.
GENERAL IRON FOUNDERS,
MERCHANTS, and PATTERN MAKERS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

THE INTERNATIONAL EXHIBITION PRIZE MEDAL, AWARDED 1862.
ESTABLISHED 1744.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently can not give so much satisfaction to the consumer.
They can be obtained of all Ironmakers, Ironmongers, Merchants, Packers, and Wholesale Houses, in Town and Country.

PATENT ASPHALTE CALDRON, for laying Asphalte floors. They are highly recommended by the Royal Agricultural Society. The cheapest and best kind of floor. Impervious to wet, and vermin will not touch it.—Full particulars sent free by
WOODS & COCKSEDGE,
IRONFOUNDERS, STOWMARKET.

IRON CASTINGS. — Wrought and Cast Iron Girders, Fittings, and Tanks, Iron Roofing, and every description of Smith and Founder's Work. Estimates given.
WILLIAM HOOD,
RAILWAY FOUNDRY, READING.

TEA LEAD for INDIA, CHINA, and JAPAN.—For Lining Tea Chests.—WINKHURST'S PATENT METAL FOIL and SHEET METAL COMPANY (Limited), having a considerable portion of the shipments of various kinds of Tea Lead to India China, and Japan, have ascertained the precise description of Lead best suited for these markets, and having recently purchased their Steam Power and Machinery, now call the attention of Merchants, Shippers, Tea-Growers, and others, to this Article as manufactured by them. The Tea Lead now manufactured by that Company is finished by the addition of a New Process, which imparts to it a great stiffness and much increased tenacity, and such a permanent brilliancy of finish as it has hitherto been found impossible to attain by any other method of manufacture. Prices and full particulars may be obtained on application at the Company's Offices, 20, Cannon-street, London, E.C.

PATENT METAL FOILS and CAPSULES. WINKHURST'S PATENT METAL FOIL and SHEET METAL COMPANY (Limited), are now manufacturing Foils and Capsules from Metal coated with Tin by Fuson, Under "Kinder's Patent." Processes, which has been recently secured by them These articles will be found to be in quality quite equal to, and much cheaper than, the same class of articles hitherto produced under any other process. Prices and full particulars may be obtained on application at the Company's Offices, 20, Cannon-street, London, E.C.

ROOFING for BUILDINGS. — Light Durable, and Economical Roofing Felt thereby superseded. WINKHURST'S PATENT METAL FOIL and SHEET METAL COMPANY (Limited) are now manufacturing, by their recently Patented Process, a new description of Sheet Metal, which is quite as pliable and as easily worked as Felt, and will last very much longer. The Sheet Metal not being so liable to deterioration by atmospheric influences, requires little or no supervision. Another very important recommendation in favour of the use of this article is that, after having served its purpose, the Sheet-brief of its original cost may be obtained by its sale as old metal. Prices and full particulars may be obtained on application at the Company's Offices, 20, Cannon-street, London, E.C.

TO BE SOLD, together or separately, TWO powerful STEAM DREDGING MACHINES, in excellent working condition: also a few HOPPER BARGES.—For particulars address letters to view, apply to Mr. BOWDLER, Engineer, Russell place, Shooter's-hill road, Blackheath, S.E.

WANTED, a Second-hand One or Two Horse Power STEAM ENGINE, with Tubular Boiler complete, in good working order, with a Band Wheel, portable or fix. Address, stating lowest price, to Mr. G. SIEP, Builder, 46, Holywell street, Strand, W.C.

STEAM ENGINE.—For SALE (cheap), a excellent ENGINE, in good working order 8 horse power.—To be seen on the premises, No. 2, Cloth street, Long-lane, Smithfield.

CHAPLIN'S PATENT PORTABLE STEAM-ENGINES AND BOILERS.

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.



Stationary Engine. From 1 to 30 horse power. | Portable Hoist. 1 to 30 horse power. | Steam Crane.* 30 cwt. to 10 tons. | Engine & Crane. 2 to 25 horse power. | Contractor's Locomo. 6 to 27 horse power. | Traction Engine. 6 to 27 horse power. | Ships' Engine. Winding and Cooking.

* These Cranes were selected by Her Majesty's Commissioners to receive and deposit the heavy machinery in the International Exhibition.

Full particulars and Prices for Delivery in Glasgow or London, on application to

ALEXANDER CHAPLIN & CO. PATENTEES & SOLE MANUFACTURERS,

CRANSTON-HILL ENGINE WORKS, GLASGOW;

LONDON—OFFICE, 9, ADAM STREET, ADELPHI, W.C.; DEPOT AND WHARF, LOWER FORE STREET, NEAR STEAM-BOAT PIER, LAMBETH.
Parties are cautioned against using or purchasing imitations or infringements of these Patent Manufactures.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



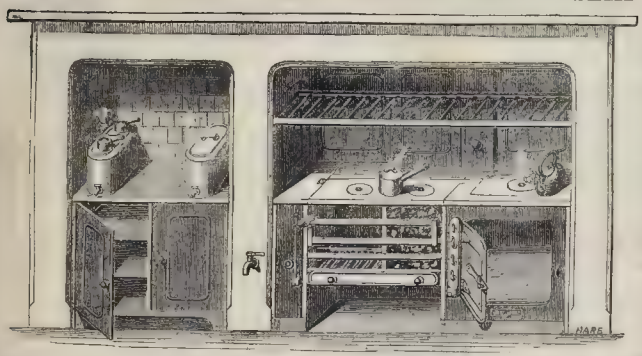
CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

CUNDY'S

PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

WILLIAM ADDIS,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

6, 7, and 15, LEICESTER STREET, LEICESTER SQUARE,

Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

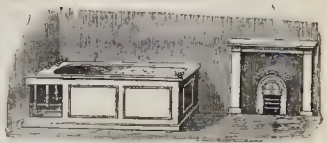
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

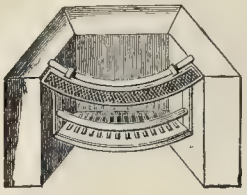
J. TYLOR & SONS' PATENT BATH APPARATUS.

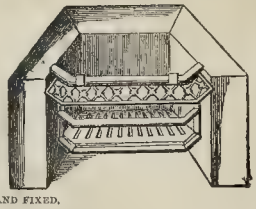


The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.
Estimates given from architects' drawings, or by inspection of buildings.
Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

FIRE-LUMP STOVES,

FOR BED-ROOMS, COTTAGES, SERVANTS' OFFICES, BARRACKS, SCHOOL-ROOMS, WAREHOUSES, CHARITABLE INSTITUTIONS, &c.





				s.	d.		s.	d.
18 inches wide, 10 inch bars			.....	7	6	.....	8	6
21	,,	12	,, ...	10	6	.....	12	0
24	,,	15	,, ...	13	0	.....	15	0
27	,,	18	,, ...	16	0	.....	18	0
30	,,	21	,, ...	20	0	.....	—	
36	,,	24	,, ...	30	0	} Extra strong.		
33	,,	27	,, ...	36	0			
42	,,	30	,, ...	42	0			

With hanging trivet.

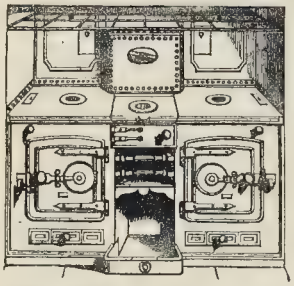
These Stoves give a considerable heat with a small consumption of coal.

EDWARDS & SON,

STOVE GRATE & KITCHEN RANGE MANUFACTURERS,

No. 49, GREAT MARLBOROUGH STREET, REGENT STREET, LONDON.

MARBLE OR STONE FENDERS, WITH METAL FITTINGS AND TILE HEARTHS COMPLETE, SUPPLIED AND FIXED.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces, from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth-plates.

WILLIAM S. BURTON, GENERAL FURNISHING IRONMONGER,

BY APPOINTMENT TO H.R.H. THE PRINCE OF WALES,

Sends a Catalogue, gratis, and post-paid. It contains upwards of 500 illustrations of his illimited stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.



BURT & POTTS'

PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,

FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.

38 & 65, YORK-STREET, WESTMINSTER.

W. HARMER & SON,

BUILDERS' IRONMONGERS, AND SMITHS, STOVE AND KITCHEN RANGE MANUFACTURERS, IRON AND ZINC MERCHANTS.

WROUGHT IRON FLITCHES and CAST IRON GIRDERS and COLUMNS to Order.

WROUGHT IRON TUBE and FITTINGS for GAS or WATER.

CARPENTERS' TOOLS of the Best Quality. A Reduced LIST of PRICES upon application.

W. HARMER & SON,

3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.

ESTABLISHED 1817.



PATENT CLIMAX DOOR SPRINGS,

FOR SINGLE AND DOUBLE-ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,

GOTHIC, DROP, AND OTHER DOOR HANDLES.





PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,

BRASS AND IRON LOCKS OF EVERY DESCRIPTION.





Builders', Cabinet, and Ship Brass Founders.

WILLIAM GREENWAY & CO.

MANUFACTURERS, BIRMINGHAM.

CASTINGS AND WROUGHT IRONWORK

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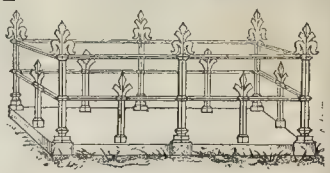


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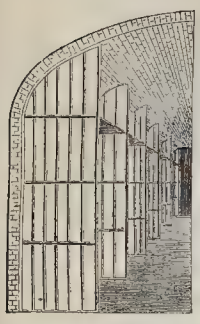
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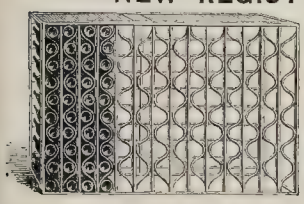
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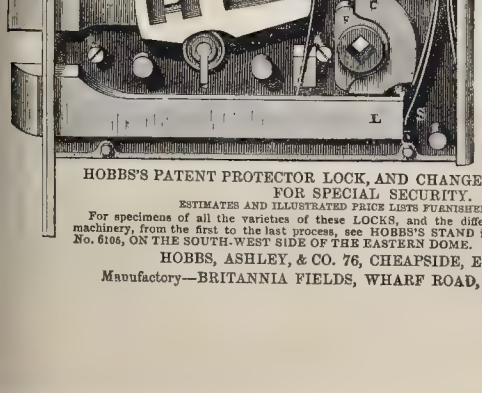
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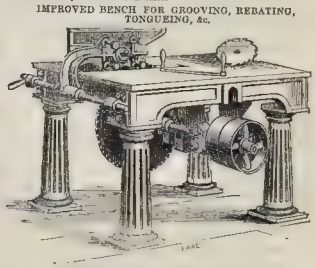
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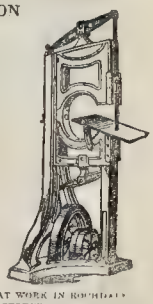
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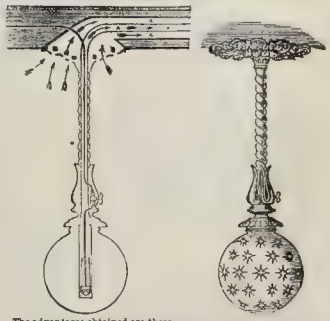
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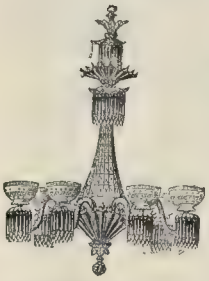
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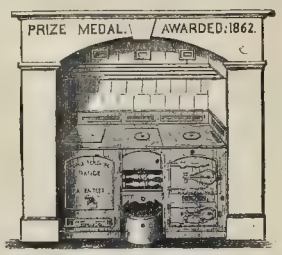
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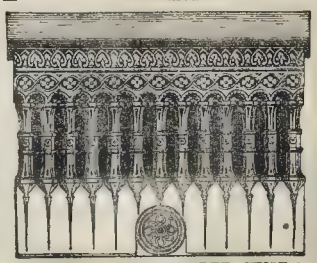
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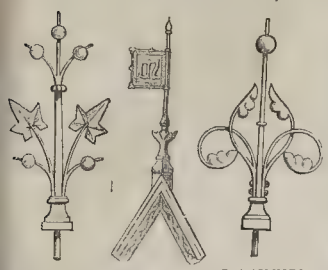


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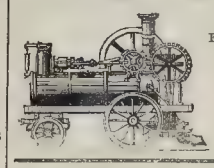
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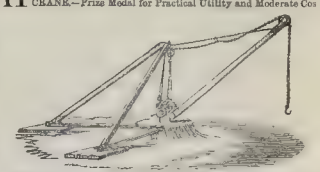
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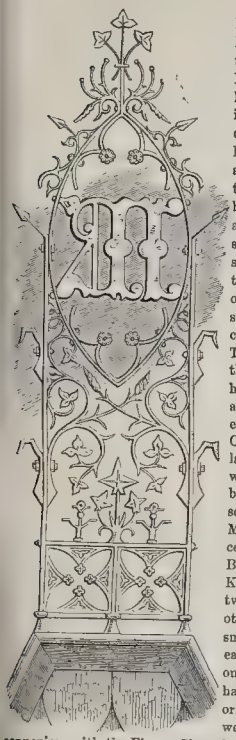
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VOL. XXI.—No. 1066.

The Dead and the Living in Bloomsbury.



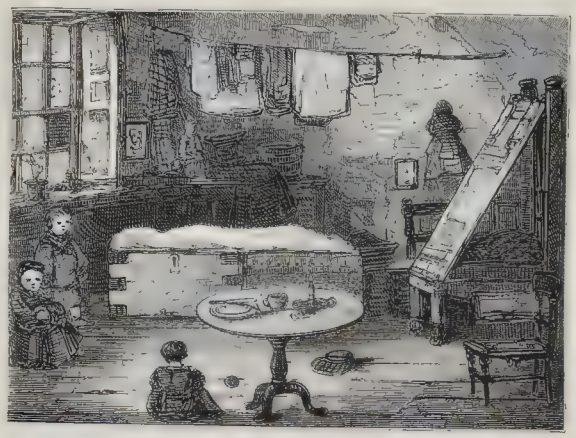
R. HADDEN PARKES and the Rector of Bloomsbury have been striving, by the offer of prizes for keeping clean and tidy rooms, to induce good habits and some attention to sanitary provisions amongst the inhabitants of Little Coram-street and the courts adjacent. The result of the experiment has more than answered their expectations. On Wednesday last the prizes were distributed in Russell-square, when Mrs. Duncan received 2*l.*, Mrs. Bailey 1*l.*, Mrs. Kean 1*l.*, and twenty-eight other persons smaller sums each, although only four prizes had been offered originally. These were given in connexion with the Flower Show for the Working Classes established in Bloomsbury, the good results of which we have before now commented on. The show was an improvement on any of its predecessors, and included, beyond the ordinary flowers of the month, some "exhibits" with a touch of poetry in them: for example, St. John's Bread or Locust-tree, from a seed; a small cherry-tree from a stone; and "Window Balm from the workhouse." Touching the "tidy-room" premiums, it is not very satisfactory to think that people must be bribed to keep their home decent; but we must take things as we find them, and act accordingly. The prizes are addressed to the very poor, and the weekly inspection consequent on competing affords an opportunity to Mr. Parkes (and is not neglected) to convey some little information on social and sanitary matters.

Let us see what evidence we can give of the need of sanitary knowledge in this neighbourhood, not merely on the part of the poor inhabitants, but on the part of those who have authority.

Leading westward from Brunswick-square, there is a long and curiously constructed row of houses, for the most part let in tenements, and occupied by a dense population. It is known as the Colonnade. The front of the houses is supported by pillars, on the ground-floor, and there is a covered way beneath, 5 feet or 6 feet in width, which is raised several feet from the ground. The general arrangement resembles that of the well-known rows at Chester. On a line with the pillars, and almost even with the ground, there are numerous windows of apartments which, for about half their height, are below the surface. Stretching from one end of the Colonnade to the other, there are small shops, several of which are occupied by shoemakers, tailors, furniture-makers, marine-store dealers, and others. There are also to be noted several chandlers' shops and bakers' shops; and at a first glance it surprises that they all manage to find customers, for the footpath is but little used as a thoroughfare, and the shopkeepers must depend mainly upon the local population for support. After examining the houses, however, the surprise is lessened, for we learn that in nearly all of them there are families in every room, and in most of these habitations there are six rooms, besides the front and back shops, and the underground apartments to which we have alluded. Some years since several of the last-named rooms were occupied by families, but now they seem to be chiefly used as washhouses and workshops by persons of different trades. In front of the Colonnade there is a paved carriageway, with stables, coachhouses, and other buildings opposite, which by their dwarfed proportions, form a contrast with the tall houses of the adjoining street. Three archways lead to this place, one from Brunswick-square, and the other two at the western end. In every other direction the Colonnade is enclosed by lofty houses.

Several years ago we gave some account of this settlement, and then the drainage was very deficient: we are told that this has since been improved. Even if this be so to a proper extent there is still in the overcrowding of these tenements, and the small size and imperfect ventilation of the rooms and staircases, a proximate cause of much preventible disease. Of late smallpox has been prevalent, and from time to time there has been a great number of fever cases. Smallpox, at the recent visitation, had not been very fatal here, but we were informed that at the time of our visit there was a young woman lying dead from the effects of this disease in the house No. 7, which is situate near the Brunswick-square end of the row. Great excitement seemed to prevail in consequence of the father of the girl being too poor to provide money to bury her. The death took place on the Wednesday; and in the middle of the following Saturday, notwithstanding that application had been made to the authorities of St. Pancras Workhouse, the body had not been removed. So great is the danger of leaving the remains of the dead in the midst of the living, and so great the necessity for obtaining change in this unwholesome and revolting custom, that we will endeavour to describe as plainly as possible what was found in this house of death.

No. 7 is a double house, including ten rooms upstairs above the shops; and we were informed that in these there lived twelve families; so that there were more than one family for each room. A small crowd of anxious women and children was assembled round the doorway: in a small yard at the back, and close to the door of the general staircase was an uncovered dustheap, which was evidently neglected by the scavengers: the closet was untrapped and without water-supply, and was most offensive—a certain consequence where many people live in the same house and the water is not properly arranged. In the cellar there was a lead cistern: the place, having been used for washing, was neglected and filthy. The dead girl lay in a room at the top of the house; and, as the writer ascended the narrow and inconvenient staircase, door after door opened, and the women and the children stood in groups, thinking that the stranger had, perhaps, come to make arrangements in connexion with the removal of the corpse. On reaching the room it was found to be of very small dimensions, and that it was occupied by six living persons besides the dead body. The width of the room might be almost spanned by stretching out the arms; and the length was not more than 9 feet. Lying partly in one box, which had no lid, and on another, was an object entirely wrapped in a half-dirty sheet. The sunlight gleamed upon the bundle through the little window; and, knowing this must be the remains of the girl, it arrested our attention. "That, sir," said the father, pointing towards it, "is my poor daughter. You see that six of us sleep and live in this room, and the body has for two days past been going to decay." We will spare our readers some further observations that followed. There was but one bedstead in the room for the whole of the living part of the family. This was one of the bedsteads which are much in use in apartments where space is limited. They can be turned up during the daytime, and at night they are let down. In the present instance, when the bed was made, it would cover the greater part of the floor, and be close against the boxes on which the decaying body was placed. We have sad memories of other London scenes, but not of many more shocking than this. The father, a decent-looking and civil man, mentioned his destitute condition. For the sake of his children and the neighbours he had a dread of allowing the body to remain uncoffined until another day. He was accordingly aided in an application to the neighbouring police magistrate, who kindly gave prompt orders for the immediate removal of the poor girl. It is, however, but right to state, that the entire blame of this matter did not altogether rest with the workhouse officials. Nor does it seem that the death



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of the girl, who was about seventeen years of age, was to be attributed to smallpox, although she died after an illness of about a week. The father says that his daughter died on the Wednesday: then he had to get a certificate of the cause of death from the surgeon who had attended the case; and then to obtain a certificate for the burial from the registrar, and that this latter was not received until Thursday. In the hope, as we believe, of getting the funeral arranged in some way without the aid of the parish, this certificate was not delivered at the workhouse until Friday. Such delay is to be regretted, and we particularly refer to it, for similar causes lead to a considerable amount of mischief in the crowded dwellings of the London poor. There was, however, sufficient time on the Friday to have had the body removed; and up to the middle of the day on Saturday no one seems to have been from the workhouse for the purpose of making the inquiry which is usual before a coffin is supplied to those who are so unfortunate as to need this kind of assistance.

There appears also to be some care required respecting the dating of the funeral certificate, if, as we are told, the certificate by the registrar, which permits a burial to take place, is dated on the day when the undertaker or relative applies, and does not bear upon it the exact day of the death as returned by the medical attendant.

In this case the father took the certificate, which did not state the true date of the death, to the workhouse, where he had no opportunity of giving much explanation of the need for immediate action, as a little grated opening in the door was the only means of passing the paper to the authorities. There is a great reform needed in the management of the workhouse door: here there should be persons of intelligence, civility, and humanity: instead, it seems to be the present plan to place persons in this important position who are unfitted for the duty.

We have spoken at some length of this case of the neglect of burial, with a view to obtaining the timely removal of the dead from the bed-side and the close neighbourhood of the humble table and scantily furnished cupboard of living people. It has been a painful task, but the story tends to show the crying necessity there is, in the immense and daily increasing population of the metropolis, for a change in funeral arrangements in the overcrowded dwellings in which so many thousands are forced to struggle for existence.

Many of the poor Irish are difficult to deal with in this respect; but even in that portion of the London population there is improvement to be noted; and amongst others the change is more marked. No doubt much of this good has been wrought by the example which has been set by the higher and middle classes of the community in the beneficial practice of the early interment of the dead. The great masses of the poor, however, require to be educated on this point: prejudices need to be removed; but, above all, we require facilities which are not now to be found, for the temporary reception of the dead, so that they may be removed with decency from the crowded rooms in which they lie. It is not only for the very poor that such accommodation is wanted, but there are thousands of respectable mechanics who do not need, and who would scorn to ask for, parochial assistance; who are obliged to wait for the payment of club-money, in case of a death in the family; and who, if they knew it was to be had at a convenient distance, and for a moderate payment, would be glad to have their dead taken away in proper time. There is now accommodation of this kind in connexion with the Great Northern Railway, and in the Borough in connexion with the Woking Cemetery. We believe, however, that the nature of the provision is not generally understood. There must be great changes made in these matters, and it would be well if clergymen, missionaries, medical officers, and others who move amongst the poor were to direct particular attention to this subject.

It is very disheartening to note the slow progress of necessary sanitary improvements, and how persistently arrangements which destroy health and life are continued. Years since, the wilful murder which was perpetrated in the establishments of several of the most fashionable of the West-end milliners and dress-makers was brought into notice; and, urged by the strong statements of the Press, and by the fierce expressions of public opinion, efforts were made to shorten the hours of female labour, and in other ways improve the condition of the young girls and women who were employed in preparing the adornments which fashion demands. Meetings of known ladies were held, and such resolutions were passed that some thought an end had been put to the disgrace of providing garments for display by the sacrifice of health and life. A ladies' league was formed, the members of which engaged to refuse to deal with any court dress-makers who kept the members of their establishments at work beyond a reasonable number of hours in each day. Some good was done by this movement: certain of the tradespeople reformed their plans; and a few have continued to adhere to their right and honest resolution.

But the wheel of fashion whirled round, and stopped at new places. Many ladies forgot their good determination: some, we believe, forgot the workpeople altogether; and, for the most part, matters now are nearly as bad, and in some instances worse than they have ever been. We have often directed attention to these evils; and from time to time there have been accounts of suffering in such establishments which have caused sensation for a short time, but all was soon again forgotten; and we have no hesitation in stating that during the four months or so which make a London season, hundreds of young girls are ruined in health, and many are laid in untimely graves. The public do not, however, hear of these cases; for when no longer able to work, those who are fortunate enough to have homes retire to them, and others find shelter in hospitals and workhouses. Coroners' inquests are not held on the bodies of those who have, nevertheless, been done to death.

The recent case of Mary Anne Walkley, in Regent-street, has again awakened attention to this subject. A female who has suffered—an orphan—who was obliged to seek employment in one of these establishments, says that a bell rang every morning at six, and in a quarter of an hour after all were expected to be at their posts. At eight o'clock the bell called all the workers into the kitchen, where coffee was already poured out, and two thick slices of bread and butter prepared for each: when these were swallowed the girls returned to work until one o'clock, when again the bell rang for dinner, which was ready on each plate to be eaten as rapidly as possible. This meal consisted of two thin slices of meat and two or three potatoes. Tea and two slices of bread and butter at five o'clock; at nine bread and cheese, and a small mug of table-beer; and then to work every night until after twelve, excepting Saturday night, when they left off, as twelve o'clock ushered in the Sabbath. After working all night, says this authority, "I have several times been carried fainting from the room from sheer exhaustion, and have seen as many as three of my companions drop from their seats in one evening." The food was good, but insufficient, and many complained of hunger: they "never saw the street-door but once a-week, so had no chance to get anything to eat out of doors." Another retired dress-maker says that she has worked from four o'clock a.m. till half-past ten o'clock p.m.—eighteen hours and a half—in a small hot room; and has seen the candles carried into the workroom, to be ready for the next morning's work, at half-past one a.m. Life in our workhouses and prisons is preferable to this terrible labour. No wonder sickness and death should come, and that on the Sunday's holiday young girls—tired, irritated, and ill fed—should be tempted into evil courses.

The law has thrown its protection over factory girls, and we are no longer disgraced by allowing the labour of women and girls in coal-pits and mines. It is quite time that some means should be used to prevent unnatural and killing labour in the metropolitan workrooms. In 1842, the Earl of Shaftesbury endeavoured to legislate on this subject, but his Bill was lost. It was too bad, said his lordship recently, without going into the question of the hours of labour, to find, as the inquest had proved, that young persons were kept at work from six o'clock in the morning until eleven at night. They found in many of those working-places cruelties were practised on young women that might gratify the heart of even General Butler in New Orleans. He asked if the Government would adopt the same legal regulations for ventilation and cleanliness in milliners' and dressmakers' workshops as they had already adopted in the case of the bakers? The numbers were about the same: the bakers, 12,000; milliners and dressmakers, about 15,000. Seemingly nothing could be more reasonable than this, but Earl de Grey and Ripon, on the part of the Government, made objection to it, and suggested difficulties. There always have been difficulties in the way of making improvement. It was said that a law for regulating employment in mines was impossible. It was the same in connexion with Lord Shaftesbury's Factory Act; the Smoke Prevention Act; the Common Lodging-house Act, and many other alterations which are now easily carried out, and which have proved of the greatest advantage to the community; and we see no reason why care should not be taken in connexion with the workrooms of the metropolis and other large towns in which more than a certain number of persons are employed; and it must not be forgotten that, not only the workrooms of the artificial flower makers,* but many of the other work-places in which there are large numbers of girls, women, and others pent up for long hours together, are dangerously overcrowded, and prejudicial to health and life. In connexion with the discussion as to Mary Anne Walkley, the Home Secretary was of opinion that the death of the poor girl was accelerated by long hours of work and insufficient ventilation, and that there could be no question it was very desirable, if possible, to establish by law regulations that might prevent the occurrence of such evils as this case brought to light; but he was not prepared to say that it would be possible to establish a general system of registration and inspection with respect to such employments, they being frequently carried on in private houses. We differ in our view of this subject from the Home Secretary; and this opinion is founded on long and careful inquiry. We have seen with our own eyes the extent to which overcrowding and bad ventilation exist in many parts of the metropolis, and feel sure that, if the greatness of the evil were made generally known, the present state of things would not be much longer allowed. As regards work-rooms, and the bed-rooms and eating-rooms connected with them, a proper allowance of space and good ventilation would be beneficial to the employers as well as to those who are employed.

The attempt in Bloomsbury to get "tidy rooms," and flowers in the windows, has our best wishes.

THE EXHIBITION GALLERIES.

EVERY one knows by this time that the House of Commons, on Thursday, July 2nd, refused the vote of 105,000*l.* asked for by the Chancellor of the Exchequer for the purchase of the Exhibition Building and preliminary adaptations, by 287 to 121, amidst excitement and uproar scarcely to be paralleled in the recollection of any in the House; excitement altogether uncalled for, most unseemly, and not easy of explanation.

The Government appear to have fallen upon the same course that we suggested; and proposed to perfect and appropriate the picture galleries, and to make use of the rest of the building for a time only and without any expenditure upon it.

> We propose, said the Chancellor of the Exchequer, to proceed on the presumption that the galleries are to be preserved, and the northern façade, towards the Horticultural Gardens, is in some manner or other to be preserved, subject to future consideration; and that we may proceed with the 2½ acres for the purposes of the British Museum. The effect of that will be that we give over to the future the domes: we give over to the future 19½ acres of ground. We ask authority to proceed on 4½ acres of ground. I need not refer again to those general statements made on a former night. They were statements we thought ourselves bound to submit with regard to the building as a whole. We could not then enter into details. You now understand within what limits we ask you to give us possession of the building. I will now state the finance of the case with something approaching perfect precision for the proposal I make. By this means we get rid of all matters of dispute. I make a debtor and creditor account. We have to pay 120,000*l.* for the land, and for buildings, on a portion of it, which cost 30,000*l.* We have to pay the contractors 80,000*l.*

However, as we have said, the House would not assent, and would have made strangers believe, in negativing the resolution, they were saving their country from some dreadful gunpowder-plot intended to destroy Queen, Lords, and Commons, and their little ones. Some voted against it because they wanted to embarrass the Government; some because they thought it "a Court job," whatever that may mean; some because they did not like the "Department of Art," which has managed just now to bring a good deal of abuse on its head; and many because the building is unquestionably unsatisfactory in many respects;—and thus came the overwhelming result.

The Council of the Institute of Architects made a report upon the structure, ending with the expression of their opinion that it was "the duty of the Institute to petition Parliament against the proposed scheme for the purchase and reparation of the building, as a transaction impracticable in itself (?) and fraught with unprecedented probabilities of discredit and disappointment;" and a petition was accordingly presented, and was, of course, and quite legitimately, well worked by those who

* See *Builder*, vol. xx. p. 457, for some illustrations.

opposed the vote. The block plan accompanying the report of the council shows the following figures:—

"*Notes of Estimate per Acre.*—The cost of a plain substantial public building in London is *per acre* about 100,000*l.* Estimates quoted by Lord Palmerston for an extension of the British Museum, 113,000*l.*, 103,000*l.*, 100,000*l.*; estimate quoted by his lordship for a patent museum (probably a substantial shed), 33,300*l.*; cost of the International Exhibition Building (as a temporary shed), 18,800*l.*; price now asked for it as dilapidated, 4,850*l.*; proposed outlay, chiefly in reconstruction, 17,200*l.* (being nearly equal to the full original cost); allow for convertible value, as an extreme, half-cost, 9,400*l.*:—value resulting for the building as converted, 26,600*l.*, representing a standard much below that even of a substantial shed."

These figures, as it seems to us, looking quietly at the matter without any of the "feeling" which has been imported into the inquiry, do not tell very strongly against the purchase, the reporters themselves putting down the value of the building as double what was asked for it. However, let that pass. There was no particular reason why they should not report against the purchase of the building if the majority so determined; nor why the House of Commons, under the same circumstances, should negative the vote; but the latter might have done this like men of business and not like a parcel of wild Indians over a coveted scalp.

Notwithstanding all this vehemence, the strongly expressed condemnation of some of our architectural brethren, and the vote of the House of Commons, we retain and reiterate our opinion that, if the structure can be purchased for the value of the old materials, to pull down the solid brick building comprising the picture-galleries would be an act of extravagant wastefulness,—a sin and a shame.

We sincerely trust some means may yet be found to obviate the necessity for such an unwise act. Steps, however, should be taken at once, for the contractors are already erecting a hoarding all round the building, and have announced their intention of beginning to pull down immediately.

Growing out of the discussion of this matter, Mr. C. B. Adderley addressed a singularly foolish letter to the *Times*, depreciatory of professional architects. Mr. Scott, writing in reply to it, says:—

"My profession is an unhappy one, and seldom more so than in the matter of the Exhibition building. It was convenient to the Commissioners to employ in its erection an 'official' rather than a professional architect: there was nothing either objectionable or unnatural in this; but it was thought by those who determined on it that a sort of moral massacre of the architects was necessary to its defence. Since the erection of the building it has been equally unsafe for an architect to criticize or to extenuate its imperfections; the one being attributed to jealousy, the other to obtuseness of perception; and now that the building is condemned it is thought necessary to imitate the King of Dahomey, and to offer up a holocaust of the entire profession to appease its *manes!*

Possibly, however, now that the recent excitement is somewhat abated, a little quiet reason may lead people to believe that the profession and the art of architecture are not so utterly severed as Mr. Adderley and his teachers would desire, and that Captain Fowke and his great work merit, perhaps, neither all the praise nor all the censure which their opponents and their defenders would claim for them." . . .

"The fact is that Mr. Adderley's views, whether in depreciation of architects in general or in exclusive praise of Captain Fowke, are simply ridiculous, and must be equally distasteful to that gentleman as to those at whose expense he is so ludicrously flattered: nor do I know on what ground Mr. Adderley assumes the right to sit in judgment on an entire profession, unless it be from his temporary connexion with that department of fine art the first axiom of whose artistic teaching is supposed to be the incompetence of all architects excepting such as are extemporized by themselves."

PRAISE AND CONDEMNATION.

WHILST the subject, "The Right Use of 'Models' in Architecture of our Time," is under the attention of readers of the *Builder*, we may add certain observations that seem, with those in a recent number, to be required in the present state of the art, and equally needed to be taken into consideration by persons who volunteer criticism of modern works. Our aim, now, is to offer something that may at least render more salutary, expressions of praise and dispraise; of which, criticism, as it is ordinarily, consists. Rightly uttered and received, comments upon a modern work should solely tend to the advancement of the art, and should neither have been meant to wound, nor have a similar effect from peculiar sensitiveness of the author of the work. This could be asserted as to all works, or not only those of art; or it could be said referring to any of the arts, and not exclusively to our art: but we perceive, at this juncture, reasons for dwelling upon the point of the right object of criticism in architecture. Our former article was aimed at a prevalent misconception on the part of the public, though one which many architects made themselves practically sharers in: our present attempt is directed against an error of which architects are generally guilty. There is in vogue, a damnatory style of giving opinions, which is weighing heavily upon the growth of the art itself, by inoculating the public with the same spirit,—or at least confirming a habit or conceit the least commendable in the practice, and substituting it in permanence for generous appreciation,—whilst sacrificing utterly the end and aim of art in works, namely the exciting of pleasurable emotion. To show what is the error into which the profession fall, we will examine the same error as it is made by the public. Let us suppose a case, and describe it—commenting as we go on.

One of the public, having in the ordinary way, or as member of a building-committee, employed an architect to make a design, takes, in the average of cases of the presentation of the design to him, the course of expression of opinion which may be stated thus. First, being a gentlemanly man, and really astonished at the neatness and elaboration of what he sees on paper,—albeit not quite satisfied that such labour was necessary,—he may proffer something intended to be courteous; or at least, he listens to what the architect has to say descriptively of the drawings. It may be noted, here in parenthesis, that the drawings are always, even as spoken of in the House of Commons, "the plan," or "the plans"; and the design of the general exterior is always "an elevation." Beyond the erroneous use of terms, there are in fact bad effects resulting in *art*, from this use; and misconception of the process, and nature, of architectural design, is involved. Preliminaries having been arranged or said, the employer next bethinks himself that the time has arrived for his stating his opinion, or giving his decision. Let us pause therefore to note what are his qualifications.

He has never sought to have any taste for architecture,—or if otherwise, it is not the *art* that he has given attention to, but only something which may be antiquarian or ecclesiological;—generally, he at once announces that he knows nothing of the subject. Lord Granville, lately, in the House of Lords, declared that "with regard to the question of taste" (which most persons would say was to *some* extent concerned in that of the policy of buying, or of keeping up and stuccoing, the Exhibition Building), he had "no pretentions to taste;" that is, he confessed ignorance of one of the premises of the question then before him. And he added, as to such pretentions, that he was "sometimes glad" that he had them not, seeing that "those who do pretend to have taste certainly squabble among themselves most uncommonly as to what it ought to be." As to the squabbling, indeed, Lord Granville touched one of the points which may deserve notice farther on.

Our employer not merely feels that he is the man to decide,—the house being for his habitation, and to be built at his expense,—but, though he had just before proclaimed his ignorance of architecture, he has a curious notion that he must execute a judgment; and that, to have a right opinion, or the credit of having one, the sentence must be condemnatory, and the execution death.

With the evidence which there is of growth of appreciation for paintings,—of all but works of the highest class at least,—we should not contend that all works of art are at present inoperative on the sense of pleasurable emotion, with the multitude; but that the force of the mistaken-critical conceit largely reduces the appreciatory spirit, those who visit an exhibition of the Royal Academy need but to open their ears to become aware of. The position which sculpture holds in comparison with painting, and the analogous position of architecture, the art, show that the representative element to which colour so powerfully aids, has much to do with the public appreciation of painting. There is an art, indeed, which is well appreciated, and in which, representation, properly, of incident or scene, has no place; we mean music, instrumental or non-operatic. The reason why in this portion of Europe, one sense can be charmed, whilst another sense hardly can, has been talked of, so far as saying that it deserves to be searched for and investigated. It still so deserves to be, and most thoroughly. There are races whose position in the art of music would be lower than is that of the British people in the art of architecture; and, though the "charms" of music are said to have an effect on men and beasts in the savage state, we are inclined to believe that both the ear and the eye can be more or less in the condition of susceptibility or appreciation, just as the means of cultivation may happen to have been hit upon. The remarks recently quoted, referring to French architects, tend to show even that the appreciation of *art* is somewhat less than it ought to be in France; and what we know of the decorative arts there, which are characterized by prevalence at the same time of many different styles, though all skilfully reproduced, tends the same way. But, there is a liveliness, or aptitude, or what we generally call fancy, which not all the misapplication of the properties of materials, found in French decoration, can entirely prevent from standing out as existent; whilst it is an essential, and perhaps *the* essential, of art. There are gradations of appreciation of art amongst nations, during the progress of time; and there are differences between contemporary nations. What occasions these differences we have not found out, any more than we have what causes those of the appreciations of poetry by individuals, that are as common as the differences of appreciation of music.

Our patron or employer, though disclaiming knowledge of architecture, has a notion that some decoration is desirable for his house: at least, he sees that in other houses, something of the kind has been attempted. He may proclaim himself to be indifferent to ornament; but in every object, a brick-front in Harley-street, or a deal-box, there is evidence of a concession to that taste for decoration which is one of nature's gifts. The brick-front may be not so bad a thing as the front with a profusion of ornaments in a material which is imitative of another material: but the value which there is in decoration is shown in each; though there is evidence that ornament can be spoiled by the use of it. Having a notion, then, that architecture is required, or at least usual, our employer does not positively object to features of decoration. Worse, in our view of the case, than that, he may even demand a particular style, or conjure up a certain character, say Gothic or Italian, before the requisites of convenience, and the circumstances of site and available materials, which would conduce to a special character of the building and art, have been thought of; or he will require his architect to be fortified as to the propriety of the design by being able to rank it of a style, and to justify it by approved examples. We have adverted to this fear of being out of the fashion before. The fear, it must be admitted, has operated greatly in church-architecture, and has tended to the result of our land being covered with structures, erected in the last twenty years, which cannot be distinguished from those of the Middle Ages,—structures wherein the key-note of the planning has not been the provision for a certain number of worshippers and hearers, in a building adapted to the Protestant ritual, but the reproduction of certain forms that were deemed to carry with them old associations. Dissatisfied with similar reproduction where there was no excuse of association, many architects holding in favour the Gothic styles, some few years since betook themselves to a fresh course in their designs for public and private buildings. Here, however, by again following, and this time the tastes of one writer, they again reproduced Mediæval works,—and not our Gothic, but a foreign style, whilst architecture inferior to English Mediæval. The fear we have spoken of, is one of the causes tending to repress the flight of art from the existing level. This is so; although there are two essentially different influences at work. Both of them are unfavourable to art. One man *will* be conspicuous, and have something quite different from what belongs to his neighbours: another is afraid of being marked for and by difference, even though it may spring from the exercise of taste. It must be confessed that there are a sufficient number of architects ready to minister to the error of the first kind. That of the second kind, however, is common. Many a man who commissions a house to be built for himself, and who finds houses right and left of his, with stuccoed fronts, will stucco his house also; and we have known the architect of a very tasteful structure, utterly fail to please his employer, simply through the circumstance that, as the effect of the design was good, and different on that account solely, to everything near to it, every one stopped in face of the house to look at it.

If, however, the character of architecture should have penetrated the district, the mind of such an occupant of a house, is easy on all points. In many districts, the variety of styles is considerable: therefore the choice, of old styles at least, is extended,—whether advantageously, we should, perhaps, doubt. Indeed, we could point to a common practice of the architects who prepare designs for the laying-out of building-ground, and who

exhibit views showing the houses differing in their styles as well as in their materials, as one which is not favourable to the public appreciation of the most important part of architecture. On several estates in London,—take the Bedford estate for example,—there is another influence apparently at work, that of value of the property for letting; which it seems is found to be greater when a concession to the vicious taste for stucco is made. Here the imitative material is being rapidly substituted for the brick; and sham mouldings are being added to windows and doorways. Whatever the deficiencies architecturally of the old material and the plain apertures, the following the fashion of London is not a gain in effect, whatever it may be otherwise.

The employer then, in the majority of cases, recognizes that something decorative is wanted in the exterior of his house; and the present tendency is to multiply the cases of this recognition. He admits it thoroughly as regards the interior, a portion of the building which he deems to be the business of some one who is not an architect; but he considers the being in the fashion, certainly of not less importance here than for the exterior. Altogether, the tendency of this condition of things is towards the prevalence of *styles*, rather than the prevalence of *art*, whilst it is not favourable to either style in particular; and so, is not to the general appreciation of art that exists in any one of them, or that might and would be imported into such one.

From either of the two causes,—the fear of departing from the old or the fashionable track, or the conceit which substitutes condemnation for appreciation, or for sound criticism at least,—the design that is the one first made by an architect commissioned to erect a building, is often, or rather is generally, objected to, in the whole, or in its details. Of useful criticism, indeed, of the works of architects, by one another, there is too little. The art would be much invigorated by comparisons, and interchange of ideas, such as, when speaking of exhibitions of competition drawings, we have always allowed that those occasions might afford the opportunity of. But the case is quite different with the criticism of an average "patron" or employer, or even with that of an architect who has not followed the gestation of a design from its commencement. The author of the design ought to have already accomplished what seemed to him his best under the conditions that he set out with; and there ought to be danger in any one else modifying any features, the result of later stages of the process, without having had the preparatory course to them from the conditions. There should be danger, alike in cutting down work to reduce an estimate, or in adding work and decoration. But, to be obliged to alter a design to satisfy the simple *ipse dixit* of an employer,—the architect feeling that he has made the nearest approach to a solution of the original problem, and that every alteration must be a step away from the solution,—is the most difficult of the positions in which one, having to reconcile the aims of the art with the business of the profession, can be placed.

Now, it is painful to witness amongst architects, the prevalence of a condemnatory style of criticism, which if not due to the same causes as the condemnation by patron or employer, may be readily mistaken. If this sort of criticism be not killing the art, it is, as we have said, repressing the growth and the appreciation of it. When it is heard, and seen, that architects, artists, who "pretend to have taste," "squabble among themselves," and are so very far from agreeing what taste "ought to be" as to be incapable of deriving enjoyment from the contemplation of the works of one another: when it is perceived that there is a contest,—one that should have been never possible,—about styles,—a contest which leaves art and the perception and enjoyment of it, almost out of consideration,—the public may well come to think that neither, indeed, is there any accounting for taste, nor are there definitions of the course and principles of architectural design, in rules that are written, or in those which can be felt. The only glimpse of hope that we have, of a better state of things, is derived from a knowledge of the state of our art in France, already adverted to, and from perusal of French commendation (to which we may have to refer in another article) of our decorative arts as progressed since 1851. The French manufacturers of furniture may be followers of a multitude of systems of ornamentation. We saw this, last year. But in architecture, the French architects have been able to achieve great part of the "battle of the styles,"—which has been fought in France as with us; and they are now utilizing all styles, and models of every class, as the recent street architecture of Paris will show, in works that are sufficiently in harmony with one central style,—a style of the day. The time has surely arrived for the statement of some principles to be universally accepted, not as saying how designs should be made, which ought never to be expected, but as showing what all should agree in condemning. And let it not be supposed that a great step would not be made thus, though it would be one stopping short of saying how things should be done. The *matériel* of art is really vast as the field of nature; and the recognition of what should not be used, is a removal of embarrassment. Sooner, or later, however, the misunderstandings about styles must be made to give way for the recognition of art generally, and for the consistent utilization of the materials that all styles present. It concerns the welfare of the profession to hasten the advent of such period. Architecture, the art, is being starved out by the condemnation and abuse of works, by architects themselves; by condemnation uttered from prejudice in favour of something which may belong to style, but does not generally pertain to art; by abuse, of which the characteristic propelling force is a combination of self-conceit and want of conscientiousness. He who states his opinions with humility, and after the disposition felt, and still preserved, to consider fairly the views of others, is the sort of man whose opinions are of the most value. It has been said by certain writers, that the time is one for the ruthless extirpation of all, what they deem to be, heresies. But the spirit in which this extirpation is preached, distorts conclusions; and art itself passes out from the field of contention. In place of such spirit, we should be disposed to recommend rather a readiness to be pleased, as less fraught with evil consequences, and less tending to ultimate loss of the art, and of the business and mission of architects. At least, let it be the endeavour of all, not merely by the examination of their own principles, but by the substitution of real criticism for condemnation and "squabbling," to bring about a condition of our art in which works generally may be appreciated and admired, and be the sources of gratification that works of art should be; and yet may, when differences of opinion are raised by them, be suggestive themselves of reasons which the designer had for what he did, and productive of the admission from the critic, that whilst his opinion might have differed, there was a case made out and a result to be admired on the other side. Again and again, we say, and be it never forgotten: the great mission of the art beyond the provision of a building, is the production of pleasurable emotions; and this mission, which architects should always hold in the public recollection, they are now setting the example of leaving out of consideration altogether.

THE 1851 EXHIBITION COMMISSION.

ON the 6th, Mr. Ayrton, in a speech wherein he mixed up the '51 Commission, the '62 Commission, and the Department of Art, showing he had not a very clear knowledge of his subject, moved,—

"That in the opinion of this House the purchase-money of the land at Kensington should be applied by the Commissioners of the Great Exhibition of 1851 towards discharging the liabilities of the Commission; and that the Commission should be determined and the property now held by the Commission be vested in the Crown, subject to any interests now existing therein, and to any charges thereon."

He failed, however, to show that the House had any right to hand over this money to general purposes, and the motion was very properly negatived by 165 to 42.

Whether or not the Commissioners have done or are doing all they might with their resources for the advancement of the fine arts and practical science, is another question, and might be usefully considered.

Mr. Lowe, in explaining the position occupied at this moment by the 1851 Commissioners, showed how wisely they had managed their affairs in a commercial point of view. He said one ground of offence was that their property amounted to more than 300,000*l.* when all encumbrances were paid off. He believed the Commissioners must plead guilty to having started with 180,000*l.*, and having so managed that they had sold land to the Government, on which the South Kensington Museum was built, for 60,000*l.*, which was worth 100,000*l.* at the time, and was now worth 120,000*l.*; that they had also sold land to the Government for 120,000*l.* which was worth 260,000*l.* or 270,000*l.*; and that they were still in possession of property worth, after all encumbrances were met, about 300,000*l.*, over and above a reversionary interest in the Horticultural Gardens, which might, if the gardens failed, place them in possession of 22 acres of valuable land, and if the gardens succeeded would yield 2,000*l.* a year and a contingent share of the profits. Such is the balance-sheet; and the Commissioners may certainly point to it as an instance of financial success in a short time hardly to be paralleled in commercial undertakings.

ON GEOMETRICAL AND OTHER SYMBOLS.*

THE PSYCHOLOGICAL KEY.

IT appears, then, that Freemasonic symbols, such as the hexalpha; the square and compasses crossed; the cross itself, and the symbolical N, in all their varied modifications; with many others, relate, or at least must have originally related, to "the architecture of the heart," or "the inward man," as "the temple" of the illuminative "Spirit" of God; which Spirit, when it shines as "the Light" in its temple, "crucifies the flesh," or so transfigures and entrances the man as to make him "dead in the flesh [by "the shadow," or "semblance, of a voluntary death," as the coffin symbolises]; but quickened by the Spirit,"† as is denoted by other emblematical formulæ, such as by the sudden relief from blindfolding, "in the Light" of "holy night" and of the "new birth;" and by the refreshment and recreation of the "free and accepted masons" with wine or spirits. And as Freemasonry and ancient religious mysteries in general,—on both of which the consideration of Masons' marks has obliged me to enlarge much more than I intended at the outset,—are believed to have been identical in their nature and purpose; and as the invocation of the oracular and divine Spirit in high and ecstatic entrancement, or in "the semblance of a voluntary death," appears to have been a leading feature in these mysteries; we thus have indicated to us something still more definite as to *those precise regions* of "the inward man" to which Freemasonry and its coffin; its blindfolding; its ultranatural "Light" and "Spirit" of the "high noon" of night; and its Jachin and Boaz—its work-life and its *rest*-life and *refreshment* in the *Spirit*; as also its geometrical symbols of the inward church or temple, engraven on so many outward churches,—all explicitly point our attention; and not *merely* to *moral* perfection therefore, but *to the very roots and foundations of life itself*; as involving a mystery to be yet revealed; and as being the source of *a new and higher development of human life, to be yet evolved into physical and divine perfection, as well as into moral and intellectual.*‡ The tenets of the Freemasons, in fact, as indicated in their initiations and their symbols, agree with those of the hierophants of the ancient mysteries, as well as with mystical Christian doctrine, in regard to physical as well as to mental and moral development, maturization, or perfectment, and immortalization, by the efficacious means of that entrancing and illuminative Spirit, or inward "Light," which,—till evoked, or invoked, by (true and not merely by figurative or emblematical) initiation,—smoulders or slumbers in the human "temple" of the Divinity, as "the sleeping God in the waking man" (according to the Brahminical doctrine), ready for sudden transfiguration, by entrancement, into "the waking God in the sleeping man;" as I have shown in the papers on wing and other symbols, already more than once referred to.§

We *must* now, therefore, look a little more closely, if we can, into the particular *style* of that "architecture of the heart" of man of

* See pp. 273, 345, and 402, *ante*.

† Here, once for all, I would wish to note, that it is with a perfect knowledge of the ordinary or orthodox meanings of Scriptural passages, and not from ignorance, but advisedly, that, in many instances, I entirely disregard these meanings. As for those which I do attribute to them, the quotations are in general so made use of as, by themselves and the context, to indicate these meanings clearly enough without any verbal explanation. A concordance will readily show the book, chapter, and verse, where not specially given.

‡ On the subject of a new development of human life in connexion with these views, see article "On the Nature and Destiny of Man," in the *Builder* of 14th March, 1863.

§ It is said of an oracle, among the Montanists, according to Neander, that in it "God alone is awake, and man sleeps." The idea of God awaking is certainly Scriptural, as well as Brahmanical. Thus. "Awake! Why sleepest thou, O Lord! Arise . . . for our help" (Psalm xliv. 23). "Then the Lord awaked, as one out of sleep, and like a mighty Man, that shouteth by reason of wine" (Psalm lxxviii. 65). "Awake! Up my Glory! I myself will awake early" (Psalm lvii. 8). "I shall be satisfied when I awake with thy likeness."—"Shining Image," or "Glory" (Psalm xvii. 15). "Awake! Awake! put on strength, O Arm of the Lord. Awake, as in ancient days, in the generations of old" (Isaiah li. 9).

which the Freemasons mystically speak; and of which the ancients treat, in their temple mysteries of self-knowledge,—"the inward man,"—or the *nosce teipsum*; since it is here we must seek for a thorough and satisfactory solution of the symbolical riddle.

What! a psychological disquisition in the *Builder*? Perhaps even a metaphysical one! Well! if any of those professional and other readers of the *Builder* who take an interest in such subjects as the hexalpha on Prince Albert's Manchester monument, and the masons' marks (including the hexalpha) on so many churches, *want*, or would *wish to have*, an explanation of the true meaning and origin of such symbols; and if that explanation plainly, and relevantly, involve at least a passing glance into the "architecture" of the "inward man," and cannot be got at without such an introvertive glance; what *would* they have? An explanation without the explanation? Hamlet without Hamlet? If they do not prefer to remain in professional ignorance of any such explanation of the symbols used, or which have been used, by architects and builders, as well as by Freemasons and magicians, and also by Christian religionists, they must rouse up their own "inward man,"—look "within" their own anatomical or architectural outlines for a moment,—where, alone, the true church, or temple, stands; and whence, alone, the paradisical "kingdom of heaven *within*" *them*, and "the lord *for the body*," can "come;"—and so they may judge for themselves in this great question of the *nosce teipsum*: for *this*, in truth, *is* the question on which all such symbols directly bear: *the tenets and the symbols cannot otherwise be harmonized*;—and he who restively and inconsequently expects to be made to comprehend the original meaning and purpose of these symbols of the inward man without the necessity of taking a passing glance into his own wonderful nature, as "the *House* of God,"—"the *Temple* of the Holy Ghost,"—the *Church* of which *Christ* is the Arch Keystone, or "Headstone of the Corner,"—must be an unreasoning mortal, with a soul awanting in depth, however expanded in circumference; and had better rest satisfied without the explanation sought for, and pass on to some other subject.

At the same time, I am quite sensible of the impropriety of anything really like "a psychological disquisition in the *Builder*," even were it on the mere score of limits alone: and, although such an attempt as the present, in a publication like this, is surrounded with many other difficulties; I am well aware that,—however crippling to the argument,—I *must* confine myself, with the utmost and most restrictive abstinence, to the merest psychological indications in its support. Nevertheless, if, as I have already hinted, an explanation of such symbols as those treated of be desirable, whatever is relevant to that explanation ought to be admissible, as far as limits will allow; and the present inquiry is only one of *many* instances which go to show that it is hard to say what subject it may *not* be relevant or requisite for a thorough architect, professionally, or as such, to deal with or consider; or for the *Builder* to treat of, as one not beyond its province, even as a strictly professional paper; far less as a publication of miscellaneous and popular interest, adapted to spread abroad architectural and other art-ideas among the public generally.

In my first series of letters on Symbols and the ancient doctrines involved in them, and more especially at the close of these letters, it may be remembered,* I had worked out, from such doctrines (by help, however, of the psychological key to be now given), one general conclusion; that the mental nature of man was evidently regarded in these doctrines as being twofold, and antithetical, or reversible and alternative, as life-principles, human and divine, or Soul and Spirit, in conjunction; and—by sciential induction from the mythological and mystical doctrines,—Concentro-radiative, or Radio-concentrative, in potential form.

This conclusion was based upon such modifications of ancient doctrines as that of the Rosicrucians,—their *Compound* or human life, and their *Elementary* or spirit life, in the ideal conjunction of "a Rosicrucian marriage," being equivalent to a Concentro-radiative nature, in which the Compound or human life was the Concentrative and the Elementary or spirit life the Radiative;—and that of the Buddhists, in which the *concretive* state of pravritti was the Concentrative or human state, or "this life" of the Passé Buddha, and the *dissolvative* state of Nirvritti or Nirvana the Radiative or divine state of "the Buddha" himself;—that of the Brahmins, in which the *plastic* state of prakriti was equivalent to the pravritti or concretive state of the Buddhists and the compound life of the Rosicrucians, or the concentrative, concretive, and human life; and the state of "Brahm" or divine absorption, to the Nirvritti of the Buddhists and the elementary life of the Rosicrucians, or the Radiative, dissolvative, and spirit life;—and also that of the primitive Greeks and Druids, in which the twofold Apollo, comprising a *creative* and *destructive* principle in one human form, indicated the same concentro-radiative nature in the noblest and most fully developed form of the God-man or man-God,—human, or concentrative, and yet radiative or divine, in alternative reversal;—the normal and undeveloped type and precursor of which twofold and alternative nature, in the present state, or duality of states, of man's imperfect form,—whether regarded as fallen from a past, or as not yet matured into a future, state of perfect development,—is the alternative reversal of the two states of waking and sleep,—waking as the concentrative, and sleep as the radiative; although the pure and exalted radiative, like the fairy queen, Titania, "strikes *more dead* than common sleep," as Oberon has it in "Midsummer Night's Dream;" and is hence more able to

> "——— *Dissolve* me into *ecstacies*,
> And bring all *heaven* before mine eyes,"

as Milton sings in "Il Penseroso."

I shall now endeavour to show that the very same concentro-radiative principles, thus deduced from mythological and other religious doctrines, are scientially and readily deducible from a consideration of the nature of human life itself, *apart altogether from any such doctrines*; and that these psychological and pneumatological principles involve a *reason* for precisely such symbolical forms as those of which I have just been treating.

Before attempting to do so, however, I must here note the corroborative and somewhat remarkable circumstance that a coincident mythological and *symbolical* conclusion closely analogous to my own *psychological* and guiding one, has been drawn from an exclusive consideration of "Symbolism as a Science," by Dr. Barlow; who, in the *Builder* of 17th March, 1860, says;—

"In the remarks which I hope to have the honour of reading on Monday evening before the Institute of British Architects, I have endeavoured to give a scientific character to symbolism in art by tracing it up to its first principles in the theologies of ancient nations, the Chinese, the Indians, the Egyptians, and others.

In this way, I have arrived at *two principles or agents in nature* which do not admit of further analysis,—LIFE and LIGHT: these, I find, will furnish, or rather explain, the most recondite symbolism with which we are acquainted."

The coincidence and corroboration here occurring, I say, are remarkable; inasmuch as the "Life and Light" deduced by Dr. Barlow from a consideration of symbolism *per se*, as a science, are clearly identical with those two principles, the Concentrative, (or Life,) and the Radiative, (or Light,) psychologically considered, of which I am about to offer a few indicative hints;—principles which have guided me, as by a sciential and *extrinsic* as well as *a priori* light, to kindred symbolical and religious conclusions, without any pretension, on my part, to that legitimate and exclusive induction, based solely on a consideration of symbolism itself as a science, to which Dr. Barlow alone can fairly lay claim. And if I have been enabled to develop these common principles further than Dr. Barlow has yet done, it is to psychology and not to mythology that I am chiefly indebted; my mythological, or at least symbolical, knowledge being very limited by comparison with his.

The mind of man may be regarded as *threefold* in more aspects and senses than one. It has three phases or aspects,—potential, sentient, and sciential; and each of these is also threefold,—the potential comprising the propensities, the desires, and the will; the sentient comprising the corporeal feelings or senses, the affections, and the conscience, convictions, beliefs, or faiths; and the sciential, comprising the concretive, constructive, or compositive; the connective, relative, or comparative; and the identitive or contemplative faculties. By the concretive, constructive, or compositive, so far as regards the mental phenomena, I would wish to denote that faculty, power, or force, by which the *elements* of the senses are concreted, constructed, or composed into mental objects of comparison, identification, &c. A kind of microcosmic world is thus concentrated, as it were, around the circumference of the mental sphere. This microcosm, however, is not so much a world of mere *images* as it is one of *estimations*. *The mind of man is an estimater of forces, and a measuring rule, as it were, for all creation.* Light and colours, for example, are subtle *radiative* forces, whose intensity is estimated by the seeing force or power, or the *concentrative* agent, in the eye and the brain.* So is it with all the senses; and *all we actually know of the nature of the outer world is, that it is a congeries of forces, concentrative and radiative.* By the mind; or in the mind, rather, and by the *soul and spirit*, —or, as I shall endeavour to show, the *concentrative and radiative*,—as the estimating forces; the infinitude without is converted into relative units in the concentrative faculty of conception; and these relative units are collected, by the further concentrative operations of the faculty of comparison, into classes, kinds, or species, whose similitudes approximate, more or less, towards *identity*; but the identitive faculty is the central or superlative one, as the conceptive, concretive, or compositive is the superficial or circumferential: indeed I have been in the habit of ranking these three mental regions as the positive, the comparative, and the superlative; and I consider (with Coleridge and others, it may here be incidentally remarked) that the faculty of Learning is one relating more especially to the positive; that of Talent to the comparative; and that of Genius to the superlative.

Now, from the multiplicities,—the infinities—*without*, to the identities and unities within; through the compositive, or conceptive, and the comparative, connective, or relative, *we can trace the manifest operation of a concentrative principle*, whose tendencies are from the circumference, as it were, of a sphere of force or action to its centre. The very terms conception, comparison, contemplation, and such like, imply the operation of a concentrative principle. It manifests itself in the ocular field, as we may call it, of the comparative faculty, or the understanding; as well as in the microscopic field of the conceptive or concretive faculty; and in the telescopic eye of the contemplative or identitive centre. In the comparative, for example, we find relations reared upon subjective terms; two or more conceptive elements ever being reduced to one relative element, in a way which may be thus symbolized;—



FIG. 1

the two extremities of the angle denoting the subjective terms, and the apex, or point, the one common relation reared upon these two as its bases. The same concentrative process, in its threefold and completive form, is still more clearly indicated in the lower or concentrative moiety of the following symbol;—

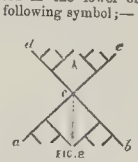


FIG. 2

the base, *a b*, indicating a series of subjective terms, or relational elements, of the lowest order; and *c* the one common principle of identity deducible from them all. The arrow in either case is intended to indicate here the concentrative line of direction.†

This concentrative process, as I have hinted, seems to extend from the circumference to the centre of the mental organization, as is implied by *a*, *b*, *c*, fig. 2; and it can be shown to be as distinctly operative in the positive or lowest region as in the comparative or intermediate, and in the superlative, or highest. In short, there is a concentrative power or principle operative *in and throughout all* the mental actions and acquisitions, from circumference to centre.

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* See *Builder* of 15th January, 1859.

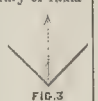
* Some farther ideas of the relationship of these principles to the brain, great and small, and the nervous systems at large, will be found in an article on Christian Idealism in the *Builder* of 16th August, 1862; and in one on The Ancient Architecture of Ceylon in the *Builder* of 28th January, 1860.

† Considering that these symbols were invented by me without the slightest reference to mythology, and many years before I had ever thought of their relationship to religious symbols already in use, their similitude to the following—



which is sculptured on the entrance to the "transe" or passage leading into the "Sorcery hall" at New Grange, in Ireland, is notable; as, indeed, is their relationship to the Λ or masculine symbol of the Egyptians itself.

But a little further consideration shows also that there is a principle of the contrary or radiative description, represented simply as in fig. 3; or, in a sort of anatomized and outspread or separated but more completive form, as in fig. 2, *c, d, e*;—a radiative principle, operative—in fact, co-operative—along with the concentrative; especially in all re-presentations, re-member-ances, re-identifications, &c.


FIG. 3

Thus, nothing can be *remembered* unless what has before been *identified*, as an object of *attention*: that is, an object must be identified by and in the *concentrative* ere it can be re-presented in the *radiative*, and re-membered and re-identified in the *concentrative* again. And, on the whole, it appears that as subjective terms can be concentrated into relations; so relations can be re-radiated into subjective terms; and here we find the operation of what Dr. Thomas Brown calls the *relative* suggestion, on the one hand, and the simple suggestion—which may perhaps be more properly resolved into the *subjective* suggestion, in co-operative alternation with the relative suggestion—on the other hand.

The mind thus displays itself as *a concentrating and radiating sphere, circle, or cone;* and its phenomena are sustained or conserved under the mutual and conjoint action of these two distinct though co-operative principles, powers, or forces, —the concentrative and the radiative; and the latter of these,—*the Radiative,—is as it were a Light shining into and illuminating the dark Concentrative;* bringing within the range of the conscious or identitive principle, in the concentrative sphere, according to certain laws of relationship or association and suggestion, all the varied and heterogeneous acquisitions of the conscious mind; in new forms and combinations as well as in old; but being in itself, as a radiative sphere, *beyond*, as it were, or extrinsic to, the conscious principle, which is in and of the Concentrative enlightened by it, but not of or in the enlightening Radiative, *who is* ANOTHER *besides the* EGO *or* IDENTITIVE, and is not only "the true Light which lighteneth every man that cometh into the world," and which "teacheth all things, and bringeth all things to remembrance," whether in the comparatively dark moonlight of this life—the life of the concentrative; or in the glorious sunlight and open day of the radiative life, or life "to come;" but is also the true Lord and Grand Master of the human soul itself, who is his servant; and of the human body, which is his temple.

The concentrative principle, therefore, is the conscious principle or Soul and Life of man himself; while the radiative principle is a Spirit of Light to the Soul, with which it co-operates in the maintenance of that circle of alternate action,—concentrative and radiative, aggregative and segregative, synthetical and analytical, identitive and antithetitive, relative and subjective,—by means of which the mental phenomena are ever circulated, organized, and conserved.

Although the radiative may be said to send back from the one common centre to the one common circumference of the mental sphere what has been concentrated from that circumference to the centre; this venous and arterial system, as it were, of the mental circulation may be symbolically or figuratively laid open, or anatomized, as in fig. 2; the lower moiety or venous "Root" of the system denoting the Concentrative, and the upper or arterial "Branch" the Radiative; or they may be symbolized more elementarily and simply thus,

 ; or thus,  ; or thus,  , to

denote the suppression of the radiative in the concentrative life: it is also evident, indeed, that the same two principles, Λ and V, or the concentrative and the radiative, may be thus symbolized N; as well as by a variety of other geometrical forms, such as many of those in Mr. Godwin's collection in the *Archæologia* of 1813, the following inclusive;—



the conversion of angles into triangles in the hexalpha being regarded as indicative of the creaturely *limitation* of *universal* principles into the human and angelic form; the angelic being a *ray* of the radiative universal Spirit, and the human a *spark* of the unitive and creative Soul or universal Father of all, in whom we live, move, and have our being.

And here, though to a certain extent anticipatively, I may remark that the Unitive power, whence the Concentrative throughout creation emanates, being the Father of all, is of course masculine in principle; and the Infinitive power of the Universal Spirit, whence the Radiative emanates, is feminine. These are the two first and paternal principles; and the Son of the Unitive and Infinitive powers is also a universal and eternal principle, partaking of both; while the three are one, though this one is threefold,—a trinity in unity. And this is so even in the creaturely *Images* of the universal Godhead. The Concentrative is the masculine principle, and the Radiative the feminine, in human life; and the man or woman results, as an outbirth, from the union of these two. In the man, or masculine, the concentrative is more powerful, both in mind and in body, than in the woman or feminine, who is more radiative or spiritual and angelic in her nature than the man: hence the Radiative life, or *light* rather, in woman, will develop itself more highly than in man; and will, in fact, be as superior, comparatively, to that in man, as is the Concentrative life in man to that in woman. The Concentrative, therefore, is essentially masculine in principle, and the Radiative feminine; although, in *this* life, or the Concentrative life, *in both men and women*, the *concentrative*, or masculine principle, is of course *predominant;* as in the other or Radiative life, the Radiative, in both, is predominant, while the concentrative or masculine rests in the glorious arms, as it were, of the exalted Radiative, who shines as "a crown of glory" on the "Head" of this "man-child," and is herself "the woman, clothed with the sun,"—the "woman" who was "put away,"—the "woman" who, as "a new thing," shall "compass a man" (Jer. xxxi. 22): "she shall compass thee with a crown of glory."

The operation of these two principles, the concentrative and the radiative, can be traced in the compositions and decompositions, the concretions and solutions, of the body, and its conservation, as well as in those of the mind: indeed, the body may much more properly be said to subsist by *and in* these two principles, the Soul and the Spirit,—the Concentrative and the Radiative,—than these in it.

The question of the *relative intensity*, or power, of the Concentrative and the Radiative, in the mental and corporeal operations, was an interesting one which early attracted my attention. It appeared evident that *in concentrated, vigilant, connected, and collected thought, the concentrative was predominant or exalted;* and I soon came to be convinced that the very state of ordinary vigilance, or waking, itself implied the exaltation or predominance of the Concentrative, and the suppression and subserviency or humiliation of the Radiative as "a servant unto all." And as the Concentrative was thus clearly *plus*, and the Radiative *minus*, in the waking state; and as it seemed equally evident that the state of sleep, ordinarily or normally speaking, is more or less nearly an approximation to a perfectly *neutral, equilibriate*, and *passive* state; I soon saw that in sleep, as such, the Concentrative is reduced in intensity, and the Radiative increased in intensity, till the one becomes more or less nearly equal to the other.

Supposing, then, the Concentrative, in the waking state, to be, in general, as 3 (say), to the Radiative as 1; in perfectly passive and equilibriate leep the Concentrative will be as 2 to the Radiative as also 2;—these figures, however, in truth denoting algebraical and unknown powers or quantities, absolutely and strictly speaking. But if Con. 3—Rad. 1 be a representation of the state of vigilance or waking; and Con. 2—Rad. 2 that of passive or neutral sleep; what could Rad. 3—Con. 1 be? This was plainly and inevitably a possible, if not a practicable, state of existence or life, though normally dormant and unknown;—a state bearing certain special and peculiar relationships both to sleep and to waking; *but it could be neither the one nor the other:* in fact, it was *another state* of waking, watching, or vigilant life, of as perfect and complete a character, as such, as its relative antithesis, the state of Con. 3—Rad. 1: it *must*, as I then saw, be a strange state of Radiative, *Spiritual*, or inspired and illuminated life or Vigilance, or a waking Spirit or Pneuma, just as its antithesis is a state of Concentrative or *animated* Vigilance or life, or a waking anima, psyche, or Soul. The one might be called Spirit-waking, and the other Soul-waking; and Sleep a passive, impotent, state of equilibriation, or a beclouded state of misrule and mad confusion, in the midst of life, between these two extremes and counterparts; dividing them, as it were, asunder; as clouds may be said to divide heaven and earth; an ocean or a river two lands; or a veil two apartments. Sleep, in fine, was thus found to be a state in which neither the Concentrative nor the Radiative power,—neither the Soul nor the Spirit, is in full exaltation, and in cool and sober ruling power, with its fellow in subservient and orderly humiliation.

Though "the praise of all the earth," and "below'd from pole to pole,"
Sleep is life's Babel-waste of confusion;
Its simulative subtle sprite of lies and misrule,
And mother of devils and delusion.

The whole of this process of reasoning I had gone through quite independently of any knowledge or consideration either of the Spirit waking of the Hindus, the God possession of the Egyptians, Druids, Greeks, and others, or the lucidity of entrancement. I also soon saw that other and intermediate states of existence, such as those of dreaming, delirium, and vivid imagination, could now be ranged in their proper places, *between* sleep and ordinary or concentrative waking; and that they constituted possible states or currents of *continuous* existence at one time; and, at another, were merely *crossed*, as more or less *momentary* existences, during the change from waking to sleep, or from sleep to waking.

Next, too, it became evident that there must even be equivalent states *beyond* sleep, or on the spiritual side of the scale,—a spiritual delirium and dreaming, in short, as well as an animate or soul's delirium and dreaming state.

Further, and especially with reference to the respective influences of the Concentrative and the Radiative, or the Soul and the Spirit, on the bodily state, whether in sleep or in waking; or as a resultant from the alternative and reversed operation of both; it soon became manifest that, in the *diurnal pendulation of life* between its two states of waking and sleep, the radiative influence of mere sleep could not be a *complete* or *sufficient* counteractive *and* REST to the concentrative influence of the ordinary waking state; and that Rad. 3—Con. 1 *alone* could be an adequate and proper, full, entire, and perfect reversal, counteractive, equivalent, restorative, and REST, to such a state as that of Con. 3—Rad. 1, or the ordinary waking state. In other words, it became evident that spirit-waking was the only true and perfect "rest" and "reversal" of the soul-waking state; and that so long as mankind oscillated or pendulated, alternately, between soul-waking *and sleep*, they could not be either perfected or fully developed or evolved, in their designed, created, nature; or be fulfilling the great law of their manifestly twofold or hermaphroditic species of existence. Sleep, in short, and its wide margins of dreaming and delirious confusion both of soul and spirit, plainly constituted a vast and *obstructive waste* of wild misrule which *must have no place in matured or fully developed humanity*, or cannot exist in man's perfected twofold nature, human and divine.

On well considering the symbolical diagram, fig. 2, as a "tree of life," with Radiative "Branch" and Concentrative "Root;"* the central or superlative—contemplative, creditive, volitive†—soul appeared to be "the way,"—the "straitened" or "the strait and narrow way, that leadeth to life,"—Spiritual and eternal or nontemporal; or the concentrative, fixed, and rigid "living stone" or "rock," as it were, whence "the living water" of "the Spirit" flowed in upon the soul: and, ultimately, I came to perceive that this superlative and *fixitive, contemplative* soul, and central source of identity, and faith, and moral will power, was not only the grand agent recognised by the Gentiles in general, and by Christian and other mystics as well, to this very end; but that this centre of every soul was, indeed, "the Head of every man," which Head is "Christ *in us*, the *Hope* of *Glory*;" as "the Head of Christ is God," the Lord, the Holy Spirit (for "the Lord is that Spirit") whose Temple the Body is, and Christ its Keystone, or its "Headstone of the corner."

Fénélon, Coleridge, and others, in maintaining that Christ is the Unitive power in the human Soul, were almost precisely of this same opinion;

* The words "Root" and "Branch" are here quoted with reference to the Scriptural "Root out of a dry ground" (Isa. liii. 2) and "Branch of the Lord" (Isa. iv. 2) the "Glorious Branch," both of them of "the tree of life," or "trees of Righteousness," which, in their twofold nature, fully developed, shall "take root downwards [in Earth], and bear fruit upwards [in Heaven]," thus *inheriting*, in *one* twofold nature, human and divine, both "the life that now is *and* that which is to come."

† For doctrinal reasons I would wish to include in the word indicating will-power a meaning or sense of flight, as well as of fixed will.

although they could not see clearly *whither* such a doctrine tended, or ought to lead them; or what was the great and transcendental function, or office, in the Soul, of that Unitive or Identitive power with which they doctrinally dealt.

The Buddhists, in describing "Om" as "the bent bow of the soul" which plunges it, like an arrow, into the divine abyss of Nirvana or ecstatic and divine entrancement, hold the very same doctrine; which, however, they probably do not now understand. So did the ancient Egyptians, Greeks, &c., in the form of the Messenger-God and Soul-translater, Mercury, with his "entrancing rod," whereby he "translated souls to the Gods, and returned them thence."

> Pray the Bridegroom in your Soul in virility to rise;—
> Of Bliss the fix'd Desire agonistic;—
> The Heavenly Bride within you to embrace as the prize
> Of the veil lifting, sleep-piercing, mystic.

Physiologists tell us that the very forces—concentrative forces in fact—which, by adding composite particle to composite particle, build up the body, or *concrete*, construct, or rear it to maturity,—next go on to *consolidate* the frame; and finally *constrict*, and ossify, and wither it away. The inevitable progress of life from infancy to old age, under the uncounteracted, or the *only partially counteracted*, influence of the concentrative forces of the soul, then, can only be perfectly or fully counteracted, so as ever to replace it *in statu quo*, by *equivalent* Radiative or dissolving forces, such as those of the Radiative or Spirit life, now dormant, when it shall be fully manifested or called forth, resurrected, awakened, or exalted, from its state of dormancy, humiliation, or death, in the depths of the Spirit—the false Spirit—of Slumber; and it is easy to see that as the inevitable progression of the Concentrative, or Soul, through its concretive, consolidative, and constrictive operations on the body, is a progression from infancy onwards to old age; so the inevitable, but not one whit *more* wonderful *retro*gression of the Radiative, or Spirit, must actually be *from old age back towards infancy*; and thus in truth, of such as "little children" is "the kingdom of Heaven" within us. Sleep, in one view, is merely and simply the imperfect or not yet fully developed Radiative life; and hence *it does* nightly retrograde us, but only as it were half a step backward, for every full step taken forward, towards old age, in the waking Concentrative life, or state of ordinary waking; but the *awakened* Spirit-life is the only full, complete, and perfect Restorer, Redeemer, Deliverer, or Ransom from the bondage of otherwise inevitable death, corruption, and the grave; and "the Living Water" of the only true "Fountain of perpetual Youth" and rejuvenescence; so that "a just balance" between Soul and Spirit—between "this life" and "the next," or "the life *to* COME," with "judgment laid to the line and righteousness to the plummet,"—but without being "righteous overmuch," even "in the Lord" who "is our righteousness,"—is all that is necessary to "the adoption, to wit the redemption of the body," or its "deliverance from the bondage of corruption into the glorious liberty of the children of God;" and that is the "salvation" of the body by "the Saviour of the body," and of the Soul in the body by the ray-crowning Saviour of the Soul; so long as this great law of our creation and redemption, as "holy temples" of "the Lord for the body," is upheld; and our "Soul is bound in the bundle of life together with the Lord our God," and guarded against death and corruption, the grave and all evil, by the Guardian Angel of the Lord the Irradiater within us.

I fear, Mr. Editor, that I have already more than exhausted not only your space but your patience; and now, although there was much more that I wished to have said, and especially in further allusion to the connexion of symbolism with the principles just indicated, I cannot intrude much further on your limited space; but, having handed over to the more reflective portion of your readers this psychological key to many symbolical and other religious mysteries, must leave such readers to judge for themselves as to its merits, curt and imperfect as it here after all is; requesting them, however, in the first place, if possible, to reperuse what I have already said, in the *Builder*, on such subjects; now guided, as they would themselves be, by the sciential and *de*mysticizing light of the explanative principles here presented.

And finally, should any one suppose that in these letters I have given a deeper or more extraordinary meaning to the mysteries or secrets and symbols of Freemasonry than Freemasons themselves give, or are at all aware of; I must remind him that the more highly initiated Freemasons do themselves identify the most profound mysteries of ancient religion and philosophy with their own;—mysteries which I am confident that the psychological key, applied, from time to time, in the *Builder*, to the locks and wards of these and other ancient repositories, have enabled me satisfactorily to open up and demysticize. Moreover, that some Freemasons, at all events, do regard their secrets with deep veneration, as involving the elements of a strange revelation of profound mysteries, revolutionarily affecting human life and its farther development, natural and spiritual, towards a state of perfection, cannot for a moment be doubted. Thus, for instance, a writer in *Fraser's Magazine* for November, 1833, who is evidently himself a highly-initiated Freemason, expresses his belief,—in a curious paper on "The Arcana of Freemasonry,"—that by Freemasonry man is yet to be "*regenerated* into healthfulness, and the grief-worn earth *reparadised*;" there being "a magnificent economy of Providence for the gradual *perfectionizing* of all lapsed intelligences;" for "the *building up* of the lapsed soul for *immortality*." There are, he continues, "glimmerings of a brighter dawning emanent over all the horizon; and the hearts of young enthusiasts pant fervently and fast for the vision of *the God of* DAY: but they forget that these glimmerings are the aurorae of *the awfullest metamorphosis in nature*; and that the expected God of Day is the God of Consuming Fire, who cometh to judge the earth;"—so that the purposes of Freemasonry are here identified with the great Day of Judgment, or with the second coming of the Lord, the coming of the Kingdom of Heaven, or of the Millennial Day, when *the Day-star shall arise*, in merciful and beneficent judgment, upon men's hearts:* it is as if Freemasonry, casting behind it the merely *retrospective* phase of Christianity, possessed some secret and practical doctrine in regard to the *hastening* of the second coming of the Lord and Master "for the body," who is "the *Desire* of *all* nations,"—and in regard to the final accomplishment of the *prospective* phase not only of Christianity but of the religions of "all nations." He hints that "*to true* masons is entrusted the hazardous charge of piloting the vessel athwart the boiling whirlpools: they will save, if they can, earth's latest age from indecent strife and confusion." That Freemasonry has not already done what (nominal) Christianity also has failed as yet to do, must, I suppose, be understood to arise from the circumstance that "the fulness of time" has not yet arrived for the reparadisement of the earth. Nevertheless, *there is a way* for all living to "haste unto the coming of the Lord;" "entering boldly to the Holiest," through the veil, by the daily death,—"dead in the flesh, but quickened by the Spirit;" for "the Kingdom of Heaven *suffereth* violence; and the violent *take it* BY FORCE," as militant soldiers of the Cross, who wrestle with the Angel of the Lord for the blessing, or "fight the good fight of Faith," *headed* by Christ, "the Captain of Salvation." "Ask and it shall be given you: seek and ye shall find: knock and it shall be opened unto you."

JOHN E. DOVE.

* "*The Day* of the Lord *cometh*, like a thief, *in the Night*." "A Day with the Lord *is as a thousand years, and as a* WATCH *in the* NIGHT." The great Day of the Lord then is in itself *a Millennium*: in fact it is a day not in time at all, but in eternity, the antithesis of time: and this, too, is the Great Day of Judgment. The Millennium—Lord's Day—Day of Judgment—Kingdom of Heaven—Second Advent—all are thus one,—a Day of holy Light into which night and darkness shall be turned.

A SANITARY STRIKE BY THE JUDGES.

THE patience with which the judges, magistrates, counsel, reporters, and others who are obliged to be in long attendance in our courts of law, have borne the poisoning process which is daily going on in some of those ill-constructed interiors, is to be wondered at. There is, however, a limit to human endurance; and from time to time faint murmurings of complaint have come from the Bench, and have in some degree corroborated the accounts we have given of these places. So at length Lord Chief Baron Cockburn has spoken out very plainly respecting the state of the ventilation of the Court of Queen's Bench in the Guildhall. On Saturday last, his lordship, upon taking his seat, observed to Mr. Serjeant Shee, that he had just received a letter from Mr. Justice Mellor, informing him that he would be unable to sit in the second court again during those sittings, in consequence of being obliged to proceed on circuit. His lordship went on to say, that his brother Mellor had also added, that he could not conscientiously ask any of the other learned judges to sit in his place, inasmuch as during the summer months the court was so badly ventilated that it was positively injurious to health to sit there. Again, during the winter months, the heating apparatus was placed in such close proximity to the court as to render the atmosphere almost intolerable. Under these circumstances, the Lord Chief Justice said that the learned judges had unanimously resolved not to hold any sittings in the second court until some substantial alterations should be made. Now that the judges have struck there will no doubt be something effective done: and not only in the metropolitan, but also in the magisterial and higher courts of justice throughout the provinces a great deal of good might be effected, and comfort and health promoted, if the gentlemen who fill places on the bench were to direct attention to sanitary defects and use their powerful influence in promoting improvements. In the metropolis a reform in court ventilation and other arrangements might be usefully started at the Mansion House, which is at times dangerous to persons of delicate health. The lighting there is very deficient, and the entire system of the basement part and the rooms above requires to be thoroughly revised. At the Courts of Exchequer at the Guildhall there seems often to be a difficulty in getting a sufficient number of persons to form a jury; nor can we wonder at reasonable men rather submitting to be fined than to be present in a bad atmosphere for many hours during the dog-days.

MONUMENTAL.

A BUST of the late Sir George Cornewall Lewis is to be placed in Westminster Abbey. It is also intended to erect a more conspicuous monument to his memory in his native county of Radnor. The form and character of the monument will necessarily depend on the amount of the subscription; but it is determined that it is to be a suitable structure in the open air, and in the immediate neighbourhood of Sir George Lewis's residence at Harpton. Subscriptions are received at Messrs. Robarts & Lubbock's, and the honorary secretary is Mr. R. D. Green Price, of 20, Whitehall-place.

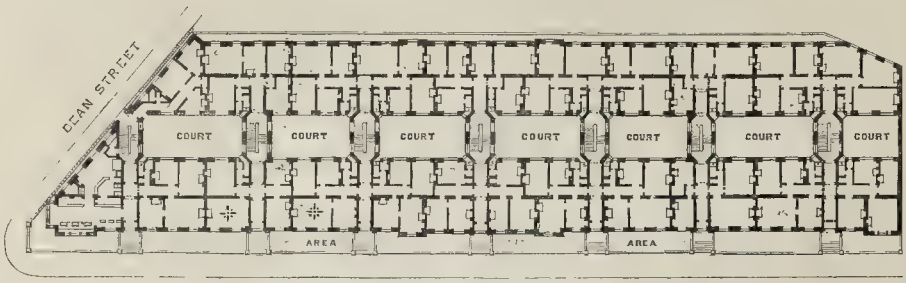
The Hampden monument at Chalgrove, erected in 1843, on the spot where Hampden, in 1643, received "the wound from which he died," has for years exhibited signs of decay, and was fast going to ruin. It has just been thoroughly repaired, however, and much improved in appearance by an addition of nearly 12 feet to its height. The obelisk may now therefore be seen at a much greater distance than before. The improvements have been made at the joint expense of Mr. G. Hampden Cameron, who now holds the Hampden estates, in Bucks, as lineal descendant; and Sir Henry Austen, who, in the female line, is sixth in direct descent from the great patriot. Captain Austen, of Brightwell Park, one of his sons, has had the care of the restoration, and the improved design submitted by him has been carried out.

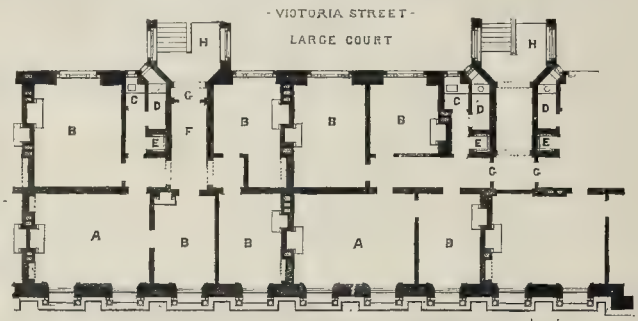
A monument has recently been erected in Leicester Cemetery to the memory of the late Mr. John Flower, of Southfields, artist. It is of Ketton stone, and Early English in character. It consists of three deeply sunk panels, divided, and bordered by clustered circular shafts, surmounted by carved capitals, after a model from York Minster, with deep sunk moulded jambs and Pointed arches above; the latter being carved with a running four-leaved ornament. The whole is supported by a moulded Matlock Moor stone base, the grave being surmounted by a moulded stone kerb supporting a ledger of white Mansfield stone. The design was by Mr. Goddard, jun., of Leicester, architect. The carvings were executed by Mr. John Barratt. While the inscription placed in the centre panel is modestly receding in simple lead-coloured paint, being barely legible at a short distance, the name of the mason stands very prominent in large black characters.

For the Oastler monument for Bradford, twelve designs were sent in, and the unanimous choice of the committee fell upon a design by Mr. Philip, of London, sculptor. The design is simple, and consists of a full-length figure of the late Mr. Oastler, with his right arm slightly extended, as if pleading the cause of the factory children, two of whom—a boy and a girl—are standing, with upturned gaze, on his left, while his left hand rests upon the shoulders of the boy. Mr. Philip has received a commission to produce a colossal statue in bronze after the model, the price of which will be 1,000*l*. The size will be 10 feet, and it will be placed upon a pedestal of 11 feet in height, the additional cost of which will be 200*l*.

WESTMINSTER CHAMBERS

PLAN OF THE PRINCIPAL FLOOR





REFERENCES.

A. Principal Room.
B. Clerk's Room.
C. Washing Closet.
D. Water closet.
E. Lift from Basement.
F. Entrance-hall and Passage.
G. Entrance Door.
H. General Staircase.

ENLARGED PLAN OF TWO SUITES OF CHAMBERS AT

WESTMINSTER CHAMBERS.

AMONG the numerous buildings of magnitude which are everywhere rising into notice in London is the structure called the Westminster Chambers, at the south-east corner of Victoria-street. We give a ground-plan, and a view of it as seen from the Broad Sanctuary, near Westminster Hospital. It occupies the frontage to Victoria-street, immediately opposite the Westminster Palace Hotel, and with it will form a striking entrance to this great street, and redeem it from the waste and desolate character which it has presented for so many years. Already a strong impetus has been given to building along its frontages by the formation of the Victoria Station, connected as that station is with the system of four of the great railway companies.

The Westminster Chambers have a frontage to Victoria-street of 450 feet (or about half the length of the new Houses of Parliament), and extend back to Orchard-street, now about to be widened and improved by the Westminster Improvement Commissioners: the building also fronts on Dean-street; and the site thus having thoroughfares on nearly all sides, and being above two acres in extent, affords facilities for light and air to the offices and residential chambers which the building is to contain.

The demand for offices for Parliamentary solicitors, agents, professional men, and others engaged in or connected with the business of Parliament and the Courts of Law at Westminster, has of late years been far beyond the limited accommodation that could be found in existing houses; and rents have been increasing in Westminster for such accommodation to a great extent, while the nature of the accommodation has been very inconvenient from the unsuitability of rooms originally intended for domestic accommodation being applied to the purposes of professional offices. In addition to this, the improvements and clearances which have occurred, and are likely to continue to occur for some years, in Westminster, in connexion with the Westminster Bridge approaches, Thames Embankment, new Government Offices, &c., have reduced the already scanty office accommodation still further.

To remedy this state of things an association was formed under the Joint Stock Companies Act, with limited liability, with the name of "The Mutual Tontine Association," one of the objects of which was to introduce the tontine principle in connexion with a solid investment, by the purchase of the freehold of the ground in question, and the erection thereon of a substantial building, handsomely, but not extravagantly treated architecturally, and arranged with care, so as to give the most convenient office accommodation, with separate access to each suite of offices, good light and ventilation, fireproof staircases and passages, lifts, washing-closets, and W.Cs. to every set of chambers; while, at the same time, the plans were to be so arranged as to readily permit one, two, or more suites, or even the whole building, to be thrown together and made one; and it was felt that no more certain or safe investment could easily be obtained, and that a high rate of interest might be anticipated.

The shareholders have the option of subscribing to the undertaking in the way of *ordinary shares* bearing a dividend in proportion to the net profits in the usual way, or on the *tontine principle*, by which subscribers of similar, or nearly similar age, are arranged in classes, and a rateable proportion of the net profits is allotted to each class. As any of the class die off, the income of the survivors, therefore, steadily increases; and it has been arranged that when any class is reduced to one-tenth of its original numbers, the property belonging to that class is to be then absolutely divided among and vested in such remaining one-tenth.

The building, which is now rapidly rising, will contain about 530 rooms, disposed on the basement, ground, first, second, third, and fourth floors. It will consist of two parallel ranges of building, each about 430 feet in length, and 39 feet in depth, separated by court-yards about 50 feet by 22 feet, access to the whole being obtained by seven stone staircases of easy gradients and from seven arched entrances from Victoria-street. Each suite of rooms will be approached from a separate entrance-door on the landings of these staircases, and will consist (as the enlarged plan shows) of four or five rooms, as the case may be, with a few sets of two rooms each. There are 120 of these suites in the entire building. Party walls separate the building into fourteen compartments; making, as it were, fourteen separate self-contained houses; and thus, in case of fire, limiting the damage to the division or compartment in which it might occur, and diminishing thereby the expenses of insurance.

The contract for the entire works has been taken by the well-known contractors, Messrs. Lucas, Brothers, for 130,000*l.*; while the purchase of the freehold, Parliamentary and other necessary expenses, will probably require a total sum of about 200,000*l.* Four-fifths of this have been already subscribed. It is expected that the remainder will be taken up before the building is opened.

The scale of rents of the chambers is said to be only slightly higher than those now paid in Westminster for very inferior accommodation, and about 25 per cent. lower than those obtained in Gresham House, City, which is, to some extent, a similar sort of building. Already numerous applications for chambers are being made to the directors.

Messrs. Lucas undertake to complete and deliver over the building to the directors by or before Michaelmas, 1864. The architects to the Association are Messrs. Banks & Barry, of Sackville-street.

WOOD CARVING.

SOCIETY OF ARTS.

WE are glad to hear that the council of the Society of Arts have agreed (on the representations of the Society of Wood Carvers), to institute next year another competitive exhibition of wood carvings with medal and money prizes. This early notice will afford workmen a better chance of showing what they can really do than they have on the present occasion. Endeavours are to be made also to bring together a good collection of wood carvings of different periods to afford modern workers the means of comparison.

At the first meeting of the present council since their election, Mr. William Hawes, vice-president, was elected chairman for the current year. With reference to the offered prizes to art-workmen for art-workmanship, to which we have before referred, we would remind those who propose to be competitors that they should make known their intention before the 15th of July, and as much earlier as possible. This information is necessary to enable the council to make suitable arrangements for the distribution of the awards.


VIEW OF THE WESTMINSTER CHAMBERS LOOKING WEST

ARCHÆOLOGY IN THE NORTH.

WE have before us two new publications touching architecture and archæology in the north.* The first of these is a volume containing the transactions of the New Architectural and Archæological Society of Durham and Northumberland, in the past year. The meetings of the Society were held at Darlington, at Hexham, and Bishop Auckland. At Darlington there were three papers read, the most curious of which was by Mr. Longstaffe. It consisted of documentary evidence concerning the buildings erected by Bishop Pudsey in the twelfth century. In his search among old writings, Mr. Longstaffe discovered mention of the name of the architect employed by this prelate to build Norham Castle. He was a laymau called Richard the Engineer (*ingeniator*). On the completion of these works (*castellaria*), he returned to Durham, where he lived in great repute among his fellow citizens. Another architect employed by the same prelate, probably after Richard's death, was William the Engineer, whose name appears on the pipe roll of 1197. In the "Boldon Buke" there is mention of two other persons connected with the building arts, Christian, *cementarius*, and Lambert, a marble-cutter. Reginald, the Durham monk, to whose records northern antiquaries are so much beholden, writes of an accident to a workman employed in building a chapel in Durham cathedral, which is, probably, the earliest report of a building casualty that we have. The man in question was employed in carrying up stones to the top of a lofty wall: in the midst of this occupation a large stone fell upon him and hurt him severely: for months he was prostrate, and for a year and a half went about Durham upon crutches. At the end of this long convalescence, interweaves the monk, true to his cloth, he was miraculously cured by St. Godric. The works imputed to Bishop Pudsey, besides Norham Castle, are improvements in Durham Castle, a new wall from the north gate to the south one, the gateway, the decorations of the north and south doorways, the cathedral, the erection of the Galilee, the commencement of the cloister, the erection of the hospital at Sherbourne, the construction of the church at Grindon, the building of a bridge at Elvete, with (on the authority of Davies) two chapels upon it; the church of St. Cuthbert, Darlington, and renovations of episcopal houses wherever they were required. The Society have testified their grateful appreciation of the vigorous aid extended to architecture by this prelate by a circular woodcut on the cover of their volume, showing him in consultation with William the Engineer in a cloister. Around the cut runs the legend, "I will build as in the days of old." The second paper is a digest of the remarks of Mr. Scott on St. Cuthbert's Church, Darlington, made on the occasion of the Society's visit there. This gentleman also alluded to the early architects; more especially bestowing encomiums upon William the Englishman, who, he believed, was the first to introduce the round capital. A paper on Hexham Abbey Church endorses our strictures upon the spoliations made there under the name of restorations. The concluding paper gives a history of Auckland Castle, and its long line of resident bishops, from the days of Hugh Pudsey, the magnificent bishop whose works we have just enumerated, to the days of Wyatt, whom the author, Mr. W. S. Gibson, calls "the prince of sham and stucco." The "Boldon Buke," in its mention of the services rendered to the early bishops by their tenants, gives a word-painting of the manners and customs of the times. The oxen of the tenants ploughed the episcopal land, carted the episcopal wine, and carried the episcopal wood: their husbandmen sowed the bishop's seed, made his hay, reaped his crops, brought him eggs and poultry; and the miller ground his corn. As a set-off to this list of favours received, the bishops were called upon to exercise a regal hospitality. King John paid two visits to Auckland Castle: Edward III. was entertained there by Bishop Bury; and John of Gaunt, Duke of Lancaster, caused Bishop Fordham considerable expenditure, as his roll, showing payments for wine and wax for candles, shows to those curious in such matters. A plan accompanies this paper, indicating that the ancient strongholds of the early bishops was surrounded by a wall fortified with towers, in precisely the same mode as the castles of the nobles. There are illustrations, too, of the rich ornamental works attributed to the architects of Bishop Pudsey; and plans showing the alterations at Hexham. The contents of the volume, generally, will be deemed acceptable contributions to our stores of archæological lore.

The *Border Magazine* is offered, the preface says, as the current medium of reciprocal communications to the antiquary, naturalist, and literary aspirant, whether resident on the English or on the Scottish border. The opening paper is a monograph upon Warkcastle,—an edifice built at Carham, on the Tweed, by Walter D'Espec; but being, like the French palace, the Louvre, spoken of at first among the people as "the work," has retained that name, provincialised to "wark." It was frequently reduced by the Scots; and all that is now to be seen to mark the site on which it stood, is a huge mound of ruin covered with green turf. A second paper, by G. Tate, F.G.S., tells of St. Cuthbert's beads,—a natural curiosity found on the shore in the neighbourhood of Lindisfarne Priory. An interesting account of Hawick Cross follows. Near the centre of the weighhouse, under the town-hall, is a circular piece of pavement, about 4 feet in diameter, marked with a St. Andrew's Cross. This indicates the site of the ancient Market Cross, of which there was no other local remembrance. In 1860 the plinth was recovered. The oldest inhabitants identified it as the stone to which offenders were fastened by staple and ring in the days of the pillory, and to which, also, bulls were tied when *bated*. (We spell this word with another vowel south of the Tweed.) When a pillory of the platform-cage kind was provided by the town council, the old one was presented to a tanner, who used it for many years for the purposes of his trade, but at last allowed it to get submerged in water. This stone had thus fulfilled a varied career of usefulness; at first a plinth of the market cross; then, turned upside down, the base of a pillory; and, lastly, an implement of trade. There are entries in the burgh records relating to the cross. The first, dated 1638, concerned a woman who was charged with stealing peat. She pleaded Guilty; whereupon she was ordered "to lie 48 hours in the stockes, and yrafter to come to the mercat crosse of Hawick upon the mercat-day, and to stand thereupon with the peittis upon her shoulder, with one paper upon her breaste or forehead declaring the fault." In May, 1715, there is an entry to show that the council agreed "that the common mercat-crosse with its appendages, be helped, mended, and repaired at the expense of the burgh;" and another to prove that further repairs were made in 1724, "given ye masons for lead and aile, when they mended ye crosse, 15s." Curiously, the recovered stone authenticates these expenditures. There are five holes upon it, showing where iron stays were inserted. In a paper on Ednam, the birthplace of the Poet of the Seasons, a few new facts are brought forward. An old volume, bound in parchment, containing several entries relating to the Thomson family, was found built up in a recess in one of the walls of the manse in which his father resided as incumbent of the parish. This documentary evidence shows that the biographers of the poet have known but very little about him. The new materials for a life of Thomson are these:—The Rev. Thomas Thomson's incumbency of the parish of Ednam lasted from July, 1692, to November, 1700; and in 1693 he married Beatrix Trotter, of Kelso. Four out of his nine children were born at Ednam. James, the poet, was baptized September 15th, 1700; and was born, not at the manse, but at a small cottage close by to which the family had temporarily removed during the progress of some necessary repairs. This cottage is now used as a sort of "out-house convenience" by a farmer. There are also notes on birds and border flowers; and Mr. Jeffreys brings up the rear with a notice of the "British period" in which he represents the aboriginal inhabitants of our island home as possessing a wider knowledge of the arts than is generally attributed to them. He even hints that they accustomed themselves to an indigestible luxury known in the nineteenth century (on this side of the Tweed) as hot rolls. Mr. Jeffrey says:—"In this country the baking of bread was left to the women. It was baked on stones called gredíols or gredles. From the name of the oven, *odyn*, being British, it is thought there were public bake-houses in each village, and that it is probable the ancient Britons followed the example set them by the Romans, and had *warm rolls to their breakfast*." There are plenty of local idioms like this to be found scattered among the pages of this maiden number: nor would we wish them expunged. The *Border Magazine* will be fraught with all the more memories of home to the Borderers who may read it on distant shores; and to ordinary readers it will be all the more indicative of the peculiarities of the romantic Border land.

* Transactions of the Architectural and Archæological Society of Durham and Northumberland. Joseph Masters, Aldersgate-street, and New Bond-street, London. Jan. 1863.

The Border Magazine. Edinburgh: William P. Nimmo. London: Simpkin, Marshall, & Co. July, 1863.

THE HEREFORD CATHEDRAL RESTORATIONS.

THE re-opening of Hereford Cathedral took place last week.

The work done since 1857, under the superintendence of Mr. Scott, comprises many improvements. First, there were the taking out and rebuilding of the entire jamb and walling of one side of the west window of the north transept. The whole of the tracery and mullions of these windows were taken out, repaired, and refixed. The remains of the groining shafts which had been destroyed were cut out, and new stones inserted. The bases of the pillars and the seats around the transept had been so mutilated as to necessitate their entire renewal. The walls, also, where decayed, were repaired by cutting out and inserting new stones. The monuments in this part have been restored as far as the Chapter's means will allow. The greater portion of one bay of the vaulting was taken out and refixed in cement. The floors throughout have been laid with Godwin's encaustic and enamelled tiles, laid to various designs, intermixed with coloured stone bands.

The whole of the external buttress caps were removed from the north transept, its eastern aisle, the north-east transept, the choir, and the Ladye Chapel, and in each case the original form was restored. The embattled gable coping of the north transept and an erection intended for a cross were removed, and new coping and a cross of a fit design were erected instead. The stairs, too, were surmounted with a spiral top as of old, which gave the whole transept its proper proportions.

The windows on the north and west sides were restored, as were also the different buttresses, and other weatherings, string courses, bases, and plinths.

The three windows of the room over the eastern aisle of the north transept, used as a library, have been restored.

The foundations of this portion of the transept were in a wretched condition, and the whole wall was gradually giving way. The old foundation was taken out and a new one inserted. The parapet of the choir, which had been raised by Wyatt, was lowered 3 feet to its original position. To execute this the roof of the choir had to be reformed and entirely releaded. In the windows, parapets, buttresses, weatherings, strings, plinths, and bases of the whole east transept, decayed or defaced stones were taken out and new stones were inserted instead.

The porch leading to the crypt on the north side of the Ladye Chapel, has been rebuilt, and the whole arcading of the north and south sides of the Ladye Chapel has been removed.

The little chapel, built by Bishop Audley, about 1475, has been entirely rebuilt,—at least, as regards the exterior.

The eastern windows of the south-east transept have had all the old mullions and tracery taken out and reset, with the addition of several new pieces of tracery and mullions. Entire new foundations were built to this transept at a great depth, by means of underpinning, and the buttresses and plinths were taken down and rebuilt.

The roof of this transept as well as the roof of the south aisle of the choir was strengthened with the addition of a large quantity of new oak, and iron work, the whole afterwards covered with new boardings and lead. The ancient portion of the roof of the Vicar's Cloister has been destroyed, giving place to a flat plastered ceiling. This has been removed, and the old roof again restored.

The woodwork of the windows of the building used for the present as a chapter-room has been removed, and the stone jambs and arches have been restored to their ancient form. The brick wall in the interior, as well as the wood floor (which was raised 3 feet above the original level), has also been removed, and the whole restored to its ancient form. The roofs of the western or Bishop's Cloisters have been entirely renewed, and covered with lead. The sunk-panelled and embattled parapet, with the crocketed pinnacles of each buttress, had been totally destroyed. These have been entirely rebuilt from an old fragment. The centre tower of the cloister over the entrance to the ancient chapter-house was taken down and re-constructed.

At the north side of the cathedral the Booth Porch has been restored, as also the Stanbury Chapel.

The foundations of the whole fabric have been thoroughly repaired, and underpinned where that was necessary.

Mr. Ruddle, of Peterborough, is the contractor for the fitting up of the choir-stalls and other joiner's work; Mr. Thompson, of the same place, for the mason and marble work; and all the tiles are from Mr. Godwin, of Lugwardine.

In the interior, the various monuments have been replaced. The models of seven electro-statues were executed for the cathedral by Mr. R. L. Boulton, of Worcester, sculptor. The altar screen was executed by his brother and him, under the late Mr. Cottingham, architect.

The ceiling of the north transept has been decorated by Mr. Hudson, the decorator of Salisbury Chapter-house and Chester Cathedral.

The choir-screen and corona are the prominent features of the interior view. The screen (or gateway to the choir) is placed under the eastern arch of the tower, and is a work rich in colour and decoration. The screen (which is by Skidmore, of Coventry, and was fully described in our pages), will be remembered by every visitor to the International Exhibition. It consists of an arcade of five main arches, each of them being divided to form two sub-arches: the central arch is of both larger and loftier proportions than the others, and above it rises a lofty pedimental canopy. Iron is the principal constructive material, copper and brass taking the principal parts in the more strictly decorative construction. There is yet much which is needed in order to make the restoration really complete.

We quote the following from the "Statement of the Restoration Fund":—

WORKS COMPLETED.

1858, May, to 1861, December 14th.

To payments to Mr. John Thompson, contractor for the following works, viz.:—

	£. s. d.	£. s. d.
First contract for interior and exterior works	7,464 10 0	
Second contract for ditto	2,094 12 0	
Sundry lead work and day account on the above works	116 10 3	
Third contract for works to roof of choir, turrets, north transept, south transept, and Stanbury chapel	937 11 8	
Sundry additional works to interior and exterior, including north porch as per estimate	918 0 8	
Restoration of monuments, crypt steps, pinnacles, and part of stonework to flooring, &c.	913 9 6	
		12,484 14 1
To Mr. O. Hudson, for decorating ceiling of north transept		189 0 0
To payment to architect and clerk of the works, on account, up to November, 1861		1,291 2 9
To cost of obtaining Act of Parliament for raising 13,000*l.* on mortgage of fabric estates		548 17 1
To costs of mortgages for 13,000*l.*		47 10 6
To costs of preparing contracts for works		15 19 1
		£14,567 3 6
Per contra.		
By amount raised on mortgage £13,000 0 0		
By amount provided by the Dean and Chapter out of surplus income of fabric estate	1,567 3 6	
		14,567 3 6

WORKS COMMENCED AND IN PROGRESS.

Floors of Ladye Chapel, eastern transepts, south transept, vestibules, under tower, chapter-house, south aisle of choir, portion of north transept, north aisle of choir, chapels, and of choir, including steps and base of screen, laying and fixing gas fittings, &c.	2,464 0 0	
Woodwork to choir stalls, new oak floor, and fittings, including carving	2,220 0 0	
Gas standards, coronas, and interior pipes and mains	993 8 0	
Exterior gas mains and meters	150 0 0	
Sundry works, including rain-water pipes, iron gates to cloisters, and sundries	200 0 0	
Choir screen, as per contract	1,500 0 0	
	£7,527 8 0	
Architect and clerk of works from November, 1861, until completion, say	685 0 0	
	£8,212 8 0	
Deficit	£562 14 3	

Unless liberal contributions are forthcoming, some of the works essential to a complete and effective restoration must be omitted altogether, or only carried out incompletely; and the Dean and Chapter make an urgent appeal to the public.

ARCHITECTURAL ALLIANCE.

AT the meeting held on the 2nd, as briefly mentioned in our last, delegates attended from the London Architectural Association, Architectural Institute of Scotland, the Bristol Society of Architects, the Birmingham Architectural Society, the Manchester Architectural Association, and the Northern Architectural Association.

Mr. C. Underwood took the chair; and, after some formal business, the hon. secretary, Mr. Pritchett, read a report rehearsing proceedings to which reference has been already made in our pages.

The meeting then proceeded to prepare a scale of charges which, when completed, is to be sent to the various allied societies, with the request that they will consider the same, and return it, with any alterations they propose, to the secretary. The scales published by the Institute and by the Northern Architectural Association, were taken as the basis.

On the motion of Mr. Austin, seconded by Mr. Roger Smith, it was resolved that the subject of competitions be brought before the allied societies by their delegates.

On the motion of Mr. Bunker, seconded by Mr. Rickman, it was resolved "that the delegates lay before their respective societies the question as to the desirability of establishing a uniform system of measuring artificers' work, and do bring to the next meeting such information as may be accessible."

The ballot for the officers of the ensuing year then took place, when the following were elected:—President, Mr. Roger Smith; vice-president, Mr. Chamberlain; treasurer and secretary, Mr. S. P. Pritchett.

THE BUILDING TRADES.

MANY important works are in progress at the present time. Although the chief lines of railway have been completed, there are still in course of construction branches and extensions which give employment to a large army of work-people: besides, there are the metropolitan lines, the Thames bridges and embankment, and the gigantic main drainage works. In the centre of the City an almost entire rebuilding is going forward: in places which are noticed by few wayfarers, important buildings are being raised, at an immense cost; such as the new banking premises of the Rothschilds. In the suburbs acres of ground are, in these summer months, being built upon; and in all directions spacious and substantial churches, chapels, and schools are being erected. Nor are these great operations confined to the metropolis, for in nearly all the chief towns a wonderful extension is going on.

The rapid growth of many English towns is marvellous. In 1668, when Pepys visited Bristol, it stood second to London in importance and population. It contained 29,000 inhabitants. At the same period the population of Leeds was about 7,000; of Sheffield, Birmingham, and Liverpool, about 4,000 each; and of Manchester about 6,000. Three of these towns have greatly outstripped Bristol; and yet, so far from having decreased, the latter town has quadrupled the number of its inhabitants. To provide for this increase of the population, thousands of persons engaged in the building trades are kept busy. Even more rapid than the increase of population is that of British commerce and manufactures; and this at present calls for the construction of warehouses, factories, and docks, which require a large amount of labour. There are also harbour and other public works in progress. These, then, should be prosperous times for masons, bricklayers, navigators, and many others. In evidence of this, it may be mentioned that at a recent meeting of the Metropolitan Board of Works, Mr. Carpmael asked how it was that the estimates of the main drainage had been so much exceeded by the cost? In reply, Mr. Bazalgette entered into a statement which showed that during the last few years materials have risen from 25 to 93 per cent., and labour from 30 to 40 per cent. He accounted for it by the great number of such large works, several of which he mentioned, being in progress at the same time; added to which, some of the main drainage works had to be driven through difficult ground, traversed by water.

Throughout the country sanitary improvements are absorbing a large amount of labour; for, in many places water-works, drainage, suburban cemeteries, &c., are in progress.

When reviewing the present activity, some ask what is to become of the thousands of workmen now employed when the great works in hand are completed, and fear that after the years of plenty there may come a time of scarcity in connexion with this kind of labour. We remember similar doubts when the great lines of railway were being made; but, notwithstanding that these works are finished, the demand for labour is greater than ever. Supposing that all now in progress are completed, there will be continued demands for this kind of work, for much remains to be done in both town and country. In Lancashire the great necessity for sanitary improvements has been shown. The pavement is deficient in long lines of streets. So rapid has been the growth of some towns that it has been impossible to find persons to complete the drainage and other matters necessary for health. We fear, however, that this neglect has been in some instances caused by carelessness on the part of the authorities, or is in consequence of the want of a sufficient supply of money for these purposes. In some towns large sums have been expended on improvements, which will save many lives and add to the health and comfort of the inhabitants: in others nothing has been done. There will come times of depression—the result of temporary and peculiar causes; but, as years roll on, the advanced condition of the country will require increased numbers of hands to execute public and private works.

OFFICE OF PUBLIC WORKS.

IN the Commons, on the 7th instant, Mr. B. Cochrane moved the following resolution:—"That the large sums annually voted for public buildings and improvements in the metropolis are not expended in a satisfactory manner; and that, with a view to the efficiency of the Office of Works, it should be constituted on a different basis." He urged that the House should pass a resolution indicating strongly their opinion with respect to the manner in which these works were conducted, and entered into much detail in support of his motion. The HON. W. Cowper said the Office of Works was in no way responsible for those works which his hon. friend had complained of, and which he appeared to attribute to the shortcomings of that office. After a review of Mr. Cochrane's speech, Mr. Cowper asked, Why was it that so many public offices had remained so long in abeyance? It was that there had been so many committees, the members of which had conflicting views, and every one was obstinate in upholding his own opinion. The arrangements of the Foreign Office had been hung up ever since 1839; and that delay was attributable to the fact that three committees had successively sat on the question. Four had sat on the National Gallery and two commissions; and as to the British Museum, he could not tell how many commissions and committees had been appointed. Even if it were possible, he thought there would be great hazard in turning the Office of Works into a Board not having any person in that House to represent it. He thought the better way would be to give more power to the Office of Works than it had at present, no matter who might hold the office of chief commissioner. The motion was rejected by a majority of 116 to 24.

CHURCH-BUILDING NEWS.

Partney (*Lincolnshire*).—The church of St. Nicholas, Partney, was re-opened, after extensive restoration, on June 25th, by the Bishop of the diocese. The works have been carried out by Mr. C. White, builder, Alford, under the direction of Mr. C. E. Giles, architect, London. Except the tower and chancel, it has been found necessary to rebuild the whole fabric. The only new features are the roofs, two windows in the north aisle, the porch, and the internal fittings. The new nave roof follows the line of the old weather mould on the tower which marked the height of the original roof. The old porch had hardly any remains of the original work, but the few there were have been made as far as possible the groundwork of style to the new porch.

Ipswich.—It has been decided to restore the church of Stoke, near Ipswich, and to build a new north transept in accordance with plans which have been prepared by Mr. R. M. Phipson. The total cost of the work will amount to between 1,100*l.* and 1,200*l.* The new north transept, together with the rebenching of the church, will, it is estimated, afford accommodation to from 80 to 100 additional persons. The west gallery is to be removed, and the tower arch opened. A new organ has been purchased, and will stand at this end, with an open screen before it; filling up, for about 8 feet in height, the aperture of the west arch. The benching will be open, and of a simple character. That for the chancel will be oak, and for the nave and new transept pine. The roof of the new transept will be precisely similar in detail to the old roof of the nave, and a moulded stone arch partly springing from corbels will connect it with the nave. The outside cement work will be cut away, and the old rubble walling restored. The porch it is proposed to case with hammered flint.

Great Waltham.—The church of Great Waltham has been restored and re-opened. Nearly the whole fabric has been restored. A new five-light east window, of a size corresponding with the building, has been inserted. Oak benches, with poppy-heads and carved panelled fronts, have been fixed. Externally considerable alteration has taken place in the appearance of the church, as the whole of the plastering has been stripped off, exposing the flint rubble work. The whole of the work has been carried out under the direction of Mr. F. Chancellor, architect, Chelmsford, by Mr. James Brown, of Bocking, builder; the wood carving having been executed by Mr. Polly, of Coggleshall.

Leighton Buzzard (Beds.).—There is a prospect of additional church accommodation being provided in this town, which is very much needed. Permission has been granted to erect a church and schools on a piece of ground at the north end of the town.

Exeter.—Silverton church, near Exeter, was re-opened after re-consecration, on June 27th. The works just completed from plans by Mr. Ashworth, architect, have been executed by Messrs. Moass & Sons, builders, Exeter. They consist in the rebuilding the chancel with enlargement; removing a classic reredos and transparency, some imitated drapery, and a gallery at the east end of the south aisle; also a post and rail screen of classic character, which surmounted some small mutilated remains of a perpendicular rood-screen, extending originally across the church. The whole area of the nave and aisles has been re-seated with red deal stained fittings, and there is a new flat formed, and covered with lead to the north aisle. Repairs have been made in the external stonework generally, and pinnacles and new windows supplied to the tower. The churchyard has been enlarged, and walls and gates built. The cost of the works is nearly 1,500*l.*

Mark (Somerset).—Progress has been made within the last month towards the restoration of the church at Mark. Most of the pews have been lowered, and the stone pillars and arches scraped.

Aberdare.—The principal stone of a new church for the especial accommodation of the Welsh population of Aberdare, has been laid. The church, of which a portion of the principal walls are already erected, will consist of nave, north and south aisles, chancel, and chancel aisles, and a vestry on the south side of the chancel, over which will be a gabled tower of the height of 70 feet. The extreme internal dimensions are—length, 97 feet; width, 51 feet 8 inches; providing accommodation for about 680 adult sittings. The columns of the church will be of iron. The cost of the building will be about 2 800*l.* The style will be Middle pointed, with bold details. The architect is Mr. A. W. Blomfield, of London; and the clerk of the work, Mr. G. M. Bates, from Stevenage, Herts. Mr. P. Rees, of Aberdare, is the contractor.

Llanystumdwy.—The new church of the rural village of Llanystumdwy, midway between Pwllheli and Portmadoc, has been opened by the Bishop of Bangor. The edifice is cruciform in plan, and has been rebuilt on the same site as the former, with the exception of the northern transept, which has now been added. The internal dimensions of the building, as now completed, are;—the nave, 57 feet 6 inches long, up to the steps outside the altar rails, and 31 feet 6 inches wide; the north and south transept, 14 feet 6 inches by 12 feet; the chancel, 18 feet 6 inches longitudinally, from the east wall to the edge of the steps outside the altar rails, by 15 feet wide. The general height of the building is 14 feet 6 inches to the eaves. The style is third pointed. The chancel is lighted by an arch-headed window, in three lights, with traceried head, the whole filled in with stained glass, by Messrs. T. Baillie & Co., of London, and the gift of Mrs. Howel Morgan, of Hengwrt-ucha. The window is in the Decorated style, and is divided into three lower or principal lights, and seven ornamented compartments. The tracery above is about 12½ feet in height, and 6 feet 6 inches in width. In the centre principal light is an illustration of Our Lord's Sermon on the Mount. In the dexter or north side is shown St. Paul preaching at Athens; and in the sinister or south side is St. Peter preaching, as described in the second chapter of Acts of the Apostles, wherein is stated that about 3,000 souls are converted. Each of these groups is in an elongated medallion shape, the remainder of the openings being occupied with mosaic design, in colours. Across the lower part of the window, under the groups, is a memorial legend, written in the Welsh language, in Lombardic characters. In the tracery lights are represented the Dove, the Pelican, the Cross, Holy Bible, and Cherubim. The church will accommodate about 300. The old seats have been stained and varnished, to match the new seats; and a platform raised at the west end for the singers. The cost of the whole of these works will, we are informed, be between 950*l.* and 1,000*l.*, a large portion of which the Rev. Henry Richards, the rector, has still to realize. The designs for the works were furnished by Messrs. Kennedy & Rogers, of Bangor and London, architects; and were carried into execution by Mr. Wm. Thomas, Menai Bridge, builder.

Long Compton (Warwickshire).—The village church here has been re-opened after renovation, at a cost of 2,000*l.*, raised by private subscription The nave has been renovated, a new floor has been laid down, and by new open seats the accommodation has been considerably increased. The chancel has been newly roofed, and paved with Minton's encaustic tiles, while a painted window has been executed by Messrs. Hardman. The architect was Mr. H. Woodyer; and the contractor, Mr. C. Denner.

Nottingham. — The foundation-stone of All Saints' Church has been laid. The expense of the erection of the edifice and its endowment is defrayed by Mr. William Windley, of Nottingham. The site selected is at the corner of Raleigh-street, on an elevated plot of ground overlooking the Arboretum. The church, which is from a design by Messrs. Hine & Evans, architects, will consist of a nave and apsidal chancel, with north and south aisle to both; a tower and spire at the west end, and north and south porches; the vestry and organ-chamber occupying the south aisle of chancel. The nave is 75 feet, by 25½ feet wide in the clear; the aisles 13 feet wide; the chancel 37½ feet by 21½ feet. The extreme length of the church without is 150 feet, and the width 63 feet. The height from floor to apex of nave to roof is 57 feet. The height of tower and spire to the summit of the cross will be upwards of 160 feet. The walls are to be wholly of stone; the inner face to be dressed, and the outer rock faced. The arches will be relieved by the introduction of red Alton stone, and those in the chancel will be enriched with alabaster and Devonshire marble. The roofs are to be open timberwork, and covered with Staffordshire tiles. The church will provide accommodation for 800, in open benches arranged on the ground-floor. The style is an approximation to the Early Decorated.

SCHOOL-BUILDING NEWS.

Glastonbury.—The foundation stone of the new St. John's schools has been laid. These schools are situate at the north side of St. John's church, and are to be built in the old Gothic Perpendicular style, in character with the church. They are to contain two school-rooms, one for boys and one for girls; each 58 feet long by 20 feet; two class-rooms, each 18 feet by 11 feet; play-grounds, and offices. The cost of them, together with the purchase of the land, is estimated to be about 1,500*l.*, of which Government has granted 500*l.* Mr. H. Danby Seymour, M.P., has contributed 100*l.* The schools are from the design of Mr. Scott, and they will be built under the superintendence of Mr. Merrick.

Elmley Lovett. — The new schools recently erected at Cutnal-green, in this parish, have been opened. The building consists of a room capable of accommodating 100 children of both sexes, with the usual out-offices attached. At the northern end is a residence for the master and mistress. The building is of red and black brick, and is covered with Broseley tiles of the same colour, worked in design. The total cost of the school and residence is estimated at about 750*l.* Mr. T. Baker, of Kidderminster, was the architect; and Mr. Fisher, of the same town, the builder.

Swinton (Yorkshire).—The first stone of a new school in connexion with St. Peter's church, Swinton, has been laid. The building will be of red brick, with bands of blue and white beading courses at intervals. The roofs will be flat pitched and hipped, covered with green and blue slates, and the monotony of outline will be relieved by the introduction of lunettes. The structure will be divided into boys' and girls' schools, each 50 feet by 30 feet, with two class-rooms 21 feet by 13 feet 6 inches, and separate porch entrances. Under the boys' school, rooms will be provided for heating apparatus, coals, and storage. The interior of the schools will be unplastered, and the roof-timbers, to the line of ceiling (20 feet from the floor), will be stained and varnished. The entire cost, including fences, gates, and fixtures, is estimated at 1,530*l.*, towards which about 1,150*l.* have been subscribed. The building is designed by, and its erection is under the management of, Messrs. Whyatt & Redford, Manchester; and the builder is Mr. D. Barlow, of Pendleton. The ground on which the schools will stand was given to the building committee by the late Earl of Ellesmere. The building will be used for teaching the children of St. Peter's church, in conjunction with the schools already in use.

ACCIDENTS.

MR. THOMAS WAKEFIELD MOON, of No. 4, Church-street, Kentish-town, while visiting the abbey of St. Alban's, fell from the tower upon the roof, 75 feet below, and was killed on the spot. From the evidence taken at the inquest it appears that the deceased was twenty-four years of age, and had only been married a few weeks. He, in company with his father and two elder brothers, had come down to St. Alban's from London in an open carriage. They were supplied with tickets to view the abbey. The three brothers had arrived at the top: they were not accompanied by the verger. The deceased attempted to sit down between the embrasures; but, being deceived as to the height and width of the wall, overbalanced himself and fell over.——An accident has occurred in London-street, Norwich, owing to the falling of a cornice about being erected on the top of some new houses, now building. It appears that the overhanging cornice had not been properly weighted and secured; and while a labourer was engaged on the upper platform of the scaffolding, the overhanging stonework of one of the houses gave way, carrying with it the scaffolding, and precipitating the man to the ground, portions of the *débris* falling upon him. The man, however, was not killed.——A painter has been killed by a fall while painting a staircase in a house in Waterloo-street, Hove, near Brighton. Deceased was standing upon some steps, which were partially resting on a board and partially against the wall. The board on which the steps were partially resting was placed at one end on a stair of the staircase, and on trestles at the other end. The trestles stood wide open on the landing. Whilst deceased was standing upon the steps the trestles gave way from him right into the back drawing-room door, which was open. He fell about 10 feet on to the wooden landing below, and in falling probably knocked his head against the architrave of the door. He had himself arranged the trestles and plank.

LIGHT AND AIR CASE.

ISENBERG *v.* THE EAST INDIA HOUSE ESTATE COMPANY.

THIS case arose out of the new buildings being erected on the site of the old East-India House, from the increased height of the new buildings thereby decreasing the light and air to the plaintiff's premises, in Lime-street. The case was argued before the Master of the Rolls, on the 24th of June last, and, after a long and patient investigation, the Master decided on a view of the premises, as that was considered a satisfactory course by all parties concerned. The Master of the Rolls appointed Saturday, the 27th of June, for this purpose. Meanwhile the defendants put up what was represented by them to be a model of the old premises. His Honour attended on the day named, in company with another gentleman, and viewed the *locus in quo*. Judgment was given on the following Monday, by the court granting an injunction in the terms of the plaintiff's bill, viz.—to remove the obstructions caused by the said new buildings being higher than the former India House; but execution would be stayed until the second week in Michaelmas term, to give time for the parties to make some arrangement. The Solicitor-General, Mr. Hawkins, Q.C., and Mr. Wicken, were counsel for the defendant. Mr. Selwyn, Q.C., and Mr. Dundas Gardiner, were counsel for the plaintiff.

CASES UNDER METROPOLITAN BUILDING ACT.

Wooden Buildings.—At the Clerkenwell Police-court, on the 30th ult., Daniel Marriage, of Ward's-place, Lower-road, Islington, was summoned by Mr. Godwin, the district surveyor of South Islington, for having erected a building contrary to the provisions of the Building Act: also for not giving proper notice to the district surveyor.

Mr. Layton, jun., of Islington, said that the defendant had erected a wooden building in the forecourt of his house. The building was enclosed, had a door hung on hinges, and the roof was of wood. The district surveyor gave notice to the defendant to pull down the building, as the

erection was not in accordance with the Building Act, which states that the building shall be constructed of incombustible materials. And this building being in the close confined neighbourhood of Ward's-place, Lower-road, a colony of costermongers, it was likely not only to be a nuisance by impeding light and air, but also, in case of fire, it might convey the flames from one side of the place to the other. The complainant had no wish to deal harshly with the defendant, but desired him to know that he was not to infringe the law; as, by allowing this building to pass by unnoticed, it would be a tacit consent to the erection of other buildings of a like character. A question might be raised as to whether this was a "building." There could be no doubt about it, and there were plenty of decisions upon that point.

The district surveyor having proved the statement,

The defendant said he was not aware that he had done wrong. It was not a building, for it was only a few pieces of wood nailed to some posts

Mr. Barker: It is quite clear you have done wrong; and if Mr. Layton asks for it, I shall fine you.

Mr. Layton: We do not ask for that. If he pulls it down in a fortnight it will do.

Mr. Barker: Very well. I will allow the summons to stand adjourned for a fortnight. In the meantime the defendant must pull down the structure. If it is not pulled down I shall inflict a heavy penalty. Buildings of this kind must be stopped; and it is only by the kindness of the district surveyor that you are saved a great deal of expense and the costs.

BLIND BUILDERS IN EXETER.

SIR,—Knowing that your widely circulated paper is at all times open for the advocacy of what is right, and the condemnation of that which is wrong, I send you another instance of how work is tendered for, and how builders jump at conclusions. In a recent competition for the erection of four cottages in this city, for Mr. Sclater, Mr. Cross, architect, the highest competitor was 1,114*l.*, and the lowest 576*l.*: surely there must be something radically wrong somewhere. SEMPER FIDELIS.

PATENTS CONNECTED WITH BUILDING.*

MACHINERY FOR MOULDING AND COMPRESSING ARTIFICIAL FUEL, PEAT, BRICKS, TILES, &c.—*R. A. Brooman.* A communication. Dated 3rd November, 1862.—Upon a bed the inventor erects a pillar for carrying the axis of an oscillating beam. To this beam, in front of the pillar, two pistons are connected, one at the end of the beam and the other near the pillar. One piston is used to compress and mould the substances in moulds carried on a revolving platform, and the other for driving the moulded or compressed substances out from the moulds. Where the shape of the moulds will not admit of the moulded articles being driven down through them, then he employs a piston from below to force them up through the moulds. This latter piston is made to move up and down by levers connected to the beam behind the pillar through a connecting rod. The revolving platform carries several moulds and is made to revolve to present the articles, first to the moulding piston, and then to the piston for driving out the moulded articles. Motion is communicated to the outer edge of the platform, which is toothed for the purpose, through a pawl and lever worked from the same prime-mover, which, through a connecting rod, drives the oscillating beam. The moulded articles are carried away upon an endless belt.

COMPRESSING OR DRESSING BRICKS AND TILES. *C. Hadfield* and *W. A. Atkins.* Dated 21st November, 1862.—This invention consists in the construction and employment of a revolving table or frame, upon or in which any convenient number of moulds, open at the top, and each fitted with rising bottom dies and pistons, are placed, fixed, formed, or fitted, and a rising and falling main piston, actuated by a crank, and also working radially into and out of each succeding travelling mould, passing respectively under the said piston as the table revolves. The revolving table and rising and falling pistons of the machine are actuated by a suitable gearing driven by a steam-engine or otherwise; and the bricks, tiles, clay, or other materials, having been thereby subjected to the required compressing forces, and having received the desired form, are lifted out of the moulds by the continued rising of the bottom piston along the circular incline, until it arrives at the highest point thereof, when the compressed articles are removed, and their place supplied by other materials.

MANUFACTURE OF TILES OR MOULDED BLOCKS. *J. Taylor, jun.* Dated 21st November, 1862.—In manufacturing moulded, bent, or angular tiles or lumps, each having two outer surfaces at right angles to each other, a die or moulding orifice is so formed that several of such bent or angular tiles or blocks shall be moulded together in one block, and so connected to each other that they may be dried and burned and transported to any distance before they are separated for use. And the construction of the die or moulding orifice is such that some of the bent tiles (which are all of the same section and dimensions), are within, while the others form the outside of the block. The die or moulding orifice is of a rectangular figure, and produces four bent tiles, one at each angle of the die, and two similar bent tiles on the inside of the mass, moulded or formed by expressing brick-earth or clay through the die.

IMPROVEMENTS IN TOPS, CAPS, AND WIND-GUARDS FOR CHIMNEYS, AND IN APPARATUS FOR CLEANING THE SAME. *S. Deacon* and *C. Deacon.* Dated 21st November, 1862.—This invention consists in constructing the covers of chimney-tops, caps, or windguards in such manner that the said covers shall open and close; that is to say, they shall be opened by the brush or ordinary cleaning instrument when it moves upward, so as to allow such brush or instrument to pass up through the top, and shall close or return to their previous position when the said brush or instrument is lowered or withdrawn. The invention next relates to an improved cleaning apparatus, the object of which is to clean the inside surfaces of the guards, shields, or plates fixed outside the openings or slots of windguards, chimneys, or caps.

APPARATUS FOR PREPARING CLAY FOR BRICK-MAKING, &c.—*G. Ransome.* Dated 25th November, 1862.—This invention consists in improved sieves and the mode of agitating them. The patentee takes an ordinary sieve of the rectangular form, and suspends it horizontally in a suitable framework by four leather straps, one at each corner, from beams above it; one end, however, being about three inches higher than the other. He then fixes into the bottom of it, about 6 inches apart, several slack thin iron chains of one-eighth inch iron, the ends of which are fastened to the opposite ends of the longer length of the sieve. These chains are to be about 2 inches in length longer than the sieve, so that when the sieve is in motion, the slack parts shake about among the clay under operation without coming in actual contact with each other. To the sieve so suspended and constructed he attaches a crank-shaft, descending perpendicularly upon it from above, the crank being at the lower end, and fitted into a socket inserted into a cross-bar extending from side to side over the centre of and firmly secured to the sieve. The shaft is made to revolve by any of the ordinary methods in general use; and when in motion, and charged either by hand or from a shoot above, the sieve is agitated in a circular horizontal manner, whereby the clay is sifted or screened, the fine being collected for use, and the rough or lumpy parts passing away as in ordinary methods.

MACHINERY FOR MAKING BRICKS.—*W. Longley.* Dated 25th November, 1862.—This invention cannot be described without reference to the drawings.

* Selected from the lists in the *Engineer*.

Books Received.

Results of an Experimental Inquiry into the Tensile Strength and other Properties of various Kinds of Wrought Iron and Steel. By DAVID KIRKALDY. Second edition. Glasgow: Printed and sold by the author, 4, Corunna-street. 1863.

So recently as the 4th of October last we had occasion to notice favourably the first edition of this work, and to give a series of the more important of the results arrived at, especially as regards steel, and also as to the modifications of fibrous and crystalline fracture, or the substitution of the one for the other, according to the slowness or rapidity of the breakage. The issue of a second edition of such a work so soon after its first issue affords the best comment on its value, and on the accuracy of our estimate of its merits, although the author, as we have before said, scarcely does justice to others.

VARIORUM.

No. 2 of "Art Life in the West of England" (a monthly magazine emanating from Bristol), contains some clever writing, and shows that there is an art-spirit awakening in the west. Let us hope it may take large views and show kindly sympathies. The present number contains the second portion of an interesting story, "Charles Overend's Portrait;" essays on "Architects and Architecture," "Ancient and Modern Towns;" some poetry, reviews, and so on. That the expression of the hope we have ventured to throw out above is not wholly unnecessary, a quotation may show. The writer of "Architects and Architecture" is speaking of "art quacks," who, having made the grand tour, "become self-constituted critics;" and he says,—

"S metimes they leave Egypt and the Archipelago, and in a fit of temporary insanity begin to talk of England and France, and then in a moment they are out of their depth. They 'do' the poetical showman to Sir Christopher Wren, and stir up, with the ladle of eloquence, all his wretched abortions, until they stink again in the nostrils of every true disciple of art. They write high flown language in honour of the Bank of England and the Royal Exchange, and are sometimes idiotic enough to praise the National Gallery; forgetting that the leaders of their own classical army have erased these examples from their banners, and substituted the club-houses of Pall-mall, with the names of Sansovino and Palladio for Phidias and Vitruvius. It is just *possible*, however, that they do *not* forget. It may be that they suppose the Carlton Club, the Reform Club, the British Museum, and the Royal Exchange, to be all one and the same style, just as they evidently do with regard to the various architectures which arose in Europe between the eleventh and sixteenth centuries.

On the other hand, when men neglecting the Chapter House at Westminster, or the Palace at Wells, become enraptured and enthusiastic about such buildings as King's College Chapel, Cambridge; Windsor Castle; Henry VII.'s Chapel; or the Houses of Parliament; or, in our own locality, such buildings as Thornbury Abbey, Bath Abbey, and the body of Redcliff church; we may be sure that whatever their literary attainments may be, whatever their classical learning or historical reading may amount to, they are dead to art, and blind to all its purpose; lacking the discriminating power to separate the corruption from the loveliness, or choose between the evil and the good.

For such—whether they are weak creatures attracted by the acres of repeated panelling which, in the aggregate, is styled the Houses of Parliament; or whether they are imbecile dreamers who, because they have seen a pediment and dome somewhere, love all pediments and domes thenceforward;—there is only one course; to sit patiently, humbly, and reverentially in the outer courts of architecture, inquiring diligently and watching earnestly; for there is nothing noble or good that can be learnt without humility, nothing gained without diligence and zeal."

We repeat the writer's words,—"There is nothing noble or good that can be learnt without humility." —— *The Gentleman's Magazine* for July (Parker, Strand) is of more than average interest. It contains, among other curious matter, a paper on the pre-Christian Cross, illustrated by a page of cruciform and other symbols, from Egypt, India, Assyria, Greece, Asia Minor, Etruria, Latium, Scandinavia, and Central America. Yet, strange to say, the author, Mr. H. M. Westropp, of Cork, attempts to show that all the heathen and pre-Christian cruciform symbols were virtually or really symbolical of—nothing in particular! or at the best were merely symbolical of symbols! Thus "in Persia and Assyria the cross is the abridged form of the ferocher, or emblem of the Deity, the outline of which gives the form of a cross." But how did it come to pass that the Persian and Assyrian emblem of the Deity *was* in the form of a cross? There is little depth in such a way of treating one of the most universal and ancient of all pre-Christian symbols: it reminds one of the Indian's idea that the earth stands on an elephant and the elephant on a tortoise; but what the tortoise stands upon was a question quite beyond the depth of the poor Hindoo. As to "the sign of the cross," as the author has it, used by the African, "the cross making the thing tabboo, private property of the party making it" [yes, and *sacred*, which is something more than mere "private property"], he thinks—

"This is only what any person ignorant of writing would do at the present day, when, called on to sign a paper, and to show that it is his act and deed, he gives his mark thus —

his
John + Smith,
mark.

Human nature is the same all over the world; and man under similar circumstances, must of necessity have recourse to similar expedients."

Doubtless, there is truth enough in all this; but is it because bishops are "ignorant of writing" that *they* put the very same mark before their official signatures? The cross and other geometrical symbols have been so largely treated of in the *Builder* of late, that we need not now go any further into this subject. The plate of symbols given in the *Gentleman's Magazine* contains many curious forms, such as various modifications of the St. Andrew's cross, and the double and cruciform N symbol, including a four-legged Isle-of-Man-looking one; the Ϯ and phallus in various forms; and two of the mirror-like symbols, with cruciform handles.——The *Popular Science Review* (quarterly) for July (Hardwicke, Piccadilly) is also an excellent number, and contains much matter of scientific interest, including papers on the Antiquity of Man; on Colour Blindness, with a coloured plate; a valuable Scientific Summary, &c.

STAINED GLASS FOR ST. PAUL'S.—Mr. Brown, who some time since retired from the firm of Messrs. Longman & Co., of Paternoster-row, has given 1,000*l.* for a stained-glass window in St. Paul's Cathedral.

Miscellanea.

GAS.—The prosperous condition of the Wisbech Gas Company, it is reported, has enabled the directors to increase the rate of dividend to the shareholders, and to lower the price of gas to 4s. 6d. per 1,000 cubic feet.——The Kelso Gas Company have declared a dividend of 10 per cent.

DESTRUCTION OF A THEATRE IN FLORENCE.—The Politrama Theatre has been accidentally burnt. A fold of drapery above the proscenium first took fire, about the time of opening, from a taper on a long pole carried by a workman for lighting the gas-burners. The fire burnt all night, and several lives were lost.

FALL OF CHRIST CHURCH TOWER, EAST SHEEN.—As justifying the observations we made at the time of this occurrence, and freeing the architect from blame, we gladly insert the following note addressed to Mr. Blomfield by the Rev. J. S. Manley, chairman of the Committee:—

"In reply to your letter, I have much pleasure in stating on behalf of the Building Committee, that while they do not think it desirable to publish in full the report of the surveyor as to the cause of the fall of the tower of Christ Church, East Sheen, in March last, they think it only due to you to state that in that report, the surveyor (Mr. Parson) has made the following reference to yourself as architect:—'I feel it right to add . . . . that the drawings and specifications are perfectly satisfactory and sufficient to ensure a perfectly sound and substantial fabric.' In this opinion I may add, the Committee altogether concur."

PROPOSED CENTRAL RAILWAY THROUGH EGYPT. An influential deputation has waited upon Earl Russell, at the Foreign Office, for the purpose of urging the support of Government to a proposed central railway through Egypt. The deputation was headed by Sir Herbert Maddock, late M.P. for Rochester, and President of the Council in India; Rear-Admiral Sir Edward Belcher, C.B.; and others. Mr. Oliveira, who introduced the deputation, said that the railway as proposed would leave Cairo, pass along the valley of the Nile to Kenneh (near ancient Thebes), thence due east to Cossier, on the coast of the Red Sea, and thence to Ras Benas (ancient Berenice), along the coast, where there is a large, commodious, and deep harbour—the whole distance being about 600 miles. Earl Russell said he understood the Pasha was averse to it, and would not like to spend his money on it. Mr. Walne said that it was not intended to ask the Pasha for any money. The requisite funds would readily be found in this country.

THE FUNDS OF THE CITY OF LONDON.—The *City Press* gives the following particulars:—The total produce in 1862 of rents reserved by leases within the city of London was 51,764*l.*; of premises within the counties of Middlesex and Surrey, 9,522*l.*; other rents, 39*l.*; the Finsbury estate, 54,764*l.* The proportion out of the last total deducted for property-tax and other rates and expenses is 2,758*l.*; and another deduction of one-sixth from the Finsbury rents is made for the Ecclesiastical Commissioners, amounting to 8,607*l.* These deductions reduce the total of the Finsbury estate rents to 43,338*l.*; and this, added to the rents just enumerated, gives a general title under this head of 104,693*l.*; Irish quit-rents produced 192*l.*, proportion of profits of an estate in Ireland (the name might have been added), 235*l.*; aqueducts, 80*l.*; fines for renewal of leases, 5,350*l.*; markets, including Leadenhall, 2,919*l.*; Newgate, 4,535*l.*; Farringdon, 896*l.*; Smithfield hay-market, 262*l.*; Billingsgate, 5,682*l.*; making in the whole 14,113*l.* The metage of corn produced 14,627*l.*; metage of fruit, 2,331*l.*; stamping weights, 102*l.*; water baillage, 479*l.* There is a curious entry of bequests, 135*l.*; proving that, though corporations have no souls, they have a share in some people's tender affections. Brokers' rents produced 4,733*l.*; justiciary fees, 1,109*l.*; reimbursements on account of prisons, 4,784*l.*; the like on account of criminal prosecutions, 1,526*l.*; officers' surplus fees, 7,287*l.*; sundries, 4,435*l.*: various dividends on moneys realized by sale of properties and invested in annuities amounted to 645*l.*: two small properties sold, in one case to the Braziers' Company, and in the other to Mr. Robert Brett, realized 1,006*l.* Lastly, there was a loan raised by application to the Bank of England, for the purpose of erecting a pauper lunatic asylum, amounting to 43,500*l.*, and a loan repaid from the Gresham Fund, in reimbursement of moneys advanced to pay interest on bonds, the reimbursement amounting to 5,472*l.* The whole charge of the controller against the chamberlain amounted to 216,844*l.* 13*s.* 0½*d.* In enumerating the various items we have omitted odd shillings and pence, so that if the reader casts up our totals the result will be somewhat less than the actual total now just cited.

INAUGURATION OF THE HERBERT STATUE AT SALISBURY.—The statue of Lord Herbert of Lea, erected in front of the Council House in Salisbury, has been inaugurated by Earl de Grey and Ripon, acting on behalf of Lord Palmerston. The statue, which is by Baron Marochetti, is in bronze, 9 feet high, and stands on a grey granite pedestal, from the works of Mr. Freeman, of Penryn, Cornwall. The pedestal itself is nearly 10 feet high. Lord Herbert is represented as in the act of delivering a speech. His left hand rests, as was usual, on his side, whilst in his right he holds a plan of the Herbert Hospital,—his favourite scheme for the well-being of the soldier. "Sidney Herbert" is the only inscription on the pedestal. The cost of the statue was 2,000*l.*

SALES OF PROPERTY.—At the Mart. By Messrs. Newton & Sexton.—Freehold, the Bradley Estate, in the parishes of Great and Little Bradley, Thurlow, and Cowlinge, Suffolk, comprising family residence, agricultural buildings, the manor of Little Bradley, and 1,092a. 2r. 25p. arable, pasture, and woodland; also the advowson of Little Bradley, the Royal Oak Inn, and several labourers' cottages—41,000*l.* By Messrs. Tebb, Brothers.—Leasehold ground-rent of 19*l.* 17*s.*, secured on ten houses, Nos. 5 to 14, Clifton-road, Newcross — 300*l.* Leasehold, three dwelling-houses, Nos. 8 to 10, Railway-grove, Newcross; term, ninety-nine years from March, 1855; ground-rent, 10*l.* 10*s.*; let for 54*l.* 12*s.*—310*l.* Leasehold, five houses, Nos. 1 to 5, Pump-court, White Horse-alley, Cow-cross; term, ninety years from Midsummer, 1856; ground-rent, 30*l.* per annum; let for 86*l.* 9*s.* per annum—190*l.*

SCOTTISH NATIONAL ALBERT MEMORIAL.—We understand that Her Majesty the Queen has signified her approval of a design prepared by Mr. Noel Paton for the Scottish National Memorial to the late Prince Consort, and that the committee who have the charge of its erection are at present engaged in ascertaining the probable expense of the design. According to the *Scotsman*, it may be said to present the appearance of a rich Gothic cross surmounted by a moulded cope and plinth, bearing a full-length statue of the Prince in the robes of the Order of the Garter. Under the trefoil arch on each of the four sides of the cross is a seated figure emblematic of science and the arts, which the Prince loved so well. The whole is supported on a moulded pedestal and flight of steps taking the form of a cross. The front of the pedestal under each of the figures bears an elaborate bas-relief. The height of the whole erection is, we believe, about 50 feet, and it is designed to be placed on the terrace in West Princes-street-gardens, opposite Frederick-street.

LONDON LABOURERS' DWELLING SOCIETY. THE PEABODY SCHEME, AND SANITARY REFORM OF EXISTING TENEMENTS.—In a printed letter, titled "Suggestions to be submitted to the Consideration of the Trustees of the Peabody Fund; by C. Girdlestone, M.A., Rector of Kingswinford," the author, after starting several objections especially to the erection of any more model buildings in London, says:—"With these serious objections against all other plans proposed, the writer is able to state, that the principle advocated in the subjoined letter; viz.—*the sanitary reforms of existing tenements*, has been tried, and has proved eminently successful." The Hastings Cottage Improvement Society, on this principle has, during the five years of its existence, paid nine half-yearly dividends of 6 per cent., and one of 5 per cent.; and its shares are readily saleable at a small premium. During 1861, some of its members commenced operations on the same principle, in the eastern part of London, as "The London Labourers' Dwellings Society," with every prospect of similar success. This latter society has now been in operation for more than two years, and has, it appears, even from its commencement, paid the shareholders a half-yearly dividend at the rate of 4 per cent. per annum. The present capital of the society consists of 3,700*l.*, divided into thirty-seven shares of 100*l.* each, all fully paid up, and a temporary loan of 262*l.* 7*s.* 1*d.* The expenditure has been as follows:—

Purchase of property	£3,300	0	0
Expenses of conveyance	118	19	7
Repairs and improvements	502	13	6
Surveyor's charges	38	4	0
Preliminary expenses and sundries	10	10	0
Total payments	£3,962	7	1

The success of the experiment has prompted the directors to purchase a large block of freehold houses in St. George's East, adjoining the London Docks. This property and the cost of putting it into suitable repair will require about 7,000*l.* additional capital. Dr. Greenhill, of Hastings, is the secretary.

ROYAL ITALIAN OPERA.—M. Gounod's "Faust" has been produced here with splendid completeness and commensurate success; Mdme. Miolan-Carvalho, Mdme. Didiée, M. Faure, Sig. Graziani, and Sig. Tamberlik presenting the chief parts. We must give a more particular notice on another occasion.

THE LINCOLN MODEL IN CORK.—Most of our readers will recollect the cork model of Lincoln Cathedral exhibited by Mr. Anderton in the International Exhibition last year. The *Reader* says,—That model led to many presents being made to Mr. Anderton, who, with the proceeds, has erected several houses in Lincoln, with inscription in front, "Perseverance, Cork, and Glue—1862."

MEMORIAL BELLS FOR BRAMLEY.—The village of Bramley was all astir lately in consequence of the arrival of six new bells for the new church. They were removed from the railway station on a wherry drawn by two powerful horses gaily decorated. The Bramley brass band, accompanied by hundreds of the inhabitants, paraded the principal streets. On arriving at the church, the Rev. Samuel Joy, incumbent, mounted the wherry, and, assisted by the numerous company, gave three hearty cheers for Mr. John Musgrave Sagar Musgrave, who has given five of the bells in memory of his uncle, Mr. Abraham Musgrave, the millionnaire, recently deceased. Cheers were also given for Mr. Richard Nickols, of Hill-top, who presents the other bell, along with a clock with four dials.

OPENING OF A CAIRN AT OLD DEER, IN SCOTLAND.—An untouched part of a large cairn, from which farmers have long supplied themselves with stones for drains, was lately explored, and a small cist, full of a black fatty substance, but without any vestige of bones, was discovered. The cist was only 13 inches long, 10 inches broad, and 9 inches deep. Several similar cists had been before found, all containing the same black substance, which differs much from the yellowish soil of the neighbourhood. It is almost as if it had been a practice, while such cairns were raised, to bury the hearts, or some such portion of the human body, in these cists, whatever became of the body itself, which may have fallen in battle at a distance from home. Consumption of the body by fire will not explain the fatty deposit. A great many similar cairns existed within six miles of the same spot, but few now remain.

THE PEABODY DWELLINGS.—At the last weekly meeting of the Metropolitan Board of Works, amongst the building and street applications was one from the trustees of Mr. Peabody's fund, stating that they proposed to erect a block of buildings for the poor upon a large plot of land in Shadwell, in accordance with a plan forwarded to the Board. The superficial contents of the building were 3,807 feet, and therefore 207 feet in excess of the area prescribed by the second rule of the 27th section of the Metropolitan Building Act. In reference to the application, Mr. Vulliamy, the superintending architect, reported to the following effect, viz.:—"The superficial area of the building will be 3,807 feet, and therefore 207 square feet in excess of the limit prescribed in the second rule of section 27 of the Building Act for buildings of this description; viz, separate sets of rooms or chambers tenanted by different persons. The rule deems such separate rooms, if contained within a building of more than 3,600 square feet in area, 'separate buildings,' and requires that they be divided, so far as they adjoin vertically, by party walls; and so far as they adjoin horizontally, by party arches or fireproof floors. . . . . A dispensation is sought under the powers of the 56th section; and for these reasons, that the insurance company regard the erection as virtually fireproof, the staircases and corridors being of stone; the whole of the partition walls of brick, without wall plates or bond timbers in any portion of the walls; the floors of the laundries and bath-rooms constructed with iron girders and brick arches; and the construction generally being of the most substantial and incombustible nature. All the rules of the Act, except that to which the present application refers, have been strictly adhered to: indeed, the thickness of the walls of the topmost story is 4½ inches more than the Act requires." Mr. Vulliamy, however, recommended that the application be not entertained. Mr. Le Breton moved that the matter should be referred to the Building Committee for further consideration. The chairman said the Board had no power to relax the provisions of the Act. After some discussion, the recommendation contained in Mr. Vulliamy's report was agreed to.

ANOTHER HOTEL FOR LONDON.—A prospectus has been issued of the City of London Hotel Company, with a capital of 50,000*l.* in shares of 10*l.* The object is to construct a hotel, with a large room for public meetings, on a site in Leadenhall-street, opposite the old East India House.

THE GLASGOW PRINCE CONSORT MEMORIAL.—The secretary, at a late meeting of the committee, read a minute of previous meeting, which stated that with the view of obtaining the best possible likeness of the late Prince Consort, it had been resolved that her Majesty should be requested to select the artist. A letter from the Lord Provost to Sir Charles Phipps, in terms of that minute, was also read, and the reply thereto, intimating the Queen's wish that the statue should be executed by Baron Marochetti, and that it should be of an equestrian character. The committee resolved accordingly.

PROPOSED RESTORATION OF ST. BARTHOLOMEW'S.—We are asked to mention that an Archæological Meeting will be held in St. Bartholomew's Church on Monday next, the 13th inst., at two p.m., when Mr. Beresford Hope, Mr. W. Tite, M.P., Professor Willis, Mr. J. H. Parker, and other gentlemen will attend, and give an archæological description of the church and the buildings of the priory connected with it, and some account of the proposed restoration of this interesting Norman church. The rector and churchwardens invite all archæological friends to inspect the church on this occasion.

MATERIALS USED IN THE 1862 EXHIBITION BUILDING.—"Bricks, 17,250,000; lime, 5,611 cubic yards; sand, 18,352 cubic yards; ballast, 8,632 cubic yards; cement and plaster, 47,105 bushels; cast iron, 4,953 tons; wrought iron, 2,269 tons; timber, 439,178 cubic feet, 2,238,722 lineal feet 9 inch by 3 inch battens, deals, and planks; stone, 62,831 superficial feet 6 inches thick and under; ditto, 6,877 cubic feet; zinc, 225,864 superficial feet; lead, 74 tons, 14 cwt.; felt, 623,000 superficial feet; slating, 71,260 superficial feet; glass, 216,808 panes, containing 667,542 superficial feet; putty, 95 tons 16 cwt.; nails, 193 tons 12 cwt.; cash paid in labour, 138,348*l.*"

A NEW HOTEL ON RICHMOND HILL.—The prospectus of the Richmond Hill Hotel Company has been put forward. The capital will be 100,000*l.*, in 10,000 shares of 10*l.* each, the first issue to be 5,000 shares only. The deposit is 10s. per share on application, and 1*l.* 10s. on allotment. The object is to erect on Richmond Hill an hotel possessing every modern luxury and convenience, whether for visitor or equipage. A site close to the Star and Garter has been secured, commanding a view of the Thames and surrounding country, at a cost of 7,500*l.* The property, which is known as Ashburnham Lodge, contains about three acres.

THE EDINBURGH SCHOOL OF ART.—The exhibition of drawings by the students of this school has been opened, within the Royal Institution, Mound. In its general character it is considered to be greatly in advance even of last year's exhibition. Ten prizes or national medallions have been awarded to the school, while to the head school at Kensington, which stood next in merit, only seven prizes were awarded. A prize of five guineas having been offered by Mr. Thomas Scott, of the firm of J. & T. Scott, cabinet-makers, George-street, for the best design of a book-case, four drawings were prepared, all, according to the *Scotsman*, very meritorious; but one in the Renaissance style, by Mr. Alexander C. Beattie, obtained the prize. The ornamental drawings by Charles Jockel, Alexander Kemp, George M. Paterson, W. D. Dobson, John Thomas Reid, &c., are noticed.

THE DUBLIN WATERWORKS.—TURNING THE COURSE OF THE RIVER VARTRY.—The ceremony of diverting the course of the River Vartry, for the purpose of constructing a water-tight dam at the principal storage reservoir of the intended Dublin Waterworks, near the village of Roundwood, in the county of Wicklow, was made the occasion of a festivity. About 300 ladies and gentlemen, including many persons of distinction, were invited by the contractor, Mr. M'Cormick, M.P., to meet the Lord Lieutenant, who turned the water into its new channel, and on the occasion knighted Dr. Gray, the chairman of the Waterworks Committee. The engineering work includes a tunnel, which extends under a hill for two miles and a half. As the tunnel is made through the rock, no pipes will be required there for the conveyance of the water. Calladry Moor is the catchment on which the reservoir is being constructed. It will cover an area of 409 acres, and will yield 12,000,000 gallons daily.

LONDON CHURCH BUILDING.—The Bishop of London has got about 40,000*l.* towards his great scheme of raising 1,000,000*l.* within the next ten years for building and endowing churches within his diocese. The bishop himself has contributed the sum of 20,000*l.*, while the Marquis of Westminster has promised 10,000*l.*

ARCHITECTURAL ASSOCIATION.—VOLUNTARY EXAMINATION CLASS.—Members of the Class will meet on Saturday, the 11th inst., at London Bridge Station, at two p.m., and proceed to the new Woolwich Hospital, &c. Mr. C. Fowler will talk on the subject of Foundations on Friday, the 17th inst.

ABERYSTWITH CEMETERY CHAPELS COMPETITION.—A competitor asks us to complain that three months have elapsed since he sent in his designs, and that he can get no information. Architects who submit designs in competition for an offered premium of 5*l.* 5s. have not a very strong hold on our sympathies.

THE "CROMWELL FOUNTAIN" AT THE CRYSTAL PALACE.—Since the incongruity of Cromwell, with fish-tailed figures of War, &c., in the centre of the upper terrace, and right before the great entrance, was pointed out in the *Builder*, we are glad to observe that the force of the protest against it has been well considered by the directors; and the result is, that, last time we visited the Crystal Palace, although the statue had been placed and the work had been almost completed, Cromwell was again displaced, and lay in his winding-sheet of sailcloth down below.

THE TRIAL OF STEAM LAND FIRE ENGINES—AWARD OF PRIZES.—The patent steam fire-engine by Messrs. Merryweather & Sons, of Long-acre (large size), was awarded the first prize of 250*l.* The 100*l.* prize was awarded to Messrs. Shand, Mason, & Co., of Blackfriars-road, for the next large engine. It should be stated that this engine was over 30 cwt. and under 60 cwt., and that a quantity of shavings got by some means into the suction-pipe of the engine at her trial. Amongst the small land steamers, the prize of 250*l.* was awarded to Messrs. Shand, Mason, & Co. The 100*l.* prize was awarded to Lee's small engine.

CYLINDRICAL ROTARY PRINTING PRESS.—Wilkinson's machine prints 22,000 papers on both sides in an hour, and dispenses with manual labour, it is said, to an extent never before contemplated. Its principle, nevertheless, is simple, consisting merely of the passage of the paper, not cut into sheets, but made in an immense web, between cylinders on which the types are set; while a folding and cutting machine, self-acting, is ready to separate each paper as it is printed from the web, and pass it out of the machine ready for publication. Those who have seen this machine at work in London agree that it is as much superior to Hoe's as Hoe's is to Middleton's.

EXPENSE OF NEW STREETS.—A return presented to Parliament shows that the expense of New Oxford-street (made between 1842 and 1847), was 330,074*l.*; Cranbourne-street (between 1841 and 1845), 206,093*l.*; and Victoria-street, Westminster (between 1845 and 1851), 215,000*l.* The first two streets were paid for out of the London Bridge Approaches Fund, and rents and sales of property purchased, and were constructed under the charge of the Woods and Forests. Victoria-street was constructed by the Westminster Improvement Commissioners, subject to limited control by the Woods and Forests, and the expense was defrayed by coal duties and improved rates, amounting to about 100,000*l.*, the balance being raised on mortgages and bonds.

FAIRFORD.—On the 21th ult., the new Congregational Chapel erected here was opened. This edifice has been erected by Messrs. Mitchell, of Fairford, and is in the Gothic style, according to a design prepared by Mr. T. R. Smith, of London. The chapel, which has an end gallery, measures internally 41 feet by 29 feet, has a school-room behind (the pulpit communicating with the chapel by folding doors), and measures 29 feet 11 inches by 21 feet. The woodwork is stained and varnished, and the dressings are of Bath stone. The building, including extras, architect's fee, &c., has cost over 900*l.*, and the sum of 300*l.* is still needed to finish paying for it.

TENDERS.

For additions to Stradbroke Vicarage, Suffolk. Mr. R. M. Phipson, architect:—

Haxell	£1,137	0	0
Gibbons	1,138	0	0
Lockwood	1,131	0	0
Godbolt	1,120	0	0
Smith	1,107	0	0
Grimwood (accepted)	1,045	0	0

For house at Redlands, Reading, for Mr. Palmer. Mr. Jos. Morris, architect. Quantities supplied. Accepted tenders:—

Leach (bricklayer)	£460	0	0
Jordan (mason)	23	10	0
White (plasterer)	187	10	0
Warmsley & Taylor (slater)	43	15	10
Button (carpenter and joiner)	483	10	0
Hart & Sons (smith, &c.)	80	0	0
Harriss (plumber, &c.)	155	0	0

For building new schools at Stradbroke, Suffolk. Mr. R. M. Phipson, architect:—

Smith	£857	0	0
Grayston	815	0	0
Botwright & Grimwood	683	0	0
Godbolt (accepted)	647	0	0

For benching in oak Tunstead Church, Norfolk. Mr. R. M. Phipson, architect:—

Cornish (accepted)	£583	5	0

For new chapel, Watling-street, Canterbury. Mr. W. F. Poulton (Reading) architect:—

Simms	£2,299	0	0
Wilson	2,052	0	0
Lancefield	1,863	0	0
Bonnett	1,797	0	0

For the erection of a house at Leamington for Mr. Hubert Lloyd. Mr. G. T. Robinson, architect:—

Gascoyne	£5,710	0	0
Clark	5,477	16	6
Green	5,420	0	0
Marriott	5,250	0	0
Lilley (accepted)	4,970	0	0

For erecting a steam flour-mill at Rotherhithe, for Messrs. Cowan, Brothers. Quantities supplied by Messrs. Richard Roberts & Co., Engineers:—

Piper & Wheeler	£8,897	0	0
Cubitt & Co.	8,350	0	0
Mathews	6,860	0	0
Lugg	5,700	0	0

For gardener's cottage at Purley Park, Berks. Mr Jos. Morris, architect. Quantities supplied:—

Woodroffe	£367	10	0
Barnicoat	357	10	0
Matthews	353	10	0
Briant (accepted)	350	0	0

For carpenter's and joiner's work to a house at White Knight, Reading. Mr. Jos. Morris, architect. Quantities supplied:—

Sheppard	£456	10	0
Matthews	454	0	0
Day	450	0	0
Woodroffe	435	0	0
Fisher	425	0	0
Button	394	0	0

For new roofs to the nave and north aisle of South Walsham Church, Norfolk. Mr. R. M. Phipson, architect:—

Evans	£406	10	0
Brown & Bailey	399	0	0
Burrell	396	0	0
Tooley	369	0	0
Foyson (accepted)	359	15	0
Stockings	353	10	0
Balls	349	8	0
Cornish	341	0	0
Chapman	317	0	0

For alterations to Messrs. Devereux's premises, Lowestoft. Mr. W. Oldham Chambers, architect:—

Rix & Sparham	£212	4	6
Newson & Nelson	164	0	0
Swatman (accepted)	167	5	0

For fittings and decorations to above:—

Swatman	£175	0	0

For six private dwelling-houses at Holloway. Mr. James Harrison, architect:—

James & Ashton	£1,130	0	0
Macfarlane	1,060	0	0
A. & J. Smith	1,040	0	0

For chapel at Canterbury:—

Simms	£2,299	0	0
Wilson	2,053	0	0
Lancefield	1,863	0	0
Bennett	1,797	0	0

For three cottages and garden wall, for Mr. George Curtis. Mr. F. J. Dibble, architect, Dorking:—

Winter	£876	0	0
Hamblin	794	0	0
Lynn & Dudley	785	10	0

For warehouse for Mr. W. Haynes, St. Mary Axe. Mr. T. C. Clark, architect:—

Outhwaite	£3,068	0	0
Patman	2,618	0	0
Coleman	2,562	0	0
Pritchard	2,570	0	0
Mansfield	2,545	0	0
Brown & Robinson	2,520	0	0
Rider	2,478	0	0
Downs	2,463	0	0
Ashby & Son	2,458	0	0
Brass	2,399	0	0
Hardiman & Sandon	2,309	0	0

For engine-house and boiler-house, &c., in Willow-walk, Bermondsey, for Messrs. Dastler & Palmer. Messrs. Porters & Markham, architects. Quantities supplied:—

Coleman & Co.	£2,295	0	0
Wells	2,281	0	0
Preston	2,274	0	0
Sims	2,267	0	0
Wills	2,231	0	0
Little (accepted)	2,129	0	0

For warehouse for Mr. Cox, St. Mary Axe. Mr. J. C. Clark, architect:—

Outhwaite	£1,845	0	0
Coleman	1,578	0	0
Mansfield	1,565	0	0
Patman & Co.	1,535	0	0
Pritchard	1,515	0	0
Rider	1,493	0	0
Brown & Robinson	1,490	0	0
Downs	1,486	0	0
Ashby & Sons	1,482	0	0
Brass	1,452	0	0
Hardiman & Sandon	1 365	0	0

For warehouse, St. Dunstan's-hill. Mr. Coe, architect:—

Knight	£1,350	0	0
Elston	1,209	0	0
Scott	1,169	0	0
Little	1,095	0	0
Turner & Sons	1,083	0	0
King	1,057	0	0

For re-pewing and other works to the Presbyterian Church, New River-terrace, City-road. Mr. Mathews, architect, Cloak-lane, City:—

Axford	£455	0	0
Hill	445	0	0
J. C. Ramsey	439	0	0

TO CORRESPONDENTS.

E A—Mr. F.—G. T. R.—J. H.—T. H.—T. R.—A. W. B.—Miss R.—M. F. R.—R. T. M.—G. L.—M. J. L.—W. B.—Mr. B.—F. M.—M. E. H.—G. W.—W. H.—J. A. C.—J. W.—H. & Co.—T. A. C.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p m.,** *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

THE *Daily News*, July 1st, speaking of Benson's watches in the Exhibition, says:—"Here are arranged a fine selection of watches manufactured by him on the latest and most approved principles of horological science. When we compare them with the specimens of ancient watch-work which are placed beside them, or even with those worn by our grandfathers, the immense advance in this branch of the mechanical arts is at once apparent." Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch, from the plainest to the highest quality of which the art is at present capable, and adapted to all climates. Benson's Illustrated Pamphlet on watches (free for two stamps) contains a short history of watchmaking, with descriptions and prices. It acts as a guide in the purchase of a watch, and enables those who live in Scotland, Ireland, Wales, the Colonies, India, or any part of the world, to select a watch, and have it sent free and safe by post.—J. W. BENSON, Prize Medallist, 33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

ADVERTISEMENTS.

The Publisher cannot be responsible for ORIGINAL TESTIMONIALS *left at the Office in reply to advertisements, and strongly recommends that* COPIES ONLY *should be sent.*

EDMONTON.—Materials of the Vicarage.

MR. A. RICHARDS will SELL by AUCTION, on the PREMISES, near Edmonton Church, on MONDAY, JULY 13th, in lots, to be taken down by the purchasers, the MATERIALS, comprising about 80,000 bricks, forty squares of 3-in. boarding and joists, fittings, about two tons of lead, coppers, lift-pumps, cisterns, square plain tiles, stone, &c.—Catalogues obtainable on the Premises, and of the Auctioneer, Tottenham.

LOMBARD STREET.—Valuable Building Materials.

MR. PHILIP D. TUCKETT will SELL by AUCTION, on the PREMISES, on TUESDAY, JULY 28th, 1863, at TWELVE, all the valuable MATERIALS of the TWO HOUSES Nos. 30 and 31, Lombard-street: comprising a quantity of excellent STOCK BRICKS, lead flat, gutters, cisterns, and pipes; tiling, useful lumbers, door boards, sashes, doors, interior fittings, stoves, cb ney-pots, water closets, &c.—May be viewed the day previous. Catalogues of Mr PHILIP D. TUCKETT, Land Agent, Surveyor, &c. 76, Old Broad street, E.C.

WOOD LANE, BUSHEY HEATH—FINE FELLED TIMBER TREES.

MR. A. RICHARDS will SELL by AUCTION, on the GROUND at the top of Brockley hill, on WEDNESDAY, JULY 15th, at ONE without reserve, about 257 OAK TREES, some of large dimensions; Ash, Chestnut, Birch, Beech, Cherry, Hornbeam, and per ditto 250 Faggots, and a quantity of Hedgewood.—May be viewed, and catalogues obtained at the Abercorn Arms, Harmuer; and of the Auctioneer, Tottenham.

GEORGE MITCHELL'S MARBLE and STONE WORKS, WALTON STREET, BROMPTON, S.W.

Notice of PRIVATE SALE of about 200 MARBLE CHIMNEY-PIECES, to be sold at very reduced prices (to save the expense of removal to the Brompton-road), in the following Marbles, viz.:—Statuary, Rouge Royal, Black and Gold, Black, Sienna, Bardilla, Dove, California, St. Anu's, Rouge Jasper, Jeune Fleure, Brocatella, Genoa Green, Irish Green, Blue Belge, Emperor's Red, Irish Fossil, Compaine Melange, Vein, Sicilian, and various excellent specimens of British Marbles, varying in price from 1l. 10s. to 50l.; and for elegancy of design, workmanship, and quality, not to be surpassed in England. Purchases to the extent of 30l. and 50l. approved bills of three and four months will be taken, less 25 per cent. cash. Purchasers from the country will be supplied with packing-cases, and the same packed and delivered to any of the metropolitan stations for 1 per cent. on the amount purchased.

NORTH LONDON RAILWAY.—CITY EXTENSION.—MATERIALS OF MODERN HOUSES.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, on the PREMISES, on THURSDAY, JULY 23rd, 1863, at TWELVE for ONE o'clock, the MATERIALS of about FORTY HOUSES in Bloomfield-street (and other streets near), Kingsland-road. For further particulars see future advertisements.

Camden Town, July 9, 1863.

HIGHLY IMPORTANT TO SLATE QUARRY PROPRIETORS AND BUILDERS.

Extensive unreserved Sale of Machinery, Steam Engine, 100,000 of Manufactured Slates, as well as the Interest in the Lease of the Bwich Slate Quarries, situate at Dolwyddelen, near Llanrwst, in the county of Carnarvon.

MR. W. DEW has been favoured with positive instructions to SELL by PUBLIC AUCTION on WEDNESDAY, 29th JULY, 1863, commencing at ELEVEN o'clock a.m. precisely, at the above-named Quarry, distant 9 miles from the Railway terminus at Llanrwst, 9 miles from Bettws y Coed, and about 4 miles from the Festiniog Quarries. The whole of the VERY VALUABLE MACHINERY and WORKING PLANT, in Lots, all of which will be found to be of a superior description, and in excellent working order. They consist of 4 Sand Saws—frames 12 ft. by 8 ft., 2 Sawing Tables, 3 Planing Machines, valuable Shafting; a fine Water-wheel, 30 feet diameter, 2 feet breast, with iron Buckets; a splendid horizontal High Pressure Steam Engine, about 15 horse power; 11 Tram Waggons; 6 iron Skips; 1,300 yards Lineal Tram Rails; Turn Tables; Iron Pipes, 8in. diameter; a quantity of Wrought and Cast Iron; Balk and other Timber; and about 28 Tons Mess Slates.

At the commencement of the Sale the present company's Interest in the Lease in the said Bwich Quarry will be disposed of, which will give the purchaser the advantage of buying such of the Machinery and Plant as he may require. These Quarries have now been worked for some years, and considering the limited capital that has been employed, the annual yield of Slate has been unusually large. A further small outlay is only required to render this one of the most productive and profitable quarries in the country. On THURSDAY, the 30th JULY, 1863, the whole of the STOCK of MANUFACTURED SLATES and SLABS lying on the Trefriw Wharf, will be SOLD by AUCTION, without reserve, at ELEVEN a.m.: consisting of 3,000 Princesses, 40,000 Duchesses, 30,000 Countesses, 8,000 Viscountesses, 30,000 Ladies, 12,000 Doubles, 45 Tons Rags, and about 74 tons of Planed Slabs of various dimensions and thicknesses. Descriptive Catalogues of the whole of which may be had at the principal hotels in North Wales; of GEORGE HADLEY, Esq. 20, St. Helen's Place, Bishopsgate Street, London; Mr. BROTHERHOOD, Llanrwst; and from the Auctioneer, British Hotel, Bangor. The whole on view any day up to the day of Sale.

MR. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLORIST, AND LITHOGRAPHER,
Removed from 21, Montague-street, Russell square, to 58, TORRINGTON SQUARE, W.C.

ADVANTAGEOUS TERMS are offered by the PROVINCIAL FIRE and LIFE INSURANCE COMPANY to its AGENTS. The Directors are now open to receive applications for Agencies from Builders, Auctioneers, Estate Agents, &c. Terms supplied on application.

ANTHONY DILLON, Secretary to the Company.
Offices, 49, Moorgate-street, E.C.

ARTISTIC EMPLOYMENT.—There are VACANCIES for TWO PUPILS in the Studio of a firm extensively engaged in an interesting branch of Art. A premium will be required, and a salary paid after a certain period.—For particulars apply to L. & B. care of Messrs. Hancock & Co. 38, Carey-street, Lincoln's Inn, London.

TO PARENTS.

AN Opportunity now offers for an IN-DOOR APPRENTICE to the GENERAL FURNISHING IRONMONGERY BUSINESS, where workmen are employed on the premises. For further particulars, apply to the Messrs. FASSNIDGE, BROTHERS, Uxbridge, Middlesex.

BUILDERS' CLERK WANTED.—One who can keep a set of books, pay wages, and thoroughly accustomed to the routine of Builders' Work. Security requires.—Address Messrs. ABRAHAMS & CO. 53, Great Portland-street, Cavendish-square, W.

CLERK WANTED, in an Architect and Surveyor's Office, who understands the management of house property and accounts, and is capable of superintending general repairs.—Apply by letter, stating salary required, to A. B. care of Mr. Harrison, Auctioneer, Oakley terrace, Old Kent-road, S.E.

TO ZINCWORKERS. Several thoroughly competent WORKMEN WANTED, at EWART'S, 345, Euston road.—Apply from TWO till FIVE o'clock.

WANTED, a GENERAL FOREMAN, to superintend the erection of first-class warehouses. He must be thoroughly conversant with every department, and produce satisfactory reference from his employers.—Application, stating age, length of service with last employer, and salary required, to be addressed to W. W. Messrs. Parker & Son's, Stationers, No. 73, Tooley-street, Southwark.

TO MASONS.

WANTED, a first-class FOREMAN of MASONS.—Apply to Messrs. WILLIAM CUBITT & CO. Gray's Inn-road, London.

PLUMBERS, DECORATORS, &c.

WANTED, in a very old-established Business a few miles from London, a thorough, good practical working Man. None need apply who cannot command from 30l. to 40l. of part of the amount, on good security.—Apply to Mr. HISCOCK, Messrs Peak's, Lead Merchants, London-bridge, Southwark.

TO YARD LABOURERS.

WANTED, in the W. district, a Man who has filled a similar SITUATION, and who can read and write, must have an unexceptionable character.—Apply in own hand writing, stating full particulars as to where last employed, for how long, age, wages required, &c. to W. Office of "The Builder."

TO ARCHITECTS' ASSISTANTS.

WANTED, a good Artistic DRAUGHTSMAN and COLOURIST, well acquainted with church architecture, of persevering habits (if accustomed to competition preferred), for a permanency. A fair salary will be given.—Address, stating full qualifications, &c. to VERITAS, Mr. Lydel, Stationer Warren-street, Camden town.

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FREEHOLD BUILDING LAND, East Sheen, Surrey, within ten minutes' walk of the railway station at Mortlake, intersected by the high road to Richmond, and having a considerable frontage thereon. There are two inclosures 3a. 1r. 8p. and 3a. 3r. 2p. which can be had together. Detached villas in this neighbourhood are in great request.—Address, Mr. MILLER, 121, Amherst New road, Kennington, S.

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Ins. Ins.	Ins. Ins.	Ins. Ins.	Ins. Ins.	Per 100 feet.			
6 by 4	7 by 5	8 by 6	9 by 7	4ths.	3rds.	2nds	Best.
6½ by 4½	7½ by 5½	8½ by 6½	9½ by 7½	9s. 9d.	11s. 3d.	13s. 9d.	16s. 9d.

Squares not exceeding 14 inches by 11 inches.

10 by 8	12 by 9	12½ by 10½	14½ by 10½	Per 100 feet.			
10½ by 8½	12½ by 9½	13 by 10	15 by 10	4ths.	3ds.	2nds.	Best.
11 by 9	13 by 9	13½ by 10½	13 by 11	10s. 9d.	12s. 3d.	15s.	18s.
11½ by 9½	13 by 10	14 by 10	14 by 11				

Squares not exceeding 20 inches by 18 inches.

15½ by 10½	14 by 12	17 by 13	24 by 16	Per 100 feet.			
16 by 10	14½ by 12½	18 by 13	20 by 17	4ths.	3rds.	2nds.	Best
14½ by 11½	15 by 12	18 by 14	22 by 17	11s. 6d.	13s. 6d.	16s. 6d.	20s.
15 by 11	15½ by 12½	22 by 14	24 by 17				
15½ by 11½	16 by 12	24 by 14	20 by 18				
16 by 11	16½ by 12½	22 by 15	22 by 18				
13 by 12	17 by 12	24 by 15	24 by 18				
13½ by 12½	18 by 12	22 by 16					

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Ins. Ins.	15 oz.	21 oz.	
20 by 12	4ths..... 11s. 6d.	4ths..... 15s. 0d.	Per 100 feet.
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20 by 15	Best..... 20s. 0d.	Best .. .. 30s. 6d.	
20 by 16			

Squares Cut to Sizes not on List

	15 oz.				21 oz.			
	4ths	3rds	2nds	1st	4ths	3rds	2nds	1st
Under 1 foot super.....	1½	1½	2	2½	2½	2½	3½	4½
Under 2 feet super.....	1½	2	2½	3	2½	3	4	5½
Under 3 feet super.....	1	2½	2½	3½	3	3½	4½	6
Under 3 feet super.....	2½	2½	3	4	3½	3½	4½	6½

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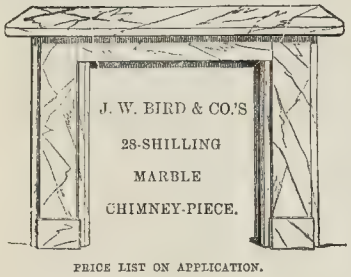
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LAND, situate on Bromley-hill, Kent, TO BE LET on Building Lease, suitable for the erection of villas for residence or investment, they being in great demand in that locality. The Land is within ten minutes' walk of the Shortlands Station, and in a beautifully wooded district. The site is elevated, it has a sub-soil of white sand and dry gravel, and a supply of very fine spring water.—Apply to JOHN WIMBLE, Esq. 2, Walbrook, E.C.

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St Bartholomew's Hospital, June, 1863.

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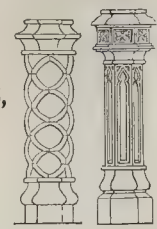
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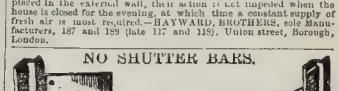


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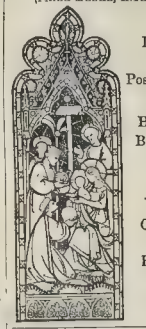
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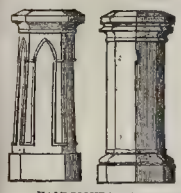
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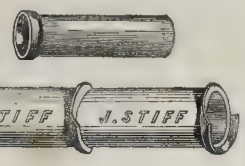
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STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





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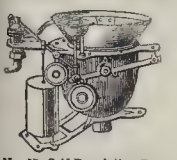
TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of its being further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



No. 57. Self-Regulating Pan Closet.

THOMAS LAMBERT & SON,



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



High-Pressure Stop Valve.

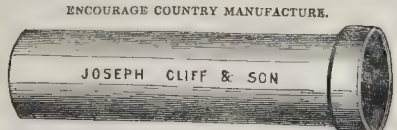
FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH-PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves manufactured by them, have their NAME legibly marked thereon.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY,



Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE, BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

THE FLUO-SILICIC STONE-PRESERVING COMPANY, LIMITED.

39, CHARING CROSS, S.W. & 12, COPTHALL COURT, THROGMORTON STREET, E.C.

PATENT FLUO-SILICIC INDURATIONS for the PRESERVATION of STONE, CEMENT, and other like materials. The Company apply to the surface of Stone, Cement, &c. a solution of Fluo-Silicic Acid, and other soft stones, when treated by the Company's solution, become extremely hard. The great expense of high ornament to buildings in hard stone has been an obstruction to Art, but since the Fluo-Silicic process can be applied so readily to soft stone after it is carved, that obstruction ex sts no longer. The Fluo-Silicic at once permanently arrests the decay of all stone.—For further information, apply to the Manager of the Company, Mr DUDLEY, Architect, as above

BARTLETT, BROTHERS, & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

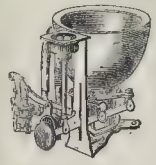
For the Preservation of Stone, Cement, &c.;

PATENT SILICEOUS PAINT, FOR COATING STONE, CEMENT, STUCCO, &C.

Specimens of the Silicates and Aluminates, and of their applications, may be seen at the CONSTRUCTIONAL DEPARTMENT, SOUTH KENSINGTON MUSEUM.

J. TYLOR & SONS' PATENT

REGULATOR WATER-CLOSETS.



Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No intern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate street, London.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

3s. 9d.

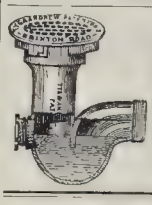


The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the universal pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



TYE & ANDREWS'

NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED

PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their peculiar coverings. MAW & CO'S Pattern book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

MINTON & CO.

HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE-UPON-TRENT.

STAFFORDSHIRE RIDGING and ROOFING TILES,

Plain and Ornamental, in Blue or Broseley colour.

PAVING TILES in various colours and designs.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.

Dressed Blue Facing BUILDING and SEWER BRICKS.

Architects' designs carried out on the shortest notice.

Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent-road Bridge.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Thdly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

HAY'S PATENT WATERPROOF GLUE

and INDIA-RUBBER VARNISH.—To ARCHITECTS, BUILDERS, PAPER-HANGERS, &c. &c.—The WATER-PROOF GLUE is a special anti-damp, and is suitable for contractors, joiners, coffin-makers, &c. &c. The VARNISH for damp walls, previous to papering, coating zinc verandahs, &c. &c. Copy of a letter from Messrs. Rogers & Booth, contractors, Gosport:—

"We have repeatedly used your Waterproof Glue as a preventive against damp, and have found it most valuable in preparing walls to receive paper. In one instance, where the walls were thoroughly saturated with moisture from earth filled against the outside, we used your varnish internally, and papered the surface, within a few hours of its being applied, with complete success. We have also used your preparation for coating a large number of cab-iron piles, at the Gunwharf, Portsea, for her Majesty's War Department."

To be had from all Ironmongers, Oil and Colourmen, &c.

Manufactory, Chandos street, Portsmouth: Mr. GEORGE WEEKS, Manager. GEORGE C. WARDEN & CO. General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

TO DRAUGHTSMEN AND CIVIL ENGINEERS

H. MORRELL, BLACK LEAD PENCIL

MANUFACTURER, No 149, Fleet-street, London.

These Pencils are prepared in various degrees of hardness and shade.

H H H H for drawing on wood.	F F light and shading
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
M medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country.

SALES BY AUCTION.

SAW MILLS, CANADA WHARF, ROTHERHITHE.

MESSRS. FULLER & HORSEY, in conjunction with Messrs BROWN & ROBERTS, are instructed to SELL by AUCTION, on THURSDAY, JULY 16, 1863, at ELEVEN o'clock, on the PREMISES, Canada Wharf, Rotherhithe, with the reserve the valuable MACHINERY of the Saw Mills, erected within a few years, by "Hall" (of Dartford), "Worsam," and "Horn:" including a double cylinder high-pressure and condensing steam beam engine of between 30 and 40 horse power, "Hall" (of Dartford), and 2 steam-boilers; 2 self-acting circular saw benches, by "Worsam;" 1 self-acting planing, tonguing, and grooving machine, 1 self-acting vertical feed saw frame, by "Horn;" self-acting timber saw frame, by "Worsam;" self-acting rack saw bench, by "Worsam;" strong timber crab tram rails and carriage; 7-inch centre foot-lathe, shafting, and steppers; powerful brass gearing and vertical rods at brickwork grid-stove, vice and bench, and other effects. To be viewed on WEDNESDAY previous, when Catalogues may be had on the Premises; of Messrs. BROWN & ROBERTS, Tabernacle-street; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

PLANT OF THE CREOSOTING WORKS, CANADA WHARF, ROTHERHITHE.

MESSRS. FULLER & HORSEY, in conjunction with Messrs BROWN & ROBERTS, are instructed to SELL by AUCTION, on THURSDAY, JULY 16th, 1863, at TWELVE o'clock, on the PREMISES, Canada Wharf, Rotherhithe, in lots, the PLANT and UTENSILS of the CREOSOTING WORKS, including 3 wrought-iron creosoting cylinders, 6 and 7 feet diameter, 32 and 70 feet long, with valves, pipes, and cranes; a 10-horse power high-pressure steam engine, by ——; a set of exhausting and force pumps; 2 wrought-iron tanks, 20 feet by 8 feet, and 5 feet 6 inches deep; 4 wood liquor backs; 800 feet of wrought-iron steam-pipe and cocks; 4 strong trolleys and 2 tanks on wheels; 2-ton portable crane, on framing; double purchase crab; weighing-machine, portable forge, 2 bottle-jacks; 150 yards of double tram rail; circular saw bench, 130 17-feet and 6-inches by 1 inches by 1 inch deals, 15 feet run, 7 by 1 inch battens, shafting, riggers and leather bands, grad stone, stocks and dies; erection of smiths' shop and shed; portable fire-main, 6-inch, 250 feet; 20 barrow planks; 1 tons of iron planks, harness; gas fittings, and other effects. To be viewed on WEDNESDAY previous, when Catalogues may be had on the Premises; of Messrs BROWN & ROBERTS, Tabernacle-street; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

TO SMITHS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, JULY 21, 1863, at TWELVE o'clock, on the PREMISES, 27, Gloucester street, Blandford, SMITHS' TOOLS and STOCK, comprising three foot-turning lathes, 1 powerful fly-press, stakes and dies, portable forge, forges, bellows, anvils, drills, screwing-stock, railway bar and 1 drawing-bars, two tons rod and bar iron, 2 cwt. cast steel, several tons wrought and cast iron, quantity of illumination devices, gas fittings, and other effects. To be viewed the morning of sale, when catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, No. 13, Billiter-street, E.C.

TO BE SOLD, pursuant to a Decree of the High Court of Chancery, made in certain Causes, William Crosskill against Robert Bower and Others, and Robert Bower and Others against Thomas Ellery Bowyer, with the approbation of the Master of the Rolls, by

MR. JOHN COUPLAND, the person appointed by the said Judge, at the BEVERLEY ARMS INN, Beverley, in the County of York, on TUESDAY, the 21st day of JULY, 1863, at 3 for THREE o'clock p.m., precisely, FOUR MESSUAGES or DWELLING-HOUSES, Garden, Wareh use, and Coal Yard, situate at Beckside, otherwise Earley House, in Beverley, in the C. nty of York. Particulars and Conditions of Sale may be had at the Estate, which exists to view the Messuages, and applied to Messrs. HOLLINGS, SHARP, & ULLITHORNE, Solicitors, 1, Field court, Gray's Inn; and Messrs. JOHNSON & WEATHERALL, Solicitors, King's Bench-walk, Temple, London; or Mr. JOHN BLYTHE ROBINSON, Solicitor, Beverley; Messrs. LEEMAN & CLARK, Solicitors, York.

GEO. WHITING, Chief Clerk.
HOLLINGS, SHARP, & ULLITHORNE,
1, Field court, Gray's-Inn.

Dated this 3rd day of July, 1863.

REDHILL, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on FRIDAY, JULY 24th, 1863, at TWELVE for ONE o'clock, in a portion of the eligible FREEHOLD BUILDING LAND, free of tithe and land tax, and situate on the London and Brighton road. The slope between Colgate's and Nutcroft's, and on the Bridge-road, close to the Royal Oak Inn, and will be five minutes' walk of the Redhill Station, on the London, Brighton, and South Coast Railway. Nine-tenths of the purchase-money may remain on mortgage or contract at 5 per cent., to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale, may be obtained before the sale; at the principal Inns in the neighbourhood; of Mr. THOMAS BUCKLAND, Church-street, Reigate; of Messrs. RUSSELL & DAVIES, 29, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

LEYTON, ESSEX. Eligible Freehold Building Land

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on FRIDAY, JULY 24, 1863, at TWELVE for ONE o'clock, about Thirty-Eight Lots of eligible FREEHOLD BUILDING LAND, free of tithe and land tax, with frontage to the Vicarage-road, Grange Park, Leyton, also a new Lane fronting the Railway Cottages, and Grange Road. The property is suitable for the erection of villa or good cottage residences, and is situate within ten minutes' walk of the Low Leyton Station, on the Eastern Counties Railway, and within a mile and a half of the Stratford and Lea bridge Stations on the Great Eastern Railway. The roads will be gravel, and water can be procured on site.

The purchase-money may be paid by a deposit of 10 per cent. and the remainder in nine years by half-yearly instalments, with interest on the unpaid balance at five per cent.; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained about ten days before the sale, at the Lion and Key, Leyton; of Messrs. RUSSELL & DAVIES, Solicitors, 29, Coleman-street, London, E.C.; and of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

IMPORTANT SALE To Builders, Contractors, and Others.—Boston, Lincolnshire.

TO BE SOLD by AUCTION, in the month of JULY next, a valuable FREEHOLD ESTATE, situate in Witham-street, in Boston aforesaid, consisting of excellent BUSINESS PREMISES, and a range of newly-erected dwelling-houses, the large carpenter's and joiner's shops, timber, lime, and other sheds stables, a large yard, and other premises. A very extensive and lucrative business has been carried on the premises for a series of years past, and the same were lately in the occupation of Mr. Benjamin Booth, Builder, deceased and are now of the Executors in Trust under his will.—To view the premises, and for further particulars apply to Mr. JOHN CARTWRIGHT, of Boston aforesaid, Ironmonger, and Mr. ROBERT MARSHALL, of the same place, Chemist and Druggist; or at the Offices of Mr. FREDERICK COOKE, Solicitor, Boston

Boston, June 15th, 1863.

Very important first class Freehold Building Estate at West Brompton, within six or seven minutes' walk of the Exhibition Building.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on THURSDAY, JULY 23rd, at TWELVE (unless previously agreed upon by private contract), the RIGHT of PURCHASE, at an agreed price, any time previous to 25th MARCH, 1864, of about 8½ ACRES of very valuable FREEHOLD BUILDING LAND, situate immediately adjoining The Boltons, at Brompton, together with the two residences known as Hereford House and Colherne Court, now on the property. The estate possesses frontages on three sides, and, being within a few minutes' walk of Hyde Park and the most fashionable districts of the West-end, offers an unusually fine opportunity for an important building operation in first-class residences. The sell is a deep gravel, and there is an abundant supply of fine spring water.—Particulars, with plans (shortly), of Messrs. J. & J. H. LINKLATER & HACKWOOD, Solicitors, Walbrook; of F. C. LUNDY, Esq. Solicitor, Carlton Chambers, Regent-street; of H. H. CANNAN, Esq. Official Assignee, 36, Basinghall-street; and of the Auctioneers, 80, Cheapside.

JERMYN STREET, ST JAMES'S.—BUILDING MATERIALS

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on WEDNESDAY, JULY 15th, at TEN for ELEVEN, in lots, the BUILDING MATERIALS, FIXTURES, and FITTINGS-UP of stables and coach-house, situate in Babmaes Mews, Wells-street, Jermyn-street, of the said description:—May be viewed, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W and 80, Fore street, E.C.

WALWORTH ROAD.—Extensive Sale of Building Materials.

PULLEN, HORNE, & EVERSFIELD are instructed by the Worshipful Company of Fishmongers to SELL by AUCTION, on the PREMISES, on FRIDAY, JULY 17, at TWELVE o'clock, all the valuable BUILDING MATERIALS of about 26 HOUSES, situate in Crown row, in front of the Walworth-road, Prospect-row, and Crown-square: comprising capital stock bricks, a large quantity of pan and plain tiles, stout rafters, joists, girders, and other excellent timber, sound floor boards, glazed sashes, plate-glass and other shop-fronts, a large assortment of doors, partitions, marble and other chimney pieces, and interior fittings, stone paving, coping, cills and steps, wood and iron railing and fencing, lead, gutters and pipes, cisterns, stoves, ranges, and numerous useful fixtures and fittings-up.—May be viewed the day previous, and Catalogues had of W. B. TOWSE, Esq. Fishmongers' Hall; of RICHARD SUTER, Esq. Architect, 38, Fenchurch-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

BERMONDSEY NEW ROAD.—Building Materials of Five Houses.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION on the PREMISES, on TUESDAY, JULY 21, at TWELVE o'clock, the BUILDING MATERIALS and FIXTURES of Five HOUSES and SHOPS, Nos. 62, 63, 64, 65, and 66, Bermondsey New-road, adjoining the Bricklayers' Arms, Old Kent-road, of the usual description.—May be viewed the day previous, and catalogues had at the Architect's, Mr. Goldthill; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street, S.W.

FOR SALE by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, 22nd day of JULY, 1863, at ONE o'clock precisely. (Luncheon at Half-past Twelve o'clock.)

For account of Ship-letter.

100 Logs Spanish Mahogany.
28 Pitches and Boards (seasoned) Baywood
10 Logs Panel Board Whitewood
34 Logs Cuba Birch
12 Logs Havannah Cedar
10 Logs Quebec Walnut
A Quantity of Walnut and Mahogany Veneers.
250 0 0 Sets of Deals, Battens, and Ends
1500 Quebec Pine Deals
1500 at Petersburg Red and White Wood Deals
1000 Onega Red Deals and Boards
1000 1 by 11 inch Finn Red and Memel Deals
2000 Fresh Swedish Deals and Battens
3,000 Fresh Finnish Battens
500 Loads Quebec Board Yellow Pine (fresh timber)
150 Loads Quebec Red Pine (fresh timber)
500 Loads Quebec Pine
50 Loads Quebec Oak (fresh timber)
200 Loads Fresh Memel Timber
200 Loads Fresh Memel Oak
100 Waimscot Oak Logs
300 Loads Danzic Redwood Timber
200 Loads Swedish Timber
50 Spars
1,000 Ditto 14 to 6-inch Spars
200 Ditto 4-inch ditto
10 Patches Rendock Fresh Lathwood
10,000 Palings
Flooring.

With other Goods.

Catalogues will be issued as to the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, July 7th, 1863.

FARM AND SLATE QUARRY, SOUTH DEVON.—An excellent Farm, with large and valuable Slate Quarry, in the Parish of Ugborough, near Ivybridge, Devon, twelve miles from Plymouth and close to three important Stations on the South Devon Railway, TO BE SOLD by AUCTION, by

MR. JOHN WILLETT, on MONDAY, the 13th day of JULY next, at the LONDON INN, Ivybridge, at TWO o'clock for HALF-PAST in the afternoon, either together or in the following lots (subject to such conditions as will be then and there produced), viz.:—

Lot 1 comprises a good FARM-HOUSE, with all necessary farm building, and SEVENTY SEVEN ACRES (be the same more or less) of superior orchard, meadow, arable, and pasture land, in the occupation of Mr. Richard Cole, as tenant thereof, for a term of seven or fourteen years from Lady-day, 1861. Also a SLATE QUARRY, measuring about four acres of same estate, which has been in work about a century, and which is now held under lease for a term of twenty-one years from the 24th JUNE, 1853, by E. T. Roe, esq. M.D. producing a large quantity of slate of a very superior quality. About fifty acres of the farm contain slate of the best description, and several sets could be granted thereout, the rock being inexhaustible.

Lot 2 Two superior COTTAGES, one of which is fit for the residence of a respectable family, having eight rooms, and the other cottage all stone fair rooms, with necessary out-buildings. Two good Gardens and a Field of Land, containing 3a. 0r. 23p. or thereabouts.

The WHOLE of the PROPERTY is TITHE-FREE, and LAND-TAX REDEEMED.

The above property being full of slate rock, within a mile and a half of the Stowford Sidings, and about two miles from Ivybridge and King-bridge road stations on the South Devon Railway, only twelve miles from the Port of Plymouth, and nine miles from Totnes, are great facilities for sending the slate to any part of the kingdom. Such an opportunity for a spirited capitalist or a company to enter largely into the slate trade is very seldom to be met with. From the great facilities for sending slate by rail and water, it is quite certain that a large profit can be realised. To persons desirous of mercantile investment this estate presents an opportunity of more than ordinary advantage. The farm is pleasantly situated, and many good sites for building can be found on the property. The nearest towns for cattle are Ivybridge, two miles (monthly); Modbury, three miles, ditto; and Totnes, nine miles, ditto. There is good trout fishing in the neighbourhood. Pheasants are kept at Ivybridge, and hunt the country immediately around. For viewing application may be made to Mr. HENRY SUPER, the owner, at Wood Cottage, on the property, on Tuesdays, Wednesdays, and Thursdays. Plans and particulars can also be obtained of him; of the Auctioneer, Ashprington, near Totnes; or of Mr. WALTER FRIEND, Solicitor, Post-office Chambers, Exeter

Exeter 13 June, 1863.

On MONDAY, JULY 13th, at TWELVE for ONE, punctually.—To RILLIARD TABLE, CHAIR, and CABINET MAKERS, and OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camdentown, ELEVEN THOUSAND FEET of HONDURAS MAHOGANY, in logs, &c.; and about 300 other lots of builder's stock in general; viz.—2,000 planks, deals, and battens; 400 cut ditto; 180 squares of flooring, dressed, 1¼ Baltic spars, wide pine beds, rosewood and match boards, doors, &c.—Auction Offices, 2, Cardington-street, Hampstead-road.

SOUTH NORWOOD, within a short distance of the Norwood Junction Station and the Crystal Palace

MESSRS. BLAKE will SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, on TUESDAY, JULY 21, at TWELVE, a valuable and attractive FREEHOLD ESTATE; comprising a small, genteel residence, delightfully situate at Whitehorse-hill, with coach-house, garden, and park-like meadow land highly eligible for sub-division for the erection of residences), containing altogether about six acres, and twelve freehold building plots, having capital frontages to a new road, connected with Beulah hill road. Possession to the whole will be given on the completion of purchase.—Particulars, with plans, may be had at Garraway's Coffee-house; at the Jolly Sailor and White Hart Inns, Norwood; of Messrs. DRUMMONDS, ROBINSON, & TILL, Solicitors, Croydon; and of Messrs. BLAKE, Croydon.

WANDSWORTH-COMMON, Surrey.—Very beautiful and important Freehold Estate, comprising a desirable family residence, with extensive garden, pleasure-grounds, stabling, and offices, and about 121 acres of Freehold and upwards of 24 acres of long Leasehold Land, with several thousand feet of building frontage to capital roads

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the Devisee and Representative of the late Henry McKellar, esq. to offer for SALE by AUCTION, at the MART, opposite the Bank of England, on WEDNESDAY, JULY 22, at TWELVE, in nineteen lots (unless previously disposed of by private contract), the very valuable and important FREEHOLD ESTATE known as Wandsworth Lodge, situate at Wandsworth-common, in the Parishes of Battersea, Streatham, and Wandsworth, in the midst of three stations on the South Western and Victoria and Crystal Palace Railways, and within six of the metropolis.—Lot 1. Wandsworth Lodge, an exceedingly comfortable residence, situate in its own delightful grounds, approached from the road by lodge entrance and carriage drives, and containing forteen principal and secondary bed chambers, bed air, entrance hall leading to a spacious and handsome conservatory, dining room, elegant drawing-room, about 25 feet 6 inches by 16 feet 6 inches, breakfast-room, convenient domestic offices, capital detached lofty billiard-room or picture gallery, 56 feet by 26 feet, excellent stabling, including seven loose boxes, double coach house, two chaise houses, and four stall stable; beautiful pleasure grounds and lawns, adorned with very rare and valuable conifers, rhododendrons, and a profusion of flowering evergreens, shrubs, and plants, productive walled kitchen gardens, forcing-houses, vinery, stove, orchid, peaches, and forcing-houses, pine and melon pits, hot water heating apparatus, greenhouses, and conservatories, also gardener's cottage, and lodge, and four cottages adapted for the erection of first class residences and shops, together with the greater portion of the valuable building land adjoining, and forming a most important frontage to the high road. Lots 2, 4, and 4 Three valuable Plots of Freehold Land, close to Lot 1, having together important frontages of 150 feet to the road leading from Wandsworth to Tooting, and frontages of upwards of 150 feet to the proposed new road from Garratt-lane in the rear, extending a considerable distance towards the great portion of the valuable building land for the erection of first class residences and shops, together with the several erections at the rear of the above lots, having together important frontages of upwards of 2,000 feet to the proposed new road, extending a considerable depth, and containing about thirty-one acres. Lots 8. A valuable and extensive plot of Building Land adjoining lots 8 and 9 approached by two proposed new roads, 66 feet wide, containing 11a. 1r. 21p and presenting an unusual opportunity for a profitable building speculation. Lots 14 to 18. Five very valuable plots of Freehold Land, opposite lots 8 and 9, including having important frontages of about 5,400 feet to the roads leading from Clapham to Wandsworth, and containing nearly 21 acres. Lot 19. Three enclosures of valuable Meadow Land, opposite the Garratt road, to which they have a considerable frontage, adjoining in the rear of lot 14, and containing 23a. 0r. 25p.; held upon lease for a term of forty-five years at a rent of £21 per annum. The estate contains a large quantity of gravel and valuable building earth.—May be viewed by cards of 3s., and particulars had at the King's Head, Tooting; Spread Eagle, Wandsworth; Plough, Clapham; of W. LANE, Esq. Solicitor, 4, Bedford place, Russell-square; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST 62, Old Broad-street, Royal Exchange.

HARROW, Middlesex.—Highly important and valuable FREEHOLD ESTATE, close to a station, having a frontage to the high road of nearly a mile, and possessing great advantage for building.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, near the Bank of England, on FRIDAY, JULY the 24th, at TWELVE, a very valuable FREEHOLD ESTATE, known as the Dairy Farm, situate close to the Sudbury Station, on the London and North western Railway, four miles from Harrow, and only six from the metropolis; consisting of a comfortable farm cottage, gardens, farm yard, and buildings, and several and entire of principal fine rich dairy and meadow land, in a high state of cultivation, and contains upwards of 127 acres. The property has a most important frontage of nearly a mile in extent to the road leading from London to Harrow. It is beautifully situate, and exceedingly valuable for building purposes, and may be subdivided into convenient lots with very considerable advantage to the vendor. May be viewed, and particulars had of Messrs. DAWES & SON, Angel court, Throgmorton-street; Mr. ROBERT BUSHER, Land Agent, Pinner-green, Middlesex; Mrs. GIBLOWE, Harrow; No. 10, Basinghall-street; at the King's Head, Harrow; the Mart; and of Messrs NORTON, HOGGART, & TRIST 62, Old Broad street, Royal Exchange.

ST. THOMAS'S HOSPITAL, BOROUGH.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on FRIDAY, the 31st day of JULY, at TWELVE o'clock, in lots, the valuable and exceedingly valuable FREEHOLD PROPERTY, lately occupied by St. Thomas's Hospital, situate in Wellington-street, Borough immediately opposite the New street, and adjoining the stations of the South-Eastern and the London and Brighton Railway Companies. It occupies the extraordinary area of nearly four acres, with extensive frontages to Wellington-street, St. Thomas's street, James's street, and to the approaches to the South-Eastern, the London and Brighton Railway Stations, affording facilities with unusually convenient access for shops, warehouses, and first rate dwelling of every description, in the centre of the largest and most increasing traffic in London, but as also immediate junction with the noble warehouses now built and in the course of erection by the river Thames, in Tooley street. It is intended to subdivide the property in lots, the frontages to Wellington-street and to the approaches to the railway stations forming a most important feature in sense, and be admirably adapted for warehouse or large mercantile establishments. The new south wing, a most substantial building, with a considerable frontage to Wellington street, will be offered in one lot, the occupation of the same to be fixed by declaration at the sale. Particulars and plans are preparing, and when ready may be had of HENRY TOOLOOD, Esq. Solicitor, 16, Freemantle-street, S.W.; of Mr. DYE, the Mayor, 2, St. Thomas's street, Southwark; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad street, Royal Exchange.

DERWENT and CONSETT IRON-WORKS.—These important WORKS, situate near Shotley Bridge, in the county of Durham, now so extended for the manufacture of Crown Patent Iron, and consisting of Blast Furnaces, capable of producing 1,000 tons of pig iron per week, extensive Mills, rolling upwards of 1,000 tons per week of plates, rails, bars, and all descriptions of iron; with valuable Mineral Leases; Collieries, from which a practically unlimited supply of coals may be raised; Coke Ovens, Fire Brick, Cottages, and all appurtenances, the property of the Derwent and Consett Iron Company, limited, will be sold by MESSRS. TUDOR and TUDOR (by direction of the Trustees), and under the sanction of the Court of Chancery, in the Matter of the Act for the Better Protection of Railroad Property.

NATIONAL RIFLE ASSOCIATION. WIMBLEDON MEETING.

MR. NEWBURY BALL will SELL by AUCTION, on WIMBLEDON COMMON, on WEDNESDAY, JULY 22nd, and following days, at TWELVE o'clock, the BUILDING MATERIALS used in erecting and preparing the Common for the above Meeting, consisting of planks, deals, battens, boards, and quarterings, about 250 squares of prepared flooring, about 1,000 feet of 1 inch and 1 inch iron water pipe and connexions, house taps, and urinals, 12 fire poles, together with the several erections at the approaches; the gates, &c.—Catalogues may be had of Mr. CROUCH, Butler, Wimbledon; and at the Auctioneer's Office, High-street, Wandsworth, S.W.

[For remainder of Auctions see p. ix.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles in the Fields; and published by the said CHARLES WYMAN, at the Office of "The Builder," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, July 11, 1863.

The Builder,

AN ILLUSTRATED WEEKLY MAGAZINE FOR

Architect, Engineer, Operative & Artist.

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WILL CLOSE ON THE 25TH INSTANT.

SOCIETY of PAINTERS in WATER-COLOURS.

The FIFTY-NINTH ANNUAL EXHIBITION, at their Gallery, No. 5, PALL MALL EAST (close to the National Gallery), open NINE till DUSK. Admittance, 1s. Catalogues, 6d.

JOSEPH J. JENKINS, Secretary.

LAST WEEK BUT ONE.

INSTITUTE of PAINTERS in WATER COLOURS, founded 1831, as the NEW SOCIETY of PAINTERS in WATER COLOURS.—The ANNUAL EXHIBITION is NOW OPEN Admission, 1s.—Gallery, 53, Pall Mall, opposite Marlborough House.

JAMES FAHEY, Secretary.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

PRIZES to ARTIST WORKMEN are now offered. For WOOD CARVING, 20l. and 5l. ; and for COLOURED DECORATION, 5l. 5s. and 3l. 3s.—Particulars may be had by letter to the Hon Secretary, at 13, Stratford place, W.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec

ARCHITECTURAL ASSOCIATION.—THE ANNUAL DINNER of the above Association will take place on THURSDAY EVENING NEXT, the 23rd INSTANT, at SEVEN o'clock, at the ALBION TAVERN, opposite Drury-Lane Theatre. Members and their friends wishing to attend can obtain tickets on entering, or by previously applying to the Hon. Secretaries.

CHAS. J. ADAMS,
9, Adam street, Adelphi, W.C.
J. DOUGLAS MATTHEWS,
10, Cloak-lane, E.C. } Hon. Secretaries

RAMSGATE.—CHATHAM HOUSE COLLEGE SCHOOL, established sixty years. There is an efficient staff of masters, graduates of England and Foreign Universities. Youths are prepared for university and other examinations, and for high-class commercial pursuits. The domestic arrangements insure health and comfort to the scholars. Terms moderate. Principal, the Rev. T. STANTIAL, M.A. Oxon, of whom further information may be obtained.

NOTICE.—MESSRS. FREEN & CO. of No. 3, Canal-road, Kingsland road, and Frendsbury, Kent, Roman and Portland Cement and Plaster of Paris Manufacturers and Lime Burners, with a view to meet the requirements of their numerous friends at the West end of town, intend OPENING a WHARF, in the Isle of August next, at 17, ABINGDON STREET, Westminster, where every description of goods connected with their trade may be obtained. Orders addressed as above will receive prompt attention.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE will shortly be REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the present establishment. These will afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, to meet the great public demand ; and will also for the consequent more extensive execution, by the manufacture a themselves, of all descriptions of hot water, bath, laundry, and steam work

81, Bishopsgate street Within, July, 1863.

BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1864, be open to PUBLIC COMPETITION.

A Competitive Examination will, accordingly, be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which Candidates will be admitted to the Examination may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 10th July, 1863.

OPENING of the ALEXANDRA PARK, Muswell hill, - Alexandra Park Company (Limited).—The ALEXANDRA PARK and GROUNDS, comprising 185 acres, situate about one mile from Hornsey, and adjoining the Wood green Station of the Great Northern Railway, will be OPENED to the Public on THURSDAY next, 23rd inst., on which occasion, and on FRIDAY, the 24th, there will be a Grand Horti-situral Fête, when prizes for fruit and flowers to the amount of 70l. will be awarded.

Tickets of admission to the Flower Show, on THURSDAY next, the 23rd, will be half a crown ; and on FRIDAY, the 24th, 1s.

All information in reference to the Flower Show may be obtained of Mr. ALEXANDER MACKENZIE Tottenham Wood House, Muswell hill, Hornsey Mr BUCHANAN, Archery Manufacturer, 215, Piccadilly, will give the necessary information in reference to the Archery Fête, and all further information and particulars may be obtained on application at the Company's Offices, 12, Tokenhouse yard, London, E.C.

Accommodation for horses and carriages will be provided at Tottenham Wood House.—By order,

F. K. PARKINSON, Secretary.

OPENING of the ALEXANDRA PARK, Muswell hill Grand Horticultural and Archery Fêtes.—Alexandra Park Company (Limited).—RAILWAY ARRANGEMENTS In addition to fourteen ordinary trains from Kings-cross to Alexandra Park (Wood green Station), and twelve from the park to Kings-cross, the Great Northern Railway Company will run numerous special trains on THURSDAY and FRIDAY next, the 23rd and 24th of JULY, in accordance with the requirements of the traffic.—By order,

F. K. PARKINSON, Secretary.

ALEXANDRA PARK COMPANY (LIMITED) Opening of the Park Grand Horticultural and Archery Fêtes, on THURSDAY and FRIDAY next, the 23rd and 24th of JULY.

The BANDS of the FIRST LIFE GUARDS,
" SECOND LIFE GUARDS,
" GRENADIER GUARDS
" COLDSTREAM GUARDS,
will PERFORM

GRAND ARCHERY MEETING (Alexandra Park Company, Limited), on the Lawn of Tatler hamwood House, on THURSDAY and FRIDAY next, the 23rd and 24th of JULY, at the Alexandra Park, Muswell-hill Prizes amounting to 200l. will be offered — For further particulars apply to Mr. BUCHANAN, Superintendent of the Archery Fête, 215, Piccadilly, W

HORTICULTURAL FETE.—(Alexandra Park Company, Limited) The FLOWER SHOW will be held in an enclosure on the lawn of Tottenham-wood House. There will also be an ample Supply of Refreshments, for which Mr. HART, of Radley's Hotel, is the Purveyor

THE beautiful GROUNDS of the GROVE ESTATE, communicating with the Alexandra Park, will also be OPENED on THURSDAY and FRIDAY next, the 23rd and 24th of JULY The Grove entrance to the Park is on Muswell hill, and the entrance to Tottenham Wood is in close proximity. There are direct Railway communications from the Regent's Park, and the times of transit from the Great Northern Railway Station at King's Cross to Grove Green Station is about 15 minutes. (Alexandra Park Company, Limited)

REFRESHMENTS.—Mr. HART, of Radley's Hotel, Bridge-street, will provide REFRESHMENTS of all kinds in various parts of the Park, on THURSDAY and FRIDAY next, the 23rd and 24th of JULY. (Alexandra Park Company, limited).

ALEXANDRA PARK COMPANY (Limited)—SPECIAL NOTICE TO ARCHITECTS.—The DIRECTORS having under their consideration the question of PURCHASING a PORTION of the EXHIBITION BUILDING of 1862 for utilization with other Buildings to be erected in Alexandra Park, are compelled to EXTEND the PERIOD for the DELIVERY of SPECIFICATIONS until further notice.—By order,

F. K. PARKINSON, Secretary.

FIRST CASS PUBLISHING and BOOK-SELLING BUSINESS, Lease of Premises, Stock-in Trade, &c. TO BE DISPOSED OF, in consequence of the decease of the Proprietor, the BOOK TRADE and GOODWILL of a first class Architectural and Scientific PUBLISHING and BOOKSELLING BUSINESS, with equally retail trade established in London nearly a century since, together with the Lease of the Premises where the business is carried on, having an unexpired term of seventeen years, at a very moderate rent. Value of stock and fixtures, about 5,000l. All necessary information may be obtained on application to Mr. HODGSON, Auctioneer, 115, Chancery lane, W.C.

TO PAINTERS, GLAZIERS, PLUMBERS, and GAS FITTERS.—A good JOBBING BUSINESS, with lease of good House, TO BE DISPOSED OF. Inquire 5, New-street, St Martin's-lane, W.C. With Stock-in-Trade For the sum of 450l.

TO JOINERS, CABINET-MAKERS, and UPHOLSTERERS.—TO BE DISPOSED OF, a First class BUSINESS in the West Riding of the county of York, which has been carried on successfully for the last forty years by the Advertiser.—For particulars apply to Messrs. BAYNES & DUFFIL, York ; or Mr J. PEASE, Upholsterer, Halifax

COMPETITIONS.

TO ARCHITECTS.—The GUARDIANS of the WEST LONDON UNION, in the City of London, do hereby give notice that they are desirous of receiving, and hereby invite Architects to send in, DESIGNS and PLANS for the ERECTION of a NEW UNION WORKHOUSE upon land at Holloway, in the Parish of St. Mary, Islington. Accommodation will be required for 800 persons, male and female The Guardians will be willing to pay Premiums for three Sets of Plans which shall, in their opinion, best meet their requirements, viz.—for the first, 100l ; for the second, 60l ; and for the third, 40l The three Sets of Premiated Plans are to become the property of the Guardians, who will not bind themselves to adopt either design, but will be at liberty to modify either premiated design in any way they may think proper ; nor will they be bound to employ the Author of either to carry out the work ; but, in the event of his being selected for that purpose, the premium to merge in the Architect's Commission Each Set of Plans must be distinguished by a motto, and accompanied with a sealed envelope, containing the name and address of the Competitor, and having a similar motto to that on the Plan or Design, which envelope will not be opened until after the plans are decided upon. The Plans, and everything intended to be submitted therewith, must be enclosed in a sealed cover, endorsed "Plan for West London Union Workhouse," and addressed to me at my office, 5 St Andrew's-court, Holborn, E.C. and be delivered on or before the 31st day of AUGUST next The Guardians will pay to the Architect selected to carry out the Works, a commission of 5 per cent on the outlay, to include all Plans, Drawings, and Specifications, and all attendances necessary to complete the same, and no charges of extras of any description will be allowed At the time of delivery, except the premiated ones, will be returned, carriage free, on application to me, within a fortnight ; sealed letters unopened ; and no further liability by the Guardians, or others for any premium will be allowed in respect of the Plans received beyond the amount of the Premiums herein set forth. The Guardians give notice that economy of structure will be an important consideration in the selection of Designs ; and should the lowest Tender to be hereafter received for the erection of the Workhouse buildings and premises exceed in amount by 10 per cent the Architects' estimate, they will not be bound to use his Design and Plan, nor to pay any premium for the same.—Plans of the ground, and full particulars and information that may be required, can be had on application at my Office By order of the Board,

JOHN PONTIFEX, Clerk to the Guardians.

5, St. Andrew's-court, Holborn, July, 1863.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE TO BUILDERS

TENDERS are required for ERECTING THREE SHELL-FILLING ROOMS, &c at Sheerness The usual printed forms may be seen, and specification, necessary information be obtained, on application at the Office, from 28th instant till 4th proximo.

The parties Tendering will be required to take out their own quantities

Tenders will not be received later than AUGUST 8.

The Secretary of State does not bind himself to accept the lowest or any Tender

Royal Engineer Office, Sheerness, July 14, 1863.

OLD IRON for SALE, by TENDER. By order of the London, Chatham, and Dover Railway Company, about 500 tons CAST-IRON CHAIRS and KEYS, of which average Samples may be seen on MONDAY, JULY 20th, TUESDAY, JULY 21st, or WEDNESDAY, JULY 22nd, 1863, between the hours of 10 A.M. and FOUR P.M. at the Offices of Sir CHARLES FOX, 8, New street, Spring Gardens, London Tenders may be made for the whole or any part Each Tender must specify whether the Company shall deliver the said Old Iron at Faversham Wharf, Chatham, or at Rochester, at specify the weight of Iron proposed to be taken, and must contain an undertaking to take a less amount than the amount tendered for, and, at any decrease, if any, at the Prices tendered for Each Tender must also specify the time within which it is undertaken to remove the Old Iron so tendered for, the right being reserved to the Company, in case of non-compliance therewith, of re-selling the Old Iron in question on the Purchaser's account, and of parties whose Tender may have been accepted. Each Tender must be in the envelope the words "Tender for Old Iron," and must be addressed to Sir CHARLES FOX, on behalf of the "Directors of the London, Chatham, and Dover Railway Company," 8, New street, Spring Gardens, London, S.W All Tenders must be sent free and addressed to the Company do not bind themselves to accept the lowest or any Tender.

SALE of OLD BRASS, COPPER, and METAL.—Notice is hereby given, that the Secretary of State for War is prepared to receive TENDERS for the PURCHASE of a QUANTITY of OLD BRASS, COPPER, and METAL, which may be inspected on application to the Principal Storekeeper of Stores, at the Royal Arsenal, Woolwich.

Tenders are to be made upon a printed form, which may be obtained on application to the Director of Contracts, War Office, Pall Mall ; or to the Principal Storekeeper of stores, at Woolwich ; and are to be delivered at or before the 23rd JULY, 1863, at the War Office, Pall Mall, addressed to the Under Secretary of State for War, and marked on the cover, "Tender for Purchase of Metal."

The Secretary of State reserves to himself the right of rejecting any or all of the Tenders.

THOMAS HOWELL, Director of Contracts.

War Office, 14th July, 1863.

NOTICE to BUILDERS.—TENDERS are required for the ERECTION of SIX DETACHED PRIVATE DWELLING-HOUSES, on the Addiscombe Estate, Croydon. Plans of the intended houses and specifications of the works to be executed, may be seen, and further particulars obtained upon application to B. ROWBOTHAM, 94, Cannon-street, City. Tenders to be submitted to the advertiser's office, built himself to accept the lowest or any Tender. 94, Cannon-street, July 16, 1863.

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS and ROAD and DRAINAGE CONTRACTORS.—ARTIZANS' MODEL DWELLINGS, West Hill Park Hights.—TENDERS are required for the ERECTION of thirty-two Brick Shops and the Fences and Outbuildings connected therewith. Drawings and Specifications, and conditions of Contract, may be seen on application to Mr. J. D. Taylor, Central Buildings, Highgate-road, and after MONDAY, 20th inst. and Tenders must be delivered by the SIX o'clock p.m. on TUESDAY, the 28th day of JULY. Deposit may be for the whole of the Works or in separate Trades. Bills of quantities and Forms of Tender will be supplied upon payment of a small fee. Applications for the same to be filed upon payment of a small fee. Applications for the same to be made to Mr. TAYLOR on and after 8th inst. No Tender will be received except it be on the Forms furnished with the printed Specifications are required, also for the Formation of Roads and Drainage in connexion with the above Artizans' Dwellings. Drawings and Specifications may be seen.

PAULL & AYLIFFE, Architects,
India Buildings, Cross-street, Manchester.

Dated 2nd July, 1863.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of PARSONAGE HOUSES, at Wetwang near Driffield, and Elloughton, near Brough, both in the county of York, can receive information as to where the Plans and specifications may be seen, on which Tenders must be signed and delivered to the Office of Mr. Architect, TOM CHRISTIAN, Esq., No. 4, Whitehall place, London. Mr. CHRISTIAN does not bind himself to accept the lowest Tender.

SCARBOROUGH LOCAL BOARD.—To BUILDERS, CONTRACTORS, and OTHERS.—The Scarborough Local Board of Health hereby give notice that they are ready to receive TENDERS from competent persons for the CONSTRUCTION of a Main TRUNK SEWER and OUTLET through the East Pier to low-water mark, with such extensions, &c., as may be required, and other works connected therewith, within the Borough of Scarborough. Plans, sections, and specifications of the works may be inspected at the Board Room, Town Hall, Scarborough, on and after the 1st day of August next, between the hours of TEN and FOUR o'clock each day. Sealed Tenders, addressed to the Chairman of the said Local Board, and endorsed "Tender for Main Trunk Sewer and Outlet," to be forwarded to the Office of the Board, Town Hall, Scarborough, not later than 12 o'clock on NOONDAY, on Friday, the 27th instant. The Local Board do not bind themselves to accept the lowest or any Tender; and the party whose Tender may be accepted will be required to give security for the due and satisfactory performance of the works. By order,

J. G. P. MOODY, Clerk to the Board.

Local Board Office, Town Hall, Scarborough, 11th July, 1863.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a TAVERN on the Barking-road, at Plaistow, may inspect the plans at the Walmer Castle Tavern, Canning Town, E., on and after TUESDAY, the 21st JULY; and Castle Tavern, Canning Town, E., on and after TUESDAY, the 21st JULY; and further particulars required may be obtained of Mr. J. F. FISHER, Surveyor, Poplar.—Sealed Tenders addressed to A. COLLINS, Esq., to be delivered on or before the 11th day of AUGUST, at FOUR o'clock p.m. The lowest or any Tender not necessarily accepted.

TO BUILDERS, CONTRACTORS, and OTHERS.—The Trustees of the General Charities in the city of Coventry are desirous of CONTRACTING with some person or persons for the ERECTION of a GIRLS' INDUSTRIAL SCHOOL, with matron's house, and the necessary buildings connected therewith, on the site selected for the purpose, situate near to Seaman's-terrace, in the newly-formed Cemetery-road, Coventry; and plans, elevations, and specifications of the intended buildings may be seen at the Office of Mr. THOMAS PRATT, the Architect, in Coventry aforesaid.

The several quantities have been taken out by a competent person appointed by the trustees for that purpose, and which may be had on application to Mr. PRATT, on payment of one guinea, which will be returned to the commencing tenderer. The trustees do not bind themselves to accept the lowest or any other Tender, and the person whose Tender may be accepted will be required to give sufficient security to the satisfaction of the trustees, to the amount of 500l. for the due performance of the contract. The buildings being erected under an order of the Court of Chancery, the accepted Tender, and also the contract, must be subject to the approbation of the Court.—Tenders, sealed up and endorsed, "Tender for Girls' Industrial School," to be delivered at my Office, on or before TUESDAY, the 28th day of JULY instant.

HENRY J. DAVIS, Clerk to the Trust.

Hay-lane, Coventry, July 15, 1863.

BRIDGE over the RIVER WEY, County of Surrey.—Notice is hereby given, on behalf of the Justices of the county of Surrey, that it is proposed to CONSTRUCT a CAST-IRON BRIDGE, of Three Arches, over the River Wey, together with the Approaches thereto, in lieu of a BRIDGE over the Wey and Basingstoke Canal, for the purpose of carrying the highway from Weybridge to Chertsey, in the county aforesaid; and that the plans, working drawings, specification, and conditions of Tender may be seen at the office hereunder mentioned, between the hours of TEN a.m. and FIVE p.m. daily, both days inclusive, on Sundays and working days. Together with printed copies of the specification, conditions, and form of Tender to be delivered at the said office on the 29th day of July instant, and the said Justices will not bind themselves to accept the lowest or any Tender.

WARONZON GRIBBLE, Clerk of the Peace.

Record Office, North street, Lambeth, Surrey, July 16, 1863.

TO BUILDERS. — Persons desirous of TENDERING for BUILDING a New CHURCH at Thorpe next Norwich, are requested to apply to me, in writing, for copies of quantities, on or before the 21st of JULY. The plans and specifications may be inspected at my Offices, on and after FRIDAY, JULY the 24th. Tenders to be delivered by the 5th of AUGUST, 1863. The lowest or any Tender not necessarily accepted.

THOS. JECKELL.

Queen-street, Norwich.

HAILEYBURY COLLEGE WATER-WORKS.—TENDERS WANTED.—The Council of Haileybury College are desirous of receiving TENDERS for the following WORKS required at Haileybury College, viz. the Pumping, Delivering, and Erecting a Horse power Steam-engine and Connexions; a Tubular Boiler and Fittings; a Set of deep Well Pumps and Gearing; also a Cast-iron Tank, capable of holding 1,000 gallons of water and necessary Brickwork for the above works. The plans and specifications will be left for inspection at the Office of Mr. HAIR FORSTER FAIRBANK, C.E. No. 20, Parliament-street, Westminster, from ELEVEN to FOUR o'clock each day, from the 25th inst. to the 30th JULY instant, on which day Tenders should be sent in to the Rev. LEWIS DEEDES, Hon. Secretary, Bramfield Rectory, Hertford, endorsed "Tender for Works, &c." The Council do not undertake to accept the lowest or other Tender. Copies of quantities, &c. can be obtained of the Engineer.

20, Parliament-street, Westminster, 15th July, 1863.

EXTENSION of STAFFORD COUNTY GAOL.—To BUILDERS and CONTRACTORS.—Parties disposed to TENDER for extensive ADDITIONS to the above building, may inspect the plans, specifications, and conditions of contract at my Offices in Stafford, on and after THURSDAY the 16th day of JULY, until SATURDAY, the 1st day of AUGUST. Bills of quantities will be furnished to the Tenderers for such copies, on the payment of two guineas being returned to the parties who supply them for the same. Tenders, sealed and properly endorsed, to be delivered at my Office by TEN o'clock on SATURDAY, the 1st day of AUGUST next. Sureties will be required for the due performance of the contract, but neither the lowest nor any Tender will be accepted unless satisfactory in all respects.

ROBERT GRIFFITHS, Architect and County Surveyor.

Eastgate-street, Stafford, June 24, 1863.

WANTED, DOMESTIC FILTERS.—Persons desirous of supplying the above are invited to send TENDERS to BALDWIN LATHAM, C.E. Waterworks, Ely, Cambridgeshire, on or before the 24th day of JULY, stating price, description, area and thickness of filtering medium, mode of cleansing, quantity of water capable of being passed in 24 hours, together with reference to persons who have the same in use.

Ely, 6th July, 1863.

TO CONTRACTORS, ROADMAKERS, and OTHERS.—TRANMERE IMPROVEMENT ACT, 1862.—The Local Board for the District of Tranmere, as authorized by the above Act, require Tenders for the construction of a MAIN SEWER in the Valley leading by a Wheelstone lane southwards, with the requisite Junctions, Branches, Manholes, Gullies, and Ventilating Shafts; and for the MAKING of a ROAD over the same, being a length of about 1,060 yards. Plans, sections, and specifications, &c., may be seen on application to Mr. W. A. RICHARDSON, C.E. Surveyor to the Local Board, at his Office, Holt-hill, Tranmere, on and after MONDAY 22nd JUNE next, and copies of the specifications and forms of Tender may be obtained on payment of 1l. Sealed Tenders, made on the printed forms only, to be addressed to me, and delivered not later than THURSDAY, 23rd JULY. Contracts and bonds will be prepared by the Law-clerk to the Local Board at the expense of the Contractors. Security will be required for the due performance of the works. The Local Board do not bind themselves to accept the lowest or any Tender.—By order,

GEORGE LLOYD, Law-clerk to the Local Board.

Pull's-cottages, Holt-hill, Tranmere, 20th May, 1863.

TO LIGHTERMEN, CARMEN, and OTHERS.—The Directors of the Charing Cross Gas Company are prepared to receive TENDERS for the LIGHTERAGE and CARTAGE of COALS, in accordance with the amended Specification, printed copies of which may be obtained at the Company's Office, Hungerford road, Westminster. Proposals to be sent in on or before MONDAY, the 27th inst. addressed to me, and endorsed "Tender for Lighterage or Cartage."

By order, JOHN OSWELL PHILLIPS, Secretary.

Hungerford road, Westminster, 15th July, 1863.

METROPOLITAN IMPROVEMENTS.—BUILDING LAND, at Southwark, Mile End, and Kingsland Road (Middlesex).—The Metropolitan Board of Works are prepared to receive TENDERS from parties who may be willing to take, on building leases, certain Plots of Building Ground, respectively in Southwark-street, South Park, in the parish of Saint Mary, Newington; Mile End, and Kingsland, Corner Garden, in the county of Middlesex.

Particulars, conditions, and form of Tender, and every information may be obtained at the surrounding Architect's Office at the Office of the Board, between the hours of NINE a.m. and FOUR p.m.

The Tenders are to be on the printed forms supplied at the Office of the Board, and be delivered under sealed covers, endorsed "Tender for Land, at Southwark, Mile End, Old Town," or "Kingsland," (as the case may be), and addressed to the Clerk of the Board, at the Office of the Metropolitan Board of Works, Spring-gardens, S.W.

The Board do not bind themselves to accept the highest or any Tender.

JOHN POLLARD, Clerk of the Board.

Spring-gardens, Charing Cross, 21st May, 1863.

TO STONEWARE PIPEMAKERS.—The Croydon Local Board are prepared to receive TENDERS from Pipe-makers for STONEWARE PIPES that may be required by them during the year ending Mid-summer, 1864. The Tender to state the lowest price per pipe for pipes delivered within one mile and a quarter of any of the railway stations in the parish, Gipsy-hill, or the Palace, from time to time, as ordered by the engineer.

About 3,000 9 Inch Pipes
" 1,000 12 Inch "
" 2,000 15 Inch "

with junction pipes and bends will be required during the twelve months. The pipes to be best burnt and well glazed stoneware, the thickness to be at least the internal diameter. Payment to be made by one month after delivery for all sound and well-made pipes. Tenders to be delivered at the Office of H. RICHARDS, Esq., High-street, on or before MONDAY, the 27th of JULY, 1863. The Board will not necessarily accept the lowest or any Tender.

Town Hall, Croydon, July 15th, 1863.

HACKNEY SOUP KITCHEN and COTTAGE DWELLING.—Persons desirous of TENDERING for the ERECTION of the above are hereby informed that the specification and drawings may be inspected at the Office of Mr. JAMES BARLOW, F.R.I.B.A., Architect, Eclipse Distillery, N.E. on MONDAY, TUESDAY, and WEDNESDAY next, from TEN a.m. till FOUR p.m. Sealed Tenders to be delivered at the above address, endorsed "Tender for Soup Kitchen." The lowest or any Tender not necessarily accepted.

TO MASONS and PAVIORS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City on TUESDAY, the 21st JULY, 1863, at HALF-PAST TWELVE o'clock precisely, to receive TENDERS for RELAYING the CARRIAGEWAY PAVEMENT of LEADENHALL STREET and MANSION HOUSE STREET and RE-PAVING the FOOTWAYS of FLEET STREET, agreeably to specifications to be seen at this Office. Persons desiring to tender are required to give the names and residences of four two substantial householders as their sureties to enter into bond with the Contractor for the due performance of the Contract. The Commissioners do not pledge themselves to accept the lowest Tender, or any, unless deemed satisfactory; and no Tender will be received after TWELVE o'clock on the day of treaty.

JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, 7th July, 1863.

LLANELLY MAIN DRAINAGE WORKS.—TOWN DIVISION.—The Llanelly Local Board of Health are prepared to receive TENDERS for the EXCAVATION and CONSTRUCTION of about 1,000 yards of Brick Main SEWERS, and 800 yards of BRANCHES, for the drainage of part of the town; also for the Construction of the necessary Street Gullies, Manholes, and other Works connected therewith, in accordance with Plans and Specifications, which may be seen at the Office of Mr. EDWARD RAGG, C.E. engineer to the Board. Sealed Tenders, marked "Drainage Works Contract, No. 4," are requested to be sent in before NINE o'clock on SATURDAY morning, the 25th day of July instant, addressed to the Clerk of the Board. It may be observed that the Board do not pledge themselves to accept the lowest or any of the Tenders.—By order,

Llanelly, July 4, 1863. FRED L. BROWN, Clerk.

ABERDEEN WATERWORKS EXTENSION.—GRAVITATION SUPPLY from CAIRNTON.—The Commissioners under the Aberdeen Police and Waterworks Act, 1862, are prepared to receive TENDERS for CONSTRUCTING and MAINTAINING the required WORKS, consisting of the aqueduct (about twenty miles long) for conveying water from the River Dee at Cairnton to Aberdeen, with the reservoirs, filters, tanks, conduits, hydraulic engine, cast iron pipes, wrought iron tubes, and other appurtenances. The plans and specifications of the works, with general conditions of contract, may be seen at the Commissioners' Office, 50, St Nicholas street, Aberdeen, and sealed Tenders are required to be delivered on or before MONDAY the 10th day of AUGUST next, addressed to "The Commissioners of Police, Aberdeen," marked "Tender for Waterworks." Persons desirous of contracting for a part only of the works, or such portion or portions, section or sections thereof, as are particularly defined and described on the plans and in the specifications and general conditions. The cast and wrought iron work forms one of the sections for which a distinct Tender may be made. The Commissioners do not pledge themselves to accept the lowest Tender or any Tender, unless they consider the same shall be satisfactory in all respects, and the securities approved.

GEORGE MILNE, Clerk of Police.

Aberdeen, 9th July, 1863.

TO SEWER CONTRACTORS and BUILDERS.—The Vestry of the Parish of Chelsea will meet at the Board Room at the Vestry Hall, King's-road, on TUESDAY, the 21st day of JULY next, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to CONTRACT for the CONSTRUCTION, in Arthur street, of about 250 Feet run of BRICK SEWER, 3 feet 9 inches high, 2 feet 6 inches wide, and one brick thick; and other Works; according to a specification and drawing, which may be seen at the Office daily between the hours of TEN and FOUR. Parties tendering must appear personally or the day the Tenders are opened. The expense of the Contract to be paid by the Contractor, upon the execution of the same. Sealed Tenders, signed by the proposed Contractor, with the names and description of two sufficient sureties for the performance of his Contract, are to be left at the said Office before TWELVE o'clock on the said 21st inst. The Vestry do not bind themselves to accept any Tender.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, Chelsea, July, 1863.

WEST HAM SCHOOLS.—TENDERS are required to be sent to Mr. T. E. KNIGHTLEY, Architect, on or before JULY 24, 1863. Quantities are prepared. 25, Cannon-street, City.

MOUNT PLEASANT WESLEYAN CHAPEL, Thorncliffe, near Sheffield. Builders willing to CONTRACT for the above BUILDING may see the plans and specifications on and after JULY 13th, 1863, at Messrs. NEWTON, CHAMBERS, & Co.'s Coal-office, Midland station, Sheffield. Tenders, sealed and addressed, to be delivered to the Rev. S. H. MORTON, Thorncliffe, on or before 24th inst. The lowest or any of the Tenders not necessarily accepted.

JAMES WILSON, F.S.A. Architect.

No. 1, Belmont, Bath.

TO BUILDERS. — Parties disposed to TENDER for the ERECTION of a DINING and RECREATION HALL and other Works, at the County Asylum, Stafford, may inspect the plans, specifications, and conditions of Contract, at my Offices in Stafford, on and after SATURDAY, the 18th day of JULY, until SATURDAY, the 25th. Bills of quantities will be prepared and furnished at a charge of 1l. 1s. per copy, which will be returned to all parties who submit Tenders for the works. Sealed Tenders, properly endorsed, must be delivered at my Office, by TEN o'clock, a.m. on MONDAY, the 27th of JULY next; but neither the lowest nor any Tender will be necessarily accepted. Security will be required for the due performance of the works.

ROBT. GRIFFITHS, Architect and County Surveyor.

Eastgate-street, Stafford, 30th June, 1863.

TO BUILDERS.—Persons willing to CONTRACT with the Justices of the County of Kent, for the ERECTION of a POLICE STATION, at Chatham, may see the plans and specifications, at the Office of the County Surveyor, Maidstone, any day except Sunday, between the hours of TEN and FIVE. The work to be tendered for agreeably to the form of Tender, to be obtained at the County Surveyor's Office, where sealed Tenders, endorsed "Tender for Chatham Police Station," are to be delivered by NINE o'clock, a.m. on MONDAY, the 27th instant, and persons tendering are to be in attendance at the Courts of Justice, Maidstone, at HALF-PAST TWELVE o'clock on that day.—Neither the lowest nor any other Tender will be accepted unless approved of in all particulars, and security will be required for the proper performance of the Contract.

H. A. WILDES, Clerk of the Peace.

Maidstone, July 10, 1863.

TO CLOCK-MAKERS. — Birkenhead Cemetery.—The Birkenhead Improvement Commissioners are prepared to receive TENDERS for a TURRET CLOCK and BELLS (the specification may be seen at the Commissioners' Offices, 25, Hamilton-square. Sealed Tenders, addressed "The Chairman of the Cemetery Committee, Commissioners' Offices, Birkenhead," to be delivered by NINE o'clock on or before WEDNESDAY, the 29th instant. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

AMBROSE WAIN, Clerk to the Commissioners.

Commissioners' Offices, Birkenhead, July 2nd, 1863.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 353, Great Guildford-street, Borough, S.E. inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.

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These Valves are all proved to 300 lb. on the square inch before leaving the works, and are always kept in stock.

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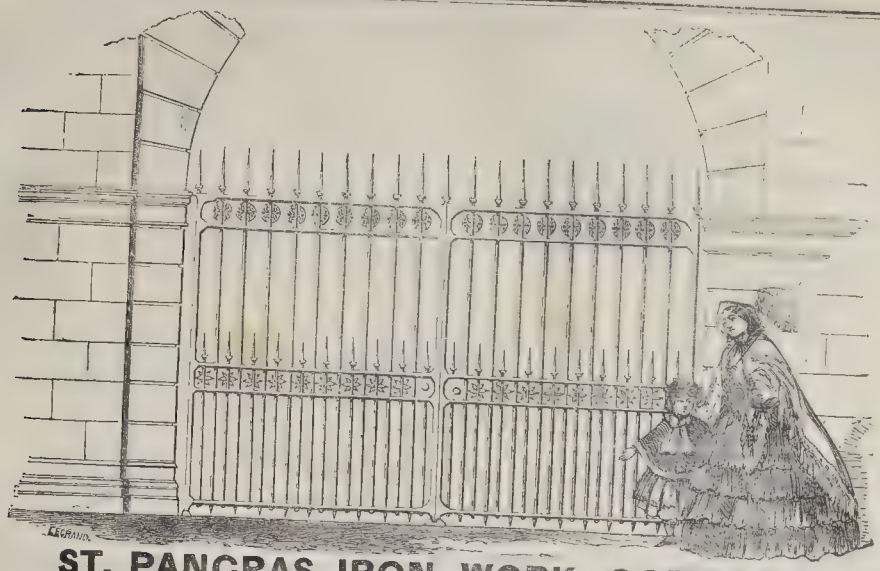
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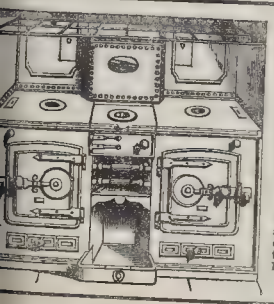


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They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY PIECES, FIRE IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces, from 1*l.* 8*s.* to 196*l.*; Fire irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth-plates.

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30 inches ..... 22s.
32 ,, ... 24s.
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Self-acting, with Bright Wrought Bars

34 inches ..... 54s.
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Best Cut Clasp and Rose Nails.

1½-in. 1¾-in. 2-in. 2¼-in. 3-in.
14s. 14s. 13s. 12s. 11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
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Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4d. per inch.

Best ditto, with Fire-brick Back, from, per inch, 5d.

Berlin Black, with Bright Bead, 35s. each.

Cast Rain-Water Pipe,
2-in. 2½-in. 3-in.
8d. 10d. 1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

O G Gutters, with Clips on,
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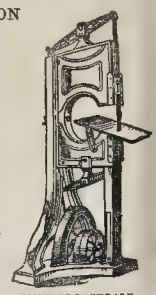
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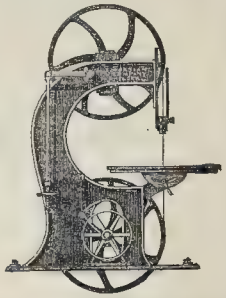
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ROCHDALE, near MANCHESTER,
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AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
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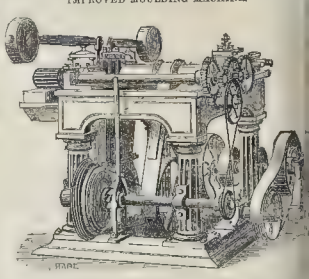
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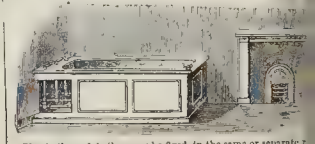


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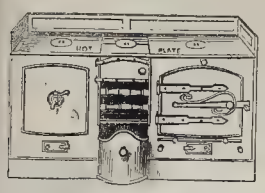
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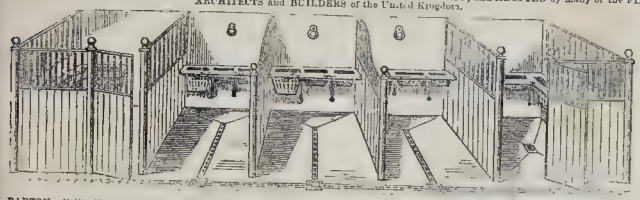
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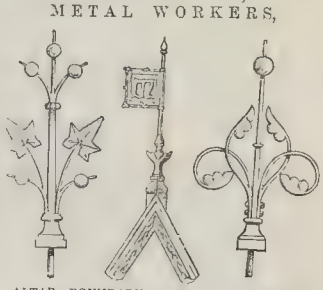
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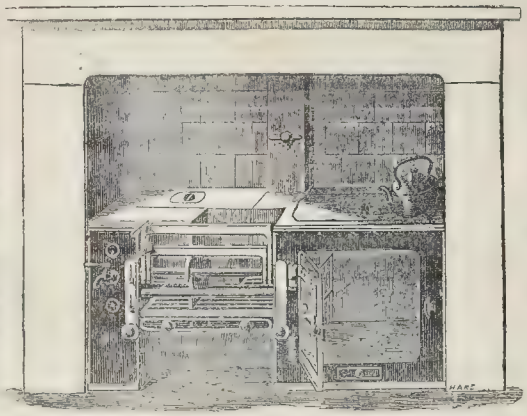
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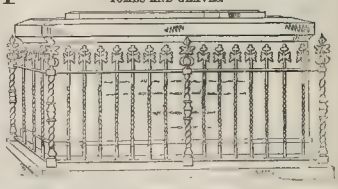
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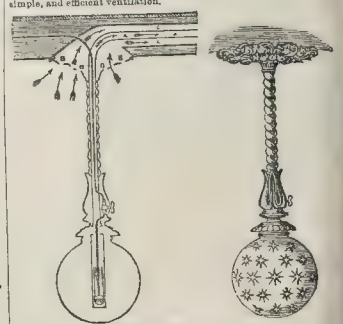
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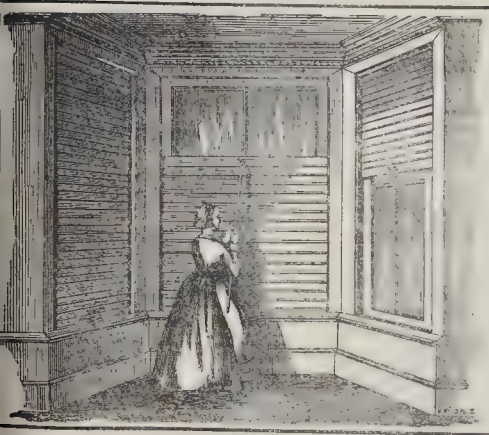
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VOL. XXI.—No. 1067.

The Metric System of Weights and Measures; and the Practice of Architecture.



THE Bill for establishing the Metric System of Weights and Measures passed the second reading in the House of Commons under circumstances which would have seemed to foreshadow an enactment to render use of the system compulsory in three, or at most five, years, and to legalize the use in three months; but the Bill will now be withdrawn, and Mr. Ewart will bring in a permissive Bill in the next Session of Parliament. Still, it is necessary for all architects and builders to be prepared for the change which may be soon required in many of their methods of proceeding. Referring to what this preparation would involve, we may note in particular, that all lists of prices will have to be altered, and made to conform to the new standards of measure and weight. "Squaring dimensions" will be acilitated by the substitution of common multi- lication, or that of decimals, for duodecimal or oss multiplication; and the division of areas id solids into twelfths, which is convenient, but variance with the tables of square and bic measure, will cease to be in use. Pos- ly also, it may be found convenient, so far the lists are concerned, to anticipate the cimalisation of the pound sterling, and the troduction of the decimal system into ac- unts; since there is no question that time in timating would be saved, and exactitude in cal- lation gained, by the substitution of decimals the right-hand columns of money of the present stem of bringing items "into bill." According Mr. Brown, the actuary, "it is a common cus- m in all assurance companies to reduce the unds, shillings, and pence columns into decimals a pound, as the only way in which valuations can made within any reasonable time." The Equi- ble Insurance Company, it is stated, have kept eir ledger on the pound and *mil* system for a ndred years. Decimalisation of the coinage, d of accounts, indeed, has secured the advocacy influential persons who have not yet given their hesion to the system of weights and measures ctly as it is in France; but there is a strong ance of testimony in favour of the altera- n in money and that in weights and measures alike desirable, and as the one necessary to the fection and success of the other.

We may also remind professional architects, that wever they may be desirous to change from scales "feet and inches," in drawings, to scales of so ny *centimètres*, or *millimètres*, *per mètre*, there be some little difficulty in their particular e, at first, in judging of dimensions of an actual work, whilst laying aside the foot and its divisions and multiples to which they are habituated. Observations of apparent dimensions in examples, lead to conclusions which are turned to use in practice; and many of these accumulated results of experience, will, under a new system of measures, have to be given up; and materials for new exercise of judgment will have to be acquired by the actual manipulation, constantly, of the measure of length,—till a habit of judging in *mètres*, or divisions of a *mètre*, shall have overcome the force of the old habit.

The difference between the third of a *mètre* and a foot, is little more than one inch; the *mètre* being usually called 39¼ inches, or being exactly 39·37079 inches. The effective introduction of the metric system would require disuse of the term "foot," and the preference of decimetrical division of the *mètre*, to a division into three parts, new feet; but it may be well to mention that three *decimètres*, which are equal to thirty *centimètres*, or to 300 *millimètres*, come up to the length of the present English foot within about three-sixteenths of an inch.

Many of the known dimensions, such as the length of the brick, will have to be learned, and stated when required on drawings, differently. For the very commonly required length which is now "9 inches," we should have to use and speak of 23 *centimètres*, to which 9 inches are nearly equal. The thicknesses of iron, now generally stated in eighths or sixteenths of the inch, will be always described, as indeed they are already by some English machine-makers, and with great advantage as to precision of work, in *centimètres* or *millimètres*.

The chief impediment to the architect's rapidly familiarizing himself with the new system in measures, will arise from the convenience which there now is when making drawings, in dividing a given length, first into halves, then each half into halves, then these quarters each into halves, and so on, precisely as an inch is generally marked divided on a workman's rule. Lord Overstone and others are certainly right in attaching some importance to this method of division as the natural one; though that they are thus furnished with sufficient argument against change in the coinage, we can hardly say. This, however, we must confess to be the result of experience, in France; namely, that an *architect* may have great difficulty in acquiring the habit of division of that coin, the half-franc, which resembles a sixpence in appearance, into five parts, and in overcoming the habit that he had acquired in making drawings and taking measurements, no less than in pecuniary transactions, of repeating the division into halves a second time at least, and having three subdivisions or coins in each resulting quarter of the original length or coin. It is, indeed, admitted by the chief advocates of the new system, that it will be impossible that the natural method of division here spoken of, should not be used, at least to the extent of quartering. This quartering, in the case of the *mètre*, or of any space representing that length in a drawing to scale, however, is simply the obtaining four lengths of 25 *centimètres* each; and there is no difficulty to a draughtsman, in marking accurate halves of each of these, and treating each eighth part of the *mètre* as 25 half-*centimètres* or 125 *millimètres*, as may be convenient. We ought to state, however, that the French have thought fit to discontinue the use of the piece of 25 *centimes*, or the quarter of a *franc*, as not being one of the products of division by 5 or 2; the capability of which division is the characteristic of the decimal system. Argument in favour of a duodecimal system is founded upon there being four divisors. English architectural students pursuing their education in France, find no difficulty with the *mètre;* and the evidence of engineers is to the effect that English workmen fall to it with great readiness. We can at least give our testimony to the fact that the use of the *mètre* becomes soon familiar. It is preferred by ourselves for all measurements and memoranda when travelling on the Continent; and, considering that foreign architectural literature is more prolific of engraved illustrations of buildings than our own, there is on that account argument in favour of the system, to be set against the inconvenience, supposed, of its throwing out of use some English books that have a certain value. French books, we should say, are much cheaper in France, than English books are in England; and whenever the facilities which there are in each country for the transmission within the country, of books and money by post, are made international, as they will be when the present impediments to all transactions, namely the differing weights and systems of accounts, are removed, the entire gain to English architects, whether considered as students, or professional practitioners, will far outweigh the loss, and will be thoroughly appreciated by them. As to letters, the postage between Dover and Calais is rather more than double the rate between Calais and Marseilles; whilst less weight, indeed one quite inadequate, is allowed; and one reason given is the want of harmony between the systems of weights and money in the two countries.

The chief arguments in favour of change to a uniform and rational system of weights and measures, are no. doubt understood by our readers. There are as many as eleven systems of weights in use in this country. The metrical system is actually of the number. Professor Miller, of Cambridge, as quoted in a recent pamphlet by the Rev. John Kerr, says that "our present weights and measures do not interfere with scientific investigations in any way; they are so complicated that it is quite impossible to use them;" and he thinks that "since the year 1830, no chemist has ever made use of any weights that were not decimally divided;" whilst he says with reference to the metric system, that "all chemists use it by preference, and that in our scientific journals weights are almost invariably given in *grammes* and measures in *millimètres*."* Similar evidence is given by Mr. Graham, the Master of the Mint, and to the effect that "scientific men who have considered the subject" and are "in the habit of using the metrical system," regard no other system as ultimately possible. The chemical students of the University of London already calculate in *grammes;* and English scientific books are beginning to quote the metric units.

Not only are the tables of weights and measures, such as are learnt at school, too numerous for recollection, and difficult from the absence of any systematic relation between the parts of each table, but there are many other forms, some of them scarcely discoverable in print, which are peculiar to trades, or to localities. Moreover, the number of parts in a weight or measure, is not the same in all localities. There are several different sizes of acre, besides the size which contains 4,840 square yards; and there are many kinds of roods. "Gauges" which vary with the custom of the trade, are used where the French would state the size exactly by *millimètres*. The hundred-weight may be 100 lb., 112 lb., or 120 lb. A pound may be of several different weights; and of bushels there are a score. As to the measures of liquids, it may be recollected, that when there was much discussion once in the newspapers, as to what constituted a bottle, a quart, and a pint, no precise conclusion could be got to. To say that this state of things is "humiliating" to Englishmen when they have,

* "The Metric System: its Prospects in this Country." By the Rev. John Kerr, M.A., Mathematical Lecturer Free Church Normal College, Glasgow. 8vo. pp. 52. London: Effingham Wilson, 1863.

This pamphlet refers throughout, to the Report and Minutes of Evidence presented to the House of Commons on the 15th July, 1862, by Mr. Ewart's committee. The subject is thoroughly explained in these minutes, in the report of 1857 of the Commission on the Coinage, and in numerous pamphlets of the International Decimal Association. A short paper by Mr. Leone Levi, reprinted from *The Exchange*, "On the Metric System of Weights and Measures," may be here mentioned as useful.

like Mr. Cobden, to arrange a treaty of commerce, or to meet and confer with foreigners, as in the Juries of International Exhibitions, or to state and appreciate facts in whatever kind of pursuit, is representing little of the evil. The reduction from one system of weights and measures to another, involves so much time that it becomes a serious impediment to advancement of every kind; and to all relations, commercially or otherwise, between nations.

Professor Airy, indeed, has said that no power on earth could make a rustic demand three-tenths of a quart of beer, though he will ask easily for a half or a quarter of that measure; but Professor de Morgan has expressed belief that the decimal division of units would coëxist perfectly well with the binary division,—or habit of dividing into halves and quarters, which "must always be used by the common people,"—since the halves and quarters are easily converted into decimals. Professor de Morgan prefers the foot as the unit, considering the *mètre* to be too large and the *decimètre* too small; whilst some foreigners prefer the *mètre* to the foot. The French rustic has no difficulty such as that which is feared by the Astronomer Royal; and "primary education," or that corresponding to what is the business of our "national" and village schools, is in a much lower state in France than in England. The French law, however, allows use of the halves and doubles of all the primary or decimal denominations. Thus, there are weights of 2, 5, 10, 20, and 50 *kilogrammes*, between the *kilogramme* and the *quintal* or 100 *kilogrammes*, instead of only the one weight, the *myriagramme*, of 10 *kilogrammes*; and there are vessels to measure 5 *decilitres*, 2 *decilitres*, and 1 *decilitre*, and 5 *centilitres*, 2 *centilitres*, and 1 *centilitre*.

The metric system, when the value of each unit, the easy nomenclature, and the relation of the prefixes to the unit-terms, are learnt, helps the memory, assists calculation, and so, effects a vast saving of time in education, and in the conduct of all affairs requiring arithmetical calculations. The workman, and even the rustic instanced by Professor Airy, must be benefited by the increased commerce between nations, to a greater degree than he would be injured by change to the decimal system in measures and coinage; and we have yet to learn that he would be even inconvenienced much. One of the greatest hinderances to education comes from the early period at which children are removed from school; and, although it has been argued in the House of Commons that the present system of weights and measures is worth preserving because it exercises the faculties, we apprehend these might be better exercised by attention to something else in the "two years at least" which it is in evidence would be gained in the education of boys. The aptitude of the French for arithmetical calculations must strike every Englishman who is at all observant when on the Continent. He is perhaps most struck with the difference there is in that respect between the women of the two countries. Not only as to *cafés* and *restaurants* universally, but as to trades generally, and even frequently as to the learned professions, it may be said that the accounts are kept by women; and *the sex* in France, loses no charm or grace by this particular way of doing something. Of the order and regularity that might come to be the characteristic of the English home, merely by the adoption of the French system of accounts, we could say much.

The retention of the name *sou*, in common use in France, for the piece of 5 *centimes*, however, is the source of difficulty to Englishmen; as the price of an article which would be, say, 1 *franc* 25 *centimes*, will be frequently stated as 25 *sous*; or worse, as 1 *franc* 5 *sous*: so that, in fact, one or two systems not corresponding with that of the account, are found to be prevalent. The difficulty is caused rather by the efforts, generally ill-judged, at explanation to foreigners, than by any defects that would be felt in the decimal and metric system as it could be introduced, and as we believe it would be accepted, in this country. And although in France, some old names of weights and measures, as *livre*, *chopine*, and *demi-sétier*, may be written and spoken of, the weight or quantity of the article, as wax-candles or wine, is, we believe, the new weight or quantity, that is what has its place in the metrical scale, and not the old weight or quantity. The difficulty, however, which there is for Englishmen, is simply a warning as to the nomenclature which should be now adopted, and as to the desirableness of availing ourselves of all means of explaining the system by diagrams and models such as were exhibited last year in the building at Brompton, and have been found of great service in other countries, educationally.

In the Bill lately printed, it seemed proposed to retain the terms "yard," "quart," and "pound," and perhaps some others, with the prefix "new" or "decimal." We are afraid that any retention of old names, for weights or measures which are entirely different, would be an error. The Dutch tried that course; and they now confess it would have been better to introduce the French nomenclature. By the way, however, in which they went to work educationally, they succeeded in quickly introducing the system; whereupon all confessed the change to be most beneficial. It would be disgraceful should the British nation, convinced of an advantage in its commerce, in its foreign relations, and in its future progress resulting from education, be incapable of achieving the same work. To hesitate for the supposed benefit of a section, the most ignorant, of the community, would surely be opposed to the principle of every line of action by which progression accrues. And no prejudice against a thing or a term as being French, should be allowed to stand in the way of our reaping the advantages of the metric system, in their entirety. Neither should there be any prejudice against the system as the growth of the Revolutionary period in France.

There is one period that preceded the excesses of the Revolution, to which discerning men in either country can look back with satisfaction. During that time, the French Constituent Assembly desired the King to endeavour to obtain the co-operation of the Royal Society with the *Académie des Sciences* in an investigation with a view to improvement in weights and measures; and we have seen a pamphlet in the library of the Patent Office in Southampton-buildings, with the date 1790, which gives certain speeches in the House of Commons that appear to urge strongly the acceptance of the proposal. The same cause, namely the war, which has deprived this insular country of many things now recognized as advantages, kept from us the benefit of the metrical system. It is true indeed that the first Emperor did not favour that system, so far at least as that he allowed the *système usuel* to exist beside it. But now, or since 1840, when the old law of the republic, restored in 1837, came into new operation, and any other system became illegal, the metrical system has got into general use. Any difficulty to which we have referred, as encountered, has doubtless arisen in great part from the state of the law under the first Napoleon.

The Bill lately before the House of Commons, should be remodelled next Session, so far as leaving out all terms which may be mistaken for those of old measures or weights. As to the unit of land measure, the French *are*, or one hundred square *mètres*, it should be called *are* notwithstanding similarity to "acre," or certainly not *hectare*, which is the French term for one hundred ares.

It has been said by Mr. Dickson, a Scotch gentleman, who has been resident and engaged for thirty years in manufactures at Dunkirk, and who ascribes his early success to his use of a measure having a clear and definite meaning,—

> "The *marchands*, as we call them, are people who very often can scarcely sign their names. Many of them have really no education whatever; yet they get on remarkably well with the metrical system: it is so simple. There is nothing so difficult to a man (in France or Belgium) with half or quarter of an education, as to take an invoice of 10 tons 7 cwt. 3 qrs. 18 lb. at 25s. 11d. the cwt. There is a whole calculation to go through, and they cannot manage it."

Yet the *Times*, writing after the debate on the second reading of the Bill, can speak of the physical impossibility of the Englishman's learning things so fast, and forgetting them so fast, as may one accustomed to revolutions, earthquakes, and wars; and can ask "on behalf of the already overworked and not very quick wits of our countrymen," what will become of the "many village shopkeepers who cannot even write, and who can only just do the little mental arithmetic which suffices for a ready-money transaction, or a few hieroglyphics on a suspended slate." The arguments used as against the change, are plainly arguments the strongest for it. Surely, far from a "trial" being "impending over this free and happy country," and a change being "threatened," which would fill every "household" with "perplexity, confusion, and shame," the "small housekeepers" and other "poor creatures," will be better able to manage arithmetic, and will be benefited in every way. "It is of no use to urge," &c., is a style of writing which a leading journal would make short work with, were such reasoning proffered in other columns. It has been shown that neither "a hundred" English measures, nor a tenth of that number, are what the *Times* calls "familiar" to the Englishman; and when the same journal asks,—"What are France, the Zollverein, and Portugal to us?" the simple reply is, they are countries using the metrical system; and the trade of the United Kingdom with such countries, greatly exceeds the trade with countries using the English system, and is only waiting removal of such restrictions as those which have been adverted to, to be largely increased.

Since our article was written, a letter has appeared in the *Times* deprecating the proposed change, by arguments deduced from the writer's experience, of nearly a quarter of a century ago; but to which we are willing to attach a certain importance. In some of his statements, indeed, such as the assertion that the present Bill deals with the coinage, he is incorrect; and he does not seem to see that distances of longitude or latitude are not reckoned in *kilomètres*, simply because they cannot be so reckoned. A degree of longitude at the Arctic circle is very many *kilomètres* less than a degree at the equator. As to the division of quantities of goods, by halving, quartering, and so on, leading in transactions to a nominal half-*centime*, which has no place in accounts; it may be answered that there is the same want of a division of the farthing in the English system, and that the butcher or draper takes care to have the whole farthing. Where the principal silver coin is divisible into 100 copper pieces, there must be advantage to the poor which there is not where the similar coin (of greater value, moreover, than the *franc*) is divisible into 48 pieces only. It may be the French system of *francs* and *centimes* would not be the best model for our decimalization of the coinage: it may be even that the 25-*centime* piece should have been retained in France, or that a half-*centime* would be desirable: these are points which space will not allow us to discuss; though we should be not indisposed to consider them. Some of the points however have been foreseen in our article; and we have written with an appreciation of them derived from a knowledge of the circumstances, which perhaps equals that of the writer in the *Times*, and comes up to a considerably later date.

The argument in favour of a system to allow of the greatest number of successive halvings, would come to show an imperfection in the Arabic numeration, which system could hardly now be changed. For example, in seeking for a binary arrangement of measures, and for one of money in harmony with it, we should require a perfect duodecimal system in accounts, which would involve two additional numerals. This is pointed out in a report from the French "Société Impériale d'Emulation d'Abbeville," dated 22nd November, 1855, and addressed to Mr. Yates, in whose "Narrative of the Origin and Formation of the International Association for obtaining a Uniform Decimal System of Measures, Weights, and Coins" (London, 1856) we find a translation, including the following words:—

> "But, in order that this method [duodecimal numeration], might be acceptable and complete, it would have been necessary to add two characters to the ciphers in common use; and supposing that the new series have been 1, 2, 3, 4, 5, 6, 7, 8, 9, α, β, and 0; α representing ten, and β representing eleven; both become single numbers; twelve would be written 10; thirteen would be 11; twenty would be 24, or twice twelve; and 100 would be represented by 144, or twelve times twelve, that is to say, the first series multiplied by itself; so that a century would no longer be a hundred years, but 144 years, expressed in a different manner. From this, one may imagine the difficulties and perturbations which would have arisen from such a theory."

The wording is not quite perspicuous; but by writing down a few figures, the conclusion will be arrived at easily enough. The Arabic numeration must be preserved, for the convenience of "the rustic" helping himself in arithmetic by his fingers, and for that of many better people likewise.

After all that has been said to mitigate any objections of our profession to the change proposed, or rather to prove to them the advantages, little need be added. We have taken our readers to be acquainted with the fact that the *mètre*, or ten-millionth part of the distance from the pole to the equator along the arc of the meridian, measured by Delambre and Mechain, under the direction of Laplace, Lagrange, Monge, Borda, and Condorcet, is at the same time the unit of length, and the foundation for all the French measurements of distance, superficies, volume and capacity, and weight; and to know that the money system has such relation to it that certain coins might be used in place of weights, — angles and circumferences, and time, however being measured as with ourselves. We have also taken them to be acquainted with the system of pr

fixes from the Latin, which signify a tenth, a hundredth, and a thousandth part of the unit, and prefixes from the Greek signifying ten times, a hundred times, a thousand times, and ten thousand times; and to know that the same form of prefix is used whether the unit be *mètre, litre,* or *gramme,* and the measure one of length, capacity as in the case of liquids, or weight; also to be familiar with the notation; and with the measure of superficies, where in the order of progressing magnitude, the multiplier is 100 instead of 10; and with the solid measure in which the multiplier is 1000.* Also we have supposed our readers to remember that in the measure of land, the square *mètre* may be called *centiare,* the square *decamètre* being taken as the unit and called *are*; whilst the *decare* is ten ares; and the *hectare,* one hundred ares. That is to say, each denomination is one hundred times the one preceding it. We have further supposed them to recollect that each of the terms in the table of measures of capacity, or for liquids, *millilitre, centilitre, decilitre, litre, decalitre, hectolitre, kilolitre,* and *myrialitre*; and those similarly in the table of measures of weight, *milligramme, centigramme, decigramme, gramme, decagramme, hectogramme, kilogramme, myriagramme, quintal,* and *millier,* is equal to ten times the measure preceding it. An explanation of the metrical system was given in our pages some years ago, when the system probably was much less understood than it is at present. Should tabulated information appear to be required shortly, for reference, or to familiarize the profession thoroughly with the system, and preclude difficulty of whatever kind, we shall endeavour to supply it. Meanwhile it may be well to note the exact values of the unit of the measure of capacity and the unit of the measure of weight, the relation of these two measures to that of length, and the relation of each measure to the others.

The *litre,* the unit for measures of capacity for liquids and grain, is precisely equal to a *cubic decimètre,*—the measure-vessel, however, being cylindrical or any other convenient form; and the *millilitre, litre,* and *kilolitre,* are equal to the cubes of three consecutive units of the linear table. The *gramme* is the weight of a cubic *centimètre* of distilled water at 4° Centigrade; whilst the *milligramme, gramme, kilogramme,* and *millier,* are the weights of four volumes of water which are equal to the cubes of four consecutive units of the linear table. The *milligramme* is the weight of a cubic *millimètre* of water; the *gramme* is what has been just now given; the *kilogramme,* or weight of one thousand *grammes,* is the weight of a *litre* or cubic *decimètre* of water; and the *millier,* or French ton, of one thousand *kilogrammes,* is the weight of a *kilolitre* or cubic *mètre* of water. The *franc,* of silver of a specified fineness, namely, nine parts of pure silver to one of alloy, weighs five *grammes*; the piece of 20 *centimes* is 1 *gramme,* and the other silver pieces observe the same proportion and relation. The decimal and metric system in accounts, may be considered as a means of performing the whole of reduction, by simply changing the position of decimal points, and of dispensing altogether with compound addition, compound subtraction, compound multiplication, and compound division.

The great advantages arising from the relation between the weights, and the measures of length, surface, and capacity, in the Metric System, were explained in the memorial to the Chancellor of the Exchequer, presented on the 19th of March, 1859, by the International Association.

"In the metrical system, the cubes of the mètre, the decimètre, and the centimètre, filled with water, give the ton, the kilogramme, and the gramme. The immediate consequence is, that the cubic contents of any body whether solid or fluid, or of any quantity of goods, expressed in mètres, and multiplied by the specific gravity of the sub-tance, whatever it may be, give its weight in tons. Also its specific gravity may in general be found almost instantaneously, because it is a litre or cubic decimètre, of the same substance weighed in kilogrammes."

This is so great an advantage in all pursuits connected with architecture and building, that according to the memorial, English engineers who understand the Metric System, sometimes translate their data into the terms of that system in order to perform their calculations, and translate the results back again into the English weights and measures for the convenience of their employers. The advantages may be conveniently explained by analogous cases, beyond the ordinary duties of our profession.

"Suppose a farmer wishes to know the value of his stack of hay, and that he applies the metrical system. He takes its length, breadth, and thickness in mètres, and by simple calculation ascertains its contents in cubic mètres. He then multiplies this sum by the weight of the hay compared with water, and he has at once the number of metrical tons by weight."

The difference between the English ton and the metric ton happens to be only about 1½ per cent. The English ton is 1015·65 *kilogrammes*: the metrical ton being 1,000 *kilogrammes.*

The tonnage of ships, or capacity for cargo, notwithstanding attempts to determine it by Parliamentary enactment, is still unsettled. The "tonnage" as calculated by law, is not tonnage at all. There should be some method of estimation which could be common to all nations.

"This can only be done by the application of the Metrical System, and with that it presents no difficulty. Take any ship, either a sailing vessel or a steamer. Let her be equipped for sea, but without cargo. In this state of things let the light-water and load-water lines be ascertained; and the number of cubic mètres interposed between these lines will be the tonnage of the ship; and it may be computed with exactness and the greatest ease."

Every case in which it is necessary for the architect or engineer to compute weight from measurements, will be facilitated in the solution of the problem by the use of the metric system. According to one witness, "if engineers did not adopt the decimal system, they would be obliged to give up their profession." The levelling-staff, and the surveyor's chain, with the relation of the square of the chain to the acre, are in the spirit of the system. As to the value of that system if adopted generally by engineers, Mr. J. B. Smith, M.P., has given evidence in the following words:—"Mr. Locke, the eminent engineer, told me that he had a number of railways to make in France, and that he found the French metrical system so superior to the English, that in all his subsequent works in England he worked all his calculations upon the metrical system, and afterwards converted them into English." Evidence is also given as to the adoption of the metric system by Mr. Whitworth and others, in machine-making; whilst Mr. Fairbairn thinks that "independently of any legislation on the subject, the decimal system will ultimately get into all mechanical operations, from being much more convenient and giving greater facilities for calculation," and that "the French decimal system, of all others, is the best." Of evidence of the advantages of the one system, and the disadvantages of the other, we have abundance. That of Professor Miller, in favour of the *kilogramme* and its subdivisions, and the *mètre* and its subdivisions, on the score of convenience as compared with the pound and yard and their subdivisions, is noteworthy, as he constructed the present standard pound. The saving of time to such a company as that of the London and North-Western Railway, from the different system in their accounts, has been computed at 10,000*l.* per annum.

There is one matter to which attention should be at once directed, namely, the procuring an accurate copy of the platinum standard *mètre* of 1799, which, according to the "Annuaire" of the "Bureau des Longitudes," is preserved in Paris in the Hôtel des Archives. Divisions of the *mètre* which are engraved on an English rule that bears the name of one of the best known London makers, have been compared with the *mètre* which is placed for general reference on one of the buildings in the Rue de Vaugirard, appertaining to the Palace of the Senate, in the French metropolis; and a difference which would amount to a *centimètre* or thereabouts, in the *mètre,* has been found to exist. M. César Daly, who on one occasion assisted the writer of this article in a comparison, stated at the time, that he had previously discovered a similar defect in a rule of another, an equally celebrated, English maker; and that the defect had occasioned him serious inconvenience. Nevertheless, in a subsequent comparison of the rule with *mètres* in the late Exhibition, the difference appeared to be less, if any. Is it possible that there are different standards used by rule-makers? The International Association might do well to ascertain in time, exactly how the matter is; although the French Government will doubtless render every assistance to the department of Weights and Measures proposed to be established in connexion with the Board of Trade.

We are anxious to see the French system legalised, and brought into general use with as little delay as possible; and to that end, the nomenclature must be such as will prevent all confusion between the present weights and measures and those of the new system, and be most convenient in the dealings and communications between people of the two countries, or rather between this country and the countries generally that have adopted the metric system. The change is certain of the approval of our profession; but there will be work to be done in preparing for the change, and especially in the alteration of builders' prices, and of any published lists on which reliance is placed. All the city companies and trades' unions should go to work, using the best means for diffusing information respecting the system and the application of it.

ROYAL MASONIC INSTITUTION FOR BOYS: COMPETITION.

THE present school-house accommodation being insufficient, the committee have determined to erect a new and commodious building, where a hundred boys may be trained and educated to fit them to perform the duties of life.

In May last they offered three premiums, 70*l.*, 50*l.*, and 30*l.*, and invited architects to submit designs in competition. In response, about thirty sets were sent in, mostly good, creditable productions; and these have been exhibited during the week in Freemasons' Hall, Great Queen-street. Each set of designs had ample space, and the whole arrangement was satisfactory.

The requirements include a school-room, comprising an area of about 1,100 feet superficial; two class-rooms, comprising an area of not less than 300 feet superficial each; a dining-room, capable of dining 100 boys at least; a committee-room, comprising an area of not less than 400 feet superficial; dormitories to contain from 100 to 110 beds; an infirmary, to contain not less than 10 beds in addition to those above mentioned, and all the necessary offices for conducting such an establishment; an underground tank for the rain water, to contain not less than 3,000 gallons, and an underground manure-tank, to contain not less than 4,000 gallons. The engineers' work comprises patent heating apparatus to oven; Stevens's patent bread machinery; the cooking apparatus for the kitchen and other departments generally, including the heating-apparatus for the baths, drying-room, &c., also the apparatus for heating the corridors, passages, and staircases with hot-water pipes or otherwise; the lighting of the establishment with gas, including the requisite pipes, meter, burners, &c., complete; an ample water supply, with the various tanks, cisterns, pipes, cocks, &c., throughout; the services to the sinks, water-closets, and urinals; and a perfect system of drainage communicating with the main service.

The "Instructions" went into more minute particulars than usual, and the problem left to the competitors to solve was not very difficult. The Instructions say,—

"The following character of construction is expected to be carried out, viz. —

All the walls are to be built with hard, square, and well-burnt bricks on proper footings, with the same number of off-sets on each side as there are half bricks in the thickness of the walls: the several footings are to be built on a uniform footing without stepping; the lower course of the footings to be two courses high, and not less than 4 feet 6 inches below the surface of the ground-floor line: the off-sets above are to be one course high each. All the walls throughout are to have a foundation of concrete 2 feet deep below the footings, and 6 inches wider on each side than the lower course of the footings: two courses of slates are to be cut to the width of the upper course of the footings, and bedded in pure cement thereon. The principal front (which is to be of a plain, handsome character, without meretricious ornament), is to be faced with white Suffolk bricks, and to have either Bolsover or Tisbey stone dressings and finishings. The external facings of the flank and rear elevations are to be faced with picked stocks of a bright and uniform colour, with a neat flat joint and jointed, having gauged arches to the several openings. The roofs are to be covered with the best Bangor slates, having 3-inch lap, fastened with two stout copper nails to each slate. Wherever lead gutters, valleys, or flats occur, they are to be covered with 7 lb. to the foot superficial: the hips and ridges are to be covered with lead 6 lb. to the foot superficial: the flashings to the gutters, gables, chimneys, &c., and the aprons throughout, are to be of lead 5 lb. to the foot superficial: the eaves, gutters (if any), and the several rain-water pipes, are to be of cast iron of ample sizes. All the fir timber and deals are to be of the best Baltic, the oak to be of English growth, and the several roofs are to be constructed to exclude heat and cold as much as possible."

The amount of expenditure named was 8,000*l.*, but we are told this was not made a stipulation. If it were, our observations should have a different tone.

* 2697·502 *mètres* would be read 2697 mètres, 502 millimètres; and it might be written 2 kilomètres, 6 hectomètres, 9 decamètres, 7 mètres, 5 decimètres, 2 millimètres; the centimètre's place of figures here having a nought. 2697·502 *square-mètres* would represent an area equal to 26 square decamètres, 97 square mètres, 50 square decimètres, 20 square centimètres. 2697·502 *cubic-mètres* would represent 2 cubic decamètres, 697 cubic mètres, 502 cubic decimètres. The division into one, two, or three figures, always starts left and right from the decimal point. This illustration shows how readily as compared with ordinary arithmetic, reduction is effected. Not all the prefixes, actually, are used in common speaking, and some of the terms are abbreviated, as "kilogrammes" into "kilos." There is a solid measure used for firewood, in which the cubic mètre is called *stère,* and there is a *décastère* equal to ten *stères,* as well as a *décistère* equal to one-tenth of a stère.

Foremost amongst the designs which attract attention is the set marked "*L'Union fait la Force*," though we cannot praise the author for adopting the motto of the successful design for the new Freemasons' Hall. The apartments are disposed round a large open court, with plunge bath in centre. The style adopted is free Gothic: the openings have semi-circular arches, with pointed labels above them. A lofty bell spiret, on the roof of the central building, has a top-heavy effect in the drawing, but would be less so in execution. The plan seems a very good one. The dormitories are continuous. Although perfectly plain and simple, the external appearance is effective and characteristic. The set marked "Let it be done well," would seem, if we may judge from circumstances, to have some special friends amongst the craft. The style adopted is very violent Elizabethan, with orders of pilasters, story above story;—in the centre no fewer than five. The ground plan is defective, inasmuch as the corridors would be dark, and some of the rooms depend for light on a small court. The bedroom plans, four dormitories around central staircase, are cleverly managed. The cost would probably be nearly double the sum named by the committee. "Faith" has an ordinary Italian elevation, open to criticism, especially in respect to the arrangement of windows and string-courses. The objection to be urged to the plan is, that the kitchens are so far from the dining-rooms that the inconvenience would be too great to be put up with. "*In hoc signo vincimus*," with red and blue interlaced triangle, is a very good design; style, Domestic Gothic, with tower. Long dormitories provide respectively for forty beds and thirty beds each. "Knowledge is Power" marks a clever elevation, Gothic in style; and a thoughtful plan,—spread out. "*Integritas*" has considerable claims on attention; the elevation is handsome, free Gothic in style, and the plan is compact. The corridors, however, as in too many of the designs, would be dark, and the windows in the dormitory would not ventilate the upper part of it. "Faith" must be described, both in respect of plan and elevation (red brick and stone), as "disorderly." "*In veritate Victoria*" has some good points in the plan, and the author of it has done what cannot be said of others more likely in consequence to stand first, viz, restricted himself to the sum named. "Utility" is an artist-like design, too suggestive of the asylum at Snaresbrook. The design marked "*Tria Juncta in Uno*" has considerable merit; and "Exemplar" should certainly stand amongst the best six; the plan being very good. The two finished elevations, Tudor and Roman, are commonplace, but one of the alternative sketches would make a handsome building.

Since these notes were written the committee have named the six following designs, from which the ultimate selection will be made:—"*Integritas*," "*L'Union fait la Force*," "Faith," "Let it be done well," "Knowledge is Power," "Veritas."

The foundation-stone is to be laid with a *fête* and festival, on Saturday, the 8th of August. The day was fixed, in fact, before the designs were sent in. The institution is situate at Wood-green, near Tottenham.

GLEANINGS FROM WESTMINSTER ABBEY.*

IT would have been well if the elaborate papers supplementing Mr. Scott's "Gleanings," had been published separately. As it is, those who already possess Mr. Scott's share of the work as published in the first edition, and desire to obtain the additional information contained in this second edition, can only do so by purchasing another copy of the "Gleanings." There is, perhaps, yet time to issue a certain number of copies of the supplemental papers separately, so that purchasers of the first edition may avail themselves of them. The papers to which we allude are those on the Metal Work, the Mosaic Pavements, the Retabulum, the Sedilia, the Coronation Chair, the Shrine, and the Tombs: they are the contributions of Mr. W. Burges.

The claret-coloured octavo before us is an instance of the fruitfulness of good seed planted in genial soil. When Mr. Scott read the germ of the present work in the form of a paper to a meeting of the London and Middlesex Archæological Society, he expressed a wish that the subject would be elaborated by writers whose time was not so fully occupied as his own. This suggestion was immediately responded to by one of his hearers, Mr. J. H. Parker, who proposed to publish the "Gleanings," with illustrations, together with all the additional details he could obtain. The present edition better fulfils the conditions proposed than the first, being, as we have seen, so materially enlarged.

The account rolls, those clues with which so much history is unravelled, have added another much to the story of Dick Whittington, Lord Mayor of London. The wealthy merchant, it seems, possessed, besides commercial abilities, a cultivated taste. There is a minute of the council at the tower of London, dated 27th May, 3rd Henry V., brought forward by his biographer, the Rev. S. Lysons, as an authority for this assumption:—"Item que le dit maire ne face rien en la dite citée touchant la demolicion d'aucuns lieu ou murs en la dite citée sans l'avis de Whittington,"—nothing was to be touched without the advice of our old friend and favourite. Taken in connexion with this entry, it appears tolerably certain that the Richard Whityngton to whom a commission was issued, in conjunction with Richard Harowden, a monk of the Abbey, to rebuild the nave in the reign of the same monarch, was the identical Richard. This is a most interesting conjecture. Some of the accounts of these commissioners are extant. They show an expenditure of upwards of 93*l.* over the receipts, which amounted to 1,397*l.* 6s. 8d. The works lasted over a period of three years 1 quarter and 83 days. Thirty-two workmen are mentioned as receiving wages.

There are five examples of metal-work remaining in the Abbey church which have especial value. These are the grille at the top of the tomb of Queen Eleanor (only lately reinstated by Mr. Scott, after a long seclusion in an out-of-the-way corner); the railing round Archbishop Langham's effigy; that at the west end of the chantry of Henry V.; the brass or copper gates of Henry VII.'s chapel; and the beautiful brass grille round the tomb of the latter king. Queen Eleanor's grille was made by Thomas de Leghton for 12*l.*, with a further charge of 20s. for the carriage of it up to London, and his own and assistants' expenses whilst fixing it. The metal-work that protected the tomb of Queen Philippa, that "most gentyll quene" of Edward III., had previously kept guard round the tomb of a bishop in St. Paul's Cathedral; this and the railing of Edward I.'s are, however, lost to us. In 1822 the Dean and Chapter ordered the removal of most of the railings around the tombs; although some of the metal-work then taken down has been discovered in the re-vestry: it is to be feared that much is irrecoverable. For views of the tombs before this disjunction, see "Ackerman's" or "Neale's History."

Travellers are wont to associate mosaic work exclusively with Italian reminiscences: but the fine example possessed by Westminster needs but to be seen to be appreciated. It is a pavement of *opus Alexandrinum*, on the altar platform, made by a Roman artist for Abbot Ware, *circa* 1268. An inscription on the pavement says:—"Odericus et Abbas hos compegere porphyreos lapides." But for three peculiarities indicated by Mr. Burges, it might be supposed that Abbot Ware had brought this present for his church from Rome in its finished state; but an examination will show that the Italian ground for mosaics, cippolino, not being obtainable in his country, Purbeck was substituted; that legends in brass letters were inserted in the Purbeck borders; and that glass was introduced: facts which show conclusively that it was of Northern workmanship. Among the sums paid by the executors of Queen Eleanor was an account of sixty shillings to William le Favour "pro pavimento faciendo in Ecclesia West." This, it is conjectured, relates to the mosaic pavement in the chapel of Edward the Confessor. This work is of a different character to the true *opus Alexandrinum*, and may be well referred to an English workman's endeavour to produce a similar decoration in a fashion of his own.

The finding of the retabulum by Mr. Blore was one of those lucky circumstances which cannot be expected to occur twice in a life-time. It was lying on the top of the effigy cases in the upper chapel of Abbot Islip. It is a rich specimen of thirteenth-century workmanship; so rich, indeed, that it can hardly be supposed to have occupied a less conspicuous position than that of a retabulum to the high altar, a supposition which is borne out by the fact that its dimensions correspond with the plain space left at the back of the altar. It is 10 feet 11 inches long, by 3 feet 1 inch, and is divided into five compartments. The centre and two ends contain full-length figures in canopied niches; the compartments on either side of the centre, between it and the ends, contain four subjects, divided from one another by a geometrical device. The whole is richly ornamented with gilding, imitation enamels, false jewels, and glass. The mode in which the manufacturers of this superb piece of decoration went to work is supposed to be this: a panelled tablet was first made, upon which all the projections were fixed by pins and glue. The joints of the projecting work were covered with strips of vellum fixed on with glue. The whole surface then received a coating of whitening and size, called "gesso." Upon this followed the paintings and their gilded backgrounds. The reticulated pattern of the gilding was made by scratching the gesso ground before it was quite dry. In the columns of the architectural part of the decorations the pattern was worked on them, after they were gilded and burnished, in a body-colour so thick as to stand up from the surface. A third kind of pattern was made by a leaden or wooden stamp, engraved like a seal, applied to the gesso whilst it was wet. The imitation enamels were produced by means of tempera on the gesso with a covering of glass. There is another variety of glass-work, formed of red and blue glass cut into small pieces and joined together by means of putty. The red pieces are hexagonal, and have a gilded lion upon them: these, placed side by side, and in rows, leave a small interstice into which small square pieces of blue are inserted. This decoration forms the background of the centre compartment.

The sedilia in Westminster are more than usually curious, from the fact that they are made of wood. They have suffered much since Sir J. Ayliffe availed himself of an opportunity to have them and the tomb of Avelina, Countess of Lancaster, drawn for the *Vetusta Monumenta* in 1778. There are four of them: but no trace is found of a piscina. They appear to have been elaborately decorated by processes similar to that which beautified the retabulum.

Of the coronation chair we lately gave some particulars.* But to these Mr. Burges has made an addition. He believes that the chair was ornamented with painting, gilding, glass, jewels, and enamels, in a similar mode as were the sedilia and retabulum. The gilding of the chair was effected by a process not hitherto detected. After the usual "gesso" was applied, and the gold laid on by means of white of egg, and the ground thus formed was still elastic, a blunt instrument was used to prick out the pattern. The traces of these decorations are so faint that no one has taken the trouble to decipher them; deeming it, perhaps, an impossibility. However, by the aid of a dark lantern and a strong lens, they have been made out by Mr. Tracey, who furnished the drawings for three of the woodcuts illustrating the chair. At the back of the chair are traces which lead up to the inference that there was a representation of a king there, seated on a cushion diapered with lozenges, with his feet resting on a lion. On the dexter side are traces of birds and foliage;—on the sinister a diaper of compound quatrefoils with a different subject, such as a knight, a monster, a bird, foliage, in each quatrefoil.

It is thought likely that the base of the shrine of Edward the Confessor has never been disturbed. We know the body of the Confessor was removed, and has since been re-deposited in its place; but there is nothing to show that the base of the shrine has been in any way altered. There are the three niches in it in which sick people were left all night to be miraculously cured; and there is the mosaic work made by Peter the Roman citizen, whom Abbot Ware employed. The body of the Confessor, like that of St. Cuthbert, was believed to be uncorrupted for many years after his death. Henry II., Thomas à Becket, Henry III., Edward I., and Queen Eleanor, all vied in doing him honour. Matthew Paris mentions that Henry III. transferred his remains to a shrine of gold, and was himself buried in the old grave of the Confessor. This shrine is the one we now possess, as appears from the date on the basement of it. But its present appearance by no means represents the luxury of beauty with which it was once invested. Henry VII. and his grand-daughter, Queen Mary, continued to enrich the "shryne" of St. Edward, King and Confessor.

The tombs at Westminster have been at least spared from the hand of the early restorers, if not from the destroyers. Tips of noses and fingers are lost; but there are no staring additions. The earliest tomb erected after the completion of the new choir was that of the beautiful little daughter of Henry

* By G. G Scott, R.A., F S.A. With Appendices, supplying further Particulars and completing the History of the Abbey Buildings. Second edition, considerably enlarged. Oxford and London: J. H. & J. Parker. 1863.

* See p. 274, *ante*.

III., obt. 1257. She was dumb; but was so dear to her mother's heart that when she died the queen fell dangerously ill, and would not be comforted. The king, too, was so grieved at her loss, and at the illness of the Queen, and at some successes of the Welsh, that he also fell ill. Of course the sorrow of the survivors must be associated with the record of every death; but around this tomb of a little dumb princess, to whom only five years were allotted, there lingers a memory of ineffable tenderness. It would be impossible in our limits to catalogue the tombs even were we to omit those not of especial mark; we must content ourselves by recommending to our readers' attention Mr. Burges's description of them. There are three groups: those partly of foreign origin, made of Purbeck and decorated with mosaics; those of stone painted and gilt, which are strictly English; and those composed of native marbles in conjunction with bronze and colour and gilding. There are records extant relating to payments for the construction of many of the tombs. These, of course, give the name of the artist, and other details of interest and moment. Thus we learn indisputably, that the tomb of Queen Philippa is of Flemish workmanship:—

Issue Roll, Michaelmas, 40 Edward III.

"Jan. 20. To Hawkin (de) Liege from France in money paid to him in discharge of 200 marks which the Lord the King commanded to be paid to him for making the tomb of Philippa, Queen of England, the King's consort, by writ of Privy seal, 133*l.* 6*s.* 8*d.*" (Page 170.)

Besides this there were 5*l.* paid to John Orchard, a stonemason, for making divers images of angels for the tomb; 18*l.* 2*s.* for divers other charges, including the porterage and carriage of the ironwork from the tomb of the Bishop of London, buried in St. Paul's; and a further sum of 40*l.* for the ironwork in question.

The statue of Queen Eleanor is of English workmanship. The artist, Torel, was a goldsmith and citizen of London. There has been an attempt to prove that he was a member of the Italian family of Torelli; but this Mr. Burges, agreeing with others, indignantly denies. The name of Torel, he says, occurs in documents from the time of the Confessor down to the said William, whose memory we must, therefore, cherish as English. When the beauty of the statue of the Queen is examined it will be understood how acceptable is this discovery. There are still fifteen brasses in the Abbey church. These are likewise enumerated and described.

It is conceded that the more we know the more we have to learn. In the same way the present volume shows us that the more the treasure at Westminster is examined, the more there is to see. It has yet to be popularly appreciated. The lights brought to bear upon the subject from old records are extremely valuable; and, since the publication of the first edition, Mr. Burtt has made discoveries of further passages bearing upon the subject that, it is to be hoped, will induce him to prosecute further researches. Probably, no one writer could have gathered together all the information to be found in this edition of the "Gleanings." There are a dozen gentlemen besides Mr. Scott who have brought their offerings to the work. These are, not as of old, frankincense and myrrh to burn before the altar; but objects still more costly and difficult of obtainment,—learning and skilled labour of a very high order.

The seventy illustrations deserve praise. In these, French and English workmanship is seen side by side, for an illustration has been borrowed from M. Viollet le Duc's "Dictionnaire Raisonnée." With the exception, too, of a cut borrowed from Brandon's "Analysis," the woodcuts are the work of Mr. Jewitt, and the engravings of Mr. Le Keux. The illustrations of the retabulum are examples of very minute work drawn with much precision. In the central compartment our Saviour is represented as holding a globe in his hand, which is about one-eighth of an inch in diameter. On this small surface Mr. Jewitt has contrived to show most of the objects depicted on the original,—water, trees, a crane (?), and a bird flying in the air. It was hoped that a MS., in the possession of the Society of Antiquaries, giving a view of Abbot Islip's funeral, would show the newly-found retabulum; but, unfortunately, the middle of the altar screen is shown hung with black. The upper part of the screen is depicted. Two illuminations from the life of St. Edward in the University Library, Cambridge, have conveyed more explicit information. The first shows one end of the shrine in which the saint was, probably, first deposited after canonization, with the infirm persons creeping through the openings left in his tomb for this purpose. There is a pillar on either side of the shrine surmounted by statues of St. John the Evangelist and Edward the Confessor. It is, therefore, probable that the two large twisted columns which we now see at the basement of the shrine served for a similar purpose. The second illumination shows the side of the same shrine. The lid is raised, upheld by several persons; and four other persons, one of whom is doubtless intended to represent Gundulph, who vainly endeavoured to abstract one of the hairs of the beard, are re-adjusting the saint's remains. His features and beard are shown as in perfect preservation; and there is a crown upon his head.

The Bayeux tapestry shows the Abbey church in outline: this profile has been drawn, and leads the first chapter. Mr. Le Keux's delineations of ancient masonry are most carefully done. We need not insist how important it is that the mode of the masonry in illustrations of buildings should be correctly given; because it is well understood that the plain masonry of a fabric may be as indicative of the period at which it was erected as any part of the ornamental work.

The notes given by the editor make suggestive comparisons, pile up additional testimony, elucidate and unravel many points of interest. Thus, Sir Christopher Wren quotes from a transcript of an old document the state of completion the fabric was in at a certain time: through the accidental addition of a letter in his transcript he applied the description of the choir to the nave. The editor alights upon this error like a hawk. "*Domus aræ*, literally the house of the altar, obviously means the choir, whereas Wren has taken it for the area or nave, which makes an important difference." An account of Westminster Abbey, without a description of Henry VII.'s Chapel in it, would have been an incomplete performance. The editor has supplied this important feature, as well as an account of the Jewel-house. The last mentioned, "*Turris Vocata le* Jewel-house," built in the reign of Richard II., has been fitted up in the interior as a record-office. This adaptation has occasioned several alterations in the upper part of it; but the basement, used as a kitchen(!) and offices, with the original groined vaults, with moulded ribs and carved bosses, are intact. Mr. Parker adds, that the entrance to the Jewel-house, being through a Government-office admittance, is generally refused; but the antiquary wishing to explore its fastnesses may do so by explaining that it is the basement only that he is desirous of viewing; not the Record Tower, as it is now called. The walls of this ancient strong house are 6 feet thick; and the masonry, generally, is of a similar character to that of the cloisters and other vaulted substructures built by Abbot Litlington. On the bosses of the vaulting in the parts of the cloisters attributed to this abbot the initials N.L. may be traced—rendering conjecture as certain as it may be.

The tomb of so many kings and great ones "departed to the mercy of God," as the old stonecutters used to write two centuries ago,—the scene of their coronations, of their devotions, the object of their choicest enrichment,—("We wol," writes Henry VII., "that whensoever it shall please our Salviour Jehu Crist to calle us oute of this transitorie life be it within this our Royme *or in any other Reame or place withoute the same*, that oure bodie bee buried within the same monastery; that is to saie in the chapell where our said graunt dame Iaye buried; the which chapell we have begonne to buylde of newe, in the honour of our blessed Lady),"—Westminster Abbey Church, cannot but be regarded as a series of historical evidences touching many of the principal events in our history, as faithful as they are fascinating, as expressive as they are enduring, as vivid as they are priceless. Let it be reverently preserved and cared for.

COLOURED DECORATIONS.

BAPTIST CHAPEL, NOTTING-HILL.

SOME of the ribs from the annex of the International Exhibition have been used to construct a Baptist Chapel, in the Cornwall-road, Notting-hill, and the structure was opened a few days ago. It will seat about 1,000 persons, and has been erected by Messrs. Lucas, Brothers, under the direction of Mr. Owen Jones. Externally, at any distance, its appearance is not very prepossessing; though even here, on approach, the hand of taste is observable in the panelling by incised lines of the exterior cement. Within, however, a very agreeable effect has been produced, at a comparatively small cost, with the blue, white, and red, which Mr. Jones handles so effectively. The angularities of the ribs are cleverly treated so as to obtain a regular curve on the face of them.

A correspondent asks for some information concerning the execution of these decorations, and those at St. James's Hall. Mr. Owen Jones kindly enables us to reply. The decorations to the roof and ribs of the chapel are executed with one coat of distemper on the rough boarding, and the ornaments are stencilled in distemper upon that. The walls of the chapel are in Portland cement. One coat of distemper also was sufficient for the walls. Mr. Crace's decorations at the International Exhibition building were executed, we believe, in the same way; but whether with one coat or two, we do not know. With regard to St. James's Hall, the ceiling was stencilled in oil on paper in the workshop to save time, whilst the ceiling was being plastered. The ceiling is in Parian on lath, done to save time in drying. As soon as it was finished, the men were able to stick up the decorations in a few days. It was stencilled in oil in order that it might be washed, an operation which will be performed this autumn. The walls are in distemper on Parian. "But this Parian," says Mr. Jones, "has always played me false wherever I have used it. The salt works through whatever you put on it. It would be wiser always to make your client wait rather than use it for this purpose."

MARYLEBONE AND WEST LONDON SCHOOL OF ART.

ON Tuesday evening last, the first annual distribution of medals and prizes amongst the students of this young yet highly successful institution took place at the Court House, Marylebone-lane. The meeting was presided over by Mr. A. J. Beresford Hope, who was supported by the Lord Bishop of Chichester, Mr. Harvey Lewis, M.P., the Rev. C. J. P. Eyre (rector of St. Marylebone), Mr. Peter Graham, Mr. Hepworth Dixon, Mr. Godwin, Mr. J. A. Nicholay, Dr. Marshall, Mr. S. M. Hubert, Mr. G. Phillips, Mr. W. C. Cocks, Mr. Lomax, Mr. Little, Mr. Burchett (head master, South Kensington), Mr. Collinson and Mr. Hagreen (masters of painting and architectural schools, South Kensington), Mr. Macdonald Clarke (master of the school), and others.

In opening the proceedings, the Chairman said it afforded him peculiar gratification to be enabled to preside at this inauguration, the first public assembly of the school of art, which had been so successfully founded by the untiring exertions of a few private citizens, of whom they might well be proud. He need not dwell upon the desirability of art: it was the breath, the life of the world. There were form, colour, and material in everything; and as they constituted art, so art was a necessary pre-existing accompaniment of civilization. There might be good art, there might be bad art—that art which violated and debased its subject—but art there must be, for form and colour presupposed art. Art was the smile on the face of nature—that which cheers and delights what would otherwise be a matter-of-fact, plod-along world. It was that which made the church proudly lift its spire to heaven, which made the palace gorgeous, which gave its attractive appearance to the cottage, with its few plants tastefully disposed, its few prints hung around its walls. All work and no play made Jack a dull boy; and so the Jacks and Jills who went to art-schools, not to look at pictures and read catalogues, but to do art for themselves (which was a far more difficult thing than to look at art, and, if one had money in his pocket, buy it), had now come to play till the work began again. Two years ago this school was begun in a very humble way; and, under its indefatigable master, Mr. Clarke, it had gone on increasing till it had outgrown the infant school in which it used to assemble; and those who were then there would well remember how they worked against time and tide and circumstances, through pure enthusiasm for their vocation. Institutions of this kind required both a poetic, enthusiastic mind, and an active practical mind, to give them life and that tangible support wanted when the flame of enthusiasm had burned itself out, which it sometimes did for want of fuel. When the institution commenced, it received the support of Mr. Hubert, Mr. Jackson, of Rathbone-place, Mr. Phillips, Mr. Morant, and Mr. Peter Graham, to the last of whom the school should be especially grateful for the kind assistance he had afforded it, and who, when their tenure of the premises in Wells-street had expired, with a public, munificent spirit, put himself in the way of becoming lessee of the admirable premises in Portland-place, where

the school was now situate, and interposed himself between it and the rent-collector, tax-gatherer, and others, that hovered around such institutions; and thus he enabled its promoters to carry out their good designs in the cause of art. Now the school had these excellent premises well fitted, well lighted, well conducted. As far as the teaching expenses went the school was self-supporting, but there were rent and taxes, for which the public should hold them harmless; and it was also desirable there should be something further in the shape of extra prizes, extra specimens, extra treats for the pupils, which might be contributed to openheartedly and with open hand, and of which he hoped the school would not be deprived, and to which he believed it had a just claim. In May, 1862, when the school was but a baby in swaddling-clothes, toddling along in Wells-street, the number of pupils was 59, which increased in June to 65, and in July to 72. Then they started off for a holiday, and came back 112 strong in October, 134 in November, and 126 in December. In January, 1863, the school numbered 118; got up to 125 in February. In March the number came down to 100, and in April to 90; but that was because they were flitting, and of course when people were doing that, they could not sit on stools and draw busts. But the first complete month we were in our new place, the pupils shot up from 90 to 140, more than the summit level to which we had hitherto attained, the monthly average for the first year being about 100. The proof of the pudding was in the eating, and this pudding had been well boiled in the boilers at South Kensington, where there were two examinations. First, a very awful gentleman—an inspector, but not one of those generally attired in the blue coat and metal buttons—came and ranged the pupils in two grades; and those who turned up first in the second grade generally got some medals, books, or other prizes; but the other, the national examination, was something grander. There were ninety odd schools in England, to whom eighty medals were given to be competed for. The natural average distribution would, therefore, be eight-ninths of a medal to each school. Instead of this school gaining the average, it had gained two medals out of eighty,—more than twice the average. If they were wise, this would make them determined to do more this year; if foolish, make them fall back in false security on their present success. They could hardly apprehend the desirability of an art-education to the handicraftsmen of this country, who should be ministers of art to the rest of the community. He did not mean to say they should have an education which cockered them up, and led them to think a few years in an art-school was to set them up above great master painters and sculptors of past ages. If so, he would retract all he had said in favour of art-schools. But he did not believe such would be the case, but that bumptious, ignorant men, who laid down their own infallible rules of art, would become more humble and teachable when they learned they were but picking up a few pebbles from the ocean side. Handicraftsmen should be taught to be working artists—art workmen—intelligent producers of the ideas set before them. By an analysis of the school in December last, it was found that out of 223 pupils, there were 23 carvers, 23 teachers, 16 upholsterers, 16 carpenters and joiners, 15 jewellers, 14 decorators, 14 clerks, 15 cabinet-makers, 12 glass-painters, 12 chasers and die-sinkers, 11 engineers, 10 metal workers, 13 miscellaneous, 13 at school. He looked upon this great art-movement as a very important social movement as concerned the body politic, as it tended to unite classes together.

The Chairman then read the names of the "passed" students at the second-grade examination, and also the names of those who obtained prizes at that examination; which latter were Miss Mead, Messrs. W. Dumonier, F. Braun, M. M. Glover, C. Hanbury, G. E. Higginson, H. Montford, B. Page, T. Pearce, T. Spooner, J. Stower, F. Tebay, J. Weir, W. Cousens, D. J. Blaikley, and T. E. Hall. Those who obtained medals were Miss Clapham, Messrs. F. Braun (2), D. J. Blaikley, T. E. Hall, G. H. Ives, H. Montford, A. Perry, and W. Cousens (2). Honourable mention was awarded to Miss Clapham and Mr. G. H. Ives, and the National Medallions to Mr. F. Braun for specimen of marqueterie, and to Mr. H. Montford for modelling the figure from the cast. The prizes were handed the winners by the chairman, who congratulated them on the honour which their success conferred alike on themselves and the institution.

Mr. Sparrow then rose, and, on the part of himself and fellow-students, presented Mr. Clarke with a handsome clock, in a marble case, with bronze statuette, as a mark of the esteem with which they regarded him, and as an acknowledgement of his efforts to promote the cause of art, to which Mr. Clarke responded in a few suitable sentences.

The Lord Bishop of Chichester then addressed the meeting, and accounted for a late arrival by saying that the cab-driver had taken him to the poor-house, and he had been wandering about for half an hour to find out where the court-house was. He hoped, as this was only an early stage of the society, that it would become better known each year of its existence by such an agreeable meeting as this. Nothing had been more gratifying to his feelings than to see the unselfish, generous sympathy and interest manifested by the student in the success of individuals. He had not been aware of the existence of the society, until he was lately informed of it; but he should try to do what he could in his humble way to forward its progress; as he believed that, next to the great influences of religion and morality, nothing tended more to elevate the human character than the study of the beautiful harmonies of art.

Mr. Harvey Lewis said he felt some difficulty in speaking on the subject of art after their patron, who had devoted so much energy, time, and money to foster the idea of art, and advance its study, as one of the most humanizing and intellectual pursuits to which man could devote himself. He considered that the fact of the scholars having obtained two National Medallions for eight months' work was most encouraging, and would induce the pupils to put forth all their energies to do still better in the future. Those who had visited the two Great Exhibitions of science and art which had taken place in this country, must have been struck with the vast improvement that had taken place since 1851, even in the minutest articles of domestic use; showing that articles could be produced which would delight the taste and refine the mind. Such things were not only a daily pleasure, but they also had to do with commercial prosperity. Vast numbers of foreigners were in the habit of flocking to Paris to make purchases, because they believed they would find taste there better than elsewhere. But if they took the trouble to look for it, they could find better taste in London combined with greater excellence of workmanship. If, by strict attention to the rules of art, by losing no opportunities of applying the rules of art in the various branches of industrial occupation, they could convince the world that high art could be found here as much as in Paris, then would they confer not only a benefit on themselves but also one on their country at large. Not long ago, an action had been tried at Paris, where some calico goods had been printed with a pattern pirated from a French design, and damages recovered. This showed that we ought not to copy but to originate design ourselves, instead of passively adopting the ideas of others. He would earnestly impress upon the students present to turn their natural abilities to their best use, and lay a good foundation by a proper course of instruction.

Mr. Godwin said he was well satisfied with the aspect and prospects of the schools; but when he looked around the room, knowing as he did what the borough of Marylebone was, he felt the present meeting to be a positive disgrace to it, when he saw there so few of those in the borough who ought to have given their personal attendance. All should have the power of depicting what they see. He that could learn to write could learn to draw. Thus would power be gained, — art-power, and money-power too. A workman who could draw would become a foreman, and might soon become master. During the last ten years industrial art had made great strides in England, as was shown by the accounts the French reporters had given; whilst in France they had remained stationary; and they now talked of establishing there a department of art similar to that at South Kensington. Nevertheless, thousands and thousands of pounds were sent out of England every year for the purchase of patterns. A considerable portion of the designs carried out by our manufacturers was French in spirit; but if our Government had been true to art, we should now have the world coming to us for designs. This might yet be. He begged leave to propose a vote of thanks to Mr. Beresford Hope, whose activity in the cause of art was quite remarkable.

The Rev. C. J. P. Eyre said, the same reason which had prevented him from joining the school earlier—namely, positive ignorance of its very existence—had probably prevented other admirers of art from attending. He approved highly of the object of the school, as tending to advance men morally, socially, and politically; and felt sure no step could be taken better calculated to do so. He should be happy to give any assistance he could to the school, and was certain his parishioners would liberally respond to its wants. He was glad to hear they were looking to the public only for rent and taxes. He was glad that the institution, embracing as it did the working classes, was made dependent on their own efforts. He hoped the intelligence of the working classes of Marylebone would insure its support, with the exception of what they might be allowed to contribute in the shape of rent. He was very glad this was established; because, in addition to the rational and improving amusement provided, it had a tendency to elevate the moral feelings; and, when the student compared Art with Nature, to discover the alliance between them,—to lift up his eyes to Him who, the Great Parent of Nature, would, if it were properly dedicated to Him, bestow His blessing upon the development of art. He seconded the resolution, which was passed with acclamation.

Mr. Hope, in acknowledging the compliment, said, when the great standard of English industrial art was raised, it was done by his father, the late Thomas Hope, when he resided in the parish. In the parish, too, he (the chairman) was born; and therefore he felt as if, in some measure, he sat there by hereditary right. The reason for the scanty attendance of which Mr. Godwin complained was that many people were out of town, and that others were just then sitting down to dinner; and they must therefore be found guilty, as a French jury would say, "with extenuating circumstances."

Mr. Peter Graham then proposed a vote of thanks for the Vestry Hall, which Mr. Cole seconded, and which was carried unanimously. Mr. Graham was himself most warmly received.

Mr. Hubert expressed the very great obligations the committee of the school lay under to Mr. Graham for coming forward to assist them at a time when they otherwise must have appealed to the public for a contribution to erect the building; and proposed a vote of thanks should be given to him.

Mr. Hepworth Dixon (editor of the *Athenæum*) seconded this, and stated that it was not until Mr. Hope told him that he was aware of the existence of this institution. He had no doubt that when it was known, men of art, men of science, and the public would come forward to render any assistance that might be asked at their hands, and enable them to go on prospering. If he might be allowed a few words to the students, he would say,—there are two conditions on which you will do the great work you have commenced, and on which you will get the assistance I half dare to promise you in the name of my fellow-parishioners. First, by being determined to work; that is the first great element of success in this world. There is a sort of ideal theory that men of genius need not work. Throw that fallacy aside the very first moment you take pen or pencil in hand. The men of genius are those that do the most work. He then instanced Bacon, Shakspeare, Michelangelo, in support of this truth. The other condition he urged was, that the work should be done in the humble, teachable spirit in which good men and true worked.

Mr. Graham briefly responded to the compliment, and the meeting then separated.

PROPOSED RESTORATION OF THE CHURCH OF ST. BARTHOLOMEW THE GREAT, WEST SMITHFIELD.

THE Committee formed for the purpose of restoring this fine specimen of Norman architecture received a large gathering of archæological friends in the church on Monday last, when, after a few words of introduction from the Rev. John Abbiss, the Rector, the Rev. Thomas Hugo commenced with the history of the monastic establishment, derived from the records of Mediæval chronicles. Mr. J. H. Parker followed with an architectural account of the church, and Mr. Beresford Hope concluded with an exhortation to liberality and of encouragement to the participators in the work. The Lord Bishop of Chichester having moved, and the Hon. Dudley Fortescue having seconded, a vote of thanks to the rector for the opportunity of assembling in the church, the meeting adjourned to view the "Purgatory" behind the present east wall of the church, and the crypts connected with the

building. The promoters of this restoration are preparing to appeal to the public for aid in raising the necessary 4,000*l.*, on the ground that the work is not merely parochial but national in its character. Nearly 1,100*l.* had been promised at the close of the meeting, the larger portion being contributed by the parishioners themselves. About 250 persons were present.

ST. BARTHOLOMEW THE GREAT, WEST SMITHFIELD.

AT a time when attention is directed to this very interesting church, through the effort now being made by the rector and churchwardens to raise a fund sufficient for its restoration,—an enterprise which must commend itself to every lover of antiquity,—a few notes on the building will probably be acceptable.

The tomb of the founder, Rahere, has certainly been restored during the present century; for in Storer's "London and its Environs" (1804) there is a view of the monument, in which the pinnacles are wanting, but have been ingeniously supplied by knobs, as was the custom in "the glorious Georgian era." With this exception, however, the tomb is as we see it at this day; but there is no inscription; nor do I find any mention of one by early writers; and think it not unlikely the present inscription is of recent date, or at least has undergone considerable alteration; and even since Malcolm's time the word "*hujus*" seems to have been substituted for "*istius*."

Mr. Parker, in the interesting account of the church read at the meeting on Monday, considered that what had been usually called the Prior's House, on the east side of the choir, was really the Lady Chapel; but I do not remember that he indicated the true position of the Prior's House, which was most likely to the south of the church, perhaps on the site of St. Bartholomew's Chapel, which appears, from the meagre description we have of it, to have been very little like a chapel. Mr. Parker's suggestion is very reasonable; and it is not improbable that it is to this part that the writer of the MS. in the Cottonian Collection refers when he says, "In the Este parte of the same chirche ys an oratory and yn that an awter yn the honor of the moste blessid and pp'tuall Vi'gine Mary yconsecrate;" and not to what was the old vestry adjoining the south aisle of the choir, as has been supposed by Malcolm and others.

Mr. Parker also explained that the Early Pointed gateway in West Smithfield was not the doorway to the south aisle as it had been considered even by the architects of the proposed restoration in their published report, but the entrance to the Close. The grant of the Priory by Henry VIII. to Sir Richard Riche accurately defines the extent of the nave as it was then, "a void ground 87 feet in length and 60 feet in breadth," and was reserved as a churchyard for the parish church, to which purpose it has been used until our own time; while the north cloister extended to the west front of the church, as at Wells. I am surprised that the difficulty of reconciling the present dimensions with those in the grant had not before occurred to antiquaries. I had myself supposed that the churchyard marked the limit of the original church, but that there had been a subsequent addition, which, being of less substantial work, had become ruinous; but Mr. Parker's suggestion removes the difficulty, and is borne out by the size of the doorway and extent of the mouldings, which are unsuited to the position assigned to them in the church.

While on this part of my subject, I may mention that I have read of a plan of the Monastery by Carter, which formerly belonged to Mr. Britton,* and should be glad to know, through your pages, if this plan is still in existence, as it would be very useful to identify the various portions of the Priory.

It is very saddening to read the history of the gradual destruction of the very beautiful cloisters, of which I believe there are now no remains—*Periérunt etiam ruinæ.*"

I remember witnessing their final destruction some ten or twelve years ago; and I recognised the other day the figure of a bishop giving the benediction forming one of the bosses, which a workman employed in the demolition offered to let me have for a gallon of beer. It is, however, happily preserved in the church, with some other fragments, which may, I hope, form the nucleus of a very interesting museum, which we are promised if the restoration is carried out.

Pennant, in 1790, says that eight arches of the cloister were standing. Malcolm, in "Londinium Redivivum," published in 1803, says:—

"In turning to the right we pass along the west side of the cloisters, in an alley or court between them and Duck-lane (now Duke-street). This part is so far demolished that only a few flints are discoverable in the bases of the houses, and the area is a farrago of sheds, walls, &c. On crossing it through the riding-ground of Mr. Wheeler, livery-stable keeper, we find a scene of hateful degradation,—horses tied for the purpose of shoeing to the outside, and horses standing in the inside of the beautiful Eastern cloister. Why was not this precious remnant converted into a passage to the church, and thus, in some degree, preserved to its original sacred use? Can London boast such another stable? I hope not. The arches, groins, and keystones are perfect, most delicate, and exquisitely proportioned, of true Gothic elegance" (p. 289). He adds, "The cloister is 95 feet long and 15 feet broad."

Malcolm engraves five keystones or bosses from the cloister, one representing the martyrdom of the patron saint, another two bishops with croziers, two others with arms, one with three fleurs-de-lis.

He also has a view of the south transept in its then state (p. 290), which, although very ruinous, shows some arched openings, and a window similar in design to the triforium, which have since disappeared.

Storer, whose work I have before alluded to, has an engraving showing one side of the cloisters complete—the eastern side.

In Godwin & Britton's "Churches of London" its condition is thus described:—

"The vaulting is formed of chalk and rubble stones united by mortar with stone groins, which spring from clustered columns on either side, and have carved bosses at the intersections. The groining is simple and good; and we cannot help regretting the present degraded and dilapidated state in which the cloister remains, or avoid expressing a hope that some measures may speedily be adopted to prevent any further injury, and preserve that which Time seems to have respected."

In Knight's "London" there is a very good account of the church, and a plan, which, although without a scale, and inaccurate in some respects, is very useful, and has evidently been consulted by the architects in preparing the plan attached to their report on the restoration. In this plan eight arches of the east cloister are shown standing; but it will be seen by the description there were but five remaining. In Messrs. Lewis & Slater's plan there appear to be only eight bays shown; but I think there must have been another bay to the south, giving access to what was called the refectory, but which Mr. Parker believes to have been the dormitory, with a staircase communicating with the south transept. The position of the south cloister may be traced by some modern walls, which, as was frequently the case, appear to have been raised upon the old foundations, as well as by an arch on the west side, referred to in the accompanying extract. After lamenting the decay of the priory, and "the many exhalations of lath and plaster, the mushrooms of its night," as Malcolm calls them, which occupy the site of noble buildings, the writer goes on to speak of:—

"A smith's workshop, where some of the arches of the eastern cloister (the only one of which there are any remains), appear in the opposite wall. Violence and decay have deprived these arches of all their original beauty, but not of their bold, expressive character, that still remains stamped upon them. The soil here, as in almost every other part surrounding the church, has been raised several feet; thus, for instance, the spring of these arches is nearly level with the ground. . . . . Much of this beautiful part has been lost of late years by the fall of the roof and part of the wall upon one side. . . On the eastern wall are five arches, more or less entire, yet remaining, and one on the west" (vol. ii. p. 50).

This was written in 1842, and a very few years after the cloister disappeared altogether.

The monuments in the church are very interesting, and are mostly well preserved; and some of the epitaphs are curious. One of these latter, in which the hardhearted reader is invited, if he

"Fmd no vent
For tears, yet stay and see the stones relent,"

is a very amusing specimen of the hyperbolical style prevalent in that age; but an inscription to the memory of Abigail Coult, who died in 1629, "in the sixteenth year of her virginity," is remarkable amongst the false taste and platitude of most of the epitaphs, and reminds one of the simple inscriptions to the early Christians in the Roman catacombs.

The whole of the monuments, with one or two exceptions, have, by the care of some worthy churchwarden, been painted a fine black colour, although several of them are of alabaster; but it is proposed to restore them to their original hue. The bust of James Rivers, on the south side of the choir, is said by Mr. Cunningham, in a communication to the *Builder*, May 2nd, 1863, to be the work of Hubert le Sœur, the sculptor of the statue of Charles I. at Charing-cross. Mr. Cunningham does not mention his authority, and I suppose he relies upon internal evidence. The likeness is evidently the work of an artist, and is very spirited, and the verses attached to the monument are very good. JOHN HEBB.

* Godwin's "Churches of London," St. Bartholomew the Great, p. 15.

PUBLIC WORKS, LANCASHIRE.

HAPPILY now there is not much need to urge the necessity of some means of employment being provided for the tens of thousands of Lancashire operatives who, in all human probability, will, this winter, be without the means of earning their bread at their usual work. Before these remarks are printed the Bill for enabling corporations and other public bodies to execute works, and finding them the means to do so, will probably have become law. It will remain to be seen how far the means provided will meet the end; how far the governing bodies in the distressed districts will avail themselves of the provisions of the Act, and try to overcome and smooth down those minor obstacles which beset and encumber every project of expediency and emergency; and how far the operatives will apply themselves to aid in making the Act an applicable and effectual remedy (so far as it goes) for the evils and privations they endure, and which the philanthropy of the country has so nobly striven to alleviate.

Government has done its part. The Public Works Bill has been prepared with a careful regard for every circumstance of the case it proposes to meet. It is stripped, as nearly as legislative enactment can be, of red-tape formality; and it is presented to the affected counties in answer to their many and urgent appeals for something tangible to meet the crisis. Government has now, thus far, by the removal of every really formidable impediment, laid at the door of the local "powers that be" the responsibility of finding suitable employment for at least the greater part of the 100,000 operatives who, it is probable, will be out of work during the coming winter.

Public benevolence has done its part nobly, whether viewed nationally or locally. To expect a continuance of this unprecedented effort would be unreasonable; and even if the stream of contributions could be maintained in its full flow, it would be impolitic and unwise to keep a population in a dependence upon charity; in other words, as paupers, who have been accustomed to look with no small degree of honest pride upon the only motto they have asked for their standard,—that is, "A fair day's wage for a fair day's work."

Can it be other than degrading and demoralizing that stout able-bodied men should be crushing their way amongst women and children as recipients of the stinted allowance of the Poor-Law Guardians, or the bread and meal of charity called "*dole?*" How much better for themselves and for the public good that there should be provided employment upon which these men could labour and receive, not relief, but wages for work done!

I know that every particular town or place has its peculiarities, and that objections and difficulties will be urged; yet it is hoped that an emergency so great as the present will call for that public spirit which especially distinguishes the men of these northern counties.

A personal inspection of most of the towns in Lancashire will convince any one that their growth in population and consequent bulk has beyond all question outstripped any attempts at material improvements in a sanitary point of view; nay, not merely this, but that many of them have outgrown and overgrown the decencies, comforts, and requirements of their everyday life. It is admitted as a pleasant fact, that the past dozen years has wrought wonders in our manufacturing towns, and that many of them have not been backward in promoting and carrying out (so far as their means and opportunities allowed) such measures and public works as tend to show that the labouring classes are not estimated merely as workers for so much wages, but as sentient intelligent beings, capable of, and destined to enjoy, the higher pleasures of life. In many of the manufacturing towns in the North, the public spirit of progress has done much that is very praiseworthy: baths fitted with every comfort, and to be enjoyed at charges within the reach of the very humblest; public parks laid out with care and taste, where the labouring man can ramble after his day's toil, and where he can feel (as is expressed in a motto in one of the parks in Yorkshire) that "The rich and poor meet together—the Lord is the maker of them all;" news-rooms, reading-rooms, coffee-rooms, literary institutions, gymnasia, and many such comforts and luxuries

as the toiling children of a former generation dreamed not of. In sanitary matters, also, much has been done. Ample and abundant supplies of water; systems of sewerage and drainage; paving of streets in cottagers' quarters; improved and more healthy construction of mills and workshops; as well as many other similarly good works, have in many towns been carried out to a considerable extent; but in consequence of the rapid growth of these places, as before adverted to, there is ever before the local authorities an increasing demand upon their energies and resources for an extension of these blessings (especially sanitary) into the less favoured districts of their towns. There is a great work to be done; a national benefit to be attained: an army of workmen is ready for the task. A great calamity promises, if rightly used, to be a great and lasting good: we must rest awhile from the shuttle and the loom, and set to work to "clean up." There hath no trouble overtaken Englishmen which they have not grappled and overcome; and surely it will not be necessary that we should have to advocate, and even out of the public funds to assist, the best of the sinew and blood of our population to emigrate to distant lands, because a temporary crisis afflicts us. Its duration no man can tell, but that it is temporary, in the strictest sense of the word, is certain.

We have a peaceful army of 100,000 labourers who want bread and are willing to work for it: shall they receive the "dole" of the parish, and shall we let all things remain as they are, or shall they labour at the great and good work of towns improvement and get wages for their work? keeping themselves independent of pauperism, circulating the wages amongst the shopkeeping class, and carrying out in some shape or other the great sanitary work we *must do*, either now or hereafter, at no very remote period.

The money is forthcoming on most easy terms,—the men are ready,—the work is obvious and abundant everywhere in some shape or other,—the season of the year is favourable to the beginning of the work and the gradual accustoming of the men to the inclemency of out-door work in winter,—all is ready; and there wants only the will and ready concurrence of corporations and other such local powers to carry out the great practical problem of keeping a noble and enduring population *at home*, and setting them to the best of all tasks,—the improvement of their towns, their streets, and homes, and the carrying out every scheme of permanent good which may be devised.

Having had experience of the management of large numbers of factory hands engaged upon such works as I have detailed, I can attest to their willingness to work, and to their ability, under proper supervision, to do what under all the circumstances may be considered a fair day's work; their aptitude to apply themselves to all sorts of out-door employment is remarkable.

Is there a city, town, village, or hamlet in the counties of Lancaster, Chester, or Derby, of which it can be said that some or other of the following works are not desirable, and indeed necessary:—New or improved water-supply; systems of sewerage, with improved house-drainage; paving of streets; raising, lowering, widening, or otherwise improving existing public roads and footpaths; formation of new roads and streets; cleansing, widening, pitching, or otherwise improving rivers, streams, and watercourses; formation of public parks, pleasure and recreation grounds; erection of baths, or the construction of cemeteries? It is for such objects the Public Works Bill has been introduced; and it is to be hoped public spirit will arouse itself, and set to work in earnest to carry out what may be the more special requirements of each district: so that, whilst there is a cry for Government aid to send our artisans abroad, we adopt the better course of keeping them at home, that we may hereafter say that this and that good public work was done during the cotton crisis of '63; so that our day of calamity may be remembered as having set us to work at many schemes of public and lasting good, and which, had our day of prosperity been uninterrupted, we should never have found time or inclination to begin.

One word more, and I conclude this communication, which has already far exceeded my first intention. It is extremely difficult to persuade the majority of people as to the benefit of sanitary measures. The very term has become hackneyed; but I leave it to thinking men to determine whether any money value can be set upon the health of a people; whether everything which tends to public health is not worth every effort; so that we may have a population, not diminishing generation by generation in physical stamina, but rather rising to that standard which every man desires his own personal *physique* to attain to, and for which the ancients prayed, not unworthily, "a sound mind in a sound body." To take, however, the lowest standard,—the money consideration:—Just as in a private family sickness is expensive; so in communities sickness entails expense and loss, which, in the instance of the sick poor, is a burden everybody MUST share; and which, for this very lowest of all considerations, everybody should try to alleviate, and, if possible, prevent. J. B.

THE SANITARY STATE OF OUR INDIAN ARMY.

CONSIDERING the efforts we early made in the *Builder* to draw attention to this subject, it is highly satisfactory to us to be now enabled to record the issue of the report (dated May 19th), of the commissioners appointed to inquire into the sanitary state of the army in India. The report occupies in all 171 pages; and then there is a *précis* of evidence which occupies nearly 100 pages more.

The following are a few out of a series of thirty-nine recommendations to the commissioners:—That until the mortality be reduced the period of service in India be limited to ten years. That all new barracks be constructed to hold no more than a quarter company in each building, or at most half a company in one building in two separate rooms, having no direct communication with each other. That hospitals be constructed in detached pavilions containing no more than from twenty to twenty-four beds. That future barracks and hospitals be arranged *en echelon*, to receive the benefit of prevailing winds. That detached cottages be erected for married soldiers. That the hospital diet tables in use at home stations be adopted in India as far as practicable, and the hospitals supplied with properly trained cooks. That trained hospital attendants be intoduced into all hospitals, and that female nurses, under the new medical regulations, be introduced into large general hospitals. That a sufficient number of hill stations or of stations on elevated ground be provided; and that a third part of the force be located on these stations in rotation. In order to the gradual introduction of sanitary improvements for barracks, hospitals, and stations, as well as in the seats of Government and throughout towns in proximity to military stations, they recommend the appointment of commissions of public health, one for each presidency, so constituted as to represent the various elements, civil, military, engineering, sanitary, and medical; to give advice and assistance in all matters relating to the public health, such as selection of new stations and the sanitary improvement of existing stations and bazaars; to examine new plans for barracks and hospitals; to advise on the laying out of stations and bazaars, the sanitary improvement of native towns, prevention and mitigation of epidemic diseases, and generally to exercise a constant oversight on the sanitary condition of the population, European and native; to report on the prevalence, causes, and means of preventing sickness and disease; and farther, that administrative measures be adopted to give effect to the advice of the presidency commissions. That trained medical officers of health be appointed to act, in peace or in war, in connexion with these commissions. That a code of regulations, embodying the duties and adapted to the specialities of the Indian sanitary service, be drawn up and issued under authority.

Whether the Government intended to act on these and other recommendations of the commission remained to be seen; and Mr. Coningham accordingly gave notice of an intention to question the Government on the subject. This he has since done; and the reply of Sir C. Wood was that the report "had brought to light information which was not [officially, we presume,] possessed before; and now that the attention of the Government was directed to it, the most prompt measures would be taken to remedy the evils referred to." That there is pressing need, as there has long been, for some such action, is but too obvious in a case where, as the report states, but as our readers do not need to be now for the first time informed, "besides deaths by natural causes," which would be represented by 9 in 1,000, "60 head per 1,000 of our troops [picked troops in the prime of life] perish in India annually. It is at that expense that we have held dominion there for a century: a company out of every regiment has been sacrificed there every twenty months. These companies fade away in the prime of life, leave few children, and have to be replaced at great cost by successive shiploads of recruits."

This is the great fact of the report.

SANITARY "TELL-TALES."

To an extent which the most powerful microscope has yet failed to reach or discover, all parts of creation swarm with life. In the air there are probably exceedingly minute living things which may affect health to a greater extent than is at present understood. Clouds of minute insects in the summer time, when the weather is fine, reach high into the air; and, when the atmosphere is heavy, they cluster in denser clouds closer to the earth: these can be seen, like a mist, with the naked eye; and there can be but little doubt that there are myriads of far smaller life, the peculiarities of which we may probably be yet made acquainted with by means of the improvements of optical instruments which are in progress.

Over cesspools,* impure ponds, dirty cowsheds, in town neighbourhoods where the duty of the scavenger is neglected; and in parts where crowds of dirty and neglected people live, we see flights of insects which are nurtured in the foulness. Seeing this, it becomes an interesting question whether these and the smaller and at present invisible insects act like the vulture, the carrion crow, the raven, and other birds of this description; the hyænas, and dogs of the East; the rats of our own sewers, &c., as sanitary agents, which, by removing putrefying matters, purify the air, and which could not be spared without causing mischief; or whether these living matters are themselves in any case poisonous, and cause disease and death such as often occur in parts where they abound. If the bite of a single fly feeding on putrefying matter can kill a human being, as has just occurred in France, what may not hundreds of still minuter living creatures of a similar kind be capable of doing, even though in other respects sanitary agents useful in consuming putrefying organic matter? This subject is well worthy of far more careful inquiry than has yet been made respecting it. But one thing is at present certain, that the presence, in large numbers, of gnats, "midges," or *tell-tales*, as they are called, in some country places, is a certain indication of some impurity. By attending to the hints of these "tell-tales" we might often take a suggestive note for needful improvement.

THE POSITION OF THE LADY ON TOMBS AND BRASSES.

IN a paper on Framlingham Church, Mr. T. Shave Gowing, describing the Duke of Norfolk's tomb on the south side of the altar there, discusses a question of general interest. There are effigies, on the top of the monument, of Thomas, Duke of Norfolk, who was imprisoned by Henry VIII. and released by Mary, and on his right side one of his wives. Inquiring whether this represents his first or second wife (and inclining to the latter view), the writer says:—

"The position of the lady on the *right side* of the duke has been assumed to indicate royal descent; but as both wives were alike in this respect, and even the duke himself was entitled to royal quarterings, little value can attach to any inference from this source. In the course of inquiry as to the position of ladies on tombs, however, some points of general antiquarian interest arose; and as the results affect not merely the monument before us, but that of Lord Bardolph and his lady at Dennington, as well as others, they are here introduced. Thinking that brasses were less liable to be tampered with than figures on monuments, I requested a lady to furnish me with a list of all the pairs in 'Boutell's Brasses,' and in her own collection, specifying on which side the lady lay; to which some have been added from Parker, making in all no less than fifty-seven pairs; on analysing which I found:—

1st. That of the whole number there were thirty-four lying on the *left* side, and twenty-three on the *right*.

2nd. But a second inspection showed the curious fact that in thirty-three brasses of *knights* and their ladies, the lady is on the *left hand* in twelve cases only, but on the *right* in no less than twenty-one.

3rd. Of the twenty-four brasses of *civilians*, the

* We know an instance in which the crowds of small flies which constantly hovered over a spot in the rear of some premises in summer, at a time of sickness, led to the discovery of a covered cesspool there.

lady lay on the *left* side in seventeen cases, and on the *right* side but in seven.

It has therefore been too generally assumed from the practice of later times, that the lady should lie on the left hand.

The whole subject, which I believe has not been treated of before, it is clear requires a more extended investigation, though even in the present stage of it two conclusions seem established:—

1st. That in the knightly code some law prevailed as to the position of the lady, which remains to be discovered: it was clearly neither the position of the memorial nor precedence. If any conclusion could be drawn from *one tomb*, that of the knight with two ladies, where the right hand is given to the lady on the right side, we might suspect *affection* had something to do with it in some cases.

2nd. That among *civilians* the *general rule* seems to have been in favour of the *left side* for the lady, and the exceptions but few, only seven in twenty-four promiscuous cases."

WAREHOUSEMEN AND CLERKS' NEW SCHOOLS.

LAYING THE FOUNDATION-STONE.

ON Saturday in last week His Royal Highness the Prince of Wales assisted in laying the foundation-stone of a pile of buildings at Caterham, which are to serve as schools for the orphan and necessitous children of warehousemen and clerks. The building will cover the top of one of the numerous ridges connected with the range of the Surrey Hills. The place was formerly known as Beggars' Bush. It will now be called Russell Hill, after the president of the charity, Earl Russell.

Lord Russell read an address to the Prince, and the assemblage was also addressed by his lordship, and by Lord Brougham and other gentlemen.

The design for the building was selected from a competition of thirteen designs, the successful architect being Mr. T. G. Bland, of Birmingham. The style is Venetian Gothic, the exterior being of red brick, relieved with bands of white and stone dressing. The general design consists of a centre and two wings, the centre being surmounted with an ornamental clock tower. The entrance consists of a large hall, which conducts to a spacious dining-hall, with open timber roof, and which can be used, when occasion requires, as a chapel. The right wing is devoted to the girls, matrons, and the kitchen arrangements; the left wing for the boys', and master's house. The design includes baths, with a large swimming-bath. The building is to be heated with hot water. The total accommodation to be provided will be for 150 boys and girls. The lowest estimate for the construction of the building is 17,500*l*. The ground, including that upon which the new asylum is to stand, is twenty acres in extent.

HASTINGS.

Albert Memorial.—The memorial clock-tower is almost completed, and is in itself a decided ornament to the locality. It sometimes happens, however, that an artist's finishing touch spoils the whole picture. We would not say quite as much as that in reference to this memorial; but we cannot help noticing the want of sympathy there exists between the general design and the statue of Prince Albert, which within the past week has been added to the south side of the memorial. The statue is said to be life-size, and represents the Prince in his robes as knight of the Order of the Garter. It is placed in a niche half way up the tower; but being too small for that height, it wants that solid and majestic expression we are accustomed to look for in every representation of so good and so illustrious a man. It also happens that the bead moulding running round the tower and continued in the niche has the effect of a rope encircling the neck of the apparently suspended victim. We think that this latter objection could be removed, and perhaps the other evils lessened, by the very simple expedient of shortening the pedestal on which the statue rests. The miniature figure, with its neatly-chiselled trappings, might be a pretty statue in a library or drawing-room; but as a leading feature in a local memento of a nation's mourning, it fails.

Ragged Schools.—A building to be used as a ragged school-house is about to be erected in the Tackleway. Mr. Carpenter is the architect; and Mr. Harman the builder. The cost will be between 500*l*. and 600*l*.

Cottage-Building Company.—The Hastings and St. Leonard's Co-operative Cottage-building Company are doing their best to extend the principle of freehold independence among the working classes in this district. A large number of shares have been taken up, and several plots of building land have been purchased; and negotiations are now going on to secure some eligible sites, now in the market. Mr. Ford Mackenzie has been appointed architect to the company; and the directors, we understand, confidently anticipate that, as summer advances, the interests of the company will receive a considerable increase of prosperity. The houses are erected by the company, and allotted to the shareholders in much the same way as the prizes in an art-union. By paying a reasonable rent for a period of fourteen years, the occupier of the company's cottages will in that period become the owner of his dwelling, free of all future rent or other payment to the company. The scale of rents adopted by the company is as follows:—

Purchase money £100 ..	Rent....	3s. 10d. per week.
,, 150 ..	,, ...	5s. 9d. ,,
,, 200 ..	,, ...	7s. 8d. ,,

And so on in proportion.

Tenders have been received from contractors for the erection of four cottages, of six rooms each, at Tivoli, near Hastings, as follows:—Champion, 753*l*. 8s. 6d.; Batstone, 636*l*.; Stubberfield & Son, 597*l*. 16s.; or at the rate of 149*l*. 9s. each house.

Gas Mains.—The Hastings Gas Company are now engaged taking up their present mains, and laying down larger ones; the principal main being 2 feet diameter and the second 20 inches, and so on. It is probable that an extension of the gas-works, by new or enlarged reservoirs, will be the next step of this enterprising company.

JERSEY AND GUERNSEY.

New Barracks are being built for the use of artillerymen at the extremity of Green-street, St. Helier's, Jersey, in an inclosure known as *Le Champ des Pas*. The foundations of the new buildings have been already laid, and a well has been bored to a depth of 134 feet.

Sanitary State of the Town of St. Peter Port, Guernsey.—Dr. F. E. Carey, surgeon to the hospital and south district of the parish, says: "There is little of consequence to record during the past six months. The only case of genuine typhoid fever which has engaged my attention during the past five years that I have been medical officer of the district occurred last month, in Park-street. The subject of it was a labouring man. I could not distinctly trace its course, but have no doubt that the '*fons et origo mali*' were the cess-pools which abound in that neighbourhood. I have on a former occasion considered it my duty to warn the Douzaine authorities of the great danger in leaving this part of the town *wholly* undrained; but until our little community is disturbed by some violent epidemic, we cannot expect our sanitary authorities to be aroused from their inertia into activity."

New Lighthouse.—For the new lighthouse Mr. Lyster recommends the erection of a stone tower, 36 feet above the head of the breakwater, so as to elevate the lantern to a height of 45 feet 9 inches above the level of the spring-tide high-water-mark, and to procure for this lantern a lens of the fourth order—that is, one similar to that of the present pier-head lighthouse. He further recommends a second beacon-light, on the heights of Fort George, so placed that vessels, by merely taking the two lights in one, might find a free and safe passage right through the Small Russel to the roadstead.

THE LADIES' SANITARY ASSOCIATION.

A MEETING of this Association was held on the 14th inst, at their Office, 5, Cavendish-square, when Dr. Lankester occupied the chair.

The Chairman, in opening the proceedings, said—An unfortunate occurrence of recent date had given rise to the question of the ventilation of the bed-rooms and work-rooms occupied by those persons who were employed as milliners and dress-makers in west-end establishments. The first object to be obtained was a proper knowledge of that which was prejudical to health, as many who were desirous of remedying the existing evils were utterly powerless to do so from want of the necessary information on the subject. That knowledge Dr. Richardson proposed to impart in the lecture he was about to deliver, showing the evils now existing, and their remedies.

Dr. Richardson, in giving his lecture entitled "Work and Overwork," observed that it became this Society to make use of the opportunity afforded them of impressing upon the public the fact that a great lesson was to be learned from it. In the first place there were certain occupations which killed of themselves, such as india-rubber and sand-paper manufactures, where the artisans died from the deleterious nature of the manufacture; then there were professions where death was no less certain from the continued strain upon the mind, as law, medicine, and literature. And then, again, trades wherein men were destroyed from over bodily exertion, such as a blacksmith in a large town. In the latter case, in Marylebone, blacksmiths died at the rate of 31 per 1,000, or eleven above the mean of the male adults of the country. He passed under notice many other occupations, such as tailoring, shoemaking, composition in printing, clerkship, and other over-taxed callings, to dwell with a little more care on the dressmakers, milliners, and needlewomen. As to the remedy, he did not think the Government ought to interfere except by opening a royal commission of inquiry into the effects of overwork. The real remedy was to spread a knowledge of the laws of life and organization, and to teach people that overwork was the contrary of real thrift and industry; and that the old rule of eight hours' work, eight hours' play, and eight hours' sleep was the best that could be adopted; and he begged them to remember the great but simple warning:—

> "Ill fares the land to future ills a prey,
> Where wealth accumulates and men decay."

LEAF-BUDS AS MATERIAL FOR ORNAMENT.

SUMMER comes to us as a maiden with a lap full of flowers; Autumn as one of riper years, laden with fruits; and Winter as one robed in ermine who has reached the meridian of life's glory; but Spring comes as the child in whom the pulsations of life beat strongly and in rapid succession, and in whom we find no marks of care or scars left by sore troubles. There is something flaunting about Summer, with its profusion of blossoms; and with Autumn are bound feelings of regret at the fading of the year. Winter may have pleasant evenings, but who loves darkness rather than light? With Spring are born gladsome feelings and joyous emotion, for Nature is gradually brightening, and light is chasing away darkness. Spring is the morning of the year; ay, and the resurrection morning; the morning in which plants are quickened into life and clothe the barren earth with living forms of beauty.

Passing from the poetical to the real with the view of considering our illustration, we discover, from the most cursory glance at the forms here delineated, that leaf-buds are objects which are beautiful when considered as ornament. A wider survey of the spring buds, and a more extended acquaintance with their forms than we can derive from our half-page of illustrations will lead us to see that of all parts of the plant the leaf-bud is the most suggestive for ornamentation.

Without entering into a consideration of the internal structure of the bud, and the mechanism by which the scales are forced back in various directions at the expansion or evolution of the bud, we notice that the beauty of these members of the plant is in great measure due to the variety of the forms of the parts, to the diversity of the curves of the members, to the order in which they are arranged, and to the contrast of part with part. The variety in form of the members of the leaf-bud is great: the lower scales are broader than they are high: the upper are much longer than they are broad; and between these forms we have every variety of shape. A close inspection of the forms will show that a rich variety of shape is found in the various scales, and that the curve forming the boundary of every scale is of a dissimilar kind.

Fig. 5 is a delineation of the bud of the lilac. An observation of this bud will lead to an understanding of the variety of which we speak; and careful study of this variety in the case of lilac-buds will well repay the ornamentist.

Besides the variety presented by the scales of the individual bud, there is the diversity of form furnished by the scales of buds from different trees. The scales of the bud of the horse chestnut (figs. 1, 2, and 3) are very different from those of the lilac, and those of the honeysuckle (fig. 7) are very different from either: indeed, no two plants have scales precisely similar, and in the greater number of plants scales differ widely in shape from each other.

The curve bounding the scale must be considered as altogether separate from the curve re-

LEAF-BUDS FOR ORNAMENTATION.



Figs. 1, 2, and 3, Horse Chestnut (*Æsculus Hippocastanum*); 4, Dogwood (*Cornus sanguinea*); 5, Lilac (*Syringa vulgaris*); 6, Ash (*Fraxinus excelsior*); 7, Honeysuckle (*Lonicera Periclymenum*); 8, 9, and 10, Sycamore (*Acer Pseudo-platanus*).

sulting from the direction taken by the scale. The curves resulting from the directions of the members are generally more rigid and severe than the curves forming the boundary of the parts. Severity gives dignity and stateliness, and manifests power. Power in the case of plants arises from energy or vigour of growth; hence the powerful growth of spring gives dignity of aspect to the bud, and true dignity is always admirable. Stateliness and power, when combined with fitness and beauty, is to be desired; we find such manifested in buds, hence we should do well to study them with a view to producing the same effect in ideal ornaments.

Order is a feature of beauty. Confusion is never satisfactory. A want of arrangement in composition gives rise to a want of contentment in the mind, and in the absence of contentment there cannot be that feeling of repose which always accompanies the sense of beauty. In an ornamental point of view those buds will be found most beautiful which have their parts arranged in pairs. All our illustrations have their members disposed in this manner. If we take the horse-chestnut bud (fig. 1), we notice that it has scales arranged in pairs. First we have a pair, one of which is at the right and the other at the left; then we have a pair, one of which advances and the other of which recedes; then another pair, consisting of scales passing to the right and left; and so on: and this is the arrangement of the scales in all the buds which we have delineated. The satisfaction which arises out of this orderly arrangement is great, perhaps greater than we are at first prepared to admit: it is a chief source of beauty in buds.

The contrast of part with part is also to be noticed. The antagonism of line presented by the scales of the opening bud is marked, and is very valuable in an art point of view. This is well seen in the buds of the lilac given in fig. 5. In the bud of the horse-chestnut shown in fig. 1, this contrast is also well seen. As a rule, this pleasant duality of line is best seen in a group of buds such as we have in fig. 5, where three buds are congregated together.

Now, briefly to run over our illustrations, fig. 1 is a normal bud of the horse-chesnut, shown in the act of development; fig. 2 is an elongated slender bud of the same tree, which has been drawn out into its present form by light being afforded only from above; fig. 3 is also a bud of the horse-chestnut, two-thirds the natural size, with the upper scales of an abnormal character, as they terminate in small and imperfect leaves, which if more perfectly developed would resemble the large radiative leaves of the tree. Fig. 4 is the bud of the dog-wood: the scales which surrounded the base of this bud have fallen off, and a few small scars indicate their position. Fig. 5 is a group of three buds of the lilac. Fig. 6 is a group of three buds of the ash in an earlier state than any yet shown: these buds are perfectly unfolded, yet their forms are beautiful. The furrowed stem, and the mode in which the buds rest on its summit, are also worthy of notice for their ornamental beauty. Fig. 7 is a bud of the common honeysuckle: its scales are few and small, and are hidden under the basal leaves. Figs. 8, 9, and 10 show three stages in the development of the bud of the sycamore; fig. 8 being an early condition, and fig. 10 that in which the proper leaves of the plant are just making their appearance.

STREET ARCHITECTURE: IRELAND.

HOUSES IN GRAFTON STREET, DUBLIN.

THE experiment which Mr. Digby Wyatt has tried in the design of the premises which we have selected for our principal illustration of the current week is one interesting enough to architects and archæologists, and of real importance to Irish nationality. It is neither more nor less than an effort to adapt some of the more picturesque elements of ancient Irish ornamentation to the decoration of a structure ministering to the directly utilitarian exigencies of the present day. Few of our "tarry at home" readers, who may have made themselves acquainted with the essays of Dr. Petrie, or who may have examined with attention the curious cast of the chancel arch of Tuam cathedral, of the piers and circular window from Rahin church, of the doorway from Freshford, or of the remarkable crosses from Monasterboice and Tuam, which are comprised in the Crystal Palace collection of casts, can have failed to recognize the peculiar features of design which characterized the ancient monuments of Ireland—monuments which, while recalling the traditions of classical art, in the general structural arrangements of the pier, impost, round arch, and archivolt, yet exhibit a singular individuality in every detail.

We cannot, upon the present occasion, enter into any attempt to define those eccentricities of style, frequently accompanied by successful aspirations after beauty in conventional form, which have been fully commented upon in the essays of Mr. Westwood, Dr. Petrie, Professor Donaldson, and Mr. Wyatt himself: we must rest contented, therefore, with recording our impression of the availability for architectural purposes of many of those singular types of intricate decoration which appear to have formed the pride and delight of the ancient Celtic races. It is more than probable that the present endeavour, striving to revivify such types, will stimulate many an Irish architect to attempt, upon a yet bolder scale, to recreate a national style,—sympathising with the past, and yet identifying itself, as all national architecture should do, with the present. To Mr. Wyatt must at least be awarded the credit of having induced his client, Mr. William Longfield, of Dublin, for whom the houses have been built, to make an attempt at once novel and successful.



HOUSES IN GRAFTON STREET, DUBLIN.—MR. M. DIGBY WYATT, ARCHITECT.

THE EFFECT OF DRAINAGE ON THE RIVERS AND RAIN-FALL.

DURING the last century,—nay, even within the last fifty years,—the extent of the land which, by means of drainage, has been converted from fenny marshes and large shallow lakes into useful land is remarkable. In Lincolnshire the aspect of wide districts has been completely changed. Corn-fields and fat meadows, and the partridge and the hare, have taken the place of reedy marshes, the wild fowl, and the heron.

No doubt, all this has been of immense advantage as regards health, and has also been the means of adding very largely to the value of land. It may, notwithstanding, be of use to consider what effect this extensive system of drainage is likely to have, eventually, on our streams and rivers, and upon the general rain-fall over the land.

During one of Mr. Glashier's recent balloon ascents, that gentleman noticed that, for miles along the course of the Thames, there hung a heavy bank of clouds; and, probably, in the days of old, instead of sunshine, similar clouds would be seen suspended over the wide water-covered district of Essex, which is now dry, as there are several other neighbourhoods in which extensive surface drainage is going forward; and there can be no doubt that this process has diminished the volume of several of our rivers, and must diminish the rain-fall. This points out the necessity which there is for cultivating—if we may so say—our streams and rivers, and striving, as far as possible, that none should be lost or materially lessened.

In a recent suggestive article in *Chambers's Journal* on the disappearance of springs in many parts, the writer traces the decay of agriculture and population to their loss. He mentions many places in which there are indications of there once having been fertile regions which are now desert wastes, owing to the failure of the water supply. In one part of Persia, it is mentioned that 500 water sources had failed, and caused sad loss to the population. This is attributed to the destruction, for various domestic purposes, of the trees which, on the high lands sheltered and also served to supply the springs, which, spreading abroad, caused verdure and beauty. On one of the West India islands, the woods which sheltered the springs were recklessly removed, and the water supply failed; and it was only by re-planting that this necessary was to some extent restored. We might usefully give more particulars, but would just now hint at what is a very important matter; for although we do not think that serious consequences to the extent of the evils which have happened in the East will occur in England; still, there is great necessity, for the reasons above mentioned, that the springs which supply our rivers, and also the streams, should be most carefully attended to; and if it should be proved that trees and other vegetation promote their flow, these should, as much as possible, be encouraged.

MONUMENT, LIMERICK CATHEDRAL.

A MONUMENT has been erected in this interesting structure in memory of the late Mr. Westropp. It is placed upon the blank wall of the south transept, bears no inscription, and is in the style of the transept itself, thirteenth century. It is 12 feet 6 inches wide, and 12 feet high, and projects nearly 2 feet from the face of the wall. It is a triple arcade containing three subjects from the life of our Saviour, sculptured in high relief; namely, 1st, "The Agony in the Garden;" 2nd, "The Resurrection;" 3rd, "The Entombment." These sculptures are by Mr. James Redfern, of London. The second is the principal subject: our Saviour is stepping out of the sepulchre door from which an angel has removed the stone: beneath are the Roman soldier guards, one of whom is shown awaking in affright. The monument begins three yards above the floor, with four pairs of bold corbels, with mouldings and carvings: these are of Bolsover stone: the rest of the structure is of Caen stone. Upon the corbels is a string-course: above this is the enriched sill, which carries the large slabs of sculpture: separating the subjects are jambs having double pillars of the red variegated alabaster from Staffordshire. These are divided into two heights by enriched bands of stone: the side jambs have carved panels and are decorated with facetted gems, being selected specimens of Sienna marble, with green marble from Connemara. The whole of the columns and jambs are surmounted with delicately carved capitals, from which spring the three arches. The fronts of the arches are covered with foliage, carved in high relief: above all is a triple gablet terminating in carved crockets and finials. The roof is of slabs of stone, enriched with a pattern incised thereon, and filled in with coloured cement. It was designed by Mr. Slater, and executed by Messrs. Henry Poole & Son, of Westminster. Part of the monument was in the International Exhibition. Mrs. Westropp, at whose expense the monument has been erected, had previously set up a stained-glass window in memory of her husband, and has given, we are told, more than 13,000*l.* in aid of local charities.

LIVERPOOL ARCHITECTURAL SOCIETY.

THE annual excursion was made on the 4th inst. Eaton Hall and Chester were the places visited. At the latter St. John's church, now under process of restoration by Mr. Hussey, was specially examined. The members and their friends, to the number of about sixty, afterwards dined at the Albion Hotel, under the chairmanship Mr. W. H. Weightman (president of the Society), of Mr. T. J. Kilpin occupying the vice-chair. The Bishop of Chester favoured the company with his presence, and there were also present the Rev. W. B. Marsden, Messrs. J. A. Picton, Hermann, G. A. Audsley, W. H. Picton, J. P. Bradley, F. Horner, F. Howard, G. Watts, E. A. Heffer, F. Frodsham, E. Stirling, J. Justin, &c. &c.

The Bishop of Chester proposed "Success to the Liverpool Architectural and Archæological Society," coupling with the toast the name of the president. He attached a high value to the influence and beneficial effects of such a society as that, not only in its tendency to improve architectural science, but also because it brought together men engaged in common pursuits, and promoted good feeling one towards another. It was a happy circumstance that concurrently with the revival of religious feeling which had led to the building or restoration of so many churches in Liverpool and other parts of the diocese, there had also been a revival in ecclesiastical architecture; and whether it was a large church in some great town, or a small chapel in some little hamlet, the erections were for the most part of a character to ornament and not to disfigure, and such as would reflect credit upon those who designed them as well as upon those whose munificence had reared them.

Various other toasts followed, including "The Contractors;" Mr. Justin, the librarian; and the "Good old Town of Liverpool."

PUBLIC WORKS.

SIR M. PETO has called the attention of the House of Commons to the want of efficient control in the public works of the country, and to the necessity for the organisation of a Board of Works, with a view to remedy the evil. The First Commissioner of Works, he remarked, was no commissioner of public works at all, nor was his office at all connected with the public works of the country. He had the charge of a number of public buildings, palaces, and parks in Great Britain, and that was all; and the public works of each department of the Government were really conducted by that department itself. Take the case of the Admiralty. If a dock were wanted, or a pier to be repaired, or a quay to be constructed, the work was done directly by the Admiralty. They might take a lesson in this matter from a neighbouring country, where a real Minister of Public Works was established, presided over by a responsible head, and assisted by the best professional ability and experience, and to whom all requisitions for public works were addressed by the departments. Under that system the public works were well executed at fixed and moderate estimates. What he proposed was that the First Commissioner of Works should be a commissioner of public works, always associated with the ministry of the day, having full power of executing the public works of the country under the sanction of and responsible to that House. He was also of opinion that public works should not be conducted by the Board of Trade, as they sometimes were, nor under the administration of the Horse Guards. It was a fact that 67,000*l.* a year was paid to clerks through the Horse Guards for the superintendence of public works; and that in some instances the remuneration paid to the clerks exceeded the cost of the work itself. He hoped that the Government would take this subject into consideration during the recess, with a view to remodelling the existing Office of Works, and making it a board under a responsible minister of the Crown.

Mr. B. Cochrane was glad that the hon. baronet, though not present when a similar motion was discussed the other evening, had borne his testimony to the absurdity of the present system.

After Sir C. Wood and others had spoken,

Mr. Cowper said he did not think it possible that engineering works could be adequately conducted by the department of the Office of Works. For instance, in the case of harbours, it must be the naval authorities who must be the judges of what was wanted with respect to them. The permanent officers of an establishment could not, by the constitution under which we lived, propose votes to Parliament; and they must get some department of the Government to propose to Parliament those measures which they considered were necessary. He did not think a permanent council would be of use in the conduct of the ordinary business of the Office of Works; but in regard to all selections of designs for great works, he agreed that a permanent council was very desirable, and he said that, practically, they had it already. If a permanent council were established there would be a want of competent control. He felt it much better to nominate on occasions the advisers who might be required. There was in the profession of architects such a strong party spirit that there would be great difficulty in naming any body of men as advisers who would give general satisfaction. The works that had been executed during the time he held office were not those which the hon. member had been able to attack.

COMPETITIONS.

Gateshead Townhall.—The committee named for the first premium, as we have already stated, Mr. Johnstone's design, estimated at 8,700*l.*; and gave the second premium to the design sent by Mr. J. E. Watson, estimated at 25,000*l.* The town-council at their last meeting reversed the award, giving the first premium to Mr. Watson and the second to Mr. Johnstone. The council, we are sorry to hear, intimated an intention not to employ the successful competitor to carry out his design, but to place the drawings in the hands of the Town Surveyor for that purpose. This would be equally unjust and unwise. Architects do not compete for the premium, as we have said to committees a hundred times, but for the professional employment involved in carrying the design into execution. The successful competitor, unless incompetent, should unquestionably be employed. Moreover, it is not likely that the town would obtain an equally satisfactory result by any other means.

Militia Stores, Bath.—A correspondent writes as follows:—I think it as well to warn intending competitors for the above, that plans have already been prepared by the city architect for the colonel of the regiment, although they could not be carried at the Quarter Sessions without the *form* of a competition.—BATHONIENSIS.

Newbury: St. Mary's Almshouses. — Several designs were sent in, and from these one by Mr. J. H. Money, architect, has been selected.

CHURCH-BUILDING NEWS.

Long Buckby (Northants).—The church of Long Buckby, which had been closed for restoration during the last eight months, has now been re-opened by the Bishop of Lichfield. The former galleries have been removed, and the belfry thrown open; the screen removed from the chancel, the arches restored, and the roof panelled. A stained-glass window is in the chancel, which is floored with Minton's encaustic tiles, the gift of the Rev. C. L. Yate, the father of the present vicar, as a memorial of his daughter. The pews have all been removed, and open sittings substituted, a large portion of which are free. The architect was Mr. Scott. The entire cost of the restoration will be nearly 2,000*l.*; and, when the present work in hand is finished, more will remain to be done.

Stamford.—The foundation-stone of a new Roman Catholic Church has been laid at Stamford, by the Roman Catholic Bishop of Nottingham. The contractors are Messrs. Halliday & Cave, of Greetham, Oakham. Mr. G. Walters is foreman of Works.

Dedworth.—All Saints' Church, in the hamlet of Dedworth, has been consecrated by the Bishop of Oxford. This edifice has been erected at the exclusive cost of the husband and children o the late Mrs. Tudor, mother of the Rev. H. Tudor

curate of Clewer, as a "memorial church" in commemoration of that lady.

Reading.—The work of enlarging and improving the old church of St. Mary has been commenced. Having removed some panelling at the south-east corner of the chancel, a very ancient piscina and credence, with shelf, were disclosed, and, adjoining, a recess for locking up the vessels. The arches are pointed, and in the Early English style, proving the erection to have taken place in the twelfth century. There are slight traces of colouring about the work, and a portion of the material is chalk.

Bearsted.—The ancient Church of the Holy Rood, or Holy Cross, mainly of the Decorated period with Perpendicular additions, it is proposed by the vicar should receive immediate restoration. Offers of liberal help have been already received.

King's Norton.—The first stone of a new school-church has been laid at Stirchley-street, King's Norton. The plans and specifications were received from Mr. C. W. Orford, architect, who estimated that the expense of carrying out the plan would be about 800*l.* The plan and specification have been placed in the hands of Mr. Isaac Clulee, builder.

Swansea.—The foundation-stone of St. James's new church has been laid. The site is on the Ffynone Estate, near the junction of the new road with the old road to Sketty, and the building will contain sittings for upwards of 600 persons. The cost, including tower and spire, will be about 3,500*l.*; exclusive of tower and spire, 2,500*l.*

Cardigan.—The new memorial church of St. Barnabas, at Penboyr, in the county of Cardigan, was consecrated on the 3rd instant by the Bishop of St. David's. The church, which is in the Early English style of architecture, was erected at the expense of the Earl of Cawdor, in furtherance of the intention of the late earl to erect a church in that part of the county. It consists of a nave, chancel, and apse, in the latter of which are three stained-glass windows, executed by Messrs. Heaton & Butler, and presented by the Countess Dowager of Cawdor. The walls of the church are built with stone from the local quarries, with Bath stone dressings. The font and pulpit are of Caen stone. The roofs are open-timbered, and covered with slates from the quarries at Newcastle-Emlyn. There is also a vestry on the north side of the chancel. Sittings are provided for about 250 people. The building has been carried out, from the designs of Mr. D. Brandon, by Mr. James Rogers, builder, of Tenby, in Pembrokeshire. The stone-carving of the chancel and on the exterior of the building, was executed by Mr. Peter Ford, of Cheadle, in Staffordshire.

Eardisley (*Hereford*).—The parish church here has been restored and re-opened. The south wall of the chancel had to be entirely rebuilt, and singularly enough, says our authority, the *Hereford Times*, the old wall was found to have had no foundation, having been erected on the surface of the ground. The flooring was all taken up, concreted throughout, and the monumental slabs, which entirely formed the pavement, were re-laid in their original positions. The church was also newly roofed throughout with Russian deal, stained and varnished, and covered with stone. The church has been re-pewed throughout with pine, stained and varnished. Various other restorations have been effected; and the church has been seated for 511 persons. The cost is between 2,000*l.* and 3,000*l.* Mr. Ewan Christian was the architect employed; and Mr. T. Williams, of Canton, Cardiff, the builder.

Heaton Norris.—The new chancel which has been lately added to St. Thomas's Church is completed. The new building, which has been designed by Messrs. Shellard & Brown, architects, Manchester, is built, says the *Stockport Advertiser*, in the Gothic style of architecture; and the east window, which is after the model of a church in Kent, is shortly to be filled with stained glass (as a memorial), by M. Chapronier, stained glass manufacturer, Brussels. Seven other stained windows have been put in the chancel and nave by Messrs. Edmondson, of Manchester. The subjects are,—The Incredulity of St. Thomas, the arms of the Episcopate of the Church of England, the Last Supper, the Baptism of Our Lord, and figures of St. Peter and St. Paul. The west gallery is now made entirely free to the public. Messrs. J. & J. Longson were the builders employed on the interior improvements.

Bramley.—The new church of St. Margaret, at Bramley, has been consecrated. The new edifice is built in an open piece of ground near the National Schools, adjoining the highway leading from Bramley to the railway station. This site has been given by the Earl of Cardigan. The building is of broached dressed sandstone wallstone, with stone dressings, and its style is Geometric. It consists of nave, chancel, north and south aisles, and transepts, south porch, organ chapel at the east end of the north aisle, vestry at the east end of the south aisle, tower and spire at the north-west end of the north aisle, from which it stands out the breadth of itself. The nave is 85½ feet long by 24 feet wide, and 45 feet high to the apex of roof, and is divided from the aisles by five arches on each side. The north and south, aisles are respectively 66½ feet by 12½ feet and 32 feet high to the apex of the roof. There are four windows in each of the aisles, of two lights each, with shafts and carved capitals and small wheel in the head. The two transepts are 24½ feet by 19 feet, and 38 feet high to the apex of roofs, with two single-light windows and a wheel window above, in each of which the hexalpha symbol is introduced. The chancel is 28 feet by 20½ feet, and 42 feet high to the apex of roof. On the south side there are two two-light windows, with canopied heads, and on the north one two-light, with trefoil tracery heads. The east window consists of three single lights, with trefoil heads and hood moulding, divided by clustered shafts and carved capitals of very fine wrought stone. Over this there is a small vesica window. The tower is 20 feet square and 56 feet high: it consists of three stages, and is terminated by a pierced trefoil parapet, with pinnacles and gurgoyles at the angles. Above the parapet on each face rises a clock-dial, which forms the base of a spire, which rises to the height of 75 feet, making the entire altitude of tower and spire 131 feet. The whole of the roofs are open timbered. The chancel roof is filled with quatrefoil grounds in the bindings and the ceiling, and is formed of boards all stained. The whole of the pewing is of deal, stained, with bench ends terminated by cut heads. One of the windows in the south aisle has been filled with stained glass by Mr. Wailes, to the memory of the late Mr. John Rogerson, of Bramley, by his son. The church will accommodate 1,000 persons, and has cost, including gifts, 4,500*l.* The works have been carried out under the direction of Mr. John Kabery, clerk of works, by the following contractors; viz., mason, J. Chadwick, of Bramley; joiner, Tomlinson; plasterers, E. Garlick & Son; plumber, G. Dawson; slater, Watson, all of Leeds; painter, J. Dickinson, Bramley. Messrs. Perkin & Backhouse, of Leeds, have been the architects. The stone carving has been executed by Messrs. Mawer & Ingle, of Leeds. With suitable fence wall, iron rails, &c., and a new organ, the total outlay will have been 7,000*l.* We must add, that 500 of the church sittings will be free.

WESLEYAN CHAPEL BUILDING.

Alford (*Lincolnshire*).—The foundation stone of a new Wesleyan chapel has been laid at Hogsthorpe. The chapel is to seat 400 people, and to cost 800*l.* Mr. Botterill, of Hull, is the architect.

Market-Rasen.—The new Wesleyan Chapel, erected on the site of the old chapel, near the railway-station, has just been opened for divine service. It is in the Italian style, with Ionic portico of Ancaster stone in front, and three entrance-doorways, approached by a low flight of steps. The building generally is of brick, with stone dressings to the doorway and window openings, &c. The internal dimensions are—length, 75 feet; breadth, 44 feet; and height, from ground-floor to ceiling, 35 feet. There is a gallery on all sides, with space set apart for an organ behind the pulpit. The accommodation is for about 700 persons. In the rear of the chapel are a large school-room, vestry, and four class-rooms. The cost will be about 3,000*l.* The original contractor was Mr. H. Jackson, of Lincoln; but the works have been completed by Messrs. Wallis & Son, of Market-Rasen. Messrs. Stones & Co., of Hull, supplied the gas-fittings; and Mr. J. Redfern, of Hanley, the heating apparatus. Mr. W. Botterill, of Hull, was the architect.

Leicester.—The new Wesleyan Chapel in Humberstone-road is drawing near to completion. The architect, Mr. W. F. Ordish, in his design has gone so near to the ecclesiastical style of architecture, that were it not known that the structure is intended for a Dissenters' chapel it might easily be mistaken, externally and internally, for a Church of England Chapel-of-Ease. Being principally a brick building, a little more stone would have had a good effect. The contractor for the brickwork is Mr. H. T. Porter, of Leicester, who is also the manufacturer of the bricks. Messrs. Osborne, Brothers, of Leicester, are the stonemasons, and Mr. W. Clifton, also of Leicester, is the carpenter and joiner. Three different persons were selected to tender for the stone pulpit and screen:—Messrs. Osborne, Brothers, Mr. Matthew Irving, and Mr. Samuel Barfield. The last gentleman's tender being the lowest, the work was put into his hands.

Wolverhampton.—Trinity Wesleyan Chapel, which during the last nine months has been in course of erection on the Compton-road, has been opened. The edifice is in the Early English style, with hammer-dressed local stone and dressings of Bath stone. The principal feature in the design is a front towards the Compton-road, with a tower and spire at one angle, rising to a height of 115 feet. A large traceried window occupies the upper part of the principal front. The lower part has an arcade of stone arches and marble columns, with carved capitals inclosing circular windows and connecting the two principal entrance-doors of the chapel, which have arches and marble shafts to correspond with the arcade. The interior is arranged on the plan of a nave, aisles, and chancel, with organ-chamber and vestries on either side of the latter. Accommodation is provided for about 1,000 persons, nearly 300 free. A series of arches on iron columns, decorated, divides the nave from the aisles. The windows generally are glazed with toned cathedral glass, in quarry pattern. The glass is from the manufactory of Messrs. Hardman & Co. The chancel windows were from Messrs. Lavers & Barraud, of London. The entire cost of the building was about 3,600*l.*, exclusive of the land, which was given by Mr. Hartley, who also, in conjunction with Mr. J. Perks, sen., defrayed the expense of the Bath-stone spire. The architect is Mr. G. Bidlake, of Wolverhampton; and the contractors are Messrs. Trow & Son, of Wednesbury.

Clifton (*Bristol*).—The Wesleyan chapel adjoining the Academy of Fine Arts has been dedicated as a Wesleyan chapel. The chapel is a rectangular building, in the Gothic style, but many of its features are Continental in character. The enclosed ground is 200 feet long, with 100 feet frontage, and 57 feet at the back, the length of the building being 86 feet, and its breadth 39 feet. Its walls are 4 feet thick, and this is increased by the buttresses to 7 feet 6 inches. The frontage from the base to the top of the cross is 68 feet in height. It is supported by a moulded basement, with plinth of Bath stone, and a band of Clevedon yellow magnesian limestone runs through the jambs, moulding, and arcades: this band alternates with bands of Williton red sandstone, presented by Sir Peregrine Acland, and which run round the three fronts of the building above the string courses, relieving the appearance of the freestone. There are three windows in the frontage, the centre one being 30 feet high, and the side one 24 feet, including the sill and mouldings. The cathedral glass has been given by Messrs. Hall, of Broadmead; and the windows are ornamented with diagrams, and in the glass of the tracery there are medallions and other geometrical figures. The windows at the side of the building are six in number, and ornamented with medallions, &c. The circular window in the gable of the east end is of stained glass, presented by Messrs. Chance, of Birmingham, and consists of a wheel in trefoil. There is a succession of buttresses running the length of the sides, and there is also a freestone battlement at the top of the north and south sides of the building. The roof is of Welsh slate, and the ridge is surmounted with a spire covered with zinc, and containing a device for the escape of impure air. The building will accommodate 700 persons. There is a large room underneath, running the entire area of the chapel, and 15 feet high. It was made in consequence of the depth of the excavations required to obtain a good foundation; and the room, which will be used for tea-meetings, &c., is lighted by windows on either side, and approached by a sloping path on the south side of the chapel. On the same floor there is a vestry about 31 feet by 17 feet.

Alderley Edge (*Macclesfield Circuit*).—A new Wesleyan Chapel has been opened here. The chapel, after designs by Messrs. Hayley & Sons, of Manchester, is a Gothic structure, capable of seating 550 persons. The estimated cost, including land, is about 4,000*l.*

Rotherham.—The corner stone of a new Wesleyan chapel, about to be erected at Mortomley, near Chapel-town, has been laid. The new chapel is to be in the Gothic style, and capable of seating 400 persons. Its cost is estimated at 1,000*l.* Mr. James Wilson, of Bath, is the architect; Mr. John Brierley, of Bolsterstone, the builder; while the joiners' and other work has been entrusted to Mr. Harrison.

Newcastle-upon-Tyne.—The foundation stone of a new chapel for the United Methodist Free Church has been laid in Gloucester-street, Scotswood-road, by Mrs. John Benson. The building will stand on a plot of ground 72 feet by 52 feet, and will be surrounded by iron palisading. The chapel itself will be 56 feet long by 42 feet broad, and will contain 600 sittings. It will be heated with hot water and lighted with "star lights." It will be surrounded on three sides by a gallery. Underneath will be a school-room for 300 children. The building will be of Tuscan architecture, the basement of pitch-faced blocking, and the remainder faced with brick and stone dressing. The principal entrance in Gloucester-street will have a polished stone porch. The entrance to the school-room will be in Cambridge-street. Pews will be in the bench style with open ends, and the whole of the wood work will be stained and varnished. The architect is Mr. G. Snaith, and the contractor for the building Mr. James Hogg. Messrs. Walker & Emley, of the Neville Iron Works, contract for the heating apparatus. The total cost is estimated at about 2,000*l.*

Maryport (Cumberland).—The foundation stone of a new Wesleyan chapel has been laid at Maryport. The church will front Wood-street, from which the entrance will have an easy descent. The building will be in the form of an octagon, and will accommodate between 400 and 500 people. The total cost is 1,305*l.* Mr. Eaglesfield, of Maryport, is the architect; Mr. Lucock, of Broughton Moor, the contractor for the masons' work; Mr. Peile, Workington, the wood work; Mr. Mandell, of Maryport, for the slating; Mr. Coulthard, of Maryport, for the glazing and plumbing; and Mr. Cowley, of Maryport, for the plastering.

Keswick.—In Southey-street, on the Penrith-road, a new Wesleyan chapel is in a forward state of progress. The architect is Mr. John Ross, of Darlington; and the builders are Messrs. Hodgson, of Keswick. The chief stone has just been laid.

STAINED GLASS.

All Saints', Loughborough.—The west window has been filled in, at the expense of Mr. and Miss Herrick, of Beaumanor, who took upon themselves the charge of the restoration of the tower. The window is of the Perpendicular period, divided by intersecting mullions into fifteen compartments. Each of these contains a separate figure, differently draped and posed. The design of the central compartments represents Our Lord's descent through Abraham and David, the figure of Abraham occupying the lowest of the three. Immediately above him is David, and that of the Saviour may be recognized in the uppermost section. The Evangelists, Matthew, Mark, Luke, and John, stand on either side of Our Lord, two on the right, and two on the left hand. John the Baptist and St. Stephen occupy compartments on the right and left of David, while St. Peter stands on the other side of the Baptist, and St. Paul beside St. Stephen. Two greater prophets of the old dispensation, who spoke most distinctly of the times of the Messiah—Isaiah and Daniel,—are the figures immediately to the right and left of Abraham; Moses and Aaron filling up the extreme compartments in the lowest row. Each of these figures is surmounted by painted canopy-work. The tracery in the window-head is filled with small figures of angels and cherubs, attending, as it were, on the Saviour. Messrs. Ward & Hughes, of London, were the artists.

Irnham Church (Lincolnshire).—The east chancel window of this church, which is of the Decorated (fourteenth century) period, and measures 18 feet in height by 8 feet in width, has just been filled with painted and stained glass by Messrs. Baillie & Co., of London, at the expense of Mrs. Hervey Woodhouse, of No. 1, Upper Grosvenor-street, London. The window contains three lower or principal openings, each with a lancet-shaped top, which support a tracery head composed of one quatrefoil and two trefoils, with pierced eyelets and spandril shapes. The design of the stained glass is to represent the Crucifixion.

Harlaston Church, near Tamworth. — Two stained glass windows have been fixed in this church, containing the following subjects under canopies:—"The Presentation in the Temple," "Good Shepherd," "Christ Blessing Little Children," and "The Divine Master." The windows were executed by Mr. W. Holland, Warwick.

St. Mary's Church, Guildford, Surrey. — A stained glass window of three openings has been placed in the chancel of this church, containing the figures of our Saviour, St. Mary, St. Matthew, St. John, and St. Paul, under canopies. In tracery, Angel bearing the emblem of the Trinity, and foliated ornament. Also a memorial window in the Early English style, containing the figures of the Virgin and Child, upon pedestal containing monogram, &c., &c.; and a small square window representing "Our Saviour cleansing the Ten Lepers;" the whole executed by Mr. Holland, of Warwick.

St. Matthew's Church, Knot Mill, Manchester.—The large east window in the chancel of this church has been filled with stained glass, at the sole expense of one of the congregation. The window is of three principal lights, each upwards of 3 feet wide, with rather peculiar tracery openings in the head. Each light contains a subject. On the left is "The Baptism of our Lord by John." In the light on the right hand is represented the celebration of "The Last Supper." In the centre is "The Ascension,"—"I go to the Father." Each subject is surmounted with foliated canopy work. Six openings in the tracery, immediately above the principal subjects, are filled with six angels, bearing each an emblem of the Passion of our Lord. In two other openings are two angels bearing scrolls, inscribed "Ye men of Galilee, why stand ye gazing," &c. Above these, and in the top space, is our Lord seated in glory. The artists were Messrs. Edmundson & Son, of Manchester.

Doncaster Church.—A memorial window to the late Mr. James Dunhill has been put up by Messrs. Ward & Hughes, of London, at the south-west corner of this church. The tracery of the window and the heads of each of the three lights are filled with foliage; and in the small wheel in the centre of the tracery are the letters "I. H. S." The middle light represents David playing upon the harp, and above are three angels bearing a scroll, on which is inscribed "Hallelujah." The two side lights give prominence to one subject. In the left is a representation of Nathanael addressing Philip, "Can any good thing come out of Nazareth?" and Philip's reply, "Come and see." In the right Philip is bringing Nathanael to Jesus, who said of him, "Behold an Israelite indeed, in whom is no guile."

PREMIUMS GIVEN BY INSTITUTION OF CIVIL ENGINEERS.

THE Council of the Institution of Civil Engineers have awarded the following premiums for "papers" read at the meetings during the session 1862-63:—

1. A Telford Medal, and a Telford Premium, in Books, to John Brunton, for his "Description of the Line and Works of the Scinde Railway."

2. A Telford Medal, and a Telford Premium, in Books, to James Robert Mosse, for his paper "On American Timber Bridges."

3. A Telford Medal, and a Telford Premium, in Books, to Zerah Colburn, for his paper "On American Iron Bridges."

4. A Telford Medal, and a Telford Premium, in Books, to Harrison Hayter, for his paper "On the Charing-cross Bridge."

5. A Telford Premium, in Books, to William Michael Peniston, for his paper "On Public Works in Pernambuco, in the Empire of Brazil."

6. A Telford Premium, in Books, to William Henry Preece, for his paper "On Railway Telegraphs, and the Application of Electricity to the Signalling and Working of Trains."

7. A Telford Premium, in Books, to Alexander Woodlands Makinson, for his paper "On some of the Internal Disturbing Forces of Locomotive Engines."

8. A Telford Premium, in Books, to Daniel Miller, for his paper "On Structures in the Sea, without Cofferdams, with a Description of the Works of the New Albert Harbour at Greenock."

9. A Telford Premium, in Books, to Robert Crawford, for his paper "On the Railway System of Germany."

10. A Telford Premium, in Books, to William Cudworth, for his paper "On the Hownes Gill Viaduct, on the Stockton and Darlington Railway."

11. A Telford Premium, in Books, to James Grant Fraser, for his paper "Description of the Lydgate and of the Buckhorn Weston Railway Tunnels."

12. A Watt Medal, and the Manby Premium, in Books, to John Fernie, for his paper "On the Manufacture of Duplicate Machines and Engines."

COPPER TUBES.—At the Seamless Copper Tube Works at Morrissania, New York, pure copper is cast into sound tubular ingots by running the metal into moulds, revolving 2,000 times in a minute.

BRIBING FOR PRACTICE.

MR. EDITOR,—I find the following in a London daily newspaper:—

"An Architect and Surveyor, in good practice, would treat liberally with parties introducing Clients.—Address, Mr. ——, &c."

Is this the way to practise a liberal profession? and is it certain that a person inserting such an advertisement would treat his clients "liberally" as well as those who introduced them? Of course it means one of two things: either Mr. *Blank* intends to work for less than his professional brethren, or he proposes to make his clients themselves, when he gets them, pay the bribe he offers for securing them.

AN ARCHITECT WHO WISHES TO REMAIN A GENTLEMAN.

ST. PAUL'S CATHEDRAL.

TWO separate appeals have been made by the Dean and Chapter of St. Paul's to the British public, the one setting forth their contemplated plans for completing the decoration of the cathedral; and the other soliciting a "national subscription" for the accomplishment of this great object, limited to one guinea.

It is in order to give publicity to these appeals that I request (as one of the oldest subscribers to your valuable publication) your influence and support to an undertaking which every Englishman imbued with a proper sense of religion and a lover of art is bound to second and uphold.

St. Paul's is the only cathedral which Protestant munificence has (as yet) raised in England to the glory of God; and it has long been felt as a well-merited reproach upon Protestantism that so magnificent a structure should have been permitted to remain for so great a length of time in its present unfinished condition.

To wipe away this reproach the Dean and Chapter are using their most earnest endeavours; and it consequently behoves the laity to second them in this great work of national piety.

In the full conviction that you will aid the good cause by giving publicity to this letter, I have the honour to remain, your very obedient servant,

ECCLESIASTICUS.

DESCRIPTIVE ARCHITECTURAL DRAWING, AND THE PUBLIC.

SIR,—From a most praiseworthy and wholesome article in your last number, it is evident that some one at least has at length found out and pointed out the inconvenience—and mortification, also—redounding to architects from the inability of those who, though not architects, sway the destinies of architecture, to perfectly comprehend, just as well as a practical and professional man, all the multifarious drawings required for fully explaining a complete design. However much it may be matter for regret, it is none at all for wonder, that until the well-educated classes become far better acquainted than at present with all the several modes of technical description, architectural designs should be caviare to the public,—not only to the million, but the upper ten thousand likewise.

With arrogance discreditable to itself, the *Saturday Review* has asserted unexecuted designs to be "mere bubbles." With the *Saturday* an architect's brainwork stands for just nothing: imagination, fancy, taste, when so shown, is no better than 0 0 0. Charming doctrine, truly! vastly encouraging and inspiriting! according to which any committee of prigs may put an extinguisher upon a rejected design, however preferable to the accepted one. Though my pen itches to say a great deal more, I, perforce, in my present ignorance of what I have already said, abstain, and only sign myself

ZERO.

ARCHITECTURAL COPYRIGHT.

MR. BLACK, M.P., having given notice in the House of Commons of his intention to move, in the next session of Parliament, that he be allowed to bring in a Bill to consolidate and amend our copyright law (some remarks of mine as to which, with special reference to copyright in architectural designs, you introduced into your columns), I have forwarded the following suggestions on the subject for his consideration; and as they are, I submit, worthy of discussion, I venture to hope you will find a place for them in your columns.

First, it appears to me, there should be but one copyright Act, regulating copyright in all literary

productions; in paintings, engravings, etchings, lithographs, &c.; in sculpture, carvings, artistic casts, and designs; in photographs, and all original artistic productions; also in *architectural designs*.

Secondly, that one registration, of a simple character, before any claim at law can be established, should be required.

Thirdly, that *fac simile*, or nearly *fac simile*, representations of things, natural or artificial, by the use of photographic apparatus or other means of producing such representations, should have a copyright for a very short time only; for it is scarcely maintainable that the production of such representations, in such manner, and by such means, involves the exercise of authorship; and I submit there can scarcely be a true basis for copyright without authorship. It will become a crying grievance if a photographic manipulator, by being the first in the field, can secure to himself alone the copyright of mere representations of the portraits of our public characters and our most pleasing landscapes.

Lastly, with regard to *architectural designs*. The right to build in accordance with any copyright design should, I think, be subject to be reserved to the author or designer, in the same way and upon somewhat similar conditions as the right of translation in literary matter is now reserved, so that hereby it may be provided that, if the author or originator of the design do not build, or cause or procure others to build, according to his design, within a restricted period, he shall not at the end of that period be able to prevent others from doing so. His copyright in all other respects to remain intact.

I trust this may lead to the discussion of this important subject. F. W. CAMPIN.

THE LINING OF WATER TANKS.

SIR,—In order to retain a good supply of rain-water for domestic use I have sunk two tanks in the earth, each 15 feet deep, and 6 feet diameter, and have based them with brickwork built and lined ¾ inch thick with Roman cement, and covered them in air-tight, and no other water than rain can get in them; but I find the water (after being in these tanks) becomes so hard that it is almost useless for washing. If any of your readers can kindly point out a remedy for this they will greatly oblige A SUBSCRIBER.

THREATENED DESTRUCTION OF THE DUTCH CHURCH, AUSTIN FRIARS.

TENDERS were to be received on Thursday last for the erection of a new structure in lieu of the ancient church in Austin Friars, which now stands roofless, in consequence of the recent fire there, but in other respects is much as it has been for many many years.* It is to be hoped that it may not be too late to induce the trustees to give up their demolishing intention, and restore the old church, instead of building a new one. The money they are about to spend would surely do this efficiently. The main columns are out of upright, apparently driven out by the roof; but there would seem to be no great difficulty in setting these right and making all secure. The windows, Decorated, are large and handsome. The Society of Antiquaries, and other similar bodies, should use their influence to prevent the threatened destruction. There is already little enough left of Old London. It is our duty to preserve for posterity, as far as possible, all that remains. If the Dutch Church in Austin Friars be knocked down, it will be an act of Vandalism for which men, hereafter, will cry shame on those concerned in it.

* Some rough illustrations of this church will be found in the second volume of the *Builder*.

WORKING MEN'S CLUB AND INSTITUTE UNION.

THE first annual meeting of the members and supporters of the Working Men's Club and Institute Union has been held at Burlington House-Piccadilly. Lord Brougham, the president, occupied the chair. The report stated that the union had been formed for the purpose of helping working men to establish clubs or institutes where they could meet for conversation, business, or mental improvement, with the means of recreation and refreshment, free from the temptations of the public-house; these clubs, at the same time, constituting societies for mutual helpfulness in various ways. The union had now been in existence about a year, and in active operation for the last nine months. Twenty-three clubs had been established in the metropolis and country by the union, and the number of members on their books may be estimated at about 1,760. The finance statement showed the total income for the past nine months to amount to 730*l*. 16s. 3d.; and after meeting expenditure and liabilities, an available balance of 175*l*. 13s. 3d. would remain. The Chairman expressed his astonishment that no substitutes for alehouses had been found. Working men, he conceived, went to the public-house not solely for the purpose of drinking, but to obtain that comfort and companionship they could not find in their own homes. He did not wish to take working men from their homes, but he desired to establish places in which they would have intellectual and rational amusement, and which would have the effect of withdrawing them from the alehouses. The Hon. Mr. Cowper, M.P., said, the Working Men's Club might be consider. d as a public-house without the drinking part. He earnestly hoped the movement would be successful. After the meeting a number of the members and friends of the union dined together at the Whittington Club, under the presidency of Lord Lyttelton.

DECISIONS UNDER METROPOLITAN BUILDING ACT.

DEFAULT OF NOTICE.

MR. WILLIAM BLOW, of Bell-yard, Gracechurch-street, builder, was summoned before the Lord Mayor (at the Mansion House) for neglecting to give due notice to the district surveyor of certain works which were in progress under his superintendence at Lake's dining-rooms, in Gracechurch-street, as required by the Metropolitan Building Act, whereby he had incurred a penalty not exceeding 20*l*.

Mr. Edmund Woodthorpe, the district surveyor, said that in consequence of two momentous fires having occurred in the City of London from the erection of a new description of range in communication with old flues, in the construction of which a large quantity of timber had been used, he had exercised more than ordinary vigilance over works of that kind; and, as Mr. Blow was known to be extensively engaged in the construction of these ranges, he had felt it his duty to summon him for having omitted to comply with the provisions of the Act of Parliament.

Mr. Blow explained that, on commencing the work at Lake's dining-rooms, he gave the requisite notice; but it having afterwards become necessary to pull down the chimney and rebuild it, he certainly did neglect to give a second notice.

Mr. Goodman pointed out that, by the 38th clause of the Act, the two days' notice was required not only previous to the commencement of any work; but that if, after the commencement such work should be suspended for any period exceeding three months, two days' notice of the intention to resume it should be given to the district surveyor.

Mr. Woodthorpe said he did not wish to press for the full penalty, and

The Lord Mayor fined the defendant 20s. and costs.

Books Received.

VARIORUM.

PAPERS upon the Drainage of the Fens and the Inundation of Marsh Land. By Baldwin Latham, C.E., Ely. These papers were read before the Society of Engineers, and the Society's premium was awarded them. They contain a detailed and interesting account of the fen drainage and inundation, illustrated by engravings of the syphons, dams, sluices, and other works, and a map of the fen district.——The Mines of South Australia. By J. B. Austin. Adelaide, C. Platts, &c. London: Longman & Co. 1863. This is rather a popular than a strictly scientific work: it is interspersed with incidents of travel in the bush, and a brief description of the country. The smelting-works throughout the colony are also described; and the whole is illustrated by a map of the mining district. The author has been connected with the Adelaide press, and his book is both interesting and well written.——Part V. of A Dictionary of Chemistry. By Henry Watts, F.C.S. Carbon—Chyle. London: Longman & Co. 1863. This Dictionary, which has before been favourably noticed in the *Builder*, is, it may be remembered, based on that of the late Dr. Ure; but in truth it is mostly new. The present part sustains its previous promise as an accurate and valuable scientific work. Still, we can see something like an occasional defect or error among its multifarious contents. Is it correct, for example, to state that "no compound of carbon and iodine has yet been obtained?" We are quite well aware that one fluid combination of carbon, iodine, and hydrogen, namely, iodoform,—an analogue of chloroform,—was at one time mistaken for a mere combination of carbon and iodine; but a solid foliated coppery-looking sublimate has also been formed from carbon and iodine, and regarded as a pure iodide of carbon. The substance, we believe, has been rarely seen; but it is described by some chemical authorities; and we know of no reason for doubting its composition, although, before its discovery, the fluid compound was mistakenly regarded as a pure iodide of carbon. In another part of the "Dictionary" (chlorine, page 905), the writers speak of "chlorate of potassium." Is that quite correct? We have always been accustomed to speak of chlorate of potash or chlorate of potassa, although of chlor*ide* of potassium; and as oxygen will assuredly *not* unite with the chlorine of such a combination without also uniting with the potassium for which it has so much stronger an affinity,—thus converting the potassium into potassa or potash, as well as the chlorine into oxychloric acid,—the correct nomenclature must assuredly be chlorate of potassa, or chlorate of potash, and not chlorate of potassium. There are such things as innovations on older forms of science which are no improvement on them.

Miscellanea.

CHIEF CONSTRUCTOR OF THE NAVY.—Mr. E. J. Reed has been nominated by the Duke of Somerset to be Chief Constructor of the Navy, vice Mr. Isaac Watts, C.B., retired.

GAS LIGHT FROM A NEW SOURCE.—An eccentric philosopher at Bombay proposes the lighting of his city by gas manufactured from dead Hindoos. He says each body would yield 200 cubic feet of gas: stout ones would yield much more. Now eight rupees (16s.) per 1,000 cubic feet would be a moderate charge; therefore, in a monetary point of view, it is calculated that the scheme would pay. Gas originally meant spirit: we suppose the light thus obtainable might be called the shining spirits of deceased Hindoos.

GAS.—The directors of the Peterborough Gas Company recommend a dividend of 8½ per cent. A lowering of meter rents, they report, has increased the number of gas consumers.——The Worcester Gas Company announce a reduction in price to 4s. 6d.——The Bristol Gas Company, in reply to the committee of the Bristol Gas Consumers' Association, have declined to reduce the price to 3s., or to accede to other requirements made by the committee. The latter mean to apply to Parliament for a Bill next session to incorporate a rival company.——The Halesworth Gaslight Company have declared a dividend of 7*l*. 10s. per cent., "which, considering the mildness of the winter, and the fact that the company last year reduced the price of gas 10d. per 1,000 feet, cannot fail to be satisfactory to both shareholders and consumers."——The Galashiels Gas Company have declared a dividend of 7½ per cent., and reduced their charge from 6s. 5½d. to 5s. 10d. ——The Brechin Gas Company have declared a dividend of 10 per cent.

THE FEMALE SCHOOL OF ART.—The distribution of prizes to the successful students belonging to the Female School of Art, took place at University College. Viscount Stratford de Redcliffe presided, and distributed the prizes. The chairman, in opening the proceedings, said the fact of the school being under the special patronage of the Queen was one of the many illustrations of her Majesty's benevolence, and showed that the school was deserving of her countenance. It was the desire of the friends of the school that it should be self-supporting, and he would greatly rejoice when that result was accomplished. He understood that if thirty or forty additional pupils were obtained the school would be enabled to support itself. He hoped that in the interval that must elapse between the withdrawal of Government assistance and the time when the school might be expected to maintain itself it would be well supported by public subscriptions. He was glad of the steady progress it had made. The report was then read. It gave an encouraging account of the progress of the school, and stated that the number attending was 110. As many as thirty medals were to be distributed, which was the highest number that by the rules could be earned.

RAILWAY RETURNS.—The traffic receipts of railways in the United Kingdom amounted, for the week ending the 27th of June, on 10,684 miles, to 606,155*l.*, and for the corresponding week of last year, on 10,237 miles, to 597,315*l.*; showing an increase of 447 miles, and of 8,840*l.* in the receipts. On the Great Northern there was a decrease of 1,565*l.*

THE YARMOUTH TOWN SURVEYORSHIP.—Mr. A. W. Morant, the town surveyor of Yarmouth, has tendered his resignation to the Local Board of Health, in consequence of continuing ill health. The resignation, however, has not been accepted, but leave of absence has been granted for twelve months; Mr. Morant's clerk, Mr. Baker, having been appointed surveyor, *pro tem.*

PROPOSED IMPROVEMENTS IN LIVERPOOL.—The town-council have resolved "To apply to Parliament, in the next session, for powers to effect improvements;—viz., to widen Church-street on the south side, from Paradise-street to Church-alley, including St. Peter's-churchyard; to make an improved street, by widening Temple-court, &c., from North John street to Sir Thomas's-buildings, and from Preston-street to the bottom of Manchester-street; to purchase the property between the land of the corporation on the east side of the new street and Whitechapel, from Sir Thomas's-buildings to Preston-street; to carry a high-level road from the Free Library and Museum to Dale-street, near the end of Hatton-garden, as shown on the plan; and to widen the road in Everton village." The total net cost of effecting all these improvements is 226,000*l.*

SALES OF PROPERTY AT THE MART.—By Messrs. Norton, Hoggart, & Trist:—freehold, "Esher-place" estate, Surrey, comprising mansion, farm-buildings, &c., the whole containing about 160a., sold for 42,500*l.*; freehold, Sandown Farm, Esher, farm-house, &c., and about 119a. arable and pasture land, 19,800*l.*; freehold, Weyland's Farm, in the parish of Walton, farm-house, &c., about 284a. arable and pasture land, 17,000*l.*; freehold, known as "Walton Lodge Farm," Walton-upon-Thames, comprising residence, farm-buildings, &c., and about 247 acres of land, 20,000*l.*; freehold enclosure of meadowland at Edmonton, 2a. 3r. 16*p.*, 690*l.* By Messrs. Chinnock & Galsworthy:—freehold residence, Nos. 1 and 2, Clarence-villas, New Windsor, 1,220*l.*; freehold ground-rent of 25*l.* 4s., arising out of a piece of ground in Dorset-road, New Windsor, 480*l.*; freehold ground-rent of 12*l.* 12s., rising out of a piece of land in Trinity-road, New Windsor, 250*l.* By Messrs. Dann & Son:—freehold, "Cold Harbour" farm, Swanley, Kent, comprising residence, farm buildings, &c., and about 20a. land, 17,300*l.* By Mr. Robins:—freehold, six acres, orchard, and garden-ground, Whittonane, Twickenham, 1,050*l.*

THE BRITISH MUSEUM.—In Committee of Supply in the Commons last week, Mr. Walpole moved that a sum of 65,541*l.* be granted to complete the vote of 90,541*l.* for the British Museum. There was in the vote a large diminution. The estimate for 1862-3 was 99,012*l.*, so that this year the diminution was 8,741*l.* The temporary diminution partly arose from want of accommodation. Nevertheless, Mr. Walpole seemed to congratulate the House on the diminution of building expenditure since the trustees had the control of the works. Mr. Ayrton urged the opening of the Museum by gas light in the evenings, and especially on Monday evenings. Mr. Locke suggested Sunday afternoons as the time best suited to the working classes. Mr. Coningham thought the stuffed birds and beasts ought to be removed to some place where they at least could be exhibited to the public at fitting times, and the Museum more exclusively devoted to science and art. Mr. Walpole said he was anxious that the Museum should be open in the evenings if it could be done, but his firm belief was that it could not be done with safety. He referred to the evidence of Mr. Braidwood to show that the gas used in lighting the building would render the materials more combustible than they are at present, and would discolour the contents; and he did not suppose that any one would think of incurring the enormous expense of lighting it with oil. They did open the Museum during the summer months to eight o'clock, and what was the result? From ten to six o'clock 5,200 persons attended, being 650 persons per hour. From seven to eight o'clock 27 persons attended per hour, and the cost was 7*l.* 10s. per night. Mr. Ayrton affirmed that the British Museum afforded singular facilities for being lighted with gas without endangering the building or causing any of the evils referred to. He hoped the trustees would consider the question. The vote was agreed to.

ROYAL GALLERY OF ILLUSTRATION.—Mr. and Mrs. German Reed's Entertainment is enjoying a very prosperous career. Out of the simplest of plots they contrive to excite a lively and continued interest. Each impersonation, indeed, has its special attraction, success depending more upon the ability of the performer than upon a sequence of incidents arranged for dramatic effect. We understand there will be other visitors tomorrow at the *Charming Cottage*, the Sisters Fry having been prevailed upon to call at Windsor as they formerly came to Richmond.

EXHIBITION OF WOOD CARVINGS, SOCIETY OF ARTS.—We are requested to say that it was not at the instance of the Society of Wood Carvers, as a body, that the determination of holding another exhibition of wood carvings was arrived at. No matter who urged it, or who did not, it is a very good determination. The secretary of the Wood Carvers' Society adds,—"There is no doubt that the Wood Carvers' Society will not be found wanting in rendering all the assistance that lies in their power." They would be a very foolish society if they did not do so.

BURIED ALIVE IN A WELL.—A shocking and fatal accident has occurred in St. George's-place, Birmingham. A well-sinker contracted to deepen a well, situate in a yard in this locality. The well was about 19 yards deep, and it was contemplated to sink it about a yard deeper. In removing the old brickwork the side fell in, burying one of the workmen. The materials fell in a sort of dome form, thus for a time protecting the poor fellow below; but from a natural anxiety on his father's part to assist in his extrication, and after even a little brandy had been handed him, the bricks fell upon him and killed him, and it was a work of several hours to get the body out.

DESTRUCTION OF PORTLAND BAZAAR AND GERMAN FAIR BY FIRE.—An extensive fire occurred in Langham-street, Regent-street, on Sunday last: it commenced about ten o'clock in the forenoon, and was not entirely extinguished at five o'clock in the evening. The building, termed the Portland Bazaar and German Fair, covered a space of ground nearly 1,000 feet square. It was only two floors high, but the property contained in the place was more than an ordinary observer would imagine. Of the grand bazaar all that can now be seen are the tottering external walls, and the iron pillars and girders which supported the gallery and roof; only a few of the pillars; and these are twisted and thrown into misshapen masses by the action of the heat.

ACCIDENTS.—A workman has been killed at Blackfriars-bridge of the London, Chatham, and Dover Railway, by falling, with a broken beam and other materials, into the bottom of an iron caisson. The coroner's jury, in giving a verdict of accidental death, recommended more care in selecting the timber employed on the works, the beam having been a knotty one.——An extraordinary accident has occurred in the Rue de Grenelle, Paris. A number of labourers were seated on a ladder, each handing to the other above him large stones for building purposes. One of the topmost men was seized with a violent fit of sneezing, so uncontrollable that he dashed the stone in his hands on the man's head below, smashed out his brains, and sent him rolling into the street; dislodging, on his downward way, four more of the labourers.

THE COURTS OF LAW AT WESTMINSTER AND IN THE CITY.—In the Commons, last week, Mr. Montague Smith called attention to the insufficient accommodation in the courts of law at Westminster and in the City of London, and asked the First Commissioner of Works whether it is the intention of the Government to introduce any measure for providing courts suited to the increased wants of the country. Mr. Malins said the evils experienced from the want of proper accommodation in the courts of law sank into insignificance when compared with the condition of the courts of equity. A great deal of important business was conducted in small rooms quite inadequate to accommodate the people who attended; and two of the Vice-Chancellors' courts were so ill adapted for business that they were a disgrace to the country. It was of the utmost importance to provide a central court of justice; and he believed that Lincoln's-inn would be prepared to waive her claim for the equity courts if that object could be effected. If the country did not find the money to erect this palace of justice, he was sure that the suitors would gladly be taxed for that purpose. Mr. Serjeant Pigott hoped the Government would lose no time in re-introducing the measure for consolidating the courts of justice.

PROPOSED AGRICULTURAL AND INDUSTRIAL EXHIBITION IN PARIS, IN 1867.—The Lords of the Committee of Privy Council for Trade have received from the Secretary of State for Foreign Affairs a copy of a French Imperial decree, providing that a Universal Exhibition of Agricultural and Industrial productions shall take place at Paris in 1867, in the Palace of Industry, Carré de Marigny. The Exhibition will be opened on the 1st of May of that year, and will be closed on the 30th of September following. The productions of all nations will be admitted.

GLASS TILES.—Mr. Blumberg has patented an improved method of producing glass paving-tiles or slabs, having thereon suitable designs. The glass is run, in suitable quantities into a pan mould, made of some material capable of bearing a polish, and free from irregularities. A plunger, having a design upon it, is caused to press upon the glass in the pan mould, and in its upper surface a counterpart of the design. Colour may be applied. If the tiles are intended to be laid as paving, the pan mould is indented so that it shall leave small raised projections to give foothold.

THE LATE MR. MULREADY.—William Mulready, R.A., whose death has recently been announced, was a self-made man, and the history of his early life is particularly interesting and instructive. Few persons are aware of the fact that such a history was published so long ago as 1805. It was dedicated by Mulready himself to Godwin, the author of "Caleb Williams," and is illustrated with engravings from sketches made by the artist in his boyhood. It is in every way calculated to stimulate the youthful mind to vigorous action. It is very rarely to be met with, as books of this class, which are published for the young, seldom survive long unless reprinted, and only one edition of the volume in question ever appeared. Its title is as follows:—"The Looking-glass: a True History of the Early Years of an Artist, calculated to awaken the Emulation of Young Persons of both Sexes in the Pursuit of every laudable Attainment, particularly in the Cultivation of the Fine Arts. By Theophilus Marcliffe."

THE WESTMINSTER CLOCK.—The Astronomer Royal reports to the visitors of the Royal Observatory that the rate of this clock, which records itself at Greenwich daily by galvanic connexion, "may be considered certain, to much less than one second a week." The original stipulation was that it should not exceed a second a day, and that was attempted to be set aside as impracticable by some of the candidates for making the clock. Mr. Airy's testimony to its accuracy is the more valuable, as he had retired in 1853 from the joint superintendence of the work on account of some differences with Mr. Denison, Q.C., who designed the clock and invented the "gravity escapement" for it, which has since been adopted in other large clocks. It may not be generally known that most of the wheels are of cast iron: the hands and their appendages weigh about a ton and a half, and the pendulum 6 cwt. The dials are 22½ feet wide, or 400 feet in area each, and cost more than the clock itself. The cracked Big Ben still hangs in the tower, with a hole cut in its side, by which Dr. Percy investigated its real state, and reported it as "porous, unhomogeneous, unsound, and a defective casting."

BEDFORDSHIRE ARCHITECTURAL SOCIETY.—The annual public meeting of this society has recently been held. A large party assembled at St. Paul's Church, and having spent some time in its inspection, proceeded to St. Mary's for the same purpose, where they were met by the Rev. C. Brereton, who with Mr. Hurst pointed out the more remarkable features of the building, and the recent alterations and additions. Mr. Bloxam also remarked upon the early portions of the church, especially the upper stages of the tower. The Old George Inn was next visited, as were also the remains of the House of Grey Friars, called "The Priory." St. Peter's Church was the last object which engaged the attention of the party, who were then entertained by the Rev. W. G. Fitzgerald at St. Paul's Vicarage, and by the Rev. J. W. Haddock, hon. secretary of the society, at his residence. The meeting took place in the afternoon at the Working Men's Institute in Harpur-street. Mr. Bloxam read a paper, in which he gave an account of various brasses and other objects of interest connected with Bedfordshire. Mr. C. L. Higgins then read a paper "On the Monuments in Turvey Church;" the Rev. W. Airy one titled "A Monograph of Bedfordshire Domesday;" and Mr. G. Hurst one "On the Churches of Bedford."

THE LATE MR. GATLEY, SCULPTOR.—We hear with regret of the death of Mr. Alfred Gatley, which took place recently in Rome. Amongst the other works sent by him to the International Exhibition, his colossal bas-relief, "Pharaoh and his Army in the Red Sea," will be specially remembered. It is a work of remarkable merit.

ACCIDENTAL DEATH INSURANCE COMPANY.—According to the annual report of this company the premiums received from all sources during the year amount to upwards of 65,776*l.*, against 47,878*l.* in 1861. The claims during the year were 34,579*l.* 4s. 7d., giving a total since the commencement of the society of no less a sum than 215,579*l.*

REPORT ON THE ROYAL ACADEMY.—The Royal Commission, consisting of Lord Stanhope, Lord Hardinge, Lord Elcho, Sir F. Head, Mr. Stirling, Mr. Danby Seymour, and Mr. H. Reeve, who have been for some time engaged in the inquiry as to the present position of the Royal Academy, have given in their report, to which we may hereafter recur.

THE STATUE IN LEICESTER-SQUARE.—In answer to Mr. Addington, in the Commons recently, Mr. Cowper stated that his attention had been directed to the mutilated condition of the statue of George II. in Leicester-square, but it was not under the jurisdiction of the Government. At the present time no statue could be erected in the metropolis without the consent of the First Commissioner of Works.

NORFOLK AND NORWICH ARCHÆOLOGICAL SOCIETY.—The members of this Society devoted their annual excursion, this year, to a visit to the churches in the neighbourhood of Watton. A tolerably numerous party visited Shipdham, Ovington, Watton, Wayland, Merton, Tottington, Threxton, Cressingham, and Saham. At Merton the party was largely increased, and a descriptive paper was read by the Rev. G. Crabbe, the rector, on the church of Merton. The company also visited Merton Hall and the British tumuli in the park, where some digging had turned up two cinerary urns. At Threxton Mr. Barton, invited the party to a cold collation. The rectors at Little and Great Cressingham conducted them over the churches.

NEW PROCESS OF MAKING FOILS AND CAPSULES.—The following is from a circular issued by Wimshurst's Patent Metal Company:—In 1858 Mr. Wimshurst invented his cutting machine, and took out a patent for cutting lead and tin into sheets. By the process recently patented by Mr. Arthur Kinder, and which this company have acquired, they are enabled to produce, for the manufacture of foils and capsules, a combined metal, consisting of lead or its alloy coated with tin (the perfect combination or union of these two metals taking place spontaneously in the mould), without applying any mechanical pressure whatever to effect their union. There are three modes of combining lead and tin:—1. By melting and mixing them in the melting-pot; 2. By rolling them together (*i.e.*, by pressure); 3. By bringing their surfaces into contact,—the lead being in a solid but hot state, and the tin in a melted state (*i.e.*, without pressure). Mr. Kinder's patent process consists in making a combined metal without pressure, by merely bringing the surfaces of lead and tin together; the lead being cast and in a hot state,—the tin in a melted state; the combined metal being then rolled out into sheets, and foils and capsules made therefrom.

THE ELECTRO-MAGNETIC PHONOSCOPE. — A musical machine, for registering music instantaneously as played, has been invented by Mr. J. Beverley Fenby, of Bute Villa, St. John's, Worcester, according to the local *Herald*. The machine is small, and its motive power is electro-magnetic, produced by a voltaic battery, and working in a manner analogous to the printing telegraph. The machine having been placed *en rapport* with the instrument to be played upon, say piano-forte, harmonium, or organ, the player manipulates the keys in the usual manner, and the machine prints his performance as he goes along, at a speed proportionate to his playing, the usual rate being 15 inches of paper per minute. The printed notation is identical with that already in use, the only difference being that the heads of the notes are square instead of round. The printing, adds our authority, is clear and well defined, and the performer feels not the least impediment or hinderance to his playing from the machine, however rapid or complicated his ideas may be. The performer may compose, play, and print at one and the same time. The patent for this invention has just passed the Great Seal. A similar instrument was noticed in the *Builder* not long ago.

FORTIFICATIONS.—The schedule to the Fortifications Bill states the proposed expenditure at Portsmouth and the Isle of Wight, Plymouth, Pembroke, Portland, Gravesend, Medway and Sheerness, Chatham, Dover, Cork, and for site for a central arsenal. The total estimated cost is 6,920,000*l.*; the amount already voted, 3,200,000*l.*, whereof 2,041,449*l.* had been expended by the 31st of March last. The further sum now proposed is 650,000*l.*, leaving 3,070,000*l.* to be voted in future years.

TENDERS.

For warehouse, Bermondsey:—

Coleman	£2,295 0 0
Wells	2,281 0 0
Preston	2,274 0 0
Simms	2,257 0 0
Wills	2,231 0 0
Little	2,129 0 0

For the erection of warehouse, &c., at Coppin's-court, St. Dunstan's-hill, for Mr. Smith. Mr. Coe, architect:—

Knight	£1,350 0 0
Elston	1,319 0 0
Scott	1,169 0 0
Little	1,095 0 0
Turner	1,083 0 0
King & Sons	1,057 10 0

For chapel at Kentish Town:—

Downs	£1,099 0 0
Collis	996 0 0
Abbott	989 0 0

For road and sewer, on Grove House Estate, Ealing, Middlesex, the property of Mr. James Siark. Mr. Jones, surveyor:—

Adamson & Son	£695 0 0
Bull	559 0 0
Horn	538 0 0
Dawson	515 0 0
Atherton & Co.	500 0 0
Pearce	496 0 0
Sharon	495 0 0
Bennett	490 10 0
Hartland & Co.	489 0 0
Porter (accepted)	450 0 0

For four pairs of semi-detached villas at Bradford. Messrs. Lockwood & Mawson, architects. For the whole works:—

Thomson, Bros.	£14,990 0 0
Keighley & Son	13,300 0 0
J. & J. Beanland	13,240 0 0
Wilson & Son	13,221 0 0
Ives & Son	13,177 0 0
Illingworth	13,144 0 0
Neill	12,877 0 0

A selection from the tenders for the separate trades was made, and the works let for 12,373*l.*

For the restoration and enlargement of Stoke Church, Ipswich. Mr. R. M. Phipson, architect. Accepted tenders:—

Bricklayer's Work.	
Luff	£285 0 0
Carpenter's Work.	
Luff	388 0 0
Mason's Work.	
Farrow	405 0 0
Plumber's Work.	
Steam	85 0 0

For building a new north aisle and benching Holbrook Church, Suffolk. Mr. R. M. Phipson, architect:—

Gould	£937 10 11
Luff	886 0 0
Ringham (accepted)	730 0 0

For building three shops at Ipswich, for Mr. J. C. Cobbold, M.P. Mr. R. M. Phipson, architect:—

Ward	£497 7 8
Chisnall	477 15 6
Luff	392 0 0
Card	397 4 0
Gibbons	338 0 0
Pells	305 0 0
Haxell (accepted)	294 0 0

For widening and partially rebuilding Trowse Bridge, Norwich. Mr. R. M. Phipson, county surveyor:—

Stanley (accepted)	£760 0 0

For the alteration of villas, Nos. 1, 2, 3, and 4, the Heath Estate, Stourbridge, for the representatives of the late Mr. A. B. Cochrane. Mr. Smalman Smith, architect:—

Meddings & Esply	£1,395 0 0
Hartland	1,350 0 0
Bennett	1,150 0 0
For No. 4 only:—	
Chapman	144 0 0
Clare	140 0 0
Bennett (accepted)	140 0 0

For the Sailors' Home, near the London Docks:—

Dudley	£12,784 0 0
Ennor	12,131 0 0
Watts	12,049 0 0
Hack & Son	11,987 0 0
Wood & Co.	11,055 0 9
Lucas, Bros.	11,053 0 0
Piper & Wheeler	10,882 0 0
Myers & Sons	10,664 0 0
Macey	10,626 0 0

For foundry and works at Battersea. Mr. Whichcord, architect:—

Higgs	£6,150 0 0
Holland	5,500 0 0
P'Anson	5,486 0 0
Piper & Wheeler	5,317 0 0
Nicholson	5,218 0 0
Macey	4,959 0 0

For the erection of stables in Brunswick-street, Blackwall, for the London General Omnibus Company. Mr. P. Tosh, architect:—

Munday	£485 0 0
Cave	395 0 0
Kilby	385 0 0
Mann (accepted)	293 0 0

For two pairs of semi-detached cottages, Buckhurst-hill, Essex. Mr. Joseph Harris, architect:—

Rinett	£1,423 0 0
Heath	1,386 0 0
Forrest	1,185 0 0
Reed	1,100 0 0

Accepted tenders for works to be done in the erection of St. Paul's parsonage-house, Sheffield. Messrs. T. J. Flockton & Abbott, architects. Quantities supplied:—

Excavator, Mason, and Bricklayer.	
Reynolds	£758 0 0
Carpenter and Joiner.	
Hayball	465 0 0
Plumber, Glazier, Gas Fitter, and Bell-hanger.	
Townsend	155 0 0
Plasterer.	
Harrison & Chadwick	72 0 0
Slater.	
Copley	60 0 0
Painter.	
Twelves	35 7 6

Accepted tenders for works to be done at Endcliffe Hall, near Sheffield, for Mr. John Brown. Messrs. T. J. Flockton & Abbott, architects. Quantities supplied:—

First contract.—Stable buildings:—

Mason's Work.	
Craven, Brothers	£1,600 0 0
Joiner's.	
Gibson	336 0 0
Slater's.	
Ellis	125 0 0
Plasterer's.	
Harrison	36 19 0
Plumber, &c.	
Townsend	68 0 0
Warming Apparatus.	
J. & C. Ellis	15 15 0

Second contract.—Principal lodge:—

Wade	494 0 0

Third contract.—Second lodge:—

Wade	298 0 0

Fourth contract.—Dwarf fence, hall and gate-posts:—

Wade	235 0 0

Accepted tenders for works to be done in the erection of a dwelling-house at Sharrow Head, Sheffield, for Mr. George Wostenholm. Messrs. T. J. Flockton & Abbott, architects. Quantities supplied:—

Excavator, Mason, and Bricklayer.	
Wilson	£563 0 0
Carpenter and Joiner.	
Robertson	325 0 0
Plasterer.	
Taylor	80 0 0
Slater.	
Ellis	43 10 0

For Royal Insurance Offices, Clement's-lane and Lombard-street. Mr. J. Belcher, architect. Quantities supplied by Mr. Richard Roberts:—

Mansfield	£18,800 0 0
Myers	18,800 0 0
Downs	17,995 0 0
Brass	17,959 0 0
Rider	17,950 0 0
Piper & Co.	17,789 0 0
Jackson & Shaw	17,720 0 0
Axford	17,500 0 0
Ashby	17,472 0 0
Lawrence	17,289 0 0
Brown & Robinson	17,115 0 0
Coleman	16,999 0 0

For alterations and additions to the Wesleyan chapel, Brixton Hill. Mr. Jenkins, architect. Quantities supplied by Messrs. Lansdown:—

Colls & Co.	£2,490 0 0
Higgs	2,433 0 0
King & Sons	2,399 0 0
Tracey & Co.	2,389 0 0
Longmire & Burge	2,368 0 0
Thomson	2,349 0 0
Sharpington & Coles	2,333 0 0
Duncanson & Moultrie*	2,220 0 0

* Accepted.

For sundry fittings, &c, No. 77, Newgate-street, for Mr. Thierry. Mr. N. S. Josephs, architect:—

Cooke	£250 0 0
Piper & Wheeler	245 0 0
King & Sons	240 0 0
Newman & Mann	232 0 0
Read & Sons	228 0 0

Accepted tender for Baptist chapel, Keighley. Messrs. Paull & Ayliffe, architects:—

Gibson & Maude	£2,579 4 0

For rebuilding Nos. 7 and 8, Little Woodstock-street, and No. 8, Westmoreland-street, Marylebone, exclusive of stoves, plate-glass, and papering. Mr. Edwin Bull, architect. Quantities supplied:—

Huggett (accepted)	£1,900 0 0

For rebuilding Nos. 10, 11, 12, 14, and 15, High-street, Marylebone, exclusive of plate-glass, stoves, and papering:—

Huggett (accepted)	£2,650 0 0

For erecting a semi-detached villa, Hampstead:—

Potter (accepted)	£1,500 0 0

For alterations, Harley-street, exclusive of decorations, plate-glass, and chimney-pieces :—

Macey	£1,140	0	0
Morris	1,093	0	0
P'Anson	1,034	0	0
Saunders (accepted)	945	0	0

The Commissioners of Woods and Forests have accepted the tender of Mr. R. Young, of Lincoln, for a further lot of buildings on the Crown lands, Delamere, in addition to those in course of erection by the same builder on that estate.

TO CORRESPONDENTS.

F N (must refer for himself).—I. T.—J. J. H. (there is no such competitive examination). Lover of *Fair Play*.—A Mason—J. H. A. H. (a good article' coloumar'e).—J. J. (it is a house of three stories if there be no basement: of four if there be a basement).—P. & A. (could not afford room).—E. G. T. (mentioned in our last).—A Traveller (send us particulars).—D. B.—Messrs. H.—C. J. P.—H. de M.—Dr. B.—D. W. S. C. E.—G. L.—J. J. W.—Young Carver.—J. H., jun. (thanks).—M.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

THE *Standard*, in its description of Benson's Great Clock, says: "A more splendid and exquisitely-finished piece of mechanism we have never seen." Benson's new show-rooms contain clocks designed by the first artists of the day, and include clocks for the drawing-room, dining-room, bed-room, library, hall, staircase, bracket, carriage, church, turret, railways, warehouse, counting-house, with musical, astronomical, and every description of clock, from the plainest to the highest quality of which the art is at present capable. Church and turret clocks specially estimated for. Benson's Illustrated Pamphlet on clocks and watches (free by post for two stamps) contains a short history of clock and watch making, with descriptions and prices; it acts as a guide in the purchase of a clock or watch; and enables those who live in Scotland, Ireland, Wales, the Colonies, India, or any part of the world, to select a clock.—J. W. Benson received a Prize Medal and honourable mention. — 33 and 34, Ludgate-hill, London. E-tablished 1749.—[Advt.]

ADVERTISEMENTS.

The Publisher cannot be responsible for ORIGINAL TESTIMONIALS *left at the Office in reply to advertisements, and strongly recommends that* COPIES ONLY *should be sent.*

Very important first class Freehold Building Estate at West Brompton, within six or seven minutes' walk of the Exhibition Building.

MESSRS. DEBENHAM & TEWSON will SELL at the MART, on THURSDAY, JULY 23rd, at TWELVE (unless previously disposed of by private contract), the RIGHT of PURCHASE of an eligible, and very important, plot of FREEHOLD BUILDING LAND, situate immediately adjoining The Bottle-st. of Brompton, together with the two residences known as Rexford House and Colcherne Court, now on the property. The estate possesses frontages on three sides, and being within a few minutes' walk of Hyde Park and the most fashionable precincts of the West-end, offers an unusually fine opportunity for an important building operation in first-class residences. The soil is a deep gravel, and there is an abundant supply of fine spring water.—Particulars, with plans (sent by) of Messrs. J. & J. H. LINKLATER & HACKWOOD, Solicitors, Walbrook; of W. C. CUNDY, Esq. Solicitor, Carlton Chambers, Regent-street; of H. H. CANNAN, Esq. Official Assignee, 36, Basinghall-street; and of the Auctioneers, 80, Cheapside.

UNRESERVED SALE—Harrow, close to the Railway station.—Several Lots of FREEHOLD BUILDING LAND, by order of the Trustees.

MESSRS. DEBENHAM & TEWSON are instructed by the Trustees to SELL, at the MART on WEDNESDAY, JULY 29th, at TWELVE, in Twelve Lots, without the slightest reserve, TWELVE PLOTS of FREEHOLD BUILDING LAND, varying from 20 feet to 200 feet in frontage, and eligible for the erection of villa or cottage residences—one Lot being also appropriated as a site for a public house. Water service is laid on to the estate, and the facilities of access to London offer great inducements to those desirous of obtaining residences in a healthy and rural neighbourhood, within easy reach of the metropolis. First-class free passes for Ten years will be granted by the Company to the occupier of each Lot, built of the value of 50l. per annum.—Particulars of H. CHILD, Esq. Solicitor, Paul's, Bakehouse-court, Godliman-street; and of the Auctioneers, 80, Cheapside.

TO TIMBER MERCHANTS, BUILDERS, AND OTHERS.

FOR SALE by PUBLIC AUCTION, at GARRAWAY'S COFFEEHOUSE, Change-alley, Cornhill, on TUESDAY, 21st JULY, at SIX o'clock precisely, by order of the Importers

MAHOGANY, 3.3 Logs Honduras (Nutgum Wood) of superior quality and large dimensions, just landed at the West India Docks, ex Ship Pastel, from Belize.

SANTA MARIA WOOD, 44 Logs Honduras
RED PINE TIMBER, 30 Logs
And other Goods.

Catalogues may be had at the Place of Sale; and of THOMAS ROBERTS & CO. Brokers, 9, Billiter-street, E.C.

LOMBARD STREET. VALUABLE BUILDING MATERIALS

MR. PHILIP D. TUCKETT will SELL by AUCTION, on the PREMISES, on TUESDAY, JULY 28th, at TWELVE, the whole of the valuable MATERIALS of the TWO HOUSES, Nos 30 and 31, Lombard street, comprising about 125,000 stock bricks, two tons of lead, slates, tiles, a large quantity of excellent timber, floor boards, iron columns, partitions, sashes, doors, and other fittings, marble chimney-pieces, stoves, shop front, stout lead soil and other pipes, &c. May be viewed the day previous.—Catalogues of Mr. PHILIP D. TUCKETT, Land Agent and Surveyor, 76, Old Broad-street, E.C.

CHARING CROSS RAILWAY.—City branch, Southwark Side.—BUILDING MATERIALS.—To BUILDERS, CONTRACTORS, PAVIORS, and OTHERS

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, on FRIDAY, JULY 24th, 1863, at ONE o'clock punctually, the valuable and useful MATERIALS of six Houses in Park street, on the premises in the rear, and a range of large new Warehouses and other buildings in Clink street, comprising about 7 tons of lead in pipes and gutters, 20,000 paintles, very excellent stout long timbers and joists, 50 squares of warehouse floor boarding, 30 squares of slating, a ton of pebbles, 20 squares of York paviar, plate-glass shop fronts, sashes and frames doors and frames, and a variety of useful fixtures and fittings on May be viewed the day prior to sale, and Catalogues had on the premises at the Contractor's Office, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey

BAYSWATER.—TO BUILDERS AND OTHERS

MESSRS. EDWIN FOX & BOUSFIELD will SELL, by AUCTION, on the PREMISES, Nos. 11 to 16, Colville terrace West, Westbourne grove North, on THURSDAY, the 23rd day of JULY, at TWELVE for ONE o'clock, a quantity of useful BUILDING MATERIALS, including new staircases, window sashes, jambs, linings, and work for 3 princes and bolsonnes, a quantity of paving, about 12 loads of lime and hair, and mantel pieces.—On view the morning of sale, and Catalogues had of Mr. TIPPETT, Builder, Colville-square; and at Messrs. EDWIN FOX & BOUSFIELD'S Office, 61, Coleman street, Bank

ELIGIBLE FREEHOLD BUILDING PLOTS, 75 feet by 203 feet, suitable for the erection of a public house, &c being at the corner of the St. Germains road, Brockley road, Forest-hill; also Plot 27 feet by 150 feet, in St. Germains-road, opposite.—Messrs. FEBB, BROTHERS, will SELL the above at the AUCTION MART, London WEDNESDAY, JULY 22nd, at ONE o'clock.—Particulars at the Mart, and Auctioneers' offices, 3, Adelaide-place, London bridge, E.C.

CAPITAL FREEHOLD BUILDING PLOT, of 60 feet by 150 feet, favourably situate at Byegrove, King Charles's road, Surbiton, Surrey.—Messrs. FEBB, BROTHERS, will SELL by AUCTION, JULY 22nd, as above

FINCHLEY.—33 FREEHOLD BUILDING PLOTS, 324 feet by 100 feet, fronting Station-terrace, High road, Finchley, near the Torrington Arms.—Messrs. FEBB, BROTHERS, will SELL by AUCTION, JULY 22nd, as above, in THREE Lots

ANERLEY.—A FREEHOLD BUILDING PLOT, situate by the Rye-lane, Penge road, Anerley, the Crystal Palace Society's Estate.—Messrs. FEBB, BROTHERS, will SELL by AUCTION at the MART, WEDNESDAY, JULY 22nd, at ONE o'clock Particulars at the Mart, and of the Auctioneers, 3, Adelaide place, London bridge, E.C.

HERNE BAY, KENT.—FREEHOLD RESIDENCES, St. George's-terrace, Three Carcases, and several Plots of Building Ground.

VENTOM & SON will SELL by AUCTION, at the ROYAL FOUNTAIN HOTEL, Canterbury, on SATURDAY, 25th AUGUST, at TWO for THREE o'clock, a substantial Freehold RESIDENCE, No. 9, St. George's-terrace, Herne Bay, three well-arranged Cottages, also a range of 70 feet frontage of Ground Building Ground, and 2 Plots of Building Ground, with roads, terraces, and shops. For particulars apply to GILBERT STEPHENS, Esq. Solicitor 15, Northumberland-street, Strand; at the Bar Hotel, Herne Bay; of Captain GARDNER, Herne Bay, who will show the Property; at the King's Head, Margate; the Albion, Ramsgate; the Gun Hotel, Dover; and of the Auctioneers, 7, Angel-court, The Quadrant, Strand, London.

MOTTINGHAM, near Eltham, Kent, within two miles of the Black heath Station, on the North Kent Railway, and very close to the new station on the Dartford line, now in formation.

MESSRS. DANIEL SMITH, SON & OAKLEY are favoured with instructions to SELL, by AUCTION, at the MART, near the Bank of England, on FRIDAY, AUGUST 7th, at TWELVE o'clock, in seven Lots, 78 ACRES of FREEHOLD LAND, in this favourite and convenient locality, in every way adapted for immediate building purposes. The land is beautifully situate among the wood from the Eltham road to Chide burst, in an excellent select neighbourhood, and commands views of the surrounding rural woodland scenery, with the Crystal Palace the chief feature at Eltham, &c. There is an increased demand for residences in the south-eastern district, in consequence of the ready communication by railway with the West end, which will be greatly increased on the opening of the Charing-cross Railway, and this land will afford opportunities for the erection of a few respectable villas every day becoming more sought after in that rising locality.—Particulars, who the plans may be had at the Mart, E.C.; at the Perseverance Inn, Mottingham; of Messrs. BRAY, WARREN, HARDING, & WARREN, 37, Great Russell-street, W.C.; or of Messrs. DANIEL SMITH, SON & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall, S.W.

AT GARRAWAY'S COFFEE-HOUSE, CORNHILL, FRIDAY, JULY 24th, at TWO o'clock,

TIMBER..... 500 Loads, Fore qu and Colonial.
DEALS and BATTENS..... 100,000 pieces ditto.
and other wood goods.

H. FREEMAN & CO. Brokers, 3, Crooked-lane, E.C

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MR. W. DEW has been favoured with positive instructions to SELL by PUBLIC AUCTION on WEDNESDAY, 29th JULY, 1863, commencing at ELEVEN o'clock a.m. precisely, at the said Bwlch Slate Quarry, or that situate from the Railway terminus at Llanrwst, 5 miles from Betwys y Coed, and about 7 miles from the Festiniog Quarries. For sale of the VERY VALUABLE MACHINERY and WORKING PLANT, in Lots, all of which will be found to be of a superior description, and in excellent working order. They consist of 4 Sand Saws—Frames 12 ft. by 8 by 9 Sawing Tables, 2 Planing Machines, valuable Shafting; a fine Water-wheel, 40 feet diameter, 6 feet breast, with iron Buckets; a splendid Horizontal High Pressure Steam Engine, about 15-horse power; 11 Tram Waggons; 6 Iron Skips; 1,300 yards Lineal Tram Rails; Turn Tables; Lots of Pipes, Pulley Blocks, a quantity of Wrought and Cast Iron; Balk and other Timber; and about 28 Tons Materials.

At the commencement of the Sale the present company's Interest in the Lease in the said Bwlch Quarry will be disposed of, which will give the purchaser the advantage of buying upwards of 150 Machinery and Plant now at the Quarries. These Quarries have now been worked for some years, and considering the limited capital that has been employed, the annual yield of Slate has been unusually large. A further small outlay only requires to render this one of the most productive quarries in the country. On THURSDAY, the 30th JULY, 1863, the whole of the STOCK of MANUFACTURED SLATES and SLABS lying on the Trefriw Wharf, will be SOLD by AUCTION, without reserve, at ELEVEN o'clock, consisting of 3,000 Princesses, 2,000 Duchesses, 30,000 Countesses, 3,000 Viscountesses, 10,000 Ladies, 12,000 Doubles, 35 Tons Rags, and about 54 tons of Pinned Slates of various dimensions and thicknesses. Descriptive Catalogues of the whole of which may be had at the principal hotels in North Wales; of GEORGE BADLEY, Esq. 20, St. Helen's Place, Bishopsgate Street, London; Mr. BROTHERHOOD, Llanrwst; and from the Auctioneer, British Hotel, Bangor. The whole on view any day up to the day of Sale.

MR. J. H. LEONARD,

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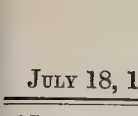
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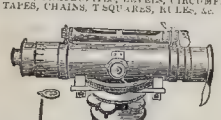
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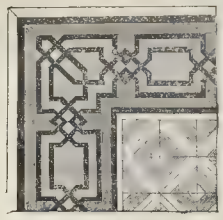
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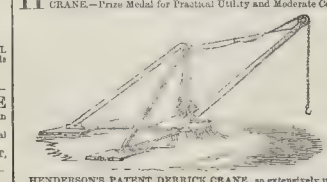
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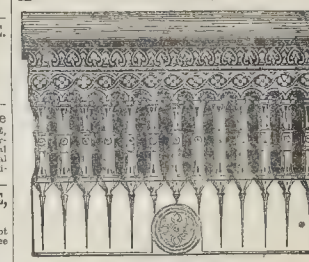
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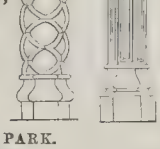
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Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Slops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY POTS
TERRA COTTA & CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

ESTABLISHED 1852.
PORTLAND CEMENT WORKS,
MORDEN WHARF, EAST GREENWICH.
EDWIN HOLLICK,
Manufacturer of PORTLAND CEMENT of the best quality only, for the English and Foreign Markets.
Vessels loaded alongside.
NOT CONNECTED WITH ANY OTHER HOUSE.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

STOURBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard Scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

TO BUILDERS, CONTRACTORS, &c.
PORTLAND CEMENT.—JAMES NESBIT is prepared to supply Portland Cement of superior quality and strength, at such a price as will enable Builders to use it for purposes from which the high price usually charged has hitherto prevented its being used. Terms on application.—Berney Arms, Portland Cement Works, Burgh Castle, Great Yarmouth.

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JOHN BOARD & COMPANY,
Manufacturers of
PORTLAND, BATH, AND ROMAN CEMENT,
GROUND AND LUMP BLUE LIAS LIME.
Works, Dunball.—Office, Queen-street, Bridgwater.

PENCILS, BLACK LEAD, and COLOURED CHALK.
A. W. FABER'S POLYGRADE LEAD PENCILS, sold by all Stationers and Artists' Colourmen.
Sole Agents, HEINTZMANN & BOCHUSSEN, 9, Friday-street, E.C.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Baryte from ten to thirty per cent which is sold under the name of "Improved Zinc Paint," or as the number Two or Three quantities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.



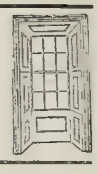
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

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SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S INN LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION.

STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

J. MILLS,

110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET

(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

FLOORING! DEALS! MAHOGANY!

100,000 Dry Prepared Flooring Boards ..... } from 10s. 6d. per square

10,000 Pine Planks ..... from 3s. 6d each

5,000 Yellow Battens..... from £10 10s. per 120

2,000 Spruce ditto ..... from £9 per 120

SPRUCE DEALS, 2s. 6d. each.

FIR TIMBER 55s. PER LOAD.

Scaffold Poles ..... 1½d. per foot

YELLOW DEALS, £16 PER 120.

SAMUEL PUTNEY,

ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	White (not Spruce).	Yellow.	
¾-inch Flooring	11s. 6d. to 12s. 0d.	13s. 0d.	per Square.
¾-inch "	12s. 0d. to 13s. 0d.	13s. 0d. to 14s. 6d.	"
1-inch "	14s. 6d. to 16s. 0d.	15s. 6d. to 18s. 6d.	"
1¼-inch "	18s. 0d.	20s. 0d. to 22s. 0d.	"

YELLOW DEALS, 3 by 9, from...£16 10s.

Yellow Battens .....£11 10s. per 120

¾ White Matched Lining ..... 12s. per square.

½ Yellow ..... 16s. "

J. TERRY & SON, 109, BOROUGH ROAD, S.E.

REDUCED PRICES.

BUILDERS AND CARPENTERS, AND OTHERS,

Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.	Laths, 28s. per Load.	
Yellow Deals, sound and good	£18 0 0	per 120, or 3d. per foot.
Spruce Deals	15 0 0	,, 2½ ,,
Yellow Battens, excellent quality.....	10 10 0	,, 1½ ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

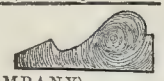
CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.



MOULDING WORKS.

SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES

(LATE WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

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Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.	
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d.	per square.
¾ by 7 "	13s.	13s. 6d.	14s. 6d.	"
1 by 7 "	15s.	15s. 6d.	16s. 6d.	"
1¼ by 7 "	17s.	18s. 0d.	19s. 6d.	"

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

LARCH POST and RAIL FENCING required, about sixteen miles.—For particulars apply to SMITH & KNIGHT, 1, Great George-street, Westminster.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 6d.; Pine Plank, from 3s.; Mahogany, 6d.; ¾ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1 inch Yellow, from 13s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

FLOORING, MATCH BOARDS, DEALS, &c as low as advertised. White Battens, 9? 10s. per 120, 12 feet; Yellow ditto, 10l. ditto ditto. ¾ Match Boarding, 14s. per square; ¾ ditto, 15s. ditto Venetian Blind Laths, 8s 6d per 100 feet super.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church street, Kennington

DRY WAINSCOT, At 6½. 7d. and 8½ per foot, at JOHN COUMBE'S, LADY LAKE'S GROVE, MILE END-GATE.

JOSEPH & ALFRED ROSLING beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK, 30,000 feet in Plank and Board, sawn three years. E. BUTTERWORTH, ALUM STREET TIMBER YARD, MANCHESTER.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the River Thames.—For further particulars apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic Wharf, Pimlico, London, S.W. five minutes' walk from the Victoria Station.

PLYMOUTH STEAM SAW MILLS.—Messrs BAYLY & FOX keep large STOCKS of SEASONED WOOD, FLOORING BOARDS, &c. They can also undertake CONTRACTS at their Branch Steam saw Mills, Oreston, Cattewater, for all descriptions of Prepared Timber, or to Creosote, Burnettize, Kyanize, and Timber for Government or Railway Contractors, Ship and other Builders, and the Trade generally.

Plymouth, 29th June, 1863

PITCH PINE FOR SALE, apply to Mr. A. SHEPPARD, Builder, 63, Friar-street, Reading.

EBOR STAINED-GLASS WORKS.—J. W. KNOWLES, 73, Goodramgate, York, begs to inform the clergy, gentry, and others, that he can execute GROUP or FIGURE WINDOWS in the first style of art, and at the lowest scale of prices for best work. Windows from 6s. per foot; Quarries from 3s. per foot. Designs and estimates on application.

STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL, 311, REGENT STREET, W. Adjoining the Polytechnic Institution.

PAINTED GLASS WINDOWS and MURAL DECORATION

LAVERS & BARRAUD, ENDELL STREET, BLOOMSBURY, LONDON, and 43, JOHN DALTON STREET, MANCHESTER.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price-lists forwarded free on receipt of business card addressed to R. METTAM & CO. 30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

WINDOW GLASS! WINDOW GLASS! Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental, Rough, Rolled, and Patent Plate. Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at GRIST'S CITY GLASS WAREHOUSE, 47, Chiswell-street, opposite Whitbread's Brewery, E.C.

PATENT and BRITISH PLATE GLASS. JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London

INDIA-RUBBER HOSE and TUBING for Watering Gardens, Lawns, Washing Carriages, Windows, &c. JAMES LYNE HANCOCK, Manufacturer, has a stock of all sizes Also,

BRASS HAND BRANCHES, with SPREADERS, STOP COCKS JETS, and UNION JOINTS, to connect the Hose to Cisterns.

RUBBER FIRE-ENGINE HOSE, for HALLS, MANSIONS, &c. with the necessary Fire branches and Brass Union Screws.

Illustrated Price Lists on application.

JAMES LYNE HANCOCK, VULCANISED INDIA-RUBBER WORKS, 205, Goswell road, London, E.C.

IRON HOSE-REELS for winding up Garden Hose when out of use.

TO BUILDERS AND OTHERS.

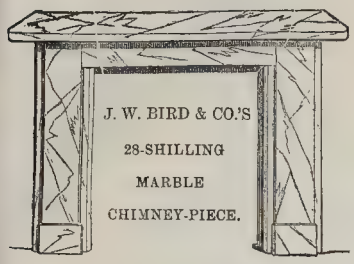
TARPAULINS for COVERING WORKS. SCAFFOLD AND HEMP ROPE FALLS AWNINGS FOR FOUNDATION STONES.

CARY & PRIER, DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

TARPAULINS, MARQUEES, &c. for SALE or HIRE. SCAFFOLD and HEMP ROPE FALLS.

H. PIGGOTT, 59, Bishopsgate-street Without, E.C. Manufacturer, by appointment to Her Majesty's Honourable Board of Ordnance.

MARBLE & STONE CHIMNEY-PIECES FOR THE MILLION.



PRICE LIST ON APPLICATION.

A Stock of 500 always to choose from at

J. W. BIRD & CO.'S,
THE EMPORIUM,
145 & 143½, EUSTON ROAD,
N.W.

A Marble Box Chimney, with 8-inch piers, as Illustrated, for 28s. and fitted to any opening up to 3 feet square.

STONE DITTO, WITH BEAUTIFUL MOULDED CAPS, FOR SEVEN SHILLINGS.

Monuments and Tablets in great variety, of quality low in price.
Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.
A VACANCY FOR AN OUT-DOOR APPRENTICE.



THE FLUO-SILICIC STONE-PRESERVING COMPANY, LIMITED.

39, CHARING CROSS, S.W. & 12, COPTHALL COURT, THROGMORTON STREET, E.C.

PATENT FLUO-SILICIC INDURATIONS for the PRESERVATION of STONE, CEMENT, and other like materials. The Company apply to the surface of Stone, Cement, &c. a solution of Fluo-Silicic Acid, and Silicate of Potash. These are the only patents which embrace the use of that most valuable agent, Fluo-Silicic Acid. Bath, Caen, and other soft stones, when treated by the Company's solution, become extremely hard. The great expense of high ornament to buildings in hard stone has been an obstruction to Art; but since the Fluo-Silicic process can be applied so readily to soft stone after it is carved, that obstruction exists no longer. The Fluo-Silicic at once permanently arrests the decay of all stone.—For further information, apply to the Manager of the Company, Mr. DUDLEY, Architect, as above.

BARTLETT, BROTHERS, & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of SILICATES and ALUMINATES of SODA and POTASH,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.;

PATENT SILICEOUS PAINT, FOR COATING BRICKS, CEMENT, STUCCO, &C.

FIRE-PROOF VARNISH,

For Internal Wood Work, Roofs, and Church Work generally. This Varnish renders Wood Uninflammable, and Preserves it from Decay.

Specimens of the Silicates and Aluminates, and of their applications, may be seen at the CONSTRUCTIONAL DEPARTMENT, SOUTH KENSINGTON MUSEUM.

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MESSRS. COLLINS & GREEN

Beg to advise their Friends and the Profession that as the London, Chatham, and Dover Railway have taken their late premises at Albion-place, for the new Blackfriars Station, they have Removed their extensive Stock of

MARBLE CHIMNEY-PIECES, STOVES, RANGES, &c.

TO THE ROTUNDA, No. 3, BLACKFRIARS ROAD.

C. & G. have now, as heretofore, the best and most varied assortment of first-class Goods in their trade, of every description and at every range in price.

They respectfully invite a visit from Architects and Builders to their present Show Rooms, which include an area of upwards of 12,000 super. feet, and replete with every Architectural requirement in Marble or Iron.

ROTUNDA GALLERIES, 3, BLACKFRIARS ROAD.

CITY WAREHOUSE, 38, NEW BRIDGE STREET, BLACKFRIARS.

MANUFACTORY, LETT'S WHARF, and OLD SHOT TOWER WHARF, LAMBETH.

Estimates given for every description of Marble or Iron Work.

GENERAL IRONMONGERY, AND BATH-WORK, &c.

Hot Water and Range Work, all requisites being kept in Stock.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

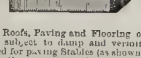
LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

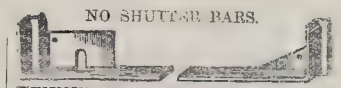
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ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE

SHOP SHUTTERS are SHOD and SECURED by the above, a HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Palace Wharf, Stangate, Lambeth, S.

T. KENT'S PAINTING-BRUSH MANUFACTORY

Is continued by his Successors,

CROWDEN & GARROD,

Falcon-square, London, E.C.

Where the TRADE is supplied with the same superior quality made the name celebrated.

N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.

Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa Nut Matting, Mats, &c. See Catalogue.

KENT'S PAINTING BRUSHES

are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough street, London, W. Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty four years, and may always be depended upon as the best that can be made.

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GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.

Sample gallons may be obtained at the Manufacturers', price 4s.

GARROD & COMPANY,
Varnish, White Lead and Colour Manufacturers,
30, Upper Thames street, London, E.C.

THE ANCHOR BRANDED TURPS.—"FACTS ARE STUBBORN THINGS."



Ten Thousand Gallons of this TURPS have been sold during the first three months of its introduction to the trade.

Manufactured only by CARLESS, BLAGDEN, & CO. HOPE CHEMICAL WORKS, Hackney Wick, N.E.

City Office, 2, New London-street, near the Blackwall Railway Terminus, E.C. where samples and all particulars may be had.

Sold by all Oilmen.

N.B.—Ask for the "Anchor Branded Turps."

PRIZE MEDAL, 1862.

HAMILTON & CO.

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

Sole Manufacturers of

C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graduers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.

One of the greatest Improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High street, Marylebone, London, W.

N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

TO PREVENT BLISTERS, AND REMOVE OLD PAINT, VARNISH, &c.

USE NAENIARE & CO.'S LETHICIUM. Sold at 5s. per gallon Also, Brushes to apply and remove, 2s. per pair.—For circulars, &c apply at 11, St Andrew's hill, E.C London. Success guaranteed

N.B. Country orders must contain a Cheque or Post-office Order.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 29s. per cwt.
Linseed Oil, 3s. 9d. per Gallon; Boiled Oil, 4s. per Gallon.
Turpentine, 3s. 3d. per Gallon.
Fine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Cole hill-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air.

THROUGH THE EXTERNAL WALL

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required. HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough, London.

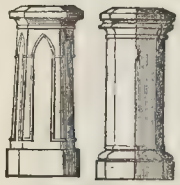
JAMES STIFF & SONS,

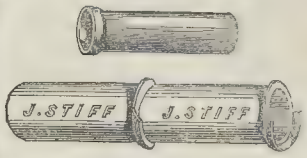
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

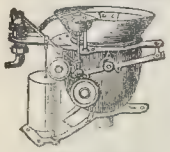
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufactory—Isle of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleaned without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

THOMAS LAMBERT & SON,



No. 57. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High-Pressure Bib Valve.



High-Pressure Stop Valve.

FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH-PRESSURE VALVE COCKS.

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves manufactured by them, have their NAME legibly marked thereon.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

1851.



TERRA-COTTA WORKS,

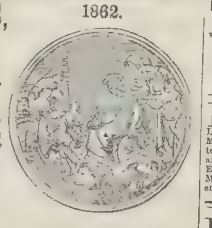
BLACKFRIARS ROAD,

LONDON, S.

MARK H. BLANCHARD & CO.

Successors to COADES.

1862.



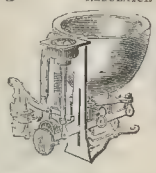
Original Works established 1769. Terra-Cotta Manufacturers to her Majesty, the Commissioners of 1851, the Board of Works, the Trinity House, the Admiralty, the Royal Horticultural Society, and the Department of Science and Art, South Kensington, and the Recipient of the Prize Medal at the 1851 Exhibition for MATERIAL and WORKMANSHIP in TERRA-COTTA, and the only Recipient of Two Prize Medals at the 1862 Exhibition for TERRA-COTTA and POTTERY, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this imperishable and invaluable Material in Sculptural and Architectural Embellishments, suitable to the Palace, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment have stood the test of time.

A beautiful variety of Statues, Statuettes, Vases, Tazze, Fountains, Flower Pots, Balustrade Terminals, and other adornments, suitable for the Conservatory, Flower Garden, and Grounds, at prices unprecedented. Estimates furnished.

An illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

J. TYLOR & SONS' PATENT

REGULATOR WATER-CLOSETS.



Valve.



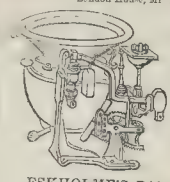
Pan

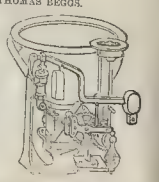
The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be placed on one supply-pipe. No stop-valves, cranks, levers to use. The Closets can be seen in action at the Manufactory, and illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

GUEST & CHRIMES, FOUNDRY and

GENERAL BRASS WORKS, Rotherham; and 37, Southampton-street, Strand, London, W.C.

London House, Mr. THOMAS BEGGS.





ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient and simple, free from all steel, and requires no cisterns, service boxes, cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipes. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet, alike dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary direct Service Main Cottage Water Closets.

Chrimes's Patent High pressure Single and Double Loose Valve and Screw Down Cocks; Improved Self-acting and Full Water-Closet; Patent Absolute Water Waste Preventer; Plumbers' and Gas Fitters' Brass Work of every description. Drawings, Descriptions, Prices, and Testimonials will be forwarded per post on application as above.

TERRA COTTA and Fine STONEWARE

POTTERY, warranted to stand Frost.

JOHN M'BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and economized the manufacture of TERRA COTTA and Fine STONEWARE for ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to harmonize with Marble, Portland, and other Stones, and equal it in hardness to Granite.

A Medal at the International Exhibition was awarded, in Class 10, Section C, Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra Cotta."

Moulded Bricks, String Courses, Copings, Cills, Quoins, Balusters, Capitals, Crosses, Terminals, Vases, Statues, Brackets, Cornices, Gardeners, Edging, Guttering, six, nine, and twelve inch Paving Tiles, &c. &c.

Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

London Office, 377, Oxford-street, W.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED

PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, five.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

MINTON & CO.

HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE UPON TRENT.

STAFFORDSHIRE RIDGING and ROOF-

ING TILES, Plain and Ornamental, in Blue or Brosely colour.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.

Dressed Blue Facing BUILDING and SEWER BRICKS.

Architects' designs carried out on the shortest notice.

Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent-road Bridge.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Thirdly, that the trade term "TERRO METALLIC" is the exclusive right of the Proprietor; and thirdly, that the "Reports of the Juries," page 881, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

HAY'S PATENT WATERPROOF GLUE

and INDIA RUBBER VARNISH.—To ARCHITECTS, BUILDERS, PAPER HANGERS, &c. &c.—The WATER PROOF GLUE is a special anti damp, and is suitable for contractors, joiners, coffin makers, &c. &c. The VARNISH for damp walls, previous to papering, coating zinc verandahs, &c. &c. Copy of a letter from Messrs. Rogers & Booch, contractors, Gosport:—

"We have repeatedly used your Waterproof Glue as a preventive against damp, and have found it most valuable in preparing walls to receive paper. In one instance, where the walls were thoroughly saturated with moisture from earth piled against the outside, we used your varnish internally, and papered the surface, within a few hours of its being applied, with complete success. We have also used your preparation for coating a large number of cast iron piles, at the Gunwharf, Portsea, for her Majesty's War Department."

To be had from all Ironmongers, Oil and Colourmen, &c.

Manufactory, Chandos-street, Portsmouth: Mr. GEORGE WEEKS, Manager. GEORGE C. WARDEN & CO. General Agents, 15, London-street, London, E.C. where specimens of its application can be seen.

CLINTON & OWENS, LATE
BENJAMIN FOWLER & CO. Whitefriars-street, Fleet-street, London,
MANUFACTURERS OF PUMPS AND HYDRAULIC MACHINERY OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DOMESTIC, AGRICULTURAL, OR MANUFACTURING PURPOSES, OR FOR CONTRACTORS' USE, TO BE WORKED BY HAND, HORSE, WATER, WIND, OR STEAM POWER.

Portable Steam Engines, Powerful Single and Double-Barrel Pumps, Centrifugal Pumps, and Boring Tools for Contractors' Purposes, ON HIRE.

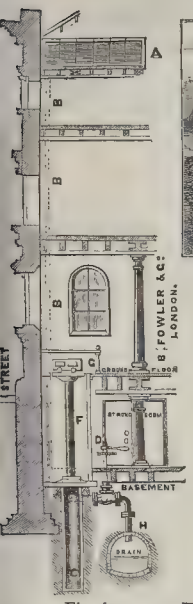


Fig. A.



THE LANDSCAPE SKETCH ABOVE SHOWS

THE IMPROVED HYDRAULIC RAM.

This is a simple Self-acting Machine for Raising a considerable Supply of Water for Use in Public or Private Establishments where a fall can be secured from a Stream, Brook, or Springs. Messrs. FOWLER have fixed a great many Hydraulic Rams in various parts of the country, for raising from 600 to 1,000 or more gallons per day to elevations varying from 50 to 500 feet, and forcing through main pipes from 50 yards to several miles in length. The fullest particulars and estimates will be handed on application.

No. 37 SHOWS A SET OF

TREBLE-BARREL PUMPS WITH HORSE GEARING,

For Raising Water from DEEP WELLS for the SUPPLY of TANKS in MANSIONS and PUBLIC BUILDINGS. Messrs. CLINTON & OWENS also Manufacture and Erect every other Form of Pump for Deep or Shallow Wells for Hand or other Power.

Fig. A SHOWS

A HYDRAULIC LIFT,

Worked by Pressure from a Cistern. Suited for Banks, Warehouses, and other Buildings. Messrs. C. & O. also Manufacture such Lifts to be worked by Hand Pumps, where pressure cannot be obtained from a Cistern.

CLINTON & OWENS

MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

PUMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE, STEAM-ENGINES, WATER WHEELS, TURBINES, HOISTS, WARMING AND DRYING APPARATUS, BATHS, GAS-WORKS, AND FITTINGS.

ESTIMATES WILL BE HANDED ON APPLICATION.

PRICE LISTS OF PUMPS FREE BY POST.



No. 37.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C
BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 "	2 15
4 "	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c., is recommended for the simplicity of its construction, and the ease with which it works.

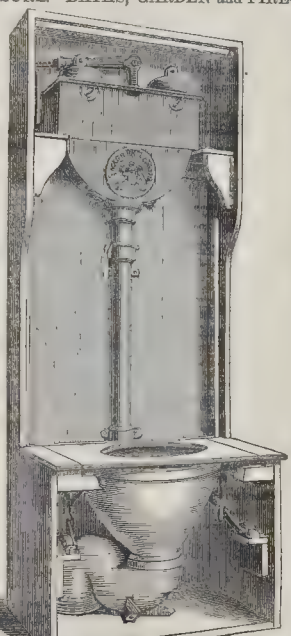
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 "	5 5 0	
3½ "	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 "	4 0 0



IMPORTANT TO WATER COMPANIES

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	3 10
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.



No. 1484.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0

Sunk Handle, extra	0 2 0
Blue Basin, extra	0 1 0

No. 1454.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 2l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

TO SMITHS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, JULY 21, 1863, at PREMISES, No. 27, FREMINGS, 27, Gloucester street, Bloomsbury, SMITHS' TOOLS and STOCK, comprising three foot-turning lathes, powerful fly-press, stocks and dies, portable forge, forges, bellows, anvils, drills, screwing-tackle, rail-way bar and oblique patterns, two tons rod and bar iron, 5 cwt. cast steel, several tons wrought and cast iron, quantity of illumination devices, gas fittings, and other effects.—To be viewed the morning of sale, when catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, No. 13, Billiter street, E.C.

TO IRONMONGERS, BUILDERS' SMITHS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Mr. Wright, who has let the Premises, and is retiring from business, to SELL by AUCTION, on TUESDAY, AUGUST 4, 1863, at FLEVO & lock, at the PREMISES No. 104, Lambeth Marsh, the STOCK of BLACK IRONMONGERY, SMITHS' TOOLS, &c.—Forges wrought and cast irons, 2-in. press screws, locks, latches, wrought iron cast hinges, 20 dozen files and rasps, cast and shear steel, rod and bar iron, register and Rumford stoves 4 tons sash weights and wall plates, 16 cwt. coach-bolts and nuts, 10 dozen spades and shovels, blade bolts, vices, brass work, bedhangers and locksmiths' stock, 7 vices, anvils, swages, bellows, fly-press, screwing tackle, a general assortment of ironmongery, and a few lots of household furniture.—To be viewed on Monday morning and morning of sale, when catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

REDHILL, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on FRIDAY, JULY 24th, 1863, at TWELVE for ONE o'clock, a further portion of the eligible FREEHOLD BUILDING LAND, free of tithe and land tax, with frontage to the Vicarage road, Grange Park, Leyton; also a few lots fronting the Salisbury, Carlisle, and Grange roads The property is suitable for the erection of villa or good cottage residences, and is situate within ten minutes' walk of the Low Leyton Station, on the Loughton Railway, and within a mile and a half of the Bethnal-green Terminal Station on the Great Eastern Railway. The subsoil is gravel, and water can be procured easily

The purchase money may be paid by a deposit of 10 per cent. and the remainder nine years by half-yearly instalments, with interest on the unpaid balance at five per cent.; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions may be had of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

LEYTON, ESSEX.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on FRIDAY, JULY 24, 1863, at TWELVE for ONE o'clock, about Thirty Eight Lots of eligible FREEHOLD BUILDING LAND, free of tithe and land tax, with frontage to the Vicarage road, Grange Park, Leyton; also a few lots fronting the Salisbury, Carlisle, and Grange roads The property is suitable for the erection of villa or good cottage residences, and is situate within ten minutes' walk of the Low Leyton Station, on the Loughton Railway, and within a mile and a half of the Bethnal-green Terminal Station on the Great Eastern Railway. The subsoil is gravel, and water can be procured easily

The purchase money may be paid by a deposit of 10 per cent. and the remainder nine years by half-yearly instalments, with interest on the unpaid balance at five per cent.; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions may be had of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

ADDISCOMBE, near CROYDON, SURREY.—EXCELLENT BUILDING MATERIALS

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, within a few minutes' walk of the town of Croydon, on MONDAY, JULY 27, 1863, at THREE for FOUR o'clock in the afternoon precisely, the SEVENTEEN PORTIONS of the excellent BUILDING MATERIALS of the Military College at Addiscombe: comprising about 100,000 bricks, and a quantity of lath, two excellent oak staircases, with landings, fine marble chimneypieces, a large fossil stone chimneypiece, small marble and fossil stone paving slabs, a large quantity of York paving, and superior Portland stone coping and blocks, window sills, steps, &c.; large cast safe, covered with sheet copper, large windows, frames, and shutters, a quantity of doors, closet-pans, deal timber, consisting of a quantity of partitioning, moulding, joists, beams, roofing-boards, floor-deals, &c. &c.—To be viewed on Friday and Saturday preceding the sale. Catalogues may be obtained of the Foreman on the Estate; and of the Auctioneer, 14, Moorgate-street, London, E.C.

TO BE SOLD, pursuant to a Decree of the High Court of Chancery, made in certain Causes Whitmill against Robert B. Wright and Others, and Robert Bower and Others against Thomas Ellery Turner, with the approbation of the Master of the Rolls, by

MR. JOHN COUPLAND, the person appointed by the said Judge, at the BEVERLEY ARMS INN, Beverley, in the County of YORK, on TUESDAY, the 21st day of JULY, 1863, at THREE o'clock precisely, FOUR MESSUAGES or DWELLING-HOUSES, Garden, Warehouse, and Coal yard, situate at Beckside, (formerly the Barley Hole), in Beverley, in the County of York. Particulars at 5 Counterparts of sale may be had gratis, and also cards to view the Manufactory on application to Messrs. HOLLINGS, SHARP, & ULLITHORNE, Solicitors, 1, Field-court, Gray's-inn; and Messrs. JOHNSON & WEATHERALL, Solicitors, King's Bench-walk, Temple, London; or Mr. JOHN BLYTHE ROBINSON, Solicitor, Beverley; Messrs. LEEMAN & CLARK, Solicitors, York.

GEO. WHITING, Chief Clerk.
HOLLINGS, SHARP, & ULLITHORNE,
1, Field court, Gray's-inn.

Dated this 3rd day of July, 1863.

BELVEDERE, KENT.—Valuable FREEHOLD BUILDING GROUND within a mile from the Railway Station.

MR. JOHN M. DEAN will SELL by AUCTION, at the BELVEDERE HOTEL, on TUESDAY, JULY 28, at FOUR o'clock precisely, in several lots, about Four Acres of Valuable BUILDING LAND, slightly situate near the Eardley Arms Inn, on the brow of the hill fronting Lesnes Heath, in the parish of Erith, Kent, commanding extensive views, and offering beautiful sites for villa or other residences.—May be viewed; and particulars, with plans, had of Messrs. STEVENS & BEAUMONT, Solicitors, 6, Old Jewry, E.C.; at the Belvedere Hotel, Belvedere; Eardley Arms, Lesnes Heath; and of Mr. JOHN M. DEAN, Auctioneer and Surveyor, The Grove, Stratford, E.

LEYTON, ESSEX. Twenty one Acres of Freehold Building Land suitable for first-class residences, in lots of about an acre and a half an acre each

MR. JOHN M. DEAN will SELL by AUCTION, at the MART, on THURSDAY, JULY 30, at TWELVE, in thirty two lots (unless the whole be previously disposed of by private contract, of which due notice will be given), about 21 acres of FREEHOLD BUILDING LAND, most suitable for the erection of first-class residences, situate on the high road from London and Stratford to Walthamstow, within an easy distance of the church and the railway stations at Leyton and Lea-bridge, and about five miles from London, possessing extensive frontages to Leytonstone, Colworth-street, and other good roads. The estate is beautifully timbered, and will be submitted in plots of about an acre and half an acre each, having frontages to the road of 250 feet, suitable for the erection of superior residences May be viewed, and particulars with plans had, fourteen days prior to the day of sale, at the Mart; of Messrs. STEVENS & BEAUMONT, Solicitors, 6, Old Jewry, E.C.; and of Mr. JOHN M. DEAN, Auctioneer and Surveyor, The Grove, Stratford, E.

TO BUILDERS, DECORATORS, UPHOLSTERERS, AND OTHERS.

MR. EDWIN WHITE will SELL by AUCTION without reserve, at 12, Holborn Bars, and 1, Castle-street, Holborn hill, on TUESDAY, next, at ONE, a large and well-assorted stock of English and French PAPER HANGINGS, gilt room mouldings, water-colours, veined, Sienna, statuary, and coloured marble chimney pieces, white lead, paints, and other items for house finishing.—View and catalogues MONDAY, and morning of sale.

BERMONDSEY NEW ROAD.—Building Materials of Five Houses.

MR. PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION on the PREMISES, on TUESDAY, JULY 21, at TWELVE o'clock, the BUILDING MATERIALS and FIXTURES of Five HOUSES and SHOPS, Nos. 57, 61, 65, and 69, Bermondsey new road, adjoining the Bricklayers' Arms, Old Kent-road, of the usual description. May be viewed the day previous, and catalogues had at the Architect's Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

ST. JOHN STREET.—BUILDING MATERIALS OF THE GOLDEN LION INN

MR. PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION on the PREMISES, on FRIDAY, JULY 24, at TWELVE, in lots, all the valuable BUILDING MATERIALS of the Golden Lion Inn and Tavern, Cart-sheds, Stabling, and Premises, No. 112, St. John street, Smithfield, comprising sound brickwork, oak and fir timber in roofs and trusses, slates, tiles, 6-inch pantiles, glazed sashes, doors, chimney pieces, and interior fittings, weather boarding, flooring boards, plate glass shop front, folding gates, a large quantity of paving, clinker, and other paving, rocks mangers, &c. stable fittings, lead gutters and flows, cisterns, stoves, and other useful fixtures and fittings-up.—May be viewed the day previous, and catalogues had of Mr. HADDOCK, 19, Wrotham-place, Cavendish-square, and of Messrs. PULLEN, HORNE, & EVERSFIELD 80, Fore street, E.C. and 40, Parliament-street, S.W.

CARRARA WHARF, THAMES BANK, PIMLICO.—To Sculptors, Masons, Builders, and Others

MR. PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Pilbrico th, Brothers, to offer for SALE by AUCTION, on the PREMISES, on WEDNESDAY, JULY 29, at ELEVEN for TWELVE, a selection of fine STATUARY, blocks for sculpture and marble slabs, tables, desks, and other useful fixtures, in blocks and slabs, also Cases and Equires for gardens, in this and Portland Stone May be viewed two days previous, and catalogues may be had on the Premises, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. Messrs. Pilbrico th, Brothers, 80, Fore-street, City. Approved bills at four and six months will be taken

METROPOLITAN RAILWAY.—Smithfield Loop Building Materials of Several Spacious Factories, Warehouses, Dwelling Houses, and Premises, Sharp's alley, Cow Cross street

MR. PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on FRIDAY, JULY 31, lots, the valuable BUILDING MATERIALS of extensive factories, warehouses, stabling, dwelling houses, and premises (part new within a few years), situate in Sharp's alley, Cow Cross street, Smithfield, which may be taken down in a few days, when catalogues may be had of Messrs. BURCHELL, Solicitors, Broad Sanctuary; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament street, S.W.

LOMBARD STREET.—Excellent Building Materials, and Office Fittings of a Banking House.

MR. PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, AUGUST 4th, at TWELVE, to clear the site for rebuilding, all the excellent BUILDING MATERIALS, OFFICE FIXTURES, and FITTINGS of the spacious Banking House and Premises, Nos. 53, 54, and 55 Lombard-street; comprising capital stock brickwork, ex cellent timber, in roofs and floors, lime and slating, plate glass sashes and skylights, marble chimney pieces, sound doors, sashes, frames, and glazed screens, counters, pedestals of drawers, office fittings, capital iron repository, hot water apparatus, fittings of lavatories, several lots of lead in flats gutters, cisterns, and pipes, stoves, ranges, gas fittings, and numerous useful fixtures and effects. May be viewed two days previous and catalogues had at Mr HARDWICK'S Office, 21, Cavendish-square, and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

OLD JEWRY.—The capital materials of the extensive pile of buildings known as 7 and 8, Old Jewry, including the premises lately used as the Lord Mayor's Court office.

MR. PULLEN, HORNE & EVERSFIELD are instructed by the Worshipful Company of Grocers to SELL by AUCTION, on the PREMISES, on TUESDAY, AUGUST 11, at TWELVE, the valuable BUILDING MATERIALS of the large Mansion and the extensive range of offices, warehouses, and premises known as Nos. 7 and 8, Old Jewry, extending in the rear to Grocers' Hall; comprising a large mass of useful and valuable materials and fittings up, a further description of which will appear in a few days, when catalogues may be had of W. RUCK, Esq. Grocers' Hall; of Messrs. DAVIS, Surveyors, Grocers' Hall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament-street, S.W.

TO BUILDERS, CONTRACTORS, AND CAPITALISTS.—BOSTON LINCOLNSHIRE.—TO BE SOLD by AUCTION, by

MR. EDWARD NEWSON, at the PEACOCK HOTEL, in Boston, in the county of Lincoln, on WEDNESDAY, the 29th day of JULY instant, at SIX o'clock in the evening, subject to conditions of sale, certain valuable FREEHOLD ESTATES: consisting of all those excellent Business Premises, situate in Union-street, in Boston aforesaid, comprising a newly-erected dwelling-house, office, large carpenters' and stonemasons' shops, timber, lime and other stores, capital large yard, and other premises. A very extensive and lucrative business has been carried on on the premises for the last sixty years, late in the occupation of Mr. Benjamin Booth, Builder, deceased, and now by his executors. An excellent Messuage or Dwelling-house, and several Cottages, adjoining the last described premises, in the occupation of Mr. Huddlestone and others Two semi-detached and newly erected substantial and ornamental villa like Residences, with garden, and premises thereto belonging, situate in Fydell's Marsh, in Boston aforesaid, in the occupation of John Beverley, Esq. and Mr. William Howard. Also four newly erected substantial and convenient Dwelling-houses, in the before described premises in Fydell's Marsh aforesaid, in the occupation of Mr. Abrahams and others. Several plots of Building Ground, also in Fydell's Marsh aforesaid, having an extensive frontage next the river Witham, and a new road now marked out. Immediate possession of the Business Premises and Building Land may be had. The whole or any part of the said property may be had up to approved security. To view the premises and for further particulars, apply to Mr. JOHN GARRINGHT, of Boston aforesaid, Ironmonger; and Mr ROBERT MARSHALL, of the same place, Chemist and Druggist; or at my Office, where plans of the respective Estates may be seen FRED. COOKE, solicitor.
Boston, July 13th, 1863. Boston.

SOUTH NORWOOD, within a short distance of the Norwood Junction Station and the Crystal Palace.

MESSRS. BLAKE will SELL by AUCTION, at GARRAWAY'S COFFEE-HOUSE, Change-alley, on TUESDAY, JULY 21, at TWELVE, a valuable and attractive FREEHOLD ESTATE: comprising a small, genteel residence, delightfully situate at Westwood hill, with orchard, garden, and park-like meadow land (highly eligible for sub-division for the erection of residences), containing altogether about six acres, and twelve freehold building plots, having capital frontages to a new road, connected with Beulah-hill-road. Possession to the whole will be given on the completion of purchase. Particulars, with plans, may be had at Garraway's Coffee-house; at the Jolly Sailor and White Hart Inns, Norwood; of Messrs. DRUMMONDS, ROBINSON, & TILL, Solicitors, Croydon; and of Messrs BLAKE, Croydon

DERWENT and CONSETT IRON-WORKS.—These important WORKS, situate near Shotley Bridge, in the county of Durham, now so celebrated for their superior Manufactures of Cast and Wrought Iron, Casting Power, Steel Plates capable of producing about 4 00 tons of pig iron per week; extensive Mills, rolling upwards of 1,000 tons per week of plates, bars, rails, and all descriptions of iron; with valuable Mineral Royalties, Collieries, Iron, which a good daily estimated supply of coals may be raised, Coke Ovens, Foundries, Cottages, and all appliances, the property of the Derwent and Consett Iron Company (Limited), will shortly be SUBMITTED to PUBLIC AUCTION by Direction of the Trustees, and under the Sanction of The Right Hon. Vice-Chancellor Sir Richard Torin Kindersley. The time and place of Sale, together with further particulars, will shortly appear.

JOSEPH ANDERSON, Solicitor to the Trustees,
Newcastle upon-Tyne.

WANDSWORTH-COMMON, Surrey.—Very beautiful and important Freehold Estate, comprising a desirable family residence, with extensive gardens, pleasure-grounds, stabling, and offices, and about 120 acres of Freehold and upwards of 23 acres of long Leasehold Land, with several thousand feet of building frontage to capital roads.

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the Devisee and Representative of the late Henry McKellar, esq. to offer for SALE by AUCTION, at the MART, opposite the Bank of England, on WEDNESDAY, JULY 22, at TWELVE, in nineteen lots (unless previously disposed of by private contract), the very valuable and important FREEHOLD ESTATE known as Wandsworth Lodge, situate at Wandsworth-common, in the Parishes of Battersea, Streatham, and Wandsworth, one mile from three stations on the South-Western and Victoria and Crystal Palace Railways, and within six of the metropolis, viz.:—Lot 1 Wandsworth Lodge, an exceedingly comfortable residence, situate in its own delightful grounds, approached from the road by lodge entrance and carriage drives, and containing fourteen bed rooms, dressing room, bath, two kitchens, lumber, entrance hall leading to a spacious handsome conservatory, dining room, elegant drawing-room, about 35 feet 6 inches by 16 feet 6 inches, breakfast-room, convenient domestic offices, capital detached lofty billiard-room or picture gallery, 42 feet by 24 feet, excellent stabling, including seven loose boxes, double coach house, two chaise houses, and four stall stable; beautiful pleasure grounds and lawns, adorned with very rare and valuable conifers, rhododendrons, and a profusion of flowering evergreen, shrubs and plants, productive walled kitchen garden, extensive range of glass, about 1,250 feet in the road leading from Wandsworth to Tooting, and frontages of upwards of 1,000 feet to the proposed new road from Garratt-lane in the rear, extending a considerable depth, commanding fine views, the greater portion admirably adapted for the erection of first class residences, and contiguous together twenty six acres. Lots 5 and 6. Two very valuable plots of Freehold Building Land, opposite the New church and adjoining Lot 1, having each a frontage of about 320 feet to the road leading to Wandsworth and Tooting, extending 170 feet in depth, and containing together 1a. 0r. 0p. In the lodge will be included in lot 6. Lots 7 to 18, inclusive Six valuable plots of Freehold Building Land on the rear of the above lots, having together important frontages of upwards of 2,000 feet to the proposed new road, extending a considerable depth, and containing about thirty-one acres. Lot 18. A valuable and extensive plot of Building Land adjoining lots 8 and 9, approached by the proposed new road 60 feet in width, containing 9a. 1r. 21p and presenting an unusual opportunity for a profitable building speculation. Lots 14 to 18. Five very valuable plots of Freehold Land, opposite lots 1 to 4 inclusive, having together important frontages of about 5 0 feet to the roads leading from Clapham to Wandsworth, and containing nearly 21 acres Lot 19 Three enclosures of valuable Meadow Land, situate in the Garratt-road, together with a convenient brick frontage, abutting in the rear on lot 18, and containing 23a. 0r 25p; held upon lease for a term of forty-five years at a rent of 27 per annum The estate contains a large quantity of grass and valuable brick earth May be viewed by cards only, and parts may be had at the King's Head, Tooting; Spread Eagle, Wandsworth; Plough, Clapham; and of Mr. LOCKE, Esq. Solicitor, 3, Bedford place, Russell square; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad street, Royal Exchange.

HORSEFERRY-ROAD, Limehouse.—Valuable Building Materials of the Premises formerly the Refinery of Messrs. Goodhart & Co

MESSRS. NORTON, HOGGART, & TRIST have received instructions to SELL by AUCTION, on the PREMISES, on THURSDAY, JULY 23rd, at TWELVE for ONE o'clock precisely, the excellent BUILDING MATERIALS of the above premises: comprising about 300,000 capital sound stock bricks, 50 squares of slate and slates, several timber rafters, girders, flooring-boards, joists, &c. doors, sashes, and frames, 1,000 feet of stone paving, 20 tons of wrought and cast iron in girders, columns, sashes, doors, and floor-plates, numerous useful effects.—May be viewed one day preceding the sale, and catalogues had on the Premises; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad street, Royal Exchange.

HARROW, Middlesex. Highly important and valuable FREEHOLD ESTATE, close to a railway station, having a frontage to the high road of nearly a mile, and possessing great advantages for building.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer FOR SALE, at the MART, next the Bank of England, on FRIDAY, JULY the 24th, at TWELVE, a valuable FREEHOLD ESTATE, known as the Dairy Farm, situate close to the Sudbury station, on the London and North-western Railway, but in the parish of Harrow, and only six from the metropolis, consisting of a comfortable farm cottage, gardens, farm, yard and buildings, and several enclosures of pasture and rich dairy and meadow land, in all eighty-six of which are in a ring fence, and the rest within a few minutes' walk. The property has a most important frontage of nearly a mile in extent to the high road leading from London to Harrow. It is beautifully situate, and exceedingly valuable for building purposes, and may be subdivided into numerous plots with very considerable advantage and profit.—May be viewed, and particulars had of Messrs. DAWES & SON, Angel-court, Throgmorton-street; Mr. ROBERT FORSTER, Land Agent, Fore-street-green, Middlesex; Mr. GEO. LOWE, Surveyor, No. 10, Basinghall-street; the Queen's Head, Harrow; the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange

NATIONAL RIFLE ASSOCIATION.—WIMBLEDON MEETING.

MR. NEWBURY BALL will SELL by AUCTION, on WIMBLEDON COMMON, on WEDNESDAY, JULY 22nd and 23rd, by order of the Council of the NATIONAL RIFLE ASSOCIATION, the BUILDING MATERIALS and Fittings of the Temporary Buildings erected for the above Meeting, consisting of planks, battens, scantling, and quartering, about 600 squares of prepared flooring, above 1,000 feet of 1-inch and 2-inch Iron stanchions and connections, iron gas pipes, iron hurdles, 750 fir poles, together with the several erections at the approaches, the cafes, &c.—Catalogues may be had of Mr. CROUCH, 10 Ely-place, Holborn; and at the Auctioneer's Office, High-street, Wandsworth, S.W.

NORTH LONDON RAILWAY CITY EXTENSION.—Materials of 40 Modern HOUSES at Kingsland

MESSRS. KENNEDY & BONNY will SELL by AUCTION, by order of the Directors of the North London Railway Company, THIS (SATURDAY), JULY 18, 1863, at TWELVE for ONE, on the PREMISES, the excellent and valuable MATERIALS of 40 HOUSES, situate in Blundell-street, North-road, Kingsland-road, and other streets near the Kingsland Depôt, about—600 good stock Bricks, lots of squares of slates, tiles, parlour and other doors, sashes and frames; marble and other chimney-pieces; about 500 superior and good battened and boarded floors; several lots of lead; 350 feet of iron railing; stone coping and paving, and other useful and valuable effects. The whole in excellent condition, having been built but a few years, and will be found well worthy the attention of Builders.—May be viewed day previous to Sale; and Catalogues had on the Premises; and at the Auctioneers' Offices, Camden town, and Kingsland-green.

On MONDAY, JULY 27th, at TWELVE for ONE punctually.—To CHAIR and CABINET MAKERS, BUILDERS, and OLD STOCK

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden-town, 10,000 feet of MAHOGANY, 1,500 yellow, white spruce, and pine planks, deals, and battens, 400 sawn ditto, 100 squares of 1-inch, 1-inch, 1-inch, and 1-inch prepared flooring, 3,000 feet of quartering, 500 feet of 4-in. moulded architrave, base, and cornice, 1,000 feet of wide panel, fourteen sets of sash-frames, panelled doors, painted lintos, slating battens, doors, 4 cwt. of iron cables, 2, Carrington-street, Hampstead-road, near the Euston station.

[For remainder of Auctions see p. 523.

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The Builder,

Architect, Engineer, Operative & Artist.

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BUILDERS' BENEVOLENT INSTITUTION.—The SIXTEENTH ANNUAL MEETING of the Subscribers and Friends of this Charity will be held at the London Tavern, on THURSDAY next, 30th instant, at THREE o'clock, p.m. HENRY LEE, Esq. President, in the Chair.

To receive the Report for the past year; elect the President, Treasurer, Directors, and Auditors for the year ensuing; and other matters connected with the welfare of the Institution.

July 24th, 1863 A. O HARRIS. Sec.

CRAWFORD COLLEGE, Maidenhead, Berks.—CHEMICAL DEPARTMENT, under Direction of Mr. J J COLEMAN, FCS.—CHEMISTRY, with its application to Agriculture and Manufactures, may be exclusively studied, or combined with a complete Course of General Education.—Detailed Prospectuses by Post. Terms no care.

LAST FEW DAYS.

INSTITUTE of PAINTERS in WATER COLOURS, founded 1831, as the NEW SOCIETY of PAINTERS in WATER COLOURS. The ANNUAL EXHIBITION is NOW OPEN. Admission, 1s.—Gallery, 53, Pall Mall, opposite Marlborough House. JAMES FAHEY, Secretary.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

PRIZES to ARTIST WORKMEN are now offered. For WOOD CARVING, 50l. and 25l.; and for COLOURED DECORATION, 5l. 5s. and 3l. 3s. Particulars may be had by letter to the Hon. Secretary, at 13, Stratford place, W.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE will shortly be REMOVED to the NEW PREMISES, 72-74, Bishopsgate-street Within, a few doors from the present establishment. These will afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturing themselves, of all descriptions of hot water, bath, laundry, and steam work.

81, Bishopsgate street Within, July, 1863.

NOTICE.—MESSRS. FREEN & CO. of No 3, Canal-road, Kingsland road, and Frindsbury, Kent Roman and Portland Cement and Plaster of Paris Manufacturers and Lime Burners, with a view to meet the requirements of their numerous friends at the West-end of town, intend OPENING a WHARF, on the 1st of August next, at 17, KINGDON STREET, Millbank-street, Westminster, where every description of goods connected with their trade may be obtained. Orders addressed as above will receive prompt attention.

DRAWING CLASSES, at the LONDON MECHANICS' INSTITUTION, meet every MONDAY and FRIDAY Evenings, from EIGHT to TEN Conducted by Mr. W. DAVY. Terms, to the public, 8s. per half-quarter, now commencing 28 Southampton buildings, Holborn.

MOIRA & HAIGH, 1, Lower Seymour-street, Portman square, Architectural, Engineering, and Landscape Photographers. Prize Medal awarded "for excellence of photographic treatment." Vignette portraits, &c.

COMPETITIONS.

TO ARCHITECTS.—The GUARDIANS of the WEST LONDON UNION, in the City of London, do hereby give notice that they are desirous of receiving, and hereby invite Architects to send in DESIGNS and PLANS for the ERECTION of a NEW UNION WORKHOUSE on land at Holloway, in the Parish of St. Mary, Islington. Accommodation will be required for 500 persons, male and female. The Guardians will be willing to pay Premiums for three Sets of Plans which shall, in their opinion, best meet their requirements, viz.—for the first, 100l.; for the second, 60l.; and for the third, 40l. The three Sets of Premiated Plans are to become the property of the Guardians, who will not bind themselves to adopt either design, but will be at liberty to modify either premiated design in any way they may think proper, nor will they be bound to employ the Author of either to carry out the work; but, in the event of his being selected for that purpose, the premium to merge in the Architects' Commission. Each Set of Plans must be distinguished by a motto, and accompanied with a sealed envelope, containing the name and address of the Competitor, and having a similar motto to that on the Plan or Design, which envelope will not be opened until after the plans are decided upon. The Plans, and everything intended to be submitted therewith, must be enclosed in a sealed cover, endorsed "Plan for West London Union Workhouse," and addressed to me at my office, 5, St. Andrew's-court, Holborn, W.C. and be delivered on or before the 21st day of AUGUST next. The Guardians will pay to the Architect selected to carry out the Work, a commission of 5 per cent. on the outlay, to include all Plans, Drawings, and Specifications, and all attendances necessary to complete the same, and no charges of extra for any description will be allowed. All the Plans and Designs, except the Premiated ones, will be returned, carriage free, on application to me, with the accompanying sealed letters unopened; and no further liability by the Guardians, or claims to any remuneration will be allowed in respect of the Plans received, beyond the amount of the Premiums herein set forth. The Guardians give notice that economy of structure will be an important consideration in the selection of Designs; and should the lowest Tender to be hereafter received for the erection of the Workhouse buildings and premises exceed in amount by 10 per cent the Architects' estimate, they will not be bound to use his Design and Plan, nor to pay any premium for the same.—Plans of the ground, and full particulars and information that may be required, can be had on application at my Office.—By order of the Board,

JOHN PONTIFEX, Clerk to the Guardians.

5, St. Andrew's-court, Holborn, July, 1863.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for RECONSTRUCTING portions of the STONE APRONS of FORESHORES at Fort Nelson and Block House, near Portsmouth, in the County of Hants. Persons desirous to Tender for this Work must leave their names at the Royal Engineer Office, Portsmouth, on or before the 29th JULY, 1863, and pay the sum of half a guinea for the Schedule of Prices, &c.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, 17th July, 1863.

WAR DEPARTMENT CONTRACT.—NOTICE TO BUILDERS

TENDERS are required for FITTING THREE SHELL FILLING ROOMS, &c. at Sheerness. The drawings may be seen, and specifications and every information be obtained, on application at this Office, from Friday next, 24th proximo.

The parties Tendering will be required to take out the proper quantities.

Tenders will not be received later than AUGUST 8.

The Secretary of state does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Sheerness, July 14, 1863.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a TAVERN on the Barking-road, at Plaistow, may inspect the plans at the Offices of Messrs. R. F. CURTIS & SON, 8, Union-court, Old Broad-street (by whom the quantities will be supplied), on and after TUESDAY, the 21st JULY; and further particulars, if required, may be obtained of Mr. J. F. FISHER, Surveyor, Plaistow.—Sealed Tenders addressed to A. COLLINS, Esq. to be delivered on or before the 11th day of AUGUST, at FOUR o'clock p.m. The lowest or any Tender not necessarily accepted.

TO BUILDERS, CONTRACTORS, and OTHERS.—The Trustees of the General Charities in the city of Coventry are desirous of CONTRACTING with some person or persons for the ERECTION of a GIRLS' INDUSTRIAL SCHOOL, with matron's house, and the necessary buildings connected therewith, on the site selected for the purpose, situate near Spon Gate, Coventry, in the city of Coventry, according to certain plans, conditions, and specification approved by the trustees, and which may be seen at the Offices of the Court of Chancery, the Accepted Tender, and also the contract, must be subject to the approbation of the Court.—Tenders, sealed up and endorsed, "Tender for Girls' Industrial School," to be delivered at my Office, on or before TUESDAY, the 28th day of JULY instant. HENRY J. DAVIS, Clerk to the Trustees.

Hay-lane, Coventry, July 1st, 1863.

TO BUILDERS and CONTRACTORS.—The plans and specifications of the BUILDINGS, FARMHOUSE, COWMAN'S COTTAGE, and isolated DAIRY, to be BUILT at North, near Preston, Kirkbanke, can be seen by persons desirous to submit TENDERS, at the Office of the Architect. The Tenders are to be delivered at the Office of the Architect, at Hereford, on or before the 7th AUGUST; and no pledge is given that the lowest will be necessarily accepted

THOS. NICHOLSON, Architect

Hereford, 8th July.

CONTRACTS.

HAILEYBURY COLLEGE WATER-WORKS TENDERS WANTED. The Council of Haileybury College are desirous of receiving TENDERS for the following WORKS required at Haileybury College, viz. the Providing, Delivering, and Erecting a High-pressure Steam-engine and Connections; a Tubular Boiler and Fittings; a Set of deep Well Pumps and Gearing; also a Cast iron Tank, capable of holding 10,000 gallons of water, and necessary Brickwork for the above works. The plans and specifications will lie for inspection of contractors at the Office of JOSIAH FORSTER FAIRBANK, C.E. No. 20, Parliament street, Westminster, from ELEVEN to FOUR each day, from the 23rd to the 28th day of JULY instant, on which day Tenders should be sent in to the Rev. LEWIS DREDGE, Hon. Secretary, Brandell Rectory, Hertford, endorsed "Tender for Waterwork." The Council do not undertake to accept the lowest or other Tender. Copies of quantities, &c. can be obtained of the Engineer.

20, Parliament-street, Westminster, 15th July, 1863.

EXTENSION of STAFFORD COUNTY GAOL.—To BUILDERS and CONTRACTORS.—Parties disposed to TENDER for extensive ADDITIONS to the above building, can inspect the plans, specification, and conditions of contract at my Office in Stafford, on and after THURSDAY, the 16th day of JULY, until SATURDAY, the last day of AUGUST. Bills of quantities will be furnished at a charge of two guineas for each copy, such two guineas being returned to those parties who submit tenders for the works. Tenders, sealed and properly endorsed, to be delivered at my Office by TEN o'clock a.m. on SATURDAY, the 1st day of AUGUST next. Security will be required for the due performance of the contract, but neither the lowest nor any Tender will be accepted unless satisfactory in all respects.

ROBERT GRIFFITHS, Architect and County Surveyor.

Eastgate street, Stafford, June 24, 1863.

TO STONEWARE PIPEMAKERS.—The Croydon Local Board is prepared to receive TENDERS from Pipemakers for the STONEWARE PIPES they may be required by them during the year ending Midsummer, 1864. The Tender to state the lowest price per pipe for pipes delivered within one mile and a quarter of any of the railway stations in the parish, Gipsy-hill, or the Palace, from time to time, as ordered by the engineer.

About 2,000 6 inch Pipes
" 4,000 9 inch "
" 1,000 12 inch "
" 2,000 15 inch "

with junction pipes and bends will be required during the twelve months. The pipes to be hard-burnt and well glazed stoneware, not thinner to be at least 1¼th the internal diameter. Payment to be made in one month after delivery for all sound and approved pipes. Tenders to be delivered at the Office of H. RICHARDS, Esq. 99, High-street, on or before MONDAY, the 27th of JULY, 1863. The Board will not necessarily accept the lowest or any Tender.

Town Hall, Croydon, July 15th, 1863.

ST. MARYLEBONE, July 23rd, 1863.—TO PAINTERS, BUILDERS, CONTRACTORS, &c.—Notice is hereby given that the Vestry of the Parish of St. Marylebone, in the county of Middlesex, will meet in the Board room of the Court House of the said parish, on THURSDAY next, the 30th day of JULY, 1863, at ELEVEN o'clock in the forenoon, to receive TENDERS for PAINTING and REPAIRS at Hornsey Church in the said parish, and also, by separate TENDER, for the ERECTION of a BUILDING at St. John's Wood Burial Ground, for a Fire-engine House, and for other Works appertaining thereto. Further particulars may be known, and drawings and specification seen, on application to the Vestry's surveyor, Mr. ROBERT SCOTT, at his lodge attached to the Court House, from TWELVE till ONE o'clock. Tenders to be sent in sealed, and addressed to the Vestry Clerk, before ELEVEN o'clock in the forenoon of the said day of JULY. The Vestry do not pledge themselves to accept the lowest or any of the Tenders. The Vestry will expect the parties tendering, or some persons on their behalf, to be in attendance at the time of opening the Tenders.

By order, W. E. GREENWELL, Vestry Clerk.

TO PAVIORS and STONEMASONS.—South Metropolitan Schools, Sutton, Surrey. The Managers will be required at their meeting, to be held at Sutton, on TUESDAY, the 4th of AUGUST, 1863, to receive and consider TENDERS for PAVING the INFANTS' PLAYGROUND. The plan and specification may be seen at the Office of Mr. KLANGTON, Surveyor, 15, Cannon-street West, and Tenders must be sent to me, as under, on or before MONDAY, the 3rd of AUGUST, endorsed "Tender for Paving." The Managers do not bind themselves to accept the lowest or any other Tender.

JOSEPH BURGESS, Clerk to the Managers.

1, Keene's row, Walworth, S. July 23rd, 1863.

GAS TAR.—The Directors of the Gravesend and Milton Gas Light Company are willing to receive TENDERS for the SALE of their SURPLUS TAR and AMMONIACAL LIQUOR for one year, from the 10th day of AUGUST next, the quantity of ammoniacal liquor being about 25,000 gallons. Particulars as to the time at which it may be taken away, &c. may be had on application at the Works at Gravesend. Tenders to be sent to us in Tenders for Tar," on or before WEDNESDAY, the 5th day of AUGUST next

By order of the Directors, SOUTHGATE & SON, Secretaries.

Gravesend, July 17th, 1863

TO CONTRACTORS.—To SLATE QUARRYMEN.—TENDERS are WANTED for the MAKING of ROOFING SLATES from two quarries situate at Honister, near Buttermere, Cockermouth, Cumberland, and at an 800 yards of each other. One of these Quarries is worked by the Pope Partner the other by ladders and naked candle-lights. Also, the REMOVING of 2 rod cube yards COLD QUARRY RUBBISH, at Ewerage Quarry, situate in the same district from the others. Contractors to have the use of waggons and pairs for removing and working the same. Apply to SAMUEL WRIGHT, Slate Merchant, Cockermouth, who will treat for the same. The Proprietor does not pledge himself to accept the lowest or any Tender.

Cockermouth, 6th June, 1863.

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS, &c.

PERSONS disposed to TENDER for the whole of the WORKS required in the ERECTION of a MANUFACTORY, OFFICE, and WAREHOUSE to be built in Nay-street, Liverpool, for Messrs. FRANCIS, MORTON, & CO may see the drawings and specification in the Office of Mr JOSEPH BOULT, Architect, 54, North Johnstreet. The Tenders are to be sent in to the Architect, endorsed, "Tender—Naylor street," on or before FRIDAY, JULY 31st. The proprietors will not bind themselves to accept the lowest or any other Tender"

Liverpool, July 21, 1863.

GREENWICH UNION. — CONTRACT for BUILDINGS The Guardians of the Greenwich Union are desirous of receiving sealed TENDERS from persons willing to enter into a contract for the ERECTION of a KITCHEN, BAKE HOUSE, and APPURTENANCES within the Premises of the Union Workhouse, Woolwich-road, Greenwich. The plans, specifications, and form of contract may be inspected at the Clerk's Office, Union Workhouse aforesaid any day between TEN and FOUR, where also copies of the quantities, which have been estimated by the Architect to the Guardians, may be obtained, at the charge of one guinea per copy. Three fifths of the amount of the contract will be paid when the building are covered in, and the gutters, rain water pipes, and drains completed to the satisfaction of the Architect. All Tenders must contain the names of two sureties, willing to enter into a joint and several bond, in the sum of £667, for the due performance of the contract, and such Tenders must be sealed up, addressed to "The Guardians of the Greenwich Union," endorsed "Tender for Buildings," and delivered at the Clerk's Office, before TWO p.m. on THURSDAY, 30th instant, on which day the same will be opened at a meeting of the Guardians; and the parties tendering, or their authorized agents, must be in attendance on that day, at SIX p.m.—

By order,

SAMUEL SAW, Clerk to the Guardians

Greenwich, S.E. July 16 1863.

TO BUILDERS.—The Board of Management of the North Surrey District School will meet at the District School, Penge, near the Anerley Station of the Epsom Railway, on MONDAY, the 3rd day of AUGUST next, at TWO o'clock in the afternoon, to receive and consider TENDERS for ALTERATIONS and ADDITIONS to the DISTRICT SCHOOL. Tenders to be sealed, and endorsed "Tenders for Alterations and Additions to District School" No Tender will be received after TWO o'clock, nor considered unless it be made in the form prescribed, and the party or parties Tendering be in attendance. Satisfactory securities will be required for the due performance of the works, and the Board do not pledge themselves to accept the lowest or any Tender The plans, specifications, and forms of Tender may be seen and further particulars obtained, at the Office of the Architects, Messrs. CHURCH & RICKWOOD, William-street, Woolwich, S.E ; or on application to the Superintendent, at the District School, between the hours of NINE and SIX (Sundays excepted).

GEORGE FREDERICK MERRIMAN, Clerk.

Clapham Common, 20th July, 1863.

BOROUGH of DERBY. — NOTICE to BUILDERS, IRON FOUNDERS, and CONTRACTORS.—The Market Committee of the Corporation of Derby are prepared to receive TENDERS from competent persons willing to enter into a CONTRACT, for the EXECUTION of the necessary works in connexion with the ERECTION of the proposed NEW MARKET HALL and FISH MARKET BUILDINGS, in two contracts, or for the whole of the works, exclusive of the internal fittings, in the following divisions, viz :—

1 For the necessary works, material, and labour required in erecting the Market Hall and Fish Market, exclusive of the cast and wrought iron work described in division No 2

2 For the furnishing and fixing of the necessary iron castings and wrought iron work in the roof of the new Market Hall and Fish Market.

Persons willing to contract for these works in any of the foregoing divisions, or for the whole, can see the general and detail plans, sections, and drawings, and the specification, at the Office of Mr T. C. THORBURN, Civil Engineer, Derby Borough Surveyor, where all further information and forms of Tender may be obtained, on sealing a schedule of prices, endorsed "Tenders for New Market," addressed to me, at my Office, Town Hall, Derby, or at the Chamberlain's Office, Townhall, to be delivered before THREE o'clock, p.m. on TUESDAY, the 4th day of AUGUST next—The Committee do not pledge themselves to accept the lowest or any Tender Parties tendering will be required to take out their own quantities.

EDWIN PRATT, Chamberlain.

Derby, July 21, 1863.

CITY of LONDON UNION.—To BUILDERS.—A Committee of Guardians will meet at ELEVEN o'clock a.m. MONDAY, the 10th day of AUGUST next, at the Union Offices, 51, St. Mary Axe, to receive TENDERS for proposed ADDITIONS to the FEMALE IMBECILE WARDS, at the Union Workhouse. Persons desirous of tendering for the Works are informed that the plans and Contract may be inspected, and printed copies of the specification and quantities obtained, on application to the Clerk to the Guardians, R. TREES, Esq. No. 27 Queen street, Cheapside, the Architect who has prepared the plans, &c. and who will superintend the execution of the same. It will have to be deposited for a copy of the quantities, which will be returned to each person sending a Tender. The Committee will not be bound to accept the lowest or any Tender Sealed Tenders, endorsed "Tender for Building" must be delivered to the Clerk of the Guardians on the morning of the 10th of AUGUST, by the party Tendering, or some person on his behalf.

JOHN BOWRING, Clerk to the Guardians.

City of London Union Offices, 51, St Mary Axe, 22nd July, 1863.

TO BUILDERS willing to TENDER for the ERECTION of a VILLA, at Reigate, Surrey, can inspect the Drawings and Specification at the Office of the Architect, who reserves the right of rejecting the lowest or any Tender Tenders to be delivered MONDAY, AUGUST 3, at ELEVEN o'clock a.m

HENRY MACALLA, Civil Engineer, Architect

25, Westbourne-place, Eaton square, S W

TO BUILDERS. — The Directors of the Farnborough and Aldershott Freehold and Ground-rent Society (Limited), are prepared to receive TENDERS for the ERECTION of THREE PAIRS of VILLAS, on their Estate, at Farnborough The drawings, specifications, and conditions of contract, may be inspected at my Office, No. 4, Laverer place, Strand, on and after MONDAY, the 27th inst. The Tenders are to be delivered at my Office as above, on WEDNESDAY, the 5th of AUGUST, at ELEVEN o'clock. The Directors will not necessarily accept the lowest or any Tender, and the party whose Tender may be accepted must, if required, provide security for the due performance of the contract

July 24, 1863. HENRY CURRY, Architect.

MARBLE CHIMNEY PIECES, of superior quality, style, and workmanship.—A Box-Marble chimney piece, 8-in. plain, 14 6s.; a handsome Moulded Truss, ditto, 2 in pairs, 3l. 5s.; a good Plain Arch 3l. Every description of Marble Chimneypieces equally cheap, at

T. DONOHUE'S, 27, Churchway, Drummond-street, Euston square.

PURE STATUARY MARBLE! and in slabs of large dimensions, can be obtained at

M. W. JOHNSON'S MARBLE WORKS,

363, EUSTON-ROAD, London, N.W.

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Estimates will meet with prompt attention.

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TISBURY STONE. The WARDOUR (CHILMARK) and TISBURY STONE COMPANY, Limited,

Are prepared to execute orders to any extent for their TISBURY STONE—This is a close, fine-grained Stone, of a beautiful colour, possessing all the qualities of the best Portland, in which range it is placed geologically.

It will supply the long-wanted desideratum of the Architect, Builder, and Sculptor, as the Stone is a first-class Weather Stone, easily worked, and carries a fine arris; and is eminently adapted for carved mouldings, high-class sculpture, and works of art, requiring only to be known to become the

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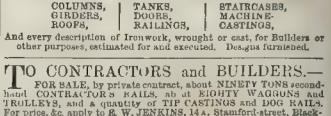
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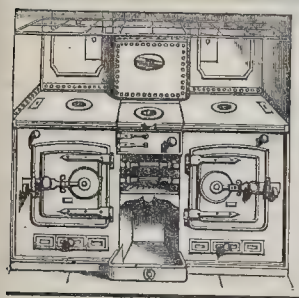
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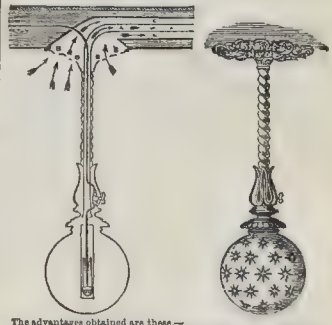
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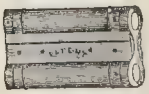
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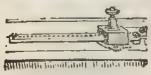


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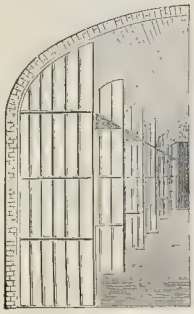


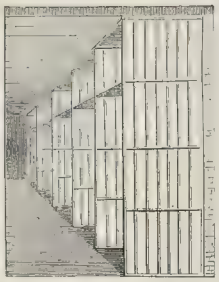
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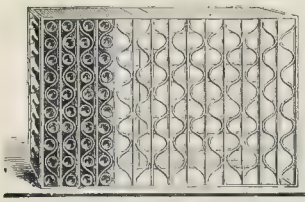


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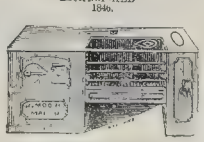
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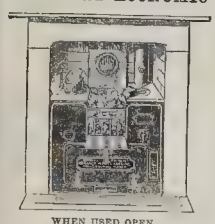
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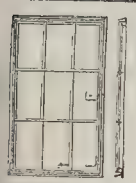
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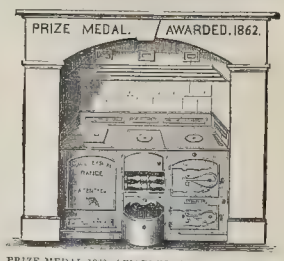
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It is an entirely new invention, and consists of large MEAT ROASTER, PASTRY OVEN, and WROUGHT IRON BOILER. The top Bars a HOT PLATE for BOILING, STEWING, &c. The whole heated by ONE SMALL FIRE. One 5 feet wide as equal to an ordinary Range 8 feet wide.

Extracted from the "London Daily Telegraph," May 19th, 1862.

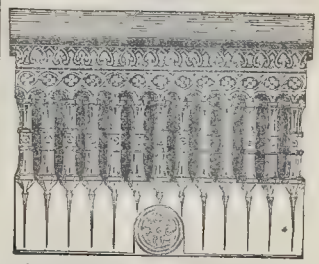
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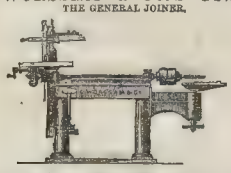
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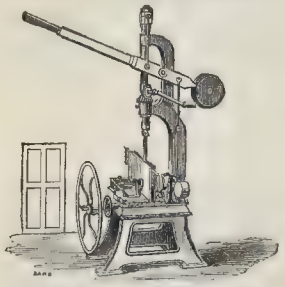
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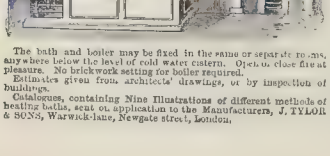


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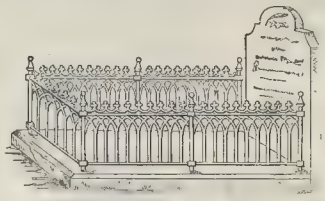


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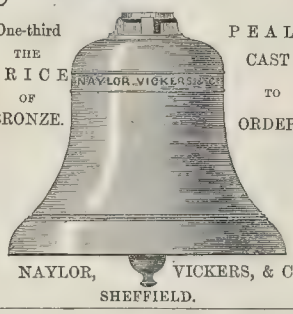


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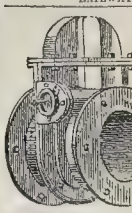
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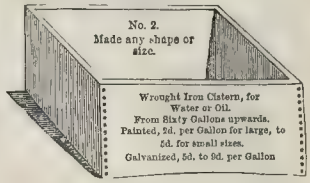
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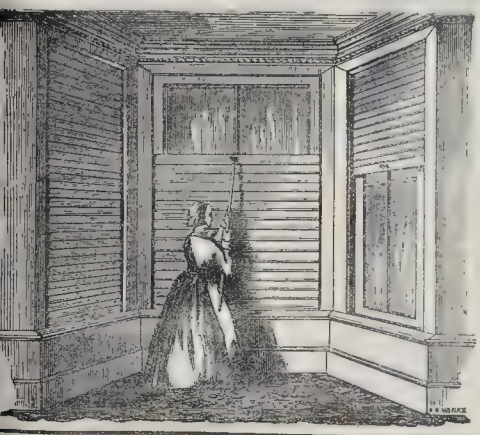
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VOL. XXI.—No. 1068.

Results in France, in Art and Education, from the Exhibition of 1862.

DURING the period of the International Exhibition, last year, the great importance of having full records of the materials and works displayed, and reports of the ascertained progress in the several arts, was felt by many persons, and was insisted upon by ourselves. Such statistics and records were essential for that particular utilization of the Exhibition which would have constituted a return of interest for the prodigious amounts of money, time, and labour devoted to the undertaking, and have justified that loss which necessarily accrued during the year, from disorganization in many kinds of business and affairs. The having fostered amicable relations between the people of different countries, is indeed a result to be admitted in fact, and to be highly valued; whilst, in spite of all those imperfections of organization and other management which it was our duty to comment upon, many other important results, it must be allowed and obvious, will be consummated during a succession of years dating from the occasion of 1862, in the art and industry of the world. Still, the omission by the English Commissioners, of a sufficient record and chronicle of the contents of the building at Brompton, was a capital error, to which the only parallel that could suggest itself, would be one of some Royal Commission taking infinite pains in collection of evidence, and giving much trouble to witnesses, and after all, failing to publish its proceedings, or to arrive at any conclusion on the original subject of reference. The elaborate scheme of classification printed in the Jury Directory was soon disregarded, in the arrangement of the articles; and the public appreciation of the Exhibition seems to have gained little from it. We of course do not forget the reports, printed by the Society of Arts, several of which we have given. The Society is to be thanked for them, but they are not generally worthy of the occasion, or fully subservient to the object: moreover, the charge should not have been left at the Society's door. The skill of the French will doubtless be exerted in the case of the Exhibition which has been announced to take place in 1867, to perfect a scheme for the attainment of the results of every kind; and upon the success of the organization, which we may take to be already commenced, for reporting, will depend the conclusion whether Great Exhibitions are to be regarded as steps to progress, or chiefly an annoyance to persons having ordinarily duties to be fulfilled, and everyday work to do.

It may be recollected that we ventured to prophesy that the French Commission of the Exhibition of 1862, would not conclude its labours without the production of reports of some value; and we have now the evidence, in six thick octavo volumes,—admirably arranged, well written, and completely indexed,—that our prediction was justifiable.* The bulk of the entire collection of documents, indeed, does not nearly equal that of the French reports on the Exhibition of 1851. These last, we may say, received an addition to the number of volumes during this very year; and we do not discover that they are even yet completed. How many *mètres* length of bookshelf they would occupy, we would scarcely say: it might be two, and perhaps more. We have scarcely dared to look into them, lately. It is obvious that the publication of any report, eleven or twelve years after the event, and the condition of things to which the report relates, is a proceeding of which the advantage must be slight; whilst even disadvantage may be attendant upon it. The information obtained in 1851, may not have been too much; but the organization then, which entailed the delay, clearly required amendment. This has been effected so far that the reports of the 1862 Exhibition, were all published within the year. The matter which they contained, or more especially portions referring to the exertions made in this country, for art-education, and to the results in the furniture in the Exhibition, received the immediate attention of the French press; and measures of great importance are likely to be taken in France, for the extension and improvement of industrial and art education, by modifications in, and additions to, the existing schools, and by the institution of new schools and museums, or generally in the way of filling up deficiencies felt to be existing. We were aware of the defects that there are in the constitution of the École des Beaux Arts, especially in what relates to architecture, and to all its subsidiary arts; but we confess we were hardly prepared for the comparison which has been drawn between the machinery and advantages for industrial-art education in the two countries, and for the appreciation of results with us accrued and seen to be approaching. The independent testimony to the benefit from the institution, and in favour of the management, of the Department of Art, will no doubt be duly valued in South Kensington. The assertion has not unfrequently been made, that the best English designers are none of them the product of the Department. One of the French reporters however, speaks of having asked English jurors to what the improvement which had taken place was attributable, and of being referred to the institution at South Kensington.

It should be here stated that the six volumes now before us, by no means exhaust the French published matter relating to the Exhibition. Besides the reports in the newspapers, which were full as compared with those in the principal English journals, reports by the different trades' delegates of the workmen's commission have been printed, and they make up a small volume of about 900 pages. In those of the workmen's reports which have the most interest for us, there is useful information concerning ornamental art and craftsmanship in England and France, and there are materials for a comparison of the condition of workmen in the different trades in the two countries. These latter particulars would well deserve attention: for the present, we must pass them by. Other reports and particulars have been given in a special volume of the useful "Annales" of the Conservatoire des Arts et Métiers, the chief of them being by hands that were engaged on the reports first mentioned.* So far as France is concerned, the Exhibition of 1862, therefore, has produced the printed records we have mentioned, containing particulars which form a basis for future progress,—and has promoted inquiries into the state of education in France, induced by the example of this country, and by some apprehension that England would shortly be found competing in the art-markets of the world. It will be useful to look at the manner in which the reports are compiled, to note some particulars of the freshened agitation in favour of industrial, art, and general, education, and to see what are some of the prospects of the next Exhibition in Paris. We may not be able to do full justice to all these points, however, in the present number; and must further omit materials, which the different French publications would afford, for much interesting comparison between the inventions of the two countries.

The reports in the six volumes, follow the English arrangement and numeration of classes. Each class is divided into several sections, each section being in general consigned to a separate reporter. At the end of each class-division of the work, there is a table with the statistics of the French commerce pertaining to the class. Amongst the reporters on classes or sections containing matter to interest us, were MM. Tresca, Luuyt, Delesse, Bommart, Clapeyron, Flachat, Trélat, Mille, le Baron Baude, Laboulaye, Flandin, Rapet, Ch. Robert, le Général Morin, Mérimée, du Sommerard, de Longperier, and very many others. Some of the reports seem to have suffered from being prepared by persons whose duties prevented a proper sojourn in London, as well as by the imperfect state of the collection when the building was opened: so that they do not fully supply omissions on the part of the English commission.

The reports are preceded by an introduction by M. Michel Chevalier, the president of the French section, by an essay by M. Emile Trélat, on the building ("Etude sur le Palais de l'Exposition Universelle de 1862 au Point de Vue de l'Architecture," which we shortly mentioned some months ago) and by a list of names of the reporters, and other matter. In a comparison of the cost of buildings in London and Paris, M. Trélat finds that the Exhibition building of 1862, cost 6 *francs* 33 *centimes* the cubic *mètre*, whilst the "Annexe" of the French Exhibition of 1855, the building on the Quai, cost 9 *francs* 20 *centimes*; and he finds that the Houses of Parliament cost 134 *francs*; whilst public buildings in general cost 44 *francs*; and, comparing the first-class house of London and Paris, he finds that the former costs 59 *francs* whilst the latter costs 35 *francs*. The introduction by M. Chevalier is divided into five sections, which treat of the Exhibition generally; of the productive force of man individually and in the social state; of progress since the last Exhibition; and of the measures legislative and administrative which seem to be now necessary with a view to the future. In this introduction, some of the most important conclusions and arguments of the reports are to be found condensed.

In his opening remarks M. Chevalier speaks on the question of future exhibitions in terms which, coming from a Frenchman, merit attention, and which harmonize with opinions that have been expressed in this country. He says of these Great Exhibitions:—

> "One may fear that it will become impossible to organize them well, because there will not be a structure vast enough to hold them; and we may well be conducted thus to the position of having only exhibitions restricted, and special in the objects that would be there assembled, whilst remaining universal in the nationality of the exhibitors."

Indeed it is obvious that if the present principle of collecting works, without selecting, be continued, a building equal to the size of a town would be needed. We should revert to the old classification of trades in their quarters, or adopt the Eastern arrangement of bazaars. The question then would follow, whether towns ought not to be always planned and occupied on these principles. But, we should get far away from the intention with which Great Exhibitions were instituted. It is clear therefore that the task which the French have assumed, will require all their contrivance, added to truly imperial resources, in order that there may be a chance of success. The present building in the Champs Elysées will be inadequate, as it was even in 1855.

* "Exposition Universelle de Londres de 1862:—Rapports des Membres de la Section Française du Jury International sur l'Ensemble de l'Exposition, publiés sous la direction de M. Michel Chevalier, Président de la Section Française du Jury International. Paris, Imprimerie et Librairie Centrales des Chemins de Fer, de Napoléon Chaix et Cie., Propriétaires-Editeurs, Rue Bergère 20, près du Boulevard Montmartre. 1862. In six volumes 8vo.:—Vol. I., pp. cclxvi & 540; II., 634; III., 499; IV., 404; V., 468; VI., 667.

* "Etudes sur l'Exposition de Londres par MM. les Professeurs du Conservatoire des Arts et Métiers, avec la Collaboration de M. Ch. Laboulaye et de plusieurs autres Savans." Paris. Lacroix, Quai Malaquais 15.

Classification is indispensible; and if this cannot be attained in the Great Exhibitions, the smaller and more frequent displays are preferable: whilst, being more frequent, they might serve every object better than the others.

After pointing to the field of observation, which the Exhibition presented, for the philosopher, the historian, and the statesman, in objects illustrative of all the stages of civilization, and actually existing,—as, in the construction of ships, from the canoes of New Brunswick, to the steam-ships of Europe,—he seeks whether there is any striking truth resulting from the examination, and finds evidence that the productive power of man ever goes on augmenting, nourished as it is by associations of individuals, and developed from capital and wealth, and by a harmony between such productive power and the institutions of a country. This *thesis* is developed by M. Chevalier at great length, with constant references as well to many circumstances in his own country, as to the works of different kinds in the Exhibition. Indeed those who, receiving their ideas from English sources, are under the impression that plain speaking is quite impossible in France, would be somewhat surprised at the freedom of several of the reporters, as well as of the French press in urging on the question of education.

Muscular force being a constant quantity, the productive force of man, M. Chevalier shows, as others have, but with his own power of reasoning, is the resultant of the intellectual force and the moral force, and that the formation and preservation of capital should be encouraged by customs and laws. He shows the relation that exists between the productive power and the political and social constitution of any state of society, and gives examples of the measure of increase which the productive force has experienced in different ages. With the ancients, production went on under circumstances such that the bulk of the human race was ground down with work, of which the return was scarcely sufficient to preserve the workers, chiefly slaves, from actual death by hunger or cold. With the period of the crusades, a new fund of intelligence became part of the capital fund of Europe. A different aspect of nature; arts other than those to which the northern and western intellects had been accustomed; processes of manufacture and scientific notions from the Greek empire; and gleanings from the science which was at that time possessed by the Saracens; made the returned crusaders more skilful observers than they had been. Amongst the things imported by them, was the art of casting in iron. The transformation of the method of navigation, from the use chiefly of oars to that of sails, was perfected. The system of numeration, received by the Arabs from the Hindoos, was passed on to Europe, to be completed in the seventeenth century by the invention of logarithms. Alchemy; the use of alcohol; gunpowder, which was immediately employed in the *exploitation* of mines; all helped in the progress of civilization that was now set well going. To the Arabs, Europe owes cotton, and also the sugar-cane. During one portion of the Middle Ages, however, progress was hindered by strife between the feudal and citizen classes. In the course of the chapters explanatory of the progress since the last Exhibition, the writer refers to division of labour as increasing, and also to the growth of large establishments. The works and institutions which he refers to as to be promoted by a government, or in a country, are roads, canals, and all other means of communication of whatever kind; institutions of credit; instruction, general and special; encouragement to the liberty of labour; *brévets* or patents, association, commercial liberty, and agencies. His last chapter relates to agriculture, and to the amelioration desirable in that of France.

The matter in the introduction and reports, referring to education, general and in art, however, is that which most interests us at the moment; and with it we might fill some space with extracts both from these volumes and from the French journals. Let us at present limit ourselves to some items from the reports of the Commission. M. Chevalier says:—

"If our superiority in point of taste would remain uncontested, if no competition arose, tending to molest our supremacy, we should be able to remain as we are, and go to sleep in our triumph, which we should have flattered ourselves to have the enjoyment of to perpetuity: but, there is no perpetual *brevet* for artistic excellence, nor for any other. Competitors have unexpectedly come, and the pre-eminence of France in the domain of taste would be in a position to be shaken, shortly, did we not take care. The most competent judges remark, in the applications of art to industry and next us, some symptoms of decadence. This is what has been very well said and the reason has been strongly alleged (*fortement motivé*) by M. Mérimée in a special report having reference to the articles of furniture. The observations of M. Baudin in his report on the carpets, are in the same sense. Now, whilst we are stationary, others raise themselves. The ascendant movement is especially visible amongst the English. The whole world has been struck with the progress that they have made since the last Exhibition, in the design of textile fabrics, and the distribution of colours, as well as in carving and sculpture, and generally in articles of furniture. Previously, it is necessary to say, they were rather celebrated for their bad taste; but they have understood that the matter to be taken in hand was one of education (*c'était affaire d'éducation*). They have instituted, then, with much intelligence, and with that perseverance which is habitual to them, education in the fine arts with a view to advancement of their industry."

The words of M. Mérimée in the first section (On the Applications of Art to Industry) of the report on Class XXX., Furniture and Decoration, are even more decided than would be supposed from the reference above. He speaks of "prodigious progress" made by the English since 1851, and the possibility of their passing by the French, if continuing to march with the same steps; whilst he says that the situation merits the most serious attention of the French Government and the manufacturers.

In studying the causes and seeking the remedies for the state of affairs, he first alludes to the influences which the condition of architecture, painting, and sculpture, has upon that of the ornamental and industrial arts. The existence of Raffaelle and Michelangelo caused that of Cellini. But great artists come to light only at long intervals: their apparition is a mystery; and all that we can do is to prepare their development. Our epoch is less inventive than the thirteenth and the sixteenth century; originality is rare. Architects, painters, and sculptors, and all the artists of the modern epoch, are accused, and with some reason, of a great sterility of conception, and this default is found not less marked in the applications of art to industry. The head suffers; the members are bound to suffer. In return, the ability to imitate is everywhere in exercise at this day. Observation and study of fine and original works; no exclusive worship for this or that school or style; but on the contrary, a general tendency to appreciate everything with impartiality, are the features of our time. Perhaps with the impartiality, there is some indifference. Paintings, sculpture, buildings, furniture, and decorations attest the eclecticism which prevails. Disputes on questions of art, and artists, are gone by: people are reasonable, admiring everything that is beautiful, but admiring with *sang-froid*. He thinks that the Exhibition of 1862, and particularly the French products, evidenced this. Passion is necessary for the production of art. There is no French school. Fashion commands work sometimes in one style, sometimes in another: art obeys, and seems no longer to have conviction. Not that the need is not felt of withdrawing from these continual imitations. Originality is sought, but with the understanding; whilst it belongs only to the instinct of genius. In escaping from the commonplace, men fall into the paradoxical; such attempts almost always make us regret imitation servilely exact.

Patriotism apart, he continues, the defects of strangers are seen more easily than a nation's own. The absence of proportion in buildings and in a crowd of objects of general use in England, strikes the attention of the French; though M. Mérimée observes that a fault of the same kind is encountered in many of the French productions, especially the employment of one material for another,—as metal where the design was intended to have been executed in wood,—or the reproduction of one motive of ornamentation indifferently. Manufacturers when defending themselves from these accusations, speak of the expense of the co-operation of artists. But, the programme of the work ought to be meditated between the artist and the manufacturer, as well as the means of execution. It is regrettable, he says, that the Government whose initiative is so important in France, does not occupy itself with protecting and encouraging the alliance of art and industry. For example, the sculpture in wood on men-of-war, the eagles of the military standards, and the accoutrements of soldiers, might be designed and modelled by artists.

The connexion of great artists with industrial work has been never better comprehended than it was in the sixteenth century. The cartoons of Hampton Court, and the pottery of the same period, are examples. The designs of Raffaelle for the tapestry, he expressed by firm lines, and by some few tones sufficient for the general harmony of colours: the artist did not consider that stuff destined to cover the walls of an apartment, should receive work as fine as oil paintings, or even frescoes. The distinction, moreover, between an object of common use, and a work of art,—the one not requiring the care that should be consecrated to the other,—is not now comprehended. M. Mérimée, further, frankly expresses his regret, notwithstanding the success obtained in the Exhibition by the imperial manufactures, at seeing them engaged in a course full of dangers, as that of forcing wool to produce the effect of a painting in oil by Titian. The workmen should never be allowed to forget that the object of their work is decoration. A similar reproach to that addressed to the productions of the Gobelins, he says, might be made on account of those of Sèvres; which, ceasing to be useful furniture, have not become pictures.

It will be seen that much of this is repetition of statements which we have made respecting the characteristics of the art of the two countries; and that besides, it will serve as illustration to the points in our recent article on "The Right Use of 'Models' in Architecture of our Time." But it is interesting to have these observations, as we have said, from a French hand; and it is very curious to read the same complaints as to the defects of French art, as we make of our own.

The aptitude of the French in all kinds of work in which art and taste rule, is probably connected with a natural disposition. M. Mérimée thinks that this disposition has been seconded, if not produced by four causes. These are,—1, The accredited opinion that the life of the artist is one of pleasure, that it assures independence and gives consideration. Such is the popular idea; and it will be remarked, he says, that this opinion, of which it is not his business to discuss the exactitude, is precisely that which offers the most lively seductions to the French character: 2, The encouragement of the press, and the reputations thereby made,—there being an intimate alliance between artists and men of letters: 3, Facility of studying, as by the schools of design and museums open gratuitously in all the large towns; and the incitement to the culture of art by churches and other buildings filled with paintings and sculptures: 4, The direct encouragement of government. France is perhaps the only country where the ambition to be artist is encountered in all classes of society, and it is not rare that men devoid of all classical education become sculptors or painters, and even arrive at a merited reputation.

Let us hope that the progress of civilization, and of art, will be advanced by the knowledge, now so clearly conveyed, that no nation can exist and progress alone; and of this truth, abundant evidence might have been here extracted from these valuable contributions, which we have been noticing, to the literature of the Exhibition of 1862.

AS TO A NATIONAL MUSEUM OF ARCHITECTURE.

THE following report has been submitted (by desire) from the Council of the Architectural Museum to the Department of Science and Art, on the Formation of a National Museum of Architecture:—

The Council of the Architectural Museum begs, in compliance with the intimation conveyed by the Committee of Council on Education, of the date of December 11, 1862, to submit the following considerations on the formation of a National Museum of Architecture in London. In doing so the Council feels itself absolved from the necessity of proving the desirability of such a museum. The only questions about which there can be any difference are those which concern the details of a measure which in itself meets with universal approbation.

I. The first point which must be settled is the nature of the museum. All museums may be divided into two classes, which, for want of better terms, may be called exhibitional and scholastic. An exhibitional museum is one of which the primary use is the display of a collection or collections in given branches of art and science, brought together with a view to the completeness of the collections in themselves, and not for the purpose of direct instruction. Valuable, or rather indispensable, as such museums are for the purpose of study, yet their scholastic use is a secondary and not a direct one. They exist indeed for the student to profit by, on his own responsibility; but they were brought together for the sake, so to speak, of their contents, rather than for that of the visitor. The British Museum and the National Gallery are instances of exhibitional museums.

A scholastic museum, on the other hand, is one which has been constituted for the scholar; and

the selection of specimens is made with a view to his direct instruction rather than to the completeness of the objective display. The staple of an exhibitional museum must always consist of original objects; a scholastic museum admits of, or rather invites models, diagrams, and facsimiles.

The Council of the Architectural Museum is convinced that the National Museum of Architecture must be mainly scholastic. Within what limits it would be desirable to make it also exhibitional will be noticed farther on in the report. It must at the same time be noted that, while the Museum will profitably stand open to the studies of the architect who is engaged in the elaboration of his details, it will be still more useful to, and more frequently used by, the architectural artist, whether he is composing for himself, or merely carrying out the working drawings which have been placed in his hands. It will, as far as its more conspicuous contents are concerned, rather be a museum of architectural art, than absolutely one of architecture.

II. The next consideration is that of the limit of the collection, both as regards the sweep of subjects to be included under the definition "Architecture," and as regards the various styles of constructive art which it is desirable to illustrate.

While it is very easy to define what is painting, and not perhaps very difficult to attain a proximate definition of sculpture, the limits of that wide field which architecture may be said to fill to the exclusion of cognate arts, are almost undecipherable. The difficulty of attaining a right understanding on this head in regard to a National Museum of Architecture is increased by the consideration which the council ventures to assume as axiomatic, that the collection must rather be one of the details than of large portions of buildings, and that those details must be selected for the beauty of the architectural art which they display. In other words, a National Museum of Architecture must, to a great extent, be a sculpture gallery. It is useless to attempt to evade this truth. If it is admitted, the question passes from abstract to practical considerations, and it becomes one of expediency. It is accordingly submitted, that the Museum of Architecture, properly speaking, should, on grounds of expediency, stop short of objects of which, from their moderate size and portability, fine original specimens can and may be displayed elsewhere in London in exhibitional museums, or which from their peculiar contexture ill admit of being copied. The first head excludes portable furniture, triptych pictures, small articles of metal work, ivories, textile fabrics, and partially ceramics.

III. It follows from the premises already recited that the contents of the Museum should rather be whole-size casts of peculiarly meritorious specimens of architectural ornamentation, than reduced models of entire buildings, or of large portions of buildings. The council does not, of course, mean to say that models should be excluded. They have their own great and distinctive value in connexion with the casts as keys to the relevancy and position of the details exhibited at large, as well as for the amount of direct teaching which they may convey as to the general character and proportions of the buildings which they portray. Still the position of models (unless they are made on a large scale, and with the most extreme accuracy) in the cycle of systematic and direct architectural teaching, must always be somewhat subordinate: their distinctive and especial value is as guides to the architect and the employer during the actual process of construction. It is needless to observe that such models as the one which Wren prepared of his first sketch for St. Paul's, now at South Kensington, have an historical value in themselves which removes them from the merely practical considerations which have just been urged.

Happily, modern science has intervened to provide, completely and inexpensively, the needful complement to the collected whole-sized casts, by the discovery of photography. It is impossible for an architectural museum to have too many photographs. Cheap and compressible as they are, they are always worth the collecting; and any fastidiousness as to their acquisition would be misplaced. Plans and measured drawings are also of great value, and no museum of architecture would be complete without its ample store of them.

As to the objects which may appear in the form of plaster casts, all ornamentation in stone, whether sculpturesque or not, is admissible, including such statues as are introduced as parts of architectural composition. So are the casts of such specimen woodwork as, in modern parlance, would be termed fixtures, such as panelling, church stalls, &c., and to a certain extent those which reproduce the details of important articles of portable furniture. Similar discriminative principles will describe what objects of metalwork do, and what do not, admit of being cast for the purposes of the Museum.

The above suggestions lead up to the direct question of what should be the styles of architecture admissible at the Museum. The answer appears to be that all nations and ages should be represented which possessed an architecture based on scientific or artistic principles, but that the largest portion of the Museum should consist of examples of the styles which have generally speaking been reproduced in modern architecture. These styles briefly recapitulated are the Greek, the Roman, the Romanesque, the Pointed, and the various forms of Renaissance. An architectural museum confined to any one of these styles would be, as far as it went, valuable: a national collection must represent all if it is intended to be complete, while the limitations which have been offered as to the selection of examples are equally applicable to all the styles, should the Museum or should it not comprise specimens of contemporaneous architectural ornamentation. The truth appears to be that, speaking abstractedly, contemporaneous architecture must be admitted if the collection is to be accepted by future generations as an adequate exponent of architectural history. But the difficulty of selection is the obstacle, for a crowd of mediocrities admitted through favour or fashion would be a misfortune to art. On the whole it is best to say generally that contemporaneous architecture is admissible, and at the same time to throw the responsibility of selection upon the managers of the Museum. As to the admission, however, of photographs of contemporaneous buildings, there need be no limit, for it will be always possible to store them, and the larger the collection is the more valuable will it be for purposes of reference. There is hardly a new building now undertaken which is not photographed at the instance of the architect or of the employer; and an understanding might easily be established that it was expected that a photograph of every new construction, possessed of any architectural character, should be deposited in the national collection.

The National Museum of Architecture has hitherto been treated exclusively in its scholastic aspect, but it will possess an exhibitional character as the central place of deposit for the many valuable fragments which are let loose by excavation, demolition, restoration, sale, or gift. It would, however, be a great mistake to make the admission of such antiquities too easy, as such a course might lead to the wholesale mutilation or destruction of monuments which would otherwise have been preserved intact or placed in durable repair. Worst of all, the opening of such asylum might tend to the encouragement of that destructive system of restoration which has become so fashionable in France, and which consists in refabricating every portion of every ancient building which has been in the least degree disintegrated by time and weather. If there were a national museum open to receive the original pieces, a strong temptation would be thrown into the way of our own restorers to commit similar enormities. Still, after all these abatements, there are many things which would be either lost or useless unless they were deposited in some central receptacle, and for them a sufficient space ought to be provided in the national collection. As instances of what is meant, may be quoted the Chertsey tiles and Sir Bartle Frere's most interesting series of Hindoo sculptures, both at present in the Architectural Museum.

The management of the future museum is a detail which hardly comes within the scope of this report. It may, however, be assumed that no Board will be either efficient in itself or generally acceptable which does not include a large proportion of professional and amateur capacity named on some principle which shall give due representation to educated public opinion. Any importation of bureaucracy would be fatal to the popularity and usefulness of the institution.

As to the locale of the National Museum of Architecture, it cannot be too strongly urged that its position in London ought to be central rather than suburban.* Utility and popularity alike combine in favour of this recommendation; moreover, it is highly to be desired that the character of the building should be such as to correspond with and to enhance the teachings of beauty, which the collection is intended to enforce. The consignment of England's collected masterpieces of architectural art to any structure which ill concealed poverty of design and ignorance of proportion, by a superfluity of misapplied ornament, would involve a practical contradiction, alike discreditable to our national character and detrimental to our architectural progress.

* On this and some other points in the report we reserve an opinion.—ED.

THE EFFECT OF OPEN SPACES ON THE AVERAGE DURATION OF LIFE.

IT will not be long now before the great Main Drainage scheme of the metropolis is completed; and then, when this important aid to health has been brought to bear, many will look with both hope and anxiety to the death-rate of the metropolis in the years which follow the completion of this work; so that they may see what saving of human life has been effected by the outlay of our millions. In order, however, to estimate these advantages properly, and to keep a square and business-like account of this important matter, we should take correct stock of our exact sanitary position. We should, for instance, know the number of houses to which this great improvement will be useless in consequence of the want of the proper connexion of the house-drains with the main sewers. Of course, most of the houses that have been built lately will be right in this respect; but in many instances where the drainage has been deepened, numbers of private drains which before the change had not sufficient fall, will not be properly altered; and as regards houses which were built before the passing of the Metropolitan Management Act, we fear those that have still nothing but surface drainage may be counted by thousands. The number of these, however, will gradually lessen; and in years to come an ill-drained house is likely to be as great a wonder in this vast city as those that were thoroughly drained were in former times. We should, however, know the exact number of dwellings which in this way are in bad condition; and then from each yearly statement be able to mark how the improvement of those ill-drained houses affected the average duration of life.

Besides the drainage, there are many other matters which will require constant and watchful care; and one of the most important of these is attention in connexion with the immense masses of buildings which are going forward in all directions, to preserve a sufficient amount of open space; for, when we consider the terrible sanitary neglect of many districts of the metropolis; in which there is, besides, an intense amount of downright poverty, which exceeds anything that we have met with in very bad times in Manchester; and find that the death-rate of the former place is far lower than that of the latter; we must look carefully to statistics for the purpose of discovering the cause of this.

From the last Census Report, so far as it has been published, we cannot get so much information as we should desire; and we wonder when the long-looked-for additional volumes of the Census of 1861, which will contain the abstracts of the ages of the people, their occupations, civil conditions, &c., will appear. Two years and a quarter have passed since this work was undertaken. The following are, however, a few figures from the return of 1851, which show to a remarkable extent the effect of *the amount of space* on the rate of death.

In London, as our readers know, there is a vast difference in various districts in the annual number of deaths; and, besides the sanitary neglects so often remarked, there is no doubt that much of the mischief is to be attributed to the crowded position of the houses, and the want of sufficient open spaces. The following table is instructive:—

In 1851 there were in—

	Acres.	Population.	Deaths	Persons per Acre.	Deaths per 1,000 Living.
London	78,029	2,362,236	55,488	30·28	23
Liverpool	2,229	258,226	8,754	116·21	34
Manchester (Township)	1,487	186,986	5,895	125·35	31
Birmingham ..	2,660	173,951	4 989	65·46	28
Leeds	2,100	101,343	3,181	48·09	31
Carlisle	70,810	41,557	1,410	·59	24*
Brampton	55,474	11,923	2 6	·21	19
Glendale	147,1[illegible]	14,348	192	·10	14

Mr. Marriott, of Manchester, remarks upon this point that in London, Birmingham, and Man-

* There must be something very wrong in the sanitary state of this town to account for the above figures.

chester, the mortality among working men is double what it is in the healthy districts by which these towns are surrounded; that in Liverpool during the five years ending in 1858, the deaths actually exceeded the births by 55; so that were it not for the constant immigration from the country, the population would decrease to such a degree that there would not be a sufficient number of adults to carry on the business of the town; and that in thirteen out of fourteen divisions into which the registration districts are divided, this rule holds good.

When we look at the metropolitan district which comes within the return of the registrar-general, we find an immense amount of space that can scarcely be said yet to be occupied; and to this and (if we may except the back slums) the open manner in which the Bedford, Northampton, and some other estates have been plotted out, to the squares of Belgravia and elsewhere, and to the public parks, we may, to a certain extent, attribute the comparatively favourable death-rate of London with Liverpool and Manchester.

In the improvement of the public health, in both town and country, we should not lose sight of every sanitary defect. A deficient water supply, the overcrowding of the houses in our cities and the cottages in rural districts, the bad arrangement of hospitals, the bad management of children, improper food, the bad state of rooms and workshops, the waste of strength and of the means of comfortable living caused by the abuse of intoxicating drinks, and fifty other matters which we could mention, are evils which it behoves earnest men to endeavour to the utmost of their ability to remove; and we believe that most of these blots will vanish as the general intelligence advances. But, as regards the saving of open spaces in increasing towns, the opportunity once lost by neglect can only be recovered at an almost impossible amount of outlay. There are many small open spaces which, in crowded neighbourhoods, are of the greatest value; and, although paving-stones have taken the place of the grass which was once on Clerkenwell-green; and that, notwithstanding care, the trees may vanish from Islington and some other metropolitan greens; the vacant room is of the greatest advantage.

We hope that sufficient ground for the Finsbury Park has been provided, and that Tooting Common, and some other spots which are at present threatened, may be, notwithstanding, permanently preserved; for we see that the overcrowding of rooms, houses, and neighbourhoods is a source of death; and surely the reckless waste of human life is a great calamity, and it is sad to know that from this cause alone thousands die before half their natural course is run; and multitudes who were born to be strong and healthy men and women, and who, if they had been placed in proper sanitary conditions, would have lived to the three score and ten years of man's life, sicken in the morn or noon of their existence, and waste away into an early grave. Nor are the evil moral effects of this overcrowding much less than the physical; but, notwithstanding that these facts are now admitted by every intelligent person, we find much general carelessness shown in the sacrifice of many useful pieces of ground. This is to be partly attributed to the great extent of the metropolis, which causes that which concerns the inhabitants of West Lambeth to interest very little the dwellers in Islington or Bethnal-green. We want, therefore, some plan by which breathing-places may be marked out and preserved. This would, or ought to be the work of a central board, which should take a comprehensive view of the subject; but, until something effective can be obtained in this way, much good may be done by local exertions.

EREMITICAL LIFE AND THE HERMITAGE OF WARKWORTH.*

IN the days of the Roman persecutions of the early Christians, there were, from time to time, men who withdrew into the Egyptian deserts to practise the austerities they deemed acceptable to Heaven. They took up their abode in caves, or ruins, or whatever shelter they could find; and lived on herbs, roots, coarse bread, and water. As soon as it became known that one of these solitaries was in the neighbourhood (for they were sometimes undiscovered for years), people flocked to him, supposing that he could cure diseases, and point out the road to eternal life. Pilgrims and philosophers, too, came to him and discussed questions of faith. Some of these persons remained to imitate his mode of life, and the hermit thus became the head of a community.

The theory of monastic life divides it between labour and prayer. For some centuries monks were not regarded in the light of priests: each monastery was considered a gathering of laymen, leading devout lives, and earning, like the tent-maker, St. Paul, their own daily bread. Eventually the dignitaries of the church were selected from these pious communities; and gradually monks began to be considered the regular clergy in opposition to the secular clergy.

It was the constant endeavour of the master minds of these early times to keep as nearly as possible to the theory I have mentioned: proffered distinctions were frequently refused: ambition, love of riches, and display were especially repressed. In the course of centuries, however, when the Christian faith had overspread Europe, the progress of the arts effected a silent revolution within the walls of the cloister. The celebration of the various services called into requisition everything that was artistic and costly,—rich habits, jewelled vessels of gold and silver, pictures, mosaics, carvings in ivory and rare woods, altar frontals and hangings embroidered with much sumptuousness. But, through these centuries, there were men who looked back to the ascetic mode of life of the early solitaries with much reverence and desire; and who, one by one, turned their faces from the gradually accumulating splendours; left the prosperous communities with which they were associated; and established themselves in lonely cells. St. Cuthbert, it is well known, was one of these earnest men: he abandoned his responsible position at Lindisfarne Priory to retire to a hermitage on one of the desolate Farne Islands. And it was by no means an uncommon occurrence for a bishop or an abbot to retire and end his days as a hermit. There were also communities of hermits, each individual possessing his separate hermitage. Roger, a monk of St. Alban's, lived as a hermit in obedience to his abbot.

There was an enthusiasm about such men that begot enthusiasm. Their self-abnegation, vigorous devotion, prodigious charity, and unwearying love, begot self-exaction as searching, compassion as generous, and passionate adoration as ecstatic. Nobles gave their lands, under the influence of their example, for religious and charitable purposes. Merchants gave all that they had to the poor—founded hospitals and almshouses. Nor has this influence altogether ceased. After every hermitage had been tenantless for two centuries, the great moralist, Dr. Johnson, paid this tribute to the memory of the recluses who once inhabited them:—"I never read of a hermit," said he, "but in imagination I kiss his feet; never of a monastery, but I fall on my knees and kiss the pavement."

Hermitages were not exclusively situate in secluded places, although they are so popularly associated with the idea of retirement that the term hermitage has been applied to secluded places in which a hermit never resided. At Leverington, near Wisbeach, one of these solitaries lived over the porch of the church. Hermitages were common, too, at the ends of bridges, in church-yards, and at the gates of towns. "Not far from hence," says the student in Don Quixote, "is a hermitage where lives an anchorite who is said to have been a soldier. Adjoining the hermitage is a little house built by the labour of his own hands, which, though narrow, is large enough to receive travellers." "Can that same hermitage produce any poultry?" said Sancho. "There are few hermitages destitute of that provision," answered the knight. Accordingly they called at the hermitage for some of the best wine, but were answered by the under-hermit, his master not being at home, that they had no wine, but were welcome to water. This passage, in a picture of the manners and customs of the time, which this masterpiece of Cervantes is allowed to be, would lead us to conclude that in those days hermits were expected to exercise hospitality to wayfarers. Nevertheless, from the character of the remains of the hermitage which still exist, it would appear that secluded retreats were most frequently chosen by them for their habitation. The cell at Cratcliff, near Winster, Derbyshire, is cut out of a rock. The chapel of this hermitage measures about 13 feet long, 11 feet broad, and 9 feet high. Carter says it is a place at this day with difficulty explored. The vast rock in which the cell is excavated rises in a dreary vale, accompanied by other no less tremendous objects. The entrance to the cell from the south is by a natural arch. Great labour must have been bestowed in hewing out the interior. On the right we perceive the altar, crucifix, &c., which are likewise cut out of the rock. St. Robert's Chapel, Knaresborough, is also cut out of a rock. Of this Carter says, "Although the workmanship is not the most perfect, yet a regular design is presented, particularly in the interior." It may be presumed the labour was gone through by some retired religious, whose eyes had been familiarized to the sublime performances of art which characterise this country; yet whose hands were more accustomed to unfold the pictured missal than to use the implements of masonry or sculpture. It is singular that near the entrance is the outline of a figure cut on the face of the rock: the attitude bespeaks that of a knight ready to defend the holy seclusion. Like the chapel of Warkworth hermitage, that at Knaresborough is divided into three bays: a distinction appears at the east end; that at Knaresborough having a three-sided apsidal termination. The bases of the columns do not rest on any plinth: probably a stone seat or other decoration once took the space below them. On the left is a recess or seat cut in the rock: on the right are certain heads carved in the rock. The altar is well preserved, and the small excavation for the chalice to stand in is very discernible. The niche for the crucifix and the recesses for holy water on either side are likewise perfect. On the floor are lines cut for a sepulchral stone. The chapel in Warkworth hermitage measures 20 feet long by 7 feet high. It is divided into three bays, the third of which is occupied by the altar and the two steps that lead to it. There are two entrances into it: the principal of these opens from the pathway on the bank of the river which runs before the hermitage. In the thickness of the doorway, there is a seat recessed both on the right hand and on the left. On the south side of the altar, there is a recess containing a monumental recumbent effigy of a female. At her feet kneels a knight. This recess is pierced with two long narrow window openings. Between it and the doorway is a quatrefoil opening, having a lavatory in it. On the north side of the altar is an elegant traceried window opening in the wall, between this chapel and a smaller ruder apartment to the north of it. The second doorway mentioned leads into this chamber. There has been an altar on this, and as well as the traceried window, a hagioscope from which the altar in the chapel is visible. There is an aumbry on the north side of this chamber, as well as a larger recess. The west end of the larger chapel is pierced with four splayed openings into a third cell. In this there is a window looking southwards; but its western boundary has disappeared; and, at this point, the edifice is open to the weather. On a much lower level than this suite of chambers are traces of additional buildings, with a fire-place, oven, &c.; and above all, on the surface of the rock, is the hermit's garden.

Godrick of Finchale, a hermit of great celebrity, lived in a cottage excavated out of the ground and covered with turf. To this was annexed an oratory, which was furnished with two altars—one dedicated to the Virgin Mary, and the other to the eremitical saint, John the Baptist. This hermit better fulfilled our ideas of hermit life than the one to whom Sancho Pancho was referred. He lived by manual labour, cultivating a small piece of ground for his subsistence. All presents he persistently refused. His principal food consisted of the branches and roots of herbs, reduced to ashes, mixed with barley flour. At night, he imitated the example of Jacob, and took a stone for a pillow, which stone did further duty in the day-time as a table. This mode of life also corresponds with that indicated by the hermit in the romance of the "Nouveau Renard,"—written in the thirteenth century,—who tells Renard, when he goes to him to confess, that, if he would turn hermit, he must walk barefooted, wear a hair shirt, and live upon water and roots.

At Nottingham, there is a series of excavations in rocks on the banks of the river Lynn, which are probably the remains of the separate cells occupied by a community of hermits. These are to be seen besides the chapel, the traces of apartments on a first and second story, with a staircase, chimneys, &c. The original fronts have, however, disappeared, and some of the groining is also gone. The caps of the columns still standing show the details to have been Norman. Hermits were much resorted to for advice and comfort. They were favourite confessors, too. They were sometimes compelled to enlarge their abodes in consequence of the number of their visitors. Thus, the "Golden Legend" tells us that Fiacre sought a place "to lede hys lyfe heremyticke and solitarily," and begged for that purpose "a lytill place within a wood, and ferre fro abydinge of ony folk, where he founded a chyrche, and beyond it, a lytill way

* Read by Mr. F. R. Wilson, at the Annual Excursion of the Northern Architectural Association, on the 14th inst. The paper was read in the Hermitage.

thens, he bylded a lytill hous wherein he dwelled, and there herberwedde the poore that passed by." But then visitors being very numerous, in order to be healed of diseases and have his prayers and advice, he found that of "nedes he must make hys habtacyon or howsing more specious, and grettan than it was, and thought to hym good and necessary to make a great gardyne, wherein he sholde have alle manere of herbes, good for to make potage with, for to fede the poore when they should return towards hym."

In the same way, we know the Hermit of Warkworth was called upon to enlarge his accommodations; but the additions were not of the same enduring character, in his case, as the main structure. They have nearly disappeared. Hermitages were sometimes chauntries. That of Brianel was a chauntry of two monks, and had demesne lands upon which corn was grown for their support. A garden appears to have been the usual appendage of a hermitage. The theory of the division of time between work and prayer was sometimes fulfilled by hermits working at a trade. Bilfrid, an Anglo-Saxon anchoret, was an excellent goldsmith, and worked at that trade: one Christina, an anchoress, was a famous embroideress; but the more general description of labour they undertook was gardening. It must be borne in mind that, although anchorets never left their cells, hermits could roam where they chose. Anchorets were supposed to hold intercourse with angels,—like Elijah on the banks of the Cherith,—and were much reverenced, and often consulted; but, as in the case of the hermits in the years immediately preceding the revolution, they appear to have forfeited public esteem.

There is mention of "one Edwin, a hermit, who made a turning bridge over a ditch round his hermitage, and also had begun an outer ditch in a marsh, against the shepherds, who wished to burn down his dwelling; but the men of Siltrey hindering him, he could not secure himself till the Lord permitted him to make the outer ditch *pro numine suo.*"

Hermits were spoken of as sirs,—as Sir Thomas, or Sir Robert. They wore a long gown with a hood, covering the whole body, with arm-holes, a tunic, and rosary. Their beards they wore long. To this costume Fosbroke adds a rope for a girdle, a hair shirt, and, what was peculiarly affected, a knight's iron corslet.

The only document extant relating to Warkworth Hermitage is addressed to the hermit, Sir George Lancastre. This has been frequently printed. It sets forth that the Earl of Northumberland, in return for the prayers and daily recommendation of the lives and souls of certain persons, including his own, by the hermit, grants him his hermitage in Warkworth Park, a yearly stipend of twenty marks, the occupation of one little grass ground called Conygarth, the garden and orteyarde of the said armitage, the gate and pasture of twelve kye and a bull, with their calves unking, two horses "goying and being" within his park, one draught of fish every Sunday, and twenty loads of firewood from the wodds called Shilbotell Wodd,—a snug provision, showing how completely, by the date of the document, 1531, the primitive fare and mode of life of the early hermits were abandoned.

Looking at the hermitage in a constructional light, as an architectural society should do, it is curious; but not wonderful. With the knowledge of construction that must have been disseminated in the building of the myriads of ecclesiastical buildings in the Middle Ages, it could not have been a very difficult task to execute this little retreat. Popular tradition assigns it as the work of one man: I scarcely think this certain; but even if it were the work of one man, it is not so extraordinarily wonderful as it is popularly regarded to be. He would begin by making an entrance, and then a hole in the rock, which is white sandstone, which hole he would elaborate with groining into a bay. The construction of the bay rendering the rock over his head safe, he would proceed to make another one adjoining it, and from that a third. This accomplished, he would break openings where required, and proceed to fashion the other chambers. It is, however, possible that the hermitage was founded by one of the ancient Percies; and that the builder was a mason; or, at all events, assisted by a man or men skilled in building operations.

There are a great many chambers excavated out of the rock beneath Nottingham. Some of these are very similar in character to those at Warkworth, being arched in a regular manner, and supported by columns with carved capitals.

Excavations in rocks are common enough in our own day, both above ground and in pits, as well as in tunnelling, as in sinking shafts and boring wells. The charm of this excavation at Warkworth consists in its picturesque situation; its romantic and ecclesiastical associations; and its evident antiquity.

KEW GARDENS.

THE Gardens are looking their best, and are enjoyed daily by large assemblages of persons. The last published Report shows that the number of visitors in 1862 exceeded that of any previous year by 70,000, mainly due to the visits of foreigners to the International Exhibition. The total number of visitors was 550,000; and this multitude did no harm to the gardens, plants, or buildings. Of the whole, more than half, or 267,965, came on Sundays. Seven of the tropical and temperate houses have been re-arranged. Among these, the architectural hothouse near the entrance has been refilled with aroids and other tropical large-leaved climbers, with splendid foliage and peculiar habits. The palm-house has been re-arranged. A walk in it is better than going abroad. You may fancy the tigers, without the danger of meeting them. Every step shows some striking peculiarity of growth; something to wonder at, or something to admire. How regular! how beautiful! how well adapted! For one instance amongst a dozen, as it happens to strike us, look at the lower part of the screw pine,



Stem of the Screw Pine (*Pandanus Furcatus*).

sketched in passing. See how it throws out a set of struts all round the stem to buttress it up. If you are thinking of ornamentation, notice the serrated leaves of the *Melianthus Major*, and see how beautifully they would lend themselves to it. Important contributions of plants and seeds have been received from West Africa, Japan, and British Columbia, also of bulbs and orchids.

In the scientific department of the Gardens the acquisition of valuable specimens has been unprecedented, mainly due to the International Exhibition. Almost the whole of the vegetable productions of our colonies is now represented at Kew. Nearly complete collections from Tasmania, Victoria, North, South, and West Australia, Queensland, Canada, Guiana, Natal, and Dominica, have been received in perfect classification: fine collections of woods also from the same places. One of the most remarkable donations is that of vegetable substances, illustrating the customs and food of the inhabitants of the ancient lake-dwellings of the pre-historic races of Switzerland,—a curious collection presented by Professor O. Heer, of Zurich.

The new house, too, with its tinged glass and elaborate arrangement for opening and closing the top lights, calls for the special examination of those who are interested in such matters. And when that has been done, get into the park-like grounds surrounding the Botanic Gardens, where you may enjoy the country as completely as if you were a hundred miles away from the great metropolis.

FROM MELBOURNE.

NOTHING of great moment has occurred since our last communication; and, excepting a few churches, no public buildings of note have been commenced or finished. A neat little Wesleyan church, in the Early English style, capable of seating from 400 to 500 persons, was opened for public worship a few weeks ago at Campbell's Creek, three miles from Castlemaine, and in the immediate neighbourhood of the famous Ajax gold mine. Its cost is about 1,500*l.*, and it is erected from designs by Messrs. Crouch & Wilson, of Melbourne; the superintendence being confided to Mr. Kibble, a local architect. A smaller church, also for the same body of Christians, and from designs by the same architects, was opened a few weeks before that at Dunolly, another of our gold field townships.

Our soft goods merchants made a good stroke last year, and most of them are preparing to enlarge their borders. Messrs. Sargood, King, & Sargood have commenced with important additions, to cost some 10,000*l.*, so it is said. Messrs. Reed & Barnes are their architects.

Mr. Charles Webb is the architect for a new brick church in Swanston-street, on the site of the old John Knox's church, after which, we suppose, it will be called, belonging as it does to the Free Church of Scotland.

Additions are being made to both University and Public Library. The last reminds us of as great a swindle as we ever heard of in the way of competitions. We scarcely think we can find its fellow. About six months since the Government of New South Wales advertised for designs, offering two prizes. Some thirteen were sent in: five were selected for the report of the Colonial Architect. He did not delay long in making his report; but the decision was put off from time to time until a month since, while rumours were allowed to get abroad that the selection had been narrowed down to three. At last it was suspected that the delay was not for the purpose of doing justice, but in order to find an excuse for setting them all aside and saving the premiums. By a public exhibition of the designs, the Government learned that all five of the drawings under consideration were from our colony. Just now a good deal of jealousy is shown, even in little matters, by the Sydneyites against their more energetic and generally smarter neighbours. At least, as far as architecture is concerned, we must say so; as in this as well as two previous competitions, they have had to stand aside for Victorians. The upshot of it all is, that the Government have determined not to award the premiums, as none of the designs possessed sufficient "architectural merit." Of course, the Victorian competitors are not in the most amiable temper, in consequence of this gratuitous insult; for amongst them were our leading architects. We think it very unlikely the Sydney Government will ever get designs from Melbourne again—certainly not from their late victims. They have never possessed the confidence of professional men here; and when they called for designs for the parliamentary buildings, so great was the distrust, that not a single design went up from Melbourne, and we were all taken by surprise that the prizes were fairly awarded; and hence the fact of their getting any designs on the present occasion.

Several other competitions have since been invited in Melbourne from the neighbouring colonies; but the profession are very reluctant to be sold again.

Since the arrival of the last mail, Victoria has been taken up with demonstrations of loyalty, on account of the marriage of the Prince of Wales. To enter fully into this subject would be out of place in our columns; but we may notice that among the many transparencies of various degrees of excellence, was one of glass, erected by the contractors for the new Post Office, prepared by Fergusson & Urie, whose work in this line we have before had to mention with commendation.

WEIGHTS AND MEASURES.

BEFORE you finally decide that the adoption of the *metric* system, and the inevitable inconveniences which must occur at its introduction, would be nevertheless the best means of obtaining the great advantages of the *decimal* system in our weights and measures, permit me to lay before yourself and your readers a scheme for decimalizing our own measures, and, at the same time, harmonizing them with the metric.

With Professor De Morgan I plead for the use of the foot decimally divided instead of the larger standard, the metre. This preference, however, rests with the general notion of the foot, and is not inconsistent with a very small alteration of its length. I also believe that all your readers will consider that the inch is entitled to much consideration.

To combine these desiderata let a new measure be taken of 12½ inches, that is of 100 eighths of inches, which may be called the *span*. As the span is at present no definite designation of length, and the diameter of a circle formed by the fore-finger round the thumb is near enough for the purpose, it sufficiently warrants the nomenclature. The general idea of the span would be equivalent to that of the foot; but a new name is

proposed for the avoidance of mistakes. For the many and important objects of which the measurement in inches is familiar, the identical value would at once be found upon such a rule by the easy process of multiplying by 8. For all new operations the decimal system is available. Old measurements would be easily compared with new at a discount of 4 per cent.

Five thousand spans would give a mile differing from the present by 24 yards only, which in a mile would be an unimportant quantity. Such mile would be six-sevenths of the nautical mile; at least the error would be insignificant,—about one-thousandth part. Two hundred such spans would form the side of a square acre differing only by 154 superficial feet from the present acre. The rood of 10,000 feet and the perch of 250 would be measured without recourse to the Gunter's chain being necessary. Our old standards would continue to serve as the national standards, as the difference of 4 per cent. would be easily allowed for.

Let it now be asked what would be the relation between the proposed new foot, or span, and the mètre.

The mètre equals 3·2808992 feet present measure,
= 1·0936331 yards.

Increase the yard one twenty-fourth part, and the mètre equals 1·0498877 such yards.

This might be stated sufficiently near for all ordinary commercial purposes as—

100 mètres = 105 yards of 3 spans; or
span yards.

To compare long, square, and cubic mètres with our similar measures, it would only be necessary to add 5 per cent. once, twice, or thrice respectively.

To give an example:—It is desired to know in span yards the equivalent values of 53·7 mètres:—

	53·7 mètres.
1st—add 5 per cent.	2·68
	56·38 span yards long.
2nd—add 5 per cent.	2·87
	59·25 span yards square.
3rd—add 5 per cent.	2·96
	62·21 span yards cube.

The *absolute* values carried to four digits would be respectively 56·38, 59·21, 62·17. The error, therefore, even in the cubic result, is not more than two-thirds of one-thousandth part of the same.

Respecting measures of weight and capacity, the present subdivisions, by the binary scale, of the pound and the gallon, might be most advantageously retained; but all quantities larger than the pound or gallon be reckoned by tens, hundreds, and thousands, &c.

Should a conciliation of our standards with the metric be thought desirable, observing that two gallons are so nearly equal to nine litres, and twenty pounds weight to nine kilogrammes, that a change of less than one per cent. would render these ratios exact, this appears to point out the change that would most conveniently be made. Our ideas would undergo no revolution, and mercantile exchanges could be calculated with the greatest facility.

With reference to decimal coinage, &c., it would be desirable to retain the binary subdivision of the penny or whatever should be made the lowest term of account. But it does not appear necessary to wait for legislation to realise a large instalment of the benefits of the decimal system. Those who are engaged in calculating accounts from given prices, and casting up long columns of three denominations, will be able to judge of the value or otherwise of the following suggestion.

Let all prices be made out in pounds, pence, and farthings: let only two columns be used, viz., of pounds and pence. The pounds will obviously take care of themselves. But let all the figures resulting from operating on the pence be carried, whatever the number be, into the pence column; and let the reduction into pounds and shillings be reserved until the total is cast up. A short trial of this system will easily show how large an instalment of the decimal system is hereby obtained. Perhaps we require no nearer approach to the decimal coinage than the disuse of the shilling and a new coin of ten and twenty pence. If farthings are treated in the same way as pence, with the separate column, and the final result only reduced, they may be written advantageously 1′, 2′, 3′, instead of ¼, ½, ¾; but the gain will not be so great in this treatment of the farthings, because the numbers to be cast up for the total will be so large compared with the value for which they stand. They may easily be written as decimals of the penny, or treated in the usual way, as a vulgar fraction of a penny. Practice will determine which method is most desirable.

One advantage resulting from the decimal system, whether in measures or money, should not be overlooked; viz, that it facilitates the use of the slide rule, by which instrument time and mental labour are so greatly economised, but of which the use is materially interfered with by the duodecimal element in our measures and money.

F. C. PENROSE.

PARIS A SEA-PORT.

ACCORDING to the French journals, the new Minister of Public Works in France has given directions for a fresh study of a project which has been under consideration at various periods, in different forms, that of the construction or canalization between Paris and the sea, of a water-route adequate for the passage of large vessels. It is hoped that by means of a maritime canal, and other works, the French capital might be constituted a port for sea-going vessels of every class, not excluding ships of war. It is remarked that the people of France do not take the same interest in the development of their navy, as in that of the army; and one reason is considered to be the circumstance that the Parisians, who are the head and heart of the nation, are not accustomed to the sight of vessels of any considerable tonnage. It is also remarked that as the seat of the government is in a place which is far distant from the sea, the navy is constantly in danger of being forgotten; and that could only merchant vessels be brought to the capital, the army would not continue to absorb attention, to the injury, as thought, of the other service.

The early projects were directed naturally, to the canalization of the Seine. The navigation of that river is indeed at present, facilitated by short lengths of canal, cutting off many of the numerous bends of the stream; and large cargoes of merchandise now are conveyed by the course of the Seine, both up and down to Paris. Bercy, the *entrepôt* for wines, is one of the eastern quarters of the capital, or up the river. The navigation is carried on by towage, chiefly. A chain submerged lies along the bed of the river; this chain is caught up by the towing-vessel, and is carried round a windlass in the fore part of the vessel. The windlass is turned by steam,—the slack of the chain falling out at the stern; and the string of boats is towed without the use of paddles or screw. At least one sea-going vessel, however, has for some time traded regularly between London and Paris, passing under the bridges by striking the masts, and bringing-to immediately above the Pont du Carrousel, opposite the Louvre.

The idea of constituting Paris a port, presented itself to the first Napoleon as it had to Colbert, the minister of Louis XIV. Napoleon's project was to form the port to the north-west of the capital,—several miles down the stream, but in consequence of the bends in the river, at no great distance from the point to which the populated portion of the city and suburbs has now extended. The course at present proposed for the maritime canal, is from Dieppe. The width and depth, it is intended, should be sufficient for ships of war; and the French journals expect that the channel would be the equivalent of the Thames, and that ultimately there would be nothing to envy the English their possession of, whilst that colonial enterprise, which has made one country so great, would be promoted amongst the people of the other. In 1848, it was proposed to employ the workmen of the *ateliers nationaux* on a like project; and it is suggested that those who are suffering from the cotton-famine might be employed in the formation of the canal now proposed. Three years are supposed to be sufficient for completion of the canal.

WORK AND OVERWORK.

IN the lecture on this subject delivered at the "Ladies' Sanitary Association," as mentioned in our last, Dr. Richardson urges views familiar of old time to our readers. We gladly print some portions of it.*

Sacrifice of Life to Work.—I come to the first position—the relation of life to labour, and the sacrifice of life to work.

We must, in considering this topic, separate the direct baneful effects arising from some occupations from the simple effects of overwork. There are certain occupations which kill without calling for any undue exertion: the worker need not actually labour four hours a-day, and yet he shall die. I will give one, or at most two, examples.

There are men who obtain their livelihood by working on India rubber; by making, for instance, those balloons which our children use as toys, and other manufactures. In one part of these processes the workmen dip the India rubber into a solution containing a substance, commonly employed in the arts, and known as bisulphide of carbon. This chemical agent gives softness and suppleness to the raw material, and a dip into it is all that is required. The dipping process is so simple, so easy, that as a matter of work it is absurd; but the effort is often fatal, quite independently of long labour, or the idea of muscular exertion. The workmen in this case inhale a poison which is so terrible in its results that it can scarcely be considered without a shudder. Let me sum up what M. Delpech teaches regarding the condition of these india-rubber workers.

The symptoms caused by bisulphide of carbon are peculiarly severe, and the situation of the workers is really most miserable. Few of the workers marry, as it is well known that those who habitually work among the fumes rarely or never have children, and the malady induced is one which will only succumb to good air and rest, and total exclusion from the work-sheds. The head is much affected, and partial insanity is far from uncommon. The sight is troubled. The taste is vitiated, so that most things appear to taste of sulphur. The hearing is likewise affected; and the digestive functions are sometimes strangely excited, though this latter symptom is less frequent than the others. Appetite is increased to the verge of gluttony, and nausea is almost invariable. The breathing and the circulation are injured; and most, if not all, of the secretive functions are disordered in a very alarming manner. In fact, the wretched people—no other name can be given them—who work with this agent are miserable to themselves and the world: they live in pain and trouble of both body and mind, with no hope or expectation of cure so long as they continue at their particular occupation, and no home except the grave.

Death from Simple Overwork.—It is not in dressmakers' rooms alone that working to death is the order of the day, but in a thousand other places; in every place, I had almost said, where a "thriving business" has to be done, and where the economy of the transaction is based exclusively on the physical capacity of the man and woman,—on the unreclaimable flesh, blood, and brain,—on life itself. We take the first and most prominent craft of the land, statesmanship, and what is its picture? What is there in our Commons, but one great strain to think in competition, to work in competition, to act in competition, beyond and above the powers of all human endurance? To search after place, and if not after place, after power, what taxation is put on the living heart and the mis-used brain? We turn from those who represent our people by the speaking voice, to those who represent it in literature, and again what a spectacle! How many of the editors of papers, who have written so urgently on the fate of Miss Walkley, dare look their own fate honestly in the face? To wield with an unknown pen, for a few short years—seven at most, I believe, on the average—the governance of thought through literature;—to give the body no rest at night, nor peace by day;—to have at all times and seasons a heart making up in the rapidity of its action what it wants in power, and trying to keep abreast with the giant phantom that moves with it, as vainly as a child by running tries during a long day to compete with its father's walk;—to hold on at this vain effort, to sink under it, to rush to Swiss mountains and German watering places, seeking the renewal of life in an organism that is destroyed;—to find no reality in hope, and inevitably to die: such is the fate of the overworkers in the literary world;—of those who of all others "think all men mortal but themselves."

In the learned professions, once more, especially in the law and in medicine, what is there so visible as the black pall hanging over every successful man,—overwork? Who die, on an average, at thirty-eight years? These men. I have myself seen a member of my profession fall at his work even more certainly than the Regent-street milliner; and I believe, after men of literature, there stand out no class who die more surely and abundantly as the victims of the prevailing delusion.

We descend from professions to trades, and manual callings, and there what do we find? We

* The Lecture is more fully reported in the *Social Science Review*.

will take the blacksmith as a type. If the poets were true, there is no man so hearty, so merry, as the blacksmith: he rises early and strikes his sparks before the sun: he eats and drinks and sleeps as no other man. Working in moderation, he is, in fact, in one of the best of human positions physically speaking. But we follow him into the city or town, and we see the stress of work on that strong man, and what then is his position in the death rate of his country? In Marylebone, blacksmiths die at the rate of 31 per thousand per annum, or 11 above the mean of the male adults of the country in its entirety. The occupation, instinctive almost as a portion of human art, unobjectionable as a branch of human industry, is made, by mere excess of work, the destroyer of the man. He can strike so many blows per day, walk so many steps, breathe so many breaths, produce so much work, and live an average say of fifty years: he is made to strike so many more blows, to move so many more steps, to breathe so many more breaths per day, and to increase altogether a fourth of his life. He meets the effort; and the result is, that, producing for a limited time a fourth more work, he dies at thirty-seven for fifty; and he and his class similarly placed, dissolve away each year at the rate of 11 per thousand quicker than the rest of the seething masses amongst whom they have been cast, as fellows in life and its burdens.

With needlewomen of all kinds, including millliners, dressmakers, and ordinary sempstresses, there are three miseries,—overwork, deficient air, and either deficient food or deficient digestion. There is nothing in the main to be said against needlework for women: it is one of the best of occupations, in one sense, for thousands of them; and it is infinitely better adapted to them, in every department, than to men. But the mischiefs of the trade, in the metropolis especially, are that it is monopolized by some twenty-six capitalists, who, under the advantages that spring from capital, can not only make a great show, but can bring in capital to force economy out of labour. This power tells throughout the whole class: if a dressmaker can get a little circle of customers, such is the competition that in her home she must work to the death to hold it together; and this same overwork she must of necessity inflict on any who assist her: if she fail, or do not try independently, she must join an establishment, where the labour is not less, but where her money is safe. Placed thus, she becomes a mere slave, tossed about with the variations of society: now at home in one room, starving or near to it; then engaged fifteen, sixteen, ay, even eighteen hours out of the twenty-four, in an air that is scarcely tolerable, and on food which, if it even be good, cannot be digested in the absence of pure air.

On these victims consumption, which is purely a disease of bad air, feeds: on these causes consumption mounts to the head of the fatal maladies of this country: for these reasons needlewomen and, with clerks and shoemakers, highest on the lists of the most fatal malady. But it is not because they are needlewomen: it is because they are women overworked and under-nourished.

Overwork and Legislation.—But what if an arbitrary system of State interference were consistent with the spirit and temper of the English people? Would it then do good, or advance the condition of the employed? Impossible! An ignorant people can never be governed into knowledge: a rigidly governed people can never be long, unless it be and continue ignorant. The science of social life, like that of chemistry, with its elements, which have their repulsions, their affinities, and their combinations. Concerning these it may be said that, while the union of ignorance and obedience is often slight, and the union of knowledge and rigid obedience impossible, the union of independence and of knowledge is the firmest, the most enduring, the safest of all combinations.

In a word, the Government is not required to interfere in the management of special sections of the community when knowledge is well distributed; while, when knowledge is not universal, the government cannot interfere without appearing to exercise an arbitrary authority, which is not in accordance with the national feeling in respect to the functions and the obligations of the supreme power.

And yet there are duties that our legislators might perform, not precisely as legislators, but as distinguished exemplars and practical teachers. I, for all love the House of Commons: we reverence its history, its faith, its courage, and, in the main, its wisdom. I would speak of it with profoundest respect; but as a physiologist who has learned to reckon up the capacities of the human organism by the balance and weight, I am bound to state a plain conviction that that House would do better if it went to bed sooner, and did not sit such an immense number of hours at one time. I am sure, under such a plan, its members would live longer; and I am sure they would do more work. But these are minor considerations compared with the effect which their example would exert over the nation. It reads absurdly, indeed, from the House of Commons, that it should talk of redressing the wrongs of the overworked, when it sets the boldest example of excessive mental and physical taxation, and not rarely of absolute exhaustion resulting from attempts which, if successful, were more than mortal.

There is yet another way in which the Legislature could render essential service. It could enlighten by opening a Royal Commission of Inquiry into the effects of overwork and the extent to which it is carried on. I see that in this direction some promise of an effort has, through the exertions of Lord Shaftesbury, been made. In fact, there is somewhere under the protection of the Government a Commission of Inquiry in which questions relating to overwork are, or ought to be, under discussion. I think, however, that a feeling—almost universal amongst sanitary men—is correct; that this commission is not broad enough nor active enough; that in fact, it does not meet the question at issue at all; and that what is really demanded is a Board of Inquiry as complete, as energetic, and as practical, as that which sat to investigate the state of the army in the Crimea, and from which the army may be said to have received a new lease of life.

Overworked Money-makers and their End.—The history of these overworked money-making men is itself sufficiently repulsive: in my own experience as a physician, six of such men have fallen by their own hands; but their individual miseries are as nothing compared with that which they inflict on all beneath them: he who will not, in his devotion to one object, respect his own life, can have little respect for that of others: it is with him as with one before him, *aut Cæsar aut Nullus*: heads that can be bought must bend to his will, and ghostly faces be the companions of his own shadow. The needle-woman dying at her needle, the clerk coughing up his life at his desk, the blacksmith panting at his anvil—these are they who are the most pitiable victims of that mania for acquiring wealth by overwork which destroys its own advocate, and in the end does not allow so much work to be done in this world as the world wants and nature has provided for.

Lastly, there is an end leading to overwork, and all the train of evils adjudged to it, which on the first blush seems more pardonable. A man or a woman says, I work thus and thus: I overwork it is true; but I do it that my children may be independent, and may reap the fruits of my industry. In reasonable limits it is naturally right, not merely to protect but to provide for children; but it is against all law to try to place a future generation independent on the sacrifice and the destruction of the present. Why should one person now living have a day, an hour, a minute taken from his life that his child should inherit any amount of wealth derived from that transaction? Nature herself in the end corrects this folly, from which so much misery ensues. She says to her children, through her mighty though silent voice;—Here is the world as a garden: take it, live upon it, make it a garden of richness and pleasure and delight, for it is yours to enjoy. Some of you must govern, some teach, some attend the sick, some invent new works or new pastimes, some sing songs, others tell great thoughts read from the earth: some must use the hand and till the soil, and carve the stone and build the temple or the capitol. But mark this, all must work! your generation may be great, but it cannot work for its successor! Then as now the garden must be supervised, weeded, embellished; and those who live then must do the work; or, in spite of all your providence, they must starve. You may kill your millions by overwork: you may charge your own age with any amount of misery you please; but this is certain, that the earth which never rests itself, will never allow its people to live on the labours of the past.

These are the truths which, according to my view, ought to be taught. I see no chance for the legislator so long as the public mind remains uninfluenced by them; for, wise though he may be, he must not drive nails into heads, however stupid; and when the popular mind is fully influenced, there will be no advantage in legislation, because then every man and every woman will have a law in themselves which they will follow.

ALEXANDRA PARK.

IT is a very beautiful site at Muswell-hill that the directors of the Alexandra Park Company have secured. It consists of 480 acres of freehold land, very handsomely timbered, well watered, with two large mansions on it, entrance lodges, conservatories, and outbuildings; and it commands most extensive views ranging over five different counties. The land is situate nearly equi-distant from the Regent's and Victoria Parks, and within half an hour's drive of either; and it isonly fifteen minutes by rail from the centre of London. The Wood Green Station of the Great Northern Railway adjoins the estate, and the Tottenham and Hampstead Railway now in course of construction will bring the North Western and Great Eastern Lines into communication with the property.

It is intended, we believe, in the first instance, to erect an inexpensive temporary building, and connect it with the station at Wood Green by means of a covered way. Buildings will also be constructed for refreshments and such other purposes as the tastes and requirements of the public may from time to time suggest.

A handsome and appropriate permanent structure must be put up; and then, with *proper management*, there is every reason to believe the Alexandra Park may be made a delightful advantage for the inhabitants of the north side of London, and a profitable investment for the shareholders. We said this three or four years ago when the scheme was in other hands, and we say so again. The neighbouring landowners, if they are wise, and can learn from Sydenham, will help it on to the extent of their power. Mr. John C. Deane, who has had great experience in such matters, is the general manager.

COMPETITION DESIGNS: ROYAL MASONIC INSTITUTION FOR BOYS.

THE following is the award:—1st premium, 70*l.*, Mr. Edwin Pearce, Clapham; motto, "Knowledge is Power." 2nd premium, 50*l.*, "*L'Union fait la Force*," Messrs. Simmonds & Bell, Hammersmith. 3rd premium, 30*l.*, "*Integritas*," Mr. Frederick Boreham, Penge.

DARLINGTON WESLEYAN SCHOOL.

A SHARP-EYED correspondent says,—The new Wesleyan school, the foundation-stone of which was laid with ceremony a short time since, is now in a forward state, the roof having pushed out the walls. Props have been applied with good effect. Credit is due to all concerned for the manner in which the thing is being carried out. Internally the cutting up of the ceiling to make room for the circulo-octangular wheel window is noteworthy. Externally, when the statues of the trustees are elevated to their positions on the bell turret, the building will assume a more finished aspect. The style is Lunar Gothic. Further propagation may be looked for.

THE LANGHAM HOTEL, PORTLAND PLACE.

THE building stands at the Regent-street end of Portland-place. In addition to the accommodation shown on the ground floor, it contains 300 bed-rooms, upwards of thirty-six sitting and drawing rooms, many of them *en suite*, with bed, dressing, and bath rooms, billiard and smoking, besides servants' and other offices.

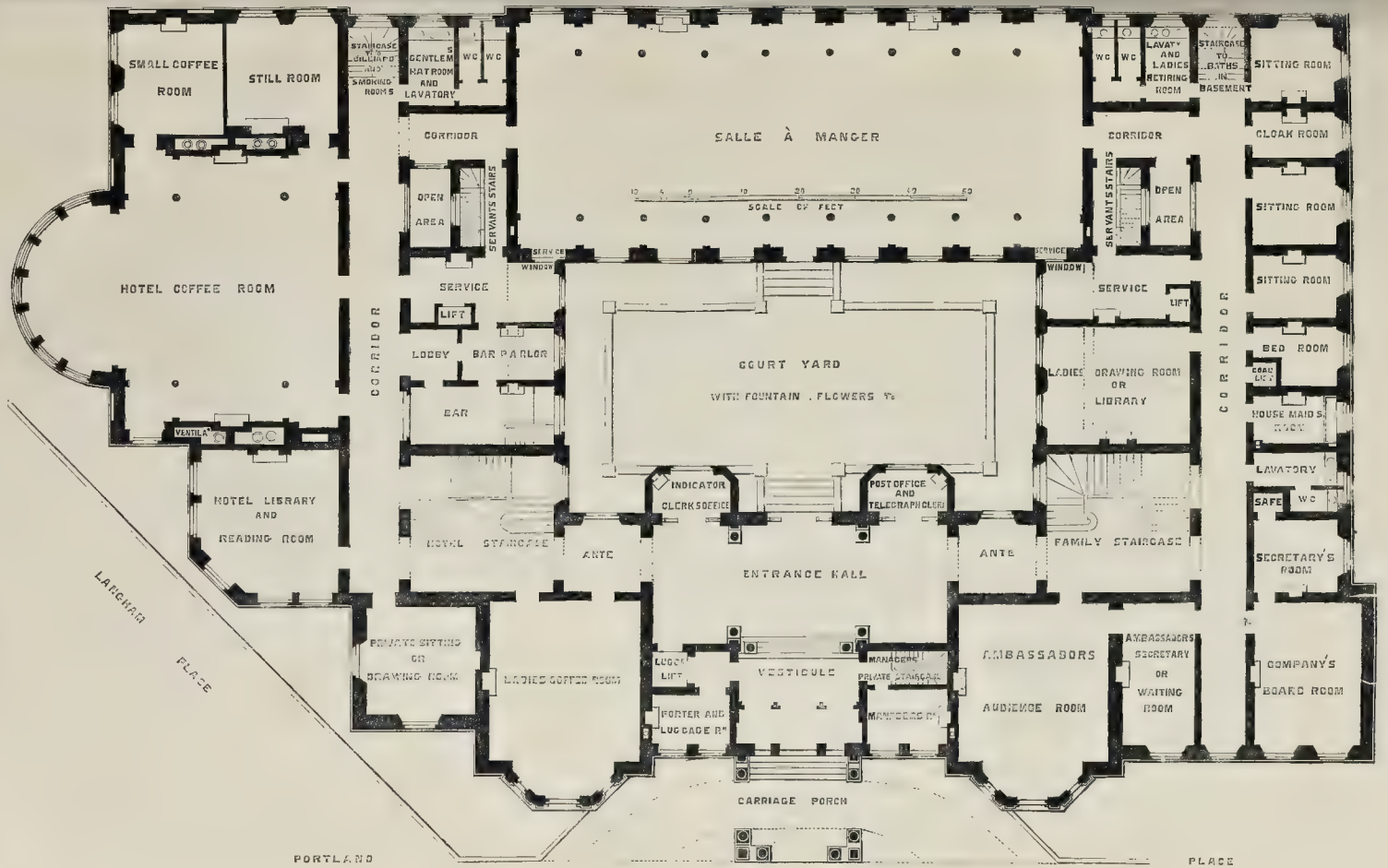
The kitchen is beneath the coffee-room of the hotel, and is similar in size, being also 20 feet in height. Over the other apartments in the basement is a mezzanine floor, occupied by servants' bedrooms, housekeeper's and ladies-maids' sitting-rooms, visitors' servants, dining-rooms, &c. The basement also contains a large swimming-bath, which, like the kitchen, occupies the height of the two stories beneath the ground floor.

The corridors and staircases throughout are of Portland stone.

The open court in the centre of the building will be filled with fountain and flowers, &c.

The whole of the public and private rooms will be finished in a neat and inexpensive manner.

The building, which is now rapidly progressing, is from a design by Mr. John Giles, of London, architect, selected by the board of directors in a limited competition. It is being carried out by him in conjunction with Mr. Murray, the architect of the Palace Hotel. The contractors are the Messrs. Lucas, Brothers; the builders' foreman, Mr. Bullifant; the clerk of works, Mr. Richards.



THE LANGHAM HOTEL, PORTLAND PLACE.—*Plan of Principal Floor.*



THE LANGHAM HOTEL, PORTLAND PLACE, LONDON.—MR. J. GILES, ARCHITECT.

RESIDENCES OF DECEASED CELEBRITIES.

IT has been urged in our pages more than once that great interest would be given to the streets of the metropolis if the sites connected with our great men were indicated.

Mr. W. Ewart is seeking to carry out this notion. In the House of Commons on the 17th, he asked the First Commissioner of Works whether, through the agency of the Metropolitan Board of Works, or otherwise, it might be practicable to have inscribed on those houses in London which have been inhabited by celebrated persons the names of such persons. The places which had been the residences of the ornaments of our history could not but be precious to all thinking men; and when he reminded the House how rich the metropolis was in such associations, he thought they would agree with him that it was desirable some record should be placed upon the respective localities. Thus, Milton lived in a garden-house in Petty France, now No. 19, York-street, Westminster; Newton's house, in St. Martin's-street, south side of Leicester-square, was now an hotel; Dryden died at No. 43, Gerard-street; Prior lived in Duke-street, Westminster; Sir Joshua Reynolds lived in the centre of the west side of Leicester-square; Hogarth lived in part of the Sablonnière Hotel; Flaxman at 7, Buckingham-street, Fitzroy-square—his studio was still there; Dr. Johnson died at 8, Bolt-court, Fleet-street; Goldsmith at 2, Brick-court, Temple; Gibbon at No. 7, Bentinck-street; Garrick at the centre house, Adelphi-terrace; the great Duke of Marlborough died in Marlborough House; Lord Somers's house was still in Lincoln's-inn-fields; Lord Mansfield lived in King's Bench-walk; Samuel Rogers lived in St. James's-place, and Lord Macaulay in the Albany. Other nations were in the habit of preserving memorials of their great men, and there was no reason why we should not follow their example. In what way it should be done it was not for him to prescribe, although he had made a suggestion in his question; but at least he hoped that the few remarks he had made would have the effect of calling attention to the subject.

Mr. Cowper thought that as much interest was felt in England concerning departed greatness as in other countries, and he agreed with his hon. friend in thinking that it would be desirable that we should be able to recognize the spots where persons of eminence and fame had resided. The matter might fall within the functions of the Metropolitan Board of Works; but still it was the right of the owner or occupier of a house to write upon it what he pleased; and it might not be desirable to compel a man to place upon his house the name of a person who did not then live there. If these difficulties could be got over, it would be gratifying to the public to be able to identify the houses in which such men as Newton and Reynolds had lived.

It seems to us, that to place an inscription on a house stating that for so many years Sir Isaac Newton lived there; that within the walls he had produced some of his most valued works;—on another, that Sir Thomas Lawrence, had long resided in it, or that Hogarth, the painter; Woollett, the engraver; and similar other worthies, had lived there, could not possibly do any damage to the premises. In many instances it would cause them to have increased value, and certainly such inscriptions would give a charming interest to many plain and unsightly masses of brickwork, and would be a means of instruction for wayfarers.

In many parts of London inscriptions have been placed on buildings, to show that houses were erected or rebuilt at a particular time; and we do not know that these marks have lessened the money worth of the property.

LOOK TO THE WATER.

OBSCURE sources of disease, often pointed to in our pages, with a view to the prevention of evils, are receiving attention in America. Thus, in a communication to the Boston *Medical and Surgical Journal*, Dr. James R. Nichols writes:—

"A few months since a specimen of water was brought to me for chemical examination, by a gentleman of Charlestown, who stated that his wife was afflicted with protracted illness of a somewhat unusual character. It was found to be largely impregnated with potash and the salts resulting from the decomposition of animal and vegetable *débris*; and the opinion was expressed that a connexion existed between the well and the waste fluids of the dwelling. This seemed improbable, as they were all securely carried away in a brick-cemented drain, and in a direction opposite the water-supply. The use of the spade, however, revealed a break in the drain at a point favourable for an inflowing into the well, and hence the source of the contamination. Rapid convalescence followed on the part of the sick wife on obtaining water from another source.

Analysis was recently made of water from a well in Middlesex county, which disclosed conditions quite similar to these. The owner was certain that no impurities could arise from sources suggested, but rigid and persistent investigation disclosed the fact that the servant-girl had long been in the habit of emptying the 'slops' into a cavity by the kitchen-door (formed by the displacement of several bricks in the pavement), where they were readily absorbed. Although the well was quite remote, the intervening space was filled with coarse sand and rubble stones, and hence the unclean liquids found an easy passage to the water. This proved to be the cause of illness in the family.

In cities and large towns, where excrementitious matters accumulate rapidly around dwellings compacted together, it is difficult to locate wells remote from danger, and it might seem that suspicion should be confined to those localities. This, however, is not a safe conclusion. How often do we see, upon isolated farms in the country, the well located within or upon the margin of the barn-yards, near huge manure-heaps, reeking with ammoniacal and other gases, the prolific sources of soluble salts, which find access to the water, and render it unfit as a beverage for man and beast. It may, no doubt, be a convenience to the farmer to have his water-supply so situate as to meet the wants of the occupants of his barn and dwelling, but it is full of danger.

Whilst admitting that such may be the condition of the water of many wells, doubts may arise with some whether substances, not decidedly poisonous, and received in such quantities, can, after all, be productive of much harm, or the real source of illness. To the great majority of people they are certainly harmless; but it must be admitted that there is a class—and one or more are found in almost every family—whose peculiarly sensitive organization does not admit of the presence of any extraneous agent in food or drink, or in what they inhale. The functions of life and health are disturbed by the slightest deviation from the usual or normal condition of things around them.

It seems incredible that the thousandth part of a grain of one of the salts of lead, dissolved in water, and taken daily, will disturb the system of any one; and yet such is the case. We can see no reason why a very little nitrate of potassa, or soda, or lime, taken in the same way, should produce any effects: still stranger is it that the infinitesimal amount of dust dislodged from painted wall-papers, received into the lungs, should make inroads upon health."

CO-OPERATIVE SOCIETIES.

A RETURN has been made to the House of Commons of the general statements of the funds and effects of every industrial and provident society registered under the Act 25 & 26 Victoria, c. 87, for the year ending the 31st of December, 1862, transmitted to the Registrar of Friendly Societies in England and Wales. The total number of these societies, it appears, is 332; consisting of 90,458 members, who held an aggregate capital of 429,315*l.* in 351,613 shares, besides a loan capital of 54,207*l.* The payments made during the year for goods amounted to 2,067,867*l.*, and the receipts to 2,331,650*l.* The profits are returned at 165,770*l.*, and the expenses at 135,588*l.* The assets and property are valued at 584,766*l.*, and the liabilities amounted to 422,802*l.* These societies, with very few exceptions, have been formed since 1860, and are most numerous in Lancashire and Yorkshire, where they originated, but they are now found in almost every county. The shares seldom exceed 1*l.* each. The societies mostly keep stores for the sale of groceries and provisions, but in Lancashire and Yorkshire some of them carry on the business of cotton-spinners, millers, tailors, drapers, shoemakers, coal merchants, and indeed almost every common trade. In Cheshire there are 17 of these societies, in Derbyshire 8, in Durham 19, in Lancashire 98, in Middlesex 20, in Northumberland 12, in Salop 2, in Staffordshire 15, and in Yorkshire 64. In Staffordshire all the co-operative societies deal in groceries, and most of them in provisions, also. One of the oldest of these societies is the Co-operative Provident Association, in Camden-street, Liverpool, established in 1851, and having at the end of last year a capital of 6,859*l.*, held by 3,602 members, and a loan of 100*l.* The transactions of this society during the year show 37,651*l.* paid for goods, 62,526*l.* received, and a profit of 2,968*l.* realized, which was appropriated to the payment of a dividend among the shareholders, interest on the loan, and a sinking fund. The expenses amounted to 2,704*l.* The assets and liabilities are balanced at 10,564*l.* Though very generally profitable even in a commercial sense, as well as otherwise useful, in securing for the members a regular supply of unadulterated provisions at moderate cost, they are not always well managed or successful.

ARCHÆOLOGICAL EXCURSIONS.

The Kent Archæological Society met at Penshurst-place on Thursday week. The party included a great number of the aristocracy, clergy, and magistrates from all parts of the county. The Marquis Camden, president of the Society, was present, as also the Archbishop of Canterbury, and various well-known noblemen and other gentlemen, together with a good sprinkling of ladies. The secretary read the report, which congratulated the society on its prosperous condition. The numbers last year were about 840: now they are about 870; and about 20 candidates are waiting for election. The balance at the banker's is 397*l.* 17*s.* 10*d.* Mr. Beresford Hope announced the intention of the Archæological Institute to visit Rochester on the 28th of July. The meeting then dispersed, and re-assembled immediately afterwards to partake of refreshments, which were provided by Lord and Lady De Lisle in abundant profusion. Shortly after two o'clock Mr. J. H. Parker gave a descriptive and historical lecture upon Penshurst Place. The lecture was delivered in the great hall, and was very numerously attended. Amongst the auditors were the Archbishop and Dean of Canterbury, the Marquis Camden, Earl Stanhope, with others of the nobility, and many of the clergy, besides a large number of ladies. In the course of the afternoon, the company assembled in the servants' court, when the Marquis Camden thanked Lord and Lady De Lisle, on the part of the Society, for their hospitality. The band of the 23rd (Penshurst) Kent Rifle Volunteers played during the day a selection of music, which added to the entertainment of the visitors. There was a large number of vehicles for conveyance to and from the railway stations.

The Midland Counties Archæological Association commenced the excursions of the present season by a visit to Boscobel, Tong, and Shiffnal, on Tuesday in last week. Nearly sixty of the members and friends of the Society, and a number of ladies, left the Snow-hill Station about eleven, and proceeded, in conveyances specially provided at Codsall, to the far-famed Boscobel House, erected by one of the Giffards of Chillington early in the sixteenth century, and remarkable for places of concealment, most useful to the followers of the "old religion" in the troublous times. About a mile from Boscobel the visitors were introduced to Whiteladies, once a convent of White Nuns, and now only a secluded burial-place. Tong Castle was next visited, and the large state-rooms examined, and the visitors then strolled across the park to the church of Tong,—the most interesting place visited during the day. Professor Chamberlain briefly described the chief objects of interest, and the party left the church, all regretting that the time spent there was far too shot. On reaching Shiffnal, where the visitors dined, Mr. T. A. Attwood was called to the chair. Mr. George Jabet read a paper on the escape of Charles II., after the battle of Worcester, tracing his retreat to Boscobel and his adventurous and dangerous journey to the south coast, where he succeeded in embarking for France. The Society is extending its operations, and is about to publish photographs and histories of the ancient remains of Birmingham and neighbourhood.

RAILWAY MATTERS.

THE traffic receipts of railways in the United Kingdom amounted for the week ending the 4th of July, on 10,617 miles, to 609,986*l.*, and for the corresponding week of last year, on 10,338 miles, to 599,750*l.*, showing an increase of 479 miles, and of 10,236*l.* in the receipts. The gross receipts on fourteen railways amounted in the aggregate on 7,421 miles, to 478,707*l.*; and for the corresponding week of 1862, on 7,123 miles,

to 481,607*l.*; showing an increase of 298 miles, and a decrease of 2,900*l.* in the receipts.

The returns for the week ending the 11th of July, amounted on 10,822 miles to 610,695*l.*, and for the corresponding week of 1862, on 10,404 miles, to 590,424*l.*; showing an increase of 418 miles, and of the sum of 20,271*l.* in the receipts.

Trials have recently been made on the London, Chatham, and Dover Railway, of a simple apparatus for indicating to travellers on railways the name of each station as it is approached by the train:—A small dial plate is fixed in each compartment, or between two compartments, of a carriage, on which the names of the stations are displayed. A band connected is made to rotate by the action of an arm or rod attached to it, and brought down so as to come into contact with certain portions of the rail. At certain distances from the station there is a small projection on the inner side of the rail: with this the rod comes in contact as the train is in motion; and this setting free a small spring, causes a portion of an endless band bearing the name of the station upon it, to appear and remain in sight until the next station is approached, when the contact with the rod produces another revolution, and the name of the last station is superseded by the next in order. The apparatus, it is said, can be easily reversed. The inventor is Mr. Leigh.

The striking feature in the passenger traffic in India still continues to be the enormous preponderance of third-class travellers. In the year ending June 30, 1862, there were 61,817 first-class passengers, and 299,820 second-class, but no less than 6,447,055 third-class, to whom may be added 312,958 who travelled fourth-class, while carriages of that class were run.

The railway between Mooltan and Sher Shah Ghat was opened on the 4th of May last, and 5,000 natives travelled on that day to bathe in the Indus.

METROPOLITAN MAIN DRAINAGE.

VISITS have been paid by members of both Houses of Parliament to the outfall of the southern system of Main Drainage; Mr. Bazalgette explaining to them the nature of the works. As our readers may remember, on each side of the river there are three main tunnels or sewers, which divide underground London into three districts, known respectively as the High, the Low, and the Middle Level. These in their course intercept all existing sewers flowing into the Thames, and carry their contents to Barking Creek on the north side, and to Crossness Point in the Erith marshes on the south side. The High Level, on the north side, is about eight miles in length, and runs from Hampstead to Bow, being at its rise 4 feet 6 inches in diameter, and thence increasing in circumference as the waters of the sewers it intercepts require a wider course, to 5 feet, 6 feet, 7 feet, 10 feet 8 inches, 11 feet 6 inches, and at its termination, near Lea river, to 12 feet 6 inches in diameter. Its minimum fall is 2 feet in the mile; its maximum, at the beginning, nearly 50 feet in the mile. It is laid at a depth of from 20 feet to 26 feet below the ground, and drains an area of fourteen square miles. The Middle Level, as being lower in the valley of the slope of which London is built, is laid at a greater depth, varying from 30 feet to 36 feet, and even more, below the surface. This is nearly complete, and extends from Kensal Green to Bow. The Low Level will extend from Cremorne to Abbey Mills, on the marshes near Stratford, and one portion of it will pass through the Thames embankment. At Bow, the Low Level waters of the sewer will be raised by engines at a pumping station to the junction of the High and Middle Level ducts, thence descending by their own gravity through these tunnels to the main reservoir and final outfall at Barking. On the south side of the Thames the three great sewer arteries are constructed on similar plans,—the High Level from Dulwich to Deptford; the Middle from Clapham to Deptford; and the Low Level from Putney to Deptford. At this point is a pumping station, which raises the water from the low to the high level, whence it flows away through a 10 feet tunnel to Crossness Point. One part of this tunnel, passing under Woolwich, is a mile and a half in length, without a break, and driven at a depth of 80 feet from the surface. At the outfall will be another pumping station, to lift the water to the reservoir. The southern reservoir is only five acres in extent: that on the north is fourteen. In the reservoir it will be deodorized.

The two culverts which carry the sewage to the east and west pumping stations are as large almost as railway tunnels. Before the entrance to the pumps are massive iron strainers, which keep out all the coarse refuse brought down the sewer, and which is afterwards dredged up by the filth hoist into the filth chamber, which is flushed into the river at low water. The pumping-house is nearly finished and the ironwork of the engines begun. The pumping stations will each consist of an engine-house, containing ten boilers calculated to work up to 500-horse power nominal. This power working through eight pumps of 7 feet diameter and 4 feet stroke will daily raise 19,000,000 cubic feet of sewage from 19 feet below low water to the level of the outfall; but, in case of necessity, the pumps can raise 25,000,000 cubic feet per day. The reservoir into which it will all flow is not yet finished, but when roofed in with brick will hold 20,000,000 gallons of sewage.

We propose to give before long a precise account of the works.

At the luncheon which followed the inspection the health of Mr. Thwaites, the chairman of the Board, and that of Mr. Bazalgette, the chief engineer, were drunk with much warmth.

METROPOLITAN BOARD OF WORKS: THE SEWAGE AND THE EMBANKMENT.

AT the ordinary weekly meeting, the chairman stated he had received several tenders for taking the sewage of the metropolis. They were all very long proposals, and contained extensive and complicated schemes. He believed that it would be utterly impossible to get into the merits of each tender in their present condition. The names of the tenderers were:—Mr. C. F. Kirkman, Mr. David Curwood, Lord Torrington, Sir C. Fox, and C. Hunter, Messrs. Napier & Hope, Dr. Thadicum, Mr. George Townsend, Mr. John James Moore, and Mr. Thomas Ellis. Mr. Freeman moved that the whole of the tenders be referred to the Main Drainage Committee, as they required minute and careful consideration. The motion was carried. Mr. Bazalgette submitted the drawings, &c., of the Thames embankment (north side) between Westminster and Waterloo bridges, and recommended that advertisements be issued for tenders. The plans were received and adopted, and the specification and form of advertisements were, after a long discussion, referred to the Thames Embankment Committee.

PROVINCIAL NEWS.

Pontypridd.—At a meeting of the local guardians, held some time since, it was considered desirable that some gentlemen should be selected by the board to visit the Gower Workhouse. They did so, and a design for a new workhouse was drawn out by Mr. Robinson, but it was the committee's plan. At a recent meeting the subject was discussed, and a motion was made to the effect "that the board instruct the clerk to advertise for plans for the projected Union house, and that a prize be offered for the plan selected by the Building Committee as the best adapted for the locality and site, upon which it is proposed to erect the said Union house." An amendment that the present plan be accepted was then moved, and adopted by a majority of 13 to 4.

Malvern.—The bequest of the late Earl Beauchamp for the establishment of almshouses for poor men and women who had been employed in agriculture, is now taking the shape designed. This institution will form three sides of a quadrangle, two sides of which are to consist of almshouses, and the third will contain the church in one angle, and the chaplain's house in the other, both connected with a cloister. The fourth side will be open to the south, giving a view of the Malvern range and the intervening country. In the centre of the quadrangle will be a garden, and the terrace-walk all round. The almshouses are being roofed in. The material is brick, with Bath stone facings. The parsonage is to be completed by the end of August. It is of brick and Bath stone dressings. The church is not in so forward a state as the rest of the establishment; yet by the contract it is to be completed in November next. The walls are up to the spring of the window arches. They are of Bisley rubble externally, lined with brick, and Bath stone dressings. The chancel will be separated from its south aisle by four arches, supported by double columns attached, having marble bases and shafts. In the aisle will be a vestry and a sacristy, and the entrance for the clergy and almspeople. The parishioners generally (for this structure will be the parish church of Newland) have their entrance through a porch on the north side of the nave. The cloister has not yet been commenced. There are between sixty and seventy men at work on the spot, under the direction of Mr. Allan, clerk of the works, besides others engaged at Gloucester on the joiners' work.

Sherborne.—The committee of the Yeatman testimonial announce that 430*l.* have been promised in this town and neighbourhood for the building of an hospital, and between 70*l.* and 80*l.* annually for current expenses. The committee, according to the *Dorset Chronicle*, have accepted a site for the hospital, offered by Mr. Digby, at a cost, for half an acre, not exceeding 100*l.* It appears from a sketch obtained by Mr. Digby from Mr. Slater, architect, that a building, suitable as a memorial to the late Rev. H. F. Yeatman, could be erected at a cost of about 1,000*l.*

Leicester.—Some ground, about 150 yards beyond the toll-bar on the London-road, is being planned so as to furnish a suitable site for the building of a number of villa residences, and to admit of the opening of a street through to the Race-course from that part of Stoneygate. The house which stood in the way will be pulled down, and a road will be cut, 50 feet wide and 350 yards long, to the Race-course. On each side of this street villa residences will be erected. The space will only admit of about twelve of these buildings, an equal number of which will be on either side, the lots fronting Stoneygate being the largest. At one corner what will be a sort of model building is to be erected, under the supervision of Mr. Wm. Jackson, of Leicester, architect. The first villa will be three stories high, and in style Anglo-Italian. It will be constructed principally of red brick; the window-dressings being of variegated or coloured stone, with carved springers. There will be dormer windows at the top story, and the terminals will be of wrought-iron.

Peterborough.—A new cattle market is at length being put into something like progress. The plans are the work of Mr. T. C. Thorburn, the architect of the Derby market. The directors held a meeting on Monday in the board-room, when the plans met with their approval.

Birkenhead.—The excavations for the new theatre to be erected at Birkenhead are to be commenced, and the foundation stone will be laid, most probably, by Mr. Laird, at the conclusion of the parliamentary session. The theatre is calculated to hold upwards of 2,000 people.

Manchester.—The foundation stone of the Manchester Freemasons' Hall was to be laid on (this) Saturday by Mr. Stephen Blair, R. W. Provincial Grand Master for the Province of East Lancashire, with all the ancient masonic ceremonials.

Doncaster.—Mr. Bennett, who up to this time has contracted for the work of boring for water at the artesian well in the Holmes, having declined to sign the specification for the additional depth of 20 yards, and to remove the present pipes and fix casing in the well, is no longer connected with the works, and has removed his boring-rods and other material. Mr. Dale, of the Hull Waterworks, who has been consulted in this matter by the Local Board of Health, will therefore find another contractor.

Newcastle-upon-Tyne.—The new townhall has been recently closed for the purpose of being cleaned and decorated by Mr. Cooper, of Newcastle. The work is now finished. The hall has been repainted and decorated in Polychromatic style. Four of the windows on either side have been darkened and filled up by panels, covered with flock paper, diapered and painted. The ground-work of the wall is a pale sage green. The pilasters between the windows are alternately sienna and jasper marble, with a verd antique style. The roof is polychromatic in decoration. The chief colour used in it is a pale buff, the styles being pale maroon, and the mouldings picked in orange, blue, and white. The frieze is a deep maroon, with orange blue vermilion and buff mouldings, and the patterns are picked in blue. The arches over the windows are worked in colours and gilt. The woodwork in front of the platform and side elevations is in walnut graining. The organ front has been cleaned, and the woodwork at the bottom grained, whilst the pilasters at either side of the instrument are put in black and gold marble. The benches have been stained and varnished. The whole of the work has been done by the foreign and native artists in Mr. Cooper's establishment.

Glasgow.—Since the purchase of the site of the Theatre Royal some time ago by Mr. William Glover and Mr. Houghton, proceedings have been made initiatory to re-building, and plans for the theatre having been prepared by Messrs. Joseph Potts & Sons, architects, Sunderland, and finally approved of by the Dean of Guild, the work of

restoration has been commenced. The whole front, so far as left unscathed by the fire, is to be retained without alteration, an addition being, however, made to the north side. The little lane or blind alley, whence ascended the gallery stairs, is to be incorporated in the body of the structure, thus adding more than 12 feet to its breadth throughout. Considerable change will be made from the plan of the auditorium of the old theatre —the stalls, pit, and dress-circle being in the same position as formerly, but an ampitheatre and gallery being substituted for the upper boxes, gallery, and upper gallery of the old building. Instead of there being but two audience entrances as formerly, there will be four, each approach easy of access, and constructed so as to permit the speediest egress and ingress of large crowds.

Whitburn.—The inhabitants of this new burgh, says the *Falkirk Herald*, have witnessed a most important event in its history, viz.—the opening of waterworks, the execution of which the commissioners undertook about a year ago. Under the plans and superintendence of Mr. Angus Kennedy, civil engineer, Glasgow, the contractor, a reservoir, capable of containing two millions of gallons, is now filled with excellent water, carried down to the town in cast-iron pipes made by the Shotts Iron Company, and flowing out of numerous cast-metal wells placed throughout the whole length of the street.

CHURCH-BUILDING NEWS.

Guildford.—The restoration of the church of the Blessed Virgin Mary at Guildford, referred to in our pages some time ago, is now approaching completion. The whole interior has been cleared of its many obstructions, and the west gallery has been removed. The arches before closed up have been thrown open. The ringing-floor has been raised higher, so as to show the east arch of tower clear. The walls generally have been repaired and strengthened with buttresses built on the foundations of the original buttresses, which had been removed many years since. Two of the columns have been taken entirely out, and re-erected upon a new foundation, the shafts being made upright. The plaster ceilings have been removed, discovering an oak roof in excellent preservation, which has now been cleaned, stained, and varnished. Every vestige of whitewash has been taken off, and the original surface of chalk exposed to view; and in the course of removing this, several remains of distemper paintings were discovered. These have been traced, and a complete set of them is now in the hands of the Society of Antiquaries, London, to whom they were presented by the architect. Pewing of stained deal, and without doors, has been fixed throughout, and the floor has been slightly regulated and laid with coloured tiles of simple pattern. A chalk pulpit from a design by the architect is now in course of erection; and a vestry has been formed in St. Mary's chapel, and is parted off from the rest of the church by a screen 8 feet high, similar in design to an old screen found in the church. The groining of this chapel has been restored, and the turret stairs repaired, and made the way up to the ringing-floor. The west door has been re-opened, and a new oak porch built to the north entrance. Several stained glass windows have been presented to the church, and executed by Mr. Holland, of Warwick. One, the gift of Sir Henry Austen, of Shalford, is the centre window of St. John's Chapel, as a memorial of the Testard family, the supposed founders of the church; the figures being that of our Saviour, in the middle, and St. Mary, St. John, St. Peter, and St. Paul, in the side lights. Another is in the south aisle, the gift of the Rev. F. Piggott, in memory of his late wife: the subject is the Virgin and Child; while the peculiar Leper window, recently discovered, has been filled and presented by Mr. Hook, sen.; the subject being, "Christ cleansing the Lepers." The whole church is warmed by hot air, the apparatus for which has been supplied by Messrs. Haden, of Trowbridge. The gas pendants were supplied by Messrs. Hewlett, of Holborn, the piping being done by the Guildford Gas Company. The architect is Mr. T. Goodchild; the builder, Mr. W. Swayne, of Guildford; the glazier, Mr. Beldham.

Knockholt. — The incumbent of Knockholt makes an appeal to his parishioners to erect some suitable monument in Knockholt church to Miss Thrale, in acknowledgment of her liberality to the poor of the parish for fifty years before her decease, and also in recognition of her bequests, amounting to 150*l.* a year. He proposes two windows, one to be purchased by the *poor exclusively*, and *called theirs*; the "Poor Man's Memorial Window" to be over the pew long occupied by the deceased, and the other on the same side, or opposite to it. The incumbent further suggests a number of improvements to the church.

Stourbridge.—The foundation stone of a new Roman Catholic church has been laid at Stourbridge. The cost of the building will be 3,177*l.*, and its dimensions 125 feet long by 58 feet broad.

Bradford.—The spire which has been in course of erection upon the tower of St. Andrew's church for some time is now completed. The spire is 80 feet in height from the tower, which is 65 feet, making the total elevation 145 feet, or a few feet lower than the spire on Manningham church. The designs were prepared by Messrs. Mallinson & Healey, the architects of the church; and the contract was undertaken by Messrs. M. Firth & Co., at a cost of 460*l.*

Leeds.—The new church of St. Margaret, at Bramley, Leeds, has been consecrated. The architects were Messrs. Perkin & Backhouse. The style is Decorated; the accommodation for 1,000 persons; and the present cost 4,500*l.*, gifts included; though 1,500*l.* more will be required to fully complete the work.

Kirkburton. — The new burial-ground of the parish church has been consecrated. The formation of this ground has been attended with some expense. The church has been repaired and beautified inside and out.

Staveley (Yorkshire).—In consequence of the dilapidated state of Staveley church, it is now being taken down, and will be rebuilt, with new chancel, tower, and spire, from the designs of Mr. John Lowe, of Manchester, architect. Mr. Freeman, of Staveley, has contracted for the whole of the works. The cost will be about 1,500*l.*

Wentworth.—A new peal of six bells, by Messrs. Warner, has been provided for the church of this village, at the cost of Mr. John Duke, of Barley Hall. The tenor weighs 12 cwt.

Halifax.—The corner-stone of a new church, to be dedicated to St. Stephen, has been laid at Copley, near Halifax. The church will be in the Gothic style; and, including site, will cost 5,000*l.* The contributors to the fund are Colonel Akroyd and other gentlemen in the district. Mr. H. Crossland, of Halifax, is the architect.

Lynn.—A building to serve the purposes of a church and school at Setchey, a small hamlet in the parish of South Lynn, has just been completed and opened. The dimensions of the church are 40 feet by 23 feet; and those of the school, which is on the north side, separated by a low screen, and can be used as an aisle, are 24 feet by 10 feet. The building is in the Later Gothic style, and is built of flint, with brick and stone dressings. The roof is of high pitch, and is furnished with a bell-cote and small spire. The interior is fitted with open benches, to accommodate about 100 persons. Part of the east window is of painted glass, as a memorial to some of the Marsters' family. The total cost of the building is about 450*l.* It has been designed and erected by Mr. Wm. Brown, of Lynn.

Scarborough.—The new church of St. Martin-on-the-Hill, South Cliff, Scarborough, has been consecrated. The church is built on a site given by the South Cliff Company, and was erected mainly through the great liberality of Miss Mary Craven, whose donations to the church, amounting to several thousand pounds, were given by her in memory of her father, the late Mr. Martin Craven, of Hull. It is from the designs of Mr. G. F. Bodley, of London, architect, and consists of nave and aisles, and chancel and its aisles. The tower stands at the north-west corner over the north aisle, and is 20 feet square and 100 feet high. It is finished by a gabled roof. The church is built of Whitby stone. It is lighted by a clerestory of two-light windows, by three-light windows, one in each bay of the aisles, and by four rose windows in the chancel, besides the east and west windows. The architectural style is that of the earlier part of the fourteenth century. The effect of the interior is improved by the stained glass with which some of the windows are filled. These are—the east window, two of the west windows, the east window of the north aisle, and two at the side of the same aisle. The general scheme for the subjects of the glass is as follows: the two west wings have figures of Adam and Eve, commencing the series. The north side windows have figures of the Old Testament worthies. One is a memorial window to the Prince Consort, with figures of the three good kings, Hezekiah, David, and Josiah. This is the gift of Miss M. Craven; and the other is a memorial window to the late Major Monins, given by his widow, having St. Michael in the centre, and the warriors Joshua and Gideon in either side light. Those which it is hoped may be added will contain figures of Noah, Abraham, Jacob, and others. The subject of the east window of this aisle is St. John the Baptist preaching: this is a memorial window to the late Mr. Joseph Hesp, of Scarborough, inserted by his widow. The east window, which is of three lights, contains the subjects illustrating the parable of the Heir. In the centre light is the Crucifixion. The south aisle windows, as they can be placed from time to time, will contain figures of Christian saints, beginning with the evangelists, apostles, &c.; and it is proposed to fill the great rose window at the west end with the subject of the Last Judgment: in the clerestory it is designed to have figures of angels. The glass is from Messrs. Morris & Co., of London. The east end has an arcade, over an alabaster wall lining. The seats throughout the nave and aisles, as well as the seats and desks in the chancel, are of oak. The organ stands in the south chancel aisle. It is an instrument built a few years ago, but has been rebuilt and greatly enlarged and improved by Willis, of London, the builders of the great Liverpool organ. All the seats in this church, except the north chancel aisle, are free. The principal contractors for the building were Mr. Kirby, of Scarborough, for the woodwork; and Mr. Peacock, also of Scarborough, for the stonework.

THE LINING OF CISTERNS.

HARD WATER.

HAVING devoted much attention to that part of hydraulic engineering which relates to the purification of water, and noticing in the last number of your valuable publication a letter from a subscriber who wishes to know how to prevent rainwater from getting hard in cisterns lined with Roman cement, I beg to offer a few observations.

Roman cement when once set is insoluble in pure water, but water containing acids will act on the lime which forms a small part of the cement. Rainwater, as such, does not contain any acids; but, on passing through the air, it readily takes up carbonic acid, which is always present in the air, and sulphuric acid, which is frequently met with in the atmosphere over and in the immediate neighbourhood of towns and cities where great quantities of coals are consumed. Organic impurities from roofs and other gathering places in the process of decay, yield likewise carbonic acid. It is by this means that rainwater may obtain sufficient acidity to affect the cement.

The remedy in this case is, to remove the acids and organic impurities before the water enters the cisterns; and this can be done by allowing it to pass through a layer of animal charcoal.

I have no doubt, however, but that the evil is only temporary. When the cement has given off the lime on its surface, the effect on the water will most likely cease.

F. HAHN DANCHELL.

STREET NAMES AND NUMBERS.

THE Metropolitan Local Management Act invests the authorities with a wholesome control over the naming of streets; so that the absurdity of repeating *ad nauseam* either common-place or high-sounding names which are already over multiplied; and of every owner of a row of two or three houses distinguishing it by some puerile appellation, is effectually checked; and names of new roads, streets, squares, &c., must now, before being applied, be submitted, and must be such as are not to be found in the Street Directory. This is, no doubt, satisfactory. The authorities, moreover, seek to cure as well as to prevent; and where long lines, such as the New Road, have hitherto consisted of numerous divisions, each rejoicing in its distinctive name and series of numbers, they have swept away those nominal distinctions, so long perplexing to "Men of Letters;" and have re-numbered the houses in one series, generally alternately, the odd numbers on one side of the way and the even numbers on the other. The particular road cited, being a very long one, has been parted into three grand divisions; and, it may be presumed, with advantage. These alterations of original names and numbers, however, may involve serious inconvenience to the owners of the property. In many cases, the houses and premises side by side with each other are so much alike as not to be severally distinguishable by means of the plans on the margin or the descriptions in the body of their respective conveyances or leases, unless by the name of the

street or place and their numbers; and thus, if the Title bears one name and number and the House another, it is conceivable that, in the course of years after the alteration, an owner and vendor may be much puzzled in his endeavour to prove, to the satisfaction of an intending purchaser, the identity of the property with the title. I suggest, therefore, that it would not be unreasonable for the owner of any property so tampered with to require from the Metropolitan Board of Works a formal Declaration or certificate, fit to accompany the Title Deeds, engrossed on parchment, and under the seal of the Board, and hand of its Chairman, that the premises in question have been changed by them from their old to their new description, as respects name, number, &c.

JAMES WYLSON.

PERMANENT EXHIBITION AND THE EXHIBITION BUILDING.

MIGHT not the frightful waste of money attendant on the destruction of the Exhibition Building be arrested, and a permanent exhibition formed, with attendant hall and spacious galleries; making up for a great deficiency,—the want of free and unrestricted covered space,—that is universally felt in the metropolis; there being, in fact, no place for considerable gatherings? Fashion is powerful, and it has been the fashion to decry this building; and "delenda est Carthago" has been too soon shouted.

Or is the wanton act to destroy this in many respects admirable structure, *sui generis*, to deprive us of the galleries for pictures so much needed? And with so keen a contest between the Academy and the National Gallery for space, the matter is almost ludicrous. Twenty times the amount asked for the building would not suffice to cover space for museums.

R. L. S.

ENTRANCE TO THE HAYMARKET THEATRE.

SIR,—In common, I am sure, with all those who enjoy our good old English comedies, I sincerely rejoice that Mr. Buckstone has been enabled to announce that his long season, just terminated, has been so prosperous. As I perceive he has for a short time closed his theatre, to make some improvement in the audience part, I do trust he will see if it be possible to do something to make the pit entrance more secure from danger.

As you did me the favour to give publicity to a former letter of mine on this subject, I venture to ask the favour of your allowing this to appear.

P.

EMBELLISHMENT OF ST. PAUL'S CATHEDRAL.

IT affords me much satisfaction to have it in my power to acquaint you that the desire expressed by "Ecclesiasticus," in your last number,—that the laity should respond to the recent appeals made by the Dean and Chapter of St. Paul's—is likely to be fully realized.

On Monday (20th) the Lord Mayor opened a subscription at the Mansion House, and headed the list himself by a handsome donation, which good example was promptly followed by many gentlemen then present.

A very strong desire exists, not only in the metropolis, but throughout the country, that our grand Protestant cathedral should no longer be allowed to remain in its present unfinished condition; and that its interior should be completed in conformity with the original design of Sir Christopher Wren.

In confirmation of this, I will simply state, that active exertions are being made—both by the clergy and laity—towards raising the requisite funds; that the number of subscribers to the "National Guinea Subscription List" is very considerable; and that in many schools and other establishments sixpenny and penny subscription lists have been opened with unlooked-for success.

It may possibly add to the gratification of many of your readers to learn that the working classes feel an especial interest in the contemplated scheme; and that the receipts in copper contributed through the medium of the boxes placed in the cathedral for the reception of donations from visitors realizes a most respectable amount.

The lively interest which I know you feel in all that can give dignity to religion, or increased beauty to our capital, must plead my apology for troubling you with this communication.

AUGUSTINE.

WORK IN THE READING ROOM.

WORKMEN'S CLUBS.

SIR,—Better homes and lodgings for workmen have always had the zealous advocacy of the *Builder*; and now the Clubs, I have no doubt (if deserving), will also have its support and influence. In the last number of the *Builder*, mention is made of business being one of the objects of these clubs. I hope they may succeed; but if the reading-room of the club is for business, I fear that it will soon degenerate into a workshop, which will, in my opinion, be fatal to their success. As a general rule, there is nothing so distasteful to workmen as mixing work with amusement: if business is to be an object, there ought to be an apartment for that special purpose. I have lived a long time at the George-street Lodging-house: we have a very good reading-room, well supplied with periodicals and newspapers, altogether very comfortable; but we have one lodger who insists, after he has come from his day's work, occasionally to bring work to do in this our reading room, although there is a room provided for lodgers to do their works in that are needful. I appeal to you, sir, if we can learn, read, or write while a man is sitting in his shirt-sleeves, stitch, stitch, stitch, for dear life, like the poor shirtmaker, on stiff saddle-leather (he has an undoubted right to work as many hours out of the twenty-four as he can: *nature* will call him to account for that,—*vide* Dr. Richardson, in a recent number of the *Builder*); but I maintain that after we have done our day's work, washed, and sat down comfortably for the evening, no man has a right to work at his trade in our retiring-room. From this experience I judge that business will not be favourable to clubs.

A WORKMAN.

DAMAGE TO BUILDINGS BY TUNNELLING.

IN the cause of Russell *v.* The London, Chatham, and Dover Railway Company, at the Vice-Chancellor's Court, Mr. Malins, Mr. Cotton, and Mr. Meadows White, on behalf of the company, moved for an injunction to restrain the other defendants from further prosecuting an action at law against Sir S. M. Peto and Mr. Betts, the contractors, for the careless execution of the works, whereby the plaintiffs have received considerable damage.

In 1853 Mr. Scott Russell purchased an estate, and in 1854 conveyed it to the trustees upon trusts which were generally for his children. The railway company required to pass through this land by means of a tunnel, and the trustees agreed for 3,700*l.* to concede the right to make the necessary works, such sum to be in full for all compensation by reason of the sinking of the ground or otherwise. The works were made, but so carelessly, it was alleged, that the walls of the house cracked, and became unsafe. Subsequently the infant *cestuis que* trusts under the settlement filed a bill against the trustees and against the company, alleging that the trustees had improperly entered into the agreement, which in the way they had done was beyond their powers, and seeking compensation. The trustees also brought an action against the contractors for negligence in the construction of the works.

The Vice-Chancellor said, before decree and without being prayed by a bill filed, this court had no power to grant an injunction. The alternative motion asked to stay the action; but it was clear the action could not secure what was asked by the bill. The motion, therefore, was irregular, and must be refused with costs.

LANDLORD AND TENANT.

ILLEGAL DISTRESS.

Bray v. *The Hon. W Fitzwilliam and Another.*—This was an action (tried at Northampton before Mr. Justice Williams) for an illegal distress, which, from the number of points relating to the law of landlord and tenant involved in it, was of considerable interest.

Mr. Serjeant O'Brien and Mr. Beasley appeared for the plaintiff; and Mr. Boden, Q.C., and Mr. Field for the defendant.

The plaintiff is a turner occupying a house and also a shop, held by distinct agreements of the Hon. W. Fitzwilliam. At Lady-day, 1863, the defendant became indebted to his landlord for half a year's rent of the house, amounting to 5*l.*, and in a further sum of 3*l.* 15*s.* for half a year's rent of the shop. Soon after the rent became due Mr. Fitzwilliam directed the other defendant to distrain upon the premises in respect of the rent so due, and it was out of the distress made upon that direction that this action arose.

The plaintiff contended, as to the shop, that the defendants had seized tools of trade when there were other articles unprivileged which were available and sufficient for the purposes of the distress, and that they had also seized tools which were in actual use at the time of seizure; while, as to both house and shop, it was suggested, though not very strongly urged, that the landlord, having by notice in writing appointed a day for the payment of the rent subsequent to that on which the rent actually fell due, and also subsequent to that on which the distress was actually made, had precluded himself from resorting to his remedy by distress until after the expiration of the substituted day of payment.

For the defendant it was alleged that the notice in writing to pay the rent on a subsequent day had not been given to the plaintiff, and was not intended for him, but had been left with a neighbour of his, who held under the same landlord, from whom the plaintiff had obtained it. It was submitted that there was no sufficient distress upon the premises without seizing the tools of trade, because certain gas-fittings relied on by the plaintiff as available for distress were fixtures, and so exempt from seizure. Lastly, it was contended that the tools of trade alleged to have been seized while in actual use were not protected, because they were merely lying upon a lathe at which the plaintiff was working, and were not actually in his hands at the time of seizure.

His Lordship placed the different points of law distinctly before the jury, who found, first, that the gas-fittings were fixtures, and were not available for distress; secondly, that, excluding these gas-fittings, there was no sufficient distress upon the premises without seizing the tools o trade not in actual use; and thirdly, that the bailiff had seized other tools of trade in actual use at the time of seizure; and they found a verdict for the plaintiff upon this last point, with 40*s.* damages.

Mr. Boden obtained leave to move the court above on behalf of the Hon. W. Fitzwilliam, on the ground that he was not liable for the wrongful act of the bailiff in seizing tools of trade in actual use, such seizure being wholly unauthorized by him.

Books Received.

Paper on the Bhore Ghaut Incline of the Great Indian Peninsula Railway. By JAMES J. BERKLEY, M.I.C.E. With Appendix. Bombay: reprinted at the Education Society's Press, Byculla. 1863.

THIS paper was read in 1857, at the Bombay Mechanics' Institution, by the late Mr. Berkley, who was the chief engineer of the Bhore Ghaut Incline, as well as the chief resident engineer of the Great Indian Peninsula Railway itself, and also president of the Bombay Mechanics' Institution at which the paper was read. Having been prepared in 1857, of course this paper does not speak of the work as a completed one; but it contains much interesting matter relative to its progress and the works already completed in 1857. The Appendix has been written by Mr. A. A. West, C.E., and brings down the information to the experimental opening of the line on the 30th March, 1863, seven years and three months from the commencement of the works; a train of two engines and three brake-vans accomplishing the distance of 13½ miles between Padusdherree and Khandalla in fifty-two minutes, running time.

We have already given some account of the Bhore Ghaut Incline and its opening; but we may glean a few further details from the Appendix to the reprint under notice.

In the original design there were twelve tunnels, amounting to a total length of 2,535 yards. During the progress of the works, at an early stage, fourteen additional tunnels, of an aggregate length of 1,325 yards, were substituted for cuttings, where from the nature of the ground it appeared likely that they would be exposed to the contingency of extensive slips. At a later date another tunnel was added to the number, and slight alterations made in the lengths of a few others. The number of tunnels now is twenty-six, and the total length 3,985 yards. The operation of tunnelling was rendered very slow and tedious, by the excessive hardness of the rock.

The viaducts are built of solid block-in-course masonry, up to the surface of the ground, and above that, of block-in-course face work, strongly tied through by bonds of block-in-course, to the internal work of sound rubble. All the arches are built of squared stone laid in courses, with ashlar arch quoins: not a brick has been used in any of the works on the contract.

The lime used near Khandalla was brought from the Deccan, from distances of 20 to 40 miles. For the lower part of the incline, lime from Bombay was used. Much of the sand had to be brought from distances varying from four to ten miles.

About sixteen miles of cart road and more than double that length of bridle and bullock paths had to be constructed to give access to the works. A railway siding of nearly two miles in length from Telowlee station to Wonee, was also laid for the purpose of bringing materials to a point nearly opposite the fourth mile.

From 30,000 to 40,000 men were frequently at work at one time on the incline; but in the rainy season, and from cholera, &c., as well as cessation of work, these have dwindled down from 42,000 to about 4,000. During the last three years of the progress of the works there was no scarcity of workpeople: on the contrary, employment had to be refused to many hundred applicants. The Hindoo, therefore, is a workable animal after all; and is quite ready to intersect his rich and splendid country with railways and roads on similar terms to those come to with him on the Bhore Ghaut Incline. These terms may be briefly characterized as simply good treatment, according to his own notions of it. Mr. West thus describes it:—

"The means whereby this result has probably been obtained are:—A provision either in money or time for building huts. A liberal supply of water at the contractors' expense. An arrangement by which the bazaar rates for grain and other necessaries were equalized over the whole contract. Regular payment of wages at an early date under the personal superintendence of the chief managers into the hands of each individual employed. A strict inquiry into all complaint by the work-people. No fines except dismissal, but a system of prompt rewards for extra exertion; and gratuitous medical assistance."

There need be no difficulty then, and no costly invasion of British navvies, in future works of the

kind; and we ought very soon to see a complete net-work of railways and roads intersecting all the territories of "the Empress of India."

VARIORUM.

"The Boy's own Volume" of fact, fiction, history, and Adventure, for Midsummer, 1863, published, and edited, by S. O. Beeton (Strand), is a very good collection of stirring adventures, tales, natural history, and scientific chat, well calculated to interest those to whom it is addressed. The volume is fully illustrated with wood engravings, and is very cheap.——The current *Quarterly* contains, amongst many others, a pleasant and curious paper on "Sacred Trees and Flowers," and a review of Mr. Story's "Roba di Roma." For this latter work Mr. Story, in the first instance, had coolly appropriated the title under which we gave a series of papers, "Walks and Talks in Rome;" but when this was pointed out to his excellent publishers, Messrs. Chapman & Hall, they at once obtained its withdrawal.

Miscellanea.

THEATRES AT MILAN.—Two new theatres are in the course of erection at Milan; the one in the Via del Giardino, which is to be called Ristori's Theatre; the other near the Porto Ticinese, dedicated to the memory of Gustavo Modena.

THE MONUMENT TO COUNT CAVOUR AT TURIN. The designs sent in to the commission for the monument to Count Cavour, at Turin, are about 130 in number, sent from every part of Italy as well as from other countries. They are shortly to be exhibited to the public.

STREET IMPROVEMENTS IN CAMBRIDGE.—The demolition of the old buildings in St. John-street and Bridge-street, to make way for the proposed extension of St. John's College and the building of a more extensive chapel, is rapidly progressing. Pembroke College has also commenced restoring the north side of the College, facing Pembroke-street: the whole of the frontage of the College will be restored, and an ornamental appearance given to it.

NEW CEMETERY AT SHEFFIELD. — A new parochial cemetery is about to be formed at Sheffield. The site chosen is about three miles from the centre of the town, and is on the Manchester, Sheffield, and Lincolnshire Railway, at a point near the Danall Tunnel. There will be facility for railway access at once into the ground, and the principal entrance will be from the Sheffield and Worksop road. The site includes forty acres of land, and is the property of His Grace the Duke of Norfolk. It is admirably suited for the purpose: the surface is undulating, whilst the subsoil is dry and open, and at a depth of 12 feet there is building stone suited for all the required works. The general design has been prepared by Mr. M. E. Hadfield, the architect to the Board; and he has been instructed to proceed with the plans for the chapels, of which there will be three, the gateways, lodges, roads, &c. It is expected the work will be commenced so soon as the various preliminaries have been adjusted.

THE PURCHASE OF PICTURES FOR THE NATIONAL GALLERY.—Mr. C. Bentinck has called attention to a recent purchase by the trustees of the National Gallery. The picture in question, he said, was said to be by Bellini, and it was purchased for 600 guineas. It was in a very bad state, and a companion picture by Montiaccio, which was purchased by Mr. Baring for 250*l.*, was in a much better condition, and was a much better picture. Mr. F. Peel said that, with regard to this particular picture, there was no doubt whatever that it was painted some time from 1450 to 1460, which was during the time that Bellini lived; and the best authorities were of opinion that it was painted by Bellini himself; and that was the opinion of Sir Charles Eastlake. With regard to the picture being in bad condition, Sir Charles Eastlake informed him that the only injury was to a portion of the sky; and that the picture was in a very good state of preservation: with regard to the price, before it was purchased the trustees asked Sir Charles Eastlake what he thought it would fetch, and he said between 500*l.* and 600*l.* It was bought for 600 guineas, so that he did not think they had been much deceived as to the price. Mr. Coningham said the picture in question was much damaged, and that it had been sold at a previous sale, in the presence of the trustees of the National Gallery, for considerably less price than the sum paid for it by the Government subsequently.

THE LIVERPOOL EXCHANGE BUILDINGS.—The reconstruction of these buildings is contemplated by the new Exchange Company, who propose to abolish the piazzas around the Exchange flags. A strong feeling, however, exists against this, and a public meeting of merchants, brokers, and others, the president of the Chamber of Commerce in the chair, has declared against it. The cotton brokers threaten the establishment of an exchange of their own, at a cost of 200,000*l.*

MORE ROMAN DISCOVERIES IN CHESTER.—A Roman hypocaust was lately discovered on the site where stood the Feathers Hotel and several other buildings, which have been taken down for town improvements by the Marquis of Westminster. Further discoveries have since been made. On excavating to the north of the hypocaust the workmen came upon the base of a Roman pillar which is 27 inches across the top and 4 feet 4 inches in height. The base rests on a square block of red sandstone which stands on the maiden rock: it is 4 feet 8 inches in length and 22 inches in height. At a distance of 5 feet 9 inches the base of a second Roman pillar has been discovered, of similar moulding and proportion to the first; and a third and similar base has also been found. Lord Westminster has ordered the removal of the stones of the hypocaust to the public grounds adjoining the Water Tower.

MISS BERTOLACCI'S PHOTOGRAPHS OF THE "LIBER STUDIORUM."—Turner's own opinion of this work of his was a high one, and the opinion of connoisseurs goes with him. The original is very costly, and Miss Bertolacci is doing good service by bringing it, by means of photography, within the reach of all. Each part contains eighteen views: two parts have been published, and the two others needed to complete the collection are nearly ready, so that there is no doubt the work will be accomplished in its entirety. The first includes Count D'Orsay's half-caricature sketch of the great painter. The photographs are executed with skill and taste. The work, we should add, is published by Mr. Hogarth, of the Haymarket. It is mentioned as a curious feature in the history of art, that many single prints of the "Liber Studiorum" have sold for twice, and some for even five times, as much as Turner paid for engraving the plates.

MEMORIAL TO THE PRINCE CONSORT.—At the Butchers' Almshouses, Walham-green, on Tuesday, the 21st instant, a spacious additional wing, which had been built as a memorial of grateful respect for the Prince Consort, late patron of the charity, was inaugurated. The new building has been erected wholly by voluntary contributions. After a short religious service, and a prayer by the rev. incumbent of the district, the chairman (Mr. B. Venables, of Newgate-market) delivered an address, in which he referred to the object, progress, and speedy completion of the work, and to the important advantages conferred upon the charity by the patronage of the Prince Consort, and which had been continued by his Royal Highness the Prince of Wales, its present patron. He strongly urged a united effort for a further extension to complete the entire range of buildings, as marking a becoming sense of favours received, and as affording a more ample and permanent provision for the constantly-increasing claims of age and infirmity.

ACCIDENTS. — A fatal scaffold accident has occurred in Havelock-terrace, Peckham. It appears that a number of large houses, four stories high, are in course of erection, made to form this terrace. Several men were engaged on the scaffold painting the front of the houses, three of them being near one of the windows of the top story. At this time another man ascended the scaffold to speak to one of his mates, but had scarcely reached the upper platform when it gave way and fell, smashing those portions of the scaffold beneath it. Three men were precipitated into the area beneath, a depth of nearly fifty feet, the massive timber falling upon the unfortunate fellows. When the *débris* was cleared away it was found that one had part of his skull smashed in, some of the brain protruding. Near him lay one of his companions with one leg crushed flat. The third man was also badly hurt. The first alluded to has since died, and a coroner's jury has returned a verdict of accidental death.——In King-street, Manchester, lately, the cornice of a shop fell on the pavement. A working man had a narrow escape of being crushed by it.——At Wichnor, Burton-upon-Trent, as a luggage train was passing under a bridge near the station, the bridge gave way, and, falling to the ground, caught some of the hinder trucks, and detached them from the rest of the train.

METROPOLITAN DRAINAGE.—The Bill now passing through Parliament enables the Metropolitan Board of Works to borrow a further sum of 1,200,000*l.*, in consequence of the increase in the price of materials and labour and the necessity for additional works; and the time for completion of the Main Drainage works is extended to the 31st of December, 1866.

RE-DECORATION OF THE PAVILION ROOMS AT BRIGHTON.—The recent accident, by an explosion of gas, at the Pavilion, having necessitated repair at the Music-room, the Pavilion committee of the town council have considered the subject of the decoration of the whole of the lower suite of rooms. Mr. J. G. Crace, of London, has been consulted, and has reported to the borough surveyor generally what he thinks ought to be done to the principal apartments on the ground-floor. Upon this report the Pavilion committee passed a resolution to the effect that the lower suite of rooms be redecorated in accordance with the suggestions of Mr. Crace, at a cost not exceeding 1,800*l.*; and that Mr. Crace be requested to prepare designs and a specification for the performance of the works, and submit the same to the committee at an early date. At a recent meeting of the council, the confirmation of the proceedings containing this resolution was agreed to.

WELLINGTON COLLEGE, CHAPEL.—The chapel attached to Wellington College, and designed by Mr. Scott, has been consecrated. It consists of a nave of six bays, 82 feet long by 28 broad, with a circular apse about 20 feet long, nearly resembling the interior of the church at Rugby. The carvings over the porch capitals, window capitals, and apse arch are luxuriant in the foliage of such wild plants as abound in the neigbourhood of the College—the foxglove and heather, dog-rose, hawthorn, hemlock, and columbine. At the west end of the chapel and along the north and south sides are memorial oaken stalls, erected by the governors, masters, boys, and household in memory of the first president of the College, the late Prince Consort. These stalls are carved by Ruddle, of Peterborough, with the six crests of Cleve and Mark, Saxony, Berg, Thuringia, Julich, and Meissen, with the monograms and crowns of her Majesty and the Prince, and the monogram and coronet of the Duke of Wellington. One window of large span has already been filled in with stained glass by Mr. Donne. The chapel has a *flèche* after the fashion of more than one Sainte Chapelle.

THE WORCESTERSHIRE NAILORS' STRIKE.—We do not deny the right of the operatives to strike, if they think proper to do so. Their labour is their own, and they have the right to sell it for the highest possible price which they can obtain; but the same right also confers on the would-be purchaser the power of declining to accede to any price which may not suit his views. This is equity. But the disputed point in the strike question is, not as to the right of the operatives to strike, but the expediency of exercising that right. A man has a right to build a house, but if he could neither let it, nor live in it himself, its erection would be inexpedient. It would occasion a loss, without yieiding any profit. The Worcestershire Nailors may be right or they may be wrong, but it is difficult to believe that they will prove victorious in the present struggle between themselves and their employers: it is certain, however, that any prolongation of the unhappy contest, whatever may be the relative state of the belligerents, will occasion an increased importation of foreign iron, perhaps to such a degree that the nailors may resolve on bringing the conflict to a sudden termination rather than find their wages reduced to the level of those obtained by continental artisans. The great error of the Worcestershire artisans appears to have consisted in assuming that they only had their employers to contend with; whereas they find themselves in opposition to every iron-producing country in the world. If the supply of nails from North Worcestershire ceases because of a strike, the demand will be met by supplies from other quarters, and the misguided artisans will merely have their labour for their pains. They have undertaken the task of Sisyphus, and will awaken from their dream to realise the terrible agony of their condition. It is saddening to behold generation after generation of sturdy and intelligent artisans repeating the same acts of imprudence, if not of folly. Is there to be no limit to this wild infatuation, which impels thousands of our artisans to immolate themselves at the gloomy shrine of prejudice and error, and not unfrequently to become involuntary tyrants over their own class?—*Social Science Review.*

DRINKING FOUNTAIN MOVEMENT.—At Brighton, Miss Clark has purchased, in the name of the Borough Treasurer, 100*l.* 3 per cent. Consols, for the maintenance of a drinking-fountain to be erected at her expense on the south side of the Marine Parade, opposite the Bristol Hotel.

THE SANITARY REPORT OF THE INDIAN ARMY.—In reply to Sir H. Verney, in the Commons, last week, Lord Stanley said that the report with an abstract of the evidence of the commission on the sanitary state of the Indian army was being printed and circulated. Large volumes, containing the evidence in full, and voluminous appendices, Sir Charles Wood said, were already laid on the table of the House.

GAS.—The Cambridge gas company have declared a dividend at the rate of 10 per cent. per annum for the last half-year. They are about to expend a large sum in relaying and enlarging some of their principal mains.——The Boston gas company's directors report a prosperous condition of their affairs, and the company have declared a dividend of 8½ per cent.——The Wolverhampton gas company have offered to supply the town authorities with gas at the rate of five or four feet per hour, at 2s. 9d. per thousand, to fix and maintain a regulator and lava burner, and to light, extinguish, and repair at 16s. per lamp. They also offer other modifications of their proposal.

A VISIT TO THE CITY SEWERS.—On the 15th a party of gentlemen, among whom were the Duke of Sutherland, Lord R. Grosvenor, Mr. J. Glaisher, Mr. Matthews, the engineer; Dr. Letheby, Medical Officer of Health of the City of London; and Mr. W. Haywood, engineer to the City Commissioners of Sewers, met together at the Guildhall, for the purpose of proceeding on a visit of inspection of the main sewers within the City of London. Having abandoned their ordinary garments, they assumed dresses similar to those worn by the 'longshore men, consisting of the usual blue blouse, Guernsey jackets, thigh boots, and tarpaulin sou'-wester, and proceeded as far as Moorgate-street. There they at once descended into the sewers. From one o'clock until nearly five the visitors pursued the course of the old London Bridge and Fleet sewers.

THE WORCESTER MODEL DWELLINGS ASSOCIATION.—The ninth annual meeting of the members of this association has been held. The report of the governors states that the past year has, on the whole, been a satisfactory financial one, the balance in hand at the date of the meeting being 74*l.* 7s. 10d., out of which a dividend of one per cent. on the present stock of the association could be paid. They add that thirty-nine shares, representing 975*l.*, have become forfeited through the liberality of those who were entitled to have them transferred. The stock of the society now stands reduced to 5,650*l.* As the small dividend alluded to is the first division of profits, and also a very small one, the governors have been unable to extend the operations of the association. Still they congratulate themselves that they have been the pioneers in one of the leading philanthropic movements of the day. The mortality of the tenants continues very small, and the health of the occupants of the buildings very good. The report was adopted.

LONDON DIOCESAN CHURCH-BUILDING SOCIETY. The ninth annual meeting of the friends and supporters of this society has been held at Willis's Rooms. The Bishop of London presided, and was supported by the Marquis of Westminster, the Earl of Shrewsbury, Lord Stratford de Redcliffe, Earl Grosvenor, &c. The hon. secretary read the report, which expressed great satisfaction at the scheme for raising 1,000,000*l.* in ten years for the purpose of supplying the spiritual necessities of the metropolis. The committee trusted, however, that their friends would not relax in their exertions under the impression that the Bishop of London's fund would diminish the calls on the society's resources. The committee regretted to state that their income for the last year showed a diminution amounting to about 500*l.* upon that of the previous year. The accounts showed that the balance in hand at the last audit had been 13,568*l.* 17s. 2d.; and after the receipts of the year were added the gross income was raised to 18,935*l.* 17s. 6d. After meeting the expenditure of the year a balance of 9,558*l.* 0s. 10d. remained. The report was unanimously adopted. The Bishop of London said that, during the next ten years, it was absolutely necessary that they should do twice as much as had been done during the last ten years. In that period a million had been subscribed for providing spiritual instruction for the population of the metropolis; and it was desirable that, in the next ten years, two millions should be obtained.

ARCHITECTURAL ASSOCIATION. — Voluntary Architectural Examination Class.—On Friday, the 31st July, Mr. R. Phené Spiers will treat of Natural Philosophy.

NEW ZEALAND SEA-WEED.—A new speculation has recently been entered on by a house in the City, viz., importing sea-weed of a particular character into this country for bed-stuffing. The material, when dried in the sun, is lighter than any other vegetable of a marine description. It is superabundant in the Bay of Islands, and is used by the natives for bedding. Elasticity is one of its chief properties. The name given to this species of the *fuci* family by the New Zealanders is *mummuk*.

THE WILLENHALL LOCK TRADE.—The makers of rim, dead, and drawback locks are tolerably busy, there being a steady demand for those articles for export. The manufacturers of mortise locks, latches, &c., are, however, scarcely so well employed, as these branches are for the most part dependent on the country trade, which, owing to the distress in Lancashire and other causes, has of late been anything but good. The Scotch trade, which has also suffered, is improving. In the various branches of the padlock trade there is greater activity, both as regards the Continental and Indian demand. The few orders from America are limited to the immediate requirements of the Government. The chances of any return of the former demand from that market are gradually diminishing, as the manufacturing trades of the Northern States are under present circumstances being developed in an extraordinary degree; and many artisans from this neighbourhood, tempted by the wonderful reports constantly arriving, are emigrating to the States. On the whole, while in one or two exceptional instances there are complaints of slackness, as a rule the demand for local products is brisk and healthy.

NEW WORKS AT THE LUNATIC ASYLUM, POWICK, WORCESTERSHIRE.—New works, on an extensive scale, have just been completed at this establishment. An entire new wing, for the accommodation of 100 female patients, according to the *Worcester Herald*, is the principal work done. This new ward is at the south-west angle of the other buildings; and to allow of its erection a considerable embankment had to be cut away and levelled,—a work which has been done entirely by the inmates. The ward consists of two stories, and the arrangements upstairs and down are similar, there being a large and lofty day-room at each end of the ward, 40 feet by 20 feet; four dormitories of the same size as the day-rooms, and calculated each to hold about twenty beds; many other bed-rooms of various sizes; baths, lavatories, pantries, bread-rooms; a kitchen, fitted up with a cooking range by Messrs. Jones & Rowe; and two large tanks for water above the upper story. This ward was erected by Messrs. Wood & Son, of Worcester, under the direction of Mr. Rowe, architect and county surveyor. Another feature of the new works is the recreation room, recently opened. This is an apartment 70 feet long by 43 feet wide, and 33 feet high, with a circular truss roof, of open work, the timber being fir, stained and varnished, with the trusses resting on pilasters between the windows; and there are seven windows on each side. At the one end of the room there is a gallery for visitors or musicians, and beneath it are two entrances to the apartment, one for male and the other for female patients. The opposite end of the room has a large recess, for the purpose of theatrical or musical performances, with a raised stage, furnished with four scenes painted on canvas by a former patient, named Duval. The room will hold 500 spectators comfortably. It is lit by three gas chandeliers, or stars, depending from the roof. There are now nearly 430 patients in the house, the majority being females, for whom the new wing has been built.

TENDERS.

For two small villas at Barnes, Surrey, for Mr. Ratcliff. Mr. Gordon Stanham, architect:—

Goodale	£922 10 0
Newman & Man	897 0 0
Dawson	890 0 0
Long	729 0 0
Adamson & Co.	715 0 0
Mansell	665 0 0

For four houses and public-house, at Chelsea:—

Harmer	£3,475 0 0
Percy	3,260 0 0
Mechin	3,119 0 0
Mathews	2,898 0 0
Sawyer	2,949 0 0
Jess	2,890 0 0
Leggatt	2,795 0 0

For certain additions to shop and premises situate in Stodman-street, Newark-upon-Trent, for Messrs. Cooper & Eve, drapers. Mr. Charles Baily, architect:—

Lane & Cooper	£324 16 6

For new malt offices in Northgate, Newark-upon-Trent, for Messrs. Branston. Mr. Charles Baily, architect:—

Fretwell & Mackenzie	£3,745 0 0

For new wing to residence of Mr. Charles Rodgers, solicitor, Sleaford, in the county of Lincoln. Mr. Charles Baily, architect:—

Fretwell & Henderson	£935 0 0
Bennison	810 0 0
Messrs. Pattinson	800 0 0

For warehouse and alterations, 406 and 408, Euston-road, exclusive of cellarage:—

Saunders	£2,109 0 0
Holland & Hannan	2,021 0 0
Huggett	2,020 0 0
Hall (accepted)	1,987 0 0

For alterations and additions to Sailors' Home, St. Mary, Whitechapel. Mr. E. L. Bracebridge, architect. Quantities supplied by Mr. F. G. Widdows and Mr. J. Lavender:—

Dudley	£12,384 0 0
Ennor	12,131 0 0
Watts	12,049 0 0
Hack & Sons	11,987 0 0
Wood, Brothers	11,055 0 0
Lucas, Brothers	11,053 0 0
Piper & Wheeler	10,883 0 0
Myers & Sons	10,554 0 0
Macey (accepted)	10,526 0 0

For taking down six houses in front of biscuit factory for site for new warehouses, &c., for Huntley & Palmers. Mr. W. H. Woodman, architect:—

Grover	£866 0 0
Barnicoat	660 0 0
Wheeler & Sons	650 0 0
Leach (accepted)	565 0 0

For a Wesleyan chapel, Swallow, Lincolnshire, to seat 110 persons. Mr. Wm. Kerby, architect:—

Goodwin	£339 0 0
Lundie	328 10 0
Stamp	296 0 0
Sykes & Lidgard	293 10 0
Benton	276 17 0
Hollingworth	268 5 0
Wilson (accepted)	267 18 6

For additions to a farmstead at Preston, in Holderness, for Mr. Joseph Blundell. Mr. Wm. Kerby, architect —

Whole Tender.

Goates	£489 0 0

Bricklayer and Mason.

Sergeant (accepted)	£359 0 0

Carpenter and Joiner, &c.

Helas & Smith	£205 0 0
Beet	132 0 0
Smith	128 0 0
Brown (accepted)	104 0 0

For national schools, St. Peter's, Drypool, Hull Mr. Wm. Kerby, architect:—

Addy	£2,055 0 0
Jackson	1,930 0 0
Goates	1,895 0 0
Hall	1,860 0 0
Barrett	1,755 15 0
Hutchinson	1,724 0 0
Sergeant	1,701 0 0
Smith	1,689 0 0
Richardson	1,503 9 0
Haswell (accepted)	1,350 0 0

For building public-house and two shops on the Vauxhall estate, for Mr. Lound. Mr. Mumford, architect:—

Cowland	£2,970 0 0
Green	2,840 0 0
Saunders	2,637 0 0
Last	2,500 0 0
Sumers	2,400 0 0
Ranken (accepted)	2,384 0 0

For the erection of St. Michael's Church and Presbytery, West Derby-road, Liverpool. Mr. E. Welby Pugin, architect:—

Farrell	£5,040 0 0
Hughes	4,600 0 0
Parker & Son	4,350 0 0
Yates	4,025 0 0
Glaister	4,000 0 0
Brown & Sons	3,958 0 0

For national schools at Masborough. Mr. W. White, architect. Quantities supplied:—

Chadwick	£1,216 0 0
Harper	1,190 7 8
Ripley (accepted)	990 0 0

For St. Sampson's Church, Cricklade. Mr. Ewan Christian, architect:—

Builders' Names.	Nave, west end of North Aisle, and South Aisle to Cutting Building South Wall.	Tower, North and South Transepts.	Widhill Chapel.	Total Amounts.	Chancel.	
Barrett	£ 1,591	0 486	0 295	0 2,372	0 296	0
J. & T. Mitchell	1,461	9 651	9 254	14 2,370	13 289	15
Phillips	1,475	6 446	0 270	0 2,191	0 268	0
Pedley & Son*	1,175	12 528	17 343	18 2,048	8 265	12
Smith	1,298	19 492	11 274	5 2,065	15 330	18

* Accepted.

For alterations and additions to the Angel Hotel, Reading, for Mr. W. Ferguson. Mr. Wm. Brown, architect:

Matthews (accepted)	£352 0 0

For the completion of six cottages, Ashford, Kent. Mr. J. T. Hopkinson, surveyor:—

Davis	£438 0 0
Tupper	425 0 0
Peters	416 10 0
Wraight	406 10 0
J. Clifford & W. Marshall	403 0 0
E. Marshall & J. Clifford (accepted)	398 0 0

TO CORRESPONDENTS.

C. F. B.—Dr. F.—C. B.—Z.—Mr. D—J. O.—W. S. B.—Gen. F.—H. M. B.—C. G.—H. A. D. (the *Builder* is equally particular).—H. Mc.—A. D.—J. C—E. E. M. (not necessary)—W. K.—Messrs. H. Alma. C. H. H. Messrs. B.—Surrey.—H. W.—F. A. P.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than FIVE o'clock, p.m., *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

THE *Times*, May 7th, speaking of Benson's Watches in the Exhibition, says:—"Undoubtedly, however, the finest show in this respect is made by Benson, who offered prizes for designs for watch-cases at the South Kensington Museum, and who by this means has secured some of the most exquisite ornamental details for watch-cases that are shown in the building." Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch, from the plainest to the highest quality of which the art is at present capable, and adapted to all climates. Benson's Illustrated Pamphlet on Watches (free by post for two stamps), contains a short history of watchmaking, with descriptions and prices. It acts as a guide in the purchase of a watch, and enables those who live in Scotland, Ireland, Wales, the colonies, India, or any part of the world, to select a watch, and have it sent free and safe by post. J. W. Benson, Prize Medallist, 33 and 34, Ludgate-hill, London.—Established 1749.—[Advt.]

ADVERTISEMENTS.

The Publisher cannot be responsible for ORIGINAL TESTIMONIALS *left at the Office in reply to advertisements, and strongly recommends that* COPIES ONLY *should be sent.*

CHARING CROSS RAILWAY, CITY TERMINUS.—To Builders, Contractors, Paviors, and Others.

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, on WEDNESDAY, AUGUST 5th, at ONE o'clock punctually, the valuable and useful MATERIALS of the Dowgate Wharf and Two Houses in the Steelyard, Upper Thames-street, comprising about 20,000 sound stock bricks, several tons of lead, in pipes and gutters, pan and pantiles on roofs, stout timber and joists, sound deal boards, sashes and frames, doors and fittings, marble and other chimney-pieces, stoves and hearths, quantity of pebble pitching and granite curb, iron guards, and a variety of useful fixtures and fittings up. May be viewed the day prior and morning of sale; and catalogues had at the Contractor's Office, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

HIGHLY IMPORTANT TO SLATE QUARRY PROPRIETORS AND BUILDERS.

Extensive unreserved Sale of Machinery, Steam Engine, 100,000 of Manufactured Slates, as well as the Interest in the Lease of the Bwich Slate Quarries, situate at Dolwyddelen, near Llanrwst, in the county of Carnarvon

MR. W. DEW has been favoured with positive Instructions to SELL by PUBLIC AUCTION on WEDNESDAY, 29th JULY, 1863, commencing at ELEVEN o'clock a.m. precisely, at the above-named Quarry, distant 9 miles from the Railway terminus at Llanrwst, 5 miles from Betwys y Coed, and about 4 miles from the Festiniog Quarries. The whole of the VERY VALUABLE MACHINERY and WORKING PLANT, in Lots, all of which will be found to be of a superior description, and in excellent working order. They consist of 4 Sand Saws—frames 12 ft. by 8 ft., 9 Sawing Tables, 3 Planing Machines, valuable Shafting, a fine Water-wheel, 30 feet diameter, 3 feet breast, with iron Buckets; a splendid horizontal High Pressure Steam Engine, about 15-horse power; 11 Tram Waggons; 6 iron Skips; 1,360 yards Lineal Tram Rails; Turn Tables; Iron Pipes, 8in. diameter; a quantity of Wrought and Cast Iron; Balk and other Timber; and about 28 Tons Mossi Slates.

At the commencement of the Sale the present company's Interest in the Lease in the said Bwich Quarry will be disposed of, which will give the purchaser the advantage of buying such of the Machinery and Plant as he may require. These Quarries have now been worked for some years, and considering the limited capital that has been employed, the annual yield of Slate has been unusually large. A further small outlay is only required to render this one of the most productive and profitable quarries in the country. On TUESDAY, the 30th JULY, 1863, the whole of the STOCK of MANUFACTURED SLATES and SLABS lying on the Trefriw Wharf, will be SOLD by AUCTION, without reserve, at ELEVEN a.m., consisting of 8,000 Princesses, 19,000 Duchesses, 36,000 Countesses, 8,000 Viscountesses, 20,000 Ladies, 12,000 Doubles, 35 Tons Rags, and about 54 tons of Pressed Slabs of various dimensions and thicknesses. Descriptive Catalogues of the whole of which may be had at the principal Hotels in North Wales; of GEORGE HADLEY, Esq. 20, St. Helen's Place, Bishopsgate Street, London; Mr. BROTHERHOOD, Llanrwst; and from the Auctioneer, British Hotel, Bangor. The whole on view any day up to the day of Sale.

FREEHOLD BUILDING LAND, in large or small Plots, eligibly situate, between the Norwood Junction Station, on the London, Brighton, and South Coast Railway, and an intended station on the the Mid-Kent and Addiscome Railway.—TO BE SOLD, by PRIVATE CONTRACT, by

MESSRS. WINSTANLEY, about TWENTY ACRES of LAND, on the Ennerdale Park Estate, laid out with excellent roads, and particularly suitable to gentlemen requiring villa or other residences, in a healthy locality, in addition to being in close proximity to the Crystal Palace, and the advantage of constant communication with the City and West end.—Terms and further particulars may be obtained of Messrs. WINSTANLEY, No. 10, Paternoster-row, E.C.

BUILDING MATERIALS.

MR. C. F. SMYRK is instructed to SELL by AUCTION, on the PREMISES, facing Police Court, near Ryelane, Peckham, on MONDAY, JULY the 27th, at ONE for TWO o'clock, the excellent MATERIALS of several houses, taken down and removed for convenience of sale, including long timbers of all dimensions, floor and lining boards, stone paving, and an infinite variety of fittings and other valuable materials and fixtures.—Catalogues on the Premises two days prior, and of Mr. C. F. SMYRK, Surveyor and Valuer, 1a, Newington place, Kennington-road, S

CAMBERWELL.—First class Investments in Freehold Ground Rents, amounting to 287 18s per annum, with reversion to the rack rents in twenty-nine years. Also Four Freehold Villas and a Plot of Building Land.

MESSRS. DEBENHAM & TEWSON will SELL at the MART, on TUESDAY, AUGUST 4, at TWELVE, in ten lots, valuable FREEHOLD GROUND RENTS, varying from 8l. to 24l. each, all together amounting to 287 18s. per annum, secured upon forty houses, being No. 3 to 14, and 17 to 23, Westmoreland place, Flora Cottage, Violet Cottage, Woodbine Cottage, Nos. 1 to 6, Havil-street, and Nos. 17 to 23, Wells-place, all situate close to Southampton street, Camberwell. The rack rentals of the whole amount to about 80l. the reversion to nearly all of which falls in about twenty-nine years. Also, Four Freehold semi-detached Villas, Nos. 1, 2, 15, and 16, Westmoreland place, let to respectable tenants at low rents, amounting to 36l. 10s.; and a Plot of Building Ground, having a considerable frontage to Westmoreland-place, and now forming part of the gardens of Nos. 1, 2, and 3, Wellington-place, Southampton street.—Particulars of Messrs. WEST & KING, Solicitors, 3, Charlotte row, Mansion House; and of the Auctioneers, 80, Cheapside.

HERNE BAY, KENT.—FREEHOLD RESIDENCE, St. George's-terrace, Three Carriages, and several Plots of Building Ground.

VENTOM & SON will SELL by AUCTION, at the ROYAL FOUNTAIN HOTEL, Canterbury, on SATURDAY, 8th AUGUST 1863, at TWO for THREE o'clock, a substantial 14-roomed RESIDENCE, No. 6, St. George's terrace, facing the sea; three well-seasoned Carcasses; also upwards of 700 feet frontage of eligible Freehold Building Ground, suitable for villas, terraces, and shops.—For particulars apply to GILBERT STEPHENS, Esq. Solicitor, 13, Northumberland-street, Strand; at the Pier Hotel, Herne Bay; of Captain GARDNER, Herne Bay, who will show the Property; at the King's Head, Margate; the Albion, Ramsgate; the Gun Hotel, Dover; and of the Auctioneers, 7, Angel-court, Throgmorton-street, London.

PARTNERSHIP.—WANTED, by a Builder, &c. in a good way of business, a PARTNER, with about 500l. and practically acquainted with all kinds of timber work. Apply to Mr W. V. GRIFFITHS, Public Accountant, 31, King street, Cheapside, E.C.

MR. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLORIST, AND LITHOGRAPHER,
Removed from 21, Montague-street, Russell-square,
to 8, TORRINGTON-SQUARE, W.C.

AS PUPIL. An Architect and Surveyor in the City has a VACANCY in his Office for a PUPIL. Premium a secondary consideration.—Address, X. Y. Z. care of Horne-keeper, No. 2, Adelaide-place, London Bridge.

A LONDON BUILDER requires the SERVICES of a thoroughly practical and trustworthy PERSON, to Assist him in the Management of his Business. He will be required to estimate and to manage the works in progress.—Address, with full particulars and references to previous engagements, and salary required, to Mr. RICHARD ERRINGTON, Priors Cottage, Southgate, N.

A YOUTH is WANTED in the Office of a Surveyor at Kentish Town. Must be able to trace and copy drawings, write a fair hand, and be willing to work moderate hours. Salary, 10l. to 15l. a year, according to ability. Southwark or Lambeth preferred, where previously employed, &c. to SURVEYOR, 12, Cornwall Villas, Kentish Town, N.W.

ENGINEER'S PUPIL WANTED.—A Member of the Institution of Civil Engineers, having an extensive country practice of a most varied character as well as in London and the neighbourhood, has a VACANCY for a YOUNG GENTLEMAN, having a taste for the profession, as an ARTICLED PUPIL. A premium will be required.—Application to be made to JOSIAH FORSTER FAIRBANK, C.E. 24, Parliament-street, Westminster, S.W.

FLUO-SILICIC STONE-PRESERVING COMPANY, LIMITED.—AGENTS WANTED, for town and country. Apply between the hours of TEN and FOUR.—39, Charing Cross.

WANTED, a good ECCLESIASTICAL WALL DECORATOR: one who perfectly understands the business throughout, and can take charge of the work.—Apply to R. R. EDMUNSON & SON, Stained Glass Works, New Wakefield-street, Oxford-street, Manch. ster.

WANTED, some good PLASTERERS.—Inquire for Mr. SWAN, at the New Houses, Berrylands, Surbiton, Kingston.

WANTED, a CABINET MAKER and a WOOD CARVER, who are experienced in Gothic. To steady and energetic workmen it would be a constancy. No others need apply.—State age, wages, and reference, to ARTHUR HAYBALL, Wood Carver, Sheffield.

WANTED, in an Architect's Office, a duly qualified GENERAL ASSISTANT.—Address, stating qualifications and terms, to ARCHITECT, 11, Messrs Rowney & Co 51, Rathbone place. A Vacancy for an Improver.

TO JOINERS.

WANTED, immediately, a few miles from London, a WORKING FOREMAN of JOINERS. None need apply but those who have filled similar situations. Must be well recommended.—Address, D. P. Office of "The Builder."

TO PLUMBERS, PAINTERS, &c.

WANTED, in a very Old-established Business, a few miles from London, a thoroughly Practical WORKMAN. Very liberal offers will be made to any respective person whose references will bear investigation. No person to apply unless he can command 100l. to 200l.—Apply to Mr. H. VERNON, Lead Merchant, Borough, Southwark, near St George's Church.

WANTED, for a constancy, a good PLUMBER; one used to hot-water work preferred. Will have to make up time painting, &c.—Apply, by letter, stating wages and references, to Mr. J. S. ANSCOMBE, Contractor, Maidstone, Kent.

TO ARCHITECTS' ASSISTANTS.

WANTED, immediately, in the Country, for not less than three months, a first-rate GOTHIC DRAUGHT-MAN, experienced in getting up plans and working drawings.—Address, A care of Messrs Soyer, 112, High Holborn

WANTED, in an Architect's Office in the country, an ASSISTANT, well acquainted with Medieval work and perspective.—Address, L. M. 31, Kingston Russell place, Orkney square, N.W.

WANTED, a DECORATIVE ARTIST, to DESIGN as well as EXECUTE WORK, of a high class, in an Establishment at the West end.—Apply, by letter only, addressed C. at Messrs. Wilson & Newton's, 38, Rathbone place.

TO CARPENTERS

WANTED, a WORKING FOREMAN, accustomed to building and general repairs, with a practical builder.—Apply by letter, in own handwriting, stating age, salary required, and references as to sobriety, to S. T. R. Office of "The Builder."

TO PLUMBERS, PAINTERS, GLAZIERS, AND BUILDERS.

WANTED, by a practical THREE-BRANCH HAND, a RE ENGAGEMENT as FOREMAN, or WORKING FOREMAN, in the above branches. Unexceptionable references given.—Address, B. H. Office of "The Builder."

TO BUILDERS, PAINTERS, DECORATORS, &c.

WANTED, a SITUATION by the Advertiser, a First-class PAPERHANGER and PAINTER, having been three years in a leading decorator's establishment. Can have undoubtable references either as foreman or journeyman. Would have no objection to occasional country work.—Address, C. B. care of Mrs. Price, 1, Prince's road, Kennington cross.

WANTED, a SITUATION as PLUMBER, ZINCWORKER, and GASFITTER. Good references given. Address, J. S. 37, Brindley-street, Harrow road, Paddington, London.

TO BUILDERS

WANTED, a SITUATION, by a thoroughly practical Foreman of Masons. Good references.—Address, ALPHA, 3, Moreton terrace, Pimlico, S.W

WANTED, an ENGAGEMENT, by an experienced Builder's Clerk and Draughtsman, a Joiner, acquainted with the other branches, taking out quantities, pricing estimates, superintending work, &c. References to leading London and provincial builders. Security, if required.—Address, O. A. K. Mr. Leggett's, Stationer, 21, North Audley street, Grosvenor-square.

TO GENTLEMEN AND BUILDERS

WANTED, by an experienced Foreman of Bricklayers, BRICKWORK, by the rod or otherwise. References from employers.—Address A. B. 6, Newington-grove, Union-road, Trinity-square, Borough, S.E.

TO BUILDERS, GENTLEMEN, AND OTHERS.

WANTED, by the Advertiser, a SITUATION as WHEELWRIGHT and CARPENTER. Understands making gates, hurdles, and every other description of hop-work, &c. Town or country.—Address, J. S. Mrs. Allen's, 16, St. Peter-street, Islington.

WANTED, a SITUATION as CLERK and COLLECTOR, in a Builder's or other Office, or to Manage a Small Business, to which the Advertiser has been accustomed. Can prepare plans, estimates, &c.—Address, B. D. Mr. Bunce, 47 Aldermanbury.

TO BUILDERS, CONTRACTORS AND OTHERS.

WANTED, by a Young Man, a Carpenter, a SITUATION as TIMEKEEPER. Good reference given. Town or suburbs preferred.—Address, W. R. 13, Caroline-place, Paywater, W.

WANTED, by the Advertiser, aged 27, a SITUATION, with a Builder or Contractor, upon a Gentleman's Estate, or in any capacity where he could make himself useful. Can prepare plans, measure up or superintend work. A good accountant. Carpenter by trade. Out door employment preferred. Wages moderate. Good references, and security if required.—Address, W. D. Post-office, Epsom.

TO DECORATORS AND BUILDERS.

WANTED, by a Young Man, aged 26, a SITUATION as GRAINER and WRITER. Will not object to a little plain work, or otherwise to assist with the books.—Apply to J. O. 23, St. Marylebone-street, Manchester-square.

TO BUILDERS AND ARCHITECTS.

WANTED, by an experienced Builder, a SITUATION as FOREMAN, or CLERK of WORKS. Age, 32 years. Sober and industrious. Good reference and security.—Address, CORRUNA, Office of "The Builder."

TO BUILDERS AND RAILWAY CONTRACTORS

WANTED, a RE-ENGAGEMENT, as General FOREMAN of CARPENTERS. First-class testimonials. Address, J. DAVIS, 7, Rutland street, Pimlico, S.W

TO BUILDERS, STEAM SAWING, MOULDING, MILL PROPRIETORS, &c.

WANTED, by a practical FOREMAN, of several years' experience, a SITUATION, either as SHOP or MILL FOREMAN. Highest references and testimonials, &c.—Address, STEAM, Post office, High-street, Stoke Newington, N.

TO JOBBING MASTERS, OWNERS OF HOUSE PROPERTY, AND OTHERS.

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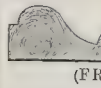
JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S INN LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by
J. MILLS,
110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET
(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

FLOORING, DEALS, MOULDINGS, &c.
2½ YELLOW BATTENS .....10l. 10s. per 120 of 12 feet.
3 by 9 YELLOW DEALS .....16l. 10s. per 120 of 12 feet.
⅞ by 7 WHITE FLOORING .....11s. 6d. per Square.
PRICE LISTS AND MOULDING PATTERNS, POST FREE.
J. TERRY & SON, 109, BOROUGH ROAD, S.E.

FLOORING! DEALS! MAHOGANY!
100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
10,000 Pine Planks ..... from 38. 6d each
5,000 Yellow Battens..... from £10 10s. per 120
2,000 Spruce ditto ..... from £9 per 120
SPRUCE DEALS, 2s. 6d. each.
FIR TIMBER 55s. PER LOAD.
Scaffold Poles ..... 1½d. per foot
YELLOW DEALS, £16 PER 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

REDUCED PRICES.
BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.
Three-quarter inch Flooring (well prepared) 11s. 6d. per square. Laths, 28s. per Load.
Yellow Deals, sound and good ..... £18 0 0 per 120, or 3 0. per foot.
Spruce Deals ..... 15 0 0 „ 2½ „
Yellow Battens, excellent quality ..... 10 10 0 „ 1¾ „
Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.



MOULDING WORKS.
SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.



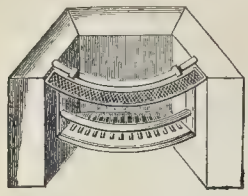
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(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.
Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

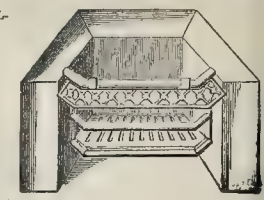
FIRE-LUMP STOVES,

FOR BED-ROOMS, COTTAGES, SERVANTS' OFFICES, BARRACKS, SCHOOL-ROOMS, WAREHOUSES, CHARITABLE INSTITUTIONS, &c.



With hanging trivet.

			s.	d.		s.	d.
18 inches wide, 10 inch bars..... ..			7	6	.....	8	6
21	,,	12 ,,	10	6	. . . ..	12	0
24	,,	13 ,,	14	0	.... ..	15	0
27	,,	18 ,,	16	0	.... ..	18	0
30	,,	21 ,,	20	0	.....	—	
36	,,	24 ,,	30	0	} Extra strong.		
33	,,	27 ,,	36	0			
42	,,	30 ,,	42	0			



These Stoves give a considerable heat with a small consumption of coal.

EDWARDS & SON,

STOVE GRATE & KITCHEN RANGE MANUFACTURERS,

No. 49, GREAT MARLBOROUGH STREET, REGENT STREET, LONDON

MARBLE OR STONE FENDERS, WITH METAL FITTINGS AND TILE HEARTHS COMPLETE, SUPPLIED AND FIXED

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



HENRY GOODWIN, JUN.

IRONFOUNDER, &c.

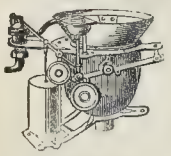
67, GREAT GUILDFORD ST., BOROUGH.

BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.

RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.

CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.





THOMAS LAMBERT & SON,







No. 57. Self-Regulating Pan Closet. No. 1. Lambert's Ball Valve. No. 6. High-Pressure Bib Valve. High-Pressure Stop Valve.

FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH-PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves manufactured by them, have their NAME legibly marked thereon.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO. And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough street, London, W. Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty four years, and may always be depended upon as the best that can be made.

TURPENTINE. GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.

Sample gallons may be obtained at the Manufacturers', price 4s

GARROD & COMPANY, Varnish, White Lead and Colour Manufacturers, 56, Upper Thames street, London E.C

THE ANCHOR BRANDED TURPS.— "FACTS ARE STUBBORN THINGS."



Ten Thousand Gallons of this TURPS have been sold during the first three months of its introduction to the trade.

Manufactured only by CARLESS, BLAGDEN, & CO. HOPE CHEMICAL WORKS, Hackney Wick, N.E.

City Office, 2, New London-street, near the Blackwall Railway Terminus, E.C. where samples and all particulars may be had.

Sold by all Oilmen

N B — Ask for the "Anchor Branded Turps"

PRIZE MEDAL, 1862.

HAMILTON & CO. No. 10, GREEK STREET, SOHO-SQUARE, LONDON, W. Sole Manufacturers of C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graniers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

NOTICE.—For Church Work, Libraries, Halls, Schools, Offices, Railway and all Public Buildings.— IMPORTANT to BUILDERS.—MEAD'S PATENT ROYAL OAK STAIN, to be had of T. J. HOGG, 3, Brunswick-place, City-road; and at the Works, Aldgate, East. 8s. per gallon Post orders will have best attention and choice Those who have not yet used the above should do so; the improvement is great and far surpasses anything else ever seen, the effect being very superior, giving a rich, mellow finish to the work, entirely surpassing paint; it therefore merits special attention from the Trade. See also MEAD'S PATENT SATIN WOOD, MAHOGANY, WAINSCOT, WALNUT, which are highly valued by Furniture and Fixture Workers.

TO PREVENT BLISTERS, AND REMOVE OLD PAINT, VARNISH, &c. USE NAENIARE & CO.'S LETHICUM. Sold at 5s. per gallon Also, Brushes to apply and remove, 2s. per pair.—Particulars, &c apply at 11, St. Andrew's-hill, E.C. London. Success guaranteed.

N.B. Country orders must contain a Cheque or Post-office Order.

STAINING DEAL TO IMITATE ALL KINDS of WOODS. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Tint, 5s. per gallon; Dark Oak, 6s per gallon; Mahogany, 8s.; Rosewood, 8s.; Walnut, 8s. Varnishes for NAYLOR'S stains may be had at the Factory, No. 4a, James street, Oxford street; also Manufacturer of Improved Knotting and Decorative Varnishes.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS, FALCON-SQUARE, LONDON, E.C.

*** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa nut Fibre Door Mats, Matting, &c.

T. KENT and CROWDEN & GARROD, are stamped on the Brushes.

STEPHENS'S STAINS for WOOD. A SUBSTITUTE for PAINT, and at HALF the COST

MR. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H CHICHESTER, of Chilthampton, near South Molton:—

"I've effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

PATENT GRAINING APPARATUS.— TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 35, Hinde-street, Marylebone, London, W.

N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post office order for 22s.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 29s. per cwt. Linseed Oil, 2s. 9d. per Gallon; Boiled Oil, 4s. per Gallon. Turpentine, 7s. 6d. per Gallon Fine Pale Oak Varnish, 6s per Gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouses 36, Upper Ebury street, and 45, Colesbill-street, Pimlico, S.W. Every article for the Trade at the lowest prices.



WINDOW BLINDS. E. ADKINS, HIGH STREET, ST. JOHN'S WOOD, REGENT'S PARK, N.W. OUTSIDE SUN-SHADE, AND SPRING ROLLER MAKER TO THE TRADE.

Patent Self-adjusting Venetian Blinds, requiring no Fastenings for the Cords. Illustrated List of Prices on receipt of One Postage Stamp.

PENCILS, BLACK LEAD, and COLOURED CHALKS. A. W. FABER'S POLYGRADE LEAD PENCILS, sold by all Stationers and Artists Colourmen.

Sole Agents, HEINTZMANN & ROCHUSSEN, 9, Friday-street, E.C.

PATENT ASPHALTIC ROOFING FELT. D. ANDERSON & SON, BELFAST And 23 and 23½, BILLITER STREET, LONDON, PATENTEES AND MANUFACTURERS OF ASPHALTE ROOFING, SHIP SHEATHING, BOILER AND INODOROUS FELTS.

BUILDING LAND, UPPER NORWOOD, close to the Crystal Palace.—TO BE LET, for the erection of small VILLAS, a piece of residence much needed, and certain to let before completed. Advances if required.—Apply to Mr. T. K. GREEN, Architect, 25, College-hill, Cannon-street, E.C.

MANUFACTURING WATERSIDE PREMISES, occupying about an acre of ground.—TO BE LET on lease, direct from the freeholder, for a building term, if desired, conveniently-placed MANUFACTURING PREMISES, situate at West Ham Abbey, Essex, a few minutes' walk from the Stratford Bridge Station of the North Woolwich Railway, and with waterside frontage next the Channel Sea River. The ground occupies a site of about one acre. The buildings are spacious ground floor erections, and there is a hand-some and lofty brick chimney-shaft.—For particulars, apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

BUILDING LAND TO BE LET, at Beckenham, where large houses let or sell before finished. Money advanced, if required.—Apply to Mr. B. PARKS, Lewisham. 11 are now seven built and occupied.

CITY of LONDON.—BARBERS' HALL, TO BE LET, on a Building Lease, Nos 33, 34, and 35, Monkwell street, Wood street, and a portion of the Court-yard Hall and Offices in the rear.—For particulars and plans, apply to the Beadle, at the Hall; or to the Clerk, HENLEY GROSE SMITH, Esq., 4, Warnford court, Throgmorton-street, E.C.; or to Mr. C. J. SHOPPEE, Architect, 61, Doughty street, W.C.

SUTTON, near the Station.—PLOTS of FREEHOLD BUILDING LAND FOR SALE. Land tax redeemed, conveyance free Also, PLOTS TO BE LET, on a Building Lease, for ninety-nine years.—For plans, &c. apply by post, pre-paid, to Mr. TRIBE, Builder, Sutton, Surrey, S.

LAND, situate on Bromley-hill, Kent, TO BE LET on Building Lease, suitable for the erection of villas for residence or investment, they being in great demand in that locality. The Land is within ten minutes' walk of the Shortlands station, and in a beautifully wooded district. The site is elevated, has a sub soil of white sand and dry gravel, and a supply of pure spring water.—Apply to JOHN WIMBLE, Esq. 2, Walbrook, E.C.

TO BE LET, a capital WHARF and DRAWDOCK, known as "Searle's Wharf," most eligibly situated at the foot of New Westminster Bridge, and opposite the Houses of Parliament

This drawdock has been closed for some years, and is now re opened.

From its excellent situation and the probability of the Southwark Waterfs being closed at an early date by the Thames Embankment, a very valuable business may no doubt be depended on.

A residence is attached, which may or may not be taken with the wharf or drawdock.

Apply to Mr. W. HEWETT, 84, York-road, Lambeth

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 400 yards only from the Estate, and the City is reached in twenty-five minutes The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tranham, Kings on; some very eligible SITES in the Grove road, Mile end, a few of which are adapted for shops, and large and very CHEAP PLOTS TO LET, at Ealing.—Apply to MR. KNIGHTLEY, Architect, 25, Cannon-street.

LEYTONSTONE.—A FREEHOLD ESTATE FOR SALE by Private Contract, Harrow green, Leytonstone-road, Essex; containing about eighteen acres of good gravel and brick earth. Also a detached Freehold twelve-roomed Residence, pleasantly situated on part of the land fronting the high road to Leytonstone, a few minutes' walk from the Leyton and Leytonstone stations of the London, Woodford, and Loughton Railway, with brick-built stable, coach-house, and granary; a well-stocked orchard, fish pond, and garden, with 350 feet frontage to the Leytonstone road; let for a term expiring at Lady day next, at the low rent of £21 per annum. The house, garden, &c to be sold in one lot; the remainder in two or three lots, to suit purchasers.—For particulars, and to show the estate, apply to J. INGRAM, on the Estate; or to J. OTWAY, Esq. Solicitor, Stratford grove, Essex.

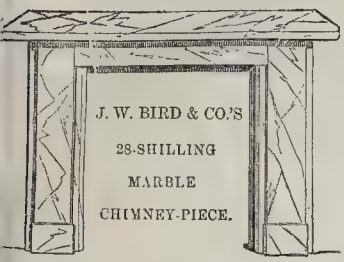
GROUND RENTS.—WANTED to PURCHASE, about 120l. PER ANNUM in FREEHOLD GROUND RENTS, well secured on a good class of London house property.—Full particulars and terms to be sent to Messrs. DANIEL SMITH, SON, & OAKLEY, 19, Waterloo-place, Pall-mall, S.W.

TO CARPENTERS, JOINERS, and OTHERS. THREE will built SIX ROOMED CARCASES TO BE SOLD, either together or separate. Price 190l. Ground rent 3l. each. Lease 99 years. Advances made if required. — Address to Mr. FLEXMAN, Calvert-road, Battersea Park, S.

TO BUILDERS and OTHERS.—TO BE LET or SOLD, within half a mile of the Nine Elms Station, COMMODIOUS PREMISES, suitable for Workshops, &c extending over an area of 130 feet by 55 feet, at present a brewery, but easily convertible; consisting of a brick building 55 feet long, 20 feet wide, and three floors high, suitable for carpenter's and joiner's shops, with steam engine of 4 horse power, large sheds, stabling for eight horses, and two yards. — For particulars, apply to Mr. J. H. BRIDGES, Falcon Brewery, Ipswich.

NORFOLK COAST.—HUNSTANTON, ST. EDMUND'S.—Eligible BUILDING LAND in this rising watering place, situate near Sandringham, the seat of H.R.H. the Prince of Wales, TO BE LET, on very reasonable terms, for the erection of first and second class houses and villas. There is direct communication from London to St. Edmund's, viâ Cambridge and Lynn. The surrounding country is most attractive, the locality is famous for salubrity; the chalk and sand cliffs are bold and picturesque; the sea beach and sands are unequalled, and the fresh water is excellent. There is a chalybeate spring within a mile. The sewers are already laid down by the freeholder, under the best engineering advice, and the roads are made. The existing accommodation is utterly insufficient for the summer and autumn visitors. Model drawings and specifications, according to which several houses have already been erected, can be seen, and all further information obtained, on application to Mr. C. W. PREROLL, at Hunstanton; Mr. F. PREEDY, the Agent of the Estate, No. 13, York-place, Portman square; and of Messrs. WILLIAMS & JAMES, Solicitors, 63, Lincoln's Inn-fields, London.

MARBLE & STONE CHIMNEY-PIECES FOR THE MILLION.



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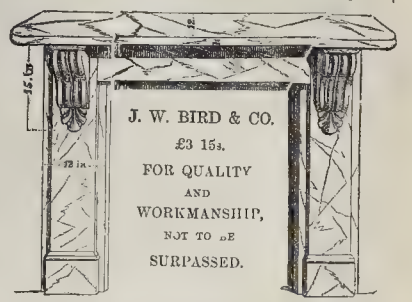
A Stock of 500 always to choose from at

J. W. BIRD & CO.'S,
THE EMPORIUM,
145 & 143½, EUSTON ROAD,
N.W.

A Marble Box Chimney, with 8-inch piers, as Illustrated, for 28s. and fitted to any opening up to 3 feet square.

STONE DITTO, WITH BEAUTIFUL MOULDED CAPS, FOR SEVEN SHILLINGS.

Monuments and Tablets in great variety, equally low in price.
Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.
A VACANCY FOR AN OUT-DOOR APPRENTICE.



THOMAS MILLINGTON,
GLASS MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.
Reduced Tariff for Sheet Glass.

The Agricultural Hall, Islington, containing an Acre of Glass, was supplied by me. Mr. Rivers, and the leading men in the Horticultural profession as well as the Nobility, Gentry, and Merchants, have secured me with orders for home use and for exportation.

SHEET GLASS.
In Cases for cutting up, in Sizes as Manufactured.

	3 0 feet.	200 feet.		
	15 oz.	21 oz.	26 oz.	32 oz.
fourths quality	33s. 6d.	33s. 6d.	39s. 6d.	45s. 6d.
thirds do.	42s. 0d.	42s. 0d.	49s. 0d.	56s. 0d.
seconds do.	62s. 0d.	64s. 0d.	74s. 6d.	85s. 6d.
first do.	88s. 6d.	88s. 6d.	103s. 6d.	118s. 6d.

CRYSTAL SHEET GLASS.
For Pictures and best glazing purposes.
Averaging 16 oz. to the foot.

Best quality, in cases of 200 feet	100s.
Second quality, in cases of 100 feet	82s.

Averaging 30 oz. to the foot.

Best quality, in cases of 100 feet	106s.
Second quality, in cases of 100 feet	82s.

SQUARES, IN 100 AND 200 FEET BOXES.

Small Squares not exceeding 9½ inches by 7½ inches.

Ins.	Ins.	Ins.	Ins.	Ins.	Per 100 feet.			
by 4	7 by 5	8 by 6	9 by 7		4ths.	3rds.	2nds	Best.
by 4½	7½ by 5½	8½ by 6½	9½ by 7½		9s. 9d.	11s. 3d.	13s. 9d.	16s. 9d.

Squares not exceeding 14 inches by 11 inches.

					Per 100 feet.			
by 8	12 by 9	12½ by 10½	14½ by 10½		4ths.	3ds.	2nds.	Best.
by 8½	12½ by 9½	13 by 10	15 by 10		10s. 9d.	12s. 3d.	15s.	18s.
by 9	13 by 9	13½ by 10½	13 by 11					
by 9½	12 by 10	14 by 10	14 by 11					

Squares not exceeding 23 inches by 18 inches.

				Per 100 feet.			
15½ by 10½	14 by 12	17 by 13	24 by 16	4ths.	3rds.	2nds.	Best.
16 by 10	14½ by 12½	18 by 13	20 by 17	11s. 6d.	13s. 6d.	16s. 6d.	20s.
11½ by 11½	15 by 12	18 by 14	22 by 17				
15 by 11	15½ by 12½	22 by 14	24 by 17				
15½ by 11½	16 by 12	24 by 14	20 by 18				
16 by 11	16½ by 12½	22 by 15	22 by 18				
13 by 12	17 by 12	24 by 15	24 by 18				
13½ by 12½	18 by 12	22 by 16					

Orchard-house Sizes, as recommended by Mr. Rivers.

Ins.	15 oz.		21 oz.		
by 12	4ths	11s. 6d.	4ths	15s. 0d.	Per 100 feet.
by 13	3rds	13s. 6d.	3rds	19s. 0d.	
by 14	2nds	16s. 6d.	2nds	25s. 6d.	
by 15	Best	20s. 0d.	Best	30s. 0d.	
by 16					

Squares Cut to Sizes not on List

	15 oz.			21 oz.		
	4ths	3rds	2nds	1st	4ths	3rds	2nds	1st
Under 1 foot super	1½	1¾	2	2½	2½	2¾	3½	4½
Under 2 feet super	1¾	2	2½	3	2½	3	4	5½
Under 3 feet super	1	2½	2¾	3½	3	3½	4½	6
Under 3 feet super	2½	2½	3	4	3½	3¾	4½	6½

Glass Tiles, in Sheet and Rough Plate. Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.
COLOURED GLASS AND ROSETTES, FLUTED, GROUND, AND EMBOSSED GLASS, OF EVERY DESCRIPTION.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead	30s.	Fine Oak Varnish	10s. to 12s.	Linseed Oil	38. 9d.
Anti-corrosion Paint	28s. to 34s. per cwt.	,, Carriage	12s. to 14s. per gallon.	Boiled Oil	44. 2d. per gallon.
Linseed Oil Putty	8s.	Patent Dryers	28s. to 42s. per cwt.	Turpentine	8s. 6d.

Milled Lead in Sheet and Pipe of all sizes. Old Lead bought or taken in exchange. Lift Pumps, Water Closets, and Plumbers' Brass Work of all kinds, subject to the fluctuations of the Markets.
NET CASH.

NOTICE OF REMOVAL.
MESSRS. COLLINS & GREEN

beg to advise their Friends and the Profession that as the London, Chatham, and Dover Railway have taken their late premises at Albion-place, for the new Blackfriars Station, they have Removed their extensive Stock of

MARBLE CHIMNEY-PIECES, STOVES, RANGES, &c.

TO THE ROTUNDA, No. 3, BLACKFRIARS ROAD.

C. & G. have now, as heretofore, the best and most varied assortment of first-class Goods in their trade, of every description and at every range in price.

They respectfully invite a visit from Architects and Builders to their present Show Rooms, which include an area of upwards of 12,000 super. feet, and replete with every Architectural requirement in Marble or Iron.

ROTUNDA GALLERIES, 3, BLACKFRIARS ROAD.
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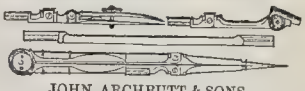
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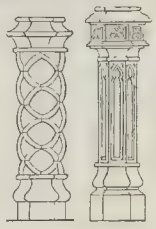
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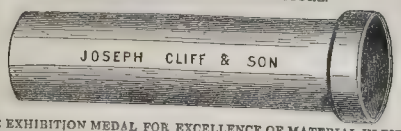
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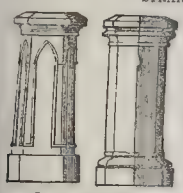
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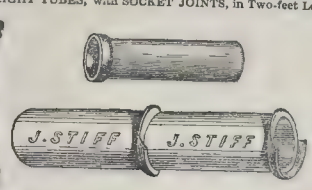
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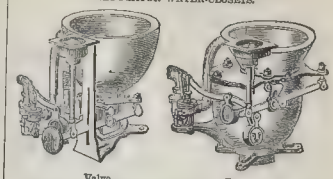
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3s. 9d.

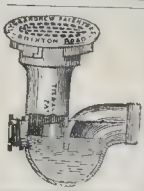


The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



TYE & ANDREWS NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

MINTON, HOLLINS, & CO. Stoke-upon-Trent, beg to inform architects, the public, and others, that, in consequence of the increasing demand for their Encaustic and Mosaic Pavements, and with the view of greatly increasing the execution of orders, they have opened a Show-room and Office at their Establishment, No. 39, Conduit-street, London, where experienced persons will be constantly in attendance, to afford all information required.

DRAWINGS and ESTIMATES, on the receipt of plans, will also be promptly furnished, on application at the Manufactory, Stoke-upon-Trent.

MINTON & CO. take the present opportunity of stating that they have always in stock a large and varied assortment of tiles, suitable for flower-boxes, stoves, and other ornamental purposes.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, 4th Edition, now Ready, 93 plates, post free, together with a special design and estimate of cost adapted to any given dimensions of Hall, passage, conservatory, vestibule, fireplace, &c. will be sent on application to BENJAMIN MAW, Benger-lane, Salop.

May be seen at the Exhibition of Building Inventions, &c now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

MINTON & CO.

HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE UPON TRENT.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.

PAVING TILES in various colours and designs.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, Warehouses, &c.

Dressed Blue Facing BUILDING and SEWER BRICKS

Architects' designs carried out on the shortest notice.

Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby given, that the LONDON DEPOT for the WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City road Basin, N. Also, that the trade term, "TERRO METALLIC," as the exclusive right of the Proprietor; and also, that the "Reports of the Jurors," page 581, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known as long as "The Thirties," Tunstall, Staffordshire, as the first of the kind in the world.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving the following letter from SIR RAYMOND ARVIS, Bart VENTNOR, ISLE of WIGHT—"Sir,—In reply to your letter received this morning, stating the Gutta Percha Tubing for Pump service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

SALES BY AUCTION.

TO IRONMONGERS, BUILDERS' SMITHS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Mr. Wright, who has let the Premises, and is retiring from business, to SELL by AUCTION, on TUESDAY, AUGUST 4, 1863, at ELEVEN o'clock, on the PREMISES, No. 104, Lambeth Marsh, the STOCK of BLACK IRONMONGERY, SMITHS' TOOLS, &c., 5 tons wrought and cut nails, 5 cwt gross screws, locks, latches, wrought and cast hinges, sash cords, files and rasps, cast and shear steel, rod and bar iron, register and Rumford stoves, 4 cwt sash weights and wall plates, 10 cwt coach bolts and nuts, 10 dozen spades and shovels, black hollow ware, brass work, bellhangers' and lock smiths' stock, 7 vices, anvils, swages, bellows, fly press, screw jack, tackle, a general assortment of ironmongery, and a few lots of household furniture.—To be viewed on Monday previous and morning of sale, when catalogues may be had on the Premises, and of Messrs FULLER & HORSEY, 7, Billiter-street, London, E.C.

ADDISCOMBE, near CROYDON, SURREY.—EXCELLENT BUILDING MATERIALS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, within a few minutes' walk of the town of Croydon on MONDAY, JULY 27, 1863, at THREE for FOUR o'clock in the afternoon precisely, the SEVENTEENTH PORTION of the excellent BUILDING MATERIALS of the Military College at Addiscombe: comprising about 100,000 bricks, and a quantity of stock, excellent oak scantlings, with landing, fine marble chimneypieces, a large fossil-stone chimneypiece, small marble and fossil-stone paving slabs, a large quantity of York paving, and superior Portland stone coping and blocks, window sills, steps, &c.; large fast-safes, dresser with drawers, large windows, frames, and shutters, a quantity of doors, closet-pans, deal timber, consisting of a quantity of partitioning, weatherboarding, joists, beams, roofing-boards, floor-boards, shingling, firewood, &c. &c. May be viewed on Friday and Saturday preceding the sale. Catalogues may be obtained of the Foreman on the Estate; and of the Auctioneer, 14, Moorgate-street, London, E.C.

ADDISCOMBE COLLEGE, CROYDON, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the GREYHOUND INN, Croydon, on FRIDAY, JULY 31st, at SIX for SEVEN in the evening, a further portion of the valuable ESTATE, late the property of the Hon the East India Company, consisting of about 42 lots of eligible FREEHOLD BUILDING LAND, with its entrance to it Grant, Nicholson, and Inglis roads. The Land is well adapted for a good class of Villa Residences. The property is within ten minutes' walk of the new and East Croydon Station, about a mile of that at West Croydon, and when the Addiscombe Railway is completed, the Station will be on the Estate, thus bringing the property in constant communication with the City and West-end at all times of the day. Nine-tenths of the purchase money may remain on mortgage or contract at 5 per cent. to be paid in equal sums by half yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Possession, plans, and conditions of sale, may be obtained about ten days before the sale, of Mr PALACE, South Lodge, Addiscombe; at the principal Inns in the neighbourhood; of Messrs RUSSELL & DAVIES, 50, Cheapside, E.C.; of the Auctioneer, 14 Moorgate-street, London, E.C; and at the Place of Sale

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OLD ASYLUM, BEDFORD.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on MONDAY, AUGUST 3rd, 1863, at TWELVE for ONE o'clock, on the PREMISES, close to the town of Bedford, the twelfth and last portion of the excellent BUILDING MATERIALS of the late County Lunatic Asylum, consisting of two York landing slabs, 12 feet long, light stock bricks in large quantity of brick tiles, large slate slabs, an oak iron railing with slated roof, now used as an office; fine Bolton stone paving, plinth, string course, sills, &c.; well seasoned oak lintels, joists, floors, beams, wall plates, and floor boards; slates for roofs, York paving, ashlar and other stone window and door frames, firedeal, &c.—May be viewed on the Friday and Saturday before the sale, and catalogues may be obtained of the Auctioneer, 14, Moorgate street, London, E.C.; and of the Foreman on the estate.

BELVEDERE, KENT.—Valuable FREEHOLD BUILDING GROUND, within a mile from the Railway Station.

MR. JOHN M. DEAN will SELL by AUCTION, at the BELVEDERE HOTEL, on TUESDAY, JULY 28, at FOUR o'clock precisely, in seventeen lots, about Four Acres of VALUABLE BUILDING LAND, eligibly situate near the Railway Station, on the brow of the hill fronting Lessness Heath, in the parish of Erith, Kent, commanding extensive views, and offering beautiful sites for villa and other residences. May be viewed; and particulars, with plans, had of Messrs STEVENS & BEAUMONT, solicitors, 6, Old Jewry, E.C.; at the Belvedere Hotel, Belvedere; Earlsfield Arms, Lessness Heath; and of Mr JOHN M. DEAN, Auctioneer and Surveyor, The Grove Stratford, E.

LEYTON, ESSEX.—Twenty one Acres of Freehold Building Land, suitable for first class residences, in lots of about an acre and a half an acre each.

MR. JOHN M. DEAN will SELL by AUCTION, at the MART, on THURSDAY, JULY 30, at TWELVE, in thirty two lots (unless the whole be previously disposed of by private contract, of which due notice will be given), about 21 acres of FREEHOLD BUILDING LAND, most eligibly situate for the erection of first class residences, on the high road from London and Stratford to Walthamstow, within an easy distance of the church and the railway stations at Leyton and Leytonstone, and about five miles from London, possessing extensive frontages to Leytongreen, Capworth-street, and other good roads. The estate is beautifully timbered, and will be submitted in plots of about an acre and half an acre each, having depths varying from 300 to 400 feet, mapped for the erection of superior residences. May be viewed and particulars with plans had, fourteen days prior to the day of sale, at the Mart; of Messrs. STEVENS & BEAUMONT, Solicitors, 6, Old Jewry, E.C.; and of Mr. JOHN M. DEAN, Auctioneer and Surveyor, The Grove, Stratford, E.

TO BUILDERS, CONTRACTORS, AND CAPITALISTS.—BOSTON, LINCOLNSHIRE.—TO BE SOLD by AUCTION, by

MR. EDWARD TEWSON, at the PEACOCK HOTEL, in Boston, in the county of Lincoln, on WEDNESDAY, the 29th day of JULY instant, at SIX o'clock in the evening, subject to conditions of sale, certain valuable FREEHOLD ESTATES: consisting of thirteen substantial Brick Dwelling-houses, situate in Union-street, in Boston aforesaid, comprising a newly-erected shelling-house, three large carpenters' and stonemasons' shops, timber, lime, and other shops, stables, lodges, lofts, and other premises. A very extensive and lucrative business has been carried on in the premises for the last sixty years, late in the occupation of Mr. Benjamin Booth, Builder, deceased, and now of his executors. An excellent Dwelling-House, with a newly-erected substantial and commodious Brick Dwelling-House, and several Cottages, adjoining the last described premises, in the occupation of Mr Huddlestone and others. Two semi-detached and newly-erected substantial and commodious Brick Dwelling-Houses, with gardens and premises thereto belonging, situate in Fydell's Marsh, in Boston aforesaid, in the occupation of Joshua Beverley, Esq. J.P., and Mr. William Bannister. Also Four newly-erected substantial and convenient Dwelling-houses, lying near the before-described premises in Fydell's Marsh aforesaid, in the occupation of Mr. Thomas Bannister. And several plots of Building Ground, also in Fydell's Marsh aforesaid, having an extensive frontage to the River Witham, and a new road now staked out. Immediate possession can be given of the Freehold and Building Land may be had. The whole or any part of the purchase money may be had upon approved securities. To view the premises and for further particulars, apply to Mr JOHN CARTWRIGHT, of Boston aforesaid, Iron-master; and Mr ROBERT MALSHALL, of the same place, Chemist and Druggist; or at my Office, where plans of the estate to be sold may be seen.

FRED COOKE, Solicitor,
Boston.

Boston, July 13th, 1863.

LOMBARD STREET.—VALUABLE BUILDING MATERIALS.

MR. PHILIP D. TUCKETT will SELL by AUCTION, on the PREMISES, on TUESDAY, JULY 28th, at TWELVE, the whole of the valuable MATERIALS of the TWO HOUSES, Nos. 70 and 71, Lombard street, comprising about 12,000 stock bricks, two tons of lead, slates, tiles, a large quantity of excellent timber, floor boards, deal column, panelling, sashes, doors and other fittings, marble chimney-pieces, stoves, shop front, stout lead soil and other pipes, &c. May be viewed the day previous.—Catalogues of Mr PHILIP D. TUCKETT, Land Agent and Surveyor, 73, Old Broad-street, E.C.

DOWNING STREET.—Loose Materials, Lead, and Ironwork.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of her Majesty's Works and Public Buildings to SELL by TENDER, on TUESDAY, JULY 28th, QUANTITY of MATERIALS: consisting of 6 timber, fittings, Portland steps, landings, coping and cills, iron railing, several tons of lead, and other effects, taken down from the Colonial Office, and lying on the site of the new Foreign Office.—May be viewed one day previous, and forms of Tender had of PULLEN, HORNE, & EVERSFIELD, 11, Parliament street, Westminster, and 80, Fore street, City.

CARRARA WHARF, THAMES BANK, PIMLICO. To Builders, Masons, Builders, and Others

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Tadd, Scott, Brothers, to offer for SALE by AUCTION, on the PREMISES as above, on WEDNESDAY, JULY 29th, at ELEVEN for TWELVE, a selection of fine STATUARY, in blocks, for sculpture and ornamental purposes, viz., two, three, and other quantities, in blocks and slabs of Carrara, Sienna, Veined, and other qualities, in blocks and slabs.—May be viewed two days previous, and catalogues may be had on the Premises, and of PULLEN, HORNE, & EVERSFIELD, 11, Parliament street, Westminster, and 80, Fore street, City. Approved bills at four and six months will be taken

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Metropolitan Railway Small-wood Loop Building Materials of several spacious Factories, Warehouses, Dwelling-houses, and Premises, Shoreditch Alley, Cowcross-street

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on FRIDAY, JULY 31, at TWELVE, in lots, the valuable BUILDING MATERIALS of extensive factories, warehouses, stabling, dwelling-houses, and premises (part now worked as a granary), situate Shoreditch Alley, Cowcross-street, Smithfield; comprising 700 000 excellent stock bricks, oak and fir timber in roofs and floors, Lyon plain tiles, 10,000 pantiles, cast iron chimney pieces, and interior fittings, doors, weather boarding, flooring boards, folding gates, a large quantity of pebble, clinker, and other paving, racks, mangers, and stabling fittings, about 100 feet run of cast iron sewers, stoves, and other useful fixtures and fittings-up.—May be viewed the day previous, and Catalogues had of Messrs. BURCHELL, Solicitors, Broad Sanctuary; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and No 11, Parliament-street, S.W.

CATFORD JUNCTION, near CROYDON.—NEW MATERIALS used for the Sheds and Platforms on the occasion of the laying of the foundation stone of the Warehousemen and Clerks' Schools by H.R.H. the Prince of Wales.

PULLEN, HORNE, & EVERSFIELD are instructed by the contractors to SELL by AUCTION, in lots, on the PREMISES, near the Catterham Junction station, about two miles from Croydon, on MONDAY, AUGUST 3rd, at TEN for ELEVEN (in consequence of the number of lots), the whole of the Fencing, New Materials used on the above occasion, and consisting of 25 000 feet of deals and planks, suitable for joists; 6,000 feet of boards and battens; 3,000 feet of die squares; 80 squares of 1-inch boarding; 40 squares of 4-inch ditto; 4,000 feet of slating battens; 1000 sliding doors, and a large quantity of sheet rails, firewood, and useful stuff.—May be viewed on Friday and Saturday previous, and catalogues had at the Windsor Castle Inn, Brighton road, Croydon; at the Greyhound Inn, Croydon; and of PULLEN, HORNE, & EVERSFIELD, 8, Parliament street, Westminster, and 80, Fore-street, City.

LOMBARD-STREET. — Excellent Building Materials, and Office Fittings of a Banking House

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, AUGUST 4th, at TWELVE, to clear the site for building, all the excellent BUILDING MATERIALS, OFFICE FIXTURES, and FITTINGS of the spacious Banking House and Premises, Nos. 53, 54, and 55 Lombard-street; comprising capital stock brickwork, excellent timber, in roofs and floors, lining and slating, plate-glass sashes and skylights, marble chimney pieces, sound floor boards, closets, presses, plate glass and mahogany lobby doors, plate-glass and wainscot partitions, iron spiral staircase, stone paving, mahogany and other counters, desks, and office fittings, patent fire-proof doors, safes, and chests of drawers, office enclosures, capital iron repository, pedestal safe, with chamber, office enclosures, capital iron repositories, hot water apparatus, fittings of lavatories, several tons of lead, iron gutters, cisterns, and pipes, stoves, ranges, gas-fittings, and numerous useful fixtures and effects.—May be viewed the day previous and catalogues had at Mr. HARDWICK'S Office, 21, Cavendish-square, and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 11, Parliament street S.W.

GREENWICH HOSPITAL. OLD CLOTHING STORES and MATERIALS.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Greenwich Hospital to SELL by AUCTION, on the premises of the Hospital, on WEDNESDAY, AUGUST 5th, at ELEVEN, a large quantity of OLD STORES: comprising blue woollens, coats, waistcoats, aged pensioners' clothing, flannel shirts, drawers, hats and caps, coverlets, blankets, bed ticks, flannels, linings, &c. Also a quantity of loose materials, metal, ironwork, &c. belonging to the Works Department. May be viewed two days prior, and catalogues had on the premises of TEN and FOUR; and catalogues obtained at the Offices of the Steward and Inspector of Works, Royal Hospital; and of PULLEN, HORNE, & EVERSFIELD, 11, Parliament street, Westminster, and 80, Fore-street, City.

Building Materials, King-street, Grosvenor square

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION on the PREMISES, on FRIDAY, AUGUST 7, at TEN for ELEVEN, the BUILDING MATERIALS and FITTINGS of STABLES and COACH-HOUSE, in Black Jack-mews, King-street, Grosvenor-square, near Park-lane, of the usual description, comprising timber roofs and floors, slating, and slate-boarding, lead gutters, and timber roofs and floors, 3 tons of lead, 10 loads of paving, 2 cwt of sash weights, fittings-up of harness-room, and other useful and valuable materials and fittings up, a further description of which will appear in a few days, when catalogues may be had of Mr. RICK ARDS, Grosvenor Hall, Grosvenor-square; of Messrs. Ogle, Grocers' Hall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

WESTMINSTER.—Extensive Sale of the Building Materials of about Fifty Houses, large Factory, Hall, Stabling, and other buildings, recently pulled down, on the west side of Vincent-square, and extending to the Vauxhall-bridge road

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION on the PREMISES, on FRIDAY, AUGUST 7, at TWELVE, the first portion of the valuable MATERIALS and FITTINGS UP, which will comprise the large lecture hall, in Vincent-square, about fifty dwelling houses in Tothill-street, Stamford street, Cottage place, St. Bride's buildings, and Vauxhall Bridge road, and in the about 200 stock bricks, plain tiles, slates, and timber roofs and floors, 3 or 4 doors, sashes, partitioning, stoves, ranges, iron railing, pebble paving, several tons of lead, and other effects.—May be viewed the days previous, and catalogues had at the offices of Messrs. HUNT & STEPHENSON, 1, Parliament street; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, S.W. and 80, Fore-street, City.

OLD JEWRY.—The capital materials of the extensive premises, buildings known as 7 and 8 Old Jewry, including the premises lately occupied as the Lord Mayor's Court office.

PULLEN, HORNE, & EVERSFIELD are instructed by the Worshipful Company of Grocers to SELL by AUCTION, on the PREMISES, on TUESDAY, AUGUST 11, at TWELVE, in lots, the valuable BUILDING MATERIALS of the large Mansion and the extensive range of office warehouses, and premises known as Nos. 7 and 8, Old Jewry, extending in the rear to Grocers' Hall; comprising a large quantity of useful and valuable materials and fittings up, a further description of which will appear in a few days, when catalogues may be had of Mr. BUCK ER, Grocers' Hall; of Mr. PLUMMER, Pinners' Hall; of Messrs. Ogle, Grocers' Hall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

The New Metropolitan Meat and Poultry Market. First Sale to clear the ground. Building Materials of various Buildings and Premises on the Site.

PULLEN, HORNE, & EVERSFIELD respectfully announce that they are instructed by the Markets and General Construction Committee of the Corporation of the City of London, to SELL by AUCTION, on the PREMISES, on FRIDAY, AUGUST 14, at TWELVE, in lots, a fine valuable BUILDING MATERIALS, FIXTURES, and FITTINGS-UP of the first portion of the PROPERTY to be taken down to clear the site for the New Market, comprising several dwelling houses and shops, warehouses, stabling, and premises situate in Long lane, Charterhouse lane, Goswell Street, Bear's Head court, and on the south side of Smithfield.—Further particulars in a few days, when catalogues may be had at the Architect's Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, 8, Fore-street, City, and 40, Parliament-street, S.W.

ST. THOMAS'S HOSPITAL, BOROUGH.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer FOR SALE, at the MART, on FRIDAY, the 31st day of JULY, at TWELVE in lots, the important and valuable FREEHOLD PROPERTY, lately occupied by St. Thomas's Hospital, situate in Wellington-street, Borough, immediately opposite the new street, and adjoining the Stations of the South Eastern and the London and Brighton Railways, with extensive frontages to Wellington-street, St Thomas's-street, Joiner-street, and to the approaches to the South-Eastern and London and Brighton Railway Stations, offering facilities with unusually convenient access for shops, warehouses, and first-rate buildings of every description, in the centre of the largest and most increasing traffic in London, having also immediate connexion with the noble warehouses now built and in the course of erection by the river Thames, in Tooley-street. The property will be divided into lots as follows, viz.:—Lot 1. A valuable corner plot of Building Land, approached from Wellington-street, and having a frontage of 56 feet to the new road, and adapted for an hotel, bank, or any large mercantile building. Lots 2 to 15, inclusive. Several plots of Building Land, each having a frontage of 22 feet to the new road, and depths varying from 54 feet to 100 feet. Lot 16. A valuable corner plot, having a front to the new road of 81 feet to the accommodation road leading to Joiner-street, and adjoining the site already to the station approach. Lot 17. A valuable corner plot, containing 1,741 superficial feet, with frontages to Wellington-street, and having a front age of 81 feet to the new road, and adapted for an hotel, bank, or any large mercantile building. Lots 18 to 21 several plots of Building Land, each having a frontage of 22 feet to the new road, and depths varying from 54 feet to 100 feet. Lot 22. A most valuable property, comprising a substantially erected strong Building, two stories in height, in lining to Joiner-street, known as 5 and 6, Queen Berry, and Magdalen New South Wales, having a frontage to Wellington-street and the new road of 256 feet, and occupying an area of about 18,000 square feet, and is admirably adapted for the construction of warehouses, offices, or for any public building of magnitude. Lot 26. A valuable property in St. Thomas's-street and Joiner-street, immediately opposite the Station, the entrance to which must always make this extraordinary space of unusual importance. Should a purchaser feel disposed to do so, he may make the entrance to it entirely private. Particulars and plans may be had of HENRY TOOGOOD, Esq. Solicitor, 16, Parliament street, S.W.; of E. RYDE, Esq. Surveyor, 7, St. Thomas's-street, Southwark; at the Mart; and of Messrs NORTON, HOGGART, & TRIST, 62, Old Broad street, Royal Exchange.

HIGHGATE. Valuable Freehold Building Land, containing upwards of Nine Acres.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on FRIDAY AUGUST 14, at TWELVE, in Two Lots, valuable FREEHOLD BUILDING LAND, situate in the parish of Hornsey, close to Highgate, in the county of Middlesex, having a considerable frontage to the Great Northern Railway, and to the high road leading from Highgate to Hampstead, the whole containing 9a. 1r. 19p. now in cultivation as meadow, but being valuable building land. May be viewed, and particulars had on the Premises, Highgate Railway Inn, Hornsey; of Messrs. CRAWLEY, ARNOLD, & GREEN, Solicitors, Whitehall-place; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, R. 1 Exchange

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MOTTINGHAM, near Eltham, Kent, within two miles of the Blackheath Station, on the North Kent Railway, and very close to the new station on the Dartford line, now in formation.

MESSRS. DANIEL SMITH, SON, & OAKLEY are honoured with instructions to SELL by AUCTION, at the MART, near the Bank of England, on FRIDAY, AUGUST 7th, at TWELVE o'clock, in several lots, 65 ACRES of FREEHOLD LAND, in this favourite and convenient locality, in the early part of the forthcoming building operations. The land is beautifully situate along the road from the Eltham road to Chislehurst, in an elevated position, commanding excellent views of the surrounding richly wooded country, with the Crystal Palace, the old Palace at Eltham, &c. There is an increased demand for residences in the south-eastern district, in consequence of the recent construction of the Charing-cross Railway, and this land will afford opportunities for the erection of such residences as every day becoming more in request in the neighbourhood.—Particulars, with the conditions, may be had at the Mart, E.C.; at the Porcupine Inn, Mottingham; of Messrs. BRAY, WARREN, HARDING, & WARREN, 37, Great Russell street, W.C.; of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall mall, S.W.

On MONDAY, JULY 27th, at TWELVE for ONE punctually.—To CHAIR and CABINET MAKERS, BUILDERS, and OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden-town, 10,000 feet of MAHOGANY, 1,500 yellow, white, spruce, and pine planks, deals, and battens; 1,000 lineal feet of 3 inch risers of 11 inch, 4 inch, 3 inch, and 4 inch prepared moulding, 5,000 feet of pattern, 5,000 feet of lineal mouldings, a set of wide panel and plain doors, and other fittings; 1,000 feet of oak, chiefly planks, thicks, &c. The scaffold poles, &c.—Auction Offices, 2, Cadington-street, Hampstead road, near the Euston Station, N.W.

TO BE SOLD, pursuant to a Decree of the High Court of Chancery, made in certain Causes, William Crosfield against Robert Bower and Others, and Robert Bower and Others against Thomas Ellery Turner, with the approbation of the Master of the Rolls, by

MR. JOHN COUPLAND, the person appointed by the said Judge, at the BEVERLEY ARMS INN, Beverley, in the County of York, on TUESDAY, the 31st day of JULY, 1863, at THREE o'clock precisely, FOUR MESSUAGES or DWELLING-HOUSES, Garths, Workshops, and Coal yard, situated in Keldside, otherwise Barley Holme, in Beverley, in the County of York—Particulars and Conditions of Sale may be had gratis, and also cards to view the Messuages, on application to Messrs. HOLLINGS, SHARP, & ULLITHORNE, Solicitors, 1, Field-court, Gray's-Inn; and Messrs. JOHNSON & HEATHERLEY, Solicitors, King's Bench-walk, Temple, London; or Mr. JOHN BLYTHE ROBINSON, Solicitor, Beverley; or Messrs. LEEMAN & CLARK, Solicitors, York.

GEO. WHITING, Chief Clerk.
HOLLINGS, SHARP, & ULLITHORNE,
1, Field court, Gray's Inn.

Dated this 3rd day of July, 1863.

TEDDINGTON, MIDDLESEX.—Valuable FREEHOLD BUILDING LAND, the free and land tax redeemed, desirably situate, adjoining the High road, within half an hour's ride of Hyde Park Corner, the River Thames, Hampton Court, and other attractive features of this favourite locality.

MESSRS. DRIVER are instructed to SELL by AUCTION, at the MART, next the Bank of England, on WEDNESDAY, the 12th day of AUGUST, 1863, at 12 for 1, about 3 acres of exceedingly valuable BUILDING and ACCOMMODATION LAND, close to the village of Teddington, which, if let as it now is, would be worth nearly treble the rent at present paid. Printed particulars, with plans, are preparing, and may be had at the chief inns at Kingston, Teddington, Twickenham, and Richmond; at the auction Mart; of Messrs. SANSOM, COBB, & PEARSON, Solicitors, 1, Bucklersbury, City; and of Messrs. DRIVER, surveyors, Land Agents, and Auctioneers, 4, Whitehall, London, S.W.

[*For remainder of Auctions see* p. ix.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles in the Fields, and published by the said CHARLES WYMAN, at the Office of "The Builder," No. 1, the York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, July 25, 1863.

The Builder.

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ARCHITECTS' BENEVOLENT SOCIETY.

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The List of Subscribers and Annual Report may be obtained of the Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place; or by Mr. ALFRED HILL, 7, Tonbridge-street, Euston-road, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

BUILDERS' BENEVOLENT INSTITUTION. An ELECTION of THREE PENSIONERS (two males and one female), will take place in NOVEMBER next. Candidates' own forms of application (to be returned on or before 31st AUGUST), at the Offices, 23, Southampton street, Bloomsbury. Pension, £24 per annum for Males, and £21 for Females

July 1, 1863. A. G. HARRIS, Secretary.

ROYAL MANCHESTER INSTITUTION. EXHIBITION of MODERN PICTURES and OTHER WORKS OF ART.—Intending Contributors are informed that all Works of Art should be sent so as to arrive not later than the 14th of AUGUST next, for from London will be forwarded by Mr. JOSEPH GREEN, Charles street, Middlesex Hospital, if delivered to him immediately by Artists who have received the invitation circular; from other places Artists who have also received such circular are requested to send them by the most convenient and least expensive conveyance. Works may be sent by other parties, whether Artists, private individuals, or dealers, but must be carriage paid

THOMAS WORTHINGTON, Hon Sec.

Royal Manchester Institution, July, 1863.

RAMSGATE COLLEGE SCHOOL.—A PROSPECTUS of TERMS and all further information may be obtained of the Principal, the Rev. T. STANTIAR, M.A. Oxon. Four pupils from this school passed the Senior Oxford Local Examination in June last, all of them in honours, and one, third in the first class.

CRAWFORD COLLEGE, Maidenhead, Berks.—CHEMICAL DEPARTMENT, under Direction of J. J. COLEMAN, F.C.S.—CHEMISTRY, with its application to Agriculture and Manufactures, may be exclusively studied, or combined with a complete Course of General Education.—Detailed Prospectuses by Post. Terms moderate.

MOIRA & HAIGH, 1, Lower Seymour-street, Portman-square, Architectural, Engineering, and Landscape Photographers. Price Medal awarded "for excellence of Photographic treatment." Vignette portraits, &c.

BRITISH ASSOCIATION for the ADVANCEMENT of SCIENCE.—The next MEETING will be held at Newcastle-upon-Tyne, commencing on WEDNESDAY, AUGUST 26th, 1863, under the Presidency of Sir W. G. ARMSTRONG, F.R.S.

Notices of Communications intended to be read to the Association, accompanied by a statement whether or not the Author will be present at the Meeting, may be addressed to G. GRIFFITH, M.A. Assistant General Secretary, Newcastle-upon-Tyne; or to Captain NOBLE; AUGUSTUS H. HUNT, Esq.; R. H. CLAPHAM, Esq. Local Secretaries, 5, Grey-street, Newcastle-upon-Tyne.

WILLIAM SPOTTISWOODE, M.A. F.R.S. General Treasurer.

16, Chester street, Belgrave square, London, S.W.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE will shortly be REMOVED to the NEW PREMISES, 72, 74, Bishopsgate street Within, a few doors from the present central situation. These will afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the greatest public demand, and also for the execution of more extensive execution, by the unsurpassed steam-power, of all descriptions of hot water, bath, laundry, and pan-gas work

81, Bishopsgate street Within, July, 1863.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

PRIZES to ARTIST WORKMEN are now offered. For WOOD CARVING, 20s and 5s; and for COLOURED DECORATION, 5s 5s and 2s 6d.—Parti ulars may be had by letter to the Hon. Secretary, at 13, Stratford-place, W.

A. J. B. BERESFORD HOPE, President.

GEO. GILBERT SCOTT, Treasurer.

JOSEPH CLARKE, Hon. Sec.

NOTICE.—MESSRS. FREEN & CO. of No. 3, Canal road, Kingsland road, and Framsbury, Kent, Rotman and Portland cement and Plaster of Paris Manufacturers and Lime Burners, with a view to meet the requirements of their numerous friends at the West end of town, intend OPENING a WHARF, No. 21, at the West end of Messrs. Freen & Co.'s Wharf, Millbank-street, Westminster, where every description of goods connected with their trade may be obtained. Orders addressed as above will receive prompt attention.

BILLING'S PATENTS.—CHIMNEY TERMINALS, THROAT VANES.

NOTICE to ARCHITECTS.—The Proprietors of the above Mr Billing's Patents have secured the services of Mr H. H. COLLINS, M.I.B.A., late Barry Barnes, with a view to meet the requirements of their numerous friends at the West end of town, intend OPENING a WHARF, No. 21, at the West end of Messrs. Freen & Co.'s Wharf, Millbank-street, Westminster, where every description of goods connected with their trade may be obtained. Orders addressed as above will receive prompt attention.

CONTRACTS.

WAR DEPARTMENT CONTRACT.

NOTICE to BUILDERS.—Tenders are required for the ERECTION of the superstructure (from the ground line) of a NEW HYDRAULIC ENGINE-HOUSE in the Tower of London.

Parties desiring to tender for the erection of these works must leave their names at this office on or before the 10th of AUGUST, 1863 (between the hours of ELEVEN a.m. and THREE p.m.) and pay the sum of half-a-guinea for the block of plans, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, London District, 11, James street, Buckingham gate, S.W. 28th July, 1863.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of an INFANT SCHOOL and SCHOOL MISTRESS'S QUARTERS, at Cambridge Cottages, Mount-lane, Woolwich.

Parties desiring to Tender for the execution of these works must leave their names at this office on or before the 12th day of AUGUST, 1863, and pay in cash the sum of ten shillings and sixpence for the plans, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Woolwich, 28th July, 1863.

CHAPEL. Builders willing to TENDER for ERECTING a BUILDING to be used as a CHAPEL, situate in the Bethnal-green Road, close to the Hampton Heath station on the Eastern Counties Railway, may see the plans and specification at the Architect's office, where Tenders are to be delivered on WEDNESDAY, 12th AUGUST, at ELEVEN o'clock. The lowest or any Tender will not be necessarily accepted

J. A. SCOTT, Architect

15, Hercules terrace, Westminster road, Lambeth.

July 9th, 1863

TO BUILDERS, HOUSE DECORATORS, and OTHERS.—Notice is hereby given, that the Highways, Sewers, and Public Works Committee of the Vestry of the Parish of St. Pancras, will meet at the Office of the Department of Works No. 10, Seward street, Goswell-road, on MONDAY, the 10th AUGUST, 1863, to receive TENDERS from persons willing to CONTRACT for REPAIRS, ALTERATIONS, PAINTING, &c. at the Vestry Hall, and Cobden and Southampton Public Baths, Kingsgrove.

The whole of the Works to be executed agreeably with the specification, to be seen at the Office of Mr. WILLIAM BOOTH SCOTT, C.E. Chief Surveyor, No. 11, Edward street, Hampstead road, where further information can be obtained. The Committee do not bind themselves to accept the lowest or any Tender. Good security will be required for the due performance of the contract.—Sealed Tenders to be delivered at the Office of the Department of Works, by or before TWELVE o'clock at Noon, on the said MONDAY, the 10th AUGUST, 1863.—By order,

CHARLES WORRELL, Chief Clerk of the Department of Works.

10, Edward-street, Hampstead-road, July, 1863.

CONTRACTS.

TO PAVIORS and STONEMASONS.—South Metropolitan Schools, Sutton, Surrey. The Managers will be prepared at their meeting, to be held at Sutton, on TUESDAY, the 4th of AUGUST, 1863, to receive and consider TENDERS for PAVING the INFANTS' PLAYGROUND. The plan and specification may be seen at the Office of Mr. ELKINGTON, Surveyor, 19, Cannon-street West, and Tenders must be sent to me, as under, on or before MONDAY, the 3rd of AUGUST, endorsed "Tender for Paving." The Managers do not bind themselves to accept the lowest or any other Tender.

JOSEPH BURGESS, Clerk to the Managers.

1, Keene's row, Walworth, 8. July 23rd, 1863.

BOROUGH of DERBY. — NOTICE to BUILDERS, IRON FOUNDERS, and CONTRACTORS.—The Market Committee of the Corporation of Derby are prepared to receive TENDERS from competent persons willing to enter into a CONTRACT, for the EXECUTION of the necessary works in connection with the ERECTION of the proposed NEW MARKET HALL and FISH MARKET BUILDINGS, in two contracts, or for the whole of the works, exclusive of the internal fittings, in the following divisions, viz.—

1. For the necessary works, material, and labour required in erecting the Market Hall and Fish Market, exclusive of the cast and wrought iron work described in division No. 2.

2. For the furnishing and fixing of the necessary iron castings and wrought iron work in the roof of the new Market Hall and Fish Market.

Persons willing to contract for these works in any of the foregoing divisions, or for the whole, can see the general and detailed plans, sections, &c. &c. at the Office, and the specification, at the Office of Mr. T. C. THORNTON, Civil Engineer, the Borough Surveyor, where all further information and forms of Tender may be obtained. Sealed Tenders, containing a schedule of prices, endorsed "Tender for New Market," addressed to the Chairman of the Committee, must be delivered at the Chamberlain's Office, Exchequer-chambers, Derby, not later than TWELVE o'clock, noon on TUESDAY, the 11th day of AUGUST next. The Committee do not pledge themselves to accept the lowest or any Tender.—Parties tendering will be required to enter into sureties for the due performance of their contracts.

EDWIN PRATT, Chamberlain.

Derby, July 21, 1863.

CITY of LONDON UNION.—To BUILDERS.—A Committee of Guardians will meet at ELEVEN o'clock on MONDAY, the 10th day of AUGUST next, at the Union Offices, 51, St. Mary Axe, for receiving TENDERS for repairing the FEMALE INFIRMARY Wards, at the Union Workhouse, Bow road. Persons desirous of sending Tenders are informed that the plans and conditions may be seen, and printed copies of the specification and quantities obtained, on application to the Clerk to the Guardians, at the Workhouse, Bow road, No. 2 Queen's Cheapside, the Architect who has prepared the plans, &c. who will explain and superintend the execution of the same. It will have to be determined if any of the quantities which will be required to each person sending a Tender. The Committee will not be bound to accept the lowest or any Tender. Sealed Tenders, endorsed "Tender for Building," must be delivered to the Clerk of the Guardians on the morning of the 10th of AUGUST, by the party tendering, or some person on his behalf.

JOHN BOWRING, Clerk to the Guardians.

City of London Union Offices, 51, St. Mary Axe, 23rd July, 1863.

TO BUILDERS.—The Directors of the Farnborough and Aldershott Freehold and Ground rent Society (limited), are prepared to receive TENDERS for the ERECTION of THREE PAIRS of VILLAS, on their Estate, Farnborough. The drawings, specification, and conditions of contract, may be inspected at the Office No. 4 Tavistock place, Strand, on and after MONDAY, the 27th inst. The Tenders are to be delivered at my Office as above, on WEDNESDAY, the 5th of AUGUST, at ELEVEN o'clock. The Directors will not necessarily accept the lowest or any Tender, and the party whose Tender may be accepted must, if required, provide security for the due performance of the contract.

July 24, 1863 HENRY CURREY, Architect.

SCARBOROUGH CLIFF HOTEL.—To BUILDERS, CONTRACTORS, and OTHERS.—The Directors of the Scarborough Cliff Hotel Company (limited) hereby give notice, that they are prepared to receive TENDERS for the ERECTION of the said HOTEL, according to drawings in the hands of and prepared by Mr. CUTHBERT BRODRICK, Architect, 31, Bond-street, Leeds, and 3, Adam street, Adelphi, London, W.C. and 5, Park place, Leeds. The drawings & may be inspected at the Architect's office, Leeds, on and after MONDAY, the 17th day of AUGUST. Tenders are to be sent to the Office of the Company, 21, Hundriss row, Scarborough, on or before the 31st day of AUGUST. Bills of Quantities and forms of Tender may be obtained on application to Mr. AUSTIN, Surveyor, 24, Buckingham-street, Strand, London, W.C. The Directors do not bind themselves to accept the lowest or any Tender, and the person whose Tender may be accepted will be required to provide security for the due and satisfactory performance of the works by the time specified in the contract.

Dated—The lowest Tender will not necessarily be accepted.

Scarborough, 28th July, 1863.

TO BUILDERS.—Persons desirous of offering TENDERS for the ERECTION of an INFANT SCHOOL-ROOM to be built at Peterborough, may inspect the plans and specification at Mr. DANDO's Office, Peterborough. Tenders to be sent to the same address before the 14th AUGUST, 1863.—The lowest Tender will not necessarily be accepted.

REDHILL, SURREY.—To BUILDERS.—BUILDERS will be asked to Tender for the execution of certain additions and alterations to the Cottage, Redhill, now occupied by Mr. Thomas Spee, and situate at the corner of Mr. WOODMAN, Architect, No. 17, Pall Mall, Albert street, Regent's park, between the hours of TEN and FIVE o'clock, each and after the 2nd proximo. Tenders to be delivered at Mr. WOODMAN not later than TWELVE noon, of MONDAY, AUGUST 10th. Neither the lowest nor any Tender will necessarily be accepted

July 30th, 1863

[For remainder of Contracts see next Page.

CONTRACTS.

VESTRY of St. MARY, Newington, Surrey. To BUILDERS and OTHERS.—Persons desirous of undertaking the REBUILDING of a VESTRY HALL and OFFICES, to be built in the Westmoreland Road, Newington, Surrey, are hereby invited to view the premises and plans, on any day between the hours of TEN and FOUR o'clock. The Ten ders must be delivered at the Vestry-room, St. Mary's, Newington, on FRIDAY, the 28th inst. at 6 for 7, and at SEVEN o'clock in the evening, or previously thereto, at our Office as well, and must be accompanied by a sealed envelope, containing the names of two persons, and no more, who are to be the sureties of the contract. The Vestry do not bind themselves to accept the lowest or any Tender.

H. & J. CHIPPENDALE, Joint Clerks to the Vestry.

BELFAST HARBOUR.—The Belfast Har bour Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a FLOATING DOCK and a GRAVING DOCK, of large dimensions, according to plans which may be seen at the office of the Commissioners. Specification, Tender, and Bond in the form established by the Commissioners, to be obtained at the Secretary's office, and to be delivered at the Office, not later than the 1st of SEPTEMBER next, at which time the Tenders will be opened, and may be had by intending Contractors on application to the Engineer, at 3s. 3d. the completed set. The best or any Tender will not necessarily be accepted.

WM. THOMPSON, Secretary.

Harbour Office, Belfast, July 21st, 1863.

TO BUILDERS.—TENDERS are required for the ERECTION and COMPLETION of the proposed Baptist New School ROOMS, with Apartments, Accessories, &c. Drawings and specification, and Contract, Bond and Conditions open to the inspection of the Architect, Mr. WILLIAM BAKER, Ratcliff Chambers, Eastcheap, London, after MONDAY, AUGUST 3rd, between the hours of TEN and FOUR o'clock. Tenders, addressed to the Secretary at the Office, to be sent in on or before WEDNESDAY, the 12th of AUGUST, at FOUR o'clock precisely. The Directors do not bind themselves to accept the lowest Tender. By order,

C. E. STEWART, Sec.

Euston Station, 23rd July, 1863.

TO BUILDERS and OTHERS.—The plans and specification for BUILDING a PARSONAGE HOUSE at Hurst, Berks, prepared by Mr. H. Woodyer, will be lying at the National school, Hurst, from AUGUST 3rd to 12th inclusive (Sunday excepted); and Clerk of Works's Residence at Old Charlton for the EXECUTION of the WORKS must send in sealed Tenders to the Rev. A. A. CAMERON, Hurst, Twyford, Berks, on or before AUGUST 13. The Contractor must be responsible, if required, for the usual legal bond for the due completion of the works, with two good and approved sureties, at his own expense. Neither the lowest nor any Tender will necessarily be accepted.

REPAIRS to DEPOTS of ROYAL SURREY MILITIA.—Notice is hereby given, on behalf of the Justices of the County of Surrey, that it is intended to PAINT, PAPER, &c. the several BARRACK Buildings in Militia Depots belonging to the County, at Reigate, Guildford, and at the King-ton-upon-Thames, and that the specifications and conditions may be seen at any time hereafter on application at the Office of the Clerk of the Peace, between the hours of TEN and FIVE p.m. each day. Tenders must be delivered at the said Office before FIVE o'clock p.m. of SATURDAY, the 1st day of AUGUST, and the Justices will not bind themselves to accept the lowest or any Tender.

WORONZOW GREIG, Clerk of the Peace.

Record Office, North-street, Lambeth, Surrey, July 25th, 1863.

HERNE BAY GAS and COKE COMPANY.—The Directors of the above Company are prepared to receive TENDERS for certain ALTERATIONS and EXTENSIONS of their WORKS at Herne Bay. The Work is divided into two Contracts, viz:—No. 1, Builder's work; No. 2, Apparatus, Main, and Iron Work. The plans and specifications of the same can be seen on application to Mr. W. HUNTON, C.E. No. 9, Great City Chambers, London; or Mr. J. CHURCH, C.E. Chelmsford. The Directors do not pledge themselves to accept the lowest or any Tender. Tenders to be sealed, endorsed, and delivered to the Secretary not later than the 8th instant.

H. E. NEWTON, Secretary.

Aug. 1st, 1863.

TO BUILDERS.—A VILLA RESIDENCE is proposed to be erected at Hoddesdon, Herts, for Walter Manser, Esq. Parties willing to TENDER for the same can see the drawings and specifications, and obtain the quantities at the Offices of JOSIAH FORSTER FAIRBANK, C.E. 20, Parliament street, Westminster, S.W. on and after SATURDAY, the 8th AUGUST, from ELEVEN o'clock. Tenders addressed to WALTER MANSER, Esq. Hoddesdon, not later than THREE o'clock, on SATURDAY, the 15th AUGUST. Neither the lowest nor any other Tender will necessarily be accepted.

METROPOLITAN BOARD of WORKS. THAMES EMBANKMENT, MIDDLESEX SIDE. — To BUILDERS, CONTRACTORS, and OTHERS. The Metropolitan Board of Works invite Tenders for the Works mentioned in the Notice of the Board, dated the 30th day of SEPTEMBER last, at LAMBETH, and which will be open for inspection, and will then be prepared to take Tenders by parties who may be willing to CONTRACT for the CONSTRUCTION, COMPLETING, and MAINTAINING in REPAIR for FIVE YEARS from the completion of the whole thereof the following WORKS, viz.:—A certain intended Embankment Wall, 3,740 feet in length, or thereabouts, with certain Landing-places and Steps, Piers, Sewers, Subway, Storm Outfalls, and other Works in connection therewith, situate in and against the Foreshore of the River Thames in the Middlesex side, between Westminster and Waterloo Bridges, together with Roadway, Footways, &c. on the Wall. The Tenders are to be delivered at the Office of the Board, Spring Gardens, Westminster, on or before TWELVE o'clock on the 4th day of AUGUST next, at which time they will be opened, and will be read in the presence of such Contractors or their Agents as may attend. The Tenders must be made out on printed forms, which, with Plans, Sections, Specifications, and Conditions of Contract, may be had by intending Contractors on application to the Engineer, at 3l. 3s. the completed set. The best or any Tender will not necessarily be accepted.

WM. THOMPSON, Secretary.

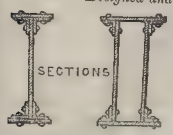
Harbour Office, Belfast, July 21st, 1863.

TO BUILDERS.—TENDERS are required for the ERECTION and COMPLETION of the proposed Baptist New School ROOMS, with Apartments, Accessories, &c. Drawings and specification, and Contract, Bond and Conditions open to the inspection of the Architect, Mr. WILLIAM BAKER, Ratcliff Chambers, Eastcheap, London, after MONDAY, AUGUST 3rd, between the hours of TEN and FOUR o'clock. Tenders, addressed to the Secretary at the Office, to be sent in on or before WEDNESDAY, the 12th of AUGUST, at FOUR

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

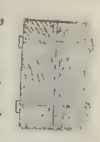
Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



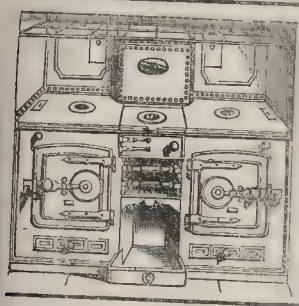
ROLLED WROUGHT-IRON PLATE GIRDERS
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS. NO RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

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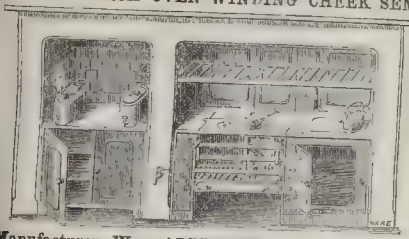
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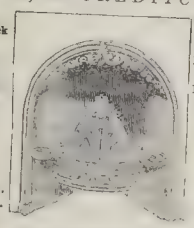
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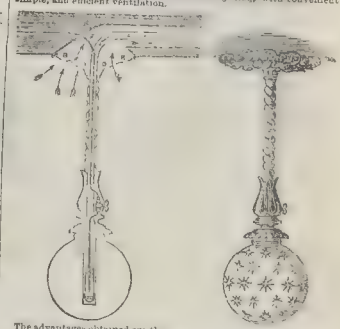
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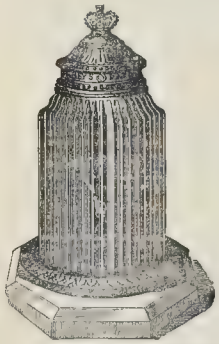
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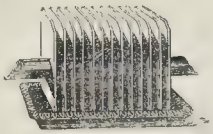
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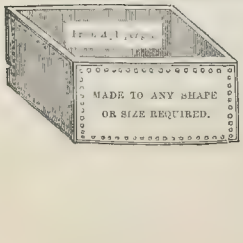
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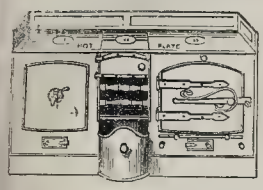
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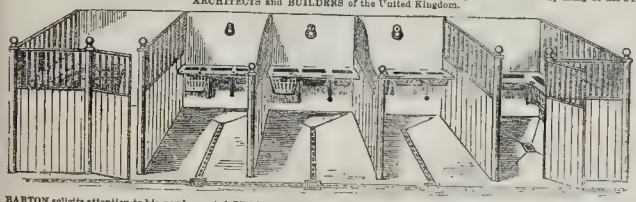
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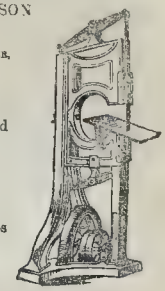
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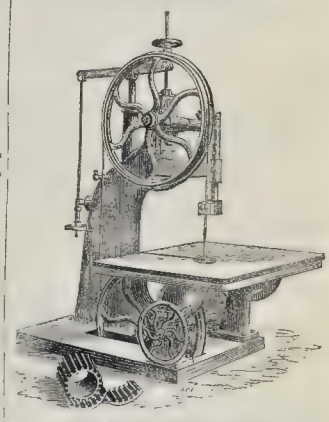
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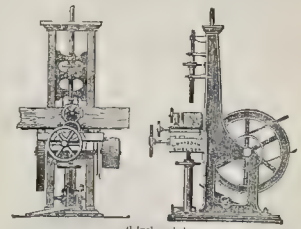


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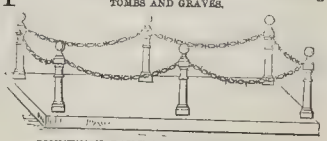
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SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

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LAMBERT, BROTHERS,

THE ALPHA TUBE & FITTING WORKS,

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LONDON: THOMAS LAMBERT & SON, LAMBETH.

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of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

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Rain Water Pipes.....	2½-in.	10d.	3-in.	1s. per yard.
Eaves Gutter.....	3½-in.	6½d.	4-in.	8½d. „
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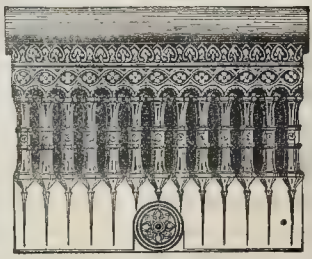
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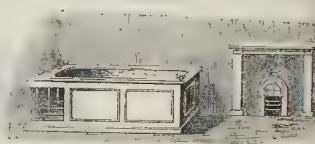
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The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold water cistern. Open or close fire at pleasure No brickwork setting for boiler required.

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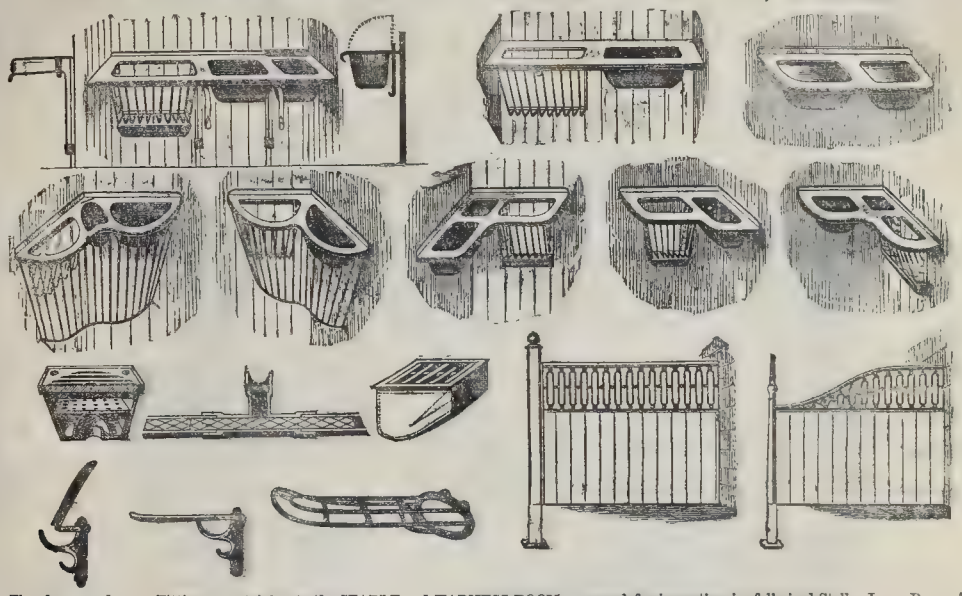
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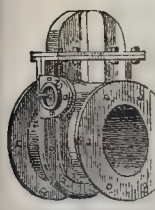
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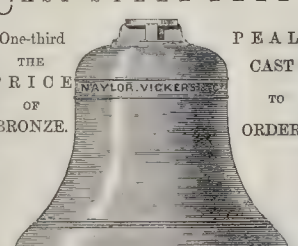
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These Ventilators are arranged so that the requisite quantity of air may be admitted for the diffusion of it throughout without the slightest draught being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required. HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 119), Union street, Borough, London.

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REVOLVING SHUTTERS, TWO SHILLINGS PER FOOT.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

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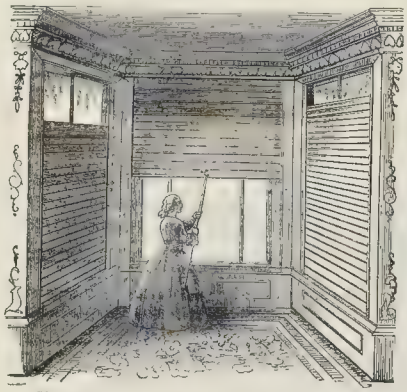
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CLARK'S Patent Self-Coiling Iron Shutters, 3/ per Foot.



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The utility of Revolving Shutters for closing Shop Fronts, Windows of Private Houses, Fireplaces, and every description of opening, is universally acknowledged; but the cost has hitherto prevented their general adoption. This objection Messrs. CLARK & CO. have met by introducing their PATENT SELF-COILING SHUTTERS, in Steel, Iron, and Wood, which, in addition to being less expensive than the ordinary shutters, have the advantage of being remarkably simple, and, consequently, not liable to get out of order. The Wood Shutters are constructed of laths of wood rebated together, having numerous mortises, through which pass a series of tempered steel bands, causing the Shutters to be Self-Coiling, and rendering them proof against Burglars.



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The New Patent Revolving Safety Shutters are made of *Steel, in one sheet* (without either chain, links, rivets, or pins); the steel is corrugated transversely, which gives the appearance of laths, and enables them to be coiled into a small space. The corrugations render the Shutter exceedingly rigid, transversely and remarkably pliable, and self-coiling longitudinally. They are light, and can be pushed up and drawn down without the aid of machinery of any description. It is absolutely impossible for them to get out of order.

From the strength and hardness of the material of which they are composed, and being in *one sheet*, they cannot either be cut or broken through, as there is no opening or a lever or other instrument to be inserted as in the ordinary lath shutter, rendering them doubly secure, as any attempt to break through or open them will give an immediate alarm through the building. Their numerous advantages, coupled with the lowness of price, must insure their universal adoption, both in Shop Fronts and Private Houses.

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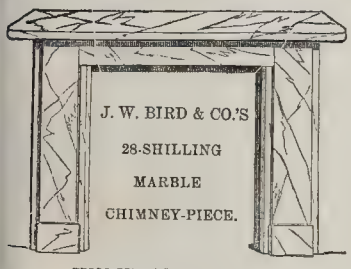
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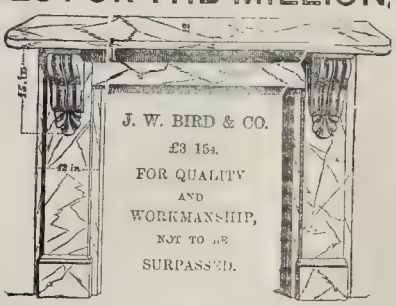
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1851.

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VOL. XXI.—No. 1069.

At Home: Architecture and Travel.



R. JOHN BULL has benefited largely by foreign travel, and is yet open to considerable improvement from it; nevertheless, it must be admitted that he may do well to stay at home now and then, and look about him. Those who have the charge of our public buildings, for instance, would perhaps be more solicitous about their trust, — more determined to maintain the objects committed to their care, in the nicest order,— were they in expectation of frequent visits from Mr. Bull and his large family. The owners of archæological treasures, seeing the interest the worthy gentleman took in them, would strenuously preserve every stone; the authorities in country towns would exert themselves to make their respective districts as clean, healthy, and otherwise attractive as they could; every little country church would be swept and garnished; roads looked to; pathways tended; and, generally speaking, the preparations that are always made for visitors in the humblest household would be made on a national scale. But this is but one of the advantages that would accrue from the adoption of the choice to stay at home. Mr. Bull would become acquainted with the stores that he and his family are but imperfectly aware they possess. How many of his grown-up sons, not clerics, could tell, without reference, the number of his cathedrals? How many could give even an approximate guess at the number of his collegiate or parish churches? How many of them could form the vaguest idea of the enormous architectural wealth of this country?

But the way in which a holiday should be spent at home must be understood. When Mr. Bull makes up his mind to stay at home, he too frequently thinks of nothing more than quiet lodgings at the sea side, with long lounges out of window with one of his eyes persistently applied to a telescope; or saunterings on the shore with a telescope under his arm; or a quick march backwards and forwards to the pier-head, with a telescope in his hand: this sort of holiday is for the invalid. When Mr. Bull goes abroad, he moves on from place to place seeing as much as he can possibly see in a given time: this, with some modification, is what he should do at home. Most tourists *en route* for Paris see Rouen on their way; but who stays to look at Canterbury on his road to the Kentish coast? We must not let railways familiarize our minds with the facilities they present of getting over a long length of journey at a sitting, to the exclusion of a recognition of the benefit to be derived from the breaks we might make by the way. Westminster Abbey, Peterborough Cathedral, and York Minster were not built under the impression that they could be all seen in one summer's morning. Railways, however, are of the first service, even in the kind of holiday we are recommending to all those sons of Mr. Bull who are in any way associated with the building arts, and are not to be disparaged. All that we wish to urge is that, like all the other good things of this life, they should be partaken of in moderation at holiday times, and not be allowed to induce us to pass masterpieces of architecture without learning all we can from them.

Concentrating our thoughts, then, upon the architectural beauties of our own land, upon what a noble prospect do we gaze! The accumulations of the Normans, Plantagenets, and Tudors; not of gold and silver, but of intellect and labour! and added to these the wonderful works of to-day;—the cathedrals, castles, manor-houses, cottages, churches, factories, harbours, docks, bridges, and other architectural and engineering works with which the land is studded,—no two alike! To see all England in a summer's tour would be an absurd pretension; but to examine a county, or a couple of counties carefully, would be time well and agreeably spent. As an example of our meaning, let us consider what we might see in a midland county—say Warwickshire. There would be the manufactories and public buildings of Birmingham; quiet, quaint Warwick, with its mighty castle and picturesque church; prim, broad-streeted, bran-new Leamington; Godiva's gabled Coventry, with its mystery-play associations, and its sky-line broken by the "three tall spires;" Kenilworth and its avenued approach to the castle in which the Earl of Leicester entertained Queen Elizabeth and her suite for seventeen days; ruddy Nuneaton in its setting of green pastures and great trees; Rugby, the nursery of the genius, aspirations, and endeavours of so many scions of young England; Stratford-upon-Avon, to which so many feet have wended, as to a shrine these two hundred years past, where, in the cool still chancel of its church, lie the mortal remains of the mover of so many hearts, William Shakspeare; besides many villages with historical associations, such as Wolvey, where Edward IV. was surprised and taken prisoner by Richard Neville, Earl of Warwick; and as many mansions of Tudor antiquity. Or, let us enumerate what we might see in a coast county: — Kent, to wit. Let us think of the pleasant hop-gardens, the garish chalk-pits sending into more welcome relief the deep green and crimson cherry orchards,—the whitewashed cottages on which climbing plants grow so luxuriantly,—the tall white cliffs and martello towers, fringing the coast,—the rivers which meander through pastures, and cause shipping, almost incredibly, to appear in inland places; and then of the towns set down amidst this scenery—Maidstone, where there was once a famous monastery, of which the church remains; Rochester, where there is a fine cathedral, a Norman castle, and the now famous alms-houses for six poor travellers, who, not being rogues or proctors, are supplied with lodging, entertainment, and fourpence each; Chatham, speckled with soldiers; Canterbury, in which there are fourteen parish churches, besides the glorious cathedral, in which Thomas à-Beckett was assassinated, and Edward the Black Prince and Henry IV. lie interred,—where the artist workman may see work in stone, in marble, in wood, in stained glass, and in metal, that would quicken his pulse; Sandwich, with its timber-framed houses, grass-grown streets, ancient charities and population of Barons of the Cinque Ports, where the first house to be seen at one of the entrances into the walled town is the Salutation Inn, in which Queen Elizabeth is supposed to have lodged, and in which another of the good old English inns is called the Fleur-de-Lis, and another the Three Kings, and all the houses still seem basking in the sunshine that fell upon the cavalcade of the maiden queen in those old times; Richborough, the great Roman fortress, not yet exhausted as a mine of Roman coins and relics; Deal, with Walmer and Sandown Castles on its broad shingly beach, and knots of brave pilots scanning the sailed burden of the Downs; Dover, once counted the key of the island, lying between two high cliffs that are only twenty-one miles from cliffs as high and white on the French coast, on the top of one of which is the castle that has kept guard there these eight hundred years, full of cunning Mediæval wonders, and on the other adjoining Shakspeare's cliff, modern military works on as grand a scale, whence you may look down into the crevice full of house-tops and threads of streets between, and into the harbours full of the panting steam express-boats ready to start into the sea, laden with mails for overland to all parts of the world; or across the channel at the French coast; or whence you may descend and view touching remains of the times of the Plantagenets, the Maison Dieu, St. Radigan's Abbey, the parish churches, the little Early English Church at Buckland, the still more curious Norman church at Barfreston, and many other relics as interesting, as well as stupendous modern engineering works; Sandgate, concerning whose inhabitants in times past there is a tradition to the effect that they put a net over the town to keep the small-pox out, and concerning the scenery, walks, and rides of which there is but one opinion; Ramsgate, Margate, Broadstairs, and a dozen other places,—not to mention, for brevity's sake, such villages as Eastry, where the Saxon kings of Kent resided, and where there is a large Norman church, or Teynham, where Richard Harris, fruiterer to King Henry VIII., planted 105 acres of orchard and cherry ground, from which plantations, it is believed, all the cherry-gardens and apple-orchards in Kent took their rise,—few without curiosity of architecture. What could be pleasanter than such a tour?

Every other county will be found equally attractive in its respective specialities. Cumberland is but a synonym for a tract of lakes, cascades, tarns, mountain streams, fells, and forests. Staudforth, Black-comb, Skiddaw, Saddle-back, Bow-fell, Grasmere-fell, Helvellyn, Hardknoll, Wrynose, High-pike, Sca-fell, and the Screes, with your peaks from two to three thousand feet above the level of the sea—a very "turbulent chaos of mountain behind mountain," as Gray called ye! Ripple, Derwentwater, Bassenthwaite, Buttermere, Crumock, Loweswater, Ennerdale, Wastwater, Devock-lake, Thirlmeer, and Ulswater, you lave rare plants on your margins; and salmon, sea-trout, samlets, lampreys, shad, gwiniads, graylings, and charr, abound and disport themselves in your waters! At the head of Borrowdale is the mine of lead from which all drawing pencils are devoutly believed to be made; but as the supply did not equal the demand fifty years ago, it is as well not to ask how the increased consumption is supplied. The antiquities of this county embrace the period of the building of the great Roman Wall and Maiden Way. Carlisle Cathedral, the priory churches at Lanercost and St. Bees, and the other churches, present several peculiarities: that of Burgh on the Sands, where Edward I. died, has strong chambers in the tower: at Newton Arlosh, the tower has two chambers over the vaulted basement, lighted by arrow slits, the lower one of which has a fire-place: the tower of Great Salkeld Church has been also a fortified residence. The entrance from the nave is guarded by an iron grated door lined with oak. Then there are the castles of Egremont, Carlisle, Cockermouth, Naworth, Kirk Oswald, Rose, Scaleby, Penrith, High Head, Greystoke, Dacre, and Askerton, to be seen in their various stages of repair and decay; and the ancient mansion-houses incorporated with the large square tower of three or four stories high, intended for the retreat and defence of the family in any sudden incursion of the Scots, at Muncaster, Irton Hall, Netherby, and Nether Hall; and others of a later date—Dalston Hall, Hewthwaite Hall, Lamplugh Hall, Drumburgh Castle, Harbybrow, and Hardrigg Hall—suggestive to our volunteers of the time when the inhabitants, praying Parliament for aid on account of their town and villages, and the clergy, on account of their churches being burned, had to perform more arduous service—when "every tenant had to rise and go readily to fraye and followinge; and what tenant as doth not come presently to the fray, that tenante to forfeit, over and besides

his offence in the lawe, 3s. 4d." The curious chalice-like glass vessel, the "Luck of Eden Hall," will have a charm, too, for many minds. The Duke of Wharton cries—and all who have seen it will echo the cry—

"God prosper long from being broke
The luck of Eden Hall."

The German poet, Uhland, has sung of the fairy gift of "the glorious luck of Eden Hall," and the fate of the youthful lord of the "flashing crystal" in whose hands the poet supposes it to be shattered.

Or turn to Devonshire, a county of 1,650,560 acres, seventy miles long and sixty-four broad, with a city and thirty-five market towns,—the land of cider and cream,—where orange trees, lemon trees, and myrtles grow in the mild genial open air. This county abounds in ancient hospitals and ancient churches, still possessing their richly-ornamented towers and screens, and pulpits, and rood-lofts. Several of the latter are ornamented with gilding and paintings. There are also some thirty or more ancient fonts to be sketched. In some parts marble rocks are the bases of the high roads; and lead, copper, manganese, stone, and slate, are as plentiful as hares, pheasants, and woodcocks. Honiton lace is not more esteemed by ladies than Dartmoor mutton by epicures. The coast, where invalids love to congregate,—so full of rocky pools filled with rare sea-weeds and zoophites,—possesses modern attraction in marine and military works which need no indication.

Cheshire, with its distant views of the Welsh mountains; its walled county town with its ancient gateways and its "rows" for foot passengers along the first stories of the houses, has specialities of its own; for, Camden said of it that no county could boast a greater number of knightly families. Fuller said of it, "Its gentry are remarkable, on a fourfold account, their numerousness not to be paralleled in England in the like extent of ground; their antiquity, many of their ancestors being fixed here before the Norman Conquest; their loyalty; and their hospitality:" and William Smith, some time Rouge Dragon Pursuivant, called Cheshire the mother and nurse of the gentility of England. Can we think of it—notwithstanding its alliterative association with cheese and cats—otherwise than as the rendezvous of armies, the scene of tournaments, the seat of chivalry?

Look where we may, Old England is lovely. See sparkling Derbyshire—"the amphitheatre of renowned persons;" read what gentle Philip Kinder said of its inhabitants in the middle of the seventeenth century: "The common sort of people, out of a genuine reverence, not forced by feare or institution, doe observe those of larger fortunes, courteous and readie to show the waies and helpe a passenger: you may say they are lazie and idle in a better sense, for (except the grooves) they have not whereon to set themselves on worke, for all theire harvest and sede tyme is finished in six weeks; the rest of their tyme they spend in fothering ye cattle, mending their stone enclosures, and in sports. The countrie women here are chast and sober, very diligent in their huswifery; they hate idleness, love and obey their husbands. Your merry wives of Bentley will sometimes look in ye glass, chirpe a cup merrily, yet not indecently. In the Peake they are much given to dance after the baggpipes; almost every towne hath a baggpipe in it." Mary Queen of Scots passed a considerable portion of her eighteen years of captivity in this good company. In 1569 she was at Winfield Manor House, and again in the same agreeable quarters in 1584; in 1570 she was for some months at Chatsworth; and four times, the Earl of Shrewsbury escorted her to Buxton for the benefit of her health. Glittering Derbyshire, where the highways sparkle with marcasite, and springs of water gush out by the road side, and where there are peaks, and parks, and caves, and caverns innumerable, and subterranean stores of lead, iron, calamine, black-jack, fluor, gypsum, coals, and marble, how pictorial are thy ways! Those who have visited Haddon Hall, with its terraces and tapestry; Chatsworth associated with so much that is good and great; Hardwicke Hall, sweet Matlock bath, Bakewell, Buxton, and Castleton, have laid by in their memories geographical romances that will almost bring healing to a sick couch to recall. Must it not be pleasant to be able to call to mind the pretty local custom of dressing the five wells at Tissington? Boards are cut to the shape and size of the ornament to be applied to the well, on which a coat of moist clay is laid. In this clay the petals of flowers are stuck, to form by combinations of different colours, a mosaic pattern or legend. This flowery, bowery, decoration is then placed at the back of the spring which appears to trickle out of it. The ceremony takes place on Holy Thursday, when there is service in the church and a procession to the wells, at which the three psalms for the day with the Epistle and Gospel, are read, one at each well. Flowery, bowery, showery Derbyshire! Izaak Walton and Charles Cotton angled in thy streams and loved thee well!

Another very instructive manner in which to spend a holiday at home, is to pursue a certain department of study. Apart from the works of art usually seen by tourists, there are, scattered over this country, countless curiosities of architecture, of which but little account has been hitherto rendered, and much information would be gained by personal inspection. Among these we might direct attention to wayside chapels; though some of them have been examined. On a stone bridge over the Calder, in Yorkshire, Edward IV. erected a chapel to the memory of his father, who was slain there. Bishop Pudsey built a bridge at Elvete, with, according to Davies, two chapels upon it. Although the latter have disappeared, the facts of such buildings having been frequently erected have led to the placing of similar structures elsewhere, the new church built over the canal in Birmingham being a case in point. All information to be gathered concerning such as still exist is therefore likely to be serviceable.

Crypts would form a good especial subject for archæological investigation. Our examples are not very numerous. There is the Saxon crypt at Repton, in Derbyshire, in which several of the Saxon kings were buried; Wilfred's newly found crypt beneath Hexham Abbey Church; the same Saxon prelate's crypt at Ripon, with the narrow opening on the wall, called St. Wilfred's needle, through which women were passed to prove their chastity; the newly emptied crypt beneath the fine Norman church at Bamborough, on the Northumbrian coast, which had gradually filled with sand, blown in from the sandy churchyard in which Grace Darling is buried, and from the shore beyond, and had passed from the memory of man till accidentally discovered; and the crypts beneath our cathedrals. (The "undercroft" of Canterbury Cathedral was assigned to the Walloons by Queen Elizabeth, in 1568, who introduced and established the art of silk weaving there).

Celtic circles, the homes, forts, and places of worship of the ancient Britons, present another curious object for a summer's ramble. The huge monoliths at Stonehenge and Abury must have been the lions of Ancient Britain. In Northumberland, in the Cheviot district, there are Celtic remains of a different order, and yet linked with these. We allude to the inscribed rocks. Cropping out of the surface in wild parts of the country are the scalps of huge rocks, cunningly and puzzlingly inscribed with a vast number of concentric grooves. A short time ago, groove-like marks of a similar character to those at Linhope, in Northumberland, were discovered on the under side of one of the stones at Stonehenge. This fact had hitherto escaped observation, and the inquiry might be followed up with advantage. And, as we have formerly mentioned, there are Celtic forts and huts and temples in the Cheviot district, which present us with the outlines of the life of the Celtic inhabitants Julius Cæsar found drawn up in array to oppose his legions.

It has ever been an impulse of the human mind to set up a stone or stones to mark any important event. When Jacob journeyed between Beersheba and Haram he set up the stone on which he had slept, to form a pillar, and poured oil upon it; and when he made the covenant with Laban, he took a stone and set it up for a pillar, and by his orders a heap of stones was also gathered together as a further memorial of the compact. Joshua set up twelve stones in the midst of Jordan, to mark the place where the feet of the priest which bare the ark had stood, and twelve more in Gilgal; and the Israelites to whom was apportioned the country beyond Jordan set up one stone as a testimony that they constituted but one nation with their brethren on the other side. In the same way, our Mediæval ancestors set up stones of elaborate workmanship to mark the site of particular events; but imbued with a strong Christian feeling, they chose the form of a cross for their landmarks.

The Queen Eleanor's crosses are the first examples that the mind will recall. A little to the north-east of the twenty-fourth mile-stone, on the Morpeth and Wooler road, stands a monument called Percy's Cross, erected on the battle-field in which Sir Ralph Percy, accompanied by the Lords Hungerford and Ross, in 1463, encountered the forces of Edward IV., and died bravely fighting for his king, Henry VI., although his companions fled at the commencement of the fight. This pillar is sculptured with the arms of Percy and Lucy. At Lilburn, on the border, was a large cairn of stones, called the "Apronful of stones," the collection of which was ascribed to his Satanic Majesty; when some brave wights undertook to repair the road with them, they were found to cover the base and fragments of a cross with four rows of steps. One mile east of Durham stands Neville Cross, to commemorate a remarkable battle fought there on the 17th of October, 1346, in the reign of Edward III. Of Durham, the legend of St. Cuthbert says:—"This reverend and aged abbey is seated in the heart of the citty, advanced upon the shoulders of a high hill, and encompassed againe with the higher hills, that he who hath seene the situation of this citty, hath seen the map of Sion, and may save a journey to Jerusalem. Shee is girded almost round with the renowned river Weer, in which, as in a glass of crystall, she might once have beheld the beauty, but now the ruine of her walls."

The handsome cross at Chichester, the Runic cross at Bewcastle, and market crosses generally, might come into this group. In Derbyshire there are sculptured crosses in the churchyards of Bakewell, Eyam, Blackwell, Bradburn, Mellor, and Taddington; and most of our counties will be found to possess as many. In Cumberland there are crosses in the churchyards at Irton, Gosforth, Croglen, Dearham, and Muncaster; and at St. Bride's and at Penrith, in the same county, are examples of memorials formed of two pillars. Surely a sketch-book full of these relics would be an instructive souvenir. Chantrey drew some of those in Derbyshire, for the illustrations to Rhodes's "Peak Scenery." And, that memorial crosses are not things of the past, we have just realized in the selection of a cross for the greatest monument of modern times to the memory of the best of princes.

Hermitages, generally so still, green, cool, and secluded, and the subject of a recent paper which we printed, would form a holidaylike subject of investigation. Nor are they altogether so Mediæval a subject as would appear at first sight. In the village of Intakes, Derbyshire, there was, a few years ago, and probably is still, a chapel, with a house adjoining it, on which was inscribed the following inscription, dated 1723:—

"Francis Brown, in his old age,
Did build him here a hermitage."

The parish register shows that this eccentric individual lived till the year 1731. There are more ancient cells at Knaresborough, Nottingham, Finchale, Warkworth, Farne Island, Corby, Winster, &c.

Most of us could afford to know more about chauntries. They are often confused with other buildings. Hermitages were sometimes chauntries; so it comes to pass that any small ecclesiastical-looking building is thought to have been a chauntry. Grammar-schools, town-halls, tombs, spires (there are examples in Kent and Surrey village churches, of oak spires), and lych-gates, are further subjects fit for a collection of sketches and measurements.

Those engaged in any of the manual departments of the building and decorative arts, would do well to contrive, in their holidays, to view masterpieces in the particular art with which they are connected. The smith should turn his steps in directions where he could see ironwork in its perfection and variety; the joiner and carver to those churches and mansions where choice woodwork is to be seen; and so on. Every cathedral that we have, is a museum of the building arts, in which something can be learned. The grilles and other ironwork of tombs, or gates, or doors, and the memorial brasses, should be lessons to the smith; the stained glass should be as diligently conned by those engaged in its manufacture; the bells, by founders; the stalls and other timberwork, by joiners and carvers; the glazing, by glaziers; and the stonework by masons; and the whole design and its details should be carefully considered, together and apart, by the architectural student.

England, with thy pleasant meadows starred with buttercups and days-eyes and lips-of-cows, watered with such dainty streams, rush-locked, pebble-bedded, moss-brinked, willow-shaded, and rushing and rippling free by turns; thy dells and dingles, sprinkled with anemones, violets, primroses, blue-bells, foxgloves, forget-me-nots, eye-bright, plumed thistles, ferns and berries, in their seasons; thy towns enriched with the wealth of ages, with their fluted and ruled house-tops and graceful spires rising from their midst, and human-

kind swarming in the ways between; thy cities, bravely decked by architecture, what a feast of beauty thou hast spread before us! Two hundred years ago, thinking only of the Thames, crowned with ships and swans, a German poet wrote—

"We saw so many woods and princely bowers,
Sweet fields, brave palaces, and stately towers,
So many gardens dress'd with curious care,
That Thames with royal Tiber may compare."

If this were true of Thamesis in Stuart times, how much more must it be so now? Of our fatherland we all must feel—

"No brook may pass along,
Nor hillock rise, but hath its song;
Nor field, wood, copse, nor crag is seen
Where inspiration hath not been."

HINTS TO WORKING PEOPLE ABOUT THE HOUSES THEY LIVE IN.

We have just now before us, a re-issue of tracts by the Manchester and Salford Sanitary Association, from which we condense the following notes, which may be usefully read by the working people and others in all parts of the kingdom; for, the value of health to the working man and his family will be best understood by those who have seen the misery, suffering, and poverty which are caused when a workman, the head of a family, is stricken with sickness. Attending to the following rules would be the means of saving many valuable lives.

Wherever a working man and his family may live, whether in a neat cottage or a wretched cellar, everything in and about his dwelling should be neat and clean.

Nothing in the way of cleansing tends more to keep away fever, cholera, and infectious diseases, than the frequent and proper use of lime in the washing of ceilings and walls of houses. Working men should, therefore, lime-wash in the spring of every year, and oftener, if necessary, all walls not papered or painted, and every ceiling of their dwellings, and every privy or ash-pit outside their dwellings. It is suggested that lime-washing may be done by a man or his wife, at a very trifling cost. And the best plan for doing this, is to brush away the dust, and wash the walls with clean water: the lime-washing brush may be used for this purpose. To make the lime-wash, slake the lime in clean water only. Let the lime be as fresh as possible, as it is spoiled by lying very long in the open air. The lime-wash, when made, should be about the thickness of cream. Lay on the first coat as quickly as you can, because lime-wash does most good when it is hot. Lay on a second coat as soon as the first is so dry that it does not rub away when the brush is used.

One pennyworth of lime ought to be enough for each cottage room; and a brush may be hired at many shops for a trifle, on leaving a small sum until it is returned. There is, therefore, little excuse for dirty walls.

In re-papering rooms, let the old paper be carefully cleaned off, and the walls washed, before the new paper is put on; because when dirty paper and old paste are covered up, they are liable to mould and rot, and the vapour from anything rotting is a fruitful cause of disease.

Occupiers of rooms should call upon the landlord to put on new paper when the old becomes dirty, but they should not wantonly soil or damage the walls; for in such things want of care is want of honesty. Sink-holes, both inside and outside the dwelling, require to be looked to. If they send up bad smells, point this out to the landlord or his agent, and do not be satisfied until they are trapped. Next follows an illustrated account of the various kinds of stench traps, and of the manner of keeping them in order. The tract also states that all traps require to be well fixed, and imbedded in cement, or a mixture of clay and sand, worked together; and they should be opened to be cleaned out, and occasionally washed with clean water.

It is almost impossible to keep fever and disease out of a house where there are bad smells from drains; and therefore, any man who cares for the health of his family ought to quit the place he occupies, if his landlord do not use proper means to remove such smells without delay.

A family cannot be kept in health unless due regard be had to the size of the rooms in which they are to live or sleep. For this purpose the length, breadth, and height of every room should be measured; and if a man cannot do this himself, he should get a neighbour who is able to do it for him, and then its size (or as it is sometimes called, its "contents," that is, how many cubic feet of space it contains), may be known.

The simple directions for learning the contents of rooms, which were printed some time ago in one of our articles on Manchester, are next given; and there it is noted, that when the size of a room is known in cubic feet, it must be considered how many persons are to live or sleep in it, in order to know how many cubic feet of space there are for the breathing supply of each person.

No one will think that the health of an industrious working man and his family needs less care than that of a criminal in his prison cell. Prison cells are now generally warmed and ventilated, and the number of cubic feet of space allowed each prisoner is as follows.

Each cell in the Surrey County Prison contains 819 cubic feet; in the Knutsford House of Correction, 910 cubic feet; and in the Manchester City Prison, 843¾ cubic feet. If above 800 cubic feet of space are necessary for one prisoner, it would seem that a room which contains little more than 600 cubic feet is *too small for a working man and his family*.

Let us suppose the room which contains 630 cubic feet, to be slept in by three persons (a man, his wife, and child); the 630, divided by 3, will give only 210 cubic feet for each person.

It is seldom possible for working men to hire houses or rooms in which anything like the space allowed for prisoners can be obtained for themselves and families; but when the space is reduced, the opportunities for good ventilation become the more necessary; and if working men would measure their sleeping and living rooms, and see how little space they allow for each member of their family, and how badly their small rooms are ventilated, they would cease to wonder at the fevers and sickness from which they so often suffer. When they are living in rooms too small, overcrowded or ill-ventilated, their wisest course is to look about their neighbourhood, or elsewhere, and see if they cannot find more healthful accommodation. They had better pay a little more rent, if need be, than get themselves or their families laid on a sick bed.

Persons who live in confined courts and entries, or in damp cellars, have no reason to be surprised if they suffer more than other people from fever, cholera, rheumatism, and infectious diseases. And if, in the midst of such courts and entries, there are open ash-pits and middens, or the privies common to a number of houses, a man must expect not only to pay the penalty of having sickness in his family, but so long as he exposes his wife and children to the use of such places, he has himself to blame if their habits become immodest and disgusting.

The following rules should be carefully attended to by working men, and they would be useful to many others when they are in search of a house or rooms:—

1. Not to take a house or rooms on the open bank of a sewer, river, or near any standing water or offensive works.

2. Not to take a house or rooms without regard to the sufficiency of the size in respect to the family.

3. Not to take a house or rooms when the landlord will not undertake to keep the drains free from bad smells.

4. Not to take a house or rooms which are blocked up at the back, and where a through draught cannot be made by opening doors and windows, both at the back and front.

5. Not to take a house or rooms where any room is over a midden, ashpit, or privy, or where the privies face the houses.

6. Under no circumstances whatever to occupy a cellar, and always to seek for bed-rooms in which there are fireplaces, and windows that readily open at both top and bottom.

And lastly, let working men consider whether, in the present day, they need want good cottage-houses, neatly furnished, and a little ready money in the savings' bank, if they will keep from the beer-shop, vicious companions, &c. And if a wife wants to have a neat house and a good husband, she should keep at home, and instead of gossipping with her neighbours, employ herself diligently in mending and making for her husband and children; always ready to welcome him at meal-time, or after his work, with good temper, with an appearance of tidiness about her house, with a clean person, clean children, clean floor, clean furniture, clean hearth, clean fireplace, bright grate, bright "tins," and the family meals nicely and punctually prepared. Let a good wife be saving in expenditure, and avoid the pawn-shop and the hawking pedlar or tally-man, and she will seldom want the means, not only of keeping her family out of debt, but also of going with ready money to the best markets, and buying everything she wants to the best advantage.

Such is the excellent and most valuable teaching of one of these tracts; and the whole of them are so useful and so plain, that they can be readily understood by any person. The circulation of them by thousands amongst the population of the metropolis and large towns, would be of the greatest advantage. We will again remind our readers that the tracts can be had for distribution at a very small sum, and that they may be obtained in London, of Knight & Co.

THE TOWER OF LONDON.

THE CHAPEL.

At the meeting of the Ecclesiological Society in the Tower, to which we have already referred, Mr. J. H. Parker, addressing the visitors in the Chapel of the White Tower, gave a description of that excellent example of architecture of the period. We may usefully place it before our readers. Mr. Parker said, the place where they were assembled, was the Chapel Royal of William the Conqueror and William Rufus, built by Gundulph, bishop of Rochester, the great architect of his day, and that it afforded a specimen of the state to which the art of building in stone had then attained,—England being not behind other countries in this respect. The buildings of Normandy, or any other part of Europe, at the time, were in much the same state of progress in the art. He then spoke as follows:—The original part of the church of St. Stephen, at Caen, which was building at the same time, is very little in advance of this; and yet the inhabitants of Caen and its neighbourhood were considered the best masons in Europe, from the admirable quality of the stone they had to build with, the facility of getting it, and the ease with which it is worked. We see, then, the fallacy of supposing that our rich Norman buildings, such as Iffley church, are in the Norman style as imported at the time of the Conquest; the Anglo-Norman style was gradually developed in England and Normandy alike, during the century which followed the Conquest.

We see here that the aisles are vaulted with groined vaults, but without ribs, and that the arches are quite plain, round headed, with flat soffits and square edges, and no mouldings; ribs and other mouldings and ornaments did not come into use until the twelfth century. The central space, being itself narrow, is vaulted with a plain barrel-vault, the earliest kind of vaulting; and we see, by the enormous thickness of the walls and massiveness of the pillars, what great precautions were considered necessary to carry a stone vault. The builders did not venture to carry a vault over a wide space, for more than half a century after this vault was built; and to build this, required all the skill of the best masons of the day.

The east end, as you see, is a semicircular apse, with the procession path round it: the peculiar English fashion of a square east end, not having then come into use. The massive round piers or pillars have capitals of the simplest form, the mere cube with the angles rounded off. This is the earliest type of the Norman capital, from which all the other varieties were gradually developed. The abacus, which is the only moulding used, is merely in the form of a tile with the lower edge chamfered off. There is nothing here requiring the use of the chisel, nothing but what could be perfectly well executed with the pick or hammer. The two western capitals, which have a little ornament, consisting in the sunk star-pattern, rest upon the abacus: even this is so shallow that it hardly requires the chisel; and there is great reason to believe that this ornament was executed afterwards. It is a common observation that whenever the capitals are within easy reach, they have often been carved afterwards, and perhaps long afterwards, as in the early work at Westminster, and in the crypt at Canterbury. But when the capitals are in places not easily accessible, they remain uncarved.

The triforium gallery in this chapel is of the same width and nearly the same height as the aisle below, and has a similar arcade in front of it. In this instance we cannot call it the blind story, for there is no clerestory above it, and it has windows at the back of it, and is as light as any part of the chapel. Unfortunately the windows have all been modernized, one only being sufficiently perfect to serve as a model for the restoration of the others. You observe the enormous thickness of the walls of this chapel, and of the whole of this keep, and the passages in the thickness of the walls in each story, and, indeed, two in each principal story; for, the principal rooms

were of the same height as this chapel, and there are passages communicating on the same level both with the aisle and with the triforium. In these upper passages a number of guards could be placed quite out of sight from men below, and Shakespeare alludes to this practice. You will observe that the walls of this keep are built entirely of rubble or concrete, and that ashlar or cut stone is very sparingly used for the dressings only. This is the mode of construction of all Bishop Gundulph's buildings, and is characteristic of the buildings of his period. Ashlar masonry for the facing of walls did not come into general use until after his time; and all early ashlar work is distinguished by the very wide joints of mortar between the stones. The exterior of the White Tower (as the early Norman Keep has always been called, probably ever since it was new, and therefore conspicuous by its whiteness,) has been so much tampered with at different periods, that it is now difficult to see whether it was originally cased with ashlar or not; but as it was the royal palace it is more probable that it was: at all events, the turrets were; and it has quoins of ashlar, some parts of which are original. The windows are modern throughout the building, with the exception of one, as before mentioned.

Bishop Gundulph's own Norman Keep, in which he resided at Malling, although so far a ruin that it has no roof or flooring remaining, is in a more perfect state for the antiquary than this, because it has not been at all altered. It is built entirely of rubble, and is far more rude than this royal castle. It must also have been built some years earlier, and his time was one of very rapid progress in the art of building.

In the White Tower, the lower story was vaulted, as usual, for the security of the stores; but the principal chamber or hall is separated from the council-chamber above it by a wooden floor only, carried on wooden posts; and this is probably the original arrangement, although the mouldings show that the actual timbers are probably of the time of Richard II. There is a very singular arrangement here,—an opening of considerable size in the middle of this floor; and this is said to be part of the original arrangement; if so, it is something quite new, and requires further inquiry and investigation; but it appears to me incredible that it can have been part of the original arrangement. It would render all the secrets of the council chamber open to the ears of any one in the hall below, and must have been very inconvenient in many ways; still, the authorities seem strong upon the point, and it is possible that this opening in the floor was left for the purpose of passing up rapidly, in time of siege, the large stones or other missiles necessary for the defence. In Rochester Castle, which was built about forty or fifty years after this, there is a large well in the partition wall in the centre of the castle, with openings to it from each floor, which, by means of a pulley at the top, would enable the defenders to pass up either buckets of water or anything else that they required. There is no such contrivance in the White Tower, and the opening in the floor may possibly have been a primitive arrangement for the same purpose.

The parapet and the inner turrets have been entirely altered, and have lost all their original features. The ogee cupolas on the turrets are said to be of the time of Henry VIII., and afford a picturesque outline by which the Tower is generally known, and in any restoration I should not be disposed to alter them. This keep was, no doubt, surrounded by earthworks, a deep ditch or *fosse*, and high mound or vallum with wooden palisades on the top, according to the custom of the time, and had wooden buildings within that enclosure for the use of the garrison. But the keep was the royal palace of the first two Norman kings. This massive keep, however necessary for defence, was soon found a very gloomy and inconvenient habitation, and ceased to be much used even in the twelfth century; the lords preferring to live in the wooden buildings within the *enceinte*; and in the thirteenth century, when they built the outer walls of stone, they soon also erected more commodious habitations of stone within those walls. The outer wall and towers, with the gatehouse and barbican, which form the chief fortification of the Tower, are of the time of Henry III. and Edward I., and we have the prison chambers in these towers, but we have no remains of any palace here of that period.

Mr. Beresford Hope, following, after describing the condition of the chapel as he first saw it, or cut up into two floors stuffed with records, and whitewashed, called attention to the peculiarities of St. John's Chapel as a Chapel Royal. He pointed out its minster-like character in spite of its extreme smallness, and noted in particular the unusual fact of its vertical elevation being divided between the arcade and the triforium. The key to this almost unique arrangement was to be found in the fact that the upper or triforium story was in reality the "Royal Closet," and no doubt used by the sovereign and court, the retainers gathering below; as the royal apartments were at its level, and opened into the triforium. Such closets were common and allowable in the chapels of sovereigns and nobles in all ages. He also observed that when he first visited the chapel, the two extreme pillars of the apse still retained the grooves into which the altar stone was inserted, proving that from the small size of the building, the altar did not stand forward as in most apsidal churches. Unluckily, workmen in their ignorance, had obliterated the marks.

TRAITORS' GATE.

A small view of this gate appeared with other scraps from the Tower, in the number of the *Builder* following the visit.* Mr. Benjamin Ferrey writing to *Notes and Queries*, says:—"Few people can be aware of the solemn grandeur which this water-gate must have presented in bygone times, when its architectural features were unmutilated. Gateways and barbicans to castles are usually bold and striking in their design; but a water-gate of this kind, in its perfect state, must have been quite unique." The internal features, however, now, can scarcely be discerned. The general plan of the structure consists of an oblong block, each corner having an attached round turret of large dimensions. The south archway, which formed the water approach from the Thames, guarded by a portcullis, is now effectually closed by a wharf occupying the entire length of the Tower. "The water," he continues, "originally flowed through the base of the gate-house, and extended probably beyond the north side of it to the Traitors' Steps, as they were called. Here the superincumbent mass of the gateway is supported by an archway of extraordinary boldness. Unlike the south entrance, which is of moderate span, this segmental arch, with a double order of moulding, spans the entire width of the front from turret to turret—a distance of more than 60 feet. Such an arch, I think, is not to be found in any other gateway, and is a piece of masterly construction. A staircase in the north-west turret conducts to the galleries, or wall passages, formed on a level with the tops of the archway. These passages are lighted by loopholes through the outer walls, and have a breastwork on the inner faces, pierced and crenellated, so that each side of the gateway could be guarded by soldiers, commanding the space below as well as the outside. A little above these passages can be traced the stone corbels, from which the stone-groining of the gateway originally sprang. The four angular turrets are approached by the wall passages. Each turret has two tiers of chambers, well worthy of examination. They are beautifully groined, having elegant vaulting shafts with capitals and bases. The spandrils of the groins are filled with alternate courses of light and dark stone. A lancet window on each side (for the rooms are octangular within) lights the apartment. No stranger, on looking at the Traitors' Gate as it is now encumbered, could possibly form an idea of its ancient dignity. The whole of the upper part is crammed with offices, and disfigured in every possible manner; and the gloom of the Traitors' Gate is now broken up by the blatant noise of steam-machinery for hoisting and packing war weapons."

The vibration of the machinery has already so shaken the south-east turret, that it is now shored up in order to prevent its falling.

Mr. Ferrey remarks that the enormous size of the north archway must have been for the admission of several barges or vessels to pass within the present boundary of the gateway walls, when the outer portcullis was closed; whilst that the Thames once penetrated further to the north.

* See p. 460, *ante*.

MEDIÆVAL EMBROIDERY.

At a recent meeting of the Durham and Northumberland Architectural and Archæological Society, a paper was read by Mr. Street on "Ancient Embroidery," illustrated by specimens of the art.

Mr. Street, in commencing, expressed the pleasure he had in preparing the lecture, believing it was the duty of architects, whenever they had the opportunity,* to show their respect and sympathy for those engaged in the same pursuits as themselves, though for pure love of the subject. Architecture owed very much, if not all, its advance in the past few years to the interest which amateurs had taken in it; and it had, for various reasons, seemed well for him that he should take up a subordinate subject in addressing them.† He proposed, therefore, to give a lecture on ancient embroidery, with a view to illustrate the examples of that ancient art preserved in the cathedral; and in part to induce some of his fair hearers to imitate their sisters of a past age, and give up their miserable cross-stitch and crochet, and imitate some of the ancient embroidery, which was full of beauty. In ancient times, the art of embroidery was held in high repute. Richard I.'s wife was a famous embroiderer; and Henry III. had many embroidered vestments made by one Mable, of Worcester. It was a mistake, however, to give credit to the ladies for all the old embroideries: men attempted to vie with them; and the profession of embroidery was commonly pursued by men. The prices they got for works of their art were enormous. One vestment for the Bishop of Hereford cost 300*l.*; and Henry III. gave for a bishop's mitre 1,200*l.* There were various kinds of work, and each varied from age to age. The tissues taken from the coffin of St. Cuthbert, thirty-five years ago, were of Eastern origin, but he could not hazard a guess as to the age. There was no other example of the same kind in England; but in France and Germany there were several. The probability was that many of these tissues were brought back by the Crusaders from the East. They were used for inclosing the bodies of distinguished men, when buried, or as veils on either side of the altar. Those found in St. Cuthbert's coffin were so much decayed, and so rotten, that they could not be exhibited on occasions like that. The duty of their guardians was not to allow them to be handled by any one. They were now rolled together, and must suffer every time they were rolled and unrolled. He trusted to hear they were carefully preserved; and he recommended that they be put into frames. They should be carefully preserved, as the loss of these unique remains would be greatly deplored. It was customary to wrap the bodies of monks and nuns in their vestments; and in the case of Cuthbert, being a saint, the very best would be used. They were enabled to say, almost with certainty, when these silk tissues were put into his coffin. He was buried in 698, and in 1104 the coffin was opened, and a full description of the robes in it was given by the contemporary monk Reginald. The former robes were removed, and replaced by others of more beautiful tissue. There could be no doubt he referred to the robes now in the library of the cathedral, and taken from the saint's coffin thirty-five years ago. For further information, he referred them to Dr. Raine's description of the vestments. He next described the two ways in which ancient embroideries were executed; and said, if they wished to have really effective work, they must have the same materials as of old. The vestments of the clergy were most sumptuous; and those most commonly embroidered were the amice, the alb, the girdle, the stole, the maniple, the chasuble, the dalmatique, and the cope. Many of these vestments were worn long after the Reformation. Those in the Cathedral of Durham were used until they were worn out and unfit to use, and appear to have been given up solely on that ground. Copes were still used at coronations. The numbers of these vestments possessed by the Church in former times were almost incredible; and the remains of them left no difficulty in studying that old work in both its style and age. He gave illustrations of styles and age; and hoped the details he had given would induce some of his fair hearers to take up the work. The thirteenth century embroidery was in every way superior to that of the fifteenth. Much was now being done all over the country; and he hoped that when churches in this neighbourhood were being restored, some ladies would be found to give up some portion of their time and talents to the adorning of God's house. If not, there were sisters of mercy who would give their aid in this good work; and there were also ladies connected with the Church Needlework Institute, who would give aid and instruction to ladies willing to engage in the work, to which their sisters of the middle ages devoted themselves with so much success.

* The historic and antiquarian interest of buildings,—and with English amateurs, chiefly buildings of one class,—rather than architecture, the art, is what has been advanced by the proceedings of non-professional societies. As to our *art*, that may have been advantageously affected through the medium; but in some respects the proceedings have operated antagonistically.—Ed.

To what purpose? The furniture of their own houses might be decorated in the way the houses of old were adorned; and better still would it be to offer their handiwork for the service of the Church, and devote some of their time and talent to the decoration of God's house. There was ample opportunity for such offerings, and no disposition to throw difficulties in the way of those who make them. A great number of altar cloths had been embroidered of late years, and the number of those willing to work was increasing. The architect of the Temple was directed to work with the art of the embroiderer; and every architect who aimed at building a church worthy of its holy purpose must welcome all who would give their help in making fitting furniture. He concluded by quoting the words of Mr. Prebendary James, of Peterborough, who had said:—"There is no material or workmanship which God has given us which has not its fitting place in His house, and which may not be rightly employed there, without idolatry and without superstition."

THE NATIONAL GALLERY AND THE ROYAL ACADEMY.

There is one circumstance in which the National Gallery of Great Britain surpasses the galleries of all other countries—its position: it occupies, confessedly, "the finest site in Europe." Go into whatever capital cities we may,—Paris, Berlin, Dresden, Munich,—cities on this side the Alps or on the other; though their public galleries of painting stand in commanding situations in harmony with the precious works of the great masters, Italian, Flemish, Dutch, German, Spanish, and French, which they contain, yet there is not one that can boast so fine, so noble, so eminent a situation as our own. It crowns with its façade, once thought to be handsome, that place in our metropolis which has been more especially consecrated to the memory of those whom their country delights to honour. Here we have set up our columns and statues to the great and good; here our heroes receive perpetual ovations, and our public fountains, our only ones, send up their streams,—symbolical, perhaps, of the living water of that perennial stream which renovates perpetually the remembrance of their deeds. Here, in fact, we have a sort of British Capitol, and there is plenty of space yet unoccupied. The National Gallery, standing where it does, gives, nominally, and that is enough for most people, a national character to the entire site. It is true a national bank would do this also; but then the paintings within, though they do not quite harmonize with the statues without, keep up at least a fine-art connexion with them: our great *men* are in front, our great *masters* in the rear. We all remember the congenial association of statues and monuments in the Piazza at Florence through which we pass to the productions of the great painters in the gallery of the Ufizi beyond. The Florentine Academy is in a comparatively remote part of the city. But the claim of our National Gallery to retain its own place, is based on something more substantial than sentimental association. It has right and justice on its side, and a supreme title to remain where it was originally planted; and it has a much better claim to the protection of the Legislature than its associate and neighbour.

We all know the great influence of the Royal Academy. It has the privilege of private audiences, and of a "*personal relation*" to the sovereign: with her Majesty's Ministers it annually keeps up convivial relations; and by the application of a most potent argument, eats its way into the hearts of foes as well as friends. The National Gallery stands almost friendless; until lately, not even its own trustees cared much about it; but it has gone on growing and growing, until it has become a very respectable gallery, fully entitled to both sides of the house. The Commissioners, who seem much disposed to sacrifice it, use a singular sort of logic to cover their premises: they think since it has been growing up for so many years, that it will never have done growing; never come, like other growths, to maturity and perfection; and, therefore, that if it remains where it is, and the whole of the edifice be given up to it, before long it will burst through the walls, and overrun the barracks and buildings behind; but that, on the contrary, if it be given up to the exhibitions of the Royal Academy, though artists increase and multiply, and with them their works for exhibition, it will always be big enough, as these annual exhibitions may be expected "*to consist merely* (!) *of a fixed or nearly fixed number of works.*" Surely they cannot here be serious! Works of defunct great masters cannot possibly increase more rapidly than the works of living artists, who are always themselves increasing. There are many *specimens* in our National Gallery, which it would be desirable to remove on our getting better ones; and the majority of the very early works are best reserved for those only who desire to see them, as at Berlin. Neither should every work offered to the collection on that account be admitted into it. The whole of the National Gallery, if appropriated to its legitimate purpose, would well contain *all* our pictures for at least a hundred years to come. The building also possesses capabilities of adaptation which have not yet been put to the test; and its external character might be embellished at a comparatively trifling expense.

The Royal Academy is known to be rich: notwithstanding its gratuitous teaching, it has grown wealthy; and some time ago boasted that it could erect an edifice for itself, and would, rather than be lodged in a by-street or out-of-the-way place, such as the back settlement somewhere behind Burlington House, which, though good enough for a National Gallery, was very much beneath the Royal Academy to settle down in. The Commissioners also think that the Academy "*should be viewed as a great national institution for the promotion of art.*" Where is there such to be found in Europe? If any academy can lay pretensions to this character, it is the Ecole des Beaux-Arts at Paris, which is an academy in a truly catholic sense.* Here painting, sculpture, architecture, and engraving grow and flourish in happy communion. It would take three buildings of the size of our National Gallery to make one such academy of the fine arts as this. But the annual exhibitions of the French artists do not take place here. These are set forth in a still more spacious and convenient locality. Formerly the Louvre was appropriated to them, but now they are held in the Palais de l'Industrie. But the Academy of the Fine Arts at Paris is not peculiarly a great national institution: there are Government academies of fine arts in the great cities of France, quite as national as the "Ecole" of Paris. If we have in England anything which deserves the name of a national institution for the promotion of art, it is the foundation at South Kensington, with its branches and schools spread all over the kingdom. But it is obvious why the Commissioners desire to exalt the Academy in Trafalgar-square at the expense of other institutions, such as that of the British Artists, the Societies of Painters in Water Colours, &c. It has a monopoly of political interests and court favour which always draws in one direction, and serves to invest it with a prestige that dazzles beholders and throws into comparative obscurity all other societies of artists formed on more liberal principles.

H. C. Barlow, M.D.

THE DUTCH CHURCH, AUSTIN FRIARS; AND THE CHURCH OF ST. BARTHOLOMEW THE GREAT, WEST SMITHFIELD.

The trustees of the church in Austin Friars are to be praised for having listened to remonstrance: they have decided on preserving what remains of the church. We may observe that statements respecting the value of some features of the relic, are at variance with one another. Mr. J. H. Parker, in the new number of the *Gentleman's Magazine*, after contrasting the omissions of the city of London, with what has been done by the city of Paris for the historic monuments of the French capital, and characterizing the Dutch church as a fine and singular example of the Gothic of the fourteenth century, or of the style as it was when the Decorated was being modified, says:—

"The window tracery is almost wholly Flamboyant, excepting the large west window, which is English Decorated. The mouldings have not the depth and richness which English Decorated mouldings usually have, they are more like the poor Flamboyant mouldings of the Continent. One of the peculiarities of English Gothic buildings is the extreme richness and beauty of their mouldings; those of all foreign countries are poor and shallow in comparison, and almost seem like bad imitations of the English Gothic. The richness of our mouldings, and the great variety of the forms of our window tracery, are two points of considerable importance in the art, in which English Gothic is infinitely superior to that of any other country."

Mr. Lightly, the architect employed, on the other hand, lately stated before the Ecclesiological Society, that the windows had been restored so often from ordinary builders' mouldings as to have quite lost their character. What is really valuable, added to the plan of the church, is the proportion and arrangement of the piers and arches. Mr. G. G. Scott calls the present portion of the original structure, "a noble model of a preaching nave," "being of great size and unusual openness," and "a perfect model of what is most practically useful in the nave of a church." The columns are certainly slender.

Mr. Parker is, we apprehend, mistaken in crediting the class in France, corresponding with our ten-pound householders, with an amount of education not possessed by the class here. Statistics show that general education is lower in France than it is in this country. The appreciation of historic monuments starts from sentiment rather than education; albeit there is in France greater natural aptitude for the production, and appreciation, of *art*, than there is here in England.

Of the church of St. Bartholomew, Mr. Parker says:—

"* * * the very curious and early groined stone vaults which have saved the aisles of the church are actually made to carry parts of the houses adjoining, and the fine old triforium gallery has been entirely destroyed, or applied to secular purposes. Part of it, over the north aisle, is a school-room; another portion, at the east end, now forms part of a fringe manufactory, built on the site of the Lady-chapel, and which extends quite over the eastern aisle and the apse, and over part of the south aisle. A fire destroyed the rooms over another part of the south aisle a few years since, and these have not been rebuilt. The walls of the early Norman transepts and part of the cloisters were standing within the last thirty years. The site of the south transept is now entirely covered by houses; the sites of the north transept and of the nave have been preserved as burying-grounds, but so surrounded by houses that they cannot be rebuilt without an enormous additional expense, which might have been saved by a little exercise of good taste and good sense, even in our own generation."

THE CENTENARY OF HOGARTH'S DEATH.

At the late meeting in the church of St. Bartholomew, Great Smithfield, the company were reminded that this famous English painter was there baptised, and that a record of the baptism is preserved in the parish register. In the course of a very short time, Hogarth will have been dead one hundred years, during which period his works will have continually increased in repute and value, and (it has been already mentioned in the *Builder*) the approaching centenary of the great painter's death would be a good opportunity for gathering together, as completely as possible, all works of his. These would form a very interesting and instructive exhibition: we should not only have the pictures, but also the prints, drawings, and sketches. Such a collection might be the means, by the payments for admission, of raising a sum of money that might be devoted to some purpose which would be honourable to the memory of Hogarth, or beneficial to art. In order to complete the restoration of St. Bartholomew's, stained glass might be required; and it is suggested, a memorial window could be appropriately placed in some part of the structure which is associated with the early days of the painter. Mr. Tite, the architect, was born in this neighbourhood, and was also christened in the church, as stated at the meeting.

STEAM CULTURE.

One of the chief features of the Royal Agricultural Society's meeting at Worcester, this year, has been a competition between farm steam-engines, thrashing-machines, and steam-ploughs. On Wednesday, the 15th, these latter implements broke ground under the direction of the stewards of the department; of the Society's consulting engineer, Mr. Amos, C.E.; and of the four engineering and practical judges. The trial-fields, at Spetchley, on the Evesham road, furnished a rather severe test of the power of the different machines; the deep soil, with an admixture of gravel, being excessively hard and stubborn from the long baking of a sunny season.

One of the greatest novelties in the field, was the plan of Messrs. Savory & Son, of Gloucester, who hang a 6-feet drum upon friction rollers around the boiler of a double cylinder 10-horse engine. The cylinders are placed transversely in front of the smoke-box; and the crank-shaft, passing alongside the boiler and within the drum (which is a cylindrical shell without arms or spokes), carries pinions which gear with internal teeth on the drum, and also a screw or worm, which actuates one of the travelling wheels when the engine is required to advance. The drum, being large enough to carry 500 feet length of rope in a single layer of coils, hauls the implement by winding up the rope that runs singly

* Some allusion to defects in this French institution, so far as architecture is concerned, will be found in our last.—Ed.

across the field, and a similar engine on the opposite headland pulls the plough again to that end of the furrow. A couple of guide-rollers traversing in front of the drum upon a revolving screw shaft, feed the rope on to the drum so regularly that no coil grinds against or overlaps another. While one engine is hauling, the other is simply allowing its drum to run free, besides advancing a few feet along the headland into position for the next furrow. The implement worked was a Fowler's plough.

It appears to be established that the stationary engine and windlass do not fall much behind the moveable engine and anchorage in amount of performance, provided the rope be well carried clear off the ground; and that the employment of one engine is most economical and best adapted for single farms, though, as proved by Messrs. Fowler & Savory, two engines may be most advantageous for working by contract, when frequent removals and much travelling from field to field are necessarily encountered. And it is only by hiring a steam plough, or else procuring so costly a machine by help of a public company, that the small farmer, with limited capital, can avail himself of the expedition and cheapness of steam-power tillage.

CONSERVATORIES: GLAZING AND CONSTRUCTION.

Sir William Hooker obliges us with information concerning the success of the use of the coloured glass in the palm-house, at Kew.

The glass (which has a tinge of green) he says, has given entire satisfaction, so that the same glass is used for the Winter Garden.

As to another point, that of the contrivance for opening the lights in the Winter Garden, he has no reason to speak unfavourably of the contrivance, but the reverse; but he considers that more experience is essential to a conclusion,—as the lights have hardly as yet been exercised. The whole upper lights of the roof being let down in the early summer, they have continued so ever since,—*all* of them. The time to test the machinery would be in the autumn, when the opening will be regulated by the cold.

ARCHITECTURAL COPYRIGHT.

The Society for Promoting the Amendment of the Law, at their annual meeting lately, appointed a committee to consider the Law of Copyright, and especially the suggestions contained in a paper read by Mr. Serjeant Burke before the society, "On the present State of the Law of Copyright in Literature and the Fine Arts." We trust that this committee will seek to understand the question as it relates to architectural designs, both those which are on paper, and those which have been once carried into effect in building. The report of the society, which speaks of the paper as a valuable contribution to the printed Transactions, says of the different enactments relating to copyright:—"Perhaps no portion of the Statute Law exemplifies more forcibly the empirical character of our legislation." This single group of correlated Acts would fill a good-sized octavo volume. "They are placed in the statute book in chronological sequence, simply according to the date of their enactment; and with so much laxity, incoherence, and obscurity have their provisions been framed, that to interpret their meaning is one [*sic*] of great difficulty, if not indeed impossible." The comments of the Lord Chancellor on the statute law in general, are declared by the society to be amply justified by the numerous and conflicting statutes on copyright.

"Instead," says the Report, "of having one law of copyright for paintings, another for literature, a third for the drama, and a fourth for sculpture, the learned Serjeant recommends that protection shall be granted for the same term of years in each department, subject to the observance of one uniform system of registration. The necessity for consolidating these discordant statutes is urgent. The task would not present greater difficulties than those which have been so well overcome in the recent consolidation of the criminal law Acts. To that important amendment of the law, the early consolidation of the copyright Acts would be a sequel most welcome to the legal profession, and most beneficial to the country."

The general suggestion of consolidation is in harmony with that made in our columns,—most recently by Mr. Campin.* Still, the enactment needed must be framed with the special knowledge of the circumstances as relating to the practice of the profession of architecture. We have reason to believe that something might be learned from perusal of the numerous pamphlets on all sides of the question, which were published in France, in 1861, or 1862, when a Government commission was sitting on the subject, or more especially on that part of the subject relating to literary productions. Something might even be learned from arguments which were then put forth adverse to the rights of authors. However that may be, we ourselves derive from one member of that commission, information to the effect that much distinction was perceived between the case of works intended for publication, as are books, and works which might be classed as *bijoux*, as is the case of pictures. Copying the designs, indeed, if robbery in one case, and an offence against morals, is equally so in the other. But if the main argument, as asserted sometimes of the case of patents (a subject to which also the Society have given attention), be only that it is the *interest* of the public to procure speedy publication of ideas, by offering an equivalent in return for what is published, or to be published, and that there can be no piracy of what *has been* published or presented to the public eye, the legislative measures for protection of the producers of the different classes of works, may need to be guided along somewhat different routes. Now, an architectural design may have at one moment analogy with the *bijou;* and at another, with the literary production. In the former case, or where the work is not *published*, but where it is the *original* that passes from hand to hand, the question cannot arise. There is only one thing of its kind: publication does not happen. An architectural design is in this position so long as there is only one work. But so soon as a duplicate of it is produced, and there are two works equally good, the analogy is no longer that of the single gem, but is that of the literary publication. It is useless, therefore, as some persons seem to contend, that the analogy cannot exist: it does not exist, indeed, when the first design is made; but the act of copying immediately produces and constitutes the position of an analogy.

A weekly contemporary, whose remarks on questions of this kind usually are important, seems to us not to explain the state of the case clearly in saying there can be no copyright in the *subject* of a work of art. Of course there can be in the thing copied, as by photography, no copyright in the *subject*,—given to, or acquired by, the copyist or photographist. The point which our contemporary has omitted to remark is, that whilst the work of nature cannot be produced in *fac-simile*, the work of art can. An ornamented structure is a work of art; any one may be allowed to make a drawing of it, but no one except the author ought to be in a position legally to reproduce it.

* See p. 519, *ante*.

THE GAS WORKS OF AN AMERICAN HOTEL.

The St. Nicholas Hotel, at New York, is capable of accommodating more than a thousand guests. The quantity of gas used in such an establishment, therefore, is considerable.

There are about 3,000 burners in constant use every evening; and in the shortest days of winter the nightly consumption of gas amounts to about 36,000 cubic feet. Two dollars and fifty cents per 1,000 feet is the regular rate charged to consumers, large and small, by the Manhattan Gas-Light Company, in whose district the St. Nicholas is situate, although they do not now supply the hotel; for, being averse to allowing a discount to large consumers, they have lost such customers as the St. Nicholas, St. Denis, and Fifth Avenue hotels, each of which has now its own gas-works.

The gas-works of the St. Nicholas Hotel are situate directly in the rear of the house, at No. 63, Mercer-street. Until within about two years since, resin was the gas-yielding material employed; but, since the enormous rise in price of resin, from about one dollar to thirty dollars per barrel, it has been rigidly excluded from all gas-works as being entirely too costly to use. The hotel is now supplied with gas from petroleum tar from their own works by Mr. Parrish.

In the retort-house, according to our authority, the *American Gas-Light Journal*, there are two benches of threes. The retorts are of iron, and are set in the manner usual in most coal-gas works, the tiles and flues being arranged precisely as in a coal-bench. The retorts are, in section, segments of a circle of 12 inches internal diameter, the bottom being flat. Inclusive of the mouthpiece, they are 7 feet 6 inches long. They are open at both ends, and are connected at the back by means of the ordinary stand and dip-pipes with the hydraulic main. In the lid covering the front of the retort is inserted a syphon, the tube of which projects a few inches into the retort.

Petroleum tar is allowed to flow in a thin stream into the syphon, which conducts it into the retort, where it falls upon a body of incandescent coke, through and over which the gases and vapours are obliged to traverse before escaping at the back of the retort into the stand-pipes and hydraulic main. The petroleum tar is considered to be but a little inferior to resin, and applicable in resin gas-works with but a slight alteration. As the lighter hydrocarbons, such as naphtha, benzine, and the like, have been removed from it by preliminary distillation, there is no liability to condensation in the pipes and mains, which is always the case where gas is made from crude petroleum. The yield of gas from petroleum tar will average 60 feet to the gallon, and its quality is far superior to that of coal-gas.

On Mr. Parrish's system certain proportions of atmospheric air are mixed with the rich gas after it leaves the holder, and after it passes through the meter. The admixture of air with the gas accomplishes two objects. It dilutes the gas to a degree which renders smoking almost an impossibility: at the same time it promotes economy of consumption; for the mixed gas and air is of so high a specific gravity as to flow through the pipes and burners very slowly, and thus it consumes at but a moderate rate. The apparatus has been recently patented. It consists of an air-meter, connected and geared with the ordinary meter. The pressure of the gas-holder forces the gas through the meter, causing it to revolve in the usual manner. The gas-meter being geared to the air-meter (which revolves in an opposite direction), causes it to draw in a certain quantity of atmospheric air, which is forced along until it meets the column of gas which has just passed the gas-meter. The two meters are connected by pipes, in which the gas and air are thoroughly diffused and mixed, and thence passed on to the burners.

In practice it has been found that the proper proportion of gas and air varies with different circumstances; depending entirely upon the richness of the pure gas. If this be of an average richness, about 40 per cent. of air is the proper proportion.

UNDERTAKERS' SHOPS IN A SANITARY LIGHT.

The disgraceful disclosures which were made in connexion with the parish undertakers at Hackney did not cause us any surprise; for, we knew to what an extent sanitary abuses existed in connexion with the interment of the dead. We do not say that the neglect to bury altogether, is common; but bodies are often kept for a dangerous time in the shops, houses, and yards of the undertakers. The atmosphere of some of these places is horrible,—as bad as the air of some of the dissecting-rooms connected with certain of the metropolitan hospitals, if not worse. Many dead bodies are taken from the hospitals by the friends of the deceased, to the houses of the undertakers, where they lie until a convenient day for their interment. Persons who have died in the infirmaries and other wards of the workhouses and unions, are disposed of in the same way, for the purpose of avoiding the degrading ceremonial of a pauper funeral. We have also known of the bodies of persons who have been drowned or have suffered other accidental death, being allowed to be kept for some time in these places, which are often in the midst of a thick population, and for the most part are utterly unfitted for the purpose. There is pressing necessity for suitable dead-houses in convenient and safe places, and in which there should be first-, second-, and third-class accommodation: but all places for the reception of the dead within the metropolitan limits, should in the first instance be examined by competent persons, and be allowed only if favourably reported upon; and after that, they should be open to proper sanitary inspection. These and other needful changes must be made,—and the sooner the better.

In the case at Hackney, a person appointed by the parish seems to have received small sums for the burial of still-born children, which duty was not performed: lime was used for the purpose of decomposition, so that some paltry fees might be saved; and this state of matters must offer facilities for the concealment of crime. It was hinted that at Hackney there might have been human remains

buried in the grounds; but neither the police nor the parish authorities had any power to interfere, so that an examination was not made. To this, and many other imperfections in the laws especially requisite in large towns, the attention of the authorities at the Home Office should be carefully directed.

THE SUEZ CANAL.

The undertaking of the Suez Canal Company has evidently reached a position in which it may demand more attention, at least as an engineering work, than we can give to it in this number.

When the late Viceroy was in England, he requested Mr. Hawkshaw to visit Egypt and examine the site of the proposed canal, and report his opinion. Accordingly Mr. Hawkshaw proceeded to Egypt last October, and was occupied twenty-seven days in examining the district traversed by and adjacent to the canal, and of so much of Lower Egypt as appeared likely to throw light on the question under consideration. Mr. Hawkshaw is said to be of opinion that, "as regards the engineering construction, there are no works on the canal presenting any unusual difficulty of execution, and there are no contingencies that he can conceive likely to arise that would introduce difficulties insurmountable by engineering skill." He gives also a favourable opinion respecting the maintenance of the canal in working order. A long report was presented to the meeting of shareholders in Paris, on the 15th ult., making the best use of Mr. Hawkshaw's favourable opinion, and giving many interesting particulars; but of course not failing to advert to the opposition of the British Government.

PRESERVATION OF ENGLISH ANTIQUITIES.

LAW OF "TREASURE TROVE."

The large extent of the loss of valuable and interesting ancient remains is a matter much to be regretted. Even during the last century, in the metropolis alone, objects of old date and great curiosity have been allowed, by carelessness, to be lost or to perish, and but for Mr. Roach Smith, the late Mr. Price, Mr. Chaffers, and one or two others, we should have had but few objects remaining illustrative of the Roman and other early dwellers in London. The collection formed by the first-named gentleman, by years of exertion, and which is now in the British Museum, is so valuable that we should be thankful for it; still it is impossible not to feel regret for what has been allowed to be neglected or misappropriated.*

Not only in the metropolis, but throughout the country, this evil has been caused, to a certain extent, by the peculiar law which relates to the discovery of coins and articles made of gold and silver, which have been buried in the earth. A remarkable instance of this has been brought before the public notice, by the recent trial in connexion with the discovery and sale of ancient British antiquities found in a field in Sussex. The particulars are too well known to need here much notice. Massive gold ornaments were found by two ploughmen, who, thinking that they were old brass, sold them to another person for 5s. 6d. The purchaser, finding that the objects were of the finest gold, took them to London and sold the 11 lb. of metal for 536*l*. The actual worth of the gold in connexion with matters of this kind is, however, generally but trifling in comparison with the value of these objects in an historical point of view. There are relics such as coins, rings, and other personal objects, smaller than those above referred to, which are worth fifty times, and more, the value of the precious metals of which they are formed. But, as things are at present, there is usually an impression, with those who chiefly are in the way of finding old relics, that they will be taken from them without remuneration by the Crown, or parties having peculiar rights in connexion with the land. It therefore seems to the finder his interest to keep such discoveries secret, and if of sufficient weight, to dispose of the articles in such a manner that they find their way into the melting-pot, or are in some other manner got rid of.

It appears by an Order in Council, passed recently, that the finder of antique relics of the kind above referred to, is entitled to the sterling value of his discovery; but then, as is shown by the recent trial, the ancient law is still in force, and is more powerful than any other order. But supposing that the old law were abolished, and a new one made, we do not think that one similar to the Order of Council—which only allows the value of the metal to the finders—would be sufficient to give encouragement to those discovering them to preserve objects of antiquity found below the surface.

Doubtless the possessor of the royalty of the land has a proper right to such matters as those found in Sussex, or in one of Lord Palmerston's estates; but it would often be of advantage and interest to those who possess property of this description, to offer more liberal terms than at present to those who fortunately discover objects of antiquity,—say to the extent of half the value, *not of the mere gold or silver*, but of their worth as curiosities. In cases of dispute there might be a department of the British Museum for the purpose of arbitration.

In connexion with sewer and other works, articles of considerable interest are often sold for a gallon of ale or less, and it is a pity that many ancient and curious relics should be sold for a drink of ale; but if encouragement were given to workmen by those who have the direction of the making of railways, sewers, &c., to give up articles of this kind on the understanding that the discoverer would be paid a fair value, we should have materials for historical and artistic illustration which might usefully and largely add to the metropolitan and provincial collections. The law of treasure-trove requires change; but this is only one of many old and almost obsolete Acts of Parliament which are not at all useful in the present greatly changed times, and which, however curious they may be to antiquaries, should be removed from the statute book.

* When referring to this subject, we should not omit notice of the collection which was formed by Mr. Tite, the architect, while excavating for the foundations of the present Royal Exchange. It is in the Guildhall Library.

THE PUBLIC WORKS ACT AND THE COTTON-SPINNERS.

As the Public Works Act has now received the royal assent, it seems to be the wish of Government that the various boards of guardians and corporations, where no local government Act was in existence, should set about devising what public or private works might be suggested, preparing plans for approval, borrowing money, and inaugurating preparations for employing the able-bodied at 2s. per day. In the Stockport Board of Guardians, the other day, one or two members, who approve of a national grant, instead of taxing the rates for the next thirty years, seemed somewhat disinclined to have anything to do with the new Act; but they were told boldly by one of the Government commissioners (Messrs. Rawlinson & Farnall) that, if they "refused to have anything to do with the Act, he did not know how they could come to the Manchester Relief Committee to ask them to feed the men whom they themselves would not feed. The refusal to take up this Act would place any town in an awkward position." This called up the vice-chairman, who talked of "dictation," and took exceptions to the principle of the Act in question. Others thought they had better accept the Act as it was, for want of a less objectionable remedy for local difficulties. The Act is to be adopted at Blackburn and Bolton, and why not at Stockport? asks Mr. Farnall. After some fencing, the suggestions of the commissioners were favourably received; and they purpose forthwith meeting the corporation, with the object of pressing that body to carry out the Act, for the construction of works, carrying on improvements, and procuring out-door employment within the borough.

The commissioners have also had interviews with the local authorities of Bolton and other towns, for the purpose of explaining the provisions of the Act. It appears from the proceedings at Bolton that the Government still considers the aspect of affairs in Lancashire as grave. Messrs. Farnall and Rawlinson stated that town councils and boards of guardians could appoint committees to carry out the Act in any township; and where townships were not content with the interference of the board of guardians, they could adopt the Public Health Act, and act on their own behalf. The Act would also enable boards of guardians to contract with private gentlemen for the drainage of land, or other works; and the money required would be advanced by Government at the rate of 3½ per cent., and no instalment would be required for two years. This, it is thought, will be a great means of alleviating the distress. In Bradshaw, Farnworth, and other townships, the rate has reached 6s. 6d. in the pound; and it is hoped that the means of relief now offered will enable them to weather the storm of next winter. In the Bolton Union there have been expended 33,000*l*., of which amount 13,000*l*. have been raised by local charity. 5,500 persons have been relieved who were not paupers, and the expenditure of the relief committee has been 1,800*l*. per month. The boards of guardians in their twenty-six townships have been relieving 5,600, at an expenditure of 1,900*l*. per month; so that 5 per cent. of the population have been living upon charity, and another 5 per cent. upon the poor-rates. Mr. Rawlinson stated that, in any improvements undertaken by the guardians, they will have to take the initiative themselves; and, having done so, he will be most happy to assist them in obtaining any loan they might require. He explained that, in a township like Farnworth, where draining the streets was desirable, the guardians would have to lay out a general system of drainage, and then give the owners of property notice to do their part of the work; and, in the event of their failure to do so, the work will be completed and charged to the owners of the property, time being given for payment. In regard to the mortality of Bolton, which is 31 per cent., there is, he urges, nothing to prevent it from being reduced to 20 per cent.

From Glasgow the cotton operatives are being sent to Canada. The steamship *United Kingdom* has just sailed from the Clyde for Quebec and Montreal, having on board the first draft of the unemployed who have been sent out by the Relief Fund Committee. The party numbered in all 230 with their children. The committee have made arrangements for assisting the emigrants to a small extent on their arrival.

CLEARING OFF THE METROPOLITAN TURNPIKES.

The Metropolis Turnpike Roads Act Amendment Bill has been read a third time in the House of Lords. The great metropolitan benefit conferred by this Act is the removal, on and from July 1, 1864, of twenty-five of the old nuisances called toll-gates and fifty-six side bars, and the setting free from toll-gate obstruction of about fifty-one miles of road on the Middlesex (north) side of the Thames. The gates and bars so to be removed on the 1st of July are:—Fulham, Walham-green, Earl's-court, and all gates and side bars; Kensington — Hammersmith, Notting-hill, and all gates and side bars in Kensington and Hammersmith; Harrow-road, Kilburn, and all gates and side bars; Camden-town—King's-road-gate, High-street, Chalk-farm, Haverstock-hill, and all gates and side bars; Camden-road, Brecknock-gate, and all gates and side bars in Camden-road, &c.; Kentish-town—Gate in road, and all gates and side bars near, and at Gloucester-place, &c.; Holloway-road, and all gates and side bars; Islington, and all gates and side bars; Ball's-pond, and all gates and side bars; Kingsland-road—Cambridge-heath, Hackney, and all gates and side bars in Hackney, Clapton, and Stoke Newington; Twickenham and Teddington, all gates and bars; and the City-road gate, and all gates and side bars.

THE PEABODY DWELLINGS IN SPITALFIELDS.

The building in Spitalfields, which is in progress, to be appropriated for residences of the class chiefly intended to be served by the Peabody fund, is situate at the corner of Commercial-street and White Lion-street, near the Great Eastern Railway Station. It has a frontage of 215 feet 6 inches towards Commercial-street, and of 140 feet towards White Lion-street. In the Commercial-street wing there are nine shops, with dwellings and stores attached, occupying the basement, ground, and first floors. Above these, on the second and third floors, are twenty-seven dwellings for the poor, with entrances entirely distinct from those of the shops. The fourth or topmost floor is occupied with laundries, baths, and areas for drying clothes, and for the use of children in wet weather. In the White Lion-street wing there are thirty dwellings for the poor. These residences occupy the ground, first, second, and third floors; the fourth or topmost floor being occupied, as that in Commercial-street, for the purposes of washing clothes, &c.

Each dwelling consists of one, two, or three rooms, situate on each side of a wide and well-ventilated corridor. The dwellings contain large well-lighted cupboards, cooking-range, oven, boiler, hot-plate, &c.: water-closets and lavatories are

provided on each floor: one of the former is allowed to each two families. Dust-shafts extend from the roof to the basement, where large dust-bins are provided, with separate access from the yard. The living-rooms average 13 feet by 10 feet, and the bed-rooms 13 feet by 8 feet. Their height is 8 feet from floor to ceiling.

There are seventeen dwellings of three rooms, forty-seven dwellings of two rooms, and three dwellings of one room, besides a porter's lodge and office, and a co-operative store.

The structure is entirely of brick. The rents will vary according to the accomodation, but will in all cases be lower than those now paid for the over-crowded hovels in the neighbourhood.

In the calculation of the revenue, shops, for which the situation appeared favourable, were taken into account; and were provided, as already mentioned. Thus it is hoped, that a return on the cost, after working expenses have been defrayed, will be found to accrue, consistently with a low scale of rents.

ARCHÆOLOGICAL EXCURSIONS.

Archæological Institute of Great Britain and Ireland.—The annual congress commenced at Rochester on Tuesday, with an unusually large attendance of members. The opening meeting was held in the Guildhall. The chair was occupied by the Marquis Camden. Congratulatory addresses were read, and speeches made by the town clerk for the mayor and corporation; by the Earl of Darnley, on behalf of the Kent Archæological Society; by Lord Talbot de Malahide; and, on behalf of the dean and chapter, by the Provost of Oriel; the latter remarking that Rochester Cathedral stood on the site of the second Christian Church of the Anglo-Saxon times. The meeting was subsequently addressed by the Bishop of Rochester, Lord Leigh, Mr. Beresford Hope, Mr. Roach Smith, and others; after which, the members of the Institute commenced an exploration of the chief objects of antiquity in the city. After inspecting the sites of All Souls' Chapel and St. Clement's Church, both of which have entirely disappeared, the party visited the ancient Crown Inn, immortalised by Shakspeare, but which, in the course of a few months, will be demolished to make way for a modern hotel of the same name. The visitors then inspected the sites of the ancient gates of the city and its massive walls, and the ancient Danish, or more probably Roman, mound, at the base of the castle, termed Boley-hill, and paid a brief visit to the ancient Satishouse, so named by Queen Elizabeth on her visit to the mansion, in which the present Archbishop of Canterbury was born. The temporary museum, opened in the Corn Exchange, includes most of the Anglo-Saxon remains discovered from time to time in Kent, as well as highly-interesting Roman remains. At the evening meeting, Mr. Bennett read a paper on Beyham Abbey, and Mr. E. Foss, F.S.A., one "On the Archæology of the Law, with an account of some of the leading Legal Celebrities of Kent," which was a valuable history of most of the Kentish legal customs and practices. These were, for the most part, of Saxon origin. The paper also gave sketches of the lives of many of the legal celebrities connected with Kent. On Wednesday morning, the Rev. H. M. Scarth read a paper on the recent discoveries of Roman antiquities at Wroxeter, which advocated the importance of the Crown appointing a commission with the view to the preservation of descriptions of any archæological remains, as was the case in France. Mr. Roach Smith spoke strongly in favour of the suggestion. Dr. Edwin Guest, Master of Gonville and Caius College, Cambridge, read a paper on the landing of Julius Cæsar in Britain. In the afternoon the members of the Institute visited Cobham Hall, and on Thursday were to inspect Malling Abbey.

The Norfolk and Norwich Archæological Society's last annual excursion started from Dereham, and the route selected was Shipdham, Ovington, Watton, Merton, Tompson, Tottenhill, Threxton House, Little and Great Cressingham, and Saham. At Shipdham Church, the library, belonging to the rectory, which is kept in the chamber over the south porch, formed the principal object of attraction. Specimens of the typography of Wynkyn de Worde and Pynsen (including a reprint of Caxton's "Ryal Book" by the latter, which is very rare), were there, and also an illuminated Psalter, written on vellum, in a fine bold hand, of the fourteenth or fifteenth century. From Watton, the route to Merton was interesting. The church stands in a charming position, on high ground, overlooking the hall, the gardens, lake, and park. The Hall is the mansion of the De Greys. At Merton, as stated in a paper by the Rev. G. Crabbe, the incumbent, the round tower is, with the exception of the lower part of the west wall, the only part of the Norman building left. At Merton Hall, the Society, by permission of Lord Walsingham, was allowed to inspect the principal rooms, and the paintings, frescoes, and articles of *vertù* they contained. In the drawing-room Mr. Crabbe read a paper descriptive of the Hall and its contents, and giving a brief historical notice of the De Greys. Having cursorily inspected the "art treasures," the visitors passed through the gardens, where they had the gratification of seeing the *Lilium giganteum* in full bloom, the flower-spike 8 or 10 feet high. The Old Oak here is believed to have flourished for a thousand years. Its foliage is thin and scattered, but the circumference of the trunk, 5 feet from the root, is 8 yards 4 inches. At Threxton Hall, Mr. Barton invited the members of the Society to a cold collation, in a marquee on the lawn. In the billiard-room Mr. Barton had displayed his collection of antiquities, nearly the whole of which had been collected by himself, in the vicinity of his house, a Roman camp having once existed there. At Great Cressingham Manor House, the residence of Mr. R. Goulder, the welcome refreshment of tea and coffee was offered to the ladies. In the south-west front of the Manor House there are three semi-octangular turrets. At Saham Church the Rev. Wm. Grigson drew attention to the principal points of interest.

The Surrey Archæological Society.—A general meeting of the members of this society has been held at Chilworth Manor House, under the presidency of Mr. R. A. C. Godwin-Austen. The party proceeded from Chilworth Station to Great Tangley House, where Mr. Austen read an address, tracing its history, and pointed out its peculiarities. They then proceeded to Manor House, where the meeting was held. A portion of the company went to St. Martha's and Albury Church, and the various particulars were explained by the Rev. G. R. Portal, the rector, and Mr. C. Bailey. They afterwards viewed the Albury Grounds, the several works of the famous T. Evelyn, and the celebrated historian Aubrey, of which etchings showed the various terraces and other features. The terraces themselves were then visited, and at the top was a long cavern through the hill. The company then proceeded through the park to Shere Church, where the church monuments and parish registers were explained by Mr. Reginald Bray, and the architecture by Mr. C. Bailey.

The Wiltshire Archæological Society will meet at Devizes on Tuesday, August the 18th. A general meeting of the members will take place at the Town Hall, at one o'clock, when, after an address from the president (Earl Nelson), a paper will be read by Canon Jackson on "Devizes," and others by Professor Buckman on "Querns," and on the "Flora of Silbury Hill." Attention will then be directed to places of interest in the vicinity. In the evening there will be a *conversazione* in the Town Hall, when a paper will be read by the Rev. A. C. Smith, on "The Vestiges of the Earliest Inhabitants of Wiltshire;" and Dr. Thurnam will make some observations on ancient English pottery; followed by a notice by Mr. Cunningham of an ancient British tumulus.

On the following day the members will go on an excursion to Bromham Church, Nonsuch House, Sloperton Cottage, Chittoe Church, through Spye Park to Wans House (the Roman station of Verlucio); thence to Bromham House, Heddington Church, Morgan's Hill, and Oliver Cromwell's Camp. In the evening there will again be a *conversazione*, when the Rev. W. H. Jones will read a paper on the "Names of Places in the neighbourhood of Devizes;" the Rev. E. Wilton, a paper on "Bishop Tanner;" and the Rev. J. E. Vize, a paper on the "Terrestrial and Fresh-water Shells of Wiltshire."

Thursday will be devoted to another excursion through Etchilhampton, Allcannings, over St. Ann's Hill, passing "Ribway Camp," &c., and Huish Hall, to inspect barrows which will be opened on Draycot Farm Down.

THE HOTEL MOVEMENT.

There is still an extraordinary run upon hotel-building. The profitable experience of the Great Western, and the Grosvenor, has induced a host of companies to spring into the field. Thus, besides those we have already more especially noticed, there are not only hotel companies forming for Ryde, in the Isle of Wight, at Brighton, and various seaports patronized by the public, but others for the erection of hotels abroad, as in India. In London the "Strand Hotel" is a project of great magnitude. It will embrace the whole of "Lyon's Inn," which is in course of demolition, and which in itself occupies upwards of half an acre of land. The frontage of this hotel will occupy the site of several houses in the Strand, (immediately in the rear of St. Mary-le-Strand Church, and facing the Strand Theatre,) at present known by the title of Sam's Hotel. This front block extends to Holywell-street, which will be crossed by means of a bridge, 18 feet above the level of the pavement. The front block will be devoted to the tavern and general *restaurant* business, having a dining-room 22 feet in height, and very considerably larger in its other proportions than that of the dining-hall of Simpson's in the Strand. The main building, the principal entrance to which will be where the entrance to Lyon's Inn now exists, in Newcastle-street, besides other entrances both in Wych-street and Holywell-street, will possess between three hundred and four hundred bed-rooms, with from twenty to thirty perfect suites of apartments, exclusive of coffee-rooms and general dining-hall, in the front block of the building. A grand feature, however, is the construction of a great hall, which, although not so lofty, will be larger than St. James's Hall, being 164 feet in length by 67 feet in width. It will be let for public meetings and other purposes. Abutting upon this hall, it is proposed to build a new and elegant class of shops. The Strand *façade* is to be of some architectural pretension. Mr. Francis Fowler is the architect. The building is to be completed and ready for occupation within twelve months.

There are several other hotels of a similar description projected, besides the Langham Hotel, and each with a prospect of being successfully carried out.

For Richmond, we observe advertisements of two new hotel companies; one to purchase the Castle Hotel, and make additions and improvements there, and the other to erect a new hotel on Richmond Hill. Among these and other intended hotel-keepers, there are well-known noblemen, of whom our wide-awake contemporary *Punch* has been taking a sight,—with (only) one eye closed.

There is an Oriental Hotels Company in the field, with a (projected) capital of 250,000*l.* This new company is kindly taking into consideration the want of hotel accommodation in China (!), India, and other countries in the East. In Calcutta, a joint stock company has lately purchased and undertaken the management of a hotel, and the prospects of the enterprise, as a commercial speculation, may be inferred from the very high premium at which their shares are quoted in the Calcutta market.

In the Western provinces at home, too, hotels are "the rage." We learn that the Bath Hotel, Clifton-downs, has been purchased along with two adjoining houses, by the Clifton Hotel Company. The White Hart Hotel, Broad-street, Bristol, has been sold to a company formed to purchase and rebuild the adjacent hostelries of the White Lion. A third company, we believe, is about to be formed to build a new hotel in College-green. At Aberystwyth, the progress of laying in the concrete for the foundation of the Queen's Hotel, which is to be erected on the north end of the Marine-terrace, is being rapidly proceeded with. The trenches for the concrete are 7 feet wide by 3 feet 6 inches deep. This will be an extensive and ornamental building, and an improvement, it is considered, to the marine esplanade at Aberystwyth.

PARLIAMENTARY.

The Monuments in Westminster Abbey.—On the 25th ult. Mr. M. Milnes in the House of Commons called attention to the fees demanded by the dean and chapter of Westminster Abbey for the erection of public monuments in the Abbey. The dean and chapter required fees to the amount of 200*l.* to admit the monument of the poet Campbell; and it was with considerable difficulty they were induced to allow a monument to be erected to a late Prime Minister whose name was associated with large and important public measures which would endear his memory to his country. They objected to admit monuments to Lord Macaulay and to Mr. Hallam on the ground of want of space. They gave way, however, in the first instance. It was with great reluctance they consented to admit into the abbey a monument to Lord Canning; and they charged 200*l.* for per-

mitting a bust of the late Sir G. C. Lewis to be placed in the abbey. He thought the Legislature should take this matter out of the hands of the dean and chapter. It was not true that there was not room in the abbey for additional statues. He thought the fees ought to be greatly reduced.

Mr. F. Powell said he regarded Westminster Abbey as a magnificent temple for Divine worship, which in its details and beauties stood unequalled; but this venerable temple was disfigured by the character of the monuments which were erected in it. Some of them were Hindoo, some of a grotesque character; but none of them were Christian. He considered great thanks were due to the Dean of Westminster; with whom he agreed in the opinion, that Westminster Abbey was already too much crowded with monuments. A suggestion had been made by his friend Mr. Beresford Hope, that at some future time, when the Chapter-house was restored, the Dean and Chapter might, under proper regulations, admit into that building, not dedicated to the highest sacred purposes, but of a semi-secular character, the monuments of men distinguished in every department of civilization. That seemed to be a reasonable proposition.

Communication between Bayswater and Kensington.—Lord R. Cecil asked the First Commissioner of Works if he had given attention to the prayer of a petition from the inhabitants of Bayswater and Kensington. Mr. Cowper, in reply said, that when he first proposed to the House to vote the expenses of establishing a communication between Bayswater and Kensington Gore he suggested a new road which was to be so separated from the park that it could have been opened at night. That arrangement would have involved considerable expense, and ultimately a more economical plan was adopted, by which the existing roads were used. The plan answered very well in several respects, but it had the disadvantage that if the road were used at night access would be given to the whole of Hyde Park. If the request of the petitioners were adopted, and the gates were to be open after ten o'clock at night, he could not consent that they should be opened to rich persons and carriages and not to the poor people on foot; and if they were open to all, consequences, in a police point of view, might arise which would be highly objectionable.

The Smoke Nuisance in the Metropolis.—Lord Redesdale called attention to this subject in the House of Lords, and Earl Granville admitted the recurrence of the nuisance, and promised to call the attention of the Home Office to it.

CIRENCESTER SCHOOL OF ART.

The report of the committee for Midsummer, 1863, states that, although there is a small falling off in the average number of students for the year 1862-63, they think there is still matter for congratulation in the state and prospects of the school. The number of new entries has been thirty, but there has been a decrease in the average number of pupils, from seventy-six last year to sixty-two in the year just ended. The committee propose offering special prizes for the encouragement of purely elementary drawing, and some other branches of instruction. The children of the schools for the poor make favourable progress. In the national competition of the students' works for 1862, were awarded to this school, one national medallion for a design from the potato, and an honourable mention of floral analysis.

The report from the Department states that the Inspector's report says:—"Cirencester, considered with regard to its population, produces greater results than any other school of art in the kingdom. I must again testify to the zeal which Mr. Miller has evinced in working his school. Altogether I awarded twenty-three medals, and eleven of this number have been selected for national competition."

THE OPENING OF ALEXANDRA PARK, MUSWELL HILL.

The inauguration of this place of popular recreation and amusement, of which we gave some account last week, took place on the 23rd. The inauguration had the appropriate shape of a *fête champêtre*, and was extensively patronised, not only by the residents of the vicinity, but by many from other districts of the metropolis. Miss Burdett-Coutts was among those present.

In one part of the ground, tents were pitched for a horticultural exhibition, for which a sum of 700*l.* was awarded in prizes. The largest tent, which was 175 feet in length, was occupied principally by collections of rare exotics, among which were six noble tree-ferns, sent by Mr. B. S. Williams, of Holloway, who has largely contributed from his nursery to the success of the *fête*.

At a short distance from the tents occupied by the show, a suitable piece of ground was enclosed for the use of the archers, who competed for prizes amounting in the aggregate to 200*l.*

To add to the attractions, the bands of the 1st Life Guards, the Grenadier Guards, and the Royal Marines, played a variety of pieces at frequent intervals.

The completeness of all the arrangements reflects credit upon the officials, the more so in consequence of the very limited time available for the preparations. The *fête* was continued next day.

THE RISE OF CITIES.

It is curious to mark the decay of cities,—to see how incessantly the constituent parts are falling into dust,—and to note, by the examination of the excavations which are made, the gradual rising of the ground. We were particularly struck with this reflection the other day when wandering round the old St. Bartholomew's, in Smithfield. Inside the church the pavement has been raised 2 feet 6 inches, and yet the ground around the surrounding surface is upwards of 5 feet higher than the present pavement. In part this is to be attributed to the extensive burial of the dead,—but not so altogether; for, in all towns there is a constant crumbling of stone, bricks, mortar, and other materials which are being continually deposited. We may form ideas of this by giving the following figures respecting bricks only. It is said that in this kingdom there are about 1,800,000,000 made per annum. Of this quantity Manchester alone makes 130,000,000 per annum, and what are termed the London makers about the same quantity; but, besides those made in the suburbs, there come to the metropolis vast numbers of bricks by the river and canals, from distant places. If, therefore, we take the supply of this material at about 230,000,000 a-year, and take the low average weight of three tons per 1,000, we have about 750,000 tons of bricks yearly consumed in the London district. The weight of iron, stone, wood, &c., used each year throughout the metropolis must be enormous; and yet how soon all these decay and perish. Of Roman brickwork we have but little remaining; and of those early English bricks which may be known by the straw-marks, we meet with few traces: even the bright red bricks which were so much used in the reigns of Henry VIII., Queen Elizabeth, Charles I. and II., &c., are rapidly disappearing; and of the immense masses of brick-work which are just now being planted in the soil, in three hundred years' time there will be very little remaining. In this way the metropolis and other cities are raised on the surface by the accumulated decay of passing generations.

LEAF-BUDS AS MATERIAL FOR ORNAMENT.

Much has been written concerning the desirability of copying natural forms with the view of producing ornament, and much has been also said against deriving ornaments from nature. All agree that plants are beautiful, and, when considered as the ornaments of the earth, which without them would be bare and naked, that they are appropriate and graceful. An object may be suited to one purpose, and yet be unsuitable to another; for one place it may be perfectly adapted, and in another situation it may appear incongruous and absurd; but whether this is the case with plants or not, is open to consideration. That plants are beautiful as natural objects there can be no doubt; in their place they are all that can be desired. Into our rooms we also introduce them; and this we do not merely because of their fragrance, for flowers which are without odours are welcomed almost as cheerfully as those which emit fragrant perfumes, and a quaint *aristolochia* has a place willingly afforded it even in the room most sacred to pleasure, while its odour can scarcely be said to be other than offensive. It is not the odour, then, which is the chief inducement to our placing flowers in our rooms, and while we are willing to perform labour, or to expend hard earnings in order to awaken reminiscences of the past, or pleasurable associations, it is not with the view of so doing merely, that we cull flowers from the garden and place them in the banquet-room. The desire to awaken reminiscences may lead us to gather a violet from the road-side, a daisy from the meadow, a primrose from the hedge-bank, a wallflower from the *parterre*, or a lily-of-the-valley from the dell; but it is not this which induces us to place flowers in our rooms. We love flowers; we admire them; we regard them as beautiful objects, and we esteem their forms graceful. As ornaments, we value them, and as decorations to our rooms we covet their presence.

While this is true, it does not necessarily follow that because we admire flowers as ornaments when pleasingly grouped together in vases, we hence value imitations of flowers and deem *them* suitable for decorative purposes. We may or may not think them appropriate ornaments to a room, while we yet admire living flowers as ornaments.

The contention between the two schools of ornaments rests here:—The one contends that because natural objects are beautiful, art should aim at imitating such with the view of producing ornament; for, they say that nature is perfect, and that our works approach perfection as they imitate nature with fidelity. The other contends that natural objects, though perfectly suited to answer the purpose of their creation, are not fitted for decoration, as different circumstances require different adornments.

Into a controversy it is never well to enter unless truth obviously rests on one side, or there is every reason to believe that the sifting which the subject may have, will leave that which is right as a remainder. Without dogmatically saying that either of the schools which we have alluded to is right, or that either is in error, we would notice as an historical fact that whenever ornamental art has flourished in a country, natural objects have not been imitatively rendered as ornaments; but, if used, have furnished a theme for the ornamentist to work upon, and have not supplied the actual shapes with which the buildings and articles of domestic use have been adorned.

No one can attentively observe the change which is now taking place in decorative art without noticing that, conjointly with our improvement, we are forsaking the use of natural forms as ornaments. That we are progressing in our knowledge of ornament is universally admitted, and our French neighbours, who are celebrated for good taste, expressed much surprise (as mentioned last week in our notice of their Reports) at our advancement in the decorative art at the late International Exhibition; and the fact that we now employ natural forms in decoration much less than we did ten years back, is as apparent as the advancement. Perhaps the true use of plants to the ornamentist is that of furnishing what the artist calls "motives" for compositions. Man has a mind, and he is required to use it. The mind gives to man his superiority over the beast, and constitutes him a superior being. Surely the mind which is endowed with a power of *creating* thought gives the creature who possesses it a resemblance to the great Creator. The operation of the mind, which is the ennobling quality of man, must be apparent in his works in order to their exaltation. The beast can perform mere mechanical labour, and can withstand the wearying influence of physical labour better than the superior creature; but the beast is devoid of the ennobling mind. The mind, then, must obviously have operated in producing all the works of man if they are to be distinguishable from the labours of the lower creatures. The operation of mind is most easily manifested by choosing the most befitting form for the article created, or the most suitable condition for the decoration applied. If a wall has to be beautified by the application of ornamental forms, the operation of intelligence in the production of the ornament will most readily be manifested by the ornament acknowledging the condition of the surface it is intended to adorn. A wall is a *flat* surface. Flatness and stability are its welcome attributes: the ornament, then, which we apply to it may appropriately be flat, and the chief lines in the composition may be energetic and rigid in order that they may manifest power, and thus convey a sense of stability and security. The flatness of the ornament tends to manifest the fact that the creator of the adornment has intelligently perceived the condition of the surface he was about to enrich: and this revelation of strength in the applied forms tells of the manner in which the most desirable nature of the wall has been understood. The ornamentist may rely upon an acknowledgment of the true qualities of an object

LEAF-BUDS FOR ORNAMENTATION.



Fig. 1, Spotted Aucuba; 2, Laurustine, or Lauristinus (*Viburnum Tinus*); 3, *Philadelphus Coronarius*; 4, *Forsythia*; 5, Privet (*Ligustrum Vulgare*).

as the best means of manifesting the exalted character of the decorator.

Plants, we say, may serve as motives or suggestions to the ornamental designer. Man is not a mere imitator; in a sense he is a creator. He can mould anew, and fashion things after the imaginations of his own mind; and he not only can produce new forms, but forms of beauty—forms such as many shall delight to contemplate. While he has power to create beautiful shapes and things of beauty, his inventive faculty is much aided by the suggestions afforded by natural objects, and especially by plants. Then to those who think with us that the true use of plants to the ornamentist is that of affording suggestions rather than models for imitation, we would offer our sketches of leaf-buds, with a view of furnishing hints for their consideration; while to those who love rather to imitate than create, we would introduce them as sketches of natural objects.

We know of no part of the plant so rich as ornamental material as the leaf-bud. Every bursting bud which we see in spring, is justly entitled to be considered as an ornamental composition, and if any part of the plant could be used as a consistent decoration without suffering material alteration, it is the leaf-bud: the most sincere advocate of the schools could scarcely be offended by its application to surfaces. In their parts leaf-buds present us with an orderly disposition, a symmetrical arrangement, a judicious distribution of quantities, a delicacy of curvature, and power of line, such as we rarely see in ornament; and not unfrequently a rich diversity of well harmonized colours makes appearance in their parts. When the plant retains its leaves through the winter, so that the leaf-buds of spring are unfolded before the leaves of the last year are shed, a very agreeable contrast is present by the darker green of the old leaves being juxtaposed to the delicate leaves of the spring foliage. In the spotted *aucuba*, or, as it is frequently though erroneously called, spotted laurel (fig. 1), this contrast occurs. The old leaves are of a full green colour, and are motley, with thickly dispersed yellow spots, while the young leafage is of a pale tint, and is spotted with white. Here, also, we have colour furnished by the scales at the base of the bud; for these are of a rich brown colour, and are very valuable in an ornamental point of view. A similar contrast is presented by the young and old foliage of the laurustine, or *laurustinus* (fig. 2), and by that of the privet (fig. 5); for, in both of these, the last year's leaves are retained till after the evolution of the next year's foliage. In some cases, the persistent leaves of the previous season become tinged with rich hues, when their "golden tints" combine with the emerald leaves of spring to produce an effect which is almost enchanting. Fig. 4 in our illustration is the bud of a species of *forsythia*, and fig. 3 that of the common garden *philadelphus*,—a bush well known under the erroneous name of *syringa*, and the flowers of which are not unfrequently mistaken by the ignorant for orange-blossoms: the plant is also known to some through the leaves having the flavour of cucumbers. Much might be written concerning leaf-buds, and much might be said to show that they are objects well fitted to minister to the wants of ornamentists; but without entering farther into their nature and *merits*, we would commend them to the notice of the designer.

ST. CUTHBERT'S CHURCH, DURHAM.

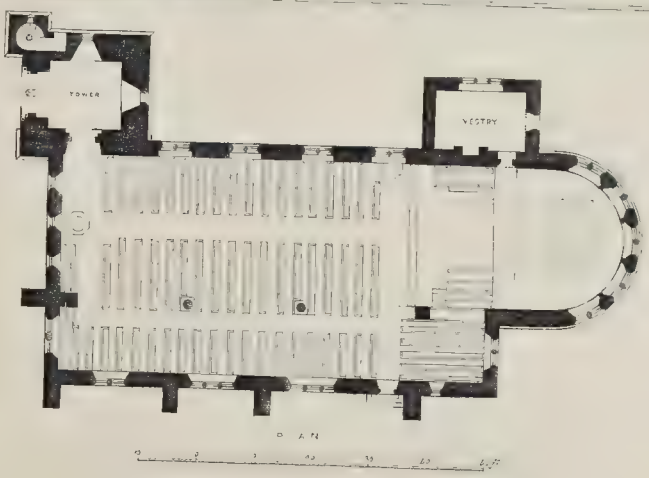
The subject of our chief cut, the new church of St. Cuthbert, Durham, has just been completed, from the designs of Mr. Robson, of that city. The type upon which its architectural features have been modelled is that of the Early thirteenth century English Gothic, modified by a tinge of French character in some of its parts. The arrangement, as will be seen by the plan, consists of a nave and south aisle, a semicircular apse to the chancel, and on the north side a projecting vestry, and at its western extremity a saddle-back capped tower. The principal entrance to the church is through a double doorway in the western face of the tower, the divisional pier of which has a niche containing a figure of the patron saint. In the tympanum above is represented "Our Lord in Majesty," within a vesica, and surrounded by the evangelistic symbols. The nave and aisle roofs are continuous; but the line of division is marked externally by a change in the system of slating, a pattern being used on the nave and chancel only. The chief feature of the west end is the large circular window, which may be described as a series of small circles, surrounding a St. Cuthbert's cross, the whole slightly recessed from the general face of the wall. The chancel and nave roofs are continuous, and surmounted by a rich metal cresting. The apse windows are coupled, with a circle under a comprising label above, which connects the whole at the level of their springing line.

The interior is wholly without plastering, the walls being of red brick, relieved by horizontal lines of black. In the chancel, a pattern in inlay cement is also introduced. The nave columns are of granite, having stone capitals. The shafts to the apse windows are of Frosterley marble. The fittings throughout are of oak, the seats being moveable, and all free. The total cost of the church has been about 3,000*l*.

The structure was to have been consecrated this week; but in consequence of some legal formalities required by the Ecclesiastical Commissioners, the Bishop has been obliged to postpone the ceremony.

Archæological Discovery at Algiers—A subterranean chamber, apparently constructed as a place of sepulchre, has just been discovered at Algiers in digging the foundations of the new college. Some handsome glass and earthenware vases were found inside. Access to the excavation was obtained by a trap fastened with a bronze lock, a ring of the same metal serving to raise it.





ST. CUTHBERT'S CHURCH, DURHAM.—Mr. Robson, Architect.

THE METROPOLITAN MAIN-DRAINAGE: WILL IT SUCCEED?

THE question of the successful result of the great works for the sewerage of London, now far one to completion, is being raised; but not exactly in the right way, we think. The *City Press*, indeed, says, that "the Metropolitan Board has grappled boldly with a gigantic nuisance, and taken measures for its eradication that pass beyond the formal boundaries of mere utility, and almost reach to the sublime;" and that "there is no other such work in England as the Main Drainage, with its several levels, pumping-stations, its reservoirs at Barking and Erith covering many acres of ground, and its fifty miles of sewers intercepting the drainage by six separate courses in both sides of the river;" but it elsewhere thinks that the scheme will simply be a very perfect system of wasting a valuable material, surpassing the eccentricities of the emperors and patricians eating the tongues of nightingales, and the brains of plovers. We are disposed to believe that the Board of Works have availed themselves of evidence on the subject of utilization of sewage, such as writers who know only that the fertilizing elements are in the sewage, cannot have taken into consideration. The real matter for discussion, pending the continued examination of the question of utilization, is whether the principle was right, of substituting small channels,—flowing, however, in one direction,—for the volume, backwards and forwards flowing, and at every tide depositing, of the Thames. That the latter condition of things is a vast evil, has been shown during the last few weeks, after a period of diminished rainfall, as it was shown about the year 1859. We need not now say that in the first instance, we considered the correctness of principle of the scheme not clearly demonstrated; whilst we were not prepared to suggest a better scheme, and even feared that the expenditure of millions might turn out to be of the nature only of experiment. Still, we are inclined to the idea that a radiating system of drainage had not been adequately considered; though that would have supposed the readiness of farmers to take the sewage, which it has not satisfactorily established that they would. Whether the Thames will be seriously diminished in volume; whether those are not right who say it can never be a clear stream; and whether in its course through the metropolis at least, it will not be purified from sewage; are matters that may rest suspended for the short time now required to arrive at the decision. We would not hazard now, a positive assertion even as to the feature of the scheme which we had doubt, namely the concentration of to channels which might become "elongated cesspools." The question respecting these, turns on the efficacy of the deodorization and disinfection by water; because, it has been asserted that water merely *spreads* the matter which is in a state of decomposition. The question of the effect of salt-water, to which we have several times referred, also is a very serious one. On some of the points our contemporary observes,—"When the tide is nearly out, the accumulated mass of fluid will be conveyed from the reservoirs to the bed of the Thames, and it is presumed that it will be carried away a distance of thirteen miles from the outlet, or about twenty-six miles from London, before the tide turns again. Thence arises another question, whether any, and how much, will ever find its way back by the stream, and so visit again the city which produced it, and work secret refuge upon the Metropolitan Board and the ratepayers who have so quietly accepted the scheme they are paying for? That is a question still, let *flotsam* and *jetsam* theorists say what they may, and time alone will settle the question whether the sewage is utterly dissipated and lost in the great volume of salt water, or whether it will form a slime on the surface, or quietly settle down in bays and coves and creeks that receive the return eddies during the flood of the tide, and there make a black mark against the engineers and the Metropolitan Board." That is to say, we may put the question; how will Gravesend be circumstanced? One thing only we assert strongly, as we asserted it some years ago when referring to the position of counties like Lancashire, namely that the system in London is not that which should be regarded as a solution of the difficulty in which towns such as Manchester, Leeds, and Birmingham, are placed. In short, is Birmingham to provide itself with a sewer to the sea? Moreover, the question must arise eventually in the case of London, between on the one hand, an appreciation by farmers, of the value of the full volume of the sewage, and on the other, the continuation of two outfall sewers down to the mouth of the Thames. Will then, the condition of places on the coast suffer, as that of certain watering-places is said to have suffered from their sewage? One thing only may be said to be probable, and the other to be plain. The first is that the Thames probably will be, at least above bridge, in a state of purity in which it has not been seen by many persons; the second is that the works executed after adoption of the principle, have been completed in a very masterly manner. They rank, as monuments, with the works of any people or race credited with grand conceptions, and skilful and laborious execution. This assertion is not ours only: it is that of engineers throughout Europe. It seems to have been suddenly discovered that the Board of Works is a body capable of doing something. As we never joined in the cry against the Board, as to the time when their works would be finished,—a cry which is in other cases too generally made in the stage of a work which is that of the arrangement of preliminaries,—we have no share in the discovery said to have been made in the House of Commons, that "common sense" had unexpectedly turned up "in the Board of Works." The productions of their engineers at least merit all the pains we can give to description of them. We commenced this description with the first preparation of the general plan, and of the drawings and specification for the Northern High-Level Sewer; and we shall in a very early number, give particulars of the latest portion, now about completion, of the plan and scheme.

A WARNING TO BELL-RINGERS.

THE following is a list of bells in London cracked by *clocking*,—that is, by hitching the rope round the flight of the clapper, that the tolling of the bell may be the more easily done by pulling the clapper to the side of the bell, instead of pulling the bell so as to make it oscillate sufficiently for the clapper to rebound and strike in its proper place with its own legitimate weight and force:—

	Bell.	Cwt.	Date.
St. Michael's, Cornhill ..	Tenor	41	—
Christ Church, Spitalfields	,,	36	—
St. Magnus, London Bridge	,,	32	1630
St. Stephen's, Coleman-st.	,,	14	1630 (?)
St. Catherine Cree, Leadenhall-street	,,	12	(?)
St. Saviour's, Southwark	11th	34	1820
,, ,,	10th	26	1840
St. Sepulchre's, Snow-hill	Tenor	32	1835
St. Olave's, Southwark ..	7th	15	— (?)
St. Leonard's, Shoreditch	Tenor	31	about 1828
,, ,,	,,	—	about 1859
St. George's East	,,	30	1820
,, ,, ...	Treble, 2nd, 4th 5th, and 7th	—	1820
St. Mary's, Islington ...	Tenor	16	1839
St. Mary's Rotherhithe ..	,,	16	1823
,, ,, ...	,,	—	about 1858
St. Mary's, Lambeth	6th and tenor	—	1840
St. James's, Clerkenwell..	4th	—	about 1840
St. Margaret's, Westminster	9th	—	1830
St. Alphage, Greenwich..	Tenor	21	1827
St. Nicholas, Deptford ..	,,	18	about 1836
West Ham, Essex	9th and tenor	28	about 1849
Cathedral, Canterbury ..	Two bells		before 1840

What a lesson and warning the above list of catastrophes, within memory, gives to parish authorities! No less than sixteen fine tenors!

H. T. E.

THE ROYAL MASONIC INSTITUTION COMPETITION.

COMPLAINTS reach us of the selection of the six designs, to the effect that "the cost of carrying out any of them would range from 11,000*l.* to 20,000*l.*" One correspondent, "Fair Play," writes:—"Now, this is manifestly an injustice to those who have endeavoured in their designs to keep as closely as possible to the amount originally intended to be spent, viz.—8,000*l.* Of course, it is easy to design a better building for 20,000*l.* than for 8,000*l.*; therefore, if the committee intend that a building should be erected at a cost of 20,000*l.*, they ought to throw it open to another competition, or at all events award the prizes to the best of those whose estimates do not greatly exceed the amount previously stated." In reply to special inquiry, the secretary writes:—"I have simply to state that the terms of the advertisement asking for designs for a new school-house were, as regards cost, as follow:—'The sum proposed to be expended is 8,000*l.*' No other statement, oral or written, was made to any gentleman applying for instructions." It would be *fair play* on the part of any committee having only a particular amount, but not wishing to be precluded from considering designs whose very merit might help to procure further sums, if such committee would distinctly *reserve* the right to decide any way that might turn out to be desirable. The manner of conducting the business might then be not discreditable to them. The objects of all parties would be advanced: the committee would obtain what they wanted by fair means or not at all; and the efforts of the profession in regard to competitors would sooner bring the competition question to a satisfactory state.

THE SOCIETY OF ARTS' MEMORIAL OF THE PRINCE CONSORT.

THE Society of Arts are inviting additional subscriptions to their Memorial of the Prince Consort, the money to be applied in the completion of the decoration of their great room in harmony with what was the original intention of James Barry.

In Barry's design the spaces at the end of the room, where the portraits of Lords Romney and Folkestone are now placed, were to have been filled—one with a portrait of George III., and the other with a group representing Queen Charlotte superintending the education of her family at Windsor Castle. Barry did not live to complete these pictures, but his intentions were accurately recorded in his own etchings.

It is now proposed to fill the spaces intended to have been thus occupied, with two pictures executed by distinguished artists in harmony with Barry's intentions, one to represent the Prince Consort holding in his hand the Charter of Incorporation of the Exhibition of 1851; and the other—the Queen, surrounded by the Royal Family at Windsor.

The Council have ascertained that the pictures and the bust would cost about 750*l.*, of which amount 683*l.* 4*s.* 6*d.* are already obtained.

The Council recommend that the bust be executed by Mr. Theed; and the pictures one by Mr. Cope, R.A., and the other by Mr. Horsley, A.R.A.

SCHOOL-BUILDING NEWS.

Pangbourne (*Berks*).—The schools are being rebuilt and enlarged under the superintendence of Mr. Woodman, architect.

Salisbury.—St. Thomas's new schools have been opened. The edifice is from a design, Gothic, by Mr. Slater.

Bridgend (*Cardiff*).—The new Wesleyan day-school, which has been recently erected on ground adjacent to the Wesleyan chapel here, has been opened. The erection was commenced in August of last year. The principal room measures 50 feet by 23 feet, and is fitted up with gallery and desks, &c. There are also two class-rooms, one 23 feet by 15 feet, and the other 15 feet by 13 feet, and the school is capable of accommodating 200 children. The entire cost is defrayed by Mr. P. Price, who erects it in memory of his late brother.

Kirkham (*Lancashire*).—The chief stone of an independent school has been laid here. The site is at Westhampton, a new town in the township of Wesham, adjoining that of Kirkham. The tenders for the whole erection are not yet sent in. The building is to be Gothic in character, and arranged to answer the purposes of a day and Sunday school, and mission chapel (capable of holding 350 persons), and convenience for library and reading-room is also provided, the whole to be built with red and black bricks. No ornamentation will be observable in the erection beyond what is attainable with the aid of stone dressings. The principal feature is to be a low slated tower, giving entrance to the main building and class-room, another entrance being provided at the extreme end of the building. The former, which contains the school-room, is 55 feet by 30 feet, and communicates with the latter, which is 19 feet by 13 feet 6 inches, and is intended to be used as a vestry during the time of Divine worship. In the principal entrance is the staircase leading to the library, which is so arranged, with the class-room underneath and other conveniences, as to be capable of being used as a "village club" or reading-room. This the promoter is desirous of encouraging, and that portion of the building is capable of being used independently of the school-room. This latter is lighted with twenty-four coupled windows and six gablets fixed in the main roof; and is divided into five bays, with wood principals springing from stone brackets. The roof is not entirely open to the ridge, the upper part being ceiled, thus leaving a space for ventilation. The height to the top of the wall plate is 14 feet, and to the centre of the

ceiling 26 feet. Under the class-room is to be erected apparatus for warming the school-room with hot water, and here also is a place for preparing tea on occasions of social gatherings. The architects are Messrs. Speakman & Charlesworth, of Manchester, under whose directions the work will be carried out.

Derby.—The Ven. Thomas Hill, Archdeacon of Derby, has laid the foundation-stone of the chapel-school, about to be erected at Rose-hill, in the hamlet of Litchurch, in the vicarage of St. Peter's. The building will comprise a lower school and an upper room where the services of the church will be regularly performed. The building will contain two rooms, 55 feet in length and 20 feet in width, each capable of accommodating about 120 children, or if used for Divine worship, will seat 200 persons. A separate entrance is to be provided for each room, that to the lower room being at the west end. The upper room will be approached from the entrance in Madeley-street, formed in a tower, containing a stone staircase. The external walls are to be of pressed red bricks, relieved with blue brick bands and stone dressings. The building will be plain in appearance, and in the Early English style of architecture. The total cost will be about 1,000*l.*, exclusive of the site. The architects are Messrs. Giles & Brookhouse, and the builders Messrs. Thompson & Fryer, Derby.

CHURCH-BUILDING NEWS.

Wickhambrook (*Suffolk*).—The restorations of Wickhambrook church (as far as the funds would admit) are now complete. The new window at the west end contains three Scripture subjects, which were presented by Mr. Chas. Shave, viz., "The Last Supper," "The Resurrection," and "Ascension of our Saviour." All the arches have been repaired and cleaned, and the roof has been stained. A great deal more needs to be done, as the old floor and unsightly pews and benches do not at all agree with the restored parts.

Sproughton (*Suffolk*). — Sproughton is one of the small outlying parishes near Ipswich. For some weeks the church has been closed for renovation; and, the works having been brought to a close, the edifice has been re-opened. Internally, considerable improvement has been effected. The old seats and flooring in the nave and aisles have been removed, and new oak benches, with carved poppy-heads, substituted, about sixty additional sittings being gained by the re-arrangement. The benches in the chancel served as an example for the new ones in the nave, which are so placed as to interfere as little as possible with the stone piers. The square tower is open to the church, and across it run a gallery and a floor for the ringers. The pulpit, reading-desk, and lectern are new. They are all of oak; the panels of the former being carved. These were the gift of Mrs. Gould, of Ixworth, widow of the late rector. The font was presented by Miss Woodward. The roof has been repaired, stained, and varnished; and the walls stripped of the old plastering and made good with new. These improvements should form the commencement of a thorough restoration extending to the exterior. Provision is made for warming the church by Haden's hot-air apparatus. The works, which were carried out according to plans by Mr. Barnes, architect, Ipswich, and executed in the village, cost about 570*l.*, which were raised by the landowners and principal parishioners.

Lindsell (*Essex*).—Lindsell church, an ancient building, had, by the course of time, become dilapidated, and has recently been restored. The old high pews have been taken away, and benches substituted. The walls, which in several instances were awry, have been made straight, upright, and stuccoed. The old gallery at the west end has been removed, and a light and airy gallery erected over the south chapel, to accommodate eighty school children. The roof has been repaired, and stained with oak colour and varnished; a new priest's door inserted to harmonize with the character of the building; and the space formerly occupied by the staircase to the old gallery now forms a secluded vestry. The glazing and stone-work of the east window are new, of cathedral and Mediæval glass, having the sacred monogram in the centre of each compartment, with a narrow border of floriated maroon colour throughout. The smaller Gothic windows also on the north and south sides of the chancel are of coloured glazing; and the benching north of the communion-table gains some sittings. A feature of the interior of this church is the squint on the south side of the Norman arch, separating the nave and chancel.

Cheveley (*Newmarket*).—It had been rumoured that the tower of this village church, which is supported upon four groups of pillars and arches, was in an unsafe condition, and at the last annual visitation the rural dean pronounced it to be in a dangerous state, and advised the churchwardens to prohibit public ringing of the bells. This opinion was lightly thought of by many of the oldest inhabitants, who described the condition of the tower to have been the same upwards of fifty years ago as it is at the present time. However, to satisfy all parties, the churchwardens called to their aid the services of Mr. J. F. Clark, of Newmarket, architect, who reported that the tower was nowise in a dangerous state, but that certain alterations and repairs were necessary for the preservation of the edifice. A meeting of the parishioners to consider the matter was held; but, failing to arrive at a decisive conclusion, it has been adjourned.

Nottingham.—The Church of St. Nicholas, which has been closed for the purpose of making alterations and repairs, has been re-opened. The galleries have been taken down, and the organ removed from the west end of the church to a recess prepared for its reception on the north side of the chancel. The old high-backed pews have been formed into uniform ranges of open seats. The chancel has been cleared of its former incumbrances, and fitted up with stalls for the choristers and a prayer-desk; and a lectern has been introduced.

Clapton (*Northants*).—A new parish church for this village has been consecrated. The old church of Clapton was a plain structure, which formerly had a spire, which was used as a sea-mark on the Lincolnshire coast. Many years since, however, it was struck with lightning, and was pulled down. Some years since the interior of the church was repaired. Having, however, fallen into a dilapidated and dangerous state, it was determined to pull it down, and to build a new church on a more convenient site. Remonstrances to the proposed plan were made by archæologists and antiquaries; but it was urged that the church was not safe, and could only have been restored at a much greater expense than the cost of building a new one. The church had already been tied up, but the foundations had given way. In fact, the building was completely honeycombed with intramural interments. Under these circumstances it was determined that a new church should be built on a more convenient site, about 400 or 500 yards from the old one; and, with a liberality worthy of the best ages of the Church, the rector and the lord of the manor took upon themselves the whole cost of the erection. The foundation-stone of the new church was laid on the 3rd of July, last year. The new edifice has been raised principally of the stone from the old church; the window-dressings, tracery, quoins, &c., and all pillars and arch-stones, having been used again, with as little work on them as possible; the walls, with facings, being all of irregular courses, and the whole being kept as near as possible to the spirit of the mother church, which is supposed to date back from about the middle of the twelfth century. Time, however, seems to have had little effect upon the stone of which the old church was built, the arrises being as sharp when taken down as ever. The arrangement consists of nave, chancel, with north aisle and vestry, south porch, and west tower, with turret-stairs to bell-ringers' gallery, and belfry stage surmounted by saddle-back roof. The whole of the roofs are wrought, framed, and chamfered, and open to the ridges, and covered with brown Brosley tiles. The church is seated with open benches, and will afford accommodation to about 180 (130 adults, 50 children). Under the arch, between chancel and vestry, is placed a small organ, by Mr. Holditch. Mr. Armstrong was the architect; and the general contractor, Mr. John Eaton, of Titchmarsh. The passages of nave, aisles, &c., have been laid with black and red Minton's tiles; the lower level of chancel with ornamental tiles in pattern; and the space within the altar-rails with more ornamental tiles. Most of the windows in the church have been filled with painted glass. The four-light east window is of painted glass, from the studio of Messrs. Lavers & Barraud, of London, and illustrates in the tracery our Lord in Majesty, surrounded by angels: the top row of lights illustrates the Nativity, Baptism, Crucifixion, and Resurrection of our Lord: the middle row contains figures of the four Evangelists; and the bottom row the following four subjects from the life of St. Peter, to whom the church is dedicated, viz.;—St. Peter walking on the Waves; Our Lord's Charge to St. Peter; St. Peter released from Prison; St. Peter's Martyrdom. The west window is a figure of St. Peter, with the keys. The other windows are of simple grisaille and quarries, with coloured borders. Provision has been made for ventilation by means of openings above the wall-plates, covered by board flaps.

Waltham (*Berks*).—A new vestry to Waltham Church is to be built, and the church is to be heated and otherwise improved under the direction of Mr. Woodman, architect.

Whitley (*Berks*).—An organ has been erected in Christ Church, Whitley, at a cost of upwards of 400*l.*, of which sum about 300*l.* have been subscribed. The organ, which was built by Mr. Henry Jones, of Fulham-road, was exhibited in the International Exhibition, where it obtained the jury award for power and tone. The instrument consists of three complete sets of manuals, each extending from CC to G, 56 notes; and a pedal organ CCC to F, 30 notes. The whole of the metal pipes are of spotted metal, and the wood pipes in great organ of mahogany.

Aldershott.—The new church of St. George, erected opposite the Centre-road Permanent Barracks, was to be consecrated on the 30th July, by the Bishop of Winchester. The Secretary of State for War and other high personages were to be present on the occasion.

Shamley Green.—The foundation stone of a new church at Shamley Green, in the parish of Winersh, was recently laid by Archdeacon Utterton. Mr. Howell, of Lancaster-place, is the architect; and Mr. Mitchell, of Shalford, the builder.

Nympsfield (*Gloucestershire*).—The church of this parish has been rebuilt and consecrated. It stands in one of the coombs or hollows of the Cotswolds. The architecture is Early English. The building is approached through a lych-gate, rendered more picturesque from being seen in combination with some large yew trees which shade the churchyard. The old ivy-clad tower, Decorated in style, has been preserved; but the body of the church is new, the old walls having become so dilapidated as to be past repairing. It consists of a nave, a north aisle, an organ chamber on the south side of the chancel, and a north porch placed at the western end of the aisle. The interior is divided by an arcade of three bays; and the chancel opens through an arch resting on corbels. The nave is covered with a barrel roof, and the chancel with a panelled roof of stained wood. The windows of the nave and aisle are of two lights: they are ornamented by plate tracery, which becomes more elaborate in the chancel window, which has three lights. The benches, reading-desk, and pulpit are of oak. The embellishments of the interior are few and simple: on the walls of the chancel are emblazoned some of the verses of Christ's sermon on the Mount, commencing "Blessed are the poor;" and on the walls of the nave are the Commandments. Only one of the windows is painted: this is a memorial of a child, son of Mr. G. C. Hayward, and illustrates our Redeemer's words, "Suffer little children to come unto me:" the glass of the others is merely tinted. The architect, Mr. Teulon, deduced the style from an old window in the chancel, and it harmonises with the site. Mr. Whitfield, of Wotton-under-Edge, was the builder; and what little carving it contains has been executed by Earp. The organ has been built by Mr. Vowles, of Bristol.

Bunbury (*Cheshire*).—The restoration of the parish church has been determined upon at a vestry meeting, when the plans of Messrs. Pennington & Bridgen, architects, were unanimously adopted.

Liverpool.—At a meeting of the Workhouse Committee of the Town Council tenders for the erection of the new church were received. Six tenders were opened, the highest being 3,850*l.*, and the lowest 3,340*l.* The latter, being that of Mr. Hughes, was accepted. The work is to be completed in six months.

Startforth (*Yorkshire*).—A new church has been consecrated here. A bequest of 360*l.* from the late Misses Feilding, of Barnard Castle, towards the erection of a new church, led to the building of the edifice, the estimated expense of which was 1,700*l.* After an open competition, the plan of Messrs. Hay, architects, Liverpool, was selected as the most suitable; and the tender for building made by Messrs. Borrowdale, of Barnard Castle was accepted. The new church is of much larger dimensions than the old one, and extends northwards and westwards over the old site. The chancel is 25 feet by 20 feet, nave 54 feet by 24 feet, and south porch 8 feet by 8 feet. The tower is 14 feet square and 90 feet high, with angle buttresses, and angle stair turret to west gallery and belfry. Buttresses divide the nave into three bays, lighted by double lancets, with pier between. Two lancets light the chancel on

e south side, and a traceried window of three hts fills up the east gable. The roofs are high ched, covered with green Westmoreland slates, d open in the interior to the ridge, having the ain principals constructed of laminated arches, d the intermediate ones with cross-braces. The ancel roof is boarded and planted with moulded s, and all the woodwork exposed to view is ined and varnished. A stone archway divides e chancel and nave, and an altar-rail marks off e sacrarium, in the centre of which, upon a dais, nds the communion-table. Open benches of iltic fir, with kneelings for 200 worshippers, are vided in the nave, and 26 in the chancel. ildren's seats are placed in the tower gallery, front seat of which, 4 feet wide, extending ht across the west end of the church, is set rt for the choir. The exterior is built of ked and squared rubble, from the Spital quar- , and the dressings are of polished stone. ose headstones which stood in the way of build- operations, or would be liable to injury, were mbered and registered, so that after the works e completed they were replaced in their origi- position. The same was done with the incised in the chancel over the remains of Sir Thomas Bland and lady, and those over the family t of the Feildings and others. The church- l has also been enlarged by the purchase of adjoining. A lych-gate has been erected at main entrance.

Hunstanworth.—Amongst the alterations and rovements effected on the estates of the Rev. Capper, of Huntly, Gloucestershire, and of biggen Hall, Northumberland, is the building new church and village at Hunstanworth. old church, although rebuilt in 1711, was not dilapidated state, yet Mr. Capper determined s demolition, and replacing it by a larger one. village of Hunstanworth, too, he has re-erected. onsists of a number of cottages and parsonage- e, the old buildings having been demolished. new village now presents a picturesque ap- ance. The works were commenced in the h of March last year, and have just been pleted, solely at the expense of the rev. gen- an, and costing upwards of 14,000*l.* The church has been consecrated by the Lord p of Durham. The edifice is, as well as the buildings, of Early English style, built of led freestone, with plate tracery windows, as a tower 80 feet high, with steep Pointed surmounted with gilt cardinals and cock. In terior the roof is open, and the apse part has wn-like form. The windows to the apse are with stained glass, having six lights, illus- e of the life of our Lord, surmounted by quatrefoil lights of the Crucifixion, and s of the Virgin and the disciple John. The ws in the nave are partly coloured glass, in trical glazing, the whole of the glass having supplied by Messrs. Lavers & Barraud, of n. The pulpit is made of cleansed stone; s carving, representing natural foliage, has executed by Mr. McCulloch, a pupil of Mr. ecclesiastical carver, London. The whole seats are open and free, to hold 300 persons. ifice contains nave, north aisle, with vestry gan chamber, and tower at the east end of rth aisle, with an apsidal chancel, sedilia, adence niche. The floor, except under the s tile-paved. The whole have been executed lesigns supplied by Mr. S. S. Teulon, of ; and carried out under the personal direc- f the contractor, Mr. J. Howes, of Hingham, .

NTING CHAPELS AND CHURCHES.

Beth.—The foundation-stone of a new in connexion with the Baptist denomina- the course of erection in Barkham-terrace, h-road, has been laid, in the presence of a semblage, by Sir Morton Peto, bart., M.P. pel is for the accommodation of the con- on recently worshipping in Church-street, iars-road, but who were obliged to make railway extension, and have obtained from adon, Chatham, and Dover Railway Com- sum sufficient to enable them to erect a nd minister's house as large as those which en demolished. The building will be of alian character, the front being of white brick, with the columns and architectural of Portland stone. The only carved de- s will be the filling in of the arch on the t with an open book, palm branches, and ending dove. The interior dimensions 45 feet by 67 feet, and the building will about 800, together with about 180 chil- n the basement there will be a lecture-hall or school-room, with four class-rooms; and at the rear of the building will be vestry, minister's room, committee-room, and rooms for the chapel keeper. Mr. J. E. Goodchild is the architect, and the contractors are Messrs. Jackson & Shaw. The contract price, including the dwelling-house for the minister, is 4,780*l.*

Eastbourne.—A new congregational or Independent chapel has been erected at Eastbourne. The church (as it is called) is built in Pevensey-road, and is a Gothic structure. A spire is intended, but is delayed. The architect was Mr. Searle, of London; and Mr. Peerless, of Eastbourne, was the builder. The present sittings are calculated to hold 400 persons, and the building is so constructed that galleries can be erected at any time, and further accommodation be obtained for 400 more if need be. The arched roof, rafters, and pews are deal, stained and varnished. One defect became manifest during the opening service; namely, a difficulty for those sitting near the doors to hear the speakers on the platform; but, perhaps, a sounding-board, or some other means, can be devised to remedy this evil. Next to the chapel, and betwixt it and the minister's house (now in course of building), is to be erected a school-room.

Shipley (Sussex).—The foundation-stone of a Wesleyan Reformers' Chapel has been laid at Shipley. The size of the edifice will be twenty yards by sixteen, and it will afford sitting accommodation to about 500 persons. The estimated cost is about 1,400*l.*

Astwood.—The foundation-stone of a new Wesleyan Chapel has been laid here by Mr. Naish, of Birmingham. The chapel will be built from plans drawn by Mr. A. Smallwood, of Redditch, and will be in the Italian style, capable of seating 250 persons. The length is 36 feet, width 27 feet, being built with red brick, relieved with white and blue. There will be three lights on each side. The total cost is about 260*l.*, which sum is nearly raised. Mr. S. Scriven, of Crabb's Cross, is the builder.

Wellingborough.—Cheese-lane chapel, which has for the last seven months been undergoing extensive alterations and repairs, has been re-opened. The chapel, which is now capable of accommodating about 400 persons, is one of the oldest dissenting places of worship in the towns having been erected somewhere about 200 year, ago. Like nearly all dissenting chapels erected in the earliest days of dissent, it is characterized by an entire absence of outward decoration, and by an appearance of solidity and stability. Until the alterations and repairs, the interior, being of a very primitive character, was quite in keeping with the exterior. The entire cost of the repairs amounts to 790*l.* 18*s.* 11*d.* The architect was Mr. Sharman, of Wellingborough. The woodwork was executed by Mr. Leete, and the masonry by Mr. Rivett. Mr. Perkins did the painting, plumbing and glazing. The interior of the chapel now looks entirely new. In the centre of the middle gallery a new organ has been erected by Mr. Tristram, of Bedford, at a cost of 60*l.*

Wolverhampton.—The Wesleyan Free Church, situate in Cleveland-street, has been lately purchased by the church and congregation worshipping therein, for the sum of 650*l.* It is now in the hands of a number of masons and carpenters, and various alterations are being effected. The entire length of the building has been increased by about 9 feet, and two vestries and a gallery have been added. The front elevation has been pierced in the centre over the door, and a small circular plain glass window inserted. In the left-hand side another window has been placed. Internally the chapel will be completely renovated. The entire cost of the improvements is estimated at about 250*l.*

West Bromwich.—The foundation-stone of a new Wesleyan School Chapel has been laid at Carter's-green, by the Rev. W. M. Punshon. Mr. S. Loxon is the architect, and the builders are Messrs. Stockton & Field.

Dursley.—The building of the new Wesleyan chapel here has been intrusted to Mr. E. Bloodworth, builder, Dursley, his estimate being 1,396*l.* 10*s.* The estimate given in by Messrs. Cox & Riff, of Nailsworth, was 1,525*l.*, and that of Messrs. Cullis & Son, of Gloucester, 1,409*l.* 10*s.* Considerable delay has been occasioned in commencing operations, on account of the tenders being in excess of the intended outlay. The estimates then were as follows:—Harries, of Bristol, 2,409*l.*; Godwin, Dursley, 2,045*l.*; Cox & Riff, Nailsworth, 1,897*l.*; Jackson, Uley, 1,835*l.*; Bloodworth, Dursley, 1,765*l.*; Cullis & Son, Gloucester, 1,680*l.*

Newcastle (Staffordshire).—The organ built for the Wesleyan chapel by Mr. Postill, of York, at a cost of about 360*l.*, has been opened by Mr. Best, the organist of St. George's Hall, Liverpool. The case, which is of pitch pine, was designed by Mr. H. Green, of Penkhull, and is adapted to the architecture of the chapel. The decoration of the front pipes of the organ was by Mr. Worthington, of York, under the superintendence of Mr. H. Green.

Plymouth.—A public meeting has been held at the Wesleyan chapel, Edgcumbe-street, Stonehouse, for the purpose of formally announcing the project of building a large Wesleyan chapel at the Barley Estate, Plymouth, at a cost of about 8,000*l.*

Neath.—A new Welsh Baptist chapel has been opened at Neath. The interior of the building is decorated. A gallery runs round three sides, supported by seven iron pillars, whose capitals are gilded. The front of the gallery is of open cast-iron work. There is a platform instead of the old pulpit. The whole is lighted by windows of stained glass.

Mold (Flintshire).—The foundation stone of the new Welsh Presbyterian church, which is being erected on the site of the old chapel here, has been laid. The style adopted for the building is Grecian, modified in character, of the Corinthian order. The façade consists of a portico of four columns, within the double recess of which are the entrances to the church. Recessed wings on either side contain the gallery staircases and lobbies. The church is 55 feet by 41 feet, by 28 feet high in the clear, with galleries to three sides, and will contain from 800 to 900 sittings. A school-room to contain 200 children is provided at the rear of the church. An arched recess is designed for the pulpit, with a staircase from the vestry. The side and end walls will be constructed of the local rubble stone; the front of dressed stone, from Moss Quarry, near Wrexham. The total estimated cost, including heating-chamber and boundary-walls, railing, &c., is 2,800*l.* The architect is Mr. W. W. Gwyther, of London; and the builder, Mr. Thomas Hughes, Aldford, Chester. —— Tenders have been received for the erection of the Free Church at Mold, and the building will shortly be commenced. The church will contain from 300 to 400 sittings, and will be 50 feet by 32 feet in internal dimensions. The style will be Early English; with chancel and vestry at east end and small bell turret to west front. The total estimated cost is 1,100*l.* Mr. W. W. Gwyther is the architect.

Egremont (Liverpool).—The new United Presbyterian Church at Egremont has been opened. This new edifice presents a front of Stourton stone, polished, with a portico of six pillars, 22 feet high, supporting an entablature and pediment. A vestry, and large room for meetings, 20 feet by 12, are placed at the east end of the church. The church inside measures 70 feet by 50 feet, and has sittings for upwards of 500, and a gallery across the west end with further accommodation for upwards of 200 more. It is divided by nave and aisles, having iron pillars 22 feet high supporting the ceiling. The building has been erected from designs of Messrs. W. & J. Hay, architects. The contract has been finished without any extra work; and the total cost of the building will be about 3,000*l.*

STAINED GLASS.

Peterborough Cathedral.—A new memorial window has been placed in the south transept of this cathedral in memory of the late Rev. P. Edmunds, for many years rector of Mablethorpe and Theddlethorpe, in the county of Lincoln. It is the work of Mr. Gibbs, of London.

Ringwood Church.—We regret to learn, says a Hampshire comtemporary, that, in consequence of the illiberal spirit in which the Provost and Fellows of King's College, Cambridge, have received the proposal of Mr. Morant's family, to fill the east window of the chancel of Ringwood Church with stained glass, to the memory of the late Mr. Morant, they have been obliged, reluctantly, to withdraw it, as the terms dictated to them would have completely deprived the window of all memorial character. Thus this work of art (the production of Mr. Hardman, of Birmingham) is lost to the parish of Ringwood.

Chester Cathedral.—Two stained-glass memorial windows have just been put up in this cathedral. One is to the memory of the wife of the Rev. F. Anson, D.D., the Dean of Chester. It was supplied by Messrs. Clayton & Bell, of London, and amongst the subjects represented are "The Salutation," "The Adoration," "Our Lord with Martha and Mary," "Peter raising Dorcas,"

"The Angel and Zacharias," "The Annunciation," "Anointing our Lord," and "Clothing the Naked." The other window, which is to the memory of some of the members of the Massey family, of Moston Hall, near Chester, was supplied by Messrs. Heaton, Butler, & Bayne, of London. The principal subjects are "Mary at the Feet of our Lord," and "The Resurrection of Lazarus." Beneath these are smaller subjects, namely, "Jairus's Daughter," "The Widow of Nain," "Paul raising Eutychus," and "Peter raising Dorcas." In the tracery is the "General Resurrection." The window is the gift of Mrs. Massey, of Moston Hall. The stonework of the windows was executed by Mr. W. Haswell, of the Kale-yards, Chester, who has done most of the modern stonework in this cathedral.

St. Mary's, Whickham (Cumberland). — The west or tower window, consisting of three compartments, with tracery quatrefoils above, has recently been filled with stained glass, in memory of the late Miss Jeffery. The subject is a large pictorial group of the Ascension: the upper portion of the principal compartments are filled with numerous angels, some playing instruments, others holding scrolls, on which is written—"He is the King of Glory, and He shall reign for ever and ever." In the tracery are also angels bearing emblems of Faith, Hope, and Charity, with suitable texts. The window has been erected by Mr. T. B. Jeffery, of Whickham Lodge, and is the work of Mr. H. M. Barnett, of Newcastle-on-Tyne. There are other two memorial windows by this artist, which have also been erected since the restoration of the church last year.

NEWS FROM SCOTLAND.

Edinburgh.—New Roman Catholic schools and houses have been recently commenced in Potter-lane, for the Rev. Dr. Gillis. The works are simple, and of an extremely inexpensive character. The building is being constructed of Craigleith stone, with local stone dressings. The contract has been taken by Mr. Robert Hutchinson, of Edinburgh, and amounts to 1,826*l.* The works are from the designs of Mr. E. Welby Pugin.

Glasgow.—An addition has just been made to the monuments in the Cathedral. The inscription explains its object to be "In memory of Robert Burn Anderson, Lieutenant 1st Bombay Fusiliers, Brigade-Major Hodson's Horse, Adjutant Fane's Horse: born in Glasgow, 14th October, 1833; died in China, 27th September, 1860." The entire monument includes a painted window, a bronze trophy, and an engraved brass, suggested and sketched by Mr. C. Heath Wilson. The window contains two figures; one of "Our Lord," with the text, "Well done, good and faithful servant;" and one of St. John, with the text, "God shall wipe away all tears;" whilst in the quatrefoil above, an angel bears on a scroll the words, "This mortal shall put on immortality." This window is the work of Mr. H. Hughes, of London. On the sill of the window rests the bronze trophy consisting of the armorial bearings, mantle, sword, mailed gloves, and spurs of the deceased soldier. A laurel wreath is placed in front. This work was modelled by Mr. Robert Jackson, sculptor, London. We hear that three painted windows are on the way, one of them the gift of the Incorporation of Coopers of Glasgow.

Portobello (near Edinburgh). — About three years ago a scheme was set on foot for the organization of a joint-stock company with the view to the erection of a public hall in Portobello, the Brighton of Edinburgh. So favourably was the matter received that nearly 2,000*l.* of the entire capital of 3,000*l.* was subscribed within a month. Considerable difficulty was experienced in obtaining a suitable site, but ultimately one of the best situations in the town, near the centre of the High-street, was secured, and the erection forthwith commenced, according to plans furnished by Mr. Bryce, senior, architect, Edinburgh. The building is four stories in height, one of which is below the level of the street, and contains cellars, store-rooms, three police cells, and a dwelling-house of three rooms for the Sergeant of Police. On the street floor are three shops, one of which is double; a police office, and superintendent's room. In the centre of the front is the entrance to the hall, which is situate on the first floor, and is reached by a flight of broad stairs guarded by an oak hand-rail on cast-iron balustrades. The hall is a very plain apartment, 50 feet in length by 30 feet in breadth, occupying the full height of two stories, and lighted by two rows of windows to the front. In the side opposite the windows an orchestra has been erected above the entrance door. At night the building will be illuminated by three large sun-lights.

Midcalder.—The interior of the parish church of Midcalder has long been dilapidated; but lately a sum of 1,800*l.* was raised for its restoration and extension. The extension is in the form of a transept, 60 feet long by 23 feet wide, and is already raised to half its destined height, the work having been begun on the 8th of April. The windows in the south and north gables are to be 18 feet 6 inches in height, and 9 feet 6 inches wide, divided by three mullions, and fitted in above with tracery. In the west gable there will be a Catherine-wheel window in the centre, and a two-light arched window on each side. The church was seated for about 500; and when the work in progress is finished, it will only add some seventy sittings. But the unseemly gallery, which marred and hid the proportions of the interior, has been finally removed. The builder is Mr. W. Robertson, of Mid-Calder. There is to be entirely new seating in the form of open pews, shaped in harmony with the whole Gothic details. This part of the work is to be committed to Mr. James Wood, joiner, South Queensferry. Messrs. Thin & Miller, Edinburgh, are to be the plasterers: to them is entrusted the finishing of the groined ceiling, "conforme to Sanct Anthonies yle in Sanct Giles Kirk."

Whitburn. — Mr. Angus Kennedy is anxious that we should correct the notice of the water-works, which we took from the *Falkirk Herald*. He was not the contractor, but the engineer. The contractors were Mr. Robert Whitelaw, Neilston, for the digging, and the late Bathgate Foundry Company for the piping. The party who finished their contract got the pipes from the Shotts, and the wells and fire-plugs from Thomas Leadbetter & Co., Glasgow.

Inverleithen (Peeblesshire).—At a meeting of heritors of this parish, Mr. Blackwood proposed a resolution to the effect that in respect it appears that the parish church is old; and, from the reports of Messrs. Bryce & Macgibbon, that it is unsafe and uncomfortable, and cannot be repaired and rendered safe and comfortable without an expenditure of 466*l.*, while from the said reports it also appears that a new church fit for affording the same accommodation as the present could be put up for 640*l.*; that a new church should be erected; and that a remit be made to a committee to arrange with the Presbytery as to the accommodation to be provided; to obtain a plan and specification, and the probable estimate of the expense; and to get all the heritors to agree as to the site and the manner in which the cost should be borne; and that the committee report to a future meeting before proceeding further. Mr. Wm. Chambers, of Glenormiston, in supporting the resolution, said that he had read the report of the architect and builder, of the correctness of whose opinions as to the insufficiency of the church there could be no doubt, for any one had only to use his senses in order to see that the building was not only ruinous or nearly so, but was quite inadequate to accommodate the usual congregation. It was clear that a new parish church ought to be erected,—not however, on the present awkward site, but in the village, amidst the greater part of the population. Mr. Stewart, representative of the Earl of Traquair's trustees, moved an amendment;—"That the meeting find, from the reports of the architect and builder, that the church is not incapable of being repaired and rendered safe; and therefore that the clerk be requested to communicate with Messrs. Bryce & Macgibbon to ascertain whether the church cannot be sufficiently repaired at a smaller cost than reported, and without reducing the number of sittings at present existing, having reference to their statement that they contemplated the whole of the interior fittings of the church should be renewed, while the sittings were not in a state of decay." On a division, the motion of Mr. Blackwood was carried by 12 to 4.

Moffat.—The new United Presbyterian Church here has been opened. The building is Middle Pointed, with nave and aisle. A tower at the south-west angle supports a spire, which is seen at a great distance from almost all points in the vicinity of Moffat. The builder was Mr. John Murray, of Keylapark, near Moffat; and the architects were Messrs. W. & J. Hay, of Liverpool. The church is seated for 700.

Hawick.—There is now every prospect of the long-delayed Exchange buildings going on immediately. The building has been let to Mr. Adam Laidlaw, and the joiner work to Mr. Martin, both of this place. Three of the estimates for the joiner work were exactly the same sum, viz., 1,800*l.*; and on the second competition Mr. Martin was successful. The contract for excavating 1,400 square yards of rock from the bed of the Slitrig below the proposed building, was let to Mr. Thomas Turnbull.

Dumfries.—The subject of court-house accommodation here is at present exciting attention. Plans have been obtained from Mr. Rhind, architect, and forwarded for approval to the Government. The Treasury have written to the local commissioners of supply, saying:—"Their lordships observe in the plans for a new Sheriff Court-house for the county of Dumfries, that several apartments are included, for the cost of which the public are not liable under the terms of the Sheriff Court-house Act. These are, in plan No. 1, three police apartments, small staircase, water-closet, coal-cellar and passage, and safe for county records. In plan No. 2, chief constable's room, and room for the clerk of supply. In plan No. 3, room for commissioners of supply. In plan No. 4, valuator's room, justice of peace clerk's room, and commissary clerk's room. In respect to these their lordships must require that, when the building has been completed, the cost of such apartments, as well as the proportion of the value of the site not included under the Sheriff Court-house Act, shall be ascertained by valuators mutually chosen, and that the amount thereof shall be deducted from the total cost of the building before one-half of the remainder is paid by Government. Subject to these observations, their lordships are pleased to signify their approval under the 11th section of the Act, of the plans and specifications, and of the estimate of 9,093*l.* 8s. 10d., being 7,791*l.* 15s. 6d. for tenders received from tradesmen, and 1,301*l.* 13s. 4d. for cost of site, gas-pipes, architect's commission, and salary of clerk of the works.—F. Peel." The commissioners have communicated with their architect and are endeavouring to induce the Treasury to reconsider their decision.

Linlithgow.—The chief stone of the new court-houses and police buildings at Linlithgow has been laid, with Masonic honours, by Sir Alexander Charles Gibson Maitland, Bart., of Cliftonhall, P.G.M. The erection of this edifice has been rendered necessary in consequence of the defective court-accommodation afforded in the Town Buildings, and has been constructed at the joint expense of Government and the county assessment under the Court-houses Accommodation Act. The site of the building is upon a piece of ground between the prison and the High-street; and the house from which the Regent Moray was shot was among the number taken down to afford sufficient space for the erection. The style is composite, embracing, we believe, a mixture of the Scotch baronial and English manor-house. The architects are Messrs. Brown & Wardrop, of Edinburgh. The corners, lintels, rybets, and windows are completed in droved work, the stones being grained of a bluish shade from the new quarry at Craigton, and the body of the building has been erected with yellow stones from Brighton Quarry, near Polmont. The work was commenced in February last, and is nearly ready for roofing. The estimated cost is 6,800*l.* The contractors are,—Mason, Mr. A. Henderson, Dean of Guild, Linlithgow; joiner and carpenter, Mr. J. Lander, Linlithgow; slater and glazier, Mr. W. Anderson, Edinburgh; plumbers, Messrs. R. Hume & Co., Edinburgh; plasterer, Mr. D. Sinclair; clerk of the works, Mr. A. Whitlie. The town was decorated in honour of the occasion.

Blantyre.—A new parish church has been built at Blantyre. The building was to be opened on the 19th July. The design was by Messrs. Clarke & Bell, architects, Glasgow. The contractors were Mr. Hamilton, mason; Mr. Calderwood, wright, Kilbride; and Mr. Hinshaw, Hamilton, plasterer. The new church is placed on a commanding situation near the railway from Hamilton to Strathaven. The building is plain, with a spire about 130 feet high, the bell being a gift from a tradesman and citizen of Glasgow. At the south end, immediately above the pulpit, there is a stained-glass wheel window; while in the north there is a large Gothic window, being a fac-simile of the large west window of the ancient High Church, Glasgow. The cost of the erection will be about 2,500*l.* A good deal remains to be done, such as laying of the grounds and inclosing the church with a stone wall.

Perth.—At present, says the *Scotsman*, there is considerable activity in the building trade throughout the county, and masons are receiving good wages. Several extensive buildings are either in course of erection or completion, which occupy a large number of hands. The Lunatic Asylum for the counties of Perth, Fife, and Forfar, at Murthly, is going on rapidly, and a large n

ber of hands is employed at it. The cost of the erection and other buildings is estimated at upwards of 20,000*l.* An hospital and several additional buildings are being erected at Trinity College, Glenalmond, at a cost of upwards of 12,000*l.* They are nearly completed. The new mansion-house at Duncrub for Lord Rollo, which has been building for about two years, is nearly finished. The cost is about 18,000*l.* or 20,000*l.* A new manse for the minister of Dunning parish has just been erected there. Several combination poorhouses are also being built. A good many villas and farm-steadings have also been erected, and at present a considerable number of these are going on in various parts of the country. The opening of railway communication to Pitlochry has given rise to a demand for summer residences in that romantic locality, and new houses for the accommodation of tourists are being built.

Inverury.—The new town-hall at Inverury, a building in the Italian style, after a design by Mr. J. R. Mackenzie, architect, Aberdeen, and the foundation-stone of which was laid a year ago, has been formally opened by a banquet given by the magistrates and town council, followed by a public dinner and ball in the evening. The hall will cost about 3,000*l.* The front, which is in the Italian style, is of dressed granite. The dimensions of the building, externally, are 89 feet by 63 feet; the height being 48 feet to the base of the spire, or 88 feet to its top. A female figure reclines on either side of the clock, while the wings are relieved by lions couchant. The door in the centre leads into an entrance-hall about 12 feet square, and a stone staircase leading to the second floor. The council chamber, committee-room, town-clerk's room, record-room, &c., are towards the front; while towards the back are the corn-market hall, &c., on the ground-floor, and the town-hall proper, &c., on the second floor. The corn-market hall is 27 feet by about 28 feet, and has writing-offices, &c., for the transaction of business. The town-hall is 55 feet by 28 feet, having a height of 22 feet. The entire cost of the building will be about 3,000*l.* The principal contractors were,—Messrs. Munro & Stewart, Inverury, for the mason work; Messrs. Warrack & Daniel, Aberdeen, for the woodwork; Messrs. Robertson & Son, Inverury, for the slater work; Messrs. H. Gordon & Co., for the plumber work; and Messrs. Gibson & Co., for the plaster work.

Aberdeen.—The new waterworks about to be constructed at Aberdeen will, it is calculated, supply the city with 5,000,000 gallons per day. The maximum quantity at present available is 1,200,000 gallons.

New Pitsligo (*Aberdeenshire*).—A new congregational church is about to be opened here. The edifice is 62 feet long by 35 feet wide, and is seated so accommodate about 400 people. The entrance or west gable is surmounted by a belfry. At the east end are a vestry, lavatory, and fire-proof heating-room. The doors and windows are Gothic, the latter filled with obscured glass with coloured edges. The woodwork is of red pine. Messrs. Lamb, of Cuminestown, were the contractors for the carpenter work. The other contractors were —Mason work, Mr. G. Murray, New Pitsligo; plasterer, Mr. W. Willox, jun., do.; slater, Mr. Hammock, do.; glazier, Messrs. Farquhar & Gill, Aberdeen. The gas fittings were furnished by Messrs. Laidlaw, Glasgow; and the architect was Mr. A. W. Bisset, of Elgin. The cost, including site, is upwards of 600*l.*

Inverness.—The proposal to erect a new assembly-hall in Union-street promises to be acceptable to the local public. Nearly fifteen hundred pounds' worth of shares has been taken up. The architectural character of the building, and the extent and nature of the accommodation to be provided, are questions which stand over for decision by the shareholders; but in the mean time a plan has been prepared by Messrs. Ross & Cross, architects. This plan provides, amongst other accommodation, for a room 81 feet long, 50 feet wide, and 35 feet high, with seats for 1,200 persons, and provided with an orchestra and convenient retiring and cloak rooms.

PROVINCIAL NEWS.

Derby.—The plans and specification for the projected new market buildings on the site of the present market and on the vacant space at the rear of the Town Hall, are now so far completed that the committee have invited tenders for the contracts. The scheme comprises a new market-hall and fish-market buildings; and competent persons are invited to tender for the works as a whole, or in two specified divisions; one embracing the ordinary structural works, materials, and labour, exclusive of the ironwork; and the other the furnishing and fixing of the necessary castings for the roofs and other ironwork. The general and detailed plans, drawings, and specification are on view at the office of Mr. Thorburn, the borough surveyor, by whom they have been prepared; and the latest day for receiving tenders is Tuesday, the 18th of August next.

St. Neot's.—The new Corn Exchange here has been opened. The building stands in a central spot, at the corner of High-street and South-street. It is in the Elizabethan style, surmounted by a turret. Its interior dimensions are 60 feet by 50 feet, and it is supported by open truss beams, painted blue; and lighted with star burners. In addition, it has ante and committee rooms, and other conveniences. The architect engaged by the directors was Mr. P. Bellamy, of Lincoln, and the building was confided to Mr. Wildman, of St. Neot's. The entire cost of the Exchange, we understand, is about 2,000*l.*

Reading.—The local charity trustees are about rebuilding thirty-two almshouses in Castle-street, Reading, under the superintendence of Mr. Woodman, the borough surveyor.

Winchester.—The college tower has been formally opened. The old tower, which was built by Warden Thurbern about the year 1420, had been for many years much marred by the weakness of the foundations, and the consequent leaning of the edifice. For this reason it was long contemplated to rebuild it; and at last it was determined to take the tower down, and, with some very slight modifications, rebuild it on new foundations, as a memorial to two deceased wardens. The architect employed was Mr. Butterfield, and the builder Mr. Field. The work was commenced last year, and according to our authority, the *Hampshire Advertiser*, is now almost finished. The old foundations were upon piles of beech and oak: the latter were found to be in many cases quite sound, but the former were very defective. A good deal of the oak has been worked up into chairs, picture frames, and other articles, as mementos of the old building, and the door of the seventh chamber passage has also been made of it. The new foundation is concrete. The gallery round the summit, formerly a solid one, is now perforated with trefoil-headed openings. There being one or two extra courses of stone used, the tower is rather higher than its ancient predecessor, in which it was impossible to ring the peal of bells hung in it. Before the rebuilding of the tower two of the large windows of the chapel were built up with masonry to strengthen the shaky walls. These are now again opened, and in time will no doubt be filled with good stained glass, to match, if possible, the other windows of the chapel. In addition to these windows a third has been re-opened in the ante-chapel (also built by Thurbern), and is now filled in with the Wordsworth memorial stained glass, which formerly filled another opening thereon. The arch in the base of the south wall of the tower is filled in partly with stained glass and partly with white marble tablets, having coloured marble borders. The apex of the arch is filled with a shield bearing the three roses of the college (the arms of Wykham): beneath this is a two-light window, the tracery of which is filled with the arms of Wardens Barter and Williams, in stained glass. Beneath the glass are the marble tablets, which bear commemorative inscriptions in reference to the two wardens. The floor of the ante-chapel is paved with Minton's encaustic tiles and Derbyshire marble. Additional light has been gained to the ante-chapel by pulling down a passage leading to the cloisters and placing a large window in the west wall of the tower. The sum of 3,500*l.* was subscribed towards rebuilding the tower, the remainder of the expense being defrayed by the College. All the old stone was, where possible, re-used; and the bosses, shields, groinings, and other ornamentations were also worked up into the pews, roof, &c.

Malvern.—The foundation-stone of the Proprietary College has been laid. The college will be divided into the classical department, and the military and civil department. To carry out this plan a capital of 20,000*l.* was raised by 500 shares of 40*l.* each. Designs having been advertised for, the conditions for competition, it may be recollected, were, that the college was to accommodate 500 boys; that a chapel was to be attached, the style to be Gothic; and the whole of the buildings to be erected with the local Malvern-hill stone, with brick linings, and Cradley or Bath stone dressings. The total cost of the buildings, including the chapel, was not to exceed 18,000*l.*; and the council offered premiums of 150*l.* for the selected design, and 80*l.* for the one second in merit. Thirty designs were received, and from these the council selected eight as being most in accordance with what they required. The final choice fell upon the designs submitted by Mr. C. Hansom, of Clifton. Mr. Hansom's design was Transitional Gothic in style. The central entrance tower in the west front is crowned at each angle with four terminals, crocketed. Right and left of the entrance tower are class-rooms, leading up to two gabled buildings, containing the classical and commercial schools. These school-rooms are each 97 feet long by 35 feet wide. The chapel is situate at the south-west angle of the site, and is connected by a corridor with the main building. As at first designed, the quadrangle was closed by buildings on all sides; but the plans have since been altered, and the wing which fronted the Malvern hills has been removed. A series of terraces lead down to the ornamental grounds at the back, where a view of the hills is obtained. Besides the drawings of the building, there is a model, which gives a clearer impression of it, and shows also the internal arrangements. The main entrance will be on the west from the Radnor-road, the hall being 20 feet by 18 feet, and lofty in proportion. The centre of the building is to be occupied by a quadrangle 135 feet by 60 feet in width. In the centre will be a fountain. Round the quadrangle are the cloisters, flanked by the class-rooms, eighteen in number. On the left of the entrance, and in a line with the class-rooms, is a waiting-room, 18 feet by 20 feet, adjoining which will be the master's room, 23 feet by 18 feet. On the right of the entrance is the clerk's office, 18 feet by 18 feet, and attached to which is the secretary's office, 23 feet by 18 feet. Opposite the main entrance is a door leading to the terrace by flights of steps. The first floor, reached by a flight of stairs from each corner of the cloisters, contains the classical school-room, 97 feet 6 inches by 35 feet; modelling and drawing schools, 35 feet by 35 feet; physical department, 35 feet by 23 feet; laboratory, 24 feet by 12 feet; modern school, which is opposite to the classical school-room, and of the same dimensions; the second master's class-room, 24 feet by 10 feet; ditto, private sitting-room, 13 feet by 12 feet; library and board-room, 36 feet by 20 feet; head master's class-room, 24 feet by 18 feet. The basement plan leading to the terrace contains covered play-ground, boys' store-rooms, lavatories, kitchen, and coal apartments, with other necessary conveniences. The roof will be steeply pitched.

EXPERTS AND ASSESSORS IN BUILDING AND COMPENSATION CASES.

The evils of the actual system of trying cases in the courts, requiring scientific and technical knowledge, have long been glaring. "Scientific evidence" is getting into discredit; and it can only be said, that the witnesses in compensation cases are not more at variance than are physicians, chemists, and caligraphists. In this state of the general question, the idea is revived of architect-assessors. An analogous arrangement has been in use in the Admiralty Courts, where naval captains sit with the judges. This was pointed out many years ago by the late Mr. Bartholomew in his "Specifications." Not many days since, in one of the courts, there was a striking illustration, in a patent case, of the impossibility of getting the facts and arguments understood.

The Society for Promoting the Amendment of the Law have been giving attention to the inconvenience complained of in the trials of actions and suits requiring the evidence of experts; and two papers have been read on the subject, one by Mr. Thos. Webster, and the other by Mr. R. Stuart. Mr. Webster in his paper, proposed a change chiefly in the instance of patent cases, recommending that there should be a panel of assessors, two or four of whom, at the option of the suitor, should sit with the judge, take part in the examination of the witnesses, advise and confer with the judge, and discharge all the functions of the jury. Should the suitors not agree as to the assessors, the judge should determine the assessors to be employed, the latter being paid liberally, and their costs to be costs in the cause. Mr. Webster further suggested that the mode of trial might be left to the option of the parties, and in certain cases of a disputed fact, or of conflict of evidence, the opinion of a jury might be taken. He further proposes that, in patent causes, the plaintiff and defendant should be obliged to disclose their respective cases, so that each party might be better informed as to the nature of the contest.

Mr. Stuart's paper took a different view. Treat-

ing of the general question of trials involving the consideration of the evidence of scientific persons, and the evidence of experts, it reprobated, as a general rule, the appointment of assessors. Mr. Stuart argued against the admission of scientific persons on the jury, and recommended that any amendment to be made on the existing procedure, should be confined to the subject of evidence of these witnesses.

THE MANUFACTURE OF ALUMINIUM.

Aluminium, in the form of small personal ornaments of various kinds, has for some time been common enough in the jewellers' shops. It cannot be said, however, to have taken very well with the public; for in this state it has not quite the brilliancy of silver, which it resembles somewhat in colour, but looks rather more like zinc or lead. It is also, we believe, found to wear badly in this thin form. It is not easily acted on by acids, except by the hydrochloric; consequently, vessels made of this metal would be as useful for many culinary purposes as silver; with this advantage, that, as it is only one-fourth the weight of silver, it would serve to make four times as many articles as silver. The Newcastle firm mentioned in one of our Exhibition notices, has now regularly taken up the manufacture of the new metal; and, from being a chemical curiosity, the metal is now so readily produced, that we may expect yet to see it quoted, like iron, amongst the prices of the day at so much per ton. The price of aluminium was formerly 60*l.* per pound: now it is worth only as many shillings.

By far the most important advance in the application of the metal to useful purposes has been made by mixing aluminium with copper in certain proportions. The alloy produced, has a close resemblance to gold and most persons might be deceived by it. This aluminium-bronze is composed of three proportions, either 5 per cent. of aluminium, which gives the finest gold colour; 7½, which resembles a mixture of gold and silver; or 10 per cent., which is more hard, and lighter in colour. Thus we may make a gorgeous display of plate upon our tables, which no one would suppose was not gold, except that it would be very light gold. Moreover, it will stand the wear of use and cleaning, because it will be the same colour throughout. Very little gold plate is solid gold, most of it being plated upon silver; and, as every one knows, the gilt wears off, and the silver shows through it, to the loss of all the beauty of the piece. But the cost of all this splendour is just about the price of the common electro-plated articles, or about half the price of solid silver.

THE BUILDERS' BENEVOLENT INSTITUTION.

On Thursday afternoon, the sixteenth annual general meeting of the subscribers and friends of the above charity was held at the London Tavern. Mr. George Plucknett (treasurer), in the absence of Mr. Lee (president), occupied the chair.

The Secretary read the report, which showed the progress of the Institution to be still satisfactory;—the annual subscriptions for the year ending 24th June, 1863, being in excess of the former 49*l.* 17s. 6d.,—but remarked, that there are still a large number of persons engaged as builders, and in trades connected with them, who have not yet subscribed, but who, the directors hope will, when applied to, perceive the necessity of aiding a charity which relieves and soothes the declining years of those who have not been so prosperous as themselves in a business which is perhaps more frequently subject to losses and fluctuations than any other.

This year the sum of 587*l.* 8s. 10d. stock Three per Cent. Consols has been added to the funded property of the Institution; 495*l.* 8s. 11d. stock, for the Relief Fund; and 91*l.* 19s. 11d. for the Building Fund; making a total of 8,941*l.* stock, divided as follows: 6,501*l.* 9s. 4d. for the Relief Fund, and 2,439*l.* 10s. 8d. for the Building Fund.

Five pensioners have died during the past year:—Robert Clements, elected in November, 1860, died November, 1862; William S. Evans, elected in November, 1855, died January, 1863; Archibald Croser, elected November 1861, died June, 1863; Sarah Goodliffe, elected August, 1853, died April, 1863; and Sarah Badcock, elected November, 1850, died June, 1863; and six have been elected, three in November, 1862, viz.: George Grayson, James Noble, and Charlotte Smith; and three in May, 1863, when William Taylor, Thomas Hammond, and Mary Ann Chirnside, were the successful candidates.

The present number of pensioners is 36, viz.: 16 males, and 20 females.

The Annual Ball held at Willis's, St. James's, in February last, gave the gratifying profit of 119*l.*, and the directors take this opportunity of conveying their best thanks to the honorary secretary, Mr. Joseph Bird, and the ball stewards, for their kind and indefatigable exertions upon that occasion, to which may principally be attributed so great a success.

The Directors beg leave to state that the object of this charity is to relieve those who are no longer able to sustain themselves; and who have perhaps outlived their friends, and are left destitute and helpless. It is for these that they strongly solicit your aid and assistance.

By its means and the generosity of its supporters, many an industrious, but decayed and aged, tradesman has been enabled to end his days contented.

Mr. Alderman Sheriff Lawrence has consented to become the president of the institution for the ensuing year.

METROPOLITAN BOARD OF WORKS.

At the last weekly meeting a report from the Thames Embankment Committee was brought up, recommending, amongst other things, that an order should be passed constituting the Thames Embankment Committee the authority to put in force the powers of "The Metropolis Improvement Act, 1863," empowering the Board to make the new street between the Mansion House and Blackfriars Bridge. The recommendations of the committee were adopted. A letter from Mr. M. Booth, relative to the utilisation of sewage, was laid before the Board; and, without having been read, was referred to the Main Drainage Committee.

WORKMEN'S CLUBS.

The following letter from the secretary of the Working Men's Club and Institute Union, refers to one in our last:—

In reply to a "Workman" in your last number, allow me to say that the reference to "business" among the objects of these clubs, is not to a man's ordinary trade or occupation, nor to business of *any* kind being conducted in the reading-room, or conversation and coffee room; but to the meetings of friendly, trade, building, co-operative, or other working men's societies, the lodges or committees of which have to meet periodically for conducting their business, and which meetings are generally at present held at a public-house, for want of some other accommodation. Knowing that wasteful and unnecessary expenditure is often the result of the present system, the promoters of these clubs, both among working men and other classes, recommend that a room should be set apart in them, where possible, for such parties to meet in on payment of a small rent.

I quite agree with your correspondent as to the incongruity of members working at their ordinary trade in the reading and conversation rooms. After our day's work we all of us want to get into quite a different atmosphere, morally as well as physically.

Henry Solly.

WEIGHTS AND MEASURES.

In my letter, which you were so good as to publish last week, on weights and measures, are two errata (one certainly a mistake of my own), which, although not very important, tend to the discredit of the proposed system. The mile of 5,000 spans would differ from six-sevenths of the nautical mile by only one *ten-thousandth* part, instead of the thousandth; and the example comparing long, square, and cubic mètres with our proposed measures should have been thus:—

	53·7 mètres.	
Add 5 per cent.	2·68	
	56 38	
(1.) Add 5 per cent.	2·82	*vice* 2·87
	59 20	
(2.) Add 5 per cent.	2·96	
	62·16	
(3.)		

These results will be seen to approximate much more nearly with the absolute values, 56·36, 59·21, 62·17 respectively.

F. C. Penrose.

Books Received.

Chambers's Handy Guide to Paris; being a concise Description of the chief Objects of Interest in the City and its Environs, and the best Mode of seeing them, together with an Account of the Permanent Exposition of 1863, *and full Information concerning the Routes to, and Residence in, Paris; Railways, Cabs, Omnibuses, Postal Arrangements, &c.; illustrated with Clue-Maps and Wood Engravings.* London and Edinburgh: W. & R. Chambers.

We once made the subject of guide-books and maps, that of a leading article; and we could not have given thereby too much importance to it. One essential in a guide-book is portability, whether for a Paris trip or a longer journey, along with the information as to lodging, charges, and local customs required to be possessed. Than this guide to Paris, we do not know one that better justifies such a title as that which we have quoted at length. The plan, and map of the environs, and the information generally, are posted up to the most recent time, which is not to be said of some other guide-books to Paris,—a city which is so rapidly growing that information is soon out of date. The compiler is in error as to there being a *table d'hôte* at the Hôtel Corneille; but we have looked closely, and not found much else that is wrong. The "Handy Guide" will not supersede *Galignani*; but it will be preferred by many of the ordinary class of visitors, and be appreciated by all, for the real merits which are combined with its conciseness and portability.

Miscellanea.

Decoration of the New Courts, Kensington Museum.—The Science and Art Department have sent a communication to Mr. Cave Thomas, requesting him to furnish a design according to certain dimensions, for a full-length figure of Albert Durer, to be executed in mosaic, which will be worked by the students of the Female School of Art.

Experiments with Sewage at Leamington. Some experiments with sewage in the cultivation of turnips and other vegetables, are being conducted at the works near the railway viaduct at Leamington; and the local *Courier* says that they merit the attention of agriculturists in no ordinary degree; the vegetables having an exceedingly healthy and luxuriant appearance, and promising a most abundant crop.

Another Discovery of Frozen Remains on Mont Blanc.—The remains of a human body,—a foot covered with flesh, and adhering by the nerves to a dried-up thigh bone, were recently thrown out from a crevice in the ice of the Glacier des Bossons. These are supposed to be the remains of Tairraz, a guide, who lost his life in 1820. By the side of the foot was found a compass, probably that of the doctor's, and carried by the guide. Strange to say, it was the grandson of Tairras who made the discovery.

The Inhabited House Duty.—A Parliamentary return states that the number of houses and shops assessed to inhabited house duty in England and Wales in the year ending 5th April, 1862, was 519,991, and the total amount of duty assessed 813,383*l.* Of the number mentioned 167,259 were assessed in Middlesex, and the amount was 339,986*l.* Of the houses charged, 205,528 were under 30*l.*; only 13 were above 3,000*l.* The 13 were all in Middlesex, and one was charged at the value of 20,000*l.* a year.

The Copper Trade.—At a recent meeting of the Swansea Harbour Trust, the exceedingly large importations of copper ore and regulus during the last few years were referred to; and it was stated that, two years ago, such excessive importations had taken place, and such very large stocks were held at Swansea, that they had only been got rid of by a very serious fall in the price; and that the agents for the sale of a considerable portion of the foreign ore could hardly find room for the enormous quantities imported at Swansea.

The Hamburg International Exhibition.—We have already noticed this Exhibition, which has lately been opened on a Sunday as the cheap day, when sixpence is charged for admission. The grounds have been immensely crowded. It is yet doubtful, however, whether the receipts of the Exhibition will fully cover the expenditure, although the benefit to Hamburg is unquestionable. The official list of premiums has not as yet been ready for the public. The local correspondent of the *Morning Post*, however, states that England wins eight out of the ten gold medals, principally awarded to her for mechanical contributions.

Suicide of a Builder in a Church Belfry.—A well-known builder of the town of Watford, who had for some days shown great depression of spirits, under the delusion that his affairs were in a bad condition, was missed from home on Wednesday last week, and was never seen alive again by his family. On Thursday afternoon he was found by the sexton of the parish church at Watford suspended by a cord to the banisters of a staircase in the church leading from the belfry to the top of the church tower. At a coroner's inquest a verdict of temporary insanity was returned.

A Fine Ash.—At Sir E. Strachey's, Stowey, Somerset, an ash tree has been cut down, the stock of which measured 40 feet long and 18 feet 5 inches in circumference under the bark. It took thirty-four powerful horses to draw it.

Monumental.—The committee of the memorial to the late Lord Hatherton have decided on erecting a statue in the square at Stafford, opposite the Shire Hall. They also propose to found an exhibition at Oxford or Cambridge, for boys educated in Staffordshire.

The Sanitary Condition of Liverpool.—At a recent meeting of the local health committee, attention was called to the state of things which a recent inspection made by the courts and alleys sub-committee had revealed. The condition of the courts and alleys of the town was such, it was said, as few members of the health committee or inhabitants of the town would easily believe. They were the most awful places imaginable. The arrangements existing in them for the convenience of the occupants of the houses were wretched in the extreme: they were filthy and unhealthy in the greatest degree. How to remedy this state of things, Mr. Bowring, who brought the matter under notice, said he was at a loss to discover; and he believed the sub-committee and the doctors were equally at fault.

The Great Brighton Well.—A correspondent of the *Bury Post*, on this subject says,—Those of your readers who have taken an interest in this great section, 1,285 feet deep, of a series of strata similar to our own, will like to know something of the quality of the water from this great depth, which is double that of the Hartley colliery. The registrar general's report shows that the present water supplied by any of the London companies, contains 23 grains of organic and inorganic impurities in the gallon. The purest water of which I am aware is that which is brought forty miles from Loch Katrine to Glasgow. This is said to contain only 2 grains of impurity to the gallon. The water of the Brighton well produces, after evaporation of an imperial pint 2·148 of solid residue. This quantity I expect will be much reduced when the water has quite settled, and the sides of the well have acquired their permanent character; and, as it is, several of the carbonates are valuable in well water rather than otherwise.

Dust a Cause of Consumption. — Every species of dust must prove injurious. Workers in those factories where tools are ground and polished soon die of pulmonary disease. The dust of cotton and woollen factories, that of the street, and that which is constantly rising from our carpets, are all mischievous. M. Benoiston, according to Dr. Lewis, found among cotton-spinners the mortality from consumption 18 per 1,000 per annum; coal men, 41; those breathing an atmosphere charged with mineral dust, 30; dust from animal matter, as hair, wool, bristles, feathers, 54 per 1,000: of these last the greatest mortality was among workers in feathers, least among workers in wool. The average liability to consumption among persons breathing the kinds of dust named was 24 per 1,000, or 2·40 per cent. In a community where many flints were made there was great mortality from consumption, the average length of time being only nineteen years. Bakers and millers are well known to be liable to consumption.

Boiler Explosions.—It may be safely concluded that in the majority of cases these explosions are preventible. That view of the matter has been long since put forth by the Manchester Association for the Prevention of Steam Boiler Explosions;" but it still requires insisting upon. It is clear that the greater number of explosions would not have taken place if the most ordinary precautions had not been neglected. The causes which have been assigned for the explosions are very varied, and some of them have not the slightest foundation. Gross carelessness, and working the boiler after it has become fairly worn out, seem to be the chief. The following important extract is from the report of 1861, of the Association, by Mr. Lavington E. Fletcher, chief engineer:—"I found that due care and periodical inspection, with the application, where necessary, of the hydraulic test, would have prevented every one of these explosions, and thus that the word 'accident' could not be applied to any one of them. I meet every day with increasing evidence that the mystery in which boiler explosions are often shrouded should be dispelled, and consider that by due attention to correct principles in the construction of boilers in the first place, and by care in their working in the second, the recurrence of explosions would be prevented."

Liverpool Dock and Harbour Works.—The magnitude of the dock and harbour works at Liverpool may be estimated from a report given at a recent meeting of the Dock Board. In the year ending June, 1863, it appears that upwards of 600,000*l.* have been spent on both sides of the Mersey in harbour and dock works.

Memorial Church in Southwark. — The corner-stone of the memorial church of the Pilgrim Fathers, in Southwark, was laid on the 23rd ult. by Mr. Benjamin Scott, Chamberlain of the City of London. A public meeting was held immediately after in the Pilgrim Hall adjoining, at which Mr. Samuel Morley presided. Letters expressing interest in the undertaking were read by his Excellency Mr. Adams, the American Minister; the Hon. Mr. Morse, United States Consul; Mr. A. H. Layard, M.P., and others. Confidence is now entertained that under the auspices of the trustees to the building fund, the memorial structure will be carried on to its completion.

The Antiquities of Mexico.—A scientific commission, of course, accompanies the French expedition in Mexico. It will have an opportunity to make researches amongst the buildings which are supposed to have been erected by a civilized nation, existing at least seven centuries before the discovery of Christopher Columbus. Of the French travellers whose relations have thrown light on the past of the New World, the most recent are M. l'Abbé Brasseur de Bourbourg and M. Désiré Charnay. The photographic views of the latter, previously noticed by us, formed an interesting feature in the French Division of the 1862 Exhibition. M. César Daly's researches in Central America, somewhat earlier, were we know, veryimportant; and we hope he will be able one day to give the benefit of them to the world.

Ornamental Grounds at Evesham.—Within the last few years a new bridge was erected over the Avon at Evesham. Mr. H. Workman, Mayor of Evesham, to the surprise of every one, succeeded in making such arrangements as rendered it unnecessary for the Bridge Trustees to resort to the Toll clause in their Bridge Act. The cost of the work was 14,000*l.*, raised chiefly by subscription. This work was no sooner completed than he directed his attention to the state of the river near the bridge, the banks of which were still disfigured by an unsightly collection of withy beds. He conceived the design of draining the morass and converting it into pleasure-grounds, and also properly directing the waterway. The first sod was turned in May, 1860, and Mr. Workman hopes everything will be completed by September next. Instead of an unwholesome stagnant marsh, remarks the *Worcester Chronicle*, that portion of ground between the river and the London-road has been tastefully laid out, so that it now resembles a gentleman's park. The river, instead of being choked with weed and having no proper watercourse, has been directed into a straight channel, so that now it looks like an ornamental lake. The outlay will be about 1,600*l.* The reclaimed land is about two acres in extent.

Neapolitan Fine-Art Exhibition.—I have been much interested, says the Naples correspondent of the *Morning Post*, by the Fine-Arts Exhibition now open at the Fosse del Grano, not only as demonstrative of the condition of modern Neapolitan art, which certainly is less advanced than in Central and Northern Italy, but also as showing in the selection of the subjects the influence of recent political changes. The leading Neapolitan artists have sent no pictures, and the exhibition consequently represents the junior branch of the artistic brotherhood. The existence of an Art-Union, and the natural desire to produce works eligible as prizes, have kept the pictures within very circumscribed limits. Many of them have great originality and promise, and the subjects are generally interesting, whether they refer to the past or the present history of Naples; for as many are taken from the time of Masaniello, and other revolts of the Neapolitans against Spanish oppression, as from the campaign of the Volturno and the feats of Garibaldi and his volunteers. One of the most characteristic and truthful compositions is by Signor Francesco Mancini. It is entitled "The Southern Provinces in 1863," and represents a detachment of Bersaglieri escorting conscripts. Water colours here, as in other Italian exhibitions, are few and inferior; and the sculpture will not impress any one coming from Rome. It is gratifying to see that a large proportion of the pictures have been selected as prizes; and I hear that works to the amount of about 20,000 francs have been purchased by order of the king.

Architectural Association. — Voluntary Architectural Examination Class.—Mr. Florence will introduce the subject of Iron and Ironwork on Friday next.

South Kensington Museum.—During the week ending 25th of July, 1863, the visitors were as follows:—On Monday, Tuesday, and Saturday, free days, open from ten a.m. to ten p.m., 6,382; on Wednesday, Thursday, and Friday, Students' days (admission to the public, 6d.), open from ten a.m. till six p.m., 1,502: total, 7,884.

Residences of Celebrated Men.—Mr. Cole has suggested that this subject should be taken up by the Society of Arts. Whatever is done, he thinks, should be of a voluntary character, therefore that neither the Chief Commissioner of Works nor the Metropolitan Board of Works, nor even parochial authority, should interfere with the object in view; and he refers especially to celebrities in arts, science, manufactures, commerce, and literature. "The council," he says, "might communicate with the owner or occupier of the premises, and having obtained his concurrence, might, from its own funds, provide the necessary tablet," which, he would recommend, "should not be a brass plate on the door, such as Mr. Cowper hints at, but some kind of decorative tablet, which might be executed in terra cotta. It might also be ornamental, and of a character which would decorate the outside of any house, and therefore be desirable for the occupier to have."

Metropolitan Railway Communication.—The third Report from the select committee of the House of Lords appointed to inquire whether any, and, if any, which, of the schemes before Parliament for the construction of lines of railway within the limits of the metropolis could be proceeded with in the session without the risk of interfering with the future adoption of a comprehensive plan of metropolitan railway communication; and to consider what provision could be made for the securing such a comprehensive system, with the greatest advantage to the public, and the least inconvenience to the local arrangements of the metropolis, has been printed; and it contains some very important recommendations. We shall probably have to revert, shortly, to the whole subject.

Death by Impalement.—The Deputy Coroner for Westminster, held an inquiry at Westminster Hospital, on 29th ult., touching the death of Edward Dougerty, a painter, who lost his life under the following circumstances:—John Raymond, labourer, said on Friday last deceased was engaged in painting a cornice at her Majesty's Stationery Office, Prince's-street, Story's-gate, Westminster. Deceased placed the ladder, and witness held it at the foot whilst he ascended. When he went up witness said, "For God's sake don't be so venturesome," because twice previously the same morning, witness had cautioned deceased about standing on the ladder on one leg and overreaching himself. Deceased overbalanced himself, and fell to the bottom on some spikes, which entered his body. The foreman of the men stated, in answer to a juror, that it was not usual to secure short ladders at the top, although the long ladders were always so secured. The ladder deceased fell from was only about 30 feet long. The jury returned a verdict of "Accidental Death," but expressed an opinion that ladders should be secured at the top as well as the bottom.

Workmen's Festivals.—On Saturday, July 25th, 1863, Messrs. Rothschild gave a dinner, at Woodford, to the men in the employ of Messrs. William Cubitt & Co., engaged upon their new building in New Court, St. Swithin's Lane. Mr. Belcher, the foreman, presided. The healths of Messrs. Rothschild; of Mr. Marsh Nelson, the architect of the building; and of Messrs. William Cubitt & Co., were drunk. Mr. F. Barnes, architect, of Ipswich, informs us of a similar entertainment last week given to the workmen of Mr. H. B. Smith, who have just completed the erection of a Congregational Church at Colchester, under his direction. The committee voted a sum of money for the entertainment, expressing their high satisfaction with the very orderly behaviour of the men during the progress of the works, especially alluding to the absence of swearing and coarse language, denoting a marked contrast with the same class only a few years since, and which, our informant begs to be allowed to say, that our "good advice may to some extent account for." The evening was brought to a close by the minister of the church presenting the foreman with a handsome Bible, as a memento of the appreciation of the committee for himself and his fellow-workmen.

Education of Architects and Engineers.—The Council of Queen's College, Liverpool, intend to open, in October next, a Department of Instruction for Students of Civil and Mechanical Engineering.

Fine Art as a Branch of Academic Study at Cambridge.—The Rev. W. J. Beamont, M.A., Fellow of Trinity College, has published a letter on this subject, which he addresses to the members of the Senate. He alludes to the recent expansion of the University system in granting the B. A. degree to persons who have obtained Honours in Classics, Natural Sciences, and Moral Sciences; and asks the University now to extend that privilege to a knowledge of Fine Art. The writer enters fully into his reasons for making this request.

The Lining of Cisterns. — Mr. Thomas Hickes, surgeon, of Gloucester, adds an answer to the query of "A Subscriber." The suggestion printed in our last number, referred to passing the water through animal charcoal, before entering the cistern. Mr. Hickes says:—"There are two ways by which this defect can be prevented;—by burning charcoal in the cistern as soon as the cement is partially dried, and thus forming a coating of carbonate of lime; or by painting over the interior surface with a solution of silicate of potass." Another correspondent recommends Naeniare & Co.'s filtering liquid as "the only substance" which will effectually soften water, and make it useful for household purposes, as he has tested it, and found the smallest quantity suffice for a large volume of water.

Renewing worn-out Files.—A means of renewing worn-out files and rasps has been provisionally specified by Messrs. Kiesling, Liverpool. Grease and dust are removed by washing the files in warm water mixed with an alkali,—say soda. They are then placed in a bath of clean water, to which, during a short time, and at intervals, nitric acid is added, and the files or the bath agitated. On removal from this bath they are placed in water, and brushed or rubbed over their surfaces. After adding to the acid bath another portion of nitric and some sulphuric acid they are again put in and agitated. This is repeated several times; and, after sulphuric acid has again been added, and the files allowed to remain for a short time, they will be found, it is said, sufficiently sharp and fit, after being dried and oiled, for use.

The Pneumatic Despatch.—The report to be presented on, this, Saturday, to the third ordinary general meeting of the company, having referred to the removal of the experimental tube and machinery from Battersea, and its having been laid underground from the Euston Station of the London and North-Western Company to the district post-office in Eversholt-street, a length of 600 yards, states that on the 20th February last, the Post-office authorities discontinued their street conveyances, and intrusted the company with the transmission of the mails, and that the service of the district had since been entirely performed by the company. Thirty trains per diem (Sundays excepted) have been despatched, with perfect regularity, and upwards of 4,000 trains have run without impediment or delay. The time occupied in the transmission has not exceeded seventy seconds. The daily cost of working has averaged 1*l.* 4s. 5d.; and five times the number of trains could have been conveyed without any appreciable increase of expense. Confirmed in their views by this result, the directors proceeded to carry out the decision of the last general meeting, by the issue of a capital sufficient to enable the company to lay a main line of tube, 54 inches in diameter, with the necessary stations, appliances, and machinery, from the Euston Station to the General Post-office in St. Martin's le-Grand, and forward to Gresham-street. This capital having been subscribed, the directors entered into contracts with Mr. Barrow, of Staveley; Messrs. James Watt & Co.; and Messrs. John Aird & Son—the gentlemen who constructed the original works—for its completion. The length of this tube will be nearly 2½ miles; and the entire cost, so far as can be foreseen, including the laying, station accommodation, and the necessary apparatus and pumping-engines, will be about 65,000*l.* The whole route has been carefully examined and definitely determined, and from the active measures taken by the contractors in the preparation of the tubes and engines, the directors hope to commence laying the line at an early date. A considerable portion of the further issue of shares has been taken up by the original proprietors and the contractors, and the remainder has been allotted among seventy-six new shareholders.

Surrey County Hospital: Guildford.—The Foundation-stone was to be laid this, Friday, by the High Sheriff.

Thames Tunnel.—The amount of tolls for the week ending 25th July, on 12,621 passengers, was 52*l.* 11s. 9d.

Water Colour Painters' Lancashire Relief Fund.—The distribution of the Collection among the subscribers took place in the Gallery, 53, Pall Mall, on the evening of Thursday, this week.

A Statue of Coal.—One of the largest pieces of coal ever brought to Boston, says the local *Transcript*, is in the form of a man,—one of the aborigines of the country. It is of full size, as large as life, and complete from head to toe. It is the work of a common miner, who wrought it from a single block of coal, which was taken out of a vein, 9 feet thick, in one of the coal mines in Pennsylvania.

The Iron Trade in France.—As a proof that French ironmasters are now well able to compete with their English and Belgian rivals, the Paris correspondent of a Bayonne journal states that, in recent competitions for supplying 25 000 tons of rails to the Northern Railway, and 50,000 tons to the Eastern, both contracts were awarded to ironmasters in the Moselle, at 180f. The lowest tender from Belgium was 190f.

Indian Antiquities.—Colonel Cunningham, the well-known Orientalist, who was appointed by Lord Canning to act as Government archæologist, notices with interest the discovery of two full sized statues of elephants in black stone, and two human statues in red stone, discovered while clearing away the *débris* in the palace at Delhi. The statues are broken, but unique in Hindu sculpture. They represent a Hindu, squatting, with a head-dress such as Rajpoot chiefs wear.

Fall of a New Church Tower.—The tower (or a portion of it, about 30 feet) of the new church erecting at Palmer's Elm, Congresbury, at the expense of Mr. R. Phippen, has suddenly fallen down. This is supposed to have been caused by the foundation sinking, it being very difficult to get solid foundations in that locality. It was intended to have opened the church for worship at Christmas next. Happily the workmen had just left off work.

British Association for the Advancement of Science.—Arrangements for the thirty-third meeting, which will commence in Newcastle-upon-Tyne, on Wednesday, the 26th of August, are progressing. Notices of communications intended to be read may be addressed to Mr. George Griffith, the Assistant General Secretary (Jesus College, Oxford), or to Captain Noble, Mr. A. H. Hunt, and Mr. R. C. Clapham, Newcastle-upon-Tyne.

A Word on India-rubber.—It is very remarkable that, for upwards of sixty years, india-rubber never advanced beyond the hands of the drawing-master; and that, during that long period, all its virtues were supposed to consist in its power of correcting school-girls' drawings. How many substances are there still before the world in a like condition of embryo? What, for instance, is to be the splendid future of gutta-percha, aluminium, and the other scores of new substances that are beginning to "crop up" around us? It would seem as though it were designed for the rubber plant to play a great part in the world, as it is found in great abundance in all parts of the globe, within tropical latitudes; and, like the palm, it is probably destined to do the missionary work of civilization far more effectually than any of our societies constituted for that purpose, as the pursuit of these two valuable products will lead organized bands of European traders deeper and deeper into the recesses of the tropical wilderness, where the solitary missionary could not hope to make any permanent lodgment.—*Once a Week.*

TENDERS.

For warehouse and alterations, 406 and 408, Euston-road (list given in last number):—Mr. Edwin Bull is architect. Quantities supplied.

For the erection of nine houses in Great Mitchell-street, Old-street, St. Luke's, for the Worshipful Company of Ironmongers. Quantities supplied by Mr. H. W. Sass:—

Thompson	£5,416	0	0
Rider	5,297	0	0
Brass	5,227	0	0
Ashby & Horner	4,738	0	0
Messrs. Lawrence	4,620	0	0
Cannon	4,499	0	0
Eastman	4,498	0	0
Page (accepted)	4,293	0	0

For works proposed to be done in building new grammar school and dormitories, at Atherstone. Mr. R. Jennings, architect:—

Messrs. Haddon	£1,950	0	0
Spencer	1,749	0	0
Potter	1,749	0	0
Fox, Brothers	1,696	0	0

For taking down and rebuilding two dwelling-houses, at Hinckley, for Mrs. Goadby. Mr. R. Jennings, architect:—

Messrs. Harrold	£410	19	0
Muston	392	0	0
Bassett	387	0	0
Wm. Harrold	380	0	0
Goode	359	0	0

For the Hackney, Homerton, and Clapton Soup Kitchen and Dwelling. Mr. J. Lovegrove, surveyor. Quantities supplied:—

Haywood	£595	0	0
Simms	578	0	0
Wood	517	0	0
Gray	496	0	0
Brett (accepted)	475	0	0

For the new Catholic Church at Sheerness. Mr. E. W. Pugin, architect:—

Cowland	£4,589	0	0
Clough	4,150	0	0
Watkin	4,009	0	0
Smith & Son	3,710	0	0

For the St. Paul's National Schools, Deptford. Mr. John Whichcord, architect:—

Piper	£5,384	0	0
Hunt	5,219	0	0
Hawke	5,168	0	0
Smith	5,070	0	0
Myers	5,001	0	0
Turner	4,967	0	0
Thompson	4,946	0	0
Jackson & Shaw	4,927	0	0
Macey	4,869	0	0
Dove	4,735	0	0
Kirk	4,696	0	0

For cottages, Little Norfolk-street, Gloucester. Mr. H. James, architect:—

Cullis (accepted)	£400	0	0

For house, Oak-street, Wolverhampton. Mr. H. James, architect:—

Evans (accepted)	£318	10	0

For the partial rebuilding of, and for a new frontage to, the warehouse of Messrs. Underwood, tobacco merchants, Nottingham. Mr. S. Dutton Walker, architect:—

Brutnell	£530	0	0
Willimott	520	0	0
Wright	512	13	6
Dennett	500	0	0
Simpson & Lynam	497	0	0
Ward, Ansell, & Co.	470	0	0
Lamb & Stevenson (accepted)	465	0	0

For the erection of Turkish baths, for the St. Leonard's Turkish Bath Company, Limited. Mr. H. M. Burton, architect. Quantities by Messrs. J. C. & G. Lansdown:—

Hayward	£1,248	0	0
Sawyer	1,187	0	0
Hughes	1,088	0	0
Howell	1,030	0	0
Kenwood	1,021	0	0
Palmer	997	0	0

For house, at Bickley, for Mr. T. Powell. Mr. E. Sharman, architect:—

Sawyer	£4,880	0	0
Henshaw (accepted)	4,494	0	0
Messrs. Smith	4,378	0	0
Boddington	4,245	0	0

For addition to warehouse, for Messrs. Riches & Skoyles, Norwich. Mr. T. D. Barry, architect:—

Breeze	£588	0	0
Hood	559	0	0
Downing	555	0	0
Lacey (accepted)	513	0	0

For a new warehouse, for Messrs. Page & Son, Norwich. Mr. T. D. Barry, architect:—

Bocking	£1,020	0	0
Rump	1,008	0	0
Downing	957	0	0
Youngs & Breeze	869	0	0
Hood	840	0	0
Lang & Balls (accepted)	812	0	0

For erecting a parsonage house at Clay Hill, Enfield, for the Rev. J. M. Heath. Mr. F. G. Widdows, architect:—

Newman & Mann	£1,436	0	0
Cushing	1,398	0	0
Field & Sons	1,370	0	0
Flint	1,348	0	0
Patman, Brothers	1,326	0	0
Green & Son	1,268	0	0

For villas and stabling, at Muswell-hill. Mr. H. Blackwell, architect. Quantities supplied by Mr. H. S. Snell:—

Welch (accepted)	£1,100	0	0

For a warehouse, Bermondsey, for the Leather Market Warehouse Company:—

Little	£9,397	0	0
Wills	8,991	0	0
Sawyer	8,847	0	0
Coleman	8,725	0	0
Wells (accepted)	7,979	0	0

For villas, at Anerley:—

Dover	£5,300	0	0
Wardel & Baker	4,800	0	0
Betty	4,800	0	0
Bolin & Co.	4,650	0	0
Simms	4,389	0	0
Stevenson	4,183	0	0

For six houses, at Croydon:—

George	£2,765	0	0
Walter	7,860	0	0
Champion	7,740	0	0
Simms	7,150	0	0
Stevenson	7,043	0	0
Drake	6,850	0	0
Simmonds	6,497	0	0
Kemplington	6,065	0	0
Smith	5,865	0	0

For the erection of a house and shop, at Lower Norwood, Surrey, for Mr. Barnett Meyers. Tillott & Chamberlain, architects. Quantities supplied:—

Fish	£1 380	0	0
Hill, Keddall, & Robinson	1,360	0	0
Deacon	1,350	0	0
Piper & Wheeler	1,320	0	0
Ashby & Sons	1,275	0	0
Cannon	1,267	0	0
Willis	1,264	0	0
Ward & Co. (accepted)	1,232	0	0

For three shops, in Barnsbury-street, Islington, for Mr. Gillingwater. Mr. Charles Hambridge, architect.—

Harris	£1,095	0	0
Bishop	997	0	0
Hebb	990	0	0
Ebbage	890	0	0
Glenn (accepted)	715	0	0

For a roof to Mount Zion Chapel, Hill-street, Dorset-square, and sundry repairs. Mr. George B. New, architect:—

Longmire & Burge	£510	0	0
Howard & Son	495	0	0
Harris	485	0	0
Brown	470	0	0
Butcher (accepted)	440	0	0

For building dwelling-house, near Borough Market. Mr. Nicholas Lake, architect:—

Wood & Munn	£640	0	0
Wills	629	0	0
Hart	621	0	0

For Battersea Works and Foundry, Battersea, for Messrs. Robinson & Cottam. Mr. John Whichcord, architect —

	For the Buildings.	For the Ironwork.
Higgs	£6,150	£2,750
Holland & Hannen	5,500	—
Anson	5,486	2,494
Piper & Wheeler	5,317	2,745
Nicholson & Son	5,218	—
Macey (accepted)	4,959	—
Morewood & Co.	—	2,457
Glover, Brothers	—	2,385
Cottam & Co. (accepted)	—	2,334

TO CORRESPONDENTS.

C. H. S.—J. W. B.—J. P.—J. H.—S. H. P.—P. G.—R. B. (is mistaken. We gave no name).—H. Z.—S. & H. G.—T. P.—H. C. B.—J. D. W. (thanks).—J. B.—W. P.—J. W. & Sons.—A. O'C.—E. F.—J. W.—F. B.—S. W. J.—W. R. P. Monsieur A.—Devonport cannot judge without plans).—"An Inquirer" (the question of lead-poisoning from cisterns and pipes has been discussed in previous volumes).—F. N. R.—R. A.—H. E. B. (depends upon the agreement. In the absence of undertaking, they cannot be prevented in time which is theirs. The remedy is dismissal, at termination of the engagement; or, for any dereliction of duty, sooner, if it can be proved).

We are compelled to decline pointing out books, and giving addresses

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than FIVE o'clock, p.m., *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and not to the "Publisher."

THE *Times*, of June 11th, 1862, speaking of Benson's Great Clock in the Exhibition, says:—"As a sample of English clock-work on a large scale, the works of this are probably the finest that have ever been seen in this country: no chronometer could be fitted with more perfect or carefully adjusted mechanism." Benson's new show-rooms contain clocks designed by the first artists of the day, and include clocks for the drawing-room, dining-room, bed-room, library, hall, staircase, bracket, carriage, church, turret, railways, warehouse, counting-house, with musical, astronomical, and every description of clock, from the cheapest to the highest quality of which the art is at present capable. Church and turret clocks specially estimated for. Benson's Illustrated Pamphlet on clocks and watches (free by post for two stamps) contains a short history of clock and watch making, with descriptions and prices; it acts as a guide in the purchase of a clock or watch; and enables those who live in Scotland, Ireland, Wales, the Colonies, India, or any part of the world, to select a clock.—J. W. Benson received a Prize Medal, in Class xxxiii., and honourable mention, in Class xv.—33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

ADVERTISEMENTS.

The Publisher cannot be responsible for ORIGINAL TESTIMONIALS *left at the Office in reply to advertisements, and strongly recommends that* COPIES ONLY *should be sent.*

LONDON, BRIGHTON, and SOUTH COAST RAILWAY.—London Bridge Station.—Enda gement.—To BUILDING MATERIAL DEALERS and OTHERS.—Fifth Sale.—Webb street and Johnstreet, St. Olave's, S. adward.

MR. PEAKE is ordered by the Directors to SELL by AUCTION, upon the PREMISES, as above on TUESDAY, the 4th of AUGUST, 1863, at ONE for TWO o'clock, in Lots, the whole of the BUILDING MATERIALS comprised in an extensive wood warehouse, and sundry houses and premises situate in Webb street, and extending from Bermondsey street to Jamaica-street, consisting of lead in pipes, gutters, and flats; 300,000 stock bricks, timber, slates, tiles, stones, fixtures, &c.—May be viewed the day preceding and morning of sale. Catalogues obtained of Messrs. G. FAITHFULL, SON, & COOPER, Solicitors, 53, Parliament-street, and Brighton; of F. D. BANISTER, Esq., Engineer's Office, London Bridge Terminus; and at Mr. PEAKE'S Auction and Land Offices, 14, Tooley street, Southwark, S.E.

TEDDINGTON, MIDDLESEX.—Valuable FREEHOLD BUILDING LAND, in three eligible plots, desirably situate, adjoining the picturesque village of Teddington, near to Bushey Park, the River Thames, Hampton Court, and other attractive features of this favourite locality.

MESSRS. DRIVER will SELL by AUCTION, at the MART, near the Bank of England, on WEDNESDAY, AUGUST 12th, at TWELVE for ONE o'clock precisely, in 22 Lots, some valuable ESTATES, freehold, tithe-free, and exonerated from land-tax, producing about 41 acres of excellent building land, and commanding fine views, including the Manor Farm Residence and Homesteads, well timbered and desirably situated, adjoining the site reserved for the proposed new church, at the western end of the picturesque village of Teddington, near to Bushey Park, the River Thames, Hampton Court, and the delightful drive to Kingston. Also the first class villa residences, and for other building purposes, being within a few minutes' walk of the Teddington station on the Kingston branch of the South Western Railway, and within forty minutes' journey of London.—Printed particulars, with plans, may be obtained at the King's Head Inn, Teddington; the Bridge, Kingston; the Mitre, Hampton Court; the Red Lion, Hampton; the King's Arms, Hampton Wick; the Railway Hotel, Twickenham; the Star and Garter, and the Greyhound, Richmond; the Auction Mart, London; of Messrs. JANSON, COLE, & PEARSON, Solicitors, 4, Basinghall-street, London; and of Messrs. DRIVER, surveyors, Land Agents, and Auctioneers, 1, Whitehall, London, S.W.

NORTH LONDON RAILWAY, CITY EXTENSION.—EIGHTH CLEARANCE SALE.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, by order of the Directors of the North London Railway Company, on WEDNESDAY and THURSDAY, AUGUST the 12th and 13th, and TUESDAY and WEDNESDAY, the 18th and 19th AUGUST, the excellent MATERIALS of about 150 Houses, situate in Rosemary place, Dalston lane, Grosvenor-road, and other streets, near the Kingsland-road; comprising about five millions of bricks, 1,000 squares of slating, 5,000 squares of excellent flooring, 20 tons of lead, a large quantity of stone paving, 2,000 feet of iron railing and curb, doors, sinks, stoves, cabinet pieces, &c.—May be viewed the day previous to sale, and Catalogues had on the Premises; and at the Auctioneers' Offices, Camden Town, N.W.

MR. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLORIST, AND LITHOGRAPHER,
Removed from 21, Montague-street, Russell-square, to 58, TORRINGTON SQUARE, W.C.

TO PLUMBERS, PAINTERS, &c.

PARTNERSHIP WANTED, in a very old-established Business, a few miles from London, a thoroughly Practical WORKMAN. Very liberal offers will be made to any respectable person whose references will bear investigation. No person need apply unless he can command 100l. to 200l.—Apply to Mr. HAVERSON, Lead Merchant, Borough, Southwark, near St. George's Church.

PARTNERSHIP. — An Old-Established Cabinetmaker and Builder, doing a good trade in the country, is desirous of meeting with a PARTNER. Substantial reasons will be given, and every facility afforded for an inspection of the books, &c. of the concern. None but a thoroughly practical man need apply. Address, in the first instance, to Mr WM. C. PENNY, Bookseller, Frome, Somerset.

ENGINEER WANTED.—The Epsom Local Board of Health require the services of a thoroughly Practical Man to take the CHARGE and MANAGEMENT of their ENGINES and WATER WORKS, and to Superintend the Laying down and Repair of Water Mains and Private Services and General Drainage Work. Salary, 2l as per week, with a comfortable house and garden. He will be allowed an Assistant. Testimonials to be sent under cover, marked outside "Engineer," addressed to GEORGE WHITE, Esquire, Clerk to the Board, Epsom, Surrey.

TO BUILDERS' FOREMEN.

WANTED, a thoroughly efficient WORKING FOREMAN of CARPENTERS and JOINERS. He must fully understand setting out work and converting materials. One accustomed to Gothic work preferred. Good references indispensable.—Address, stating age and salary required, to R. P. Pocock, Esq., Whampton.

TO SMITHS' FOREMEN.

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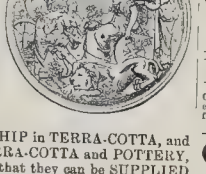
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This Company has been formed to manufacture Files by machinery in lieu of hand labour, whereby the cost will be materially reduced and the quality improved; it is founded on the experience of similar undertakings in successful operation in France and Belgium.

The manufacture of file is one of our most important branches of industry, the annual value produced in the United Kingdom alone exceeding two millions sterling; and the demand created by the increasing use of machine tools largely to this every year. It is a manufacture remarkably free from fluctuation, and yielding fair profits to those engaged in it.

The application of machinery has, in other trades, made great progress; but the manufacture of files (the chief seat of which is at Sheffield) has, notwithstanding one or two attempts, remained without improvement for half a century, although operations much more difficult are daily executed by machinery.

Two causes have mainly contributed to this result—

First—The opposition of the Trades' Union to all change, the denial of free action to the masters, with the fear of outrage, have prevented the use of file machinery at Sheffield.

Second.—The want of file-making machinery adapted to the employment of unskilled labour has prevented its introduction elsewhere.

This latter difficulty has been overcome by the inventions of Bernot and Greenwood. Ordinary operatives, by using this economising machinery, can make every description of file; it can therefore be worked in any locality, thereby rendering the action of the Trades Union inoperative and harmless, and remove the difficulties that have hitherto prevented the successful introduction of file-making machinery.

One of Bernot's file-cutting machines has been erected and set to work in Britto Iglan, and is now in operation with the most satisfactory results.

The following resolution was unanimously passed by the gentlemen (amongst whom were several mechanics and practical file-makers) assembled to witness its operations:—

Resolved.—"That Bernot's file-cutting machine has the advantage of being a valuable labour-saving machine; that it can be worked effectively, under proper supervision, by unskilled labour; and that the files cut by it are equal, if not superior, to the best files cut by hand."

The whole subject has undergone a searching inquiry by Mr. May, the Company's engineer, and the following is a synopsis of his report:—

"I have investigated these inventions, and also the Report of Mr. Richard Allinson on the 'Employment of Machinery in the Manufacture of Files,' and beg to observe . . .

First.—As regards their merits, and the validity of the patents.

I am of opinion that these Patents are perfectly sound, valid, new, and useful, and, as such, safe to invest in; and, to my judgment, the inventions constitute an excellent and effective combination to carry out the system of making files by machinery.

I have visited the file manufactory at Deval, in France, and have seen the machines in full operation. None of them are driven at so high a speed as they might be, and I have no doubt but that with English workmen the production of each machine might be doubled. The cutting was excellently effected, and I consider it to be a feature of the greatest importance that this machine can cut files of any shape which can be cut by hand.

Bernot's Machine, to which the Prize Medal of 1862 was awarded, cuts 14-inch hand bastard files at 1,000 cuts per minute: a handworker cannot exceed 140 cuts per minute.

This difference in productive power is the key to the advantages of employing machinery.

Second.—Are the statements of Mr. Allinson's Report consistent with fact, and correct in their inferences?

I have carefully gone into all the items, calculations, and statements therein contained, mainly with regard to the estimate of cost of production, as compared with the hand system. I have compared the prices with information obtained in other quarters, and find all the data tally, with one unimportant exception, this not forming an item of real cost.

THE COMPARATIVE COST OF MAKING FILES BY MACHINE AND BY HAND.

To make £100,000-worth of Files of sizes from 8 to 18 inches.	By Hand System.	By Machine System	Saving by Machine System	Saving per Cent.
Blank making, cost	£13,324	£5,198	£8,126	£61 10 3
Grinding .... do.	10,764	5,210	5,554	51 12 0
Cutting ..... do.	29,275	11,333	16,942	59 18 4
Hardening and making marketable .... cost	9,464	4 540	4,915	51 18 8
	£61,827	£26,220	£35,607	£57 12 0
N.B.—The cost of steel is not included. It is the same for both systems.		Includes charges to redeem Patents in five years, and fixed plant in eight years		Leaving £42 7s. 6d. as the cost by machinery against £100 by hand.

The cost of works and plant to produce this quantity is estimated at 38,700*l.* and includes an ample provision for all contingencies likely to arise under this head.

Third.—As to the quality of machine-made files.

The teeth are cut with mathematical accuracy—a strong, deep, and sharp tooth being raised with regularity, of uniform depth, and equidistant; and in my opinion they can be produced of a uniformity in good quality which the old or 'hand' system cannot attain. Engineers and others of the highest responsibility have used them upon every description of metal, and in their letters speak confidently of their excellence and durability.

I had gone into this inquiry with somewhat of a prejudice against and suspicion of the whole as a system, but I am bound to say these preconceived notions have been entirely removed, and I am of opinion that if the scheme is carried out on the scale indicated in the estimates, the elements of a sound commercial success would be developed, and a large amount of profit reaped compared with the outlay."

The promoters of the Company have reports and letters from eminent Sheffield file manufacturers, managers, and file cutters, bearing testimony to the efficiency of "Bernot's File-cutting Machine." They have also letters from machinists, engineers, edge-tool makers, carriage-spring makers, smiths, and others—practical mechanics—affirming the superior quality of the files cut by this machine.

An undertaking of this description strongly recommends itself. It has none of the risks consequent on introducing a new article, or one of uncertain demand, but from the universal use and increasing consumption of files it presents marked advantages for the employment of capital.

The profits will be large.—Files costing 10*l.* to be made by hand labour, can, it is confidently believed, be produced under these patents for 4*l.* and of better quality; and as 33 per cent. of all files made must be the product of hand labour for some time to come, selling prices will be sustained, circumstances highly favourable to this company, and affording a fair guarantee as to profits. Licenses will ultimately be granted for the use of the Company's patents, and will become an important source of income.

A provisional contract has been made with the Proprietor, Mr. Allinson, for the purchase of these Patents upon favourable terms. He is to receive 3,000*l.* in cash upon the execution of the transfer, and no further payment is to be made until the Company has realised a net profit of 10 per cent. upon the paid-up capital. Upon such profits being so realised annual payments are to be made to Mr. Allinson during the continuance of the patent rights, according to the following scale, viz.: So long as the net profits, after the formation of a depreciation fund upon a specified liberal basis, shall be not less than 10 per cent upon the paid-up capital, Mr. Allinson to receive 1*l.* per cent. on such capital. For every 2*l.* per cent. net profit realised by the Company over and above the 10 per cent. Mr. Allinson to receive an additional half per cent. The Company to be at liberty to redeem these annual payments at any time by paying to Mr. Allinson such a sum as, with the sums then paid to him according to the foregoing scale, will amount to 70,000*l.* It is proposed to appoint Mr. Allinson the General Manager. These arrangements will at first afford the best evidence of his confidence in the undertaking, will, it is believed, greatly conduce to its full development and success.

The first works will be erected in Birmingham, which town possesses all the essentials for economy of manufacture—cheap fuel, materials, and artisans unequalled in mechanical and manipulative skill.

Numerous buyers and consumers of files have expressed a desire to become shareholders in this undertaking, and thus obtain the manufacturer's profit in addition to their own. The success of the Company will be favourably influenced by this class of subscribers.

This undertaking has the goodwill of engineers and machinists; they anticipate by its agency that a great manufacture will become free to introduce machinery upon an extensive scale, to the great advantage both of masters and men.

The provisional committee will proceed to allotment so soon as 5,000 shares are applied for.

A copy of the articles of association lies for the inspection of applicants for shares at the Solicitors' Offices.

Prospectuses and forms of application for shares may be had at the Offices of the Company, 27, Moorgate-street, London, and 29, Waterloo-street, Birmingham; the Bankers of the Company; and also of the following Brokers:—

The Members of the Birmingham Stock Exchange.
Mr. Samuel Fernyhough, Manchester.
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FORM OF APPLICATION FOR SHARES.

To the Directors of the Patent File Company, Limited.

GENTLEMEN,—Having paid to your bankers,* the sum of ..... shares in the above Company, I request that you will allot me that number, and I hereby agree to accept such shares, or any less number which may be allotted to me and to pay the remainder of the deposit on allotment, and all calls when due on the shares allotted, and I agree to sign the articles of association if required.

Name in full.....
Address .....
Profession or business .....
Date.....

* If the account is paid direct to the secretary by cheque, it must be crossed with the name of the Company's bankers, and if by post office order, must be made payable to him. The receipt will be forwarded by return of post.

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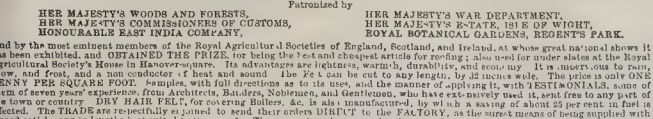
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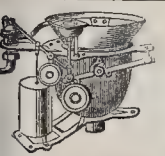
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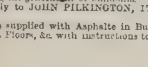


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L. & SON find it necessary to state that all the Ball and other Valves manufactured by them, have their NAME legibly marked thereon.

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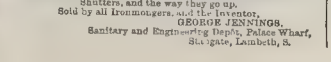
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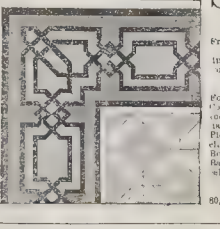
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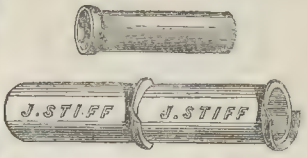
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IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

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STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





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HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further Machine.

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Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

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PATENT INDURATING SOLUTIONS,

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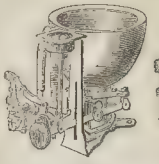
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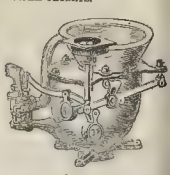
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Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No intervening valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London





UNDERHAY'S PATENT REGULATOR CLOSETS

for constant or intermittent supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c

In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

F. G. UNDERHAY

now manufactures on HIS OWN ACCOUNT his Patent Regulator Water-Closets, Valves Gas Meters, &c. on the same premises.

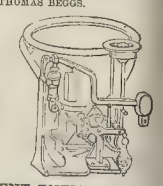
CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

GUEST & CHRIMES, FOUNDRY and GENERAL BRASS WORKS,

Rotherham; and 37, Southampton street, Strand, London, W.C.

London House, Mr. THOMAS BEGGS.





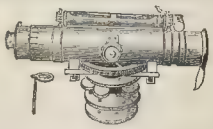
ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient and simple, free from all smell, and requires no cisterns, service boxes, cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipes. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are lastly applied to the ordinary Pan Closet, alike dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary direct Service Main Cottage Water Closets.

Chrimes's Patent High pressure Single and Double Loose Valve and Screw Down Cocks; Improved Self-acting and Pull Water-Closet; Patent Absolute Water Waste Preventer. Plumbers' and Gas-Fitters' Brass Work of every description. Drawings, Descriptions, Prices, and Testimonials will be forwarded per post on application as above.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS

SCALES, TAPES, CHAINS, T SQUARES, RULES, &c



JOHN ARCHBUTT & SONS,

20, WE-TMINSTER BRIDGE ROAD, LAMBETH,

Near Astley's Theatre.

Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The Prices will be found remarkably Low. Every article warranted. Second hand Instruments of all kinds by the best makers, always in stock.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13.

Only Medal awarded for "excellence of construction of Mathematical Instruments."

SQUARES.—W. F. STANLEY,

late STANLEY & ROBINSON'S IMPROVED.

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal" 45-inch, 5s and 7s. 6d.; 31-inch, 2s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use.

Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s 6d post free,

STANLEY'S IMPROVED DRAWING PEN

PRIZE WAGGONS and CARTS.—

HAYES & SON,

Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,

Coach and Cart Wheelwrights, Spring Van and Waggon Builders, Timber Merchants, Contractors, &c.

Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation.

Contractors' and Builders' Dobbin and other Carts, Barrows; Navvy, Excavators', Crowding, and Oil bearing ditto, on the shortest notice and of the best materials; &c.

HAYES & SON,

SCOTGATE WORKS, STAMFORD.

CLINTON & OWENS, LATE
BENJAMIN FOWLER & CO. Whitefriars-street, Fleet-street, London,
MANUFACTURERS OF PUMPS AND HYDRAULIC MACHINERY OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DOMESTIC, AGRICULTURAL, OR MANUFACTURING PURPOSES, OR FOR CONTRACTORS' USE, TO BE WORKED BY HAND, HORSE, WATER, WIND, OR STEAM POWER.

Portable Steam Engines, Powerful Single and Double-Barrel Pumps, Centrifugal Pumps, and Boring Tools for Contractors' Purposes, ON HIRE.

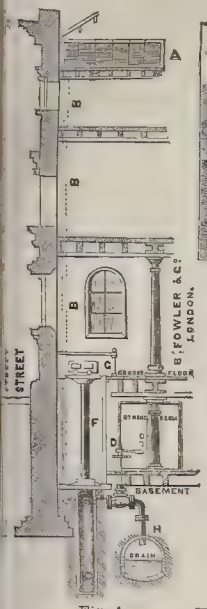


Fig. A.



THE LANDSCAPE SKETCH ABOVE SHOWS

THE IMPROVED HYDRAULIC RAM.

This is a simple Self-acting Machine for Raising a Constant Supply of Water for Use in Public or Private Establishments where a fall can be secured from a Stream, Brook, or Spring. Messrs. FOWLER have fixed a great many Hydraulic Rams in various parts of the country, for raising from 600 to 6,000 or more gallons per day to elevations varying from 30 to 300 feet, and forcing through main pipes from 50 yards to several miles in length. The fullest particulars and estimates will be handed on application.

No. 37 SHOWS A SET OF

TREBLE-BARREL PUMPS WITH HORSE GEARING,

For Raising Water from DEEP WELLS for the SUPPLY of TANKS in MANSIONS and PUBLIC BUILDINGS. Messrs. CLINTON & OWENS also Manufacture and Erect every other Form of Pump for Deep or Shallow Wells for Hand or other Power.

Fig. A SHOWS

A HYDRAULIC LIFT,

Worked by Pressure from a Cistern. Suited for Banks, Warehouses, and other Buildings. Messrs. C. & O. also Manufacture such Lifts to be worked by Hand Pumps, where pressure cannot be obtained from a Cistern.

CLINTON & OWENS

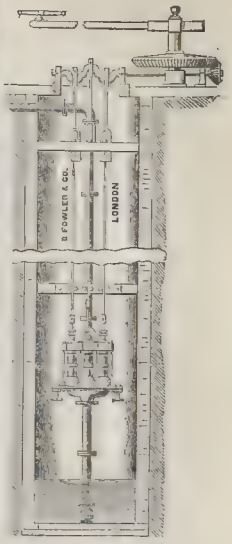
MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

PUMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE, STEAM ENGINES, WATER-WHEELS, TURBINES, HOISTS, WARMING AND DRYING APPARATUS, BATHS, GAS WORKS, AND FITTINGS.

ESTIMATES WILL BE HANDED ON APPLICATION.

PRICE LISTS OF PUMPS FREE BY POST.



No. 37.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C
BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	....	£2 10
3 "	....	2 15
4 "	....	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 19s

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. It is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and awkward levers and guides are unnecessary, rendering the pump considerably less than Pumps made on the old plan.

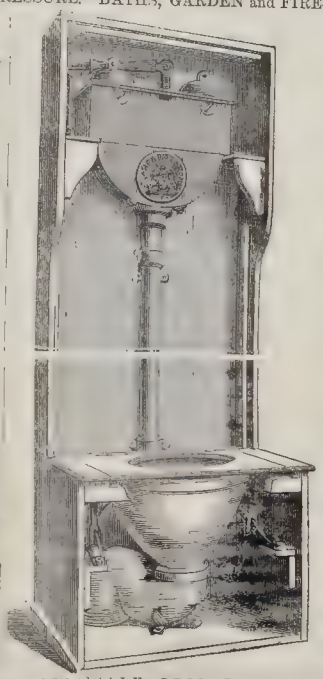
2½ inch	....	£4 4 0
3 "	....	5 5 0
21 "	....	6 6 0

Larger sizes when required.

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	.....	£3 10 0
3 "	.....	4 0 0



IMPORTANT TO WATER COMPANIES

No. 206, B. C. WARNER'S Improved SELF ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	2 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.



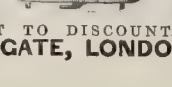
No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0

Bunk Handle, extra 0 2 0

Blue Basin, extra 0 1 0

No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin £3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

TO IRONMONGERS, BUILDERS' SMITHS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Mr Wright, who has let the Premises, and is retiring from business, to SELL by AUCTION, on TUESDAY, AUGUST 4, 1863, and following day, at ELEVEN, on the PREMISES No. 102 Lambeth Marsh, the STOCK of BLACK IRONMONGERY, SMITHS' TOOLS, &c. 50 bags wrought and cut nails, 30 gross screws, locks latches, wrought and cast hinges, 50 dozen files and rasps cast and shear steel, rod and bar iron, register and Hunter's stoves, 10 cwt. sash weights and wall-plates, 12 feet coach bits and nuts, 10 dozen spades and shovels, black hollow ware, brass work, bellows, anvil and locks' smiths' stock, 7 vices, anvils, swages, bellows, fly-press, screwing tackle, a general assortment of ironmongery, and a few lots of household furniture.—To be viewed on Monday previous and morning of sale, when catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

KENTISH-TOWN.—Valuable compact Copyhold Estate, of the value of 260l. 18s. per annum.

MR. MARSH has received instructions from the Mortgagee to SELL by AUCTION, at the MART, on THURSDAY, AUGUST 6th, at TWELVE, in one lot, a valuable compact COPYHOLD ESTATE, comprising a brick built residence (with possession), known as College house, or the Lyceum Kentish-town road; two dwelling-houses adjoining, known as Gre-n-lodge and Flora cottage; a dwelling-house, No. 9, in Little Green-street, and in College-lane in the rear; four brick-built houses, known as Nos. 1 and 2, Pleasant-cottages, and Nos. 1 and 2, Hope cottages; a commodious dwelling-house and laundry; and a brick-built chapel and a plot of building ground adjoining the Lyceum, with a frontage to the main road, the whole of the value of 260l. 18s. per annum. Also a Copyhold Ground Rent of 10l. per annum, reddim out of and amply secured on five newly-built residences, Nos. 1 to 5, Go pal-terrace, adjoining the foregoing. May be viewed, and particulars with conditions of sale obtained on the Premises; of Mr. WELLS, Esq. Solicitor, Founder's-hall, St. Swithin's-lane, E.C.; and at Mr. MARSH'S offices, Charlotte-row, Mansion-house

London, Brighton, and South Coast Railway, South London Line. To Building Material Dealers and Others. Fourth Sale

MR. PEAKE is ordered by the Directors to SELL by AUCTION, on the PREMISES, Lanark-house, Queen's-road, Peckham, on THURSDAY, AUGUST 6th, 1863, at TWELVE for ONE o'clock precisely, the valuable BUILDING MATERIALS, comprised in the detached Family Residence situate and known as Lanark-house, Queen's-road, Peckham and of the house adjoining, situate in Bath-place, near the Bath Tavern and also of the house called Alma cottage, Slough-lane, Peckham.—May be viewed the morning of sale, and catalogues obtained at the Bath Tavern, Bath-road, Peckham; of Messrs. G. FAITHFULL & SON, & CODE, Solicitors, 33, Parliament-street; of F. D. BANISTER, Esq. Engineer's Office, London-bridge Terminus; and at Mr PEAKE'S Land and Estate Offices, 44, Tooley-street, Southwark.

CAMDEN TERRACE, CAMDEN TOWN, near the Railway Station.—BUILDER'S and CABINET MAKER'S STOCK, consisting of 180 pine, yellow, white, and spruce planks deals and battens; 100 squares of flooring, 4,000 feet of quarter inch, of 1 feet the square, 2,000 feet of Spanish and Honduras mahogany, from 1 inch to 3 in pine board, dry cut stuff, 100 long scaffold poles, falls, 6 blocks, 10 ladders, doors, &c.

MESSRS. LEREW & LEREW are directed to SELL by AUCTION the above stock, on MONDAY, AUGUST 10th, at TWELVE o'clock.—Auction Offices, Carlington-street, Hampstead-road, N.W.

TO BE SOLD BY AUCTION, pursuant to a decree of the High Court of Chancery, made in the cause, "Emerson v. Mason" and "Emerson v. Pearce," with the approbation of the Vice Chancellor Sir Wilmin Page Wood, the Judge to whose Court the said causes are attached, by

MESSRS. DRIVER (the persons appointed by the said Judge), at the AUCTION MART, London, on WEDNESDAY, August 19th, at TWELVE for ONE o'clock, in ten lots, the following FREEHOLD and COPYHOLD ESTATES, viz:—

Lot 1. A Freehold and Copyhold Estate, called Crow's Nest Farm, in the parish of Harefield, Middlesex; comprising 37a. 3r. 31p. of excellent grass land, with farm-house and buildings, having the high road leading from Uxbridge to Harefield, in the occupation of Mr Henry Lewis, as a yearly tenant of 47l.

Lot 2. A Freehold Estate; comprising a cottage garden, orchard, and premises, situate near to Crow's Nest Farm, in the parish of Harefield, Middlesex, and containing 1a. 0r. 16p. in the occupation of Mr Frank Woodman, as yearly tenant, at the apportioned rent of 12l. 12s. per annum.

Lot 3. A Copyhold estate, held of the manor of Ruislip, situate in Ruislip Common Field, in the parish of Ruislip, Middlesex, containing 1a. 3r. 38p. of excellent pasture land, in the occupation of Mr. Francis Woodman, as yearly tenant, at the apportioned annual rent of 2l.

Lot 4. A Cottage and Land, copyhold of the manor of Down Barns, containing 2a. 3r. 3p. in West End, in the parish of Northolt, Middlesex, in the occupation of Mr Wm. Hawkins, as yearly tenant, at the rent of 15l. per annum.

Lot 5. A Freehold Cottage, Garden, and Land, copyhold of the manor of Down Barns, containing 4a. 1r. 22p. situate at West End, in the parish of Northolt, Middlesex, in the occupation of Mr. A. Ralph Beck, as yearly tenant, at 40l. per annum.

Lot 6. A Freehold and Copyhold Estate, the copyhold being held of the manor of Harrow, and the whole being tithe free, at Roxeth Green, comprising about one hundred and fifty yards fronting the road from Ruislip and the lane called Mol. Cobbe-lane from Pinner to Harrow, comprising two pieces together containing 2a. 1r. 4p. of rich meadow and grazing land, well known as Roxeth Green Meadows, let to and in the occupation of Mr Thomas Edlin, as yearly tenant, at the rent of 80l. per annum.

Lot 7. A Freehold and Copyhold Estate (tithe free), known as Tanner's Park Farm (formerly Park Farm), Hampton, Middlesex, on the high road from Hampton to Hanworth, with comfortable residence and a commodious homestead; comprising 253a. 1r. 31p. of arable, meadow, and pasture land, in the occupation of Mr. Alfred Charles Cooley, at the rent of 290l. per annum.

Lot 8. A Freehold Estate, long since renewed, in the parish of Hambledon, Bucks, within three miles of the town of Great Marlow, 2 miles from the railway station at Marlow road, five from High Wycombe, seven from Henley, and eight from Maidenhead; comprising 300a. 2r. 4p. of rich arable, pasture, and wood land, with farmhouse and homesteads, and the labourers' cottages, let to and in the occupation of Mr Joseph Hedges, as tenant of the property forming Lots 9 and 10, as yearly tenant, at the rent of 320l. per annum

Lot 9. A Freehold Estate, Meadow Land, situate at Bennett's-hill, about two miles distant from the last lot, in the parish of Hambledon aforesaid; comprising 12a. 2r. 8p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 10. A Freehold and Copyhold Estate, in the parish of Hambledon aforesaid; comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 11. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 12. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 13. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 14. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 15. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 16. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 17. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 18. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 19. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 20. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 21. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 22. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 23. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 24. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 25. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 26. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 27. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 28. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 29. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 30. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 31. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 32. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 33. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 34. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 35. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 36. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 37. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

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Lot 39. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

Lot 40. A Freehold and Copyhold Estate, in the parish of Great Marlow, and in the township of Bisham, with Lock and Ferry, comprising 14a. 3r. 38p. more or less, in the occupation of Mr. Joseph Hedges, as tenant, at the rent of 30l. per annum.

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CLEARANCE SALE.—Nos. 19 and 20, New Bond-street.

MESSRS. WILKINSON & HORNE have received instructions from Messrs. Redington & Co. (who are about to remove the whole of their premises in New Bond-street) to SELL by AUCTION, on the PREMISES on MONDAY, AUGUST 3, at ONE o'clock precisely (unless previously disposed of privately), the whole of the BUILDING MATERIALS; comprising about 300 tons of fine Bath stone, eight tons of cast, plate-glass shop fronts, fittings &c. May be viewed the SATURDAY prior to the sale, and Catalogues had of Messrs WILKINSON & HORNE, Land Agents and Valuers, 2, Morgate-street, Bank.

CATERHAM JUNCTION, near CROYDON.—NEW MATERIALS, used for the Seats and Platforms on the occasion of the laying of the foundation-stone of the Warthonemen and Clerks' Schools by H.R.H. the Prince of Wales

PULLEN, HORNE, & EVERSFIELD are instructed by the contractors to SELL by AUCTION, in lots, on the PREMISES, near the Caterham Junction station, about two miles from Croydon, on MONDAY, AUGUST 3rd, at TEN for ELEVEN (in consequence of the number of lots), the whole of the Excellent New Materials used on the above occasion, and consisting of 25,000 feet of deals and planks, suitable for sheds; 6,000 feet of boards and battens; 3,000 feet of die squares; 80 squares of 1-inch boarding; 40 squares of 1 inch ditto; 4,000 feet of slating battens; 100 scaffold poles, and a large quantity of short ends, firewood, and useful stuff.—May be viewed, and catalogues had at the Wells's Castle Inn, Brighton-road, Croydon; at the Greyhound Inn, Croydon; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

LOMBARD-STREET.—Excellent Building Materials, and Office Fittings of a Banking House.

PULLEN, HORNE, & EVERSFIELD are instructed by AUCTION, on the PREMISES, on TUESDAY, AUGUST 4th, at TWELVE, to clear the site for rebuilding, all the excellent BUILDING MATERIALS, OFFICE FIXTURES, and FITTINGS of the spacious Banking House and Premises, Nos. 53, 54, and 55, Lombard-street, and Nos. 1 and 2, George yard, adjoining; comprising about 300 tons of stock brickwork, excellent timber, in roofs and floors, tiling and slating, plate-glass sashes and skylights, marble chimney-pieces, sound floorboards, closets, presses, plate glass and mahogany lobby doors, plate-glass and wainscot partitions, iron spiral staircase, mahogany panelling, mahogany and wainscot double and single slope desks, counters, pedestals of drawers, office enclosures, capital iron repositories for water apparatus, fittings of lavatories, several tons of lead in flat gutters, cisterns, and pipes, stoves, ranges, gas fittings, and numerous useful fixtures and effects.—May be viewed the day previous and catalogues had at Mr HARDWICK'S office, 21, Cavendish-square, and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

GREENWICH HOSPITAL OLD CLOTHING STORES and MATERIALS.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Greenwich Hospital to SELL by AUCTION, at the STORE YARD of the said Hospital, on WEDNESDAY, AUGUST 5th, at ELEVEN, a large quantity of OLD STORES; comprising blue wool cap, coats, waistcoats, and trousers; cuttings of blue cloth, white and striped linen and rags, overalls, blankets, bed ticks, flannels, hats, shoes, &c. Also a quantity of old materials metal, ironwork, &c. belonging to the Works Department. May be viewed two days prior to the sale, on the boats of THREE and FOUR; and catalogues obtained at the Offices of the Steward and Inspector of Works, Royal Hospital; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

Building Materials, King's-road, Gravesend-square.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, AUGUST 7, at TEN for ELEVEN, the BUILDING MATERIALS and FITTINGS UP of STABLES and COACH-HOUSE, in Blackburn's mews, King's-road, Gravesend-square, near Park-lane, of the usual description.—May be viewed the day previous, and catalogues had at Mr. HARDWICK'S Office, 21, Cavendish-square; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

WESTMINSTER.—Extensive Sale of the Building Materials of about Fifty Houses, large Lecture Hall, Stabling, and other buildings, occupying nearly the whole of the east side of Vincent-square, and extending to the Vauxhall-bridge road

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION on the PREMISES, on FRIDAY, AUGUST 7, and TWELVE, the first portion of the valuable MATERIALS and FITTINGS UP, which will comprise the large lecture hall in Vincent-square, and about fifty houses in Edward-street, Stanford-street, Cottage-place, St. Peter's-place, and Vauxhall-bridge road; also about 5,000 feet of York and Yorkshire paving, and pan tiles, slates, sound timber roofs and floors, floor boards, doors, sashes partitioning, stoves, ranges, iron railing, pebble pavings, several tons of lead in flat gutters, cisterns, and pipes.—May be viewed previous, and catalogues had at the Offices of Messrs HUNT & STEPHENSON, 4, Parliament-street; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, City.

OLD JEWRY.—The capital materials of the extensive pile of buildings known as 7 and 8, Old Jewry, including the premises lately occupied as the Lord Mayor's mint office.

PULLEN, HORNE, & EVERSFIELD are instructed by the Worshipful Company of Grocers to SELL by AUCTION, on the PREMISES, on TUESDAY, AUGUST 11, at TWELVE, in lots, the whole of the capital valuable BUILDING MATERIALS of the large Mansion and the extensive range of office, warehouses, and premises known as Nos. 7 and 8 old Jewry, extending in the rear to Grocers' Hall court; comprising 600,000 sound bricks, stone rafters, plate, girders, and other excellent timber; 150,000 plain tiles, 40 square slates, 150 sashes, large skylights, 200 doors, inside and external shutters, panelling, and glazed partitions, wainscoting; cranes and jibs, loop-hole doors, fo ding gates, 20 tons of lead in large flats gutters, cisterns, sinks, and pipes; 5 iron doors, and erection of strong rooms, iron safe, safes, iron and other screws, grates, pumps, and numerous useful items and fittings in.—May be viewed the day previous, and catalogues had of W. RUCK, Esq. Grocers'

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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ILLUSTRATIONS.

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BUILDERS' BENEVOLENT INSTITUTION.—An ELECTION of THREE PENSIONERS (two males and one female), will take place in NOVEMBER next. Candidates may obtain forms of application (to be returned on or before 31st AUGUST), at the Offices, 24, Southampton street, Bloomsbury. Pensions, 24l. per annum for Males, and 20l. for Females.

July 31, 1863. A. G. HARRIS, Secretary.

RAMSGATE COLLEGE SCHOOL.—A PROSPECTUS of TERMS and all further information may be obtained of the Principal, the Rev. T. STANTIAL, M.A. Oxon. Four pupils from this school passed the Senior Oxford Local Examination in June last, all of them in honours, and one, third in the first class.

CRAWFORD COLLEGE, Maidenhead, Berks.—CHEMICAL DEPARTMENT, under Direction of Mr. J. J. COLEMAN, F.C.S.—CHEMISTRY, with its application to Agriculture and Manufactures, may be exclusively studied, or combined with a complete Course of General Education.—Detailed Prospectuses by Post. Terms moderate.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE will shortly be REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the present establishment. These will afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive operations by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work

31, Bishopsgate street Within, July, 1863.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

PRIZES to ARTIST WORKMEN are now offered. For WOOD CARVING, 20l. and 5l.; and for COLOURED DECORATION, 5l. 5s. and 3l. 3s.—Particulars may be had by letter to the Hon. Secretary, at 13, Stratford place, W.

E. BERESFORD HOPE, President.
GEO GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

THE MUSEUM of PRACTICAL GEOLOGY, Jermyn street, will be CLOSED from the 10th of AUGUST until the 10th of SEPTEMBER.

CONTRACTS.

SHERBORNE LOCAL BOARD of HEALTH.—WATERWORKS CONTRACT.—Persons desirous of TENDERING for the MANUFACTURE and SUPPLY of certain HYDRAULIC MACHINERY, PUMPS, CONNEXIONS, and GEAR, may see the specifications and drawings at the Office of Mr C SHERWOOD NEWMAN, C.E. The Green Sherborne, Dorset, on and after the 22d inst. Tenders to be sent in to the undersigned, duly signed, sealed, and endorsed "Tender for Machinery."—By order of the Board, J. Y. MELMOTH, Clerk.

TO BUILDERS.—Oldcastle, Monmouthshire, near the Pandy station, between Hereford and Abergavenny.—Plans, specifications, and conditions of contract for RE-TOWING and RESEATING the PARISH CHURCH may be seen on application to the Rev. THEOPHILUS MORGAN, at Glanhoddin, near Pandy station, to whom also, TENDERS may be sent, on or before the 31st day of AUGUST, 1863. The lowest or any Tender not necessarily accepted. JOHN P. SEDDON, Architect,

6, Whitehall, London.

CONTRACTS.

WAR DEPARTMENT CONTRACT.
NOTICE to BUILDERS.—Tenders are required for the ERECTION of the superstructure (from the ground line) of a NEW HYDRAULIC ENGINE-HOUSE in the Tower of London.

Parties desiring to tender for the erection of these works must leave the names at the office on or before the 11th of AUGUST, 1863 (between the hours of ELEVEN a.m. and THREE p.m.) and pay the sum of half-a-guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, London District, 11, James street, Buckingham gate, S.W. 28th July, 1863.

WAR DEPARTMENT CONTRACTS.
NOTICE to BUILDERS.—TENDERS are required for the ERECTION of an INFANT SCHOOL and SCHOOL MISTRESS'S QUARTERS at Cumbridge Cottages, Midhurst, Worcester.

Parties desiring to Tender for the execution of these works must leave their names at the office on or before the 12th day of AUGUST, 1863, and pay in cash the sum of ten shillings and sixpence for the Bills of Quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor

The Secretary of State does not bind himself to accept the lowest or any Tender

Royal Engineer Office, Woolwich, 28th July, 1863

SCARBOROUGH CLIFF HOTEL.—To BUILDERS, CONTRACTORS, and OTHERS. The Directors of the Scarborough Cliff Hotel Company (Limited) hereby give notice, that they are prepared to receive TENDERS for the ERECTION of the above HOTEL, according to drawings and specifications prepared by Mr. CUTHBERT BRODRICK, Architect, 31, Buckingham-street, London, W.C. and 2, Park place, Leeds. The front portion only to be erected at the Architect's option, on levels, on or about MONDAY, the 17th day of AUGUST. Tenders are to be sent to the Office of the Company, 31, Huntress-row, Scarborough, on or before the 31st day of AUGUST. Bills of Quantities and forms of Tender will be furnished to persons tendering, on application to Mr AUSTIN, Surveyor, 11, Backhouse-street, Strand, London, W.C. The Directors do not bind themselves to accept the lowest or any Tender, and the person whose Tender may be accepted will be required to produce security for the due and satisfactory performance of the works by the time specified in the conditions. T. W. D. L. FERNANDES, Secretary.

Scarborough, 28th July, 1863.

VESTRY of St. MARY, Newington, Surrey.—To BUILDERS and OTHERS.—Persons desirous of submitting TENDERS for the ERECTION of a VESTRY HALL and OFFICES, to be built on the Walworth road, Newington, Surrey, are hereby informed that they can see the drawings and specification, and obtain a copy of the bills of quantities, by applying to Mr. HENRY JARVIS, Architect, at his Office, No. 28 Trinity-square, Newington, between the hours of TEN and FOUR o'clock. The Tenders are to be delivered at the Vestry room, St Mary's Church, Newington, on FRIDAY, the 11th SEPTEMBER next, at NINE o'clock in the evening, or previously thereto, at our Office as before, and must be accompanied by a sealed envelope, containing the names of two proposed sureties in 500l. for the due performance of the contract. The Vestry do not bind themselves to accept the lowest or any Tender H. & F. CHESTER, Joint Clerks to the Vestry.

1, Church-row, Newington Butts.

BELFAST HARBOUR.—The Belfast Harbour Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a FLOATING DOCK and a GRAVING DOCK, of large dimensions, according to plans and specifications to be seen at the Office of the Commissioners, where Tenders must be made in the form attached to the specifications, to be addressed to the Secretary, and to be delivered at this Office, not later than the 7th of SEPTEMBER next. Lithographed copies of the specifications can be had by intending Contractors on application to the Engineer, at 20l. for the complete set. The lowest or any Tender will not necessarily be accepted. JOHN THOMPSON, Secretary.

Harbour Office, Belfast, July 21st, 1863.

LONDON and NORTH-WESTERN RAILWAY.—To CONTRACTORS and BUILDERS.—The Directors are desirous of receiving TENDERS for the ERECTION of additional WORKSHOPS at Crewe Station. Parties desirous of Tendering may see the drawings and obtain a statement of the quantities upon application to Mr. WILLIAM BAKER, Engineer's Office, Euston Station, and after MONDAY, AUGUST the 3rd, between the hours of TEN and FOUR o'clock. Tenders addressed to the Secretary at this Office, to be sent in on or before WEDNESDAY, the 12th of AUGUST, at FOUR o'clock p.m. The Directors do not bind themselves to accept the lowest Tender.—By order,

Euston Station, 23rd July, 1863. C. E. STEWART, Sec.

TO BUILDERS.—A VILLA RESIDENCE is proposed to be erected at Hoddesdon, Herts, for Walter Mabey, Esq. Parties willing to TENDER for the same can see the drawings and specification, and obtain the quantities at the Office of JONAH FORSTER FAIRBANK, C.E. 20, Parliament street, Westminster, S.W. on and after SATURDAY, the 8th AUGUST, from ELEVEN to FOUR. Tenders to be sent to WALTER MABEY, of Hoddesdon, not later than THREE o'clock, on SATURDAY, the 15th AUGUST. Neither the lowest nor any other Tender will necessarily be accepted.

HEYWOOD WATERWORKS.—The Directors of the Heywood Waterworks Company are desirous of inviting TENDERS for the FORMATION of an ADDITIONAL RESERVOIR at the Naden Woods, between the two existing reservoirs of the Company, with all the necessary embankments, weirs, and other works connected therewith. The embankments will contain about 80,000 cubic yards. The works are situated near Bamphills, about three miles from Rochdale. Plans and specifications may be seen, and further information obtained, at the Office of Mr. CAWLEY, Civil Engineer, 7, Parliament street, London, or at John Dalton street, Manchester, on and after WEDNESDAY, the 19th of AUGUST; and Tenders must be delivered at the Company's Offices, Heywood, on or before MONDAY, the 31st of AUGUST next.

CONTRACTS.

EDGWARE HIGHWAY BOARD. The BOARD of WAYWARDENS are desirous of receiving TENDERS for the SUPPLY of 20,000 YARDS of KENTISH RAGSTONE, broken to a two inch gauge, to be delivered along the Finchley Turnpike Road between Child's Hill Turnpike and the boundary of the parishes of Hendon and Finchley (about two miles in length), at such places as the District Surveyor of the said Board shall order. Also for the supply of 150 yards of Mount Sorrel or Guernsey Granite as the Board may select, suitably broken, to be delivered within three miles of the Marble Arch, in such quantities, and at such times as the said Surveyor may direct. Tenders to be delivered to me on or before TUESDAY, the 11th of AUGUST inst. of which any further information may be obtained. By order of the Board, W. A. TOOTELL, Clerk.

Edgware, N.W. August 1, 1863

METROPOLITAN BOARD of WORKS.
THAMES EMBANKMENT, MIDDLESEX SIDE.—To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give notice, that they will meet at the Office of the Board, Spring Gardens, S.W. on FRIDAY, the 28th day of SEPTEMBER next, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION, COMPLETING, and MAINTAINING in REPAIR for Two calendar months from the completion of the whole thereof, the following WORKS, that is to say:—A certain Embankment Embankment Wall, 1 mile 60 chains in length, or thereabouts, with such Landing Places, Steam boat Piers, Sewers, Subway, Storm outfalls, and other Works in connexion therewith situate and lying on the foreshore of the River Thames, on the Middlesex side, between Westminster and Waterloo Bridges. Parties desirous to submit Tenders may, on and after THURSDAY, the 20th DAY of AUGUST, upon payment of 10s. 6d. each plans, sections, specifications, form of Tender, and other particulars, on application to Mr J. W. BAZALGETTE, Engineer of the Board, at the Office, 31 Spring Gardens, addressed to the Clerk of the Board, and must be delivered at this Office before FOUR o'clock on the last-mentioned day, and no Tender will be received after that hour. The parties Tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two or more approved sureties for the due and satisfactory performance of the works.

JOHN POLLARD, Clerk of the Board.

Spring Gardens, S.W. July 27th, 1863

ST. MARTIN-IN-THE-FIELDS. — CONTRACTS for CLEARING AWAY the DUST and ASHES, and for LOADING and CARTING AWAY the SLOP and STREET SWEEPINGS, from the several Streets, Lanes, Courts, and Places within the said Parish.—The Vestry of the said Parish will meet on THURSDAY, the 13th day of AUGUST, 1863, at SEVEN o'clock in the evening precisely, in the Vestry Hall, to receive TENDERS from persons wishing to CONTRACT for REMOVING the DUST, ASHES, and REFUSE from the Houses and Premises of the Inhabitants of the said Parish, and for LOADING and CARTING AWAY the SLOP and SWEEPINGS of the several Streets, unpaved and other roads and places in the said Parish, under the jurisdiction of the Vestry, during the term of three years, at the option of the Vestry, from the 29th day of September, 1863, the Vestry undertaking to find labour for sweeping the same streets, roads, and places as heretofore, and provided forms of Tender may be had, on application to their Surveyor, Mr. R. K. BURSTALL, at the Vestry Hall, between the hours of TEN and TWELVE. The Vestry do not bind themselves to accept the lowest Tender or any Tender. Separate Tenders will be required for each Contract, and the parties Tendering must specify their willingness or unwillingness to undertake either of the said Contracts separately, at a separate price. The expense of preparing the Contracts and bonds, with two sufficient sureties, to be paid by the Contractor to the Solicitor for the Vestry

Forms and printed forms of Tender will be procured, nor will any Tender be received after SIX o'clock on the day appointed for the meeting of the Vestry. Tenders to be addressed to the Vestry, Vestry Hall, St. Martin's place, headed, "Dusting Contract," or "Cleansing Contract." J. DANGERFIELD, Vestry Clerk

August, 1863

PARISH of SAINT JOHN of WAPPING, Middlesex.—To BUILDERS.—The Vestry of Wapping are desirous of receiving TENDERS for the ERECTION of a VESTRY ROOM and OFFICES at High street, Wapping, at the corner of Church street. The plans, specification, and conditions of Contract can be inspected upon application to Mr CHARLES DYER, Architect, White Horse street, Commercial road East, and a copy of the quantities and form of Tender obtained upon depositing the sum of 2l. 2s. which will be returned to each person sending in a Tender. Sealed Tenders, endorsed "Tender for Vestry Room," must be delivered at the Office, No. 8, Crescent, Minories, not later than FOUR o'clock on MONDAY, the 17th day of AUGUST, 1863. No Tender will be received which is not upon the proper form. The Vestry will not be bound to accept the lowest or any Tender. Two approved sureties will be required for the due performance of the Contract.

R. GLYNES, Vestry Clerk.

8, Crescent, Minories, 3rd August, 1863.

CAST-IRON PIPES.—To IRONFOUNDERS.—The Directors of the Fylde Waterworks Company are prepared to receive TENDERS for the SUPPLY of PIPES of the following diameters and lengths:—

Diameters in inches	7	6	5	4	3
Lengths in yards	1,700	2400	2,200	2,600	13,000

The pipes will be laid in the towns of Blackpool, Southshore, Fleetwood, Kirkham, and Lytham—specifications and forms of Tender, price 1s. may be obtained at the Office of Mr T. B. FOSTER, Civil Engineer, 23, John Dalton-street, Manchester; and Tenders must be sent in to Mr. T. A. WILKINSON, Secretary, Waterworks Office, Kirkham, not later than 1st SEPTEMBER next. The Directors do not bind themselves to accept the lowest or any Tender.

For remainder of Contracts see next Page.

CONTRACT for GRANITE STONE.—The Council of the Borough of Margate will meet at the Town Hall, on TUESDAY, the 18th day of AUGUST instant, at ELEVEN o'clock in the forenoon, to receive TENDERS for the SUPPLY of about EIGHTY TONS of BLUE GUERNSEY GRANITE, broken to a two-inch gauge; of about 240 feet lineal FLAT KERB, 10 feet Lineal EDGE KERB, and 200 Feet GRANITE TRAMWAY, and about Ten Tons of PITCHERS. The same to be delivered free of charges over the ship's side in the Harbour of Margate, by the 20th NOVEMBER next. Further particulars may be had on application to

WM. BROOKE, Town Clerk, Margate.

Margate, August 4th, 1863.

RANDOLPH HOTEL COMPANY, OXFORD (Limited)—NOTICE to BUILDERS.—Builders in Oxford, London, and elsewhere, who are willing to TENDER for the BUILDING of the RANDOLPH HOTEL, in OXFORD, are requested to send in the Names and Addresses to the Secretary, at the Offices of the Company, 18, Magdalen street, Oxford, on or before TUESDAY, AUGUST 18th. The Company do not undertake to offer the Contract for Tender to more than six of those whose names may be sent in. It is intended that the works should be begun in October next.—By order of the Directors,

J. B. SPEARING, Secretary.

SLUICE COCKS and HYDRANTS.—The Directors of the Fylde Waterworks Company are prepared to receive TENDERS for a SUPPLY of SLUICE COCKS, varying from 7in. to 3in. in diameter inclusive. They are to have best gun metal faces and two screw keys each. A large number of Hydrants will also be required. Each sluice cock and hydrant to be provided with a surface box. Tenders to state the price of each size of sluice cock, of each hydrant, and of each surface box, including delivery at the Company's pipe yards in Blackpool, Fleetwood, Kirkham, or Lytham. Tenders to be sent in to Mr. T. B. FOSTER, Civil Engineer, 23, John Dalton-street, Manchester, on or before the 20th instant. The Directors do not bind themselves to accept the lowest or any Tender.

TO BUILDERS, &c.—The Enfield Local Board of Health are prepared to receive TENDERS for the CONSTRUCTION of a BRICK CULVERT, 3 feet span and 22 feet wide, at Cook's Hole Ford, Sloth's hill. The drawing and specification can be seen at the Office of Mr. BEARDMORE, Civil Engineer, 30, Great George-street, Westminster, S.W., of quantities and lithographed forms of Tender, on which alone offers can be received, will be supplied at 10s. each set. Tenders must be sent in on or before THURSDAY, the 13th day of AUGUST, addressed to the Enfield Local Board of Health. The Board do not bind themselves to accept the lowest or any Tender. By order of the Board,

Enfield, August 4, 1863. E. LEICHWORTH, Clerk.

TO BUILDERS.—Persons willing to TENDER for the ERECTION of a new BREWERY, with Storehouses, Malthouses, and Kilns; together with a Rectifying Distillery and extensive Out Offices, at Norwich, for Mrs. Underwood, & Co's, Earlham, London, can see the plans and specification, and obtain all particulars, at the Offices of the Architect, 24, Castle Meadow, Norwich, from the 8th to the 15th instant. Bills of quantities will be forwarded at a charge of 1l. The Tenders to be delivered at the Architect's Offices, not later than FIVE p.m. on THURSDAY the 17th instant. The lowest Tender will not necessarily be accepted. THOMAS D. BARRY, Architect.

Norwich, August 2, 1863.

ABERDEEN WATERWORKS EXTENSION.—GRAVITATION SUPPLY from CAIRNTON.—EXTENSION of TIMBER LODGING TENDERS.—The Commissioners under "The Aberdeen Police and Waterworks Act, 1862," are prepared to receive TENDERS for CONSTRUCTING and MAINTAINING the REQUIRED WORKS, as previously advertised; and sealed Tenders are required to be delivered on or before MONDAY, 31st AUGUST, 1863 (instead of 17th AUGUST, as in former advertisements), at TEN o'clock in the forenoon.

Aberdeen, July 29, 1863. GEO. MILNE, Clerk of Police.

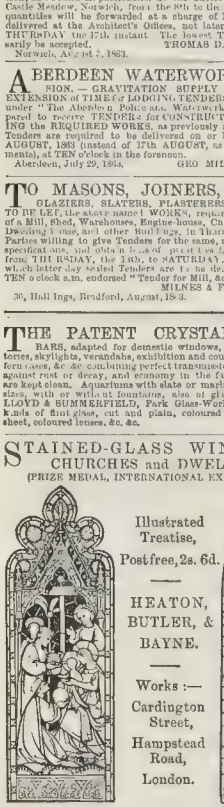
TO MASONS, JOINERS, PLUMBERS, GLAZIERS, SLATERS, PLASTERERS, and PAINTERS.—TO BE LET, the above named WORKS, required in the ERECTION of a Mill, Shed, Warehouses, Engine-house, Chimney, Offices, Lodge, Dwelling-house, and other Buildings, in Thornton road, Bradford.—Parties willing to give Tenders for the same, may see the plans and specifications, and obtain a list of quantities (if any) at our Offices, from THURSDAY, the 6th, to SATURDAY, the 22nd instant, on which latter day sealed Tenders are to be delivered to us BEFORE TEN o'clock a.m. endorsed "Tender for Mill, &c."

MILNES & FRANCE, Architects.

30, Hall Ings, Bradford, August, 1863.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, ferneries, &c. &c. combining perfect transmission of light, durability against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheets, optical sheet, coloured lenses, &c. &c.

STAINED-GLASS WINDOWS, for CHURCHES and DWELLINGS.
(PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.)



Illustrated Treatise, Post free, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works:—
Cardington Street, Hampstead Road, London.

STAINED GLASS WINDOWS of every description, Ecclesiastical and Domestic; MURAL DECORATION, MONUMENTAL BRASSES and ILLUMINATED COMMANDMENTS, BY A NEW PROCESS ON PLATE GLASS.

R. B. EDMUNDSON & SON, NEW WAKEFIELD STREET, OXFORD STREET, Near the Bridge, Manchester

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL, 311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

PAINTED GLASS WINDOWS and MURAL DECORATION.
LAVERS & BARRAUD, ENDELL STREET, BLOOMSBURY, LONDON, and 48, JOHN DALTON STREET, MANCHESTER.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

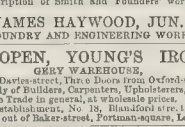
WINDOW GLASS! WINDOW GLASS! Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental, Rough, Rolled, and Patent Plate, Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at GRIST'S CITY GLASS WAREHOUSE, 47, Chiswell-street, opposite Whitbread's Brewery, E.C.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

LEAD GLAZING for CHURCHES and other BUILDINGS, Plain Quarries, Geometrical Patterns, or Fret Work. Builders and the Trade are supplied with every description of Lead Lights and Work as Lead, on the shortest notice and lowest terms, by ODELL & BURFORD, Plain and Ornamental Lead Glaziers to the Trade, 8, Bath street, City-road, E.C.; and 12, Grafton-mews, Fitzroy square, W. Estimates forwarded on receipt of particulars.

VENTILATION—PURE AIR.



Sheringham's Day and Night Ventilator for the admission of Pure Air.

THROUGH THE EXTERNAL WALL.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 119), Union street, Borough, London.

ASPHALT.—The TRINIDAD ASPHALT is now intended to Exempt FOR IRON BRIDGES, INSIDE OF IRON SHIPS, BREWERS' VATS, and General Railway Work; also for FLAT ROOFS, FOOTWAYS, and BASEMENTS of HOUSES
THORN & CO.
GROSVENOR ROAD, PIMLICO, WOOD PAVING MANUFACTURERS.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, Three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford street, Manchester-square, running out of Baker-street, Portman-square, London, W.

COX & SON, CHURCH FURNITURE MANUFACTURERS,
23 and 24, SOUTHAMPTON-STREET, STRAND.
PAINTED and STAINED GLASS WORKS, 11 and 44, Maiden lane (adjoining their only entrance from), W.C.
WOOD and STONE CARVING and GOTHIC METAL WORKS, Bolsover-street, London, S.W.
CARVING.—A great reduction effected with the assistance of the Patented Machinery.
GOTHIC METAL WORK, of every description, both in Silver, Brass, and Iron.
PAINTED GLASS.—Designs and Estimates furnished for Subject Windows; also Quarry and Geometric Patterns.
THE WHOLE OF THE WORK DONE ON THE PREMISES.
COX & SON'S New Illustrated Catalogue (May, 1863), with 350 Wood Blocks of Church Furniture, Painted Glass and Decoration, forwarded, for six stamps.—Show rooms, 23 and 24, Southampton-street, Strand.

THOMAS TURTON & SONS, MANUFACTURERS OF
CAST STEEL for Punches, Taps, and Dies, Turning Tools, Chisels, &c.
CAST STEEL Piston Rods, Crank Pins, Connecting Rods, Straight and Cut Cranks, Shafts, &c. Forgings of every description.
FILES marked T. TURTON, superior to any other make. See result of trial in the Times, July 25th, 1861.
EDGE TOOLS marked WM. GREAVES & SONS. Electro Bonaele Steel, warranted to wear out three Tools made of Cast Steel.
DOUBLE SHEAR STEEL, | SPRING STEEL,
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LOCOMOTIVE ENGINE, RAILWAY CARRIAGE, AND WAGGON SPRINGS AND BUFFERS.
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STEAM-ENGINES, DECK WINCHES, CONTRACTORS' LOCOMOTIVES, &c.—ALEXANDER SHANKS & SON, ENGINEERS, manufacturers of portable and fixed steam-engines; upright stationary engines (requiring no expense for brickwork or masonry); steam deck winches; portable steam cranes; and hoisting engines (the latter adapted for loading and discharging ships, &c. and may be placed either on deck or on the quay); contractors' locomotives; water-wheels; turbines; sugar, flour, oil, and cotton mills; machinery for pumping, winding, sawing, &c. The most improved machinery and the best materials are used in the manufacture of these engines, mills, &c., and all are carefully tested before leaving the works. Prices sent on application.
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COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. C. COOMBS, 17, Union-street, and 95½, Great Guildford-street, Borough, S.E. Inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.
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COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
and every description of Iron work, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

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Builders Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES,
A complete List of which will be forwarded upon application to
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REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 63, Charles-street, City-road, E.C. near the Canal Bridge.
E. GOLLOP, SOLE PROPRIETOR.
A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor springs, Gate-hinges, Rising-hinges, Rising Spring-hinges, Non-rising Spring-hinges, Double-acting Spring-hinges, Rising and Non-rising Door Back-springs, &c.
Price List and Drawings on application as

BUILDERS and CONTRACTORS requiring good IRONMONGERY at a LOW PRICE, should purchase of EDWIN LADD, Ironmonger High street, Camberwell. Iron Hoops, Bars, Sheets, Rods, Sheet Zinc, Rain-pipe, Stoves, Screws, Locks, Nails, and brass Founding.

TO ARCHITECTS, BUILDERS, SURVEYORS, and OTHERS.—TO BE SOLD, very cheap, about THIRTY ornamental, fluted, cast-iron COLUMNS, with capitals and base plates complete, 10 feet high, lately removed from the Exhibition building, London. For public buildings, shop fronts, or wherever great strength, with elegance, is required, they will be found well suited. Drawings will be forwarded, and every information given, on application to Messrs. AMIES & BARFORD, Queen-street, Iron Works, Peterborough; or to Mr. H. LAVINGTON, Old Bailey, London, and they can be seen at either address.
N.B. Sold in any number to suit purchasers.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CAST BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London, Steam boats from London Bridge call near the Factory.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Iron mongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions; Chubs, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.
J. H. BOOBBYER (late STURGE & BOOBBYER), established nearly 240 years, for the supply of GOODS of the BEST MANUFACTURE, at the LOWEST PRICE.
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DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public. All kinds of Bent Glass Silvered.
N.B.—The usual discount to builders and the trade.

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Manufacturers of all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

IRON CHURCH WANTED.—800 Sittings, or more.—Replies to state lowest price, size, name of maker, &c. Address, to S. P. care of Mr Stanford, 6, Charing-cross.

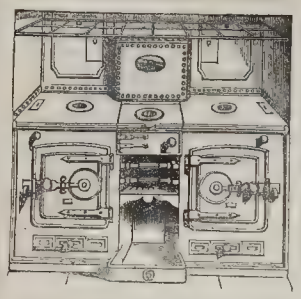
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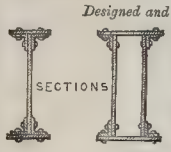
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WROUGHT AND CAST IRON
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Manufactured in WROUGHT and CAST IRON, and ERECTED.
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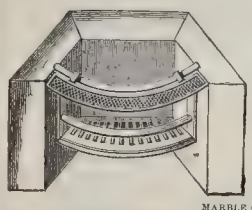
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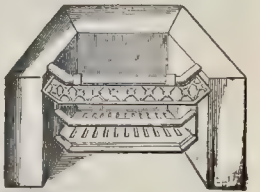


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With hanging trivet.

			£	d.		£	d.
18 inches wide,	10 inch bars	.. ..	7	6	.. ..	8	0
21	,, 13	,, ...	10	6	.. ..	12	0
24	,, 15	,, ...	11	0	.. ..	13	0
27	,, 18	,, ...	16	0	.. ..	18	0
30	,, 21	,, ...	20	0	.. ..	—	
36	,, 24	,, ...	30	0			
38	,, 27	,, ...	30	0	Extra strong.		
42	,, 30	,, ...	42	0			

These Stoves give a considerable heat with a small consumption of coal.



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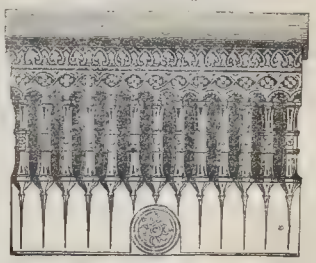
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Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation

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They can be obtained of all Ironmakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

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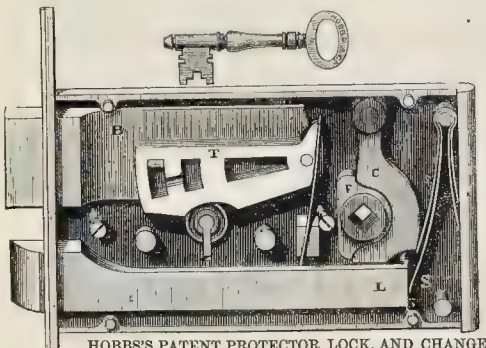
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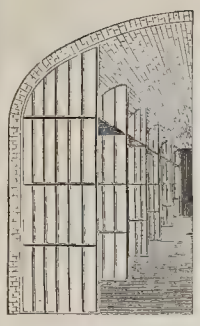
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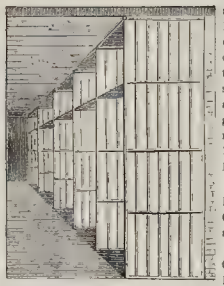
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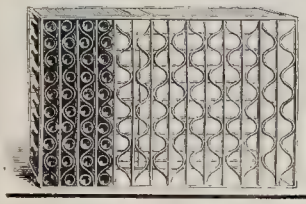
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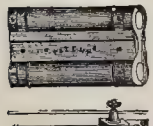
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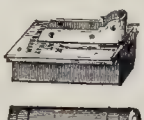






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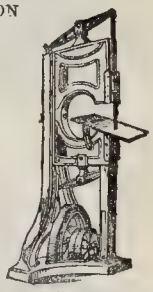
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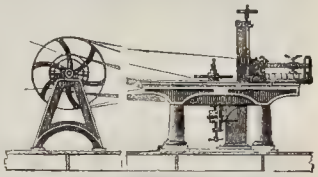
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S. WORSSAM & CO.'S PATENT

IMPROVED TENONING MACHINE.

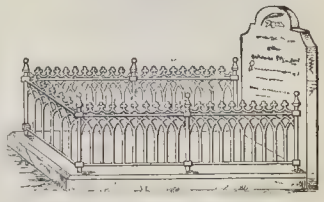


(¼-inch scale.)

This machine is adapted for working either hard or soft wood, and is fitted with an arrangement for cutting double tenons. It is made in two sizes, the smaller being adapted for cabinet and joiners' purposes, and the larger for railway carriage builders, &c. For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's road, Chelsea, S.W.

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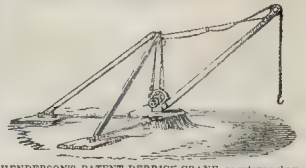
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CRANE.—Prize Medal for Practical Utility and Moderate Cost



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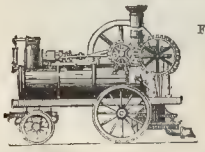
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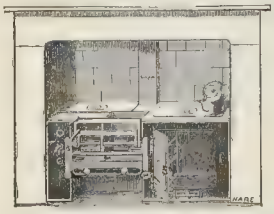
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PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE.



This Range, also
CUNDY'S PATENT BRICK OVEN,
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Begs to inform Architects and the Building Trade that he has REMOVED from 25, Great Charles-street, Birmingham, to more extensive Premises, situate in Deritend, which he has fitted with Steam Machinery suitable for carrying on his business as below.
ESTABLISHED 1704.
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Iron Doors, Safes, and Fittings for Strong Rooms, Ornamental and Plain Gates, Fencing, Staircases, Grates, Kitchen Ranges, Smoke Jacks, Metal and Iron Casements and Sashes, Improved Spring Centre Hinges for Swing Doors, Locks and Fittings for Prisons, Lunatic Asylums, and other Public Buildings.

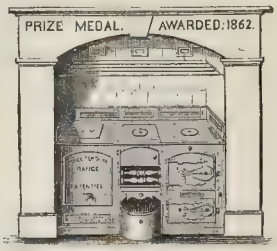
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(WEITERSTEDT'S PATENT or MARINE),
In sheets 2lb. and 3lb. per square foot, 9 feet long by 3 feet wide.
The most durable and economical metal for roofing.
Does not rust or decay under the action of the atmosphere or acids.
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BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.
CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

PATENT WORCESTERSHIRE RANGE.



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The above RANGE is most complete, and strongly recommended for its unrivalled ECONOMY, CLEANLINESS, CONVENIENCE, DURABILITY, and is a certain CURE for SMOKY CHIMNEYS.
It is an entirely new invention, and consists of large MEAT ROASTER, PASTRY OVEN, and WROUGHT-IRON BOILER. The top forms a HOT PLATE for BOILING, STEWING, &c. The whole heated by ONE SMALL FIRE. One 3 feet wide is equal to an ordinary Range 8 feet wide.
Extracted from the "London Daily Telegraph," May 19th, 1862.
"INTERNATIONAL EXHIBITION, CLASS 31.
"Of the most recent inventions it should be said that Messrs. JONES & ROWE'S Patent Worcestershire Range has attracted very special attention, and has been commended by the best authorities. A valuable peculiarity of their Ranges is the placing of the OVEN and ROASTER one above the other instead of *side by side*; and the ROASTER is constantly replenished with fresh air."
INVENTORS AND MANUFACTURERS,
JONES & ROWE, WORCESTER,
AGENTS FOR LONDON: BARRON, SON, & WILSON, 426, STRAND, W.C.
Illustrated Catalogues, with Testimonials and Prices, forwarded on application.

FIRE-PROOF CONSTRUCTION.—FOX & BARRETT'S PATENT.
This improved system of fire-proof construction has been most extensively applied, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.
The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.
The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.
Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling houses and domestic buildings, within the reach of every one.
Further information may be obtained of the Proprietor of the Patent,
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CHUBB'S LOCKS,
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MONUMENTS AND TABLETS,
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Drawings and Price Lists of which and of their other manufactures, will be forwarded on application as above, or to the London House,
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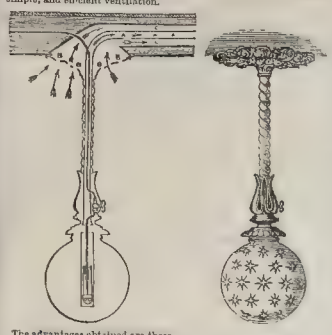
CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING for FRENCH WINDOWS:
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princess-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

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VENTILATING GLOBE LIGHT,

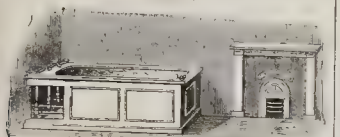
combining an agreeable method of lighting, with convenient simple, and efficient ventilation.



The advantages obtained are these.—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR,
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

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The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.
Estimates given from architects' drawings, or by inspection of buildings.
Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.



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IMPROVED GAS VALVES.
From 2 in. to 18 in. price 9s. 6d. to 12s. per in diameter.
List of prices, with full dimensions of all sizes up to 30 in. to be had on application
These Valves are all proved to 30lb. on the square inch before leaving the works, and are always kept in stock.
Valves made with outside racks to order
Also Screw Water Valves, with gun metal faces.
BRYAN DONKIN & CO. ENGINEERS
Near Grange road, Bermondsey

RAIN WATER PIPES, GUTTERS, &c.

Rain Water Pipes.....	..	2½ in.	10d.	3 in. 1s per yard.
Eaves Gutter.....	..	3½ in.	6½d.	4 in. 6½d. "
O G Gutter.....	..	4 in.	11d.	4½ in. 1s. "

Sash Weights ..... 5s. per cwt.

ST. PANCRAS IRON WORK COMPANY,
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PROTECTION from LIGHTNING.
HART & SON
Beg to call the attention of Architects, Builders, and the public to their
IMPROVED LIGHTNING CONDUCTORS
(SPRATT'S PATENT),
As presenting the MOST EFFECTIVE MEANS of OBTAINING SECURITY from LIGHTNING. They are economical, neatly fixed, and APPLICABLE TO ALL BUILDINGS, including Private Houses, Churches, Chimney-Shafts, Ditties, Powder Magazines, &c. &c.
Price lists and estimates on application.
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R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices :—

Three-eighths-inch diameter	1s. 0d.	per foot.
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R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being supplied by architects, engineers, and scientific men, in all parts of the world.

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LAMBERT, BROTHERS, Manufacturers of Lap-welded Boiler Tubes, Locomotive and Marine Engine Fittings, Wrought iron Welded Pipe, for Steam, or High-pressure Water and Gas; High-pressure Steam and Water Valves, Hydraulic Machinery, Pumps, Chests, &c. Stocks Taps and Dies, Chandeliers, and Patent Metallic Bedsteads.—Walsall.

IRON CASTINGS.—Wrought and Cast
Iron Girders, Flitches, and Tanks, Iron Roofing, and every description of Smith and Founder's Work. Estimates given.
WILLIAM HOOD,
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THE PATENT FILE COMPANY

(Limited).

Capital, 140,000l in 10,000 Shares of 10l each.
(On which not more than 30,000l. will be required to set the works in full operation).

Deposit on application, 1l. per share; payment on allotment, 10s. per share. Calls of 1l. per share at intervals of not less than two months.

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Messrs. Ryland & martineau, Birmingham.

AUDITORS.—Messrs. Coleman, Turquand, Youngs, & Co. Public Accountants, 13, Tokenhouse yard, London.

CONSULTING ENGINEER.—Robert Charles May, C.E. F.R.A.S. 3, Great George street, Westminster.

SECRETARY.—Mr Henry Howell, Birmingham.

LONDON SECRETARY (pro tem.)—Mr J. Sidard Rutter.

Offices—27, Moorgate-street, London; 29, Waterloo-street, Birmingham

This Company has been formed to manufacture Files by machinery in lieu of hand labour, wherein the cost will be materially reduced and the quality improved; it is founded on the experience of similar undertakings in successful operation in France and Belgium.

The manufacture of files is one of our most important branches of industry, the annual value produced in the United Kingdom alone exceeding two millions sterling; and the demand created by the increasing use of new ails adds largely to this every year. It is a manufacture remarkably free from fluctuation, and yielding fair profits to those engaged in it.

The application of machinery has, in other trades, made great progress; but the manufacture of files (the chief seat of which is at Sheffield) has, notwithstanding one or two attempts, remained without improvement for half a century, although operations much more difficult are daily executed by machinery.

Two causes have mainly contributed to this result—

First—the opposition of the Trades' Union to all change, the denial of free action to the masters, with the fear of outrage, have prevented the use of file machinery at Sheffield.

Second—the want of file making machinery adapted to the employment of unskilled labour has prevented its introduction elsewhere.

This latter difficulty has been overcome by the inventions of Bernot and Greenwood Ordinary operatives, by using this economising machinery, can make every description of file; it can therefore be worked in any locality, thereby rendering the action of the Trades Union inoperative and harmless, and remove the difficulties that have hitherto prevented the successful introduction of file-making machinery.

One of Bernot's file cutting machines has been erected and set to work in Birmingham, and is now in operation with the most satisfactory results.

The following resolution was unanimously passed by the gentlemen (amongst whom were several machinists and practical file-makers), assembled to witness its operations :—

Resolved.—"That Bernot's file cutting machine has the advantage of being a valuable labour-saving machine; that it can be worked effectively, under proper supervision, by unskilled labour; and that the files cut by it are equal, if not superior, to the best files cut by hand."

The whole subject has undergone a searching inquiry by Mr. May, the Company's engineer, and the following is a synopsis of his report

"I have investigated these inventions, and also the Report of Mr. Richard Allinson on the 'Employment of Machinery in the Manufacture of Files,' and beg to observe

First.—As regards their merits, and the validity of the patents.

I am of opinion that these Patents are perfectly sound, valid, new, and useful, and, as such, safe to invest in; and, to my judgment, the inventions as stated are excellent and effective combination to carry out the system of making files by machinery.

I have visited the file manufactory at Douai, in France, and have seen the machines in full operation. None of them are driven at so high a speed as they might be, and I have no doubt but that with English workmen the produ tion of each machine might be doubled. The cutting was excellently effected, and I consider it to be a feature of the greatest importance that this machine can cut files of any shape which can be cut by hand.

Bernot's Machine, to which the Prize Medal of 1862 was awarded, cuts 14-inch hand bastard files at 1,000 cuts per minute: a handworker cannot exceed 140 cuts per minute

The difference in productive power is the key to the advantages of employing machinery

Second.—Are the statements of Mr. Allinson's Report consistent with fact, and correct in their deductions?

I have carefully gone into all the items, calculations, and statement is therein contained, especially with regard to the estimate of cost of production, as compared with the hand system. I have compared the prices with information obtained in other quarters, and find all the data tally, with one unimportant exception, this not forming an item of rival cost

THE COMPARATIVE COST OF MAKING FILES BY MACHINE AND BY HAND.

To make £100,000 worth of Files of sizes from 8 to 18 inches.	By Hand	By Machine Bernot's System.	Saving by Machine System.	Saving per Cent.
Blank making, cost	£13,324	£5,128	£8,196	£61 10 3
Grinding..... do.	10,764	5,010	5,754	53 12 0
Cutting ..... do.	28,275	11,333	16,942	59 18 4
Hardening and making marketable .... cost	9,464	4,549	4,915	51 18 8
	£61,827	£26,224	£35,807	£57 12 6

N.B.—The cost of steel is not included. It is the same for both systems.

Inside less charges to remove Patents in five years, and fixed plant in eight years. Leaving £42 7s. 6d. as the cost to machinery against £100 by hand

The cost of works and plant to produce this quantity is estimated at 38,000l and includes an ample provision for all contingencies likely to arise under this head.

Third.—As to the quality of machine-made files.

The teeth are cut with mathematical accuracy—A strong, deep, and sharp tooth being raised with regularity, of uniform depth, and equidistant; and in my opinion they can be produced of a uniformity in good quality which the old or 'hand' system cannot attain. Engineers and others of the highest respectability have used them upon every description of metal, and in their letters speak confidently of their excellence and durability.

I had gone into this inquiry with somewhat of a prejudice against and suspicion of the whole as a system, but I am bound to say these preconceived notions have been entirely removed, and I am of opinion that if the scheme is carried out on the scale indicated in the estimates, the elements of a sound commercial success would be developed, and a large amount of profit reaped compared with the outlay."

The promoters of the Company have reports and letters from eminent Sheffield file manufacturers, managers, and file cutters, bearing testimony to the efficiency of "Bernot's File cutting Machine." They have also letters from machinists, engineers, edge-tool makers, carriage spring makers, saddlers, scale makers—practical mechanics—affirming the superior quality of the files cut by this machine.

An undertaking of this description strongly recommends itself. It has none of the risks consequent on introducing a new article, or one of uncertain demand, but from the universal use and increasing consumption of files it presents marked advantages for the employment of capital.

The profits will be large Files costing 100l. to be made by hand labour, can, it is confidently believed, be produced under these patents for 42l. and of better quality; and as 33 per cent. of all files made must be the product of hand labour for some time to come, selling prices will be sustained, in instances highly favourable to this company, and affording a fair guarantee as to profits. Licenses will ultimately be granted for the use of the Company's patents, and will become an important source of income.

A provisional contract has been made with the Proprietor, Mr. Allinson, for the purchase of these Patents upon favourable terms. He is to receive 3,000l. in cash upon the execution of the transfer, and no further payment is to be made until the Company has realised a net profit of 10 per cent. upon the paid-up capital. Upon such profits being so realised annual payments are to be made to Mr. Allinson during the continuance of the patent rights, according to the following scale, viz :—So long as the net profits, after the formation of a depreciation fund upon a specified liberal basis, shall be not less than 10 per cent. upon the paid-up capital, Mr. Allinson to receive 1l. per cent. on such capital. For every 1l. per cent. of profit realised by the Company over and above the 10 per cent Mr. Allinson to receive an additional half per cent. The Company to be at liberty to redeem these annual payments at any time by paying to Mr. Allinson such a sum as, with the sums then paid to him according to the foregoing scale, will amount to 7,000l. It is proposed to appoint Mr. Allinson the general manager. These arrangements, which they afford the best evidence of his confidence in the undertaking, will, it is believed, greatly contribute to its full development and success.

The first works will be erected in Birmingham, which town possesses all the essentials for economy of manufacture—cheap fuel, materials, and artisans unequalled in mechanical and manipulative skill.

Numerous buyers and consumers of files have expressed a desire to become shareholders in this undertaking, and thus obtain the manufacturer's profit in addition to their own. The success of the Company will be favourably influenced by the class of subscribers.

This undertaking has the goodwill of engineers and machinists; they anticipate by its agency that a great manufacture will become free to introduce machinery upon an extensive scale, to the great advantage both of masters and men.

The provisional committee will proceed to allotment so soon as 6,000 shares are applied for

A copy of the articles of association files for the inspection of applicants for shares at the Solicitors' Offices.

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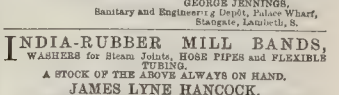
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14½ by 11½	15 by 12	18 by 14	22 by 17	Per 100 feet.			
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The Builder.

VOL. XXI.—No. 1070.

Metropolitan Railway and Street Communication.



THE report mentioned in our last, from the Select Committee of the House of Lords, contains as we said, some important conclusions; and these, we apprehend, will be not lessened in their value by the future publication of the evidence. Without waiting for this publication we may state what the chief recommendations are, and append the observations that seem fitting.

The grand conclusion, which we may compress from different paragraphs of the report, is that railway *termini* in the centre of London are undesirable. That connexion between the several lines, which is wanted to relieve the streets from the traffic to and from the stations, and between one station and another, the report says, should be provided by girdle-lines, an outer one and an inner.

Hence it would seem to follow, that such a station as the Great Western, Paddington, is located according to these conditions; whilst the terminus of the Charing-cross Railway, and the proposed Farringdon-street station of the London, Chatham, and Dover line, would appear to be at variance with them. Whether to these latter stations, any of the other *termini*, such as the Victoria Station, the Fenchurch-street, and the London Bridge, should be added in a list, we would not say: however, the last one, at least, of the stations named, is overcrowded, and is likely to be so, even subsequently to the completion of the improvements that are in progress. The Victoria terminus may be improved by clearing away the block of houses which includes Shaftesbury Crescent; but the station is likely to be so much resorted to, as to occasion considerable traffic through the streets. The stations for the railways south of the Thames, however, may be regarded as distributive, rather than concentrative, of the street traffic; since each main line will have two, or rather more, metropolitan stations and branches; and thus, the particular object desired may be attained.

The conclusions of the committee, so far as we have alluded to them, are entirely in accordance with our own, expressed especially in articles that we wrote three or four years ago, when we ventured even to countenance the introduction of street-tramways as feeders and distributors connected with the railways, and generally as contrivances tending to facilitate traffic in the streets. Whether the particular form of rail or tramway was objectionable,—or whether after all, it may be best that streets to receive tramways should be planned for them,—we will not here stop to consider: all that we need say is, that the subject did not appear to be decided on the true merits, or divested of prejudice; and that an opinion rests with us still, that in a properly planned town,—or in that arrangement of main lines of route, of ample width, which we hope that London may attain to,—well-contrived horse-tramways, as well as railways on a lower level in cutting, or between retaining walls (so far as the lines would not interfere with the sewerage), would be an essential feature. The idea, however, of one grand station somewhere about Farringdon-street, or in another central locality, may be considered as quite discountenanced by the report; and it is something to have arrived at a principle, or rather reverted to one in particular. It is true that the committee have recorded the opinion that one line, the Great Eastern, "should be allowed to establish a more central station than it has at present," and be placed in communication with "the lines running to the western part of the metropolis," whatever may be understood as these "lines." The intended favour to the Great Eastern is spoken of without allusion to the fact of the London and North-Western extension to Finsbury.

Besides the conclusion that "it would be objectionable to allow the construction of a great central station in the metropolis," the report says "that squares and open spaces in the metropolis should not be unnecessarily taken for the purposes of a railway,"—albeit, Finsbury Circus would appear to be endangered,—and also says "that in the construction of any new lines of railway within the metropolitan railway district, subways, covered ways or tunnels, appear preferable, where circumstances admit of them."

In determining the regulations which it may be expedient to apply, the report contemplates that the limits of the metropolis prescribed to the Royal Commissioners of 1846, should be extended. The new limits would be defined by the positions of the Barking-road station of the North Woolwich Branch Railway, the Lea Bridge station of the Great Eastern, the Seven Sisters' station on the Great Northern Railway, the eastern end of the Hampstead tunnel of the Hampstead and City Junction Railway, and the junction with the West London Railway, the course of the West London and West London Extension Railway, across the river Thames, to the junction with the London, Chatham, and Dover Railway, and that of the London, Chatham, and Dover Railway to the Brixton-road station, and to the Lewisham Junction station of the Mid-Kent Railway, and thence in a straight line to the Barking-road station again of the North Woolwich.

The heavy goods intended to pass from the northern to the southern districts of the metropolis, or *vice versâ*, would pass round, by one of the girdle-lines before alluded to. The report advises,—"that there should be a line of railway on the eastern side of the metropolis, connecting the railways north and south of the Thames;" and says, further, "that it is desirable that additional facilities should be afforded, and less onerous arrangements in reference to tolls made, for the passage by the railways on the western side of the metropolis, of mineral and goods traffic from some of the northern railways to the railways and district of country south of the Thames."

Whilst saying "that additional railway communication is needed in the densely-populated part of the metropolis;" and "it is desirable that railway communication, where it does not already exist, should be established between the various main lines of railway;" the report adds "that it is not desirable to bring the main stations of any of the principal long lines of railway, except the Great Eastern, further into London than is at present authorised;" and, after continuing "that one or more railways should be made for carrying passengers from different parts of London to the main stations of the long lines," also adds,—"such new lines not to be in the hands of any one of the present great companies, but placed under such management as to ensure equal advantages to all."

The inner girdle-railway would abut upon, or join, "nearly all the principal railway *termini* in the metropolis, commencing with the extension in an easterly and southerly direction of the Metropolitan Railway from Finsbury-circus, at the one end, and in a westerly and southerly direction from Paddington at the other, and connecting the extremities of those lines by a line on the north side of the Thames." "The suggested lines," says the report, (again following a recommendation often repeated, of our own,) "might be undertaken in connexion with the construction by the municipal authorities of the City, or the Metropolitan Board of Works, of new streets urgently required in many of the crowded parts of the metropolis. Under some of these new streets, and under a portion of the proposed Thames Embankment (north side)," the committee think, "and under some of the existing wide thoroughfares, new lines of railway might be advantageously and economically constructed, and arrangements might be made by which railway companies might, in consideration of being allowed to construct their lines under the streets and the Thames Embankment, without charge for the land, be willing to undertake the construction of other parts of the lines required for completing the circuit of communication, which if constructed not in connexion with such cheap lines, would be so expensive as to be unremunerative." Further, "it would be desirable that an outer circle of railway should be formed within the metropolitan railway district, in its course intersecting and communicating with the principal lines of railway north of the river Thames," and "it might be found convenient to bring this outer circle, at certain points, into communication with the inner circle."

The committee are of opinion that every such system of internal railway communication for the metropolis, should be under one management, as before referred to. Objections are seen to the appointment of a commission for the whole metropolis; as that, it is thought, would entail delay in the commencement of works; but other arrangements, including a report from the Board of Trade at the beginning of each session, are suggested.

Another recommendation in the report, relates to the houses which may be required to be removed; but it only goes to suggest a clause in Bills, requiring that there shall be at least four weeks' notice to the inhabitants, and the certificate of a justice that the intention has been made known; though it would seem that such course would be followed only where the number of houses required in one parish or place amounted to thirty or more.

It is matter for remark that the report contains no allusion to the unsightliness of the bridges across the metropolitan thoroughfares, lately constructed or in progress; and none to the possible destruction of the view from Blackfriars Bridge, and that of the prospect of St. Paul's Cathedral from Fleet-street and Ludgate-hill. At a recent meeting of the City Sewers Commission, a communication was made to the effect that the London, Chatham, and Dover Railway Company had entered into an arrangement, on their Bill passing, to execute the work in the manner originally agreed upon,—namely, to widen Ludgate-hill at the bottom, to make other improvements in the roadway, and to construct the viaduct to the satisfaction of the Commission with regard to ornamental appearance.

The works of the Blackfriars Railway-bridge are progressing with extraordinary rapidity. So are the works of the bridge lower down the river, for the branch of the Charing-cross Railway to the station in the City. The report of the Charing-cross directors, this week, says that considerable progress has been made as to the property required for the City terminus. The Unity

buildings in Cannon-street have been purchased; and possession has been taken of them, as well as of the Steelyard, to enable the bridge-works to be proceeded with on the north bank of the Thames at that point. The works of the railway between London-bridge Station and Charing-cross, are now so far advanced as to justify the anticipation of the opening of that part of the line at a very early date. The principal work remaining to be executed is the terminal station at Charing-cross, the magnitude and importance of which involve much labour and great consideration. The directors have been encouraged to hope that the extension to Cannon-street will be completed and opened for traffic by the end of next year.

One of the most recent projects is that of Mr. Francis Giles, civil engineer, for an underground line; which, when complete, would connect Blackwall with the Marble Arch. Stations in Walbrook, Farringdon-street, and Chancery-lane; at the back of the St. Martin's Workhouse, and in the space between Great Marlborough-street and Oxford-street, would be left by the way. There would be four lines; and the main sewers, the projector (who has evidently considered the subject with care) says, would not be interfered with. Other schemes of a similar character, resulting from the example of the Metropolitan Railway, are not wanting, and have been mentioned by us. The Metropolitan Company are, it seems, suddenly thrown upon their own resources for the working of their line; and are shut out entirely from the Bishop's Road Station. We hope that, after they have surmounted temporary inconvenience, they will be able to correct the defects of the working, too many of which have remained since the date of opening. It is evident, however, that instead of two lines, there should have been not less than four in every part of the distance.

ROMAN SEPULCHRES.

A recent restoration of the pyramid-tomb of Cajus Cestius leads us to consider the present state of sepulchral antiquities in Rome, the destruction, or total neglect, of which by local authorities of the past, has but within late periods been partially atoned for by the carefulness and intelligence of their successors. This range of monuments is perhaps the most valuable for illustrating the moral life of the ancients. What forms so striking a contrast between the sepulchres of Paganism and Christianity—the general absence in the former of all declared belief in a future life, of all hope founded on ideas of the soul's sublime destinies—is indeed ever forced upon our attention with more significance the more we observe the contrasted examples on both sides; but other and brighter aspects occasionally appear amidst the memorials of the Pagan dead, to plead for erring thought; and if not often admitting interpretation as distinct belief that man's spirit is immortal, affectingly express the trust that his *lore* may be so. Descending nearer to the period of the Empire's decline, we find this spirituality more distinctly manifest in the funereal art and epigraphs of the Romans; till at last we see the indications not only of faith in a future beyond the tomb, but sometimes even the hope of reunion for those that have loved on earth in that happier existence,—as in one remarkable example at the Capitoline Museum, the funereal cippus of L. Sempronius Firmus, on which his widow, Furia Spes, appeals to the sympathies of all who read the lines here chiselled. Much may be attributed to the unconsciously admitted influences of the divine religion, now advancing, by slow but certain steps, to permanent ascendancy; but it was certainly an ancient theory that divided the soul into two elements;—the image, *εἴδωλον*, which descended into Hades, and the properly celestial part that ascended to Heaven,—as Hercules, after his body had been consumed by the flames, went down to Hades in the shadowy image, was admitted to the company of the gods in the immortal spirit. Implied belief of this more consoling and exalted character may be perceived in many favourite subjects on sarcophagi, especially those of the later imperial period; and one relief at the Capitol (of very inferior art) represents the complete story of the soul, according to Neo-Platonic theories;—the creation of the mortal tenement by Prometheus; the infusion of life, in the form of a butterfly, by Minerva; death at the inevitable hour decreed by the Parcæ; the emancipated spirit, first as a butterfly, then embodied in the figure of Psyche, and its journey to the invisible world under the guidance of Mercury. Other sarcophagi, reliefs, and epitaphs convey, indeed, a very different meaning: the genius with inverted torch and Medusa-head expresses nothing that can be interpreted as hope; and the dedication of some memorials *Somno æternali D.M.S.*, seems the cold assurance of a hopeless negation.

Roman mausolea were not built on any prescribed *norma*, nor are rules laid down for their architecture by Vitruvius. Hence the singular, and in many instances unintelligible, forms of their extant ruins. From early ages, as shown by the law of the Twelve Tables:—"Hominem mortuum in urbe ne sepelito neve urito;" and for many centuries, co-existed the practices of cremation and interment (the former from Etruscan origin); and some families persisted in burying their dead, unconsumed by fire, long after the opposite usage had become common; thus (as Pliny tells us), was Sylla, the first of his house whose remains were burnt, according to his desire, motived by the fear of outrage similar to that he had himself inflicted on the body of Marius. Nor did Christianity, for many years, cause to disappear the pyre and its attendant pomps at the Roman funeral; Macrobius informing us that such abolition first became *universal*, under the emperor in whose reign he wrote,—Theodosius II.

The earliest sarcophagi were simply adorned by mouldings, flutings, or Doric friezes (like that of Scipio Barbatus), reliefs of horses' or oxen's heads, &c.: in the first period of empire they received more ornamental chisellings, of fruit, flowers, garlands, figures of genii, &c.; about the time of Adrian, complex groups in high or low relief; and under the Antonine emperors commenced the practice of copying celebrated originals in such sculptures; porphyry or other precious and coloured stones being now, occasionally, preferred to plain white marble. Finally, under Alexander Severus, the splendour of funereal art reached its greatest height, as seen in the beautifully sculptured sarcophagus (at the Capitol), with groups from the story of the Trojan war, within which was found the "Portland Vase," and which, though not certainly the tomb of that emperor himself (as long assumed), may be ascribed to his epoch. (Canina, "Architettura Rom.") The porphyry sarcophagi of the mother and daughter of Constantine (at the Vatican), are the largest sculptures with groups in that material, but in their execution indicating manifest decline of art: the numerous others for Christian interment, now collected at the Lateran, are only interesting for the symbolic and religious meanings in their sculptures, and referred, with but few exceptions, to the fourth century. The modern appropriation of many Classic marble tombs has been indeed singular. That of Cecilia Metella now stands, for simple decoration, in the court of the Farnese Palace: that of Adrian was taken from his mausoleum, to contain the body of a pope, in the year 1143, and ultimately perished in a conflagration of the Lateran, either 1308 or 1360: the English pope, Adrian, lies in an urn of red granite, chiselled with the familiar Pagan symbol of death, Medusa heads, and on the front, an ox-head between pendent garlands: a sarcophagus, with very curious reliefs of a solemn marriage rite, contains (at the extramural basilica of S. Lorenzo) the body of a cardinal bishop, nephew to Innocent IV., deceased 1256.*

Before the present century little care was taken for preserving either mausoleum or columbarium in Rome: rather were authorities prone to permit their deliberate destruction. Piranesi's engravings (1756) exhibit many such monuments on the Appian Way, in conditions most different from the present, even where they have not totally disappeared; as the columbarium, discovered 1727, of the *liberti* and *libertæ* of Livia, which (as Marangoni reports the fact) "was, by detestable example, completely destroyed." Another such burial-place, found about the same time, for the freedmen of Augustus, exists but in obscure remains, where we can no longer recognize the subject sketched by Piranesi. The subterranean sepulchre of the Arruntia family, found near the Porta Maggiore, 1736, was only saved from being again buried under soil at the instance of Ficaroni, the archæologic writer. Pyramidal mausolea existed in several examples, all now vanished, till the sixteenth century, as seen by Fulvio on the Appian, Salurian, and Flaminian ways; that between the St. Angelo Castle and St. Peter's, supposed to have exceeded in scale the Cestian Pyramid, and popularly called the "Tomb of Romulus," was swept away by Alexander VI., but is preserved in one authentic representation, on the bronze portal of that basilica, among the reliefs by Filarete and Simone Donatello, date 1442.

One of the first undertakings for restoration of the antiques under Papal Government, was the disencumbering of that Cestian Pyramid from the soil, or *débris*, surrounding it to the depth of 15 feet, by order of Alexander VII., in 1663. Finely prominent in the group formed by the towers of the Ostian gateway, the Honorian walls, and the cypress-grove of the Protestant cemetery, this mausoleum is an almost solid mass of tufa and basalt, clothed with Siena marble, now much blackened by time, 124 feet in height, 100 (or as some report only 95) feet at each of its three basements, now encircled by a fosse of the depth reached by the excavations under Pope Alexander. On the side corresponding to the modern road, some pavement of the ancient Ostian having once been visible, but soon hidden by the growth of grass; and on the side next the cemetery are two fluted marble columns, Romano-Doric, on travertine plinths; on its fronts, high above the base, two inscriptions in cubital letters, one recording the singular fact that this structure was completed in 330 days: *Opus absolutum ex testamento diebus* CCCXXX,—the other giving so distinctly the names and offices of Cajus Cestius, Prætor, Tribune of the People, and Septemvir of the Epulones,—that we may well wonder, in reading Petrarch's letters, to find this monument called by such authority, "Mausoleum of Remus!" Together with the columns and pedestals now erect, were dug up two marble cippi, an inscription repeated on both of which supplies the names of Cestius's heirs and executors, Messala Corvinus and others, well known among contemporaries of Augustus; and this epigraph enables us to determine the date, more precisely indicated in another curious detail, that the expense of erecting the pyramid had been defrayed by the sale of "Attalic vestments," which could not be buried with the dead in his tomb, owing to the prohibition of such usages by the Edile: *ex conditione Attalorum, quæ eis per edictum Ædilis in sepulchrum C. Cesti ex testamento ejus inferre non licuit.** Those staffs, probably of woven gold, or gold embroidered, which took their name from Attalus, king of Pergamos, and served both for dress and furniture, were introduced into Rome shortly after the Oriental victories of Scipio Asiaticus, A.U.C. 564; and Agrippa was the ædile, holding that office in the year 719, who forbade their interment with the dead. Cestius's tomb was not penetrated by any modern explorer till A.D. 1590, and then (for the first time on record, at least,) by Bosio, who describes how he reached its central chamber in his "Roma Sotterranea." By a low narrow passage, broken through the solid mass in 1663, we now arrive at that interior, a quadrate vaulted cell, 13 feet long, where the custode's taper enables us to see but dimly the remains of encaustic painting, on a firm stucco of lime and marble-dust, now much faded, but still admirable for graceful design and attitudes, the only subjects left being four winged Victories on the vault, besides a small candelabrum on one side wall — insignificant remnant, indeed, of the pictures represented in Piranesi's drawings; several graceful figures having totally disappeared; so that we can no longer test in the originals that artist's theory as to the whole scene's mystic character, allusive to the sacred banquets, which it was the duty of the epulones to order, at great festivals, for the gods. Above the modern entrance is an arched recess, where was found the sarcophagus (no longer here), and also, if we can credit the strange story of the custode, a terra-cotta vessel filled with gold ore! Near the farther angle, at the side of the Ostian Way, is the ancient ingress into this chamber,—a narrow passage sloping upwards, still open to its whole extent, but so high above the pyramid's basement as to be quite unservicable. Bosio mentions the attempt, made shortly after his explorings, to break through the solid mass by perforating above the chamber's vault, in the search for treasure! In November, 1861, the apex of this mausoleum was struck off by a thunderbolt, and hurled to the base, where its *débris* now lie scattered, with such

* The most elaborately, indeed admirably, sculptured Christian sarcophagus that Rome possesses, is that of Junius Bassus, prefect of the city, who died 359, in the crypt of St. Peter's, where it was discovered, after ages of oblivion, in 1595, its front presenting two files of reliefs on subjects from the Old and New Testaments.

* Both cippi are now in the portico on the ground floor of the Capitoline Museum.

crash and stunning shock that a gardener then at work in the Protestant cemetery was thrown flat on his face. It has been restored in travertine, whose tint is so much lighter than the weather-stained marble that the contrast looks harsh, but, we may hope, will be subdued by Time's reconciling touches.*

In the past winter was completed the excavating of a cemetery recognised by epitaphs and symbols as belonging to the Jews, and entered below a vineyard near S. Sebastiano on the Appian Way; therefore only about an hour's walk from the site of their gipsy encampment in the grove of the Camenæ, described satirically by Juvenal.

Like the Christian catacombs, this burial-place is hollowed in tufa, consisting of chambers and long corridors where the sepulchral *loculi* are ranged in files, on different tiers, but the whole extending at the same level, instead of descending from story to story like those other hypogees; so that, having entered at one end, we return to the light of day at the other extremity, without retracing our steps. The epitaphs, on marble slabs outside the tombs, are in Greek or Latin; but in no instance Hebrew. In one chamber was found a marble sarcophagus in fragments, sculptured with many symbols in reference to Jewish rites: the seven-branching candelabrum, palms, the lemon-fruit (used at the Feast of Tabernacles), a small ædicula within a circlet (the ark for the Books of the Law), and another circlet supposed to be one of the three crowns, in symbolism borrowed from the language of Rabbinic writers, who mystically affirm that this people had received such a triple ornament for the Priesthood, the Kingdom, and the Divine Law! The branching candelabrum, the palm, a horn, a jar (to represent those in the Temple for the oil of the sacred lights), birds, baskets of fruit, animals—as the cow, the calf—the hen and chickens, also a cylinder (the rolled volume of the law), are the symbols seen in various instances, chiselled beside epitaphs, the language of which is most simple, little more than proper names and titles, with sometimes the formula, *dormitio tua in pace*, or its Greek equivalent εἰρηνη; but nothing analogous to the pathetic tenderness, still less like the religious hope or undying love conveyed in epigraphy of the primitive Christian cemeteries. A reigning emperor's name, Gallienus, is the sole distinct indication of date; the titles *Archisynagogus* and "father of the Synagogue" occur more than once; and a child of six years receives the designation, in a Greek epitaph, of "scribe." In total contrast to the other compartments of this hypogee are two vaulted chambers profusely adorned by painting on their stuccoed walls; among the subjects here treated with freedom of style, being a female holding a cornucopea; a winged Victory with palm and crown, beside whom is a young man ready to receive her awards; genii with symbols of the seasons; the winged Pegasus; the purse and caduceus of Mercury; animals, fishes, and birds, especially the peacock. That these interiors served for Gentile interment, were quite distinct from, and but accidentally brought into communication with, those of the Jewish catacomb, seems beyond doubt; and as such we have heard them commented on by the best Roman authority, Di Rossi. Their discovery is of importance, because affording proof that the ancient Romans, at one period, used for interment subterranean places, scooped out of the tufa-rock, with interiors adorned by symbolic, or at least mythologic paintings, not unlike those of the Christians; for here, also, as in the catacombs of the latter, we see vaulted niches for tombs, suggesting comparison to the *arcisolia* (altar tombs) of Christian origin. (See Padre Garrucci's full and learned report, *Cimiterio degli antichi Ebrei.*)

With intent to consider this range of Roman antiquities according to the chronological order of their discovery in modern time, we should return into the city by the Appian Way, and enter under the old towers of the *Porta S. Sebastiano*, to make our first visit, at short distance from that gateway, to the subterranean sepulchre of the Scipios, the re-opening of which, 1780, created sensation throughout Italy, and became the inspiring idea of a work retaining its deserved place among her language's classics, the "Notti Romane" of Alessandro Verri. Not much intelligent judgment, assuredly, was shown in the procedure that despoiled this venerable sepulchre of all its precious contents: the peperino sarcophagus (the only one of chiselled stone here found), consecrated to the remains of L. Scipio Barbatus; a bust, supposed of the poet Ennius (who, as Livy tells us, was honoured by a statue in this family tomb); and *all* save one of the antique epitaphs, these objects being now at the Vatican Museum, and *copies* only of the inscriptions filling their places—as Nibby, indeed, states, so carefully arranged that the original sites are *not* exactly occupied by their transcripts! More inexcusable was the indifference which allowed the ashes found in these graves to be scattered and lost;—those of Scipio Barbatus himself to be carried away—not without honour, indeed—by a Venetian senator, who had a modest monument raised for their deposit at his villa, near Padua. Further injury was done to the antique character of this subterranean sepulchre by erecting walls for the support of the superincumbent masses of the tufa-rock, in which its corridors and chambers are scooped, and blocking up one ingress, conjectured to be the most ancient, near the chamber where that now lost sarcophagus had stood. The principal entrance, with a façade still partially extant, opens on the Appian at some height above its original level, so that the tomb-interior could only have been reached by stairs or ladder. If of more recent date than the other, this ingress is not less certainly one of the earliest examples of the arch in Roman building, its doorway arch formed by nine quadrate blocks of peperino, surmounted by a story of fluted Doric pilasters, between which (as Canina restores it), stood the tablets for funereal epigraphs; of these pilasters one imperfect shaft and basement being the only fragments left. Within the doorway the lateral walls were painted red. The epigraph on the sarcophagus at the Vatican has been supposed the most ancient in the Latin language; the member of the Scipio family recorded therein having been Consul A.U.C. 456; but it is inferred by some writers that *another* epitaph, also from this sepulchre, found long before its underground corridors had been opened (1616), in the vineyard above, is in reality the most antique extant,—to the son of the same Scipio who bore the same name, and was consul in the year 495. Both are in metrical lines, and each has a title in letters painted red above the chiselled lines; the style of the latter being more archaic; and the inference thence drawn that the tomb of the elder Scipio did not receive its extant inscription till the century after his death. Fortunately for the memories of the past, a model of this sepulchre was made in *papier mâché*, soon after its re-opening, anterior to the alterations of its plan; and engravings from this still enable us to understand the original arrangement. That epitaph to the younger Scipio is at the Barberini Palace. Another valuable discovery, in 1838, proved how early Rome's classic monuments had been subjected to outrage, even by her own authorities. On the demolition of a ponderous and useless tower in the Honorian fortifications, external to the *Porta Maggiore*, was exposed a very curious mausoleum that had been built up,—that of the baker, M. Vergilius Eurysaces, and his wife, Atistia. This honest man was not only *pistor*, but contractor (redemptor, as the inscription sets forth) in his line of business, and so far from being ashamed of it as to have made his tomb the trophied memorial of his useful calling. Approaching to the triangular in form, its basement story is a series of upright cylinders of travertine (the stone exclusively employed) to represent the *panaria*, or baskets, for distributing bread at table. The story above presents a triple pile of similar cylinders, placed horizontally, their round apertures outwards, like so many niches, to represent the shelves where loaves lay on sale at the bakery. Along the summit runs a frieze of small reliefs, illustrating the entire process of bread-making—the grinding at a ponderous mill turned by an ass, the kneading, the weighing of loaves, &c. Nibby, describing this tomb as first brought to light in '38, mentions remains of stucco-coating, and of colour on these exterior details, all now completely vanished; and we have to regret the destruction of one entire side, the basement to the triangle farthest from the gateway, where the inner mass of rubble-work is entirely stripped of its travertine clothing. On this side stood the portrait figures of the married pair, and the affectionate epitaph to Atistia, the first deceased, which are preserved, with other fragments from the tomb, against a wall bounding the road, immediately opposite; the figures in relief, life-size, and so far from idealized, that the sculptor has rendered, with daguerreotype exactness, a large wart on each face! Near are placed various architectural ornaments, among which the form of the round loaf, marked by a cross, is recognized in different examples: also a curiously-chiselled bread-basket, in travertine, perhaps the very urn for the ashes of Atistia, whose epitaph informs us that in such a deposit her remains were laid;—*reliquiæ sunt in hoc panario.* The archaic style of that inscription, now set in the wall below the two figures, may guide our conjectures as to date. A monument entirely of travertine, without marble incrustation on any part, may be ascribed to a republican period; and we know from Pliny (l. xviii. c. 28) that the baker's trade was not established in Rome till A. U. C. 580, previous to which every good wife, or else the domestic slaves, made bread at home. The Claudian aqueduct rose close to this tomb, without touching, or in any manner injuring its humble memorials; but the Honorian fortifications absorbed so as completely to immure it; showing how, in regard at least to the unbaptized dead, all ancient reverence for the manes and sepulchre had passed away in the fifth century.

Several columbaria are entered from a level occupied by gardens and vineyards, between the Appian and Latin Ways, whose site must have been a complete necropolis to the ancient city; and the last discovery here is due to the researches of Signor Guidi, 1853,—a subterranean not (like the others) in a single quadrate chamber, but extending in lofty arched corridors round three sides of a square. Into this we descend by the antique staircase from a height little lower than the roof. The vaulted ceiling retains much of its arabesque decoration in painted garlands, flowers, foliage, birds. A gallery, now extant only in its stone joists, passed along the upper part to reach the higher *loculi*, which are ranged in files, either five or six storied, and in many instances richly ornamental in details, flanked by colonnettes of paonazzetto or giallo-antico, the interiors lined by marble; the epitaphs, in good character, filled with red paint; some being to freedmen of the imperial household; one to a person styled (in Greek) ΒΟΣΦΟΡΑΝΟΣ ΣΑΡΜΑΤΩΝ, supposed an ambassador from the shores of the Bosphorus to Rome; one placed by a Roman lady over the ashes of her favourite dog, with his portrait. A single sarcophagus, that of a female, is in this columbarium, laid in a recess, for opening which several of the niches have been broken. The columbarium nearest to this, found many years previously, contains several busts, of good character, no doubt portraits of the deceased; and besides the usual cinerary ollæ of terra-cotta, many marble urns chiselled with epitaphs,—one conveying the solemn admonition: *Ne tangite, O mortalis, reverere manes deos.* Another, discovered in 1832 by the Marquis Campana, close to the Porta Latina (entered from a vineyard within the walls), is about the most interesting, and the richest in decorations, though time and damp have done much injury. Originally lighted by a window in the roof, this is now seen by taper-light, and descended into by its ancient stairs, the interior lower and narrower than the adjacent burial-places of the same necropolis. Its paintings are superior to those elsewhere, beside the sepulchral loculi, and in style similar to those in the thermæ of Titus, therefore of a period when Greek influences prevailed in Roman art. Several figures here, faded as they are, are still admirable for grace and truthfulness; the architectonic adornment of the niches, with colonnettes, capitals, and frontispieces, pleasing. One tablet represents, in mosaic, on a purple ground, two griffins guarding a sacred tripod. Beneath that ampler subterranean opened by Guidi are other chambers in total darkness, and without any ornament, where were found skeletons enclosed in rude coffins of tiles, built up, in fact, upon brick platforms,—the remains, no doubt, of slaves, who were not allowed the honours of the pyre, but were carried to interment, on open biers, by the hired *sandapilari*. Thus, also, were usually laid in earth, without being reduced to ashes, the bodies of children,—though in some instances allowed all the pomps of the statelier funeral, with the final cremation and cinerary urn, of which we have an affecting description by Statius (*Sylv.* l. ii. 1), in reference to the solemn obsequies of a child only twelve years old. The actual state of the mausoleum of Augustus betokens little regard indeed for its venerable character or associations. At present crowds are being attracted, on the fine evenings, to this edifice, by the *al fresco* performances of a movable stage on the unroofed area of its highest story; but no effort has been made by authorities, ancient or modern, to recover its lost treasures, or bring to light the many portions either buried or inaccessi-

* Falconieri published a treatise on this monument, with outline engravings of all the paintings, as found in 1663. One female figure seated at a small table, and another carrying a vase and patena, are alone suggestive of the idea that a *banquet* may be the subject.

ble; some works for disencumbering, in 1773 having been the last for any object of interest on this site. The circular area of the diurnal theatre rests on ruin heaps that fill up the great rotunda, except where some of the sepulchral chambers are still open within that enormous mass; not easily to be inspected, because their interiors have been appropriated as wood or charcoal magazines. Of four chambers, still kept clear, in the upper story, on a level with the pit of that theatre, one long and narrow, with a good vaulting still entire, is supposed to pertain to this corridor leading into the central hall, where stood the sarcophagus of Augustus: another, nearest the pit, has had a gap opened in the enormous thickness of its walls, as entrance for the horses to be exhibited on the arena, where, instead of theatrical, equestrian shows are the order of the day. From a modern window here we see, immediately below, the wide archway of the chief portal, now walled up and inclosed within a small yard serving for a charcoal deposit. The road sloping upwards to this part of the interior from a back street, for the horses to be brought in, is formed by heaps of *débris*, brick, and marble. In one chamber lies a large white marble slab, probably from the outer incrustation of the tomb; and along these ruined walls we see traces of the fittings of incrustation, no doubt marble, from the surfaces of reticulated masonry in which all the chambers are built. When the theatre was contrived here, about the end of the last century, a circuit of constructions, now enclosing its pit, was partly demolished, at least much altered, to form a useless corridor below the seats that ascend, stepwise, from the arena; for the inner side only remains, the antique masonry, in *opus reticulatum*, opened, at regular intervals, by arches, higher and lower regularly alternating, that may be supposed entrances into sepulchral chambers here ranged concentrical to the Augustan tomb. Overlooking the open court through which we pass to ascend to the theatre, is a segment of the rotunda (all in the same masonry), from which projects a considerable pile of ruin, and at a certain distance a corresponding fragment much less preserved;—at the angles beyond the modern doorway, another similar fragment built into a contiguous house; these features showing, clearly enough, that an *outer* range of halls on this ground floor,—perhaps, indeed, two stories,—have been swept away save in the lopped limbs still recognisable. The custode, who resides here, is intelligent; and, by his drawing of the Mausoleum, restored after his own ideas, proves himself an artist. He tells us that the men employed on these premises are continually finding pieces of tesselated pavement in precious stones; and that the floors of other chambers, external to the rotunda as now reduced, have been, in different instances, uncovered among the workshops in the vicinity.

He remembers the building, many years ago, of the house opposite the entrance to the theatre, and his being apprised by the workmen, conformably to his request for intelligence on all such matters, that they had one day found a spacious pavement of white marble (which he inspected, but could not save from being partly broken up by the masons), partly buried under the new buildings. To this day we may perceive several pieces of fine serpentine among the common stones paving the passage by which we enter, through the Palazzo Correa, into the court immediately below the Mausoleum. This worthy custode has reached, near the centre of the rotunda, a ruinous construction, his theory as to which is that it pertains to a winding staircase from the basement-story to the summit, or to the hall of the first Emperor's tomb. Nothing could be easier than excavation in the loose soil surrounding this edifice, when free from incumbrance of modern building.

THE BUILDINGS OF BISHOP GUNDULPH.*

Bishop Gundulph has been long known to have been one of the chief architects of his day, and to have been employed by the king to build the White Tower in London: the buildings known to have been erected or superintended by him afford, therefore, the best examples of the style of his age, of the mode of construction, and of the art of building in the period which immediately followed the Norman Conquest. The history of his life clearly shows that he had every opportunity of acquiring the best information; and we may fairly conclude that he possessed all the knowledge and skill that any one possessed in his time. He was one of the most distinguished of the celebrated monks of the Abbey of Bec, in Normandy, so many of whom were presented by William the Conqueror to great preferment and high rank in England. When Lanfranc was appointed abbot of the new abbey at Caen, Gundulph accompanied him; and when Lanfranc was promoted to Canterbury, Gundulph again accompanied him, and was soon appointed to the see of Rochester; but he continued to be treated by Lanfranc as his intimate friend and confidant, as their letters show.

His appointment took place in 1077, or eleven years after the Conquest; and he shortly afterwards began to build a new chancel for his cathedral, the old one being destroyed.

As soon as the new church was sufficiently completed, that is, as soon as the choir was ready (the *ecclesia* proper), it was consecrated by the translation of the relics of St. Paulinus from the remains of the old structure to the new one. The only portions of this work now remaining are the early part of the crypt, underneath what is now the west end of the chancel, this part of the church having been greatly lengthened in the thirteenth century with the large and lofty crypt under it, eastward of the ancient crypt. No part of the present church above ground, *that is visible*, belongs to the early period; but on the north side is a rude massive tower of rubble stone work, which is of the same age as the crypt, and is part of the genuine work of Gundulph. His crypt consists of two bays only, and was no doubt under the original high altar of the cathedral: it is low, and the vault is groined without ribs, built of rough tufa, and plastered: the detached pillars are monoliths, of the stone of the country; and the capitals are of the simplest and earliest kind, merely a cube, with the lower corners chamfered off,—not rounded off as is usual with the early Norman capitals, commonly called the cushion capital, such as were used in the early work of Westminster, but merely sloped off. The responds against the wall are not monoliths, but are built into the wall, each of six stones besides the capital and base, with very wide joints of mortar between them. The material of these responds is *tufa*, one which in subsequent times was only used for the vaulting.

The chapel in the White Tower is the only part of that structure that has preserved enough of its original character sufficiently, for it to be compared fairly with the other buildings of Gundulph. This tower must have been building at the same time with the Cathedral at Rochester: the date incidentally mentioned for it is 1081; but we do not know exactly whether this refers to the commencement of the work, or the consecration of the chapel. The character of the work is considerably more advanced than that of the crypt; but the construction of a crypt is always more rude than the superstructure, and the Chapel Royal would naturally be of the best work that was to be had at the time. Still, it is extremely simple, and of as early character as a building can well be that deserves the name of architecture: the aisles have vaults groined without ribs, the central space has a plain barrel vault, and is of very moderate width, and yet the walls are of enormous thickness, the inner wall equally with the outer; so that this was not for defence only, but to carry the vaults which excited the apprehensions of the inexperienced workmen; and it was not until half a century afterwards that they had courage to throw a vault over a wide space. The capitals in the Royal Chapel are rather more advanced and better finished than those in the crypt. One of the western capitals has had the sunk star ornament cut upon the abacus: this has all the appearance of having been done afterwards, as it is within easy reach. Most of the capitals have the peculiar projection in the centre like a Tau cross, as if left for the *caulicoli*; or to be painted in imitation of them. We have evidence at Jumièges, that painting was used to assist the effect of sculpture at this period, as indeed it was long afterwards.

At the same time that the buildings were going on, or during the reign of the Conqueror, Gundulph also finished a monastery at Rochester for sixty monks; but none of the buildings belonging to it are extant: they were most probably of wood only,—unless the small early tower or keep, called Gundulph's Tower, on the north side of the Cathedral, was the prior's house. This is probably the tower which Gundulph is recorded to have built at the cost of 60*l*.

Soon after his monastery was established, Archbishop Anselm, who had succeeded to Lanfranc, wrote to him, to recommend him to found a similar establishment for women upon his own estate at Malling, because he could then look after it himself, showing that this was his usual place of residence. This advice he followed as soon as he could; and we are expressly told that "he furnished all things necessary *for the body* as well as for the soul." He continued to govern this nunnery for several years by "his own special care," and did not appoint an abbess until the year of his death.

The exact year of the foundation of the Abbey of Malling is uncertain: the editors of the "Monasticon" assign it to about 1070; but as Anselm did not succeed to the archbishopric until 1093, and it was founded by his advice, it can hardly have been before 1095; but Gundulph lived until 1107, and may therefore have had the entire management of it fourteen years after the foundation. Of the buildings of the abbey, we have the lower part of the west front of the church, the south transept, and some other small portion of little importance; but the upper part of the west front is of quite a different character from the lower part. There is an evident break and set-off; and the character of the upper part is forty or fifty years later than the lower part. As there was no building here before Gundulph's foundation, the earliest work must be his work; and a comparison of this with his other buildings shows that they all partake of the same rude, early character, one of the features apparently being shallow panels in the face of the wall.

We are expressly told, in the narrative of his life, that Malling before his time had always been "a rural place, with few inhabitants;" but after his foundation there, "people began to flock in, and build themselves houses and a street, and shops to supply the nuns."

Having thus ascertained, by the best possible authority, that Malling was the usual place of residence of Bishop Gundulph, the next question naturally is, are there any remains of his house? Fortunately, there are: it is perfect, except the roof and the parapet. He lived according to the fashion of his age in a massive Norman keep, very much upon the same plan (though smaller and earlier) with the White Tower, which he built for the king. This house, castle, keep, or tower, for it may be called by any of these names, I believe to be the very earliest Norman keep we have remaining anywhere, either in England or Normandy. It is probably the earliest building that Gundulph erected on his first arrival in England: it was necessary for him to build a secure place for himself to live in; and the character of this building is certainly earlier than that of any of the others. A bold theorist might venture to assert that Gundulph was the inventor of the Norman Keep; and it would be difficult to disprove the theory by referring to one of earlier character, or known to be of earlier date. It is certain that in the Bayeux tapestry, some of William's castles are distinctly represented as consisting of earthworks and wooden palisades only, and that at Dol the soldiers are ordered to dig a castle (*fossare castellum*). That this form of castle was of Norman origin there is no question. It goes by the name of a Norman keep or donjon all over Europe, and continued to be used or copied for several centuries as the place of security in the last resort. This form of castle, or keep, was used both in Scotland and in Ireland, and even in Italy, as late as the sixteenth century; so that it continued in use for five centuries. This one at Malling, I believe to be the earliest now in existence; and it is built entirely of rubble or rough stone, with scarcely any ashlar work about it. There are rows of put-log holes for throwing out wooden galleries. These galleries are called by the French *hourds*, a word evidently borrowed from the English "hoards," or boards, which we still retain in "hoarding," a term still in every-day use in the streets of London; and it is not a French word. So many of our technical words come from the French or the Normans, that it is interesting to find an example the other way. For the use of these under-galleries, scaffolds, or hoardings, I must refer to the admirable work of M. Viollet le Duc on "Military Architecture."

In this tower or keep at Malling, the vault was of the plain barrel form, and was over the first-floor instead of over the ground-floor only, as is more usual in England; but in Scotland and Ireland it is common to have a floor of wood under the vault, and the principal chamber above it at the top of the building, which was commonly only three stories high. The marks of the vault are here visible in the walls, as they almost always are if it has been destroyed; but such vaults very generally remain perfect; for, neither time nor fire has much effect upon them, and it is a work of some considerable labour to destroy them.

Among the nine or ten churches given to

* Read at the meeting of the Archæological Institute, Rochester, by Mr. John Henry Parker, F.S.A.

Rochester Priory by Gundulph, was that of Dartford, the tower of which agrees so closely in character with the other buildings of Gundulph that there can be little doubt that it was built by him. It partakes very much of the style which is called Anglo-Saxon, and is, in fact, as rude and simple as any style can well be. But there is no good reason to suppose that the Norman Conquest made any great and sudden change of style, or that the style of building of the Normans themselves at that time, was very much in advance of what we had in England. That the Normans of Caen and its neighbourhood were better masons than the English, is probable, from the excellent stone they had in abundance, very accessible in the cliffs of the river Orne, and very easily worked. They are generally allowed to have been the best masons in Europe at that period, but the masonry of the eleventh century was everywhere very different from that of the twelfth. We have no evidence that any one of our Anglo-Saxon towers is of earlier date than the eleventh century, and they agree in character with the buildings of other countries at the same period. There is every reason to believe that the earliest stone churches that we have in England, are the churches which Canute, after he became a Christian, ordered to be built of stone and lime in the places where his father and himself had burnt the (wooden) churches of the Saxons. The buildings of Bishop Gundulph fifty years afterwards, are a little more advanced: each succeeding generation made some progress in the art of building, as in other arts; and at those periods when there was much building going on, and consequently much practice for the workmen, the progress in the art was more rapid in proportion. The end of the eleventh century and the whole of the twelfth were great building eras; and, consequently, very great and rapid progress was made in the art of building. The civil wars of that period do not seem to have had much effect in stopping building: they probably caused more castles to be built instead of churches for a time; but the mason's art continued to flourish and to improve, and that as rapidly in England as in any other country.

Another church which has been attributed to Gundulph, and which some persons imagine to be much older than his tower, is that of Darent. This is an extremely curious church, and part of it is of Early Norman character; but it does not agree with the other works of Gundulph, and it appears to me rather later, though not much. I consider it is a church built, or rebuilt, in the time of Henry I., and I can find no evidence of its being of any earlier date. I find mention indeed of land at Darent being given to Rochester by Brihtric and his wife about the year 1000; and the very curious Saxon charter or deed of gift is preserved in the British Museum, and is printed by Hasted. Amongst other gifts, were gold torques and a gold armilla or bracelet, which contained eighty marks of gold, a *handseax* which contained as much, horses and dogs, and the land called Darent (Drerente); but there is no mention of a church. This land was afterwards exchanged with Canterbury for the manor of Lambeth, in the time of Richard I.; and at that time the church of Darent is distinctly mentioned as part of the property exchanged. As Bishop Gundulph lived until 1107, or during the first seven years of the reign of Henry I., it is quite possible that this church may have been his work at the end of his life. The character of the architecture is distinctly that of the early part of the twelfth century, and not of the eleventh. The building art of modern Europe began in the eleventh century, and the work of each succeeding generation of men may be clearly traced. This investigation is extremely interesting: we see how each set of men improved upon the work of their fathers, little by little, more rapidly in some places than in others; but any improvement made in one place very soon spreads to other places and other countries: no country was more than a generation in advance of others. It is evidently a mistake to attribute the discovery of any new style to any individual: a new style of architecture never was discovered or invented by any one person: it was gradually developed by the progress of the human mind in that generation. We are accustomed to attach a great deal too much importance to the names of individual architects in the invention of a particular style, which was in fact the work of many minds. Even the Perpendicular English style, which is popularly attributed to Wykeham as the inventor, we now find, on careful investigation, to have been gradually coming in before his time, or when he was a child. In the earlier styles the transition from one style to another is more palpable, and consequently more generally understood; but such changes of style were always going on, more slowly at one period than another. But architecture never stood still: it was always either progressing or retrograding: as we have seen in our own days, it made a great stride forwards about twenty years ago, and continued to make steady progress for ten or fifteen years; and during the last five years it has retrograded as rapidly, since the mania for introducing foreign scraps, under the name of invention, seized upon our architects. We see from the buildings of Bishop Gundulph, the first architect of his day, from what a rude beginning the beautiful Early English Gothic was developed in the works of three generations; and we therefore need not despair that out of the present state of chaos of the styles of all ages and all countries, jumbled together, some good style of architecture will gradually be developed; but neither Mr. Scott, the Gundulph of our day, nor any other individual, can hope with any degree of success to accomplish what has never been accomplished before,—the invention of a new style of architecture. The architecture of our day may hereafter be known as the architecture of the time of Mr. Scott, just as that of the end of the eleventh century is now known as the architecture of the time of Bishop Gundulph; but it bears in reality the impress of the age—not of the individual. I do not think we can fairly attribute any marked superiority to the buildings of Bishop Gundulph over those of his contemporaries at Gloucester, at Winchester, and at other places.

In calling your attention to the buildings of Bishop Gundulph, it was not at all my intention to depreciate his merits as an architect. I am ready to admit that he was the best architect of his day, and that he has always borne that reputation. The rough and rude character of the buildings in Kent is greatly caused by the building material. The rough and hard stone called Kentish rag is a very untractable material. The White Tower, where he had the advantage of Caen stone, is a very superior building to any of those in Kent of the same period; and it is a fine building of its kind, well proportioned and well suited to its purpose, which is the great merit of the work of an architect. If Bishop Gundulph really was the inventor of the Norman Keep, as seems probable, he was a very great architect, for he designed a building so well suited for its purpose that the same type continued to be followed when required by similar circumstances for five hundred years. I know of no other architect of whom the same can be said.

My present object was, however, to show you the exact state of the art of building in his time; and it is an important chapter in the history of architecture,—our starting-point.

In saying that no *immediate* change was produced in the building art in England by the Norman Conquest, I do not mean to say that there is no difference between the Norman and Anglo-Saxon buildings, but that it took a generation to effect the change. The Norman style did not come in all at once and fully developed. The style in Normandy itself, at the time of the Conquest, was not at all what is generally supposed. We have no buildings remaining at Caen, of the time of the Conquest. Of the time of the Conqueror we have; but the twenty-one years of his reign produced as great a change in the art of building in England as in Normandy. The rich Norman style was gradually developed in both countries at the same time. At the time of the Conquest the Norman buildings were on a larger scale and more lofty than those of the English, and ashlar or cut stone was more used for facing their walls than in England. The quoins and dressings only, were of cut stone for a long time after the Conquest, but this depends greatly on the nature of the building material, and varies in different districts at all periods. Still, there is a marked character in the buildings of the time of Bishop Gundulph, and it is a very rude character. The great architect was not to blame for the character of the art of building in his time. If Mr. Scott himself had lived in the time of Bishop Gundulph, he would have built in the same style, and he could hardly have done more than invent the Norman keep.

The character of each succeeding age has impressed itself upon its buildings far more distinctly than that of any individual mind; and yet it is quite possible, by careful observation, to distinguish the work of an individual, after making allowance for the age, the country, and the province in which he lived, all of which will be impressed upon his architecture. For instance, we know that Lanfranc's cathedral at Canterbury, of which Gundulph was probably the architect, was entirely pulled down and rebuilt about forty years afterwards by Conrad and Ernulf. The latter, who had been prior at Canterbury while the work was going on, was made Bishop of Rochester; and we can distinctly trace his work, both at Canterbury and Rochester, as Professor Willis has long since pointed out. It is Ernulf to whom we are really indebted for much of the Norman work of the cathedral, as well as the remains of the chapter-house and cloister. This is the style which we commonly understand by the "Norman style," but it belongs to a later generation than that of Gundulph.

ROCHESTER OLD BRIDGE.

At the recent meeting of the Archæological Institute, Mr. J. R. Foord read a paper containing remarks on the old bridge at Rochester; a structure which, though destroyed, will be fresh in the recollection of architectural students and antiquaries, and in that of our readers more especially. A view of this bridge, and one of the new bridges at Rochester, appeared some time since in our journal. The railway bridge, we may observe, wholly blocks out what was the pleasant view down the Medway, and affords an idea of what may be partly anticipated in the case of Blackfriars. Such destruc ion of natural scenic effect should be prevented. No work of art can compensate for the loss; whilst, works of art, these tubular or girder bridges assuredly are not. Mr. Foord observed that the bridge had been built at the cost of a single individual, Sir Robert Knolles (the favourite general of Edward III. and Richard II.), about the year 1392. The cost of such a bridge at the present day would exceed 70,000*l*. Few, he said, who had passed over that old bridge, thought of the benefit derived from Sir Robert's liberality; and as few reflected on the advantages derived from the estates given by others for the support of that bridge. The new bridge, which had cost 150,000*l*., had been built, and would be maintained entirely from the means derived from those estates, without taxing the public. There being no record as to how the foundations of the old bridge had been constructed, it might be acceptable to the members of the Institute to have some information on the subject. The foundations to support the piers, &c., were constructed by driving piles of elm timber, shod with iron, into the bed of the river, at this part mostly chalk. These piles were about 20 feet long, driven close together, and forming a platform about 45 feetin length and 20 feet wide.

The construction of the starlings outside the platform, was of half-timber piles, secured by ties, enclosing a space of about 95 feet long by about 40 feet wide: the space between these piles and those of the platform was filled with chalk, the top and sides of the starlings being covered with elm plank. A course of flat-bedded stones of Kentish rag, about 8 inches thick, was laid over the piled platform, and on that the masonry was built—a solid mass, the mortar being nearly as hard as the stone. The number of piles removed from the old bridge, was about 10,000; the quantity of timber, about 250,000 cubic feet, and the total quantity of dressed stone, rubble and chalk, about 300,000 feet cube.

Having described the structure of the old bridge, Mr. Foord referred to some discoveries made in preparing the site of the new Crown Inn, consisting of the foundations of former structures. In various parts of the excavations Roman pottery, chiefly Upchurch ware, and a few Samian articles had been found. He also stated that on excavating the solid sand, at a depth of about 9 feet from the surface, the vertebra of a whale had been found, and ventured the conjecture that at some period the fish had been cast ashore and had died there.

"ITALIANESQUE" AND "GOTHICESQUE."

One of the many signs that we are on the eve of changes which ultimately will entirely alter our whole system of architectural design, is the increase in the erection of buildings, mostly of a utilitarian character, of such mixed composition as to entirely defy description by terms at present in use. Should we examine, however, in a broad manner, their prevailing characteristics, it will be plain they may at present be divided into two distinctive classes; for, while both result in a measure from a compromise between Gothic and Classic elements, the principles upon which the incorporation is attempted, start from opposite directions. In one case, the base of the com-

bination is Gothic; in the other the Renaissance, or so-called Italian, supplies the leading forms upon which the composition is founded. However much these may depart from the parent styles, it is in most cases easy to trace a natural consanguinity,—or relationship to both of them. Broadly speaking, all styles may be divided into those which adopt Gothic, and those which adopt Classic principles of design and construction; or, at all events, these styles are the two opposite poles between which lie intermediate zones, rich and fertile in materials for thought, investigation, and adaptation. At the present time, the prevailing tendency is towards a mixed style—not a mere incoherent jumble of irreconcileable materials—but one worked out upon an intelligible basis; the result of reason, circumstances, and taste. Though unity is far from being reached, yet there is a manifest taste growing, which will in the course of time, if steadily pursued, lead us to a satisfactory development of art suited to the manifold wants of the present age. To assist this acknowledged movement should be the aim of all who have at heart the development of architectural taste, and a desire to spread its refined, intellectual, and humanising influence upon all that surrounds us. Now it is an acknowledged fact, that science cannot progress satisfactorily without classification; for, classification is, as it were, the landmark which points out how far we have gone, and which, if neglected, leads but to a repetition of errors, and a travelling over old ground. Unless we classify, the progress made cannot be noted, nor can we thoroughly understand the position we are placed in, not less so in architecture than in science. Art is representative; and, to thoroughly appreciate our position, it behoves us to watch closely all the developments that are taking place. Such a course contains in itself a double benefit; for, while it tends to give fixity and unity of purpose, it expands the mind, and rids it of those local weeds of prejudice which, unnoticed, grow about the most liberally-trained intellect.

Until lately, the style of the Italian Renaissance was the one in which most frequently our civic buildings were designed. Barry's club-houses with us, are the most fitly representative of this style; which, though in his case it became in a measure, Anglicised, possesses but few distinctive differences from its Italian original. Then came the Gothic revival, working a wonderful change. At first in the hands of conservative minds, who copied and venerated; it afterwards gradually, as its principles came to be investigated, was found to possess most varied capabilities and plastic power; and little architecture worthy of the name is there now but what owes something to its invigorating influence. To note the change it has wrought in our so-called Italian, we have only to name the warehouses of Leeds and Manchester, the offices of London and Liverpool, and the multitude of buildings continually rising around us, not alone in the metropolis, but in all the leading provincial towns. While many of these no doubt are characterised more by an absence of taste than anything else, we need not travel far to know that a healthy change is taking place; and as a remarkable instance, Mr. Digby Wyatt's Dublin shops, illustrated in a late number of the *Builder*, may be pointed to with satisfaction. Here, notwithstanding the general outline, the *cornicione* and the arrangement of windows and strings possess a Florentine breadth and simplicity, from the tasteful manner in which the details are varied; and the adoption of the Irish Gothic or Romanesque decoration. A *piquancy* is given we may look for in vain among the formalistic school or copyists of the Cinque-cento Renaissance. That such an attempt has been made by a distinguished member of the profession, is something to make a note of, not less so that it has been carried to a successful issue.

Now, it is evident, if it be admitted that this building is a representative of a large and increasing class (and such can hardly be disputed), it will be at once conceded that our vocabulary of styles is insufficient to depict its characteristics,—that, in fact, something different from what we have been accustomed to, calling for a new term by which its specialities may be recognized, is rapidly growing. To point this out, and to suggest a suitable term, is my present object; and for the better understanding of what at first sight may be judged a trivial alteration, it may be as well to mention that a similar affix to "Roman," is thought sufficient to distinguish a style which, though founded *on* the Roman, is recognized as one perfectly distinct. If then Romanesque is a term considered comprehensive and distinctive enough to be applied to the many variations of the round-arched style which followed the overflow of classical traditions, owing its existence simply to an infusion of Gothic principles; would it not then be perfectly legitimate to call a style founded by a parallel process on the classical Italian "Italianesque?"

Again, that infusion of classic elements into a style which, though not exactly Gothic, is based upon it, and which may be detected in more than one design,—among which I may mention that of the Duchy of Cornwall Hotel, by Mr. Hayward, also illustrated in the *Builder*,—though as yet it can hardly be said to have achieved so distinctive a development, being but in embryo;—might it not, on the other hand, be appropriately distinguished as "Gothicesque,"—a term hardly original, but never, I believe, used before in a generic sense?

Such distinctions may, as I before observed, appear at first sight trivial,—hardly worthy of mention,—but on closer consideration the necessity of them must be evident. Until we arrive at a perfectly original style, we must employ terms that will sufficiently note down the *transitional* state of our art. Every new term, or variation in a term, is the record of so much knowledge gained, so much progress made, and an intelligent appreciation of what is taking place around us. Pure styles are becoming less employed every day: so many new wants have arisen that architects begin to feel, though in a measure disguised to themselves, that the pure styles do not meet their requirements; that they lack expansiveness; for, in application, their details become separated and disjointed; and being employed in positions for which they were never intended, no representative expression results. It is no objection to the use of the term "Italianesque" that it will not represent fully the individual character of any single design—and individualism predominates in our art at present,—it is merely the recognition of an important *fact*, and portrays the general features, as well as indicating in a measure the principles upon which such combination is founded, and with the addition of suitable prefixes might be made of comprehensive application. With the Italian Renaissance as a groundwork, any deviation in the details will inevitably tend towards Gothic treatment.

This may be reasonably predicated of the transition; and the statement is conclusive when practically we find it to be so: nor is it less evident that the similarity or relationship existing between all such architecture, fairly entitles it to claim a distinctive general character of its own. Justly considered, this opens out a wide field of inquiry; and any one anxious for truth may, I think, trace the direction towards which all this movement is tending. We have been trying the resuscitation of old styles for more than one century, and all our efforts have proved unsatisfactory; for, no sooner has any particular style had full swing, than, the novelty having worn off, dissatisfaction and distaste have ensued: nor could less be expected; for, if a style do not possess in itself that inward life, that continual growth, and constant renewal which in nature is an ordination, how should we expect that, contrary to all known laws, it would by mere repetition continue to please? Thus, having tried repeatedly to win success by means of archæology, and lamentably failed, we are at last awakening to a sense of the importance of *thought* and *invention*, and its offspring, *combination*. So strong is this feeling, that even Mr. Scott has commenced a course of *liberalism* quite opposite to the exclusive spirit manifested formerly by the Gothic school.

When the current of feeling in art as relating to our own profession, is becoming so direct and strong, what may we not expect? A certain amount of transcendentalism has been long wanting in our art, and it stands in a fair way of being supplied. The signs of the times point steadily towards a common goal: along separate paths from two great revivals we are steadily advancing, not in parallel, but converging lines, to meet, on equal terms, in a friendly territory, where, governed solely by artistic principles, we may refine, invent, and enjoy; not to sink into idle repetition, but to progress and improve; to learn that change is not an evil, but a vital necessity,—change, not the result of a mere desire for novelty, but of a longing for higher achievements at once reasonable and healthy, which, while improving our art, will gratify our intellect and satisfy our highest aspirations. Such a consummation may be nearer at hand than many of us think; and to contribute towards it, however little, is an occupation as honourable in itself as it is intellectually important.

T. Mellard Reade.

THE HOROLOGICAL INSTITUTE AND WATCHMAKING.

Anxious as we have always been for the preservation of the English chronometer and watch trade, and knowing that it is only by the improvement of the workmanship and by tasteful design that we can successfully contend with foreign competitors,* we are glad to notice the progress of this society, to which we have before directed attention.

The tenth half-yearly report notices an improvement in the finances of the Institute. There has been an increase of sixteen members since the last annual meeting; but during that time forty-two have joined: as many as twenty-six have retired, and three have been lost by death. We fear that this large withdrawal of members shows that all does not move so regularly and harmoniously here as clock-work and such societies as this should do. It is, however, satisfactory to learn that measures are in progress for the improvement of the "Journal of the Institute;" but the council point out the necessity of help from the members, especially in respect of articles of interest for insertion. An attempt, attended with some success, has been made to form a nucleus of a prize-fund, especially in connexion with essays on horological subjects; and it is proposed that this fund shall be entirely distinct from the general income of the Institute; and as soon as a sufficient amount has been subscribed, it is proposed to call a meeting of the subscribers to determine upon further proceedings. This fund might be usefully aided by those who, although not of the trade, take an interest in the prosperity of this branch of British industry.

Weekly conversational meetings have been arranged for the members and their friends, and several matters of importance have been brought under discussion; and subjects of both use and interest have been discussed: amongst other matters, the subject of standard horological gauges has been considered by a sub-committee, who have come to a unanimous conclusion that the recommendation of the Parliamentary committee should be followed out in the construction of a gauge for horological purposes.

This subject has been also discussed in this Journal; but the chief point recommended is the use of the French mètre as the unit; and the council would be glad to receive suggestions for the specific form or forms of gauges most suitable for this especial purpose.

A strong desire has been expressed by several members, that diplomas or certificates of skill should be awarded by the Institute. At present, however, the Institute is not so strongly established as to give such documents sufficient authority with the trade or with the public. Besides, the labour of an examination would involve the payment of fees to the examiners, and any institution which issues such certificates must have extensive and well-established influence. Mr. Jones, who takes an active interest in the management of this society, thinks that it may be the means of placing the watchmaker in the important position which he deserves, when we consider the ingenuity shown in the production of a useful and serviceable time-keeper. But this can only be done by the firm co-operation of the chief part of the employers and the general body of the workpeople. It is rightly argued that excellence in this craft requires many years of careful study, and knowledge of various contrivances; and it is mentioned that there are many instances of eminent men bringing forward propositions which they have thought new, and which, on inquiry, would have been found to have been in practice amongst the watchmakers. As an example, it is stated that the reflector for looking into jewel-holes, which was in constant use amongst watchmakers, was, on an extension of that principle, claimed as the new invention of an instrument for viewing the internal parts of the human body, which created wonder in a learned assemblage in the rooms of the Society of Arts.

* At the same time, we should not neglect the application of suitable machinery to the making of parts of watches, or the use of other labour in addition to that which is employed in preparing the numerous portions required in their manufacture. We have an account of an establishment for watchmaking by machinery in Waltham, Massachusetts, which employs nearly 500 artisans, and turns out 50,000 watches annually. All the works of these watches are made by machinery. One pound of wire, worth a guinea, is converted into 100,000 watch-screws, worth 70*l*. The jewels are perforated by a drill which is as fine as a spider's web; and the perforations are measured by gauges which indicate the ten-thousandth part of an inch. If a Waltham watch gets out of order anywhere in America, any part of the works can be obtained, exactly suitable, by sending the number of the watch to the manufactory.

The watchmaking art is the repository of a multitude of most ingenious contrivances, which are blended together in the minds of the different members of the trade: it is therefore most desirable that those practising this art should be formed into a corporation, in connexion with which every opportunity should be afforded of comparing notes and exchanging ideas.

In Coventry, a prize was offered for some improvement in watchmaking; but this seems to have been done by some well-meaning friend who did not understand the trade; for, the prize offered was so small, and the work required so great, that it was altogether out of reason to suppose that the prize would be striven for.

There seem from time, to time to have been matters of dispute amongst several persons who are connected with the Institute, which have had the effect of checking its success: all who wish well to the Society will trust that this is at an end, and that all will endeavour to add to the number of members by developing its usefulness, and raising it not only in the opinion of the trade but in that of the general public. The Institute has now 320 members, and is out of debt.

SANITARY CONDITION OF THE CITY OF LONDON.

The quarterly report of the medical officer of health, presented to the Sewers Commission, states that, of 669 deaths in the quarter, 255 occurred in the eastern union, 184 in the western, and 230 in the central division of the City. The death-rate has, therefore, been in the annual proportion of 24·7 per 1,000 of the first-named district, 27·5 of the second, and 19·8 of the third; making an average death-rate of 23·3 for the whole City. This is a little below the average (24) for the corresponding quarters of the last ten years; and it is also below the average death-rate (23·7) of the town districts of England. It is, however, largely in excess of that (22) of the whole country. The mortality in the western division of the City continues to be excessive, although it is a little less than that of former years. As to the ages at death, 269, or rather more than one-third of all the deaths, were among children of less than five years of age; and 132, or about one-fifth of the whole number, were among persons of sixty and upwards. At the ages of from twenty to forty the proportion of deaths was a little more than 14 per cent.; and at from forty to sixty, about 17 per cent. These numbers do not exhibit anything unusual. As regards zymotic disease, the report says:—"These sudden and severe outbreaks of zymotic disease show that the force of these maladies is not exhausted by sanitary measures, but only kept in check; and that when occasion serves, as in this instance, by the neglect of proper precautions, the force manifests itself with all its original vigour."

SANITARY CONDITION OF CARDIFF.

The medical officer for the borough of Cardiff, Dr. Paine, has reported to the Corporation on its state of health; and we condense the most salient points of the report.

The sanitary condition of the town during the past year has been satisfactory; the deaths being below the average of previous years, as also below the average mortality of towns throughout the kingdom. The population of the town is estimated at 35,700, of whom, however, 4,000 are seamen; and the port is sometimes cleared by easterly winds so as to reduce the population by 3,000 at a time. The town lies low and unfavourable for natural drainage, but an extensive system of artificial drainage has been executed, and sixty-seven streets, heretofore very filthy, have been pitched and paved, and seventeen courts flagged. Internal cleanliness in the houses has thus also been promoted; but there is a deficiency of house accommodation, and certain streets are still in a bad state as to cleanliness, such as Sandon-place, which contrasts unfavourably as to health with the streets on the south side of the South Wales Railway. In the Sandon-place district, diseases of a febrile or zymotic character still prevail, whereas this is not the case in the district contrasted with it. In the event of an outbreak of epidemic disease in the Sandon-place district mortality would unquestionably be great, and would spread to less unfavourable districts. A water company has been established, but the water contains much earthy matter, and additional filter beds are in course of construction. A constant supervision of lodging-houses is carried on: these exceed 300 in number. Public health during the year has been favoured on the whole by the weather: the low range of temperature during the summer quarter repressed malarious exhalations, and there was a great absence of zymotic febrile diseases. The autumn quarter was very mild, and the town was unusually healthy by comparison with other parts of the kingdom, in which the death-rate reached as high as 26 per 1,000; in London, 24; while in Cardiff it was under 20. From a table given in the report it appears that in every year during which the mortality was excessive the excess depended on deaths from zymotic diseases.

The infantile mortality of Cardiff is high, as, of 728—the total number of deaths,—364 were under five years of age. Infant mortality varies considerably in different districts, and in the same districts during different years.

From an analysis of infant mortality in six town districts, the reporter found the average death-rate of children under five years of age to be 46 per cent. of total deaths: the highest was 55, the lowest 41: in three semi-rural districts it was 38: in two purely rural it was 33. In Cardiff, with an unusual proportion of labourers and a large number of Irish mendicants, the infant mortality reaches 50 per cent. of total deaths. Inability to provide for the proper care of children, and overcrowded, ill-ventilated dwelling-rooms occupied by night and day, generate a vitiated atmosphere, destructive to the infant constitution, and produce death by diseases of the brain or nervous system, as convulsions; or of the nutritive system, as by tabes scrofula, or infantile diarrhœa.

As for zymotic diseases—which are of a contagious or infectious nature, and dependent on removable and preventible causes,—the first requiring consideration is fever, and it is satisfactory to find that for some time a very sensible decrease in the deaths registered from this cause has taken place in Cardiff. Streets where formerly fever was never absent, now obtain exemption. In 1862, 22 deaths from fever were registered in Cardiff, being at the rate of 0·6 per 1,000 of total population, or little in excess of half the rate of fever mortality throughout the kingdom.

The reporter concludes with an allusion to the money value of a reduced death-rate, and the saving therefore in a town such as Cardiff, where from sanitary reforms, 300 lives are saved every year. The result, he rightly considers, would show that even with the large outlay expended for the public drainage, private improvements, and other necessary expenses, in a pecuniary point of view, such expenditure has been wisely and profitably made.

THE ALBERT MEMORIAL HOSPITAL, GUILDFORD.

The chief stone of the county hospital for Surrey, subscribed for as a memorial of the late Prince Consort, was laid on the 31st ult. by the High Sheriff of Surrey, Mr. Lewis Lloyd.

This hospital in itself may be made a valuable rural auxiliary to St. Thomas's and Guy's,—at least, so far as regards Surrey patients; because, heretofore and now, these latter hospitals are the nearest and most available for those patients who will hereafter, it is to be hoped, stand a much better chance of recovery on the Surrey hills, where this new hospital will stand, than in any metropolitan hospital. Guildford, moreover, is quite a centre of railway communication between all parts of Surrey, including the southern side of the metropolis itself. The hill on the side of which the hospital is being built, is the Hog's Back, a little to the west of Guildford, and not more than 200 or 300 yards from the railway station.

The walls are being rapidly raised. The front will be to the south. The whole of the frontage of the hospital will be about 260 feet, and the width will be in proportion. The building will be about 50 feet high, though the central portion will be higher; and in the middle will be a turret, about 80 feet high. The east wing will be devoted to the male, and the west to the female patients. They will be of a uniform size; namely, 92 feet long, 25 feet 4 inches wide, and 17 feet 6 inches high. In both of these wards twenty-two beds can be placed, and they are each lighted by thirteen windows. The natural drainage will be favourable; and ventilation will doubtless be carefully attended to. Suggestions of various kinds for the improvement of the design, we hear, have been made by Miss Nightingale. The total estimate, exclusive of furniture, is 12,000*l.* Mr. E. W. Lower, of Guildford, is the architect; and Mr. W. Barnes, of Nutfield, the contractor. The outside of the building is to be of Bargate stone, laid in courses, with brick quoins and dressings; and the roof will be covered with dark and light coloured tiles.

The foundation-stone, Portland, was about 38 inches by 24 inches. Its position is under the window on the ground-floor, next to one of the principal entrances.

THE MONEY VALUE OF A REDUCED DEATH RATE.

In Dr. Gairdner's work on public health, there is a hypothetical balance-sheet drawn out by Mr. M'Gowan, of Liverpool, of which it will be useful to take a note. Dr. Gairdner says, in reference to it, "The estimate of the value of a productive human life to the community, is partly founded on an elaborate inquiry by Dr. Farr, into 'The Money Value of a Man,' and is decidedly moderate. The estimate of the cost of sanitary works, supposed to last for upwards of twenty-five years, is founded on actual data derived from experience."

Sanitary Economy in Liverpool.

1. Assuming there have been about 3,750 lives per annum saved to Liverpool by sanitary measures, taking half as males, and four-tenths or 750 as productive, the gain to the community in respect to them, at 300*l.* per life, will be (300 × 750)	£225,000
2. And the productive females at half the value	112,500
3. Taking the loss by incapacity to work and expenses on sickness in 70,000 families at 4*l.*, which in a town made healthful is saved (70,000 × 4*l.*)	280,000
Or a total annual saving of	617,500
Which at twenty-five years' purchase would produce the sum of	15,437,500
Deducting outlay for public works £853,387	
Ditto private drainage 200,000	1,059,387
There would remain a net gain to the community of	14,378,113

THE SAILORS' HOME: WELL-STREET, LONDON DOCKS.

The foundation stone of the new building in extension of this institution was laid on Tuesday by Lord Palmerston. The institution was founded in 1830, and was opened for the reception of sailors in 1835. Since the opening, 139,180 seamen have availed themselves of the advantages of the institution; and no less a sum than 1,110,980*l.* has been received from these men, and directed into legitimate channels for their benefit. The proposed addition is to be made in Dock-street, London Docks, immediately adjoining the original building. The estimated cost of the new building will be somewhere about 10,000*l.*, which much exceeds the funded property at the disposal of the directors.

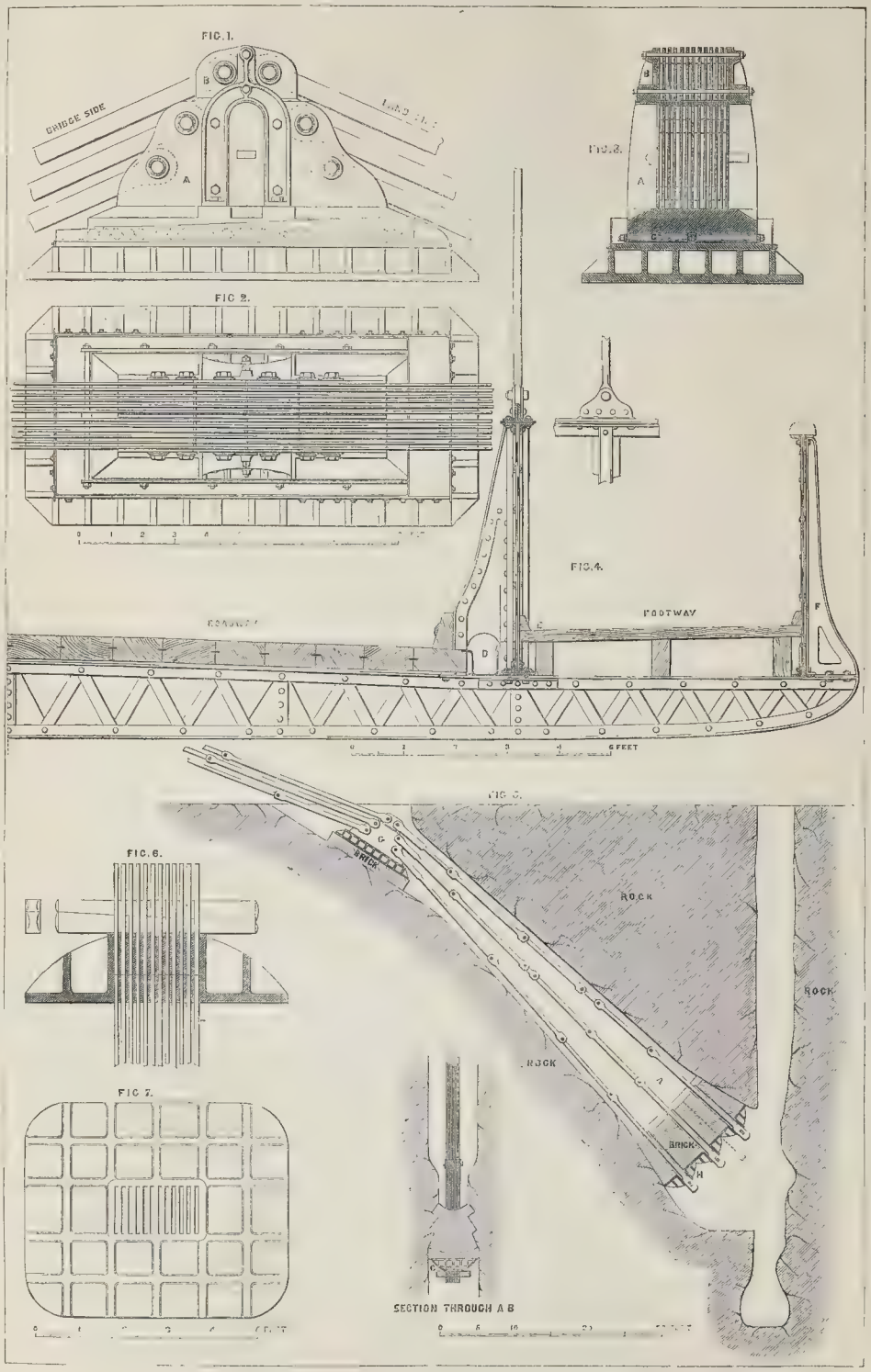
Lord Palmerston having taken his place in the immediate vicinity of the foundation stone,

Admiral Sir Wm. Bowles, the president of the institution, read an address, in which he said, during the last six years the demand for accommodation had been gradually increasing; so that it had been determined to erect an auxiliary building for the reception of 160 additional seamen. The plans, which embraced all the various contrivances conducive to light, comfort, and health, had been prepared by Mr. E. L. Bracebridge, architect. The cost of the building, as per contract, would amount to 10,626*l.*, to realize which, together with a further sum of 2,000*l.* for fittings, &c., an appeal had been made by the directors to the public at large, more especially to the shipping and mercantile community of the port of London. The "Home" had for its object to provide a place, combining security, freedom of action, and social enjoyment, for the sailor, on his return from a perilous voyage; and to promote his moral elevation and religious improvement.

After the reply of Lord Palmerston, and other portions of the ceremonial, his lordship proceeded to lay the stone, which he did in due form. His lordship then said, "I declare this stone duly laid, and long may it last."

A copy of the inscription, on parchment, was deposited in the cavity. The inscription was read by Mr. Bracebridge, who was assisted on the occasion by Mr. Macey, the builder. The noble Premier went through the ceremony of laying the stone in a style which elicited the cheers of the company.

The trowel was put into a handsome box, and presented to his lordship, who placed the box under his arm and left the ground with it.



DETAILS OF THE SUSPENSION BRIDGE, CLIFTON.*

[* See page 571.



THE SUSPENSION BRIDGE, CLIFTON.—Mr. Hawkshaw, F.R.S.; and Mr. W. H. Barlow, F.R.S., Engineers.

THE SUSPENSION BRIDGE, CLIFTON.

We publish this week a view, and a page of details, of the Suspension Bridge, Clifton, Bristol, commenced many years ago, and at length in course of completion with some important structural modifications. The bridge was commenced under an Act of Parliament in the year 1830. The original estimate was made by Telford, and amounted to 52,000*l.* The design on which the work was begun was furnished by the late Mr. Brunel, the estimated cost being about the same as Telford's. The money which became first applicable to the construction of the bridge was bequeathed by Mr. Wm. Vick, in 1753. Contributions from numerous persons in Bristol and its vicinity were added; but no company was formed, and the funds subscribed were at no period sufficient to cover the estimated cost. Still, it was considered of so much importance to obtain a communication between the counties of Gloucester and Somerset, that the work was commenced. All the land was acquired; and the piers, involving a heavy amount of solid masonry, were completed, as were also the approaches on the Gloucestershire side, all the preparation for anchorage, and the principal part of the excavation for the approaches on the Somersetshire side. But, ultimately, in consequence of the insufficiency of the funds, the works were stopped, the total money expended having been 45,000*l.*; and in that stage the undertaking remained till a very recent date.

The Hungerford Suspension Bridge, to which we must now pass, was designed by Mr. Brunel, and completed in 1845. That bridge, being to be taken down, in order to construct a girder bridge for the railway from Charing-cross to London Bridge, the opportunity was afforded for completing the Clifton Bridge with the chains set at liberty from Hungerford. Examinations were made by Mr. Hawkshaw and Mr. Barlow, who found that, with certain modifications in the design, the Hungerford chains might be adapted to the piers, and to the preparations for anchorage, at Clifton. So much being ascertained, the promoters entered into three agreements:—

1st. For the purchase of all the interest of the original trustees in the land, piers, and works at Clifton, subject to the necessary Parliamentary powers being obtained.

2nd. For the purchase of the chains, superstructure, and anchorage, subject to the purchase being completed within a limited time.

3rd. A provisional contract for the taking down, and erecting the chains *in situ*.

Mr. Hawkshaw and Mr. Barlow then found themselves able to state, that to construct the bridge, 24 feet wide, viz., a roadway of 16 feet with two footways of 4 feet each, the total cost and that of completing the approaches, lodges, gates, fencing, &c., would not exceed 27,000*l.*, exclusive of Parliamentary and other contingent expenses. Negotiations were commenced with a large landed proprietor on the Somersetshire side of the river, respecting an increase of width of the bridge to 30 feet, the additional cost being estimated by the engineers at about 5,000*l.* The promoters considered a width of 24 feet sufficient to meet all requirements of the traffic. The larger dimension is now within that of the actual width.

The bridge, when completed, will place Clifton and Clevedon within a morning drive of each other, shorten the distance from Clifton to Portishead and the beautiful district about it to seven miles, and be subservient to considerable traffic in farm and market produce from the district west of the Avon, to Clifton and Redland, which places cannot now be reached by carriages and vehicles without passing through Bristol, and thereby involving, as compared with the road across the bridge, an increased distance of four miles and two very high and steep hills.

One of the districts adjacent, remarkable for beauty, is that of the Leigh Woods. This ground is about being laid out for the building of suburban residences. We trust that the arrangement and particular designs of the villas, will be under more than the usual amount of professional control; or the beauty of the locality may suffer.

The span of the bridge, or measuring from centre to centre of the piers, will be 702 feet 3 inches; and the height above high-water mark will be 245 feet. The tide rises and falls about 25 feet. The other dimensions given are,—deflection of chains, 70 feet; width, 31 feet; and strength, 7,000 tons.

Considerable progress has now been made. The temporary suspension-chain, forming the scaffold for conveying and fixing the permanent chains, is carried across and in active use. The anchorage-plates, lately arrived from the contractors' works, weigh nearly three tons each. There will be three of these plates to each set of chains, embedded in the rock. The "paying-out" machine, for the wire ropes of the temporary bridge, designed by Mr. Airey, the resident engineer, consisted of three frames of iron, with powerful spur gear applied to the main axle of the machine, and on that axle a drum, 2 feet 6 inches in diameter, in which are fixed twelve screws, on the outer ends of which there are six iron plates, and wood "packings" with additional plates for forming a flange on each side. The coil of rope being placed over the drum, and the plates and "packing" put into position, the whole was tightly screwed, thus forming a centre on which the coil could revolve. The inner end of the coil being firmly secured to the drum, placed the rope perfectly under the control of the men, so that they could either "pay" it out, or draw it in. A more simple machine, it is said, could have been made for paying out the ropes; but this can be used likewise for drawing them in, when the temporary bridge is completed; and hence it was necessary to make it somewhat more elaborate and heavier than would have been required for the simple purpose of "paying out." In the use of the machine for paying out, each coil before being paid out, has to be fixed in the machine in the way described, and much caution is needed in placing it on the "rests," which are fixed on the top of the piers to prevent the possibility of the ropes being injured. As soon as the rope is got over on to the paying-out machine, it is connected with the fixings in the anchorage shaft, and then placed in the saddle on the top of the pier, where it passes over pulleys 5 feet in diameter, which are hung in blocks on the pier; the pulleys are lowered, and the communication made on the other side, the rope being fixed to the anchorage on that side, as already described. To show the strength of the anchorage, it may be stated that the ends of the ropes were secured into the shafts by four balks of timber bolted together, and firmly bedded into the rocks with bricks and cement. There were likewise powerful screws at each end of the ropes for adjusting them equally. As each wire rope was drawn from the Clifton side to the Leigh Woods side of the river, a hempen rope, of 1½ inch in diameter, had to be drawn with it for the purpose of bringing back a larger one to the Clifton side to repeat the operation. The machinery on the Leigh Woods side for drawing the ropes over, consisted of two powerful double-purchase crabs with grooved barrels. They were securely fixed to a massive frame of timber, and the rope was passed over the barrels, the machinery thus forming what is known as a "fleeting" crab. It is not, however, generally used, but it is much more effective than the old crabs, especially where there is a great length of rope, inasmuch as it is kept in one position all through, never requiring the "fleeting" or moving of the barrels. The wire-rope, as uncoiled, measures 1,100 feet in length. It was coated with oil and tar as it was unwound from the crab, and slowly made its way up the incline, drawn by the two powerful crabs on the Somersetshire side. Two hundred feet having been paid out, it was necessary to make everything secure, and then serve that portion of the coil resting on the "saddles" at the top of the pier with an extra coating of canvas and iron wire. Nine coils, weighing two tons each, of this kind, having been suspended, a strong cradle was attached to two of them, and swung down to the centre; and on this, the workmen commenced bolting the planks for the platform, gradually completing the stage as they neared the inclines, the declination of which is about 1 in 2½. The platform is completed; a "traveller" is attached to one of the wire cables, and by this machine the chains, &c., will be conveyed to any part of the platform, above which the suspension-bridge will be erected. The platform has consumed about 5,000 superficial feet of 1¼-inch boarding. Messrs. Cochrane & Co., of Dudley, are the contractors. The engineers are Messrs. J. Hawkshaw and W. H. Barlow, as already stated.

The promoters estimated the receipts from traffic at 3,270*l.* per annum, but the late Mr. Robert Osborne, who went carefully into the subject in 1844, estimated them at 4,034*l.* per annum.

REFERENCE TO DETAILS.

Figs. 1, 2, and 3. Elevation, plan, and section of the saddle on the towers; showing the arrangements of the chains at the point of suspension: A, main saddle; B, auxiliary saddle; C, rollers.

Fig. 4. Transverse section of half the bridge; D, gutter; E, rain-water outlet; F, standard.

Fig. 5. Longitudinal section of the anchorage of the suspending chains; G, saddle; H, bed-plate.

Fig. 6. Section of bed-plate.

Fig. 7. Plan of bed-plate, the chains being removed.

SWEEPING THE STREETS BY STEAM.

A correspondent, Mr. W. Sharp, suggests that the streets of London might be swept by steam. He says:—"The normal principle of thrashing out the wheat by the flail has been superseded by steam; and, as all matter must subserve to mind, I think that the filthy matter which encumbers our roads of London, in winter especially, ought not to be the master of mind. The broom, like the flail, must be superseded by steam, and our great city rendered as clean by four o'clock in the morning as after a heavy storm."

There can be little doubt that the street-sweeping machine might be readily made to act by steam, instead of horse power. Whether the substitute for manual labour, would be in all respects desirable, however, could not be concluded without previous consideration of questions of employment of the poor, which belong to the parishes and boards of guardians. The late Mr. Charles Cochrane, who organized *corps* of street-sweepers in several parishes, was, we know, in favour of having the sweepers always at work, each with a scraper and shovel, so as to remove dirt as soon as deposited; and he offered some tolerably good arguments in favour of his system as contrasted with that of the collection of heaps and the use of carts. Certainly, the London streets are disgusting and untidy to a degree unknown in Paris. Foreign arrangements are generally thought to be far behind English, in all that relates to cleanliness; but our attention to cleanliness stops short of roadways and pathways, and short of the dirty smoke that we breathe and have before our eyes. Every street in Paris is swept and washed down each morning. Plenty of work is involved in that; for, all litter of the day goes into the street at night,—being not kept festering in dust-bins, as is our habit to keep the like. But, after the cleansing, not a stalk, a shell, or a straw, will offend the sight for the remainder of the day.

OXIDE OF ZINC AS A PIGMENT.

A means of giving body to paint manufactured from oxide of zinc, is said to have been discovered by Mr. George Lewis, of Philadelphia. The ordinary mode of manufacturing zinc-white paint is to grind the white oxide of zinc in oil, without any previous preparation beyond that of levigation, and its want of body has greatly limited its use. The object of the present invention is to enable the white oxide of zinc to be manufactured into paint having a desirable degree of body; and to this end the invention consists in subjecting it, in its dry state, to the combined action of friction and pressure, by which means its bulk is greatly reduced, and it is enabled to be ground with a reduced quantity of oil. The machinery which has been successfully employed for the purpose of effecting the compression or condensation of the oxide, consists of revolving chasers or edge runners, such as are commonly used for tempering flax-seed for the manufacture of linseed oil. It is said that the oxide, in its original uncondensed state, requiring for grinding 2½ gallons of oil for every 100 lbs. will be found to require, when condensed, only some 1¼ gallon for grinding. By subjecting the oxide to the operation of the chasers for a longer time than that above mentioned, it is added, a still more highly condensed product may be obtained, which will take a less quantity of oil, and will increase the opacity of the paint. The unchangeableness of the white of oxide of zinc under circumstances where white lead becomes black from the action of sulphuretted hydrogen, renders the acquisition of the much wanted body to oxide of zinc a matter of great importance.

SEA DEFENCES: THE LAW AGAINST DESTRUCTION OF THEM.

Owners of ground bounding the sea, and even those whose property is some distance inland in a flat country, as well as railway companies whose lines skirt the coast, are much interested in the question of the enforcement of the law concerning the maintenance of works of defence against encroachment of the sea. So stringent is the law, that the owner of an estate bordering the sea, is even held liable to those behind him, for the results of any omission to keep the defences of his own ground in an effective state.

An injunction was obtained from Vice-Chancellor Sir W. P. Wood, lately, by the Commissioners of Sewers for the Lower Level District of

Gloucestershire, to restrain the Bristol and South Wales Union Railway Company from digging up, removing, or using for the purposes of their undertaking, any of the deposit of "chessel," or beach, known as the "Chessel Mound," on the banks of the Severn, near the New Passage, and within the jurisdiction and management of the plaintiffs.

The deposit forms a natural barrier against the innovations of the sea, and acts as a protection to a tidal sluice called the "Chessel Pill Sluice," and also to the artificial sea wall. The defendants erected recently a pier extending for some distance into the Severn, and in order to strengthen it, and generally for the purposes of their line, they removed large quantities of ballast from the Mound.

The defendants having taken these steps in spite of prohibition, a bill was filed, and an interim order for an injunction was granted on the 10th of July, and the motion was now renewed. Evidence as to the amount of injury likely to result was very conflicting. The Vice-Chancellor, in granting the injunction, said the utmost injury that could thereby result to the defendants would be that they would have to go further and pay more for the ballast required by them. Was this beach, which had been accumulating for centuries, and formed a great natural protection, to be removed upon the mere speculations of the defendants' engineers rather than matters should be allowed to remain *in statu quo* until the hearing? The balance of convenience and inconvenience was entirely, according to his opinion, in favour of the plaintiffs. A sufficient *primâ facie* had been made out, for entering the order for an interim injunction until the hearing.

LUDGATE HILL AND THE VIADUCT.

The Commissioners of Sewers for the City of London having recently determined to repave the whole of the carriage-way in Ludgate-hill, it became a question with them whether the gradients of the hill could not be made more easy; and Mr. Haywood, their engineer, had been directed to consider the matter. He accordingly laid a sketch before the commissioners showing the practicability of reducing the gradients from 1 in 25 in some places to 1 in 35, and generally of lessening the ascent; but that, he said, could only be done at the expense of raising the roadway in places some feet above, and sinking it in others some feet below, the present entrances to the shops. That the commissioners considered very objectionable, and a question was asked whether the difficulty could not be met by maintaining the foot-way as at present, but still improving the gradients of the carriage-road, as shown by the engineer. The answer was that such an arrangement would render steps necessary, from the footpath to the roadway, at places to enable passengers on foot to cross, and an iron railing at others to prevent them from falling into the roadway. Eventually the commissioners were unanimously of opinion that the proposal was beset with difficulty; but it was, nevertheless, on the motion of Dr. Abraham, referred to the Improvement Committee for consideration.

ARCHÆOLOGICAL EXCURSIONS.

Archæological Institute of Great Britain and Ireland.—On Thursday, a numerous party went to Sevenoaks, Knole, The Wilderness, Ightham, and other places in that direction. The paintings at Knole were of course examined, and the west gateway was pointed out by Mr. Parker as having evidently been built for defence. At Ightham, Major Luard read a paper on the Mote House. Old Soar was also visited; as also Leonard's Tower at Malling, and Malling Abbey, whence the party went to Leybourne; at all of which places Mr. Parker pointed out the more interesting features. On Friday the sections of Architecture and Mediæval Antiquities resumed their sittings in the Guildhall, Rochester. Amongst those present was M. Maury, specially deputed by the French Emperor to meet the congress at Rochester, with a view to material for the biography of Julius Cæsar, expected to be supplied in Dr. Guest's paper on Cæsar's landing in Britain. The Dean of Chichester read a long and interesting paper "On the Life and Times of Gundulph, Bishop of Rochester." Mr. J. H. Parker read one on Gundulph as an architect, which will be found in our present number; and Professor Willis one "On the Architectural History of Rochester Cathedral and Conventual Buildings." In the afternoon Professor Willis conducted a party of between 200 and 300 over the cathedral, including Gundulph's crypt, and other points of chief interest. The meeting of the sections was resumed in the evening, and Mr. J. R. Foord read some "Remarks on Old Rochester Bridge," of which we print a summary, and Mr. M. H. Bloxham read a paper "On the Monumental Remains in the Cathedral." On Saturday a large party went to Maidstone and visited Leeds Castle and Church, and Battle Abbey, returning to Maidstone at two p.m., when refreshment was partaken of in the Townhall; after which the College and All Saints' Church were inspected, and Mr. Hope pointed out the peculiarities of the old barn near the church and those of the College. The party then proceeded to the Palace, which they inspected, and to Chillington House. The curious old vaulted cellars of Gabriel's Hill were also visited and remarked upon by Mr. Parker. In the Charles's Museum, Mr. Roach Smith began a lecture on various subjects of interest there, but time did not permit him to proceed; and the party, after visiting Allington Castle, returned to head quarters. On Monday, the sections of Architecture and Ancient and Mediæval Antiquities resumed their sittings at the Guildhall with a very numerous attendance, including the Archbishop of Canterbury and the Bishops of Rochester and Gibraltar, M. Maury, &c. The first paper read was by Mr. E. Hawkins "On the Mint of Rochester." Mr. Beresford Hope also gave some "General Considerations on the Church Architecture of South-Eastern England." The last paper read was by the Rev. C. H. Hartshorne "On the Architectural History of Rochester Castle;" after which Mr. Hartshorne and a numerous party proceeded to the Castle and inspected the ruins. In the afternoon the members of the Institute visited Stone Church, near Dartford, and the churches of Dartford, Darneth, and Horton Kirby. In the evening a paper was read by Mr. J. G. Waller "On the Sepulchral Bronzes found in Kent." Tuesday was the closing day, when a general meeting of the presidents and members of the various sections was held in the Guildhall for the transaction of the general business of the Institute. The sections of History, Architecture, and of Early and Mediæval Antiquities, resumed their sittings at the Guildhall. There was again a numerous attendance. In the afternoon the members of the Institute visited Cliffe Church, Cooling Castle, and other places of interest. This closed the whole proceedings, which throughout have been most interesting; whilst the temporary museum has not been surpassed.

CHURCH-BUILDING NEWS.

Yarmouth.—The work of restoring the parish church has commenced. The attention of the architects has been first directed to the strengthening of the tower.

Wilsthorpe.—The restored church of Wilsthorpe has been formally re-opened for Divine service by the Bishop of Lincoln. The cost of the restorations is about 800*l.*, and for carrying out the work the parishioners are indebted to the Dean of Stamford.

Mildenhall (Suffolk).—At a meeting of the principal inhabitants, held in the vestry of the church, the scheme prepared by the churchwardens for the restoration of the exterior of the fabric was considered. The Rev. C. H. Lovelock, the chairman, explained the necessity that existed for a very considerable outlay, in order simply to secure the fabric from accident, in consequence of the fissure in the south-east angle of the tower. It would require at least 300*l.* for the purpose, and the like sum was wanted to provide a new organ. He strongly recommended a scheme which would place the whole of the building in a state of thorough repair, and restore the old tower. The whole scheme would require an outlay little, if at all, short of 1,500*l.* The meeting unanimously approved of the scheme, and pledged itself to its hearty support. A committee was then appointed for carrying out the plan.

Pettaugh (Suffolk).—Pettaugh church has been restored and re-opened. The church, which is dedicated to St. Catherine, is a very ancient and small structure, and would seem, by dates on benches and the roof of the nave, to have been last restored about the year 1605, and from that time only to have been patched up at intervals in the churchwarden style. In the west was a gallery, completely hiding a Gothic arch and the west window. The north and south windows were in a state resembling the windows of a barn or stable. The roof of the nave, which was considerably lower than the chancel, was becoming dangerous by age, as were also the walls. It has now been under restoration for nearly six months. A new roof has been added to the nave; two new windows put into the north and south walls; and the others thoroughly restored with stained borders: the gallery has been taken down, and benches take the places of the high pews which formerly filled the church. The restorations have cost about 300*l.*, which have been raised by voluntary subscriptions.

Broughton Pogis.—The ancient Norman church of this parish, which has lately undergone a restoration, was re-opened for Divine service by the Bishop of Oxford on the 24th ult. The cost of the restoration has been about 200*l.*

Windsor.—The local *Express* states that Mr. Norton's plans for the proposed new church have been rejected by the committee, as they could not be carried out at the estimated cost of 3,600*l.* Mr. Blomfield, the architect, has been called in.

Wallingford (Berks).—Aston Tirrold Church has been re-opened, after enlargement and improvement, under the superintendence of Mr. John Colson, of Winchester, architect. The north wall of the nave has been removed, and the roof supported by three arches: a north aisle, providing fifty new sittings, has been added; besides which several improvements have been effected in the chancel. The high oak screen which separated it from the body of the church has been removed, and an ancient window on the south side, called the "Leper Window," which formerly was very low in the wall and closed up, has been raised and opened. The decorations round the new arches and windows, and in various other parts of the building, were the work of the parishioners.

Salisbury.—The repairs of Salisbury Cathedral are in progress. The foundation, which is exposed, is being filled up with concrete. The decay in this part is owing to defective drainage, the whole of the close having been raised 2 feet; when the tombstones were removed and interments were discontinued. The grant of 10,000*l.* will barely suffice for necessary repairs: to put it in a perfect state would probably require five times that sum.

Broseley.—A numerous meeting of the inhabitants of Jackfield has been held in the churchyard, for the purpose of protesting against the taking down of the present church on the hill. A resolution to that effect was unanimously passed, and the bishop appealed to on the subject.

Combe St. Nicholas (Somerset).—The parish church of Combe St. Nicholas, has been re-opened, after renovation. The date of the church generally is about the end of the fifteenth century, but the lower stages of the tower are of the early or middle part of the fourteenth, and on the north side of the nave remained the shafted jamb of a Norman doorway. This has been now incorporated into a pillar of the nave in its original position, the aisles both north and south having been extended two bays westward in order to gain increased accommodation. The high close pews and an unusually offensive west gallery have been removed, and the whole area has been fitted with open benches. The chancel has been chorally arranged with carved oak stalls, and its floor has been laid with Godwin's encaustic tiles. A simple stone reredos, decorated with colour, has been provided. The whole of the roofs are open framed, and are double ceiled above and between the rafters. The old lead has been recast for the roofs of the aisles, and the embattled parapets reset upon the nave walls, the gables being furnished with copings and crosses. The works have been carried out by local builders, under the direction of Mr. W. White.

Cardiff.—The spire, which has been in course of erection upon the tower of St. Andrew's Church for some time, is now completed. The spire is 80 feet in height from the tower, which is 65 feet, making the total elevation 145 feet, or a few feet lower than the spire on Manningham Church. The designs were prepared by Messrs. Mallinson & Healey, the architects of the church; and the contract was undertaken by Messrs. M. Frith & Co., at a cost of 460*l.*

Shrewsbury.—The work of restoring the Abbey Church has been going on for some time, and is now nearly completed. The present church, the western end of the Abbey, having fallen into a state which gave warning of fast approaching ruin, a number of gentlemen formed themselves into a committee, with the object of effecting its restoration. Subscriptions were readily obtained, and the work was undertaken by Mr. S. P. Smith. The first and most serious part of the operation was to under-build and re-build, so as to restore the strength of the structure. The old clerestory of the Norman part of the building has been lost;

the ceiling and roof lowered on to the triforium; the other or later part having a similar ceiling, much higher. It was hoped at one time that funds might be obtained to extend the building eastward, restoring the ancient transepts and some portion of the choir; but as this was found to be impracticable, the committee had to confine themselves to making the best of the existing building; and, as the proportions of the present area would not justify the raising of the roof, the old triforium had to be accepted as the medium for light to the nave. This has been done by filling in the old arches with sub-divisions and traceried windows, avoiding any obscurations of the old feature; but at the same time blending with the later work westward. The interior has been concreted and pewed in oak, at a cost of 680*l.*, with a stone pulpit and desk, and internal porch to the south door. The next matter entered upon was the clearing of the great western tower. The gallery filling the whole area and supporting the organ, itself obscuring the great western window, was removed; then the bell floor, of deal and plaster, which about fifty years ago had been put across the tower, was replaced by an oak floor and ceiling at the original level. This, from the tower having no staircase between the floor and the roof of the church, involved the construction of a new approach to the belfry. When this had been effected, the two lofty northern windows of the tower were opened and restored, and the work of cleaning down, reinstating lost features and damaged masonry, was proceeded with down to the floor, at a cost of 2,261*l.* A donation of 180*l.* was met by the committee with 80*l.* for a warming apparatus: this, together with the gas service and fittings for lighting, has been effected. An internal porch to the south door; repairs and reinstatements of lost parts of the building; and other works of a miscellaneous character, had been done. The stone and oak screen work recently placed on the inner face of the western floor, and called, from its origin amongst the ladies of the parish, the Ladies' Screen, is in fact only a thickening of the western wall of the great tower to obtain an inner door to stop the draught, and a decorative feature to relieve the blank rere-opening. This idea of merely extending the opening, preserving intact the old work, has been rigidly adhered to in the design. There yet remain to be undertaken the restoration of the north porch, the tower, battlement, and buttresses, the completion of the roof stair turret, the removal and restoration of the monuments and font.

DISSENTING CHAPEL BUILDING NEWS.

Stepney.—The old Stepney Meeting-house, in which the late Dr. Fletcher officiated, is to be pulled down. This old structure was built in 1674 for the purposes of a Nonconformist chapel which had been founded in 1644. The pillars which support the roof were given by the States of Holland. The attics or hiding-rooms in the roof, which were used for purposes of concealment during the times of persecution in England, have been visited by a large number of persons. The demolition of the chapel, however, was to be commenced on Monday. About fifteen months since the congregation determined on building a new place of worship, and a sum of money was subscribed. The exterior of the new building has been completed, and the interior is in a forward state, and will be ready in October next. The new chapel is in the Gothic style, with towers at the north-east and south-west angles, each about 70 feet in height. The front, which faces the south, is in the Decorated Gothic style, with tower and spire 140 feet in height. The cost of the new edifice, and the purchase of the site, will exceed 11,000*l.*, of which all but about 500*l.* has been already subscribed by the congregation. The large circular Gothic window in the front of the new Meeting-house is to be fitted with stained glass at the expense of the female members of the congregation. When the old chapel is removed the new one, which is partially concealed on the west, will be better seen. It is situate about 200 yards west of Old Stepney Church.

Islington.—The new place of worship situate in Baxter-road, Lower-road, Islington, has just been opened for Divine service. The building, which will accommodate about 1,000 persons, is in the Gothic style. There are school-rooms under the building. Messrs. Dove were the builders; and Mr. William Smith was the architect.

Monmouth.—The foundation-stone of a Primitive Methodist new chapel has been laid at Monmouth. A memorial, hermetically sealed in a bottle, and deposited in a cavity of the wall prepared for the purpose, states that the Primitive Methodist connexion has 2,600 connexional chapels and 2,450 Sunday schools.

Worksop.—A new Wesleyan chapel has been opened at Worksop. This new chapel is built near the site of the old one, which has been pulled down. It is erected a few yards down, and on the south side of the proposed new street (to be called, we believe, Newcastle-street) leading from the New-road end to the Abbey Church. The edifice is of stone, in the Early English style. The interior is fitted up with low pews on the ground floor, and a gallery extends along the east and west sides, and over the north entrance, with the pulpit and orchestra at the opposite end, in which is placed a small organ. A school-room and vestry adjoin the chapel. The architects were Messrs. Wilson & Crossland, of Sheffield; and the contractor, Mr. John Duke, of Sheffield. The cost of the entire building (gasfittings, warming apparatus, boundary-wall, &c., inclusive) was 2,050*l.* The accommodation afforded is 800 sittings, of which 200 are free.

SCHOOL-BUILDING NEWS.

Northampton.—The new school-rooms in connexion with College-street chapel, which have for some time past been in course of erection, have been opened. The building itself, in contrast with the chapel, which is now rapidly approaching completion, is plain and unpretending. The front faces St. Katherine's, and the building is entered by two doors, both of which lead into a room 44 feet by 34 feet, which is capable of accommodating 400 persons. It is intended to be used for school purposes, week-day and other general meetings. On the ground-floor all the necessary apparatus for heating water has been fitted up. In connexion with the large room upstairs there are six class-rooms and vestries, which are situate at the rear of the chapel. The whole of the rooms are heated by means of Haden's heating apparatus.

Hastings.—A building to be used as a ragged school-house, is about to be erected in the Tackleway. Mr. Carpenter is the architect, and Mr. Harman the builder. The cost will be between 500*l.* and 600*l.*

Salisbury.—The new schools just erected for the parish of St. Thomas, and the opening of which we last week noticed, have cost 2,300*l.* The building was erected by Mr. Futcher, of Fisherton, from Mr. Slater's designs. The site is the north-western corner of the churchyard, close to the river Avon. The ground is somewhat limited in extent. The building, which is in the Middle Pointed style, and semi-ecclesiastical, is of brick, with dressings of Bath stone round the doors and windows. Class-rooms are attached to the schools. Felt has been introduced beneath the floor of the upper room, to prevent the noise of the children being heard below. Mr. J. Harding acted as clerk of the works; and the erection of the building was superintended by Mr. Bentlif. The iron railings which separate the building from the churchyard were supplied by Mr. James Wilton.

Plymouth.—The foundation-stone of the new schools connected with St. Andrew's parish has been laid. The site of the schools is behind Westwell-street.

PROVINCIAL NEWS.

Winchester.—At a meeting of the committee chosen to carry out the restoration and repair of the City Cross, a letter from Mr. Scott, the architect, was read, in which he says:—"I have considered the subject of the restoration of the cross, as well as I am able to do without having a scaffolding erected around it to its full height. It is very difficult, without such, to arrive at a correct idea of the amount of work required for the restoration. The grand principle to go upon in such cases is to do no more than necessity demands. The most satisfactory treatment of such a monument would of course be such as would require no renewal at all; and, consequently, the less which is required the more satisfactory the result: in fact, all that is done in the way of renewal, or of disturbance of the ancient surface, tends to diminish the interest and value of the monument as an ancient work. Still, however, the cross demands a considerable amount of new work, besides three new statues. The cost of this altogether, so nearly as I can judge, would be 450*l.* to 500*l.* If a scaffolding were raised round the cross, an accurate estimate, as well as correct drawings, could be made." It was then agreed by the meeting,—"That a scaffolding be erected round the cross for the purposes of Mr. Scott's examination; that Mr. Coles, city surveyor, be empowered to erect the scaffolding, and to consult with Mr. Scott upon the scaffolding required; that an appeal for pecuniary assistance be made to the citizens; and that Dr. Moberley be entrusted with the duty of drawing up the said appeal."

Cheltenham.—The foundation of the new Market-room, at the rear of the Lamb and Crown Hotels, has been laid. The capital has been raised by a joint-stock company. Mr. D. J. Humphris, borough surveyor, is the architect.

Birmingham.—It is now proposed that Aston Park (where the fatal accident to a female rope-dancer lately occurred, and naturally called forth her Majesty's animadversion) shall be purchased by the local corporation, and opened free to the people. The boast of its being the property of the working classes is a vain one: it never really belonged to them, although her Majesty was induced to inaugurate it as such. In fact, it belongs to a private company.

Birkenhead.—At a recent sitting of the Mersey Docks and Harbour Board, the works committee, in consequence of the heavy expense of working the Duke-street bridge, Birkenhead, recommended the adoption of a suggestion by the engineer for the application of hydraulic power to it, at an estimated cost of 870*l.* After some discussion the recommendation was agreed to.

Manchester.—The foundation stone of the new Masonic hall in Cooper-street has been laid with great ceremonial by the Freemasons, who walked in procession for the first time in Manchester for many years. The hall is erected under the Limited Liability Act, the company of proprietors being members of the craft, and the capital for the present being fixed at 10,000*l.*

Holyhead.—The Commons' select committee on the state of Holyhead Harbour report that the wooden jetty does not give sufficient accommodation for landing either mails or passengers. When the contract was made for the conveyance of the mails between Kingston and Euston-square in eleven hours, the Government had determined to erect piers at a cost of 425,000*l.*; but the cost led to the abandonment of the scheme, and the penalties for being after time have never been enforced. Two courses have been suggested to the committee,—the one to construct a breakwater, at a cost of about 50,000*l.*, protecting the head of the jetty, and enabling it, when strengthened, to bear a shed; the other, to deepen the water, and put a shed on the stone pier, at a cost (with some other works) of 33,000*l.* The committee consider that additional accommodation should be afforded with as little delay as possible, and that the penalties should then be enforced for being after time unnecessarily.

Hulme and Chorlton-on-Medlock.—Negotiations are in progress for the purchase of a site for a public park here. The land is known as Heywood's Farm, and is situate near the Chorlton-road. It contains 40 acres, and would cost 24,000*l.*; with 6,000*l.* more to fit it for the purposes of a public park. To obtain the money for the purchase the committee propose that the corporation of Manchester should be requested to borrow 30,000*l.* on the condition that the 3½ per cent. interest and 1,000*l.* for the liquidation of the capital should be paid yearly. An annual rate of ¼d. or 1d. in the pound on Hulme and Chorlton would raise the 1,000*l.* for discharging the debt. The corporation of Manchester are to be asked to pay the interest, and to take the management of the park the same as the other public parks in the city. The 6,000*l.* to be spent in labour would relieve the rates, and only one or two of the annual payments would have to be made during the existence of the present distress. A meeting of the ratepayers is to be called to consider the matter.

Saltburn.—*The Newcastle-upon-Tyne Courant* states that the directors of the Stockton and Darlington Railway Company are opening out a new bathing-place at Saltburn, under the northern elbow of Huntcliffe Foot, and a few miles to the southward of Redcar. They have also built an immense hotel, the Zetland, which has just been opened. If the new buildings in the town are carried out in the style they have been commenced, adds our authority, Saltburn bids fair to be a formidable rival to some of the old-established watering-places on the coast.

BUILDING ITEMS FROM IRELAND.

Belfast.—A clock-tower is about to be erected at Belfast, as a local memorial to Prince Albert.

Galway.—A subscription, which has already reached the sum of 6,500*l.*, is being got up for the formation of a graving-dock at Galway, according to the local *Vindicator*. The Harbour Board are promoting the project. Something like 30,000*l.* appears to be the sum in view, and it is thought that if 10,000*l.* could be subscribed in the county of Galway, 20,000*l.* could be easily procured in the monetary world of London.

Drogheda.—A meeting of influential inhabitants of Drogheda has been held, in order to take steps to co-operate with Mr. B. Whitworth, who offers to provide half the funds requisite for the establishment of waterworks in Drogheda, on a scale commensurate with the wants of the community. This subject of waterworks for Drogheda, remarks the local *Argus*, has been often mooted, and the lamentable want under which the inhabitants suffer, of this vital necessity, has been recognized by our influential bodies; but beyond being talked about, no practical step was taken to remedy the evil. Pure springs exist in various directions, in the neighbourhood of the town.

BUILDING NEWS FROM SCOTLAND.

Dundee.—The foundation stone of the Morgan Hospital has been laid, with Masonic honours, by the Earl of Dalhousie.

Braemar.—The new bridge across the Cluny, at Kindrochit, has been opened by the Countess of Fife.

New Deer (*Banff*).—A joint stock company was formed here in May last, for the purpose of erecting a hall for holding public meetings and assemblies, with a capital of 600*l.*, divided into 600 shares of 1*l.* each. A site was procured, the necessary plan and specification obtained, and contracts entered into, for erecting the building. The plan, which is furnished by Mr. Sleigh, Strichen, comprises a principal building 54 feet by 31 feet, with a wing extending backwards 26 feet by 31 feet. On the ground-floor of the principal building are two shops, 24 feet by 28 feet, with a hall above, 50 feet by 28 feet within the walls. The hall is entered from the back wing, through a porch or entrance-hall 10 feet square, by a staircase 5 feet wide. On a level with the hall, and in the back wing, is a committee-room, 18 feet by 28 feet, and which, on the occasion of balls, may be used as a refreshment-room; and in theatrical entertainments, as a "green-room." The contractors are — For the mason work, Mr. Davidson; for the carpenter work, Mr. Wallace; and for the slater work, Mr. Gammack, all in New Pitsligo. The whole must be finished by April, and will cost about 650*l.*

Orkney.—In an article on house accommodation, the *Orkney Herald* says:—We are desirous that this movement for improved home accommodation should extend to Orkney. There is no earthly reason why we should always, in some respects, keep in the rear of the Southlanders simply because the Pentland Firth rolls between the Orkney Islands and the Caithness coast. In Kirkwall and in Stromness the houses generally are of a substantial and pretty commodious description, although the narrowness of the lanes and the principal streets would render them very unhealthy, were it not that invigorating breezes from the sea are ever winnowing their way over the islands, searching into the most secret nooks, and driving away deleterious vapours. But we must confess, from observations in different quarters, that many of the rural dwellings are the most miserable tenements that could be imagined, and are only one stage removed from the Picts' houses, the remainder mounds of which may still be seen on some of our hillsides. This is a state of matters calling loudly for improvement and redress.

STAINED GLASS.

Orlingbury Church (*Northampton*).—A two-light window in the south side of the chancel of this church has been filled with stained glass, designed and executed by Mr. A. Gibbs, of London. The subjects are the "Agony" and the "Crucifixion," beneath which respectively are the Litany clauses: "By Thine agony and bloody sweat;" "By Thy cross and passion." The spaces above and below the pictures are filled up with a diaper pattern. In the top centre light is the figure of an angel holding a scroll, with the inscription, "Gloria in excelsis." Last year the wheel-window at the east end of the church was filled with stained glass, designed by Messrs. Powell.

Baptist Chapel, Leamington. — Three stained glass windows, by Messrs. Pilkington, of St. Helen's, have been inserted in the east end of the chancel, Baptist Chapel, Clarendon-street, Leamington. In the centre is represented, in a medallion on a rich diapered ground, "The Ascension of our Lord;" and in the side windows are "The Good Shepherd," and "The Return of the Prodigal Son." These windows were the gift of Miss M. Pilkington, of Leamington, and are in memory of her deceased sister. The cartoons were by Mr. Henry Casolani, of London.

New Church, Torquay.—The windows in the apse of the new church here, which was recently built by have been filled with stained glass by Messrs. Heaton, Butler, & Bayne, of London. In the centre window are the Crucifixion, the Birth of our Lord, and a Majesty. The subjects in the other windows are the Good Samaritan, the Publican, Angels appearing to the Shepherds, the Presentation, the Dispute with the Doctors, the Ascension, the Feast of Pentecost, Emmaus, Christ walking on the Sea, the Widow's Son, and the Leper. In the baptistery are the Baptism of our Lord, the Passage of the Red Sea, and Noah's sacrifice. It has been decided to fill the whole of the aisle windows with stained glass. Designs have been furnished, and one window is already completed. The subject of this is, "Where I am there also shall my servant be."

Glaston Church, Rutland.—The east window of Glaston Church, recently restored, has been filled with stained glass by the same manufacturers. The principal subject is the Crucifixion; and below are the Agony, taking down from the Cross, and the Burial.

THE WORK OF A "MONKEY."

I BEG leave to thank you for valuable information in answer to my query in the *Builder* of the 30th May last, kindly answered on the 13th June. I also beg to state, for the information of others who may have been misled like myself, my reason for asking so simple a question. In studying Tate's work on "Mechanics," I found (in section 52, page 88), that the effect of a blow given by a falling body was proportional to its weight multiplied by the distance fallen through. Thus a body weighing 2 tons, and falling 40 feet, the effective work done would be equal to $2 \times 40 = 80$ tons. If the rule were correct, then 2 tons raised 1 foot high forty times, and let fall that 1 foot each time, would do the same amount of work, as 2 tons raised 40 feet, and let fall once. I hope this mistake in Mr. Tate's work on "Mechanics" may be pointed out and rectified.

S. C. E.

THE "HINTS TO WORKING PEOPLE ABOUT THE HOUSES THEY LIVE IN."

I HAVE just read in the *Builder* the admirable hints to the working classes in selecting their dwellings and keeping them healthful, one of which is the frequent use of *lime-whiting*.

It may serve as a suggestion to local authorities, to know that it is the practice of the Local Government Board of this district (Torquay) to supply the materials and use of implements for lime whiting to any poor person who likes to apply for them; and I can assure you the boon is valued greatly, applicants having frequently to wait their turn. The expense to the parish is but trifling, but we cannot tell the amount of evil it prevents, and consequently the actual money saving it secures.

EDWARD APPLETON, Surveyor to the Board.

Miscellanea.

THE EXHIBITION (1862) BUILDING.—The papers state that the arrangement for the re-construction, on an improved design, of the Exhibition Building of 1862, on the heights of Muswell-hill, has been concluded by the directors of the Alexandra Park Company with Messrs. Kelk & Lucas.

THE ABBEVILLE JAW-BONE.—Although nothing has been said in the newspapers, we believe discoveries have been made of the character of the osseous fragments, which now change the doubt felt by the English geologists into certainty. Mr. Godwin-Austen, after skilfully conducted inquiries of one of the French labourers, procured the exhumation of certain remains that had been interred by the individual referred to; and on the examination of a particular skeleton which wanted the jaw, the Abbeville bone was found to fit exactly.

RISE IN THE PRICE OF COPPER.—There has just been a rise of 3*l.* per ton in manufactured and unmanufactured English copper. The quotations are as annexed:—Ordinary sheets, sheathing and rod, 102*l.* per ton; flat bottoms, 107*l.* per ton; tough cake, tile, and ingot, 95*l.*; best selected, 98*l.*

IRON FROM FRANCE.—Two hundred tons of armour plates are now being delivered at Portsmouth Dockyard by vessels from France, the manufacturers being Messrs. Petin, Gaudet, & Co., the makers of the armour plates for the frigate *La Gloire*, and other iron-clads in the French Imperial Marine.

LIGHTING, ARTIFICIALLY, OF LARGE BUILDINGS. The nave of York Cathedral has been lighted for the first time with gas. With 740 lights burning in the nave, in addition to 400 in the chancel, the effect is most brilliant and effective, not only in the building, but also without. The light reflected through the gorgeous stained-glass windows produced a grand effect.——The gas at the Grand Hotel in Paris costs annually 130,000f. (5,200*l.*), or precisely what the lighting costs of the whole town of Orleans,—a city by no means badly lighted.

METROPOLITAN BOARD OF WORKS: EXCURSION TO BARKING.—On Saturday in last week, a heavy steam-boat load of officers of the Board of Works, of all grades, with contractors, foremen, and others, was discharged at Barking, to the sound of music, into the future depository of the sewage of the northern half of London; and under the guidance of Mr. Doulton, M.P., Mr. Miller, M.P., Mr. Pollard, Mr. Smith, and Mr. Bazalgette, the company were set down to tables spread with a substantial repast. After this feature in the proceedings had received fitting attention, toasts were proposed, including one to "the Press," with which was coupled the name of a gentleman representing this journal. The party, earlier, had called round by Crossness Point, on the other side, lower down the river. The Northern High-level sewage, and part of that of the Middle-level, are now intercepted from the Lea; and the stream was seen flowing into the river at Barking. When the reservoir is quite complete, as on Saturday there was evidence, from its use as a dining-hall, that it is in great part,—the present temporary arrangement will be exchanged for that originally designed. The work, as we have before said, is, at both outfalls, most creditable to engineers and contractors.

THE COMMUNICATION BETWEEN PASSENGERS, GUARDS, AND DRIVERS, OF TRAINS IN TRANSIT.—This is a subject which for many years, the press has urged in vain on the directors of railways. That they will ever accede to any proposal the practical working of which would imply the power of every passenger to stop a train by mere signalling, is scarcely to be expected; and it was a belief that they would not do so that many years since induced the *Builder* to insist upon some means of transit from carriage to carriage for the guards; so that, in connexion with the required system of signalling, the guard might be enabled immediately to judge for himself as to the propriety of stopping the train. Till this be done, we have little hope of any amendment of the unpleasant position in which every railway passenger is placed from the moment he is shut in to the moment he is let out. In America there is no such state of matters; and why there should be in this country one cannot well see. Doubtless, privacy, even in public carriages, is very desirable; but the public life and safety are still more so. We cannot think these desiderata to be quite incompatible, however; although, from the close fitting of trains to overhead bridges and tunnels, there is certainly a serious difficulty in the way of forming a guard's beat outside the carriages. As it is, to call the helpless mortals who accompany trains by the re-assuring name of *guards* is an absurd mockery. The American plan of open passages through the carriages might surely be modified to suit English habits. Meantime, as the *Times* suggests, railway directors ought to be jogged with a slight stimulus to some such consummation in the shape of pecuniary responsibility for all the thefts, wounds, and murders committed in their prison vans. Ingenious and other persons seem to think that there is a want of suggested means for the communication, as carriages and trains are at present formed; but this is quite a mistake: hundreds of suggestions,—not by any means all original certainly, far less all available or practicable,—have been brought under the notice of railway directors, electrical inventions amongst them; but what is wanted is the will, not the means.

Architectural Association: Voluntary Examination Class.—The members of the class will visit Highgate cemetery this, Saturday, meeting for that purpose at the "Red Cap," at half-past two p.m. On Friday, the 14th inst., Mr. Lacy W. Ridge will introduce the subject of Euclid and the Algebraical Proofs of the Propositions of the Second Book.

The Aberdeen Statue of Prince Albert.—This statue is ready for casting, and it is expected that the inauguration will take place in September. The sculptor, Baron Marochetti, has been at Aberdeen, and is said to be satisfied with the site, and the granite for the pedestal, which is in progress at Messrs. Macdonald's granite works. Mr. Fraser is the contractor for the mason-work; and Mr. Smith the architect employed.

Monumental. — The foundation stone of a monument to be erected by Sir Roderick I. Murchison, in honour of one of his ancestors, Donald Murchison, has been laid at Balmacarra Bay, Lochalsh. The memorial is to be constructed of light grey granite from the quarries at Wigton Bay, the stones dressed, and forming an obelisk, which, with the pedestal, will be 36 feet 4 inches in height.

Fall of a House at Peckham.—Considerable alarm was created on Tuesday morning by the fall of a newly-built but uninhabited house in Park-road, Peckham, and the injury of two persons. The house in question was but partly finished, the walls and part of the roof only being raised; and it had sunk considerably on one side on account of the soft nature of the soil and imperfect foundation. About nine o'clock, as a gentleman was passing, he heard a sound as of falling rubbish, and a loud crack; and as, on glancing up at the house, he observed the front wall part, he ran by hastily. In the rear of the gentleman were a little boy and a milkman, who also ran, but were too late to escape unhurt: the house falling forward with a loud crash, partially buried them in the *débris*. The victims were promptly extricated and carried to a surgeon's, when it was found that the boy had his left arm broken and one of his ankles sprained. The man only suffered from a slight contusion on the head.

The Leicestershire Architectural Society.—The July meeting of the Leicester Architectural Society was held in the Town Library on Monday in last week, the Rev. J. Hill in the chair. Amongst other business, Mr. Crossley called the attention of the society to the sewerage operations now being carried on in Jewry-wall-street, Leicester, and stated that if the sewer be carried in a straight line down the street, it will damage the very interesting Roman pavement now there in its original position. It appears the Highway and Sewerage Committee are anxious not to injure the pavement, and have suspended the works in order to receive any suggestions respecting it. It was the opinion of the committee of this society that, if possible, it is desirable that the sewer should be taken in a slightly curved direction where it would come in contact with the pavement, and thus prevent any injury to it, or necessitate its removal, which latter course the committee thought highly undesirable. Several new members were elected, and various objects of interest were exhibited to the meeting.

Railway Matters.—The traffic receipts of railways in the United Kingdom amounted, for the week ending the 18th of July, on 10,843 miles, to 618,275*l.*; and, for the corresponding week of last year, on 10,404 miles, to 610,020*l.*, showing an increase of 439 miles, and of 8,255*l.* in the receipts.——Among the measures introduced this session by the Board of Trade is one for consolidating in a single Act, all the routine provisions usually inserted in each separate Railway Bill. In 1845, a measure of this kind was passed; but since that period, the extension of railway legislation has been such as to necessitate a fresh consolidation. The present Act is styled the Railway Clauses Act of 1863, and is divided into six parts; the first relating to engineering works and questions of the general mode of construction; the second to extension of time; the third to working agreements; the fourth to steam-vessels, in connexion with railway routes; the fifth to conditions of amalgamation; and the sixth to the abandonment of works for which Acts have been granted. The Bill as at present printed says,—"This Act shall be divided into seven parts as follows,"—and then goes on to state in numerical order the above six divisions, which are all that it comprises.——The first sod of the East Grinstead and Tunbridge Wells Railway has been cut.——The Ware, Hadham, and Buntingford Railway has been opened.

The New Jewish Synagogue, Berlin, surpasses in size and in magnificence the largest buildings of the kind in Europe,—those at Pesth, Vienna, and Cologne. The edifice has in the interior five large and five small cupolas, lighted from above.

Destruction of a Theatre by Fire.—The Jersey Theatre Royal has been destroyed by fire. The theatre was closed, and the origin of the fire is not known. In two hours from its breaking out the roof fell in. The building cost 5,000*l.*, but it was only insured for 1,000*l.*, the amount of insurance having been reduced, about six months since, from 2,000*l.*

The Drinking Fountains Movement.—The secretary of the Metropolitan Free Drinking Fountains Association complains in the daily papers, that the sadly-neglected state of certain private fountains erected in London is charged upon the association, whose fountains, on the contrary, are carefully attended to.——A fountain was some time since begun to be erected at Chatham, and from want of funds has been left unfinished till now; but Captain Budden has undertaken to complete it, at his own cost, according to the original design.——A drinking fountain is being set up at Merthyr Tydvil. The site is a central one, opposite to St. David's Church. The design is of cast iron bronzed. At the base it bears an inscription—"In memory of the Marriage of his Royal Highness the Prince of Wales."

Friendly and Co-operative Societies, Scotland.—The Registrar's report for the past year gives a favourable account of these societies in Scotland. One of them has an annual income of 1,300*l.*, having above 700 members; the allowance during sickness is half-a-guinea a week, and 70 members pay and are enrolled for double sick benefit. The Registrar has had before him the papers of two friendly societies in the town of Borrowstounness, instituted so long ago as 1634 and 1659, both of which have prospered all along, and are in a very prosperous condition still. Their rules were evidently originally framed from the model of those of societies which had existed in Scotland before their day. A large number of annual societies dividing at the end of the year such funds as have not been required for sick allowances, are being changed into permanent societies. Co-operative societies are increasing, and appear to be prospering.

The Light Literature now Popular.—How extensively is this, while professing to give a true picture of the facts and aims of life, made the agent of lowering the estimate of right and wrong, of exciting the aspiration in behalf of unworthy objects, and juggling the reason with false notions of utility! The low ideal of love and marriage; the recognition of wealth as a standard of respectability, and the natural reward of virtue; and the decrying of enthusiasm and independence of thought and action, are among the prominent characteristics of a portion of it very far from being regarded as immoral. What an amount of talent, likewise, do we not find wasted on that class of literature denominated sensational; talent with all the power to carry out better aims, but merely pandering to the love of exciting incident, and sacrificing natural character and circumstance to effect a *coup de théâtre!* How effectually is the way prepared by all such works for the enterprise of still more unscrupulous writers, ever ready to supply the demand created by the deterioration of the tastes!—*Social Science Review.*

The Utilization of Sewage of Towns.—This question, more especially as connected with London, continues to be discussed in the local Boards of the metropolis. A series of resolutions passed at general meetings of delegates, and at various metropolitan vestries and district boards recently held, were read, at a recent sitting of the City Commissioners of Sewers, in reference to the subject. They were to the effect that the concurrent testimony of scientific men, and the results obtained by practical men, were decisive as to the value of sewage as a means of fertilization; and that the sewage of the metropolis being the property of the ratepayers, should be dealt with for their advantage, with a view to reduce local taxation. The Metropolitan Board have received many proposals, and will probably print them all, when we shall have an opportunity of considering them. A letter from Baron Liebig appears in the newspapers, in which he says "it is neither fantastic nor ridiculous to suppose that, without purchasing foreign manure, and by a judicious utilization of the sewage of towns and villages, England would be able to dispense with the importation of food from abroad."

Pneumatic Despatch Company.—The third ordinary general meeting of the shareholders was held on Saturday, as notified in our last week's issue; and the report was unanimously adopted.

Reclamation of the Godwin Sands. — A public company is being formed for the embankment and reclamation of the Godwin Sands into a valuable island, whereon to build a new township, fortifications, docks, life-boat station, and wharfs; also to reclaim the land for agricultural purposes. By the proposed embankment the whole of the Channel between the Godwin and the Break would become entirely clear. The sunken ships and treasures, it is thought, would pay all expenses. The land to be reclaimed will consist of about 20,000 acres.

The Workmen's Club Movement. — The Working Men's Club and Institute Union for helping workmen to form clubs, though not to establish such clubs for them, is actively at work in London and the provinces. At a meeting held in St. Martin's Hall, Longacre, for the formation of one of these clubs in St. Martin's-in-the-Fields, it was stated that Sir Frederick and Lady Grey and others would guarantee the rent of a club-house for twelve months, and provide the preliminary outlay, if requisite. Another club is to be established near Bishopsgate-street, and there are similar establishments at Pimlico and Soho. A Workmen's Club has just been established in Newhall-street, Birmingham.

Progress of Steam Cultivation. — Mr. Evelyn Denison, the Speaker of the House of Commons, has written an enthusiastic letter, about the steam cultivation of strong clay lands, to General Peel, who had asked him to send some brief agricultural recommendations to the agricultural county of Hunts:—"The event most interesting to farmers that has occurred lately," he says, "especially to farmers cultivating strong clay lands, is the proved success of steam cultivation. . . . It happened this spring that a fine farm of between 600 and 700 acres of clay land came into my hands in a very bad state, from a slovenly tenant. It seemed to me the time was come to call in the aid of steam. I adopted the machine of Mr. Smith, of Woolston. During the dry weather of the month of May, when the land was baked as hard as a brick, and when no implement moved by horses could make any impression, my 10-horse power steam-engine began its work, smashing and breaking up the land in a manner that was quite surprising. The farmers of the neighbourhood came to look on, and there was not a dissentient voice: every one said, 'This is what we want: this is the way to fallow clay land.' The first cost of the machinery is 500*l.* Where the ground is very hard the cost (independent of interest on outlay) the first time over is 6*l.*, the second 3*d.* per acre. And the work is so superior to work done by horses that many farmers said they would rather pay 1*l.*, or even 1*l.* 10*s.* per acre to have their land so broken up."

Wesleyan School and Chapel Statistics. At the recent conference held at Sheffield, documents were read from which it appears that the Wesleyans have 550 day schools, attended by 78,482 pupils (an increase of 2,430 in the year); average attendance, 57,000. Children's pence, 29,759*l.*; total income of the schools, 46,844*l.* Sabbath schools, 4,200; scholars, 536,319 (an increase of 29,484). Average attendance, 385,911 (increase 13,739). In Bible classes, 6,734; teachers, 91,922; teachers in society, 78,312. Annual cost, 32,960*l.* The chapel-building committee reported that during the last year 228 cases had been sanctioned, including 90 chapels, 10 schools, 69 alterations, 28 organs, and 27 modifications of cases previously sanctioned; involving an expense of 134,887*l.* (an excess of 26 cases and 12,540*l.* outlay on the year). Besides this, there was a large chapel erected at Southport, costing some thousands, which will be wholly defrayed by one gentleman. By this aid, 32 chapels are to be placed out of debt, while others will only lie under small and temporary debts. Seventeen chapels, one minister's house, and five pieces of land, had been sold; but five of the chapels were to be replaced, and only three had been abandoned from the failure of the cause. The entire cost of all the erections and enlargements had been 167,516*l.*, being 63,045*l.* in excess of last year, and more than was ever sanctioned in one year before. Three chapels had been gifted to the connexion. Other gentlemen had given large portions of the cost to other chapels. Amongst the chapels assisted, special mention was made of one built of mud, and by the hands of Gipsies for their special use. It would cost under 100*l.*, and in encouragement the committee had granted 10*l.*

The Science of Colour: Scarlet and Grey.—It has been found, while firing at the running-man target at Wimbledon, which is scarlet on one side and grey on the other, that the scarlet dazzles the eye, and is hence the most difficult to hit, from leaving a red streak behind it, in its advance, which unsettles the aim. The grey side was struck 74 times and the red only 42 times. It is a curious fact, too, it seems, that those with grey eyes hit fairer than those with eyes of other colours.

End of the New Theatre Company.—We regret to observe that the affairs of the company projected "to carry out desirable improvements in the structure and internal economy of theatres," are about to be wound up. The company had purchased a long leasehold in the Haymarket, whereon a theatre was to be erected, "embracing all the advantages and improvements to which the people of London are entitled, including wide entrances, roomy seats, unobstructed passages, and good ventilation." It was also to have purchased land to build other theatres in London and elsewhere. The failure must not be allowed to stop improvements upon existing structures.

Telegraphic Progress.—The Atlantic Telegraph Company now invite tenders for the manufacture and laying down of a new cable between Valentia in Ireland and Newfoundland. They have also applied to Government for aid with ships as before.——The first portion of the Persian Gulf cable has been shipped. The completion of the telegraph wires from England to India *viâ* Arabia and the Persian Gulf is thus approaching, and there is a good prospect of seeing the telegraphic system of Europe and India united in this way before the close of the present year. We shall thus be in full telegraphic communication with Calcutta, and, *viâ* Calcutta, with Rangoon and Shooe-Gyen (Shway-Gyeen), over the following distances:—

	Geo. Miles.
London to Belgrade, in European Turkey	900
Belgrade to Constantinople	450
Constantinople to Bussorah, in Asiatic Turkey	1,100
Bussorah to Kurrachee, in British India	1,050
Kurrachee to Calcutta	1,155
Calcutta to Dacca	135
Dacca to Rangoon	480
Rangoon to Shooe-Gyen	130

This gives a total air-line length of 5,400 miles of telegraph from England eastward. It is but a narrow space which separates Pegu from Hong Kong.——Messrs. Glass, Elliott, & Co. have despatched a steamer to the Mediterranean for the repair of the fractured cable between Benghazi and Alexandria, about 500 miles in length.

Gas.—The City of London Gas Company have just laid 24-inch pipes to increase the supply from their works at Whitefriars, *viâ* Ludgate-hill, St. Paul's-churchyard, and Cannon-street, to the Minories, &c.——The Romsey Gas Company have reduced the price of their gas from 6s. 8d. to 6s. per 1,000 cubic feet. A local contemporary says: "Our gas in former years, at no very distant period, was 10s. per 1,000, and then the finances of the company did not yield much of a dividend; but, since the altered management of the last few years, things have gradually improved, and now the shareholders have a very fair dividend ever since all the previous reductions in the price of gas."——The Worcester Gas Company have announced a dividend of 10 per cent. per annum for the last half-year.——The Taunton Gas Company have reduced their price from 5s. 6d. to 4s. 6d.——The Devonport Gas and Coke Company, who lately reduced their charge to 4s., have just declared a dividend at the rate of 9 per cent. per annum on original shares, and 5 per cent. on others, for the past year.——The Penzance Gas Company have reduced their price from 6s. to 5s. 6d., with a hope "that an increased consumption will enable the shareholders to make a further reduction."——At the annual meeting of the Glasgow Gaslight Company, it was stated that the directors were enabled from the profits to recommend dividends of 10 per cent. and 7½ per cent. upon stocks entitled to these rates respectively; and they had a balance over of nearly 2,500*l.* Part of this balance had been carried to the reserve fund, which now amounted to 29,104*l.* 13s. 5d., being the total sum authorised by Act of Parliament; and 106*l.* 7s. 10d. was carried forward to the credit of next year's revenue account. Notwithstanding the very depressed state of trade during the past year, the quantity of gas made had considerably exceeded the quantity consumed during the previous year, showing that the extension of the town was making up for the short consumption arising from a number of public works being comparatively idle during a great part of the year.

Back Yards and open Areas.—"A Subscriber" wishes to call attention to the sanitary defects of houses, from the deficiency of proper areas at the back of each dwelling, "so as to insure something like a free circulation of air by having back windows." He adds, "it should be stipulated that the small space required to be left, *should not be built upon*." The subject generally and the growing evil, in London, of the building upon the spaces originally designed to be left free, have engaged much of our attention.

The Town Hall, Halifax.—The building in Halifax, originally designed by Sir Charles Barry, and now completed by his son, Mr. Edward M. Barry,—and of which we gave a view and plan in January, 1860, as the design then was,—has been opened by the Prince of Wales, who likewise visited Mr. Scott's church of All Souls, a view of which was given in our volume for 1859. Mr. E. Barry seems to have followed generally the first design, with modifications in details. We shall probably give a better notice of the completed building, than we are able to supply this week.

Cochineal and Aniline. — Cochineal, which formerly commanded an enormous price, has been, to a great extent, superseded by aniline. This aniline, says the *Scientific American*, is now worth eighty dollars a pound. We need hardly remind our readers that it is extracted from coal-tar, and that it is superior to cochineal from the fact that it gives, by different treatments, every shade of purple, from the deepest royal to the faintest lilac,—every variety of blue, from the pale tint of blue sky to the deepest ultra-marine,—and all the gradations of scarlet and crimson.——Dr. Augustus Eisenlohr, of Heidelberg, has discovered a fine blue colour in the action of certain acids on aniline. The colouring matter obtained may be dissolved in alcohol, or in any other suitable solvent, and is applicable for dyeing and printing purposes.

The Footway in Great Ormond-street.—For a period of nearly twelve months the public have been deprived of the use of this footway, the same having been hoarded in and made use of as a builder's yard, wherein stones have been cut and worked, and all the appliances of a stonemason's yard in full operation. It has appeared to me that this is perhaps hardly a use for public footways; and there certainly is in any event a considerable novelty in it, that has induced me to write to suggest that in all cases where considerable works are contemplated, a proper "timber staging, with covered headway," should be inserted so as to preserve intact the public footway for its legitimate use. The pavement for some distance round is in a ruinous and dangerous state, and has been so for some time.—R. L. Sibley.

Porcelain.—"The word '*pourcelaine*' [says Mr. Chaffers] has existed in the French language since the fourteenth century, consequently long before the introduction of china ware into Europe: the word was applied formerly to the calcareous concretion which lines the interior of marine shells, which we call *mother-of-pearl*. In the inventories of the fourteenth, fifteenth, and sixteenth centuries, the word *pourcelaine* has this signification, and certainly does not apply to porcelain in our acceptation of the term. This appellation was probably given to the ware by the Portuguese, in the beginning of the sixteenth century, from its similarity to these marine shells, and is derived from '*porcellana*,' a word which they apply to cowrie shells, either because it conveyed a good idea of their milky white, glossy and translucent appearance, or perhaps they may have imagined that the ware was actually made from a composition of these very shells. * * * This supposition was not an unreasonable conclusion for the Portuguese to arrive at; for, even at the present day, cowrie shells are imported in large quantities into England for the purpose of enamelling the insides of iron vessels for culinary purposes, which gives them the appearance of being coated with porcelain."

The Architectural Museum.—I lately visited the South Kensington Museum, and to my great disappointment found that the most interesting portion was closed, namely, the Architectural Museum, which, to the architect and student, possesses so much that is interesting and instructive. It is, sir, a great defect in our arrangement that there is not such a place as the South Kensington Museum more in the centre of London, as the great majority of the population never can get as far as Brompton to visit the collection.

An Architect.

A Plague Burial-ground.—The workmen engaged in excavating for the viaduct of the North London Railway, City Extension, in Liverpool-street, Bishopsgate, have discovered an immense quantity of human bones beneath the foundations of the houses in Broad-street-buildings, and are removing them for interment in one of the suburban cemeteries. It is stated that the spot where they were found was used as a burial-ground during the plague.

The Bolton Cotton Spinners: Public Works.—At a recent town council meeting, after hearing explanations from Messrs. Rawlinson & Farnall, and ascertaining from the surveyor that among other improvements a great deal of drainage required to be done, a resolution was adopted, acknowledging the desirableness "that works of public utility should be forthwith commenced, to find employment for those who are and may be out of work." The street drainage spoken of by the surveyor extended about eleven miles, and would cost about 11,000*l.* 5,000*l.* might also be spent in draining private property. There is talk of the town council borrowing 47,000*l.*

Ingenuity rewarded.—In noticing the proceedings of the late meeting of the Prince Consort's Windsor Association, the local *Express* stated that "W. Beames, a footman, sent a tea-caddy, urn-stand, boot-jack, tobacco-pipe and box, spirit level, and pocket-knife, of his own make, and deserving of the highest commendation, more particularly the tea-caddy, which was inlaid with different ornamental woods in a manner which would not have disgraced a regular artisan." After the exhibition Beames was induced to forward the urn-stand to the Prince of Wales, humbly soliciting the honour of the Prince's acceptance of the article. At the same time Beames forwarded the tools he had used in the production of the work. These consisted simply of an ordinary chisel, a smoothing-plane, a saw made out of a common dinner-knife, and an old pen-knife, and with the latter the whole of the chiselling or engraving was done. The stand was an inlaid piece of furniture, the sides being inlaid with various descriptions of wood, standing five inches in height, and a foot square. At the top, on a diamond-shaped piece of inlaid box, the Royal arms were chased out or engraved; whilst at each corner, on sycamore wood, were cut out the Prince of Wales's feathers. His Royal Highness has gratified the ingenious workman by accepting the present; and, through General Knollys, has forwarded Beames a present of three guineas. The General, in his letter accompanying the money, adds, that his Royal Highness thanks him for his interesting work, and that the Prince has expressed his opinion that the work does great credit to Mr. Beames, especially when the tools are taken into consideration with which it was executed. He resides in Alpha-place, Slough.

TENDERS.

For alterations and enlargement of working men's club and reading-rooms, Duck-lane, Westminster. Mr. J. Downdes, architect:—

Bywater	£527 0 0
Groombridge	549 10 0
Richardson (accepted)	450 0 0

Dublin Exhibition Palace and Winter Gardens Company. Mr. A. G. Jones, architect: Mr. H. Saxon Snell, surveyor.

For concert-halls, picture-galleries, and offices:—
Beardsmore & Sons (accepted) £24,800

For exhibition building and winter garden:—
Beardsmore & Sons:—

Without Transept.	With Square Transept.	With Circular Transept.	Reduced Plan.
£19,092	£20,833	£21,173*	£17,562

* Accepted.

For building a villa near Red Hill. Mr. Henry McCalla, architect:—

Kilby	£1,325 0 0
Richardson	1,199 0 0
Simmonds	1,170 0 0
Wesley	1,150 0 0
Gray & Russell (accepted)	1,015 0 0
Walker & Bellamy	946 0 0

For the northern division of the outfall drainage of the west district of the Borough of Kingston-upon-Hull. Length of sewers, 57,524 yards; dimensions of sewers, 6 feet 6 inches circular, to 3 feet 6 inches by 2 feet 4 inches (egg-shaped). Depth of excavations, 9 feet to 18 feet. Mr. J. Fox Sharp, C.E., borough surveyor:—

McCormick	£29,097 5 4
Jackson & Co.	27,593 11 2
Hudson & Son	25,824 13 10
Bennett	25,477 1 0
Robinson	23,542 3 4
Simpson & Malone	23,330 14 2
Petch	21,214 17 1
William & John Hall	21,110 10 6
Marriott	19,049 9 7
Buxton	16,923 7 3
Thane	13,992 3 7
Dixon & Sleight	12,823 12 2

For a public-house at Upper Clapton, for Messrs. Courage & Co.

Dover (accepted)	£1,280 0 0

For the schools at Headington, near Oxford :—

Dover (accepted)	£400 0 0

For alterations and additions to the North Surrey District Schools, Anerley :—

Dover	£2,945 0 0
Wardle & Baker	2,900 0 0
Tongin	2,660 0 0
Jarrett	2,646 0 0
Ruck	2,588 0 0
Simms	2,499 0 0
Holliage	2,370 0 0
Drake	2,250 0 0

For finishing two semi-detached villas, Upper Parkplace, Plumstead-common, Kent, for Mr. Charles Stuart. Messrs. W. Gosling & Son, architects :—

Sutton	£1,245 0 0
Wallis	890 0 0
Wickens	860 0 0
Blofield	840 0 0
Griffiths	490 0 0
Thompson (accepted)	458 15 10

For works, Christ's Hospital :—

Pritchard	£894 0 0
Patman & Fotheringham	867 0 0
Malcott, Brothers	852 0 0
Hayward	850 0 0
Little (accepted)	847 0 0
Shaw	762 0 0
Ditto, amended tender	807 0 0

For Stafford County Gaol extension. Mr. Robert Griffiths, architect and county surveyor. Quantities by Messrs. Batstone & Hunt :—

Yates	£23,140 0 0
Moss	22,825 0 0
Marriot	21,400 0 0
Webb	20,446 0 0
Kirk	20,443 0 0
Branson & Murry	20,150 0 0
Trow & Sons	20,000 0 0
Wood & Sons	19,826 0 0
Kirk & Parry	19,479 0 0
Adams & Pemberton	19,315 0 0
Lovatt	19,300 0 0
Ratcliff & Son	17,103 0 0

For forming and making a new road near the Roxborough-road, Harrow, with other work, for the Harrow Local Board of Health. Mr. William Smith, surveyor to the Board :—

Walker	£823 0 0
Taylor	537 0 0
Peirce	525 0 0
Pizzey	455 0 0
Sharon & Pierce (withdrawn)	425 0 0
Woodbridge (accepted)	335 0 0

For house and offices, Redhill. Mr. W. F. Gosling, architect. Quantities by the architect :—

Russell & Gray	£1,490 0 0
Haydon	1,398 0 0
Simms	1,387 0 0
Wardle & Baker	1,246 0 0
Mann	1,195 0 0
Wesley	1,190 0 0
Walker & Bellamy	1,188 0 0
Feldwick	1 079 0 0
Thomas	994 0 0

For the excavator's, bricklayer's, mason's, carpenter's, slater's, painter's, glazier's, plumber's, and smith's work to a villa on the Frant-road, Tunbridge Wells. Mr. James Blundell, architect, Tunbridge Wells :—

Pink	£661 18 0
Edwards & Walkling	599 0 0
Beale (accepted)	554 8 0
For Plasterer's Work to the above.	
Wenban	£121 10 0
Twort	111 0 0
Mason (accepted)	109 17 0

For farm-house, offices, and buildings, Acton, Suffolk, for Messrs. Thynne. Quantities by Mr. W. Gosling :—

Clarke	£3,267 0 0
Rednall	2,700 0 0
Fordham	2,502 0 0
Lee & Baker	2,430 0 0
Saunders	2,392 0 0
Pudney & Sons	2,359 0 0
Smith	2,180 0 0
Poole	2,078 14 0
Walker & Bellamy	2,050 0 0

For alteration and repairs to St. Mary's, Aldermanbury. Mr. Woodthorpe, architect.—

Turner	£2,997 0 0
Brass	2,790 0 0
Ashby & Son	2,350 0 0
Dove, Brothers	2,325 0 0
Myers & Son	2,198 0 0

For a house at Blackheath. Mr. W. Robinson, architect :—

Sewell & Co.	£4,550 0 0
Pound	3,997 0 0
Gates & Co.	3,799 0 0
Piper & Wheeler	3,755 0 0
Patrick & Son	3,749 0 0
Robinson	3,737 0 0
Bush	3,727 0 0
Dove, Brothers	3,655 0 0
Longmire & Burge	3,586 0 0
Manley & Rogers	3,527 0 0

For the erection of a police-station at Newbiggen-by-the-Sea, Northumberland. Mr. John Howison, county architect :—

Taylor & Wilkinson	481 19 4
Mattison	475 12 8
Lawson & Nairn	468 7 5
Burn & Gibson	462 19 0
King (accepted)	450 7 0
Plumber's Work.	
Patton	9 10 0
Painter's Work.	
(No signature)	9 2 6

For the erection of a house at Blackheath, for the Rev. Thomas C. Pratt. Mr. Walter Robinson, architect. Quantities supplied by Mr. H. F. Gritten :—

	If faced with 2nd Malms add	Total.
	£.	£.
Sewell & Co.	4,550 0 0 130 0 0	4,680 0 0
Pound	3,997 0 0 110 0 0	4,107 0 0
Patrick & Son	3,740 0 0 180 0 0	3,920 0 0
Piper & Wheeler	3,755 0 0 150 0 0	3,905 0 0
Gates & Co.	3,790 0 0 98 0 0	3,888 0 0
Robinson	3,737 0 0 120 0 0	3,857 0 0
Bush	3,727 0 0 95 0 0	3,822 0 0
Dove, Brothers	3,655 0 0 145 0 0	3,800 0 0
Longmire & Burge	3,586 0 0 112 0 0	3,698 0 0
Manley & Rogers	3,527 0 0 52 0 0	3,579 0 0

TO CORRESPONDENTS.

J. H.—A. M. (thanks).—M. E. H.—F. R. W.—G. B.—W. F. P.—J. B.—B. S.—O. O. O.—A Lover of Athletic Sports.—W. F.—J. G.—E. J. P.—T. W. C.—P. C.—J. C.—H. N'C (impossible to answer without knowing more).—H. B. & B.—"An Apprentice."—Guernsey.—T. D. B.—H. C.—J. R. C.—G. A.—J. P.—Unsuccessful Competitors.—W. B. W.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

THE *Art Journal* for August, speaking of Benson's watches in the Exhibition, says:—"We have selected for engraving three of the watch-cases, of which a large variety is exhibited by Mr. Benson, of Ludgate-hill, in the large and prominent section that contains his monster clock. To this department of art-manufacture Mr. Benson has paid especial attention." Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch, from the plainest to the highest quality of which the art is at present capable, and adapted to all climates. Benson's Illustrated Pamphlet on Watches (free by post for two stamps), contains a short history of watchmaking, with descriptions and prices. It acts as a guide in the purchase of a watch, and enables those who live in Scotland, Ireland, Wales, the colonies, India, or any part of the world, to select a watch, and have it sent free and safe by post. J. W. Benson, Prize Medallist (Class 33), 33 and 34, Ludgate-hill, London.—Established 1749.—[Advt.]

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COUNTY of CARDIGAN.—The Office of BRIDGE SURVEYOR for the County of Cardigan, having become VACANT, the APPOINTMENT will be FILLED UP at the ensuing Michaelmas Quarter Sessions, at a salary of 90*l.* per annum. Candidates are requested to send in written applications, stating age, qualifications, &c. and accompanied by testimonials, to Mr. F. R. ROBERTS, the Clerk of the Peace, at Aberystwyth, on or before the 1st day of SEPTEMBER next. The Surveyor will be required to reside in the county.—Dated this 4th day of August, 1863.

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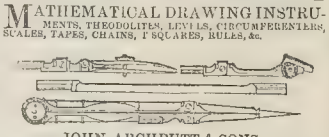
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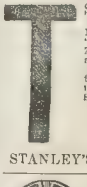
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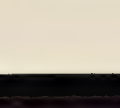
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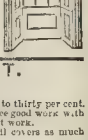

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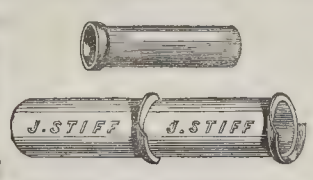
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PATENT INDURATING SOLUTIONS,

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PATENT SILICEOUS PAINT, FOR COATING BRICKS, CEMENT, STUCCO, &c.

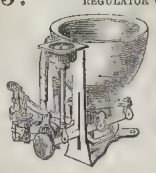
FIRE-PROOF VARNISH,

For Internal Wood Work, Roofs, and Church Work generally. This Varnish renders Wood Uninflammable, and Preserves it from Decay.

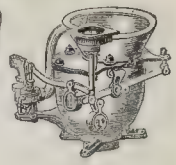
Specimens of the Silicates and Aluminates, and of their applications, may be seen at the CONSTRUCTIONAL DEPARTMENT, SOUTH KENSINGTON MUSEUM.

J. TYLOR & SONS' PATENT

REGULATOR WATER-CLOSETS.



Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cistern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate street, London

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



TYE & ANDREWS NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS,

combining a highly decorative and economical substitute for ordinary floors of the perishable coverings. MAW & CO'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

MINTON & CO.

HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 34, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE UPON TRENT.

STAFFORDSHIRE RIDGING and ROOFING TILES,

Plain and Ornamental, in Blue or Broseley colour.

PAVING TILES in various colours and designs.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.

Dressed Blue Facing BUILDING and SEWER BRICKS.

Architects' designs carried out on the shortest notice.

Illustrated Catalogues on application.

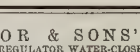
JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent-road Bridge.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Shilly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Peakes," Tunstall, Staffordshire, as the first of the kind in the world.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp as a Damp Course. It is Asphalte is now extensively used for lasting stables (as shown above) the absence of joints preventing the retention of urine, &c. For Estimates and Prices, &c. &c. apply to JOHN PICKINGTON, 24, Fish street hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS

PLASTER ENRICHMENTS.

CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,

245, EUSTON ROAD ST. PANCRAS.

SALES BY AUCTION.

BUILDING MATERIALS OF 128 HOUSES.

MESSRS. FULLER & HORSEY have been favoured with instructions from the Midland Railway Company to SELL BY AUCTION, without reserve, on the PREMISES, Agar-town, St. Pancras, London, in Lots, on TUESDAY, AUGUST 18, 1863, at TWELVE o'clock, the MATERIALS, FIXTURES, and FITTINGS of 128 HOUSES, situate Cambridge-crescent, Cambridge-street, Cambridge-row, Oxford-row, Oxford-street West and Oxford-street, Upper Winchester-terrace, and Durham-street, Agar-town, at Pancras (the site being required for the enlargement of the station); consisting of about 120 rods of sound brickwork, 180 pairs glazed sashes and frames, 200 squares of flooring boards, 60,000 feet run of joists and ceiling joists, 215 squares of pan tiles, 2 squares of counter slates, stone sinks, four-panel and other doors, about one ton of lead, cast iron pipe and zinc gutters, grates, slidesash, dwarf cupboards, purges, Romford, elliptic, and other stoves, copper and iron boilers, stone washdowells, closets, stancures, stone chimney-pieces, stone paving and gravel, curbing, Dutch-pots and moulds, water butts, about 600 yards open rail fencing, and other effects.—May be viewed the day previous and morning of sale; when catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, No. 11, Billiter street, London, E.C.

In Chancery: "Kemp v. Nunn," "Nunn v. Kemp."—Valuable Freehold and long Leasehold Building Land, Residential Estate, Good Rents, Dwelling-houses, and Shops, with Immediate Possession of principal part, redeemed. Upper Tooting, Streatham, and Balham.

MR. FRANCIS FULLER, the person appointed by the Judge to whose Court the above causes are attached, will SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, the 31st day of AUGUST, 1863, at TWELVE for ONE o'clock, pursuant to an Order of the High Court of Chancery, made in the said causes, with the approbation of the said Judge, several valuable FREEHOLD and LEASEHOLD ESTATES, in Trinity Lots, comprising an important building estate, remarkably well situate at Upper Tooting and adjoining a salubrious part of the retreating of fashionable and first-class villa residence, possessing excellent frontages to the high-road from London to Tooting, and from Tooting to Wandsworth, beautifully ornamented with timber, having grave by soil, and within 5 miles by road and rail of all parts of the metropolis. Six Freehold Dwelling-houses (four with shops) situate at Upper Tooting. Desirable Freehold and part Leasehold Family Residence, pleasure grounds and gardens, known as The Hawthorns, situate at Upper Tooting, on lease at a rental of 100l per annum. A very beautiful Residential Estate, known as The Willows, situated at Balham, within a few minutes' walk of the station, comprising residence and park-like pleasure-grounds, the whole containing upwards of 13 acres, and let on lease at 150l. per annum. Certain well-secured Ground Rents, amounting to 45l. per annum, arising out of two remarkably well-built villa residences. Desirable Family Residence, known as The Boundary, with pleasure-grounds and gardens of four acres, beautifully situate close to Wandsworth Common, and within a few minutes' walk of Balham Station, let on lease at a ground-rent of 55l. per annum, with early reversion to the rack rent, estimated at 160l. per annum. The well known Nursery Dwelling-house, carden, and cart-buildings, close to the Balham Station. Two well secured Ground Rents of 8l. each, arising out of two excellently built detached residences, and pleasure-ground and gardens, situate at Balham hill, with early reversion to the rack rents, estimated at 80l. each. Semi-detached Villa Residence, pleasure-ground and garden, let on lease, with early reversion to the rack rent, estimated at 120l. per annum. Five well built Family Residences (one with shop) and garden ground attached, the whole forming Balham-terrace, and numbering 1 to 5 respectively, directly facing the high road from London to Tooting, and let on lease at ground rents producing 45l. per annum, with early reversion to the rack rents, estimated at 120l. per annum. Remarkably beautiful Residential Estate, known as Fernside, pleasantly situate, overlooking Wandsworth Common, and within a few minutes' walk of the Balham and Wandsworth Stations, comprising family mansion, park like pleasure grounds, ornamental lake and flower gardens, the whole encircled with terrace walks and shrubberies, and containing upwards of 12 acres, on lease, expiring Lady-day, 1869, at 70l. 15s. per annum, with reversion to the rack rent, estimated at 200l. per annum. Five well built Family Residences, pleasure grounds, gardens, and outbuildings, residential situate, overlooking Wandsworth Common; the whole producing 52l. 10s. per annum, with early reversion to the rack rents, estimated at 250l. per annum, with early reversion to the rack rents, estimated at 250l. per annum. Remarkably beautiful Residential Estate, known as Fernside, pleasantly situate, overlooking Wandsworth Common, and within a few minutes' walk of the Balham and Wandsworth Stations, comprising family mansion, park like pleasure grounds, ornamental lake and flower gardens, the whole encircled with terrace walks and shrubberies, and containing upwards of 12 acres, on lease, expiring Lady-day, 1869, at 70l. 15s. per annum, with reversion to the rack rent, estimated at 200l. per annum. Five well built Family Residences, pleasure grounds, gardens, and outbuildings, residential situate, overlooking Wandsworth Common; the whole producing 52l. 10s. per annum, with early reversion to the rack rents, estimated at 250l. per annum, with early reversion to the rack rents, estimated at 250l. per annum.

Particulars and conditions are ready, and may be had of Messrs. PALMER, MINCHIN, & ELAND, Solicitors, 4, Trafalgar square, W.C.; of GEORGE BOWER, Esq. Solicitor, 6a, Token-house-yard, E.C.; of Messrs. LAMB, BROOKS, & CHALLIS, Solicitors, Basinghall-street; of JOHNSON & WEATHERALLS, Solicitors, 7, King's Bench-walk, Temple, E.C.; at the Railway Hotel, opposite the Balham Station; the White Lion, Streatham; the Greyhound, Croydon; the Wheatsheaf, Tooting; the Swan, Stockwell; of FULLER & WITHALL, Architects and Surveyors, 21, Parliament-street Westminster; at the Mart, and of the Auctioneer, FRANCIS FULLER, 10, Cornhill, E.C.

FOR SALE by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY next, the 5th day of AUGUST, 1863, at ONE o'clock precisely. (Luncheon at Half-past Twelve o'clock.) For account of Importers

- 2,000 Spruce Deals, Battens, and Ends
- 2,500 Quebec Pine Deals (new importation)
- 1,500 St Petersburg Red and White Wood Deals
- 1,000 Onega Red Deals and Boards (new importation)
- 1,000 Archangel Red-wood Deals, Battens, and Boards
- 1,000 4 by 11 inch Fresh Redwood Memel Deals
- 400 Fresh Christiana Battens
- 60 Loads Quebec Bora Yellow Pine (fresh timber)
- 10 Loads Quebec Red Pine (fresh timber)
- 100 Loads Quebec Pine
- 100 Loads Quebec Oak (fresh timber)
- 150 Loads Fresh Memel Timber
- 100 Loads Fresh Memel Oak
- 40 Wainscot Oak Logs
- 2,000 Memel Pine Staves
- 1,000 New York Hogshead Staves
- 200 Loads Dantzic Redwood Timber
- 100 Loads Swedish Timber
- 50 Norway Masts
- 1,000 Dutto 4 to 6-inch Spars
- 200 Dutto 4 inch ditto
- 40 Fathoms Hemlock Fresh Lathwood
- 5,000 Palings
- Flooring.

With other Goods

Catalogues will be issued in the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, August 4th, 1863.

CAMDEN TERRACE, CAMDEN TOWN, near the Railway Station BUILDER'S and CABINET MAKER'S STOCK, comprising 18 sets pine, yellow, white, and spruce planks, deals, and battens; 100 squares of flooring, 4,000 feet of quartering, 2,650 feet cube square, 500 feet of Spanish and Honduras mahogany, 3,000 feet of wide pine board, dry cut stuff, 100 long seafoot poles, laths, blocks, in bulders, doors, &c.

MESSRS. LEREW & LEREW are directed to SELL by AUCTION the above STOCK, on MONDAY, AUGUST 10th, at TWELVE o'clock.—Auction Offices, Carlington-street, Hampstead road, N.W.

NORTH LONDON RAILWAY, CITY EXTENSION.—EIGHTH CLEARANCE SALE.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, by order of the Directors of the North London Railway Company, on WEDNESDAY and THURSDAY, AUGUST the 12th and 13th, and TUESDAY and WEDNESDAY, the 18th and 19th AUGUST, the excellent MATERIALS of about 180 Houses, situate in Rosebery place, Dalston-lane, Grange road, and other streets, near the Kingsland-road (comprising about five millions of bricks, three squares of slating, 5,000 squares of excellent flooring, 20 tons of lead, a large quantity of stone paving, 2,000 feet of iron railing and curb, doors, sinks, stoves, chimney-pieces, &c.—May be viewed the day previous to sale, and Catalogues had on the Premises; and at the Auctioneers' Offices, Camden Town, N.W.

ADDISCOMBE, near Croydon, Surrey.—Excellent Building Materials

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, within a few minutes' walk of the town of Croydon, on WEDNESDAY, AUGUST 19, at THREE for FOUR o'clock in the afternoon precisely, the eighteenth portion of the excellent BUILDING MATERIALS of the Military College at Addiscombe: comprising about 26,000 bricks, and a quantity of batch-time marble chimney-pieces a large quantity of York paving, and superior Portland stone coping and blocks, window sills, steps, &c.; large windows, frames, and shutters, a quantity of doors, closet pans, hot air stove, deal timber, consisting of a quantity of partitioning moulding, joists, beams, roofing boards, floor boards, quartering, firewood, &c.—May be viewed on Monday and Tuesday preceding the sale. Catalogues may be obtained of the Foreman of the Estate; and of the Auctioneer, 14, Moorgate-street, London, E.C.

ADDISCOMBE, near Croydon, Surrey.—Eligible Freehold Building Land.

MR. WHITTINGHAM has to announce that Lots 253 to 255, 269 to 277, 280, 290 to 294, inclusive, were Sold not the Sale, on FRIDAY, JULY 31. The remaining lots may be purchased by private contract, on application to the Auctioneer, 14, Moorgate-street, London, E.C.

NEW BARNET, HERTS Valuable Freehold Building Land

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the RAILWAY HOTEL, New Barnet, on FRIDAY, AUGUST 14th, 1863, at FIVE for SIX o'clock in the evening, in lots, a further PORTION of the eligible FREEHOLD BUILDING LAND, land tax redeemed, situate on the New Barnet-road east, and within a few minutes' walk of the Barnet Station on the Great Northern Railway. Mr. WHITTINGHAM submits for sale by auction property within half-an-hour's ride of the city, and makes it very desirable for persons wishing to reside a short distance from town. Nine-tenths of the purchase-money may remain on mortgage or contract at 5 per cent. for seven years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of Sale may be obtained about ten days before the Sale, at the Railway Hotel and Railway Tavern, New Barnet; of Messrs. RUSSELL & DAVIES, 59, Coleman street, London, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

KINGSTON HILL, HOOK, CHERTSEY, and NEW MALDON, SURREY. Two Villa Residences, and Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the GRIFFIN HOTEL, Kingston, on MONDAY, AUGUST 24th, at FIVE for SIX, Three lots of eligible BUILDING LAND, situate in the Queen's and Crescent-roads, Kingston Hill, close to the entrance to Richmond Park; Two lots of Building Land, situate on the New Epsom-road, close to the village of Hook, and about a mile and a half from the Kingston Station; Six lots of Building Land, situate in Meadow grove, close to the town of Chertsey; also, Two semi detached VILLA RESIDENCES, and Six lots of Building Land, situate close to the New Maldon Station on the South-Western Railway. The whole of the property is freehold, land tax redeemed, and tithe free. Nine-tenths of the purchase-money may remain on mortgage or contract at 5 per cent. to be paid in nine years, by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars of sale may be obtained about ten days before the sale at the principal inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 59, Coleman street, City, E.C.; of the Auctioneer, 14, Moorgate street, London, E.C. at whose office the plans may be inspected; and at the Place of Sale.

REDHILL, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM has to announce that several of the Lots offered by Auction on the 24th ultimo were SOLD. The remaining lots may be purchased by Private Contract on application to the Auctioneer, 14, Moorgate-street, E.C.

CLAPHAM STATION, SURREY.—Eligible Freehold Building Land

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on SUNDAY, AUGUST 16th, at TWELVE for ONE o'clock precisely, a very valuable PLOT of FREEHOLD BUILDING LAND, situate in Park-road, close to the Clapham station, on the Brighton-road, and within a few minutes' walk of the Crystal Palace. Title free and land tax redeemed. Nine-tenths of the purchase money may remain on mortgage or contract at 5 per cent. to be paid in nine years by half-yearly instalments, but the whole or any part of the balance may be paid off at any time without notice.—Particulars of sale may be obtained about ten days before the sale of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C. at whose Office the Plans may be inspected; and at the Place of Sale

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DOLINGBROKE GROVE, WANDSWORTH COMMON.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on MONDAY, AUGUST 17th, 1863, at TWELVE for ONE o'clock precisely, Two Lots of valuable BUILDING LAND, situate in Bolingbroke grove, Wandsworth Common, within a short distance of the Wandsworth and Clapham Stations on the Crystal Palace and London and South-Western Railways. Nine tenths of the purchase money may remain on mortgage or contract for five years, to be paid in nine yearly half yearly instalments, but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained five days before the sale of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C; of the Auctioneer, 14, Moorgate-street, London, E.C; at whose Office the Plans may be inspected; and at the Place of Sale.

ACTON, MIDDLESEX. Family Residence and Freehold Building Land Five Miles from the City.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, AUGUST 17, at TWELVE for ONE o'clock precisely, in two lots, the very desirable FREEHOLD FAMILY RESIDENCE, known as Grove House, containing eight bed rooms and attics, dining room, drawing room, and nursery, in which are two fine vines. The domestic offices comprise kitchen, scullery, pantry, dairy, larder, and beer and wine cellars. A one-roomed cottage adjoins the house. The out-buildings are three-stalled stable and coach-house, with loft over; harness-room, wood and coal-house, &c. The lawn and pleasure-grounds, containing a fishpond and some fine ornamental timber, are in good order; the whole comprising about 1a. 2r. 14p. The kitchen garden is well stocked with fruit trees and in capital order, having a building frontage of 155 feet to the high road from London to Acton, and extending about 3r. 14p. The situation of this lot is very desirable for the erection of a good villa residence. The premises are well supplied with water, and gas may be laid on, if required. Nine-tenths of the purchase money may remain on mortgage or contract at 5 per cent. to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale, may be obtained ten days before the sale, at the principal inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 59, Coleman street; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

CAMDEN TOWN.—To Builders and Others.—Important Sale of New Manufactured Goods of First Quality.

MESSRS. F. HALL & SON are instructed to SELL by AUCTION, on THURSDAY, AUGUST 13, 1863, at ONE o'clock, on the PREMISES, Bartley's Wharf, Albert-street, Devonshire terrace, Camden road, Camden Town, the undermentioned well-manufactured NEW BUILDING MATERIALS, comprising nearly 30,000 feet run of Mouldings, from 1 inch to 3 inches, of various patterns; 50 lf inch and 1¼ inch well seasoned Moulded Doors, 6 feet 5 inches by 2 feet 5 inches, 6 feet 6 inches by 2 feet 6 inches, and 6 feet 6 inches by 2 feet 6 inches; 40 pairs of well-made Sashes and Frames, size 5 feet 6 inches by 3 feet 6 inches; nearly 300 squares of well-seasoned Inch white and yellow prepared Flooring Boards and Battens; about 10,000 feet run of 4-in by 7 inch and 1-inch by 7-inch Torus and other Skirting; and about 250 bundles of excellent Yellow Pantile Laths. These goods are all well seasoned and of the best manufacture. May be viewed the day preceding and morning of sale, and catalogues had on the Premises, and of the Auctioneers, Chester street, Kennington, and Thurlow-terrace, Wandsworth road.

ST PANCRAS.—MARBLE SLAB

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION on the PREMISES, 23, King's-road, St. Pancras, on MONDAY, AUGUST 10th, at TWELVE for ONE, about 3,000 feet of Vein and Sicilian MARBLE SLAB, of various thicknesses, which will be sold in lots, without reserve, for cash.—May be viewed, and catalogues had at the Place of Sale; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore street, City.

OLD JEWRY.—The capital materials of the extensive pile of building known as 7 and 8, Old Jewry, including the premises lately occupied as the Lord Mayor's Court office.

PULLEN, HORNE, & EVERSFIELD are instructed by the Worshipful Company of Grocers to SELL by AUCTION, on the PREMISES, on TUESDAY, AUGUST 11, at TWELVE, in lots, the whole of the valuable BUILDING MATERIALS of the large Mansion and the extensive range of offices, warehouses, and premises known as Nos. 7 and 8, Old Jewry, extending to the rear to Grocers' Hall; comprising 800,000 sound bricks, stout rafters, joists, girders, and other excellent timber; 15,000 plain tiles, 30 square slates, 150 sashes, large skylights, 800 doors, marble and other chimney-pieces, panelled and glazed partitions, fire proofing, closet fronts, and interior fittings up; 320 square of sound floor boards, iron columns, and railing; 23 square of York, granite, and Portland paving, 70 feet of stone coping, stone window sills and string-ing; cranes and jibs, loop-hole doors, folding gates, 20 tons of lead in large flats, gutters, cisterns, sinks, and pipes; 5 iron doors, and erection of strong rooms, iron safes, range, hot air and other stoves, gasfittings, and numerous useful fixtures and fittings.—May be viewed the day previous, and catalogues had of W. RUCK, Esq. Grocers' Hall; of J. S. GWILT, Esq. Surveyor's Office, Grocers' Hall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament-street, S.W.

The New Metropolitan Meat and Poultry Market.—Furniture, Bar Fittings, and Utensils of a Public house.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on THURSDAY, AUGUST 13th, at TWELVE, in lots, the HOUSEHOLD FURNITURE, BAR FIXTURES, and UTENSILS of the Rose Inn, Smithfield: comprising the usual bed-chamber and sitting room appendages, in mahogany and wainscot, dining tables, Arundel tables, useful china and glass six-motion beer-engine and metal-top counter, pewter measures, spirit taps and pipes, vats and casks, mahogany cabinet work, 8-day clocks, dining tables, gas-fitting, kitchen requisites, and other house and trade fixtures and effects.—May be viewed the day previous. Catalogues had at the Architect's Office, Guildhall, and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

The New Metropolitan Meat and Poultry Market.—First Sale to clear the ground!—Building Materials of various Houses and Premises in and near Smithfield

PULLEN, HORNE, & EVERSFIELD respectfully announce that they are instructed by the Markets Improvement Committee of the Corporation of the City of London to SELL by AUCTION, on the PREMISES, on FRIDAY, AUGUST 14th, at TWELVE, in lots, all the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS UP of the first portion of the PROPERTY to be taken down to clear the site for the New Market, comprising several dwelling-houses and shops, warehouses, stables, and premises situate in Long-lane, Durham yard, Cowbell's rents, and on the north side of Smithfield: comprising excellent stock bricks, oak and fir timber in roofs and floors, plain and panelled doors, slates, glazed sashes, chimney pieces, and interior fittings, doors, wainscot boarding, flooring boards, folding gates, shop-fronts, racks, mangers and stable-fittings, a large quantity of pebble, clinker, and other paving, lead gutters and pipes, cisterns, stoves, and other useful fixtures and fittings up.—May be viewed the day previous, and catalogues had at the Architect's Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, and 40, Parliament-street, S.W.

DURABILITY of GUTTA PERCHA Tubing.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart VENTNOR, ISLE OF WIGHT.—Second Testimonial.—"Sir,—In reply to your letter received this morning, requesting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are to be erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

HAY'S PATENT WATERPROOF GLUE and INDIA-RUBBER VARNISH.—To ARCHITECTS, BUILDERS, PAPER-HANGERS, &c. &c.—The WATER PROOF GLUE is a special anti-damp, and is suitable for contractors, joiners, coffin-makers, &c. &c. The VARNISH for damp walls, previous to papering, coating zinc verandahs, &c. &c. Copy of a letter from Messrs. Rogers & Booth, contractors, Gosport:—

"We have repeatedly used your Waterproof Glue as a preventive against damp, and have found it most valuable in preparing walls to receive paper. In one instance, where the walls were thoroughly saturated with moisture from earth filled against the outside, we used your varnish internally, and papered the surface, within a few hours of its being applied, with complete success. We have also used your preparation for coating a large number of cast-iron piles, at the Dockyard, Portsea, for her Majesty's War Department."

To be had from all Ironmongers, Oil and Colourmen, &c.

Manufactories—Sandes-street, Portsmouth; Mr. GEORGE WEEKS, Manager. GEORGE C. WARDEN & CO. General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

BRICK SAND TO BE LET, seven miles from London, one mile from the Railway Station Has been worked a short time.—For particulars apply to Mr. W. G. GRAY, Land Agent, 233, Gresham House, Old Broad street, E.C.

A PULPIT, READING DESK, and CLERK'S Desk for SALE, price Four Guineas.—Apply to Messrs. WOOD & SONS, 172, Old Kent-road, S.E.

CONTRACTORS, BUILDERS, and OTHERS wishing to LET their PLUMBERS' WORK, in town or country, with or without materials, or solder and labour only, may do so by applying to E. KELLAWAY, 32, Lower-street, Islington A list of prices will be forwarded on application.

TO BUILDERS, CONTRACTORS, and OTHERS.—FOR SALE, a Builder's VAN, CART, and LIGHT SPRING VAN, TWO HORSES, with HARNESS. No reasonable offer refused.—Address, Mr. HOWARD, Rural Cottage, near Kensington Church, Clapham road, S

CHELTENHAM MONTPELIER GARDENS COMPANY (Limited)

NOTICE.—The Order for sending in Plans required by this Company is EXTENDED to the 25th OCTOBER next. By order,

Cheltenham, Aug. 27th, 1863. JOSIAH JESSOP, Secretary.

MORTAR MILL WANTED immediately, to hire or purchase, a good second-hand Mortar Mill, to be worked by horse-power.—Apply with particulars to Messrs. RATCLIFFE & SON, Builders, Stafford.

London: Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's Inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, August 8, 1863.

The Builder.

AN ILLUSTRATED JOURNAL FOR THE Architect, Engineer, Operative & Artist.

VOL. XXI.—No. 1071. AUGUST 15, 1863. PRICE FOURPENCE. By Post, 5d.

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BUILDERS' BENEVOLENT INSTITUTION.—An ELECTION of THREE PENSIONERS (two males and one female), will take place in NOVEMBER next. Candidates may obtain forms of application to be returned on or before 31st AUGUST, at the Offices, 24, Southampton-street, Bloomsbury. Pensions, 31*l.* per annum for Males, and 20*l.* for Females.

July 31, 1863 A. G. HARRIS, Secretary

BRITISH ASSOCIATION for the ADVANCEMENT of SCIENCE.

The next Meeting will be held at Newcastle upon Tyne, commencing on WEDNESDAY, AUGUST 26th, 1863, under the presidency of Sir W. G. ARMSTRONG, F.R.S.

Notices of communications intended to be read to the Association, accompanied by a statement whether or not the author will be present at the meeting, may be addressed to G. GRIFFITH, M.A., Assistant General Secretary; or to Captain NOBLE; AUGUSTUS H. HUNT, Esq.; R. C. CLAPHAM, Esq. Local Secretaries, Westgate-street, Newcastle-upon-Tyne.

WILLIAM SPOTTISWOODE, M.A., F.R.S.
General Treasurer.
19, Chester street, Belgrave square, London, S.W.

AUTUMN EXHIBITION of BUILDING MATERIALS, INVENTIONS, EXAMPLES of CONSTRUCTION, &c. as the GALLERIES of the ARCHITECTURAL SOCIETIES, No. 9, Conduit street, Regent street, W. Exhibitors are requested to fill up their spaces immediately. The Exhibition will be open free to the public every day, from ELEVEN to FOUR, from SEPTEMBER to the middle of FEBRUARY. For space, apply to Mr. MOODY, on the Premises.

SIR JOHN INGLIS, K.C.B.—ON VIEW, at COX & SON'S Ecclesiastical Warehouse, 28 and 29, Southampton-street, Strand, the beautiful MONUMENT executed by them, from the designs of Digby Wyatt, Esq. for the Officers of the 32nd Regiment.

RAMSGATE COLLEGE SCHOOL.—A PROSPECTUS of TERMS and all further information may be obtained of the Principal, the Rev. T. STANTIAL, M.A. Oxon. Four pupils from the school passed the Senior Oxford Local Examination in June last, all of them in honours, and one, third in the first class.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE will shortly be REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the present establishment. These will afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive operations, by the sole manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

81, Bishopsgate street Within, July, 1863.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

PRIZES to ARTIST WORKMEN are now offered. For WOOD CARVING, 2*nd* and 3*d*; and for COLOURED DECORATION, 3*l.* 3*s.* and 2*l.* 2*s.*—Particulars may be had by letter to the Hon. Secretary, at 13, Stratford place, W.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

CONTRACTS.

BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1864, be open to PUBLIC COMPETITION.

A Competitive Examination will, accordingly, be held in this Office in the month of JUNE next. Full printed particulars of the said Examination will be published and delivered to the Examiners, and may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 14th July, 1863.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the following service at Chatham, viz.: ERECTING a WATER-TOWER, Cast-iron Tanks, &c. for the protection of the Magazines at Upnor Castle, Upnor.

Parties desiring to Tender for the execution of these works must leave their names at this Office on or before SATURDAY, the 22nd day of AUGUST, 1863, and pay the sum of Fifty Guineas for the Bills of Quantities, which will be forwarded to each party, as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Chatham, 10th August, 1863.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the CONSTRUCTION of a SEA WALL at Warden Point, and of a Sea Wall and an Extension of Jetty, at Cliff End, in the Needles Division, Isle of Wight, Portsmouth District.

Parties desiring to Tender for the execution of these works must leave their names at the office of or before the 15th day of AUGUST, and pay in each the sum of ten shillings and sixpence for the Bills of Quantities, which have been prepared by the Government Surveyor.

Separate Tenders must be addressed, under cover, to the Dire tor General of Contracts, War Office, Pall Mall, London, on or before the 17th day of AUGUST, 1863, marked in the corner of the envelope

"Tender A for Sea Wall and Jetty at Cliff End"
"Tender B for Sea Wall at Warden Point."

The Secretary of State does not bind himself to accept the lowest or any Tender

Royal Engineer Office, Portsmouth, 29th July, 1863.

SCARBOROUGH CLIFF HOTEL.—To BUILDERS, CONTRACTORS, and OTHERS.—The Directors of the Scarborough Cliff Hotel Company Limited hereby give notice, that they are prepared to receive TENDERS for the ERECTION of the above HOTEL, according to designs and specifications prepared by Mr. CUTHBERT BRODRICK, Architect, 11, Buckingham street, London, W.C. and 2, Park place, Leeds. The drawings &c. may be inspected at the Architect's office, in Leeds, on or after MONDAY, the 17th day of AUGUST. Tenders are to be sent in to the Offices of the Company, 21, Huntriss-row, Scarborough, on or before the 31st day of AUGUST. In full Quantities and forms of Tender, which can be furnished to persons tendering, on application to Mr. AUSTIN, Surveyor, 14, Buckingham-street, Strand, London, W.C. The Directors do not bind themselves to accept the lowest or any Tender, and the person whose Tender may be accepted will be required to provide security for the due and satisfactory performance of the works by the terms specified in the conditions.

T. W. D. L. FERNANDES, Secretary.

Scarborough, 23rd July, 1863.

SCARBOROUGH CLIFF HOTEL COMPANY (LIMITED).—NOTICE to CONTRACTORS. The whole of the bills of quantities not being completed, the time for inspecting the drawings and sending in TENDERS will be extended from the 17th and 31st inst. to the 24th inst. and the 7th of SEPTEMBER respectively. CUTHBERT BRODRICK, Architect.

Leeds, August 13, 1863.

VESTRY of St. MARY, Newington, Surrey.—To BUILDERS and OTHERS.—Persons desirous of submitting TENDERS for the ERECTION of VESTRY HALL and OFFICES, to be built in the Walworth road, Newington, Surrey, are hereby informed that they can see the drawings and specification, and obtain a copy of the bills of quantities, by applying to Mr. HENRY JARVIS, Architect, at his Offices, No. 24, trinity square, Newington, between the hours of TEN and FOUR o'clock. The Tenders are to be left at the Vestry-room, St. Mary's church, Newington, on FRIDAY, the 11th SEPTEMBER next, at SEVEN o'clock in the evening, or previously thereto, at our Offices as below, and must be accompanied by a sealed envelope, containing the names of two proposed sureties in 500*l.* for the due performance of the contract. The Vestry do not bind themselves to accept the lowest or any Tender.

R. & F. CUBITT, Joint Clerks to the Vestry.

1, Church row, Newington Butts.

RANDOLPH HOTEL COMPANY, OXFORD (Limited).—NOTICE to BUILDERS.—Builders in London, Leeds, and the country, are willing to TENDER for the BUILDING of the RANDOLPH HOTEL, in Oxford, are requested to send in their names, before the 31st instant, to the Secretary, at the Offices of the Company, 28, Bishopsgate-street Within, London, E.C. by the 1st of AUGUST, 1863, at which time the Tenders will be opened by order of the Directors.

J. B. SPEARING, Secretary.

SLUICE COCKS and HYDRANTS.—The Directors of the Fylde Waterworks Company are prepared to receive TENDERS for a SUPPLY of SLUICE COCKS, varying from 7in. to 3in. in diameter inclusive. They are to have best gun metal faces and two socket ends. A large number of Hydrants will also be required. Each sluice cock and hydrant to be provided with a surface box. Tenders to state the price of each size of sluice cock, of each hydrant, and of each surface box, meeting the views of the Company's pipe yards in Blackpool, Fleetwood, Kirkham, or Lytham. Tenders to be sent in to Mr. T. B. FOSTER, Civil Engineer, 33, John Dalton street, Manchester, on or before the 29th instant. The Directors do not bind themselves to accept the lowest or any Tender.

CONTRACTS.

METROPOLITAN BOARD of WORKS.

THAMES EMBANKMENT, MIDDLESEX SIDE.—To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give notice, that they will meet at the Office of the Board, Spring gardens, S.W. on FRIDAY, the 28th day of SEPTEMBER next, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION, COMPLETION, and MAINTAINING in REPAIR for Twelve calendar months from the completion of the whole thereof, the following WORKS, that is to say:—A certain Asphalt Roadway and Wall, 3,750 feet in length, or thereabouts, with certain Landing places, Steam boat Piers, Sewers, Subways, Storm Outlets, and other Works in connexion therewith, situate on and adjacent to the foreshore of the River Thames, on the Middlesex side, between Westminster and Waterloo Bridges. Parties desiring to submit Tenders may, on and after THURSDAY, the 30th JULY next, upon payment of 10*l.* 10*s.* obtain plans, sections, specifications, form of Tender, and other particulars, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring Gardens, between the hours of NINE a.m. and FOUR p.m. on Saturdays between the hours of Nine a.m. and Two p.m. until THURSDAY, the 24th day of SEPTEMBER next. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office before FOUR o'clock on the last mentioned day, and no Tender will be received after that hour. The parties Tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two or more approved sureties for the due and satisfactory performance of the works.

JOHN POLLARD, Clerk of the Board.

Spring Gardens, S.W. July 25th, 1863

BELFAST HARBOUR.—The Belfast Harbour Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a FLOATING DOCK and a GRAVING DOCK, of the dimensions according to plans and specifications to be seen at the Office of the Commissioners. Separate Tenders, agreeably to the forms sets forth in the specifications, to be addressed to the Secretary, and to be delivered at the Office, not later than the 7th of SEPTEMBER next. Lithographed plans and specifications can be had by intending Contractors at 3*l.* 3*s.* the complete set. The lowest or any Tender will not necessarily be accepted.

WM. THOMPSON, Secretary.

Harbour Office, Belfast, July 21st, 1863.

HEYWOOD WATERWORKS.—The Directors of the Heywood Waterworks Company are desirous of taking TENDERS for the FORMATION of an additional STORE RESERVOIR at the Naden Brook, between the two existing reservoirs of the Company, with all the necessary and subsidiary works, and other works connected therewith. The said works will be carried out from Mr. Bateman's plans, which are attached to the specifications, about three miles from Rochdale. Plans and specifications may be seen, and further information obtained, at the Office of Mr. CAWLEY, Civil Engineer, 3, Parliament street, London, or 2, Cotton Dale street, Manchester, on and after WEDNESDAY, the 19th of AUGUST, and Tenders must be delivered at the Company's Offices, Heywood, on or before MONDAY, the 31st of AUGUST next.

ST. MARTIN-IN-THE-FIELDS.—CONTRACTS for CLEARING AWAY the DUST and ASHES, and for LOADING and CARTING AWAY the SLOP and REFUSE from the several Houses and Premises of the Inhabitants of the said Parish, and for LOADING and CARTING AWAY the SLOP and SWEEPINGS of the several Streets, Thoroughfares, and other roads and places in the said Parish, under the jurisdiction of the Vestry, for the term of three years, at the pleasure of the Vestry, from the 29th day of September, 1863, the Vestry undertaking to find labour for sweeping the same streets, roads, and places. Particulars of the several forms of Tender may be had, on application to Mr. Surveyor, Mr. R. K. BURSTALL, at the Vestry Hall, between the hours of TEN and TWELVE. The Vestry do not bind themselves to accept the lowest Tender or any Tender. Sealed Tenders will be required for each Contract, and the parties Tendering must specify their Christian or usual names in full, and the residence or place of business of each, and state specifically the number of persons intended to be employed in the performance of the Contracts made in pursuance of their Tenders, and must deliver the same, addressed to the Chairman of the Vestry, at the Vestry Hall, St. Martin's place, headed, "Tender for Clearing Away the Dust and Ashes," or "Tender for Loading and Carting Away the Slop and Sweepings," as the case may be, at the Vestry Hall aforesaid, on or before TWELVE o'clock at noon on Tuesday, the 25th August, 1863. Tenders received after that hour will not be considered. The Vestry do not bind themselves to accept the lowest or any Tender.

By Order of the Vestry,
J. DANGERFIELD, Vestry Clerk.

August, 1863.

SHERBORNE LOCAL BOARD of HEALTH.—WATERWORKS CONTRACT.—Persons desirous of TENDERING for the MANUFACTURE and SUPPLY of certain HYDRAULIC MACHINERY, PUMPS, CONNEXIONS, and GEAR, may see the specifications and drawings at the office of Mr. C. SHERWOOD NEWMAN, C.E. 30, Queen Street place, Cannon street, on and after the 12th inst. Tenders to be sent in to the undersigned, duly signed, sealed, and endorsed "Tender for Machinery."—By order of the Board,

J. Y. MELMOTH, Clerk.

TO BUILDERS.—Persons willing to TENDER for the ERECTION of a new BREWERY, with Storehouses, Malthouses, and Kilns, together with a Reciprocating Beer Engine and Steam Gear Offices, at Norwich, for Hills, Underwood, & Co. 25, Eastcheap, London, can see the plans and specification, and all particulars, at the Offices of the Architect, 25, Castle Meadow, Norwich, from the 8th to the 15th instant. Bills of Quantities will be forwarded at a charge of 1*l.* The Tenders to be delivered at the Architect's Offices, not later than FIVE p.m. on THURSDAY, the 17th instant. The lowest Tender will not necessarily be accepted.

THOMAS D. BARRY, Architect.

Norwich, August 5, 1863.

[*For remainder of Contracts see next Page.*

CONTRACTS.

TO MASONS, JOINERS, PLUMBERS, GLAZIERS, SLATERS, PLASTERERS, and PAINTERS.—TO BE LET, the above named WORKS, required in the ERECTION of a Mill, Shed, Warehouses, Engine-house, Chimney, Offices, Lodge, Dwelling-house, and other Buildings, in Thornton-road, Bradford. Parties willing to give Tenders for the same, may see the plans and specifications, and obtain bills of quantities (gratis) at our Offices, from THURSDAY, the 13th, to SATURDAY, the 22nd instant, on which latter day sealed Tenders are to be delivered to us BEFORE TEN o'clock a.m. endorsed "Tender for Mill, &c."

MILNES & FRANCE, Architects.

30, Hall Ings, Bradford, August, 1863.

CAST-IRON PIPES.—To IRON-FOUNDERS.—The Directors of the Fylde Waterworks Company are prepared to receive TENDERS for the SUPPLY of PIPES of the following diameters and lengths:—

Diameters in inches...	7	6	4	3
Lengths in yards ...	1,700	2,600	2,200	2,600	13,000

The pipes will be laid in the towns of Blackpool, Southshore, Fleetwood, Kirkham, and Lytham. Specifications and form of Tender, price 1s. may be obtained at the Office of Mr. T. H. FOSTER, Civil Engineer, 23, John Dalton-street, Manchester; and Tenders must be sent in to Mr. T. A. WILKINSON, Secretary, Waterworks Office, Kirkham, not later than 1st SEPTEMBER next. The Directors do not bind themselves to accept the lowest or any Tender.

READING TOWNHALL.—The Corporation of Reading are desirous of receiving TENDERS for REPAIRS, ALTERATIONS, and DECORATIONS, to their Townhall, particulars of which, with specifications and plans, may be seen at the Office of Mr. W. H. WOODMAN, Borough Surveyor, Greyfriars-road, Reading, on and after MONDAY, the 17th AUGUST instant. Tenders to be sent to the Town Clerk, at his Office, No. 1, Friar-street, Reading, sealed and marked "Tender for Works at Townhall," not later than TWELVE o'clock, on MONDAY, the 24th AUGUST, 1863. The Corporation will not be bound to accept any Tender that may be sent in.

J. J. BLANDY, Town Clerk.

TENDERS are required for the ERECTION of DWELLING-HOUSE and SHOP, situate in High-street, Peckham: bricklayers' and specifications to be had at JOHN THOMPSON, Esq.'s York Villa, Nunhead, between the hours of TEN a.m. and FOUR p.m. on and after MONDAY, the 17th instant.—The lowest Tender will not necessarily be accepted.

TO BUILDERS.—TENDERS are required for the ERECTION of a VILLA at Lower Clapton. Drawings, &c. at the Office of the Architect who reserves the right to reject the lowest or any Tender. THEODORE K. GREEF, Architect,

2a, College-hill, E.C.

HALIFAX CORPORATION WATER-WORKS.—WORKS in the LUDDENDEN VALLEY.—To CONTRACTORS.—The Corporation of Halifax are ready to receive TENDERS for the CONSTRUCTION of the WORKS included in the following Contracts:—No. 1, or Warley Moor Contract, comprising the Construction of a large Reservoir on the fly level with the Embankments and masonry connected therewith; and a Conduit about 1,350 yards in length from that Reservoir to the Paper-mill Stream, near Castle Carr. No. 2, or Midgley Moor Contract, comprising the Construction of an open Watercourse, from Low Brown Knoll Flat to the Reservoir on the Fly level, about 2,080 yards in length, with overflow, shafts, bridges, and culverts connected therewith; and two Residuum Lodges; and No. 3, or Sailsbridge Contract, comprising the Construction of a Masonry Conduit about 3,470 yards in length, the drawing and lining of a Tunnel 976 yards in length, with the making of two Lattice Archways and pointing of about 3,000 lineal yards of cast iron pipes of 20, 18, 14, and 12 inches diameter, with all Bridges, Adhesion and cut-off walls, Observatories and other works connected therewith. The plans, sections, and drawings of the several contracts may be seen, and specifications and forms of Tender obtained at the Town Hall, Halifax; and at the offices of the Engineer, J. F. BATEMAN, Esq., F.R.S. 9, St. James's-place, Manchester, and 16, Great George-street, Westminster, on and after WEDNESDAY next, the 19th AUGUST, 1863. Sealed Tenders must be addressed to and left with EDMUND MINSON WAYELL, Esq. Town Clerk, Halifax, on or before MONDAY, the 14th SEPTEMBER, 1863, endorsed respectively with the particular Contract for which it is a Tender. The Corporation do not bind themselves to accept the lowest or any Tender, and they may, if they see fit, let the whole Work in one Contract.

BOROUGH of NEWPORT, MONMOUTHSHIRE. — NOTICE to BUILDERS, CONTRACTORS, and OTHERS.—The Corporation of the Borough of Newport, Monmouthshire, acting as the local Board of Health, are prepared to receive TENDERS for the ERECTION, on NEWPORT MARSHES, of proposed new SLAUGHTER-HOUSES, &c. in accordance with the plans and specifications prepared by Mr. KIRBY, the Town Surveyor, at whose Office in the Townhall the said plans, specifications, and form of Tender may be seen, and further particulars may be obtained on and after MONDAY next, the 17th inst.—sealed Tenders, inclosing schedule of prices, are to be sent to me, endorsed "Tender for Erection of slaughter-houses," before TEN a.m. on TUESDAY, the 25th inst. but the Corporation do not pledge themselves to accept the lowest or any Tender.

THOS. WOOLLEY, Town Clerk and Clerk to the Local Board of Health.

Townhall, Newport, Mon., 4th Sept., August 12, 1863.

FURNESS RAILWAY. — BARROW DOCKS.—CONTRACT for WORKS.—The Directors of the Furness Railway Co. are prepared to receive TENDERS for the CONSTRUCTION of a DOCK and TIDAL BASIN (about 150 acres area), with wharf walls, roads, bridges, sea embankments, dredging and other works. The drawings may be seen on and after the 22nd instant, at the Office of the Company's Engineers, Messrs. McKLEAN & STILEMAN, 23, Great George-street, Westminster, S.W. Contractors who wish to Tender may obtain lithographed copies of the drawings, bills of quantities, specification, and form of Tender, on application to the Engineers; or at the Secretary's Office, Barrow in Furness, Lancashire, on payment of £2 2s. Tenders must be addressed to the Secretary, 9, Old Barlington-street, London, W., on or before the 7th SEPTEMBER next. The Directors do not bind themselves to accept the lowest or any Tender.

DEVONSHIRE, Chairman.
JAMES RAMSDEN, Secretary.

Barrow-in-Furness, 6th August, 1863.

TO BUILDERS and CONTRACTORS. — Parties willing to TENDER for the ERECTION and FINISHING a New HOUSE, at St. Dunstan's, Canterbury, for Frederick Flint, Esq. can see the drawings and specification for the same by applying at the Brewery any day between SATURDAY, the 15th, and TUESDAY, the 25th AUGUST. The Tenders are required to be sent in, directed as above, on or before TUESDAY, the 25th instant, by FOUR o'clock. Mr. Flint will not bind himself to accept the lowest or any Tender unless satisfactory. SEARLE, SON, & YELF, Architects, 4, Bloomsbury place, London, W.C.

J. MARSH, Surveyor, Canterbury.

TO CONTRACTORS and PILE-DRIVERS. — STEAM PILE-DRIVING ENGINE FOR SALE.—TO BE SOLD, a bargain, a nearly-new 10-horse power STEAM PILE-DRIVING ENGINE, on Traveller by Dunn, Hattersley, & Co. Manchester, with two cylinders, windlass, and boiler; all complete.—Apply to Mr. JOSEPH TURNER, Engineer, King's Lynn.

TO BE SOLD, together or separately, TWO powerful STEAM DREDGING MACHINES, in efficient working condition; also a few HOPPER BARGES.—For particulars and letters to view, apply to Mr. BOWDLER, Engineer, Russell place, Shooter's-hill road, Blackheath, S.E.

PERIN'S PATENT BAND SAWS. S. WORSSAM & CO. beg to announce that they have purchased of M. PERIN, of Paris, the exclusive right to sell his celebrated Band Saws in the United Kingdom, and that they keep a large assortment at their works, 304, Kings-road, Chelsea, S.W.

RAIN WATER PIPES, GUTTERS, &c.

Rain Water Pipes.....	2½-in.	10d.	3-in.	1s. per yard.
Eaves Gutter.....	3½ in.	6½d.	4-in.	6½d. "
O G Gutter.....	4-in.	7½d.	4½-in.	1s. "
Sash Weights	6s. per cwt.			

ST. PANCRAS IRON WORK COMPANY, OLD SAINT PANCRAS ROAD, AND YORK ROAD, KING'S CROSS

HENDERSON'S PATENT DERRICK CRANE.—Prize Medal for Practical Utility and Moderate Cost.

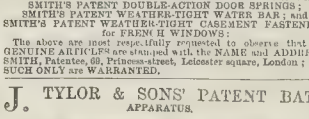


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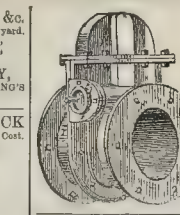
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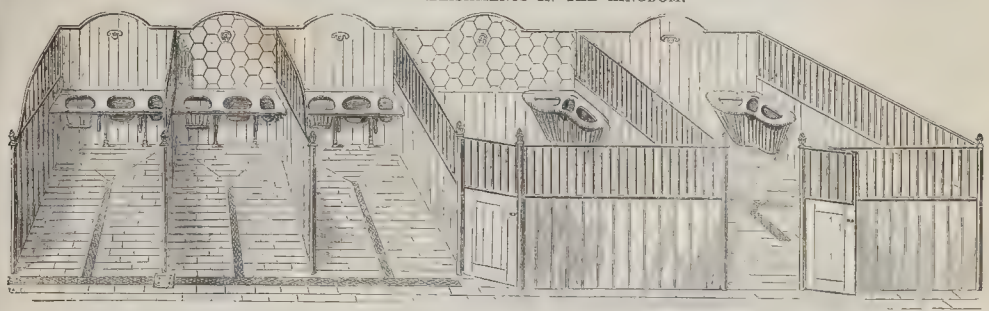
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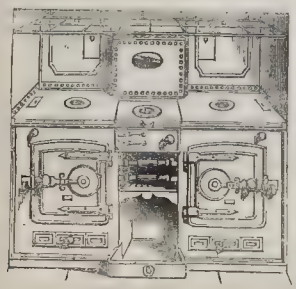
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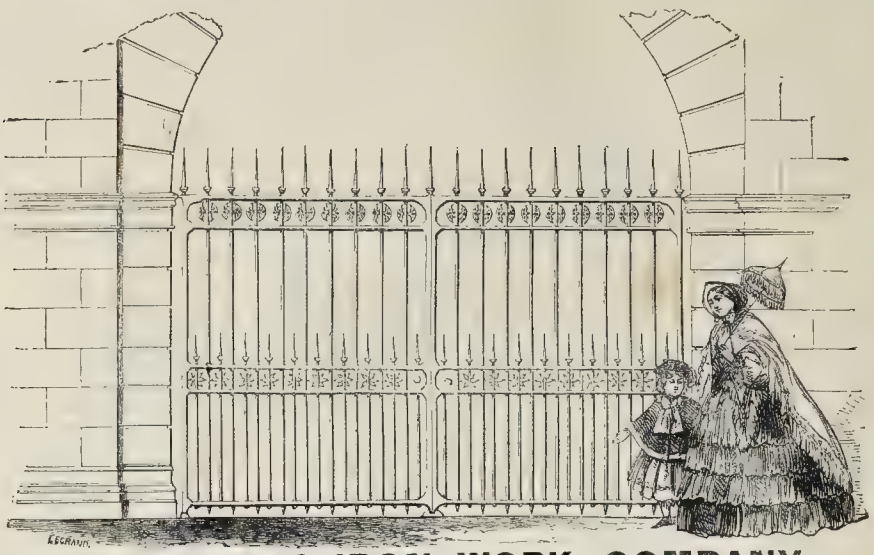
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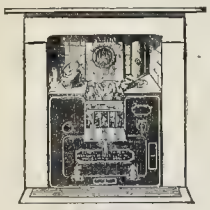
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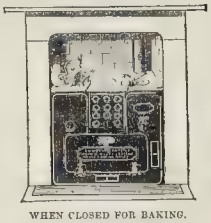


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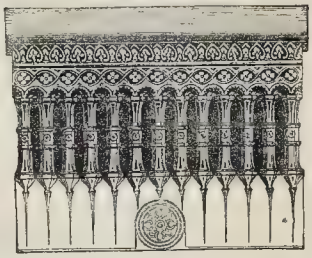
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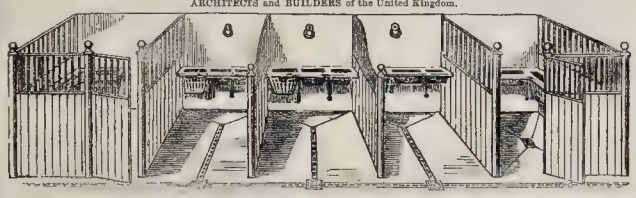
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INTERNATIONAL EXHIBITION, 1862.—CLASS 31.—PRIZE MEDAL AWARDED FOR

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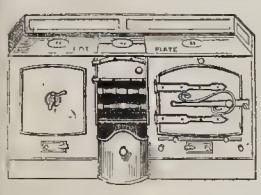
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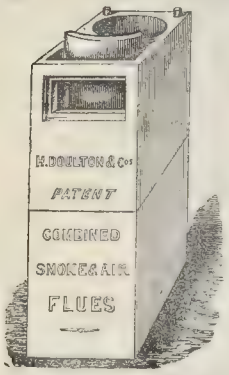
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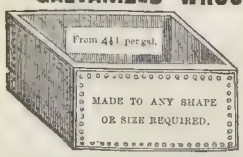
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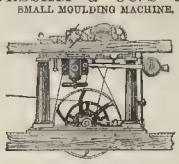
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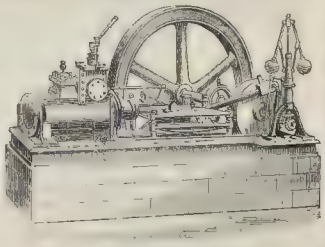
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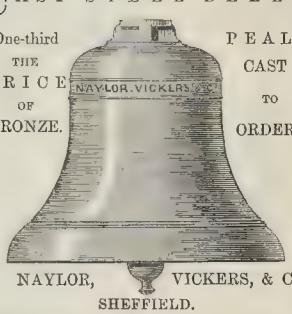
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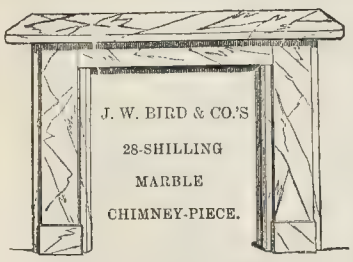
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The Builder.

VOL. XXI.—No. 1071.

The Sewage of the Metropolis: its Utilization.



We are now in a position to see the present results of the advertisement which appeared some time back, from the Metropolitan Board of Works, asking for tenders for taking the sewage of the metropolis. The Main Drainage Committee reported last week to the Board, that nine communications had been received, not one of which fully complied with the terms of the advertisements, whilst three of them made no proposals of the nature of a tender. The report then gave the names of the parties, and a short summary of their proposals.

Even before the appearance of the report, the subject had received considerable "ventilation" in the journals; but, the state of the question does not seem to us very different from what it was when last we looked into it. We believe that no member of the Metropolitan Board,—whatever may have been said at vestries and other local meetings,—entertains the opinion that the sewage ultimately will be worthless. "Entrusted," as Mr. Thwaites has said, "with the execution of important and costly works, but endowed with very inadequate funds for their execution;" in fact, except in the case of the Thames Embankment, compelled to derive the resources "from the direct taxation of the metropolitan ratepayers;" hampered with the debts of predecessors, "and with an arrear of centuries of neglect to overtake," the Board would, we can suppose, hail with delight any means by which their task might be lightened and the burdens of their fellow-citizens alleviated. But they feel, in the words of the same representative of the Board, that they "are trustees on behalf of the public," whom it is their "duty to protect against vague and visionary schemes; as a hasty adoption of the first wild tentative effort to deal with the sewage, might for years impede the execution of any sound practical plan." They "have kept two objects steadily in view—first, to endeavour to find men of recognized practical and financial ability to perform what they undertake; secondly, to obtain from them a sufficient guarantee that their operations shall not bring" the Board "within the scope of the 31st clause of the Main Drainage Act, whereby the Secretary of State is empowered to call" them "to account if in the disposal of" their sewage, they "cause any nuisance." They "believe these conditions can be fulfilled, and with advantage to the ratepayers."

Whether the means are suggested in any of the propositions to the Board, the ratepayers may shortly have opportunity of judging. It seems to be the intention to have the propositions printed *in extenso*. Meanwhile, we append them, much as we find them abridged.

The committee, we may mention, in reporting, first reminded the Board that the subject was one which had already seriously occupied their attention. In April, 1860, in answer to an advertisement, tenders were received, and opened on the 6th of July, 1860, from Messrs. Townsend, Moore, & Shepherd, expressed in nearly the same terms as communications by these parties which they have now sent in.

Those who have replied to the recent advertisements are:—Dr. Thudichum; Mr. David Curwood; Lord Torrington, Sir Charles Fox, and Mr. Hunt; Mr. John J. Moore; Mr. George Townsend, Secretary to the London Sewage Utilization Company (Limited); Mr. George Shepherd; Mr. C. F. Kirkman; Mr. Thomas Ellis; and the Hon. W. Napier and Mr. Hope.

Dr. Thudichum proposes to separate mechanically, the house drainage, retaining what he considers most valuable; and gives a sketch of his closet and drains, and tables of analysis of the constituents of fluid sewage. He estimates the net profits at one million per annum.

Mr. Curwood merely suggests the separation of the solid and liquid sewage.

Lord Torrington, Sir C. Fox, and Mr. Thornton Hunt regret, on the grounds of the impolicy of publicly declaring the land with which they propose to deal, not to comply with the advertisement, but express their willingness to discuss the matter and to enter into a provisional arrangement for a Bill in Parliament.

Mr. Moore, Mr. Townsend (on behalf of the London Sewage Utilisation Company), and Mr. G. Shepherd, refer to their previous communications responding to the Board's advertisement in April, 1860, as embodying the propositions they have to submit.

The proposals of the London Sewage Utilization Company (reported on 17th January, 1860), were that the Board should grant the company as much sewage as they might require at Barking Creek for two years, at a rent of 5*l*. That should the experiment be successful, the Board should, at the end of those two years, grant a further term of twenty-one years at the same rent, and at the end of such term that the company should pay such rent for such further term as may be agreed, or as determined by the arbitration of the president of the Institute of Civil Engineers, or by the Board of Trade.

Mr. Moore's proposals were, that the Board should grant the sewage for ninety years, the first fourteen at a peppercorn; and at the expiration of that term one-half of the profits, after deducting 10 per cent. interest on the capital invested, or on such reasonable return as the Secretary of State may award, to be paid by the grantees to the Board. In a further communication, 9th July, 1863, Mr. Moore offers to pay one farthing per ton for every ton of sewage raised by the Board to a height of 200 feet; which, at eighty million gallons daily, would, he estimated, amount to 136,000*l*. per annum; and he states (really a vital point) that he has already engagements with the occupiers of nearly 60,000 acres for the use of the sewage.

Mr. Shepherd, adhering to the proposals in his former letters, states that he shall shortly have plans for applying the whole of the sewage; that he will apply to Parliament for the necessary powers, on obtaining a concession; and asks for that of the south side first. Of Mr. Shepherd's letters, only two are of the nature of tenders. The first asks for a concession of the whole of the sewage of London for fifty years, and offers to divide with the Board the net profits received by the company after paying 7½ per cent. on the invested capital; after fifty years, the company only to deduct 5 per cent. interest on their capital; the second refers to the former tender, but requests that the concession should be full and free.

There remain three communications purporting to be tenders in answer to the Board's last advertisement.

Mr. Kirkman's embodies a patent for obtaining manure from sewage by filtration and deposit—the water after such treatment to be discharged into the river. He purposes to erect works, on condition that the Board shall convey to him the necessary land adjoining the reservoir at Barking, deliver the sewage into his works, grant him use of their frontage and wharfs for the term of seven years at a peppercorn, seven years at a rent of one-fifth the net profits, after deducting a dividend of 20*l*. per cent. on the capital expended; and for a further term of seven years at a rent of one-fifth the net profits after deducting 5*l*. per cent. in the capital; and for any further term at such rate as shall be settled by the Secretary of State. Mr. Kirkman would guarantee a minimum rent of 10,000*l*. per annum, and surrender the works on two years' notice, subject to the repayment of the capital invested, and of a premium of 25*l*. per cent. thereon, and to a royalty of 1*l*. per cent. for the use of his patent.

Mr. Ellis proposes to pump from the Board's reservoirs to covered tanks,—the sewage to flow by gravitation through pipes laid along the sides of the roads adjoining the area to be irrigated. Mr. Ellis undertakes to provide all necessary deodorising agents, and to subject himself in all things to the directions of the Board. The profits, deducting expenses and reserve fund, he proposes to divide equally, and he suggests that three of the directors of his company should be nominated by the Board. The concession he requires, should be in perpetuity, subject to the Board's power to purchase after fifty years, on certain conditions.

Messrs. Napier and Hope propose to intercept the whole of the ordinary flow of the northern sewage near Abbey Mills, to convey it by a culvert forty-four miles in length to Maplin Sands on the one hand, and Dengie Flats on the other. Both these areas, extending to fifteen or twenty thousand acres, are at present submerged at high water; and their redemption is part of the project. The capital proposed is two millions—the concession of the sewage to be for fifty years, subject to Parliamentary authority being obtained, and to a grant of the land from the Crown. The net profits to be divided equally, after a deduction of 10 per cent. on the outlay. The Board to have the power of resuming the grant of sewage at the end of the fifty years, on certain conditions.

The committee appended to the report, the several tenders from time to time made for taking the sewage of the metropolis, together with supplementary documents and explanations of such tenders, and included also other communications addressed to the Board on the question of the sewage.

The report, and the voluminous documents connected with the subject, are now being printed; and they will be sent to all the vestries.

It will not be seen from this abridgement of the propositions, how the problem is solved; or whether, for example, it is supposed that the Essex marshes can absorb the whole present sewage of the northern half of the metropolis, *plus* the increase in the future. Several things have to be taken as granted before such disposal of the sewage can be calculated upon. First of all, the nature of soil must be that which will absorb sewage in large quantities beneficially; and second, landowners must be ready or competent to appreciate the value. We pass by, for the moment, without questioning, the point said to be now proved, that sewage can be applied beneficially to all kinds of crops. It may, however, be more important to note that persons considered to be acquainted with agriculture, and the value of the land bordering the Thames,—differing we may suppose, both with Mr. Mechi and Mr. F. Bailey Denton,—assert that the land there would be spoiled by sewage-irrigation and land-drainage, and that it is better to keep to the present system of irrigating by ditches and sluice-gates. Taking this view to be wrong, it is to be considered in the estimate of the situation, and of the counteracting influences. But there is a third point, that of levels. If certain theories be correct, no city that

is in a valley can be assisted in the disposal of its sewage, by the method of irrigation in which the sewage is distributed by gravitation, that is, not by some mechanism of pumps and hose; and the outlets for London would be confined to the areas of ground at lower levels than its system of sewers. These areas, by the system which is in course of completion, would be the country east of the metropolis. The value of guano arises from the concentration of the fertilizing ingredients in a given weight of it. Expenses of carriage can be incurred in its case, which could not in that of the liquid. If all the land to which pipes could be extended or radiated to a considerable distance from the reservoirs at Barking and Crossness point,—and from the whole length reaching across the marshes, of the northern outfall sewer, which is so favourable, in its high level, to the distribution,—were available, the quantity of such land would not be sufficient for the sewage of London.

The scheme of Mr. Ellis, which has been in some form before the public, for three years, has lately been brought into greater notice by his letters in the papers, and by those of the chairman of the Board in reply. Mr. Ellis proposes to pump the sewage into "a summit regulating reservoir, on either side of the Thames, placed on hills of sufficient elevation" to enable him "to command, by gravitation, the area to be dealt with," as stated to Mr. Thwaites, in a letter dated the 7th of this month, wherein he adds,—"It is evident that there are no such hills on the low banks of the Thames." In his tender, he offers to take the whole of the sewage, sharing the profits with the ratepayers, and to irrigate more than half a million of acres. Mr. Thwaites says that there are "cases in which the cost of a single lift of 22 feet, added to the expenses of distribution, would more than equal the value of the sewage." Mr. Ellis endeavours to show that the cost of lifting a ton of sewage the height mentioned, could not amount to near the sum which would be obtained per ton for the produce, which return, in the case of Italian rye grass, was estimated before the committee of the House of Commons, as 9d. per ton. The cost of raising, he proves, from *Lean's Engine Reporter*, which gives the duty of the principal engines in Cornwall, and their expense in coals, could only be somewhat over ¼d. per ton; whilst as to the other "costs of distribution," he is aware of none, since the sewage would descend from the reservoir, through pipes, by gravitation. The elevations in Mr. Ellis's scheme, however, are not 22 feet, it has been observed, but 200 feet.

We felt at the first commencement of the Metropolitan Main Drainage,—though we were not prepared to say what else the responsible Board for London, could have done,—that one result on the completion of the works, might be the demonstration of the importance of a different system, that of irrigation radiating on all sides from London. The most that the Board have now provided for, beyond the removal of the evils of tide-locked drainage,—itself, however, a work of immense value,—is comprised in means of disposing of the sewage by irrigation in one direction, provided the sewage can be thus got rid of on the available land. We are not now prepared to say that much more could have been done at the time when the plans were prepared; and we really have not even now examined what are the precise levels, and the soils and crops, of the districts far and near, north, south, and west of the metropolis. Of course, this examination should be made, even at the risk of showing the skilfully executed work of the Board, to be not that which would be carried into effect with later knowledge of the subject. If, however, the actual works be the best for the case of London, they certainly would not be presented by those having the best knowledge of the subject, the engineers of the Board itself, as suggesting "the solution of the difficulty" in which Birmingham is placed. The engineers can say probably better than others, what would be the cost of pumping, and thence decide whether a radiating distribution, requiring that preliminary of expense, would be profitable, or be the most economic means of getting rid of a nuisance. We would merely observe that one portion of the Edinburgh sewage is raised, previously to its distribution by gravitation; and that we presume this method is still found to be profitable, although necessarily less so than the other, where in the case of the neighbouring meadows, the levels are favourable. We have confidence in the chairman and chief members of the Metropolitan Board, and in the officers by whom they have hitherto been ably served. With them lay the responsibility of the original decision, according to the evidence; and we cannot yet conclude that the course taken should have been different in principle, considering the possible consequences of a mistake, the results of which might have been more serious than any that are likely to accrue from the partial retention of the Thames as outfall, and from the concentration of the sewage into a small number of intercepting sewers.

ENGLISH ENGRAVERS.

NEW MATERIALS FOR THEIR LIVES.

Sir Robert Peake.— The Art of Engraving is so noble and so useful an art, and has been, with very few exceptions, so well paid an art in England, that it is much to be regretted we have so few materials for the lives of the men and women who illustrate and adorn the hitherto dry annals of its history. Continental art can boast of a succession of great men from Albert Durer to Raphael Morghen, and the Print-room of Great Britain's *British Museum* (thanks to an Ottley, a J. T. Smith, a Josi, and Mr. William Hookham Carpenter), contains, with a miser's care, an El Dorado of treasures connected with the history of engraving among us, that "some account" of what England has done by "graver" and "scraper," told through the lives of its great ornaments (skeleton as the lives must unhappily be) will, I have little doubt, be received with welcome by the readers of the *Builder*.

A fine collection of prints is an expensive taste. Who has a fine collection of prints? A few, very few names of fortunate owners will occur to many. What thousands of pounds are locked by in the shape of etchings and engravings, with the burr and without the burr, before letters and after letters? What rarities are hidden in extra atlas and elephant sized portfolios! A noble attempt was more than made at Manchester, in 1857 (the great Art-Treasure year), to show what had been accomplished by continental artists and ourselves in the great art of engraving. The dreary walk through Smirke's Thames Tunnel (called King George III.'s Library) has been *enlivened* of late by a few stalls of engravings that command little more attention, we fear, than the gingerbread stalls receive in Brunel's Passage of the Thames from Wapping on the left, to Rotherhithe on the right. And yet that many-headed monster, the public, delights in print-shop windows. Molteno's, in Pall-Mall, in our boyish days, was a *gratis* treat not to be matched (to our grown-up thinking) by the *unimproved* (but not to be condemned) continuations of it at the present day by Messrs. Colnaghi & Scott, and Mr. Henry Graves.

"When," says Walpole (writing one hundred and one years ago), "I have named Sir Robert Strange, I have mentioned the art of engraving at its highest period in Britain." Great as is the name of Robert Strange, we have had other Agamemnons in art since the 10th of October, 1762, when Walpole dated the postscript to his Painters containing the remarkable words I have quoted. Those worthy *Lisle-street* and Southwick-crescent brothers, *the two Smiths*, have supplied some seedsmen's-catalogue notices of *our* engravers, in addition to what Mr. Bryan, and Mr. Stanley in his Dictionary, have done. Raimbach's son has given us (and we are grateful) his father's autobiography. In 1846 John Britton communicated a notice of John Le Keux to the columns of the *Builder*. The late Mr. Dennistoun has printed a Life of Sir Robert Strange. Thomas Bewick (immortal, though buried) left his autobiography behind him; and Burnet (Wilkie's great translator to all time) has printed (with variations) more than one account of his own life. Our materials, however, are still provokingly scanty. Who would not wish to be told how Woollett went to work in his red silk nightcap and sap-green dressing-gown? What Strange felt when (long working in the dark) he took his Coronation portrait of Charles I. to the printer to be tried? What passed through Burnet's mind when Wilkie uttered, muttered, and nodded his "Ay, ay—good, good," to Burnet's last proof of the "Chelsea Pensioners?" What *fired* John Martin to become a master in the art of engraving his own magnificent imaginations? What prompted Edwin Landseer to seize his father's etching needles and gravers, and give to private friends those extraordinary examples of his art, in ordinary black and white, that make us exclaim, as we have heard skilled men exclaim when looking at a Rembrandt, "This Edwin of ours, great as he is, is even greater with the graver than with the pencil?"

Fine English engravings fetch fabulous and still, it would seem, increasing prices. An error—nay, whatever denotes, or seems to denote, an early impression, and a greater rarity,—commands a corresponding increase in money. The word "Prussia" improperly spelt on a "Hogarth" leads, under the auctioneer's hammer, to an active competition among gentlemen of the fancy; and a difference in the shading of a boy's hat in Burnet's engraving of Wilkie's "Blind Fiddler," to a warm rivalry in guineas between Mr. Holloway and Mr. Graves. The desire of having what others have not is the hunger and thirst of every collector, and has opened purse-strings wider than a love of art alone has been found to expand them.

Our great print-publishers have been aldermen and lord mayors of the City of London. We have a living instance in *our* friend Alderman and Lord Mayor Sir Francis Graham Moon, Bart. and Stationer, the "F. G. Moon" of many noble examples of the English art of engraving. John Boydell, alderman of London, and stationer, who died in 1804, and lies buried in St. Olave Jewry, in London, was lord mayor of London and a print publisher of note in his day: witness the noble gallery of English art bearing his honoured name. Sir Robert Peake, engraver, publisher, soldier, was an alderman of "famous London town;" so, too, was Sir William Peake. Still further back, in the infancy of engraving among us, we have Sir George Humble, Alderman and Print-publisher. The great Faithorne—

> "A 'Faithorne sculpsit' is a charm can save
> From dull oblivion and a gaping grave"—

was the apprentice, "proper and tall," of Sir Robert Peake. Nor are the aldermanic honours of London likely to die out in the world of engraving: the heir to the honoured house of Henry Graves, in Pall Mall, is *Boydell* Graves, and the leading ornament of Mr. Graves's well-known saloon of prints is a clever canvas to the knee, by *American* Stuart, of Alderman John Boydell, Lord Mayor and Stationer.

To the little that Walpole has told touching Sir Robert Peake, his editors have added nothing. I have something, however, to say that is new.

Faithorne's master (no common boast) made his last will and testament on the 15th of May, 1666, a few months after the Great Plague of 1665, and a few months before the Great Fire of 1666. He describes himself as citizen of London and "goldsmith," speaks of his houses in Holborn, "over against the Conduit," and in Winchester-street in the City. He died rich, bequeathing five hundred pounds to pay his funeral expenses, and fifty pounds to the Artillery Company of London, provided that "at least two hundred of the company, under arms, attend his funeral at St. Sepulchre's." To "his good friend and valentine" (O gay Sir Robert!), "Mrs. Mary Sayntloe, of St. Dunstan's in the East, widow," he bequeaths one thousand pounds; and to Elizabeth, wife of his "good friend Giles Vanbrugh," he leaves ten pounds. A codicil, dated 27th September, three weeks after the Great Fire, revokes the five hundred pounds for his funeral, and directs that, in consequence of the destruction of his house by the Fire, only two hundred pounds should be expended on his funeral. A further item refers to his services when a soldier. "To the poor of Basing, in Hampshire, I bequeath ten pounds." Sir Robert was at the siege of Basing House—a memorable siege in the history of engraving in England; for Hollar and Faithorne were taken prisoners at Basing (Tuesday, 14th October, 1645) fighting for the cause of the great patron of arts in England, King Charles I.

A further notice of Peake (new to the known incidents of his life) will be found among the Great Fire of London papers in the British Museum: it is contained in a "Petition" from John Jeanes against "Sir Robert Peake, Knight, and Mary Saintloe," touching two old messuages

known by the sign of The Bell, in the parish of St. Sepulchre. Was this Mary Saintloe the mother of the celebrated Mrs. Barton Booth, the "Saintlow famed for dance" of the poet Gay, and the mistress of the great Duke of Marlborough?

Possessors of Walpole's "Anecdotes" should make the following correction with a pen,—ed. Dallaway, vol. ii. p. 25, and ed. Wornum, p. 221,—for "St. Stephen," read "St. Sepulchre."

Lloyd says ("Memoirs," fol. 1668, p. 577) that Peake was buried with "great military pomp." What his age was is unknown. We must not confound him with the "Mr. Peake" of 1612, of Prince Henry's expenses, or with the Robert Peake, picture-maker, of the accounts of the Treasurer of the Chamber to King James, of the same date.

The books of the Goldsmiths' Company (my friend Mr. Prideaux devoting a well-spent hour to their examination) will probably tell us who Peake *was*.

PETER CUNNINGHAM.

MONUMENTAL BRASSES.*

THE work on this subject, which is now before us, has been some time published; but we have been gratified by a recent examination of it; and it would be hard if we were precluded from noticing books simply because of their being not new. Indeed, we once commenced a series of retrospective reviews; and we believe such reviews are often useful. The book now before us, is valuable as a record of the memorials of which it treats, and more so than any previous work we have met with on such subjects; inasmuch as it is infinitely more comprehensive, containing, as it does, a list of brasses, with figures, &c., amounting to upwards of 3,200, and 1,200 inscriptions and fragments.

Mr. Haines says, at the commencement of his preface, that,—

"Although several complete accounts have recently been published of various branches of Mediæval archæology in England, no work has appeared which has attempted to give a full description of our monumental brasses. And yet they seem to deserve the especial attention of the antiquary, not only from their intrinsic interest, but also as forming a class of monuments now almost peculiar to this country. The volumes of Gough, Waller, Manning, Boutell, the Cambridge Camden, and Oxford Architectural Societies; the illustrations of brasses of particular counties by Fisher, Cotman, Hudson, Kite, and the Exeter Diocesan Architectural Society, although several of them are of a very elaborate character, have made known but a portion only of these memorials."

It has been the object of the writer to remedy in some degree the deficiency, as he regards it. His book consists of two parts,—an introduction to the study of monumental brasses, and a list of examples remaining in the British Isles, "each part being designed mutually to illustrate the other, and the whole to form as complete a history as could be given in a moderate compass, of the monumental brasses of our country."

It seems to us that Mr. Haines has fully carried out his intentions as expressed in the preface to his work. The durability of brass as a record, is not greatly inferior to that of other materials: the work of the engraver often remains fresh when the sculptured marble has perished by the hand of the spoiler or fanatic. It is an easy matter with a hammer to knock into pieces the prominent parts of a marble or stone effigy recumbent on its altar-tomb; and no very difficult matter to throw down from its canopied niche the erect statue: not so easy is it to dislodge the depressed and riveted brass. It is true, by some labour, the latter may be detached from its slab, and sold, as has too often been the case, for its value as old metal; but fanaticism has been far more destructive to works of art than cupidity: thus, many fine specimens of monumental brasses have been preserved while those of stone and marble have perished. Frequently, indeed, has it happened, and we trust we are now speaking in the past tense, that brasses have been purloined solely with the view of selling them for the paltry value of the metal; and this, too, has often been done by those subordinates or custodians of the church whose possession of the keys has given them time and opportunity for a sacrilegious plunder of the tomb. A remarkably fine brass, the canopied figure of a knight, date 1367—Sir Adam de Clifton—formerly in the chancel of a church in Norfolk, was sold to a tinker about 1680, and broken up into fragments partially recovered shortly afterwards, and deposited, without arrangement, in a parish chest elsewhere; it has been since brought to light, and put together again by the Norfolk and Norwich Archæological Society, 1860. Mr. Haines observes, that though the workers in brass were mostly to be found in London, still there were many provincial ones of eminence, of which he gives numerous instances. A more valuable or faithful history of costume cannot be found than that which is delineated on brass. Ecclesiastical, civil, and in armour, it is singularly interesting and varied. Directions as to the dress were frequently given during the lifetime of the person ordering a tomb, or "tumb," as it was then spelt; and the very costume itself was often accurately insisted on. There is a curious engraving of a family visiting an artist, who is engaged with his assistants on a magnificent and richly inlaid slab of brass-work. The visitors to the studio are, no doubt, persons interested in the work going on, as both the artist and his guests are evidently in conversation respecting it. It is copied from a manuscript in the British Museum. The study of these brasses affords us not unfrequently information both in heraldry and architecture, and we are by no means certain that an attempt has not been made to give us a resemblance of the individual portrayed.

We have long entertained the notion that the best likenesses of individuals of bygone ages will be found most faithfully represented in their effigies on their tombs. We would particularize those of Queen Elizabeth and the Queen of Scots in Westminster Abbey, and the bust of Shakspeare in Stratford-on-Avon Church. A long and somewhat careful study of the portraits of celebrated characters, and comparing together the numerously varied and differing ones that exist of great or popular ones, has enabled us to arrive at the conclusion that the statues, either erect or recumbent, made to commemorate the deceased, will in general be found to be the most correct resemblance of them when living. Sculpture was the elder sister of Painting, and more advanced as an art in the earlier periods.

In concluding this brief notice of Mr. Haines's book, which we conscientiously recommend as perhaps the most perfect of the kind extant, we would urge upon those whose province it is, to be watchful over these most interesting relics of the past; and we believe, in devoting some of our space to what the author himself says on the subject, we shall be rendering art some service. After some most useful directions which he gives as to the best mode of obtaining rubbings from brasses, Mr. Haines says:—

"The large number of slabs despoiled of their brass plates which still pave the floors of many of our churches and minsters, and the mutilated condition of the great majority of the brasses that have escaped utter destruction, can hardly fail to attract the attention of even the mere casual observer. * * * * There are two periods in our history when they especially suffered,—the Reformation and the Great Rebellion. * * * As plunder was the main object in view at their destruction, everything that could be converted into money was indiscriminately sold; even the materials of the churches and chapels, including the gravestones and brasses, were not spared. 'Browne Willis,' writes Mr. Gough, 'showed the Society of Antiquaries, in 1737, from the Augmentation Office, a particular of the dissolution of religious houses (30 Henry VIII.), which, because it shows how monasteries and brasses were then disposed of, I shall subjoin from their minutes:—County of Warwick: Misival, 6 gravestones, with brasses on them, 8*l*.....Delacres, the paving of the *church*, with isles, *gravestones*, roof, &c., sold for 13*l*. 6*s*. 8*d*.; Darby, the *tombs* and *gravestones*, with the *metal* on them, and roof of the church, isles, &c., sold for 20*l*.' 'The monumental slabs, with brasses on them, in the chancel of Attleborough Church, Norfolk, were taken by Robert Earl of Sussex, to whom Henry VIII. granted it at the dissolution of the college there, to pave his hall, kitchen, and larder.'"

How numerously and how richly our cathedrals and churches were decorated with this peculiar kind of memorial, may be gathered from the fact that from Lincoln Cathedral, 207 slabs were counted from which brasses had been torn; and Rawlinson found as many as 170 at Hereford Cathedral in a similar condition, although he considers this church to have been mercifully treated as compared with others. The limits of this notice will not allow of our pursuing this subject further. We can only recommend our readers to the work itself for these and other interesting details.

* "A Manual of Monumental Brasses; comprising an Introduction to the Study of these Memorials, and a List of those remaining in the British Isles; with Two Hundred Illustrations." By the Rev. Herbert Haines, M.A., of Exeter College, Oxford; Second Master of the College School, and Chaplain to the County Asylum, Gloucester. Oxford and London: J. H. & Jas. Parker. 1861. [With the sanction of the Oxford Architectural Society.] Two Parts. 8vo., pp. cclxiii. & 286.

FRIENDLY SOCIETIES.

THE "FORESTERS" AND "ODD FELLOWS."

THE rapid increase of benefit and friendly societies amongst the working classes is a very satisfactory sign of progress. Some of them, such as the "Odd Fellows" and "Foresters," have assumed strange names; but even these have become familiar and respectable, in consequence of the excellence of the objects of the societies, and the apparently great success of their operations. The Manchester Unity Friendly Society of Odd Fellows has in the present year as many as 342,953 members. The metropolitan districts of the Unity alone comprise 175 lodges, with 18,067 members,—an immense army banded together for the purpose of providing mutual assistance in times of sickness and death. From fifty to sixty years or so ago, the formation of such monster societies would not have been possible; and, even if it had, attempts would probably have been made by the Government of that day to suppress them.

The other week, nearly 30,000 Odd Fellows, their wives, children, and sweethearts, enjoyed a summer's holiday at the Crystal Palace; and a pleasant sight it was to see this great gathering of well-dressed and respectable-looking people. In such assemblages we see the cream of the working class; and it might be useful if those who occasionally attempt to legislate for this important part of our community were to visit such scenes, in order that they might form a right idea of the materials with which they wish to deal. A little less beer, and a little more strict temperance on such occasions, however, would be an improvement; and this, we dare say, is on the way to final accomplishment.

The "Foresters," like the "Odd Fellows," are a flourishing and rapidly increasing community, who have their summer's treats not only in the neighbourhood of London, but throughout the country. On a previous occasion (July 27th, 1861), we gave some details as to the management and objects of the Odd Fellows. As we believe that few except the persons or their near friends, who are immediately connected with such societies, are aware of the manner in which their laws, &c., are drawn up, we will here make a few notes from one of the books of regulations for the Foresters' Society now before us. The rules of some of these societies differ in certain points; though the same principles are common to all, and every one is registered by Mr. John Tidd Pratt.

The court is governed by a committee of management, which consists of eight officers, under the titles of chief ranger, sub-chief ranger, senior woodward, junior woodward, senior and junior beadles, treasurer, and secretary. The term of these offices is six months, but the same persons may be re-elected. There is also in connexion with each court a committee of appeal, consisting of twelve members, of whom the chief ranger is *ex officio* chairman. On this body devolves the duty of deciding cases of dispute between one member and another, between a member and the court, or between the court and a person claiming on account of a deceased or excluded member under the rules. There are also four members to form an audit committee, and a qualified surgeon to examine candidates and attend sick members. Three members are elected as trustees, and all the officers are elected by the majority of the members. The meetings of the court are held as soon as possible after half-past eight p.m., on an appointed day once a fortnight; and the ordinary time of closing is eleven o'clock, except at the quarterly meetings, when it is extended to twelve o'clock.

The routine of the business is well managed; and it is provided that from the various funds, money shall be drawn for especial purposes: there is the sickness fund, the death fund, the medical, and widow and orphan fund, and the management and benevolence fund.

We pass over the regulations respecting separate cash accounts, the investment of funds, &c., and the duties of officers.

Persons of good character, and upwards of twenty-one years of age, can be admitted as honorary members on the payment, at one time, of 10*s*. 6*d*.; but although they may attend meetings, they have no vote in the management nor can they receive any benefits. No financial member can become a Forester under the age of eighteen; or if of unsound health; or with bodily defects which are likely to incapacitate him in his employment; or who is of doubtful character, of intemperate habits, or of quarrelsome behaviour; nor can a man whose employment is that of a driver or fireman of a locomotive engine, policeman in connexion with the City or metropolitan force, fire-brigade man or fire-escape man, unless this useful class of men pay one-third more than the usual contributions to the sickness and death fund so long as they continue in that employment.

From persons who have favourably passed the examination of the surgeon (he must not be more than 40 years of age) a certain amount as admission fee is required, and a monthly payment for peculiar advantages. We have not space for the whole list, but will give the amount of fees, &c.,

for the youngest and oldest who are admitted:—From 18 years of age to 24, the admission fees are 5s.; from 35 to 39, 12s. 6d. At the ages of 18, 20, 21, in order to insure 14s. a week in sickness of a certain duration, the monthly payment is 1s. 7d.; for insuring the payment of 12l. at death, 4d.; expense of management, 2d.; medical services, 4d.; benevolence, 1d. weekly: total per month, 2s. 6d.; average per week, 7½d. Those of the ages of 37, 38, and 39 years, for the insurance of 14s. a week in the case of sickness, must pay, monthly, 2s. 4d.; for 12l. at death, 6½d.; expense of management, 4d.; benevolence, 1d.: total per month, 3s. 5½d.: average per week, 10½d.

In some of these societies 12l. are paid on the death of a member, and 6l. on the death of a member's wife; and should a deceased Forester leave a widow, and she contribute 1s. per quarter to the district funeral fund; or, in the event of the widow dying within the quarter after the death of her husband, her child, executor, or other person appointed, shall be entitled at her decease to the funeral allowance of 6l.

Distress gifts are also made when a sudden or unforeseen calamity befalls a member, and renders him incapable of following his employment for the future. These consist of an amount not exceeding ten guineas, in order that he may be enabled to begin some business by which he may obtain a livelihood for himself and family. This sum is totally distinct from the sick-fund allowance.

There are also arrangements made for the assistance of members when travelling in search of employment. In one society the sick relief is 12s. a week for twenty-six weeks; 6s. for twenty-six weeks more; and 3s. a week as long as the illness may continue. But there is here provided a plan for raising a fund for the relief of members who are incapacitated from following their employment. The fund is a distinct one; but only Foresters are eligible as subscribers. In connexion with this there is an entrance-fee according to age: for instance, from 18 to 25, it is 2s.; but the scale rises to the age of 54, and upwards, when the entrance is 3l. The contribution is 1s. a quarter, and 1d. a quarter for the purpose of defraying the cost of management. In consideration of this, any member having been a subscriber for five years, and having received twelve months' continuous relief from the sick fund, receives from this source 4s. for so long as he may be incapacitated.

Should a member die who has subscribed three years to the widow and orphan's fund, his widow is entitled to a pension of 2s. a week, and 6d. per week for each child under ten years of age.

We should like to give certain particulars respecting the working of the High Court of the Foresters; but we must just now be content with this brief and imperfect sketch, which, however, shows that those who, without thinking much of the matter, still charge the artisan class of England with wholesale improvidence, fail to do justice to the industrious multitude on whom the power of the country so much depends.

THE PUBLIC HEALTH.

The quarterly return of the Registrar-General states that in taking a general survey of the returns, that which chiefly claims notice is the fact that the mortality, which was high in the first quarter of the year, continued high in the quarter that ended on the 30th of June.

Lancashire exhibits a revival in its marriages as compared with those in the first quarter of 1862, for in three periods taken in the order of time, they were in that county 5,431, 4,887, and (this year) 5,245. The increase is very considerable in Liverpool and West Derby, which have been comparatively unharmed by the prevailing distress.

The annual birth-rate in the June quarter was 3·705 per cent., against the average 3·587. It never happens that as many as 36 children are born to a thousand of the population in a year; and in the 24 years 1838-61 there occurred only one year (1859) in which there were 35; and it is also a rare occurrence that children are born in a quarter at the rate of 37 to 1,000 of the population per annum.

The number of births in the quarter was 189,611, that in the same period of 1862 having been 185,638. Nearly 26,000 children were born in London in 13 weeks. More than 25,000 were born in Lancashire. There was an increase in the births over those of the corresponding quarter of 1862 in all the 11 divisions, except the North-Western, which comprises Cheshire and Lancashire, where a decrease would arise from a reduction of the marriages in last year, and probably from a cause of greater moment, the emigration of heads of families from those counties in quest of employment.

The births exceeded the deaths by 71,236. Therefore each day in the three months gave on an average a natural increase of 783 to the population. Immigration and emigration modify the result.

The return of the Commissioners for last quarter shows that emigration had attained a magnitude that can hardly fail to surprise when the circumstances of the Western World, by which it appears to have been chiefly evoked, are taken into consideration. The number of emigrants rose to 83,290, which is more than in any June quarter since that of 1857.

After a period of two years, in which the public health was better than usual, the mortality rose in the last three months of 1862, was high in the first three months (the winter quarter) of the current year, and continued about the average in the quarter for which the returns are now made. In this last period the death-rate was 2·313 per cent. per annum, while the average was 2·191. With the present exception, a spring quarter has not occurred since the year 1853, in which the rate of mortality was as high as 2 3.

Both town and country testify to an increase of deaths in their respective populations; for the rate in the chief towns was 2·478 (against an average of 2·336), and that which prevailed in small towns and country parts was 2·102 (against 2·031). Summer-like weather in the early year and cold days or nights striking a sudden chill into the heart of it, produce effects from which neither city nor hamlet is exempt.

That vast town population that resides within "the bills of mortality" suffered in common with the provincial populations, and in its due proportion; for though those complaints that are more directly traceable to meteorological causes—namely, bronchitis and pneumonia—were little, if in any degree, more fatal in the metropolis than usual, both smallpox and scarlatina were very prevalent, and caused numerous deaths. Smallpox carried off 788 persons in London, or nearly nine daily; scarlatina and diphtheria 1,230. Smallpox was not confined to London.

The mortality in London in the quarter was 2·403 per cent., that of the North-western Division 2 569, that of Yorkshire 2.589. Cheshire and Lancashire constitute the North-western Division; and the death-rate in the latter county, apart from the former, was 2·592. Liverpool, Manchester, and other large towns have long invested this county with an unfavourable distinction, which it is hoped the important measure now passed by Parliament for enabling the distressed unions to borrow money for works of public utility will be successfully employed to remove. In the present day the rate of mortality in Lancashire furnishes a striking contrast to that of the South-eastern counties, which was 1·968 last quarter. To reduce, if not to annihilate, the difference is not an impracticable task. The deaths in London rose from 15,230 and 15,695 in the June quarter of 1861-2 to 17,417 last quarter. Those in the north-western counties rose from 17,576 and 18,017 to 19,467; those in Yorkshire from 11,600 and 11,916 to 13,339. The increase in Lancashire and Cheshire in last quarter on the mean mortality of the two previous seasons was 9 per cent., and less than in London and Yorkshire, where it was 13 per cent. Taking particular districts of the cotton manufacture, there was an increase in Oldham; in Manchester and Warrington of 20 per cent.; in Chorlton and Wigan of 25 and 34 per cent. Measles and other epidemics, as has been shown above, were spreading through those parts. On the other hand, there was a decrease in Ashton, Preston, and Chorley, amounting in the last two districts to 20 per cent. or more. It is probable that fewer deaths have been registered in many districts in consequence of the emigration or removal of the inhabitants, for doubtless many villages besides Belmont, which the Registrar writes is "almost uninhabited, owing to the badness of trade," complain of empty houses; but in reviewing the whole facts of the present return, they will be found to support the conclusion which former reports tended to establish, that sickness has not been aggravated nor the mortality increased by the distress which has prevailed, and which happily to a certain extent has now been subdued. It must be regarded as a providential interposition in favour of the under-fed and half-clad workmen and their families that the period embracing December and four succeeding months was, in the words of the Meteorological Report, distinguished by a temperature higher than in any corresponding period since 1771.

The improvement in the cotton districts, by which forty-seven local committees have been enabled to suspend operations, has arisen from various causes,—the emigration or removal of operatives, the increase of outdoor work, the partial revival of industry. The Public Works Act, if adopted and carried into execution with earnestness and goodwill, is expected to provide the wages of labour to a fifth or sixth part of the population, who without its aid would be in want. But, notwithstanding the present encouragement, the Central Executive Committee takes a desponding view of the coming winter.

THEATRE-ARRANGEMENTS.

A writer from Her Majesty's Theatre considers that there are three things above all others tending to spoil the illusion which ought, according to modern views, to be inseparable from a theatrical representation. These, he says, are, firstly, "the fiddling in the orchestra," which much detracts from the effect of an opera ("the motion of the violins and the puffing of trombones do not add to the sentiment of the garden scene in 'Faust'"); secondly, the footlights; and, thirdly, the sky-borders. He says:—"Now is it possible to place the orchestra under the front part of the stage? If the back were made oval, and of thin wood, it would form a sounding-board to throw the tone into the house. The whole should be divided from the audience by thin wire-gauze; but the difficulty is where to put the conductor, so that both orchestra and singers might see him. If it could be so arranged that a semicircular portion of the stage in front could be cut away, the conductor might sit below, and be seen by both; but it is a difficult question."

We print the words, for the sake of keeping the subject before the attention of those interested. There can be no disputing that the arrangements of the stage, no less than those of the auditory in theatres, are capable of great improvement; and they are of course connected. We have been driving at every branch of the subject of theatre-planning and construction for years; and we may at last succeed in getting some efficient co-operation between the two professions claiming to know something of the matter. The prejudices of managers form the chief obstacle. Even now, nothing has been done towards the introduction of the arrangement of the "float" which we described long ago as adopted at the Opera-House, Paris, and which we have since been able to report upon as quite successful,—that moreover whilst accidents continue. As to the suggestion of our correspondent, and other points, we regret that so little is publicly known of the ideas of M. Barthélemy, often referred to by us.

THE ROYAL MASONIC INSTITUTION FOR BOYS AT WOOD GREEN, TOTTENHAM.

The corner-stone of the new building was laid on Saturday with full Masonic honours; and a *fête* and banquet were held in the grounds in honour of the occasion. The papers recount how that, in one of three spacious tents, Messrs. J. L. Toole and Paul Bedford established their Paul-y-Toole-y-technic Institution, lectures on Astronomy and the Fine Arts were delivered, and Professor Pepper's "Ghost" was explained in Mr. Toole's peculiar style; how that in the grounds, youngsters were delighted with a capital "Punch and Judy," the performances of dogs and birds, the feats of an acrobat, and so forth. At a few minutes past one, the Grand Lodge having been adjourned, a procession was formed,—the officers and brethren of the Grand Lodge in their Masonic clothing, bearing the banner and insignia of the lodge, the vessels of corn, oil, and wine, &c. The procession, having marched round the ground, entered the inclosed space surrounding the stone, where commodious galleries had been erected to enable visitors to view the ceremony. The space on the north side was occupied by the brethren and officials taking part in the ceremony. The gallery was gay with silk aprons and scarfs, and glittering with Masonic jewels. The children of the girls' school stood on the platform at the east side, the boys occupying a similar position opposite; the remaining galleries being filled by visitors, the greater number of whom were ladies. Close to the officers stood the ladies and gentlemen of the Sacred Harmonic Society, who, as soon as all had taken their places, sang the National

Anthem, accompanied by the band of the 1st Life Guards. The Grand Chaplain then read the appointed prayer, and at the conclusion a hymn was sung by the girls. The bottle containing the coins and newspapers of the day was then placed in the cavity of the stone, along with an inscription on vellum, commencing,—"In the name of the Great Architect of the Universe, this corner-stone of a new building for the Royal Masonic Institution for Boys (originally founded in the year 1798) was laid with full Masonic honours by the Right Worshipful Algernon Perkins, Past Grand Warden, acting as Grand Master, assisted by the officers and members of the craft, on Saturday, 8th August, A.L. 5863, A D. 1863, in the twenty-seventh year of the reign of her Majesty Queen Victoria. Patron, her Most Gracious Majesty the Queen." A plate bearing a copy of this inscription was then embedded down over the cavity, and the Grand Master having smoothed the mortar with a silver trowel, the stone was lowered into its place, the Grand Master gave it three blows with an ivory mallet, tried it with the square, level, and plumb-line, and declared it fairly laid. He then scattered corn on it, as a sign of plenty; and poured on it oil and wine, in token of joy and peace. The ceremony was completed by the presentation of purses of various amounts, by Miss Burdett Coutts, and other ladies. At four o'clock a company of about 300 sat down to a banquet. The evening was concluded with dancing and fireworks.

We continue to receive letters touching the course taken by the committee in their selection of designs; but no object would be advanced by printing them, after our observations in the *Builder* of a fortnight since. Preparation of competition drawings is good exercise for students,—that is to say, for all; and should there be an exhibition with the drawings well arranged, and with the authors' names attached—the exhibition being properly advertised,—individuals may derive collateral advantage. The two competitions recently announced and conducted by the Freemasons, were quite remarkable for the success of their exhibitions in one respect, that of the arrangement of the drawings so that these could be seen. Why need we dwell upon proceedings in other respects of a character which any architect who has paid attention to the subject of competition management, should expect,—and much the same whether the committee abandon a distinct stipulation of theirs, or are actuated throughout by desire to make a perfectly correct decision, which, even to professional judges, is attended with extreme difficulty?

THE NEW STREET TO THE MANSION HOUSE.

We are somewhat apprehensive of the issue of the position in which the questions of the route and width of the street from the Thames Embankment to the Mansion House, seem to be. If a line should be chosen, and a dimension of width adopted, which should be afterwards found to be not the best, the public will not stop to discuss who were the authors of the blundering, but will visit the blame upon their representatives and government, the Metropolitan Board of Works. At the last meeting of the Board, the report of the Thames Embankment committee was brought up. It stated "with reference to the letter from the Commissioners of Sewers for the city of London, offering to co-operate with this Board in effecting an improvement by setting back the houses opposite the opening of the intended new street from Blackfriars to the Mansion House,—that the committee consider the line as proposed by the Commissioners of Sewers objectionable, but that if an improved line were substituted, and an estimate of the cost furnished, they consider the improvement might be such as to justify their recommending the Board to give the subject their most favourable consideration."

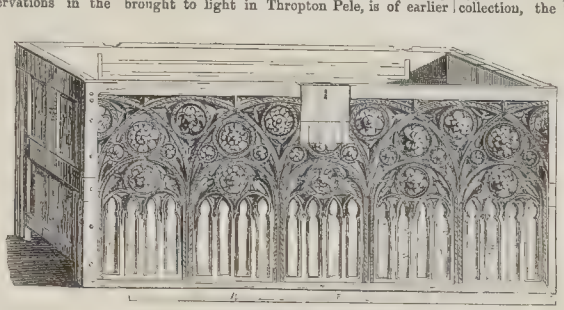
After the adoption of it had been moved and seconded, Mr. Saunders advised the Board to meet the views of the Commissioners of Sewers. The houses were to be pulled down for the purpose of being rebuilt, and if the present opportunity were lost, they might at some future time be compelled to purchase the property, and give a much larger sum for the new buildings than they could get them for now.

The Chairman said the Board was willing to co-operate with the Commissioners of Sewers for the City, but the plan they proposed was not a good one, and there was no estimate sent with it, but only a very vague idea that it would be about 100,000*l*. If the Commissioners would lay down a better plan, and accompany it with estimates of the cost, the Board would meet them and consider their proposal as favourably as possible.

After some discussion, the motion for the adoption of the report was agreed to.

A CARVED OAK COFFER FROM THROPTON PELE, NORTHUMBERLAND.

Our examples of woodwork of the Early Decorated period, are by no means numerous. The chest of which we give an illustration is a choice addition to our scanty store. It is carved on the front side only. The ends and back are framed: the lid is missing. It has been used, of late years, as a salting-chest for bacon; but its ecclesiastical character points to the inference that it was originally intended to contain the vestments, or charters, or other valuables of a monastic establishment. The form and dimensions are similar to those of other ancient chests used for this purpose. These are, however, principally of Perpendicular workmanship. The example we give, only recently brought to light in Thropton Pele, is of earlier date; and of unusually elegant design. The grooves shown in the drawing indicate that the interior was furnished with compartments. And a groove on one of the ends suggests that it has been a fixture and supported one end of a low seat skirting a chamber. The original lock is absent, and its place filled up with a piece of deal, which serves as a foundation for a modern one. With such a specimen of ancient furniture before us, we can well realise the value attached to the several articles in a manor-house or castle in old times, when even rich men mentioned them separately in their wills, and left them to those they loved as legacies of price.



COFFER FROM THROPTON PELE, NORTHUMBERLAND

In our own day, the chest is an article of very general use: the sailor takes his personal effects to sea in a chest: the workman deposits his tools in a chest: the wealthy consign their plate to the safe-keeping of an iron-bound chest or coffer; but in the Middle Ages it was a piece of furniture in still greater esteem. By turns the chest was a seat, a table, and a strong-box. There were but few chambers without one. The *trousseau* of a bride, with her *bijour*, were neatly packed in a chest, more or less handsome, according to her parents' means. The miser made the coffer containing his gold, his bed. Every sacristy and every chapter-house possessed one or more of these useful pieces of furniture. The linen, the drapery for the decoration of the church on state occasions, the deeds, the valuables of every description were kept in them. In the same way, every vestry has its chest to this day.

These coffers were often as richly ornamented as art could make them. There are French examples in which there are figures clad in chain-armour standing in every arcade. Reliquaries often took the form of richly-decorated chests. Romance, too, has inlaid them with an interest of its own. They call to mind the fate of the beautiful bride whom Rogers has immortalized, and which the English ballad, called "The Mistletoe Bough," has rendered so familiar:—

> "At length an oak chest that had long lain hid
> Was found in the castle: they raised the lid:
> A skeleton form lay mouldering there
> In the bridal robes of that lady fair."

Thropton Pele, roofed with slates, and the weather-worn jointings newly pointed, as we recently described many Northumbrian peles to be, now forms one of the buildings of a farm. The owner has built himself a residence close by; and apportioned the vaulted basement of the pele-tower to his cattle. The upper portion of the tower is inhabited; and possesses a little Elizabethan woodwork within. It is situate on the Coquet, in a wild and picturesque part of the county.

PARLIAMENTARY ODDS AND ENDS.

At the close of the Session there were two or three minor occurrences which should be recorded. In reply to Mr. W. Ewart, Mr. Cowper stated that the railings having been removed from three public statues, namely, those at Charing-cross, Cockspur-street, and Whitehall, without any inconvenient results, he intended to pursue the same course as far as his authority extended. The inhabitants of London appreciated works of art too much to be disposed to injure them.

Mr. Ewart also asked whether labels would be affixed on the water-colour drawings of Turner, and other artists, exhibited at South Kensington, giving the public information as to the subjects and the painters of such water-colour drawings. In reply, Mr. Cowper said that while descriptions of the subjects and the names of the painters were appended to all pictures in the South Kensington collection, the Turner water-colours were there only temporarily, as they belonged to the National Gallery. When they were permanently arranged they would, no doubt, all be labelled in the way referred to.

In reply to Mr. Corry, Lord C. Paget said it would be the duty of the Admiralty during the recess to prepare a private Bill for the construction of a basin at Portsmouth. It was also his intention at the meeting of Parliament to move for a select committee on the subject of basins and docks.

Sir M. Peto asked the Civil Lord of the Admiralty whether any decision had yet been come to by the Admiralty, with respect to the building for the Nautical School at Greenwich Hospital, and whether the objects aimed at could not be gained without incurring so large an outlay for additional buildings, as contemplated? Mr. Stansfield replied that the difficulty was this:—It was supposed necessary, in accordance with modern and, no doubt, correct notions, that each boy should have 600 cubic feet of breathing space. It appeared to him that the question of cubic feet for breathing space ought to be considered not simply by itself, but in connexion with some other elements; and that the ventilation of the rooms and the position of the building ought also to be taken into account. The designs and estimates were, therefore, sent back to Greenwich Hospital for reconsideration, and the result had been a plan which they were prepared to carry out experimentally, and not wholly at once, and which he believed would accomplish all essential purposes, at a cost, not of 30,000*l*., but of 3,000*l*. or 4,000*l*. They were of opinion that by taking away the ceilings of the old dormitories, and providing an open passage for air between the roof and the ceiling, they could procure an average breathing space of 570 cubic feet for each boy. There was also a large room, which now served as a chapel, and which they proposed to convert into a class-room; the boys being taken for Divine service to the chapel of the Hospital. The expense of raising the ceiling would, in the first instance, be 750*l*. Next year he would be able to report whether or not the experiment had been successful. If it failed, it would at any rate have cost less than 1,000*l*.; and if it answered the expectations entertained of it, it would be the means of great saving to the funds of the Hospital.

Patent for Purifying Gas.—Mr. Hills has applied to the Privy Council for a prolongation of his patent for purifying gas, but the application was refused.

DWELLINGS OF THE INDUSTRIOUS CLASSES.

The report just printed, which was presented to the nineteenth annual meeting of the Society for Improving the Condition of the Labouring Classes, after remarking that London now comprises about 2,900,000 inhabitants, and that "under existing circumstances over-crowding is unavoidable, so that that constantly accumulating increase is too often a bane rather than a boon;" and that—

"It is manifestly essential to the due extension of the model system, and the due encouragement to capitalists to invest their money in the erection of suitable structures, that some return, more or less, from the money sunk, should be derivable after all necessary deductions, from the rents received;"

records a considerable increase in the returns from the Society's houses, as well as a diminution in the outgoings. The committee are encouraged to believe there is now evidence to prove that efforts such as the Society has made, may be remunerative. The "Redhill and Reigate Cottage Improvement Society" has paid a dividend of 5 per cent.; the Strand Building Company has paid 4½ per cent.; and the report of the Aberdeen Association anticipates 7 per cent. clear. In a sanitary and a moral point of view, the Society's operations have been very satisfactory.

On the important question of "Suburban Villages" for the working classes, the committee say,—

"They find very serious difficulties in arriving at any practicable conclusions. There is much disinclination amongst the working classes themselves, and specially the female part of them, to a removal far from their present dwellings and occupations. They fear, among other things, the loss of employment, of connexions in their small businesses; and they speak with apprehension of joining communities where, all being on a level as to property, there will be little or no demand for labour. The railway companies, too, are backward to entertain any such schemes which would require along these new metropolitan lines a constant supply of low-priced trains."

As to the poorer classes, the committee say it is to be admitted that the benefit of model lodging-houses has not reached them:—

"The clerk, the skilled artisan, every one, in short, whose income reaches twenty-five shillings a-week, can find comfortable and sufficient accommodation in such houses when erected. But the family whose utmost economy cannot sustain a higher payment for lodgings than from two to three shillings a-week is not only excluded altogether from the improved dwellings, but is really in a worse condition than before the erection of them, being either driven away altogether, or compelled to take up its abode in rooms already overcrowded. The solution of this difficulty will continue to occupy the patient and anxious attention of your Committee."

Mention is then made of the prizes for the cleanliness of rooms in Bloomsbury, for which eighty-eight persons have sent in their names as competitors, and of the flower-shows of which we have already spoken. The efforts for the improvement of dwellings at Hastings; in Drury-lane, by the "Central London Dwellings Improvement Company;" in Westminster, by Mr. W. Gibb; at South Kensington, the "Onslow Model Dwellings," by Mr. Freake; in the houses in Cowley-street, Shadwell, by Mr. Hilliard; and in Mr. Alderman Waterlow's "Homes," are alluded to.

THE DEPARTMENT OF SCIENCE AND ART.

The report for the past year, besides speaking of the classes in science, and the examinations, states that, as respects art, the Department consider that the time has arrived when the local schools have become sufficiently advanced in their studies to enable them to train students for masterships up to a certain grade of competency; and a minute has, therefore, been passed, by which no further payments in London will be made to assist students to take the first certificate for a mastership. On the other hand, it is proposed to revert to the system of scholarships in the central school, which had been somewhat prematurely established in the schools of design. These scholarships will be open to competition to the advanced students of all local schools, and the holders of them will have the opportunity of making practical use of the collections of the Art Museum. In 1862, 8,896 children of poor schools in London were taught through the agency of the central school. The total number of schools of art now open in the United Kingdom is 90. In the central schools 15,908 persons received instruction in the year; in the public, 71,423. 4,672 payments were made to schools of art in respect of results of examinations. Payments on results have for the last ten years formed part of the system by which art-masters have been remunerated, and the working of the system has been such as to justify its complete adoption; minutes have accordingly been prepared extending the application of this principle to all the instruction given in or through the means of art schools. These minutes will also tend to restrict the aid of the State to those classes that are unable to provide such education for themselves. In the last year, 87,389 persons were taught drawing through the agency of the Department, the fees paid by them amounting to 18,017*l*. Of this sum 5,038*l*. were paid by evening students, who are almost wholly artisans paying not more than 6d. per week for three lessons. Several foreign Governments, from a sense of the great influence of the Science and Art Department on the industrial progress of this country, have made application for detailed information of the working of the Department. To this foreign appreciation of the South Kensington Museum, we adverted recently when speaking of the French jurors' reports.

Referring to the pictures, Mr. Redgrave, Inspector-General for Art, states in his report that, notwithstanding the throngs of visitors—nearly a million during the past year—no injury of any kind resulted during the time. A careful examination is periodically made: the surface of each picture is wiped with cotton wool; and the dirt deposited is found to be hardly appreciable. This is owing in great part to the arrangements made for a perfect ventilation of the galleries, the careful way in which the dust is removed daily, and the continuous cleansing of the floors. The pictures which, from their nearness to the spectators, are liable to injury from too close inspection, are gradually being protected by glazing.

BUCKINGHAMSHIRE ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.

This society held its annual meeting, under the presidency of Archdeacon Bickersteth, at Wycombe, on Wednesday, the 5th instant. An excursion was made to Hughenden to inspect the fine series of effigies in the parish church. Wycombe church was next visited, where the architectural and historical points of interest were explained by Mr. E. J. Payne. The church, the largest and finest in the county, is cruciform, with a deep choir of four bays, north and south chapels, transepts, nave of six bays with wide and lofty aisles, and western tower 108 feet high. The external walls are principally of the thirteenth century; the choir and Bower aisle late in the fifteenth; the rebuilt crossing and western tower later still. A discussion ensued on some curious features lately discovered in the north aisle, and the remains of the ancient revestry at the north-west angle. From the church, the Society proceeded to the remains of the Hospital of St. John Baptist, in Eastontown, now used as the Royal Grammar School. Here the Society were received by the Headmaster (the Rev. J. Poulter), and were conducted to the ancient chapel, now the schoolroom, where a brief historical sketch of the hospital, which dates from the twelfth century, was given by Mr. Payne, who accompanied the members over the building. The fine Norman hall with aisles, of four bays, was of great interest, being almost perfect. The piers are alternately round and octagonal, supporting semicircular arches, with carved capitals of varying design. Other points of interest, namely, the remains of the old Copt-hall in Paul's row, near the church, with its early kingpost roof: other Mediæval buildings in the town, and the Castle Hill, were necessarily omitted from want of time.

The next and greatest point of interest was the Roman pavement, recently disinterred at the east end of the borough, which was explained by Mr. Charles Faulkner, F.S.A., who pronounced it to be finer in workmanship than any he had seen in England, not excepting that at Cirencester. The device of the central pavement is a dog standing sideways by a tree, the meaning of which is at present unexplained. The site of the villa of which this formed a part, is close to the old British road, and near the strong entrenchments on Keep-hill. The pavement was discovered in 1724, and then covered up, a record being put on the borough register, No. 3, by means of which the local secretaries of the society were enabled to identify its position.

After luncheon, the annual meeting was held in the Guildhall, where a temporary museum had been formed, consisting of many objects of local interest. Papers were then read by the Rev. W. H. Kelke on the desecrated churches in the neighbourhood, six of which are known to have existed within the borough of Wycombe alone. A paper by the Rev. J. R. Pretyman, on the Danish occupation of England, was read by the secretary; and Mr. Payne next read a paper on the "Municipal Antiquities of the Borough, extracted from ancient unpublished records."

The chief feature of interest was the Roman pavement; and an effort will be made to procure a thorough exploration of the site. It is situate in a large meadow, every yard of which yields more or less bricks, tiles, and pottery; and a rich harvest of archæological relics is confidently anticipated. Resolutions in order to put proceedings for exploration in proper form were passed, and the meeting terminated. The objects in the museum afforded abundant interest to a numerous assembly during the evening.

St. THOMAS'S HOSPITAL.

The long-pending question of site for the future building of St. Thomas's Hospital, seems to have been decided in favour of the ground nearly opposite the Houses of Parliament, on the southern embankment of the Thames. This ground amounts to about 8¼ acres, and the terms of the agreement are to be, that the ground shall be sold to the hospital for 95,000*l*.,—the embankment to be made, and the space to be levelled by the 31st of December, 1865, by the Metropolitan Board of Works. At the last meeting of the Board, the report of the Thames Embankment Committee was brought up and adopted; and the chairman was authorized to communicate to the treasurer of the hospital, that the offer of the latter was accepted. The price is an advance of 15,000*l*. upon a former offer by the hospital, for the same ground; and it is 5,000*l*. under the sum originally asked by the Metropolitan Board.

We should greatly depart from what we have been urging for years past,—namely, that the proper sites for hospitals which are to *cure* disease, are sites extra-urban,—if we expressed entire satisfaction with the conclusion that has been arrived at. We of course never wished that there should be no facilities for instant treatment of accidents and disease; and we were always prepared to recognize the importance of having the best medical assistance, and of the visits of friends of patients. But we have not found that the health of London has yet reached the standard of the country, or that "the faculty" are worth more than the pure air, as remedial agents; and we are in fine staggered by a decision which seems to shut out of view conlusions of those who have most considered questions of the site and construction of hospitals. It was lately urged by a deputation from the south London parishes, which waited upon the governors, that either of the other sites, the Surrey Gardens or Bethlehem, was preferable to the Stangate site, both on account of healthiness and convenience. The Lambeth vestry and guardians at that time were prepared to go to Chancery in the event of a selection of the Stangate site. The latter site, it was urged, would be unhealthy, because of the fumes from the adjacent factories, and the miasmata from the mud banks of the Thames, as the river would not be embanked below Westminster Bridge for a long time to come. The main drainage scheme would not probably produce so much good in cleansing the river as was thought; for, on good authority it was shown, that the upcast flow of the river enabled the sea water to produce an influence upon the water "as high up as Teddington, and even at Kingston." Our question, however, was not between the three metropolitan sites, but between London and a healthful locality within ready access by railway; or it was so, as to the main structure at least.

PETROLEUM.

The American mineral oils are now being so abundantly imported into this country, and the vapours from them in store are so nauseous, that the question of the influence of these vapours on health as well as comfort, has been forcing itself into notice. The officer of health at Liverpool has reported that the vapours are a decided nuisance, but that he has not had sufficient evidence to prove that they are injurious to health. His report, however, appears to have been misunderstood to signify that they had no injurious influence,—which he is far from stating. Since this report was published, the Health Committee of Liverpool have been deluged with complaints as to the "great annoyance, sickness, and nausea" occasioned by these vapours, in the districts where

petroleum is stored; and it has been suggested that the article ought to be kept in hermetically sealed casks, as when imported from Burmah. By distillation much can be done to remove the bad smell; but it is remarkable that some at least of what has been thus deodorized, yields a far more offensive smell in lamp burning than the other; which latter, if the lamp be a good one, and the glass closely-fitting and of proper length and width, can be used without any smell whatever, while yielding a bright and cheerful as well as extremely economical light, well adapted for use in the dwellings of the poor. The heat given off is felt by some as objectionable; but although the oils more recently introduced appear to make the lamp brasses hotter; still, with all its inconveniences, mineral oil is a valuable boon to the poor, and infinitely preferable to the comparatively dead-alive light of tallow or composite candles. As for the explosive nature of certain adulterated forms of mineral oil, of course that is not to be lost sight of: even in the ships importing it, there is danger, as a recent instance sufficiently shows; but the risk is wilful; and no oil is safer in use than mineral oil of sufficient specific gravity. It is far less dangerous than gas.

A report on petroleum gas has been made by Mr. G. Bower, of Hunts, a gas contractor, who states that petroleum gas gives less heat than coal gas. It costs much more, but yields a finer light, devoid of such noxious ingredients as sulphide of carbon, with which coal gas is not unfrequently contaminated.

The trade in petroleum, from America, continues to increase. In the first half of 1861 the exportation from New York, &c., was 3,260 barrels: in the same period of 1862 it was 108,000 barrels; and in the same period of 1863 it has been 425,000 barrels. A preparation of the material called colzarine oil, and which is free from smell and also from sulphur compounds, has lately been used in moderator lamps.

THE LATE MR. JOSHUA FIELD.

We have noticed with regret, the announcement of the decease of Mr. Joshua Field, F.R.S., an eminent mechanical engineer, and a leading member of the Institution of Civil Engineers, whose name should be well known to the greater number of our readers. Mr. Field's death occurred on the morning of the 11th inst. He was in the 77th year of his age. He was a member of the eminent firm of Messrs. Maudslay, Sons, & Field. His attention had been especially directed to the marine engine, and to steam navigation, since the year 1816, when Maudslay & Co. made a pair of combined engines, each 14-horse power, applying the power to the paddle-wheel shaft by the crank, instead of by cog-wheels, according to the previous mode. As is well known, this establishment took a very prominent part in the prosecution of steam navigation; and it deserves to be remembered that it was Messrs. Maudslay & Field who boldly engaged to construct engines of adequate power to propel a vessel across the Atlantic, of the necessary size to carry sufficient fuel for the voyage, at a time when many competent authorities doubted its practicability, and the first constructors of the day declined to undertake it. The engines were completed and fitted on board the *Great Western* in March 1838; and shortly afterwards, that vessel started on her first voyage from Bristol, reaching New York, a distance of 3,000 miles, in 13 days and 10 hours. The success of this voyage across the Atlantic, exceeded the most sanguine expectations of the promoters, and there seemed no limit to the extension of ocean steam navigation, other companies and larger vessels being speedily projected and designed.

The late Mr. Field was one of six young men* who, towards the end of the year 1817, founded the Institution of Civil Engineers. He was one of its earliest vice-presidents, and he continued to hold that office until elected president on the 18th January, 1848, being the first president selected from that class of engineers whose attention had been more particularly devoted to purely mechanical pursuits and the construction of machinery. This office he filled for two years—the period permitted by the regulations—discharging the duties which belonged to it with great assiduity and devotion. In his inaugural address, delivered on February 1, 1848, he alluded particularly to the changes which had then been introduced into steam navigation, and to some of the more marked improvements, both in the engines and the vessels, by which they had been adapted for carrying cargo and fuel for long voyages, and for attaining great speed on short voyages.

* Henry Robinson Palmer, Joshua Field, William Maudslay, James Jones, Charles Collinge, and James Ashwell.

SCHOOL-HOUSES.

The number of buildings erected, last year, in connexion with Church of England schools, was 101; and the number enlarged or improved was 72. The total amount awarded out of Parliamentary grants was 50,237*l.*: the total amount subscribed by the promoters was 142,925*l.*; and the total expended was 193,320*l.* The number of additional children accommodated by the new buildings was 28,139, and accommodation was also afforded for 2,370 children by the enlargement of previously existing schools; making an aggregate of 30,509. The number of new schoolhouses built last year, with the assistance of the Committee of Council on Education, by the Wesleyan, Roman Catholic, &c., bodies, was 28; and the number enlarged or improved was 20. The total amount awarded out of Parliamentary grants was 13,751*l.*: the total amount subscribed by the promoters was 32,430*l.*; and the total amount expended was 46,181*l.* The number of additional children accommodated by the new buildings was 7,233, and accommodation was afforded for 873 children by the enlargement of previously existing schools; making an aggregate of 8,106. These figures refer to England and Scotland only.

THE PUBLIC WORKS ACT IN LANCASHIRE.

The whole million and a half sterling which the Government have been empowered by the Legislature to lend for sanitary and other works in the cotton-spinning districts, will probably be applied for before the middle of autumn, as announced by Mr. Rawlinson, the Government Commissioner, at last week's meeting of the Executive Committee of the Central Relief Fund. He then stated that he was happy to inform the committee that a *bonâ fide* application had already gone up from Preston for something like 50,000*l.*; that at Blackburn it was resolved to apply for about 75,000*l.*, and that was merely a first instalment; that application would be made from Wigan for 35,000*l.*; from Bolton, for 50,000*l.*; from Stockport, for 50,000*l.*; from Oldham, for 50,000*l.*; from Ashton, for about 30,000*l.*; from Bromley, for 30,000*l.*; from Glossop, for 8,000*l.*; from Denton, for 3,000*l.*; from Dukinfield, for 8,000*l.*; from Rochdale, for 30,000*l.* The money was to be advanced by instalments. The first object of the Government was to give a certain amount of relief in the execution of sanitary works and town improvements. It was his duty to lay fully before the Government all the details of the several kinds of work; and it would be a breach of faith on the part of any corporation if they were to apply for a large sum of money for paving the streets, and employing *skilled* labour to the utmost extent necessary on the work; they would be expected, though not compelled, to use *unskilled* labour for everything that it was capable of performing. Even in work of that description he could say, from personal knowledge, that the lowest estimate of unskilled labour which might be made available was from 18 to 25 per cent.

Mr. Farnall, the colleague of Mr. Rawlinson, said he had seen and conferred with close upon 300 of the local authorities for carrying out the works; and there was every reason to expect that in the whole of the places represented by them the entire provisions of the Act would be received. He believed that, in all cases which they had visited, each man would receive the same rate of remuneration as could be earned by any independent labourer. Lord Egerton said he had recently visited a considerable number of the Stockport operatives who were employed by himself in out-door work during the whole of the winter, and he was astonished at the extraordinary improvement which had taken place in their appearance.

At this meeting it was stated that there was still a balance of 317*l.* in hand, and that the previous week's subscription was 1,373*l.* There was an increase of 1,299 persons in twenty-seven unions receiving relief. We have some reason, however, to believe that this is attributable to an increase of persons temporarily awaiting employment during harvest time, and not to a falling off in advance of the cotton trades: indeed, how are we otherwise to account for the fact that the operatives in the cotton districts are now earning about 59,000*l.* more weekly than they did in February?

Sewerage and paving appear to be among the chief works contemplated in various towns. The commissioners have lately visited Macclesfield and explained matters to the local Board of Guardians, and there has been a discussion in the Manchester council; but the employment of any considerable amount of unskilled labour in paving, seems to be regarded as a difficulty, in connexion with the cost of material. The Manchester authorities contemplate the employment of cotton-spinners on the new cemetery there.

BUILDING NEWS FROM IRELAND.

Cork.—Mr. J. Carmichael, of Liverpool, has determined to erect, at a cost of 1,000*l.*, schools in connexion with the Trinity Presbyterian Church, in Summer-hill, Cork. The church was lately erected in order to meet the requirements of the district. The foundation-stone of the school-building has been laid. The structure will be a Gothic one, in keeping with the church, and capable of accommodating 240 boys and girls.

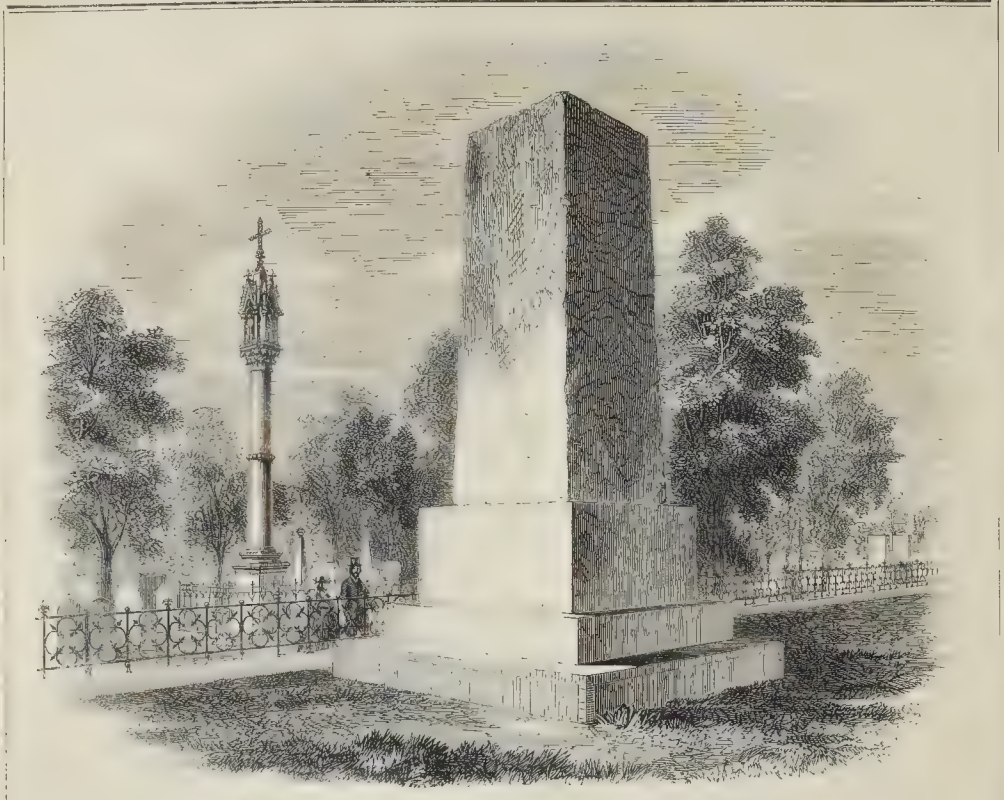
Drogheda.—The death of Mr. M'Cloud, the principal contractor for erecting the two bridges over the Boyne, took place immediately after the completion of the St. Dominick's Bridge, and has occasioned a delay in proceeding with the works of the more important stone structure. The committee at the last meeting decided to serve the required notice on the surviving contractor and Mr. M'Cloud's representatives, which if not complied with will decide the late contract.

Galway.—The Roman Catholic new church of St. Ignatius, belonging to the Jesuits, has been dedicated. The edifice is situate on the Sea-road. The architect was Mr. S. U. Roberts; and the contractors were Messrs. Semple & Nugent. The church, which was commenced in 1861, is now complete, with the exception of the organ, altar, and some minor internal decorations. A sacristy is proposed to be built to the north of the church, with access to the sanctuary. The edifice is built of hammered limestone ashlar work in courses; the south gable or principal front, the spire and the quoins, dressings, &c., being punched, and the jambs and arches of the principal doors and windows moulded. The church, which is in the Gothic style, is in the form of a Latin cross, 115 feet extreme length, 36 feet wide, and 70 feet across the transepts, 56 feet to the ridge, and 110 feet to the top of the cross on the spire. It is not subdivided into nave and aisle. The roof is stained timber with Gothic open-framed principals and hammer-beams resting on ornamental corbels. The rafters and purlins are also stained. Light is obtained by large windows in the north and south gables, two triple lancet-windows in the transepts, and eight smaller two-light windows at the sides. A provision has been made for professionals in the thickness of one of the side walls between the buttresses. They are to be enclosed with open Gothic timber screen work. The organ-loft is at the north end of the nave, over the front porch, to which cast-iron stairs are in course of erection. The front is Gothic open-framing, relieved by crimson cloth at the back.

Sligo.—A saw-mill establishment, surmounted by a tall chimney, has been erected for Messrs. James O'Connor & Co., in Adelaide-road. This is a new branch of business in the West of Ireland. Four machines, from Messrs. Worssam & Co., of Chelsea, are at work. The machines include a rack-bench for cutting logs or scantlings; a pitch frame, for cutting deals or flitches; a saw-bench, for cutting scantlings of any size; and a moulding or planing machine. Messrs. O'Connor & Co. have had fitted up a 25-horse power engine from Messrs. Victor Coates & Co., Belfast, by which the machinery of the mill is driven. It is their intention to increase the mechanical appliances of the establishment.

Carlow.—A new mansion is to be erected at Mount Wolseley for Sir John R. Wolseley, Bart. The site selected is within a mile of the town of Tullow. The mansion is to be erected according to plans prepared by Messrs. Lanyan & Co., of Belfast and Dublin, architects. The execution of the works has been entrusted to Mr. William Faircloth, of Carlow, with Mr. William Gibson, as clerk of works. The foundation stone has just been laid by Lady Wolseley.

Tipperary.—A Roman Catholic school is about to be erected here. The school-house will be 90 feet by 35 feet. The cost is estimated at 1,065*l.* Mr. Robert Boles is the contractor.



THE TOMB OF BURKE AND WILLS, MELBOURNE, AUSTRALIA.

THE TOMB OF BURKE AND WILLS.

All England, and most people in her colonies, have heard of the explorers, Burke and Wills, who lost their lives when conducting an expedition across Australia, from Cooper's Creek to Carpentaria. Not for the purpose of offering to our readers a view of a monument having claim to rank as architectural art-work, but for that simply of helping to record the commendable act itself, of commemoration of these brave men, we this week give a view of the monolith which has been erected in the Melbourne General Cemetery over the grave of the explorers.

After it had been originally determined in Melbourne to mark the grave of Burke and Wills with a monument, competitive designs were invited by the Government through the Exploration Committee, a premium of 10*l.* being offered for the most appropriate. Two designs furnished by Messrs. Huxley, Parker, & Co., of Russell Street, were selected, one of which consisted of a solid granite Sarcophagus, raised on two steps of the same material; and the other, a massive Obelisk, also of granite, plain and well proportioned: neither of these designs, however, was thought to meet the peculiar requirements of the case. The proximity of a monument of the late Sir Charles Hotham, the Committee thought, rendered necessary the adoption of such a design as would form a striking contrast. Messrs. Huxley, Parker, & Co. were requested by the committee to furnish another design, of which the main feature should be a massive Monolith. The monument consists of a Monolith of granite, roughly hewn from the quarry, measuring 12 feet high, by 6 feet square at the base, and tapering to 5 feet square at the summit. This block alone would weigh nearly 30 tons; and it is raised on a die, also formed of a single block, 3 feet high and 8 feet square, on which will be engraved appropriate inscriptions. The lower bases or steps project 18 inches all round, the bottom base of all extending over about 14 feet square of ground; the height of the monument is 18 feet, and the massiveness and simplicity of the design were thought at Melbourne, to be "calculated to properly impress beholders with a sense of its fitness to form a National Memorial of the Dead."

COMPETITION.

Presbyterian Church and Manse, Londonderry. The committee appointed for carrying into effect the erection of these buildings, having issued an advertisement inviting architects to submit designs, and several sets of drawings having been sent in, the first premium has been awarded to the design bearing the motto "Westminster," which was found to be the production of Mr. William Hague, jun., of Dublin and Cavan. The works are to be carried out in accordance with this design, at the Water-side.

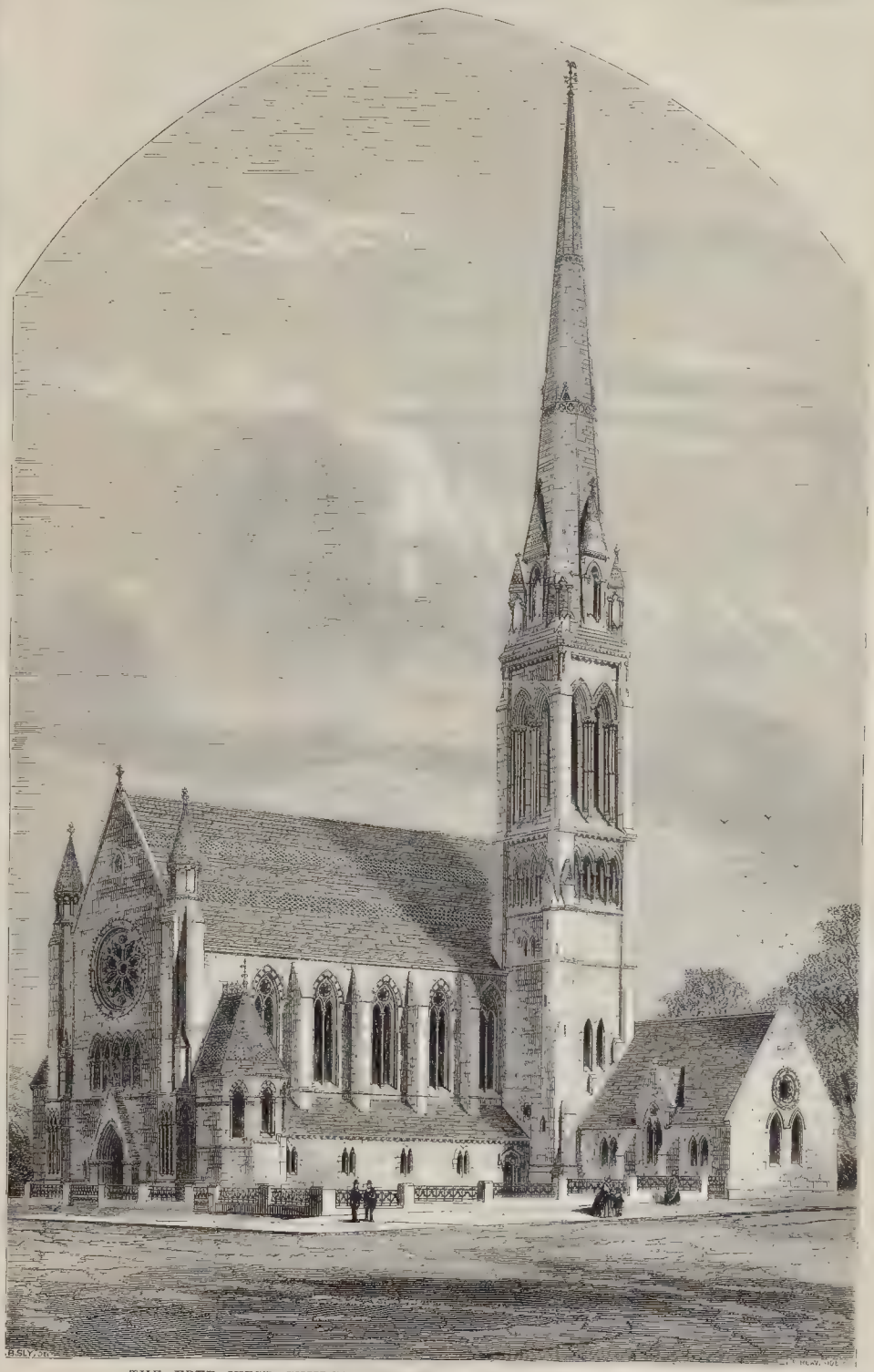
THE ART-UNION PICTURES.

The works selected by the prize-holders of the Art-Union of London, are now on view in the galleries of the Society of British Artists. They comprise 115 oil-paintings, 37 water-colour drawings, and 13 bronzes and statuettes. They give but slight notion, in the smaller and sculpturesque class of works especially, of the importance of the society's operations and the results in art. Amongst the best pictures are, "Summer on the Thames" (31), W. W. Gosling; "Learning a Ballad" (14), F. Underhill; "View looking up Loch Lomond" (55), A. Clint; "A Summer Ramble" (62), R. Collinson; "A Welsh Valley" (67), H. J. Boddington; "The Beaver Pool on the Conway" (100), E. A. Pettitt; and "Waiting for the Ferry-boat" (107), W. D. Kennedy. The principal prizes are represented by the picture of Kepler in Venice (5), by T. Heaphy; and by F. B. Barwell's admirable work "A Reconciliation" (60). The water-colour drawings by Absolon, J. G. Philp, W. Callow, W. C. Smith, and others, are very good.

THE FREE WEST CHURCH, GREENOCK.

This church, recently opened,—and a particular description of which appeared in a previous number of the *Builder*,—is situate in the west end of Greenock, at the corner of Ardgowan and Kelly streets. The chief peculiarity in the building, is one to which some interest might be attached in connexion with the question of arrangement of the plans of churches suitable for the congregational uses that are more or less characteristic of the different forms of Protestantism—a question to which we have several times lately called attention. The peculiarity in previous cases, it may be remembered, consisted of the use of aisles so narrow as to serve only for passages, whereby the piers were not obstructions. A similar arrangement is observed here, in what may be described as side-corridors outside the main walls of the church, and having the appearance externally of low aisles. The clerestory walls, or rather the side walls proper of the church, are supported, it is hardly necessary to repeat, on stone piers; whilst the pews communicate directly with the corridors. The extreme length of the church within the walls is 84 feet, exclusive of a semi-circular apex; and the width is 48 feet. The hewn stone is from the neighbourhood of Glasgow. The church accommodates about 950 persons, and, with the adjoining hall, session-house, &c., has cost about 6,000*l.* The tower has as yet only been carried up about twenty feet above the eaves. The architect is Mr. Honeyman, jun., of Glasgow. The contractor for the masons' work was Mr. Thomas Watson, Glasgow; and for the carpenters' work, Mr. D. Anderson, Greenock. Mr. Shanks, Glasgow, was the carver; and Mr. James Calderwood, the clerk of works.

Architectural Association: Voluntary Examination Class.—On Saturday, 15th inst., the members of the Association will visit Windsor Castle. Trains from Waterloo Station at 2·40 p.m. and Paddington at 2·45 p.m. On Friday, 21st, Mr. R. R. Bayne will treat of Natural Philosophy.



THE FREE WEST CHURCH, GREENOCK.—Mr. Honeyman, Jun., Architect.

CHURCH-BUILDING NEWS.

Lowdham (Notts).—A new organ, built by Messrs. Lloyd & Dudgeon, of Nottingham, has been opened in the ancient church of Lowdham. The edifice was repaired and restored within the last few years, and its internal fittings re-arranged.

Chaddesley Corbett (Worcestershire).—The restoration of the old church of Chaddesley Corbett is now in progress. The work was entrusted to Mr. Butterfield, architect; and Mr. H. Lovatt, of Wolverhampton, was appointed to execute the work. The contract was for the rebuilding of the north aisle, and stripping and retiling one side of the roof of the nave and north aisle; extending and rebuilding the north aisle, also the south-east angle of the south aisle; altering the present entrance at the west to the south side of the tower; repewing the nave and aisles and the north chancel; laying down new floors of wood and tile; reglazing the whole of the windows except the great chancel; cleansing the whole of the stone from whitewash; restoring the bases and mouldings, pulling down the nave ceiling, and making good all unsound timber, and leaving it open to rafters. The stone for the whole of the work has been obtained from an adjoining quarry, which also furnished the material from which the tower was built. The new north aisle has been built up ready for the roof. It was found necessary to shore up the nave pillars while the work of underpinning was being done, as the foundations were so bad that the greatest care had to be used in keeping them in their place; but the whole of the pillars of the south side have been underbuilt. It is expected that the great chancel will not at present be restored, as it belongs to the corporation of Warwick, who are not as yet prepared to undertake the work. The estimate for this work was 1,500*l.*, of which 1,300*l.* have been raised by subscription in the parish and neighbourhood.

Lower Gornal.—St. James's Church, Lower Gornal, an edifice erected in the midst of a district of the Black Country, of some importance, has been re-opened, after undergoing a renovation and several alterations. The church had, prior to the restoration, been inadequate to the wants of the increasing congregation; and to remedy this, the space occupied by the old vestry has been thrown into the church, thus affording additional sittings. A new vestry has, however, been fitted up in the lower part of the church. The pews have also been to some extent altered, and the doors to them removed. The church has been embellished with oak mouldings, and ornamental work round the windows, given by the Earl of Dudley. The pulpit has been moved to another part of the church to that it occupied before. The church, too, has been painted throughout, and drained. The architect connected with the alterations was Mr. Bourne; and the builder, Mr. Hartland. The cost of the renovation was about 300*l.*, one-half raised by voluntary contributions, and a rate.

Welshampton.—The new church here has been consecrated by the Bishop of Lichfield. The edifice has been erected at the sole expense of Mrs. Mainwaring, of Oteley Park, Ellesmere. The old church, which was an unsightly brick building, having been almost dangerous, it was resolved by the late Mr. C. K. Mainwaring, and the minister and parishioners, to erect a new fabric. A subscription was set on foot for this purpose, Mr. Mainwaring, the patron of the living, heading the list. Before, however, anything was carried out, the death of Mr. Mainwaring took place; and it was then determined by Mrs. Mainwaring, his widow, to build the church in memory of her deceased husband, at her sole expense. The church is dedicated to St. Michael, and was built from designs by Mr. Scott. Its style is Gothic. There are a nave, chancel, and south aisle, and a north porch. The organ and vestry occupy a chamber on the right of the altar. The chancel is terminated by a semicircular apse, and over the large arch between it and the nave is the bell turret, gabled, containing two bells by Warner, of London. At the principal entrance to the churchyard is a lich gate, roofed with old tiles. The pillars between the nave and side aisles are circular, and composed of polished Devonshire marble; their caps and bases moulded. The roof of the church is an open one, springing from a cornice upon a series of stone corbels, and composed of a succession of curved rafters or ribs, moulded and stopped. The chancel roof also springs from a stone cornice, the mouldings of which are enriched with a deep band of carvings representing the convolvulus and other flowers in a partially conventional treatment. The woodwork is made throughout in an arched form, its surface being divided into panelled squares and horizontal and vertical mouldings. These panels are crossed by smaller diagonal ribs, sub-divided, and having a carved flower or boss at each intersection. The chancel has a two-light window, with a quatrefoil over. The north side, with the apse, is lighted by three single lancet windows, with marble shafts to their inside jambs, and filled with stained glass by Messrs. Heaton & Butler, of London. These four windows were the gift of Mr. T. Mainwaring, M.P. The two-light window represents the Nativity and Baptism of Christ; the others, the Raising of Lazarus, Our Lord bearing his Cross, and the Resurrection. The arches of the organ chamber and vestry are segmental, and moulded, and each is filled up to the springing with a light open arcade of oak screen-work, trefoiled, and resting upon moulded shafts. On the south side of the chancel are two sedilia, trefoil-headed, and divided by shafts of griotte and Greek green marble. On the north side is a recess for a credence-table, also trefoiled. The altar-table is approached by marble steps. Behind the table is a reredos of alabaster, in three panels, the centre one being higher than the other, and containing a representation of the Crucifixion. The side panels have monograms in the centre, and are moulded and enriched with inlays of various marbles. The cornice is carved with passion-flower and other ornaments. The chancel seats are of oak, and carved. The pulpit stands against the north side of the chancel arch, and it is octagonal, and of Caen stone, with marble shafts at the angles. In the centre of each panel is one of the sacred monograms, and the cornice is deeply foliated. The font near the north door is similar in character to the pulpit. The paving of the nave and aisle is of red and black quarry tiles, by Godwin, of Lugwardine. The north wall has two-light windows, east of the porch, which are similar in character to those in the chancel. The windows not filled with stained glass are glazed with rough clear glass, by Messrs. Chance, of Birmingham; the quarries being arranged in geometrical patterns, specially designed for the purpose. The west window is of three lights, filled with stained glass. The accommodation provided is for about 250 persons. The roof of the church is covered with small blue and green slates, arranged in lozenge and zig-zag patterns. The whole of the work has been superintended by Mr. I. Edwards, the superintendent of works at Oteley Park, who also prepared the nave-seats, screens, roofs, and lich gate. The chancel-seats were made by Messrs. Rattie & Kett, of Cambridge; the brass work by Mr. Skidmore, of Coventry; the stone carving (including the pulpit, font, and reredos), by Mr. Farmer, of London. The organ was built by Mr. Holditch, of London. The heating apparatus was provided by Mr. Resser, of London.

Bonsall.—The church of Bonsall, according to the *Derbyshire Advertiser*, has been re-opened. The edifice was wholly unfitted for public worship, the building being damp and unhealthy, besides having an unsightly appearance. The aisles were crowded with heavy galleries, in a dangerous state of rottenness and decay—only preserved from downfall by numerous wooden props. The whole church was pewed in the regular horse-box fashion, and the chancel and tower were almost entirely cut off from the rest of the church by screens of lath and plaster. To accommodate the sitters in the galleries, the windows of the aisles had been so altered and enlarged as to have lost almost all trace of their original character; and other square openings had been formed, perfectly regardless of position and appropriateness; in fact, the church had been as completely disfigured as was possible without entire destruction. From remains discovered in pulling down some of the aisle-work, this is believed to be a very ancient foundation. The existing fabric, however, shows no trace of earlier work than the thirteenth century. The exigencies of the parish required increased accommodation to make up for the removal of the large galleries. To provide for this the aisles have been somewhat widened and lengthened towards the west end, the original features being restored. One feature in the church is the height of the chancel floor above that of the nave, caused by the peculiarity of the site. This gives a flight of steps at the chancel arch. The church as restored affords accommodation for about 365 persons on the ground-floor. The works have been carried out by Mr. Francis, builder, Cromford, under the direction of Mr. Ewan Christian, architect, at a cost of about 1,550*l.*

Darlton (East Retford).—The church at Darlton is to be restored. This church was first endowed about 1346, but the edifice was not erected generally until nearly two centuries afterwards. It is now all pulled down excepting the tower, and is about being rebuilt by Messrs. Tomlinson & Lee, of Retford. In pulling down the late building, amongst the *débris* were found various tokens of a former church, such as mullions, cornices, tracery, &c. The edifice consisted of a nave and north aisle, the former 36 feet long by 18 feet 6 inches wide; the latter 27 feet 7 inches long by 11 feet 6 inches wide. The chancel was 20 feet long by 18 feet wide. The nave and aisle were connected by three pointed Late Perpendicular arches. The tower scarcely can be said to belong to any style. Towards the bottom is a one-light window of Early English: the other window is of a very debased character. The old brick porch has been taken away and is not to be restored. The door from thence into the church is of the transition style, between Norman and Early English, and is to remain. The screen between the nave and chancel was an old oak screen, carved, but covered over with laths and mortar, and beautified with an abundance of whitewash. This has been taken away, and is be replaced by a carved stone arch. The chancel window is of five lights of Early English floriated, but the foliage is plain. The top of the tower is to be taken down, and a new cornice erected: there is to be a spire, 18 feet high. The new church will have a stone pulpit, carved; also a new vestry-room at the east end of the north aisle. The architects for the nave and aisles are Messrs. Hine & Evans, of Nottingham; and for the chancel, Mr. E. Christian, for the Ecclesiastical Commissioners. The whole will be covered with Westmoreland slate, and the contract amounts to about 1,000*l.* The contractors, Messrs. Tomlinson & Lee, have agreed with the Ecclesiastical Commissioners to repair and restore the chancel of Ragnall church, with which Darlton is connected.

Lichfield.—A new vestry has been recently erected at the chancel end of St. Chad's Church, by voluntary subscription. The site of the old vestry, at the other end of the church, is being fitted up for the choir. It is just completed.

Moreton (Cheshire).—The new church recently built at Moreton has been consecrated by the Bishop of Chester. The erection of the building is due to the liberality of Mr. Wm. Inman, of Liverpool, who has defrayed the entire cost of the structure. The building has been constructed by Mr. Sheriff, of Oxton, from designs furnished by Messrs. Cunningham & Audsley, architects, Liverpool. The edifice consists of a nave, chancel, vestry, porch, and spire. The nave is 63 feet long by 31 feet wide, the chancel 25 feet by 20 feet, the roof being of a proportionate height, constructed of oak, stained and varnished. The spire is 100 feet high, and contains a peal of bells, cast by Messrs. Warren & Sons, London, at a cost of 200*l.* The pulpit, reading-desk, and font are carved in Caen stone, with serpentine marble columns. The east window, of stained glass, from the designs of the architects, was executed by Messrs. Edmunson, of Manchester. The church (which is built of white stone, found in the neighbourhood, and is paved with ornamental tile) will accommodate about 320 persons. A parsonage-house has been erected in connexion with the church, at a cost of 1,600*l.*

Liverpool.—Christ Church, Hunter-street, has been re-opened, after having undergone various improvements. The principal alterations are, the removal of the upper gallery, the construction of new entrances in Hunter-street, the want of which was seriously felt, and the removal of the pews in the body, and the "three-decker" which overlooked them. The latter has given place to a pulpit of a light character, composed partly of open ironwork, and the latter to open benches. The chancel has been fitted with stalls for a choir, and furnished with a lectern for the lessons.

York.—A second, or nave organ is shortly to be erected in the Cathedral. This instrument is to consist of three complete manual organs and a pedal organ. It is now being constructed at the workshops of Messrs. Hill & Son, according to specifications prepared by Dr. Monk, organist to the Cathedral. The whole cost of this new instrument (or the greater part of it) will, it is said, be defrayed by the Dean. It is intended that the new organ shall be publicly used for the first time at a meeting of the diocesan choirs, to be held in September next. The instrument is to be fixed in the third opening of the arcade, on the north side of the nave from the central tower, where upon a platform already laid down it is to occupy a space of 18 feet 5 inches by 12 feet. The front pipes are to range in a direct line with the columns in the centre aisle. A slight projection will be caused by a low platform for the organist; but this it is not expected will interfere with the

view of the nave. The back portion of the organ will recede into the north aisle to a depth of 4 feet, leaving an open space of nearly 17 feet in the rear, affording room for passing up and down the aisle, and furnishing, it is expected, no obstruction to any of the stained-glass windows. Opinions have been expressed that the present organ might have been adapted, by addition of independent action at the side, to the purposes which the new organ is intended to answer; but this the local *Herald* states it has authority for saying—so full is the present instrument—could have been done at little less cost than the purchase of the new organ, whilst the result would have been altogether of a problematical character.

Malton.—One of the south windows of St. Leonard's church having recently been blown out, and other repairs and alterations being required at the remaining five windows in the nave, a vestry meeting was convened to take into consideration the best means of providing the necessary funds for carrying out the work. The estimated cost of the whole work is about 110*l.*, and it was resolved to commence a subscription list forthwith. A plan of the proposed new windows, which are in the Early Norman style of architecture, was submitted to the meeting and approved.

Alnwick.—St. Michael's parish church, Alnwick, is now undergoing repair and restoration. The wooden screen-work in the chancel, which was placed there in the middle of the last century, by one of the Dukes of Northumberland, has been removed, and a stone screen substituted in its place. The large eastern window has been replaced by one in accordance with the period of the other parts of the church, and the chancel altogether remodelled. The church is of Perpendicular character, and a row of new arches in that style has been inserted in the nave, which has also been reseated with open benches, the old close pews being removed. The front wall and windows were much decayed: the wall has been repaired and strengthened, and four of the windows have been taken down and replaced with new ones, in harmony with the other parts of the building.

Cockermouth.—The foundation stone of a new church has been laid at Cockermouth. The edifice to be erected will be called Christ Church; and as it is chiefly intended for the poorer classes, the site selected for it has been chosen with a view to their convenience, and stands in a thickly-populated part of the end of south-street, near to the site of the new station of the Cockermouth, Keswick, and Penrith Railway. The building will be in the Early English style, without ornament. Sufficient funds have not been collected to complete the building; and at present the tower will only be carried up to the ridge of the roof. The architect is Mr. Bruce, of Whitehaven; and the contractors are Mr. Hepworth, builder, and Mr. Jonathan Cape, joiner and carpenter.

Withecombe Raleigh (*Exmouth*).—The foundation-stone of a new church was laid on July 21st, by Lady Rolle. The building is to consist of nave, with clerestory, 80 feet by 25 feet; aisles, 12 feet wide; chancel, 27 feet by 20 feet; and a tower adjoining it on the south side, forming a south transept. There are also a north transept and organ chamber. The building is of limestone, with Bath stone dressings, of the Early Decorated Gothic. It is to accommodate about 700, without galleries. The cost will be about 4,500*l.* Mr. Burridge, of Exmouth, is the contractor; and the clerk of works, Mr. T. Elliott. The architect is Mr. Edward Ashworth, of Exeter. The building is to be warmed by Messrs. Haden's apparatus.

DISSENTING AND ROMAN CATHOLIC CHURCH AND CHAPEL BUILDING NEWS.

Colchester.—The new Congregational church erected upon the site of the old Round Meeting-house, Lion-walk, Colchester, has been opened for public worship. It is in the Geometric style. The extreme length of the interior of the building from the back of the organ to the west window is 88 feet; width, 51 feet; height to the roof, 63 feet. The west end has a centre gable, with a four-light window, 26 feet high by 10 feet wide, finished on a moulded stone string-course, below which is the principal entrance, opening on to a stone staircase, branching right and left to the galleries. On the north-west angle are a tower and spire, 125 feet high. The tower forms an entrance porch to the ground-floor, and to the gallery, with a corresponding entrance in the south-west corner by a winding staircase leading to the gallery for the Sunday-school children and about 100 soldiers from the camp. The north and south fronts have five gabled windows, the three centre being two-lights and the ends three-lights, 24 feet high, with stained glass heads, standing on a moulded string course. The interior is divided into three widths transversely by arched principals of timber resting on cast-iron columns, which also support the galleries, and five similar arches on each side divide the length into as many bays under the principal purline of the roof. The ceilings are formed with wrought boarding, the rafters and other timbers being exposed, and stained and varnished. The gallery extends along the north and south sides, and at the west end over the entrances. The pulpit, to correspond with the building, and placed at the east end, is of freestone, carved, and has chiselled on the outer edge, in front, the text "Christ is all;" on the right-hand side, "Lo, I am with you alway;" and on the left, "Be thou faithful unto death." The pulpit, which is supported by red Devonshire marble pillars, rests on a dais of Minton's encaustic tiles. Behind the pulpit is the organ gallery, in an apse, finished with stone piers and arch, 40 feet high, moulded. The organ, a large instrument, built by Willis, of London, is the gift of the ladies in the town. Vestries for the minister and deacons, and a congregational library, are provided at the east end, and a lecture-room, 40 feet by 24 feet, with open roof. The exterior of the building is finished with Kentish rag stone and dressings of Caen stone. The interior is heated with warm air, and the lighting is with gas star-lights from the arches of the roof, and ornamental brass fittings. The seats are open benches, and the number of sittings will be about 1,050. The aisles are paved with tesselated pavement. The graveyard surrounding the church has been arranged by Mr. H. Bunting, florist, at his own expense. The entire cost of the new church is 5,000*l.*

Haverstock Hill.—The first stone of a new Roman Catholic church and Dominican monastery has been laid at Southampton-road, near Haverstock-hill, beyond Camden Town. The church is to be Gothic, and Mr. Gilbert Blount is the architect.

Reading.—Trinity Chapel, which was erected in 1843, from the designs of Mr. Poulton, of Reading, architect, and is in the Early English style, has been partially repewed; and the walls have been decorated in distemper. Ornamental gaseliers (by Messrs. Peard & Jackson) have been introduced, and other improvements effected under the supervision of the same architect.

Canterbury.—The new chapel on the site of the old building, in Watling-street, Canterbury, has just been commenced, and is to be in the Early Decorated style. The accommodation will be for about 500 persons on the ground-floor, and in an end gallery a school and class-rooms will occupy the whole of the space under the chapel. Bath stone dressings and rag-stone walling are the materials of the front. The cost will be about 2,000*l.*, including lighting and all expenses. Mr. Lancefield, of Canterbury, is the contractor. Mr. Poulton is the architect.

Winchester.—The old Wesleyan chapel in Parchment-street having fallen out of repair a question arose amongst those interested whether it would not be better to erect a new building, than expend a large sum on repairs of the old one situate in a close locality, and subject to annoyances. The question has been settled in the affirmative, and subscriptions have been promised from the mayor and others.

Damerham (*Wilts*).—The foundation stone of a new Baptist chapel, in place of the one lately destroyed by fire, has been laid here by Mr. W. Taunton, of Redlynch.

Worcester.—The chief stone of a new chapel for the Baptists has been laid here. A building committee having been appointed to manage the details, and the primary difficulty as to funds having been mastered, the committee invited about twenty architects, who had designed works of a similar kind to the one contemplated, to send in designs for competition. The plan by Mr. S. P. Pritchett, of Darlington, was selected, and placed in his hands to carry into execution. The design is Middle Pointed. The building comprises nave, aisles, and transepts, with a spare space behind the pulpit, containing vestries below, with gallery for the organ and choir above. The aisle and transepts are divided from the nave by arcades constructed with cast-iron columns, the arches being of wood. The roof of the nave is open two-thirds of the way up. Behind the nave-pillars galleries may be erected hereafter. These galleries are to be only two seats deep, with low and ornamental fronts. The edifice has a tower and lantern spire about 110 feet high. The tower rises perfectly plain to some height, and then breaks into a square lantern or open tower, having arched lights and slender shafts, and is surmounted by a tapered spire, finished with a gilded metal finial or vane. The walls are of a dark bluish brown stone, and are pitch faced, or rough on the face, walled in irregular courses, and all the dressings are of Bath stone. Internally all the woodwork is to be stained dark oak colour, and varnished. The glass is to be Hartley's amber-coloured or cathedral tinted. The lobbies and passages are to be laid out with red and black tiles, and the baptistery is to be lined with white tiles. The warming is proposed to be by Haden's warm-air apparatus, and the lighting by large coronas or gaseliers, suspended from the roof. The contract for the church is, we understand, about 3,000*l.*; and the estimate for the schools, not yet contracted for, about 1,000*l.* Mr. Johnson acts as clerk of the works. The contractors are Messrs. Wood & Son, of Worcester.——A new mortuary cross has just been erected in the Worcester cemetery, to indicate the portion of ground allotted for the burial of Roman Catholics. It is 17 feet high, has an octagonal base of forest stone, with shaft and cross of Portland stone, sculptured by Mr. Forsyth, of Worcester, who also designed the cross. The shaft, which has a foliated cap, supports a Madonna and child, in high relief, standing in a niche, beneath a pointed and crocketed canopy. The limbs of the cross, which are ornamented with diaper-work and the ball flower, issue from a circular centre, on the eastern face of which is a representation of the Crucifixion, also in high relief

Denbigh (*North Wales*).—St. Joseph's Roman Catholic chapel, erected on the ramparts of the castle of Denbigh, has been opened for divine service. It is Elizabethan in style, and is intended to be used as a school as well as for religious purposes. The edifice is built of limestone quarried out of the rock on which it is built, and consists of centre hall, sanctuary, two vestries, and house for the schoolmistress. The length of the main body of the chapel is 44 feet; width 22 feet; and the sanctuary is 15 feet by 14 feet. The whole of the interior is available space; and, there being no pillars, of course there is no obstruction to the view. The total accommodation, including children, is for about 250. The entire cost of the building is about 450*l.*

Buckley (*Flintshire*).—The Primitive Methodist new chapel, Buckley, has been opened for divine service. It is said to be built in a modern style of architecture, and capable of accommodating about 400 persons.

PROVINCIAL NEWS.

Brighton.—We observe from the local *Herald's* reports of the Town Council proceedings that the surveyor recently reported to the Works Committee that he had prepared plans and estimates for public halting-places; viz., two plans,—estimated, one at 150*l.* and the other at 90*l.*,—adapted to the North-street Quadrant site; one plan, estimated at 46*l.*, for a site on the east side of the New-road, opposite the Theatre; and one plan, estimated at 53*l.*, for a site on the beach, near the Middle-street steps. The Committee recommended that one be erected temporarily on the west side of Pollard's yard, in the Queen's-road, at an estimated cost of 75*l.*; and one on the New-road site, at an estimated cost of 50*l.* The Committee's proceedings were confirmed by the Council.—At same meeting a question arose as to the new sewerage outfall. The Finance Committee brought up a report recommending that the town clerk be instructed to take the necessary steps to obtain the sanction of the Secretary of State to borrow a sum of 7,500*l.*, to defray the expenses incurred, and to be incurred, in the construction of the new outfall and works, opposite the Albion Hotel. The adoption of the Report having been moved, Alderman Bowdidge urged upon the Council to pause before going to the Government for the money. The Council had decided to carry out the outfall, and the work had been commenced; and if this answered satisfactorily, the Works Committee intended to bring up a report upon the general drainage of the town, and then would be the time to borrow money. He could not see how they could go to the Government for the money after they had commenced the work; for the Government, before they lent money, had to be satisfied as to what it was wanted for. He would ask their legal adviser what he thought upon the matter. The town clerk said the Act of Parliament required that the money should be borrowed upon "permanent works," and he had serious doubts whether the Secretary of State

would come to a positive opinion upon the question whether or not these could be regarded as permanent works, till a general system of drainage was determined on. The report, however, was adopted.

Ashbourn.—Various improvements have of late been made in the appearance of this town. Flagging has been laid down to a considerable extent in the principal thoroughfares. The uncomfortable pavements of pebbles, where they remain, call forth loud complaints. The new Townhall has supplied a long-felt want, in affording an official abode for various town institutions and public gatherings. St. John's Hall should perhaps have been first named, as the pioneer of the Market Hall; and, like it, adapted for general public purposes. The paving of the horse-road in St. John's-street has been just continued from the Market-place, to a short distance for the present. The approach to the town from Dove House Green was last year improved by widening the road at its curve and paving it down to the Market-place.

Oswestry.—At a meeting of the directors of the Public Hall Company, the tender of Mr. Whisten, of Wolverhampton, was accepted for the erection of the building; and directions were given the architect, Mr. W. H. Spaull, of this town, to make arrangements to commence the works forthwith. The foundation-stone will shortly be laid. On the ground-floor there will be a reading-room, library, class-rooms, coffee-room, smoking-room, cloak-room, kitchen, and all the requisite offices of a public building. Upstairs is to be a large hall, with orchestra and elevated platform, for concerts, lectures, and public meetings.

Congleton.—A memorial to the Treasury as to a new Townhall has been prepared by the town-council. It states that the present Townhall is now totally unfitted for its purposes, and that a site and plan have been obtained for a new Townhall to cost about 5,000*l.* The council prays for authority to mortgage the borough rate as security for the requisite sum, to be repayable by instalments in thirty years.

Bishopsfield (Chester).—The foundation-stone of a lecture-hall and reading-room for Bishopsfield has been laid by Earl Grosvenor. The building, which is being erected by Messrs. Lockwood & Farrimond, of Chester, is 50 feet long by 25 feet inside, and when completed will, it is calculated, accommodate from 500 to 600 people. The style is plain Roman, ornamented with blue and red bricks.

Jarrow (Durhamshire).—The water has broken into a new graving dock at Jarrow, and done damage to the amount of 1,000*l.*

BUILDING ITEMS FROM SCOTLAND.

St. Andrews.—At a meeting of the local police commissioners it has been agreed, that the report on the drainage of the city, by Mr. Paterson, engineer, Edinburgh (who was present), should be adopted, and the recommendations therein contained immediately carried into execution. The principal of these recommendations consists of the putting down sewers in the greater part of the city, at a cost of about 3,500*l.*, the remaining portion of Mr. Paterson's plans being delayed in the meantime. It was also resolved, under the Act, to borrow a sum not exceeding 4,000*l.* for the purpose.

Bellahouston (near Glasgow).—A new chapel, in connexion with the parish church of Govan, has been opened for divine service. The design is Geometrical. The belfry rises to a height of 100 feet, and is situate at the north-east angle of the edifice. The upper part is supported entirely by eight columns, having capitals of carved foliage; while the lower part is enriched by a cornice with floral carvings. On each side of the entrance door is an arcade of windows, having moulded capitals and arches. The entrance itself has an enriched archivolt, springing from ornamented capitals. Over the entrance is a traceried window, filled in with stained glass representing Scriptural subjects, by Mr. Ballantine, of Edinburgh, being a donation from Mr. Moses Steven, of Bellahouston. The figures represent the blind man restored to sight — Luke xviii. 35; the Resurrection declared by two angels—Luke xxiv. 4; Christ appearing to Mary at the Sepulchre — John xx. 14. Over the pulpit is a circular window, the tracery of which resolves itself into a star shape. All the windows are filled with ornamented ground glass, having a stained border. Stencilled ornament has been used in the painting of the church. Mr. James Smith, of Glasgow, was the honorary architect. The mason-work contractor was Mr. J. Coghill; Mr. J. Connell executed the joiner-work; and Messrs. Johnston & Ballantine were contractors for the plumber and ornamental iron-work. The church is seated for 820, and the estimated cost is 2,800*l.*

NEW ACTS.

Fraudulent Assumption of Exhibition Awards. The Exhibition Medals Bill, as it was called, is now law. The Act is titled "An Act to prevent false Representations as to Grants of Medals or Certificates made by the Commissioners for the Exhibitions of 1851 and 1862." It will be commonly cited as "The Exhibition Medals Act, 1863." It enacts, that any trader representing that he or any other trader has obtained the medal or certificate in question, knowing such representation to be false, shall forfeit 5*l.* for the first offence, and 20*l.*, or be imprisoned for a period not exceeding six months, for any subsequent offence. No term of imprisonment is alluded to with reference to the first offence. Offences under the Act can be prosecuted summarily in all the three kingdoms; in England and Ireland before two justices, and in Scotland at the instance of the Procurator Fiscal, or public prosecutor, in the sheriff, county, and police courts.

City Traffic Regulation.—The Act passed at the instance of the Corporation of London, towards the end of last session of Parliament, for regulating the traffic in the streets of the City and for preventing obstructions, first recites, that it is expedient to make better provision for the regulation of omnibuses, cabs, carriages, carts, and other vehicles passing through the streets of the City or its liberties, so as to enable the increasing traffic to be conducted with less delay and in a safer manner; and then empowers the Court of Aldermen to make from time to time such by-laws and regulations as they may think necessary. These are to apply to three principal subjects,—firstly, the routes to be followed and the particular streets or parts of streets to be used by omnibuses, cabs, and vans; secondly, the height and width to which the heavier vehicles, such as carts, waggons, and drays, for the conveyance of goods, wares, and merchandise, using the streets of the City between nine in the morning and six in the evening, may be laden; and, thirdly, the period of the day or night during which carts, waggons, or other vehicles, wholly or partially laden with timber, metal, or any other material exceeding 25 feet in length or 8 feet 6 inches in breadth, may be allowed to pass or be prohibited from passing. The Court is also empowered to regulate the mode of distinguishing hackney cabs when empty and when actually plying for hire, the time of day during which coals may be shot into cellars through openings in the streets, and other matters. The Act is to continue in force for seven years after its passing, and thence to the end of the then next Session of Parliament.

The Main Drainage of the Metropolis.—Among the last Acts of Parliament was one to extend the power of the Act relating to the main drainage of the metropolis. Power is now given to borrow 1,200,000*l.*, in addition to the sums provided for by the former Act, and the Treasury may guarantee the money to be borrowed. The Act is to be construed as one with the Main Drainage Act of 1858; and all money borrowed is to be applied to the same purposes as money borrowed under the recited Act. The time for the completion of the works is now extended to the 31st of December, 1866. This Act, we believe, has been passed in consequence of increase in the price of materials and labour, and the necessity for additional works.

ARCHITECTURAL COPYRIGHT.

I DID hope that the publication of my letter to Mr. Black, M.P. (page 519 of your present volume), on the subject of the "Consolidation and Amendment of the Law of Copyright" (as to which he gave notice of his intention to bring forward a bill in the next session of Parliament) would have induced some of your readers interested in the question of architectural copyright, to state their views in your journal; and, with the object of endeavouring to elicit suggestions, I venture again to address you; being also prompted so to do by the fact that since the publication of that letter, I have been in correspondence with Mr. Black, who, though at first doubtful whether it would not be attempting too much to include artistic and architectural copyright in one and the same measure, has since (in his last communication to me) stated, that "On examining the subject further," he is "more inclined to embrace in one bill both the literary and fine arts departments the subjects being," as he states, "so connected that there will be some difficulty in separating them." These being Mr. Black's views, and I need not say my own too, I trust that some of your readers professionally interested in the question, will assist in ventilating the matter, so that this important topic may be thoroughly discussed, not only by law-makers, but by architects also.

F. W. CAMPIN.

*** Notwithstanding our perfect coincidence in the view that architectural designs should be protected by a law of copyright (or one that would at least operate in assertion of the immorality of piracy), and our preference for *consolidation* of enactments, we would reiterate the view that distinctions will be discovered between the different classes of productions of the mind, which will render necessary different modes of treatment, and different phraseology, and that this has been clearly shown during the discussion in France,—with which, we fear, few persons are familiar. We have received some communications referring to the difficulty of framing an Act, or clauses of an Act, for architectural copyright, and some letters declaring the thing impossible,—whilst arguing against all legislation that cannot be enforced,—but we are not yet prepared to abandon the subject, though we might find it easier so to do than to pursue it, and encounter the difficulties, which do not seem to be fully apprehended by our correspondent. Some good might be done by an Act which would show the immorality of piracy, if going no further. There are many faults committed because conscience has not been awakened to the wrong and right.

GAS-FITTERS' WORK: ALSO BUILDERS'

YOU once did me the favour of inserting a few lines about gas-piping, as laid into houses by the builders in the course of erection of the houses, the work in question being generally done by some half-and-half workman, as much a carpenter or smith as a gas-fitter, and not much of either. Well, now I have to grumble at the regular full-blown gas-fitter, all complete with his shop and light cart, and his men with proper tools (not forgetting white lead, that very good friend of the gas-fitter). A consumer complains of an escape of gas near the meter. On investigation, my man finds a hole in the back of the meter, a dry one, caused by—what does the reader think?—by a spike used for supporting the meter in the next house having been driven through the 4-inch wall, the division wall of a house let at a rental of about 30*l.* So much for the wall. And how much for the risk of fire? and how could the fire have been traced to its cause, the meter of course having been burnt in the first onset? And is it not an aggravating thing for an insurance-office manager to know this may be occurring at any time?

This sort of accident has occurred in my own experience with a different result; inasmuch as it was a water-tank (of wood, lined with zinc) that suffered; and the level of the water therein was lowered about 6 inches, producing a damp wall and flooring for a few weeks—and nothing worse.

A GAS INSPECTOR.

PATENTS CONNECTED WITH BUILDING.*

A HOT AIR APPARATUS, IN CAST-IRON OR ANY OTHER METAL OR SUBSTANCE, CONSISTING OF PRISMATIC TUBES TO BE APPLIED TO CHIMNEYS WITH FLUES AND HEAT CONDUITS.—*G. Lewal.* A communication. Dated 4th December, 1862.—This apparatus, already noticed in our pages, consists of a box, in the bottom or lower side of which there is a hole to communicate with the external air, and in the top or upper side a grating pierced with three or more ranges of square holes diagonally, and to each of these holes is adapted a vertical tube, all communicating with a cylinder placed parallel with the box. The cylinder communicates with the apartment either by having the ends open, or by extra pipes, so as to make the openings into the apartment wherever it is desired, but which openings should be on a higher level than the cylinder. The apparatus thus constructed is placed in the inside of the chimney over an air-hole made to communicate with the external air by means of a pipe, flue, or any other means, so that the hole in the bottom of the box corresponds with the said air-hole. The principle of the invention is to divide the heat produced by com-

* Selected from the lists in the *Engineer*.

bustion and make it work round the tubes, and thus increase the heating surface, so as to utilise the whole heat produced by the fire.

Apparatus for the Manufacture of Clay.—*J. & M. Craig.* Dated 6th December, 1862.—This invention cannot be described without reference to the drawings.

Improvements in Ventilating and in the Exclusion of Dust or Draught, Insects or other Animals, from Apartments, Carriages, &c.—*J. Hilliar.* Dated 8th December, 1862.—These improvements in apparatus for obtaining ventilation in buildings, apartments, carriages, beds, and other like confined spaces, while excluding therefrom all dust, draught, insects, or other animals, comprise the employment of rolling blinds or screens of wire gauze, in one thickness or more, in manner described.

Locks.—*W. Phelps.* Dated 15th December, 1862.—The action of the several parts is as follows:—When the key is introduced and turned in either direction, it acts on the curved part of the lever and depresses the said lever sufficiently to permit the disc to rotate, the tooth projecting block on the lever being depressed out of the range of the teeth on the toothed disc. The key and discs having freedom of motion, the bolt of the block is shot or withdrawn by the key in the usual manner. If a false key is introduced into the lock, it either depresses the lever too much or not enough. If it depresses the lever too much, the said lever is arrested by the stop, and the key cannot rotate; if it does not depress the lever enough, the teeth on the projecting block engage with the teeth on the toothed disc, and prevent the rotation of the discs and key. The action is the same whether the key is introduced from one or other side of the lock. When the key is left in the lock in any other position than that at which it may be drawn out, the key-hole on the other side is closed.

Apparatus for Making Bricks, Tiles, Drain-Pipes, &c.—*P. Effertz.* Dated 9th December, 1862.—The nature of this invention—which is a further improvement on a patent granted to the present patentee, bearing date the 5th day of September, 1861 (No. 2211)—consists in using three or more rollers for mixing the clay or plastic material. When three only are used he places two of them in a vertical line under one of the others. He drives the surfaces of the said rollers at different speeds, the first horizontal roller having the lowest speed, and the bottom one the greatest. The variations of speed may be obtained by making the rollers of different diameters, or by giving each of them a different number of revolutions per minute, or by both means combined. He also leaves a greater space between the two horizontal rollers than between the second horizontal roller and the bottom roller, and causes the rollers to revolve in opposite directions. The said rollers run on bearings fixed on framework, and between two side plates, forming a channel provided with scrapers or doctors to clear the adhering clay from the rollers. The clay or material is forced into the channel by the rollers, and the side plates are provided with a die or shaper through which the clay or material is forced in the desired shape. When the clay leaves the die or shaper in the form of a band or continuous length of clay, it enters on a rolling or cutting-table, on which the clay is cut transversely the desired lengths for forming the bricks, tiles, or other articles, the sizes and shapes of which are regulated by the die or shaper, which can be changed with ease.

CASES IN THE LAW COURTS.

LIGHT AND AIR.

Clarke v. *Beardsall.* At the Notts Nisi Prius Court, before Mr. Justice Williams, this case came on lately for decision. It was an action for the obstruction by the defendant, of light and air to a cottage at Sneinton, caused by the erection of some buildings to the south of the cottage. From the statement of Mr. Serjeant Hayes, it appeared that Mr. Beardsall had become owner of the property to the south of the cottage in question, which was in 1859 purchased by Mr. Clarke, the plaintiff. The cottage was occupied by a family, who were obliged to leave in consequence of the privation of light and air by reason of these erections. The cottage in question was an old edifice. It was built before any one present could remember. It looked upon the road, and the person who built that cottage could not consider he would ever be deprived of light and air by any obstruction between it and the road. In 1829 the road was diverted, and eventually Mr. Beardsall said to the plaintiff, if you do not come to terms with me, I shall erect an obstruction which will deprive you of light and air. In 1839 or 1840, Mr. Goodhead built a house, partly on his own ground and partly on the road. A year or two afterwards it was considered necessary by Mrs. Goodhead to erect a scullery; and a difference arose between her and the occupants of the cottage. The result was that the light of a cheerful room was completely intercepted, and it was now rendered dark and dingy.

Evidence was then made on behalf of the plaintiff. Mr. T. C. Hine, architect, stated that he had made the plan and models now exhibited. He knew the old building, and he had seen the new one. The alteration in the height of the building considerably diminished the light coming in through the sitting-room window. Looking from that window one now saw that what was formerly sky was now brick and mortar.

Mr. Field then addressed the jury for the defence. As to the privation of light, he said, it should be remembered that one should not have as much light for a cellar as for a drawing-room. There was no complaint as to any window but one. The fact was that there was no obstruction at all till about eleven o'clock in the day for a short time; and then, a privy which had been at the corner was removed by Mr. Beardsall,—a positive benefit, which more than counterbalanced any slight obstruction of light.

Mr. John Smith Norris, architect, Nottingham, produced a plan of the premises. The highest part of the new building, he said, was 12 feet 10 inchesabove the highest part of the old one. The highest part of the new wall averaged 9 feet higher than the corresponding part of the old wall. Had been into Fox's cottage, and was of opinion that the light of the room was not obstructed by the new building. In his opinion the letting value was not diminished He had seen no bill announcing the cottage to let. Examined by Mr. Serjeant Hays:—The light is diminished undoubtedly, but not sensibly. If you put a single brick between a window and the sun, it will diminish light, but not materially. A person reading at this window about sunset would not have had blue sky between him and the west. There are some large trees about 70 feet off, and 30 feet or 40 feet high.

Mr. Frederick Johnson, C.E. and architect, Nottingham, stated that the addition to the building of Mr. Beardsall would cause no diminution in the light to the cottage in the early part of the day: in the after-part of the day there might be, and that was accounted for by the new buildings partly, and by the trees and other buildings at the other side of the road. Abundance of light now comes into the room for all necessary purposes. Cross-examined: The wall is 30 feet high from the levels of Fox's building.

Other evidence was also led for the defendant: and the judge, in charging the jury, told them that as the architects' evidence differed so greatly, they would do well to be guided more by their own observations in the place. Mr. Hine seemed to him of all the architects to be most qualified to give his opinion upon the amount of obstruction of light, as he had been in the house in winter.

The jury, without returning, found a verdict for the defendant, and his lordship certified for costs.

Wickens v. *The Langham Hotel Company.* This was a motion to dissolve an injunction granted by Vice-Chancellor Wood. The plaintiff, a solicitor, residing at 14, Cavendish-place (lately called Mortimer-street), complained that the hotel about to be built at the end of Portland-place would, if completed, intercept the light in his office. The building is proposed to be 90 feet high and 130 feet long. Sir Hugh Cairns and Mr. Marten, for the company, supported the motion, insisting that the question could not properly be determined on an interlocutory motion, but ought to be deferred till the hearing of the cause. By continuing the injunction the works would be stopped at a season of the year most favourable for building; and the defendants, besides having to forfeit a large sum by being prevented from completing their contract by the specified time, would be prevented from ever trying the question of legal right which was at issue between the parties, and could not be properly determined at the present stage. Ultimately the motion was ordered to stand over, in consequence of the Court suggesting for the consideration of the parties the following terms:—That the building should be allowed to proceed without prejudice to any question until the hearing of the cause in November, the defendants and their contractor undertaking that any order the Court might then make as to the removal of any part of the building should be carried into effect. The case came on again on the 28th ult., when the following order was made:—The directors undertaking to pull down any part of the defendants' building which the Court may think fit to order to be pulled down, the Court suspends any injunction until further order, with liberty to apply, and let the case be mentioned to the Vice-Chancellor with a view to the hearing of the cause at the beginning of next term. Each party to give facilities for the inspection of the premises of such party by the other party, and the defendants to allow the plaintiff to set up on their premises temporary erections of tarpaulings and scaffoldings for trying the effect of the defendants' buildings, such erections to be set up at such time and in such manner as will interfere as little as possible with the defendants' buildings, and not to be retained standing longer than is necessary for the purposes aforesaid. The undertaking to be given by the signatures of the directors, such signatures to be attested.

LEASES AND CONTRACTS.

When is a House Completed?—The case of Faulkner *v.* Llewellen, in the Vice-Chancellor's Court, having again come on for decision before Vice-Chancellor Kindersley, his Honour now referred to the facts and objections, and said that he considered many of the objections frivolous, but some of a serious nature, especially with respect to the settlement of a part of the wall; but Mr. Wigg being requested on the last occasion to say whether he considered the house complete, finished, and fit for habitation, he had answered in the affirmative. Then came the question of the period when it could be so considered: his Honour's opinion was that that period was when the commissioners executed the ground lease, and the defendant let to his first lodger. Under these circumstances, as the defendant had evidently, at least, considered the house fit for his own habitation, there must be a decree for specific performance of the lease for twenty-one years from the 17th of January, 1861, with a reference to chambers in case the parties differed, the defendant to pay the costs of the lease and counterpart and of the suit, to be taxed and paid in the usual way.

Parker v. *White.*—An under-lease of a shop contained express permission for the under-lessee to carry on sales by auction there; but in the original lease there was a covenant, of which the under-lessee had no actual notice, against permitting such sales to be carried on there without licence from the landlord. This was the case of *Parker* v. *White*, before Vice Chancellor Wood, who, upon the facts stated, granted an injunction, at the instance of the landlord, to prevent such sales from being carried on. His Honour said that a person could not be allowed to take a sub-lease of a house and enter into possession, and then turn round and say that he was entitled to disregard the covenants of the original lease simply because (which was the excuse made here) he had asked no questions about them.

"Pay when Convenient."—In the Suffolk County Court at Ipswich, judgment has been given in the case of Garnham *v.* Whitehead, in an action to recover 31*l.* 19*s.*, of which 30*l.* was a balance alleged to be due under a written contract, wherein the plaintiff agreed to build a six-roomed house for the defendant for 150*l.*, of which 120*l.* were to be paid by instalments as the work proceeded, and the remaining 30*l.* "when convenient to Mr. Whitehead." Defendant refused to pay the 30*l.* on the ground that it had not been convenient to him to pay them, and Mr. Champ contended, on the authority of Edmunds *v.* Downes (2 Crompton and Meeson, 459) that the contract as to the 30*l.* was conditional only, and that the plaintiff could not recover unless he proved that the defendant was before the action able to pay, and that it was convenient to him to do so. The plaintiff alleged that defendant had agreed to pay to Messrs. Brown & Ransom 31*l.* 10*s.* on his account in September and April last. The defendant, in answer, deposed that at no time since the house was finished was he able to pay, and his Honour did not think his evidence was in the main shaken, and therefore decided that the plaintiff could not at present recover the 30*l.*; but found a verdict for the 30*s.* for building a washhouse, with costs on the 30*s.* only.

Books Received.

VARIORUM.

"Proposed People's Palace and Gardens to employ Factory Operatives." By Henry Roberts. London: Simpkin, Marshall, & Co. Mr. Roberts here suggests the construction of a Crystal Palace with gardens in the Sydenham style, somewhere about the suburbs of Manchester, so as to be available, as generally as possible, when built, for the operative cotton-spinning community, to whom he proposes to give free admission at all times. The funds, he suggests, might be raised by debenture loans on the county rates, say to the amount of 200,000*l.* at four per cent. interest, with a repayment fund of ten per cent. payable by five adjoining counties, by which arrangement the palace and gardens would be paid for in ten years.——Part VI., for August, 1863, of "A Dictionary of Chemistry," &c. By H. Watts, F.C.S. (Longman & Co.), runs from "Chyle" to "Conglomerate." Among the more important subjects are chinchona, classification, clay, coal, cobalt, combustion, &c. The Part also contains an index to the first volume of this valuable work, which volume is now complete.——"The Churchman's Family Magazine" (Hogg & Sons, London), No. 8, for August, contains, together with a bountiful supply of engravings, in the more advanced shilling magazine style, papers on Grasmere and Professor Wilson, the Russian Church, Japanese Gardening, Women's work for Women, and various others. The paper on the Russian Church, its ritual, and its church arrangements, may interest professional readers.——"New Anecdote Library: Good Things for Railway Readers." By the Editor of the "Illustrated Railway Anecdote Book." London: Lockwood & Co. This is certainly a better class and style of book for railway reading, than many that offer themselves in showy bindings at the railway stations. It is by no means an old Percy Anecdote book refurbished, although there is much more of the selected than of the original in it,—and all the better for that, perhaps. The anecdotes include many of the recent celebrities, such as Jenny Lind, Douglas Jerrold, Palmerston, and, of course, of Sydney Smith, and still older ones.——"Magneopathy: The Philosophy of Health." By Hillert Perry. London: Bentley. We have here a new "pathy;" so let invalids look out: When they have exhausted all the old ones they "can't but try" the new. Mr. Perry is a son of Perry of the Pen, well known to literary men. His doctrine is that the electro-magnetic battery, in a form which he calls the magnetic equilibrist, is the thing for invalids of all sorts; because disease arises from "the morbific fluid," which seems to consist of an undue abundance of the electric fluid in the blood, which magnetism neutralizes, hence curing disease and restoring health by the same means by which nature, he says, refreshes and restores the body in sleep.——Among books received we also observe "The National Magazine" for August, with a leading paper on the Study of the Face, illustrated; and the usual matter of the shilling magazines;—"The Key," a weekly penny magazine in its monthly form, and containing original music, a little mathematics, and less architecture, besides a *quantum suff.* of the "fascinating novel" slip-slop of the penny journals. There is a judicious mixture, however, of more wholesome fare in this "instructive and amusing" periodical.

Miscellanea.

Mr. Goldsworthy Gurney, well known for inventions in connexion with steam-carriages for common roads, and for the Bude-light, the ventilation of the Houses of Parliament, and for a proposal for the arrangement, and paving to slopes, of the banks of the Thames, which was referred to a committee in that year of the great stench when our legislators were chief sufferers, has had conferred upon him the honour of knighthood.

Wanted, a Portrait Painter.—Spite of our constantly-printed notice that we supply no information of the kind asked for, we are addressed from somewhere in the eastern counties to the following effect, by one who, having been a reader of our "valuable paper" for some years, may deserve an exception in his favour. Our friend says:—"I wish you sir to inform me one of the Artest's you would select out for takeing an Oil Painting full sise of an elderly Gentleman say 70 years fine man rudy complection."

Exhibition of Stained Glass.—One is contemplated for the spring of next year, to be at the South Kensington Museum, and to comprise modern works. It might be desirable that any old specimens that could be got, should be hung side by side with the others. The respective merits of the *materials* of the different dates would be seen; and the question of the course pursued in most modern *designs*, which court the attribution of inferiority, by starting with imitation, might receive some elucidation.

"Italianesque" and "Gothicesque."—Mr. T. M. Reade writes to remove an obscurity in the meaning of one of the passages in his communication printed in our last. He wished, speaking of the Dublin building that he named, to say, as we now understand him, that notwithstanding the fact of the Florentine breadth and simplicity of the general form and outline, a certain piquancy, not to be found in the works of copyists, was given to the design by the decorative details—tastefully varied, and taken from the Irish Gothic or Romanesque. But this meaning was not that conveyed by Mr. Reade's manuscript. We have endeavoured now to restore the meaning.

Winchester Cross.—We have been solicited by the mayor and town clerk of Winchester, at the request of a committee for the restoration of the very important and well-known monument, the High Cross of the city, to aid them with our influence towards the completion of the work they have charged themselves with. The High Cross of Winchester, a work of the fifteenth century, has been for many years in a state of great dilapidation and decay: the upper portion of it has wholly disappeared: three of the four statues with which it was adorned are gone: the carved work is greatly decayed; and there is every appearance of its shortly becoming ruinous in all parts, unless it be speedily repaired. Under these circumstances, it having been thought desirable to set measures on foot for the complete restoration, in its present position, of so interesting an object of antiquity as the Cross is, in a city of such historical celebrity as Winchester, the ancient capital of Wessex; the committee, consisting of the members of the Town Council and many of the other principal inhabitants of the city, was formed for the purpose, and Mr. George Gilbert Scott kindly undertook to furnish drawings for the restoration, and to superintend the work. Mr. Scott's views on the subject we have already quoted in a previous Number of the *Builder*. It is now decided that as much of the original structure as can be preserved will be retained; and the whole will be restored, we make no doubt, in the architect's conservative spirit, as nearly as possible, to what he believes to have been the original state of the Cross. Mr. Scott, as we before stated, estimates the total cost of the work at not much less than 500*l*. The committee believe that the inhabitants of the city of Winchester and of the county of Hants, who love their own local antiquities, and all others who prize the beautiful relics of old times, and desire to rescue them from total and hopeless decay, will join with them in contributing to preserve this most interesting and genuine monument of former ages: to which we may add that the work is one which is a feature in the picture of British architecture, and that our profession, no less than antiquaries, would regret the loss of it. Scaffolding has been erected round the Cross, preparatory to its being taken down and rebuilt. Subscriptions will be received by the treasurer, Mr. W. W. Bulpett; or the secretary, Mr. Charles Bailey, town clerk. Upwards of 200*l*. are in hand.

South Kensington Museum.—In the week ending 8th August, the visitors were as follows:—On Monday, Tuesday, and Saturday (free days: open from 10 a.m. to 10 p.m.), 7,392; on Wednesday, Thursday, and Friday (students' days: admission to the public 6d.: open from 10 a.m. till 6 p.m.), 1,079. Total, 8,471.

The Walbrook Tenders.—The site of three old houses in Walbrook has recently been advertised a good deal, to be let upon building lease by tender. I sent in my tender with what I thought a liberal bid on the day appointed (3rd instant), and on the 8th I had the favour of a reply, dated the 7th, and stating that the tenders were opened on that day (7th), but none of them reached up to their estimate of the value. Now, as this letter is lithographed throughout, I am curious to know why the trustees had predetermined all offers would be inadequate, and had their refusal cut and dried (lithographed) in anticipatory readiness?—Perpendicular.

Treasure Trove.—At the Westminster Police Court last week, a labourer, who was charged with stealing a number of rose nobles, of Edward IV., value 75*l*., the property of the Dean and Chapter of Westminster, surrendered to his recognisances. The evidence taken on the previous occasion went to show that while engaged in pulling down a house in Dean's-yard, Westminster, the prisoner discovered a large number of gold rose nobles, which he sold for 75*l*. The accused's answer to this was, that he considered himself entitled to the property, and that all his duty consisted in sharing the money with his fellow-workmen; and Mr. Arnold, considering that there was no felony in the matter, remanded the accused upon his own recognisances for concealing treasure trove, recommending him meanwhile to restore the coins. Mr. Arnold said he could not detain the prisoner any longer, unless the Dean and Chapter were prepared to show that they had a right to treasure trove on their estate by a grant from the Crown. This not having been done the prisoner was discharged.

The Railway Station, Charing Cross.—At the meeting last week of the Metropolitan Board of Works, a deputation from the vestry of St. Martin's-in-the-Fields waited on the Board for the purpose of memorialising them not to sanction the proposed plan of the Charing Cross Railway Company for covering some portion of the public way in front of the said station. The vestry-clerk explained that in anticipating the large amount of traffic which would be created on the opening of this line, the Legislature expressly stipulated that there should be 100 feet of space left open for the use of the public. Instead of complying with that condition, the company was building a kind of screen that encroached 14 feet on that open way, leaving only 86 feet for the use of the public. They therefore prayed the Board not to sanction the construction of such screen in their forecourts. The memorial was received; but if any action is to be taken, it must be speedy. The works, with those of the hotel, are making rapid progress. In the latter building, we observe that Mr. Barry is introducing a new decorative feature in the brickwork. On the horizontal lines, between the chamfers of the rustication, in each case, a row of dog-tooth or nail-head ornament is introduced, the whole being formed of rubbed brick.

Steam Cultivation.—As a result of the recent meeting at Worcester of the Royal Agricultural Society, a public meeting was held in that city on Saturday last, "for the purpose of discussing the subject of steam cultivation; and, if so determined, to adopt measures for providing steam cultivation, and applying the same to land at an acreage cost." The chair was taken by Mr. E. Holland, M.P. The chairman, in opening the proceedings, said he should no more think of returning to the old system of ploughing by horses than he would think of thrashing his corn with the antiquated flail instead of the modern thrashing-machine. He stated that experience of the effects of steam cultivation had proved that on an average there was an increase of produce by steam cultivation over the ordinary process to the extent of six or eight bushels an acre, besides which the corn was superior in quality, and the land was permanently improved in value. Sir E. A. H. Lechmere also dwelt on the advantages of steam cultivation, and the necessity of doing away with small inclosures, widening the arable fields, levelling fences, and draining. Resolutions in favour of steam cultivation, and in support of the establishment of a joint-stock limited company to lend and sell engines and tackle, were unanimously agreed to.

Conservatories.—Fuchsias in bloom, says a writer in *Hibberd's Gardener's Magazine*, will bear any amount of light if at the same time they are well ventilated, and "will enjoy water overhead" though it "splashes the pollen about on the foliage a little." Certain trial fuchsias, he says, have "had such a blaze of sun on them this summer as ought to have killed them outright, if all be true that is told in the books." Yet, it should be borne in mind "that if you expose plants to intense sun, they must have a thorough draught of ventilation at the same time, else scorching is sure to take place."

Mr. Alfred Mellon's Concerts.—Those who would hear the wonderful and charming voice of Mdlle. Carlotta Patti at the cost of "the imperceptible shilling" may now have that pleasure in the Opera House, Covent Garden, where Mr. Alfred Mellon is giving promenade concerts, lacking perhaps Mr. Gye's taste in the decoration of the area behind the orchestra, but otherwise filling up good measure of an evening's enjoyment. The extraordinary blind performer on the mandolin, Gianni Vailati, should be heard; he is not less a musician than a curiosity.

Institution of Mechanical Engineers.—The annual provincial meeting of members has been held this year in Liverpool, under the presidency of Mr. William Clay, of the Mersey Steel and Iron Works, in the absence of Mr. Robert Napier, of Glasgow. The papers read were "On the Construction of Iron Ships," by Mr. John Vernon, of Liverpool; "On the Effects of Surface Condensers on Steam Boilers," by Mr. James Jack, of Liverpool; "On the Mechanical Ventilation and Warming of St. George's Hall," by Mr. William Mackenzie, of Liverpool; "On the Mechanical Features of the Liverpool Waterworks," by Mr. Thomas Duncan, of Liverpool; "On Machinery for the Manufacture of Plate Glass," by Mr. G. H. Daglish, of St. Helen's; and "A Description of the New Ironworks at Grosmont," by Mr. Hiram C. Coulthard, of Blackburn. A special steamer, on one of the days, conveyed the members to the Mersey Steel and Iron Works. Visits to Messrs. Laird's Shipbuilding Yard, the Canada Dock and Swing Bridge, the Birkenhead float and chain-testing machine, and other works intended to be visited on the same day, were deferred. Visits to the St. Helen's Plate Glass Works, the Kirkless Hall Ironworks, Messrs. Pearson & Knowles's Colliery, at Wigan, the London & North-Western locomotive-works and rail-works at Crewe, where a number of Bessemer steel rails were to be rolled; and the water-trough at Parkside, for filling locomotive tenders while running, shown in action on the up-journey, were amongst the arrangements for the concluding days.

The British Association for the Advancement of Science.—At the meeting to commence in Newcastle-on-Tyne on Wednesday, the 26th inst., the presidents of sections will be, for Mathematical and Physical Science, Mr. W. J. Macquorn Rankine, C.E., LL.D., F.R.S., Professor of Engineering in the University of Glasgow; Chymical Science, Mr. Alexander W. Williamson, Ph. D., F.R.S., Professor of Chymistry in University College, London; Geology, Mr. Warrington W. Smyth, M.A., F.R.S., F.G.S., Professor of Mining and Mineralogy at the Royal School of Mines, London; Zoology and Botany, including Physiology, Mr. J. Hutton Balfour, M.D., Professor of Botany in the University of Edinburgh; Geography and Ethnology, Sir Roderick I. Murchison, K.C.B.; Economic Science and Statistics, Mr. Wm. Tite, M.P., F.R.S.; Mechanical Science, the Rev. Professor Willis, of Cambridge. Among the more interesting features of the meeting, it is anticipated, will be found the reading of papers descriptive of the great branches of industry in the district, such as coal mining, the glass and iron trades, iron shipbuilding, &c., and the excursions, which will be to the iron district of Cleveland, where the party will be entertained with magnificent hospitality by the ironmasters of Middlesborough; to the lead mines of Mr. W. B. Beaumont, M.P., at Allanheads; to the Northumberland lakes and the Roman wall; to South Shields, Sunderland, and to Seaton Delaval, and other large collieries in the district. There will be an extensive exhibition of works of art and science held in the Central Exchange News-room: the Mayor of Newcastle will give a grand concert; and there will be several balls and other gaieties during the week of the Association's meeting. Sir W. G. Armstrong, the president, will also make several great-gun experiments upon Whitley Sands on one of the days of the meeting.

Park for Bermondsey.—The report of the Streets Committee of the Metropolitan Board of Works, recommending that a letter received from the Bermondsey Vestry on this subject be referred back to the committee, with instructions to negotiate for a suitable site, not exceeding 40 acres, for the park, and to report the same to the board, has been adopted by the board.

Monumental.—A mural tablet, commemorative of an officer of the 31st regiment, Captain Macbean, who was much beloved by his brother officers, by whom it is erected, has just been placed in the Garrison chapel at Portsmouth. It is the work of Mr. Edward Richardson. The same artist has recently restored the Burrell monuments in Cuckfield Church, Sussex.

Public Institutions.—From a Parliamentary return it appears that the number of visitors to the British Museum was, on Monday, the 25th of May last (Whitsun week) — To the General Collections, 11,472; on the 26th, 4,076; and on the 27th, 4,621. To the Reading-room the number was 435 on the 25th, 375 on the 26th, and 370 on the 27th. The number of visitors to the National Gallery was 10,200 on the 25th of May, 6,887 on the 26th, and 3,980 on the 27th. The number of persons who visited the National Portrait Gallery on Easter Monday last was 942. The number visiting the South Kensington Museum on the 25th of May was 6,552; on the 26th, 4,467; and on the 27th, 1,248. The Museum of Patents (South Kensington Museum) had 1,411 on the 25th of May, 922 on the 26th, and 206 on the 27th. The number of visitors to the Indian Museum, Whitehall, was 1,348 on the 25th of May, and 510 on the 27th. Kew Gardens had, on the 25th of May, 14,631 visitors; on the 26th, 4,031; and on the 27th, 1,839. And Hampton Court Palace had 23,256 visitors on the 25th of May, 2,570 on the 26th, and 1,127 on the 27th. The visitors to the Tower of London on the days mentioned were respectively 475, 424, and 287.

The Metropolitan Association of Medical Officers of Health.—The report of the secretaries for the session 1862-3 shows the work of the Association has embraced several wide social questions, and the elucidation of some hygienic problems of great importance. The chief matters of immediate metropolitan interest were, 1st. The licensing of cowhouses under the provisions of the "Metropolis Local Management Amendment Act." 2ndly. The sanitary inspection of bakehouses in London, legislative supervision of such establishments being advocated of the kind that has since been provided by the "Bakehouses Regulation Act." 3rdly. An outbreak of cholera in the Norwood parochial school, upon which a paper was read by Dr. Gavin Milroy, honorary member of the Association. 4thly. The scheme of the Metropolitan Board of Works, for discharging into the Thames, at Fulham, the deodorised sewage of the western end of the metropolis. Upon this subject a memorial was presented to the Metropolitan Board, and a deputation of the Association had an interview with that body, with the effect of obtaining a revision of the scheme and its ultimate abandonment. 5thly. The presence of epidemic smallpox in London has engaged the anxious attention of the Association. A circular has been addressed to the boards of guardians of the metropolitan unions, urging the necessity for increased hospital accommodation for cases of smallpox, and suggesting measures to promote the universal vaccination of the community. The desirability of petitioning the Privy Council to apply to the metropolis the provisions of the "Diseases Prevention Act" of 1848 was also taken into full consideration. Upon existing impediments to vaccination a paper was read by Dr. Druitt. A series of subjects of great social importance was submitted to the Association in a paper by Dr. Lankester, on points in common between the duties of coroner and those of medical officer of health. In the course of the year, the Association held communication with the Epidemiological Society, concerning a proposition to collect and utilise the statistics of pauper-sickness. The Modes of Analysis of Bread; the Causation of continued Fever; and the Injury resulting to Health from the Use of Arsenical Paper-hangings, also received attention. The Association with reason congratulates itself on having attained an important public position, and recognises that there is still room for ceaseless energy on the part of its members, working cordially together, in order that the officers of health may exert their due influence on the prosperity of the metropolis and on the progress of sanitary knowledge.

Slaughter-Houses.—Dr. Charles Kidd announces, in a letter to the *Morning Star*, that an old lady has bequeathed 10,000*l.* to the Society for the Prevention of Cruelty to Animals, to be expended solely on a reform of the slaughter-houses of London. The doctor calls this "a curious but a very beneficent gift." If the bequest lead to some study of the planning and construction of these buildings, such attention will not come too soon. Much has been written about the abattoirs of Paris; but we are not aware that they have been made to serve much as examples. We apprehend, however, that these French models might now be considered somewhat out of date. That is not the reason why they are likely to be removed to other sites; but their reconstruction will be the occasion of many improvements that should be turned to account on this side the Channel.

The Discovery of the Metal Thallium.—Mr. Crookes, F.R.S., the discoverer and namer of thallium, has met with a rival French claimant, M. Lamy, who seems anxious to make out that although he is neither the discoverer nor the namer of thallium, he was the first to demonstrate its metallic nature; and he charges Mr. Crookes with claiming this discovery as his own after M. Lamy had revealed it to him; whereas Mr. Crookes appears to have clearly shown (in a paper on the discovery of the metal thallium, in the *Philosophical Magazine* for last month, which he has had reprinted) that he not only knew of the metallic nature of thallium before he had ever seen M. Lamy, but had it actually labelled as a metal in the International Exhibition before that time. M. Lamy, however, has had opportunities of obtaining the metal in much larger quantities than Mr. Crookes.

The Museum of the Louvre.—A portion of the Musée Napoleon III., consisting of the pictures of the Campana collection, has been opened in the three great rooms which long contained Louis Philippe's Spanish collection. The ceilings of these rooms are plain, and the walls of a deep garnet colour. The collection consists of only 303 paintings out of 646 which composed that of Campana, many of the works being found to have been over-estimated; and the inferior ones, and those which had been too much retouched, were excluded. The pictures the authors of which cannot be positively ascertained, are grouped according to their periods and their schools: those of the 14th, 15th, and 16th centuries appear to be the most interesting. The three rooms containing the collection are at the northern extremity of the wing of the colonnade. Following them are six others, turning into the northern wing, and in which have been placed the earthenware of the Campana collection, combined with that which the Louvre already possessed. These six rooms will be opened, it is said, by the 15th instant, as well as the nine rooms of the southern gallery, formerly occupied by the French school. They will contain the ceramic collection and the bronzes. The jewels are in the south-west room, near the great Gallery of Apollo. The Hall of Sittings, which is being arranged for the reception of the Sauvageot collection, is now undergoing decoration; and, as the passage through it is temporarily closed, the southern gallery is now reached by the spiral staircase in the south-west angle. By this staircase, which then led from the chapel to the King's apartments, the body of Henry IV. was taken up when it was brought to the Louvre after his assassination.

TENDERS.

For the new Catholic church, Hanwell, for Miss Rabrutt. Mr. E. Welby Pugin, architect:—

Streedwick	£1,143 0 0
Croon	1,090 0 0
Smith & Son	980 0 0
Walkin	790 0 0
Nye	719 0 0

For house in the Holmwood. Mr. F. J. Dibble, architect, Dorking:—

Inkhn	£2,550 0 0
Lynn & Dudley	2,280 0 0
Hamblin	2,050 0 0

For public-house, at Plaistow:—

Simms	£1,949 0 0
Raynham	1,846 0 0
Cave	1,840 0 0
Walker	1,835 0 0
Cordery	1,817 0 0
Chapman	1,777 0 0
Shelton	1,690 0 0

For additions and alterations to the Stoke Newington Dispensary. Mr. W. Reddall, architect:—

Conder	£519 0 0
Heath	496 0 0
Snewin	480 0 0
Pritchard & Son	475 0 0

For a pair of semi-detached villas at Tooting, for Mr. J. W. Morris. Mr. E. J. L. Barker, architect:—

Manley & Rogers (accepted)	£2,975 0 0

For a detached villa for Mr. Burrows, Upper Clapton. Mr. W. Reddall, architect:—

Clark	£1,724 0 0
Conder	1,694 0 0
Snewin	1,660 0 0
Ashby	1,699 0 0
Scott	1,677 0 0

For Chatham County Police Station and Justices' Room. Mr. Martin Bulmer, architect and county surveyor. Quantities supplied by Mr. Ruck:—

Jennings	£3,893 0 0
Mathews	3,720 0 0
Anscombe	3,524 0 0
Bonnet	3,502 0 0
Spicer	3,375 0 0
Stump	3,343 5 0
Stiff	3,330 0 0
Naylar & Son	3,291 0 0

For alterations and additions to the Independent Chapel, Bilston. Mr. George Bidlake, architect:—

Sanson	1,054 0 0
Hickman	947 0 0

For school-room, vestry, &c., to Baptist Chapel, Wellington, Shropshire. Mr. George Bidlake, architect:—

Bullock	398 17 0
Patterson	397 0 0
Corbett	370 0 0
Millington	366 0 0

For alterations to house, Telsenhall, for the Midland Counties Proprietary School. Mr. George Bidlake, architect:—

Cockerill	242 10 0
Palmer	234 0 0

For lecture-room and proposed Presbyterian Chapel, Wolverhampton. Mr. George Bidlake, architect:—

Cockerill	418 5 0
Whiston	384 0 0
Palmer	366 0 0

For building the Montefiore Arms, Phils-buildings, Houndsditch. Mr. L. H. Isaacs, architect:—

Patman & Fotheringham	£1,941 0 0
Abbott & Hopwood	1,916 0 0
Myers	1,895 0 0
Phillips	1,890 0 0
Wagstaff & Son	1,800 0 0
Langmead (accepted)	1,750 0 0

For the erection of the Princess Alexandra Public-house, on the Hudson's Estate, Plaistow. Mr. J. T. Fisher, surveyor. Quantities supplied by Messrs. Curtis & Son:—

Simms	£1,949 0 0
Raynham	1,846 0 0
Cave	1,840 0 0
Walker & Bellamy	1,838 10 0
Cordery	1,817 0 0
Chapman	1,777 0 0
Skilton	1,690 0 0

New Victoria Club, Wellington-street. Mr. Parnell, architect. Quantities supplied by Mr. C. Balam:

Macey	£8,523 0 0
Downs	7,947 0 0
Myers	7,840 0 0
Patman	7,480 0 0
Jackson & Shaw	7,198 0 0

For house, Dulwich:—

Sawyer	£1,993 0 0
Simms	1,981 0 0
Cowland	1,837 0 0
Wood	1,830 0 0
Piper & Co.	1,750 0 0
Patman	1,705 0 0
Tarrant	1,700 0 0
Wardle & Baker	1,680 0 0
Adamson	1,619 0 0
Manly & Co.	1,597 0 0
Tear	1,455 0 0

For infirmary wards, City of London Union:—

Brewer	£1,325 0 0
Fowler	1,168 0 0
Burton	1,005 0 0
Simms	986 0 0
McFarson	985 0 0
Wood	980 0 0
Hall	972 0 0
Woods	966 0 0
Kilby	948 0 0
Anley	925 0 0
Hedges	893 0 0

For alterations to Industrial Schools, Penge:—

Dover	£2,945 0 0
Wardle & Baker	2,900 0 0
Jannett	2,646 0 0
Tongue	2,630 0 0
Kirk	2,588 0 0
Simms	2,499 0 0
Hollidge	2,370 0 0
Drake	2,250 0 0

For erecting Thornton Heath Chapel. Mr. J. A. Scott, architect. Quantities supplied:—

Simms	£536 0 0
George	476 0 0
Walker & Bellamy	436 3 10½
Soden	429 15 0
Sharpington & Cole	428 18 0
Martin	427 15 0
Case	421 10 0
Ring	418 2 7

For the erection of a house and shop in Globe-lane, Chatham, for Mr. Saul Isaacs. Mr. J. H. Andrews, surveyor. Quantities not supplied:—

Garrett	£510 0 0
Jennings	420 0 0
Sampson (accepted)	389 0 0

For new engine-house for the parish of St. Luke's, Chelsea, Mr. G. C. Handford, architect:—

Simms	£98	15	0
Rhodes & Roberts	93	0	0
Symons	69	10	0

For the erection of two houses and shops, with their appurtenances, in the High-street, Rochester, for Mr. J. O. Moore, Army contractor. Mr. J. H. Andrews, surveyor. The materials of the two present houses allowed for in the tender. Quantities not supplied:—

Stump	£1,884	16	4
Naylar	1,750	0	0
Jennings	1,675	0	0
Sampson (accepted)	1,660	0	0

For the erection of two houses and shops at Bowlesdale, Chatham, for Mr. Smith. Mr. J. H. Andrews, surveyor. Quantities not supplied:—

Collins (accepted)	£580	0	0

For new tap and additional stabling to the Imperial Hotel, Aldershott, for Mr. Thomas Taunton. Messrs. Eggar & Stopley, architects:—

Martin (accepted)	£1,060	0	0

For two houses in Carlton-road, on the Kilburn-park Estate. Mr. G. B. New, architect:—

Hyde (accepted)	£1,212	0	0

For partly rebuilding the Coach and Horses, Holloway, for Mr. Loader. Mr. Williams, architect:—

Mann	£1,625	0	0
Chapman	784	0	0
James & Ashton (accepted)	777	0	0
Hawk	775	0	0

For building a United Free Methodist Church at South Shields. Mr. John Tillman, architect. Quantities supplied by the architect:—

Whole Tenders.

Elliott	£2,730	2	6
Heppel	2,599	7	1½
Younger	2,489	2	5
Gradon	2,468	0	0
Scott & Saddards	2,408	5	9½
Hirst	2,388	8	7

Excavation, Masonry, and Bricklaying.

Birtley	£1,341	9	0
J. & A. Cooke	1,004	6	5
Hirst (accepted)	849	3	7

Plastering.

J. & A. Cooke	£104	16	3
Birtley	84	0	0
Charlton (accepted)	84	0	0

Carpentry and Joinery.

Peart & Humble	£1,350	0	0
D. & J. Ranken	740	0	0
Surtees & Forest (accepted)	628	10	0
Berry	626	6	10½

Slating.

Preston	£55	17	0
Dawber & Son	52	2	0
Wylie (accepted)	46	13	8

Plumbing, Gas-fitting, and Ironfounder.
J. & W. Glaholm (accepted).

Painting and Glazing.

Halfnight	£159	0	0
Hewetson	150	0	0
Bamlett	139	0	0
Scott (accepted)	94	16	7

For new warehouse and offices for Huntley & Palmers, Reading. Mr. W. H. Woodman, architect:—

Dover	£3,800	0	0
Dove, Brothers	3,765	0	0
Wheeler & Sons	3,634	0	0
Sawyer (accepted)	3,587	0	0

For building a mansion and offices at Wormstall, in the county of Berks, for Mr. Charles Vickers. Mr. J. H. Money, architect:—

	For the Mansion and Offices.		For the Conservatory.
Wheeler & Sons	£7,500	..	£550
Simms	6,947	..	941
Hill, Keddell, & Co.	7,061	..	547
J. & T. Davis	6,800	..	530
Futcher	6,449	..	541
Piper & Wheeler	6,480	..	497
Sharpington & Cole	5,971	..	466
Jackson & Shaw (accepted)	5,526	..	484

TO CORRESPONDENTS.

J. T., Glasgow.—W. B. J. B. F. (correspondents alleging *oversights* in "The Builder," should be correct in dates. There is no notice of the photograph in our number of "March 28 ").—J. G.—Rodborough (not suitable). W. P. K.—E. E. S. (what we said is not invalidated)—J. B.—W. F. P.—L.—R. B. (next week probably).—A Subscriber.—Signor G. (we do not insert laudatory notices of inventions without ourselves knowing something about them).—C. A. L. (matter shall be noted).—Monsieur A.—E. R.—Guernsey.—P. & N.—C. J. H.—Dr. G.—J. F (we are obliged).

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than* FIVE o'clock, p.m., *on Thursday.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

THE *Daily News* of May 29th, in its description of Benson's Great Clock, says:—"The entire finish is of the highest cast." Benson's new show-rooms contain clocks designed by the first artists of the day, and include clocks for the drawing-room, dining-room, bed-room, library, hall, staircase, bracket, carriage, church, turret, railways, warehouse, counting-house, with musical, astronomical, and every description of clock, from the plainest to the highest quality of which the art is at present capable. Church and turret clocks specially estimated for. Benson's Illustrated Pamphlet on clocks and watches (free by post for two stamps) contains a short history of clock and watch making, with descriptions and prices; it acts as a guide in the purchase of a clock or watch; and enables those who live in Scotland, Ireland, Wales, the Colonies, India, or any part of the world, to select a clock.—J. W. Benson received a Prize Medal, in Class xxxiii., and honourable mention, in Class xv.—33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

ADVERTISEMENTS.

The Publisher cannot be responsible for ORIGINAL TESTIMONIALS *left at the Office in reply to advertisements, and strongly recommends that* COPIES ONLY *should be sent.*

MR. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLORIST, AND LITHOGRAPHER,
Removed from 21, Montague-street, Russell-square, to 38, TORRINGTON-SQUARE, W.C.

A YOUNG MAN WANTED, to be employed as PATTERN MAKER at an Engineer's, or to take a situation at the same.—Address, W. W. Newton's, 93, Bolsover-street, Portland-place, W.

AN experienced ASSISTANT WANTED, who can prepare finished, detail, and perspective drawings.—Address, stating age, qualification, salary, and references, D. J. WILLIAMS, 1, Cannon-street, Birmingham.

TO ARCHITECTS.

AN Engineer and Surveyor in the Provinces wishes to meet with a young ARCHITECT desirous of establishing a practice, to take the architectural portion of his business, which is rapidly increasing, in connexion with other advantages of an important character. A capital of 300*l.* required.—Apply, by letter, to A. Z. Office of "The Build r."

COUNTY of CARDIGAN.—The Office of BRIDGE SURVEYOR for the County of Cardigan, having become VACANT, the APPOINTMENT will be FILLED UP at the ensuing Michaelmas Quarter Sessions, at a salary of 90*l.* per annum. Candidates are requested to send in written applications, stating age, qualifications, &c. and accompanied by testimonials, to Mr. F. R. ROBERTS, the Clerk of the Peace, at Aberystwyth, on or before the 1st day of SEPTEMBER next. The Surveyor will be required to reside in the county.—Dated this 4th day of August, 1863.

NORTHAMPTONSHIRE. — To SURVEYORS.—Notice is hereby given, that any person desirous of applying for the APPOINTMENT of SURVEYOR of the COUNTY of NORTHAMPTON, is to send his application and testimonials, sealed up, to the Office of the Clerk of the Peace of the said county, on or before the 1st day of OCTOBER next. The salary is *not* per quarter, to include all travelling and other expenses.—Particulars as to the duties of the Office may be obtained by applying at the Office of the Clerk of the Peace.—The election will be made at the next October Quarter Sessions, or at some adjournment thereof.
HENRY PHILIP MARKHAM, Clerk of the Peace.
County Hall, Northampton, August 8, 1863.

TO SURVEYORS.

SHORT JOB, to MAKE a SURVEY and FINISHED GROUND PLAN of some HOUSE PROPERTIES near the City.—Apply by letter, only to J. A. care of Housekeeper, 7, Pope's Head-alley, Cornhill, E.C.

PARTNERSHIP, OR OTHERWISE.

WANTED, in a very old-established Business and in a first-rate connexion, a few miles from London, a thoroughly practical and energetic WORKMAN. This is an unusual opportunity, which presents itself to any person who can command from 200*l.* to 300*l.* A less amount, under a certain arrangement, would probably not be objected to if good personal or satisfactory security could be given. Apply to Messrs. HAVERSON, Lead Merchants, Borough, near St. George's Church.

WANTED, in a small Jobbing Concern, an Active Man, to Keep the Books and partly to Superintend the Business. Must write a good hand, and be able to prepare estimates. He will be required to reside on the premises. References as to ability.—Address, stating salary required, to R. R. F. Mr. Chardin, Printer, Upper Clapton, N.E.

WANTED, for a permanency, a good and efficient BUILDER'S CLERK, quick at accounts and correspondence. Will be stationed four miles from London. Apply, personally or by letter, to Mr. SIMMS, 10, Cannon-street, City.

WANTED, a FOREMAN and MANAGER of IRONWORKS, who thoroughly understands the manufacture of Ironworks in all its branches, including roofs, bridges, and conservatories, heating, &c.; can make drawings and estimates of the same, and superintend the carrying out of the works. Address, stating terms, qualifications, and where last employed, to H. S. 37, Grafton-street, Dublin.

TO CARVERS.

WANTED, a few good STONE CARVERS.—Apply to Mr. M. GEFLOUSKI, New Cemetery Works, Rickenhead, Cheshire

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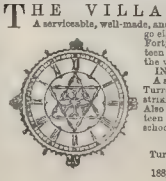
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HENRY HOWELL, Secretary.

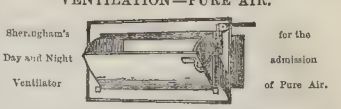
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Accidents in the Field, the Streets, or at Home,
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N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
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NOTICE.—The time for sending in Plans connected by this Company is EXTENDED to the 27th OCTOBER next.—By order,
Cheltenham, Aug 27th, 1863. JOSIAH JESSOP, Secretary.

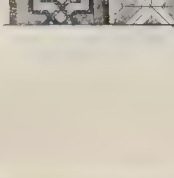
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RUBBER FILE ENGINE HOSE, for HALLS, MANSIONS, &c. with the necessary Fire branches and Brass Union Screws.
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HALKIN HYDRAULIC LIME, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, N.W. the same as used in the construction of the Liverpool Docks, &c. and so long celebrated for its strong cementitious and connecting powers for subaqueous masonry, can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground and in bags and barrels. The Limestone can be had in full cargoes; also L. J. & Co.'s Roman Cement, in barrels, which is of a very superior quality, and warranted pure. Orders to be accompanied by a banker's reference.—Apply to the Works; or to E. & W. AARON, Agents, 66, South John-street, Liverpool.

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CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
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JOHN BOARD & COMPANY,
Manufacturers of
PORTLAND, BATH, AND ROMAN CEMENT,
GROUND AND LUMP BLUE LIAS LIME.
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GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
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L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat rail, or cart, and to every part of the Kingdom by canal or rail.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

ESTABLISHED 1832.
PORTLAND CEMENT WORKS,
MORDEN WHARF, EAST GREENWICH.
EDWIN HOLLICK,
Manufacturer of PORTLAND CEMENT of the best quality only, for the English and Foreign Markets.
Vessels loaded alongside.
NOT CONNECTED WITH ANY OTHER HOUSE.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

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PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

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will receive prompt attention.

TO BUILDERS, CONTRACTORS, &c.
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JAMES NESBIT is prepared to supply Portland Cement of superior quality and strength, at such a price as will enable Builders to use it for purposes from which the high price usually charged has hitherto prevented its being used. Terms on application Berney Arms, Portland Cement Works, Burgh Castle, Great Yarmouth.

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CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
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Best Gelatine, prepared, and ready for moulding, 2s. per lb.

SEASONED WAINSCOT OAK,
30,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER YARD, MANCHESTER.

FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised. White Battens, 9l. 10s. per 120, 12 feet; Yellow ditto, 10l. ditto ditto. ⅞ Match Boarding, 14s. per square; ⅞ ditto, 16s. ditto. Venetian Blind Laths, 8s. 6d. per 100 feet super.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church street, Kennington.

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DRY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
JOHN COUMBE'S,
LADY LAKE'S GROVE, MILE-END-GATE

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IRON WARE WROUGHT: BAR, SHEET, HOOP IRON, an Boiler Plates, Galvanized Iron and Sheet Zinc, Wrought Iron Pipes for Gas, Steam, or Water.

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WOOD MOULDINGS, Manufactured DOORS, SASHES, & SKIRTINGS, Flooring Boards Planed and Tongued, and prepared ready for use.

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LIVERPOOL,

Have now ready their Builder's Price List Book for 1863, price 2s. 6d. containing the price of all building materials, timber, slates, ironware, tiles, stove, glass, &c &c made up and corrected to the present date. The book contains sundry designs and useful calculations for builders general'y.

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BRICKS, TILES, SLATES,
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GLAZED DRAIN-PIPES AND RED GOODS,
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SUFFOLK AND OTHER PAVIORS,
RED AND WHITE FACINGS,
STAFFORDSHIRE AND FIRE GOODS,
MALM CUTTERS, PICKINGS,
AND BUILDING GOODS GENERALLY.
good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

JOHN DOWNEY, Victoria Wharf, Nine Elms, S.
Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

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BRICKS and other KILN GOODS.
By Messrs. Allen & Co. Ballingdon, near Sudbury.

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The entire MAKE of BRICKS by Mr. William Lodgster, of the Upper and Lower Halstow Fields; by Messrs. J. Butcher & Son, of Otterham Quay and Lower Rainham; and also by Messrs. J. & G. Parker, of Wickham, near Strood, Kent.

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IN ANY QUANTITIES, BY BARGE ALONGSIDE.
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Fancy Moulded Bricks of many designs.
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BUNNETT'S PATENT.
THIS PATENT FOR SALE, OR LICENSES GRANTED.
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TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot houses, and Conservatories, on the most improved principles.
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By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Baryte from ten to thirty per cent. with the sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, in workmen can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
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2½ YELLOW BATTENS .....10l. 10s. per 120 of 12 feet.
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PRICE LISTS AND MOULDING PATTERNS, POST FREE.
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FLOORING! DEALS! MAHOGANY!
100,000 Dry Prepared Flooring Boards ..... } from 10s. 6d. per square
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Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.				Laths, 28s. per Load.	
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Spruce Deals	15	0	0	,,	2½ ,,
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Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
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Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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(LATE WATERLOW, DRAPER, & WEBB),
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Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
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At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

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	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s 9d.	13s. 6d. per square.
¾ by 7 ,, ...	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,, ...	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,, ...	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised
WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

3s. 9d.



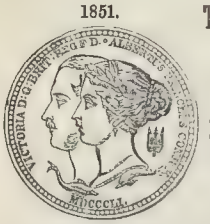
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Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.
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STORES—70, SOHO STREET, LIVERPOOL,
MANUFACTURERS OF
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CARSON'S
ORIGINAL ANTI-CORROSION PAINT.
Patronised by
THE BRITISH GOVERNMENT, | H.R.H. THE PRINCE CONSORT, | RAILWAY & CANAL COMPANIES.
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It is extensively used at home and abroad for all kinds of
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And has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUTBUILDINGS, AGRICULTURAL IMPLEMENTS, MACHINES, CONSERVATORIES, PARK FENCING, GATES, &c., IRON ROOFING, BRIDGES, HURDLING, and every description of IRONWORK; while for
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And every kind of Brick, Stone, Compo, &c. it is unrivalled, presenting the appearance of fine cut stone.
The Anti-Corrosion is lower in price and lasts twice as long as the best White Lead.
The Anti-Corrosion is a Powder, sold in all colours, and will keep any length of time.
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1851.



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MARK H. BLANCHARD&CO.
Successors to COADES.

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Original Works established 1769. Terra-Cotta Manufacturers to her Majesty, the Commissioners of 1851, the Board of Works, the Trinity House, the Admiralty, the Royal Horticultural Society, and the Department of Science and Art, South Kensington, and the Recipient of the Prize Medal at the 1851 Exhibition for MATERIAL and WORKMANSHIP in TERRA-COTTA, and the only Recipient of Two Prize Medals at the 1862 Exhibition for TERRA-COTTA and POTTERY, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this imperishable and invaluable Material in Sculptural and Architectural Embellishments, suitable to the Palace, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment have stood the test of time.
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ENGINEER, IRONFOUNDER, AND SMITH,
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Iron Doors, Safes, and Fittings for Strong Rooms, Ornamental and Plain Gates, Fencing, Staircases, Grates, Kitchen Ranges, Smoke Jacks, Metal and Iron Casements and Sashes, Improved Spring Centre Hinges for Swing Doors, Locks and Fittings for Prisons, Lunatic Asylums, and other Public Buildings; Columns, Cast and Wrought Iron Girders, Iron Roofing, and general Cast and Wrought Iron Work for Building Purposes.

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JAMES HETLEY & CO. beg to inform Architects, Builders and the Trade generally, that their new Tariff of Prices for the above will be sent on applicat on; they will also on receipt of particulars furn sh estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho square, London

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of every description, Ecclesiastical and Domestic;
MURAL DECORATION, MONUMENTAL BRASSES, and
ILLUMINATED COMMANDMENTS,
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CARVING.—A great reduction effected with the assistance of the Patented Machinery
GOTHIC METAL WORK, of every description, both in Silver, Brass, and Iron.
PAINTED GLASS. Designs and Estimates furnished for Subject Windows; also Quarry and Geometric Patterns.
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LAVERS & BARRAUD,
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Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

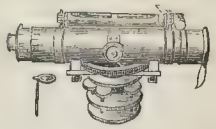
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Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Ornamental Ground, Rough, Rolled, and Patent Plate, Sashes fitted for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at
CRIST'S CITY GLASS WAREHOUSE,
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CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price lists forwarded free on receipt of business card addressed to
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SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

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Near Astley's Theatre,
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Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use.
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Price 2s 6d post free.
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MESSRS. COLLINS & GREEN

Beg to advise their Friends and the Profession that as the London, Chatham, and Dover Railway have taken their late premises at Albion-place, for the new Blackfriars Station, they have Removed their extensive Stock of

MARBLE CHIMNEY-PIECES, STOVES, RANGES, &c.

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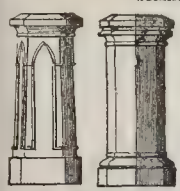
JAMES STIFF & SONS,

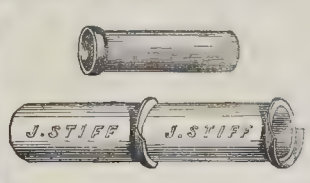
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

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PAN, 4s. 6d.

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HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

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DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



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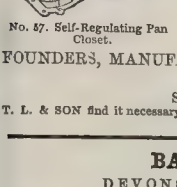
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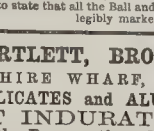
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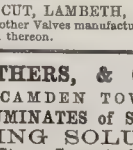


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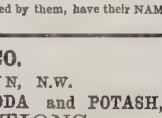
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For Internal Wood Work, Roofs, and Church Work generally. This Varnish renders Wood Uninflammable, and Preserves it from Decay.

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REGULATOR WATER-CLOSETS.



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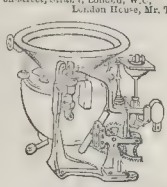
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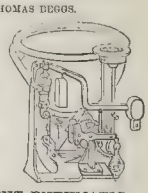
The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is secured. Any number can be worked by one supply-pipe. No cistern valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate-street, London.

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Suitable for first and second class houses, being most efficient and simple, free from all smell, and requires no cisterns, service boxes, cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipes. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet, alike dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary direct Service Main Cottage Water Closets.

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IMPERISHABLE TESSELATED PAVEMENTS,

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May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

MINTON & CO.

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ENCAUSTIC AND OTHER PAVEMENTS.

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DESIGNS AND ESTIMATES PREPARED.

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ING TILES, Plain and Ornamental, in Blue or Brseley colour.

PAVING TILES in various colours and designs.

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PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for the WARE is REMOVED to No. 21 Wharf, Vauxhall-bridge North, City-road, S., and that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and Deake, Proprietor of the Ware," page 581, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known as using as "The Potteries," Tunstall, Staffordshire, as the first of the kind in the world.

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JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has specially imported and re-commenced the manufacture of TERRA COTTA and FINE STONEWARE for ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to harmonize with Marble, Portland, and other Stones, and equal in hardness to Granite.

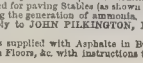
A Medal at the International Exhibition was awarded, in Class 10, Section C, Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra Cotta."

Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusters, Capitals, Crosses, Terminals, Vases, Statues, Brackets, Consoles, Garden Edging, Guttering, six, nine, and twelve inch Paving Tiles, &c. &c.

Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

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For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

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WOOD GREEN, Tottenham.—New Materials used for the Seats and Platforms at the Freemasons' Boys' Schools.

PULLEN, HORNE, & EVERSFIELD are instructed by the Contractors to SELL by AUCTION, on the PREMISES, Lordship lane, Tottenham, near the Wood green Station, Great Northern Railway, on TUESDAY, AUGUST 25th, at TWELVE for ONE, the excellent NEW MATERIALS, consisting of 30 sets feet of 14-inch and 12-inch deals, 70 squares of 1 inch and 9-inch boards, 4,000 feet of quartering, &c.; sliding lattices, sash lights, and other useful materials.—May be viewed one day previous, and Catalogues had on the Premises; and of PULLEN, HORNE, & EVERSFIELD, 10, Parliament street, S.W. and 80, Fore street, E.C.

ISLINGTON.—TO BUILDERS and Others. TO BE SOLD by AUCTION, by

MR. EWINS, at the MART, near the Bank of England, on WEDNESDAY, SEPTEMBER 2nd, 1863, at TWELVE o'clock, a valuable leasehold corner SHOP and PREMISES, known as "St. Paul's House," Ball's pond Gate, Islington, with a frontage of eighty guineas per annum, at a moderate ground rent. Also the Goodwill of the business of a Jobbing Builder, Decorator, House Agent, and Undertaker, established 9 years. On view seven days prior to sale, and particulars, on the Premises, of Messrs. J. & K. WRIGHT, Solicitors, 25, Bedford-row, W.C.; at the Mart; and of the Auctioneer, 15, Upper street, Islington.

OXFORD.—VALUABLE BUILDING MATERIALS, comprised in the several Lots in Beaumont street and Pusey Lane, Oxford, the intended Site of the Extension of the Randolph Hotel.

MR. JOHN FISHER begs to announce that he is instructed by the Randolph Hotel Company to SELL by AUCTION, on the premises, on Oxford Quay, the above BUILDING MATERIALS, consisting of about 1,000 cubic feet of fronts, sashes, doors, shutters, staircases, fittings, &c., which will be ready for sale about the 1st of September next, and will be taken away from the Site within a few weeks.—Further notice will be given of the Sale.

CHARING CROSS RAILWAY (CITY TERMINUS).—TO BUILDERS, CONTRACTORS, PAVIORS, and OTHERS.

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, on TUESDAY, AUGUST 25th, at ONE o'clock punctually, the valuable and useful MATERIALS of the Falcon Factories and the Range of Workhouses on Pentonville road, comprising about 1,000 cubic feet of timber, compo. and slate roofing, 1,000 feet of 9-inch and 12-inch deals, 2,000 feet of 3-inch planks, 10 squares of 1-inch boards, 1,000 feet of quartering, &c.; 2 pairs of 4-leaf sash doors, 100 feet of 4-inch and 6-inch cast-iron soil pipes, 2 cast-iron flue pipes, 1 cast-iron rain water pipe, 2 cast-iron gutters, 1 cast-iron cistern, 2 cast-iron ventilators, 1 cast-iron boiler, 2 cast-iron stoves, 2 cast-iron fireplaces, 1 cast-iron range, 2 cast-iron sinks, 1 cast-iron copper, 1 cast-iron hot plate, 1 cast-iron oven

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XXI.—No. 1072. AUGUST 22, 1863. PRICE FOURPENCE. By Post, 5d.

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AUTUMN EXHIBITION of BUILDING MATERIALS, INVENTIONS, EXAMPLES of CONSTRUCTION, &c. at the GALLERIES of the ARCHITECTURAL SOCIETIES, No. 9, Conduit-street, Regent-street, W.—Exhibitors are requested to fill up their spaces immediately. The Exhibition will be open free to the public every day, from ELEVEN to FOUR, from SEPTEMBER to the middle of FEBRUARY.—For space, apply to Mr. MOODY, on the Premises.

SIR JOHN INGLIS, K.C.B.—ON VIEW, at COX & SON'S Ecclesiastical Warehouse, 28 and 29, Southampton-street, Strand, the beautiful MONUMENT executed by them, from the designs of Digby Wyatt, Esq. for the Officers of the 32nd Regiment.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

PRIZES to ARTIST WORKMEN are now offered. For WOOD CARVING, 20l. and 5l.; and for COLOURED DECORATION, 5l. 5s. and 3l. 3s. Particulars may be had by letter to the Hon. Secretary, at 13, Stratford place, W.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

SCIENCE and ART DEPARTMENT of the COMMITTEE of COUNCIL on EDUCATION, South Kensington.—The Annual EXAMINATIONS for Science Certificates for Teachers will take place in London, Dublin, and Edinburgh in NOVEMBER. A Table of the days and hours appointed for each Subject, and the places of Examination, will be sent on application by letter to the Secretary, Science and Art Department, South Kensington, London, W. All applications for examination must be made before the 15th OCTOBER.—By order of the Lords of the Committee of Council on Education.
August, 1863.

CONTRACTS.

BOROUGH of TYNEMOUTH.—To BUILDERS, BOILER MAKERS, IRON FOUNDERS, PAINTERS, and CONTRACTORS.—TENDERS are required for the Builders', Smiths', Iron Founders', and Painters' Works necessary in making ADDITIONS, ALTERATIONS, and RENEWALS, and for CLEANING, PAINTING, and WHITEWASHING, at the Baths and Wash houses, North Shields. Plans and specifications may be inspected, and further information obtained on application to Mr. THOS. ROBSON, Borough Surveyor, Norfolk-street, North Shields. Satisfactory securities will be required for the due performance of the Works. The lowest or any Tender will not necessarily be accepted. Sealed Tenders, endorsed "Works at Baths and Wash houses," to be delivered on or before MONDAY, the 7th day of SEPTEMBER next, to THOMAS CABB LIETCH, Town Clerk.
Tynemouth, August 15th, 1863.

SLUICE COCKS and HYDRANTS.—The Directors of the Fylde Waterworks Company are prepared to receive TENDERS for a SUPPLY of SLUICE COCKS, varying metal faces and two socket ends. A large number of Hydrants will also be required. Each sluice cock and hydrant to be provided with a surface box. Tenders to state the price of each size of sluice cock, Company's pipe yards in Blackpool, Freetwood, Kirkham, or Lytham. Tenders to be sent in to Mr. T. B. FOSTER, Civil Engineer, 24, John Dalton-street, Manchester, on or before the 29th instant. The Directors do not bind themselves to accept the lowest or any Tender.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for making certain ALTERATIONS and ADDITIONS to EXPENSE MAGAZINE, at Tilbury Fort, in the Gravesend District.

Persons desirous of Tendering for the execution of these Works may obtain the bills of quantities on the payment of Ten Shillings and Sixpence, by applying to this Office on or before MONDAY, the 24th AUGUST, 1863.

The Secretary of State for War does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Gravesend, 14th August, 1863.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for REFORMING a PORTION of the EASTERN DEFENCES, TOWER of LONDON.

Persons desiring to Tender for this Work must leave their names at this Office, from the 15th to the 28th AUGUST, 1863, both days inclusive, between the hours of ELEVEN a.m. and THREE p.m. and pay the sum of half a guinea for the Bills of Quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, London District, 11, James-street, Buckingham Gate, S.W. August 14, 1863.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Rye Harbour, in the county of Sussex, may inspect the Drawings and Specification at the Watch-room of the Coast Guard Station, Rye, or at this Office, between the hours of TEN and FOUR, from TUESDAY, the 18th instant, to TUESDAY, the 1st SEPTEMBER now next ensuing, and both inclusive (Sundays excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at noon of WEDNESDAY, the 2nd SEPTEMBER, under seal and directed to the Commodore Controller General of Coast-Guard, and endorsed "Tender for Rye Harbour."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or other of the Tenders.

Dated this 11th day of August 1863, at the Admiralty,
Coast-Guard Office, 12, Spring-gardens, London, S.W.

Trinity House, London, E.C. 15th August, 1863.

TO ENGINEERS and OTHERS.—This Corporation being desirous of obtaining TENDERS for the CONSTRUCTION of a LANTERN for a FLOATING LIGHT, hereby give notice thereof to engineers and others who may be willing to execute the work. The plans, specification, and form of Tender are deposited at this House, and may be inspected any day before WEDNESDAY, the 26th inst. between the hours of TEN o'clock a.m. and FOUR p.m. No Tender will be entertained which is not made in the required form, and Tenders must be delivered at this House before TEN a.m. on THURSDAY, the 27th inst. N.B. The Board does not pledge itself to accept the lowest or any Tender. By order,
P. H. BERTHON, Secretary.

THE Committee appointed by the Town Council of the Borough of Buckingham is desirous to receive PLANS SPECIFICATIONS, and TENDERS for the ERECTION of a FLAT IRON GIRDER FOOT-BRIDGE over the river in the Borough, with the necessary approaches and abutments complete. The Bridge must have a clear span of 32 feet, with a roadway of 5 feet clear, and be at the same level as the present bridge. The Plans, Specifications, and Tenders to be sent to the Town Clerk, Buckingham, on or before the 5th SEPTEMBER next.
GEO. NELSON, Town Clerk.
Buckingham, 14th August, 1863.

LEEDS CORPORATION WATER-WORKS.—TENDERS WANTED for COVERING WOOD-HOUSE RESERVOIR, in separate Contracts, as follow:—
Contract No. 1.—For the Construction of the Brick Pillars and Arches, &c., and Fixing Iron Girders and Tie rods, &c.
Contract No. 2.—For the Supply of Cast-iron Girders and Vanilators.
Contract No. 3.—For the Supply of Wrought-iron Tie-rods and Bolts and Nuts.

The plans and specifications may be seen after THURSDAY, the 20th instant, at the Office of Mr. EDWARD FILLITER, C.E. Borough Surveyor, and Engineer to the Waterworks, Town Hall, Leeds.—Tenders to be sent in on or before THURSDAY, the 3rd of SEPTEMBER, addressed to "The Waterworks Committee," Town Clerk's Office, Leeds, and endorsed "Tender for Covering Woodhouse Reservoir."—By order,
JOHN EDWARD SMITH, Town Clerk.

TO GAS ENGINEERS and CONTRACTORS.—The Directors of the Cleethorpes Gas Company (Lim ted) are desirous of receiving TENDERS for the MAIN GAS-PIPES and SERVICE PIPES, and for the LAYING of the same; Cleethorpes. Sealed Tenders to be sent to the Solicitors on or before the 5th of SEPTEMBER next. The Directors do not bind themselves to accept the lowest or any Tender. The plans and specification may be seen, and further particulars obtained, at the Office of Mr. MAUGHAN, Surveyor; or of Mr. WM. HEAFORD DAUNSEY, Solicitor, Great Grimsby.
Great Grimsby, August 17, 1863.

TO BUILDERS.—TENDERS are required for the FINISH of THREE PAIRS of HOUSES, at Tattenham Corner, Croydon, Surrey, to be sent in before TWELVE o'clock on the 28th of AUGUST. Plans and specifications can be seen at the Offices of the Architect, who reserves the right to reject the lowest or any Tender.
RICHARD JAMES WOODCOCK,
Adelaide Offices, 18, Fish street hill, E.C.

TO ENGINEERS, IRONFOUNDERS, and BOILER MAKERS.—TENDERS WANTED for the ERECTION of a 40-horse power high-pressure ENGINE, MILL, and other MACHINERY. Also FOUR STEAM-BOILERS, and several wrought iron Gasters, and about 150 tons of general Castings.—Apply to JOHN WRETTON, Esq. 53, New broad-street, London, E.C.

CONTRACTS.

HEYWOOD WATERWORKS.—The Directors of the Heywood Waterworks Company are desirous of obtaining TENDERS for the FORMATION of an additional STORE RESERVOIR at the Naylen Stream, between the two existing reservoirs of the Company, with all the necessary embankments, weirs, and other works connected therewith. The embankments will contain about 80,000 cubic yards. The works are situated near Blackpits, about three miles from Rochdale. Plans and specifications may be seen, and further information obtained, at the Office of Mr. CAWLEY, Civil Engineer, 5, Parliament-street, London, or at 41, John Dalton street, Manchester, on and after WEDNESDAY, the 19th of AUGUST; and Tenders must be delivered at the Company's Offices, Heywood, on or before MONDAY, the 31st of AUGUST next.

TO MASONS, JOINERS, PLUMBERS, GLAZIERS, SLATERS, PLASTERERS, and PAINTERS.—TO BE LET, the above-named WORKS, required in the ERECTION of a Mill, Shed, Warehouses, Engine-house, Counter, Offices, Lodge, Dwelling-house, and other Buildings, in Thornton-road, Bradford.—Parties willing to give Tenders for the same, may see the plans and specifications, and obtain bills of quantities (gratis) at our Offices, from THURSDAY, the 14th, to WEDNESDAY, the 26th instant, on which latter day sealed Tenders are to be delivered to us BEFORE TEN o'clock a.m. endorsed "Tender for Mill, &c."
MILNES & FRANCE, Architects.
In consequence of delays in the preparation of the bills of quantities, the time has been exten ed as above
30, Hall Ings, Bradford, August, 1863.

BOROUGH of NEWPORT, MONMOUTHSHIRE. — NOTICE to BUILDERS, CONTRACTORS, and OTHERS.—The Corporation of the Borough of Newport, Monmouthshire, acting as the local Board of Health, are prepared to receive TENDERS for the ERECTION, on NEWPORT MARSHES, of proposed new SLAUGHTER-HOUSES, &c. in accordance with the plans and specifications prepared by Mr. KIRBY, the Town Surveyor, at whose Office in the Townhall the said plans specifications, and form of Tender may be seen, and further particulars may be obtained, on and after MONDAY next, the 17th inst.—Sealed tenders, including schedule of prices, are to be sent to me, endorsed "Tender for Erection of Slaughter-houses," before TEN a.m. on TUESDAY, the 25th inst. but the Corporation do not pledge themselves to accept the lowest or any Tender.
THOS. WOOLLETT, Town Clerk and Clerk to the Local Board of Heal h
Townhall, Newport, Monmouthshire, August 12, 1863.

FURNESS RAILWAY.—BARROW DOCKS.—CONTRACT for WORKS. The Directors of the Furness Railway Company are prepared to receive TENDERS for the CONSTRUCTION of a DOCK and TIDAL BASIN (about 100 acres area), with wharf walls, roads, &c. and the embankments enclosing and other works. The drawings may be seen on and after the 22nd instant, at the Office of the Company's Engineers, Messrs. M'CLEAN & STILEMAN, 23, Great George-street, Westminster, S.W. Contractors who wish to Tender may obtain lithographed copies of the drawings, bills of quantities, specification, and form of Tender, on application to the Engineers or at the Secretary's Office, Barrow-in-Furness, Lancashire, on payment of 5l. Tenders must be addressed to the Secretary, 9, Old Burlington street, London, W. on or before the 7th SEPTEMBER next. The Directors do not bind themselves to accept the lowest or any Tender.
DEVONSHIRE, Chairman.
JAMES RAMSDEN, Secretary.
Barrow-in-Furness, 8th August, 1863.

METROPOLIS LOCAL MANAGEMENT ACTS.—To STONE MASONS, PAVIORS, and OTHERS.—The Board of Works for the Plumstead District are willing to receive TENDERS for PAVING or CURBING and CHANNELLING WORKS to Anslow-road, Church-lane, in the parish of Lee, Kent, and within the said Plumstead District. The kerb are to be delivered, free of expense, at the Office of Mr. F. F. THORNE, to be road, Lee, on or before FIVE o'clock in the afternoon of THURSDAY, the 27th instant, where the plan and specification for these Works can be seen, and forms of Tender and other particulars may be obtained. The lowest or any other Tender will not be necessarily accepted.—By order,
CHARLES AUGUSTUS SMITH,
Old Charlton, 13th August, 1863. Clerk to the said Board.

BOARD of WORKS for the LIMEHOUSE DISTRICT.—CONTRACT for WATERING, SCAVENGING, and the REMOVAL of DUST.—Notice is hereby given, that the Works Committee will meet on TUESDAY, the 1st day of SEPTEMBER, 1863, to receive TENDERS for WATERING the ROADS and STREETS, for SCAVENGERS' WORK, and for the REMOVAL of DUST in the above named district. The whole of the above works to be let together. The Contract to be let in two amounts—viz. one for Limehouse and Ratcliff, and one for Shadwell and Wapping.—Further particulars may be known, and printed conditions and forms of Tender may be obtained by applicants at the Office of the Board, in White Horse-street, Commercial-road East, on and after the 24th inst., between the hours of TEN and FOUR o'clock, upon payment of the sum of five shillings, which will be returned to the parties tendering whose Tenders are not accepted. Tenders sealed up and endorsed, "Tender for Watering, Scavenging, and the Removal of Dust," must be delivered at the said office not later than TEN o'clock on TUESDAY morning, the 1st day of SEPTEMBER, 1863, and no Tender will be received unless accompanied by a 20l. Bank of England note, as evidence that the party is bona fide. The Board do not bind themselves to accept the lowest or any Tender. The names of two responsible persons will be required, and the Contractors will have to pay the costs of the contract. No Tender will be received after the time specified, nor unless strictly in accordance with the specification and conditions.—By order.
August 20, 1863. THOS. W. RATCLIFF, Clerk of the Board.

TO ROADMAKERS and CONTRACTORS. TENDERS are required for the MAKING and COMPLETING about 350 feet of NEW ROAD, 40 feet wide; and about 700 feet of NEW RAILWAY FENCE, at Eltham, Kent. Plans and specifications can be seen at the Office of Mr. T. C. HAWORTH, Surveyor, Eltham, Kent, S.E. to whom Tenders must be sent by FOUR o'clock, on the 27th instant.

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS.—Persons willing to CONTRACT with the Justices of the County of Kent for the ERECTION of a POLICE STATION at Cranbrook may see the plans and specifications at the Office of the County Surveyor, Maidstone, any day, except Sunday, between the hours of TEN and FIVE. The work is to be tendered for agreeably to the form of Tender, to be obtained at the County Surveyor's Office, where sealed Tenders, endorsed "Tender for Cranbrook Police station," are to be delivered by NINE o'clock in the forenoon of TUESDAY, the 8th SEPTEMBER, 1863, and persons intending to be present at the Court of Justice, Maidstone, at HALF PAST TWELVE o'clock on Tuesday Neither the lowest nor any other Tender will be accepted unless approved of in all particulars, and security will be required for the performance of the contract. H. A. WILDER, Clerk of the Peace.

Maidstone, August 21, 1863.

SCARBOROUGH CLIFF HOTEL.—To BUILDERS, CONTRACTORS, and OTHERS.—The Directors of the Scarborough Cliff Hotel Company (Limited) hereby give notice, that they are prepared to receive TENDERS for the ERECTION of the above HOTEL, according to drawings and specifications prepared by Mr. CUTHBERT BRODRICK, Architect, 11, Buckingham street, London, W.C. and 2, Park place, Leeds. The drawings, &c. may be inspected at the Architect's office, in Leeds, on and after MONDAY, the 17th day of AUGUST. Tenders are to be sent to the Office of the Company, 21, Huntriss row, Scarborough, on or before the 31st day of AUGUST. Bills of Quantities and forms of Tender will be furnished to persons tendering, on application to Mr. AUSTIN Surveyor, 11, Buckingham street, Strand, London, W.C. The Directors do not bind themselves to accept the lowest or any Tender, and the person whose Tender may be accepted will be required to give security for the due and satisfactory performance of the works by the time stipulated in the conditions.

By order, W. D. L. FERNANDES, Secretary.

Scarborough, 28th July, 1863.

CAST-IRON PIPES. To IRONFOUNDERS The Directors of the Fylde Waterworks Company are prepared to receive TENDERS for the SUPPLY of PIPES of the following diameters and lengths:—

Diameters in inches	6	5	4	3
Lengths in yards	1,700	2,600	2,600	13,000

The pipes will be laid in the towns of Blackpool, Southshore, Fleetwood, Kirkham, and Lytham. Specifications and form of Tender, price 10s. may be obtained at the Office of Mr. T. B. PORTER, Civil Engineer, 23, John Dalton-street, Manchester; and Tenders must be sent in to Mr. T. A. WILKINSON, Secretary, Waterworks Office, Kirkham, not later than 1st SEPTEMBER next. The Directors do not bind themselves to accept the lowest or any Tender

BUILDERS willing to TENDER for ADDITIONS and REPAIRS (about 750*l.*) to PREMISES, at Epping, are invited to send, on or before WEDNESDAY, AUGUST 26, their names and addresses to Mr. F. DOLLMAN, 9, Conduit street, London, W., enclosing a stamped and addressed envelope; and the plans at which the drawings and specification can be seen on the premises.

TO BUILDERS and CONTRACTORS.—TENDERS WANTED for the ERECTION of a large MANUFACTORY, RAILWAY SIDING, and RIVER WHARF.—Apply to JOHN WRETTOM, Esq. 93, New Broad-street, London, E.C.

TO BUILDERS.—TENDERS are required for the ERECTION of additional BED ROOMS and SCULLERY at Pitfield Cottage, Eltham, Kent.—Tenders to be sent to by Office of Mr. T. C. HAWORTH, Surveyor, Eltham, Kent, S.E. not FOUR o'clock on the 27th inst.—The lowest or any Tender necessarily accepted

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 63, Charles-street, City road, E.C. near the Canal Bridge

E. GOLLOP, SOLE PROPRIETOR.

A LARGE STOCK of the PATENT HINGES Kept ready for delivery, consisting of Floor-springs, Gate-hinges, Rising-hinges, Rising Spring-hinges, Non-rising Spring hinges, Double acting Spring Hinges, Rising and Non-rising Door Back-springs, &c.

Price List and Drawings on application as above.

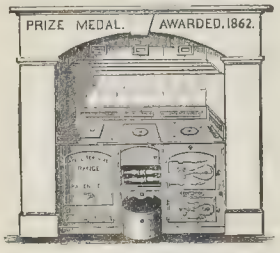
RAIN WATER PIPES, GUTTERS, &c.

Rain Water Pipes	2½ in.	1½d.	3 in.	1s per yard.
Eaves Gutter	3½-in.	6½d.	4-in.	6½d. "
O G Gutter	4-in.	11d.	4½ in.	1s. "
Sash Weights, heavy			5s. per cwt.	
Ditto light			5.6d. "	

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, AND YORK ROAD, KING'S CROSS

CHUBB'S LOCKS,
with all the recent Improvements,
STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.
Complete Lists of Sizes and Prices may be had on Application
CHUBB and SON,
57, ST. PAUL'S CHURCH-YARD, LONDON,
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

PATENT WORCESTERSHIRE RANGE.



PRIZE MEDAL 1862, AWARDED FOR EXCELLENCE.

The above RANGE is most complete, and strongly recommended for its surpassing ECONOMY, CLEANLINESS, CONVENIENCE, DURABILITY, and is a certain CURE for SMOKY CHIMNEYS.

It is an entirely new invention, and consists of large MEAT ROASTER, PASTRY OVEN, and WROUGHT IRON BOILER. The top forms a HOT PLATE for BOILING, STEWING, &c. The whole heated by ONE SMALL FIRE. One 5 feet wide is equal to an ordinary Range 6 feet wide.

Extracted from the "London Daily Telegraph," May 19th, 1862.

"INTERNATIONAL EXHIBITION, CLASS 31.

"Of the most recent inventions it should be said that Messrs JONES & ROWE'S Patent Worcestershire Range has attracted very special attention, and has been commended by the best authorities. A valuable peculiarity of their Range is the placing of the OVEN and ROASTER one above the other instead of *side* by *side*; and the ROASTER is constantly replenished with fresh air."

INVENTORS AND MANUFACTURERS,
JONES & ROWE, WORCESTER,
AGENTS FOR LONDON: BARRON, SON, & WILSON,
426, STRAND, W.C.

Illustrated Catalogues, with Testimonials and Prices, forwarded on application.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

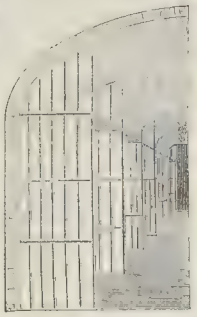
GLOVER, BROTHERS,
FOUNDERS, ENGINEERS, AND SMITHS,
168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.

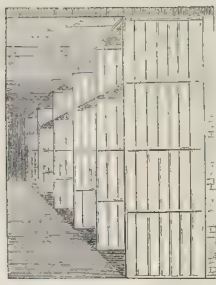
Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

WROUGHT IRON WINE BINS.





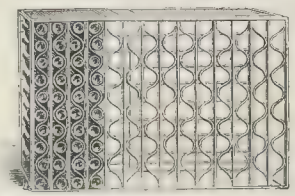
FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



Made any size or shape, to fit any spare corner, with SEPARATE REST FOR EACH BOTTLE,

Peculiarly adapted for Private Cellars.

No laths are required, and all trouble of Binning is avoided.

FARROW & JACKSON,
18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.
FACTORY, 57 and 58, MANSELL STREET.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

J. B. SCAMMELL & Co. (late Thomas Pugh & Co.)
WHOLESALE IRONMONGERS,
13, KING STREET, SNOW HILL, LONDON.


NUT


PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid &c. &c. or to any design.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass founding, and ornamental ironwork, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

*** Illustrations and particulars sent upon application.



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PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,

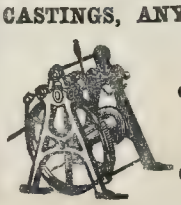
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DESCRIPTION AND PRICES ON APPLICATION.

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CASTINGS, ANY WEIGHT AND QUANTITY,

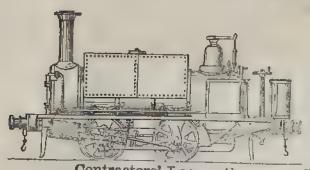
With the utmost despatch, at Country Prices.



HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.

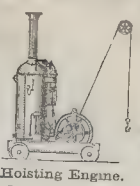


NEW PATENT PORTABLE STEAM ENGINES AND BOILERS.


Contractors' Locomotive.


Stationary Engine.


Steam Crane.


Hoisting Engine.


Agricultural Engine.

STATIONARY ENGINES.

THESE Engines require no Chimney-Shaft, nor Building whatever, a Cast-Iron Ash-pit forming the SOLE-PLATE, and they may be set up anywhere and started at once. Being very carefully made of the best materials, they may be perfectly relied on to work satisfactorily; and, from their self-completeness, they may be erected and set to work by any ordinary mechanic to instructions supplied. These improved Engines have the great advantage of being applicable to a variety of purposes, the small space they occupy rendering them available where ordinary Engines cannot be used.

PRICES OF ENGINES AND BOILERS COMPLETE.

Delivered Free in Glasgow, Hull, Liverpool, or London.

1	Horse Power,	Cylinder	3½in. ×	6½in.	Stroke	...	...	£45		
2	„	„	4½ „ ×	9	„	...	...	65		
3	„	„	5½ „ ×	11	„	...	...	85		
4	„	„	6½ „ ×	13	„	...	...	105		
5	„	„	7½ „ ×	14	„	...	...	125		
7	„	„	8½ „ ×	14	„	...	...	150		
9	Horse Power,	Cylinder	9½in. ×	16in.	Stroke	...	...	£180		
11	„	„	10½ „ ×	18	„	...	...	210		
13	„	„	11½ „ ×	20	„	...	...	240		
16	„	„	13 „ ×	22	„	...	...	275		
20	„	„	14½ „ ×	24	„	...	...	310		
25	„ pair Cyldrs.		11½ „ ×	20	„	...	...	370		

Prices of Steam Cranes, Hoisting Engines, Contractors' Locomotives, Agricultural, Pumping, and other Engines, on application.

J. B. BROWN & CO. 18, CANNON STREET, CITY, LONDON, E.C.

CHAPLIN'S PATENT PORTABLE STEAM ENGINES AND BOILERS.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.



Stationary Engine. From 1 to 30 Horse Power.

Portable Steam Crane. 1 to 30 Tons.

Contractors' Locomotive. 6 to 27 Horse Power.

From the strength, simplicity, and compactness of these Engines, they are now extensively used for general purposes; also in situations where Steam Engines of the ordinary construction cannot be applied.

Stationary Engines,—require no building in, nor chimney stalk, and with our Patent forced combustion apparatus, will burn inferior qualities of coal, wood, or peats. These Engines are specially suited for shipment, and may be packed inside the Boiler to economise freight.

Portable Steam Cranes,—for wharf or railway, with wrought-iron carriages on wheels, link motion, foot brake, &c., all under the easy control of one man; the larger sizes hoist, lower, and turn round in either direction by steam.—*These Cranes were selected by H.M. Commissioners for receiving and sending away the heavy machinery at the International Exhibition of* 1862.

Contractors' Locomotives,—are adapted to work on rails or tramways of a gauge from two feet upwards; they are complete and efficient Locomotives, simple in construction, and the working parts easily got at for repair; they draw heavy loads at reduced speeds. These Engines are usually sent in one package, ready for work on arrival.

LIGHT PORTABLE, HOISTING, WINDING, AND PUMPING ENGINES, &c.

ALEXANDER CHAPLIN & CO. CRANSTONHILL ENGINE WORKS, GLASGOW.

OFFICE, 9, Adam Street, Adelphi, W.C.; LONDON DEPOT and WHARF, Lower Fore Street, Lambeth, S.

Engines of each class KEPT IN STOCK for SALE or HIRE, and all our Manufactures GUARANTEED as to EFFICIENCY, MATERIAL, and WORKMANSHIP.

Parties are cautioned against using or purchasing Imitations or Infringements of these Patent Manufactures.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDENTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

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Orders requiring Despatch and Punctuality can be executed in a few days.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER, THOMAS FOX, 89, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public. All kinds of Rent Glass Silvered.
N.B.—The usual discount to builders and the trade

ROBERT MACLAREN & CO. EGLINTON FOUNDRY, GLASGOW. Manufacturers of all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT. GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.



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LONDON, 1851. PARIS 1855. LONDON, 1862.

AWARDED TO

COTTAM & COMPANY,

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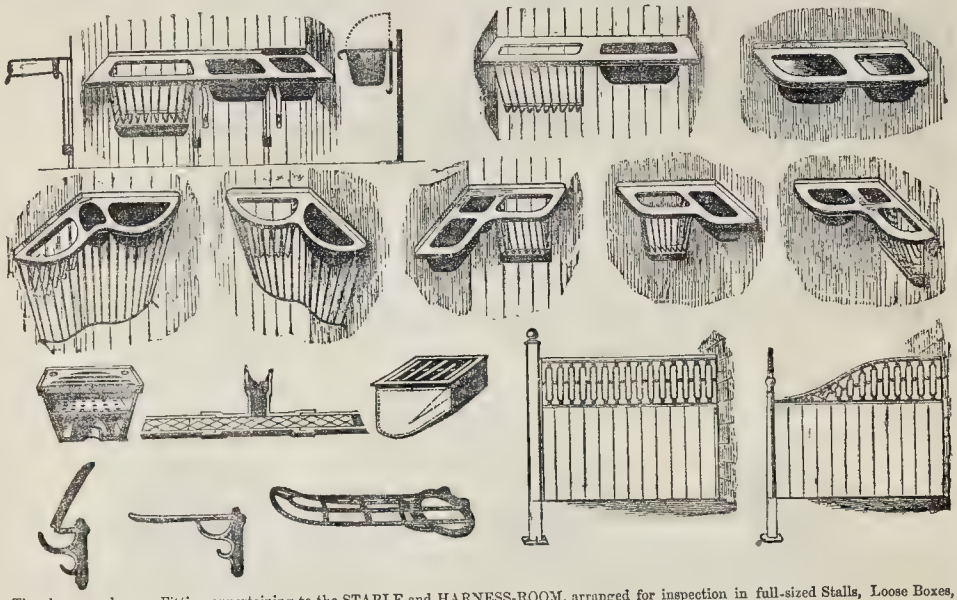
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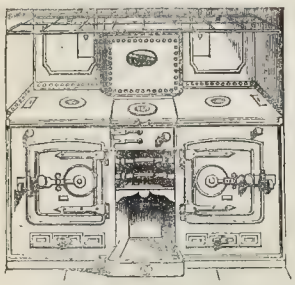
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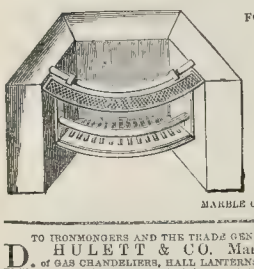
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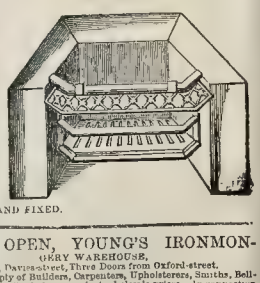
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With hanging trivet.

				s.	d.		s.	d.
18 inches wide,	10	inch bars	.....	7	6	.....	8	6
21	,,	12	,, ...	10	6	.....	12	0
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36	,,	24	,, ...	30	0	Extra strong		
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SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

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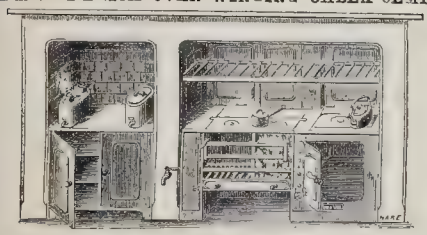
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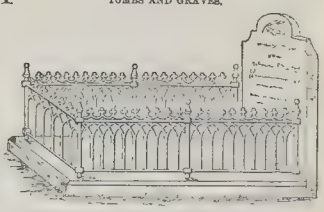
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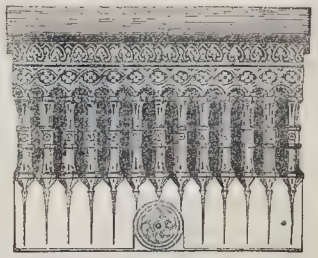
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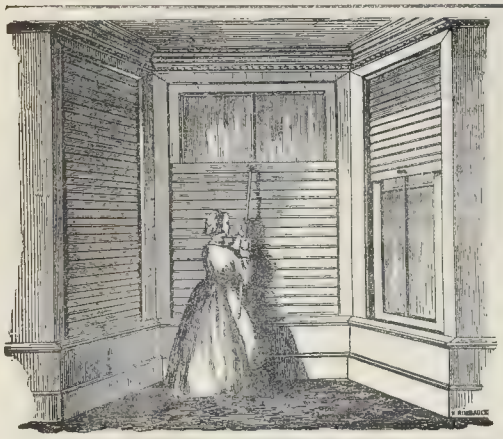
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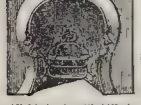
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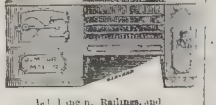
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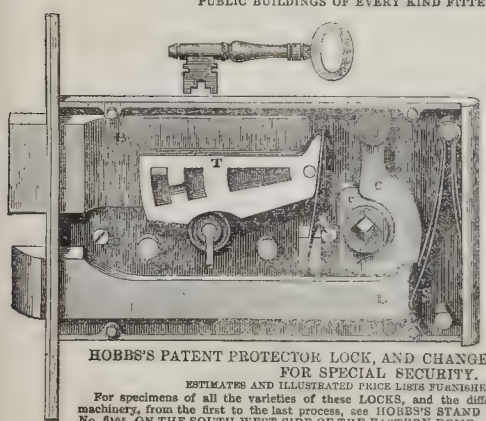


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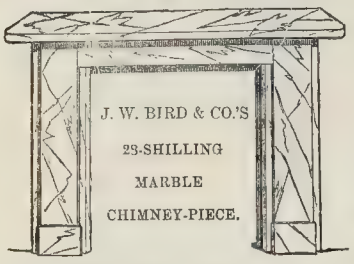
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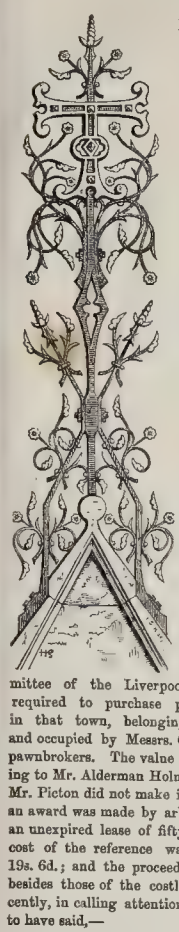


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VOL. XXI.—No. 1072.

The Costliness of Arbitrations.



THREE weeks ago, under the heading "Experts and Assessors in Building and Compensation Cases," commencing a notice of some proceedings for the correction of evils of the actual system of trying the cases requiring scientific and technical knowledge, we adverted to the unquestionable fact of the discredit into which "scientific evidence" was getting, of course without excepting the evidence adduced in cases of money-value brought to reference or arbitration.

A case has recently occurred in Liverpool, which we are called upon by more than one correspondent, not to omit mentioning; and we mark our sense of the importance of the question raised, by giving to the statement of the circumstances, the most prominent place in our pages.

It seems that the Improvement Committee of the Liverpool Corporation, lately, required to purchase property in Park-lane, in that town, belonging to a Mr. Critchley, and occupied by Messrs. Critchley & Deverill, as pawnbrokers. The value of the property, according to Mr. Alderman Holme, was 4,200*l.*, though Mr. Picton did not make it so much. Ultimately an award was made by arbitration, of 5,500*l.*, for an unexpired lease of fifty-five years. The total cost of the reference was no less than 1,800*l.* 19s. 6d.; and the proceedings had other features besides those of the costliness. Mr. Holme, recently, in calling attention to them, is reported to have said,—

"When he stated the figures to the Council, they would be as much astonished as he had been, and would deprecate the conduct of any gentleman who could put the Corporation to such enormous expense. It had been requisite to purchase the property, and Mr. Critchley could, had he thought fit, have offered to the Corporation to take down the back of the building and erected a new building to the line of the improvement, and continued his business in front. However, he had not chosen to do this, and the Corporation had been obliged to purchase the whole of the property; and in addition to the extraordinary claim which had been sent in for the property itself, an enormous demand had been for the destruction of the business, which Mr. Critchley alleged would take place. Mr. Critchley had asked for the building, for the remainder of the lease of 55 years, 6,500*l.* The surveyor of the Corporation was of opinion, with himself (Mr. Holme), that 4,200*l.* was the full value; but acting in the spirit of liberality in which the Council was always desirous to act, they would, he believed, have been willing to give 4,500*l.* The offer was not acceded to, and they were then driven into a reference. Mr. Critchley called seven witnesses to substantiate his claim. Generally speaking, these gentlemen valued the property at 6,600*l.* No less than six days and a-half were consumed in ascertaining the value of the remainder of the lease, which Mr. Picton, Mr. Stewart, Mr. Culshaw, or any gentleman who understood the matter, could have done correctly and well in half a day. The town-clerk repeatedly protested against this useless expense, but the umpire declined to stop the proceedings; and ultimately 5,500*l.* were awarded. There was then the second claim, for loss of business by removal, which was at first stated at 3,500*l.*, which both Mr. Weightman, Mr. Stewart, and himself thought exorbitant; and afterwards this was repudiated, and the claim advanced to 4,559*l.* 8s. 7d. Five days more were occupied with speeches and examination of witnesses, for the purpose of ascertaining what would be the loss of Mr. Critchley and his partner from the removal of the business. Eight witnesses were called, who asserted that the business would be destroyed, and supported the demand of Mr. Critchley. The Corporation called two witnesses, and occupied three or four hours. The result was, that 3,289*l.*, about 1,600*l.* less than the amount demanded, were awarded. Four days more were occupied in the speeches of counsel, and the decision of the arbitrators. At this stage of the proceeding he had to notice a circumstance—and he did so with great pain—because he thought it an exceedingly improper thing that a gentleman who was serving another public body, and was paid for assessing property at a fair and reasonable rate for the parish of Liverpool, should be employed against the Corporation, which was only the public in another shape, and should give such extraordinary evidence as that which he should now read. Mr. Wylie had said:—'I have taken 275*l.* and 50*l.* as the fair rental of that property;' and upon that he based his calculation. That was, the front shop, 275*l.*; the cottage attached to the premises, 25*l.*; and an old stable behind, another 25*l.*: making 325*l.* in all. He said: 'That is 325*l.* for the whole. I have no doubt the shop would be let at 275*l.*—perhaps in part from having a connexion with it. 275*l.* would be got without the connexion; or if they went away and carried the business elsewhere they would get 375*l.* independent of the connexion. As they now stand, I do not think it would do for a public-house. It would bring 275*l.* per annum for an outfitter." He was then asked and said, "I am the surveyor of the parish of Liverpool, under certain conditions, and have been for ten years. I have a salary. One of my duties is sufficiently rating property. I would not give the overseers any favour." And, being pressed by Mr. Aspinall, the barrister and able advocate of the corporation, and the Borough Recorder, he said, as to what he assessed the same property at, "Critchley is rated at 70*l.* per annum." Now, when he found a gentleman in the public pay deliberately standing up and on his oath declaring, for the purpose of establishing an enormous claim against the corporation that property was worth 325*l.* per annum, or, taking the shop alone, 275*l.* per annum; and then, when it was wrung out of him in cross-examination that, consistently with his duty to the public of Liverpool, he had valued it at 70*l.* per annum, he did not hesitate to say, in the performance of a very painful public duty, and he should neglect his duty were he not to say, whatever the consequences might be, that the authorities of the parish ought to inquire into the truth of the matter. He had no doubt they would do so; and he unhesitatingly asserted that a gentleman who could blow hot and cold as Mr. Wylie had done, and be the means of wringing from them an exorbitant sum, far beyond the actual value of the property, ought to be called upon to account for the extraordinary statement he had made With all respect to the gentlemen of the parish, he did not think they would do their duty to the public if they did not inquire into the conduct of the surveyor. Beyond this he would only say that he understood that the gentleman to whom the Corporation had had to pay this money was or had been an overseer of the parish of Liverpool, and consequently on of the body under whom Mr. Wylie was occupied. Beyond the sums already mentioned, the claimant had demanded 347*l.* 12s. for counsel's fees, which amount was taxed 78*l.* 15s. He also claimed for actuary's fees, 2*l.* 4s. 4d., which was disallowed; and payments to witnesses, 437*l.* 12s, from which 267*l.* 19s. was struck off. His attorney's account was 264*l.* 18s. 11d., from which 25*l.* was deducted. These items made the total of the claimant's charges upon the corporation, 791*l.* 0s. 2d. But, in addition to this, the corporation had been compelled to employ counsel, and their fees, with others, amounted to 354*l.* 12s. 6d.; with 183*l.* 19s. as costs of witnesses, one of whom had to be brought from London. It had been requisite to take down the evidence in the case, and the short-hand writers' notes had cost 96*l.* 8s. 8d. Expenses in obtaining evidence, in consequence of there being a pawnbrokers' club in Liverpool, which rendered this difficult, had amounted to 24*l.* 7s.; making a total cost of 659*l.* 7s. 2d., to which the expenses paid to Mr. Critchley (791*l.* 0s. 2d.) must be added, making, as the total cost of the inquiry, 1,460*l.* 7s. 4d., which the Corporation had had to pay. But he had not done yet. The fees of the arbitrators and the umpire, who had sat fifteen days and a-half, amounted to 348*l.* 12s. 2d.; and he did not say a word against this. There was a small incidental payment of 2*l.*, which brought up the total cost of the reference to 1,800*l.* 19s. 6d. He mentioned the circumstances with deep regret and pain; for it was almost enough to prevent a member of the Council from bringing forward any measure of improvement, when it was seen that any person who might be so disposed could strain the law to such an extent as to throw such expenses as these in the way. Happily, they did not often meet with such persons, and this was an exceptional case. He thought it so outrageous that he had felt it to be his duty to name it, that it might go forth to the public with his strong protest that any person should have put the pocket of the town of Liverpool to a cost of 1,800*l.* for an inquiry which could have been settled in twenty minutes."

It afterwards transpired that some expenses might have been saved by holding the inquiry in St. George's Hall, instead of at the Adelphi Hotel. Rooms in the Hall had been offered, but were objected to by one of the arbitrators. Still, it seems to have been conceded in the Council that the arbitrators, and umpire, generally, had acted in the best manner possible, and given the best decision they could consistently with the evidence. Mr. Holme objected to the manner in which the inquiry had been spun out; but it was impossible to respect any one more than he respected the umpire.

Mr. Holme added that two arbitrations, with reference to the value of the property about to be taken by the North-western Railway Company, had taken place that day, and on Tuesday, in St. George's Hall, each having finished during the day.

Notwithstanding that the case may be quite exceptional, there is a general tendency to costliness in such proceedings, which it must be recollected are designed to procure better and cheaper decisions than are obtainable in the ordinary courts of law. This circumstance justifies us in our prominent notice of the Liverpool case.

One of our correspondents, whose name, were we allowed to give it, would carry great weight, says:—

"That arbitration is a most costly way to settle value has long been known. That surveyors, and others, value for their employer, is also certain. How is the law to be improved? Will owners of property submit to the decision of a county or borough assessor, if such person could be legally appointed? Or must cases be fought out as at present, where occasionally the entire value of the property in dispute, or damage, as the case may be, is expended and lost on a first meeting?

Arbitrators, with unlimited power to call witnesses, with solicitors, with barristers, and with contingent costs and charges, is a blundering and most extravagant mode of settling value. It is also frequently demoralizing, as see the wide differences in value sworn to."

With these words we may leave the subject, and without further comment of our own.

FRENCH FURNITURE, AND THE OLDEN TIME.*

A DICTIONARY OF FRENCH FURNITURE? What manner of book can this be? such of our readers have doubtless exclaimed as have seen the announcement of M. Viollet-le-Duc's "Dictionnaire Raisonné du Mobilier Français." In the absence of a translation, we propose to render account of this valuable contribution to our store of chronicles of the decorative arts; mentioning, by the way, that as our author has elucidated his 438 pages of remarks with 239 illustrations (211 on wood intercalated in the text, 17 large cuts, separately, on wood, four vignettes engraved on steel, and seven drawings in colour, reproduced by chromo-lithography), his work would not be altogether a sealed book in the hands of those unacquainted with the French language. Indeed, in this respect it would not be less intelligible than some of our English works on the decorative arts, to some of which the illustrations have been considered so all-in-all that they have been issued without any letter-press whatever. Pugin's "Gothic Furniture," published in 1835, was issued without descriptive comments; but this is scarcely a parallel work, apart from the different scale of the two undertakings, because Pugin's twenty-three plates were *designs;* M. Viollet-le-Duc's illustrations are faithful drawings of ancient examples. These are chosen, as he declares, from the treasuries of cathedrals, among the precious *débris* which furnish museums, libraries, and the finest private collections, as well as from paintings and the numerous bas-reliefs preserved upon ancient edifices. He does not give a single piece of furniture, a jewel, or vestment, without first indicating its use, its transformations, and the methods of fabrication; and he aims at making his Dictionary not only a curious work, but a useful book tending to revive abandoned industries.

The contents of the "Dictionnaire" bring us face to face with the interiors of the homes of the nobles and wealthy burgesses in the days of the Jongleurs, Trouveres, and Troubadours. We may see their seats, tables, beds, utensils, cradles, cabinets, caskets, buffets, chariots, litters, drapery, housings, cushions, chairs, arm-chairs, thrones, tapestry, screens, hand-irons, chafing-dishes, epergnes, ornaments in goldsmiths' work, chests, wardrobes, folding screens, pillows, foot-stools, trunks, tools, singing-desks, writing-desks, coffins, palls, biers, locks, reliquaries, lamps, perfume pans, cope-closets, ecclesiastical furniture, the harness of their horses, &c. We may read of their private and public life; of feudal manners and customs; of coronations, marriages, receptions, tournaments, ceremonial *entrées*, homage, feasts, investitures, voyages, and obsequies. In a word, all that we know of early French literature and early French history, so far as they relate to early French society, may be found illustrated in these pages. Of a second and final volume treating of instruments, jewelry, costume, arms, military

* "Dictionnaire Raisonné du Mobilier Français de l'Epoque Carlovingienne à la Renaissance." La Première Partie, Meubles. 1 vol. 8vo. Par M. Viollet-le-Duc, Architecte du Gouvernement, Inspecteur Général des Edifices Diocésains. Paris: Bance. 1856-8.

equipments, &c., we reserve any notice till such time as it may be complete.

In the poem of "Gerars de Nevars," when the hero is stripped of his earldom by the Duke of Metz, he disguises himself as a minstrel, and presents himself before the castle of the duke:—

> "Whilst at the door he thus did wait,
> A knight came through the court yard gate,
> Who bade the minstrel enter straight,
> And led him to the crowded hall,
> That he might play before them all.
> The minstrel then full soon began,
> In gesture like an aged man,
> But with clear voice and music gay,
> The song of 'Guillaume au Cornez.'
>
> Great was the court in the hall of Loon,
> The tables were full of fowl and venison,
> On flesh and fish they feasted every one,
> But Guillaume of these viands tasted none,
> Brown crusts ate he, and water drank alone.
> When had feasted every noble baron,
> The cloths were removed by squire and scullion."

Such passages as these are rendered pictures indeed, if we can portray the "crowded hall," the tables, the service, the cloths so carefully folded by squire and scullion. Similar passages in Froissart are much intensified in their interest by our being able to fill up the outlines with details of our own. After the battle of Calais, King Edward III. invited all the French knights taken prisoners to a banquet in the Castle. "When the hour for supper was come, the tables spread, and the king and his knights dressed in new robes, as well as the French, who, notwithstanding they were prisoners, made good cheer (for the king wished it should be so); the king seated himself at table, and made the knights do the same around him, in a most honourable manner. The gallant Prince of Wales, and the knights of England, served up the first course, and waited on their guests. At the second course, they went and seated themselves at another table, where they were served and attended on very quietly. When supper was over, *and the tables removed*, the king remained in the hall among the English and French knights, bare headed, except a chaplet of fine pearls, which was round his head." This chaplet he presented, with chivalrous courtesy, in the course of the evening, to the knight who had twice struck him down in the fight, Sir Eustace de Ribeaumont. "Than the kynge came to Syr Eustace of Rybamont, and jonsly to him he sayd, 'Sir Eustace, ye are the knyght in the worlde that I have sene most valyant assayle his ennemyes and defende himself; nor I never found knyght that euer gaue me so moche ado, body to body, as ye haue done this day; wherefore, I gyue you the price above all the knightes of my court by right sentence.' Than the kyng toke the chapelet that was upon his heed, beyng bothe fayre goodly and ryche, and sayd, 'Sir Eustace, I gyve you this chapelet for the best doar in armes in this journey past of eyther party, and I desyre you to bere it this yere for the loue of me.'" With the aid of our author's illustrations of ancient furniture, we are able to depict still more vividly, this regal hospitality and chivalry, culminating in the waiting of our brave Black Prince upon the vanquished French knights.

In these early times, it appears to have been a recognized rule that the more a piece of furniture was associated with personal use the richer it ought to be ornamented. A monarch, or noble, richly clad in bright colours and precious stuff, could not with propriety have seated himself in a common unsightly chair on public occasions. Hence we find thrones and chairs the objects of much decoration. They were sometimes covered with gilding, or inlaid with ivory and choice woods, and covered with rich stuffs,—not fastened on as in our own day, but thrown over them to fall in handsome folds, or merely applied in the form of cushions. They were, however, very choice and rare, even in great households. There was seldom, in the earlier periods of the Middle Ages, more than one chair in one chamber. This was the seat of the master of the house, which he only abdicated in favour of a stranger upon whom he wished to shower every distinction in his power. The other members of the household seated themselves on benches, or trunks, or stools, as the case might be. These seats were generally high-backed, and furnished with a foot-stool. They were not intended to be moved about, but remained against the wall. There were different-shaped chairs that were used in the centre of apartments when the personage holding an audience wished to be attended by his suite grouped around him. Some of these were hexagonal. One of the six sides was without any railing: the planes on either side of this were fitted with arms; the three planes behind with a back. Somewhat of this form must have been the throne of Solomon, which, we are told, was all of ivory, plated with pure gold: the ascent was six steps, the back was round, and two arms supported the seat. Twelve golden lions, one on each side of every step, formed a feature in its ornamentation. Lions were also introduced as claws on feet to thrones and seats in the Middle Ages. It is noteworthy, that when chairs were made of a more movable size and were more generally used, it became necessary to fasten the stuffs with which they were covered to the framework. This necessity was the origin of our easy chairs. We have said that benches formed the seats of most of the members of a household. These, at an early period, also did duty as tables. When Gregory de Tours arrived in the presence of his king, he found at his right hand the Bishop Bertrand; on his left Raguemond; between them a bench covered with bread, &c., &c. If we may take the vignettes of MSS. as evidence, they were frequently gilded, and encrusted with gold and ivory. The ends were carved, and so formed as to make arm-rests. In the houses of the burgesses, benches ran round the apartments in which they received strangers, the seats of which lifted up like lids, and formed, with the panelling below, a series of chests.

We moderns have exiled to the kitchen a noble piece of furniture, which formed one of the most conspicuous objects in the *salons* of the French châteaux. This is the "*dressoir*"—a sideboard rising to some height, with shelves one above another, on which were displayed the gold and silver vessels, costly vases, candlesticks, and other choice ornaments of their owners. The height of these *dressoirs* was fixed by etiquette: a noble of a certain rank was entitled to use a *dressoir* of three stages, whilst those of a lower rank were obliged to content themselves with two. Marie de Bourgoyne, as daughter of the Count de Charolais, had five *degrés* to her *dressoir*; but the queens of France were alone entitled to a similar height. Ladies of rank, on the occasion of the births of their children ceremoniously kept to their chambers for fifteen days; and these they decorated with all the articles "*de luxe*" at their command. Their *dressoirs* were covered with bordered linen, or embroidered velvet; and upon the various shelves, which receded in breadth till they terminated in a dorsal, they placed vases of crystal, ornamented with gold and precious stones, ewers of gold and silver, bowls, silver candelabra, and sweet-meat boxes (*drageoirs*) of gold, enriched with precious stones. Persons coming to see Madame partook of these sweets, as well as of wine. When the *dressoir* was so constructed as to admit of its being drawn up to the dining-table, or placed in the centre of a chamber, it was called a *buffet*. The original use of the latter piece of furniture was, however, merely to secure the choice articles which ultimately came to be displayed upon it. The *dressoir* does not appear to have been in use before the fifteenth century; for, during the early feudal era, the habits of society were simple: nobles preferred to employ their wealth in building strong castles to hold a large number of men, and to equip these and feed them, rather than to purchase vessels of gold and silver. The house of Burgundy was the source whence the love of display emanated. The gorgeous entertainments of the Dukes of Burgundy were the cause of a jealous rivalry in the French court, which exhibited itself in endeavouring to eclipse the luxury of the former, by producing a still greater display of gold, silver, and jewelled vessels, by giving more abundant *largesse* and more frequent fêtes. By the fifteenth century luxurious displays had reached an extravagant height; and on the entrance of strangers of great rank, it was the custom to present them with refreshments in a vessel of gold, or *vermeil*, taken from the sumptuously-laden buffet, with the understanding that the costly object in question was to be retained by the person thus welcomed.

There was also a less imposing form of *dressoir*, partaking more of the nature of a credence. This was a table with a high dorsal to it, midway up which there was one shelf across: below the table top was the *armoire*, or place of deposit for the objects displayed upon it when it was desirable to secure them. M. Viollet-le-Duc gives an illustration of this useful contrivance. The table-top, or sideboard, is covered with a narrow cloth, upon which are placed three tall long-necked ewers: four silver plates are ranged on the shelf; and the dorsal, against which they lean, is lined with stuff or leather. This, and the *dressoir* proper, are pieces of furniture we might well reproduce. The receding steps or shelves of the dressoir would answer admirably for the display of ancient china and other nick-nacks; while the lower board would answer the same purpose as our modern upholsterer's sideboards; and the space below this, which is planked to form another shelf or inner step, would be also useful in the service of a dinner. The linen cloths with which they were decked, were bordered with velvet and gold, and fringed with silk. As our views of the value of the services of laundresses are of a very different scale to those entertained by our ancestors, the cloths might be dispensed with; or, otherwise, made of material suitable for frequent washing. The want of the *dressoir* must have been felt in the recent *fêtes* given in the metropolis to their Royal Highnesses the Prince and Princess of Wales. The corporation display of silver and gold plate reached from the ground to the ceiling; and similar displays were made on the *buffets* of those noblemen whom the royal pair have honoured with their company during this season. Plain deal wood, covered with crimson cloth or velvet, is doubtless a good temporary substitute; but it is certain that the legitimate piece of furniture which should have borne the costly freight was the ancient handsomely-carved *dressoir*.

It was not long prior to the thirteenth century that tablecloths were considered indispensable to the dignity of a dinner. Tables intended for the serving of meals were furnished with a ledge all round them, much as the butler's tray is in the present day. Affixed to this ledge was drapery which descended to the floor in folds; but on the table itself there was no covering. The form of tables up to this date was circular, or semi-circular. In the thirteenth century, dining-tables were square, when the company was small; and oblong, or of a horseshoe form, if the number of persons to be seated at them was large: occasionally, too, a number of small tables were provided. The ease and rapidity with which these were removed on the conclusion of a repast, suggests to M. Viollet-le-Duc the supposition that they consisted of a number of panels, or leaves, placed upon trestles without being fixed, when the number to be seated being ascertained, the exact accommodation required could be given. These were probably exceptional arrangements to meet exceptional cases; because it is certain that some dining-tables must have been of a more solid construction, as it was not unusual for persons to mount on them between the courses and recite verses, or perform allegorical devices, or present bouquets to the guests. In those early times it appears to have been the mode to place the dishes and wines upon the *dressoirs* and credences, whence they were handed to the guests. All the vignettes representing repasts show that one side of the table was left free for the service, and the table itself narrow enough to be conveniently reached across. Princes and nobles sometimes dined at separate tables from their retainers. The vignettes of fourteenth and fifteenth-century MSS. show personages with or without their wives, seated at narrow oblong tables eating, the bench or throne on which they sit terminating in a canopy and hung with tapestry.

There were also tables much more richly ornamented. These were for games of chance, or for the chamber of the lady of the château. They were made of metal, bronze, gold, or silver. The will of Charlemagne is cited by the author of this Dictionary, as proving that he was possessed of three silver tables and one gold one of a considerable size and weight. The Trouvères disdained not to celebrate the beauty of a certain table presented by Don Pèdre de Castille to the Prince of Wales. It was set with precious stones, some of which were believed to possess the property of turning black should any dish containing poison be placed upon it.

Metallic beds are by no means an invention of this age of iron—the nineteenth century. The bed of the King of Bashan was a bed of iron. Solomon speaks of a bed decked with tapestry, with carved works, and with fine linen of Egypt. The prophet Amos speaks of beds of ivory. The bas-reliefs of the Egyptians, Greeks, and Romans, show us numerous examples of their beds. In the Middle Ages they were made of bronze as well as of ivory, horn, and precious woods encrusted with ornaments. The vignettes of the Carlovingian period indicate, by the form of the beds represented in them, that they were then constructed of bronze. Towards the close of the twelfth century, the woods used in their construction were carved and painted. Mattresses, pillows, coverlets, and curtains were all richly ornamented with lace and embroidery. The curtains were suspended from transverse beams or poles; and between these and the bed, were slung night-lamps. During the twelfth, thirteenth, and fourteenth centuries night-lamps were considered indispensable; perhaps from fear of apparitions, or from the belief

that they drove away evil spirits, or from a general sense of insecurity in the dark. In each successive century, the garnitures of beds became richer and richer, the counterpanes being in silk, then in velvet, and ultimately of cloth of gold. In the fifteenth century, size became a condition of request. Beds were then made 7 feet long and 6 feet wide, and oftener still larger. Up to this date, the canopies or bed-tops and curtains were all suspended from the ceiling; but in the sixteenth century, bed-posts or columns began to make their appearance. Besides beds for actual use, there were state beds or *lits de parade*, which were placed in chambers adjoining the real bed-chamber of a prince or princess. In these they received ceremonious visits from persons not sufficiently intimate with them to enter the actual bed-chamber, but still not to be placed upon the footing of ordinary visitors. It was these state bed-chambers, says M. Viollet-le-Duc, which established the distinction which obtained till the last century between the lesser and the grand levees of the sovereign. The "petit lever" was held originally in the bed-chamber; the "grand lever" in the state chamber.

The use of enormous wood fires in the large open chimneys necessitated the adoption of screens; and the contrivances with which these were accommodated to circumstances show the estimation in which—those now unseen comforts—open fires, were once regarded in France. Sometimes the screens were suspended to the edge of the chimney-opening; so that those sitting around, could warm their feet without burning their faces. If the fire was fierce, its effects were tempered with screens; and if burning low, they were dispensed with altogether, and people gathered round the embers within the chimney, on stools. Considerable taste and ingenuity are displayed in the various forms and materials of which these stools were made. Some of them were square, others triangular, and others oblong; some were light, some heavy; some covered with cushions, and some uncovered; and all of them were low, and without backs. Our author has a theory of his own concerning their use. He thinks the difference in height, gained by a company being promiscuously seated on stools and chairs, contributes not a little to its gaiety and ease. The ideas of people seated on chairs of a uniform height, are apt to arrange themselves in as formal postures. It is, perhaps unwittingly, to avoid this certain monotony, that gentlemen are in the habit of standing by the side of ladies who are seated to enjoy their conversation in *conversazioni*: but this, of course, ultimately produces fatigue; and wit again flags. The true secret of insuring a pleasant evening is to introduce the use of stools. Then gentlemen, choosing the lower seats, could look up into the faces of the ladies, and a continuous stream of brilliant wit would set in. Stools were in much more general use in the Middle Ages than in our time; being always placed in front of benches, thrones, chairs, and by the sides of beds. Another ancient piece of furniture, the use of which could be well revived in our large country mansions, is the long double bench, raised on a foot-pace, depicted at page 105, by M. Viollet-le-Duc. This has close panel fronts to the seats, and, for a dorsal, a rail hinged on to a pivot. When placed before the fire, persons can seat themselves upon it, and the rail inclines to suit their posture: when sufficiently warmed they can, by seating themselves on the opposite side, turn their backs to the fire, and the rail accommodates itself anew. The ends of this bench, as shown in the example in the "Dictionnaire," are richly carved, and surmounted with crests: a stuffed cushion is thrown upon the seat; and it is, generally, a very handsome object.

Cabinets were a creation of the sixteenth century, but came more especially into use in the seventeenth. The pieces of furniture which served the same use, namely, to preserve small objects of value before this period, were the *armoires* and *bahuts*. The former were used more especially in churches and monasteries. They may be described as a sort of cupboard or press, opening with folding doors, containing divisions suitable for the conservation of sacred vessels, missals, vestments, and other treasures. They were also used in the homes of the nobles; and to this day, the French peasants keep their linen, their family papers, their little store of silver, and other effects, in the modern representative of an *armoire*. Indeed, the word, though given, in many dictionaries, as a "press" or "chest of drawers," is in constant use in France, for a cupboard of almost any kind. M. Viollet-le-Duc, at page 7, gives an illustration, with others, of an *armoire* of the thirteenth century, which is preserved in the *salle du trésor* of the Cathedral of Bayeux. It was made to extend along one side of the room in which it is placed, with two tiers of compartments, one above the other, eight in each row, and each compartment possessing its separate door. The ornamental hinges, bolts, and locks upon the numerous doors form its most striking ornament: every compartment being complete in itself, it would have been a most tedious task to rifle it. The apparent reason of the large scale upon which it is constructed, is that it was intended for the safe keeping of the armour of the men-at-arms of the chapter (gentlemen who were bound to assist, armed *cap-à-pied*, at the grand festivals held in the cathedral), besides the ordinary treasure of a religious house. The woodwork is entirely covered with paintings, representing the translation of relics. Two illustrations (one of which is in colours), are given of an *armoire* from the treasury of the Cathedral of Noyon. The panels of this are painted both outside and in: a figure of a saint occupies the centre of each, standing out from diapered backgrounds, alternately grey and red; and a black and white quatrefoil border edges each tier. The two ends terminate in gables, and a dormer ornaments the centre of the front. The ironwork is not so complicated and ornamental as in the Bayeux example, but the plan of separate fastenings to each compartment has been adhered to. An *armoire*, likewise illustrated, from the treasury of Saint Germain l'Auxerrois, consisting also of two tiers of compartments, surmounted with a richly carved open cornice, is furnished with a panelled bench, extending its entire length, the first tier of doors forming a dorsal to it. In the first-mentioned specimens the space between the lower tier and the floor was unoccupied save by the legs: in this it is judiciously economized into a seat. The other forerunner of the cabinet, the *bahut*, partakes more of the character of a chest or trunk, placed upon four short legs or upon the ground. These appear to have been more within everybody's reach than the more stately *armoire*, and to have served as treasury, seat, table, or bed, as occasion required. In the earliest examples they were of a simple oblong form, secured with iron bands across and across and round the angles, of more or less ornamented workmanship. However, when the interiors of chambers were hung with tapestry, and decked with stamped and gilded leather, they began to be richly carved with armorial devices, emblems, and inscriptions. An example, illustrated from the collection of M. Gerente, has on its front twelve armed figures in alto relievo, coated in mail, standing in as many cusped-headed niches, grouped under six pointed arches, the heads of which are filled with tracery of different devices. The spandril spaces between the heads of the arches are filled with bizarre figures, carved in low relief. The lid is flat, and covered with quatrefoils, having a different subject represented on each. The feet are panelled, and extending to one-third of the width, and carved with dragons. The costume of the knights, and the shape of their helmets and shields, indicate that this curious piece of workmanship was made at the close of the thirteenth or at the commencement of the fourteenth century.

A smaller and much richer article, destined for a similar use, was the casket (coffret). These were made in gold, silver, ivory, choice woods, inlaid and enamelled copper; and treated in their ornamentation in the most artistic manner. Nobles and their wives carried their jewels, their money, and even their title-deeds, with them when they undertook a journey, when they were placed in caskets and confided to the charge of a confidential squire. They were of different forms. A choice example preserved in the treasury of the cathedral of Sens, illustrated by M. Viollet-le-Duc, is in the form of a prism of twelve planes terminating in a pyramidal covering, also possessing a dozen planes. It is of ivory, and is sculptured with the histories of Joseph and David, and representations of animals. It is supposed to have come from Constantinople in the twelfth century, and to have contained relics. The most usual form, however, is that of a small oblong box with a flat or rounded lid. Sometimes the workmanship is more precious than the materials. An illustration is given of a casket of chestnut wood, 27 centimetres long by 10 high, with handle, hinges, and lock of iron. The front is carved with figures and animals in circles of foliage, and the sides are ornamented with circles, the centre of which is the letter H. The handle is furnished with a ring which turns upon a pin, by which contrivance the casket, when held in the hand, can be turned from side to side for the convenience of locking or unlocking it. Some caskets were sculptured with scenes from the chase and from romances in vogue: others, made of wood, are covered with stamped brass; and others of oak are covered first with red leather, and over the leather thin plates of perforated polished iron upon a second plate not so much polished. A particular example of the latter kind is furnished with four rings, two on each side, to fasten it to the interior of a trunk so firmly that it could not be easily abstracted, or to be carried *en croupe*, fastened to the baggage upon the beasts of burden. We recently mentioned the circumstance of the Chatelain de Courcy sending his heart in a casket to "la dame de Fayel." A Trouvère has handed down the fact that the casket in question was silver. Finding himself dying, the chatelain

> "..... fist aporter
> Un des coffrets de ses soumiers
> Ouquel estoit li tresors chiers
> Des tresches (tresses) qu'il veoit souvent.
> Un coffre petitet d'argent
> En a trait et puis l'a baizié,
> Ouvert l'a, si a fors sachié
> Les tresches qui sambloient d'or."

There are few objects which present a greater diversity in form than thrones. Indeed, a chair or a folding-stool, if raised on a dais and furnished with a canopy, would pass for a throne. *Les faudesteuils pliants*, or folding-stools or chairs, frequently formed part of the baggage of princes in the Middle Ages, for this purpose. When required for state use, all that it was necessary to do was to place it on a dais, with a stool to form a second step, and drapery arranged over head for curtains or canopy. Our English Edward the Confessor is represented on the Bayeux tapestry as seated on a bench, without dorsal or arms, beneath an arcade hung with drapery. The ends of the bench, which are even with the seat, are carved to represent heads of animals, and the legs are ended in claws. On the seat is a cushion, apparently made of diapered stuff. Sometimes a throne consisted of a carved bench, with a dorsal, but no ends, raised on a foot-pace on which was likewise a richly ornamental foot-stool. Another form of throne illustrated by M. Viollet-le-Duc, consists of a *faudesteuil* having the head of an animal at the four corners and the feet for legs, across which a piece of rich drapery is thrown, and over that is ranged a cushion. This *faudesteuil* stands on a dais of two steps, beneath a square canopy, supported on four columns, and hung with drapery. The most imposing form consists of the high-backed armed-chair, raised upon a dais beneath a canopy. This, as illustrated, ornamented with carved panelling and little niches containing figures, is very handsome. Under the heading of "Faudesteuil" there is an illustration of a bronze seat of the twelfth century, in which foliage, birds, and animals are blended in a design of great beauty.

The *prie-dieu* was not in use till the end of the fifteenth century. Before that period, nobles with their families used the chapels of the chateaux for their devotions, and burgesses the principal rooms in their houses: when there, the persons joining in the worship knelt on the carpet or on cushions. It will be remembered that churches were not furnished with pews at that age: worshippers all fell on their knees upon the pavement. But luxury crept into devotions as into everything else; and ladies carried, or sent, cushions to church; and *prie dieux* for individual prayer were instituted in private life. They contained a little *armoire*, in which the prayer-books used could be kept; and were furnished with a slanting top, like a lectern.

Shrines are very amply illustrated by our author. They are represented as treated in every manner, from the simply coffin form to be carried on the shoulders, to the elaborate structure to be placed near the high altar of a cathedral. Numerous reliquaries also are given. These are, generally, choice specimens of the goldsmith's art. To the Crusades is to be attributed the rage for reliquaries in the early age. Every one visiting Jerusalem took home some sacred relic, which was deposited in a casket made for its conservation. A curious conceit prevailed in the manufacture of reliquaries: they were formed, as far as possible, into the shape of the relic inclosed: if it were a skull, the reliquaries assumed the form of the bust of the saint, showing his features; if a hand, or a foot, or an arm, the casket presented similar outlines. These curious objects were sometimes of gold, silver, and carved ivory, &c.; and were enamelled, and chased, and studded with a profusion of precious stones. The most precious of all relics, however, was the Saint-Graal, the vessel used by our Saviour at the Holy Supper, and in which Joseph of Arimathea received the blood that fell from our Lord in the Passion. Next to

this in estimation, were considered the fragments of the true cross: these were conserved in cases of various forms. The crown of thorns, encased in crystal, is preserved in a gold reliquary of the form of a crown, which has the twelve apostles in niches round the circle. Those who are curious in such matters will find much to interest them, likewise, about dyptichs, tryptichs, *retables*, and altars.

Froissart exclaims, foreign countries may well wonder at the noble realm of France, how finely it is situate, and what numbers of cities, towns, and castles it possesses, as well in the distant parts, as in the heart of the country. And after picturing the interiors of the *châteaux*, we can quite understand his admiration. Richly panelled ceilings, richly carved bedsteads and cradles, walls hung with tapestry, bay windows, fringed carpets, cushions of rich stuffs, carved chests and benches, *dressoirs* covered with gemmed vessels of silver and gold, open chimneys whose mantel-shelves mount to the ceilings, carved with armorial bearings, are objects capable of gorgeous combinations. The ground, however, upon which we recommend this volume, is the possibility that, in the right hands, it will suggest to our wholesale furniture and cabinetmakers, the adaptation of chaste forms to articles in every-day use; and to others, the revival of some of the useful kinds of furniture that the intermediate generations between us moderns and the sixteenth century have suffered to fall into disuse, adding thereto fresh art, and details of ornamentation, less *Mediæval* than combining the utilization of what is good in one period, the older, with what may be characterisic and worthy of the other, the period in which we live.

OLD SMITHFIELD AND ITS PRECINCTS:

A SANITARY AND ANTIQUARIAN RAMBLE.

Great changes in our time have been made in the venerable neighbourhood of Smithfield; and still the alterations go on. Along the Fleet Valley, City-wards, within the last twelve years, or thereabouts, wretched houses, that gave shelter, it is said, to nearly 20,000 people, have been swept away. This week, the removal of the property and houses required for the construction of the loop line into Smithfield to join the new Metropolitan Meat and Poultry Market, has been commenced. A vast mass of property in Greenhill's-rents and other confined localities on the northern side of the market, is also undergoing demolition. The difficulties to which people are subjected, whilst so little is done, in proportion to the need, towards providing the proper number of new dwellings, are grievous: yet we can hardly regret the demolition, the unwholesomeness of the old tenements being taken into consideration; and there are many who require the pressure, to induce them to dispense with hurtful indulgences which absorb the means that otherwise might go to procuring better places of abode. The Fleet has disappeared, being now confined below ground. At the present time, Sharp's-alley—that place of former unsanitary repute—is in course of demolition, as necessary for the extension of the Railway Station. The excavations are being continued to near the building which is occupied by the Field-lane Ragged School and Refuge. The horse-slaughtering has been removed to Maiden-lane, Bow-creek, and other localities, where it is managed in a more satisfactory manner than formerly; and the persons engaged in the business derive an increased profit in consequence. There is, however, still lingering in its former seat, evidence of the busy but unhealthy trade which used to be carried on. In Round-court may be noticed a sign marked "———, Dealer in Bladders and Cats'-gut;" and not far off, in one small old-fashioned-looking shop of a very unsatisfactory description, there is an announcement that here may be obtained the very best pork-sausage skins, 7s. per gallon.

Few who have passed this way, along the new street, can fail to have noticed, on a piece of vacant ground, a large and motley gathering of men and a few boys: some are old and others of various ages; a few are dressed in the height of the summer fashion; and others show various grades of decline to tattered poverty: each, with book or pencil in hand, forms one of the numerous groups, or else is engaged in solitude, making some subtle and mysterious calculations. Young men, in their shirt-sleeves and aprons, hurry from Clerkenwell way, and hastily transact a piece of business, and then rush back: errand-boys and others appear, who most likely negotiate some affair for other parties. This company is the betting fraternity, which, having been driven from Bride-lane, Fleet-street, by the City police, has established itself at a short distance over the border, where it sets metropolitan police at defiance. Day after day, during summer and winter, the betting exchange is here carried forward in the most brisk and public manner, and in many instances leads to ruin and mischief. The young men from the goldsmiths' and jewellers', &c., cannot derive much good from visits to this place. It seems surprising that such a thing should be allowed; but the police are helpless. In the streets or public roadways, they could prevent such people from assembling and forming an obstruction; but inside the open railing which surrounds this now waste piece of land, they cannot interfere. The ground, we are told, belongs to the City Corporation; and if they would but enclose it with a hoarding of sufficient height, these gentlemen would be again sent upon their travels.

To return, however, to Sharp's-alley: we learn that during its removal, several coins (rose-nobles, &c.), tradesmen's tokens, pottery, and other objects, have been found; and while making the extensive excavations towards the Clerkenwell Sessions-house, to the north of the iron bridge which crosses the railway here, some very curious matters have been recently brought to light: these consisted of a potter's kiln and some encaustic tiles, which seem to have been spoiled in the course of manufacture, and thrown to one side: the tiles indicate a date of about 350 or 400 years back. The kiln is formed of thin square tiles, of a red colour; and at a first glance, the three arches which support the floor look much like Anglo-Roman work. A more close inspection, however, shows that the tiles are not older than the date above mentioned. These arches have been used for firing, and were probably supplied with wood: they support the floor of the kiln, which is formed of tiles and concrete, and is perforated with numerous holes, which communicate with the arches below. This floor was found at a depth of about 14 feet below the neighbouring surface. In the "Memorials of Father Thames," which appeared in the *Builder* some years ago, and also in some notes on the progress of the Fleet sewer, we directed attention to the enormous rise of the ground in this part of London during a comparatively recent period; and it is most likely that large quantities of the *débris* of the Great Fire of 1666, here found a resting place. The excavations in progress show that to a considerable depth, the soil is "made ground." Originally, this kiln, over which the ground has risen 14 feet, was no doubt planted on the natural bank of the Fleet river.

The railway authorities have shown a praiseworthy spirit in preserving the fragment of Old London that we have spoken of; but it is likely that before these particulars get into the hands of our readers, it will have been necessary to remove it. Mr. Price, of Cow-cross-street, has, however, taken the precaution of having it carefully photographed. This gentleman, following the example of his late father, continues the collection of antiquities, that are from time to time discovered, particularly those which have local interest.

In connexion with the kiln, it may be worth while to say that in the year 1506, or about contemporary with it, Prior Bolton began extensive repairs at the church of St. Bartholomew-the-Great, Smithfield. On that occasion there can be little doubt that the pavement, which is now covered from the view, would be attended to; and it might be found by investigation, that if this was in part, or altogether, formed of encaustic tiles similar to those found here, the kiln might have been built for the purpose of making these articles; but however this may be, it is certain that no longer back than the beginning of the present century, there were potteries along the banks of the Fleet; and some of these were situate near where the Clerkenwell police-courts are now.

Passing up Cow-cross-street to Smithfield-bars, there are some quaint houses and shops. Part of the fronts in Faulkner's-alley are of wood, and are worth notice. And here, as well as in some other confined places where the people are very poor, there are, considering the situations, wonderful displays of window plants and flowers. This pretty custom has been seemingly much promoted by the shows and prizes in connexion with the "Lamb and Flag" Ragged Schools. We would, however, just hint that in some instances the windows are so crowded with drooping and other greenery, that it interferes to a great extent with the proper admission of light, and with ventilation. Leading from Cow-cross-street there are several alleys. In some of these, on the south side, are large slaughter-houses, to which the animals are still driven through the streets from New Smithfield. These, in consequence of a better system of inspection, have been improved during the last few years: but, as we said last week, they require to be more so, and to be designed on principles freshly studied. At best, the practice of driving animals through miles of crowded streets, and killing them in close and crowded neighbourhoods, is an objectionable arrangement. In this street, at the corner of Red Lion-alley, there are the remains of a gateway which has been boldly and elaborately carved. It is of about the time of Charles II.'s reign, when carving was much used in London, in the decoration both of ships and of houses.

At Smithfield-bars,* from near the top of Cow-cross-street to the open space of the old market, there are indications of a great and sweeping change. The shops, hostelries, and houses are nearly all closed, and the inhabitants gone elsewhere. Placards announce the sale of materials: the auctioneers are busy; and soon the houses will be knocked down and carted away, and this valuable site will be made ready for the building of the new dead-meat market. Already the process of gutting the Rose Inn has commenced, and other work of demolition will soon follow. Nearly the whole of the houses are older than the time of the Great Fire, which, as our readers know, did not spread in this direction. The fronts of many of them have been altered; but from certain points, Smithfield-bars has an ancient and picturesque appearance, which seems more striking since the shops have been closed. The backs of some of the premises,—the Rose Inn, for instance,—are worth inspection by those who take an interest in what few remains of Old London now exist.

The immense mass of woodwork of the pens is to be presently rooted up, and may, when chopped into firewood, have an effect on the market-value of the commodity.

Leaving these matters, and hearing of far too much sickness and death in Clerkenwell, we wander from Smithfield in the direction of St. John's Gate, and glance at the condition of some of the dwellings by the way, particularly part of those in Eagle-court. From St. John's-lane westward to the Metropolitan Railway, bounded on the south by Cow-cross-street, and on the north by the houses which face Clerkenwell-green, there is a thick population, which requires great sanitary care. Throughout a considerable part of this district, there are many men who work at various branches of watchmaking, as lapidaries, engravers, &c., in the midst of their own families, in parts of houses in which there are several other families; and in few districts of London will there be seen so many pale-faced men and women, and undersized and delicate-looking children. There are complaints of falling prices and scarcity of work amongst these skilled artisans. Many who have families, who could formerly pay for two or three rooms, have thus been driven into one. When considering the sanitary statistics of the metropolis, the sufferings caused by the transition state of several trades should be thought of; for, although improvements are continued, this must materially affect health. For instance, in one room there were two decent-looking women and five children. One was a single woman and the other married. The father of the children and husband of one of the women, had been for months out of work, in consequence of a broken limb, but had started to the country in search of employment. The two women and two little girls were busily engaged sewing a fashionable kind of striped shirt. The women attended to the chief part, and the little girls made the seams of the wristbands, &c. One little girl, too small to sew, threaded the needles when wanted, so that not a moment should be lost. They worked incessantly from before five o'clock in the morning until late at night, and the whole earnings of the women and children only amounted to about 1s. 4d. a day, whilst for nearly three weeks they had been unable to get even this miserable employment, so that they were thankful to obtain it. We mention the case to show how sanitary derangements must affect the health of those who are so much underfed as are persons in the condition of the people mentioned. In many of the houses here, the closets and dust-bins are within the passage at the bottom of the staircase: the closets are in several instances ill-constructed,—some untrapped, or badly supplied with water: the staircases are without ventilation; and in the morning, after the doors, &c.,

* On a house in Peter-street, which leads from here, is the following inscription:—Opposite this place Hick's Hall formerly stood. 1 mile, 1 furlong, and 13 yards from the Standard in Cornhill; 4 furlongs 205 yards from Holborn Barrs, down Holborn, up Snow-hill, Cow-lane, and through Smithfield.

have been closed all night, the people say that the smell is shocking: in some places we found it bad enough in the daytime.

Three children have died within a week, of scarlatina, in a house which stands over Ledbury-place, on the west side of St. John's-square. On reaching this place we find it to be the dwelling in which the famous Bishop Burnet long resided, and in which he wrote several of the works which have rendered his name eminent.

The front of the house has been much changed since Dr. Johnson may have often passed this way to or from the old gate, or when the small coalman gave his musical entertainments to the quality of Clerkenwell. The gardens that are shown in the old prints to have been in front, have been covered by shops. It is satisfactory, however, to see that the name of the bishop has been printed in bold letters on the building. Passing through the archway of Ledbury-place, there may be seen several small cottages, which have been built on what was formerly a garden: the place is clean; but an untrapped gulley should be altered. The cottages are not of the best kind; but care seems to have been taken by the gentleman to whom the property belongs; and matters will be much improved when the deep cutting of the Main-Drainage sewer passes close to the premises. Additional closets have been provided, and water supplied.

It was, however, in one of the back rooms in the basement of this large house that the three children died. A cellar below, contained, we are told, no offensive matters. The windows, however, looked towards one or two closets, which were at a few yards' distance. The room was large, and ought to have afforded fair facilities for ventilation. The neighbours, however, report that the father was of unsteady habits, and that the children, who were weak and unhealthy, were left in dirt and neglect. The room was altogether of such a description, that some say the sickness could not be wondered at. We had, however, no means of judging of this, for the tenants had left; and since, a fourth child has been with difficulty saved from perishing with the same disease. The house of Bishop Burnet is of large size, the staircases very wide and old-fashioned; and it is satisfactory to find that good provision has been made for ventilating them from top to bottom. Unlike the staircases to which we have referred, there was no tainted air—the stairs, &c., were scrupulously clean,—and in certain of the rooms various openings had been made. There are some back apartments, leading from the principal room, and which in certain instances seem to be used as sleeping-places: these might be improved by ventilation of the staircase.

There is one thing more to be mentioned in connexion with the premises: with the exception above mentioned, the tenants seem to have been well selected, the agent being instructed, before letting, to make careful inquiry in the neighbourhoods in which persons requiring apartments have been living. Most of the rooms were comfortably, and in some cases elegantly, furnished. The old wood-panelling is said, if kept well painted and washed, not to produce many troublesome visitors. Nearly all the windows were open, and a glance at the whole of the premises shows what improved conditions, even in tenemented houses, may be created by decent persons combining with their landlords to produce them.

LOCAL IMPROVEMENTS UNDER THE PUBLIC WORKS ACT.

The Lancashire towns are all astir as to the application of the new powers given to the manufacturing districts for effecting local improvements under the Public Works Act of last session of Parliament. Discussions have been going on amongst the authorities, projects suggested, difficulties started, and objections more or less successfully met; and, on the whole, a willing and excellent spirit has been manifested on all hands. No one expects that the adoption of the new Act will do all, or even a great part, of what is requisite in the circumstances; but a million and a half sterling cannot but aid most materially in relieving the distress. Some perplexity prevails as to the best sort of works to be gone into; so much skilled labour, as well as outlay, is requisite in carrying out many local improvements; all this, apparently, diminishing the actual benefit afforded to the unemployed cotton-spinners. The works which the Act may be said to hold in view, as described at Stockport by Mr. Farnall, the Government commissioner, are "such as the draining and laying out of common lands for the purposes of public recreation grounds; the construction of reservoirs for waterworks; and the cleansing, widening, and deepening of rivers and watercourses. In sewering streets, it might either be for public or private benefit: if any portion were private, they could agree with the parties to carry it out, and submit plans to them, to which they must object before any money was expended, as they could not afterwards dispute the payment of the account." The Act gives summary powers overruling local government Acts, for example, converting six months' notices to owners of property, to level, pave, and sewer streets, into notices of fourteen days only. The time requisite for the compulsory purchase of land for certain purposes seems to be somewhat in the way of prompt action.

As regards sanitary improvements it has been suggested by Lord Fortescue, that Government might facilitate the execution of such works in that still too generally unhealthy district, by sending some competent and impartial person or persons to report upon the cost, and the results, pecuniary and sanitary, of the various works of drainage and water supply which have now been completed for several years in between 100 and 200 other places in the kingdom. His lordship does not seem to be aware that in many of these places sanitary, financial, and other reports have been regularly printed, and might readily be procured. Scores of such reports have been condensed and quoted from in the *Builder* for years past; and the *uniform* result, so far as we can recollect, is that the most decided and undoubted benefits to life and health have been derived from improved drainage and water supply. His lordship adduces the case of Ely, as if it were a specially distinguished one; but this must be from ignorance of the extensive benefits which have been already conferred upon the community in all parts of England by means of sanitary improvements. As for new commissioners, they might be useful in concentrating these results officially into one focus; but for an account of the experience of past years they must in a great measure rely upon the reports to which we have just pointed attention.

At Preston, where various important works have been carried on of late, and a good deal of money expended apart altogether from loans under the new Act, the town council intend expending 28,500*l.* on public parks, and completing paving and sewerage; and a more specific idea of what is contemplated, even at an increased outlay, will be derived from the following resolution passed at a meeting held in Preston;—"That the council be recommended to apply for powers to borrow money under the above Act, for the execution of the following works;—Block paving and flagging, 12,000*l.*; footpath on river side, 500*l.*; forming and completing Spa-road, Tweed-street, and Trent-street, and purchasing land for the purpose, 6,000*l.*; completing St. Thomas's-road, St. George's-road, St. Paul's-road, Nithsdale-place, Kenmure-place, Lovat-place, Derwentwater-place, and parts of Great Hanover-street, Sussex-street, and Essex-street, 5,000*l.*; new road from Ribblesdale-place to West Cliff, 2,000*l.*; to lay out and improve public parks, 3,000*l.*; and to widen, deepen, cleanse, embank, straighten, and improve the river Ribble, 20,000*l.*" Every street in the borough, it appears, whether completed or not, has been scheduled under the local Government Act, and notices will be served on owners of property, with respect to paving and sewering.

At Wigan the same thing has been done, and an increased expenditure, amounting now to 50,000*l.*, is to be made;—17,800*l.* of this to be employed in improving the streets of the town, and 32,200*l.* in the extension of the waterworks. The land for this extension has all been purchased, and the local Board will be ready to commence operations as soon as the loan is obtained.

At Blackburn there is already a large increase in the number of operatives engaged on public works. Sewerage, river cleansing, &c., are the works to be done here under the loan, which has been fixed at 78,300*l.*, to be received in 10,000*l.* instalments.

At Ashton and Dukinfield sewerage is the work in hand; and at Stockport there is talk of new streets being built, the river being cleansed, and other sanitary works carried out. Denton is preparing plans for main sewers; and Bolton is to apply for 100,000*l.* (in place of 50,000*l.*), for waterworks, sewers, recreation grounds, market extension, &c. At Oldham and Hulme public parks are agitated; and it is said at Oldham, that more work in draining and paving will be found to be required than had been supposed. A systematic survey of the town is to be made, and a comprehensive scheme presented for adoption by the council. Other improvements are also contemplated at Oldham. The formation of a park in this town has been formally agreed to by the council, although it is believed that the streets will be first dealt with.

The recent increase of applicants on the relief funds was considered by the *Times* to be ominous of a severe crisis. We have already expressed our opinion that the increase was partly owing to a pause before harvest. Our contemporary in his latest article, seems to be more hopeful than he had been. What the state of matters may be by Christmas it is hard to say: doubtless, there will be an increase of distress; but we only desire to point out that matters may not be then just so bad as has been anticipated from the late sudden increase of applicants on the relief funds, which may have been, at least partly, temporary.

Mr. Rawlinson states that he did not say at a recent meeting of the Central Relief Fund, that "it would be a breach of faith on the part of any corporation if they were to apply for a large sum of money for paving the streets, and employing *skilled* labour to the utmost extent necessary on the work": he said that "it would *not* be a breach of faith," &c. The error was originally made in the report that we took from a journal which has a high character for accuracy, and which ought ere this to have corrected its error. For the sake of complete explanation of what is proposed, we may state that the authorities are expected, not compelled, to use *unskilled* labour for everything that it is capable of performing,—a proportion of skilled labour varying with the nature of the work being necessary in each case,—and that in the original "Report," dated 30th May, 1863, to the President of the Poor Law Board, Mr. Rawlinson has shown what the proportions are. The class of works which would find the most employment for unskilled hands, includes the levelling waste lands; forming recreation-grounds, suburban roads, and reservoirs; baring rock for quarrying; draining lands; and cleansing and improving rivers. The works requiring the largest expenditure in material and in skilled labour, include main sewerage, house-drainage, forming and paving streets, flagging footways, and similar works. The "Report" gives the cost, per lineal yard, for paving and flagging, of each of the items, materials, skilled labour, unskilled labour, and plant and superintendence, as well as the per-centages, and also the amounts going to make up a sum of 10,000*l.* These particulars may be useful in other cases, as to estimators and contractors. In the case of paving an 18 feet centre causeway (to a street of 33 feet) with Anglezark "setts," and flagging footways of 7 feet 6 inches width with 3-inch Upholland flags, the estimated per-centages are,—Materials, 81·9; skilled labour, 5·1; unskilled labour, 8·2; and plant and superintendence, 4·8. Where boulders would be used, the materials would be less, and each of the other items more, in proportion.

The money paid for the unskilled labour does not represent the entire benefit to the district. That it does not sanitarily, is obvious; but, otherwise, and considering the question financially, the money paid to all will find its way to the small tradesmen, and others, who are now almost ruined by the stagnation in the cotton-trade. The very useful table appended to the "Report," showing, with other particulars, the cost of sewerage works devised and completed by Mr. Rawlinson, in ten different towns, states the average cost per house as 3*l.* 18s. 4½d., and the average per head of the population 13s. The range has been, per house, from 5*l.* 13s. 4d. in the case of Carlisle, to 2*l.* 2s. 11d. in that of Penrith; and, per head, from 17s. 8d. (Carlisle) to 8s. 6d. (Tynemouth).

WORKING MEN'S CLUBS AND INSTITUTES; FRIENDLY SOCIETIES; AND TEMPERANCE.

The council of the Working Men's Club and Institute Union have addressed a communication to friendly societies, with reasons for inviting the co-operation of those bodies.

The clubs will have to rent suitable rooms, and one of these might be advantageously devoted to the accommodation of the members of friendly and other working men's societies, so that they might be able to transact their weekly or monthly business without being obliged to go to the public-house. The importance of the accommodation, so far as friendly societies are concerned, is shown by the following facts, stated in a letter from the Registrar of Friendly Societies to the secretary

of the Union. After referring to the case of a friendly society, numbering 120 members, which, in the course of three years consumed at its meetings 258 gallons of beer, the Registrar continued:—

"This is only one instance, out of many, in which a large expenditure takes place in friendly societies on account of drink, paid for on compulsion by the members, *because they meet at a public-house*. These charges, and others of a similar character, very often amount to about 8s. in the 1*l*. on the whole amount paid by the members. The meeting at public-houses has also the effect of preventing the establishment of friendly societies upon sound principles, as in most populous districts every public-house has one or more clubs, consisting of 60, 70, or perhaps 100 members each; and as this number is not sufficient to secure the permanency of a society, however correct the rules and tables may be, it follows, as a matter of course, that in a few years they are dissolved or broken up. But it would have been very different if all the members had formed one society, and held their meetings in a school-room or working men's club-room, such as the Working Men's Club and Institute Union desires to establish, besides effecting a great saving in the expense of officers' salaries, as there would be *one* set of officers for the *one* friendly society instead of several."

It is further shown that, of the societies whose meetings have been held in public-houses, a very large per-centage is broken up; whilst the per-centage is small in the case of societies held in school-rooms or private rooms. Even where no drinking is allowed during business hours, a considerable sum is often spent afterwards, especially by the younger men. These, among other startling facts, point to the melancholy truth, that the very efforts working men make to promote provident habits among themselves, and to lay by for a rainy day, too often are made the means of leading them into wasteful expenditure, and even into habits of intemperance; while the thoroughly unsound principles on which the societies meeting at public-houses are generally formed, leave the unfortunate contributors, after many years' hard-earned payments, nothing but an empty box and the remembrance of many gallons of beer drunk for "the good of the house," to their own injury and loss, and to the society's ruin.

We fear that the drinking habits are not laid aside when members of the societies go into the country; although evidence of the police has heretofore been quoted, concerning the good demeanour on a Sunday night of excursionists generally. We hinted last week, in our article on the "Foresters" and "Odd-Fellows," at apprehensions of the behaviour of some of those who would visit the Crystal Palace on Tuesday. The appearance of many returning parties certainly showed that these apprehensions had not been quite without foundation. It is repeatedly said, with an expression of satisfaction, that drunkenness is decreasing. We hope, and we rather believe, that the fact is so. But so long as we can be pointed at, as we are, by the French at least, as tainted with this special vice, we shall have no reason to plume ourselves upon our condition. Moreover, and worse; by a Parliamentary paper, according to the *John Bull*, lately issued, it appears that in the year ending Michaelmas, 1861, there were 54,123 persons, male and female, convicted of drunkenness in England and Wales; but in the year ending Michaelmas, 1862, the number convicted reached the enormous amount of 63,250, showing the unpleasant increase of 9,127 drunk persons in one year. The proportion of persons convicted to those taken up has not altered, being in each year about 66 per cent. of all those taken up. The consumption of spirits, indeed, has fallen off, at least apparently, upwards of five millions of gallons, involving a loss of revenue on that article of nearly a million and a half; but the discrepancy is accounted for by the journal named, by a great increase of smuggling; and by the duty-free spirits consumed in unlicensed houses.

But, returning to the efforts of the Union, the circular quotes further remarks by Mr. Tidd Pratt, that,

"When the evils attending the meeting of friendly societies in public-houses are pointed out, persons are often met by the inquiry, 'If we do not meet in the public-house, where can we meet? We object to a school-room: it is large and cold: no private house will accommodate us. Where can we go, but to the tavern?' If the *Working Men's Club and Institute Union* succeed in founding Working Men's Clubs, the working classes will have a *choice* in the matter; and there is no doubt that a large number will avail themselves of the cheerful and comfortable apartments to be thus obtained, without being compelled to buy drink."

The council of the Union, therefore, suggest to the consideration of each society or lodge, the desirableness of promoting the establishment of a "Working Men's Club" in its district, if one be not already formed; and, if one have been established, of applying for leave to rent the use of a room in it for the above business purposes. By thus helping to establish or support a Working Men's Club and Institute in the district, the interests of the society and the welfare of the working men generally, of the neighbourhood, would be promoted.

PHOTOGRAPHIC PROGRESS.

THE FIXTURE AND CHEAPENING OF PHOTOGRAPHS.

Endeavours are being made in various ways to render photographs permanent, and to multiply them, or engraved fac-similes of them, at a cheap rate. We have thus, on the way towards final maturization and adoption, such discoveries as the carbon processes of Mr. Pouncy and M. Poitevin, Sir Henry James, and others; photo-lithographic processes; photelectric engraving; and the burning into permanency of photographs on glass by way of enamels. It is of a few of these processes we mean to take a note at present by way of recording progress; for this is a subject of great importance to our professional and other readers. Most valuable collections of architectural details might be made, at no great cost, were the science of photography and its collateral branches only a little more advanced than they yet are, although they are now giving promise of great and rapid future expansion, value, and benefit to all professional and other lovers of art in general.

Some time since we spoke favourably of the photographs imprinted directly by the sun in printer's ink, by the process of Mr. Pouncy, of Dorchester. The good opinion then expressed by us was afterwards corroborated in other quarters, and now we observe that the *Photographic Journal* acknowledges the success of Mr. Pouncy, who has "practically demonstrated [to the editor] the facility with which he succeeds in carrying out his discovery; the results in each of the trials being highly satisfactory." The editor thus continues:—

"When first produced after the removal of the spare greasy ink, the picture has all the peculiar dull appearance usually given by carbon; but by the application of varnish it assumes the brilliancy of a highly albumenized print, and has much the tone of a well-executed photograph. It might be inferred that there is more difficulty in the removal of a greasy substance from the paper than there actually seems to be; and there even appears to be a great advantage in using a substance of an oily nature, as it gives great transparency in the shadows, combined with a roundness and full detail of the various gradations of tone which are wanting in many of the carbon processes. We think that Mr. Pouncy is entitled to the highest praise for the perseverance with which he has investigated, and successfully carried out, his researches. No doubt, some minor details will admit of modification and improvement; but it has been clearly shown to us that it is simple and effectual at the present time. It must be remarked that Mr. Pouncy prints direct from the negative, and that his process is not a 'photo-*lithographic* process;' and in this he asserts his originality of invention, and which we see no reason to question. If any of our readers can enlighten us otherwise, we shall with much pleasure investigate the claim to that originality which Mr. Pouncy, with our present knowledge, seems fully entitled to."

This is in entire accordance with what we said in our former notice of Mr. Pouncy's discovery. The editor of *Photographic Notes* also describes Mr. Pouncy's process, which he had gone to Dorchester for the purpose of seeing; and he says, "We have been delighted and astonished beyond measure at witnessing the manipulation of these important new processes." He points out that not only can positives be thus printed by the sun direct upon paper in printing-ink, but that the prints can be transferred to a lithographic stone for multiplication by the printing-press; which brings Mr. Pouncy's discoveries into the separate field of photolithography as well. In reference to these discoveries we should like to know a little more than our photographers appear as yet to do of the Poitevin process.

As to photolithography, a communication has been sent in to the Academy of Sciences by M. Morven, in which he describes a method of his for obtaining direct photographic impressions upon stone, and which he can afterwards print off. A coating of albumen and bi-chromate of ammonia is applied to the stone, the action produced on which is, in fact, a combination of etching and lithography.

Some papers, we may here remark, are promised in the *Photographic Journal*, on the discovery and practice of photography by our own James Watt. All doubt has long been removed as to the fact that photographic pictures were taken and fixed long before Daguerre's days. How far the process of James Watt was known in France remains to be seen.

The process of photelectric engraving is an interesting one, in respect to which Mr. Duncan C. Dallas writes to the *Journal of the Society of Arts*, to say that he thinks he has solved the problem; but he declines publishing the details at present, in consequence of the very questionable protection afforded by the patent laws. He has exhibited a specimen at the Society of Arts, Adelphi. He says he can guarantee to produce, in from one to three weeks, an engraved plate from a photograph, with almost microscopic detail. The effect he describes as similar to stippling, with peculiarities, however, *sui generis*.

The systematic preservation of the likenesses of distinguished persons by some form or modification of photographic process is a suggestion made by Mr. M'Lachlan, of Manchester. He proposes that sets of negatives be secured in museums or other depositories, under the care of corporate or other authorities, and lent at discretion, as for book illustration or other mode of multiplication, under proper regulations, but one negative at least being meanwhile always in safe keeping. The *Athenæum* remarks that "hereafter, when the art of burning in the likenesses on glass after the manner of enamels is brought to perfection, we may dispense with the negatives; and a collection of miniatures on enamel may be made, which will indeed form a real national gallery."

Le Siècle, of 9th March last, states, on the authority of the *Gazette de Voss*, that a Berlin photographer has discovered how to burn photographs into glass with great delicacy and exactitude, so as to form beautiful ornaments for windows. Whether the Berlin photographer claims the enamelling of glass with photographs as exclusively his own, or merely some improvement on what has already been done, we do not know; but, at all events, this too is a hopeful indication of photographic progress.

THE ASSOCIATION FOR PROMOTING THE GENERAL WELFARE OF THE BLIND.

We some time since gave a short account of this excellent institution, and are glad to learn that it continues to grow in usefulness; but still greater and more satisfactory means are required for the assistance of those who are deprived of the blessing of sight.

In the United Kingdom there are about 30,000 blind persons: in the metropolis alone there are 2,600. Below the age of twenty-one years, there are throughout the country 3,000 blind. Only about 5 per cent. are possessed of the means of living comfortably. A large number—counting by many thousands—depend upon charity for their daily bread, unless they can find employment at some daily work. The need of employment for those who are unfortunately placed in constant darkness is great. Besides the pecuniary profit, there is great advantage in having the mind and fingers occupied.

To educate the blind, to give some intellectual light to their physical darkness, has been a subject of much anxiety to many; and institutions, more or less imperfect, have been formed in different countries for providing them with suitable employment, and giving them the opportunity of obtaining knowledge, and the power of being able to read and write. The first plan for this purpose is said to have been set on foot by M. Haüy, in Paris, in 1786; and in this country the first institution of the kind was commenced at Liverpool in 1790. We have now in Great Britain twenty-three institutions for the blind; but these are chiefly for children and young persons under twenty-one years of age. Much good is done by these opportunities for early training; but, unfortunately, when their education is finished in the institutions, they are sent abroad into the world to seek their own livelihood: left to their own resources, without sufficient means of providing materials in the cheapest market, or without enough capital to enable them to dispose of their work to the best advantage, the greater number of blind workpeople could not live by the mere amount derived from their labour.

Notwithstanding the necessity, it was not until 1854 that any society existed in the metropolis for the regular employment of blind men and women. At that time, however, Mr. William Hanks Lévy, a person of considerable ability and much earnestness of purpose, who is himself blind, directed his attention to the establishment of an institution. He received valuable assistance from Miss Gilbert, a daughter of the Bishop of Chichester, who is also blind; and to her position and exertions is to be attributed much of the advantage which a considerable number of worthy persons now receive.

At the present time the Association gives assistance to 170 persons afflicted with the loss of sight; to which number may be added 230 who are employed by six affiliated institutions, located in Devonshire, Lancashire, Surrey, York-

shire, and Leicestershire. Of the 170 blind persons employed, 61 are supplied with work at their own homes, at sums varying from 1*l.* 4s. to 1s. 6d. a week: 26 are instructed and employed in the institution: 25 are engaged in selling goods for the society; and a very small number who are not able to do useful work, receive small pensions. The chief aim of the society, however, is to provide remunerative employment for the blind.

When going towards the establishment, in the Euston-road (Nos. 125 and 187), we met with one of the people who were there employed. He was a married man, and had two children. His wife also was blind. They strove to make their home comfortable. "But," said this man, "to compete with those who can see, I must work long hours—sometimes seventeen hours in the day. I do not mind that, however, so that we keep things straight; but without the help of the Association I could not manage as I do: their treatment is kind and considerate. There are some places, though not here, where they pretend to assist the blind, but where they take a large per-centage upon the work."

At present the premises of the Institution have not much to recommend them architecturally. The garden which once flourished there has been covered by a shop, in which is stored a stock of useful articles, all made by the blind; such as birdcages of willow-work; brushes of all kinds, such as scrubbing-brushes, stove, shoe, clothes, dish, plate, spoke and carriage-wheel, dandy, hat, nail, and other sorts of brushes. There are "Turk's-heads" and improved housemaids' mops, boxes, knife-boards, church hassocks, cocoa-nut mats, with coloured and other borders; baskets for butchers, asylum baskets, baby-linen baskets, bassinets with rockers, rubbish-baskets for gardeners and builders, doctors' baskets, market-baskets; fire-screens for chair-backs, dogs' houses, and other kinds of basket-work too numerous to mention. We look closely at many of these articles, and find them to be well made, and as moderate in price as those to be obtained in other places of business.

In the Institution we had an opportunity of seeing some of the educational aids for the blind. There are embossed books, which can be read by the touch: besides the Scriptures (though a recent writer would induce the belief that the Bible alone is read by the blind), there are popular works, such as the "Pilgrim's Progress," "Robinson Crusoe," and Milton's "Paradise Lost."* In this library, in fact, there are 200 volumes, which for the most part are lent, without fee, to poor blind people at their own homes; and the Scriptural and other knowledge thus acquired by the blind, would put to shame many of those who are blessed with sight.

To teach the blind—particularly those who have been afflicted in early years—is a matter of difficulty. Even for those past the age of manhood who have lost their sight, both patience and a careful system are requisite to enable them to communicate with others. For this purpose various ingenious plans have been tried, and some of the best have been the invention of Mr. Lévy. Amongst those most worthy of mention are embossed writing copies for the blind, and a card to enable the blind to write with a pencil. There is also an apparatus to enable those who are deprived of sight to write so that their letters may be read either by the blind or by the sighted. This plan is very simple and exceedingly useful. In a case, which may be bought for about 12s., are a number of holders, in each of which are fixed steel points, which form letters and figures: on these being pressed through paper, one after the other, words and sentences can be stamped with considerable rapidity; and at the back the burr caused by the pricking enables the blind to feel the writing. Letters directed in this way often pass safely through the Post-office.

There is another apparatus for enabling the blind to write, made by Mr. Hughes, of Manchester: it is expensive, however, the cost being six guineas. In this case there is a circular dial, on which are the letters of the alphabet and figures: these all stand in relief, and can be plainly felt with the fingers; then, by a peculiar pressure, the letter touched on the dial is printed on paper which has been fixed in a frame. Over the writing-paper there is a sheet prepared with black; and on the pressure of each type, the letters are clearly printed. The pressure embosses the paper; but though easy to print, it is not easy to read by blind people.

* We would like to see an embossed edition of Oliver Goldsmith's "Vicar of Wakefield," "Gray's Elegy," and some of Shakspeare's plays, for the use of the blind.

One of the inmates of the Institution is doubly afflicted, being totally blind and totally deaf. Nevertheless, this man can read from the embossed books, and write so as to be understood. This person is one of the best workers in the establishment. The way in which he was taught was this: Having lost his hearing and sight only when about sixteen years of age, he already knew the shapes of the letters. These, in the first instance, Mr. Lévy formed by pressure on the palm of the hand: and, after great pains and patience, this man, deaf to all sounds, and in complete darkness, has been enabled to communicate with his fellow-beings.

For the purpose of enabling blind persons to write with pencil, to enable them to keep the lines straight and letters of uniform size, a cardboard, with horizontal lines, has been prepared. Nor has arithmetic been neglected. In this direction, Mr. Lévy has also shown his ingenuity, by an apparatus which enables the blind to work the rules of arithmetic, keep accounts, &c. A case covered with tin has in it numerous holes, placed in a peculiar way. By placing pins (the same as those commonly used) in these holes, they can be readily felt, and so a reckoning is made. "Give me a sum to do," says Mr. Lévy, and we reply, "Add—

£20,640	17	9½
19,720	8	4½
2,300	5	2"

"Now, sir," he rejoins, "I have got that, and the amount is 42,661*l.* 11s. 3¾d." This being done, the pins can be dropped out with greater rapidity than pencil-marks can be rubbed off a slate.

Amongst the apparatus for the use of the blind, we notice a mariner's compass, which is so managed that persons without sight can understand its bearings; an embossed pocket yard-measure; needles for the blind; maps with the boundaries,—rivers, &c., marked, so that they can be felt; a modified English alphabet, which can be purchased for 2d. There is also an Instruction Book for the pianoforte, according to Hamilton, embossed on the ordinary system of musical notation; and we observed an embossed edition of diagrams of Euclid's Elements, books 1 to 6.

Nor have matters of amusement been neglected. There are chess-boards, with draughts, planned by Messrs. Wood & Lévy: the squares are marked by raised and lowered surfaces, and the chessmen and draughts are so marked that they can be easily recognized by the touch.

We might, if place and space permitted, give many more particulars as to the Association for Promoting the General Welfare of the Blind; but we hope that enough has been said to direct the attention of our readers to this institution. In ten months of the year 1862, the sale of goods made by the blind people connected with the institution, amounted to 2,040*l.* 11s. 4d.; but, as we have already hinted, the work of the blind cannot compete with that of the sighted. Assistance is, therefore, necessary; and it may be mentioned that her Majesty has set an excellent example by not only becoming the patroness of the Association and subscribing largely, but also by giving orders for goods for the use of Buckingham Palace, Osborne House, and Windsor Castle.

It is very desirable that the trade of the society should be extended by the opening of a depôt at the West end of London, where it would be more prominently brought before the notice of the higher classes of society. The foundress is exceedingly anxious on this point; and we trust that the necessary means for such an extension will soon be supplied.

With great order and kindness this establishment seems to be managed; and it is really wonderful to see the skill with which both men and women perform their work. In one room, we even saw several blind men seated around a caldron of boiling pitch, into which they ever and anon dipped, to the proper length, the hairs required to be fixed in the wooden parts of house-brooms!

PROGRESS OF METROPOLITAN RAILWAY COMMUNICATIONS.

Great progress is being made on both sides of the river in sinking piles for the construction of the bridge intended to carry the railway from Charing-cross and London Bridge across the river to the proposed central terminus in Cannon-street, and in the demolition of the well-known Steel-yard Wharf, and the property adjacent, in Upper Thames-street. The direct line connecting the West-end terminus at Charing-cross with the London Bridge Station is so far advanced, that it has been stated that the line will be opened in October. Much work, however, has yet to be completed in carrying the line across the roadway of the London Bridge Station. The approach to the South-Eastern, and London and Brighton, and other booking-offices, is being darkened by one of the biggest and ugliest of the structures with which this line has deformed the face of the southern part of the metropolis.

Considerable progress is being made in the City Extension line of the North London Railway. Of the viaduct, fifty-four piers have been commenced, of which forty-two are finished, and seventeen arches are completed. The line will be 2½ miles in length; and the land for one mile has been purchased and placed in possession of the contractor. That for the other mile will be obtained by September, and that for the remaining half-mile by Christmas. It has been recently announced that the company have settled with 242 owners of property for the sum of 307,000*l.*, being about two-thirds of the total amount required; and have paid as compensation to tenants about 11,000*l.*

STATUES, BUSTS, AND MONUMENTS.

A set of life-size statues, for the decoration of the new Town Hall at Northampton, has been completed by Mr. Boulton, of Worcester. The first four,—Richard I., Edward I., St. Michael, and the Queen,—were sent off some time ago; and the others,—Henry III., Edward IV., Henry VII., and St. George,—recently. Mr. Boulton is also commissioned to execute four groups, life-size, for the same building, illustrating incidents in the history of the town. Among works recently finished by the same artist, were five groups for the new School of Art at Coventry. They personify painting, sculpture, architecture, engineering, and pottery. The figures, which are life-size, are placed in niches in the front of the building, and over each is a bust—over painting, Raphael; sculpture, Michaelangelo; architecture, Giotto; engineering, Watts; and pottery, Palissy.

The honorary formation of busts appears to be on the increase.

A colossal bust, in marble, by Mr. Noble, of the Duke of Sutherland (cost 200*l.*), has been placed by the North Staffordshire Potteries Waterworks Company in their engine-house at Wallgrange, near Leek. The bust is about 5 feet in height, and stands on a pedestal of equal height.

The working men of Birkenhead have subscribed for a colossal bust of Mr. John Laird, M.P., to be sculptured by Mr. Macbride, of London and Liverpool, and placed in the vestibule of the Infirmary for the borough of Birkenhead, which was erected at the sole cost of Mr. Laird. The work is now in the clay, but will be executed in Carrara marble, and mounted on a massive oak pedestal.

Two busts, of the Prince and Princess of Wales, in marble, have been ordered from Mr. Marshall Wood, by Mr. John Crossley, to commemorate the visit of the Prince to Halifax.

A bronze medallion by Mr. Steell, of Edinburgh, sculptor, has been placed on the monument erected in the Old Canongate Burying-ground in that city, to the memory of Mr. Hugh W. Williams, artist in water-colours. The monument, which is now finished, was erected by his widow, Mrs. Williams, of Earnock, and was designed and carried out by Mr. Lessels, architect, in the purest style of Greek art. The medallion is fixed on a granite tablet.

The statue of the late Professor Wilson, by Mr. Steell, which is to be cast in bronze, and erected at the north-west corner of East Princes-street Gardens, Edinburgh, is now in an advanced state. The clay model having been completed, the moulds have just been taken, at Mr. Steell's foundry, Grove-street, where the casting of the colossal figures of Wellington and Lord Melville took place.

Burns's Monument on the Calton Hill, Edinburgh, having been repaired and decorated, under the superintendence of Mr. James Ballantine, has been re-opened to the public. Among the objects of interest in it are a series of letters by Burns and his wife, father, and uncle. The museum also contains a small group, representing the "Three Merry Boys," executed by Mr. David Anderson, sculptor, Perth. Opposite the entrance has been placed a plaster cast of the bust of the bard, by Mr. Wm. Brodie, R.S.A., which will be replaced by a marble one as soon as sufficient funds are obtained for the purpose.

At Dublin, preparations are being made to place in the Hall of the Four Courts, the statue of the

late Lord Plunkett. The statue has been executed by M'Dowell, and represents the orator in the attitude of addressing an audience. The pedestal bears the simple inscription, "Plunkett: Erected by the Bar of Ireland."

There is a difficulty about the site of Sir James Outram's statue. Mr. Cowper objects to any addition being made to the sculptured beauty of Trafalgar-square; and it is rumoured that the committee will offer the statue to Scotland, or to the birthplace of the gallant soldier in Derbyshire.

The *Times of India*, describing the memorial of Lady Canning, designed by Mr. Scott, architect, says,—The material of the entire work is the finest Sicilian marble. A massive plinth rests upon the ground, carrying a low coffin-shaped slab wrought to a depressed ridge, upon which is sculptured a floriated cross, having on either side of its shaft a shield of arms in relief. At the head stands the only member of the composition that rises to any height: this is an artistic gravestone, which contains, beneath a sculptured cross, within an arched panel, the inscription, which was written by Lord Canning himself, who died seven months after his wife. This memorial, adds the *Times*, is being executed by sculptors under the immediate direction of Mr. Scott.

It was reported that the famous statue of Napoleon I., in his three-cornered hat and grey frock-coat, which surmounts the column in the Place Vendôme, Paris, and is generally one of the first striking objects which catches the eye of the English visitor, was to be taken down on the 15th of August and replaced at once, as a prominent feature of the *fête*, by the new statue in Roman costume. The statue of the *petit caporal* is indeed condemned, but the substitution of M. Auguste Dumont's statue will not be made before October. The old one will be placed at Courbevoie, on the spot where the remains of the Emperor, when brought from St. Helena, first reposed on the banks of the Seine.

A number of sculptors are at present engaged in executing an important work at the Porte du Zodiaque of the grand entrance of Notre Dame, Paris. All the figures and almost all the ornamental details had been mutilated. These artists are employed in restoring noses, ears, hands, fingers, and arabesque flowers; so that in a short time the portal, with its collection of saints, angels, kings, &c., will be restored as it was in the fourteenth century.

RAILWAY MATTERS.

A curious paper has just been submitted to the Academy of Sciences, in Paris, by M. Lalanne, showing that the apparently fortuitous distribution of railways over the surface of a large country is in reality subject to certain laws, which may be stated as follows:—1. The meshes of a network of railways, as their number increases, tend to assume a triangular form. 2. These triangles have a tendency to form groups of six each round a certain point, which, therefore, is the nucleus of a hexagon. 3. When a pentagon happens to replace the hexagon, there generally is a heptagon somewhere which makes up the deficiency; so that the number six really represents the average number of lines starting from each point. 4. There are certain exceptional points, such as the capital of the country, towards which more than six lines converge: in this case the number of lines does not exceed 12·5. In those districts where the network is still incomplete there are centres from which only three lines diverge, instead of six: in that case they make equal angles with each other, thus leaving space for the three remaining lines. This strange regularity, now observable in the networks of France, England, and North America, depends upon a primordial law which Buffon calls the reason of reciprocal obstacles. Rivers, mountains, forests, or even the mere inequality in the productive force of different soils, have contributed towards the formation of these regular meshes. Among the consequences which M. Lalanne deduces from this theory of his there is this,—that the distance between two agglomerations of population of the same order and near each other must be an exact multiple of the distance between two agglomerations of an inferior order. Thus, the average distance between two capitals of departments in France is 87 kilomètres; that between two contiguous *chefs lieux d'arrondissements* is 43½ kilomètres; and between two contiguous cantons, 14½ kilomètres; so that the distance between two prefectures is equal to twice the distance between two sub-prefectures, six times that between two cantons, and twenty-four times the average distance between two communes.

A Parliamentary return states that during the year ending December 31st, 1862, there were 216 persons killed and 600 injured in consequence of railway accidents, of which 24 deaths occurred in Ireland, 42 in Scotland, and 150 in England and Wales; the number of miles of railway open in each division respectively being 1,598, 1,777, and 8,176. During 1861, when the total number of miles of railway open in the United Kingdom was 10,833, the number of lives lost by accident was 284, and the number of persons injured 883. Of the 216 deaths in 1862, 26 passengers and 20 servants of contractors or of the companies were killed from circumstances over which they had no control, and 9 passengers and 89 servants from want of caution on their part: 49 of the remainder were trespassers, including 7 cases of suicide.

The traffic receipts of railways in the United Kingdom amounted, for the week ending the 1st of August, on 10,843 miles, to 658,736*l.*; and for the corresponding week of last year, on 10,404 miles, to 653,323*l*, showing an increase of 439 miles, and of 5,413*l.* in the receipts.

An exemplary railway company was the Stockton and Darlington, which took its place in the van of railway enterprises—being established by the combined energy and foresight of the late George Stephenson and Edward Pease—but it has just held its last meeting as an independent company. It now forms merely a section of the North-Eastern system. Mr. Pease, M.P., at the meeting, congratulated the shareholders on their position as a company. They had been in existence *thirty-eight years*, and yet *had not killed a single passenger*. They began with only 100,000*l.* capital: they were now handing over to the North-Eastern 4,000,000*l.*!

It appears that 1,308⅛ miles of railway are now in operation in Belgium, while 259⅜ miles more are in course of construction, and 733½ miles conceded; making a general total of 2,301¼ miles. The capital required to complete this considerable network may be estimated at upwards of 12,000,000*l.* Belgian Railways, like those of England, are in many hands; no fewer than forty-four distinct administrations at present existing. The State lines comprise 354⅜ miles.

On Prince Napoleon's recent visit to the tunnel at Mont Cenis, the prince and his party passed along the 1,100 mètres already bored, between two lines of the workmen, 1,000 in number, each of whom held a lamp. The boring machine was set in motion, and several holes were made in the rock and filled with powder. The visitors were then requested to draw back and shelter themselves behind a large screen made for the purpose, and a series of explosions took place. The first extinguished all the lamps not protected by glasses, even those which were five-eighths of a mile from the spot, and the hats of the visitors were knocked off.

The passage of the Alps continues to excite much attention in Italy. The great council of the Tessin has been occupied for several months with the plans of rival companies which have disputed the passage of the Luckmanier, and has just referred to a commission the proposals of an English company, which engages to construct a line without any subvention. An opposing company was represented by M. Mouton, a Frenchman, who was backed up by the financiers interested in extending the Lombardian network.

COMPETITIONS.

The Wills Memorial, Totnes.—Forty-five designs were sent from various parts of the United Kingdom. The committee have awarded the premium of five guineas to Mr. Archibald Ritchie, of Chester, for a design for an obelisk. The design is described as consisting of a plain pedestal, with moulded plinth and cornice, standing upon a rusticated surbase, the pedestal supporting a plain obelisk upon the front elevation of the design. The pedestal has a moulded panel to receive inscription, and at the base of the obelisk on the same front it is proposed to introduce a medallion likeness of the late Mr. W. J. Wills, in very bold relief. Upon two sides of the pedestal there are projections or buttresses. The whole is intended to be executed in Dartmoor granite. The base of the obelisk will be about 10 feet square, and the total height 33 feet.

New Militia Stores at Bath.—The committee appointed at the County Sessions to receive plans for the erection of stores in Bath for the 2nd Somerset Militia, have decided upon recommending for adoption and execution the designs submitted by Mr. C. J. Phipps, F.S.A., of Bath and London, as embracing all the requirements necessary at the smallest cost. They awarded to the plans of Mr. C. E. Davis, F.S.A., the city architect, the first premium of twenty guineas; and the second premium of ten guineas to Mr. Holt, of Bolton-le-Moors. It was anticipated that the expenditure requisite for carrying out the two last-named plans would exceed the sum the county would be disposed to grant.

SEWAGE UTILIZATION: COST OF LIFTING THE SEWAGE.

We have received a letter from Mr. Thomas Ellis, referring to the leading article of our number of last week as containing a statement attributed to him, and which he considers is calculated to injure his professional character. There may have been omission in the article, of something that Mr. Ellis feels is necessary to the appreciation of his case, but there was no error in attribution of a statement. Mr. Ellis now says:—"On referring to my letter from which you quote, you will find I stated that 'one ton of sewage can be lifted 460 feet for ·267121d.=¼d. and ·01721d. over. But, as before mentioned, it is not necessary to lift the London sewage more than 200 feet.'"

Mr. Ellis must be more precise in his own quotations before finding fault with what he calls ours. We do not read the words in his letter of August 6th, in the newspapers (which letter, we presume, is that to which he refers) as he now gives them. However, we now understand him to wish to say, that far from there being any great costliness about the operation of lifting sewage such a height as 22 feet, it could be lifted 460 feet, for somewhat more than ¼d. per ton; whilst he does not propose to lift the sewage of London more than 200 feet. We are glad to give him the means of having this part of his case explained; but his own wording, which went directly to the discussion of a question of 22 feet, was not a perspicuous statement of his position.

SEWERAGE: OUTFALLS ON THE COAST.

HASTINGS.

At a recent quarterly meeting of the town council of Hastings, the questions of lengthening culverts at the Priory and Warrior-square, in front of the town; and also of consulting a first-class engineer with a view to divert the present outlets of the sewage, were discussed by them.

Mr. Putland moved that the culverts should be lengthened, as recommended by the Stone Beach Committee, the Warrior-square one 200 feet, and that at the Priory 100 feet. It was shown that the surveyor had reported, that the distance from the end of the iron culvert at Warrior-square, to low-water mark, was from 250 feet to 300 feet; and that the cost of lengthening the same 150 feet would be abont 130*l.*; and the cost of lengthening the culvert at the Priory 50 feet would be about 50*l.*

Mr. Winter moved that the matter be referred back to the Stone Beach Committee for them to visit the spots and report.

Mr. Rock, in seconding Mr. Putland's motion, said that if at Brighton 5,000*l.* or 6,000*l.* could be spent on a temporary measure, to keep up the character of the town till permanent works were carried out, surely they could spend the amount now proposed. He did not think it would wholly satisfy the public in Hastings; but he had not the least doubt that it would do good.

Mr. Poole denied that the sewage was any nuisance: only the pipes were unsightly, and ought to be covered up: diverting the outlets was a mere idea.

Mr. Gausden said he believed their drainage was perfect, but it was absurd to say the sewage was not a nuisance as it issued from the culverts: he objected to these outlets being in front of the town.

Mr. Bromley said all this discussion arose because Mr. Rawlinson had been down upon them, and had frightened the Board out of their senses.

Mr. Putland explained that the large culvert was for the flood-water, but the small one was for the sewage, and the farther they got the small culvert into the sea the better. Having the two culverts, it was not like Brighton, where such an immense quantity was constantly running into the Steine.

The amendment was finally negatived by a majority of 15 to 4, and the original motion carried.

The second question was afterwards discussed on the motion of Mr. Gausden for consulting a first-class engineer. He said it was the public

opinion generally throughout the country, that it was not desirable that a watering-place like Hastings should have the sewage carried out in front of the town. If they had the opinion of a first-class engineer, they would then be in a right position. Mr. Rawlinson had the management of the drainage at Worthing, after reports got circulated some years ago about its being badly drained; and he (Mr. Gausden) was informed by a gentleman in that district, that an outlet had been carried a considerable distance from the town, and no nuisance arose.

Mr. Winter, in seconding the motion, said that if the matter were not of great importance, Mr. Rawlinson would not have urged it upon the town as he had done. If Mr. Rawlinson, or any other first-class engineer, were to say that the lengthening of the culverts would do away with the nuisance, they would be very glad. But a person in the town who professed to be an engineer did not know; and therefore they ought to take the advice of those that did; and Mr. Rawlinson was a man who did not make a statement without sufficient reason.

Mr. Poole said that if the pipes were only covered up, nothing whatever would be known about it.

After some further remarks, Mr. Gausden's motion was negatived by a majority of 12 to 6.

ARCHÆOLOGICAL CONGRESSES.

During the last fortnight, meetings of an interesting and agreeable character, of numerous archæological societies, have been held in many parts of the country. We can do little more this week, than mention the fact. We have, indeed, spoken of some of the meetings, and reported at length a paper read at the Archæological Institute meeting at Rochester. Should there be undertaken at any time, a fresh historical or descriptive treatise on the course of architecture in England, the writer thereof will have supplied to him a large quantity of *matériel*, relating at least to one period, from the recent proceedings of the Institute. To the presentation of the picture of the Anglo-Norman period, as indeed to that of the state of society and religious feeling throughout Europe, which induced and was alimented by the Crusades, the Dean of Chichester, in his paper on the "Life and Times of Gundulf," was a most important contributor. The Rev. Mr. Hartshorne read a paper on Rochester Castle, which added even to the particulars which he has so largely furnished to the history of castellated architecture. Professor Willis was less interesting than usual, only because his subject was not equal to his subjects in other cathedral towns which he has visited with the Institute. We do not say we may not return to some of these discourses; but as some of them would fill fifteen or sixteen columns of our paper, and every word seems good, we confess to difficulties whether of reproduction or abridgement.

The Leeds Town Council have been discussing in what manner they should receive the Archæological Association in October next.

NEW ACTS.

Bakehouses.—The Act of Parliament just passed for the regulation of bakehouses, enacts that no person under the age of eighteen shall be employed in any bakehouse between the hours of nine o'clock at night and five in the morning, under penalties from under 2*l.*, to 10*l.* for a third or subsequent offence, to be levied on the occupier.

Savings Banks.—The new Act for amending and consolidating the laws relating to savings-banks, containing sixty-eight sections and two schedules, has now been printed. The Act, which comes into operation in November next, provides that no banks are to be established, except on the approval of the Commissioners for the Reduction of the National Debt. The interest receivable by the bank will be 3*l.* 5s. per annum, and that by the depositor 3*l.* 0s. 10d. Several of the provisions refer to penny savings-banks and friendly and charitable societies, in whose favour an exception is made to the general rule debarring a depositor from lodging any money in more than one bank. The Act also provides that no more than 30*l.* can be deposited in one year, nor more than 150*l.* to the account of one depositor; and that, when capital and interest have accumulated to the amount of 200*l.*, all further interest shall cease. The Post-office Savings Bank is in no way affected, and a certificate will allow of the transfer of a deposit from one bank to another.

Pauper Lunatic Asylums.—On the day of the prorogation, an Act was passed to amend the Lunacy Acts, in relation to the building of asylums for pauper lunatics. It is enacted that where, in pursuance of the Lunatic Asylums Act, 1853, an agreement for providing a common asylum has been duly entered into between divers counties properly so called, and such agreement has been afterwards varied by the admission, as a party thereto, of a county of a city, or a county of a town, the original agreement is to be binding on the counties originally parties thereto, in the same manner as if no variation of such agreement had been made.

GAS.

The Banbury gas company have declared a dividend of 7½ per cent., free of income tax, for the past year.——At the annual meeting of the St. Neots gas company, a dividend of 12 per cent. is said to have been declared.—— The Lewes gas company have had their annual meeting, and declared a dividend of 10 per cent. for the year. "It was highly satisfactory to observe," says the report, "that the reduction of more than 8 per cent. made last year in the price charged for gas had been followed by an equivalent increase in the consumption." The amount of dividend was one per cent. more than it ever had been. The price is now 5s. per 1,000 cubic feet.——At Portland, a suitable place has been secured for the erection of commodious gas-works, near the Victoria Lodge. The buildings have been entrusted to Mr. Thomas Dodson, and the work is being proceeded with.—— The complaints at Dereham that have so long been made as to the bad supply of gas are apparently about to be set at rest, as the company are laying down main pipes large enough to supply not only the present, but a largely increased population.——The Salisbury gas and coke company are said to have improved the illuminating power of their gas without increasing the price; and further improvements, it appears, are in contemplation.——The Huntingdon gas company have declared a dividend of 9 per cent. for the past half-year.——At Ashford, a dividend of 6 per cent. has been declared by the local gas company. ——The Bury St. Edmund's gas company have reduced the price of their gas from 6s. 8d. to 6s. 3d. per 1,000 feet. The charge for meters has also been reduced as follows:—3-light meters, from 1s. 6d. per quarter to 1s.; 5-light, from 1s. 6d. to 1s. 3d.; 10-light, from 2s. to 1s. 6d.; 20-light, from 3s. to 2s.——The Bakewell gas-light company have declared a dividend of 10 per cent. for the past year, and added 50*l.* to their reserved fund. A considerable surplus still remaining, it was decided that a portion of this should be applied for the purpose of improving and increasing the purifying and condensing apparatus, &c. A reduction in the price to consumers was made last year, which accounts for the directors having so much profit and surplus that they scarcely seem to know what to do with it all.—— At a recent meeting of the Wallasey Local Board, the gas proceedings comprised a statement of the actual cost of the manufacture of gas by the board, showing the aggregate cost of making and supply during the past year to be 2s. 8d. per thousand cubic feet.——At the 38th half-yearly meeting of the York United Gas Light Company, it was stated that although the directors would be able to pay the usual dividend of 10 per cent. per annum, they were still "suffering" from the "great reduction in the price of gas" which they had been obliged to submit to; but which, the chairman seemed both surprised and pleased to think, had not "annihilated" the company. He trusted they would "receive the benefit of increased business, and thus keep their position." He, in fact, "believed the company was in a most prosperous condition," notwithstanding the wholesome operation of cutting off a considerable portion of its long price; which, in truth, appears to have no more "hurt" it than "cutting off the animal nutriment" the other day hurt *Punch's* "eat-and-swill" boy.——The Carlisle Gas Committee have reduced the price of gas to 3s. 4d. Laying down the new pipes had effected a great saving of gas.——The Hawick Gas Company have declared a dividend of 7½ per cent. for the past year, and a (stupid) reduction in price of 2½d. per 1,000 cubic feet; the present price being 6s. 8d. The directors hoped to be able to supply a better and more ample supply of gas than hitherto; which seems to be equivalent to an admission that their high-priced gas has been of bad quality and insufficient quantity.——The *American Gas-Light Journal*, in reference to recent modes of lighting railway trains in England with gas, says:—"John Bull, who is behind brother Jonathan in many useful little inventions, desires to have his railway cars lighted with gas, but doesn't exactly see how it can be done. [But it is being done.] In this emergency, he talks of offering a premium for the best means of accomplishing the object. Let this hint put some of our American inventors on the right track for introducing their modes of using gas both in railway cars and steamboats." ——There are 433 gas companies in the state of New York, representing a capital of twelve millions sterling.

ALBERT MEMORIALS.

The Birmingham Memorial.—The Birmingham Memorial Committee, it appears, are not losing sight of the duty entrusted to them. At a recent meeting of the joint Committee of the Public Works and the Memorial Committee, it was agreed that the site between the Town Hall and the Institute, on a line with Paradise-street, should be adopted. It was found that the site at the top of Paradise-street would not admit of a base sufficiently wide without encroaching too much on the street; and so the other position, one where the traffic can never be large, was adopted.

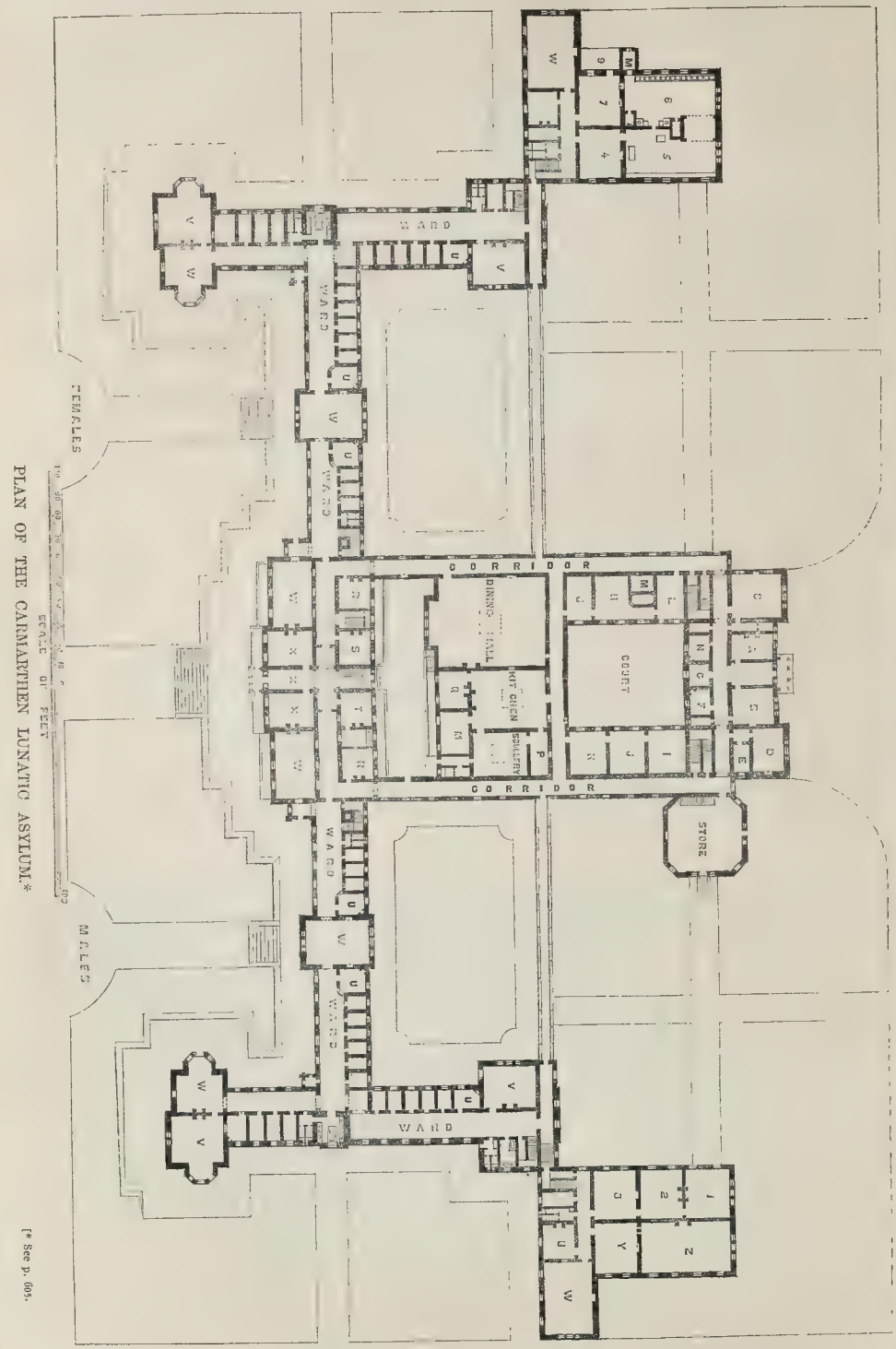
The Suffolk Memorial.—A meeting of the Building Committee of the Albert Middle-Class School and College has been held on the College site at Framlingham;—present, the Earl of Stradbroke, chairman; Sir E. C. Kerrison, Bart.; and others; as also Mr. Peck, the architect. Several matters of detail were arranged, and a general inspection of the works was made by the Committee. The architect's report was to the effect that the building operations were progressing; but not so fast as might be desired, from want of bricks, which, it was feared, would delay the completion of the works a little. The foundations were satisfactory. Sir E. Kerrison announced that the Bill empowering the Hitcham Trustees to convey to the College the necessary land had passed.

The Abingdon Memorial.—At a recent meeting of the subscribers to this Memorial Fund, held in the Council Chamber, the Mayor in the chair, it was fully determined to proceed with the matter without delay; and a meeting of the inhabitants generally was convened to take the public feeling upon it. Several designs were submitted to the committee, who selected the most elaborate, and requested the Mayor to forward a photographic copy of it to her Majesty for approval. The design selected will be submitted for public inspection if approved of.

Granite Cyst for the Prince and the Queen.—A stone, weighing about eighteen tons, has been successfully cut from the Cairgnall granite quarry, and safely brought, with some difficulty, to Peterhead, whence it is to be sent to Aberdeen, to be formed into a tomb for Prince Albert—on the same principle as the tomb of Napoleon at Paris,—being placed on the floor of the vault, and not underground. The stone is 9 feet 8 inches long, by 7 feet 4 inches broad, and 3 feet 4 inches deep; and it is to be cut into a sort of sarcophagus, to rest on a pedestal. Two cysts are to be cut in the stone for the insertion of coffins, and lids left to be cemented down. The body of the Prince is to occupy one cyst; and we believe it is the express wish of her Majesty that her own remains shall be deposited in the other. The obtaining of this stone has been a work of extreme difficulty; one or two fine blocks having been already rejected from flaws. The stone will at once be conveyed to Mr. Macdonald's establishment at Aberdeen, to be cut, dressed, and polished, after which it will be sent to England, and placed in the mausoleum recently erected at Frogmore. The block was brought to Peterhead, a distance of six miles, on a low four-wheeled waggon, dragged by sixteen horses, and a twenty-ton waggon, belonging to the Caledonian Railway Company, was provided to carry it to Aberdeen.

The Coburg Memorial.—The Queen of Prussia has sent fifty Friedrichs d'or to the Coburg committee for the erection of a monument to Prince Albert, accompanied by a very feeling letter in reference to the Prince and to the memorial in his native town.

New Steam-boat Pier, Blackfriars.—It is intended by the Board of Conservancy of the Thames that a pier be erected at the west side of the bridge. The pier hitherto used is now closed, the site being required for a portion of the temporary wooden bridge. When this bridge is completed, the present stone bridge will be pulled down. The works of the railway bridge are being carried forward with great activity.



PLAN OF THE CARMARTHEN LUNATIC ASYLUM.*

[* See p. 609.



THE NEW LUNATIC ASYLUM, CARMARTHEN.—Mr. David Brandon, Architect.

THE CARMARTHEN LUNATIC ASYLUM.

This asylum is now being erected for the joint counties of Carmarthen, Pembroke, and Cardigan, on an elevated and picturesque site, known as the Job's Well estate, near Carmarthen, consisting of forty-six acres of land, purchased of the late General Sir William Nott.

The building illustrated in the accompanying view was designed by the architect, Mr. David Brandon, in accordance with the last instructions issued by the Commissioners in Lunacy, for the better arrangement of asylums, and was approved by the Commissioners and the Secretary of State, in the year 1858. The principal features in the arrangement are the distinct separation of the convalescent or working patients from the others, and a reduced proportion of single bedrooms to the whole number of patients. Accommodation is provided for 260 patients.

The main building, facing south, has three stories, of which the ground and first-floors are similarly arranged, whilst the second floor is devoted exclusively to dormitories.

The engraved plan shows generally the arrangement of the rooms on the ground-floor.

The principal entrance is on the north side, together with the kitchen-offices, porter's room, steward's residence, and committee-room: over a portion of these is the chapel, with an aisle over the reception and waiting rooms. The dining and recreation hall is situate, for convenience, near to the kitchen, and is lighted from the roof (which is open-timbered) by means of a large lantern as well as by windows.

On each floor, and in each ward, are provided bath-rooms, lavatories, store-rooms, and water-closets, with an adequate supply of hot and cold water. The whole of the rooms and corridors are to be warmed by open fire-places; and ventilation will be effected by means of flues carried up in the several walls communicating with a main trunk-flue in the roofs terminating in the towers. The attendants' rooms are placed so as to command a ready inspection of the day-rooms and dormitories. Detached from the main building are the apartments of the working patients, with workshops on the ground-floor for painters, carpenters, shoemakers, tailors, &c., &c.; and on the other side, corresponding in position, are the washhouses and laundries, and apartments for the females employed in them.

In the construction of the walls, local stone will be used, cased with brickwork on the inside, with a vacancy between the brick and stone work, to ensure dryness. The facing stone will mostly be brought from the quarries at Ferrey Side and Llanelly. The principal living-rooms will be plastered on the inside, and the others will be faced with brickwork, pointed and coloured. Provision has been made for preventing extension of fire, by means of divisions in the roofs, and also by stone cills in the several doorways. An ample supply of water may be obtained from Job's Well, and pumped up to the cisterns in the tower by means of a small steam-engine, and thence distributed to different parts of the building.

There will also be a large amount of tankage for storing the rain water.

The contract for so much of the works as is now being carried into effect, was taken by Mr. Pollard, of Taunton, for the sum of 25,000*l.*; and it is expected that the works will be completed by the autumn of 1864.

REFERENCE TO PLAN.

A. Porter.
B. Office.
C. Committe-room.
D. Steward's room.
E. Private.
F. Reception-room.
G. Waiting-room.
H. Reception-room.
I. Dairy.
J. Larder.
K. Meat larder.
L. Flour store.
M. Coals.
N. Bake-house.
O. Bread store.
P. Potato-peeling.
Q. Kitchen-maid.
R. Patients' rooms.
S. Matron's room.
T. Dispensary.
U. Attendants.
V. Dormitories.
W. Day-rooms.
X. Superintendent's rooms.
Y. Painter's shop.
Z. Carpenter's shop.
1. Shoemaker's shop.
2. Tailor's shop.
3. Cutting-room.
4. Sorting-room.
5. Laundry.
6. Washhouse.
7. Dirty linen.
8. Laundry-maid.
9. Shed.

INCREASE OF MORTALITY IN NEW YORK.

Mortality appears to be increasing in New York at an alarming rate. The total number of deaths for the week ending August 3, was 722, being 38 over the previous week. The deaths for the week ending August 4, 1862, were 457. The increase is therefore 265 deaths, or 63 per cent.,—an increase unprecedented, says the *New York Herald*, except in times of a mortal epidemic. There was no epidemic in the city up to August 3rd; the mortality is, therefore, the more remarkable. The increase was chiefly among children, whose deaths number 463, of whom 48 were children of natives, and 415 children of foreign parents. The largest item in this bill of mortality is 189, of cholera infantum. The great heat of the week, the exposure of children in the sun, from ignorance of the effects of the climate, and want of proper attention to their food and drink, together with the poverty of a large number of the emigrants, are considered to have had much to do in producing the result. In the United States, where the population may be said to be a source of wealth, the question becomes, as the *Herald* remarks, one of national importance.

BUILDING ITEMS FROM SCOTLAND.

Havick.—The laying out of the new cemetery, and the building of the wall round it by Messrs. Marshall & Ballantyne, are now completed, and the sexton's house is in progress.

Dundee.—The Baxter Park is to be opened on the 9th proximo, with some ceremonial. The donor, Sir David Baxter, has given 500*l.* a year for keeping the park in trim; and at the opening it will be handed over to the Earl of Dalhousie, Sir John Ogilvy, M.P., the Provost and Bailies, the parish minister, and other trustees, three of them being working men, to be held for the community generally.

Crathie (near Balmoral).—The newly-built free church of Crathie has been opened for Divine service. The church is built upon the estate of Abergeldie, the lease of a site having been granted by the late Prince Consort, with consent of Admiral Gordon, the proprietor, and signed by the Prince a very short time before his death. Although upon Abergeldie, the new church is quite near to Balmoral Castle, being barely a mile south-eastward from it, and on the same side of the Dee. It is in the Early English style, with outside buttresses, and a spire 96 feet high to the top of the vane. The design was by Messrs. W. Henderson & Son, Aberdeen, and the entire cost will be about 1,000*l.* The church has provision for a small gallery in the west end, and the session-house is below the gallery. The pulpit is in the east end, with three lancet windows behind it; and there are five similar windows in each of the side walls. The walls are finished inside of plaster, and the steep roof is open wood-work. Everything about the church is plain. The contractors were,—for the mason's work, Mr. Innes, Ballater; wright's work, Baillie R. Watson, Aberdeen; plasterer's work, Mr. Henderson, Aberdeen; and slater's work, Mr. Davidson. From the position of the church, in the south margin of the wood, with steep hills rising in front, it is very little seen, only the spire being visible over the trees from the public road on the north side of the river.

BUILDING NEWS FROM IRELAND.

Tuam.—The reconstruction of the ancient cathedral of Tuam is projected. The style of the edifice, as intended to be restored, possesses Romanesque or Anglo-Roman, characteristics, but the ornamentation (we speak on the authority of Dr. Petrie) is essentially native, or that designated by antiquaries as the "Opus Hibernicum." The interest in preserving it is all the greater as, we learn from the same source, that no other architectural specimen of this peculiar ornamentation is now left in Ireland. The ancient arch in the old edifice will be preserved. This remnant was originally the "Arcus Triumphalis," leading into the chancel of a church erected, it is supposed, by Turlogh O'Connor, the last but one of the monarchs of Ireland, two other evidences of whose patronage of the fine arts still exist in the processional cross, now preserved in the museum of the Royal Irish Academy, and in the great stone cross of Tuam. The existing structure on its site is also the parish church; and the building, some years ago capable of holding only eighty people, having been enlarged to accommodate two hundred, still proves so inadequate for the increasing congregation of Protestant residents and converts that the further enterprise of erecting a church for six hundred persons has become necessary. In this new church the ancient porch door will constitute the chancel-arch; and with it the new structure will be in keeping, and form at once a cathedral and a parish church. The Ecclesiastical Commissioners, though not empowered to spend their funds in the restoration of cathedrals, treating this as the case of a parish church, which the letter published by the bishop in November, 1861, proves it to be, have made a grant of 2,000*l.* in aid of the restoration fund. To this sum 1,000*l.* has been added by persons connected with the cathedral itself, including 500*l.* from the bishop, and 100*l.* from the rector of Tuam. The total sum required, however, is 10,000*l.*, and a sum of 3,000*l.* is immediately needed to enable the building committee to begin the second stage of the contract.

Headford.—The *Tuam Herald* states that Father Conway is rapidly progressing with his church at Headford. He has for some time past paid at the rate of 100*l.* a week and upwards, for the wages of the artisans and labourers whom he has employed, thereby preserving many families from destitution. The building operations have now reached as far as the first fenestral point in the erection—a height of some 12 feet around.

Ballymoney.—The subject of the erection of a townhall for this place is under discussion by the town commissioners. The cost contemplated is 500*l.*; Lord Autrim giving a site free, and the chairman of the commission 100*l.* The town of Newtownlimavady, it was stated during the discussion, has expended 1,800*l.* in the erection of a townhall.

Drogheda.—A waterworks company, with a capital of 8,000*l.*, in 5*l.* shares, is being formed at Drogheda. The project is based on a report which has been made by Mr. Barham Foster, engineer, after a survey of the district.

Drumtariffe (County Cork).—The parish of Drumtariffe, in the diocese of Ardfert and Aghadoe, has had its barn-like church enlarged by the addition of a chancel, and the old vestry altered so as to turn a part of it into the church, thus forming a kind of transept. The pews have been removed, and open benches substituted. The flagging has been re-laid, and a new pulpit and reading-desk, to suit the benches, have been erected. These alterations and additions have been made principally at the cost of the Leader family, who own much of the neighbouring property. The chancel window is of stained glass, and was the gift of Mrs. Leader, in memory of her late husband, Mr. William Leader, of Rosnalie.

Kilkeel (County Down).—In the Kilkeel district there are ten schools under the patronage of the rector. A portion of the church is, at present, separated from the nave, in order to facilitate enlargements now in progress, and which comprise an octagonal chancel, and a transept. The window of the transept fronts the street, and will possess a memorial window, in remembrance of the late Lord Newry. This window has been provided by the Rev. J. F. Close, and the friends and tenantry of his lordship.

Ahoghill.—The foundation-stone of the new church of St. Colman, at Ahoghill, near Ballymena, has been laid by Mrs. O'Neill, of Shane's Castle.

Roscommon.—The foundation-stone of a new Presbyterian church has been laid at Roscommon.

PROVINCIAL NEWS.

Norwich.—The St. Andrew's Hall restorations have now been completed by the contractor, Mr. J. W. Lacey, from the designs of Mr. T. D. Barry, and under his superintendence. The event was celebrated by a meeting in the hall, at the invitation of the Mayor; and the workmen, about 200 in number, had a dinner given them by the restoration committee.

Oxford.—The local Estates Committee have resolved upon applying to the Lords of the Treasury for their consent to the purchase by the Town Council of property between the Town-hall and Blue Boar-lane. The immediate purpose in view is the obtaining a second approach to the Corn Exchange from the street above named; but the probable necessity for an enlargement of the Post-office and the re-building of Nixon's School has also been considered in making the application.

Northampton.—The Town Council have adopted the recommendation of the new Town-hall Building Committee to decorate the interior of the Town-hall according to plans by the architect, Mr. E. W. Godwin, at a cost of 1,178*l.* Efforts are to be made to get up a subscription for a stained-glass window in the grand staircase, illustrating Tennyson's "Idyls of the King." There are four compartments, for which there are the four Idyls, Enid, Vivien, Elaine, and Guinevere. The architect, who suggested the idea, is having a design prepared. The whole cost of the work would be about 70*l.* or 80*l.*

Taunton.—A project was recently set on foot to

alter the arcades of the Guildhall here, in order to give additional accommodation to the magistrates and others attending the Guildhall. About one hundred tradesmen residing in the neighbourhood memorialized the trustees of the markets, at their last meeting, against the proposed alteration, as being likely to interfere with the present open space in the centre of the town, which it is desired to keep as free from additional buildings as possible.

Swansea.—At a recent meeting of the town council the Market Committee reported in favour of the immediate erection of a new cattle-market, in the upper part of the town, known as the Devatty Field. The estimated cost is about 3,000*l*, which will include a residence for the market-keeper, as well as a large boundary-wall.

Chester.—The town council of this city have decided that the new town-hall shall be erected on the recently-purchased property in Northgate-street, behind the site of the present ruin; and this necessarily involves throwing the latter into the public thoroughfare. A motion was made to re-open the whole question as to site and locality, and which was supported with exclusive reference to the Forest-house property, in Foregate-street; but the majority of the council negatived it, on the plain principle that it was considered that the proper seat for the municipal government of the city is *within* and not *without* the ancient walls. That motion being negatived, no other locality was suggested in competition with Northgate-street; and the mayor's resolution, based upon Mr. Hardwick's report, was adopted. Some of the majority had considerable reluctance in abandoning the old site. Plans and estimates will next have to be prepared.

Birkenhead.—At a recent meeting of the Liverpool Docks and Harbour Board, it was agreed to accept the offer of Messrs. Armstrong & Co., to supply four bridges for the Birkenhead Docks, with hydraulic apparatus for opening and closing the same, at a total cost of 19,586*l*.

Blackpool (*Lancashire*).—The new pier at Blackpool has been inaugurated. The pier, from designs by Mr. E. Birch, of London, engineer, has been built by Messrs. Laidlaw, of Glasgow. Mr. John Reid superintended the works. The pier-head is 150 feet long, and 55 feet wide, being double the width of the body of the pier. The superficial area is 1,415 feet. There are six landing stages for steamers and boats, approached by a flight of steps 10 feet wide. Although the undertaking has been of a dangerous character, owing to the severe storms of last winter, no accident has happened during its erection.

York.—A meeting of the promoters of a corn exchange and covered market in this city has been held in the Guildhall, for the purpose of finally considering and determining what steps were to be taken to carry out the project. In the course of the proceedings, it appeared that one of the market committee had stated on their behalf, at a meeting of the committee appointed to confer with the market committee, that they could not entertain a work of such magnitude as that named unless the land-owners and those who attended the market would guarantee 10,000*l*. towards the expenses, as it was expected a covered market would cost about 30,000*l*. Mr. Peart moved a resolution to the effect that the corporation be requested to carry out the undertaking; but it was ultimately decided that the meeting be adjourned for a fortnight, and that the market committee be requested to meet them on that occasion.

CHURCH-BUILDING NEWS.

Branston (*Lincolnshire*). — The chancel of Branston church has been re-opened for divine service, having undergone a restoration at the sole charge of the rector, the Rev. Atwill Curtois. The walls have been rebuilt, and the old flat roof, with its whitewashed beams, has been replaced by a new steep roof, with dark-stained timbers. The Early English windows of the south wall, which had been blocked up, have been opened out, repaired, and refixed; and a new east window, of the same style, consisting of three lofty lights with vesica piscis above, has been inserted in place of the old mutilated five-light window which formerly lighted the chancel. The work has been executed by Mr. R. Young, of Lincoln, builder, under the superintendence of the architect, Mr. M. Drury.

Ely.—The new lantern tower at Ely Cathedral, designed as a memorial of the late dean, Peacock, is progressing. The upper portion of the south-eastern bays has recently been unmasked. Mr. Freeman is carrying on his portion of the work. Mr. Hill, of Marylebone, has undertaken the task of covering the whole of the external woodwork with lead; and workmen, under the direction of Mr. Warde, have commenced operations upon it. Progress is also being made within. The canopied panels of the choir stalls are being filled with carvings—in alto-relievo—of the principal incidents of Bible history; subjects from the Old Testament being placed on the south side, and those from the New Testament on the north side; two of which, representing the betrayal of our Lord, and His being taken before Pilate, have recently been added. The work of decorating the ceiling of the nave-roof, begun by the late Mr. L'Estrange, and stopped by his death, is now once more progressing, under the direction of Mr. Gambier Parry.

Cambridge.—The new vestry for Christ Church has been completed. Mr. R. R. Rowe prepared the drawings for, and superintended the erection of, the building.

Wantage (*Berks*). — Brightwaltham Church, which has been built from designs by Mr. G. E. Street, has been consecrated by the bishop of the diocese. The old church having become very dilapidated, the present one was erected on a more eligible site. The plan consists of a nave, chancel, and north aisle, with a baptistry under the south-western tower, which latter is surmounted by a spire. The edifice is built entirely of stone, in the Early English style. The floor is paved with encaustic tiles. There is a three-light east window, a special memorial of the late Mr. P. Wroughton, of Woolley Park: it is of conventional type, and represents the Crucifixion in the centre, various saints filling the side lights. Beneath the window is a reredos of alabaster, representing our Lord holding up his hand in blessing; with angels, bearing censers, around him. The altar is prominent. The chancel is furnished with sedilia, credence, and stalls of oak; and the body of the church is filled with open benches. A few remnants of the old church have been introduced into the new building, among which may be specified a circular font, of ancient design.

Little Amwell (*Herts*).—Trinity Church, Little Amwell, has been consecrated. The new church has been erected on the heath, immediately in the rear of the Townshend Arms, on land given for the purpose by the Marquess Townshend, and about a mile and a half from Hertford. The edifice is of red brick, with an immense roof of plain and ornamental red tiles, and a circular apse. The entrance to the nave is from the north, through a porch of open oak timberwork resting on brick walls. The roof is surmounted by a light timber bellcot, placed over the chancel arch, and terminated by a spire of rent oak shingles, with a vane on the top. The spire and the porch relieve the homely monotony of the mass of red brick and tiles. The church consists of a nave, 54 feet 6 inches long, by 24 feet 5 inches wide; and a chancel, 24 feet long by 25 feet wide, terminated by the rounded apse. The arch between the nave and chancel is of variegated brickwork, and springs from columns of Devonshire marble, resting on bases of Bath stone. The columns have foliated capitals. On the north side of the nave there are a large three-light lancet window and two double-arched windows springing from columns of red Mansfield stone, with foliated capitals in Bath stone. On the south side there are a large three-light window and three double-arched windows. At the west end there is a three-light window of large size. The apse is lighted by seven small windows, deeply set, the walls sloping inwards. The church is paved with common black and red tiles, and the communion space with Minton tiles. The seats are raised upon a timber flooring. The roof of the nave is of open timberwork, and the roof of the chancel of moulded wood ribs, with ornamental plaster panels. The walls are plastered, except at the openings of the windows, where the brickwork is shown. The cost of the building is about 1,400*l*., slightly exceeding the estimate. The works have been executed, under the superintendence of Mr. Ewan Christian, architect, by Mr. Walter Hitch, of Ware, builder.

Tenterden. — It has been decided by the parishioners that the old parish church shall be restored; and, from the statements made, it will require, for a restoration of the interior, without restoring the windows, about 1,200*l*., or including the windows, about 600*l*. more; and to restore the exterior as well as the interior, about 2,500*l*. It is intended to make application to the Church-building Society, the landlords, occupiers, and residents, as well as other parties interested in church restoration, for grants, donations, and subscriptions. The vicar has already 700*l*. of the money required in hand. The whole expense of the restoration of the chancel, except the glass for the windows, will be defrayed by the owners of the great tithe: the stained glass for the east window will be paid for by voluntary contributions, already collected; that for the south window by the vicar; and for the north window by Messrs. Lavers & Barraud, who supply the glass for the other windows.

Chewstoke (*Somerset*).—The church here has been restored. Mr. Norton, of Bristol and London, prepared the designs and plans for restoration and improvement of the church. This work it was proposed to do in a limited manner only, fixing the cost at 1,500*l*. It was found, however, that the building was so dilapidated, that a partial restoration would not be attended with satisfactory results. It was then decided to restore the whole building, except the tower, which was in a sound state. The walls are built of native red stone, relieved with freestone dressings, and have been placed on new foundations. The old building consisted mainly of a nave, divided by a south aisle. A north aisle has now been added, and is divided from the nave by an arcade, with clustered columns, and winged angels instead of capitals. There is a chancel chapel on the north side, which has been divided into an organ chamber and vestry by means of wooden screens, and the chapel is separated from the chancel in a similar manner. The chancel is paved with tiles, and the portion within the communion-rails is laid with Minton's encaustic tiles. There is an east window, the gift of the vicar, made by Mr. Bell, of Bristol, and representing scenes from the life of St. Andrew, the patron saint. The ecclesiastical and secular life and martyrdom of St. Andrew are detailed in medallions. In medallion 1, St. John the Baptist is pointing out to the two disciples the Saviour advancing,—"Behold the Lamb of God!" In medallion 2, St. John, St. Andrew, and St. Peter are bidden to leave their boat, nets, and fisher's life, and follow the Saviour. 3. The miracle of the loaves and fishes multiplied. The lad with a cophinus or rush basket; the Saviour in the act of blessing the bread. In medallion 4, the Saviour is commissioning his disciples to go into all the world. 5. The Scythians in barbaric dress are being instructed by the apostle, as history declares. The martyrdom of St. Andrew is represented in two medallions. Above the medallions are two angels, with harp and crown. At the top of all is depicted the Lamb of God. The pulpit is octagonal, of freestone: it is inlaid with marble. The reredos is carved in stone, inlaid with carved marble, and it will eventually be frescoed. The font is the gift of Mrs. F. Durke, the wife of the contractor. The tower has been repaired, new pinnacles added, and new figures and statues placed in the niches. The church, including the western gallery, originally accommodated 239 persons: it will now seat 319, without the gallery. Two-thirds of the sittings are free. The churchyard has been remodelled, a new path and carriage way being made to the western entrance. There will be a neat gate at the entrance to the churchyard. The estimated cost of the work is about 2,500*l*. Of this amount the vicar contributed the sum of 1,000*l*., besides presenting the reredos, pulpit, and many other things. The whole of the works have been carried out by Mr. Durke, of Chewstoke, the contractor, who is now engaged in restoring West Harptree church.

DISSENTING AND ROMAN CATHOLIC CHURCH-BUILDING NEWS.

Wood Green.—The memorial stone of the Congregational Chapel, which is to accommodate 500 persons on the ground-floor, and provide for the addition of galleries hereafter, has been laid by Mr. Samuel Morley. Messrs. Lander & Bedells are the architects, and Mr. Edward Clark, of Tottenham, the builder.

Bosbury (*Herefordshire*).—The foundation-stone of a Wesleyan chapel has been laid here by Mr. F. Orme, of Manchester. The chapel is to seat about 120, and to cost, with the land, about 150*l*.; and, aided by a grant of 15*l*. from the Chapel Building Fund, it is to be completed free from debt. The design has been presented by Mr. W. W. Pocock, of London.

Mossley (*Lancashire*). — A Roman Catholic presbytery has just been erected at Mossley, for the Rev. Charles Grymonprez. When the proposed new church is built, it will be connected therewith by the sacristy. The presbytery is built externally of Yorkshire pierpoints, with ashlar jambs, heads, &c., from the neighbouring quarries. The work has been executed by Mr.

Davies, of Mossley, from the designs and under the superintendence of Mr. E. Welby Pugin, of Ramsgate, Liverpool, and Dublin. Schools for this mission are being erected by the builder already named.

Keighley (Yorkshire).—The foundation-stone of a Baptist chapel, to be erected near to Skipton-road, Keighley, has been laid. Messrs. Paull & Ayliffe, of Manchester, are the architects. The style is Byzantine, freely treated. Accommodation will be provided for 800. There will be side and end galleries, and behind the pulpit a recess for organ and choir. Beneath the organ floor two vestries will be placed. The basement floor will be 14 feet high, and will contain a school-room, a lecture-room capable of holding 150 persons, a vestry for the minister, a tea-room, and four class-rooms. The contract for the whole of the building has been taken by Messrs. Gibson & Maude, of Keighley, for 2,579*l.* 4s., exclusive of the ironwork, which will be supplied by Messrs. Clapham.

Thorncliffe (Sheffield).—The foundation-stone of a new Wesleyan Methodist church has been laid at Thorncliffe. The new church will be built upon the old site, on the summit of Mount Pleasant. The building will be erected from the design of Mr. Wilson, of Bath, architect. It will be in the Gothic style, with tower and spire. It will accommodate about 750 persons, and provision will be made for an organ. The cost of the structure is estimated at about 3,000*l.*

Castleford (Pontefract). — The new chapel erected for the Congregationalists at Castleford has been opened. The building is in the Early English style. The exterior is brick faced with stone. The interior is plain. There is a circular window, which is filled up with stained glass. The chapel at present will seat about 500 persons, but can be enlarged so as to seat 700. The total cost is about 2,200*l.*

Pocklington (Yorkshire). — The new Roman Catholic church was dedicated on the 29th ult. It has been built from the designs of Mr. M. E. Hadfield, of Sheffield, by Mr. Grant, of Pocklington, builder. The plan consists of nave, 70 feet by 26 feet, with apsidal chancel 15 feet deep. It has an open timber roof, and is designed in the Geometric style, with two-light windows. The exterior has a careful arrangement of banded brickwork. A *flèche* of timber will surmount the apex of the roof; and the west end will be hipped, having a dormer in which will be inserted a wheel-window 8 feet diameter. This part of the plan has not yet been completed. The seats are open, and the centre alley is paved with tiles. The altar-rail is of floriated metal, and a cross of the same material terminates the apse roof.

STAINED GLASS.

Lincoln Cathedral.—The centre window in the south aisle of the nave of Lincoln Cathedral has been filled with stained glass, to the memory of the late Mr. Robert Swan, chapter clerk. The work has been executed by Messrs. Clayton & Bell, of London, at the expense of Messrs. J. and R. Swan, sons of the deceased. The subject is the lives of Abraham, Isaac, and Jacob. Four medallions down the centre of the window contain figures of Joseph, Jacob, Isaac, and Abraham, around which are the following subjects:—"Taking Corn to the Granary," "Joseph interpreting Pharaoh's Dream," "Death of Isaac blessing Jacob," "Esau hunting," "Jacob's Dream," "Jacob meeting Rachel, and giving Water to Laban's Sheep," "God appearing to Jacob," "the Ram caught in the Bush," "Isaac bound upon the Altar," and "Abraham and the Angels appearing at the Tent-door."

Yarborough Church.—A stained glass window has been placed in the east end of the chancel of this church in memory of the Rev. Henry Lloyd, the late rector. It is a window of three lights. The subject of the upper part of the centre light is the Crucifixion—"Look unto me and be saved;" and of the lower part, the good shepherd,—"I lay my life down for the sheep." The upper part of the left-hand light gives a representation of the woman of Samaria—"Give me to drink;" whilst that of the lower part is the sermon on the mount—"Blessed are the poor in spirit." The miracle of the loaves and fishes—"I am the living bread," fills the upper part of the right-hand light; and the good Samaritan—"Go and do thou likewise," the lower part of the same light. The window has been executed by Mr. Preedie, London.

Penkridge Church (Staffordshire).—The designs sent in for the proposed window in Penkridge Church, to the memory of the late Lord Hatherton, were five in number, and have been supplied by the following London firms;—Messrs. Ward & Hughes; Lavers & Barraud; C. Gibbs; Clayton & Bell; Heaton, Butler, & Bayne. The main feature chosen is the Ascension; and subordinate are the works of mercy. The subjects are variously dealt with by the several artists. The committee have not yet come to a decision.

Gloucester Cathedral.—A design of a window as a memorial of the public services of Dr. Jenner has been prepared by Mr. Hardman. It represents the fifteen miracles of healing performed by Jesus Christ. It is proposed to place the memorial in the south window of the west front, and to defray the cost by subscription. The Chapter have already contributed liberally, but the necessary sum has not yet been raised.

Cranmore Church, near Shepton Mallet.—A stained glass window has been recently placed in this church, in memory of the late Admiral Sir C. E. Stroud, by his family. It contains four lights, with medallions, representing different subjects in the life of our Saviour. The window has been executed by Mr. Clutterbuck, of Stratford.

SCHOOL-BUILDING NEWS.

Crouch End, Hornsey.—The Park Chapel Schools are now open. The lecture-room (originally about 32 feet long and 19 feet wide, accommodating about 120 persons), and a small and inconvenient minister's vestry, have given place to a lecture-room, 42 feet by 42 feet, which will accommodate about 350 persons, and is for the most part 24 feet high. To avoid draughts, an internal lobby and swing folding-doors, in addition to a projecting porch, with its external and internal doors, have been provided. Ventilation has been arranged by shafts in the walls, casements in the upper windows, and a large central louvred turret, which forms a prominent object externally. On the side of the lecture-room nearest the chapel, and communicating with it, are three small rooms, two of them for classes and the use of the librarian and superintendent; the other room for the purposes of a kitchen. A sink and water-supply are provided; and here is the tea-apparatus. At the back of the lecture-room, and communicating therewith, is an infants' room, fitted up with a raised gallery, at present to accommodate fifty infants: it may, however, by the addition of a second and smaller gallery, eventually contain seventy-five. This room has a distinct entrance. The minister's vestry has been enlarged and improved. The deacons' vestry will serve also for the purpose of a young men's Bible-class. All the smaller rooms, except the minister's vestry, as well as the lecture-room, are heated by a Goldsworthy Gurney's stove, with means for shutting off or admitting the heat at pleasure from either of the rooms. Special precaution has been taken against the damp which invariably rises up the walls from the clay soil of the neighbourhood. A free circulation of air under the floors is also provided for. The cost of the building proper, including boundary walls, railing, gate, gas-lighting, paths, drains, and other conveniences, will not, it is believed, exceed the contract amounts of 714*l.*; but other expenses which have been necessarily incurred in the purchase of land, conveyancing, fencing, fittings and furniture, tea apparatus, architect's charge, and incidental expenses, will bring up the total outlay to from 950*l.* to 1,000*l.* In order not to impair the general effect of the whole, by these additions, an octagonal roof has been adopted culminating in a central turret. The materials used externally are Bath stone, Kentish rag, and slates, as in the case of the chapel. The architects are Messrs. Lander & Bedells; and the builders, Messrs. Hill & Sons.

Old Kent Road.—The memorial stone of the Marlborough Chapel Schools was recently laid by Mr. Samuel Morley. The builders are Messrs. Sharpington & Coles, and the architects Messrs. Lander & Bedells.

Maidenhead.—The foundation-stone of the new building for National Schools, now in course of erection on a piece of land forming part of the old Market-place here, has been laid by Mrs. Hibbert, of Braywick Lodge. The building will be of white brick with red brick lines and facings. There will be two principal school-rooms, a set of class-rooms, and a dwelling-house for the master. There will be sufficient accommodation for 200 children. The builder is Mr. C. S. Foster, of London; and the plans were furnished by Mr. T. Rushton.

Shrivenham (Berks).—A National school-room has just been constructed in this village, and the occasion of its opening was made an opportunity for a musical gathering.

Horsham (Sussex).—The Horsham Girls' National school has been opened. The old building having been much dilapidated; and, owing to its distance from the town, being inconvenient both to teachers and scholars; it was determined to erect a new building, on the site near St. Mark's church, given for the purpose by the Rev. A. H. Bridges. A local subscription was collected, and the present building erected according to the plans of Mr. G. Fenton, architect. It is capable of containing 120 children. Its dimensions are 40 feet by 18 feet; the class-room, 20 feet by 18 feet. There are also a play-ground and an ornamental garden.

Coaley (Gloucestershire).—An appeal has been made to the public to obtain funds for the erection of a school-house in this parish, which has no school-house. Earl Fitzhardinge has given a site adjoining the church, and 107*l.* have been collected to build one; but between 350*l.* and 400*l.* will be required for a school capable of receiving eighty children. Only 30*l.* were gathered in the parish (of 778 persons), when the body of the church was rebuilt about five years ago at a cost of 11,200*l.*

Warrington.—The new Grammar School has been opened. It is built in the Gothic style, principally of brick, with stone dressings. Coloured bricks are introduced in bands and arches. The plan consists of school, 55 feet by 28 feet, affording accommodation for 150 boys, and having an open-timbered roof; of a square tower, 40 feet high; a day or class room, 21 feet by 17 feet; boys' dining-room, 23 feet by 16 feet; a lavatory, and offices. Adjoining is the master's residence. Over the school-entrance is a niche, in which it is intended to place a statue of the founder, with his arms and inscription underneath. The cost of the building and fittings, including the drainage and formation of playground and boundary-walls, will be about 2,700*l.*

THE QUESTION OF "THE WORK OF A 'MONKEY.'"

NEITHER "S. C. E." nor Mr. Tarn seems to have a right conception of this problem. Despite what "S. C. E." says, I have no doubt of Mr. Tate's accuracy; and I question the statement that "S. C. E." finds in Tate the expression that 2 tons falling through 40 feet are equal to 80 tons. Tate, I think, only shows how to calculate the units of work or foot-pounds in such a case. Mr. Tarn says that the effect of 2 tons falling through 40 feet is equal to about 100 tons. Is it meant by this that 2 tons falling through 40 feet are equal to 100 tons falling 1 foot, or to 100 tons resting on the head of the pile? Mr. Tarn's expression $\sqrt{2gh}$ gives the velocity in feet per second; but to say that this velocity if multiplied into tons will produce tons, is nonsense.

The effect of the blow of a hammer is in proportion to its *vis viva*, and this again is in proportion to the work which has been done upon the hammer. The *vis viva* of a moving body is in proportion to the weight of the mass multiplied into the square of its velocity; or it may be expressed by $w \times v^2$. But the velocity of a body acted on by gravity $= \sqrt{2gh}$, where g is the accelerating force of gravity in a second or 32·2 feet, and when h is the height of fall. This expression for the *vis viva* will therefore become $w \times 2gh$.

For a fall of	1 foot this expression	= $w \times$	64·4
" "	10 feet "	= $w \times$	644
" "	20 feet "	= $w \times$	1288
" "	40 feet "	= $w \times$	2576

These figures do not give weights, but proportionate forces, and show that the momentum of a body is in exact proportion to the work done upon it. By Mr. Tarn's formula the effect of the blow at the several heights would be as 8; 25·29; 35·77 and 50·59; from which it would seem that a hammer with a fall of 40 feet would only strike a blow 6¼ times as effective as the same hammer with a fall of 1 foot. Surely Mr. Tarn cannot mean to assert this. And I trust he will give a fuller exposition of his theory, or mode of measuring the force, in *weight alone*, of a body moving with a given velocity.

T. D. RIDLEY.

Another correspondent, who calls the original question of "S. C. E." "ill-considered," and the reply it produced "erroneous," goes on to say of Mr. Tarn and his communication, which we printed:—

* * * he proceeds to impugn one of the simplest elements in mechanics, as stated in Mr. Tate's work, which is in effect, "that work done is in proportion to power expended;" or, in other words, "that action and re-action are equal." But "work done" must not be confounded

with "useful result." The first (in the case of pile-driving) comprises the resistance of the air to the fall of the monkey, the friction against the guides, the crushing of the head of the pile, and to a small extent of the end of the monkey, the friction of the sand or earth against the sides of the pile, and the driving aside of obstacles below it—all this is *work done* by the fall of the monkey; and when all these resistances are overcome, the pile begins to move, and "useful result" commences. A consideration of these circumstances will show the utter fallacy of attempting to compare weight in motion with weight at rest, or to measure one by the other. A pile may be immoveable under repeated blows of a monkey falling ten feet; here the "useful effect"=0; but it may sink rapidly under blows from the same monkey falling a height of twenty feet. Now, attempt to reckon out the dead weight corresponding with these heights, either by Mr. Tarn's or Mr. Tate's rule; place this weight on the head of the pile and it will probably produce "a useful result" equal to 0,—*a reductio ad absurdum*. A girder sustains a standing load best when it is *short*, but a falling load best when it is *long*, thus proving that percussion and dead weight can no more be brought to a common standard than superficial and cubical measure. To return to the theory stated by Mr. Tarn: he wishes us to believe that a given weight falling from a series of heights in arithmetical ratio—say 1, 2, 3, 4, 5, 6 feet—will produce results varying according to a different ratio; he will hardly deny that the power expended is in *direct* proportion to the height lifted, and if the effect produced be in a different proportion, what becomes of the difference of *power expended*. If

1 ton falling 40 feet
2 tons „ 20 „
40 „ „ 1 foot

will not all produce the same result in work done (I do not say "useful effect"), the construction of a perpetual-motion machine is solved at once. In conclusion, let me ask "S. C. E." and Mr. Tarn a question: The end of an arrow being pressed with a force of 30 lb. against a man's hand made hardly a mark, but on being let fly from a bow drawn with a force of 20 lb., it shot him through the body; account for this, and prove by your formula whether such a result was to be expected.

An Engineer.

OUR LISTS OF TENDERS.

It is well sometimes to see how we look in the eyes of others. This is the light in which sundry contributors to the final columns of our paper, appear in the *Worcester Herald*:—

Highest and Lowest Estimates.—The following rather stunning examples of this species of mystery are all derived from the *Builder*, last number. For the northern division of the outfall drainage of the west district of the borough of Kingston-upon-Hull: McCormick, 29,997*l.* 5s. 4d.; Dixon & Sleight, 12,823*l.* 12s. 2d. For Stafford county gaol extension: Yates, 23,140*l.*; Ratcliff & Son, 17,100*l.* For finishing two semi detached villas, upper place, Plumstead-common, Kent: Sutton, 1,245*l.*; Thompson (accepted), 468*l.* 15s. 10d. For building a villa near Redhill: Kilby, 1,325*l.*; Walker & Bellamy, 946*l.* For alteration and repairs to St. Mary's, Aldermanbury: Turner, 2,997*l.*; Myers & Son, 2,198*l.* For a house at Blackheath: Sewell & Co., 4,550*l.*; Manley & Rogers, 3,527*l.* For farm house, offices, and buildings, Acton, Suffolk, for Messrs. Thynne: Clarke, 3,267*l.*; Walker & Bellamy, 2,054*l.* For house and offices, Redhill, quantities by the architect: Russell & Gray, 1,490*l.*; Thomas, 994*l.* For forming and making a new road near the Roxborough road, Harrow, with other works, for the local board of health: Walker, 820*l.*; Woodbridge (accepted), 382*l.*

A correspondent, in sending us a list of certain tenders, writes:—

I have noticed frequently, and with much surprise, the great discrepancies in the tenders occasionally sent in by some of the Metropolitan builders. Even when the quantities are supplied, they do not seem to be great adepts in the art of estimating, and are, I think, far behind many of their provincial brethren in this respect, as these tenders will prove.—

For a villa residence and offices at Great Malvern, for Mr. J. B. Heming, of Worcester. Mr. E. C. Alfiatt, architect, who also supplied the quantities—

McCann & Everal	£1490	0	0
Allen	1490	0	0
Warner	1485	0	0
Wilson (accepted)	1479	10	0

The difference between the highest and lowest tenders presents a strange contrast with the tenders published in your paper of the 8th inst., where, singularly enough, the highest tender was also 1490*l.*, while the lowest was 994*l.*, showing a difference in amount of 495*l.*, or about one-third of the amount of the highest tender, and this with quantities supplied. Surely, sir, it is high time that builders should be more careful in the preparation of their estimates, or else that they should cease to wonder why so many capitalists are afraid to speculate in "bricks and mortar," and look upon the matter of building a house with as much dread as they would feel if about to enter into a long course of litigation!

An Old Subscriber.

SAVING TROUBLE.

Not a little astonished have I been at finding Mr. Fergusson saying, in his "History of Modern Architecture," that, in order to save trouble, the one-half of a façade is, in Classic design, made only a reversed tracing of the other. *To save trouble*, forsooth! Why, it is the observance of the fundamental law of architectural organization, alias symmetry, that, so far from saving trouble, necessitates a very great deal of what Pecksniff would call trouble; that is, careful thinking and thoughtful study. Surely Fergusson must now have strangely dissented from the opinions of Garbett, whose "Principles of Design in Architecture" he so pointedly recommended in a note in the introduction of his own "Handbook of Architecture."

Not a little strange, too, it is, that one who lays so much stress upon *progress* as Mr. Fergusson does, should shut his eyes to, or else with eyes disingenuously ignore, all the various improvements that, within less than a century, have taken place in ordinary domestic architecture. However much it may affect pure Palladianism, a Pall-mall club-house affords striking contrast, internally, to a genuine Palladian *palazzo*, of which latter even Algarotti, the ultra-Palladianist, pronounced the façade to be no better than a "bella mot chera"—*Anglicè*, a mere cover-slut.

All the more am I surprised at Fergusson's ignoring improvement as to interior arrangement, design, &c., because as I understand from those who have seen it, his own library is one of the most beautiful, artistically designed, and finished-up rooms in all London, whose like for pure architectural beauty is not to be found either in Buckingham Palace or Belgrave-square.

Zero.

CONDEMNATION OF BUILDINGS UNDER THE ACT.

Mr. William Newman, builder, of 11, Trinity-street, Islington, was summoned at the Greenwich Police Court, at the instance of Mr. Snooke, district surveyor, under the Metropolitan Buildings Act, for Rotherhithe, to show cause why an order should not be made upon him to pull down and rebuild the walls of four houses now in course of erection. Mr. Snooke said that on the 19th May last he received a notice from the defendant, of his intention to build four houses, but subsequently the owner called upon him and informed him that the work had been suspended for some time. A second notice was given, and on the 23rd July he inspected the building, and found that in a length of 24 feet of the party walls not a whole brick was used. There was not a "header" to be seen, and the composition with which the portions of bricks were held together consisted of soap lees, with a few small limestones and dirt. Witness had seen a great deal of bad builders' work, but this was certainly the worst he had ever been called upon to inspect.—This evidence was confirmed by Mr. George James Lowe, clerk to the last witness, and a practical builder. The defendant, through his solicitor, pleaded that he had entered into a "contract" with the owner of the property, and that the work had been carried out under the owner's inspection and sanction. Mr. Snooke alluded to the recent fall of a building at Peckham, and the bodily injuries to persons passing, and said that the present buildings had been spoken of, as regarded their unsafety, by several persons. Mr. Traill issued the order asked for, and ordered the defendant to pay the costs of the proceeding.

CASES IN THE LAW COURTS.

REPAIRS AND ADDITIONS TO BUILDINGS.

Lewis v. *Berrington*.—This was an action, before a special jury, at the Monmouth assizes, on the 7th instant. The plaintiff was a builder at Raglan, and the defendant a gentleman living in the neighbourhood. The action was to recover a balance of 179*l.* claimed on an account for alterations and repairs to the defendant's dwelling-house.

The original estimate of the plaintiff was for 474*l.*; but by successive additions and alterations the work amounted to upwards of 1,000*l.*, of which the defendant had paid all but the sum now claimed. It appeared by the correspondence, that the whole matter had been clearly referred to valuers; and thereupon, at the suggestion of the Judge, the counsel for the plaintiff elected to be nonsuited.

Corfield v. *Johnson*.—This was an action in the County Court at Chichester to recover 22*l.* 8s.

It appeared from the evidence that the plaintiff had employed the defendant to build a room, the ceiling of which, some eight months afterwards, fell down, damaging, according to the plaintiff's showing, many valuable articles of furniture.

Mr. Draper, architect, being called to produce an agreement between the plaintiff and defendant, Mr. Ford objected to the production of the document on the ground that it was not stamped. Mr. Corfield objecting to pay the penalty, 11*l.*, he was non-suited, and costs allowed the defendant.

MORTGAGING UNDER FALSE PRETENCES.

At Warwick, in the Second Court, on 8th inst. (before Mr. Serjeant O'Brien), Charles Marriott was indicted for obtaining 100*l.* from Mr. Sill by false pretences. Mr. Adams said this was a very curious case, and showed how easily frauds might be effected with regard to landed property where there was no registration of title. The prisoner in this case had deceived six or seven solicitors by mortgaging the same property as many different times, keeping each one in ignorance of every other mortgage until he had obtained from different persons some three or four times the value of the property. Altogether the prisoner had obtained 535*l.* on the cottage, which is worth from 160*l.* to 180*l.*, in addition to 450*l.* for which the cottage is liable jointly with the mill. Taking both mill and cottage together, he has obtained 1,585*l.* on property which is not expected to realize 1,000*l.* The whole of these sums are of course still due; with, in many cases, considerable arrears of interest. The prisoner was found guilty on one of the indictments, and sentenced to 15 months' imprisonment, with hard labour.

NUISANCES REMOVAL.

Marley v. *Thompson and Another*.—This was an action brought at the Durham Assizes, on the 24th ult., for a nuisance, consisting in the erection of a patent brick manufactory within 100 yards of the plaintiff's house. The defendants had erected a patent brick manufactory in 1859. The plaintiff was a great horticulturist and amateur, especially in tulips, having as many as 2,500 flowering bulbs of tulips in his garden, worth 150*l.*; but, after the completion of the works in 1854, he began to experience grauually increasing detriment and discomfort until in June of last year, when the nuisance became so intense that the plaintiff and his wife were unable to sleep, and the lady shortly afterwards became insensible. In the course of three or four days all vegetation in the garden was destroyed, and the bees were lying about dead in thousands. Plaintiff's counsel referred to the cases of "Bamford *v.* Turnley," 31 Law J. Rep. Q.B. 286, and "Caby *v.* Lidbitter," 32 Law J. Rep. C.P. 104; and contended that, although overruling "Hole *v.* Barlow," 4 Com. B. Rep. N.S. 334, the plaintiff was entitled under them to recover in respect of those injuries, especially as he should show that the brickworks might have been put in a much less injurious situation in the same district, and that the coal used in them contained such a per-centage of sulphur as to render it totally unfit for any heating purposes whatever, and was burnt in ovens capable of great improvements,—partly, indeed, carried into effect since the present action was commenced.

Evidence was called on behalf of the defendants to prove that the district was used generally for manufacturing purposes. Verdict for plaintiff, with 10*l.* damages.

INVESTMENT IN HOUSE PROPERTY.

In the case of Moore *v.* Walter, Vice-Chancellor Kindersley refused to sanction an investment of a fund in Court in freehold houses. The Vice-Chancellor said,—"As to the proposal to invest the fund in houses, I consider that you cannot have a worse or a more objectionable investment, although no doubt this of the kind is a very good one. My desire is, to increase the income if possible; and, if the parties agree, it may be invested in Bank Stock."

COMPENSATION FOR INJURIES.

At the Midland Circuit, on the 8th inst., the case of Gough *v.* Evans was tried by jury. Plaintiff is a millstone dresser, and defendant proprietor of Aston-brook Mill, near Birmingham. Defendant was engaged in rebuilding this mill. Each story was built upon arches, so as to render the whole fireproof. On the 24th of September the plaintiff was at work on the first floor of the unfinished building, and the bricklayers and carpenters were constructing the arches upon the floor above, when one of the arches gave way, and the upper floor fell in, carrying the lower floors with it, and burying the plaintiff in the ruins. He was thus permanently crippled. For the plaintiff it was contended that the accident had been caused by the defendant's want of care. No clerk of the works had been employed. The timber supports used in building the arches, were removed before the arches had properly set; and there had been a sinking of one of the arches, which ought to have been taken away. For the defendant it was urged that there was no want of care on his part; and several witnesses were called who stated that it was usual to remove the timber supports in the manner practised on this occasion, and that no clerk of the works was necessary: the builder and carpenter also were called to prove that they had received no special instructions from the defendant. The jury returned a verdict for the plaintiff, with 150*l.* damages.

PATENTS CONNECTED WITH BUILDING.*

Manufacture of Fire-bricks, &c.—*J. R. Breckon and T. Douglas*. Dated 11th December, 1862.—This invention consists in manufacturing fire-bricks and other articles usually made from fire-clay, of the fire-stone called ganister, as it is found in the coal-fields in the counties of Durham and Northumberland, combined with the ordinary fire-clay, as they are obtained from the coal measures of the two aforesaid counties.

Drill Braces.—*E. Thorold*. Dated 13th December, 1862.—This invention consists in substituting for the usual ratchet-wheel and pawl used in ordinary hand drilling-machines (commonly termed ratchet braces) a cylindrical wheel or barrel forming or being the body or part of the body of the drill brace, the circumference of which may be of any desired form, viz., either plain, convex, or concave, or may present a succession of flat, convex, concave, or other suitably-formed surfaces, the form of the end of handle varying accordingly. The handle or lever of the drill brace is held in such a position by any suitable and convenient means, by a guide or guides, so that when moved to and fro in the usual manner the short end of the handle or lever comes in contact with the wheel barrel or body of the drill brace, and may be pressed so hard therein as to enable the user to communicate the usual rotary motion to the drill brace, but thus doing away with the usual ratchet of ordinary ratchet braces.

* Selected from the lists in the *Engineer*.

Instruments for Surveying and Levelling.—*G. H. Birkbeck.* A communication.—Dated 24th December, 1862.—This invention has for its object the arrangement and combination of parts so as to form a compound surveying instrument, to be called a "level graphometer square," which is capable of executing the various operations which each of the above-named instruments is only capable of performing separately. This improved instrument is composed of a cylinder of brass, or other suitable metal, divided longitudinally with its axis into two equal parts, connected together by a central pin or axis, thus forming two cross staffs, to each of which "pinules" are hinged, so as to fold down out of the way when out of use. Between the two semi-cylindrical parts a dial or plate, having divisions thereon, is fixed and used. When the instrument is employed as a "graphometer," the instrument in this case is mounted by means of a screw-pin, or otherwise, upon a suitable stand or support. When the instrument is employed as a level, it is suspended by a ring attached to the upper end thereof, and it is accurately adjusted perpendicularly by a movable weight, actuated by an adjustable screw, attached to the lower end. Sight-holes or openings are formed through the movable semi-cylindrical part of the instrument, through which the divisions on the dial-plate may be seen and read off when required, a fine wire or thread being stretched across each aperture in the direction of the line of sight. Flat plates, connected by a central pin or axis, may be substituted for the semi-cylindrical parts before described, by which the construction of the instrument will be simplified, but its fall will not be so elegant. The divisions on the dial-plate are in sections of five or other suitable number of degrees, so that the instrument acts not only as a "square" (which in other respects it replaces very advantageously), but it also admits of small angles being taken, as with the "graphometer."

Pipes or Tubes for conveying Gases, Fluids, or Vapours.—*J. H. Riddell.* Dated 29th December, 1862.—This invention consists in forming a groove or recess in the face of the flange, the section form of which groove may be either the segment of a circle, or any other convenient shape; and by preference the patentee forms this groove or recess in the face of the flange in the space between the internal orifice or bore of the pipe, and the holes cast or made in the flange through which the bolts or screws pass are used in connecting the different lengths or pieces of pipe together. These grooves or recesses being formed upon the face of each flange, must be arranged to meet with each other when brought together, forming a grooved channel round the face of each flange; and in connecting these improved pipes together he places a ring of india-rubber, hemp, or other suitable and elastic material in this groove, and draws the flanges together by belts and nuts or screws, thereby compressing the elastic ring or pattern, and forming a joint impervious to gas, water, or steam.

Stoves.—*J. H. Riddell.* Dated 29th December, 1862.—This invention relates to improvements in stoves usually called hot-air or slow combustion stoves, and consists in an arrangement by which the heated or radiating surfaces of such stoves are so increased as to cause a large volume of air to be rapidly heated to a comparatively low temperature, instead of, as in former arrangements, heating a small body of air to a high temperature, and which heated air can only be used after being mixed with a large volume of cold air. The patentee carries his invention into effect by forming a fire-box of cast iron or other material, which may be lined with fire-bricks, and which fire-box is connected with one or more chambers, through which the heated products of combustion pass on their way to the chimney or vent, such chambers being fitted with metal or other tubes, either in a vertical or sloping position, through which tubes a current of air is constantly and rapidly flowing, and which air becomes heated in its passage and prepared for warming and ventilating churches, or large halls, or buildings.

Stoves or Apparatus for Heating and Drying.—*R. A. Brooman.* A communication. Dated 22nd December, 1862.—This invention consists in the construction of apparatus for heating and drying, in which the air is heated by being caused to circulate in a zigzag direction through a casing surrounding pipes and chambers, in which the products of combustion from a stove are made to pass, all as hereafter described. The stove consists of a grate, with a dome-shaped casing above it, in communication with a series of chambers one above the other, and connected by pipes, each chamber containing plates for dividing the products of combustion in their passage to the outlet or chimney. The apparatus just described is inclosed in a casing, with division plates alternately fixed to each chamber. Air is admitted near the bottom of the apparatus, and, circulating round and in contact with the chambers, is heated, and passes upwards in a zigzag direction to be used for heating or drying as required.

Books Received.

The Wallet-Book of the Roman Wall. A Guide to Pilgrims journeying along the Barrier of the Lower Isthmus. By the Rev. J. Collingwood Bruce, LL.D. London: Longman & Co. 1863. 12mo., pp. viii. & 242, maps and cuts.

A Guide-book by Dr. Bruce ought to be a good one; and more especially upon the Roman Wall: and this *is* a model of its kind. The author, very properly, does not profess to describe the various objects visited, but simply to inform the traveller what he is to look for, and to aid him in examining. For a fuller description, he of course refers to his excellent work upon the Roman Wall itself, a third edition of which, he informs us, has been some years in preparation, and ere long will be issued.

On the period of the wall's construction, which has been ascribed to Stilicho and the time of Honorius, but which Dr. Bruce attributes to the time of Hadrian, we may quote the following remarks from the Wallet-book:—

"The masonry of the wall is for the most part rough, but the whole structure has been so strong, that in many instances it has been necessary to have recourse to gunpowder, in order to effect its demolition. The masonry of some parts of the barrier, however, as the bridge over the North Tyne, the north gateway of Borcovicus, and the gateways of the stations and mile-castles generally, will bear comparison with the best workmanship of the present day. Could such works have been erected in the gloomy times of Honorius?

The circumstance that we meet with proofs along the whole line that the stations and castles have at different times been overthrown and re-edified, is best explained by the theory of the early construction of the wall.

One other consideration is inimical to the view that Stilicho was the builder of the wall. Upon the wall itself, as well as in the stations, we meet with continually recurring records of the second, the sixth, and the twentieth legions: if the wall was built by the panic-striken Britons, under the guidance of one legion, what legion was it, and how is it that we have numerous memorials, not of one, but three?"

The volume is illustrated with many sketches, by Fairholt, Storey, and others, of objects of interest familiar to all archæologists, and to readers of Bruce's "Roman Wall" in particular, besides not a few that we do not recollect having seen before: there are also useful itinerary maps of the wall; and the book, in all respects, well merits its title of Wallet-book; being of good form and convenient size, with tough and pliable boards, and binding which will actually permit of the book being opened without rending it to pieces, which is saying a good deal in this flashy but retrograding book-binding era: the only suggestion we should desire to make for its improvement in a future edition would be that instead of titling every two pages with a repetition of "The Wallet-book of the Roman Wall," the titles should form a sort of index to the contents of the pages.

Miscellanea.

De Foe's Tomb.—It was noticed in this journal some months ago, that the monumental stone to the memory of the celebrated Daniel De Foe, in Bunhill-fields, was without an inscription. The head stone in question, which was much sunk in the ground, has since been raised, repaired, and repainted, with the addition of an epitaph, at the expense of Dr. Rogers, of Dalston and Westminster.

Oyster-shell Building.—Questions having been asked of *Notes and Queries*, as to the origin of this kind of building, and the importunate "Please to remember the grotto" of the London boys, our contemporary refers to his first number, wherein "the very probable suggestion" is made, that the "grottoes were formerly erected on St. James's Day by poor persons, as an invitation to the pious, who could not visit the shrine of St. James at Compostella, to show their reverence for the saint by almsgiving to their needy brethren." There are three days in the calendar, we observe, dedicated to a Saint James; but the 1st of August is not one of them. The day of St. James the Martyr is the 25th of July.

The Temple Church.—It has been determined to proceed with the decorations of the Temple Church as rapidly as possible during the long vacation, and divine service will not be performed again there until Sunday, the 4th of October.

Architectural Association: Voluntary Examination Class.—From this date till the re-opening of the Association, the class will occupy itself with considering the questions given at the last examination, and those in the specimen-paper issued by the Institute. Meetings every Friday at half-past seven.

Schools of Art.—The foundation stone of the Nottingham School of Art was to be laid on the 20th instant, by the Duke of Newcastle; with full Masonic honours, and a public procession from the market-place to the building.——The new school at Coventry has been completed, and will shortly be opened.——The Government having withdrawn its pecuniary aid from the Worcester School, with a view to placing it on an equality with other schools and rendering it self-supporting, the effect of this in the meantime will be to lose for the school the services of the head master, Mr. Kyd, who has been associated with it from its first establishment. The pupils are subscribing for a testimonial to him.

The Drinking-Fountain Movement.—An offer of 100*l.* has been made to the Free Drinking Fountain Association, Church-court, Lombard-street, on condition that 500*l.* besides are subscribed to the Association by the middle of October next.——At Reading Mr. M. H. Sutton has offered to erect two drinking-fountains in those parts of the town where the population of the poorest class is densest. One is placed in the Caversham-road, opposite the entrance to Somerset-place; the other, at the corner of St. Mary's Workhouse, in Coley-street. The local board of health have accepted Mr. Sutton's offer.——At Dawsbury a design for a new drinking-fountain, intended to be erected in the market place, has been exhibited. The style is Pointed, and the plan is triangular. On each side there is to be a bowl, made of polished Aberdeen granite, in a recess formed of encaustic tiles. Above these are to be medallions of her Majesty, the Prince of Wales, and the Princess of Wales, surrounded by foliated tracery. A crocketed spire surmounts all; and at each angle it is intended to place an ornamental three-light lamp, of a design corresponding to that of the fountain. Messrs. Welsh, of Leeds, sculptors, &c., have designed the work; and it has been decided by the committee that they shall carry it out. The cost of the whole will be about 240*l.*

Telegraphic Progress.—The thirty-fourth half-yearly ordinary general meeting of the Electric and International Telegraph Company has been held. The report stated that during the past half-year a considerable extension of the company's system, amounting to 754 miles of line and 2,666 miles of wire, had taken place. The reduction of the tariff since June, 1862, had, as anticipated, retarded the progressive advance of the company's income. From the Continental traffic a steady enlargement of business continued. The revenue of the company, from all sources, amounted to 117,210*l.* 4*s.* 8*d.*, showing an increase of 14,843*l.* 4*s.* 8*d.* on the corresponding period of 1862. After making provision for the working expenses, and interest, the net surplus of profit on the six months amounted to 39,061*l.* 17*s.* 5*d.* The directors recommended a dividend of 3*l.* 10*s.* per cent. for the half-year. The report was adopted. ——The half-yearly meeting of the Mediterranean Extension Telegraph Company has also been held. The improvement in the past half-year had been such as to render it unnecessary for the company to apply to Government for assistance under the guarantee. The directors expected that the interruption in the communication on the Malta and Alexandrian line would soon be restored. The chairman said the receipts for the past half-year amounted to 5,494*l.* 1*s.* 3*d.*, as compared with 5,100*l.* for the corresponding period last year. The time occupied in the transmission of messages between Malta and London had been considerably reduced. The report was adopted. A dividend of 8 per cent. per annum on the preference shares, subject to the payment of income-tax, and 3 per cent. on the original shares, was agreed to. 544*l.* 18*s.* 2*d.*, being at the rate of 10 per cent. on the receipts, was added to the reserve fund.——The *Marian Moore*, transport vessel, has left the Thames, having on board 900 miles of telegraph wires, which were shipped at the works of Messrs. Henley, North Woolwich, to be laid down in India.

Architecture and Climate.—Architectural forms have been so much governed by the circumstances of climate, and ought to be governed so much more than they now are, that it is well to note the results of observations of the circumstances in our island. The Meteorological Society, in their last report, say,—The first decided increase of temperature occurs in England in March, while in Scotland this takes place in April, a month later; and the first decided fall in the temperature in England occurs in November, while in Scotland it occurs in October, a month earlier. In this manner, England is favoured with an earlier spring, and enjoys a longer continuance of the warmth of summer. When the temperatures of the two countries are compared for the whole year, the conclusion is that the summer heat of England is greater than that of Scotland, and is spread over a larger portion of the year; while the English winters, though of nearly equal intensity, are of much shorter duration.

The French Cathedral, Canton.—According to the *London and China Telegraph*, this cathedral is being steadily proceeded with. It is scarcely brought to the level of the ground; but the plan of an enormous structure is evidenced by the form of the foundation. There appear to be in contemplation two towers, after the Notre Dame model; and the work is being carried on under the superintendence of two French architects sent out for the purpose, with a staff of French workmen under them. The pile, when completed, will form one of the most prominent features in the City of Rams;—not a difficult thing to do, as the chief characteristic of that city, when viewed from a distance, is the monotonous level presented by a sea of roofs, broken only by those aërial structures of bamboo which young comers believe to be erected by mandarins and rich teamen as places where they can take the air and enjoy a whiff of tobacco about the hour of sunset.

The Destruction of Manilla by an Earthquake.—The interesting town of Manilla, in the Philippines, it appears, has been overthrown, almost in a moment, by an earthquake. Some accounts speak of the whole town being in ruins: others say that half the place has been destroyed. At all events, the Cathedral, the Royal Chapel, St. Domingo, St. Isabel, San Juan de Dios, the Palace, several schools, the military hospital, the buildings occupied by the Tribunal of Commerce, and indeed all the public buildings, were razed to the ground; and even those buildings which remain are mostly so shaken that they must be pulled down. All the houses in Baracca fell. The Binonda, an ancient structure, was destroyed. The only church that has escaped entirely is San Augustin, which also withstood the tremendous shock of 1645. An architect's report, after a minute investigation of the peculiarities of the design and construction of this edifice, would be an interesting and instructive one. The Rodrigues property, left to the British nation, and where the British Consulate was, has been completely destroyed. About 1,000 persons have been killed, and many thousands wounded. The survivors have mostly fled from the city, as many of the remaining buildings threaten a sudden fall, even though no repetition of earthquake should occur. The 3rd of June was the date of the catastrophe.

Right of Way: Muswell Hill.—We should be glad to see the Alexandra Park Company's undertaking accomplished. But, pending the completion of their works, it is a question whether ancient footpaths, here as elsewhere, are not too important to be given up without an equivalent. Our attention is directed to a newspaper paragraph on the subject of the demand of toll for passing by footways which were lately public. A correspondent says: — "As to the public right of way, I know nothing more than that there is a footpath leading from the Colney Hatch road, just beyond Wood Green, across the line of the Great Northern Railway, near the mouth of the Muswell-hill tunnel, through certain fields, terminating in the high road at the top of Muswell Hill, and which appears to have existed a long time. Were it not an ancient way, I think the railway company would hardly have allowed the public to cross their line on the level, as has been the case, there being no bridge at this point. Should the path be closed, a most beautiful view of the surrounding country will be lost to those who cannot afford to pay toll, and probably some inconvenience be occasioned, as I do not know of any other means of communication between Wood Green and Muswell Hill, except by going round *viâ* Hornsey or Colney Hatch, either of which is a long distance."

TENDERS.

For new dining-room, vestibule, and fernery, for Mr R. C. Naylor, Hurlingham House, Fulham. Mr. James K. Colling, architect:—

Exclusive of Plastering.

Smith & Co.	£1,663 0 0
Bird	1,506 0 0
Kirk	1,495 0 0
Myers & Sons	1,475 0 0

Plastering.

Taylor	£5 6 17 5

For new brick tank, 86 feet diameter and 24 feet deep, for the Richmond Gas Company:—

Aird & Son	£3,864 3 4
Long	3,319 0 0
Munday	2,514 0 0

For the erection of four warehouses, for the London Leather Warehouse Company, Bermondsey. Messrs. Porters & Markham, architects. Quantities supplied:—

Little	£9,327 0 0
Wills	8,991 0 0
Sawyer	8,847 0 0
Messrs. Coleman	8,725 0 0
Wells (accepted)	7,975 0 0

For additions to factory, Smethwick, Birmingham, for Messrs. Nettlefold & Chamberlain. Mr. T. Chatfield Clarke, architect:—

Creswell	£5,632 0 0
Briggs & Son	5,628 0 0
Branson & Murray	5,515 0 0
Hardwick & Son	5,468 0 0
W. & J. Webb (accepted)	5,393 0 0

For warehouse, shops, &c., Cheapside, for J. S. Margetson. Mr. R. M. Shaw, architect:—

Pearson	£11,821 0 0
Patrick & Son	11,365 0 0
Holland & Hannen	11,245 0 0
Lucas, Brothers	11,110 0 0
Wills	11,101 0 0
Axford & Co.	11,016 0 0
Piper & Wheeler	10,887 0 0
Myers & Sons	10,735 0 0
Brass & Son	10,643 0 0
Lawrence & Sons	10,630 0 0

For vestry-room and office, for the parish of St. John, of Wapping, Middlesex. Mr. Charles Dunch, architect. Quantities supplied by Mr. Raggett:—

Sawyer	£1,580 0 0
Brown	1,434 0 0
Hall	1,425 0 0
Dudley	1,419 0 0
Hedges	1,394 0 0
Kilby	1,385 0 0
Jacobs	1,365 0 0
Mann	1,342 0 0
Wood	1,331 0 0
Simmonds	1,299 0 0
Johnston (accepted)	1,297 10 0

For warehouse, Southfield —

Sands	£2,465 0 0
Sawyer	2,462 0 0
Newman	2,445 0 0
Nash	1,878 0 0
Sargent	1,872 0 0
Lambie	1,367 0 0

For cemetery chapels and lodge at Newent, Gloucestershire. Messrs. Jacques & Son, architects:—

Cullis & Son	£1,180 0 0
Hayes	998 15 0
King	994 0 0
Tomes	978 0 0
Clutterbuck	932 10 0
Coleman	920 0 0
Spring (accepted)	845 15 0

For house and offices at Quorndon, Leicestershire. Mr. R. W. Johnson, architect:—

Greaves	£1,039 0 0

For dwelling-house, Westow-hill, Norwood, for Dr. Hetley. Mr. F. Pouget, architect. Quantities supplied by Mr. Franklin:—

Mansfield	£5,330 0 0
Coleman	5,013 0 0
Downs	5,006 0 0
Lawrence	4,987 0 0
Deacon	4,900 0 0
Nicholson	4,730 0 0
Seymour	4,630 0 0
Rider	4,597 0 0
Robinson	4,496 0 0

For house and offices, on the Conservative Land Society's estate, at Colchester. Mr. Horace Darken, architect:—

Dobson	£1,040 0 0
Lee & Baker	924 0 0
Orrin	903 10 0
Hum	899 10 0
Everitt	799 0 0

For a double tenement, for Mr. W. H. Bland, Colchester:—

Mansfield	£285 0 0
Brooks	259 0 0
Lee & Baker	249 0 0
Hum	210 0 0
Everitt	208 0 0

For re-erecting a portion of the premises of Mr. E. S. Sanders, High-street, Colchester. Mr. Horace Darken, architect:—

Mansfield	£800 0 0
Everitt & Shepherd	799 0 0
Law	770 0 0
Dobson	733 0 0
Hum	670 0 0
Lee & Baker	668 10 0

For a sailors' chapel at Lowestoft. Mr. W. Oldham Chambers, architect:—

All Materials.

Allen	£510 0 0
Swatman	266 17 4

Excavator, Bricklayer, Plasterer, Slater, and Mason.

G. Rix	£167 10 0
R. Rix	165 0 0
Todd	136 15 6
Newson	118 10 0

Carpenter and Joiner.

Nelson	£95 0 0
Brett	79 0 0
Tuck	72 10 6

Painter, Plumber, and Glazier.

Barrett	£21 0 0
Scarlett	16 0 0

Ironfounder.

Skoyles	17 0 0
Open benches	£25 0 0

For parsonage-house, Milland, Sussex, for the Rev. J. H. Clayton. Mr. F. G. Widdows, architect:—

James & Ashton	£2,287 0 0
Green & Son	1,947 0 0
Flint	1,940 0 0
Simmonds	1,855 0 0

For additions to house, Atkins-road, Clapham Park. Mr. F. G. Widdows, architect:—

Smith	£569 0 0
Cooper	550 0 0

For new brewery and distillery at Norwich, for Messrs. Hills & Underwood. Mr. T. D. Barry, architect:—

Hughes	£14,900 0 0
Perkins	14,578 0 0
Bell & Sons	13,190 0 0
Spinks & Wright	11,388 0 0
Ling & Balls	10,800 0 0
Lacey	10,250 0 0
Youngs & Breese	9,948 0 0

TO CORRESPONDENTS.

F B—W F P (nothing was said)—Verax—E J—Arch offers no evidence that vegetable agency would be in re effective than mechanical J B T B—such a matter on the subject has appeared—M E H.—T C N.—E E S.—P. C.—Viear (apply to an architect).—G. L. P. [illegible] are unable—I. P—C C N.—J P B.—J O.—R L S.—L & B.—S G—H G. E R.—J. F. M.—Otago.—T. W. C.—W. H. C.—C. & W.—E. W.—W. M. (thanks).—F. R. W.—F. J. G.—A [illegible]—E. C.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

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MR. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLORIST, AND LITHOGRAPHER,
Removed from 21, Montague street, Russell-square, to 58, TORRINGTON SQUARE, W.C.

COUNTY of CARDIGAN.—The Office of BRIDGE SURVEYOR for the County of Cardigan, having become VACANT, the APPOINTMENT will be FILLED UP at the ensuing Michaelmas Quarter Sessions, at a salary of 90*l.* per annum. Candidates are requested to send in written applications, stating age, residence, &c., and accompanied by testimonials, to Mr F R. ROBERTS, the Clerk of the Peace, at Aberystwith, on or before the 1st day of SEPTEMBER next. The Surveyor will be required to reside in the county.—Dated this 4th day of August, 1863.

NORTHAMPTONSHIRE. — To SURVEYORS.—Notice is hereby given, that any person desirous of applying for the APPOINTMENT of SURVEYOR of the COUNTY of NORTHAMPTON, is to send his application and testimonials, sealed up, to the Office of the Clerk of the Peace of the said County, on or before the 1st day of OCTOBER next. The salary is 60*l.* per quarter, from which all travelling and other expenses are to be paid. Particulars as to the duties of the Office may be obtained by applying at the Office of the Clerk of the Peace. The election will be made at the next October Quarter Sessions, or at some adjournment thereof.
HENRY PHILIP MARKHAM, Clerk of the Peace.
County Hall, Northampton, August 8, 1863.

OXFORD NEW WORKHOUSE.—Wanted immediately, a CLERK of the WORKS. Salary 2*l.* 2*s* per week.—Application to be sent to Mr. JACOB, Clerk to the Guardians, Oxford, not later than SATURDAY, AUGUST 29th.

SURVEYING and MATHEMATICAL INSTRUMENT MAKER.—J. PALLANT, 44, Museum-street, Red Lion-square, London, begs respectfully to inform his patrons and the public that he has removed to more extensive Premises for the Sale of Mathematical, Surveying, and Optical Instruments suitable for Engineers, Surveyors, and Optical Students, Brights fitted with the latest improvements, and warranted by the METROPOLITAN BOARD of WORKS in carrying out the GREAT MAIN DRAINAGE of LONDON. All Orders for Repairs or Scientific punctually attended to. Opera and Field Glasses in great variety.

NOTICE.—Mr. EDWARD HARRIS, son of the late Mr. William Harris, of 53, Park-street, Grosvenor-square, Architect, having entered into Partnership with Mr JOHN T. LEPARD, of No 9, Cloak lane, City, Architect and Surveyor, the BUSINESS of the latter will henceforth be CONDUCTED by them at DRUMMOND CHAMBERS, No. 10, John-street, Adelphi; and No. 9, Cloak-lane, City.

TO SMITHS.
WANTED, an Experienced GENERAL SMITH, to take charge of a shop.—Apply by letter, stating last employment and wages required, to J. W 45, A bany street, Regent's Park, London, N.W.

TO PARENTS AND GUARDIANS.
WANTED, a YOUTH, about 16, who writes a good hand and can cast accounts, to take and enter into the actual to make himself generally useful. One used to the building trade preferred.—Apply by letter in own handwriting, stating terms, &c. to J. S. 1, Moreton street West, London, S.W.

TO BUILDERS' FOREMEN.

WANTED, by a London Firm, an active, intelligent FOREMAN, to superintend the restoration of a mansion in Ireland.—Address, stating age, wages, and where last employed, to W. T. Office of "The Builder."

WANTED, a WORKING FOREMAN of MASONS. Must be a good and expeditious tradesman, and of sober habits.—Apply, personally, from Two to Four o'clock, on Saturday, the 22nd instant, at Messrs. HILL & CO.'S, 503, Whitechapel-road

WANTED (near London), a thoroughly-competent Man, to lay tesselated pavement labour only, at a price. Those who could fill up their time at any other trade would be preferred.—Apply, by letter only, with full particulars, to A. Z 13, Barnsbury grove, Islington, N

TO BUILDERS' FOREMEN AND CLERKS OF WORKS.

WANTED, by a London Firm, a FOREMAN to take charge of some new buildings in town.—Address, stating age, salary required, and where previously employed, to A. A. Z Office of "The Builder."

WANTED, an ASSISTANT, to WORK OUT ORNAMENTAL DESIGNS, in terra-cotta colour. Must have had experience in the art. WANTED also a PUPIL.—Apply on MONDAY or TUESDAY next, between SIX and NINE p.m. at Mr. Lyon's Office, 9 Gower-street, North

WANTED, a WORKING FOREMAN of JOINERS and CARPENTERS in a small Builder's Shop at the West-end. Must be an active steady man, and thoroughly competent to set out work, measure up, keep time, &c.—Address, stating where last employed, age, wages required, &c to W. T. 7, Queen's-road, Bayswater

WANTED, in the Office of a Builder, a CLERK, accustomed to accounts, and who can occasionally make an estimate.—Address, stating salary and where last employed, to A B 11, Henry street, Gray's inn-road

TO PLUMBERS, &c.

WANTED, a THREE-BRANCH HAND, as plumber, zinc worker, glazier, &c.; one that has no objection to painting. Hetands and wet pen work will be found.—Address, W S BRETT, Plumber, &c Romford, Essex.

TO ARCHITECTS' ASSISTANTS.

WANTED, immediately, in the country, an ASSISTANT possessing a thorough knowledge of both Gothic and Classic Architecture, a rapid draughtsman and colourist, and able to make good working drawings.—Address, stating age, terms, and references, which must be of a first-class character, to M. H. A Office of "The Builder"

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WANTED, several first-class HANDS, experienced in getting up any description of pump and hydraulic work. None but thoroughly steady hands need apply to Messrs. CLINTON & OWENS, Engineers, Whitefriars-street, E.C.

TO CARPENTERS AND BUILDERS.

WANTED, for a YOUTH, aged 17, an APPRENTICESHIP (IN DOOR) to a Carpenter and Builder. Country preferred.—Address, stating terms, S M 10, Stanley-street Chelsea.

TO MASTER PLASTERERS OR BUILDERS.

WANTED, by a Young Man, aged 22, a Plasterer, EMPLOYMENT at the Trade, either in London or the country. Could also take charge of a set of books at evening or otherwise. Accustomed to making estimates, taking measures, &c Confidence strictly observed.—Address, T. M Plasterer, General Post-office, Liverpool.

TIME KEEPER OR CLERK.

WANTED, by the Advertiser, a SITUATION in either of the above capacities. Good references.—Address, A. B care of Mr. Thorp, 22a, Bury-street, St. James's.

TO BUILDERS.

WANTED, a SITUATION, by a Young Man, aged 21. Has been seven years at wood turning. Can make himself useful at carpenter's work or circular saw.—Address, Town or country Good reference.—Address, T. M 14, John-street, Chelsea.

TO ARCHITECTS, BUILDERS, AND OTHERS.

WANTED, EMPLOYMENT, by a thoroughly efficient Young Man, to prepare drawings, take out quantities, write specifications, measure up buildings, or other work, or to price estimates. Terms moderate.—For particulars, address C D G 30 Albany-street, Regent's Park, N.W.

TO IRONMONGERS, BUILDERS, AND OTHERS.

WANTED, a SITUATION, by a good SMITH, BELLHANGER, GASFITTER, &c and who thoroughly understands hot water and steam apparatus &c. Town or country. Good references.—Apply to O. P. Mr. Carter's, No. 3, South-place, Wandsworth

TO BUILDERS AND CONTRACTORS.

WANTED, a SITUATION, as MANAGER or FOREMAN of WORKS, by one who has a thorough practical knowledge of the different branches of Building and Contractor's Work. A Joiner by trade. The country preferred. First-class references.—Address, N. T. Office of "The Builder."

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WANTED, by a thoroughly practical Man, a Carpenter, aged 36, a SITUATION, to take the entire CHARGE of a JOB, or as FOREMAN of CARPENTERS. Good references for three years with last employer.—Address, A. W. 21, Harrison street, Gray's inn road.

TO BUILDERS, &c

WANTED, by a Married Man, constant EMPLOYMENT in a Jobbing Shop, as CARPENTER and JOINER, in town or country; a few miles from town preferred.—Address, C. R. Office of "The Builder."

TO BUILDERS AND OTHERS.

WANTED, by a Joiner, aged 31, a SITUATION as SHOP or GENERAL FOREMAN of WORKS. Has filled both the above. First-rate references from a London firm. - Address, G. W. 24, Doria-street West, Primrose road, Lambeth, S.

BRICKFIELD CLERK WANTED.

WANTED, in the Country, a trustworthy Man who has a thorough knowledge of the work done in a BRICKFIELD, and of the various kinds of Clamp Bricks, &c. Apply by letter, stating age, last situation, and salary expected, to S S. Mr. H. BROOKS, 13a, Salisbury-square, Fleet-street, E.C.

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WANTED, by a young Man, a SITUATION as PLUMBER, PAINTER, and GLAZIER. Town or country Address, R. G. Office of "The Builder."

TO SIGN-WRITERS AND BUILDERS.

WANTED, by a GOOD SIGN-WRITER, a permanent SITUATION. Can do graining if required. No objection to the country.—Address, A. Z. Woolner's Colour Warehouse, Battersea Park.

WANTED, PLASTERER'S WORK, by the Piece.—Address, J W 14, Palace-road, Westminster-road, S.

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WANTED, by a Land Surveyor, whose engagement is an old-established City house soon expires, a RE-ENGAGEMENT. Good reference.—Address, S. & A. Office of "The Builder"

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WANTED, by an efficient Estimator, Measurer, Quantity Surveyor, and Builders' Accountant, of many years' practical experience, an ENGAGEMENT The highest testimonials offered from Architects and Builders.—Address, R. D. Office of "The Builder."

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WANTED, by an experienced, energetic, Practical Man, an ENGAGEMENT as FOREMAN of PLUMBERS, &c. or to take the Management of a Business for a Widow, &c or in any confidential capacity First class references.—Address, S H 21, Waddington-place, Stratford, Essex, E.

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WANTED, for a Permanency, a SITUATION as THREE BRANCH HAND. Wages, 24s. per week Address, E G Post-office, Chiswell-green.

WANTED, a RE-ENGAGEMENT as GENERAL FOREMAN to a builder or contractor, by an energetic Man. Has a thorough knowledge of the building trade in all its branches; also measuring, valuing, drawing, &c. First-class references No objection to go to benjamin or gentleman's estate.—Address, ALPHA, No. 4, Bridge-place, Northam, Southampton, Hants.

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WANTED, PIECEWORK, by a first-class staircase hand of twenty years' experience, either in town or country. First rate reference if required.—Address, W. B. No. 11, York place, Battersea Park

WANTED, by a respectable Young Man, a constant SITUATION as PLAIN and DECORATIVE PAPERHANGER and PAINTER. Can do lettering free hand. Good references.—Address, O M. P. 26 Windsor-street, Lower road, Islington, N.

TO ARCHITECTS, BUILDERS, &c.

WANTED, an ENGAGEMENT, as CLERK OF WORKS, or GENERAL FOREMAN Good references. Last engagement over four years.—Address, C. W. Mr. Atkinson, 151, Burrage road, Plumstead, near Woolwich, Kent.

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WANTED, to APPRENTICE a YOUTH, 16 years of age (indoor), to the above business.—Address, stating premium required to W. W. 15, Portland-road Villas, Notting hill

WANTED, by a Good PLUMBER, a SITUATION Can do sheet glazing, has had great practice in engine work, work in deep wells, and can turn his hand to any part of the business. Good references -Address, A. B. C. 71, Ledbury-road, Westbourne grove, Bayswater, W

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WANTED, in a very old-established Business and in a first-rate connexion, a few miles from London, a thoroughly practical and energetic WORKMAN This is an unusual opportunity, which presents itself to any person who can command from 200l. to 300l. A less amount, under a certain arrangement, would possibly not be objected to if good personal security could be given. Apply to Messrs. HAWKINSON, Leaf Merchants, Borough, near St. George's Church.

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WANTED, by a Young Gentleman, who is a good Draughtsman, with four years' experience, a SITUATION in an ENGINEER'S OFFICE.—Address, D Mr Sandford's, High-street, Shrewsbury.

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WANTED, a SITUATION as JUNIOR ASSISTANT, either in town or country, by a young gentleman who has recently completed his articles.—Address, F. N. Office of "The Builder."

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WANTED to PURCHASE, a PAIR of IRON DOORS and FRAME, for a party-wall, and a PAIR of WROUGHT-IRON GATES for a carriage entrance, about 8 feet high by 9 feet wide.—Apply by letter to H. P. care of G. H. Farrington, Stationer, Great Knightrider-street, E.C.

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WANTED, by a Young Man, aged 25, a SITUATION in the above line of business. Has some knowledge of the trade, and bookkeeping by single entry. Four years in present situation; may reasonably be removed from previous employers.—Address, F. YOUNG, 15, Cumberland-street, Hoxton garden

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WANTED, by a respectable Young Man, aged 23, a SITUATION, to assist in office, time-keeping, &c. and work at the bench in town or country. Good reference given. Address, R. H. 11, Salisbury terrace, Kilburn.

TO BUILDERS AND OTHERS.

WANTED, by a Practical Man, a RE-ENGAGEMENT as GENERAL FOREMAN, or to take CHARGE of a JOB. Has good references. No objection to the country.—Address, H. T. C. care of Charles Page, Ironmonger, 1, Hedge-street, Lambeth, S.

WANTED, CARPENTER'S and JOINER'S WORK Piecework or by the job. All kinds of staircases and rails prepared and fixed. Good reference given.—Address, W. G. 43, Leighton-road, N.W.

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WANTED, by the Advertiser, a SITUATION, in an Architect's Office, in town, as JUNIOR CLERK. Is a good draughtsman and colourist. Can give good reference. Salary moderate.—Address, H. A. F 60, Brompton-square, S.W.

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WANTED, an experienced Practical ASSISTANT, clever at design and construction, and accustomed to the responsible management of large first class works, to whom a liberal salary will be given.—Address, B. B. Office of "The Builder."

WANTED, for a few weeks, by the Corporation of the City of Coventry, a Person thoroughly competent to Set Out and Superintend the Execution of Brickwork and Sewers, and to keep same time as the workmen.—Apply, with terms and testimonials, to Mr J. E. GREATOREX, C.E. City Surveyor, Coventry

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WANTED, an ENGAGEMENT, by a thoroughly efficient practical Managing Shop Foreman of Joiners, who is well acquainted with London systems, having had experience in the best firms, and a large number of Joiners under him.—Address, E. C. W. 7, St. Thomas-street, Islington, N.

WANTED, by a Young Man, under 30 years of age, a SITUATION as BLACKSMITH; is also acquainted with the shoeing.—Address, S. J. 16, Lavender-road, York-road, Battersea, S.W

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GENERAL FOREMAN WANTED, who thoroughly understands Church Work. Good references required.—Apply to Mr. PENNING, Contractor, Pewsey, Wilts.

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EMPLOYMENT WANTED, by an active Middle-aged Man, a good accountant, as Bookkeeper, Time-Keeper, or other confidential situation. Has a practical knowledge of building, can trace, set out work, and would make himself useful. Unexceptionable references Salary moderate Town or country.—Address, J. C. 25, Clarendon square, St. Pancras, N.W.

TO BUILDERS, &c.

THE Advertiser, aged 17, desires a SITUATION in a Builder's, Surveyor's, or Agent's Office. Can write a good hand, copy, trace plans, &c.—Address, T. H. Post office, Ball's Pond, Islington, N.

THE Advertiser, who has had considerable experience in designing, preparing perspective, competition, and working drawings, and is a good draughtsman and colourist, is desirous of an ENGAGEMENT with an ARCHITECT.—Address, P R. Poste Restante, Manchester

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THE Advertiser, having just completed an extensive building, is desirous of ENGAGEMENT, either as CLERK of WORKS or MANAGING FOREMAN to a contractor. First-class testimonials from former employers.—Address, with terms, to H. C. 24, Moor street, Soho, W.

TO ARCHITECTS, &c.

THE Advertiser is desirous of obtaining a SITUATION as MANAGING CLERK. He is thoroughly acquainted with business routine, and capable of preparing any kind of drawings or designs, to take out quantities, to superintend the erection of buildings, or to obtain answers, and to use the level and theodolite Address, B. B. Gosport Post office, Hants.

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AN Opportunity now offers for an IN-DOOR APPRENTICE to the GENERAL FURNISHING IRONMONGERY BUSINESS, where workmen are employed on the premises. For further particulars, apply to the Messrs. FASSNIDGE, BROTHERS, Uxbridge, Middlesex

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AN experienced CLERK of WORKS, several years engaged upon Government triennial contracts for works and repairs, having the entire charge—estimating, measuring, billing, &c.—also a thorough knowledge of drainage works, seeks a RE-ENGAGEMENT. Country preferred. Only a moderate salary required Excellent testimonials. C. W 33, Edward-street, Hampstead-road, N.W.

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A WRITER and GRAINER is in WANT of a constant SITUATION, or as FOREMAN PAINTER, in which capacity he has had great experience. Some knowledge of plumbing.—Address, F. O. H. 8, St. Peter's street, Hackney-road.

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A GRAINER, WRITER, and ORNAMENTAL PAINTER, wants a SITUATION. Is a steady, respectable, and useful man. Wages moderate for a constancy.—Address, C. W. 114, Bridport place, Hoxton, N.

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TO THE TIMBER TRADE.

A GENTLEMAN, who has had twenty years' experience in the above trade, and is thoroughly competent, is open for an ENGAGEMENT. References of the highest respectability can be given.—Address, ARBOR, care of Messrs. Hammond & Nephew, 77, Cheapside, E.C.

TO PLUMBERS AND BUILDERS

A GOOD PLUMBER, aged 23, is in WANT of EMPLOYMENT. Understands pump work, and can do gas-fitting. Has no objection to fill up time with a little painting, &c. Town or country.—Address, A. M. 27, New street, Lambeth.

A PRACTICAL and THEORETICAL YOUNG MAN, aged 26, who can take, design, prepare sketches, working and finished drawings, can set out work, and has superintended works abroad, desires an ENGAGEMENT as CLERK of WORKS or BUILDER'S FOREMAN. Good references.—Address, T. C. M. Office of "The Builder."

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A THOROUGHLY PRACTICAL MAN wishes for a constant SITUATION as BELLHANGER, GASFITTER, and SMITH, in town or country.—Address, A. B. 5, Williamstreet, Knightsbridge.

TO ARCHITECTS.

A FIRST-CLASS CLERK of WORKS, who has just completed some extensive works, is open to a RE-ENGAGEMENT.—Address, X. L. 21, New street, Covent garden, W.C.

TO BUILDERS AND CONTRACTORS

A RESPECTABLE Young Married Man is desirous of an ENGAGEMENT, as CLERK or ASSISTANT, in the south-west or midland counties. Can estimate, prepare plans and specifications, understands the duties of an office, and is competent to undertake the management of a business, with or without the principal's superintendence. First-class testimonials.—Address, C. H. Post-office, Sapperton, Cirencester.

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A YOUNG GENTLEMAN, aged 22, is desirous, on account of his health, of a SITUATION as above, in the country. He is well acquainted with all the usual routine of a surveyor's office, having been articled to one in London. First-class references.—Address, A. L. B. care of Housekeeper, 48, Fenchurch-street, E.C.

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BUILDING LAND, adapted for Model Lodging Houses, in the suburbs of London.—A considerable PLOT of FREEHOLD LAND, as above, in College Row, near St James's Church, Bermondsey, TO BE SOLD.—Inquiries may be made between ELEVEN and ONE; or communications by letter, postpaid, addressed, to Mr J. CURLING, 35, Alingdon-street, Westminster.

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MILNES & FRANCE, Architects,
August, 1863. 3A, Hall Ings, Bradford.

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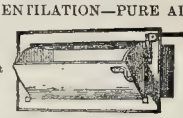
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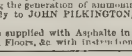
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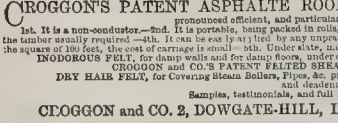
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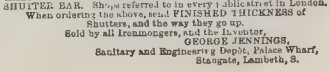


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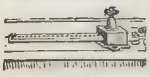


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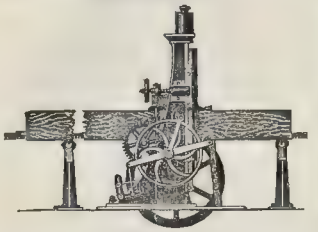


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IMPROVED SELF-ACTING SAW BENCH.



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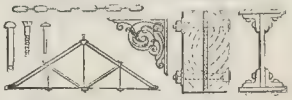
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The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

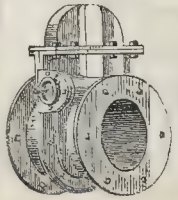
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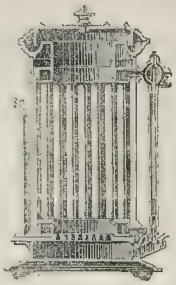
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J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of GOODS of the BEST MANUFACTURE, at the LOWEST PRICE.
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From 2 in. to 18 in. price 9s. 6d to 12l. per in. diameter.
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These Valves are all proved to 200lb on the square inch before leaving the works, and are always kept in stock.
Valves made with outside nuts to order.
Also Screw Water Valves, with gun metal faces.
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WROUGHT TUBULAR SELF-REGULATING BOILER,
FOR HEATING BUILDINGS BY THE CIRCULATION OF HOT WATER.



This Boiler can be set to work at any temperature, and maintain exactly the same for thirty hours without the slightest attention, and effecting a saving of 50 per cent.
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STOUT IRON RAILINGS, two pieces, WANTED, 16 feet long each; and iron wicket, 4 feet long; and porch, 8 feet.—Address, ANDERDON, Esq. Stockbridge, Hants.

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Steam-boats from London Bridge call near the Factory.

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A SUBSTITUTE for PAINT, and at HALF the COST.
Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—
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USE NAENIARE & CO.'S LETHICUM. Sold at 5s. per gallon. Also, Brushes to apply and remove, &c., per pair. For circulars, &c. apply at 11, St. Andrew's-hill, E.C. London. Success guaranteed.
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"FACTS ARE STUBBORN THINGS."

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These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

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For cash, at EDWARD PRICE'S Colour and Varnish Warehouse 20, Upper Ebury-street, and 5, Colesmill-street, Pimlico, S.W.
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20,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
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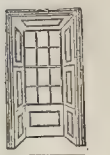
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Yellow Deals, from 3s. 2d.; Spruce, from 2s. 6d.; Fine Plank, from 3s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.
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At 6d. 7d. and 8d. per foot, at
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WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.
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STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
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¾ by 7 WHITE FLOORING .....11s. 6d. per Square.
PRICE LISTS AND MOULDING PATTERNS, POST FREE.
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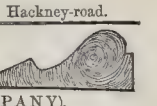
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100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
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5,000 Yellow Battens.....from £10 10s. per 120
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BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

	Three-quarter inch Flooring (well prepared) 11s. 6d. per square.	Laths, 28s. per Load.
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Spruce Deals	15 0 0 ,,	2½ ,,
Yellow Battens, excellent quality	10 10 0 ,,	1½ ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
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Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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(LATE WATERLOW, DRAPER, & WEBB),
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THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
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RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

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WM. GEO. WARDLE,
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Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

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By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere
ADULTERATIONS. Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS.—Not only is it cheaper per laboured weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

THOMAS MILLINGTON,

GLASS MERCHANT,

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Reduced Tariff for Sheet Glass.

The Agricultural Hall, Islington, containing an Acre of Glass, was supplied by me. Mr. Rivers, and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured me with orders for home use and for exportation.

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In Cases for cutting up, in Sizes as Manufactured.

	3 0 feet. 15 oz.	21 oz.	200 feet. 26 oz.	32 oz.
Fourths quality	33s. 6d.	33s. 6d.	39s. 6d.	45s. 6d.
Thirds do.	42s. 0d.	42s. 0d.	49s. 0d.	56s. 0d.
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Best do.	93s. 6d.	98s. 6d.	103s. 6d.	118s. 6d.

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For Pictures and best glazing purposes.

Averaging 16 oz. to the foot.

Best quality, in cases of 200 feet ..... 100s.
Second quality, in cases of 100 feet ..... 82s.

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SQUARES, IN 100 AND 200 FEET BOXES.

Small Squares not exceeding 9½ inches by 7½ inches.

Ins. Ins.	Ins. Ins.	Ins. Ins.	Ins. Ins.	Per 100 feet.		
6 by 4	7 by 5	8 by 6	9 by 7	4ths.	3rds.	2nds.	Best.
6½ by 4½	7½ by 5½	8½ by 6½	9½ by 7½	9s. 9d.	11s. 3d.	13s. 9d.	16s. 9d.

Squares not exceeding 14 inches by 11 inches.

10 by 8	12 by 9	12½ by 10½	14½ by 10½	Per 100 feet.			
10½ by 8½	12½ by 9½	13 by 10	15 by 10				
11 by 9	13 by 9	13½ by 10½	13 by 11	4ths.	3ds.	2nds.	Best.
11½ by 9½	12 by 10	14 by 10	14 by 11	12s. 9d.	12s. 3d.	15s.	18s.

Squares not exceeding 21 inches by 18 inches.

15½ by 10½	14 by 12	17 by 13	24 by 16				
16 by 10	14½ by 12½	18 by 13	20 by 17				
14½ by 11½	15 by 12	18 by 14	22 by 17	Per 100 feet.			
15 by 11	15½ by 12½	22 by 14	24 by 17				
15½ by 11½	16 by 12	24 by 14	20 by 18	4ths.	3rds.	2nds.	Best.
16 by 11	16½ by 12½	22 by 15	22 by 18	11s. 6d.	13s. 6d.	16s. 6d.	20s.
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13½ by 12½	18 by 12	22 by 16					

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20 by 12	4ths.	11s. 6d.	4ths.	15s. 0d.	Per 100 feet.
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20 by 14	2nds.	16s. 6d.	2nds.	25s. 0d.	
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20 by 16					

Squares Cut to Sizes not on List

	15 oz. 4ths	3rds	2nds	21 oz. 1st	4ths	3rds	2nds	1st
Under 1 foot super	1½	1½	2	2½	2½	2½	3½	4½
Under 2 feet super	1½	2	2½	∎	2½	3	4	5½
Under 3 feet super	1	2½	2½	3½	3	3½	4½	6
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The WARDOUR (CHILMARK) and TISBURY STONE COMPANY, Limited.
Are prepared to execute orders to any extent for their TISBURY STONE.—This is a close, fine-grained Stone, of a beautiful colour, possessing all the qualities of the best Portland, in which range it is placed geologically.
It will supply the long-wanted desideratum of the Architect, Builder, and Sculptor, as the Stone is a first-class Weather Stone, easily worked, and carries a fine arris; and is eminently adapted for carved mouldings, high class architecture, and works of art, requiring only to be known to become the
STONE OF THE DAY.
Specimens, Price, &c. may be obtained of
SAMUEL TRICKETT,
General Stone Merchant, Arundel; or at the Offices of the Company, 3, Adelaide-place, London Bridge.

GRANITE.—The Cheesewring Granite
Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 8, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

ABERDEEN POLISHED GRANITE
WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.
Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes.
Apply to Mr MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

GRANITE OBELISK for SALE.—The beautiful OBELISK, in polished Grey Granite, that stood in the Eastern Nave of the Exhibition Building, is now OFFERED for SALE.—Apply to Messrs. H. POOLE & SON, Great Smith-street, Westminster. The Obelisk is erected at Lord's Wharf, Millbank, where it may be seen. It is suitable either for a monument or for an ornament for pleasure grounds.

TO CAPITALISTS, CONTRACTORS, and BUILDERS. TO BE SOLD, a valuable GRANITE QUARRY in North Wales Leasehold for 19 years unexpired (renewable) The Stone is equal to the best Jersey Granite for paving setts and building purposes, and has been very extensively introduced The Quarry is conveniently situated for shipping, and is in full and profitable work. The owners hold and will transfer advantageous contracts.—Apply to LEWIS, DARBISHIRE, & ASHWORTH, Solicitors, 21, Brown street, Manchester.

LITTLE CASTERTON FREESTONE.
Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 29, Savile-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as solar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

HY. GEORGE & COMPANY,
CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parkspring, Harehill, &c. &c.
Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Block. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

WILLINGTON STONE WHARF,
REGENTS PARK BASIN.
HY. GEORGE & CO.
The late Proprietor is now conducting the business of the above wharf as the Managing and Resident Agent
Mr. JOSEPH CHADWICK.
YORKSHIRE STONE of every description, in Pavings, Landings, Sawn Slabs, Headstones, Steps, Coping, Sinks, Curbs, Sills, and Rilks, in Bramley Fall, Park spring, Harehill, Robin Hood, Potter Newton, Britton, and from other approved Quarries.
PORTLAND, Bath, Caen, Aubigny, Forest of Dean, and Grindstones of best quality
GRANITE BLOCK, Street Curb, Tram, and various kinds of Pitching, Mount Sorrel Cubes, and Cornwall Granite, generally.
MARBLE SLAB of various kinds, and Blocks of fine quality.
N.B. Wrought Work executed at the quarries as per drawings and instructions furnished.
CARGOES SHIPPED direct from the Quarries, or delivered by barge, or railway and road conveyance, at moderate charges.
Particulars furnished by Mr. JOSEPH CHADWICK, Agent and Manager, at is Office on the premises, or by post.

BARTLETT, BROTHERS, & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of SILICATES and ALUMINATES of SODA and POTASH,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.;

PATENT SILICEOUS PAINT, FOR COATING BRICKS, CEMENT, STUCCO, &C.

FIRE-PROOF VARNISH,

For Internal Wood Work, Roofs, and Church Work generally. This Varnish renders Wood Uninflammable, and Preserves it from Decay.

Specimens of the Silicates and Aluminates, and of their applications, may be seen at the CONSTRUCTIONAL DEPARTMENT, SOUTH KENSINGTON MUSEUM.

NOTICE OF REMOVAL.

MESSRS. COLLINS & GREEN

Beg to advise their Friends and the Profession that as the London, Chatham, and Dover Railway have taken their late premises at Albion-place, for the new Blackfriars Station, they have Removed their extensive Stock of

MARBLE CHIMNEY-PIECES, STOVES, RANGES, &c.

TO THE ROTUNDA, No. 3, BLACKFRIARS ROAD.

C. & G. have now, as heretofore, the best and most varied assortment of first-class Goods in their trade, of every description and at every range in price.

They respectfully invite a visit from Architects and Builders to their present Show Rooms, which include an area of upwards of 12,000 super. feet, and replete with every Architectural requirement in Marble or Iron.

ROTUNDA GALLERIES, 3, BLACKFRIARS ROAD.

CITY WAREHOUSE, 38, NEW BRIDGE STREET, BLACKFRIARS.

MANUFACTORY, LEIT'S WHARF, and OLD SHOT TOWER WHARF, LAMBETH.

Estimates given for every description of Marble or Iron Work.

GENERAL IRONMONGERY, AND BATH-WORK, &c.

Hot Water and Range Work, all requisites being kept in Stock.



Self-Regulating Pan Closet.

THOMAS LAMBERT & SON,



Lambert's Ball Valve.





High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

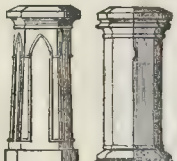
JAMES STIFF & SONS,

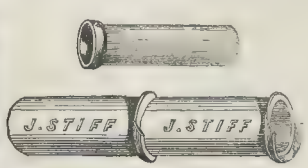
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







PAN, 4s. 6d.

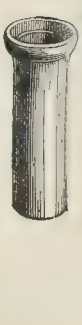
S. P. 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connexions.

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground, adapted also for ventilation of Sewers and Drains.

Manufacturers as above.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

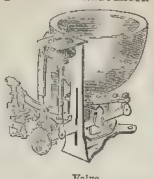
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number may be worked by one supply-pipe. No cistern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.



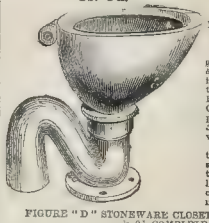
TYE & ANDREWS NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13.

Only Medal awarded for "excellence of construction of Mathematical Instruments."

T SQUARES.—W. F. STANLEY, late STANLEY & ROBINSON'S IMPROVED.

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 22-inch, 2s. 6d. and 4s.

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use.

Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d. post free.

STANLEY'S IMPROVED DRAWING PEN

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,

20, WESTMINSTER BRIDGE ROAD, LAMBETH, Near Astley's Theatre.

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every instrument warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

DURABILITY of GUTTA PERCHA TUBING. Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT. Second Testimonial:—"March 16th, 1863.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent change since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF ROAD, CITY-ROAD, LONDON.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,

VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

PLASTER ENRICHMENTS.

CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,

242, EUSTON ROAD, ST. PANCRAS.

Best Gelatine, prepared, and ready for moulding, 2s. per lb.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 „	2 15
4 „	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

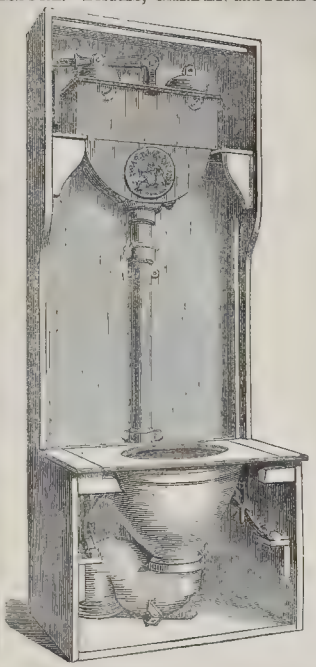
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, thereby reducing the price considerably less than Pumps made on the old plan.

2½ inch . . .	£4 4 0	Larger sizes when required.
3 „	5 5 0	
3½ „ . . .	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 „	4 0 0



IMPORTANT TO WATER COMPANIES

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self acting Closet in Wood Case, complete	£1 10
Ditto Work without Wood Case	2 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.



No. 1484.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0

Sunk Handle, extra 0 2 0

Blue Basin, extra 0 1 0

No. 1454.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

CLINTON & OWENS, LATE

BENJAMIN FOWLER & CO. Whitefriars-street, Fleet-street, London,

MANUFACTURERS OF PUMPS AND HYDRAULIC MACHINERY OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DOMESTIC, AGRICULTURAL, OR MANUFACTURING PURPOSES, OR FOR CONTRACTORS' USE, TO BE WORKED BY HAND, HORSE, WATER, WIND, OR STEAM POWER.

Portable Steam Engines, Powerful Single and Double-Barrel Pumps, Centrifugal Pumps, and Boring Tools for Contractors' Purposes, ON HIRE.

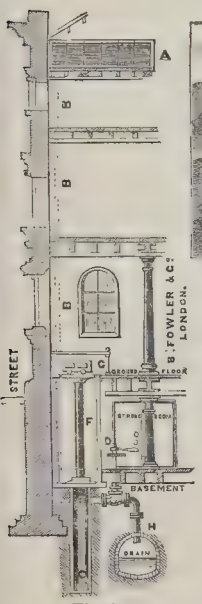
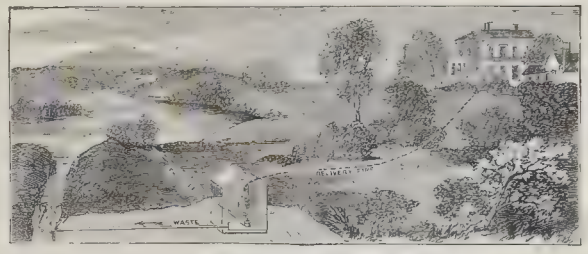


Fig. A.



THE LANDSCAPE SKETCH ABOVE SHOWS

THE IMPROVED HYDRAULIC RAM.

This is a simple Self acting Machine for Raising a considerable Supply of Water for Use in Public or Private Establishments where a fall can be secured from a Stream, Brook, or Springs. Messrs. FOWLER have fixed a great many Hydraulic Rams in various parts of the country, for raising from 600 to 6,000 or more gallons per day to elevations varying from 30 to 300 feet, and forcing through main pipes from 50 yards to several miles in length. The fullest particulars and estimates will be handed on application.

No. 37 SHOWS A SET OF

TREBLE-BARREL PUMPS WITH HORSE GEARING,

For Raising Water from DEEP WELLS for the SUPPLY of TANKS in MANSIONS and PUBLIC BUILDINGS. Messrs. CLINTON & OWENS also Manufacture and Erect every other Form of Pump for Deep or Shallow Wells for Hand or other Power.

Fig. A SHOWS

A HYDRAULIC LIFT,

Worked by Pressure from a Cistern. Suited for Banks, Warehouses, and other Buildings. Messrs. C. & O. also Manufacture such Lifts to be worked by Hand Pumps, where pressure cannot be obtained from a Cistern.

CLINTON & OWENS

MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

PUMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE, STEAM-ENGINES, WATER-WHEELS, TURBINES, HOISTS, WARMING AND DRYING APPARATUS, BATHS, GAS-WORKS, AND FITTINGS.

ESTIMATES WILL BE HANDED ON APPLICATION.



No. 37.

PRICE LISTS OF PUMPS FREE BY POST.

SALES BY AUCTION.

WOOD GREEN, Tottenham.—New Materials used for the Seats and Platforms at the Freemasons' Boys' Schools.

PULLEN, HORNE, & EVERSFIELD are instructed by the Contractors to SELL by AUCTION, on the PREMISES, Lordship lane, Tottenham, near the Wood green Station, Great Northern Railway, on TUESDAY, AUGUST 25th, at TWELVE for ONE, the excellent NEW MATERIALS, consisting of 10,000 feet of 1-inch and 1½ inch deals, 70 squares of 1 inch and ¾-inch boards, 4,000 feet of quartering, &c.; slating battens, scaffold-poles, and other useful materials.—May be viewed one day previous, and catalogues had on the Premises; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

VALUABLE FREEHOLD LAND, situate in the parishes of Bearsted and Thornham, a short distance from Maidstone, in the county of Kent.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on FRIDAY, AUGUST 28, at TWELVE, in two lots, about TWENTY-SIX ACRES of valuable FREEHOLD LAND, situate in the parishes of Bearsted and Thornham, near to Maidstone, in the county of Kent; having effective frontages to the road to Thornham, and adapted for building, garden, or accommodation land. Lot 1. A very valuable Enclosure of Arable Land, now in wheat, containing 24a. 0r. 29p. adapted for garden or building land. Lot 2. A very valuable Enclosure of Hop Land, containing 2a. 1r. 11p. Both lots are in the occupation of a yearly tenant. May be viewed, and particulars had at the Bell Inn, Bearsted, of E. MARTIN, Esq. Solicitor, 2, New square, Lincoln's-inn; Messrs. CLUTTON, 9, Whitehall-place; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street.

WAREHAM, DORSET.—Important Sale of Machinery, comprising nearly 35 horse power steam engine, by Ransomes and Sims, Ipswich, 4 pan brick machines, mills, wire rope and drum, tramway, tip wagons, and all the valuable plant and machinery at the Sandford Clay and Pottery Works, with several hundred fine moulds, patterns, &c. designed by JOHN THOMAS, R.A.; for sale, without the least reserve.

MESSRS. CHINNOCK & GALSWORTHY will SELL by AUCTION, upon the PREMISES, immediately after the sale of the Estate, on THURSDAY, 8th SEPTEMBER, and following day, at TWELVE o'clock, by direction of the Liquidators of the Sandford Clay and Pottery Company (Limited), the whole of the valuable PLANT and MACHINERY of the extensive works, situate within half a mile of the Wareham Station on the London and South-Western Railway, very recently erected for the manufacture of building and fire bricks, tiles and pipes, and goods of all kinds, terra-cotta, &c. comprising an excellent 35-horse power horizontal steam engine, pair of 30-horse tubular boilers, Bradley & Craven's rotary oil-pressure brick machine, powerful 4-mould ditto pugging and clay grinding mills, tile and pipe machine, powerful drum with wire rope 20 tip wagons 1 ton yards of metal in tramway, endless bands, brick moulds, 56 wheelbarrows, crab engine, weighing machines, lathes, throwing wheels, jiggers, screw presses, two large shoot vats, with crank sieves, tanks, free pumps, shafts, driving pulleys, level, crab wheels, gear and machinery, large glaze grinding vat and gear, all quite new, vacuum gauge, 120 cast iron perforated plates, numerous tubs, sieves, lamps, pans, 70 gross of cranks, 6 casks of fine sand, quantities of dry and wet glaze, whitelead, felspar, ground flint, 95cwt. cobalt and other useful ingredients; also, a series of several hundred moulds and models, designed by the late JOHN THOMAS, R.A., for the manufacture of terra-cottas, china, earthenware, &c.; together with large quantities of shelving, racks, tables, benches, sheds, fitt ings, tools, implements, and all the effects upon the premises.—May be viewed a fortnight before the sale, and catalogues obtained of Mr. STEVENS, the Manager, at the works; of Messrs. MARCHANT & PEAD, Solicitors, 20, Great George-street, Westminster; and of the Auctioneers' Offices, 17a, Great George street, Westminster; and of Messrs CHINNOCK & GALSWORTHY, Land Agents and Surveyors, 11, Waterloo place, Pall Mall, London

---

KINGSTON HILL, near KINGSTON, and NEW MALDON, SURREY.—Two Villa Residences, and Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the GRIFFIN HOTEL, Kingston, on MONDAY, AUGUST 24th, at FIVE for SIX, Three lots of eligible BUILDING LAND, with a frontage of 200 feet to the Kingston Hill, close to the entrance to Richmond Park; Two lots of Building Land, situate on the New Epsom road, close to the village of Hook, and about a mile and a half from the Kingston Station; Six lots of Building Land, situate in Meadow grove, close to the town of Chertsey; also, Two substantial VILLA RESIDENCES, and Six lots of Building Land, situate close to the New Maldon Station on the South-Western Railway. The whole of the property is freehold, land tax redeemed, and title free. Nine-tenths of the purchase money may remain on mortgage at five per cent to be paid in nine years, by half yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars of sale may be had one week before the sale at the principal inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 59, Cannon-street, City, E.C.; of the Auctioneer, 14 Moorgate street, London, E.C. at whose office the plans may be inspected; and at the Place of Sale.

TO CLOCKMAKERS and OTHERS.—SUPERIOR TURRET-CLOCK.

MR. WHITTINGHAM has to announce that the SALE of MATERIALS at Addiscombe, near Croydon, on WEDNESDAY, 26th AUGUST, 1863, at THREE for FOUR o'clock in the afternoon, will include a large, well-made TURRET-CLOCK, width and height 2 feet 6 inches, without frame, one bell weighing 80 lb.; one bell weighing 40 lb.; brass dial; vane and compass, with letters. The clock is in good preservation, and is suitable for a large factory or other public building. May be viewed Monday and Tuesday preceding the sale. Catalogues may be obtained of the Foreman on the Estate; and of the Auctioneer, No. 14, Moorgate street, London, E.C.

BARNET, HERTS.—Eligible Freehold Building Land.

MR. WHITTINGHAM has to announce that several of the LOTS offered by Auction on the 14th instant were SOLD. The remaining Lots may be purchased by Private Contract, on application to the Auctioneer, 14, Moorgate-street, E.C.

TO GASFITTERS AND OTHERS.—150 ARGAND LIGHT GAS-METER.

MR. WHITTINGHAM has to announce that the SALE of MATERIALS, at Addiscombe, near Croydon, on WEDNESDAY, AUGUST 26, 1863, at FOUR o'clock in the afternoon, will include a 150 ARGAND-LIGHT GAS METER, by Stevens & Son, with regulator gauges, and a few pieces of main piping to be viewed on Monday and Tuesday preceding the sale. Catalogues may be obtained of the Foreman, on the Estate, and of the Auctioneer, 14, Moorgate-street, E.C.

ADDISCOMBE, near Croydon, Surrey.—Eligible FREEHOLD BUILDING LAND

MR. WHITTINGHAM has to announce that several of the lots were sold at the sale on Friday, July 31st, 1863; the remaining Lots may be Purchased by Private Contract, on application to the Auctioneer, No. 14, Moorgate street, London, E.C.

VALENCIA SLATE SLAB QUARRIES, COUNTY KERRY, IRELAND.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at the AUCTION MART, London, on WEDNESDAY, OCTOBER 28 at TWELVE, in one lot, unless an acceptable offer be previously made by private contract, the extensive QUARRIES and MILLS of the VALENCIA SLATE SLAB COMPANY, situate in the Island of Valencia, County Kerry, Ireland. The works have been carried on by the present proprietors for nearly fourteen years, and a very large outlay has been made in opening the quarries, and in erecting the mills and the requisite machinery. The quarries are situate on the side of a mountain, about 420 feet above the sea level, and an opening has been made for working about 120 feet wide, running into the mountain to about the same depth, uncovering a succession of platforms of slates of various widths. The slate rock lies most conveniently for working, at an angle of about 25 degrees, and has a regular cleavage. The slabs are severed by wedges instead of by blasting, thus avoiding the large amount of waste occasioned by the latter process. The roof of the quarry is self-sustained, and is perfectly secure. The quality of the slabs is now well known and appreciated, and are taken in large quantities by the principal merchants in London and elsewhere. They take a beautiful and permanent polish, are particularly valuable for enamelling, are unaffected ingriously by furnace heat, and are raised in larger size than from any other quarry. The waste from the slab blocks is made into roofing slates, for which there is a ample local demand. The present yield is about 2,000 tons of slabs slate annually, but by a comparatively small outlay in an extension of the working this quantity may be doubled, the machinery at the mills being equal to prepare that quantity, and the demand at the present time being in excess of the capabilities of supply.

The mills are situate about 2½ miles from the quarries, are connected by a good road, easy of descent, and which is kept in repair principally at the expense of the county; but every facility would be afforded by the Knight of Kerry, who is the freeholder, for laying down a tramway by the side of the present road, which would much lessen the cost of transit. The mills are most advantageously placed, being immediately contiguous to the pier, at which vessels of 300 tons burden can load alongside, and there are no harbour dues nor wharfage payable. The harbour of Valencia is both safe and commodious, and freights to London are about the same as from the North Wales ports. The buildings are well arranged, and substantially erected. They are fitted with sawing and planing machinery of the best description, fitted by Blyth, of Limehouse; and there are overhead cranes, tramroads, and every appliance for saving manual labour. There are also ten dwelling houses, manager's residence and about thirty-five acres of farm land. There is a plentiful supply of water for the purposes of the mills, from a large open reservoir. The purchasers and workers are held by lease from the Knight of Kerry on easy terms. The present Company has expended upwards of £6,000, upon the property. They have succeeded in establishing the reputation of, and a market for, the slabs, and have thoroughly proved the existence and uniform character of the slate, and the extent to which the workings may be carried; and they have supplied and there are now approved modern machinery for the preparation of the slate for market, and it is confidently believed that the Works are now in that state that, in the hands of persons of individuals, very profitable results may be anticipated.—The Works may be viewed by Cards only, which, with further particulars, may be had of Messrs PALMER, NETTLESHIP, & ELAND, Solicitors, 4, Trafalgar square, Charing cross; at the *Mirland Countess Herald* office, Burn ngham; at the Gresham Hotel, Sackville-street, Dublin; at the Railway Hotel, Killarney; at the Adelphi Hotel, Liverpool; at the Mermaid, London; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

TO BUILDERS AND OTHERS.—Cottenham House, Copse Hill, Wimbledon.

MR. NEWBURY BALL is instructed to SELL by AUCTION, on the PREMISES, as above, on TUESDAY, AUGUST the 25th, and following day, at TWELVE for ONE o'clock each day, all the valuable MATERIALS and Effects, taken down and sorted in suitable lots for the convenience of purchasers, comprising statuary and marble chimneys, Portland and York stone dwarf walls, coping, landings, and pavement, two of massive Portland pillars with caps and bases, many thousand good hard stock bricks, tiles and slates, beams and girders, fir and oak quartering, sound inch deal and 9-inch boards, sashes and frames, shutters and borings, water-closet fittings, mahogany and other doors, linings, carved and other ornamental work, mantels, dry yellow and polish grates and hatters, two conveyances, stories, portices, lobbies, fire wood, and other useful effects.—On view the day preceding the sale. Catalogues may be had of Mr. TOWNSEND, House and Estate Agent, Cottenham House, Wimbledon; and at the Auctioneer's Office, High-street, Wandsworth, S.W.

CHARING-CROSS RAILWAY.—CITY TERMINUS.—To BUILDERS, CONTRACTORS, PAVIORS, and OTHERS

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractors to SELL by AUCTION on the PREMISES, on TUESDAY, AUGUST 25th, 1863, at ONE o'clock punctually, the valuable and useful MATERIALS of the Falcon Public-house, and the Range of Warehouses and Premises on the east side of Coaster's-row, comprising about 250,000 stock bricks, several tons of lead in pipes and gutters, plain and panelled doors, sashes and frames, paneled and other grates, stoves and ranges, quantity of pebble pitching and granite curb, and a variety of useful fixtures and fittings, &c.—May be viewed the day prior and morning of sale; and catalogues had on the Premises; at the Contractor's office, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 4, Newman's court, Cornhill, and West Molesey, Kingston, Surrey.

HYTHE, in KENT. FREEHOLD BUILDING LAND.—TO BE SOLD by AUCTION.

MESSRS RONALDS & SON, at the WHITE HART HOTEL, in Hythe, on WEDNESDAY, the 26th day of AUGUST, 1863, at TWO for THREE o'clock in the afternoon, in twenty six lots, all this piece of FREEHOLD LAND, situate between the Marine walk and Sidecliff, commanding from the High-street of the town of Hythe, in Kent, to the sea, containing six acres or thereabouts, admirably adapted for building purposes, as it commands an excellent view of the Hythe Bay and the English Channel, and has good roads on the west and south sides, 40 feet in width. The above land has been laid out for building sites in twenty-six plots, the frontages varying in quantities, and have been so arranged as to secure for nearly every plot a good sea view. The inland scenery in the immediate neighbourhood of Hythe is remarkable for its beauty and picturesque characters, and is unequalled in any part of the southern coast of Kent. The School of Musketry having now become a permanent establishment, and the demand for houses owing during this summer very considerably exceeded the supply, it is considered that capitalists may avail themselves of this investment to their advantage. The town council have expended upwards of two thousand pounds in the erection of ornamental and useful baths for the accommodation of visitors and other persons; and the importance of a direct railway to the town of Hythe having been now fully recognized, actual surveys of proposed lines of railway are at the present time being made by two competing companies, with an intention of applying during the next Session of Parliament for Bills for that purpose.—For prints, particulars and conditions of sale with lithographed plans, apply to the Auctioneers; or to Mr. EDWARD WATTS, Solicitor, Hythe.

60,000 Slates direct from the Quarry.

MR. V. BUCKLAND will SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, the 24th AUGUST, in suitable lots, a cargo of excellent SLATES, direct from the Quarries near Bangor, consisting of about 60,000 in various sizes, from 16 inches by 8 inches to 24 inches by 14 inches.—Catalogues may be had at the Mart, and of Mr. V. BUCKLAND, Auctioneer, 89, Cannon street West, City.

LEYTON, ESSEX.—Second Portion of Freehold Building Land at Leyton green, comprising about 14 acres in 39 lots.

MR. JOHN M. DEAN will SELL by AUCTION, at the MART, on THURSDAY, AUGUST 27, at TWELVE, in 39 lots, about FOURTEEN ACRES of FREEHOLD BUILDING LAND, free of land tax, most suitable for the erection of villas and other residences, situate at Leyton-green, on the high road from Stratford to Walthamstow, within a short distance of the church and the railway stations at Leyton and Lea Bridge, and about five miles from London, possessing extensive frontages to Leyton road, Capworth street, Beaumont-road, and other good roads. The estate is high and dry, beautifully timbered, and will be submitted in lots, with good depths, suitable for the erection of superior residencies.—May be viewed, and particulars and conditions of sale, with plans, had 14 days prior to the day of sale, at the Mart; of Messrs STEVENS & BEAUMONT, Solicitors, 8, Old Jewry, E.C.; and of Mr. JOHN M. DEAN, Auctioneer and Surveyor, The Grove, Stratford, E.

OXFORD.—VALUABLE BUILDING MATERIALS, comprised in the several Houses in Beaumont-street and Magdalen-street, the intended Site for the erection of the Randolph Hotel.

MR. JOHN FISHER begs to announce that he is instructed by the Randolph Hotel Company to SELL by AUCTION, in the month of OCTOBER next, the above BUILDING MATERIALS; consisting of roofs, floors, doors, shop-fronts, sashes and frames, partitions, staircases, fittings, &c. which will be found peculiarly good from the circumstance that the houses have been built within a few years.—Further particulars will be advertised previous to the sale.

6,000 feet Bulk Timber, 8,000 feet Mahogany, 1,800 Planks, Deals, and Battens, 12s a hundred Flooring, 5,000 feet Quartering, Dry Cut Stuff, 70 Poles, 5 Ladders, 70 Doors, Marble Slabs Stone, &c

MESSRS. LEREW & LEREW will SELL by AUCTION, at the YARD, Camden-terrace, Camden Town, on MONDAY, AUGUST 31st, the above well-assorted STOCK, in about 300 lots.—Auction Offices, 2, Carlington-street, Hampstead-road.

In Chancery: "Kemp v. Nunn," "Nunn v. Kemp."—Valuable Freehold and long Leasehold Building Land, Residential Estates, Ground Rents, Dwelling houses, and Shops with land-tax, as to the principal part redeemed, Upper Tooting, Streatham, and Balham.

FRANCIS FULLER, the person appointed by the Judge to whose Court the above causes are attached, will SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, the 31st day of AUGUST, 1863, at TWELVE precisely (by the peremptory direction in each cause of the High Court of Chancery, made in the said causes, with the approbation of the said Judge, several valuable FREEHOLD and LEASEHOLD ESTATES, in Tooting, the world-famous place to combine a first-rate business. Unexceptionable references required.—For further particulars, apply, by letter only, to Mr. WILMOT, Solicitor, Chippenham.

BOOKCASES in MAHOGANY, and WALNUT, sub-boards with plate glass backs, massive Dining-tables, Ladies' Wardrobes, with long fo ding-doors and glass panels, Inlaid Cabinets and Chiffoniéres, Easy-chairs, &c. A variety of new designs of the above articles, and of the best manufacture, on inspection in the extensive Show Rooms of ROBERT FISHER & CO. Cabinet-makers and Upholsterers, 32, Finsbury-place, corner of Finsbury square.

N.B. Magnificent designs in drawing and dining room carpets, 2s 9d and 3s. per yard. Marble-top Washstands, 22s.; Walnut Drawing-room Suites, covered in velvet, thirteen guineas.

BONUS DIVISION.

GLOBE INSURANCE, CORNHILL and CHARING CROSS, LONDON.

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Life Department.—FREDERICK HENDRIKS, Actuary.

At the close of the present year 1863, a BONUS DIVISION will be made on GLOBE PROFIT SCALE LIFE POLICIES, for the Five Years then ended.

All classes of FIRE, LIFE, and ANNUITY Business transacted.

PREMIUMS for LIFE INSURANCES AT REDUCED RATES.

During the last Ten Years the FIRE INSURANCE DUTY paid by the GLOBE has increased from £45,754 to £47,806.

WILLIAM NEWMARCH, F.S.S. Secretary.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "The Builder," No. 1, York-street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, August 22, 1863.

The Builder,

AN ILLUSTRATED JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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SIR JOHN INGLIS, K.C.B.—ON VIEW, at COX & SON'S Ecclesiastical Warehouse, 28 and 29, Southampton-street, Strand, the beautiful MONUMENT executed by them, from the designs of Digby Wyatt, Esq. for the Officers of the 32nd Regiment.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

PRIZES to ARTIST WORKMEN are now offered. For WOOD CARVING, 20s. and 5l; and for COLOURED DECORATION, 5l. 5s. and 3l. 3s.—Particulars may be had by letter to the Hon. Secretary, at 13, Stratford place, W.

A. J. B. BERESFORD HOPE, President.
GEO GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

NOTICE.—NOT REMOVED.—G. SUFFELL, 132, Long-acre, London, W.C. maker of improved Theodolites, Levels with permanent adjustments, Needle-socket Drawing Instruments, Adjusting Dividers, Metallic Edge Rules, &c.; Measures of all nations, respectfully requests Engineers, Surveyors, Contractors, and the Profession in general, who have for many years favoured him, to forward all orders and account to the above address.

N.B. C. SUFFELL was the only exhibitor of these instruments at the late International Exhibition. (See Jurors' Report.)

NOTICE.
BROWN & GREEN'S KITCHEN RANGE WAREHOUSE will shortly be REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the present establishment. These will afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand, and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.
31, Bishopsgate-street Within, July, 1863.

CONTRACTS.

BOROUGH of TYNEMOUTH.—To BUILDERS, BOILER MAKERS, IRON FOUNDERS, PAINTERS, and CONTRACTORS.—TENDERS are required for the Builders', Smiths', Iron Founders', and Painters' Works necessary in making certain ADDITIONS, ALTERATIONS, and RENEWALS, and for CLEANING, PAINTING, and WHITEWASHING, at the Baths and Wash-houses, North Shields. Plans and specifications may be inspected, and further information obtained on application to Mr. THOS. ROBSON, Borough Surveyor, Norfolk street, North Shields. Satisfactory securities will be required for the due performance of the Works. The lowest or any Tender will not necessarily be accepted. Sealed Tenders, endorsed "Works at Baths and Wash-houses," to be delivered on or before MONDAY, the 7th day of SEPTEMBER next, to THOMAS CARR LIETCH, Town Clerk.
Tynemouth, August 15th, 1863.

THE Committee appointed by the Town Council of the Borough of Buckingham is desirous to receive PLANS, SPECIFICATIONS, and TENDERS for the ERECTION of a FLAT IRON GIRDER FOOT-BRIDGE over the river in the Borough, with the necessary approaches and abutments complete. The Bridge must have a clear span of 32 feet, with a roadway of 5 feet clear, and be at the same level as the present bridge. The Plans, Specifications, and Tenders to be sent to the Town Clerk, Buckingham, on or before the 5th SEPTEMBER next. GEO NELSON, Town Clerk.
Buckingham, 14th August, 1863.

CONTRACTS.

SLUICE COCKS and HYDRANTS.—The Directors of the Fylde Waterworks Company are prepared to receive TENDERS for a SUPPLY of SLUICE COCKS, varying from 2in. to 3in. in diameter inclusive. They are to have best gunmetal faces and two socket ends. A large number of Hydrants will also be required. Each sluice cock and hydrant to be provided with a surface box. Tenders to state the price of each size of sluice cock, of each hydrant, and of each surface box, including delivery at the Company's pipe yards in Blackpool, Eastwood, Kirkham, or Lytham. Tenders to be sent in to Mr. T. B. FOSTER, Civil Engineer, 23, John Dalton-street, Manchester, on or before the 29th instant. The Directors do not bind themselves to accept the lowest or any Tender.

LEEDS CORPORATION WATERWORKS.—TENDERS WANTED for COVERING WOODHOUSE RESERVOIR, in separate Contracts, as follow:—
Contract No. 1.—For the Construction of the Brick Pillars and Arches, &c., and Fixing Iron Girders and Tie rods, &c.
Contract No. 2.—For the Supply of Cast-iron Girders and Ventilators.
Contract No. 3.—For the Supply of Wrought iron Tie-rods and Bolts and Nuts.
The plans and specifications may be seen after THURSDAY, the 20th instant, at the Office of Mr. EDWARD FILLITER, C.E. Borough Surveyor, and Engineer to the Waterworks, Town Hall, Leeds.—Tenders to be sealed in, on or before THURSDAY, the 3rd of SEPTEMBER, addressed to "The Waterworks Committee," Town Clerk's Office, Leeds, and endorsed "Tender for Covering Woodhouse Reservoir."—By order,
JOHN EDWARD SMITH, Town Clerk.

FURNESS RAILWAY.—BARROW DOCKS.—CONTRACT for WORKS.—The Directors of the Furness Railway Company are prepared to receive TENDERS for the CONSTRUCTION of a DOCK and TIDAL BASIN (about 150 acres area), with wharf walls, roads, bridges, sea embankments, dredging and other Works. The drawings may be seen on and after the 22nd instant, at the Office of the Company's Engineers, Messrs. McCLEAN & STILEMAN, 24, Great George street, Westminster, S.W. Contractors who wish to Tender may obtain lithographed copies of the drawings, bills of quantities, specification, and form of Tender, on application to the Engineers; or at the Secretary's Office, Barrow-in-Furness, Lancashire, on payment of £5 5s. Tenders must be addressed to the Secretary, 9, Old Burlington street, London, W. on or before the 7th SEPTEMBER next. The Directors do not bind themselves to accept the lowest or any Tender.
DEVONSHIRE, Chairman.
JAMES RAMSDEN, Secretary.
Barrow-in-Furness, 6th August, 1863.

TO BUILDERS.—Persons willing to CONTRACT with the Justices of the County of Kent for the ERECTION of a POLICE STATION at Cranbrook, may see the plans and specifications at the Office of the County Surveyor, Maidstone, any day, except Sunday, between the hours of TEN and FIVE. The work is to be tendered for agreeably to the form of Tender, to be obtained at the "County Surveyor's Office, where sealed Tenders, endorsed "Tender for Cranbrook Police Station," are to be delivered by NINE o'clock in the forenoon of TUESDAY, the 8th SEPTEMBER, 1863, and persons tendering are to be in attendance at the Courts of Justice, Maidstone, at HALF-PAST TWELVE o'clock on that day. Neither the lowest nor any other Tender will be accepted unless approved of in all particulars, and security will be required for the performance of the contract.
H. A. WILDES, Clerk of the Peace.
Maidstone, August 21, 1863

CAST-IRON PIPES.—To IRONFOUNDERS.—The Directors of the Fylde Waterworks Company are prepared to receive TENDERS for the SUPPLY of PIPES of the following diameters and lengths:—

Diameters in inches..	.. 6	.. 5	.. 4	.. 3
Lengths in yards	1,700 .. 9,600	.. 2,900	.. 2,600	.. 13,000

The pipes will be laid in the towns of Blackpool, Southshore, Fleetwood, Kirkham, and Lytham.—Specifications and form of Tender, price 10s. may be obtained at the Office of Mr. T. B. FOSTER, Civil Engineer, 23, John Dalton-street, Manchester, and Tenders must be sent in to Mr. T. A. WILKINSON, Secretary, Waterworks Office, Kirkham, not later than 1st SEPTEMBER next. The Directors do not bind themselves to accept the lowest or any Tender.

HALIFAX CORPORATION WATERWORKS.—WORKS in the LUDDENDEN VALLEY.—To CONTRACTORS.—The Corporation of Halifax are ready to receive TENDERS for the CONSTRUCTION of the WORKS included in the following Contracts:—No. 1, or Warley Moor Contract, comprising the Construction of a large Reservoir on the By-brook with the Embankments and masonry connected therewith; and a Conduit about 1,950 yards in length from that Reservoir to the Pulshaw Stream, near Castle Carr. No. 2, or Midgley Moor Contract, comprising the Construction of an open Watercourse, from Low Brown Knoll Flat to the Reservoir on the Fly level, about 2,080 yards in length, with overflows, shafts, bridges, and culverts connected therewith; and two Residuum Lodges; and No. 3, or Saltonstall Contract, comprising the Construction of a Masonry Conduit about 3,950 yards in length, the piercing and lining of a Tunnel 970 yards in length, with the sinking of two shafts, the laying and jointing of about 6810 lineal yards of cast iron pipes of 3, 18, 14, and 12 inches diameter, with all bridges, admission and outlet wells, observatories and other works connected therewith. The plans, sections, and drawings of the several contracts may be seen, and specification and forms of Tender obtained, at the Town-hall, Halifax; and at the offices of the Engineer, J. F. BATEMAN, Esq. F.R.S. 9, St. James-squares, Manchester, and 16, Great George-street, Westminster, on and after WEDNESDAY next, the 19th AUGUST, 1863. Sealed Tenders must be addressed to and left with ALDERMAN MINSON WAVELL, Esq. Town Clerk, Halifax, on or before MONDAY, the 14th SEPTEMBER, 1863, and endorsed with the name of the particular Contract for which it is a Tender. The Corporation do not bind themselves to accept the lowest or any Tender, and they may, if they see fit, let the whole Work in one Contract.

TO BUILDERS.—TENDERS are required for TAKING DOWN and RE-BUILDING No. 9, BECKFORD ROW, Walworth. The drawings, specification, and information may be seen at the Office of Mr. ROBERT PARIS, 5, Worship-street place, Lambeth, on and after FRIDAY, the 28th day of AUGUST instant.

CONTRACTS.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.
Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Rye Harbour, in the county of Sussex, may inspect the Drawings and Specification at the Watch-room of the Coast Guard Station, Rye, or at this Office, between the hours of TEN and FOUR, from TUESDAY, the 18th instant, to TUESDAY, the 1st SEPTEMBER now next ensuing, and both inclusive (Sundays excepted).
Tenders to be sent to this Office not later than TWELVE o'clock at noon of WEDNESDAY, the 2nd SEPTEMBER, under seal and directed to the Commodore Controller General of Coast-Guard, and endorsed "Tender for Rye Harbour."
The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.
Dated this 17th day of August 1863, at the Admiralty.
Coast-Guard Office, 12, Spring-gardens, London, S.W.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for REFORMING the EASTERN DEFENCES, TOWER of LONDON.
Parties desiring to Tender for these works are required to attend at this Office on MONDAY, the 31st day of AUGUST, 1863, at TWELVE o'clock at Noon, to appoint a SURVEYOR to take out the Quantities in conjunction with the Government Surveyor. Each party will be required to pay the sum of One Guinea for the quantities.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, London District, 11, James-street, Buckingham gate, S.W. 21st August, 1863.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the CONSTRUCTION of a SEA WALL at the foot of Cliff, in front of Tarefield Battery, Head Freshwell, Isle of Wight, in Portsmouth District.
Parties desiring to Tender for the execution of this work must leave their names at this office on or before the 24th day of SEPTEMBER, 1863, and pay the sum of ten shillings and sixpence for the Bills of Quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Portsmouth, 22nd August, 1863.

TO BUILDERS and CONTRACTORS.—PARISH of ST. PANCRAS, MIDDLESEX.—Notice is hereby given, that the Directors of the Poor of this Parish will meet at the Vestry Hall, King's-road, Pancras-road, on TUESDAY, the 15th day of SEPTEMBER next, at TWO o'clock in the afternoon, to receive and consider TENDERS from Persons willing to CONTRACT for GENERAL REPAIRS at the WORKHOUSE, agreeably to the terms of specification, to be seen at the Vestry Offices, as above, where further particulars, with form of Tender, may be obtained, on the deposit of 1l. Security will be required for the due performance of the contract. No Tender will be received or accepted, unless made out on one of the printed forms. Tenders must be delivered, sealed and under cover, before TWO o'clock in the afternoon on the said 15th day of SEPTEMBER; and the persons Tendering, or their agents, are required to be in attendance at the said Offices, at THREE o'clock in the afternoon of the above mentioned day. The Directors do not bind themselves to accept the lowest or any Tender.—By order of the Directors of the Poor,
FRANCIS PLAW, Clerk.
Vestry Offices, Pancras-road, N.W. August 27, 1863.

PONTEFRACT UNION WORKHOUSE.
To BUILDERS.—TO BE LET, by TENDER, the several WORKS required in the ERECTION of a NEW UNION WORKHOUSE, at Pontefract, for the Pontefract Union. The plans and specifications may be seen at my Office, in Pontefract, from WEDNESDAY, the 26th day of AUGUST, to FRIDAY, the 4th day of SEPTEMBER, 1863; and on which last-mentioned day, before FOUR o'clock in the afternoon, sealed Tenders must be delivered to me. Bills of quantities for the several contracts may be obtained, on written application, at the Offices of the Architects, Messrs. LOCKWOOD & MAWSON, Post-office buildings, Bradford, or 10, Lincoln's-inn-fields, London. The lowest Tender will not necessarily be accepted.—By order,
WM. SAVILL WOOD, Clerk to the Guardians, Pontefract.
Pontefract, August 19, 1863.

SALTBURN-BY-THE-SEA.—To BUILDERS.—TENDERS are required for the ERECTION of FOUR FIRST CLASS DWELLING HOUSES, at the above named watering place, according to plans and specifications which can be seen at my Offices, Feetham, Darlington, from THURSDAY, AUGUST 27th, until TUESDAY, SEPTEMBER 8th. The various Tenders to be delivered to me not later than NINE o'clock a.m. on WEDNESDAY, SEPTEMBER 9th.
JOHN ROSS, Architect.

TO CONTRACTORS and OTHERS. The Directors of the Eastbourne Gas Company are desirous of receiving TENDERS for TAKING UP the present MAIN Gas Pipes and Works to Terminus-road, and thence to the junction of Cornfield-road and Seaside road, and Langney road and Terminus road, and RELAYING NEW MAINS of the following dimensions:—viz. 300 yards of the remainder of 18-inch main, from the works under the railway; 300 yards or thereabouts of 12-inch main, thence to Terminus-road; 300 yards or thereabouts of 9-inch main, thence to the junction of Cornfield-road and Seaside road; and 600 yards or thereabouts, from the end of the 12-inch main in Terminus road to the junction of Langney-road and Terminus road. The contractor to find all lead and other materials, except socket pipe, elbows, and P piece, as is to take up the old and relay the new main under the direction, and to the satisfaction of, the Directors, their Engineer, or Manager; and to connect the new mains so that there be no stoppage in the supply of gas to the town. The Tenders to state the price per yard for each size of main, and to be delivered at the Office of the Company, 7, Terrace, Eastbourne, on or before the 5th day of SEPTEMBER next. The Directors do not bind themselves to accept the lowest or any Tender.
H. CAMPION COLES, Secretary to the Company.
Eastbourne, August 25, 1863.

[For remainder of Contracts see next Page.

CONTRACTS.

GRIMSBY ROYAL DOCK HOTEL.—To BUILDERS.—TENDERS are invited for the ERECTION of a NEW HOTEL, adjoining the Royal Dock, at Grimsby. Plans and specifications may be seen at the Offices of the Architect, from TUESDAY, 1st SEPTEMBER 1863, to TUESDAY, 8th SEPTEMBER. No pledge given to accept the lowest or any Tender. Forms of Tender, and any further particulars, may be obtained by application to the Architect, Mr. M. E. HADFIELD, Corn Exchange-chambers, Sheffield, to whom the Tenders must be sent, on or before the 22nd SEPTEMBER, 1863.

TO CARMEN, DUST CONTRACTORS, and OTHERS.—TENDERS are required for the DELIVERY of 30,000 YARDS of RUBBISH, or any portion, to Battersea fields, close to the London, Chatham, and Dover works. Parties wishing for a shoot may deliver Tenders, stating quantity, time of delivery, and price, on or before THURSDAY next, SEPTEMBER 3rd, to J. HARE, Contractor, Park road, Clapham, S.
August 26, 1863

TO MASONS, BUILDERS, and OTHERS.—TO BE SOLD, by TENDER, about 44 tons of IRISH MARBLE (Black), in thirty blocks, averaging in length 4 feet 6 inches by 2 feet square. Tenders to be sent in by the 14th SEPTEMBER, addressed, "Coal Consumers' Company, West street, Gravesend," where the marble may be seen, and further particulars obtained.
Gravesend, 27th August, 1863. W. NEWMAN, Secretary.

TO BUILDERS.—TENDERS are invited from Builders, &c. who are willing to CONTRACT for the ERECTION of a CORN WAREHOUSE at the Polegate Station of the London and Brighton Railway. The plan and specification can be seen, and all other particulars obtained, by applying at the Office of GEORGE ADAMS, Corn Merchant, Willingdon, near Hurstgreen, Sussex, not later than SATURDAY, the 12th SEPTEMBER next after which date no further Tenders will be received.

TO IRON MERCHANTS and OTHERS.—The Directors of the Eastbourne Gas Company are desirous of receiving TENDERS for the SUPPLY of the following CAST-IRON SOCKET PIPES, of the best Yorkshire Metal, and proved, viz.—100 yards or thereabouts of 18 inch; 260 yards or thereabouts of 12 inch; and 760 yards or thereabouts of 9 inch, of the usual lengths. Tenders to be delivered at the Office of the Company, 7, Terrace, Eastbourne, on or before the 5th day of SEPTEMBER next, and to state the weight per yard of each description of pipe. The Directors do not bind themselves to accept the lowest or any Tender.
J. H. CAMPION COLES, Secretary to the Company.
Eastbourne, August 25, 1863.

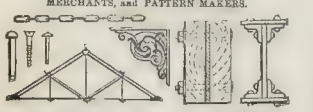
TO BUILDERS.—Persons disposed to TENDER for the ERECTION of SCHOOLS, &c. in connexion with the Old Meeting, Kidderminster, may see the plans, specification, and conditions of contract, on and after MONDAY next, the 31st instant, in the Vestry adjoining the Old Meeting House. Bills of quantities, price 10s. (returned to parties sending in a Tender), and any other information, may be obtained at my Offices, from MONDAY, the 31st instant, to THURSDAY, the 3rd of SEPTEMBER, on which latter day sealed Tenders are to be delivered to JOSEPH TAYLOR, Esq., Kidderminster, before FOUR o'clock p.m., endorsed, "Tender for Schools." The Committee do not bind themselves to accept the lowest or any Tender. ALEX. JOHNSON Architect.
Union Chambers, Birmingham.

SHREWSBURY SEWERAGE.—The Improvement Committee are prepared to receive TENDERS for the construction of the MAIN OUTLET SEWER, from the River Severn, at or near Frankwell Quay, to the Bridge over the Welsh Bridge at Shrewsbury. Plans, sections, and specification may be inspected at my Office, on and after THURSDAY, the 27th instant. Printed forms of Tender, and printed copies of the quantities, to be obtained in duplicate on payment of 5s. Sealed Tenders to be sent to my Office, not later than TWELVE o'clock, noon, WEDNESDAY, the 30th of SEPTEMBER next, and marked "Tender for Main Sewer."—Further particulars may be obtained from Mr. T. CURLEY, C.E. Hereford. The Council and Committee do not pledge themselves to accept the lowest or any Tender. J. J. FEELE, Town Clerk.
Guildhall, Shrewsbury, 22nd August, 1863.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING for FRENCH WINDOWS:
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 85½, Great Guildford-street, Borough, S.E. inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.
GENERAL IRON FOUNDERS,
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COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

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Builders Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.
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IMPORTANT to BUILDERS and OTHERS having circular saw tables.—The Advertiser, WILLIAM SHERWIN, having invented and perfected an IRON DISC for PLANING FLOOR BOARDS to any width and the knees required, calls the attention of Builders and others to the importance of and numerous saving effected by it. The Disc is attached to the spindle and with as little trouble as the circular saw, and will prepare the surfaces of ten boards per hour, together, or of any number, as may be required. Apply to the Inventor, WILLIAM SHERWIN, Great George-street, Weymouth.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Iron mongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions; Cutlery, Glass, and Wood Furniture, of all kinds, with Patent Sliding Spindles; Dr. Arnott's Ventilators, 4s.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of GOODS of the BEST MANUFACTURE at the LOWEST PRICE.
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HENDERSON'S PATENT DERRICK CRANE, so extensively used in the building of the Exhibition, London, can always be had from the Makers, from 10 cwt. upwards. Portable, Foundry, Forge, Wharf, Quarry, Warehouse, and other descriptions of Cranes; also Steam Winches and Cranes on the Derrick principle. Water Companies and others can also be supplied with our Improved Stand Valves.—For further particulars apply to BOWSER & CAMERON, Makers, Springfield Iron Works, M'Neil-street, Glasgow.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.

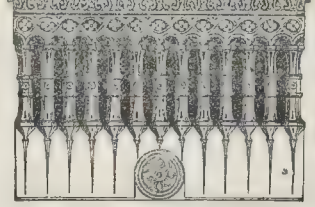


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SAVES IN FUEL 50 PER CENT.!
A prospectus, containing a full description of its action, and numerous advantages, will be given on application to the patentee,
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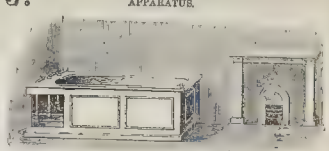
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For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Ramsford-street, Manchester-square, running out of Baker-street, Portman-square, London. W

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To BUILDERS, CARPENTERS, and BLIND MAKERS.
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of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

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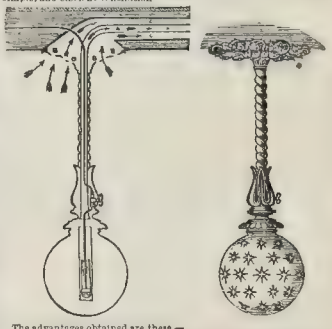
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Estimates given from architects' drawings, or by inspection of buildings.
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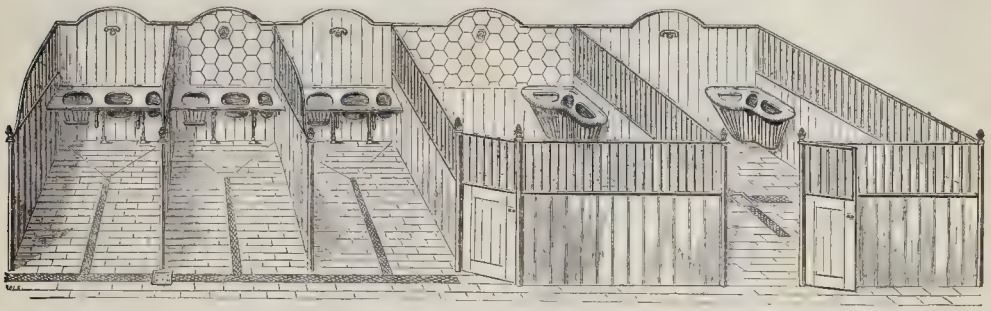
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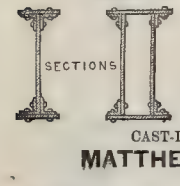
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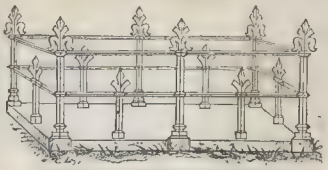
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STEAM-ENGINES, DECK WINCHES, CONTRACTORS' LOCOMOTIVES, &c.—ALEXANDER SHANKS & SON, ENGINEERS, manufacturers of portable and fixed steam-engines; upright stationary engines (requiring no expense for brick-work or masonry); steam deck winches; portable steam-cranes; and hoisting engines (the latter adapted for loading and unloading ships, &c. and may be placed either on deck or on the quay); contractors' locomotives; water-wheels; turbines; sugar, flour, oil, and bone mills; machinery for pumping, winding, sawing, &c. The most improved machinery and the best materials are used in the manufacture of these engines, mills, &c., and all are carefully tested before leaving the works. Price lists on application.

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THE RICHEST ASSORTMENT OF CHIMNEY-PIECES

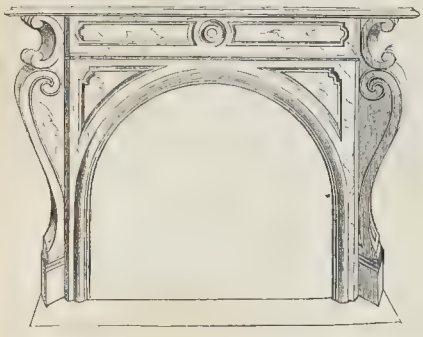
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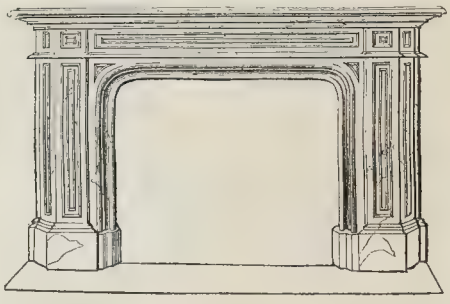
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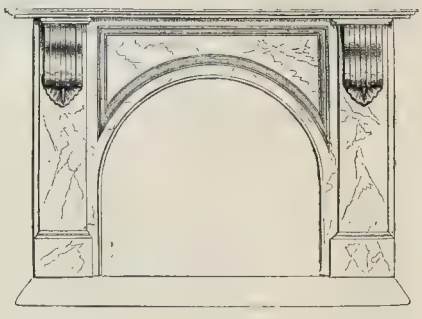












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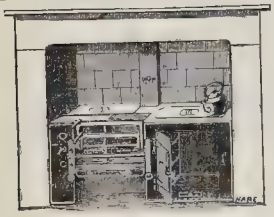
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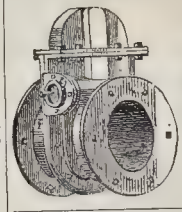
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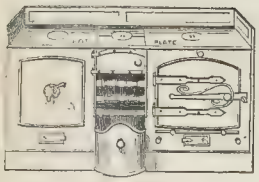
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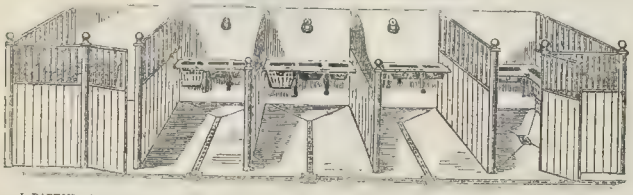
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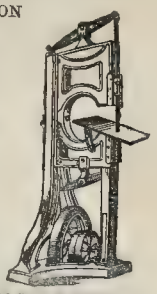
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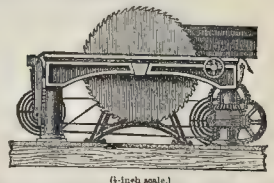
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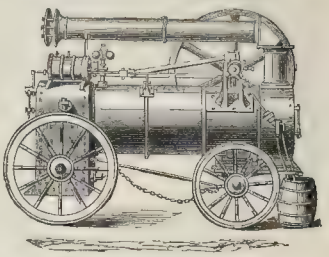
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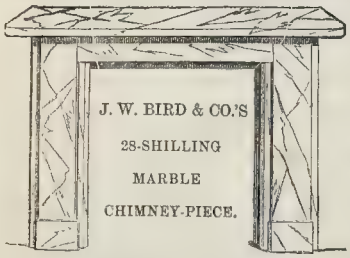
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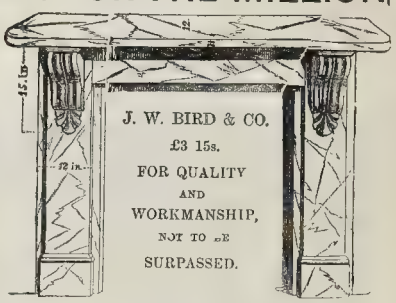
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THE ART-JOURNAL for SEPTEMBER (price 2s. 6d.) contains, Three Line Engravings—viz. "A Hawking Party," by C. Cousen, after F. Taylor, president of the Water-Colour Society; "The Decline of Carthage," by J. B. Allen, after J. M. W. Turner, R.A.; and "The Lady of the Lake," by G. Stodart, from the statue by E. E. Spence. The literary contributions include—"Plymouth China," by Llewellynn Jewitt, illustrated; "British Artists: Edward Armitage," by James Dafforne, illustrated; "History of Caricature and of Grotesque in Art" by Thomas Wright, illustrated; "A Bubble from a New Brunnen," by Mrs. S. C. Hall; "Art, in its Influence on Art-Manufacture," by J. E. Atkinson; "The Architectural Museum;" "The Report on the Royal Academy;" "National Portrait Gallery," Biographical Sketch of W. Mulready, R.A. &c. &c. The present number also contains the concluding portion of the illustrated Catalogue of the International Exhibition, which contains specimens of French Bronzes, Porcelain, Lace, and Inlaid Marble-work; also Viennese Bookbinding, and English Mediæval Metal-work, Porcelain, Cabinet work, Plate, &c. &c.

N.B. The Numbers for October and November will contain a History of the Exhibition, and Engravings of the sculpture therein exhibited.

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The Builder.

VOL. XXI.—No. 1073.

Legislative Measures for the Prevention of Smoke-Nuisance.

CONSIDERABLE exertions have been made during the re-edification and improvement of the city of Hamburgh, to secure good arrangement and construction of the buildings. Of these efforts we should desire to know much more than the fact now mentioned. We know, however, that English engineering skill and architectural taste have participated in them. A commission has been appointed by the senate, to frame a Buildings' Act, and has nearly completed its labours. At its head is Mr. George Stammann, architect. This commission is now desirous of knowing what has been done in London with respect to the consumption of smoke, and we have been addressed by Mr. C. C. Nelson, with a view to the communication to Hamburgh, of any suggestions calculated to assist the object, whether they would relate to measures legislatively restrictional, or others connected with the formation and construction of fireplaces and flues.

We are sorry to say that what has been actually accomplished in London, amounts to very little. An act, indeed, has been during some years in force; and from time to time, a paragraph in the police intelligence of the newspapers may be noticed, saying that So-and-So, of some one of the manufacturing districts of London, had been summoned by Mr. Sandison, the Government inspecting engineer, for having a furnace not so constructed as to consume its own smoke.

In the last reported case, two or three days ago, before Mr. Traill at Greenwich, Mr. Sandison deposed to having visited the defendant's premises in October of last year; at which period, the defendant was allowed time to make such alterations to his furnace as would comply with the act of Parliament. However, the report proceeds to say:—In June of the present year a complaint was made of a nuisance arising from smoke from the same engine, and on visiting defendant's premises on the 22nd of July, he, Mr. Sandison, found the engine in the same state as in October last; but it was not in operation on that day. Police-constable 85 M, said that on the 21st of June he watched the engine on defendant's premises; and in a period of an hour and a half, dense black smoke was emitted for nineteen minutes. The defendant said, the engine (a portable one) could be removed to any part of the premises, and was not often used. He had, however, determined to do away with it entirely, and he therefore hoped the penalty would not be enforced against him. Mr. Traill remarked that the expense incurred by the Government in such prosecutions, was greater than the penalty imposed by the act of Parliament under which the proceedings were taken. He should therefore impose the full penalty for a first offence of 5*l.*, and 2s. costs.

This is a specimen of the general course of the proceedings in these cases; and the state of the London atmosphere, much as it varies with the weather, at all times testifies to the insignificant operation of the legislative restrictions, to the frequent absence of contrivances for smoke-consumption in furnaces and kilns, and to the general absence in private houses—whence, as it has been said, the chief pollution is occasioned—both of the control, and of every kind of smoke-consuming grate. In our notices of the Exhibition of last year, we paid particular attention to the smoke-consuming grates, of which there were several; but not one of the number can be said to have got into sufficient use, for full evidence to be obtainable of its claims to general recommendation.

Perhaps the most offensive chimney of all in London, is that which rises from behind the centre of the river front of that building which is in the occupation of the Legislature itself. Any day during the session of Parliament, volumes of the unconsumed carbon may be seen pouring forth, and contributing an important *quota* to the general dirtiness of the atmosphere between Westminster and Vauxhall, as well as helping to blacken the beautiful octagon tower and spirelet of the centre of the building, and to clog up all the interstices of its rich ornamentation.

But, regarding London generally, any abatement of the evil is inappreciable. On many days of the Exhibition year, looking from one end of Pall-mall, along the street, at about the dinner-hour, the smoke was to be seen descending between the houses, hiding almost entirely any view of specimens of architecture which have been deemed creditable to us, and in fact offering to the eyes of any foreigner, a picture of what has to be endured in this land of liberty, such as could not but repel him from thinking of ever taking up his residence with us. Once able to contrast in the mind such appearances as we have instanced; or the constant obscurity, with the lightness and clearness of Paris, or even of Rouen,—despite the chimneys of the latter, which seem to justify, by their number and size, the title "Manchester of France,"—and we require nothing else to explain the difference in the mental constitution of the English and French, and to show why the latter people possess a readiness, at least, in art-work,—a fertility and fancy,—that the English people, whatever be their attributes otherwise, certainly have not.

We are asked to explain how the different smoke-consuming contrivances are constructed, and which of them are considered the most effective and durable; and whether there are legal enactments prescribing the method to be employed.

On the last-named point, we need hardly say, that the English legislation, as our correspondent perceives, allows free choice of whatever form of apparatus may answer the purpose. Contrivances found suitable in one case, have not answered in another where the conditions have appeared to be similar; until, at last, it has come to be generally felt, that as much depended upon the manner of "firing," that is, of the mere throwing in the fuel, as on anything else. In Lancashire it is pretty well understood by those who pride themselves on not adding to the general pollution there, that large resources for production of steam, as in the possession of a sufficient number of boilers, are necessary for the avoidance of the evil in the case of chimneys to the furnaces of steam-boilers. However, the advantages of the two-flued boiler, for alternate firing, are understood. The chimneys of fireplaces of the description just mentioned, however, we apprehend, would be chargeable but slightly with the evil of the general atmosphere of London, in comparison with smoke-vomitories of other descriptions. We can merely suggest that the Government inspection must have conduced to the acquirement of information that is hardly to be secured through another medium. The obtained results, however, we say, of the operation of the Act, are insignificant; and the condition, every way considering the question, of London, is most unsatisfactory. Still, some *data* as to the working of particular contrivances, and forms of fireplaces and flues, are likely to have been arrived at, beyond what are known to us. With the prospect of obtaining these, application should be made by the Hamburgh commission or senate, to the British Government; though any information that our inspectors may have acquired, should be diffused as widely as possible. We may merely note as to the furnaces of steam-boilers, that the steam-jet contrivance applied to those of the machinery department of the Exhibition, appeared to be most effectual. The smoke-nuisance in our towns cannot continue to be perpetrated without loss, not only of architecture, and the effect of buildings,—passing over the loss of fuel, and the cost of all cleansing processes,—but loss, or clogging-up and obscuration, of some of those agencies, our perceptions and emotions, by which it was divinely intended to guide the course of humanity to the noblest ends.

THE COSTLINESS OF ARBITRATIONS.

THE LIVERPOOL CASE.

THE example to which we gave some attention in our last number, of defects in the working of one of the present methods of settling questions of the value of property required for public works, has of course excited notice in many quarters. With the general subject of the evidence and the judicial functions of professional men when called upon to act, it should continue to be discussed, to the end that improvement upon the present unsatisfactory posture of affairs be arrived at. We append a communication that we have received from Nottingham, on the Liverpool case. The writer, claiming to have had experience as representing, at various times, owners of property, as well as promoters of improvements, differs from our correspondent from whose letter we gave an extract, and treats such cases as that which we referred to, as exceptional, and rather the result of bad management by public authorities than as involving a question of principle. He says:—

"The Liverpool arbitration case referred to in your leader of the 22nd, is, no doubt, important as showing to what extremes these cases are sometimes carried: great reflection seems to be cast upon the claimants under this arbitration, for putting the corporation to an expense of 1,800*l.* and upwards, before a settlement of the claim could be arrived at; and the circumstances are made the ground for raising objections against arbitrations in general as too expensive. But surely this ground is wholly untenable?

The principle of determining disputes by arbitration is one which is held in veneration and respect in this country; and so long as we have trial by jury, the other mode of adjustment must continue. Arbitrations are, no doubt, often made expensive; but this is caused by the promoters, the parties themselves, on the other side, rather than by the claimants of value. In the case of corporate towns, members of town councils dressed in a little brief authority, have too frequently friends to serve, or foes to serve off; or they wish to do what they call a cheap thing for the town, and endeavour to browbeat the individuals who are about being dealt with, and to depreciate their property by offering a sum wholly insignificant, which is generally increased one-third, one-half, or sometimes double, by the arbitrators or umpire. This is distinctly proved by the great increase of arbitration; for, had the claimants not been so successful in obtaining considerably more than promoters offered, they would not run the risk of paying the *expenses* incurred, which would be the case if the sum awarded was less than that offered. Alderman Holme fixes an arbitrary sum; and because this is not accepted, he complains of the corporation being driven to an expensive reference, and saddled with costs amounting to 1,800*l.* Had a more liberal sum been offered, it is very probable that the corporation would have saved, not only these expenses, but also a portion of the amount awarded. Where a claimant is driven by a powerful corporate body, or a wealthy railway or other company, into an arbitration, he knows too well that all the influence, wealth, and other resources at hand will be brought to bear against his claim; and he is driven to great and unnecessary expense, in order to oppose this strong tide of power and wealth that is set against him. It must not be lost sight of, too, that claimants have their own individual interests to protect; and their cases are often cases of life and death to them. Pro-

moters are representatives often of public bodies, who are said to possess no souls; and did those who act for them endeavour to make the case more their own, these extreme instances of costly arbitration would not so often arise between individuals. They are seldom heard of; and it is generally only where irresponsible power, and great wealth, are brought to bear, that they are made to form the exceptions to thousands of cases which are taking place weekly throughout the kingdom. Your correspondent's remarks on 'arbitrators with unlimited power to call witnesses, with solicitors, with barristers, and with contingent costs and charges,' and on the system as 'a blundering and most extravagant mode of settling value,' must surely have been written, either in great anger, or in great haste, or under strong partisan feeling: otherwise he would not have so unreasonably denounced a system so consonant with English feelings, and which has worked so well, except in those few cases where power has used all its influence to oppress, and swamp, the humble individual. To be enabled in this country to stand up against this power is, to my mind, a noble thing; and so long as power and wealth continue to be oppressive, so long may the majesty of our law support the humblest claimant in protecting rights and property that are as dear to him as are the coronet and broad acres to an earl; and, let those who are in the wrong, pay the cost, whatever that may be."

We do not think, however, that the subject can be allowed to rest as here placed. On the one hand, works desirable for the common good, such as have been delayed for a succession of years, keeping up a rate of mortality that has been clearly shown to be preventible, or affecting the convenience and comfort of the general public, through the caprice or avarice of mere units of the people, must not be allowed to continue indefinitely retarded; on the other hand, such power as that which has been obtained by the chief railway companies, must be checked,—opposed as it has often shown itself to be, not merely to the legitimate interests of individuals, but in towns, to the very sanitary amelioration which, as in the case of the metropolis, should be served by the means of communication between town and country. We apprehend that arbitrations involving considerable cost, even as compared with proceedings in courts of law, are by no means so rare as our correspondent would seem to believe. They are sometimes said to be made costly by one of the parties to the dispute, in order that the award may not be taken up; and cases are constantly quoted in which it might have been cheaper to have proceeded in a court of law.

Something ought to be obtainable in the way of information, useful towards correction of the present evils of the system, from the great experience recently, in Paris, of the working of the law of expropriation "*pour cause d'utilité publique*." But whatever the cost to parties appearing before the juries in Paris, the differences between the amounts offered and demanded are as great as what we are accustomed to.

We fear there is some want of a principle of honour, not to speak of the higher rectitude, which would prevent those who appear as witnesses and judges, conducting themselves as advocates. Instances are pointed to and applauded, of those whose profession is the law, refusing to support positions, the justice of which they were not convinced of. Surely there should be equal hesitation on the part of those who are morally bound to say what they believe to be in accordance with right and justice, and to say nothing unless after having had the means of arriving at a real conviction.

COUNTRY-SEATS AND ARCHITECTURE IN AMERICA.*

Few people have given a thought to the possibility that the American war would affect architectural or literary wares; but it certainly has done so, to some extent, both in the Old World and in the New. Our Trans-atlantic cousins were large purchasers of English illustrated works: the sale of these has materially diminished. Indeed, so considerable has been the decrease in the issue of illustrated works since the outbreak of hostilities, that many draughtsmen and engravers on wood have turned their attention to other branches of the arts: the demand for these works has dwindled down to a tenth of its former extent. Across the Atlantic, the war has affected the publication of literary and architectural works in other ways: publishers have feared to embark in any enterprise, and staffs of assistants have resigned their avocations and entered the army. The preface of the American work before us states that it was fully prepared for the press some two years since, and was about to be put in the hands of the publishers, when the "War for the Union" broke out, and seemed for a time to paralyze any new undertaking; and that the author intended to have added a treatise upon landscape-gardening, illustrated with maps, executed under the auspices of Mr. George E. Waring; but that gentleman having accepted a commission in the army, he was obliged to abandon one part of his scheme. This is a new phase of the effects of the American war.

Business, however, becoming based upon a war-footing, and fortunes appearing to be made even faster than in times of peace, Mr. Holly has recently issued his work. It consists of thirty-four designs for cottages, villas, mansions, country churches, city buildings, railway stations, &c. It is prefixed with "some account of the history of architecture," from the *cabins* and huts of provincial builders to the late Perpendicular and Italian Renaissance of the fifteenth and sixteenth centuries—to European readers the least interesting part of the book. The designs embody reproductions, more or less presentable, from all the styles and periods. Our author endeavours to impress upon his readers, various practical matters, the advantage of frequent communication with the architect, the danger of altering a design without consultation, the advantage of building with a view to future enlargement, and of the possibility of clothing utility with beauty. From this epitome it will be seen that the work, although dedicated to the American Institute of Architects, is written expressly for the consideration of fortunate American citizens about to build; to whom, by the way, some hundred and fifty English names of country seats, not in use in America, are suggested as a stock whence to make a selection. Several of the designs are representations of buildings erected or improved by the author for individuals whose names and addresses are given. There are some curious contrivances, or "agreeable surprises," recommended, that are also not intended for the professional reader. Thus, in a dining-room, the window at the end opposite the entrance-door is oval-formed, and elevated above the rest, to leave a place below it for a sideboard. The author suggests that the upper portion of the sideboard should be so constructed as to form a frame for this window, "so that the window will appear to be a part of the sideboard, and that a part of the room." For a drawing-room, there is a suggestion that there should be a window over the fire-place, the frame of which should be treated to resemble that of a looking-glass as nearly as possible. As the sun might occasionally be an inconvenience to persons sitting reading at the fire, it is necessary that this "agreeable surprise" should be furnished with a sliding shutter, on the inside of which there should be painted a fine landscape. Thus, this chamber would be furnished with two pictures, one of which would consist of real scenery, the other of an artificial landscape. In another design, the hall, library, and drawing-room, designed in different styles of architecture, are so arranged that they may be thrown into one apartment at pleasure, when the vermillion, cobalt, and gold of the drawing-room decorations are deemed likely to form a startling contrast to the natural woods used in the hall and library; that is to say, the rich carpets, gilded mirrors, and rosewood furniture of the drawing-room, are thought calculated to present another "agreeable surprise" to those approaching it through the oak and walnut floored and furnished hall and library. A square study, built in Newhaven, is rendered octagonal by placing the fireplace diagonally in one corner of the room, and fitting the other three corners with diagonal bookcases. The flue from the fireplace recedes above the opening, giving space for a cabinet over the mantelpiece to balance the bookcases, all of which ascend to the ceiling, and terminate in an oaken cornice, which runs round the room. A drawing-room constructed octagonally in another house has niches for statues in what the author calls "the four corners." The dining-room in this same house is also octagonal, as is the hall. Six doors open out of the latter into as many apartments. In turning over the pages for himself, the reader would find many other contrivances as *surprising*; some of which, however, are not devoid of originality, or of propriety, under certain circumstances. Indeed, treatment of a similar character is needed in planning, in English architecture.

American architecture has these disadvantages: it has no antiquity, or traditions, and it has no nationality; for, it does not appear that the deserted cities have furnished any type, either of construction or of ornamentation, to Northern architects. American archæology is only lately born. On the other hand, Transatlantic architecture has the advantages of all the abundance of building materials of a new country, and of a climate, that calls for features in its buildings capable of much new and effective treatment. Upon this basis, we contend, there should be developed a style pre-eminently American. But this creation is not even at hand: American buildings, so far, are but bad imitations of those of Greece, Rome, Italy, and England. Verandahs are adopted to all alike, regardless of traditional fitness. These shade-yielding contrivances form an essential of American rural architecture; and their effect should be well considered.

The most unfortunate of imitations is that of the castellated style. Mr. Holly's American feudal villas are the most unhappy of his conceptions. Could our readers resist a smile at a turreted castle with an open porch to the keep, and cross-bow slits as long as its bay windows? With the exception of some world-renowned names, our cousins know nothing of archæology. One of their most popular writers, describing his visit to Stratford-upon-Avon, states that Shakspeare lies buried in a sort of chapel opening out of the church: this is the impression the chancel left upon his mind. In the same way, American architects cannot devote sufficient time to study our castellated architecture sufficiently to be able to reproduce it; whilst they should not reproduce could they afford the time. To pile up the agony of the anachronism, Mr. Holly surrounds one side of his castle with a verandah. The spacious porch admits the supposed foe into a vestibule; and thence he may take his choice of ransacking a coat-closet on his right hand, or proceed into a hall. Having thus accomplished an entrance, he has the four principal chambers on the ground-floor in his power: not an inmate could escape him. They have but one exit, and that is into the hall of which he has taken possession. Not only the reality and the practicability, but the poetry and the possibility of feudal architecture, are lost in these travesties. Nor is what our author calls "the Tudor style—of an ecclesiastical character," more capable of transportation and adaptation in the hands of the unitiated. Thus discourses he of design No. 27—an overpowering porch connecting a tower on one hand with a staircase turret, pierced with eleven uniform windows at regular intervals, and gable-tipped chambers on the other:—"The main entrance of this design has rather an ecclesiastical character. The pointed roof and window of the second story are of the style of the thirteenth century, while the flat arch of the carriage porch and the buttresses which strengthen the piers are of the fifteenth. The battlemented towers and parapets which here and there show themselves, partake strongly of the castellated feeling; and the bay windows, chimneys, &c., may be regarded as *new features, peculiar to the Tudor*,"—peculiar to the American Tudor, we presume. One-half of this building is likewise encompassed with a verandah. The quaint irregularity of the style is quite lost sight of: all is hard, stiff, formal, and ill-proportioned. Over the front four-centred open archway in the porch, there is a three-light, cusped-headed window under a pointed moulding, suggesting that the upper story was built about two centuries before its substructure. This is the largest window in the house. In the gable end over it, is a trefoliated opening, and on the gable end a foliated finial. The side windows of the porch are of two lights under a square label: these are more in accordance with those of the rest of the fabric. The arrangement of the single cusped lights in the oblong panels running zig-zag up the tower, is monotonous in the extreme. The plan of this design shows a bedroom on the ground-floor. As the drawing-room, dining-room, library, cabinet, coat-closet, furnished the meed of accommodation generally required, did our architect make up his number of bedrooms by counting this another instead of a morning-room? A bedroom over the porch gives us its dimensions—15 feet by 20 feet—an ill-proportioned size. A much more successful design is No. 15, which might be a reproduction of a charming old English parsonage-house, stone for stone. It is given as a specimen of the progress of American rural archi-

* "Holly's Country Seats: containing lithographic Designs for Cotrages, Villas, Mansions, &c., with their accompanying Out buildings, also Country Churches, City Buildings, Railway Stations, &c., &c. By Henry Hudson Holly, architect, New York. D. Appleton & Company, 1863." Small 4to, pp. xiv. & 171; 34 lithographs.

tecture since its days of Puritan plainness. The dwellings of the Puritans who colonized New England, and of the Dutch farmers who cultivated the banks of the Hudson, should be full of interest for their descendants, and reverently preserved; but it does not appear that this is the case save in exceptional instances. In "the good old colony times" the first settlers and builders of "plantation houses" in Maryland and Virginia imported the bricks with which they constructed their homes. Mr. Holly confesses that there is a truth and solidity about the mansions of the "old governors" which it would be vain to look for in the architecture of the present day, and that they fairly express the solid energy, determination, and great-heartedness of the founders of the new empire in the wilderness. He considers that the decadence in architectural taste is to be attributed to the too great and too rapid prosperity of the next generations, whose feverish desire to express their riches in their habitations, led to the adoption of domesticated Greek temples, built of wood, painted white, and blocked in courses to imitate stone, as residences. The true refinement of the colonial aristocracy, the hearty hospitality of the gentleman of the old school, seem to have been overwhelmed by the pretentious show and glitter of a society whose "new-crowned stamp of honour was scarce current," and which naturally in architecture developed a fever for base imitation which it is one of "the special objects of this work to reprehend and criticize." These sentiments, by the way, excellent in themselves, are strangely at variance with the suggestions of verandahed shamcastles as homes for modern Americans. We might ask, why not take the brick and stone testimonies of the vigour, energy, truth, self-reliance, and self-resources of the first colonists as models that only require adaptation to modern requirements?

Among the building materials mentioned, there are many that are new to us; and several we should hesitate to adopt in our country seats. A villa of Italian design, containing twenty-eight chambers, built in Bethel, Connecticut, is made of wood; the timbers of pine; the sills of chestnut. The frame is filled in with brick, and sheathed on the outside with rough hemlock boards, before the clap boards are put on. A thirty-chambered house at Danbury, Connecticut, is built of unbaked brick made of concrete, which is "somewhat similar to, though much more durable than that of the ordinary gravel or rough-cast walls." Mr. Holly recommends this material for districts where stone is difficult to be obtained, and brick and lumber expensive to transport, as it can be manufactured *on the spot from the loose gravel that comes from the excavations of the cellar*, provided it is sharp and free from loam and clay. The gravel thus obtained is mixed with a certain proportion of lime or cement, and placed in moulds, where it is subjected to pressure. These home-made bricks are placed on boards till they become perfectly hard and dry. They are 10 inches long by 5 inches wide, and 4 inches deep, and are made with a hollow space in the centre, for the purpose of preventing damp from passing through, the hollows of one row being placed next the solid part of those behind. They are of a neutral tint, and require no further treatment than an occasional coat of boiled oil for the better prevention of damp percolations. If not made correctly in the exact proportions we are not to expect the same results. In a house designed with particular reference to durability and facilities for warming and ventilating, the walls are specified to be built of stone; the partitions where due support is obtained, of brick; elsewhere of galvanized lath; the window-frames of iron, and all the floors of cement, with a strip at the sides for securing carpets; the roof of slate; the stairs and "inside trimmings" of *composition*. These are, certainly, difficult materials to blend in one harmonious whole. The mystery of good ventilation and successful heating is considered solved by the use of a large hot-air furnace in the cellar, and a fireplace in every room, to which scheme a material assistance is furnished by the burning of a small fire in each grate. Another mode adopted to prevent damp is "brick-furring." This is an outside wall of stone, 18 inches thick, a hollow space of 3 inches, and then a brick wall of 4 inches. No lathing is required, as the plastering can be placed on the bricks, as it can also in the case of the home-made bricks above mentioned. The hollow space between the stonework and the bricks, extending from the basement to the roof rafters, acts as a ventilating flue, and is thought to keep even the attics cool in summer. The house at New Haven before alluded to, is built of bricks, with hollow walls stuccoed on the outside, and coloured a neutral tint. The roof is covered with slate, "with the exception of a small flat or deck on top, which is covered with *tin*, and used for the purpose of collecting water for the tank in the attic." The plumbing for the water supply being on the north side of the house, the pipes were packed in sawdust, and placed in contact with the kitchen chimney to counteract the effects of frost. Trying to get over the incongruities attendant upon building a large house on a small estate, our author says that if the residents were always indoors, the windows might be made of *magnifying glass*; in the absence of this imprisonment, he recommends the adoption of our English sunken, or ha-ha fences. There is a new scheme for the construction of ice-houses, involving a different mode of proceeding from that devised by Cobbett. That practical authority, speaking from his American experience, insisted that ice-houses should be built as dry as possible, in the open sun and air, upon a site from which the melted ice would naturally fall away in every direction, asserting that moisture was the greatest enemy that attacked the contents of these structures. He recommended a circular form, and posts, plates, rafters, laths, and straw for materials. When built, and roofed, and thatched, the enclosed space is to be covered with short logs, placed at the distance of a foot apart; upon these are to be laid crossways, and then crossways again, poles about 6 inches apart; and upon these rods, as thick as your finger, placed an inch apart. Over this superstructure a layer of clean dry twigs, or of clean strong heath, should be placed to form the bed upon which the ice is to be packed, exactly 17 inches above the level of the ground. The new plan, as followed by Mr. Holly, from the suggestions of Mr. B. S. Carpenter, gives a foundation 2 feet below ground, and consists of the use of two hollow walls with a space between them for confined air. In the experience detailed, it is stated that it was only in the sunken portion of the house that the ice wasted, thus verifying Cobbett's assertions; but this waste was so unimportant that the bulk of ice, about 8 feet by 10 feet square, was used freely for a large family, and dairy of thirty-five cows, after which supply there was still plenty for neighbours. At the lower side of the plates used, is a ceiling, upon which a layer of spent tan is laid, and beneath which runs a ventilator, with a hole of one-and-a-half inch bore, up through the roof, finished with an ornamental cap.

Most of the drawing-rooms depicted in this volume are furnished with small cabinets, which can at will be disconnected by drapery or other contrivance from the main chamber, and thus converted into a reading, music, or private reception room. Most of the dining-rooms are connected with the kitchen by a butler's pantry. Nearly every hall is furnished with a coat-closet. A great many square and oblong sitting-rooms are shown, with a three-cornered closet cut off each angle, which leaves the chamber octagonal. These arrangements are generalities. We quote another distribution of house space. "As we approach the main entrance, we pass a wide verandah, which communicates with the principal rooms of the ground floor. The main hall is spacious, and well lighted, and being unobstructed by the stairs, might serve the purpose of a sitting-room. The drawing-rooms are separated by sliding doors, so that one might be used as a library. The dining-room has a niche for a sideboard, and a bay-window, surrounded outside by a balcony. This room communicates with the kitchen-offices by a private entry, which contains a stairway, dresser, butler's sink, &c., and has an exit front and rear." There is no doubt but that the service of a dinner can be performed much more easily and correctly, with an entrance for the guests different from that used for the dishes; and we are glad that our American cousins recognise the convenience and propriety of the arrangement. The kitchen-chimney of the house in question, is built up on the outside as a pleasing feature, for the double purpose of giving more space in the chambers above the kitchen, and of excluding its heat in the summer. The mason's and carpenter's estimates for this house are given as amounting to 10,500 dollars. The castellated country seat described, is estimated to cost 9,500 for the mason's and carpenter's works. The estimates from the same trades only, for a forty-chambered house come to 45,000 dollars. A six-chambered cottage, designed as a lodge, and considered equally suitable for a small farm-house, is estimated at 800 or 1,000 dollars. The estimates of every design are added to the explanation of it: we have quoted some only, to give our readers an idea of the value of Transatlantic house-property.

In connexion with a design for a small country church, which, with 350 sittings in it, was built at Wilton, Conn., for 4,500 dollars, the manner of the building of ecclesiastical edifices in this go-ahead country is thus ruthlessly laid bare:—

"It stands in a cramped and unattractive spot, given probably by some worldly-minded parishioner, who, as he gave, estimated the sure rise in his surrounding land. A lumber merchant, a carpenter, and a 'solid man,' constitute the building committee. The material selected is wood, of course, that it may be furnished by the lumber merchant, and the carpenter make a good profit of the contract; while the plan adopted is that most pleasing to our 'solid man,' from whom a liberal donation is expected. This is not an overdrawn picture, but only too truly indicates the manner in which many of our churches are built. Frequently, stone designs are built in wood, sanded and blocked off most cunningly. The interior walls of plaster must also represent stone, and the really respectable furniture of wood must be painted in imitation of some more expensive material."

This picture of an American village church is not very picturesque. The cottages and small farm-houses match in ugliness: pinched, formal, graceless places, painted bright red or blinding white, with green wooden shutters. American railway stations are described as remorselessly. They are either uninviting and beggarly, or ridiculously and pretentiously absurd. Of the latter kind, the author instances a huge mock Egyptian temple, with the fuel-house imitating the towering Pylon, all built, most unmistakeably, of boards.

The introduction of public parks into America will inaugurate a new season in the progress of Transatlantic architecture. The grand Central Park, New York, cannot fail to be speedily fringed with the mansions of the wealthy. It will afford American architects the same chance that the formation of our Regent's Park did the architects of George IV.'s reign. They will, however, have this advantage over their precursors—they may profit by our experience. It is to be hoped that the opportunity will be seized, appreciated, and improved. With the perception of fitness and beauty we see dawning in the New World, we do not despair of a felicitous result.

Altogether there is a commendable tone of feeling pervading Mr. Holly's volume. It is a picket in the van of a popular Transatlantic recognition of the true principles of architecture, notwithstanding the blemishes we have pointed out. Although our author can perpetrate a design based upon a "base imitation,"—those of feudal structures *par exemple*,—he can see the impropriety of other people reviving frowning battlements and machicolated towers in wood and stucco. Although he transplants Swiss cottages to America, he impresses his readers with the advisability of adapting style to site. To place an Italian villa upon a precipitous site, wildly clad with oaks, cedars, and larches, would be, he urges, as out of the way a proceeding as to adorn a wigwam with the Venus de Milo. He can see the right road; and we have little doubt but that he will follow it eventually.

ENGLISH ENGRAVERS.

NEW MATERIALS FOR THEIR LIVES.

WILLIAM SHARP.

THE graves of our great English engravers, with or without the "forlorn *hic jacet*" of a relative, a grateful executor, or an admiring friend, may be soon enumerated.

William Faithorne, the prince of mezzotinters in his time, was buried in St. Ann's, Blackfriars, in London, in 1691, *without* a monument. John Smith, his full successor in skill and repute, who carried the new art of mezzotinto to the greatest perfection it had attained when Walpole wrote, was buried (1742) *with* a monument in the church of St. Peter, in Northampton.

All that remained of George Vertue was carted away when Wilkins raised his abortion of a National Gallery. A monument in the cloisters of Westminster Abbey marks the grave and assists in preserving the name of George Vertue.

James M'Ardell—a noble "scraper"—has a monument over his grave at Hampstead, in Middlesex.

William Woollett rests beneath a monumental tomb in the old churchyard of St. Pancras, in London: known beyond London topographers and sight-seers by the graver of *Nollekens* Smith.

Simon Francis Ravenet, a pupil of Le Bas, and born at Paris in 1706, was buried in the old churchyard of St. Pancras, in London, on the 6th of April, 1764. *John Hall* (died 1797) was his pupil, and *Abraham Raimbach* (died 1843) was Hall's apprentice. *William Wynne Ryland*, hung at Tyburn 29th of August, 1783, for "shamming Abraham Newland" (forging Bank of England notes), is buried in a nameless grave at

Feltham, in Middlesex. *Sir Robert Strange* (died 1792), as yet unrivalled in making incised copper glow with human flesh, is buried in St. Paul's, Covent Garden, without a monument. (Mr. Holloway, of Bedford-street, Covent Garden, skilled in prints of all ages and countries, for shame, for shame!). *Edward Fisher*, on whom Mr. Cousins has based his style more than any other master, lies—where I have failed in finding.

Of the *three Watsons*—Caroline, James, and Thomas—the grave, in old Marylebone, of Caroline, who died in 1814, is alone remembered.

Francis Vivares, who died in 1780, is buried at Paddington, not far, I have been told, from the "*hic jacet*" (1810) of *Lewis Schiavonetti*, of Stothard's "Canterbury Pilgrimage" and Blair's "Grave."

John Boydell, "engraver in Cheapside," was buried December, 1804, and has a monument to his memory in the church of St. Olave Jewry, in London.

Thomas Bewick (1753—1829), who made dead wood live again, and woodcocks to flutter on box and paper, is buried at Gateshead, in Durham,—*Luke Clennell*, another master over wood (1781—1840), died in a lunatic asylum—his grave unmarked—

"Obscure the place and uninscribed the stone."—*Pope.*

George Clint (1769—1854), to the everlasting disgrace of the Royal Academy only an A.R.A., has a monumental bust at Kensal-green to mark the place of his interment. His own pictures, and his engraving of the Kemble family, will preserve his name when whole batches of "forties" are wholly forgotten. *George Cooke*, a marvellous master in translating the works of Turner, Stanfield, and Prout, and the father (no common praise) of E. W. Cooke, A.R.A. (only, shame to say), died in 1834, at the age of fifty-three, and is buried at Barnes, in Surrey. Of *Dixon*, whose "Duke of Leinster," after Sir Joshua, is "a masterpiece of art, and has never been excelled,"* I have been promised for the columns of the *Builder* a few particulars. A noble "mezzotinter," *Richard Earlom* (1742—1822), of Liber Veritatis and Fruit and Flower Piece Van Huysum fame, lies buried in the lower ground of St. Mary Islington. Nor will *William Finden* (1787—1852), and the heraldic master he was apprenticed to, in April, 1802, James Mitan, be forgotten. Finden's two thousand pounds for Lawrence's "George the Fourth" (the G. R. *easy* print) has not been surpassed, it is said, in the history of prices given by dealers for any single figure work of a like size. The grave of Finden, in Highgate Cemetery, is, I believe, marked with a monument. *James Fittler* (1758-1835) is buried at Chiswick, the spot marked; a Loutherburg battle-piece and the portrait of President West will preserve his name. The grave of my early and kind friend, *Charles Fox*, may be seen in the General Cemetery at Brompton, where a headstone renders in a few words ("a man greatly beloved"†) true justice to his memory. His head of John Burnet after Denning is "illustrious" among English heads. No. 89, Albany-street, Regent's-park, was the residence of *Benjamin P. Gibbons*, one of the best translators Landseer has ever had; witness his "Jack in Office," his "Shepherd's Grave," and his "Shepherd's Chief Mourner." A few lines about *Valentine Green* (1739-1813), author as well as engraver, will not be thought out of place: still less so some account of *Francis Haward* (1759-1797), who lived at No. 29, Marsh-street, Lambeth, and there engraved his famous "Infant Academy," and "Mrs. Siddons as the Tragic Muse," a man who caught Sir Joshua's *texture*, which none of the mezzotinters ever did. But I must get out of this catalogue of promises and introduce *William Sharp* to the readers of the *Builder*: he lies buried at Chiswick, close to the grave of his fellow engraver, James Fittler.

William Sharp was born in Haydon-yard, London, among the Mulcibers in the Minories, on the 29th of January, 1749. How and under whom he acquired the art in which he became so great a master, has not been told us with anything like fulness or satisfaction. No man ever grew great in engraving without some training under a master skilled in the rudiments of the art. "I knew nothing of engraving," I have heard my friend Mr. Burnet observe, "until I was apprenticed to it." Sharp's early lessons were probably derived from the gun-makers in his native Minories. A soldier discovered mezzotinto.

"Sharp's best work," said Burnet aloud in the hearing of Wilkie (who nodded approbation), "is his engraving after Trumbull of the 'Sortie from Gibraltar.' It is immensely fine—glorious. Wilson Lowry ruled the sky. Trumbull was West's pupil, and Trumbull painted it to injure Copley. The picture is reddish and bad; but the engraving by Sharp is indeed glorious." I give my friend's words. I wish I could convey as well his warmth of manner in expressing his sense of its many excellencies.

The following receipt, copied from the original, sold at a sale of autographs many years ago, and now *first* printed, tells the public for the *first time* what Sharp received for his "glorious" engraving:—

"1793—April 2.—Received Two Hundred and Ten Pounds (210*l.*) on account of the Engraving of the 'Sortie of Gibraltar,' after Trumbull, which sum was to be had when the etching was finished. (Signed) WILLIAM SHARP."

This, I believe, was a *fourth* of the sum, 840*l.*, agreed upon. Nor is it large for the size of the plate—30 inches by 20 inches. Mr. Burnet had twelve hundred guineas for his fine engraving of Wilkie's "Waterloo Gazette," and not too large a sum for so noble a *translation* of character and colour into black and white.

A copy of Sharp's "Proposals and Conditions" for the publication of his fine engraving is now before me, and is possibly unique, for I have never seen another copy. Trumbull's picture was exhibited at "Ansell's Auction-room, Spring-gardens," and Sharp's printed conditions are as follow:—

"*Conditions.*

The size of the print will be 30 inches by 20.

The price to subscribers, three guineas; one-half to be paid on subscribing, the remainder when the print shall be delivered; Mr. Sharp having engaged to complete the engraving within four years.

Subscriptions will for the present be received only at the exhibition-room, where a person attends for that purpose; all subscription receipts will be signed by the Two Proprietors, and countersigned by him."

Observe one omission in the condition: engraver's proofs, and proofs before letters—to say nothing of open letter proof, French paper proofs (those ingenious devices of the present day), were never thought of by honest William Sharp and his two proprietors.

Alas! for William Sharp—the copper over which he wrought for four years, day and night, still exists, and impressions, *worn out*, may *still* be had—prints, 1*l.* 11*s.* 6*d.*; proofs, 5*l.* 5*s.*; before letters, 7*l.* 7*s.*, or even a smaller amount.

The effects of "Wm. Sharp, esq., member of the Imperial and Royal Academies of Vienna and Munich, made, by order of the executors, a two-days' sale (Feb. 18 and 19, 1825), under the hammer of the inevitable Christie.

The property, the title-page tells us, consists of "Proofs and early and fine impressions of those plates by which Mr. Sharp established his fame as an engraver of the highest rank, viz., a few of the Doctors of the Church, after Guido; of the portrait of Dr. John Hunter, of which the proofs and fine impressions are become exceedingly rare; St. Cecilia, after Domenichino; Diogenes, the Ecce Homo, and Virgin and Child; historical engravings, portraits of public characters, and other admired popular works of which the late Mr. Sharp was chiefly his own publisher."

Sharp, at the time of his death, had two plates in hand, the Castle Howard Caracci, "The Three Maries," and the Stafford Vandyck of the connoisseur "Earl of Arundel." The latter picture was finished with a reverential and able hand by my friend John Henry Robinson, and is throughout a noble masterpiece of his engraving after Vandyck. No skill could detect where Sharp left off and Robinson began.

This great engraver, this William Sharp, was an enthusiast for human freedom. He engraved, from a liking for the man, Northcote's portrait of Sir Francis Burdett; and bestowed unusual care on an engraving after Stothard's beautiful bistre-drawing of "Boadicea animating the Britons." For many years preceding his death he was a wholesale believer in Joanna Southcott; nay, he extended his belief to Richard Brothers, whose portrait he engraved, with this remarkable inscription beneath it,—"This is the portrait of Richard Brothers, in whom I most firmly believe as a man sent from God,"—a work of art of which Horne Tooke well observed, that, coupled with its extraordinary inscription, "exhibited one of the most eminent proofs of human genius and human weakness ever contained on the same piece of paper."

The face of Sharp has been preserved to us by Lonsdale. The picture was exhibited at the Royal Academy in 1823, and has found a suitable resting-place in the National Portrait Gallery of Great Britain.

I will conclude this account of our great engraver with two little anecdotes.

"I have often seen Sharp," my friend Mr. Burnet, the engraver, has told me, "carrying a proof print to a purchaser in an umbrella contrived to serve two additional duties,—a print-case and a walking-stick."

When I exhibited my picture of "Belshazzar's Feast" (my father-in-law, John Martin, informed me), Sharp called upon me at my house, introduced himself, praised my picture, and asked permission to engrave it. That I was flattered by a request of the kind from so great an artist you will readily imagine; and I so expressed myself. Sharp felt pleased. "My belief," said Sharp, "is, that yours is a divine work—an emanation immediately from the Almighty; and my belief further is, that while I am engaged on so divine a work, I shall never die." When Martin told me this story, he added, with a smile, his eyes twinkling with mischief, "Poor Sharp! a wild enthusiast, but—a masterly engraver."

PETER CUNNINGHAM.

* Wm. Smith, of Lisle-street and Southwick-crescent.
† Dr. Lindley, the celebrated botanist, was the writer.

BOUNDARIES AND DEBATEABLE LANDS.

THIS is a subject of curiosity, respecting which much interesting matter might be written. We will now mention only some facts that may be the means of directing the attention of readers in their various localities, to the neglect which often exists as to the boundary lines of counties, towns, and parishes. We have already referred to the subject, and are glad to find that, so far as the City and metropolitan police are concerned, they work in the debateable lands with somewhat greater harmony than formerly.

When looking lately, with some attention, along the line which in Holborn and Smithfield divides the City from the county, a difference of sanitary care was clearly discernible; and the City certainly had the advantage. Not only had the dust and other household refuse been more carefully and regularly carried away, but the sweeping and cleaning of courts and alleys were better attended to. Still, there is in the present state, much needed to be done, and it would be well if the authorities of cities and parishes were to begin at the extremities instead of neglecting them, and enter into a rivalry with those over the border, and show which could best promote health by attention to those matters that never fail of success. On the days of "beating the bounds" of parishes, it would be useful for persons who have good sanitary knowledge, to accompany the processions which are formed on these occasions: there would be much seen that calls for improvement, and the difference between one side of the line and the other would often be startling.

The thoroughfare which was formerly called Maiden-lane, is one half in Islington, and the other half in St. Pancras parish; and in the wet winter weather, one half of the carriage-way may be seen often swept clean, while the other is almost impassable from neglect. In the City-road, east of King's-cross, at the bottom of Southampton-street, there is a singular example of boundary arrangements. Standing at the bottom of this street, stretching past the Female Penitentiary, there may be noted a difference in the pavement of the carriage-way, part being paved with granite and a long narrow strip macadamised only. The latter part, although it is on the Islington side, belongs to the parish of Clerkenwell. We do not know how this spot of land, entirely surrounded by parts of Islington, should have still continued belonging to the other parish. It may have been that at some former period there were lay-stalls here, or places for the reception of the refuse from Clerkenwell; but the circumstance of finding isolated spots in towns and counties, which are claimed by others, is by no means uncommon. In the county of Northumberland, Norham, in which are the remains of the once famous castle, and which is many miles from the county of Durham, belongs to the last-named district. Newcastle-upon-Tyne is a town and county in itself, and in reality forms no part of the county of Northumberland. The borough has separate courts of assize and other courts of justice. In the town-hall, the Queen's judges sit for the borough, and in the Mote-hall (an ancient name) for the county; and the land on which the county courts stand, although within the boundaries of the town, forms part of the county. Formerly there was an old inn in the Castle-garth of Newcastle-upon-Tyne—one room of which is said to have belonged to the county of Durham; and in

it the officers of the sheriffs of Newcastle and Northumberland had no power to arrest any person while there for debt. The old bridge which crosses the Tyne at this ancient town was built, about two-thirds at the cost of the town, and the remainder at that of the county of Durham: a large blue flag-stone on the front path marks the division. For long, a sturdy beggar stood here, and solicited alms, and was not interfered with by the police authorities of either side.

Here and there, in various parts of the metropolis, there are pieces of ground which may be called no man's land; for, they seem neither to belong to the parish authorities, nor to any known individuals. They are unpaved, and unswept, and often allowed to be a nuisance to surrounding parts. Opposite All Saints' Church, in the Caledonian-road, Islington, there is a place of this description. This is of triangular form, and is surrounded by a small curb-stone. Here the itinerant auctioneer can pursue his doubtful calling: others assemble crowds which are in a chief measure collected for an especial purpose; and many of the unwary have their pockets picked, or in other ways suffer loss. On Clerkenwell-green, showmen and others can open their exhibitions without leave from the authorities.

The debateable land around the more thickly inhabited portion of the metropolis, the margin where town and country are struggling for existence, is, as may be learned in the history of both ancient and modern London, a source of danger. In a locality of this description pestilence has generally fired off its first dart. It was at the top of Drury-lane that the great plague which preceded the Fire of 1666 first commenced; and in the suburbs there are still conditions which are not unlike those of the north part of Drury-lane about 200 years ago. In more modern times, we have had raging fevers, cholera, and other preventible diseases, in similar localities. Nor can we wonder at this, when we think of the ill-drained condition of those places, the open ditches, neglect of paving, and the nature of the water supply. It is, however, a matter for thankfulness, that, except from the negligence of inspectors, we can have no houses raised throughout the London district without the provision of sufficient drainage, roads, water, and gas. Miles of open ditches have disappeared during the progress of the Main Drainage works, and others will follow; and before many years have passed, those miserable cottage-dwellings planted carelessly upon the soil, to which we have so often directed attention, will, it may be hoped, have given place to those of better condition.

There will, probably, be always an extra amount of sickness in all new neighbourhoods,—particularly in those which have clay foundations,—until the ground has been well dried by thorough-drainage.

THE NEW GOVERNMENT OFFICES, DOWNING STREET.

In giving the list of tenders for the new Foreign Office, which will be found in our usual column, some explanation of the present condition of the extensive works is necessary.

Up to the present time, the contract for the foundations and concrete of the Foreign Office, has alone been completed. The cost of this portion of the work has been 16,117*l.* The present tender, accepted, embraces the whole of the superstructure of the Foreign Office, and amounts to a little over 195,000*l.*

The works of the India Office on the western portion of the ground, or next the park, are advancing with considerable rapidity. The expiration, in 1866, of the lease held by the Government, of the temporary India Office in Victoria-street, has rendered it necessary to proceed with the new works with all possible vigour. The contract, therefore, has been let in sections, to Messrs. Smith & Taylor, in order to avoid the delay that would otherwise occur while the quantities were being prepared.

Some of the decorative details of the lower portion of the building are now apparent. We ought not to attempt a conclusive opinion of an incomplete work; but we are obliged to say that the seeming deficiency of base, and the details generally have caused us some apprehension. We have once hazarded the theory,—differing from the views, both of the architect's opponents and those of his friends,—that the course taken as to the style, coupled with the selection of an architect skilled in the designing and erection of Gothic buildings, ought to result in the very architecture which all who are not mere imitators, have been striving to attain to and realize. Ought we to abandon the theory, and incline to such views as we have adverted to, that are of the class which would substitute, narrow-mindedly, *style* for *art*, and Mediævalism or Classicism for Modernism (for, we beg our readers to observe, there is no question now before us as to the adoption of Gothic or Italian, in the Government offices, or elsewhere); or, what ought to be our bent? We are neither disposed to abandon the theory, nor to have doubts of Mr. Scott: we prefer to suppose that present appearances should not be taken as conclusive, and that no one can have better learnt the lesson which the spreading base, and the effective mouldings, of Mediæval Gothic buildings, teach for universal fructification, than the very able man who is now the architect of the new Government Offices.

LIVERPOOL IMPROVEMENTS.

The proposed street improvements were last week taken into consideration by the town-council. Mr. C. Aspinall opened the discussion. It was, he said, perfectly clear that the council should be unanimous on the necessity of widening Church-street; and it was equally certain that no widening of Church-street would be desirable unless they went from Paradise-street, from the south side, up to Postoffice-place. The shop occupied by Mr. Tooke came out several feet just at Old Postoffice-place, in front of the next shop occupied by Mr. Grundy. If the improvement were perfected up to that point, and if the Athenæum area were covered over, and a few petty obstructions in the way of steps removed, then Church-street would be a magnificent continuation of Lord-street. At present it was a very unsatisfactory road, considering the amount of traffic which must go along it. The moment they got to Church-street, just as many inconveniences arose from the limited character of that thoroughfare, as though Lord-street also were narrow. At the last meeting, the council sanctioned the widening of Church-street up to Church-alley. If that were carried out, they would have a wide street up to the end of the Churchyard; and then, like the neck of a bottle, they would have three shops, doing all the mischief that the narrowness of the street did now, and presenting an eyesore that would be positively ridiculous. All he asked was, that they should take the property if they could get it upon reasonable terms.—Alderman Holme said that in computing the means at the disposal of the council for effecting improvements, he had taken the income of last year as a very fair average of the income which he thought they might reasonably expect for some years to come, and that amount was 43,298*l.* It had been stated that the income of the council was 93,000*l.*; but deducting the 50,000*l.* of the suspense fund, which the council had funded out of its income, their income would be reduced to 43,000*l.*, and out of that, 1,595*l.* had been expended in anticipation of next year's income: for the purpose of not leaving the corporation bare, he should take the income at 40,000*l.* a-year, which would be about the fair surplus income for some years to come. The improvements already sanctioned could be accomplished out of this income; but if the council were to sanction those now proposed, these additional improvements must be made out of the rates. The council was addressed by other speakers, and the motion was then put to the vote and carried by 29 against 11.

The council then considered the approaches to the landing-stages of the harbour, and the following resolution by Mr. R. Gladstone, as a substitute for one mainly to the same effect by Mr. Picton, architect, was agreed to:—"That in the opinion of this council it is expedient that steps should be promptly taken towards the improvement of the approaches to the landing-stages; and that, as a first step towards this object, a plan should be prepared, under the direction of a committee of the council and the dock board, as the basis for further negotiations."

A motion to the effect that it is desirable to provide parks for the public, and that, with this object, it be an instruction to the improvement committee to make the necessary inquiries respecting available and suitable sites, and the cost of the same, and to report thereon as early as possible to the council, was also agreed to; and another, "that powers be applied for, in the proposed improvement bill, in the next session of Parliament, to make a new street, 60 feet wide, commencing at the corner of Church-street and Paradise-street, and running in a south-eastwardly direction, and terminating at the corner of Slater-street and Duke-street, net estimated cost 81,500*l.*," was lost by 15 to 10.

Some difference of opinion having arisen, as we have before noted, between the proprietors of the New Liverpool Exchange Company and the frequenters of the present Exchange, relative to the proposed new buildings, a committee was recently appointed at a public meeting to confer with the directors on the subject. This committee has issued a report to the effect that the new company proposed to take down the entire block of buildings at present in existence, and in the new one to erect a piazza, which would give as full accommodation as the piazza at present surrounding the Exchange area.

THE REMUNERATION OF TOWN-SURVEYORS.

We have elsewhere referred to doubtful results of the system of inadequate payment of the surveyors, as well as inspectors of nuisances, of many towns. Qualifications of a high class are required in the holders of the kind of office first alluded to; and we apprehend they are also in those of the other office.

Recently, the outlay of the borough surveyor of Bradford has been under discussion, consequent, it would seem, upon a proposal to advance the salary from 200*l.* per annum to 300*l.*; the latter, one would think, a small sum for the duties in such a town. At a meeting in Bradford convened by the Cottage Owners' Protection Society, Mr. Elliott, who was in the chair, observed that the expenses of the council of the borough were becoming very great. There were some forms of expenditure which were high already, and they were tending to become higher. There were great works entered upon which must go forward, as the waterworks, the system of drainage, and other improvements. Still, there were some departments in which the expenditure might be kept down. Some persons were of opinion, for instance, that the present salary of the borough surveyor was quite sufficient, while there were others who thought that, if the salary were increased a little, it ought not to be increased to the extent which some members of the town council proposed.—Mr. S. Auty argued that as some of the estimates of the surveyor were much higher than the works were let for, he was incompetent. He had no desire to screw down a man's salary so that he could not live, but he did not think that 200*l.* a year was to be despised, especially when the salary was certain and not exposed to deduction in the shape of bad debts. He moved a resolution to the effect that, in the opinion of this meeting, the town council of this borough are not justified in making an addition to the present salary of the borough surveyor, as neither his qualification, nor the amount of labour to be performed by him entitle him to claim an advance.—Mr. R. Moss moved the adoption of a memorial to the town council, requesting them, on various grounds, not to make an advance in the salary of the borough surveyor.—Mr. H. Barker seconded the motion, and stated that, if the situation were vacant, he had no doubt that fifty men, as well qualified as the borough surveyor, would be glad to take the office at 200*l.* a year, which was a very handsome salary.—Mr. Councillor Schofield entered into an explanation in vindication of the borough surveyor. He contended that his experience and skill were such as to entitle him to the confidence of the town council and the burgesses. His drainage scheme was of such a character as to have won for him the commendation of the most eminent professional men throughout the country. He had also done great service to the borough by the able manner in which he had given evidence in the House of Commons. He (Mr. Schofield) had voted for an addition of 100*l.* a year to the salary of the surveyor, and would support such an advance. Ultimately the meeting adopted the motion deprecating the advance.

UTILIZATION OF SEWAGE.

Although Baron Liebig's authority is not undisputed in this country as regards agricultural and sewage questions, his letter, to which we lately referred, is likely, from being extensively quoted in the country papers, along with an introductory letter by Mr. Mechi, of Tiptree, to have some influence with our farmers, many of whom have a strong prejudice against town sewage as a useful manure for their land. We shall therefore endeavour briefly to give our readers some idea of the Baron's letter, and also of Mr. Mechi's.

The problem to be solved, says Liebig, is, how much of the efficient elements of guano a farmer

can convey to his field in a ton of sewage; or how many gallons of sewage water are equivalent to a cwt. of guano. Lacking more certain data, I take Professor Way's analysis of sewer water, which this most reliable chemist made at the request of the General Board of Health. . . . It results that 101 tons (20,200 gallons) of this sewer water contains the same amount of phosphoric acid, more than three times as much ammonia, and sixteen times as much potash, as one cwt. of the best Peruvian guano. . . . If to the sewage obtained daily from London, 100 tons of superphosphate of lime (at 20 per cent. of phosphoric acid) be added, the value of the daily voidings of the metropolis, or the sewage of London, is made equivalent to 247 tons of Peruvian guano; or, by the addition yearly of 36,500 tons of superphosphate, we may acquire the value of 90,155 tons guano, at 13*l.* 12*s.* 6*d.* = 1,228,364*l.* Deduct the price of 36,500 tons of superphosphate, at 5*l.* 5*s.* = 191,628*l.*, and we have 1,036,736*l.* as the money value of the sewage. To this should be added the worth of the potash in the sewer water. Potash is the manure which the farmer obtains with the utmost difficulty: it is that element, too, which renders his stable dung (the amount of phosphoric acid and ammonia being the same) of greater value and efficacy. In 247 tons of guano about 1½ ton of potash is contained; but every day 7½ tons are obtained in the sewer water; which gives a surplus of 6 tons, corresponding to 11 tons of sulphate of potash, giving yearly 4,015 tons, which, at 18*l.* per ton, shows a money value of 72,270*l.* Add this to the sum above given, and we have, as real annual money value of the London sewage, 1,109,006*l.* The surplus potash won from the sewer water daily corresponds to the amount contained in 866 tons of stable dung. Without the addition of the superphosphate, the value of the sewage of London would only be 304,015*l.* It is neither fantastic nor ridiculous to believe that, without purchasing foreign manure, and by a judicious utilization of the sewage of towns and villages, England would be able to dispense with the importation of food from abroad.

Mr. Mechi, basing his own on Baron Liebig's letter, remarks that the Baron's letter settles definitively the question, hitherto much disputed, of the value of a ton of town sewage, taken at its outlet. How much is to be deducted from that value for conveyance to the fields, he continues, is another part of the question; but it is generally admitted that from one farthing to three farthings per ton, according to elevation, would be an ample deduction. At Croydon the cost is not more than one farthing per ton: at this rate there is an ample scope for profit to the ratepayers as well as farmers, at Baron Liebig's estimate of fourpence per ton. Hitherto nearly all our attempts at sewage irrigation by means of steam-power, pipes, hose, and jet, have been imperfect, from a want of sound engineering skill: hence they have been unduly costly. A mistake of an inch in diameter of our supply pipes may increase our expense of delivery 100 per cent.

When once we are agreed as to the value of a ton of town sewage, *delivered on the land*, we shall not long differ as to the propriety or profit of applying a given quantity per acre.

As to Liebig's theory, that in order to build up a perfect plant we must have all the necessary materials or elements in due proportion and in a fit condition, Mr. Mechi says, no one certainly would doubt this, if applied to a house—for, wanting either lime or water, useless would be the bricks, timber, slates, and other materials.

THE SANITARY CONDITION OF OUR TOWNS.

WHITEHAVEN—SUNDERLAND—LIVERPOOL.

A recent wet, cold, and cloudy summer was found, at the close, to have been a remarkably healthy one, and for no other ascertainable reason than simply because the filth of our towns, instead of lying festering in the sun, polluting the air, and destroying health and life, was washed away continually; and, even while it lay, was not exposed to the reeking influence of warm sunshine. The dryness, warmth, and clearness of the past summer have had precisely the opposite effect—of polluting the air with the rotting filth, which there was little or no rain to wash away; and the natural consequence has been a notably unhealthy state of our towns in all parts of the country. The mortality of the metropolis itself has risen above the average; and so is it in various other places, as at Liverpool, Sunderland, and Whitehaven, of which, more particularly, we have now to make a few notes. And first of Whitehaven, because this town is notoriously and by far the most filthy of those named, and of most, indeed, that can be named. One of the local papers, the *Pacquet*, itself admits that—

"It is acknowledged on all hands that the town of Whitehaven, as regards its sanitary condition, is in about as deplorable a plight as a town can be. Without drainage, with stagnant open water-courses and badly scavenged streets, infested with pigstyes and cesspools, and the night-carts and other attendants parading the public thoroughfares as if in procession the day through, in the hottest weather, it would in sober seriousness have been miraculous if the inhabitants had escaped all the epidemics with which other parts of the country, having much better sanitary regulations, have been visited."

A recent writer, in another local paper, the *Herald*, thus speaks of the town:—

"Many of the streets and alleys are very narrow, and the ground on either side completely crammed with boxes of stone and mortar, in many cases four stories high, built for the most part from any plan or no plan, without any supervision by the town authorities to ensure their construction on a healthy principle. Few open courts are left for ventilation. Passages, staircases, and backyards (where there are any), are so contracted that it is with difficulty the inmates can get squeezed into them and out of them. Cellars are constructed in low situations where cellars ought not to be, and many of the latter used in a double capacity for living and sleeping rooms—in not a few cases as many as eight persons sleeping in a hole containing about 500 cubic feet of contaminated air, and no means of changing that air. Bedrooms are constructed without any means of ventilating them, save by opening the door; or in others, more favoured, by a casement or lower half of a window being opened. Many not otherwise ignorant persons will not open any of them in bad weather. Pigs are kept (often in a filthy state), in close proximity to living-rooms, some in cellars under living-rooms, and some in a few cases in attics. Cowhouses, stables, and slaughter-houses, not kept too clean, bring up the rear. Add to this the entire absence of efficient drainage, many dwellings having the waste water running in open channels through the rooms or lobbies. In some cases single rooms are let as single tenements without being allowed to use a neighbouring necessary; and, as the tenants cannot consume the soil, it is kept fermenting in the room till night sets in, when it is pitched right into the streets, with, in some favourable instances, a bucketful of water pitched after it, only to drive it to their neighbour's front, there to be the next morning exposed to a summer's sun."

"Well! what of fever, of which you have said nothing?" remarks some sanitary sceptic: "here you have made out just the case for it." Precisely so: Whitehaven is just the fitting *nidus*, as the medical men call it, for fever,—and this is precisely the summer for the development of fever in just such a town as Whitehaven. And fever accordingly does prevail in Whitehaven. At a recent meeting of the local board of guardians, a professional man, Mr. J. B. Wilson, surgeon, in expressing his approval of the appointment of salaried sanitary inspectors for the different parishes, said that the town was in a shocking state as regarded sanitary matters, and it was really frightful to contemplate the amount of sickness, though fortunately there had not yet been any great mortality. They did not know, however, where the matter would end, as the epidemic was becoming far more virulent. Damp, filth, and heat, it was well known, gave rise to all these cases of fever, and he was very glad, therefore, that these inspectors had been appointed. It was certain that the present dreadful state of matters was owing to the laxity of the officials; and no doubt great blame attached to their governing bodies.

At one time, quite recently, in this comparatively small town, there were 800 fever cases at once. The authorities, however, having at length been roused to the necessity of doing something in the shape of cleansing, lime-washing, &c., to abate the "plague," as it had come to be called by the country people of the district; the cases have since fallen in number to about 700; and there are hopes that a continuance of the palliative and temporary sanitary measures will rapidly reduce the epidemic still further.

At Sunderland, of late, the rate of mortality has greatly increased in three districts of the borough. For the fortnight ending August 12, there were 130 deaths, against 112 in the preceding fortnight. In the four districts south of the river there were 99 deaths, against 45 last year in the corresponding fortnight, being more than double what they were at that time. The mortality in Monkwearmouth is also very great. Out of 27 deaths from scarlatina, 26 were children of six years and under.

Here the sanitary sceptics have been at work, propagating the false idea that it is the sanitary works themselves, of late carried out in the once notorious Sunderland, that are to blame for this increase of mortality. Strange perversity of fact and judgment! It has since been clearly proved that it is precisely where the beneficent influence of sanitary improvements has not yet extended, that the increased mortality has been prevailing. The Sanitary Committee of the Town Council have just reported on the subject; and in their report they say:—

"Has there then been a failure in the system of sewerage and drainage, and other sanitary works carried out by the Corporation? or have the building regulations been proved to be arbitrary and useless, tested by their sanitary results? The Council have the satisfaction of learning that such has not been the case. On the contrary, there never was a time when the value of all these works was more manifest. Where there has been largely increased disease and death *it is where sanitary works have not been carried out*, and where evils exist which could not have been the case had the dwellings of the people been erected in conformity with the requirements of the present building regulations. It is where buildings have been run up on wet clay or ill-drained soil, and where *no space adequate to the requirements for health* have been left in the yards; *when those yards, too, each contain a reeking dunghill closely abutting on the dwelling rooms; it is in these districts, and in these districts almost exclusively, that fever, diarrhœa, and cholera epidemics find a congenial soil* on which to fix and fructify, carrying also by contagion disease and death into districts which would otherwise be exempt from such visitation. It is a noteworthy fact, that *it is not in the densely populated parts of Sunderland parish, or other parts of the borough where water-closets have been most introduced, that the increased mortality has been felt; but it is where these means are almost entirely non-existent*, where the open privy and ashpit system prevails, that the epidemic has been most felt, and where mortality has been and is the highest."

The infant mortality of the respective districts of this borough in the past six months has been—

South Bishopwearmouth	49	per cent.
North Bishopwearmouth	51	"
Sunderland	52½	"
Monkwearmouth	53½	"

This is much above the average of the kingdom, for infant mortality, fearful as that average itself is. There is a great excess in the Hendon-road; also, in portions of Monkwearmouth, and other localities notorious for their unsanitary condition. It is due to the sanitary measures already carried out in Sunderland, however, to remind our readers that a great mortality of infants is nothing new either here or elsewhere. In 1860, as we noted early in 1861, the infant mortality at Sunderland was 50 per cent., while its general mortality was *only* 22; and, while 500 out of every 1,000 infants died in Sunderland, *only* 176 died in Halifax, Bradford, Derby, and Birkenhead.

The publication of these facts will, it is hoped, remove many unfounded impressions of the effect of the drainage and other sanitary works already carried out, and induce a more general and hearty co-operation amongst the owners and occupiers of property, in supporting and giving effect to the measures adopted (and to be yet adopted it is to be hoped) for the improvement of the health of the borough. Sanitary laws, indeed, and their application are recommended by the truest economy and the highest considerations of humanity.

An additional inspector of nuisances, "of good education," is recommended by the Sanitary Committee to be appointed, with a salary of 100*l.* per annum. In many towns, the inspectors of nuisances are far from being men of sufficient education, or enlightment on sanitary subjects: doubtless, inadequate remuneration is a special cause of this. Moreover, the office is not one that from its name is likely to be at all attractive to, or chosen by, men of good education. Could not the title of the office be changed to something like sanitary inspector? Were a sufficient salary offered, no doubt medical men, as the best of all such inspectors, could be induced to offer their services.

Prior to the proceedings in the Council to which we have referred, there were some of importance belonging to the same subject, or relating to the building regulations. A large proportion of plans not having met with approval, Mr. Crossby said, that might seem strange, but a deputation from the sanitary committee had waited upon the building committee, and requested that no plans should be sanctioned until the sewerage was put in. If the drain was put in before the building was commenced, it was difficult to know where the branch drains would fall.

Ald. Williams said what the sanitary committee wished the building committee to do, was to ensure provision for drainage. In the inspection of the sanitary committee, they came upon houses where there was no main sewerage at all, and where house-drainage was impossible. The object of the deputation to the building committee was to secure that no street plan should be passed until some knowledge was obtained whether the owner of the ground, if it was his duty, would make the sewers.

Mr. Crossby said, there was no sewerage, and it was the duty of the corporation to put in the sewers. It was a hard case that people should be prevented building because the corporation did not see to the drainage.

Mr. Thompson said, it was clear that the drainage could take no harm by allowing the buildings to

go on; the main sewers were not constructed, and the drainage could be done afterwards.

Mr. Middlemiss said, it had hitherto been the practice to pass plans, whether there was any provision for main sewerage or not. With reference to certain ground, it was found that there were no sewers in the back streets, and they could not connect the house drains; and therefore it was wrong to have the houses occupied until they were fit for human habitation. It was the duty of the building agent to give notice to the engineer, whose duty it was to give a certificate whether the houses should be occupied or not. If he found no provision for drainage, he would have prevented them from being occupied; it would then come out whose fault it was that the sewers had not been put in. When street plans were sent in, the width and the level of the streets were ascertained, but no section was shown for drainage purposes. If the plan passed, it was the duty of the engineer to set out the levels of sewerage, and at once see it carried out. But the land proprietor or building agent had no control over the drainage. It was the duty of the building agent to come to the corporation engineer, and request his attention to it, as to the setting out of the levels. That had not been done, the houses were occupied, and no sewerage had been put in. In one case, where the plans were rejected, the plan would have been passed if the houses intended to be built, were to be built on the surface of the land. But it was intended to form a cellar underground; and it was the object of the Act of Parliament to prevent people making cellars below the level of the sewers. He would recommend the council to pass those plans where it was proposed to build on the surface of the land, and to disapprove of those that intended to sink cellars.

The Chairman felt they had been proceeding altogether in error. A system of sewerage should be prescribed and laid in. There was no doubt that the corporation must initiate or prescribe the sewerage, and the question of pay was between them and the owner of the ground.

Mr. Simey said the principle arrived at in the highways committee was, that the owner of land laid out for new streets, calling upon the corporation to put in the sewerage at the expense of the town, should pay as his part of the cost of the sewerage, such proportion of the whole cost as the ratepayers had already paid for the sewerage of the town. That varied each year, according to the amount paid. He thought it most inexpedient to allow streets to be laid out without efficient means of sewerage being provided. If he mistook not, it was not the duty of the corporation to put in sewers.

The Chairman.—It is our duty to indicate on the plans where they should be put in.

At Liverpool, the medical officer of the health committee of the town council recently reported that, during the week ending August 15, the number of deaths registered in the borough of Liverpool was 316, or 190 in the parish, and 126 in the out-townships; being an increase of 53 deaths over the corrected average of the last ten years. Zymotic diseases occasioned 125 deaths, being an increase of 28 on the average. Of these deaths from zymotic diseases, 7 were due to measles, being one above the average; 12 to scarlatina, being 4 above the average; 19 to whooping-cough, being 10 above the average; 21 to typhus (registered typhus and gastric), being 14 above the average; 46 to diarrhœa (of which 40 were of children under two years of age), being 3 below the average.

Having been asked if local influences had anything to do with the increase of fever, the officer, Dr. Trench, replied that in London the mortality, like that in Liverpool, was in excess of the average of the last ten years. He hoped the committee would duly consider the matter, and recollect the fact when he came to ask them to assist him in turning all privies and middens in courts and other close places into water-closets. The committee might rely upon it that the town would never be free from an excess of zymotic diseases, until privies and middens were got rid of. He might have got rid of them upon his certificate, but the matter was one that involved an entire revision of the scavenging of the town.

A few minor notes connected more or less with the subject in hand may be here appended.

At Huntingdon it appears to be at length determined to adopt a drainage scheme which, it is hoped, will rid the town of the offensive Back Brook, which has been so long and so loudly complained of. The four parishes have each selected a committee of five for the purpose of carrying out this desirable object; and at their first meeting Mr. Hutchinson submitted plans for the proposed scheme, which embraces the laying down a separate drain from houses near Quail's Meadow, all the way to the river, catching in its course the outlets of the present sewers from the town which supply the Back Brook with its offensive matter. This new drain would be entirely covered over, and of sufficient dimensions to carry off the storm water from the town, as well as the present sewerage. It was ordered by the committees that matured plans be prepared, and also an estimate of the expense for completing the work throughout. It is proposed to have a tank for the reception of the soil near to the river, so that the water of the Ouze be not more polluted than at present.

At Lincoln, the state of the river Witham between Brayford and the Stamp-end Locks has long been filthy and disgraceful, and the wonder is that fevers have not resulted. The sanitary committee have just resolved to cleanse the river between the two points named. They have thrown into the water fifty tons of lime, and removed the rank substance from the surface: the river is now clear, and no disagreeable smell is at present emitted. The sewage deposited under the High Bridge has been removed, and the engine at Torksey has been employed in pumping a large quantity of water into the Fossdyke, which is thereby much purified, and stagnation prevented.

At Malmesbury, and at Horsham, waterworks are projected. An experimental well is to be sunk at Horsham, at a cost of 200*l.*, of which 100*l.* have already been subscribed. A water company is being established at Malmesbury with a capital of 1,600*l.*, in 5*l.* shares. Shares to nearly 1,000*l.* have already been taken.

THE WATERWORKS IN KENSINGTON GARDENS.

These works, now in operation, do not fully realize the anticipations of the Commissioners of Woods and Forests; and details of their architecture are but poor: yet they seem to be the most utilitarian and satisfactory of recent public outlays, so far as the health and enjoyment of the multitudes frequenting these beautiful grounds, and living (we cannot say *sweet*) waters, are concerned. A lodge, in a pleasing position at the head of the Serpentine, enshrines an arrangement of mechanism which is a model of order; and numerous visitors are daily admitted to view the steam-engines and the firing and working.

Messrs. Watt, of the Soho Works, Birmingham, designed and constructed a pair of engines, of 12-horse power each; their appearance in action, clean and glittering like clockwork, is the admiration of all the visitors who are interested in machinery. One engine works the well, which was sunk to a depth of 325 feet, to replenish the scant natural supply of the lake: the old stream called the Westbourne Brook, being nearly dry in summer; and the state of the Serpentine, in hot weather, having hitherto been not only disgusting to the view, but most unhealthy. To such a pitch of fetor had this pollution arrived, that the precincts of the water were avoided; whereas now, thousands hourly frequent the grateful shades of the vicinal plantations, and enjoy the fresh and exhilarating influences of the teeming fountains. The second engine, of similar power, is used solely to pump up the water from the lake, and throw it in again; thus causing a circulation, and animating the pool which otherwise would remain, as formerly, stagnant. For this object a culvert was dug to draw off the water from the lower, or Knightsbridge end of the Serpentine, conducting the flow by a graduated fall, back to the engine-house, a distance of over a mile, apparently up-hill, to be there pumped up and returned to the reservoir.

During summer, for thirteen hours daily, one engineer works and manages the whole system. Forty thousand gallons of water per hour are raised and delivered systematically; and it is a subject of general remark, and no little admiration, that no smoke is seen to issue from the chimney-tower, save only at the moment of first ignition, and then no more than an ordinary fire-hearth might occasion,—a ton of coals and coke, mixed, being daily consumed in the operation by the engineer, who seems to be gratified in exhibiting his neat interior to all comers.

To Mr. Thomas Docwra, C.E., of Ball's-pond, belongs the merit of having arranged, methodized, and brought into operation, the source of fresh spring-water which gives life to the whole system; and were it considered necessary to increase the volume of fresh, he finds that, by other and deeper sinking into the gravel strata of this vicinage, he could double or quadruple the supply at present afforded by the miniature pieces of mechanism now in action. The subterranean springs of Westbournia are well known to be abundant, and the water-shed the most extensive of the high suburban districts. Spring-street is so called from the fact; and the gravel and clay beds alternately preserve, retain, and purify the natural supply.

It could hardly be expected that, without a fresh infusion of spring-water, the long lake could be kept in proper condition by the reflux and circulation of its own contents only. Natural streams preserve their freshness, and deposit accidental impurities, by constant flow and action of the waters; but, in their course, Nature provides refreshing tributes in every cumulative brook; and so of larger rivers: but it is surely worth, for the great population of this metropolis, the interest on the original outlay, the cost of 6*s. a d-y* to *one working engineer*, and some trifle more for coals, to secure a healthful and delightful garden and fountains to the dense throngs who frequent the groves of Kensington throughout the summer season. The shade of Dr. Jenner may contemplate with pleasure the highly beneficent result.

Quondam.

COMPETITION.

Mechanics' Institute, Newcastle-upon-Tyne.—In reply to a local advertisement offering premiums of 25*l.* and 5*l.* respectively, for designs adjudicated first and second in order of merit, eleven architects submitted drawings for the proposed Mechanics' Institute. Mr. Thomas Oliver has had awarded to him the first premium, and Mr. John Wardle the second.

SHAKSPEARE'S HOUSE, NEW-PLACE, STRATFORD-ON-AVON.

Mr. Halliwell, who has been for some time making researches on the Shakspearian sites, at Stratford-on-Avon, has lately caused further excavations to be made in New-place Gardens, the site which he had purchased some time since, and that of the house in which the poet last lived. But a small portion of the original structure remains. "A Brief Guide," just issued by Mr. Halliwell, says that on the south side of the excavations (abutting on Chapel-lane) "will be observed the foundations of the external wall of Shakspeare's own house, passing under a modern fire-place belonging to the Clopton residence;" and that "to the right of the fire-place is Shakspeare's well." In the centre of the foundations, a solid piece of brick-groining belonging to the cellar of the original house was found; but a few days since some explorations were made in the street front, and extending a short distance down Chapel-lane. At the corner of the latter was discovered a small portion of the original foundation, which showed that the house stretched further into the lane than the wall of the garden at present shows. In Chapel-street the excavations brought to light a flight of steps apparently leading into an area and thence to the lower apartments of the house. It may not be idle to speculate that down these steps "many a time and oft" the "peeler" of that day, some ancient *Dogberry* or *Seacole*, stealthily crept, treading softly into the precincts of the larder, and there, whilst ogling the cook, regaled himself on cold mutton and quaffed a flagon of sack. The local journal hopes the period is not far distant, when may be seen the utter demolition of what is called the theatre—according to it, a most unsightly structure, and the sooner razed to the ground the better,—so that some part, if not the whole of the original scheme, may be carried out, and the gardens thrown open freely to the public. Something of the kind will now be done, as in a few days visitors desirous of going over the grounds, will be permitted to do so by applying for tickets of admission at "the birth-place," thus giving ready access to a spot in which every one must feel an interest.

LONDON STREET ARCHITECTURE.

HOUSES AND SHOPS IN WORSHIP STREET, FINSBURY.

The six houses in Worship-street, represented in our engraving, have taken the place of miserable, ill-ventilated, tumble-down buildings. They were erected by Messrs. Browne & Robinson, under the direction of Mr. Philip Webb, architect. Some interest attaches to the site of these houses. The ground is said to be that on which Shakspeare was accustomed to take charge of the horses of citizens who had gone in to see the performances at the Curtain-road theatre. Afterwards, a military depôt of the Parliamentary army occupied the spot: some remains of it existed till lately. About 1745 the



HOUSES AND SHOPS IN WORSHIP STREET, FINSBURY.—Mr. Philip Webb, Architect.

ground was purchased by one John Gillum, and thence obtained the name of Gillum's-fields. Up to that time, the road had been called Hog-lane; but the name was then changed to Worship-street, partly because the first row of houses was built out of the materials of the old church of St. Mary, Islington.

The name Gillum's-fields continued to be applied to the space behind the houses; but, like the other fields of London, they soon lost their rural character, and degenerated into a dingy yard, communicating with Worship-street by means of an alley. Eight wretched tenements, which opened into the yard, have been pulled down, and the entire space is now occupied by the new workshops and yards.

The shop fronts project, and are tiled with common flat tiles. Beneath the show-board, an open iron frame, to give light below, occupies the space. The first-floor in each house comprises two windows spanned by a discharging arch, of brick, with sunk head or tympanum: the pier, of brick with flat cap of stone, is narrow enough to form a mere mullion between the two lights, leaving them effectively one for use within. Three windows light the second floors: their sills, of stone, being bevelled and run together, form a string. A plain cornice, with dentils of bricks and other simple mouldings, terminates the wall, whence a high-pitched, plain-tiled roof rises, to be broken in each house by a dormer that projects like a hood in front. At one angle of the block a drinking-fountain is placed. One merit of the work consists in the use of sound real materials: an objection is a degree of rudeness in the finishings internally, which may militate against the speedy occupation of the houses and shops by persons able to pay the amount of rent which would be required.

ST. ALBAN'S CHURCH, ROCHDALE.

The church of which a view of the interior appears in our present number, was erected two or three years ago; but through the liberality of Mr. Jonathan Nield, of Dunster House, in the parish of Rochdale, constant additions are being made to the building, decoratively or structurally. Mr. Nield is now about to undertake the entire decoration of the chancel, in a manner corresponding with his former munificence, and with the character of the church.

The building was designed and carried into execution by Mr. Joseph Clarke, F.S.A.; and the additional decorations are designed by him, and are being executed under his superintendence by artists of a high class.

It is proposed, for the reredos, to paint a triptich, after the manner of the early Florentine painters, the subjects to be "The Lord's Supper," with others supplementary. The east wall, above the string-course, will be painted in fresco, adopting the new water-glass process, with subjects from the Incarnation of Our Lord; whilst the lower part, in a line with the reredos, is proposed to be enriched with Algerian onyx marbles, and ceramic work. A series painted similarly in fresco, —the subjects taken from the miracles or parables of Christ, or from the lives of the saints,—will occupy the upper part of the north and south walls. The lower part of these walls will be coloured, in diaper or otherwise.

The roof, which is panelled in wood, will be richly coloured throughout, and painted with a representation of a choir of Angels.

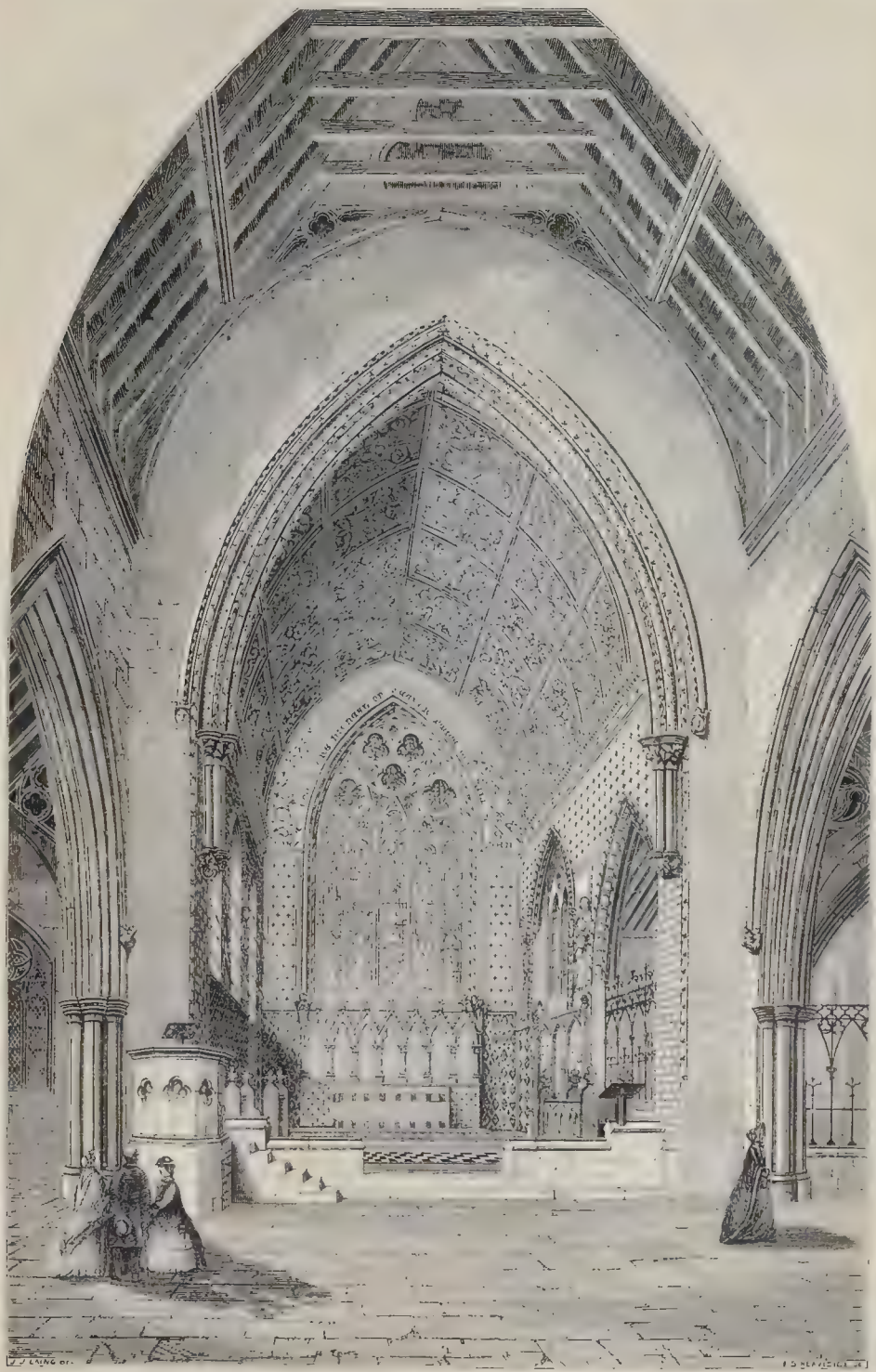
The stone-work of the arches, &c., will be slightly enriched with colour.

At the sides of the chancel-arch, the Commandments will be written; and above, will be the seven Acts of Mercy, or other subjects.

The present tiles will be removed and a more appropriate floor relaid.

The whole of the enrichments are intended to be of a very costly character; and when completed, they will probably attract much attention.

This description, it may be observed, includes some details of a high-art class which do not appear in the view. Both view and description, of course, are founded on data supplied to us; but we may infer, that since the engraving was commenced, the decoration in the design has expanded in richness and quantity of details.



ST. ALBAN'S CHURCH, ROCHDALE.—Mr. Joseph Clarke, F.S.A., Architect.

PREMIUMS OFFERED BY THE INSTITUTION OF CIVIL ENGINEERS.

We recently printed a list of the papers for which the Council of the Institution in Great George-street had awarded premiums. The council have since printed a list of subjects on which they invite communications in the session shortly ensuing. The list is suggestive and valuable, and even unusually so. It should be procured by most of our professional readers. Besides mentioning authentic details of the progress of any work in civil engineering (Smeaton's account of the Eddystone lighthouse being alluded to as an example), descriptions of engines and machines, and practical essays on such subjects as metallurgy, the list specifies as subjects the following, of which, however, we do not in every case give the full titles:—

1. The decay of materials in tropical climates, and the methods employed for arresting and preventing it.
2. The theory of metal and timber arches.
3. Theory of construction of wrought iron-girder bridges.
4. Landslips.
5. Pressure of earth on tunnels.
6. Artesian well-boring, and sinking large shafts, as on the Continent.
7. Contrivances for facilitating the driving of tunnels, or drifts in rock.
8. The principles in laying-out lines of railway through mountainous countries, with examples.
9. The means of preserving Alpine railways from snow.
10. Experience in iron permanent way.
11. Principles to be observed in the designing terminal and other railway stations.
12. Railway ferries.
13. Locomotive engines for steep inclines, especially when in combination with sharp curves.
14. Working of locomotive engines in long tunnels, with frequent stations.
15. Results of the application of Giffard's injector to boilers.
16. Working expenses of railways, and the influence on these, of the original design and construction.
17. Observations on the flow of water from the ground, in any large district; with rain-gauge registries.
18. The construction of catch-water reservoirs in mountain districts.
19. Accounts of existing waterworks, and the distribution of the water.
20. The means of improving the water supply of the metropolis.
21. Structural details, and results in use, of apparatus for filtration of large volumes of water.
22. Drainage and sewerage of large towns, exemplified by accounts of the systems at present pursued.
23. The employment of steam power and other measures for the improvement of canals as means of conveyance.
24. Iron paving compared with stone-block paving.
25. A history of any fresh-water channel, tidal river, or estuary, including notices of the effects of any works, of the relative value of tidal and fresh water, and of the effect of enclosures from the tidal area, of sluicing, groynes, and parallel training walls; also of dredging, with a description of machinery and cost.
26. Observations of the modifications which the tidal wave undergoes in a river or estuary.
27. Tidal and other dams, and on the use of wrought-iron in their construction.
28. History of any harbour or dock; the reasons for the site, the mode of construction, and the subsidiary works for the shipping, and commercial purposes, with the cost, &c.
29. Graving-docks, and arrangements having a similar object, with the conditions as dependent on rise of tide, depth of water, &c.
30. Floating landing-stages.
31. Swing, lifting, and other opening bridges.
32. Lighthouses, their machinery and lighting apparatus.

Subjects numbered 33 to 47 inclusive, relate to the measure of resistance to steam-vessels at high velocities; to tubular boilers, and the use of steam at an increased pressure, with or without superheating, for marine engines; to the relative advantages of the principle of expansion, as applied in the single long-stroke cylinder engine, in the double cylinder engine, and in the three cylinder engine; to blast engines; to steam fire engines; to pumping-engines, noticing in the case of those for drainage of mines, the depth and length of the underground workings, the height of the surface above the sea, the geological formation, the contiguity of streams, &c.; to turbines and other water motors, in comparison with water-wheels; to the systems of smelting ores, and the manufacture of iron generally; with accounts of the machinery for rolling shafts, and bars of iron of large sectional area, and for producing armour plates, &c.; to the construction of rifled and breech-loading artillery; to the use of steel bars and plates in machinery, for boilers, and for ship-building, as well as for bridges; to the use of steel, as compared with iron of acknowledged good quality, in the construction of locomotive engines; to the Bessemer and other processes of steel-making, and the present state of the steel manufacture on the Continent of Europe; to the safe working strength of iron and steel, including the results of experiments on the elastic limit of long bars of iron, and on the rate of decay by rusting, &c., and under prolonged strains.

Also, a paper is suggested on the transmission of electrical signals through submarine cables (48), English and Continental engineering manufactories (49); and memoirs of the works and inventions of the engineers, Sir Hugh Myddleton, Arthur Woolf, Jonathan Hornblower, Richard Trevithick, William Murdoch (of Soho), Alexander Nimmo, and John Rennie (50), close the list.

The competition for premiums is not confined to members or associates of the Institution.

NEWS FROM AUSTRALIA.

VICTORIA.

There seems to be a general revival in the building trade at this moment; and so many works of more or less importance are in hand, that it is difficult to secure bricks, even at high prices. Labour prices are also firmer than formerly, although employers have no reason to complain of the rate asked by their artisans. There is little doubt that should the population increase, as there is every probability from the attention lately called to the colony, that it will, there will be a great demand for building hands and building materials. All that is wanted to make the country prosperous, and to develop its vast resources, is *population*. There is plenty of idle money waiting for investment; and many would gladly expend their gains in bricks and mortar, could they but see a reasonable prospect for a return on their outlay.

Several new industries have been lately started, and many bid fair to be highly successful. On the banks of the Yarra Yarra a sulphuric acid manufactory has already commenced operations, capable of turning out nine tons of concentrated acid per week. Considering the immense cost of the imported article, and that all the latest improvements tending to economy in production have been adopted, this venture must prove profitable to the proprietors, Messrs. Clark & Hoffman. A paper manufactory is also talked of somewhere in the same neighbourhood.

A company has also been formed, and the machinery ordered, for a cloth manufactory to be erected at Bacchus Marsh, for the manufacture, in the first instance, of tweeds and blankets. As wool is one of the staple exports of the colony; and as in New South Wales, similar establishments have long worked profitably, turning out tweeds which received honourable mention at the late International Exhibition, there is little doubt that this speculation will prove successful, and that, instead of the raw article only, the manufactured will be also exported.

A company is also in course of formation for the manufacture of salt under a patent, secured in the colony, which has been tested and proved to be capable of turning out salt with a profit, at less than one-half what it can be imported for. Victoria truly presents a most favourable field for the enterprising and industrious.

In building operations, Messrs. Sargood, King, & Sargood are pushing on with additions to their warehouse in Flinders-street, which it is reported will cost them some 10,000*l*. At the Public Library, another addition has been commenced. Both these works are in the hands of Messrs. Reed & Barnes. A large brick warehouse has just been completed, from designs by Mr. F. M. White.

There has been some rioting on the extension of the railway line forming from Sandhurst to Echuca, on the Murray. The contractor for this portion of the extension, has been paying his navvies from 6*s*. to 8*s*. per diem, according to ability, and has found no scarcity of men to accept his terms. Workmen on the line opened south of Sandhurst are annoyed, and insist that a uniform rate of 8*s*. shall be paid, and have accompanied their demands by violence. Gangs of from 500 to 1,000 men have been up the line once or twice, driving those off the line who would work, and destroying the contractor's plant. A large body of special constables has been sworn in, and the regular body of police in the neighbourhood largely augmented; so it is now hoped that those who are inclined to work, may work without molestation. The contractor states that he is quite willing to pay eight shillings to those who can do eight shillings' worth of work.

DESTRUCTION OF THE SERAGLIO, CONSTANTINOPLE.

The old palace of Selim, of Mustapha, and of Mahmoud,—next to the principal mosques, the most unique and characteristic feature on the south side of the Golden Horn, has been destroyed by fire. The sudden bursting out of a column of black smoke from the southern extremity of the building announced to nearly every quarter of the city that the quaint old building was in danger. In less than ten minutes the flames, fanned by a strong north-west breeze, spread rapidly over the building; which, being of wood, and dried already to a burning point by a ten weeks' broiling sun, speedily ignited wherever a spark fell; till, in little more than half an hour, the whole pile was irretrievably in a blaze, before the scores of wretched engines which hurried from every quarter of the capital could even reach the Point. The grand vizier, who happened to be at Dolma-baktche at the time, was the first on the spot, having hurried across in one of the palace caiques. He was speedily followed by the whole of the other ministers, nearly all the general officers in garrison in the capital, and about 3,000 troops. A couple of strong boats' crews from H.M.S. *Weser*, lying off Tophaneh, also hastened to the scene, and lent strenuous aid. The usual remedy of pulling down large perches of buildings on either side was in vain resorted to. Incredible as it may read to those who know the distance, not merely sparks, but whole flakes of fire were carried right over the brow of the hill which separates the Point from St. Sophia, and, falling in and around the At-meidam, ignited more than one house in the neighbourhood. The fire which spread thus distantly was not long in reaching the beautiful alleys of cypresses behind the palace; and as these caught one after another, the blazing current was carried on in an almost unbroken wave to the successive courts and buildings in the rear. Only one life was lost on the occasion. Of the many narrow escapes that of the grand vizier was one of the closest. Accompanied by a dozen or so of soldiers, his highness had penetrated into the centre of the building, where it was believed some of the fair inmates yet remained. Whilst searching for these, the flames literally surrounded the room in which Fuad Pasha and his companions were; and it was only by escaping through a window which opened on the Marmora, that his highness and the men with him effected their retreat but a few minutes before the roof of the room they had left fell in. About an hour after the fire broke out, the sultan himself proceeded to the scene; but, on the urgent advice of his ministers, his majesty remained only a short time in the dangerous neighbourhood, returning to Dolma-baktche, whence the progress of the conflagration was visible.

The site of the old building thus destroyed is one of the most historic in Stamboul. In the earliest Byzantine days it was covered by the Acropolis of the new Eastern capital; later, by a palace of the Empress Placidia; later still, by another and grander imperial residence, reared by Justinian, on the ruins of which other palaces were successively built, till Mahomet II. erected that of which the structure just destroyed was the last of many restorations.

MONUMENTS AND MEMORIALS.

The Landport memorial of Admiral Sir Charles Napier, K.C.B., subscribed for by "petty and non-commissioned officers, seamen, and marines of H.M.'s navy," has just been completed by the contractor, Mr. G. P. White. The funds being limited (more shame to us as a nation, for our base treatment of the memories of our deceased naval heroes), the scale is also restricted, the total height being under 30 feet. The design, too, is very simple: the plan is triangular up to the base of the column, the site being at the junction of three streets. Ample granite steps, on which is a rustic basement, support a curvilinear pedes-

tal bearing the inscriptions. Forest of Dean and Portland stone are the materials. A column of Red Mansfield stone, 2 feet 5 inches in diameter, supports a plain foliated capital charged allusively on its four sides; and upon the abacus, which is developed into a platform, stands a lion 3½ feet in length, the paw resting upon a shot. A cartouche, in low relief, springs out of the lower or rustic portion of the shaft: within it is a medallion portrait, in bronze, by Phyffers. The inscriptions briefly point out the name and age of Sir Charles, the object of the memorial, and the names of three of his noted engagements. Messrs. Wilson & Nicholl, of London, were the architects.

The subject of a Monument to Lord Clyde has been taken up by a number of influential noblemen and gentlemen.

The foundation of the Wedgwood Memorial Institute, at Burslem, will be laid, in all probability, on the 20th of October; and the Chancellor of the Exchequer has consented to officiate, if his engagements will permit. The Lords of the Committee of Council have intimated their intention to contribute their *maximum* grant of 500*l.* in aid of the proposed building; and the execution of the first contract will be proceeded with in the course of the present month. Meantime, the requisition is being largely and influentially signed, asking the Chief Bailiff to convene a meeting for the adoption, in Burslem, of Mr. Ewart's "Free Libraries Act."

A memorial of John Hampden is to be erected at the cost of some gentlemen (among them the Lord Chief Justice Erle) who feel interested in preserving the memory of this great patriot. They have resolved to erect the monument in the field in Stoke Mandeville, in which the levy for ship-money was made which led to a contest ending in civil war. The work has been entrusted to Mr. W. W. Thompson, of Aylesbury, and consists of a stone obelisk 8 feet high, surmounted by a Maltese cross, and bearing the following inscription:—"For these lands, in Stoke Mandeville, John Hampden was assessed in twenty shillings ship-money, levied by command of the King without authority of law, the 4th of August, 1635. By resisting the claim of the King in legal strife he upheld the rights of the people under the law, and became entitled to grateful remembrance. His work on earth ended after the conflict of Chalgrove Field, the 18th of June, 1643, and he rests in Great Hampden Church."

A monument has been erected in Woodchurch churchyard, to the memory of Mr. John Smith, eldest son of Mr. John Smith, of London, the railway contractor. The memorial, which is executed in red granite (polished), is placed there by a few of his friends and fellow-labourers, as a mark of respect to his memory. The design chosen is that of a broken fluted column, resting on a panelled dais, on two sides of which inscriptions are engraven in letters of gold. Under the dais is a moulded base and plinth in red granite. The whole is about 12 feet high, and stands on a stone of large dimensions, obtained in the adjoining neighbourhood. Messrs. Burke & Co., of London, were the sculptors.

A monument to Captain Cook, the great navigator, is about to be erected in the Sandwich Islands.

Our Australian cousins—at least those of Melbourne—are preparing to do honour to the memory of Shakspeare. The *Age*, of that city, says;—"The clay model of a colossal statue of Shakspeare has been executed by Mr. Charles Summers. It is proposed to erect the statue, in bronze, in front of the Public Library."

BUILDING NEWS FROM SCOTLAND AND IRELAND.

Edinburgh.—In consequence of numerous complaints by tenants and others frequenting the Fleshmarkets, the Market Committee instructed Mr. Cousin, architect, the City Superintendent, to make an inspection of the premises with a view to remedying the existing defects. In reporting to the committee, Mr. Cousin stated that from the dilapidated state of the cranes, and their general unsuitableness to existing circumstances, he found that nothing short of their entire reconstruction would remove the evils complained of. A plan for reconstructing the markets was embodied in the report, which has been approved of by the committee, and estimates are being procured for the immediate carrying out of the work. A double set of new cranes will be erected in the centre of both the upper and lower markets, and those at present existing will be swept away. The dimensions of each of the new cranes will be 11 feet 6 inches by 100 feet 6 inches, with covered passages 7 feet in width on either side.

Kilsyth.—The new Court House and Jail, the foundation-stone of which was laid with Masonic honours on 8th August, 1862, was formally opened on the anniversary of the previous ceremony.

Keith.—The Roman Catholic Chapel at Keith is undergoing a renovation. It is being re-slated, the lath and plaster renewed, and all freshly painted. There are half a dozen new windows of the diamond quarry obscured, with marginal borders of ruby red, and corniced panes of green stained glass.

Melrose.—The new Corn Exchange which is being erected at Melrose is now nearly completed, and will be shortly opened to the public. To meet the requirements of the town, the building has been designed with the double purpose of being used as a public hall as well as a corn market.

Narraghmore, Co. Kildare.—The nave of the church here has just been rebuilt and re-opened. Some few years since, the chancel was rebuilt by private munificence, and a vestry was added about the same time; but the nave was allowed to remain in a most forlorn condition until taken in hand by the present rector. The new nave is 57 feet by 12 feet, and 30 feet to ridge, with south porch, and western bell-spirelet 60 feet high, surmounted by a gilded weathercock. The material employed is local stone with granite dressings. The style is Early English of the fourteenth century. There are three two-light windows on the south side, two on the north side, and two single lancets at the west end. The roof is of deal, stained and varnished, formed with foliated braces, plastered between the rafters, and covered with Welsh slate and terro-metallic ridge and crest. The seats are low and open, and the passages paved with Staffordshire tiles. The chancel is raised four steps, and the sanctuary an additional one. The builder was Mr. Carroll, of Dublin; and the architect, Mr. Withers. The total outlay has been about 1,200*l.*

DISTRICT SURVEYORS UNDER THE METROPOLITAN BUILDING ACT.

The Metropolitan Board of Works have lately directed their superintending architect to request the attention of the district surveyors, to the 37th section of the Metropolitan Building Act (1855), which provides that "If any building is executed, or any work done to, in, or upon, any building by or under the superintendence of any district surveyor, acting professionally or on his own private account, it shall not be lawful for such surveyor to survey any such building for the purpose of this Act, or to act as district surveyor in respect thereof or in any matter connected therewith, but it shall be his duty to give notice thereof to the said Metropolitan Board, who shall then appoint some other district surveyor to act in respect of such matter," and to inform them that the Board consider that the intention of this enactment is, that whilst the district surveyor is not precluded from exercising his profession beyond the limits of the district to which he is appointed, he is, so far as regards that district, jealously to reserve himself from any bias by which he may be influenced in the performance of his public duties.

CHURCH-BUILDING NEWS.

Down Amney.—The parish church of Down Amney has been re-opened. It has been undergoing alterations and restoration at intervals during the last ten years. During the last alteration the old porch has been restored: a deal roof for the nave has been constructed by Mr. Smith, of Highworth, builder, and the clerestory freed from whitewash, freshly pointed outside, and plastered within; and the new stalls of English oak in the chancel have been carved under Mr. Smith's superintendence. The east window is divided into compartments, representing subjects copied by Messrs. Lavers & Barraud, from the L. Ghiberti's bronze gate, at the Baptistery of Florence. The tiling of the chancel has been executed by Messrs. Maw.

Knutsford (*Cheshire*).—The district church of St. Cross, Knutsford, has been re-opened for divine service; having been closed in order to admit of alterations and improvements. The cumbrous old pulpit and reading-desk have been replaced, the former by an oak one of Gothic design, and the latter by a *prie Dieu* to match. The organ has been removed to the case made for it on the north side of the chancel, where the choir has also been provided for with oak stalls. A lectern, on a stone base, has been presented by a lady.

Cheadle Hulme (*Cheshire*).—The church of All Saints, Cheadle Hulme, has been consecrated. It is situate near the centre of the village. The style is Geometric. The nave is 25½ feet broad, and 52 feet long, divided into four bays. In the south-west corner is the porch. To the west of this is the bell-turret, rising to a height of 65 feet. The belfry is of open timber framing. The nave is lighted by six couplets of chamfered unfoliated lancets on the north and south sides, and on the west by a window of two lights, with a sex-foiled circle in the head. Just below this window stands the font, which is of Caen stone, sustained by columns with shafts of red Mansfield stone. Against the south pier of the chancel arch is the pulpit, which is chiefly of Caen stone, with shafted columns of polished Cornish serpentine. Projecting on the south side of the nave is a transept, lighted by three small lancets east and west, and by a rose window in the gable. In the west wall is a trefoil-headed door, intended chiefly for the use of the school children. The chancel is entered from the nave by a chamfered arch, sustained by corbelled columns of Mansfield stone, with carved caps and bases. The roof is of the cradle form, all the rafters being framed and braced. The floor rises one step from the nave, and the sanctuary two steps more; the communion-table standing on a foot-pace. The east window is of three lights, with traceried and foliated head. On the south are two trefoiled lancets. The choir seats are placed stallwise. The reredos has been formed by Mr. Young, of Manchester, of Minton's tiles, and contains legends and emblems. The floors are laid with red and blue Staffordshire tiles, in ornamental patterns. The sedilia are of stained deal. There is an aisle on the north side, springing from the chancel by an arch of two chamfered orders, and screened off for a vestry and organ chamber. The walls are of a cream-coloured stone, relieved by arches over windows and doors of a grey tint. The gables of the nave and chancel are surmounted by crosses. The church, which seats 300 persons, has been completed for 1,200*l.* The architect was Mr. J. M. Taylor, of Manchester; and the contractors were Messrs. Thackrah & Pierce, of Stockport.

Moreton (*Cheshire*).—Messrs. Warner & Sons wish us to state that the peal of bells for the church recently built at Moreton were cast by them. There are four bells, tenor note C about 5¾ cwt.; and although they are hung for ringing, one of Messrs. Warners' new chiming apparatus has been fixed in connexion with them.

Leeds.—The chapel for the grammar school here has been opened by the Bishop of Ripon. The chapel is a simple structure, without aisles, and with no other distinction for chancel than additional ornamentation of the walls and compartment of the roof, and raised floor with dwarf wall. It was designed by Mr. Edward Barry, who was also the architect of the school; and its prevailing style is that of the early part of the fourteenth century. The chancel is furnished with seats for the clergy and masters and for the choir, an eagle lectern in oak, and between it and the communion-table a Litany desk. The organ is placed on the right side of the chancel; and, there being no recess for it, it somewhat breaks the symmetry of the building; an arrangement not contemplated or approved of by the architect. The body of the chapel is furnished with open stalls, which, together with the seats in the choir, are calculated to hold about 300 persons. The building is lighted by four windows and a small circular light on each side east and west; by a large window with flowing tracery at the north or chancel end; and a marigold window at the south end over the entrance. For evening service the chapel is illuminated by six gas standards. The total cost of the chapel will be nearly 3,500*l.*

Mirfield (*Yorkshire*).—Bradley Church has been consecrated by the Bishop of Ripon. It is in the Early Decorated style, and consists of nave, transepts, south aisle, organ chapel on the north side, chancel, and vestry. The chancel is separated from the nave by a moulded arch with short corbelled shaft, and is furnished with choristers' oaken stalls. The nave is separated from the transept by arches with foliated shaft, and from the south aisle by a pillar of red Aberdeen granite polished and two arches. The tower is at the eastern end of the south aisle, but at present is unfinished, and the vestry is at the southern side of the chancel. The length of the church is 75 feet, the breadth 42 feet, and the height 18 feet. The eastern window is of five lights with tracery head; the centre light being higher and wider than the rest. At the west end over the entrance

door is a rose-traceried window. The south aisle windows are of three lights, with traceried heads. Arches are built in the north wall to allow of a north aisle being added when required. The roofs are all open timbered with red deal, neither stained nor varnished: over this is a coating of felt, covered with grey slates.

Redcar (Yorkshire).—A temporary church is to be erected at Saltburn-by-the-Sea. The foundation-stone has been laid by the Archbishop of York.

Knaresborough.—The tower and spire of Trinity Church, Knaresborough, have been finished, according to the design prepared by Mr. Joseph Fawcett, of Sheffield, architect. The church is in the First Middle Pointed style of architecture, and is calculated to hold 800 persons. It consists of a nave of six bays, with side aisles and north porch, and a long chancel, with vestry and organ chapel on the north side. The east window has recently been filled, as may be remembered, with stained glass, in memory of the late Prince Consort. The chancel is separated from the nave by a lofty arch: the slender columns of the nave and aisles are little or no obstruction to the sight; and the congregation, it is said, can hear very well, with comparative little exertion to the clergyman officiating. The tower, which has just been completed, stands engaged at the west end of the north aisle, the lower part forming a baptistery, opening by large arches into the church. The upper part of the tower forms a ringing loft and belfry, with large couplet windows on every side, filled with tracery. At the top of the tower there is a deep moulded cornice, with carved corbels underneath, immediately above which springs the spire, with high broaches at the angles, and four traceried spire lights. A moulded band with pierced quatrefoils relieve the surface of the spire about mid-height. There is also a gilt ornamental cross surmounting it, at the height of 160 feet from the ground. Mr. George Wilson, builder, Knaresborough, undertook the contract for completing the tower and spire at about 700*l.*, making the total cost of the church about 3,800*l.*

Tynemouth.—The Lady Chapel attached to the Priory is about to undergo a process of cleaning and renovation. The cost of the work is estimated at about 70*l.*; but it is the wish of the incumbent and churchwardens of Holy Saviour to substitute stained-glass for the present damaged windows. The repairs will be executed under the superintendence of Mr. A. M. Dunn, of Newcastle.

DISSENTING AND ROMAN CATHOLIC CHURCH BUILDING NEWS.

Lincoln.—The chief stone of the General Baptist new chapel and schools in St. Benedict's-square has been laid by Lord Teynham.

Newmarket.—The new Congregational chapel is approaching completion, and the architecture is now exposed to view by the removal of the heavy-looking wall which formerly enclosed the old Palace upon the same site. The interior of the chapel is being fitted up with sittings for between 400 and 500 persons.

Witham.—A new Wesleyan chapel is about to be erected at Totham, towards which, and the erection of a minister's house, the sum of 3,000*l.* was recently bequeathed by a lady at Coggeshall.

Washington (Durham).—The school chapel which has just been completed for the Roman Catholic body, at Washington, has been opened. The buildings are of red brick, with stone dressings. They consist of school-room, 56 feet by 26 feet; chancel, 20 feet by 20 feet, with transept, 20 feet by 15 feet. On the south side, corresponding with the north transept, stands the house for the priest and schoolmaster, containing six rooms. Externally, the appearance partakes more of the chapel than the school; and internally there is an arrangement for dividing and adapting the different parts of the building for the two purposes for which it is intended, by means of movable partitions. A turret of wood and lead, containing a gong bell, stands on the roof at the east end; and the east window has been filled with stained glass, by Mr. Barnett, of Newcastle. The whole cost was about 1,000*l.* Mr. A. Dunn, of Newcastle, was the architect, under whose directions the works have been carried out by the builder, Mr. Foggin, of Newcastle. It is in contemplation to erect other schools after the same arrangement, in the neighbourhood of Newcastle.

Thwaite.—The first stone of a new congregational chapel has been laid in the village of Thwaite, Swaledale, Yorkshire. The design and plans for the building have been furnished by Mr. Thomas Ambler, of Leeds, architect.

Newcastle-upon-Tyne.—A large United Presbyterian church, in Gresham-place (adjoining Ellison-place), which has just been completed, has been opened for divine service. Mr. George Cairns was the architect, and Mr. Hogg the builder. The interior of the church, including the gallery, is estimated to accommodate 700. Nearly the whole of the windows are of stained glass, and some of these have been presented by Mr. John Pendrick, a member of the congregation. The entire cost of the building amounts to 2,000*l.*, and of this sum about 700*l.* remain to be raised. There is a large school-room beneath the chapel.——Plans for a new church for the Baptists (Open Communion), formerly worshipping in New-court Chapel, and, since the sale of that place of worship, in the New Townhall, have been adopted by the building committee. The architect is Mr. James Cubitt, of Camberwell. The site of the building is an open space in Rye-hill, on the east side, near the Villas. The area of the ground is about 150 feet by 87 feet. The chapel will be in the Italian style. There will be three principal entrances, each of an ornamental character, approached by a flight of steps extending the whole front of the building. Four pilasters will support a cornice, surmounted by a pediment in the front elevation. Above each of the three entrances are three round-headed windows. It is intended to construct the building of stone. On the basement floor will be a lecture-room, intended also for use as a Sunday school. Contiguous to it will be infant and other class rooms. Above will be the chapel, the dimensions of which will be 81 feet by 54 feet, with a narrow gallery on three sides. At one end there will be a recess for an organ. It is estimated that the chapel will afford accommodation for 1,100 persons. The seats will be open, with bench-ends. Three vestries will adjoin the chapel.

Hexham.—The Hebbron memorial chapel, which has been erected by the late Mrs. Hebbron, widow of the Rev. Henry Hebbron, for the use of the Primitive Methodist Connexion, has been opened for divine service. It is described as partaking both of the Italian and Grecian styles of architecture, and as accommodating about 300 persons. It will admit of the addition of a spacious gallery when required. There are a school-room and vestry, and also heating-apparatus, beneath the chapel. The edifice has been built at a cost of 800*l.*, wholly defrayed by Mrs. Hebbron; the school-room, vestry, &c., at about 200*l.*, by her brothers; and the site, 350*l.* (with expenses), by the Primitive Methodist Society. The architect is Mr. Potts, of Sunderland; the joiner, Mr. Newby, of Sunderland; and the mason, Mr. Green, of Hexham.

Guernsey.—The chapel in St. Peter-port, formerly known by the name of New-street, has undergone various repairs, and has had its name changed into Béthesda (House of Mercy). The principal alteration is that a platform has been made, to the front of which a portion of the old pulpit has been added. The walls and ceiling have been whitewashed, and the remainder either painted, grained, or varnished. The front of the chapel has been also plastered, and the new name, "Béthesda," added in relief. Mr. Le Page, builder, has been the contractor.

STAINED GLASS.

St. Mary's, Whittlesey.—A stained glass window, executed by Messrs. Clayton & Bell, of London, has just been inserted over the priest's door in the Sir Harry Smith chapel in this church. The window is of three lights. The centre represents "The Crucifixion," showing the good centurion at the foot of the cross, with the holy men and women on either side. Beneath are three smaller subjects, picturing Nicodemus in counsel, Joseph of Arimathea begging our Lord's body of Pilate, and the entombment of the body. At the bottom is an inscription, stating that the window is "in dutiful love of Charles Smith, and Mary his wife, by his surviving children." The late Mr. Smith was a brother of Sir Harry, and was himself a soldier and a magistrate. The parishioners are indebted to Mr. George Moore Smith and his brother and sister for this window, and it is hoped the only remaining chapel window will soon be filled.

Eye Church.—A stained-glass window is to be put in the chancel of this church, to the memory of the late Mr. Thomas Moore and Mrs. Ann Moore. It is to be presented by Mrs. Kate Moore, of Eye (their daughter). Mr. Gibbs, of London, is to be the artist.

Penkridge Church.—At a meeting of the Hatherton Memorial Committee, since our last notice, the design sent in by Messrs. Ward & Hughes, of London, was provisionally selected, after a close competition with the other London firms. This design, with one sent in by Messrs. Lavers & Barraud, having been in the first instance chosen for further consideration; the result above mentioned, after deliberation, was arrived at. The design is described by the artist in the following terms: "In the top is our Lord sitting upon the judgment-seat, and as it were saying, 'Come unto me, all ye that are blessed.' Below are groups of angels, and in the upper parts of the side compartments are Moses with the Tables of the Law, and Elijah with the false Prophets; and below these are the four Evangelists, with their emblems; the principal subject, 'The Ascension of our Lord,' occupying the three central lights, and surrounded by the heavenly host ascending into heaven. The Apostles are grouped below beholding the ascending Saviour. The six acts of mercy, from St. Matt., 25th chapter, are introduced into the two side lights. Angels with scrolls bearing the words, 'Worthy is the Lamb that was slain,' &c.; with the acts of mercy, form as it were a framing to the picture of 'The Ascension.'" It is also intended to fill another window in this church, over the pew of the late nobleman, with stained glass, of an appropriate design, the execution of which it is proposed to entrust to Messrs. Lavers & Barraud.

Glasgow Cathedral.—Three new painted windows have been erected in this cathedral, completing the west and north aisle of the nave. They have been executed from designs by Mr. Henry Ainmiller, historical painter. The subjects of the window which completes the series on the north side of the nave are selected from the Book of Job. In the first light or division Job is represented in his hour of trial: in the second he is seen surrounded by his children and labourers bearing the rich fruits of harvest in the time of his restored prosperity. This window is the gift of the incorporation of coopers of Glasgow. The other two are couplets on either side of the western doorway. According to ancient precedent, the subjects would have been selected from the commencement and termination of human life; but these two bays of the nave no longer contain the baptismal and mortuary chapels of the old faith; and, consequently, adherence to the old system would not have been understood. Mr. C. H. Wilson proposed, on one side, two subjects illustrative of early training and education, and on the other, two subjects representing prayer and thanksgiving. These ideas have been carried out by the artist in four compositions. The windows are the gifts of Mr. George Crauford, and of Mrs. S. Dalglish. There are only six windows now to be completed, and these are in progress, and will be finished this year if nothing occur to interrupt the artists. They are the gifts of the Duke of Montrose, Lord Belhaven, Mr. Richardson, of Ralston, and his brother Mr. David Richardson, of Hartfield; Col. Carrick Buchanan, of Drumpeller; Sir Andrew Orr, and Sir Michael Shaw Stewart, Bart. We understand that Lord Lyon King at Arms has taken exception to some of the coats of arms in the windows already erected, and is desirous that they may be corrected, and that the laws of the country may be adhered to. His powers, as sanctioned by successive Parliaments, are ample, but the Lyon Court acts in a conciliatory manner. Five windows in the clerestory have been subscribed for. The windows of the clerestory of the nave are couplets, twenty-three in number, measuring 37 square feet each. The transepts contain four triplet windows, each measuring 60 square feet; the choir eight triplet windows, measuring 47 square feet each, and four lancets, each 25 square feet. The couplets in the nave may each contain two figures nearly the size of life; the triplets in the transepts and choir, one figure each of the same proportion, placed in the centre lights, the side lights being too narrow for figures. The lancets in the choir may contain one figure each. The new series will therefore comprise eighty figures. It is proposed to represent in the windows of the nave the ancestors of our Saviour, as set forth in the first chapter of St. Matthew, with figures of angels at intervals bearing texts; and in the transept, Zacharia and Elizabeth, Simeon and Anna, further developing the idea prevalent in the great south window, illustrative of the connexion between the Old and New Testaments. In the choir, it is proposed that the windows should contain figures of women, mentioned, in the New Testament, as examples of piety, devotedness, charity, and other Christian virtues. The Commissioner of Works has seen the plan for filling the clerestory windows with painted glass, ap-

proves of this plan, and authorises the committee to give publicity to the scheme. The Commissioner, according to our authority, the *Scotsman*, has restored the statue which was exhibited by the wardens as St. Mungo, to its original place at the east end of the crypt, over the now empty tomb which not long ago was plundered by profane hands of the bones, pastoral staff, and ring of the bishop whom the statue represents.

PROVINCIAL NEWS.

Chatham. — The extensive buildings which Messrs. Matthews & Son, of Dover, the Government contractors, are engaged in erecting on that end of the inner lines nearest to the Royal Engineer Barracks, Brompton, and which are intended as a gymnasium for the use of the troops stationed at this garrison, are now being roofed in, and will, doubtless, be completed in the course of a few weeks. The contract for the building was 3,000*l.* The place will be fitted in the most complete manner possible for different kinds of athletic sports, which are fortunately now in high favour with the men of the army.——In consequence of the Admiralty requiring the whole of the land at and near St. Mary's Creek, for the extension of Chatham dockyard, it has been found necessary to remove the Royal Engineer pontoon depôt to the opposite side of Chatham harbour, near Upnor Castle, where a suitable portion of the river has been selected to be formed into a pontoon-hard. Already the principal portion of the Royal Engineers' stores, boats, pontoons, &c., have been transported across the harbour to the new depôt, where the Royal Engineers, who are assisted in the undertaking by a party of convicts to perform the heavy portions of the work, are engaged in constructing a large building in which all the stores and *matériel* for pontooning and engineering operations will be deposited.

Chippenham. — The new temperance-hall at Chippenham has been opened. It has been erected at a cost of 1,200*l.*

Leeds.—A contract has been entered into with Messrs. J. & W. Beanland, of Bradford, according to the local *Intelligencer*, for the building of the new Infirmary. The sum agreed upon is 64,750*l.* Messrs. Beanland are the contractors at present engaged in rebuilding the dilapidated portions of Chichester Cathedral, and they carried out all the work at All Souls' Church, Halifax, as also at Sir F. Crossley's new congregational chapel. Mr. Scott, as our readers know, is the architect of the infirmary.——The new Corn-exchange, designed, in the form of a Roman theatre, by Mr. Broderick, has now been opened. The cost of its erection has been upwards of 25,000*l.*

Great Horton.—The new stores, erected by the Great Horton Industrial Self-help Society, have been formally opened. The building, which is situate opposite the Four Ashes Inn, is four stories high, including the basement, which extends over the whole area covered by the building. The ground floor is divided into grocer's, draper's, and butcher's shops, which have a front of plate-glass windows divided by stone columns having carved capitals. The first floor is used for store-rooms and show-rooms, for grocer's and draper's departments, and milliners' and tailors' work-rooms. This story is lighted by two-light windows with pointed and carved arched heads. The music-hall is on the top story—63 feet long, 32 feet wide, and 20 feet high—and will accommodate about 700 people. At one end of the hall is a platform and orchestra, large enough to seat about a hundred persons. There are two ante-rooms adjoining the hall, on the same level, being built over one of the houses (there being two in connexion with the institute). The whole of the building is heated with hot water. The want of a public room has long been felt in Great Horton. The cost is about 2,300*l.* Mr. Hope, of Bradford, was the architect. The style of architecture is Venetian Gothic.

THE SUSSEX ARCHÆOLOGICAL SOCIETY AT BRAMBER.

Bramber, with the adjoining districts, was lately the scene of the annual summer meeting of the Sussex Archæological Society. Mr. M. H. Bloxam, F.S.A., acted as cicerone to the party. The first place visited was the Church of St. Nicholas and St. Mary the Virgin. The company having assembled within the walls of the sacred edifice, Mr. Bloxam proceeded to explain its architectural features, and remarked that the five churches they were to visit that day were all connected with monasteries abroad. The churches of Old Shoreham, New Shoreham, Bramber, and Beeding, were appendages of the Abbey of St. Florence, at Salmur; and that of Steyning was an alien cell of the Abbey of Fecamp, in Normandy.

Old Shoreham Church.

The Church of St. Nicholas, at Old Shoreham, Mr. Bloxam stated, was mentioned in "Domesday Book." The present structure recently restored was of the latter part of the twelfth century, about A.D. 1180. Perhaps some portion of the earlier church might exist in the masonry in the north-west wall of the nave, which is apparently older than that elsewhere. This church was given by Wm. de Braose, A.D. 1075, to the Abbey of Florence towards their establishment at Sele.

New Shoreham Church.

In describing the church of New Shoreham, Mr. Bloxam said:—This church was probably founded by Philip de Braose, the second Lord of Bramber, about the year 1100. If any traces of the original church existed, they would consist of the under part of the tower. The two upper stages, the transepts, and the demolished nave and aisle, were Late Norman, probably erected about 1180. The chancel, with its aisles vaulted with stone, appears to have been erected in the thirteenth century, probably by the monks of St. Florence, but at the cost of the worthy burghers of New Shoreham. The north wall of the north aisle of the chancel was Norman, broken through for the introduction of decorated windows of the fourteenth century. The nave, with its aisles, appeared to have been destroyed in the fifteenth century, when, on account of the encroachment of the sea, New Shoreham had become decayed, and had petitioned for a remission of taxation. It was then, as Mr. Bloxam inferred, that the nave was taken down, to avoid the expense of reparation. At the same time, the easternmost bay of the nave was built up between the arches, and a semi-Norman doorway taken from the west end of the nave or one of the side aisles, introduced with a perpendicular window over. Windows in the style of the fifteenth century were introduced in the wall of the south side of the chancel. Mr. Bloxam pointed out various other interesting particulars in this structure.

Bramber Church

was next visited. It is a small edifice, considerably curtailed of its original proportions. It consisted of a nave, central tower, transept, and chancel. Of these the nave and tower alone remain, exhibiting features of Norman work.

Steyning Church.

Under the same direction a large party visited this church, which is dedicated to St. Andrew, and was, as Mr. Bloxam observed, the fragment of a fine conventual church, of which little more than a portion of the nave and aisles now remains, the choir having been demolished on the general suppression. There was a Saxon church on the same site, of which there are no remains. It belonged, as an alien cell, to the Benedictine Abbey, at Fecamp, in Normandy. As an alien cell it was suppressed in 1461, and transferred to the abbey of Sion. The enriched arches on each side the nave were pointed out in detail by Mr. Bloxam to the party who accompanied him; and he showed that these enriched arches were subsequently worked out of plain block masonry. Some of the details, he pointed out, were of the thirteenth century. Two piers of the central tower exist, but the choir and transepts have been demolished; and there are no traces of the conventual buildings which were on the north side of the church. With the exception of a little ornamental detail on the hoods of the arches on the north side, no traces of Early English or Decorated work are perceptible; windows of the fifteenth century have been inserted in the walls of both aisles, probably by the monastery of Sion. The tower appeared to have been erected about the middle of the sixteenth century, A.D. 1550. The external appearance of the clerestory on the south side was richer than that on the north, being more open to ocular observation.

Beeding Priory.

This place was visited under the superintendence of the Rev. Dr. Bloxam, the vicar. The church of St. Peter has nave, chancel, and south aisle, and a tower with three bells. It was formerly the church to the priory of Sele, an alien cell to the monastery of Salmur. The priory remains were taken down about eighty years ago, when the present house was erected. In the lawn behind the house, foundations of the conventual buildings have been traced. The church, though neat, retains no ancient features worthy of remark, having undergone reparation within the last few years, long previous to which the chancel had been considerably abridged in length. The party also visited Bramber Castle, where Mr. W. Durrant Cooper, F.S.A., gave an interesting account of the castle and of the towns of Shoreham and Steyning. The party afterwards met at dinner in Bramber Castle, and then took their departure by special train, kindly provided by the railway company. The proceedings of the day were altogether pleasing and interesting.

REGULATION OF LONDON STREET IMPROVEMENTS BY THE METROPOLITAN BOARD OF WORKS.

The Metropolis Local Management Act of 1855, section 202, enabled the Metropolitan Board from time to time to make, alter, and repeal bye-laws, for regulating the plans, level, width, surface, inclination, and the material of the pavement and roadway of new streets and roads, and the plans and level of sites for building. This power was exercised in 1856 and 1857, so far as related to the plans, width, formation and surface inclination of new streets. The latter bye-law has regulated these matters since 1st May, 1857, and imposes, with the approval of the Secretary of State, a penalty of 40*s.* for each offence, and for a continuing offence after notice thereof from the Metropolitan Board of Works, a further penalty of 20*s.* for each day. The provisions are, that four weeks at least before any new street shall be laid out, written notice and plans are to be sent to the Metropolitan Board of Works. A width of 40 feet, at the least, is required for carriage traffic, and 20 feet for foot traffic, exclusive, in each case, of any gardens, fore-courts, open areas, or other spaces in front of intended houses. Rules are also given for measuring the width of new streets; the curve of the carriage-way; the height of the curb to the foot-paths, and the slope of the foot-path. By the Amending Act of 1862, further legislation is applied to the same subject in sections 98 and 99; and the bye-law is extended to certain existing roads, passages, and ways, when to be formed or laid out for building as a street. An extended meaning is also given by sec. 112 to the term "new street" so as to include mews, and any street not taken into charge by the local authorities prior to 7th August, 1862. Several hundreds of new streets have received the approval of the Board under the provisions of the bye-law, yet many of these may be imperfectly laid out, and many builders form and build streets under pretended ignorance, or in open defiance of the law.

For the purpose of checking such irregularities, and securing proper observance of the requirements for the formation of new streets, the Board have deemed it proper to appoint an officer to assist them in this matter, and the superintending architect has been directed to inform clerks of vestries and district boards, that it would greatly promote the object referred to, if they would communicate any information regarding the laying out or formation of new streets contrary to the orders of the Board, or without their knowledge. The detection of any such irregular proceedings is facilitated by means of the copy of the drawing which is sent to the vestry or district board whenever applications are made for approval of new streets.

THE METROPOLITAN BUILDING ACT.

BUILDINGS IN BACK YARDS.

The Metropolitan Board of Works have lately considered a complaint relative to the erection of buildings in the back-yards of dwelling-houses, originally intended for wash-houses, but afterwards used as dwellings by tenants for the day or week, and accessible from the houses adjoining. The circumstances were such as to preclude a remedy, by reason of the lapse of time; and the superintending architect has therefore been directed by the Board to address a circular on the subject to district surveyors.

This circular remarks that the Building Act gives full powers to the district surveyor to require notice of all works, and full particulars of their nature; and that if works are begun without notice, or if preparations for the operations are indicated, he may enter premises for the purposes of the Act. It is, therefore, considered to be the duty of the surveyor to stop every irregular work, and to have it demolished, if need be, in due

course of law; or if buildings are proceeding without proper means of access by streets or ways, immediate notice should be given to the Board, or other authority having power in the matter.

Difficulties frequently arise under the 29th section as to the application of the rule to back areas or yards of very limited extent, where some small office-building is required for the convenience of inhabitants, or where premises originally constructed for dwelling-houses are afterwards converted into shops on the ground story, and extensions are wanted in the rear. In these cases, crowding of dwellings is increased, as well as danger from fire to adjoining premises; and under such circumstances much care is required on the part of the district surveyor to cause the observance of the Act where the light and air to back windows are interfered with, and the full dimensions of area diminished. Covering over yards on the ground story for back shops, and lighted with lantern lights, could only be effected where there was no sunk story, or on the blocking up of any windows in that story.

The Board deem it essential that there should be a strict observance of the rules in regard to these matters.

GAS.

A Parliamentary return has been issued, showing the actual state and condition of each metropolitan gas company, and the dividend for the year 1862. It appears that the following dividends were paid:—The Chartered paid dividends at the rate of 9 and 10 per cent., including back dividends at 1 per cent. per annum for the half-year to Christmas, 1856; the City of London dividends at 9 and 4 per cent., with a balance of 658*l.*; the Commercial, 30,513*l.*, on a capital stock of 322,195*l.* (less sums remaining outstanding). The capital account is said to "include calls in course of payment;" but the rate of dividend is not stated. The Equitable paid dividends at the rate of 11, 14½, 14, and 10 per cent. (less sums remaining outstanding), with a balance of 396*l.*; the Great Central dividends at the rate of 6 and 8 per cent. (less sums remaining outstanding), with a balance of 18,445*l.*; the Imperial at the rate of 10 per cent., with a balance of 58,500*l.*; the Independent at the rate of 10 per cent., with one year's back dividend (1,500*l.*), and a balance of 3,548*l.* The London paid 36,827*l.* on 548,843*l.* (less sums remaining outstanding), but the rate is not stated. The Phœnix dividend was 10 per cent., with 8,190*l.* dividend arrears for 1856, with a balance of 930*l.* The Ratcliff dividend was 8*l.* 15s. per cent., without a balance; the South Metropolitan, 10 per cent., with a balance of 10,369*l.*; the Surrey Consumers, 10 per cent, with a balance of 4,047*l.*; and the Western 10 per cent., with 3,285*l.* "towards back dividends of less than 10 per cent."

Books Received.

Sussex Archæological Collections, relating to the History and Antiquities of the County. Published by the Sussex Archæological Society. Vol. xv. [vol. iii. of Second Series]. Sussex: G. P. Bacon, Lewes. 1863.

This volume of the Sussex Archæological Collections is a good one. It contains a long and interesting paper on "Poynings," by the Rev. T. A. Holland, M.A., rector, illustrated by a dozen engravings, and one on "Monumental Inscriptions at Poynings," by the same gentleman; a paper on "The Rivers of Sussex (Part I.) Eastern Division," by M. A. Lower, M.A.; and papers on various other subjects; among which are "The Priory of Boxgrove," by the Rev. E. Turner, M.A.; "Old Acts of Parliament relating to Roads in Sussex," by J. G. Dodson, M.P.; "The Merchant Guild of Saint George, at Chichester," by the Rev. E. Turner; and "The Services of the Barons of the Cinque Ports at Coronations," by T. Ross, with a coloured portrait. One of the best points in the volume however, is a series of Notes and Queries at the end, on various archæological or antiquarian subjects; and another is "Topographica Sussexiana,"—a "modest attempt towards forming a list of the various publications relating to the county of Sussex. By G. S. Butler, F.S.A." Whether complete or not, this last is a valuable contribution to the history and archæology of the county. The volume, moreover, is wound up with a useful index.

Miscellanea.

Royal Princess's Theatre. — Mr. Walter Montgomery opened his house on Saturday last, with an efficient company, for a series of Shaksperian plays. His personation of *Shylock* convinced all who saw it, of his claim to rank as a superior actor; and that of *Lavater*, in "Not a Bad Judge," must be held to have thoroughly established his position on the London stage.

The Constantinople Exhibition.—The collection of works of art and manufacture now closed, has left a heavy balance on the wrong side of the account. The total cost of the building and its subsequent administration, amounted to 2,000,000 piastres, against which, the realised receipts are only 450,000 piastres. The deficit of more than 14,000*l.* will, it is said, be made good to the company by the Sultan.

The British Association.—So early as Saturday forenoon last, no fewer than 1,500 associates had been enrolled for the meeting at Newcastle, from Wednesday, the 26th of August, to Thursday, the 2nd of September. Each associate pays 1*l.*; and it was anticipated that at least 2,000 would attend ere the meeting closed; but even before it opened the number was 2,087. There are some interesting excursions amongst the arrangements, as, to Crag Lough and the Roman Wall; to the duke of Northumberland's at Kielder; to the Allenhead lead mines, and the Yorkshire iron mines at Cleveland; and to Sunderland and its glassworks, manufactories, and ship-building yards, Wear bridge, and docks, life-boat establishment, &c. There will be an industrial and art exhibition and a *soirée* in the Central Exchange News-rooms at Newcastle. The Newcastle people appear to have made great preparations in the way of putting the town in order by painting and decoration for the occasion; and the meeting opens under much more favourable auspices than were anticipated from the season chosen. At the Cambridge meeting, 60 members only were registered, instead of 1,500 as at Newcastle, four days previous to the time appointed for the opening of the congress. On Wednesday Sir William Armstrong, the president, delivered the inaugural address at the town hall. It was an interesting *resumé* of the scientific results of the year, and was most favourably received.

Windsor Park: and the Forest.—Messrs. Longman & Co. have announced as preparing for publication, an elaborate work on "The History of Windsor Great Park and Windsor Forest," by Mr. William Menzies, Resident Deputy Surveyor; to be illustrated with photographs by the Earl of Caithness, and by Mr. Bambridge, of Windsor. The purpose is to give an account of the park and forest, which shall be not only interesting, but also of practical utility to persons engaged in the management of timber. The several plantations will be described, and their history traced with an exactness which would probably be impossible of attainment for any other estate in England. The researches, which have furnished accurate data for the prospective valuation of growing timber, were conducted in the chief libraries, and in the Land Revenue Record Office. Thus, a series of plantations from the time of Queen Elizabeth to the present day, have been identified, and measured; and the age and size of each, with their contents and numbers per acre, will be given in a tabular form,—a large map being annexed. The researches into the purely arboricultural history of Windsor, were materially aided by Lord Macaulay; and many curious and interesting facts, hitherto unknown, illustrating the history of the picturesque old pollards, were brought to light. The establishment of Norfolk and Flemish farms under George III., which gave a great impulse to the improving of farming land in the raising of green crops, draining, liming, and keeping clean; the report made by Mr. Kent to the king, on a system of grazing by a mixed stock of deer, cattle, and horses,—a system which experience has shown to be the best; the definition of property, and the settlement of complicated rights previous to the disafforesting or inclosing of Windsor Forest; and other matters of history and experience, will be treated. An account will be given of the geology of the Great Park, interesting and important as leading to a knowledge of the water-bearing strata, and of the probable capacity of the ground for yielding a supply; in preparing which the author was aided by Mr. Waterhouse, of the British Museum. He has also spoken of the great stones resembling those of Stonehenge, which are found in Bagshot sands.

Our Lists of Tenders.—Several architects write, drawing attention to cases in which they have had the management of the business, and which show that greater uniformity is attainable than would be supposed from what is the character of a great number of our lists.

The Use of the Pen.—The Latin rhetorician, Quintilian, declares that the pen is the best instructor in the art of speaking. Not less true is it that the use of the pen conduces most effectually to the general culture of the mind. There is more real exercise of thought in one hour's composing than in a day's reading. Besides, the pen compels you to understand what you study, for you cannot express what is not intelligible to yourself. The pen also exacts arrangement and introduces order. Indeed, what we read is hardly our own until we have given it utterance in our own language.

The Nelson Column.—Sir Edwin Landseer is reported to have at length completed the model of his design for one of the lions to be placed at the base of the Nelson column, in Trafalgar-square. The design is said to be as masterly a work as the world would expect a lion of his on canvas to be; and a slight variation in treatment will enable the artist to adapt this one design to his four pedestals. The complete statue is not much above the size of a full-grown lion as known in confinement, and probably it is not a bit larger than a magnificent specimen in the natural state. The actual lions of the monument will be considerably larger.

Billingsgate Market.—Complaints are made of the sanitary state of Billingsgate, which, judging from what we saw when last visiting the place, are not without foundation. Bordering the river Thames, with a steam-engine to pump up water more speedily than hands can use it, as remarked by a writer in the *Morning Post*, no excuse can palliate the offensiveness at times. During warm weather particularly, more labour, care, and attention ought to be bestowed on scrubbing, scraping, and washing. Most of the paint is off, for several feet from the floors; and all above-head looks dull and dingy.

Japanese Houses.—Yokohama is a considerable town of 80,000 inhabitants. The Japanese houses are rarely more than one story, and most consist of two rooms, a front and a back. Built of bamboo and mud, and rarely of stone, they are always painted nicely outside, or varnished, and generally kept very clean. All ornamentation is eschewed except on the roof, which is generally edged with chequered tiles. Wherever it can be afforded, a small garden, with dwarfed trees, is sure to be in good condition; and almost in every room you see vases with flowers or dwarfed trees growing in them. The floors are carpeted with a very even kind of matting, laid in stripes a yard wide, the edge bound in black, so as to make an agreeable "parqueterie," and it is always kept very clean, even by the poorest classes. They take off their shoes before entering a house, leaving them outside the entrance, and look as jealous at your boots when you enter, as any English lady could, proud of a new drawing-room carpet. They never sit on chairs or stools, but squat down on the floor with their feet underneath, so that they appear to sit on their heels.

The International Statistical Congress.—This congress will meet in Berlin in the coming month. Certain politicians, ignorant of the real importance of the congress, have opened a warfare against all supporters of it, but the outcry has failed to produce any effect. The Government has taken no notice of the cry: on the contrary, it has adopted the best measures possible to meet the requirements of the occasion. A committee has been appointed -without regard to politics - to make arrangements. A letter from Berlin says, that all who attend the congress will meet with the most cordial and hearty welcome, and that Prussia knows well what is due to a body of men who may well pride themselves by boasting of the honour that their last meeting was presided over by that illustrious and distinguished Prince for whom, alas! the world must mourn so early. The order of the day will closely conform to the resolutions of the last congress, and Dr. Engel, the director of the Prussian Statistical Bureau, has compiled a report, in which he reviews the proceedings of the former congresses, and suggests material for discussion. He has also prepared a draught of statutes. The last meeting at London was attended by no less than 485 English members. The order of the day this year, will be to a great extent a continuation of that of 1860.

A Norse Warrior's Remains in Orkney.—Another archæological discovery of some interest has been made by Mr. Farrer, M.P., in Orkney. Fragments of corroded or oxidized iron armour, and of mouldering human and horse's bones, have been discovered under sand on the Links east of Pierowall, in Westray; leading to the conclusion that they must have belonged to a mailed Norse warrior and his horse. There is still a tradition in Westray, of a battle between the natives and the Norsemen on the spot where the remains were found.

Geological History of the British Isles.—Sir Roderick Murchison believes, first, that the eastern shores of Great Britain, where Cæsar landed, have not changed their relation to the sea-level since that period; secondly, from finding remains and bones of the same species of extinct mammalia in the gravel of Britain and the continent, that, it is proved that, at a comparatively recent period, our islands were united with France; and, thirdly, from the skeletons of the great Irish elk, which are found in the bottom of the bogs in Ireland, and also in the Isle of Man and in Cheshire, that when that creature lived, these three islands must have been united.

Proposed Hotel: Grimsby.—A company has been formed for building an hotel and newsroom contiguous to the Royal Dock and Railway Station at Great Grimsby. The want has been long felt; and it becomes more urgent as the portion of town near the railway increases. Considerable inconvenience at present results from the distance to a suitable hotel. The capital, fixed at 5,000*l.*, is considered sufficient to provide a suitable building for the present; but in the plans, it is intended to provide for extension, when required, without altering the foundations. The Manchester, Sheffield, and Lincolnshire Railway Company have agreed to grant a lease in perpetuity of an eligible site at a low rent, and to lease to the company for a term of years, the exclusive right to sell refreshments at the docks. Mr. M. E. Hadfield, of Sheffield, is the architect.

Accident at Blackfriars Bridge.—Travelling cranes are of course in use for carrying the materials for the London, Chatham, and Dover Railway bridge along the line of operations, and especially for lifting the masses of granite which are being used in the structure. One of these travellers, on Saturday last, appears to have left the pier No. 2 to cross to pier No. 3, when one of the beams on which it ran broke in two, and nearly short off by the pier, the other beams instantly snapping also; and the traveller crashed down upon some coal-barges that were passing under the works at the time with a strong flood tide. Some seven men fell with the broken beams and machinery into the Thames, and one of them was drowned. The traveller was thereafter brought up from the bottom of the river, and everything prepared for carrying on the work again. There were four timbers thrown across; and, as usual, no reason, it is said, can be given for their breaking, as all the timbers are recovered, and have been critically examined, and no flaw can be traced in them that could possibly lead to such a mishap. It is to be hoped, however, that the cause will be found out, so as to prevent such accidents in future.

Electro-Telegraphic.—The *Assaye* and *Kirkham*, sailing vessels, have been shipping from the works of Messrs. Henley, North Woolwich, 560 miles of the Indian submarine electro-telegraphic cable manufactured by that firm. Sir Charles Bright and Mr. Latimer Clark, the engineers superintending the manufacture of the cable, have a staff of electricians at Woolwich to test each portion of the work as it progresses. The cable is coiled in large iron water-tight tanks—three on board each ship—and which will be kept full of water throughout the voyage to Bombay. The *Tweed* and *Cospatrick* are being fitted out at the premises of Messrs. Wigram, of Poplar, under the superintendence of Captain Dixey, for the reception of 550 miles of the cable; and the *Charente*, a screw-steamer of 600 tons, is being prepared by the same firm for permanent employment on the line; and she will take out all requisites for repairing it hereafter, should any accident arise from ships' anchors, &c. The total length of the cable taken out will amount to 1,250 miles, weighing upwards of 5,000 tons. The operation of laying down the entire line will be under the chief superintendence of Lieutenant-Colonel P. Stewart, Royal Engineers; and it is confidently hoped that the work will be completed in February next, and that by March, 1864, London and Calcutta will be in direct telegraphic communication.

The Fleet Sewer.—The difference between the Metropolitan Board of Works and the Metropolitan Railway Company, as to which party is liable for the expenses incurred by the bursting of the Fleet Sewer, is about to be settled under the provisions of the Lands' Clauses Consolidation Act.

Cement for Steam Joints, &c.—Plumbago has recently been introduced as the basis of a cement for steam-joints, and the general metallic connections of the engineer. It is composed of six parts of plumbago, three of slacked lime, eight of sulphate of baryta, and three of boiled linseed oil. This compound, it is said, secures a perfectly air and steam tight joint, much superior to that obtained by the use of red lead.

The Local Improvements under Public Works Act.—The whole of the money, 1,500,000*l.*, will be taken up in Lancashire, and will be used; and Government may be asked for a further grant next year if required. The Mayor of Manchester, at the meeting of the Central Relief Fund on the 24th instant, said that in all probability that town would make application for 100,000*l.* The corporation were most anxious to follow out the intentions of Parliament, and assist in finding employment for the distressed population. At the same meeting, Mr. Rawlinson reported applications from Ashton, Denton, Bollington, and Bolton, to the aggregate amount of nearly 200,000*l.*, in addition to amounts previously reported in connexion with other places.

The Proposed New Borough Market Hall and Fish Market, Derby.—The members of the Market Committee met last week, to examine the tenders for the works required in the construction of the Market Hall and Fish Market for the borough. The list will be found in the usual place in our number. An excess upon the first estimate is attributed to additions which have been made to the original plan, in the shape of towers at the angles, fittings, water supply, and pipes, as well as to a considerable advance which has taken place in the cost of materials, especially wrought-iron; and partly to the intention of the committee to reserve the bulk of the old materials, more particularly the iron columns, roofs, and fittings, with a view to the conversion, should it be approved, of the present butter market into a hide and skin market in the Holmes, and a portion of the existing general market as a covering to the open vegetable market in the Morledge. The works have been tendered for under a specification prepared by Mr. Thorburn, the borough surveyor, with the approval of Mr. Stevens, the architect.

The Aristocracy and Labour.—The *Penny Newsman* in the course of a readable article thus headed, wherein instances are recorded of members of the nobility having devoted themselves to handicrafts, or to mercantile pursuits, alludes to the "first-rate talents" of the Earl of Lovelace, "in the design and execution of common brick-work and masonry," and invites the attention of the conductor of this journal, as representing the building trades, to the new village inn and school at Ripley, Surrey (not to speak of the mansion), as not being easy to match for elegance of design, and execution with common materials. The *Newsman* says, that the Earl was his own clerk of the works, and showed what superior construction may be achieved, under competent direction, by village artisans and labourers, and that were he to give himself to the building trade, few in England might be found to match him. His eldest son, the late Lord Ockham, the grandson of Byron, the poet, being impatient of barren routine life, and having a great respect for work, as work, and for handicraft, dropped his title, took to iron shipbuilding, and bound himself to Mr. Scott Russell, and worked as an artizan, until he contracted the disease by which his life and mechanical career were cut short. The excellent young nobleman carried his zeal almost to a monomania. He declared it to be his ambition to rise by his skill, and to have a great establishment, headed "Lord Ockham and Co., shipbuilders, Millwall."

TENDERS.

For a house and shop, Heigh-street, Peckham:—

Sowden	£946 0 0
Thompson	888 0 0
Habbs	880 0 0
Hampton & Brown	873 0 0
Pereny	870 0 0
George	837 0 0
Cubitt	610 0 0

For the new Foreign Office. Mr. G. G. Scott, R.A. architect. Surveyors, Mr. T. Nicholls and Mr J. S. Lee:—

Little	£209,615 0 0
Higgs	206,264 0 0
Rigby	206,100 0 0
Piper & Wheeler	200,835 0 0
Myers & Sons	198,561 0 0
Holland & Hannen	197,487 0 0
Cubitt & Co.	196,750 0 0
Kirk & Parry	196,500 0 0
Lucas, Brothers	196,279 0 0
Baker	195,800 0 0
Smith & Taylor (accepted)	195,573 0 0

For steam engine, boiler, pumps, and water tower and tanks, at Haileybury College. Mr. Josiah F. Fairbank, engineer.—

Head & Ashby	£783 0 0
Ismay, Smyth, & Co.	753 0 0
J. & J. Rawlings	693 0 0
Rayment & Son	668 0 0
Barwell & Co.	611 4 0
Cuthbert Russell	591 0 0
Bevington & Topham	571 0 0

For new Wesleyan Chapel, Kentish Town. Mr. J. Tarring, architect:—

Dove, Brothers	£3,940 0 0

For gas-meter house, store-room, &c. at Westminster, for the Metropolitan Board of Works. Quantities by Paice & Co.:—

Hart	£2,500 0 0
Gammon	2,030 0 0
Wardle & Baker	2,026 0 0
Simms	1,950 0 0
Nixon	1,929 0 0
Scott	1,953 0 0
Chutter	1,890 0 0
Sharpington & Cole	1,858 0 0
Percey	1,857 0 0
Hall	1,856 0 0
Fish	1,845 0 0
Rudkin	1,800 0 0
Dawson	1,789 0 0
Hill, Keddel, & Robinson	1,789 0 0
Lavers	1,768 0 0
Henshaw	1,679 0 0
Mann	1,555 0 0

For a pair of villas, Reading. Mr. W. H. Woodman, architect:—

For the Building.

Mathews	£1,547 0 0
Barncoat	1,530 0 0
Sawyer	1,503 0 0
Wheeler & Sons	1,500 0 0
Dunn	1,498 0 0
Grover (accepted)	1,481 0 0

Plumbing, Glazing, and Painting.

Sawyer	£150 0 0
Durter	135 0 0
Haig	132 0 0
Freeman	120 0 0
Burton (accepted)	111 19 0

For new offices, 27, Mincing-lane, City, for Messrs. Inness, Brothers, & Co. Mr. E. P'Anson, architect. Quantities supplied:—

		If the front is done in cement instead of stone, deduct
Ashby & Horner	£14,100	£250
Ashely & Sons	13,889	245
Lawrence & Sons	13,840	..
P'Anson	13,744	200
Brown & Robinson	13,470	280
Bran	13,423	330
Conder	13,375	300
Rider	13,290	305
Gammon	13,220	292
Jackson & Shaw	12,950	280
Myers	12,173	240
Trollope & Sons	12,683	400
Hack & Son (accepted)	11,997	350

For a tank factory, Millwall, for Mr. Bellamy. Messrs. Hooper & Lewis, architects. Quantities supplied:—

Hawlett & Brown	£1,798 0 0
Perry & Judson	1,761 0 0
Salt	1,712 0 0
Hill, Reddin, & Co.	1,650 0 0
Sheffield	1,639 0 0
Hack & Son (accepted)	1,525 0 0

For building house at Cardigan. Mr. Withers, architect.—

Morris & James	£928 0 0
Evans & Morgan	891 7 0

For alterations and additions to Ogston Hall, in the county of Derby, for Mr. G. Turbutt. Messrs. Hine & Evans, architects:—

A. & R. Dennett	£2,215 0 0
Hill	2 185 0 0
Thompson	2,115 0 0
Simpson & Lynam	1,954 0 0

For Congregational Church, West Ashling, Sussex. Mr. Horatio N. Goully, architect.—

Child	£440 0 0
Dee	315 0 0
Parker & Co. (accepted)	299 0 0

The stone supplied by committee being a portion of the spire and tower of Chichester Cathedral.

For new church, at Beckenham, Kent, for Mr. A. Cator. Messrs. Smith & Williams, architects:—

Gill	£3,819 0 0
Sewell	3,097 0 0
Hill, Keddel, & Robinson	3 000 0 0
Russell & Co.	2,779 0 0
Myers & Sons	2,766 0 0
Child, Son, & Martin	2,693 0 0
Little	2,589 0 0
Dove, Brothers	2,458 0 0

For new factory, Holloway, for the London Printing and Publishing Company. Mr. G. A. Young, architect. Quantities supplied by Mr. John S. Lee, and Mr. Richard J. Hodgson —

Munday	£10,994	0	0
Smith & Co.	10,980	0	0
Lawrence & Sons	10,970	0	0
Dove, Brothers	10,555	0	0
Lucas, Brothers	10,500	0	0
Scrivener & White	10,451	0	0
Mansfield & Sons	10,450	0	0
Cubitt & Co.	10,217	0	0
Holland & Hannen	10,145	0	0
Walton	9,850	0	0
Kirk & Parry (accepted)	9,561	0	0

For rebuilding Meline Church, Pembrokeshire. Mr. Withers, architect :—

Morgan	£575	8	0
Williams & Thomas	565	0	0
Hughes	475	16	0
Davies	458	0	0

For house and shop, at Cardigan, for Mr J. Clougher. Mr. Withers, architect :—

Evans & Morgan	717	8	5
Morris & James	670	0	0
James & Jenkins	678	0	0
Thomas & Thomas	626	0	0

For Sutton Royal Hotel. Mr. Edward Holmes, architect. Quantities supplied. Messrs. Cox & Mansell, builder's surveyors :—

Nicklin	£8,461	0	0
Parnell	7,814	0	0
Partridge	7,750	0	0
Cresswell	7,700	0	0
Hardwick	7,695	0	0
Lovatt	7,399	0	0
W. & B. N. Smith	7,250	0	0
Godfrey	7,232	0	0
Webb & Son	7,206	0	0
Jeffrey & Pritchard	7,021	9	0
Naden & Son	6,999	0	0
Burkitt	6,930	0	0
Barnsley & Sons	6,975	0	0
Briggs & Son	6,938	0	0
Warburton, Brothers	6,887	0	0
Matthews	6,850	0	0
Field	6,770	0	0
Jones (accepted)	6,650	0	0

For villa residence, Mosely, for Mr. Isaac Ford. Mr. Edward Holmes, architect. Quantities by Messrs. Cox & Mansell :—

Jones	£1,197	0	0
Preece	1,180	0	0
Dakings	1,162	0	0
Matthews	1,147	0	0
Jeffrey & Pritchard	1,140	0	0
Hardwick & Son	1,135	0	0
Partridge (accepted)	1,120	0	0

For the erection of three houses in Dane-road, Old Ford, Bow. Mr. Benjamin White, architect :—

Henshaw	£619	0	0
Wood	575	0	0
Single	560	0	0
Brown	549	10	0
Case	547	0	0
Hearle	525	0	0
Goodman	480	0	0

For new house and shop, in High-road, Lee, for Mr. Moren. Mr. F. F. Thorne, architect :—

Clements	£565	0	0
Attfield	558	0	0
Bush	552	0	0
Nevard	548	0	0
Havell	548	0	0
Francis	547	0	0
Gorrum	542	0	0

For the erection of public slaughterhouses, at Newport, Monmouthshire, for the local Board of Health. Mr. Conyers Kirby, town surveyor, architect. Quantities not supplied :—

	Complete.	With two blocks of buildings omitted.
Williams	£3,520	..
Jones	3,150	£2,360
Richards	3,140	2,350
Griffiths & Thomas	3,130	2,330
Francis (accepted)	3,056	2,263

For homestead, Colesdale Farm, Northaw, Herts, for Mr. J. Whaley. Mr. F. G. Widdows, architect. Quantities supplied :—

Green & Son	£1,587	0	0
Hopwood	1,580	0	0
Flint	1,568	0	0
Cushing	1,543	0	0
Patman	1,434	0	0
Field & Sons	1,393	0	0

For the new Borough Market Hall and Fish Market, Derby. Mr. Stevens, architect; Mr. Thorburn, borough surveyor :—

	General Works.			Castings and Ironwork.		
	£	s.	d.	£	s.	d.
Simms	11,986	0	0	..		
Thompson	7,260	0	0	..		
Stap	7,130	0	0	5,657	0	0
Wood	6,875	0	0	..		
Ducatoy	5,798	0	0	..		
Humphreys*	5,750	0	0	..		
Dunn & Co.	..			9,829	0	0
Smith	..			9,350	0	0
Cartwright & Co.	..			8,802	19	3
J. & S. Cliff	..			6,967	0	0
Hancock & Sons	..			6,827	0	0
Handyside & Co.	..			6,698	0	0
Swingler	..			4,859	4	6
Haywood*	..			4,8	2	0

* Accepted.

TO CORRESPONDENTS.

B. B. E.—J. F. M.—J. C.—T. C. S.—Lady J. W.—Zero.—J. H.—R. R. H. W.—Courier.—S. W.—Colonist.—J. H. jun. —W. & Li.—J. A. D.—A. W. T.— E. J. O. (cannot say without seeing drawings). — J. M.—F. K. P.—L. & S.—Warminster.—H. B.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

THE *Morning Post*, September 29, speaking of Benson's Watches in the Exhibition, says :—"The collection of watches shown by Mr. Benson is a large, and at the same time an interesting one, and considerable attention has been paid by the exhibitor to the decoration of the cases. Many of them are extremely elegant in the design, and were the results of prizes offered by Mr. Benson to the pupils of the South Kensington School of Design." Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch, from the plainest to the highest quality of which the art is at present capable, adapted to all climates. Benson's Illustrated Pamphlet on Watches (free by post for two stamps) contains a short history of watch-making, with descriptions and prices. It acts as a guide in the purchase of a watch, and enables those who live in Scotland, Ireland, Wales, the colonies, India, or any part of the world, to select a watch, and have it sent free and safe by post.—J. W. Benson, Prize Medallist, Class 33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

ADVERTISEMENTS.

The Publisher cannot be responsible for ORIGINAL TESTIMONIALS *left at the Office in reply to advertisements, and strongly recommends that* COPIES ONLY *should be sent.*

MR. J. H. LEONARD,

ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLORIST, AND LITHOGRAPHER.
Removed from 21, Montague-street, Russell-square, to 28, TORRINGTON-SQUARE, W.C.

NOTICE.—Mr. EDWARD HARRIS, son of the late Mr William Harris, of 55, Park-street, Grosvenor-square, Architect, having entered into Partnership with Mr. JOHN T. LEPARD, of No. 9, Cloak-lane, City, Architect and Surveyor, the BUSINESS of his late father will henceforth be CONDUCTED by them at DRUMMOND'S CHAMBERS, No. 10, John street, Adelphi; and No. 9, Cloak-lane, City.

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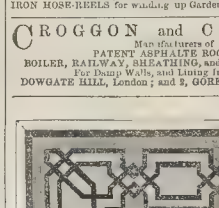
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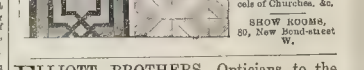
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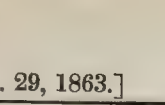
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The HOLYWELL LIMESTONE COMPANY are prepared to deli
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The Company guarantee the quality of the Lime to be equal to th
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WOOD MOULDINGS, Manufactured DOORS, SASHES, & SH
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Also Licensed Lighterman, of 31, Millbank-row, S.W.; and L
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FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised. White Battens, 7l. 10s. per 120 feet; Yellow ditto, 10l. ditto ditto. ½ Match Boarding, 14s. per square; 1 ditto, 16s. ditto. Venetian Blind Laths, 8s. 6d. per 100 feet per.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

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At 6d. 7d. and 8d. per foot, at
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THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
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At Prices as Low as any House in the Trade.
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¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
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180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
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Manufacturers of SILICATES and ALUMINATES of SODA and POTASH,

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For the Preservation of Stone, Cement, &c.;

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For Internal Wood Work, Roofs, and Church Work generally. This Varnish renders Wood Uninflammable, and Preserves it from Decay.

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Estimates given for every description of Marble or Iron Work.

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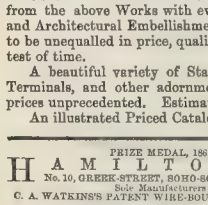
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A beautiful variety of Statues, Statuettes, Vases, Tazzæ, Fountains, Flower Pots, Balustrade Terminals, and other adornments, suitable for the Conservatory, Flower Garden, and Grounds, at prices unprecedented. Estimates furnished.

An illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

PRIZE MEDAL, 1862.

HAMILTON & CO

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

Sole Manufacturers of

C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL

PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graining Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post office order for 22s.

TO PREVENT BLISTERS AND REMOVE OLD PAINT, VARNISH, &c.

USE NAENIARE & CO.'S LETHICIUM. Sold at 5s. per gallon. Also, Brushes to apply and remove, 2s. per pair.—For circulars, &c. apply at 11, St Andrew's hill, E.C. London. Success guaranteed.

N.B. Country orders must contain a Cheque or Post-office Order.

T. KENT'S PAINTING-BRUSH MANUFACTORY

Is continued by his Successors,

CROWDEN & GARROD,

Falcon-square, London, E.C.

Where the TRADE is supplied with the same superior quality that made the name celebrated.

N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the Knives.

Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa Nut Matting, Mats, &c. See Catalogue.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough street, London, W. Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made.

TURPENTINE.

GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.

Sample gallons may be obtained at the Manufacturers', price 4s.

GARROD & COMPANY,

Varnish, White Lead and Colour Manufacturers,

56, Upper Thames-street, London, E.C.

THE ANCHOR BRANDED TURPS.—"FACTS ARE STUBBORN THINGS."



Ten Thousand Gallons of this TURPS have been sold during the first three months of its introduction to the trade.

Manufactured only by CARLESS, BLAGDEN, & CO. HOPE CHEMICAL WORKS, Hackney Wick, N.E.

City Office, 2, New London-street, near the Blackwall Railway Terminus, E.C. where samples and all particulars may be had.

Sold by all Oilmen.

N.B.—Ask for the "Anchor Branded Turps."

METHYLATED RUM for PAINTERS, USE.—Any quantity of the above can now be supplied, and every information given as to Excise regulations, &c. to wholesale houses, by

D. S. KIDD, LICENSED MAKER,

COMMERCIAL-STREET, SHOREDITCH, N.E.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 24s. per cwt.

Linseed Oil, 3s. 9d. per Gallon; Boiled Oil, 4s. per Gallon.

Turpentine, 7s. per Gallon.

Fine Pale Oak Varnish, 9s. per Gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouses 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W.

Every article for the Trade at the lowest prices.

J. PALLANT,

SURVEYING and MATHEMATICAL INSTRUMENT MAKER to the METROPOLITAN BOARD of WORKS.

J. P. begs respectfully to call attention to his highly-finished Transits, Theodolite Levels, &c. fitted with the latest improvements, and which are now being used in carrying out the GREAT MAIN DRAINAGE of LONDON. Lists of Prices sent post-free.

MANUFACTORY, 44, MUSEUM STREET, NEW OXFORD STREET, LONDON.

INTERNATIONAL EXHIBITION, 1862. CLASS 14 Only Medal awarded for "excellence of construction of Mathematical Instruments."

T SQUARES.—W. F. STANLEY, late STANLEY & ROBINSON'S IMPROVED. Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s.; 36-inch, 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 22-inch, 2s. 6d. and 4s.

Mathematical Instruments of every description, of the best portable make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use.

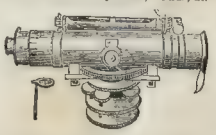
Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d. post free,

STANLEY'S IMPROVED DRAWING PEN

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,

20, WESTMINSTER BRIDGE ROAD, LAMBETH,

Near Astley's Theatre,

Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second hand Instruments of all kinds, by the best makers, always in stock.

POLONCEAU and SEYSSEL ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown, above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

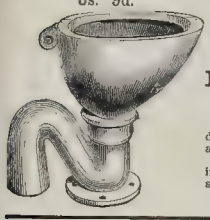
Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.
CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,
LONDON.

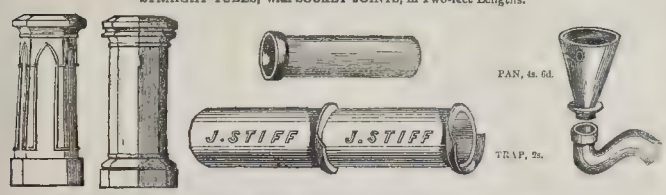
In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

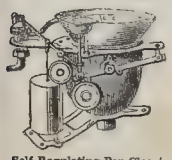
FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

JOHN DOULTON, BROTHERS, & CO.
LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO STREET, LIVERPOOL,
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

JAMES STIFF & SONS,
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.
Manufactures also of
LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



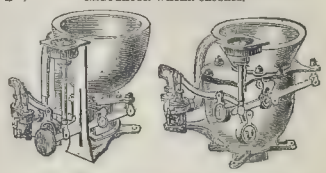
THOMAS LAMBERT & SON,



Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.
PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.
T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

ARMANI AND CO.
IMPORTERS DIRECT FROM THE MINES OF
PRIZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestu and Moutoria (Spain), Bastennes (Landes), &c. GOLD MEDAL,
LONDON, **SEYSSEL ASPHALTE,** PARIS,
AND BY H.M.'S ROYAL LETTERS PATENT,
MANUFACTURERS OF
1851. **METALLIC LAVA.** 1844.
FOR PRICE AND PARTICULARS APPLY AT THE OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.
MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

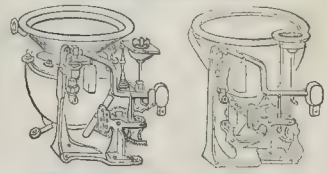
J. TYLOR & SONS' PATENT
REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. All closets can be worked by one pipe only. No intermediate valves, cranks, levers, or rods are required. The closets are in action at the Model Factory, and Illustrated Catalogues sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Paternoster-row, London.

GUEST & CHRIMES, FOUNDRY and GENERAL BRASS WORKS, Rotherham; and 37, Southampton-street, Strand, London, W.C.
London House, Mr. THOMAS BEGGS.



ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient and simple, free from all smell, and requires no cisterns, service boxes, cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipe. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are carefully applied to the ordinary Pan Closet, alike dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary direct Service Main Cottage, Water Closets.

Chrimes's Patent High pressure Single and Double Loose Valve and Screw Down Cocks; Improved Self-acting and Pull Water-Closet; Patent Absolute Water Waste Preventer; Plumbers' and Gas Fitters' Brass Work of every description. Drawings, Descriptions, Prices, and Testimonials will be forwarded per post on application as above.

TERRA COTTA and Fine STONEWARE POTTERY, warranted to stand Frost.
JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and re-established the manufacture of TERRA COTTA and Fine STONEWARE for ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to harmonize well with Marble, Portland, and other stones, and equal in hardness to Granite.
A Medal at the International Exhibition was awarded, in Class 10, Section C, Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra Cotta."
Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusters, Capitals, Crosses, Pedestals, Vases, Shafts, Labels, Open-work, Garden Edging, Guttering, six, nine, and twelve inch Paving Tiles, &c. &c.
Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.
London Office, 377, Oxford-street, W.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any required extension of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 61 Wharf, Macclesfield street North, City road Basin, N. Finally, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and finally, that the "Reports of the Jurors," page 681, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Teleries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION
MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, Two First-class Medals at the Paris Exhibition, and Two Prize Medals at the International Exhibition of 1862.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works 59 and 60, Upper Belgrave-place, Pimlico, S.W.



WINDOW BLINDS,
E. ADKINS,
HIGH STREET, ST. JOHN'S WOOD, REGENT'S PARK, N.W.
OUTSIDE SUN-SHADE, AND SPRING ROLLER MAKER
TO THE TRADE.
Patent Self-adjusting Venetian Blinds, requiring no Fastenings for the Cords
Illustrated List of Prices on receipt of One Postage Stamp

PLASTER ENRICHMENTS.
CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of Ornaments for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.
Best Gelatine, prepared, and ready for moulding, 2s. per lb.

SALES BY AUCTION.

LONDON, CHATHAM, and DOVER RAILWAY — Metropolitan Extensions. Thirty-third Clearance Sale. Building Materials, Earl-street, Blackfriars.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on MONDAY, AUGUST 31st, at TWELVE o'clock, in lots, all the capital BUILDING MATERIALS, FIXTURES, and FITTINGS UP of FOUR large HOUSES, Nos. 19, 20, 21, and 22, Earl-street, Blackfriars, with stabling, offices, and other premises in the rear; comprising superior brick work, prime timber in roofs and floors, slating, sound flooring-boards, loopholo and other doors, plate-glass and other sashes, stable fittings, lead gutters and pipes, grate tie pitching, iron bands, iron floor, gas fittings, and a variety of useful materials and fittings-up.—May be viewed. Catalogues had at Mr. VIGERS'S offices, 5, Frederick's place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

In Chancery: "Kemp v. Nunn," "Nunn v. Kemp."—Valuable Freehold and long Leasehold Building Land, Residential Estates, Ground Rents, Dwelling houses, and Shops, with land-tax as to the principal part, redeemed. Upper Tooting, Streatham, and Balham.

FRANCIS FULLER, the person appointed by the Judge to whose Court the above causes are attached, will SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, the 31st day of AUGUST, 1863, at TWELVE for One o'clock, pursuant to an Order of His High Court of Chancery, made in the said causes, with the approbation of the said Judge, several valuable FREEHOLD and LEASEHOLD ESTATES, in Thirty Lots, comprising an important building area, unusually well situate at Upper Tooting, and recently adapted for the erection of family mansions and first-class residences, possessing excellent frontages to the high road from London to Tooting, and from Tooting to Wandsworth, and with easy access by road and rail to all parts of the metropolis. Six Freehold Building Lots (five of which are shops) situate at Upper Tooting. Desirable Freehold and Leasehold Family Residences, pleasure-grounds and gardens, known as The Hawthorns, situate at Upper Tooting, on lease at a rental of 180l. per annum. A very handsome Residential Estate, known as The Willows, situate at Balham, within a few minutes' walk of the station, comprising residence and park-like pleasure grounds, the whole containing upwards of 13 acres, and let on lease at 130l. per annum. Certain well-secured Ground Rents, amounting to 45l. per annum, arising out of two remarkably well-built Villa residences. Desirable Family Residence, known as The Boundary, with pleasure ground, kitchen gardens of four acres, beautifully situate close to Wandsworth-common, and within a few minutes' walk of Balham Station, let on lease at a ground-rent of 55l. per annum, with early reversion to the rack rent, estimated at 100l. per annum. The well-known Nursery Dwelling-house, gardens, and out-buildings, close to the Balham Station. Two well-secured Ground Rents of 9l. each, arising out of two excellently built family residences, and pleasure grounds and gardens, situate at Balham-hill, with early reversion to the rack rents, estimated at 80l. each. Semi-detached Villa residence, young grounds and garden, let on lease, with early reversion to the rack rent, estimated at 100l. per annum. Five well-built Family Residences, one with shop and garden ground attached, the whole forming Balham-place, and numbering 1 to 5 respectively, directly facing the high road from London to Tooting, and let on lease at ground rents producing 65l. per annum, with early reversion to the rack rents, estimated at 120l. per annum. Remarkably beautiful Residential Estate, known as Fernside, pleasantly situate, overlooking Wandsworth-common, and within a few minutes' walk of the Balham and Wandsworth Stations, comprising family mansion, park-like pleasure-ground, ornamental lake and flower gardens, the whole encircled with terrace walks and shrubberies, and containing upwards of 12 acres, on lease, expiring Lady-day, 1890, at 70l. 17s. per annum, with reversion to the rack rent, estimated at 300l. per annum. Five well-built Family Residences, pleasure-grounds, gardens, and outbuildings, beautifully situate, overlooking Wandsworth Common; the whole producing 120l. per annum, with early reversion to the rack rents, estimated at 300l. per annum. Forty villas and conditions are ready and may be had of Messrs. PALMER, BUTLER-HIP, & ELAND, Solicitors, 4, Trafalgar-square, W.C.; of GEORGE BOWER, Esq. Solicitor, 6a, Token-house-yard, E.C.; of Messrs. LAMB, HOOKS, & CHALLIS, Solicitors, Basingstoke; of Messrs. JOHNSON & WEATHERALLS, Solicitors, 7, King's Bench-walk, Temple, E.C.; at the White Lion, Streatham; the Greyhound, Croydon; the Wheatsheaf, Tooting; the Swan, Stockwell; of FULLER & WITHALL, Architects and Surveyors, 21, Parliament-street, Westminster; at the Mart; and of the Auctioneer, FRANCIS FULLER, 11, Cornhill, E.C.

WAREHAM, DORSET.—Important Sale of Machinery, comprising nearly new 35-horse power steam engine, rotary and American brick machines, mills, wire rope and iron, tramway, tip waggons, and all the valuable plant and machinery at the Sandford Clay and Pottery Works, with several hundred fine moulds and models, designed by JOHN THOMAS, R.A.; for sale, without the least reserve.

MESSRS. CHINNOCK & GALSWORTHY will SELL by AUCTION, upon the PREMISES, immediately after the sale of the estate, on TUESDAY, 8th SEPTEMBER, and following day, at TWELVE o'clock, by direction of the Liquidators of the Sandford Clay and Pottery Company (Limited), the whole of the valuable PLANT and MACHINERY on the extensive works, situate within half a mile of the Wareham Station on the London and South Western Railway, very recently erected for the manufacture of building and fire bricks, drain tiles and pipes, pottery goods of all kinds, terra cottas, &c.; comprising an excellent 35-horse power horizontal steam engine, pair of 30-inch tubular boilers, Bradley & Craven's rotary dry pressure brick machine, powerful American ditto pugging and clay grinding mills, tile and pipe machine, powerful drum with wire rope, 20 tip waggons, 1,700 yards of metal in tramway, endless bands, brick moulds, 96 wheelbarrows, crab engine, weighing machines, lathes, throwing wheels, jiggers, screw presses, two large slate vats with crank sieves, tanks, force pumps, shafts, driving pulleys, bevel cog-wheels, gear and tackleway, large glaze grinding pan and gear, all quite new, vacuum gauge, 12-in cast iron perforated plates, numerous tube, sieves, lathe rims, 70 gross of cranks, 16 casks of slabs and spars, quantities of dry and wet glaze, whiteleal, felspar, ground flint, kiln cobalt and other useful ingredients; also, a series of several hundred models and moulds designed by the late JOHN THOMAS, R.A., for the manufacture of terra-cotta, china, earthenware, &c., together with large quantities of shelving, racks, tables, benches, sheds, fittings, tools, implements, and all the effects upon the premises.—May be viewed a fortnight before the sale, and catalogues obtained of Mr. STEVENS, the Manager, at the works; of Messrs. MARCHANT & PEAD, Solicitors, 30, Great George-street, Westminster; at the Sandford Estate Offices, 17a, Great George street, Westminster; and of Messrs. CHINNOCK & GALSWORTHY, Land Agents and Surveyors, 21, Waterloo place, Pall Mall, London.

OXFORD.—VALUABLE BUILDING MATERIALS, comprised in the several Houses in Beaumont-street and Magdalen-street, the intended Site for the erection of the Randolph Hotel.

MR. JOHN FISHER begs to announce that he is instructed by the Randolph Hotel Company to SELL by AUCTION, in front of the said HOTEL next the above, the BUILDING MATERIALS; consisting of roofs, floors, doors, shop-fronts, sashes and frames, partitions, staircases, fittings, &c. which will be found peculiarly good for re-use, or otherwise, for the houses have been built within a few years.— Further particulars will be advertised previous to the sale.

TO SAW-MILL PROPRIETORS and OTHERS.—Steam Saw-Mill, with Engine and Machinery, and Two Houses adjoining, in the Hackney-road, with possession.

MESSRS. FULLER & HORSEY will SELL by AUCTION, on the PREMISES, No. 191, Hackney road, on WEDNESDAY, SEPTEMBER 9, at TWELVE o'clock, in one lot, a desirable STEAM SAW-MILL, with the Engine, Boiler, and Machinery therein, late in the occupation of Mr. John High, at a rental of 104l. per annum, but now in hand; also the TWO HOUSES adjoining on either side, Nos. 189 and 193, Hackney road (formerly Nos. 5 and 7 Edwards's row), let on lease for the remainder of the term, to respectable tenants, at 44l. per annum; the whole being held for twenty-two years, from Christmas, 1859, at the low rent of 60l. a year. May be viewed. Plan of the sale, and particulars had on the premises; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

HIGH-STREET, PECKHAM.

MR. C. F. SMYRK is instructed to SELL by AUCTION, on MONDAY, AUGUST 31, at ONE for TWO, about 200 LOTS of excellent BUILDING MATERIALS, taken down for improvements, and limited to suit Builders and others, including long sound oak and fir timbers in great variety of scantlings, flooring, lining and shelving boards, fittings, fixtures, stone in blocks, steps, and paving, slates and tiles, firewood, gates, doors, and other effects. Catalogues on the premises, and of Mr. C. F. SMYRK, Surveyor and Valuer, 14, Newington place, S.

TO TIMBER MERCHANTS, CABINET-MAKERS, BUILDERS, MASONS, AND OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden Town, near the North London Railway-station, on MONDAY, AUGUST 31st, at TWELVE, the STOCK, viz. 8,000 feet mahogany, 2,000 planks, deals, and battens, 150 squares of flooring, 8,000 feet quartering, 7,000 feet 4in square dry cut stuff, 60 doors, 70 scaffold poles, Shudders, Irish and Egyptian green, English and foreign marbles, useful stone, old materials, &c.—Auction Offices, Cardington-street, Hampstead road, near the Euston Station.

TO BUILDERS, HOUSE DECORATORS, AND OTHERS

MR. EWINS will SELL by AUCTION, at the MART, near the Bank of England, on WEDNESDAY, SEPTEMBER 9, at TWELVE, unless previously disposed of by private contract, the LEASE, and GOODWILL of the Business of a JOBBING BUILDER, DECORATOR, HOUSE AGENT, and UNDERTAKER, established forty years. Ground-rent moderate. The premises are commandingly situate, and known as St. Paul's House, corner of St. Paul's road, Barnsbury, Islington. May be viewed seven days prior to sale, and particulars had of Messrs. J. J. & K. WRIGHT, Solicitors, 27, Bedford row, W.C.; at the Mart; and of the Auctioneer, 19, Upper-street, Islington.

Unreserved Sale of the remaining portion of the Harrow Estate, comprising several lots of Freehold Building Land and two Freehold Villas, let on lease to a good tenant.

MESSRS. DEBENHAM & TEWSON are instructed by the Trustees to SELL, at the MART, on THURSDAY, SEPTEMBER 10, at TWELVE precisely, without the slightest reserve, 26 lots of FREEHOLD BUILDING LAND, situate close to the railway station at Harrow, having from 30 feet frontage to nearly an acre in extent, and eligible for the erection of villa or cottage residences, for which there is now a great and constantly increasing demand; also Two Freehold semi-detached Villas, situate in Peel road, adjoined to the above, let on repairing lease, at the very low rent of 7l. per annum. Water service is laid on to the estate, and the facilities of access to London offer great inducements to those desirous of obtaining residences in a healthy and rural neighbourhood, within easy reach of the metropolis. First-class free passes for eleven years will be granted by the Company to the occupiers of houses erected or to be erected on the lots of land.—For Particulars of H. CHILD, Esq. Solicitor, Paul's Bakehouse-court, Godliman-street; and of the Auctioneers, No. 80, Cheapside.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.

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Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive premises with concrete and marble SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.

N.B.—Estimates given on Country and Foreign orders executed with promptness and personal attention.

SERPENTINE, large size and great variety, EQUAL TO GRANITE IN DURABILITY; adapted for TOMBS, CHIMNEY PIECES, and all purposes for which MARBLE and GRANITE are used. Manufactured by THE LIZARD SERPENTINE COMPANY (Limited), Office, 24, St. James's-street, London, S.W.; Works, Carleon Cove, Lizard, Cornwall. Agent for Manchester and Liverpool, T. OARDEN, 24, King street.

G. MITCHELL, MARBLE, STONE, and GRANITE WORKS, SHOWROOMS:— No. 166, BROMPTON ROAD, LONDON, S.W.; where Architects, Builders, and Merchants will find the largest and best Stock of CHIMNEYPIECES and MONUMENTS in London; of which Books, Catalogues, and Sheets of Monuments will be forwarded on application. Estimates will meet with prompt attention. MANUFACTORY, at WALTON STREET.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Cases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at W. F. WILLIAMS'S Marble Works, 316, Euston-road, London, N.W.

MARBLE CHIMNEYPIECES for SALE. Plain box, 8-inch piers, 8 inch shelf, 1l. 6s. each; 10-inch piers, 1-inch shelf, carved, 2l. 12s.; 12s. 6d.; ditto, 2l. 2s.; ditto, with handsome carved trusses, from 2l. 10s.; statuary ditto, 13-inch piers, 15-inch moulded shelf, carved trusses, and gilded sunk carved pilasters, 6l.—Apply to J. ROBINS, 12, Providence-place, Islington green.

MARBLE CHIMNEY PIECES, of superior quality, style, and workmanship.—A Box Marble Chimney-piece, 8-in. piers, 1l. 6s.; a handsome Moulded Truss, ditto, 12-in. piers, 3l. 5s.; a good plain Arch ditto, 3l. Every description of Marble Chimneys equally cheap, at T. DONOHUE'S, 27, Churchway, rummond-street, Euston-square.

TISBURY STONE. The WARDOUR (CHILMARK) and TISBURY STONE

Are prepared to execute orders to any extent for their TISBURY STONE.—This is a close, fine-grained Stone, of a beautiful colour, possessing all the qualities of the best Portland, in which range it is placed geologically.

It will supply the long wanted desideratum of the Architect, Builder, and Sculptor, as the Stone is a first-class Weather Stone, easily worked, and carries a fine arris; and is eminently adapted for carved mouldings, high-class architecture, and works of art, requiring only to be known to become the STONE OF THE DAY.

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ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862. Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes. Apply to Mr. MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston road, N.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall. SHOW ROOMS, 6, CANNON-STREET, E.C. London Agents—TREGELLES & TAYLOR. Manager—JAMES J. TRATHAN, Liskeard This Granite is selected for the New Westminster Bridge. DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application. EDGE RUNNERS OF SUPERIOR QUALITY.

GRANITE OBELISK for SALE.—The beautiful OBELISK, in polished Grey Granite, that stood in the Eastern Nave of the Exhibition Building, is now OFFERED for SALE.—Apply to Messrs. H. POOLE & SON, Great Smith-street, Westminster. The Obelisk is erected at Lloyd's Wharf, Millbank, where it may be seen. It is suitable either for a monument or for an ornament for pleasure grounds.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; and see Specimens at the Office of Messrs. PINDER SIMPSON & SONS, 29, Savile-row, London, and at the Museum of Practical Geology, Jermyn-street, W. This stone (which is a perfect colite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

BELLMAN & IVEY, GENERAL AND ORNAMENTAL PLASTERERS, Manufacturers of SCAGLIOLA MARBLE and SUPERIOR PLASTER OF PARIS. This Plaster, made expressly for their own business, is of excellent quality, and its extreme lightness in weight ensures a saving of 30 per cent. in use, from its covering one-third more superficies than the general plaster. PRIZE MEDALS were awarded Messrs. Bellman & Ivey for their Works at the Exhibition of 1851, and again in 1862. PLASTER WORKS, 3, BEDFORD-STREET, LIQUORPOND-STREET, LONDON, E.C. SHOW ROOMS AND OFFICE, 14, BUCKINGHAM-STREET, PORTLAND-ROAD LONDON, W.

PORTLAND STONE. Portland Slab, Paving, Landings, and Scantling of every size sawn by steam, always kept in stock; also York Paving and Landings, Steam, Stone, and Marble Saw Mills, Cremorne Wharf, Chelsea, and Grosvenor-road, Pimlico. THORN & CO. Stone Merchants and Contractors.

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YORKSHIRE STONE of every description, in Paving, Landing, Sawn Slabs, Headstones, Steps, Coping, Sinks, Curbs, Stairs, and Blocks, in Bramley Fall, Park Spring, Harehill, Lofthouse, Potter Newton, Burley, and from other approved Quarries.

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Particulars furnished by Mr. JOSEPH CHADWICK, Agent and Manager, at is Office on the premises, or by post.

TAKE NOTICE.

CONTRACTORS, BUILDERS, and MASONS. All Estimates made at a considerably reduced cost for Marble Work. Good Veined Chimneypieces at the reduced price of 3l. to 5l. 5s. Statuary Chimneypieces, from new designs, carved, 10l. to 40l. each. A great variety of Coloured Marbles always ready to select from. The Trade will find a Liberal Discount at this Establishment. WESTMINSTER MARBLE WORKS, EARL STREET, HORSEFERRY ROAD, S.W.

RED MANSFIELD STONE, WHITE MANSFIELD STONE. YELLOW MAGNESIAN or BOLSOVER LIMESTONE Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station. Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, Late P. FOUCARD, STONE MERCHANTS and QUARRYMEN. Cargoes shipped to order from Caen or any port. Contracts taken for any quantities. Office—10, Three Crown-square, Southwark.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building Purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 57, Millbank-street, London, S.W.

O. MCCARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast screened or unscreened, by the yard or per barge. Stock, Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity along side the Thames.

SLATES.—JONES & CO. have a STOCK of SLATES of different sorts, from the best quarries in Wales. SLABS and CISTERNS delivered at any station in quantities of not less than five tons, from their depôts, Bangor, Garston, Saltney, Chester, and Gloucester. Prices forwarded and estimates given on application. 1, BOLD TERRACE, CHESTER.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales, also SLABS and Cisterns; delivered at any station in quantities of not less than five tons.—Price forwarded and estimates given on application. Address, No 1, BOLD TERRACE, CHESTER.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's-inn fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, August 29, 1863.

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Stephen's-place; or by Mr. ALFRED HILL, 38, Tonbridge-street, Euston-road, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

BUILDERS' BENEVOLENT INSTITUTION.—The SIXTEENTH ANNUAL DINNER will be held at the London Tavern, on THURSDAY OCTOBER 29th next

Mr. Alderman and Sheriff LAWRENCE, President of the Institution, in the chair.

Gentlemen desirous of promoting the interests of this charity by becoming Stewards, will be pleased to forward their names to the Treasurer, GEO. PLUCKNETT, Esq. (Messrs. Wm. Cubitt & Co.), 328, Grey's-Inn road; or to the Secretary, at the Offices, 23, Southampton-street, Bloomsbury, W.C. A. G. HARRIS, Secretary.

THE METROPOLITAN SCHOOLS of ART, at 43, Queen-square, Bloomsbury, for Female Classes only; Spitalfields, Crispin street; Finsbury, William-street; St. Thomas's Charterhouse, Goswell street; Rotherhithe, Grammar School, Deptford-road; St. Martin's, Castle-street, Long acre; Lambeth, St. Oswald's-place; Hampstead, Dispensary Building; Christchurch, St. George's-in-the East; and St. Mary's, Hide-place, Vincent-square, Westminster, will RE-OPEN on THURSDAY, 1st OCTOBER. The New Training Schools, at South Kensington, will be OPENED on the 5th OCTOBER.—For information respecting fees, &c. apply at each School, or to the Secretary, South Kensington Museum, W.

By order of the Lords of the Committee of Council on Education.

PHARMACEUTICAL SOCIETY of GREAT BRITAIN.—SCHOOL of PHARMACY.—The Twenty third Session will commence on 1st TUESDAY, the 1st OCTOBER.

LECTURES.—On Chemistry and Pharmacy, by Professor Redwood. On Botany and Materia Medica, by Professor Bentley.

LABORATORY for Practical Instruction, in General and Pharmaceutical Chemistry.—Director and Demonstrator: Dr. Attfield. Assistant Demonstrator: Mr. Tilden.

A Syllabus of Instruction, and particulars of Terms, may be obtained from the Secretary, 17, Bloomsbury square, W.C.

NOTICE

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE will shortly be REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the present establishment. These will afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand, and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

8, Bishopsgate-street Within, July, 1863.

BILLING'S PATENTS.—

CHIMNEY TERMINALS, THROAT VALVES.

NOTICE to ARCHITECTS.—The Proprietors of the late Mr. Billing's Patents have secured the services of Mr. H. H. COLLINS, M.I.B.A. of No. 10, Surbiton, Esq. as the Consulting Architect, to whom they refer for information as to their scientific application of the same. Estimates and the reduced prices may be obtained from the Manager, Mr. TYLER, 12, Abingdon-street, Westminster, S.W.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS. TENDERS are required for the CONSTRUCTION of a SEA WALL at the foot of Cliff, in front of Tavenland Battery, near Sandown, Isle of Wight, in Portsmouth District.

Parties desiring to Tender for the execution of this work must leave their names at the office on or before the 16th day of SEPTEMBER, 1863, and pay the sum of ten shillings and sixpence for the Bills of Quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, 22nd August, 1863

WAR DEPARTMENT CONTRACT.—NOTICE TO STONE MERCHANTS AND OTHERS

TENDERS are required for the SUPPLY of 700 YARDS of BROKEN KENTISH RAG STONE, to pass through 1½ inch ring, and 100 YARDS of fine SITTING, for landside, at per yard cube

Parties desiring to Tender for the supply of the above must leave their names at the office on or before the 10 h day of SEPTEMBER, 1863, when forms of Tender and every requisite information will be afforded.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Woolwich, 1st September, 1863.

ARMY CONTRACTS.—TENDERS will be received at this Office until Noon on WEDNESDAY, the 30th SEPTEMBER, 1863, from persons who have been willing to enter into CONTRACT for the SUPPLY of FORAGE, in such quantities as may be required from 1st NOVEMBER, 1863, to 31st OCTOBER, 1864, for the use of Her Majesty's Forces stationed at Aldershott Camp, and within the command.

Forms of Tender and Condition of Contract may be obtained on application at this Office, by letter or in person, between the hours of TEN and FOUR o'clock.

The Tenders must be properly filled up and signed, and delivered at this Office (under closed envelope, marked on the outside "Tender for Forage,") and no Tender will be noticed unless made on forms obtained from this Office and delivered by the hour appointed.

HENRY B. MORSE, Deputy Commissary General.

Commissariat Office, Aldershott, 2nd September, 1863

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Camber, near Rye, in the county of Sussex, may inspect the Drawings and Specifications at the Watch-room of the Coast Guard Station, Rye, or at this Office, between the hours of TEN and FOUR, from THURSDAY, the 3rd, to TUESDAY, the 15th SEPTEMBER now next ensuing, and both inclusive (Sundays excepted)

Tenders to be sent to this Office not later than TWELVE o'clock at noon of WEDNESDAY, the 16th SEPTEMBER, under seal and directed to the Commodore Controller General of Coast Guard, and endorsed "Tender for Camber."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 24th day of August 1863, at the Admiralty.

Coast-Guard Office, 12, Spring-gardens, London, S.W.

BOROUGH of TYNEMOUTH.—To BUILDERS, BOILER MAKERS, IRON FOUNDERS, PAINTERS, and CONTRACTORS. TENDERS are required for the Builders', Smiths', Iron Founders', and Painters' Works necessary in making certain ADDITIONS, ALTERATIONS, and RENEWALS, and for CLEANING, PAINTING, and WHITEWASHING, at the Baths and Wash houses, North Shields. Plans and specifications may be inspected, and further information obtained on application to Mr. THOS ROBSON, Borough Surveyor, North Shields, North Shields Satisfactory securities will be required for the due performance of the Work. The lowest or any Tender will not necessarily be accepted

Sealed Tenders, endorsed "Works at Baths and Wash houses," to be delivered on or before MONDAY, the 7th day of SEPTEMBER next, to THOMAS CARR LIETCH, Town Clerk.

Tynemouth, August 15th, 1863.

BOARD of WORKS for the STRAND DISTRICT.—To DUSTMEN, SCAVENGERS, and CONTRACTORS The Board hereby give notice, that they are prepared to receive TENDERS from parties who may be willing to CONTRACT for the REMOVAL of all ASHES, SLUDGE, SNOW, DUST, STRAW, LITTER, REFUSE, and any other matter or thing that may be swept up or otherwise collected in or upon the several footways and carriage ways in the district, and also for the receipt of all such ashes, as I refuse from the several houses, sheds, and other places in the district, for the term of three years from Michaelmas day next, determinable at the expiration of the first or second year, at the option of the Board, of a specification, which may be seen at the Board's Offices, No. 5, Tavistock-street, Covent Garden, daily from TEN till FOUR. The contractor will be required to enter into a bond with two approved sureties for the due performance of the contract. The Board will meet to open Tenders on WEDNESDAY, the 16th day of SEPTEMBER inst. at HALF PAST SIX o'clock in the afternoon of the day of meeting. The Board do not pledge themselves to accept the lowest or any Tender, and no Tender will be received after 2 o'clock on the afternoon of the day of meeting. The Bank of England notes or other Tenders to be returned immediately to parties whose Tender shall not be accepted, and retained until the bond and contract shall be duly executed by the party whose Tender shall be accepted.—By order,

JAMES H. F. LEWIS, Clerk to the Board.

No 5, Tavistock-street, Covent Garden, September 1, 1863

CONTRACTS.

HALIFAX CORPORATION WATER-WORKS.—WORKS in the LUDDENDEN VALLEY.—To CONTRACTORS.—The Corporation of Halifax are ready to receive TENDERS for the CONSTRUCTION of the WORKS included in the following Contracts:—No 1, or Warley Moor Contract, comprising the Construction of a large Reservoir on the fly level with the Embankments and masonry connected therewith; and a Conduit about 1,950 yards in length from that Reservoir to the Pulshaw Stream, near Cocks Cliff. No 2, or Midgley Moor Contract, comprising the Construction of an open Watercourse, from Low Brown Knoll Flat to the Reservoir on the Fly level, about 2,080 yards in length, with overflows, shafts, bridges, and culverts connected therewith; and two Resident Lodges; and No 4, or Saltonstall Contract, comprising the Construction of a Masonry Conduit about 3,910 yards in length, the driving and lining of a Tunnel 270 yards in length, with the sinking of two shafts, the laying and jointing of about 650 lineal yards of cast iron pipes of 30, 18, 14, and 12 inches diameter, with all bridges, admission and outlet walls, observatories and other works connected therewith. The plans, sections, and drawings of the several contracts may be seen, and specification and forms of tender obtained, at the Townhall, Halifax; and at the offices of the Engineer, J. F. BATEMAN, Esq. F.R.S., 8, St James squares, Manchester, and 16, Great George street, Westminster on and after WEDNESDAY next, the 19th AUGUST, 1863. Sealed Tenders must be addressed to and left with EDMUND MINSON WAKELL, Esq. Town Clerk, Halifax, not before MONDAY, the 14th SEPTEMBER, 1863, and endorsed with the name of the particular Contract for which it is a Tender. The Corporation do not bind themselves to accept the lowest or any Tender, and they may, if they see fit, let the whole Work in one Contract

EXTENSION OF TIME.

SALTBURN-BY-THE-SEA. — To BUILDERS.—TENDERS are required for the ERECTION of FOUR FIRST CLASS DWELLING HOUSES, at the above named watering place, according to plans and specifications which can be seen at Mr. Ogle's Feethams, Darlington from THURSDAY, AUGUST 27th, until TUESDAY, SEPTEMBER 15th. The various Tenders to be delivered to me not later than NINE o'clock a.m. on WEDNESDAY, SEPTEMBER 16th. JOHN ROSS, Architect.

TO MASONS, BUILDERS, and OTHERS. TO BE SOLD, by TENDER, about 41 Lots of IRISH MARBLE (Black), in thirty blocks, averaging in length 4 feet 6 inches by 2 feet square. Tenders to be sent in by the 14th SEPTEMBER, addressed, "Coal Consumers' Company, West-street, Gravesend," where the marble may be seen, and further particulars obtained.

Gravesend, 27th August, 1863. W NEWMAN, Secretary.

TO BUILDERS.—TENDERS are invited from Builders, &c. who are willing to CONTRACT for the ERECTION of a CORN WAREHOUSE at the Polegate Station of the London and Brighton Railway. The plan and specification can be seen, and all other particulars obtained, by applying at the Office of GEORGE ADAMS, Corn Merchant, Willingdon, near Hurst-green, Sussex, not later than SATURDAY, the 12th SEPTEMBER next, after which date no further Tenders will be received.

SHREWSBURY SEWERAGE.—The Improvement Committee are prepared to receive TENDERS for the construction of the MAIN OUTLET SEWER, from the River Severn, at or near Preston Boats, to the river near to the English bridge at Shrewsbury. Plans, sections, and specification may be inspected at my Office, on and after THURSDAY, the 27th instant. Printed forms of Tender, and printed bills of quantities, may be obtained in duplicate on payment of 2s. Sealed Tenders to be sent to my office, not later than TWELVE o'clock, noon on WEDNESDAY, the 9th of SEPTEMBER next, endorsed "Tender for Main Sewer." Further particulars may be obtained from Mr. J. CURLY, C.E. Hereford. The Council and Committee do not pledge themselves to accept the lowest or any Tender. J. J. PEELE, Town Clerk.

Guildhall, Shrewsbury, 22nd August, 1863.

TO CONTRACTORS.—The Building Committee of Lake-road Chapel, Landport, Portsmouth, are desirous of receiving TENDERS for the ERECTION of a new CHAPEL, &c. Plans and specification may be seen at the Office of Messrs RAWLINSON & SONS, Architects, Albert Cottage, Blackhead Portsmouth. Tenders to be delivered to Mr. CROWTER, 140, Lake road, Landport on or before the 27th day of SEPTEMBER, 1863. The Committee do not bind themselves to accept the lowest or any Tender. Persons desirous of tendering for the above chapel may obtain the bills of quantities at the Architects' Offices on the payment of 10s.

Portsmouth, September 2nd, 1863

OLDBURY NATIONAL SCHOOLS.—To BUILDERS.—The Building Committee give notice that they are prepared to receive TENDERS for the ERECTION of the above SCHOOLS. Persons willing to Tender may see the plans, elevation, and conditions at the Offices of the Architect, Mr. EDWARD HOLMES, 4, Waterloo street, Birmingham. Tenders, endorsed "Tender for Oldbury National Schools," to be sent in on or before the 3rd of OCTOBER, to the Rev. H. B. BOWLBY, Oldbury Parsonage, near Birmingham. The Committee do not bind themselves to accept the lowest or any Tender.

TO ARCHITECTS and OTHERS. — The Committee are desirous of receiving PLANS and SPECIFICATIONS for BUILDING a NEW NATIONAL CHURCH at Ringwould, near Deal, to contain one gallery, and to seat 350, exclusive of sundry. To be built with Swanage stone, laid in courses (all the stones in the front to be squared), with the best Bathill grit dressings; or with white or red brick, with stone dressings. A minister's vestry required, but no school room. A ground plan of the site may be obtained on application to Mr. H. HOLLOWAY, surveyor, Ringwould. The person whose plan is selected will be appointed architect. Plans and specifications to be sent, sealed, on or before the 1st MARCH, to HENRY RUMSEY, secretary to the Building Committee, at the Wilts and Dorset Bank, Ringwould.

Dated 2nd September, 1863.

[For remainder of Contracts see next Page.

CONTRACTS.

TO SEWER CONTRACTORS.—The Surveyors of Highways of the Parish of Bletchingley, Surrey, will meet in the Vestry Room of the said Parish on WEDNESDAY, the 16th SEPTEMBER instant, at FOUR o'clock p.m. to receive TENDERS for the CONSTRUCTION of certain SEWERS in the said Parish. The drawings and specification may be seen at my Residence, any day between the hours of TEN a.m. and FOUR p.m. The Surveyors do not bind themselves to accept the lowest or any Tender; and no Tender will be received after FOUR o'clock p.m. on the above named day.
W. KENT, Clerk.

METROPOLIS MANAGEMENT ACTS. To BUILDERS, CONTRACTORS, and OTHERS.—The Board of Works for the Plumstead District are prepared to receive TENDERS for ERECTING a new BOARD ROOM BUILDING and OFFICES, upon a plot of ground situate on the southern side of the High-street, in the parish and village of Charlton, Kent, S.E. The drawings, specification, and draft contract for the work, may be inspected, and bills of quantities and forms of Tender obtained upon application at the Office of the Board, at Old Charlton, S.E. between the hours of TEN a.m. and FIVE p.m. on and after MONDAY, the 7th SEPTEMBER next. The Tenders are to be addressed to the Clerk to the Board under a sealed envelope, endorsed, "Tender for Plumstead District Board Offices," and to be delivered at the above mentioned Office in Charlton not later than FIVE o'clock in the afternoon of WEDNESDAY, the 16th day of SEPTEMBER next. The Board do not pledge themselves to accept the lowest or any Tender, and the party whose Tender may be accepted will be required to provide two sureties satisfactory to the Board, which sureties, together with the contractor, must enter into a joint and several bond to the Board in the sum or sums, for the due performance of the contract.—By order,
CHARLES AUGUSTIN SMITH, Clerk to the said Board.
Old Charlton, S.E. 27th August, 1863.

TO STEEPLE-BUILDERS, &c.—The Spire of St. Mary's Church, Monmouth, which is about 200 feet high from the ground line, being in a dilapidated state and out of perpendicular to the extent of about 25 feet from the summit, the Churchwardens are ready to receive TENDERS for the REPAIR thereof. They do not bind themselves to accept the lowest or any Tender.
Monmouth, August 31st, 1863.

TO BUILDERS.—Persons willing to TENDER for a new PLATE-GLASS SHOP-FRONT and sundry ALTERATIONS and REPAIRS to the HOUSE of Mr. Grinstead, Tobacconist, High-street, Chelmsford, may apply to see the plans and specification at the Office of Mr. WEBB, Architect, Guy Harlings, Chelmsford, on and after FRIDAY next, the 4th of SEPTEMBER. Tenders to be delivered to Mr. WEBB on or before FRIDAY, the 18th of SEPTEMBER.—The lowest or any Tender will not necessarily be accepted.

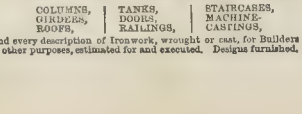
TO CONTRACTORS, BUILDERS, &c.—Notice is hereby given, that the Highways, Sewers, and Public Works Committee of the Vestry of St. Pancras will meet at the Office of the Department of Works, on MONDAY, the 14th day of SEPTEMBER, 1863, at SIX o'clock p.m. to receive and consider TENDERS from persons willing to CONTRACT for the EXECUTION of GENERAL WORKS to Sewers, Gullies, and Buildings in charge of the said Vestry, agreeably with the terms of specification, Schedule and Tender to be obtained on the deposit of 1l at the Office of Mr. WILLIAM BOOTH SCOTT, C.E. Chief Surveyor, as under. Good security will be required for the due performance of each Contract. The Vestry do not bind themselves to accept the lowest or any Tender. No Tender will be accepted unless made out on the printed form. Tenders must be delivered by NOON on the said MONDAY, 14th SEPTEMBER, 1863.—By order
CHAS WORRELL,
Chief Clerk of the Department of Works.
10, Edward-street, Hampstead road, September, 1863.

HOUSE of CORRECTION, Coldbath Fields.—To BUILDERS.—The Visiting Justices will meet at the Prison, on FRIDAY, the 18th day of SEPTEMBER next, at TWELVE o'clock at noon, to open TENDERS for the ERECTION of a NEW BUILDING there. Persons willing to TENDER for the Works may see the plans, specification, conditions, and form of contract and bond at the Office of F. H. FOWNALL, Esq. the Architect, 15, Gower-street, Bedford-square, on any day, between TEN and FOUR, after FRIDAY, the 4th SEPTEMBER next; and they may obtain copies of the bills of quantities and the forms of Tender on payment of a deposit of one guinea, which will be returned on the receipt of a bona fide Tender. The Tenders must be made on the printed form, and they must be sent in, with a sealed-up schedule of prices, addressed to the Clerk of the Peace, Sessions House, Clerkenwell, by ELEVEN o'clock in the forenoon of the 18th of SEPTEMBER. The parties Tendering must attend personally, at the Prison, at TWELVE o'clock on the same day precisely, prepared with the names of two responsible sureties. The Visiting Justices do not bind themselves to accept the lowest or any of the Tenders; and if a Tender should be accepted, the person making the same must forthwith sign the draft contract and bond. Persons Tendering are required to make themselves previously thoroughly acquainted with the terms of the contract, as set forth in the draft, as the Visiting Justices will not consent to any alteration whatever therein.
August 21, 1863 JOHN S. SKAIFE, Clerk.

BOARD of WORKS for the HACKNEY DISTRICT.—Notice is hereby given, that the Board of Works for the Hackney district will, at their meeting, to be held on the 10th day of SEPTEMBER next, at the TOWN HALL, CHURCH STREET, HACKNEY, at ELEVEN o'clock in the forenoon precisely, be prepared to open TENDERS for the supply and delivery of 1,500 TONS of BEST BLUE GUERNSEY GRANITE, broken to a gauge of 2½ inches, to be delivered on the wharf of the said Board of Works, at Kingsland Basin, in such manner, and in such quantities and manner as shall be directed by the Surveyor. Any further information may be obtained by applying to Mr. JAMES LOVEGROVE, C.E. Surveyor to the Board, at his Office, 108, Old Hackney. Tenders to be sent in before NINE o'clock, a.m. on THURSDAY, the 17th day of SEPTEMBER next, addressed to the Clerk, and endorsed "Tenders for Broken Granite." Persons contracting will be required to enter into a Contract, or Bond, for the due performance of the Contract. The Board do not bind themselves to accept the lowest or any Tender.
Signed, RICHARD ELLIS, Clerk.
Dated, 27th August 1863.

COCKERMOUTH, KESWICK, and PENRITH RAILWAY COMPANY.—To BUILDERS.—TENDERS are required for the ERECTION of a large first-class HOTEL, at the Keswick station, according to plans and specifications prepared by Mr. ROSS, Architect, Darlington, which can be seen at his Offices, Feethams, Darlington; or at the Offices of the Cockermouth, Keswick, and Penrith Railway Company, 58, Fleet-street Keswick, from WEDNESDAY, SEPTEMBER 2, to WEDNESDAY, SEPTEMBER 23, 1863.—Sealed Tenders to be delivered to me before TEN a.m. on the last mentioned day.
HENRY CAITLE Secretary.
Secretary's Office, St. John street, Keswick, August 28, 1863.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union street, and 293, Great Guildford-street, Borough, S.E. in vention of the Railway Spear Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.)
GENERAL IRON FOUNDERS,
MERCHANTS, and PATTERN MAKERS.



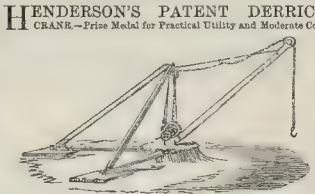
COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Iron-work, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

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For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING for FRENCH WINDOWS:
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Iron mongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions; Chins, Glass, and Wood Furniture, of all kinds, with Patent Sliding Spindles: Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of GOODS of the BEST MANUFACTURE, at the LOWEST PRICE.
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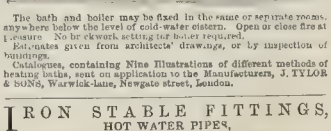
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AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CARPENTERS and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

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The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.
Estimates given from architects' drawings, or by inspection of buildings.
Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London.

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A complete List of which will be forwarded upon application to
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HART & SON
Beg to call the attention of Architects, Builders, and the public to their
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As presenting the MOST EFFECTIVE MEANS of OBTAINING SECURITY from LIGHTNING. They are economical, easily fixed, and APPLICABLE TO ALL BUILDINGS, including Private Houses, Churches, Chimney-Shafts, Dairies, Powder Magazines, &c. &c.
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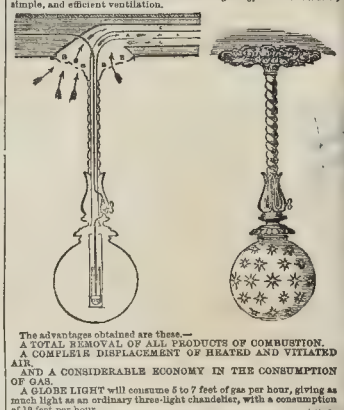
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Three-eighths-inch diameter	1s. 6d.	per foot.
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combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
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AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
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Further information may be obtained of the Proprietor of the Patent,
MR. BARRETT,
12, YORK BUILDINGS, ADELPHI

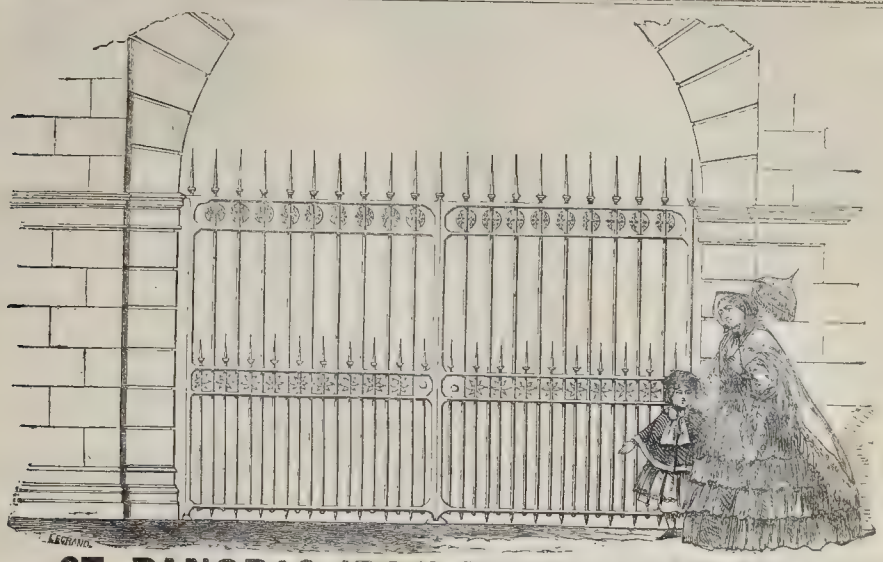
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In sheets 2lb. and 3lb. per square foot, 9 feet long by 3 feet wide.
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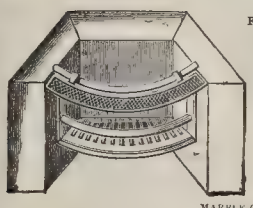
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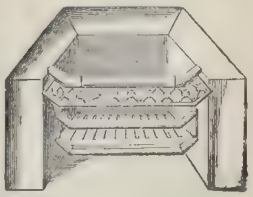
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18 inches wide,	10 inch bars	.....	7	0	.....	8	0
21	,, 12	,, ...	10	6	.....	12	0
24	,, 15	,, ...	14	0	.....	18	0
27	,, 18	,, ...	16	0	.....	18	0
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36	,, 24	,, ...	30	0	}		
38	,, 27	,, ...	36	0	} Extra strong.		
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MARBLE OR STONE FENDERS, WITH METAL FITTINGS AND TILE HEARTHS COMPLETE, SUPPLIED AND FIXED.

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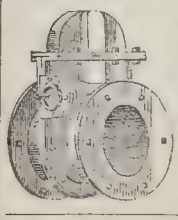
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Valves for wall, outside tank, to order.
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By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

LONDON-MADE ECONOMIC COOKING STOVE.

DEANE & CO. (THE MONUMENT), LONDON BRIDGE.

MANUFACTORY—LONG LANE, BERMONDSEY.

DEANE & CO.'S improved Town-made Cooking Stove, manufactured on their own premises, is strongly recommended for economy, durability, simplicity, and cleanliness, and is manufactured in sizes suitable for large or small families.

PRICES, WITH WROUGHT IRON BOILER, AND VENTILATED OVEN, FROM £13 10s.

LARGE SIZES FOR MANSIONS, CLUBS, AND PUBLIC INSTITUTIONS.

ESTIMATES FURNISHED. EXPERIENCED WORKMEN SENT TO FIX WHEN REQUIRED.

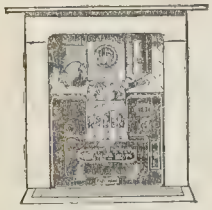
Kitchen Ranges, Stoves, Fenders, Fire Irons, and Furnishing Ironmongery.

DEANE & CO. (THE MONUMENT), LONDON BRIDGE.

ESTABLISHED A.D. 1700.—ILLUSTRATED CATALOGUES POST FREE.

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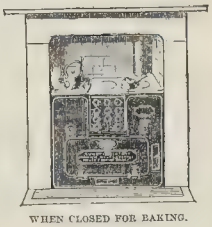
PATENT ECONOMIC COTTAGER'S COOKING AND IRONING STOVES.



WHEN USED OPEN.

These Engravings represent the Smallest Size Stove, viz. 24 inches long, 24 inches high, and 15 inches deep. The Oven is 18 inches long, 14 inches deep, and 11 inches high. The Boiler contains 3 pails of water.

This Stove, also CUNDY'S PATENT BRICK OVEN, Double Fall-down Bar KITCHEN RANGE, and PATENT BRICK OVEN, Semi-close Range, can be seen in operation daily at the SHOW ROOMS of the



WHEN CLOSED FOR BAKING.

Manufacturer, Wm. ADDIS, 6, 7, & 15, Leicester-street, Leicester-square, London.

A Prospectus, with full description and Price of the above Ranges, will be sent per Post on application.

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159, SHOREDITCH.

RANGES.

Self-acting Cottage, with Oven and Back Boiler.

30 inches ..... 22s.
32 ,, ... 24s.
34 ,, ... 26s.
36 ,, ... 28s.

Self-acting, with Bright Wrought Bars

34 inches ..... 52s.
36 ,, ... 54s.
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42 ,, ... 58s.

Best Cut Clasp and Rose Nails.

1½ in. 1¾-in. 2-in. 2½-in. 3-in.
14s. 14s. 13s. 12s. 11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.

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Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4d. per inch.

Best ditto, with Fire-brick Back, from, per inch, 5d.

Berlin Black, with Bright Bead, 35s. each.

Cast Rain-Water Pipe,

2-in. 2½-in. 3-in.
8d. 10d. 1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

O G Gutters, with Clips on,

4-in. 4½-in.
10d. 1s. per yard.

GAS PIPES AND FITTINGS.

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All kinds of Smiths' Work

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WHOLESALE IRONMONGER,

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(near St. Pancras Church),

Opposite J. W. Bird's Marble and Stone Works.

THE CHEAPEST AND BEST HOUSE IN LONDON FOR

KITCHEN RANGES, STOVES, NAILS, LOCKS, HINGES, BOLTS,

AND

EVERY ARTICLE OF BUILDERS' IRONMONGERY.

Price List on application

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Bell hanging Railings, &c.



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PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,

FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

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PEARD AND JACKSON

MANUFACTURERS OF

MEDIÆVAL ART METAL WORK

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Book of Examples now out of print,—revised & enlarged Edition shortly, meanwhile, SPECIAL DESIGNS & ESTIMATES for WROUGHT IRON & BRASS Gates, Screens, Grilles, Altar & Tomb Railings, Hinges, Vanes, Crosses, GAS-FITTINGS,—Brackets, Standards, Gaseliers, Coronæ, &c., and *EVERY* other *DESCRIPTION* of METAL WORK for Domestic & Ecclesiastical purposes: As also for COMPLETELY & EFFICIENTLY Lighting Churches, Chapels & Public Buildings,—including SERVICE PIPES, METERS, &c., will be submitted upon application.

W. SHRIVELL.

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GOTHIC METAL WORKER

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ALTAR, BOUNDARY, and TOMB RAILINGS.
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GASELIERS; CORONÆ,
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SHOW ROOMS, also,

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JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.

Drawings and Estimates furnished.

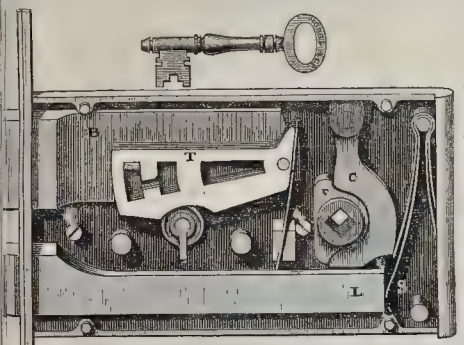
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HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.

PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming, at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

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For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 13, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.

Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.



PATENT CLIMAX DOOR SPRINGS,

FOR SINGLE AND DOUBLE-ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,

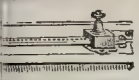
GOTHIC, DROP, AND OTHER DOOR HANDLES.





PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,

BRASS AND IRON LOCKS OF EVERY DESCRIPTION.





Builders', Cabinet, and Ship Brass Founders.

WILLIAM GREENWAY & CO.

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LONDON: THOMAS LAMBERT & SON, LAMBETH.



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WARMING AND VENTILATING COMPANY,

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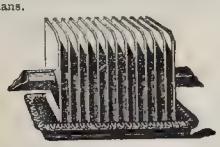
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Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

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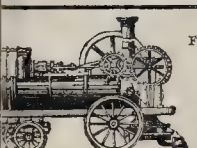
The cost is less and the effect greater than that of any other known Plans.



The Horticulturalist will find herein an instrument of new and important powers.

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PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month.

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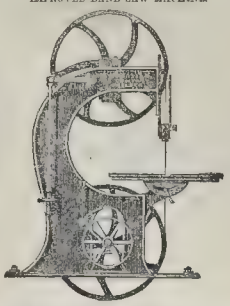
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S. Worssam & Co. have recently made new patterns for band saw-machines of two sizes, and with the aid of the latest improvements to obviate the breakage of saws, and run with the greatest confidence, recommend these new machines as the best yet out.—Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

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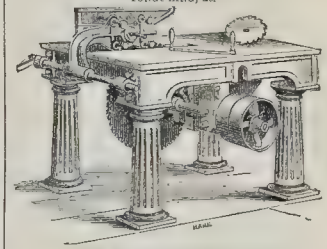
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IMPROVED VERTICAL SAW,

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Price 20*l.*



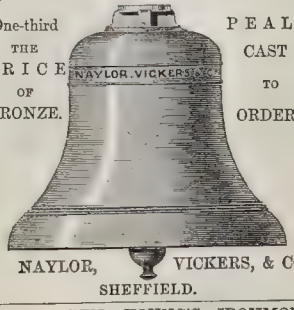
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One-third PRICE OF BRONZE.



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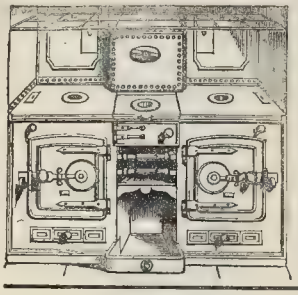
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FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and G ener IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisite ness workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*, Chimney-pieces, from 1*l.* 8 to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth-plates.

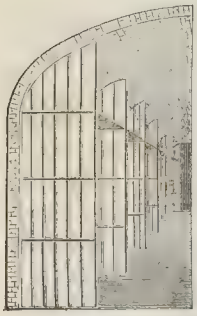
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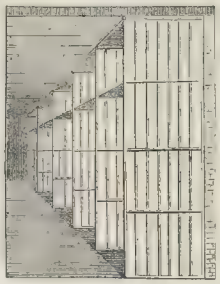
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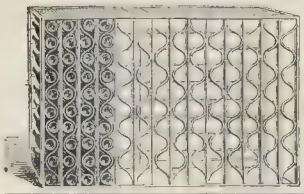
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Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



Made any size or shape, to fit any spare corner, with SEPARATE REST FOR EACH BOTTLE,

Peculiarly adapted for Private Cellars.

No laths are required, and all trouble of Binning is avoided.

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CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

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Wrought Iron Girders, Flatches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

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INTERNATIONAL EXHIBITION, 1862.

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J. DEFRIES & SONS,

ENGINEERS, GAS-FITTERS, AND MANUFACTURERS,

OF MEDIEVAL AND EVERY DESCRIPTION OF GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS, VESTIBULES, &c. &c.

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HOT-WATER PIPES,

For Heating Conservatories, Warehouses, &c. supplied and fitted on the most improved and economical Principles.

PUBLIC AND PRIVATE GAS-WORKS ERECTED.

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The above RANGE is most complete, and strongly recommend for its unrivalled ECONOMY, CLEANLINESS, CONVE-IRNC DURABILITY, and is a certain CURE for SMOKY CHIMNEYS.

It is an entirely new invention, and consists of large MEI ROASTER, PASTRY OVEN, and WROUGHT IRON BOILER. T top forms a HOT PLATE for BOILING, STEWING, &c. The whc heated by ONE SMALL FIRE. One 5 feet wide is equal to an ov nary Range 8 feet wide.

Extracted from the "London Daily Telegraph," May 19th, 1862.

"INTERNATIONAL EXHIBITION, CLASS 31.

"Of the most recent inventions it should be said that Mess JONES & ROWE'S Patent Worcestershire Range has attracted va special attention, and has been commended by the best authorities. valuable peculiarity of their Ranges is the placing of the OVEN a ROASTER one above the other instead of side by side; and t ROASTER is constantly replenished with fresh air."

INVENTORS AND MANUFACTURERS,

JONES & ROWE, WORCESTER,

AGENTS FOR LONDON: BARRON, SON, & WILSON, 450, STRAND, W.C.

Illustrated Catalogues, with Testimonials and Prices, forwarded application.

PATENT HEATING and VENTILATIN APPARATUS.



SAVES IN FUEL 50 PER CENT.!

A prospectus, containing a full description of its action, and nume rous advantages, will be given on application to the Patentee,

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STEAM-ENGINES, DECK WINCHES CONTRACTORS' LOCOMOTIVES, &c.—ALEXANDER SHANK & SON, ENGINEERS, manufacturers of portable and fixed steam engines; upright stationary engines (requiring no expense for brid work or masonry); steam deck winches; portable steam-cranes and hoisting engines (the latter adapted for loading and discharg ships, &c. and may be placed either on deck or on the quay); con tractors' locomotives; water-wheels; turbines; sugar, flour, oil, an bone mills; machinery for pumping, winding, sawing, &c. The mo improved machinery and the best materials are used in the manufac ture of these engines, mills, &c., and all are carefully tested befor leaving the works. Price lists on application.

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and 27, LEADENHALL STREET, LONDON, E.C.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E These Reflectors never tarnish, require no cleaning, and are the mo effective and durable yet presented to the public. All kinds of Bra Glass Silvered.

N.B.—The usual discount to builders and the trade.

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Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGH IRON TUBE MAKERS.

REVOLVING SHUTTERS, TWO SHILLINGS PER FOOT.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

CLARK & CO. PATENTEES,

And Manufacturers to the Honourable Board of Works,

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON,

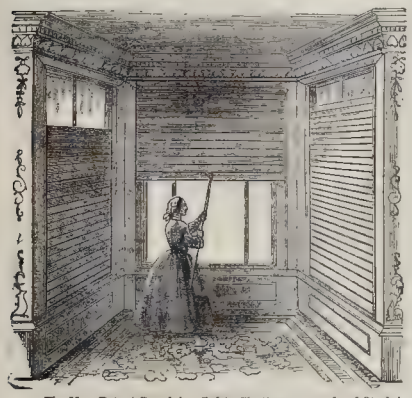
AND 4, MARKET STREET, MANCHESTER.

CLARK'S Patent Self-Coiling Iron Shutters, 3/ per Foot.

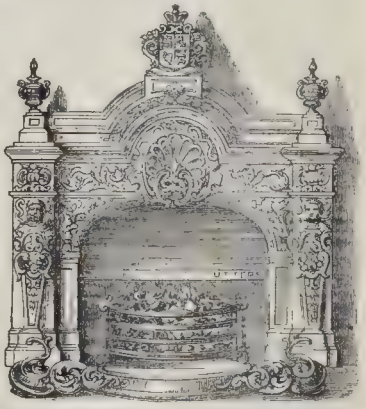


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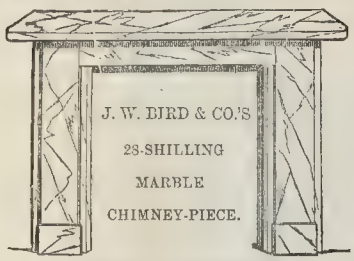
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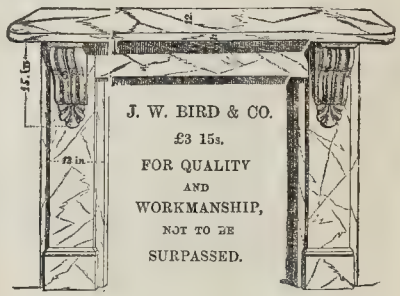
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THE ART-JOURNAL for SEPTEMBER (price 2s. 6d.) contains, Three Line Engravings — viz. "A Hawking Party," by C. Cousen, after F. Taylor, president of the Water-Colour Society; "The Decline of Carthage," by J. B. Allen, after J. M. W. Turner, R.A.; and "The Lady of the Lake," by G. Stodart, from the statue by B. E. Spence. The literary contributions include — "Plymouth China," by Llewellynn Jewitt, Illustrated; "Burial Artists: Undertakers' Arrangements," by James Dafforne, Illustrated; "History of Caricature and of Grotesque in Art," by Thomas Wright, Illustrated; "A Bubble from a New Brunnen," by Mrs S. C. Hall; "Art in its Influence on Art-Manufacture," by J. B. Atkinson; "The Architectural Museum;" "The Report on the Royal Academy;" "National Portrait Gallery;" Biographical Sketch of W. Mulready, R.A. &c. &c. The present number also contains the concluding portion of the Illustrated Catalogue of the International Exhibition, which contains specimens of French Bronzes, Porcelain, Lace, and Inlaid Marble work; Arms: Japanese Damascening, and English Medieval Metal work; Porcelain, Cabinet work, Plate, &c. &c. N.B. The Numbers for October and November will contain a History of the Exhibition, and Engravings of the Sculpture therein exhibited.

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ROCHESTER MEETING of the ARCHÆOLOGICAL INSTITUTE — The proceedings of this and other Learned Bodies are fully given in the September Number of THE GENTLEMAN'S MAGAZINE (price 2s. 6d.), which also contains Papers on the Buildings of Bishop Gundulph, Investigation of a large Celtic Grave-hill in Cleveland, Commercial Routes of the Middle Ages, The Holy Brigitta and the Church in the North, Proposed Restoration of Winchester City Cross, &c.; together with Correspondence on Irish Round Towers, Anglo Saxon Churches, Site of the Defeat of Eadwine and Morkere, &c.; Reviews; Monthly Intelligence; Obituary; Births, Marriages, and Deaths, Markets, &c.
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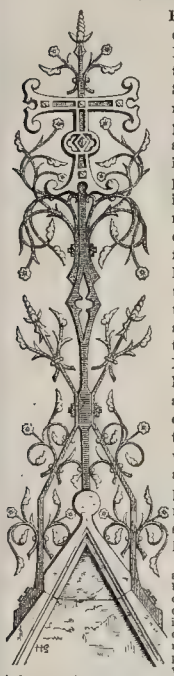
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VOL. XXI.—No. 1074.

The British Association for the Advancement of Science.



HE meeting in Newcastle-upon-Tyne, of the British Association for the Advancement of Science, produced in most of the sections, papers and discussions on subjects in which we are interested. The whole proceedings were of an important character. The mineral resources of the district, and the manufactures fed by them, have largely contributed to the progress which this country has made since 1838, when last the Association visited Newcastle; and seldom has there been so favourable an opportunity of comparing the acquisitions of present time, with the possessions of a quarter of a century past. Of this opportunity Sir William Armstrong availed himself. He said:—

"In mechanical science, and especially in those branches of it which are concerned in the application of steam power to effect interchange between distant communities, the progress made since 1838 has no parallel in history. The railway system was then in its infancy, and the great problem of Transatlantic steam navigation had only received its complete solution in the preceding year. Since that time railways have extended to every continent, and steamships have covered the ocean. These reflections claim our attention on this occasion, because the locality in which we hold our present meeting is the birth-place of railways, and because the coal-mines of this district have contributed more largely than any others to supply the motive power by which steam communication by land and water has been established on so gigantic a scale."

The history of railways, he pointed out with much felicity of illustration, showed how grand results might have their origin in small beginnings. When coal was first conveyed in that neighbourhood, from the pit, to the shipping-place on the Tyne, the pack-horse, carrying a burden of 3 cwt., was the only mode of transport. As soon as roads suitable for wheeled carriages were formed, carts were introduced; and that first step in mechanical appliance to facilitate transport, had the effect of increasing the load which the horse was enabled to convey, from 3 cwt. to 17 cwt. Next there were wooden bars or rails for the wheels of the carts to run upon; and then the four-wheeled waggon, in place of the two-wheeled cart, brought the augmentation of the original horseload of 3 cwt. to 42 cwt. The next step in the progress of railways was the attachment of slips of iron to the wooden rails. Then came the iron tramway, with an upright flange of the bar acting as a guide to keep the wheel on the track. The next advance, an important one, consisted in transferring the guiding flange from the rail to the wheel. Finally, in 1820, after the lapse of about 200 years from the first employment of wooden bars, wrought-iron rails, rolled in long lengths, and of suitable section, were made in the neighbourhood of Newcastle. Last of all came the locomotive engine, which enables us to convey a load of 200 tons at a cost of fuel scarcely exceeding that of the corn and hay which the original pack-horse consumed in conveying its load of 3 cwt. an equal distance.

In thus glancing at the history of railways, said Sir William, we may observe how promptly the inventive faculty supplies the device which the circumstances of the moment require.

"No sooner is a road formed fit for wheeled carriages to pass along, than the cart takes the place of the pack saddle; no sooner is the wooden railway provided than the waggon is substituted for the cart; and no sooner is an iron railway formed, capable of carrying heavy loads, than the locomotive engine is found ready to commence its career. As in the vegetable kingdom fit conditions of soil and climate quickly cause the appearance of suitable plants, so in the intellectual world fitness of time and circumstance promptly calls forth appropriate devices. The seeds of invention exist, as it were, in the air, to germinate whenever suitable conditions arise, and no legislative interference is needed to ensure their growth in proper season."

Turning to the consideration of the coal-fields of the district, so intimately connected with the railway system, he touched upon the question of their exhaustibility. The quantity of coal in the world might be considered as practically inexhaustible.

"Turning, however, to our own particular country, and contemplating the rate at which we are expending those seams of coal which yield the best quality of fuel, and can be worked at the least expense, we shall find much cause for anxiety. The greatness of England much depends upon the superiority of her coal in cheapness and quality over that of other nations; but we have already drawn from our choicest mines, a far larger quantity of coal than has been raised in all other parts of the world put together; and the time is not remote when we shall have to encounter the disadvantages of increased cost of working and diminished value of produce."

The discrepancies of estimates, he said, resulted chiefly from the enormous difference in the rate of consumption at the various dates when the estimates were made, and from the different views entertained as to the probable increase of consumption. The quantity of coal yearly worked from British mines, had been almost trebled during the last twenty years. Statistics showed that the average annual increase of the eight years preceding the end of 1861, amounted to 2¾ millions of tons. It was clear that long before complete exhaustion took place, England would cease to be a coal-producing country on an extensive scale. So far as the Newcastle district was concerned, it was generally admitted that 200 years would be sufficient to exhaust the principal seams, even at the present rate of working. If the production should continue to increase as it was now doing, the duration of those seams would not reach half that period. Were we reaping the full advantage of all the coal we burnt, no objection could be made to the largeness of the quantity, but we were using it wastefully and extravagantly in all its applications.

Reference was then made to the possibility of perfecting, or discovering, other motors than those working by steam and by the consumption of large quantities of fuel. He said:—

"The causes which render the application of heat so uneconomic in the steam engine, have been brought to light by the discovery of the dynamical theory of heat, and it now remains for mechanicians, guided by the light they have thus received, to devise improved practical methods of converting the heat of combustion into available power.

Engines in which the motive power is excited by the communication of heat to fluids already existing in the aëriform condition, as in those of Stirling, Ericsson, and Siemens, promise to afford results greatly superior to those obtained from the steam-engine."

Still Sir William did not seem to accord with the common observation, that before coal is exhausted, some other motive agent, as electricity, would be generally applied. Materials must be consumed in either case, and there were none so cheap as coal. Since the date of this address, however, a correspondent of the *Times* has taken a different view of the costliness of battery-action, as involving double decomposition, and endeavours to show that the solution of the problem may be found in Sir William's remark, that motion is convertible into electricity. Sir William referred afterwards to another source of motive-power, that of water descending from heights, as shown in the hydraulic capabilities of the Greenock waterworks. He then spoke of the wasteful expenditure of fuel in the metallurgical applications of coal. We are thus coming to a portion of his address which bore strongly upon a subject to which we gave some slight attention last week. In an ordinary furnace employed to fuse or soften any solid substance, he remarked, it was the excess of the heat of combustion over that of the body heated, which alone was rendered available for the purpose intended. The rest of the heat, which in many instances constituted by far the greater proportion of the whole, was allowed to escape uselessly into the chimney. The combustion also in common furnaces was so imperfect, that clouds of powdered carbon, in the form of smoke, enveloped our manufacturing towns; and gases, which ought to be completely oxygenized in the fire, passed into the air with two-thirds of their heating power undeveloped.

Some remedy for this state of things might be at hand, in the gas-regenerative furnace of Mr. Siemens, wherein the rejected heat was arrested and communicated to the new fuel before it entered the furnace.

With regard to smoke, "at once a waste and a nuisance," Sir Wm. Armstrong having taken part with Dr. Richardson and Mr. Longridge in a series of experiments made in the neighbourhood of Newcastle in 1857-58, for the purpose of testing the practicability of preventing smoke in the combustion of bituminous coal in steam-engine boilers, could "state with perfect confidence that, so far as the raising of steam is concerned, the production of smoke is unnecessary and inexcusable."

He said,—

"The experiments to which I refer, proved beyond a doubt, that by an easy method of firing, combined with a due admission of air and a proper arrangement of fire-grate, not involving any complexity, the emission of smoke might be perfectly avoided, and that the prevention of the smoke increased the economic value of the fuel and the evaporative power of the boiler. As a rule, there is more smoke evolved from the fires of steam-engines than from any others, and it is in these fires that it may be most easily prevented."

But, he was obliged to admit that, in the furnaces used for most manufacturing operations, the prevention of smoke is much more difficult, and will probably not be effected until a radical change is made in the system of applying fuel for such operations.

He continued:—

"Not less wasteful and extravagant is our mode of employing coal for domestic purposes. It is computed that the consumption of coal in dwelling-houses amounts in this country to a ton per head per annum of the entire population; so that upwards of twenty-nine millions of tons are annually expended in Great Britain alone for domestic use. If any one will consider that 1 lb. of coal applied to a well-constructed steam-engine boiler evaporates 10 lb. or one gallon of water, and if he will compare this effect with the insignificant quantity of water which can be boiled off in steam by 1 lb. of coal consumed in an ordinary kitchen fire, he will be able to appreciate the enormous waste which takes place by the common method of burning coal for culinary purposes. The simplest arrangements to confine the heat and concentrate it upon the operations to be performed would suffice to obviate the reprehensible waste. So also in warming houses, we consume in our open fires about five times as much coal as will produce the same heating effect when burnt in a close and properly constructed stove. Without sacrificing the luxury of a visible fire, it would be easy, by attending to the principles of radiation and convection, to render available the greater part of the heat which is now so improvidently discharged into the chimney."

Some notice was then taken of coal-mining, and of means of protection against accident; and the experience of the Monkwearmouth Colliery—less than half the depth of 4,000 feet, the limit assumed as that at which coal could be worked,—and which experience members of the Association had themselves subsequently means of testing, by a descent into the mine,—was quoted to show that the greater depth would probably be attended with an increase of heat exceeding the powers of endurance, and that the computations of the duration of coal might require a considerable reduction in consequence of too great a depth being assumed as practicable. Before dismissing the subject of coal, Sir William noticed the recent discovery by Berthelot of a new form of carburetted hydrogen, possessing twice the illuminating power of ordinary coal gas; and the production by Dr. Odling, of the same gas, by mixing carbonic oxide and carburetted hydrogen, and exposing the mixture in a porcelain tube to an intense heat.

The spectrum experiments of Bunsen and Kirchoff tending to show the identity, in part at least, of the materials of the sun, with those of

our planet, and to corroborate conjectures as to the luminous envelope of the sun; Mr. Nasmyth's discovery that the bright surface of the sun is composed of an aggregation of apparently solid forms shaped like willow leaves; the dynamical theory of heat; the discoveries respecting the absorption and radiation of heat by vapours and permanent gases; and Mr. Glaisher's contributions to meteorology, were all adverted to.

Sir William then referred to the facilities now given to the transmission of intelligence and the interchange of thought. But he observed,—

"While so much facility is given to mental communication by new measures and new inventions, the fundamental art of expressing thought by written symbols remains as imperfect now as it has been for centuries past. It seems strange that while we actually possess a system of shorthand by which words can be recorded as rapidly as they can be spoken, we should persist in writing a slow and laborious longhand. It is intelligible that grown-up persons who have acquired the present conventional art of writing should be reluctant to incur the labour of mastering a better system; but there can be no reason why the rising generation should not be instructed in a method of writing more in accordance with the activity of mind which now prevails. Even without going so far as to adopt for ordinary use a complete system of stenography, which it is not easy to acquire, we might greatly abridge the time and labour of writing by the recognition of a few simple signs to express the syllables which are of most frequent occurrence in our language. Our words are, in a great measure, made up of such syllables as *con, con, tion, ing, able ain, ent, est, ance*, &c. These we are now obliged to write out over and over again, as if time and labour expended in what may be termed visual speech were of no importance. Neither has our written character the advantage of distinctness to recommend it; it is only necessary to write such a word as 'minimum' or 'ammunition' to become aware of the want of sufficient difference between the letters we employ."

Next, he discussed the question of weights and measures, fully adopting views which we have supported in these pages, and to which we may have to revert at some future time, when we shall be disposed to give our best consideration to the arguments which have come from those who do not agree with us, and with Sir William Armstrong, touching the advantage of adoption of the French system.

Several papers on subjects interesting to our readers have been read in the sections. To these we may return. The meeting has been a most successful one. The Association will meet next year in Bath, under the presidency of Sir Charles Lyell.

THE STEEL-YARD MERCHANTS, THAMES STREET: THEIR RISE, HISTORY, AND FALL.

THE so-called improvements now being carried out in the city of London, and surrounding parishes, have caused the fall of many an important building, and swallowed up sites well known to our forefathers of old. In this wise the Charing-cross Railway has been most successful. It has caused the destruction of St. Thomas's Hospital: it has caused a line of anything but handsome structures to be bridged across the Borough: it has passed over many a hallowed piece of ground; destroyed Brunel's suspension bridge; turned the site of Hungerford Market into a railway station; and last, but not least, it has, by means of a City extension, taken possession of the Steel-yard and Dowgate Wharf site in Thames-street, which, as will now be attempted to be proved, has one of the most interesting histories connected with it.

The "Gilda Theutonicorum," afterwards the Steel-yard Merchants of London, was a regular trading company 800 years ago. It gave rise to the famous Hanseatic League, a commercial confederacy first formed on the east shores of the Baltic, in the eighth century, to protect the trade from the piratical incursions of the Normans; thence deriving their name of "Easterlings," who have been styled, by Pennant, "masters in the art of commerce."

These merchants are first spoken of in the second year of King Ethelred II., 979, when the "Emperor's men," as they are called, upon coming in their ships to Billingsgate, were accounted "worthy of good laws." They were not to forestall the markets from the burghers of London; and were to pay toll, at Christmas, two grey cloths and one brown one, with 10 lb. of pepper, five pairs of gloves, two vessels of vinegar, and as many at Easter. The fraternity had a council of twelve, presided over by one of them,—an alderman; for, be it known that, at that period, the jurisdiction of aldermen over guilds was similar to that of lords over their demesne lands, and sheriffs over their hundreds.

The whole confederacy constituting the German or Hanseatic League was very extensive, but the Easterlings were the most famous branch, and were settled in London. The societies abroad were divided into four classes, each having a presiding city, separated east and west. The term "hanse" (Latin, *hansa*) signifies a guild, well understood at that period; for, in King John's charter to Dunwich, 1199, are the words, "we grant them a hanse;" and Henry III.'s second charter to the Steel-yard merchants, 1250, has the expression, "*quod habeant hansam suam.*"

Time went on, and in Edward the Confessor's reign we find London described as "a noble city, frequented by merchants from all parts of the world," and the Hanse merchants frequenting it in true commercial spirit. The "League" was a multitude of merchants of twelve towns on the Baltic, and subsequently increasing to sixty-four, some say even eighty, of the noblest cities in Germany, Sweden, &c.; it thought proper, about the year 1200, to choose for its governor, or protector, the grand master of the German Knights of the Cross.

Among the Harleian MSS. in the British Museum, we find "Grauntes of Privileges by Kings of England, from King Henry III. to Edward VI., to the Haunses or the Stylyards, alias Guildhall Teutonicorum." In 1256, at the special request of his brother Richard, then king of the Romans, Henry III. granted unto Lubecke (one of these Hanse merchants) privileges for seven years; and we find in the same reign the citizens of Cologne paying Henry thirty marks to have seizen of their Guildhall in London. Again, in 1266, at the humble suit of Henricke, Duke of Brownswicke, the said king granted to Lubecke and others, for ever, those valued privileges confirmed by his successors, the three Edwards; and it is generally agreed that these grants were obtained in consideration of services rendered by the Hanseatic ships in the time of war. So powerful, indeed, were they, that they did alone most of the foreign trade, being assisted greatly by Edward III.'s patronage.

The "Steel-yard" itself, where the London guild met, will be noticed presently; for we deem the history of the company worthy of first attention. Within the building, however, partitioned in separate cells, the brethren lived under strict regulations. They had a common table, though probably they themselves were divided into parties, each having a head or master. All brethren were single; for, if any married an Englishwoman, or kept one, he lost his house and became disqualified. No housekeeper was allowed: none was allowed to sleep out of the Steel-yard; nor were the transactions within to be communicated to the Londoners without. The council of commerce was a private and selected assembly. The directory of the factory or trading part was vested in an alderman, two deputies or co-assessors, and nine councilmen; the whole forming the chamber of commerce. They met every Wednesday, in summer at seven, in winter at eight, in the hall at the Steel-yard, to settle disputes (then frequent) and other matters. The residents were classed in three divisions. Cologne, and towns on the other side of the Rhine, was one: Westphalia, the Netherlands generally, the Lower Rhine, and the Saxon and the Wends, formed the second; and the Prussian, Lithuanian, and Scandinavian towns the third. On New Year's eve a general assembly took place. Each department elected four members, making twelve; but if none could be found fit in either department, the alderman, their president, nominated the remainder, so as to make the twelve. The new alderman was then chosen by ballot and majority, the two co-assessors were elected, and the following oath taken:—

"We promise and swear to keep and maintain the rights and privileges of the merchants in England, and all laws and ordinances, to the best of our abilities; and to deal justly towards every one, he he rich or poor, in all affairs of commerce, without malice. So help us God and all his saints."

Then the retiring alderman gave up his key to his successor, and then he and his two co-assessors swore in the nine councilmen. A past alderman was ineligible for office for two years; yet he might be a co-assessor or one of the council at any time. Fourteen days after the meeting another was held, and the privileges and statutes read over. The alderman, if absent on his own or other business out of the City, had his duties performed by one of the other eleven members: if out of England, then a general meeting appointed a temporary successor. A member leaving England, another was elected in his place. He who refused office on election was fined forty shillings, and on refusing a second election was deprived of privileges: refusing to go beyond sea or elsewhere in the name of the treasurer, he was fined (unless sufficient excuse were made) one hundred shillings: if a second time, he lost his privileges. To speak disrespectfully of the alderman involved a fine of forty shillings and begging the alderman's pardon in open court. If the alderman commanded a member not to leave London without permission and he disobeyed, then the sergeant arrested and imprisoned him. Other privileges, &c., will be noted in the following data:—

1282. 10 Edward I.—"Bisshoppesgate," lying eastward of the City, being greatly decayed, a prolonged dispute took place between the mayor and commonalty of London and the said Hanse merchants, otherwise merchants of Almanie; the merchants having undertaken always to repair that gate in exchange for the privileges granted them. The contending parties appeared before his Majesty's Treasurer and Barons of the Exchequer, who, on evidence, at once decreed that the mayor, &c., of London should at once compel the said merchants to repair well the said gate. Whereupon Gerard Merbode, alderman of the Hanse, with six of the members of the guild then in the City, undertook for themselves and successors the following: To pay 240 marks sterling ready money towards the repair, and that they would at all times repair, keep, and defend one-third part of the gate; the City sustaining and defending the other two-thirds of the gate (below). And for peace and final agreement, the mayor and citizens did grant the said merchants and their successors the liberties as they had before enjoyed; and further, for the said repair and defence, that they should be acquitted of all "murage," otherwise contributions for repairs of walls; that they might harbour all corn which they brought to the City for sale, free; that they might sell such corn within forty days afterwards at their own hostels and granaries, unless the mayor, king, or corporation should, by reason of the dearness of corn, prohibit it. Also, that they should have their own alderman as before, provided he be a freeman of the City, and that when elected he took oath before the mayor and alderman of the City, to serve, protect, and otherwise obey and attend to the City's rights and privileges; the merchants on their part agreeing at any time to be distrained for the keeping of the said gate. And for the better performance of the same agreements, a "chirograph" or writing was made between them, in the month of June, 1282, and the king's exchequer seal thereunto affixed.

1301. 29 Edw. I.—At an inquisition taken before the mayor and aldermen, the 8th December, respecting the measurement of corn and salt, it was ordered,—

"That no meter, or any servant of theirs, shall interfere between buyers and sellers; and that such meters shall not go for the purpose of meting corn beyond the Hall of the Teutonics" [or Hanse merchants].

1377.—Charters and privileges confirmed and delivered to the merchants in the great chamber at Westminster, by the Archbishop of Canterbury, in the presence of the Lord Treasurer, Lord Privy Seal, Master of the Rolls, &c.

1388-1390.—Conradus Holner, Great Master of Prussia, was about granting that all English merchants should be free there; but dying, his successor granted this privilege, which was confirmed by Richard II., who, in 1389, appointed John Bewyes, a city merchant, governor of these merchants in Prussia, and in 1390 confirmed it under great seal.

1400.—Henry IV. confirmed their charter, with certain conditions already made, as to fealty, &c.

1462. 2 Edward IV.—His charter to the city of London, dated November 9th, certifying city customs, and taxing the citizens of London, particularly states that—

"This our present grant be not in prejudice or derogation of any grants by us or any of our progenitors made or granted to those merchants of Almanie which have an house in the city of London, which is commonly called the Guildhall of the Almanies, or their successors."

1493.—The Easterlings, or Steel-yard merchants, had for many years enjoyed the liberty of importing cloth, &c., from Flanders, &c. The other city merchants were greatly displeased at this monopoly, which decreased their business, and compelled them to discharge many servants; and the King, Henry VII., was glad of a trifle to revenge himself on the Flemings for their having countenanced the impostor, Perkin Warbeck. The London mob took the hint, and the result was a great riot at the Steel-yard, in which much damage was done, and was only stayed when the mayor and aldermen came to the merchants' assistance. Eighty servants and apprentices were taken (not

one householder), and some imprisoned in the Tower. It was one of those "'prentice riots" of the olden time. The Drapers' Company paid 11s. 9d. for lights, banners, ale, candle, &c., in keeping men to watch the Steel-yard for seventeen days against the riotors.

1531.—In an Act of Parliament, 22 Henry VIII., c. viii., it was enacted that the merchants of the House of Almaric, "commonly called Guildhall Theutonicorum, otherwise called the Merchants of the Stilliard in London," should be exempted from the payment of all king's taxes within the said city.

1577-8.—Among the Harleian MSS. is "A note of all such clothes and kersies as have been shipped out of the porte of London by m'chaunts straungers for Hambroughe, from the Feast of St. Michael, 1577, to the same 1578, by 41 merchaunts;" and this is probably the dying speech of the Steel-yard Company.

Their privileges, with those above described, consisted of their being under the jurisdiction of the Court of Admiralty; of its being illegal to arrest a Hanse merchant except on very serious grounds; of their power to remove their houses or officers; their right to receive from the king's customs drawbacks on their exports; that the city and corporation of London should accept any commercial treaty, though against themselves; that they were permitted to sell wine by retail; to keep a stilliard or balance to weigh or measure goods in every town; to pay but very moderate custom dues to the king, &c. There was a subsidy raised from every Hans living in England of 40s., and from those residing only six weeks, 20s. a year. Any person leaving without paying this tax, made his landlord liable. Those made denizens paid 10 marks per annum. They traded in the various commodities of commerce; iron, steel, and cloths being among the list. Their trade, however, gradually declined; and, in the reign of Edward VI., their privileges were declared void, their franchises forfeited, and their corporation dissolved; and they themselves ceased to exist in name in the reign of "Good Queen Bess."

The Steel-yard was in the parish of Allhallows, Thames-street, in the ward of Dowgate; or as may have been already understood by those acquainted with London, it lay between Cousin-lane and Allhallows Church. On its east formerly stood the magnificent mansion called Coldharbour, first mentioned 13 Edward II., and afterwards the residence of Sir John Poulteney (four times Lord Mayor), of two dukes, two earls, a Prince of Wales, and Tonstal, Bishop of Durham. The Steel-yard was the principal factory of the Hanse merchants in London. It bore the name of "Gilhalda Teutonicorum,"—the German Guildhall. The term Steel-yard is thus explained by a German writer: It is a contraction of stapelhoff, softened into Stalhoff, synonymous with the English staple, otherwise a general depôt for imported merchandise. Steel was only one of the articles imported. As business increased their warehouses and premises increased too; and in 1393 they took adjacent premises with a river quay for the proprietor. One named Lyons was killed in a quarrel on the establishment. The merchants built Windgoose-alley, so as to bring their two houses together. Subsequently they took another house, belonging to John Rainwell, called the Steel-yard; and Edward IV. granting them full possession in the treaty of Utrecht, they became the Steel-yard merchants, and their entire premises were called the Steel-yard instead of the Guildhall. They made it of great strength with thick walls and three gates, Stow adding that "the middlemost whereof is far bigger than the other, is seldom opened, and the other two are now (1598) mured up: the same is now called the Old Hall." The yard had been shut up the preceding year, when the Germans had been expelled the kingdom.

Pennant tells us that in their hall were Holbein's two famous pictures, "The Triumph of Riches," and "Poverty." At the break-up of the guild they were supposed to have been taken to Flanders; then to France; and in Pennant's time supposed to be in the possession of M. Fleishman at Hesse Darmstadt. In Hollar's view of London, 1641, the Thames front of the Steel-yard is represented fenced in by a breast-high wall, the width of the open part of the yard, originally flanked by large piles of masonry, but at that period lowered into sheds, and exhibiting remains of Tudor-fashioned windows. From these sheds and walls stretched, as far as Thames-street, ranges of warehouses on each side, with a high octagonal-shaped tower rising amidst the buildings on the east side, and which probably was the bell-tower of the once monastic-like foundation, or the watch-tower when the "'prentice" and other riots were then in vogue. Two landing-places, then termed bridges, with steps from the river, are also seen.

But the glories of the Steel-yard, if antiquity may be termed glorious, had already departed; though in 1732 it was considered one of the remarkable things in the parish of All Hallows. In 1802, a fragment of the stone wall remained incorporated in the wall of brick. The name existed too. The front had a long blank wall with arched gateway; a pavement in front, in Thames-street, about 2 feet wide; and the spread eagle surmounting the gate. It had, with the Dowgate wharf adjoining, long been used by the dock company as wharfs and warehouses for iron and steel bar goods, &c.; and at last, some six centuries after the Hanse merchants had commenced their career, and some three centuries after they had ended it, one of the iron roads of England has taken the Steel-yard for itself.

On the 9th of July and the 5th and 25th of August, 1863, in about 380 lots, Messrs. Willis & Harrow sold the building materials of the well-known Steel-yard, the adjoining Dowgate Wharf, and the Falcon Tavern, with a range of warehouses in Cousin-lane, the site of which had been purchased, as already mentioned, by the Charing-cross Railway Company for the purposes of their City Extension. In years to come, when the roar of the locomotive is heard as it enters the city of London from the bridge across the Thames, drawing its precious freight behind it, few will know that the site they are crossing belonged anciently to a fraternity styled by Anderson the "most eminent mercantile confederacy, which is not to be paralleled in either ancient or modern story, and of its ancient privileges in England."

ANTIQUITIES IN ROME.

JUDICIOUS improvements have been carried out of late years, at the Museum of the Capitol, whose halls and corridors, neither built nor at all adapted for display and sculpture, had been formerly left in a state of neglect, dingy, ill-lighted, and uncleanly, by no means to the credit of an institution so celebrated. As for *lighting*, we cannot say that this is yet adequately arranged; nor can we find excuse for the fact that many works of art here are left so discoloured by causes that have affected their marble surfaces, as to be greatly injured, some of the most valuable most suffering in effect. What may be commended is the colouring of the walls and ceilings, with tints in which predominates a dark maroon, suitable to a background for statuary, and borders of gilding or colour round the reliefs set on wall-surfaces; this decoration on the coffered ceilings being carried to a degree absolutely gorgeous. The bronzes, not a large collection, have been separated from the marbles, to occupy a small room on the ground-floor, contiguous to which now open two other chambers recently appropriated to sarcophagi, altars, and epigraphs, Christian and Pagan, the former mostly from the *Ager Veranus*, or catacombs, on the Tiburtine Way, above which now extends the public cemetery of S. Lorenzo; the range of non-funereal inscriptions, in this collection reaching from the epochs of Pagan emperors, and Valentinian and Theodosius; and a modern tablet, above the entrance, tells us how this compartment was added to the museum by the eight "Conservatori" of Rome, *anno urbis conditæ*, 2616. But the most interesting recent addition to the art collection of the Capitol placed, about a fortnight ago, in the "Hall of the Dying Gladiator" (though not for permanence), is a statue of the elder Faustina, the scale heroic, and therefore less than colossal, representing the wife of Antoninus Pius as deified, with the attributes of the goddess of plenty, a patera in the right, a cornucopia filled with fruit in the left hand; the hair simply braided, without diadem or other ornament; the dress a tunic of light material, skilfully treated by the artist, a more substantial pallium enveloping the body from the waist downwards, thrown over the left arm, traces of pink colour being distinctly visible near the borders of this vestment; as also, when the statue was first disinterred, remnants of gilding were seen in the hair, and of red tinting (no doubt, the *minium* mentioned by Pliny) on the cheeks, no longer visible; the countenance handsome, but somewhat haughtily characterized, nor, though indeed intellectual, either animated or pleasing. Apparently representing a woman of about forty years, with full and majestic figure, this statue may be criticized unfavourably for the heaviness of its general outlines, and the inferiority of conception and details of treatment. It is the only antique full-length of the empress, deified by her too fond husband (blind, it appears, to many errors), whose name is still read on the temple he dedicated to her in the Forum; and was disinterred in the Villa Negroni, shortly after the works had begun on that site for founding the new railway-station, by Signor Guidi, who has done much in the search for buried antiquities; by him presented to the pope, and eventually by his holiness to this museum, after a restoration in parts where the figure was slightly injured, by the sculptor Galli. The more admirable statue of Augustus, found at the Villa of Livia, on the Flaminian Way, has been purchased by the chapter of S. Maria, in Via Lata, on whose estate the excavations were made, and by them presented to the pope as contribution to the "Peter Pence." It is now at the studio of Tenerani for the restoring requisite.

On the lower slopes of the Palatine, along the northern and western side, works of excavation have been progressing for some time, in grounds once purchased by the Emperor of Russia, but now belonging to this Government, by which the present undertaking has been ordered. The decorative paintings on walls of chambers brought to light here have attracted notice, and been reported on at the Archæologic Academy. Several small figures, one a lady at her toilet, birds, festoons, interspersed with designs of architecture in light fantastic style, and candelabra, one very gracefully imagined in materials entirely of flowers and tendrils, divided near the centre by an eagle standing on a globe, are the discoveries most noticeable, the character of these works reminding us of Pompeian art, not distinguished by anything more than a certain fantastic gracefulness; but the discovery most important to archæology is the outer side of the ancient gateway, with jambs and archivolt of fine brickwork, whose *inner* front was brought to light in the excavations ordered by the French Emperor, and directed by Signor Rosa, on the higher grounds of this hill; that gateway being identified, it seems, on just theories, as the Porta Romana of the "Roma Quadrata," or whatever was the primitive city that first comprised, within its fortified circuit, the entire Palatine height. Should it appear that these remains are really connected with the stupendous constructions in lithoid tufo, found a few years since under the church of S. Anastasia, below the Mount's north-western angle, the light obtained for its antiquities, and for the illustration of Rome's earliest history, would indeed be important. Visiting these ruins on the 1st of July, we saw a pavement of marble mosaic, laid simply in black and white squares, and some portions of painting, architectonic in subject, both discovered by the labours of that day; and we were glad to hear that no fewer than forty men were daily employed here. Returning to the spot on the 7th of August, we did not observe any remarkable addition to the results formerly obtained by these labours; but the removal of soil had completely uncovered the ancient gateway, which, now entirely exposed, and seen to be of no other than brick masonry, must be considered in its present state a restoration of the Imperial period. On the same line with this gateway, but divided from it by a long extent of ruins against the hill-side, is the singular construction in regular quadrate stonework, discovered in 1847, and having evidently the character of fortification, assumed to belong also to the primitive "Roma Quadrata."

The sessions of the Archæologic Academies are suspended during the sultry season; as also the excavations in Catacombs, those at the Villa of Livia (to be resumed), and most similar undertakings.

THE "LUNGS OF LONDON."

CONSIDERABLE exertions, certainly, have been made of late years, to improve and to increase the number of the parks of London; and we are glad to recognize the progress of taste in the arboricultural and floricultural arrangements of these open spaces. The general planning, also, is improved, though there is yet room, in their distribution, for that high art of landscape-gardening which includes the use of architectural and sculpturesque objects and features.

During the early part of the present season and up to the present time, the Regent's Park has been undergoing one of the most important changes that have taken place in it since it was first laid out. The most attractive parts of the park have been turned into garden walks; and in the "First Park," so called from its being the first division near the entrance to

the Marylebone-road, the transition from what was previously a broad path, lined with trees on each side, is great; though only one portion of the work was complete when last we were in the locality. The large chestnuts have been cut down. Whether destruction of trees that take long to grow, is necessary so often as it seems thought to be, judging from the frequency of the destruction, we must decline saying at present. The number of dead trees in the parks, however, appears to us increasing. In place of the chestnuts in the Regent's Park, the ground has been laid out and filled with choice shrubs and flowers. The space on the left side of the First Park is divided into about forty circular and parallel patches, which are neatly railed round; and, in addition to a beautiful display of costly flowers, each patch — round which paths have been formed, terminating in a large one in the middle — is ornamented with a large vase of stone. Several other improvements have been carried into effect. Two fountains have been placed,—one near Gloucester-gate, and the other in the middle of the Broad-walk; the space around the latter being ornamented with exotics, &c. Mr. Cowper has the credit given to him of the entire direction of these works.

In Battersea Park, under the same direction, the whole extent of the ground, large portions of which till recently have been lying waste, has been tastefully laid out and arranged, and divided into long lines of flower-beds, similar to those in the Regent's Park. The walks along these beds have been contrived with a view to the best effect; and several of them, which are as long as the width of the park, have a charming aspect, the flowers down the entire lengths being of varied hues and neatly railed with galvanized wire. The latest improvement, effected within the last few weeks, is near the south entrance, in the Battersea-road, where a long oval bed has been laid out, intersected with circular patches. The beds are stocked with the choicest flowers and English and foreign exotics, and are planted with great taste. The road round the park has been completed, and is daily thrown open for carriages and horsemen. The lake is stocked with different species of wild fowl. Battersea Park, and the bridge which connects it with Chelsea, were formally opened to the public in the spring of 1858. The first Act of Parliament for originating the park passed the Legislature in 1836; but it was not till further Acts were passed to enlarge the powers of the Commissioners of Woods and Forests in 1848, 1851, and 1853, that steps were taken to turn the waste ground, then known as Battersea-fields, to what it is now acknowledged to be, "the garden of the south of the metropolis."

It is to be regretted that on Sunday afternoons, about the end of the bridge and entrance to this park, the demeanour of sundry "roughs," and dust-raising children, should be of a tendency to deter many persons from visiting the park. For the mutual improvement of classes, and the mutual sympathy and appreciation, it is essential that the classes should be induced to mingle together, if only out of doors; and the object will be retarded so long as the holding-aloof and bearing of one class seem to be justified, to whatever extent, by the appearance of violence or rudeness in another class, and by a scant attention to personal cleanliness.

Indeed, much might be said of the necessity for some better regulation of the crowds in St. James's Park and the Green Park, than has existed since greater freedom of access has been allowed, as it has been very properly. It is a question whether it would not be better to institute, generally, public playgrounds, in appointed spots, in the present parks or elsewhere, than to permit the destruction of the grass, which results from the games of leap-frog and other athletic exercises as now permitted.

As to the appearance of those who congregate in the parks, we can only say, we regret that the *blouse* is not part of the attire of the British workman; and that there should be below the industrious class, another numerically so large, a *classe dangereuse* possibly, which requires the green sward as sleeping-ground by day; and which in repose or in action, does not enhance the beauty of the scene, or the feeling of security of many persons who require walking-exercise, free from molestation. In the Green Park, seldom is the grass not littered over with bits, or half-sheets, of greasy newspaper, and other remnants of meals. Last year, during the Exhibition time, always, the effect of the grass was disgusting rather than refreshing. There is a class of houseless people in London who must be cared for; there is improvement still needed in the water-supply, to the end that every one may have the means of ablution; but real liberty of the people involves consideration for other classes, as well as for the suspected, or even the really unfortunate; and were it possible to make at least personal cleanliness a passport of admission to the parks, we apprehend that the course would be most consistent with their intended uses, and with the welfare of every class desirous to resort to them.

As to Finsbury Park, the agreement for the purchase of the land required for the formation, has been signed on the part of the Metropolitan Board of Works and the proprietors of the land; and the price to be paid is to be settled by arbitration. The site will embrace the whole of Hornsey-wood, and the land lying between the Great Northern Railway and the Green-lanes, northward of the Seven Sisters-road, as far as, and including a portion of land on each side of the New River. The whole of the park will be situate within the parish of Hornsey, and thereby not included within the limits of any metropolitan borough.

Whilst attention is given to the parks existing, or about to be provided, more is needed to be paid, and promptly, to the circumstances of numerous open spaces, which are at the outskirts of the metropolis, but are rapidly becoming surrounded by houses; and to forests, heaths, and commons farther distant, which are almost as valuable as are the parks within the metropolis, as "lungs of London." These extra-oppidan spaces have a beauty of their own, for which we would scarcely exchange even the highest art of landscape-gardening. Many of them are so threatened, that unless prompt attention be given they can hardly fail to be lost. Wandsworth-common is one of the number. Upwards of 200 copyholders, rate-payers, and inhabitants of Battersea have signed a memorial to Earl Spencer, the lord of the manor, in which they say:—That during the past few years, inclosures to the extent of upwards of 100 acres have taken place on the common; that within the last few months an inclosure to the extent of eight acres has been effected by the Brighton Railway Company; and that a footpath has been stopped, so as to take away a pleasant and much-frequented part of the common. For centuries, the memorialists say, the parishioners and their families have enjoyed undisturbed the healthy walks; and that the custom of years has given them an apparent right to this enjoyment. They therefore view the encroachments "with deep sorrow and regret," as if permitted to go on, these must, at no distant period, lead to the entire extinction of Wandsworth-common. The memorialists pray his lordship to exert his influence to preserve to the public the privileges which have been enjoyed, and to institute such inquiries with reference to inclosures not sanctioned by him, as will lead to their speedy removal, "and secure to the public, the inhabitants of Battersea, and their children, the continuance of those rights they have so long and so freely enjoyed."

To be wanting open spaces in London, and to be sacrificing those which are at our doors, are two courses of proceeding which do not seem economical or logical.

PROGRESS OF CO-OPERATIVE SOCIETIES.

A REPORT has been published in reference to co-operative societies. The extraordinary rapidity with which these societies were multiplying, many of them not merely confining themselves to the buying and selling of goods, but entering largely into manufacturing pursuits, with capital to the amount of many thousands of pounds, excited the attention of the Government; and Mr. John Tidd Pratt, the registrar of friendly societies in England and Wales, was instructed to prepare a report to Parliament on the subject. This report was compiled from the printed returns of 326 societies in England, and six in Wales. A separate return was made for Scotland. Of the English societies, it appears there are 98 in Lancashire, 64 in Yorkshire, 50 in London; while the remainder are to be found scattered over almost every county. The number of members admitted to the 332 societies during 1862 was 24,308, while 11,529 withdrew. The total number of 1*l.* shares held in these societies was 351,613, and the sum of 111,347*l.* was received for shares during 1862. The amount of share-capital withdrawn during that year was 172,561*l.* This excess of withdrawal was entirely owing to the cotton famine, and was almost wholly confined to Lancashire and Yorkshire, being, as might be expected, heavier in the former county. The Rochdale Pioneers' Society, for instance, withdrew last year 22,027*l.*, against 6,321*l.* invested, leaving, however, the large capital still of 33,961*l.* From the Rochdale Town Mill the amount withdrawn was 13,732*l.*, against 5,437*l.* invested. The Bacup Society paid out 18,122*l.* against 3,012*l.* invested. Heavy calls were also made on the capital of the stores at Manchester, Oldham, Bolton, Bury, Blackburn, and other towns. The only exceptions to the rule in Lancashire were the societies of Liverpool, Burnley, Blackley, Over Darwen, Clitheroe, Prestwich, Rhodes, and Tottington. In Lancashire itself the total amount withdrawn during 1862 was 134,873*l.* The same societies received during the same period, in the shape of investments, 65,874*l.*; and at the close of the year their subscribed capital was 264,391*l.* Although 172,561*l.* was the total sum withdrawn from the 332 societies in 1862, the share capital left was 429,315*l.*, or more than four times the amount withdrawn. The total amounts paid for goods by those societies who only buy and sell provisions and clothing, in 1862, was 5,067,867*l.*, and the amount received for goods 2,331,650*l.*, leaving a profit of 165,770*l.* The total expenses of these 332 societies for the year, including management, rent, taxes, repairs, &c., amounted to 135,588*l.*

Since Mr. Tidd Pratt's report was published, the report of the Rochdale co-operators, stating the present position of their societies in that town, has appeared. This town is the parent of co-operation, as it now exists. The report is brought down to June 30, 1863. The Rochdale Equitable Pioneers' Society then consisted of 3,630 members, being 70 more than in April last. The capital of the society was 42,349*l.*, being an increase of 1,446*l.* since the last quarter; cash received for goods sold during the quarter, 37,844*l.*, being 2,064*l.* more than in the previous month; cash in bank, 8,066*l.* The profit on the quarter was 4,677*l.*, which, after paying interest on shares, depreciating fixed stock account, *and applying 2½ per cent. to the educational and library fund*, gave 2*s.* 4*d.* in the pound to members on their purchases. The Rochdale Town Mill Society has a capital of 236,206*l.*, being an increase during the last three months of 2,887*l.*; cash received for sales this quarter, 37,743*l.*, giving a profit of 2,863*l.*, which, after paying interest on shares, &c., leaves 1*s.* 4*d.* in the pound on purchases. The Rochdale Manufactory Society is working its mill full time. It has a capital of 80,000*l.*, 6,000*l.* having been paid in within the last three months. This society has a second mill, just erected, which it is now fitting with the requisite machinery. The Rochdale Building Company has twenty-three houses, erected at a cost of 3,000*l.* all tenanted by members. In the report of the Scotch registrar, he says:—"Co-operative societies in Scotland are increasing and prospering. Many of them have special funds for education and the establishment of libraries."

THE DROUGHT AND HEAT OF THE SEASON.

FOR many years there has not been so hot a summer on the Continent as that which has just ended; and both there and in this country the drought has been very great. Considering the influence of rain and sunshine on building construction, and on such questions as those of site, drainage, damp, and sanitary influence in general, the subject is one of decided importance to architects, and as such merits notice on the present occasion.

It almost looks as if a serious error had been committed in the selection of Aldershott as a site for a barrack-town; for, the drought has been so great this last summer as to compel the troops to quit the place altogether, from want of water, and migrate to Sandhurst, Woolmer, and other localities where the blessing of an abundant supply of good water is to be obtained for both men and horses; so that the permanent barracks and huts of Aldershott have been almost depopulated on account of the drought. Before their departure the horses had in many instances to be taken a distance of upwards of a mile from their stables to drink. The water in the reservoir at Bourley became so low that it was under the minimum quantity deemed requisite in case of fire.

In Paris and its vicinity no such drought and heat have been suffered for many years as during the past summer. Indeed, as regards heat, during the last 158 years it has probably only once been warmer than it lately was on certain days. The thermometer last month reached 39 degrees (102 degrees Fahrenheit) in the shade, which implies

something like the scorching heat of 65 degrees in the sun! In Paris it is very rare for the thermometer to rise above 36 degrees in the shade. The river Seine fell to the level of the great drought of 1719, which forms the Zero line of the metrical ladder on the Pont Royal for measuring the depth of the river. This is only the second time of such an occurrence for nearly 150 years, and the first since the year before the comet of 1811. The waters of the Loire, too, have never been known to be so low as in the season just past. This great river, which has so often ravaged the country for leagues by its excesses, was latterly crossed where it meets the Nièvre and Cher, both on foot and in carriages without either difficulty or danger.

The drought and heat in Austria have been extreme; as also in Italy, and especially at Rome. In Germany, too, water became both scarce and dear. The drought at Aix la Chapelle was such that water sold at 15 groschen, or 1s. 6d. a barrel.

Some few years ago there was a considerable drought for successive seasons, but not to so great an extent, it would seem, as in the present year. At that time, it may be remembered, there were serious fears that the rainfall was permanently diminishing. Since then, however, there have been very wet seasons which have tended greatly to restore the average; and doubtless sooner or later we may look out for a recurrence of the like compensatory process.

SANITARY CONDITION OF OUR TOWNS.

BRIDGWATER—KESWICK—WHITEHAVEN.

Bridgwater.—Scarlet fever is said to be raging in the parishes of Nether Stowey, Over Stowey, and Spaxton. The attention of the local board of guardians has been drawn to the subject, and the medical officer of health appealed to for his opinion and advice.

Keswick.—Smallpox has of late been very prevalent in Keswick, which is just one of those places, like so many others, where disease in all its protean forms may fairly be looked for. Little seems to have been done since last year,—when typhoid fever, as our readers may recollect, so alarmingly prevailed,—except it be in the use of limewashing. Weak solutions, however, of Condy's permanganetic fluid have been poured down every drain, and the alleys and drains sluiced, after the use of the fluid alluded to, with abundance of water. The solid refuse of the town has also been cleared out, and the sites covered with hot lime. But why should accumulations of refuse have been allowed after the sad experience of last year? Besides, the very removal of these in the hot season is likely to be of itself a source of danger to health and life. Many persons have been vaccinated since the smallpox broke out.

A dreadful responsibility rests on those who have so long opposed the carrying out of efficient sanitary measures in Keswick. At the adoption of the Public Health Act in 1852, the opponents of that measure took possession of the local board. They also refused to adopt Mr. Rawlinson's suggestions to have the waterworks and sewers under their care, while now the revenue from the waterworks alone would repay the interest of the whole sum required in 1852 to make both drains and waterworks. During the last ten years, at least 100 lives have thus been lost, over and above a very full average mortality. The constitution of the local board of health, however, is understood to be now better than it was: hence the comparative promptitude with which sanitary palliative measures have been adopted on the present occasion.

Whitehaven.—Matters are no worse here than they were at the time of our last report, and the fever is still said to be abating. The inhabitants, however, have a Committee of Public Safety to see to what the Harbour Trustees, who are the local authority for carrying out the Nuisances Removal Act, have neglected to do. It is to the committee of safety, it appears, and not to the trustees, that recent active measures are owing. The application of the Public Health Act to the town is now talked of.

It is high time, indeed, for the inhabitants to take upon themselves to apply the spur to their governing body. So long ago as 1849, Mr. Rawlinson gave a graphic and startling description of their sanitary condition, and pointed out the means by which it might be improved. He reported "that the town and suburbs of Whitehaven are very unhealthy, and particularly liable to epidemic and endemic diseases at all times; that the epidemic of 1846, 1847, and 1848 was peculiarly fatal, to the extent of 851 deaths in excess over the year 1842; that the cholera prevailed in 1832, and may be again anticipated should the town be left in its present condition." Again, "that the excess of disease may be distinctly traced to close and confined courts, over-crowded room tenements, damp and ill-ventilated cellar tenements, want of sewers and drains, with an almost total want of privy conveniences, to a scarcity of good and wholesome water, and to many public and private nuisances which exist in the most crowded parts of the town,—such as private slaughter-houses, cowsheds, stables, pigstyes, open middens, and (so called) public privies." How little has been done to remedy the evils thus referred to, the descriptions of Whitehaven as it now is, which have appeared in the *Carlisle Journal* and other local papers, fully explain. The miserable and disgusting spectacles which Mr. Rawlinson witnessed in 1849 are still visible in 1863; and it has not been till the fever has emerged from the dark recesses in which it had rioted unseen for many years, and made its appearance in unexpected quarters, that any remedial measures have been applied. Long ago, according to the statements made at a recent public meeting, the authorities were urged to act, and to take timely measures to avert the approaching evil, but the warnings were entirely disregarded until unfortunately it was too late.

SEWAGE UTILIZATION AT LEEDS.

AT a recent meeting of the Town Council of Leeds, attention was called to a scheme for the promotion of a company, having in view the disinfection and utilization of the contents of ashpits and privies, by a method suggested some time since by Dr. Bishop. On the recommendation of the nuisance and scavenging committee and the corporation, it was determined to place in the hands of the company the north and north-east districts of the town. There, experiments are to be conducted involving an expense of 7,000*l.*; the ratepayers, however, not being called upon for any larger expense than that now incurred for clearing the ashpits.

The company will reimburse themselves by the sale of the manure after it is deodoriaed on Dr. Bishop's plan; and if the experiments in the north and north-east should be successful, it is not improbable that the area of sanitary improvement will be extended to the whole township, involving an estimated outlay of 35,000*l.*, which will also be borne by the company.

In bringing forward the subject, Mr. Alderman Carter referred to the Eureka Company, whose system of operation, as far as removing privies and ash-pits were concerned, the nuisance committee considered perfect. Dr. Bishop to some extent had avoided the evil of allowing the compound fœcal matter to ferment, and the liquid to evaporate, as was the case with the Eureka process. His produced little or no effluvia; but it was proposed to take the whole of the Leeds drainage district, and remove the offensive matter upon the same terms as the average cost to the borough in doing the work for the last three years. Instead of giving the whole district, however, the committee proposed at first to let the company only work in the north and north-east wards. The mortality in Leeds had been already 1,000 odd this year, more than in 1862. In the north and north-east districts the mortality had been, since this year commenced, at the rate of 42 in 1,000 of the population. The committee had endeavoured to fathom the cause of this, and he (Mr. Carter) had no doubt that it arose from the accumulations of night soil, and from the prevalence of that vicious ashpit system which caused such mortality in Leeds, as well as in Bradford, Sheffield, Manchester, Liverpool, and every town which permitted the same state of things. He adduced facts from New Wortley in support of the view. If the council would assign the districts for Dr. Bishop's experiment, the registrar's returns would in due time show the extent to which it had been effectual.

Councillor Middleton having ascertained that the council would have to pay only 4d. or 6d. a ton for the removal of the night-soil, called the attention of the nuisance committee to the very unsatisfactory way in which the ash-pits were emptied. The worst places—the filthy yards and alleys—were neglected because of the trouble of wheeling to them and getting the filthy matter into the carts. He agreed that the ashpit nuisance was one of the greatest, and that the plans on which the pits were constructed generally were most objectionable. As for the expense of 4d. or 6d. a ton under the arrangement with Dr. Bishop's company it was a matter of little importance, because, if people died from noxious accumulations, in a large proportion of cases the families came upon the rates, and not only was there a great loss of lives valuable in themselves, but the ratepayers were put to very heavy and permanent expense.

In replying to the question whether there had been any practical experiments to test the commercial value of the material after the application of Dr. Bishop's deodorising agent to it, Mr. Ald. Carter said the great question with the council was, "Could they increase the health, comfort, and convenience of the borough?" but in Mr. Pollard's neighbourhood there were some splendid crops on land to which manure had been applied after passing through Dr. Bishop's deodorising process.

Councillor Price could not support the motion, feeling that no portion of the drainage district should be given to a company for private advantage. He was willing that the deodorising plan should be tried, but other individuals had schemes, good and efficacious; and he did not see why Dr. Bishop's alone should be singled out without the ratepayers having the advantage of considering the others. There were parties who would take the sewage of the town for a much less sum than its removal cost last year; and they were parties who had had more experience than Dr. Bishop.

Alderman Luccock said no offer had been received from other parties. Dr. Bishop must be satisfied his plan would give satisfaction. Moreover, if the company made any nuisance in carrying they would be liable to be punished for the offence.

Councillor Lobley remarked that the rate of mortality had increased in all large towns.

Councillor Harding pointed out the necessity for carrying off or neutralising the gases from drain openings. Until that was done no plan would leave the health of the town uncontaminated.

Councillor Stead thought Dr. Bishop's plan would not meet the necessities of the case. The latest feature of his plan was the adoption of the Eureka system, and the deputation who had been at the Eureka works at Hyde, had been thoroughly disgusted and annoyed with the large accumulation of fœtid matter and offensive liquid stored there. The council had had no opportunity of knowing what would be the state of things at Dr. Bishop's manufactory when the whole refuse of Leeds was taken there. Still he (Mr. Stead) felt so much interested in this matter that he would agree to Dr. Bishop's plan being tried. The ashpit was the place whence the greatest amount of disease sprang; for, there emanated from it, gases unperceivable which were most destructive of human life. But it had been proved to demonstration that there was great value in the material collected from ashpits, and therefore he would not generally depute to any company the power to dispose of it. The right to deal with anything in which the public health was concerned should not be delegated to parties whose object was a money speculation. Ultimately he was sure the council would have to take upon themselves the entire responsibility which belonged to them in this matter, and which no other body of men had a right to interfere with.

Alderman Carter, in reply, said Dr. Bishop's company would spend 7,000*l.*, and were prepared to have laid out 35,000*l.* if the council would have granted them the whole Leeds drainage district.

The motion was then carried, there being five dissentients.

The proceedings, it will have been observed, give little intimation of the nature of the process.

ST. ANDREW'S HALL, NORWICH.

GREAT preparations are making, in Norwich, for the Musical Festival which is to commence on the 14th instant, and at which the Prince and Princess of Wales are expected to be present. St. Andrew's Hall, a noble old building of the "Perpendicular" period, and ecclesiastical in its arrangement of a clerestory and buttressed aisles, has undergone some important works of reparation and modification, including the stripping the roof, and re-covering it with new lead. The east wall of the nave has been removed, and a stone arch, nearly the entire breadth of the nave, has been inserted, by which increased space has been added to the hall. Within this additional area the organ and orchestra are placed, accommodation for nearly three hundred extra sittings being obtained by the arrangement. A new western window has been erected, and is thrown open to the hall, while the western wall has been almost rebuilt and refaced. The whole of the aisle windows on the north, south, and east have been

restored and reglazed, and the walls repaired and faced with flint-work; while, finally, a new south porch—which has been the subject of much controversy—will serve as the principal entrance.

Several committee and retiring rooms have been erected on the north side of the hall, and the whole of the internal stonework has been scraped and restored. The internal decoration of the roof is described as having an excellent effect. The panels are covered with deep blue, filled in with gold stars. The hollow moulded parts of the timbers are coloured with vermilion, those forming the arched ribs of the roof and those surrounding the clerestory windows being ornamented with gilt flowers, at stated distances, and the lower members of the arch-ribs being coloured alternately drab and oak colour. The decoration of the aisles includes the blue panels and gold stars, together with the vermilion in the hollows of the mouldings, the remainder being oak colour. The lighting of the hall is effected by nine brass coronæ, the nave having three, and the two aisles three each of smaller diameter; these, when lighted, bring out the decoration of the roof to great advantage.

Mr. T. D. Barry, city surveyor, acted as architect of the restoration works.

The portraits of Norwich worthies and citizens which adorned the dirty walls of the unrenovated hall have been removed; but it has been suggested to the mayor that some of them should be replaced, so as to prevent the building from acquiring anything like a naked appearance in any part. Many families still existing in Norwich have representatives in the portraits.

ST. MARY'S CATHEDRAL, TUAM.

A STONE to commemorate the commencement of the restoration, or re-building, of the Cathedral of St. Mary, Tuam, was laid by Lord Plunket, Bishop of Tuam, on Thursday in last week, in presence of a large assemblage. The work had become a matter of necessity. The church population of Tuam within the last ten years has increased: the town has become the terminus of a new line of railway; and its circumstances have otherwise changed. The only parish accommodation is afforded by the existing cathedral, and that is quite insufficient.

So early as the sixth century, the Abbey of Tuam was converted into a cathedral by St. Jarlath. The cathedral was destroyed by fire in 1152. It was rebuilt under the patronage of Turlogh O'Connor, King of Ireland, by Edan O'Hoisin, who was the first archbishop of the see. The successors of Bishop O'Hoisin added a new choir, and converted the former church into a nave. The only part of the present cathedral which is of any architectural interest is a porch and doorway. This remnant of antiquity has been long an object of great interest to architects and antiquaries. Dr. Petrie, in his work on the Round Towers of Ireland, states that it is "perhaps the most magnificent specimen of its kind remaining in Ireland." It appears, by an inscription upon an ancient Irish cross, that this porch and doorway once formed the chancel and chancel-arch of a church built A.D. 1130, and which is believed to have been the structure that was burned in 1152. It now constitutes the entrance to the present cathedral. A great object of the restorers has been to preserve this porch and doorway, and to have a new structure erected in harmony with them. The task of restoration has been committed to the architects, Sir Thomas Deane & Son, who are also engaged in the restoration of the Cathedral of St. Canice, in Kilkenny. The estimated cost of their design for Tuam Cathedral is about 10,000*l*.

The arch, according to Dr. Petrie, is the remnant of a church erected at a period when Ireland was generally supposed to have been ignorant of the finer arts of civilization, known to and practised by its neighbouring nations. This church, a structure of the early part of the 12th century, was beyond doubt erected by Turlogh O'Connor, the last but one of the native monarchs of Ireland—a vigorous and able prince, who was distinguished eminently for his munificent patronage of the fine arts, as shown by the beautiful processional cross of Tuam, now preserved in the museum of the Royal Irish Academy, as well as by the great stone cross of Tuam, and this remaining fragment of its beautiful church. This fragment, though it exhibits in a general way the characteristics of the Romanesque or Anglo-Norman style, is in its ornamentation essentially native, or that designated by antiquaries by the term *Opus Hibernicum*, no other architectural specimen of that style of ornamentation being known to Dr. Petrie as remaining in Ireland.

The arch forming the external door to the present building, was a departure from the plan of the church to which it originally belonged; and the fault will be corrected in the new cathedral, by placing the arch—as it once stood—between the extremity of the choir and the chancel. Consequently, the new building will stand, not on the foundation of the present, but of the ancient cathedral. The design for the new edifice partakes of the character of St. Patrick's Cathedral, Dublin, and St. Canice's, in Kilkenny. The walls and the tower will present the Irish characteristic of crennelated battlements. The clerestory windows of the nave will be of the circular cusped type. At each side of the nave, will extend, aisles supported externally by buttresses, and lighted by pointed windows in the early style. The western entrance, at the extremity of the nave, will be a broad pointed archway. Immediately over it will extend a double arcade of pointed windows, and above these the principal window of the nave, consisting of a group of seven pointed windows. The choir, which will be without aisles, will be lighted by ordinary pointed windows. Each transept will be lighted with circular windows, and large five-light windows at the extremities. The tower will be a plain quadrangle flanked by four small towers, and all surrounded by crenellated battlements, and above it will rise a stone spire. The material to be used in the external structure is limestone. The interior of the church will be lined with a remarkably fine description of red sandstone, from Nefin, in the county Mayo, supposed to be the same stone that was used in the construction of the ancient arch. On each side of the nave, within, will extend a row of four columns, each consisting of a central column of limestone, encircled by four smaller columns, composed of green Galway marble. The roof, within, will be open timbered.

Mr. W. Crowe is the builder.

Professor Donaldson was present at the ceremony, as well as the architect of the Ecclesiastical Commissioners, Mr. Welland.

THE WELLAND BRIDGE, STAMFORD.

THE Welland Bridge, which has just been erected over the river Welland, at Stamford, for the convenience especially of persons going to or coming from the Great Northern Railway Station, consists of one arch of 80-feet span, and rising 8 feet from the springing line, which is somewhat above that of high-water. The arched ribs are of I section, 12 inches by 5 inches: the top and bottom members consist each of two 2½-inch angle-irons and a 5-inch plate, riveted together, and forming Ts, which are connected together every 18 inches by double straps, alternately of flat and T iron, with flat packing pieces. Each end of the straps is bent out and riveted to the outer edge of the top and bottom members.

The longitudinal girders are composed of four angle-irons with T iron straps every 18 inches, and covered in on the outside with plates ⅜-inch thick, pierced.

Each spandril is filled in with a double row of rings composed of angle-iron placed back to back, and riveted at the top to the girders, and at the bottom to the arched ribs, and also at the various meetings and intersections. The cross girders are of 2½-inch T iron, with a plate welded on at the ends for the purpose of connecting them to the longitudinal girders, and they are placed 3 feet apart. The roadway, which is 6 feet wide, is carried on Mallet's buckled plates, overlaid with asphalte. Braces occur every 9 feet, and are composed of two lengths of T iron and two flat bars, the former crossing from arch to arch, and the latter from arch up to longitudinal girders: in each case they are placed diagonally, and riveted at the various intersections.

The parapets are of cast-iron, in 6-feet lengths, bolted together, and secured to the top of the longitudinal girders by two bolts at the foot of every upright, which are 18 inches apart. 2½-inch wrought handrails run along the top of the castings, to which they are riveted at the crown of each semicircle. The parapet is supported against outward thrust by three stays on each side, composed of angle-iron.

The abutments are carried up solid to the underside of the steps, and are built of coursed rubble, with Little-Casterton quoins and dressings, and solid York springers for the arched ribs. The wing-walls have each an arched opening filled in with a light casting, and at each end is a flight of seven York steps, 8 feet long.

The coffer-dams were constructed of single 3-inch piling, with shot edges, and two rows of whole-timber framing, with half-timber struts between them. This was found to answer very well, though one dam was 20 feet square, and in 10 feet of water.

The bridge has been erected by public subscription, from the design and under the superintendence of Mr. Wright, C.E., Stamford, whose drawings were selected out of seventeen competing designs; the Marquis of Exeter, who is a large subscriber to the undertaking, both of money and land, giving the preference to those sent in by Mr. Wright. The stonework has been carried into execution by Messrs. Roberts, of Stamford, and the ironwork by Messrs. J. & J. Cliff, of Bradford. The total cost from first to last, including extras, will scarcely amount to 400*l*.

The plans were originally prepared for a bridge 90-feet span; but, after the tenders were sent in, the committee reduced the span to 80 feet, in order to leave more room at one end of the bridge. This reduction in length increased rather than lessened the cost of the bridge, by bringing one abutment into much deeper water.

THE SERAGLIO, CONSTANTINOPLE.

THE destruction of the old Seraglio, Constantinople, was mentioned in our last. The collection of buildings had three principal gates, and five smaller, the latter being on the sea-side. The principal gates were Bab-i-Houmayoun (the imperial gate), Bab-i-Selam (gate of safety), and Bab-i-Saladet (gate of felicity). The first of these three, which is quite plain, was built in 1473, and it has not been injured. It stands on the spot, facing Constantinople, where the Forum Augusteon was. Left of this gate is the mosque of Aya Sofia (St. Sophia); and in the middle of the square on which it opens, is a fountain which Achmet III. caused to be erected, bearing verses composed by him. The large courtyard is entered through this gate. There are the Mint (Zarab Hané), and the church of St. Irene, built by Constantine the Great. The church is now an arsenal, and contains the armour of many of the Sultans. Further off was the building reserved for the chief of the white eunuchs, and the Kasne, or Treasury.

The labourers now employed in clearing the rubbish have, it is said, discovered a great number of precious stones, besides ingots of gold, silver, and other metals. The sacred standard, and other relics of the Prophet, were spared by the fire, together with the throne of massive silver which is used by the Sultans at their accession. This throne, in the shape of a canopy, rests on four pillars studded with pearls and precious stones, whence are suspended globes of gold, with the *tougs*, or military insignia, formed of the tails of horses. The throne was placed at the angle opposite the entrance. The lighting of this hall was managed with much art. The light came in through stained-glass windows, shedding a mysterious brightness, of which the effect was to strike with respect those admitted to contemplate the majesty of the Sovereigns. The Crown jewels, and the collection of paintings representing the Monarchs of Europe, and among them the Doges of Venice, have likewise been saved.

RAILWAY MATTERS.

FOR underground railways through populous districts, locomotives without furnaces have been suggested. Such locomotives would simply have a "hot-water reservoir," the water in which would be heated, before the locomotive started on its journey, by means of steam pipes from stationary boilers. A writer in the *Engineer* suggests that each such "hot-water reservoir" should be 16 feet long and 4 feet in diameter. A reservoir of these dimensions would contain 200 cubic feet, or 5½ tons of water; and if this were heated to a temperature of 400 degrees, by steam from stationary boilers working at a pressure of 235 lb., or so, it would afford steam enough, it is believed, to enable the locomotive to put forth 100-horse power for thirty minutes, which is a longer time than the "Metropolitan" trains take for the journey from Paddington to Farringdon-street, including stoppages. From locomotives worked on this plan, only steam would escape, and that not in quantity enough to be particularly unpleasant to the passengers. At the worst, an atmosphere with which moderate quantities of steam are mixed is *only* unpleasant, to those who breathe it: it does them no special harm; but the respiration of air mixed with carbonic acid

and other waste gases from furnaces, in the proportion in which those gases must exist in the atmosphere of underground railways worked by ordinary locomotives, is not only unpleasant, but very injurious also. Locomotives having no furnaces would, of course, require no "tenders" Of the injury which railways receive from the traffic which passes over them, a very much larger proportion is due to the heavy engines and tenders than to the carriages in which the passengers and merchandise are conveyed; while no small part of the force which the engines exert is expended on themselves and their attendant tenders. If some means could be devised which should render it no longer necessary for the engines supplying the motive force to travel with the trains they propel, both "working expenses" and "wear and tear of permanent way" would be greatly lessened. Many engineers are of opinion that the object in question would be best accomplished onthe principle of the "Pneumatic Despatch."

A proposed railway through the town of Sheffield is to commence on the north side of the Sheffield and Rotherham line, near Brightside; and, crossing under the Barnsley-road above the Wicker Congregational Church, it will tunnel through the hill, and emerge near the Bridgehouses Station on the Manchester and Sheffield line. Effecting a junction with that line and with the Victoria Station, it will cross on arches to Townhead-street, where the principal station is to be made, and where a tunnel commences running some distance under the town, and emerges on the south side. It will then proceed to Abbey Dale, running up the valley on the Ecclesall side. At several points it is proposed to erect stations for the development of local passenger traffic.

A plan of communication between the guard and the driver of an engine has, we learn, been adopted on the Great Eastern Railway by means of the old suggestion of a cord to the tender of the engine which rings an alarm-bell.

The new station of the Bristol and Exeter Railway Company at Exeter is being rapidly completed, at a cost, it is estimated, including the removal of the old St. David's station and the making or additional roads, of about 30,000*l.* The new building is a large structure of the Doric order. The side walls are up, the roof partly covered in, and the offices are being fitted up. The station is 360 feet in length by 136 feet outside width, while the platforms have a run of 500 feet. There are two large and two small platforms, and seven lines of rails, broad and narrow gauge. All the offices (including those of the Telegraph Company) waiting-rooms, &c., are on the platform nearest the road. The height of the square portion of the building is 39 feet, and the trussed roof rises 22 feet more. The building is of Westleigh stone, with dressings and ornamental work of Bath stone. In the construction of the roof about 300 tons of iron and 30 tons of glass will be used. These quantities include low roofs in front of the station for the accommodation of cabs, &c. The approaches will be much more convenient than heretofore. The mason's work, glazing of the windows, carpentering and decoration, have been contracted for by Mr. G. Spiller, of Taunton. Mr. Kerslake, of Exeter, is erecting the roof, and putting up the rest of the iron work, with the exception of the foot-bridge leading to and from the various platforms: this is the work of Messrs. Hennet, Spink, & Else, of Bridgwater. On each of the two main platforms is a hydraulic lift for raising goods to the level of the foot-bridge for the purpose of their being conveyed from the up to the down side, or *vice versâ:* these have been put up by Messrs. Easton & Amos, of London. The whole of the work is being done under the direction of Mr. F. Fox, engineer of the Bristol and Exeter Company, Mr. Simmons being the resident inspector. It is expected that the station will be sufficiently advanced for use soon after next Christmas; but the decorations are not expected to be completed until about three months later.

The traffic receipts of railways in the United Kingdom amounted for the week ending 8th of August, on 10,882 miles, to 669,640*l.*; and for the corresponding week of last year, on 10,428 miles, to 645,010*l.*; showing an increase of 454 miles, and of 24,630*l.* in the receipts. The receipts for week ending 15th August, on 10,882 miles, amounted to 652,655*l.*, and for the corresponding week of last year, on 10,428 miles, to 637,950*l.*, showing an increase of 454 miles, and of 14,705*l.* in the receipts.

The *Italie* of Turin states that conferences were lately held at Lucerne for the purpose of discussing the expediency of piercing a tunnel through Mount Gothard. Delegates from thirteen cantons and three half-cantons attended, the population represented by them amounting to about 2 000,000. The two companies of the Swiss Central and North-Eastern lines were also represented. M. Zing, of Lucerne, read a report drawn up by M. Welti, civil engineer, on the whole line from Fluelen to Lugano. According to one of the two projects presented, the tunnel is to be pierced at an altitude of 1,200 mètres above the level of the sea, and at 100 mètres above that of Airolo (Tessin), and Goeschenen (Uri). Its length is 153 kilomètres, and it may be pierced by the aid of two shafts, one 166 mètres and the other 296 mètres in depth. According to the second project, the tunnel, to be pierced at an altitude of 1,500 mètres above the level of the sea, which is that of the celebrated hospice, will only be 98 kilomètres in length; but, as a set-off, the rest of the line passes through the most unfavourable ground possible. A more detailed report on this important question is in course of preparation.

At the date of the last returns on the subject, the locomotive department of the East-Indian Railway employed 536 Europeans (and East-Indians), and 4,300 natives; that of the Eastern Bengal Railway, 21 Europeans and 33 natives; that of the Calcutta and South-Eastern Railway, 8 Europeans and 23 natives; that of the Madras Railway, 341 Europeans and 2,278 natives; that of the Great Southern of India Railway, 22 Europeans and 54 natives; that of the Great Indian Peninsula Railway, 152 Europeans and 2,055 natives; that of the Bombay, Baroda, and Central India Railway, 52 Europeans and 227 natives; and that of the Scinde Railway, 27 Europeans and 2,881 natives; making a total of 1,159 Europeans and 11,851 natives. The natives show a great aptitude for railway work, and many of them are good mechanics.

A ukase has just been signed by the Emperor of Russia for the construction of a railway from Moscow to Sebastopol. The line is to be 953 miles in length. The nominal capital will be 22,500,000*l.*, and the period allowed for the completion of the work is six years from the date of the commencement. Sebastopol is to be made a free port.

GAS.

At the 28th half-yearly meeting of the Bury St. Edmund's Company, the report of the directors stated that the profits of the past half-year were sufficient not only to pay 10 per cent. on the old capital, and 7½ per cent. on the new, but also to make a payment of 2s. per share in part liquidation of arrears due on the old capital, and 6d. per share in full discharge of arrears on the new capital. After doing this a balance of profits amounting to 43*l.* 16s. 8d. remained to the credit of the next account. The report was adopted.

The shareholders of the Eastbourne Gas Company have held their annual meeting. The report of the directors recommended that a dividend of 10*l.* per cent. should be declared; also that there should be an increase in the capital to enable them to lay down new mains where required; and to substitute larger mains in the principal thoroughfares. The report was adopted, and it was unanimously resolved that 2,000*l.* should be raised by means of shares.

The Newport Gas Company have just held their half-yearly meeting. The directors report that there had been an increase in the consumption of gas during the half-year as compared with the corresponding half-year of 1862, and the gas rental would have also shown an increase, but for the operation of the reduced price made at the end of June, 1862. The loss occasioned by that reduction, however, had been partly made up by the greater consumption referred to, and by the effect of a readier sale of coke and tar through the past half-year, by which loss had been prevented. The report was unanimously adopted, and a dividend at the rate of 10 per cent. per annum was declared on the class A shares, and 7½ per cent. per annum on the class B shares.

The Debenham Gas Company have held their annual meeting. The directors of this company charge the impracticable price of 8s. 4d. per 1,000 feet for their gas, and the very natural consequence is that, though the company has been five years in existence, no dividend whatever has been received by the shareholders up to the present time; and, what is more, the want of dividends is given as a reason why the price cannot be reduced; so that this "vicious circle" must be an eternal one, unless the shareholders can open the eyes of their directors to the true interests both of the local public and of themselves, to be realised only by a large and liberal reduction of price.

Messrs. Hanna, Donald, & Wilson, gas engineers and contractors, Paisley, have just completed, at Leominster, a new gasholder and cast-iron tank. The gasholder is 61 feet diameter by 20 feet deep, and the whole has been erected and completed in two months.

The Cardiff Gaslight and Coke Company have held their 53rd half-yearly meeting, and have farther reduced the price of their gas (3d. per 1,000 cubic feet), and declared their usual dividend. The price is now 3s. 3d. to small consumers. "This," remarks the *Cardiff Times*, "is another proof of the vast good effected by the opposition Company."

The half-yearly meeting of the Liverpool United Gaslight Company has been held. The report, which was adopted, recommended that the dividend for the half-year ending 30th June last be 5*l.* per cent. on the consolidated stock of the company. After providing for this dividend, there would remain a disposable net surplus of 8,271*l.* 2s. 6d.; the amount required by the company's Act of Parliament to be placed to the credit of the reserve fund having been already fully provided for. The directors recommended a further reduction in the price of gas, to take effect from the 1st of July last, at the following rates; namely, to all consumers within the borough of Liverpool 2d. per 1,000 cubic feet, and to all consumers in the out townships 3d. per 1,000 cubic feet; making the actual charge for gas in the borough 3s. 5d., and in the out-townships 3s. 9d., per 1,000 cubic feet. They also recommended a rateable reduction in the meter-rents.

"We now obtain such extraordinary results by a new method of using the kerosene tar in the Aubin Gasworks," says an Albany correspondent of the *American Gaslight Journal*, "that I must inform you of it. We cut maple or other hard wood into small pieces, dry them, and then saturate them with the tar,—using one gallon to 55 lb. of wood. From this we obtain 400 feet of rich gas, and the charcoal left is clean and of the best kind, and is actually worth more than the wood used. Other advantages of this process are, that it requires less fuel, although it makes gas much faster than our old methods; and, with a slight modification, enables us to use advantageously the cheap, thick, and lumpy tar hitherto of no value except for fuel. As hard wood can be had, and its charcoal is saleable everywhere, the above simple method of using the Aubin Gasworks adapts them toe very locality; and, in connexion with the small cost of operating them, and the great simplicity of construction to which many years of experience have led, should introduce them wherever gasworks are needed. In proof of this practical value, I add that village gaslight companies, selling only 300,000 feet of gas, are successfully using them."

LIGHTHOUSE CONSTRUCTION.

THE lantern for the Lighthouse of Arranmore, off the coast of Donegal, has been constructed by a Dublin firm,—Messrs. Edmundson & Co., of Capel-street. It is a huge sixteen-sided structure, covered with a copper dome, and surmounted by a ball, supplied with ventilators, and bearing a wind-vane representing an arrow. The height of the structure, from its base to the ball, is 30 feet, and its diameter is 15 feet. At first sight, remarks the Dublin *News Letter* in describing it, one would be inclined to believe that it was a large portable house. This lantern will stand on a solid mason-work tower of 55 feet high, which will make the elevation of the light nearly 85 feet. The floor of the lantern is composed of pieces of metal, weighing 16 tons, and all jointed together with the greatest precision. From this flooring rises a metal wall, presenting sixteen sides. From this wall the lantern springs, which is composed of forty-eight compartments, divided by bars of gun-metal, grooved to receive plate-glass three-eighths of an inch in thickness. The uprights sustaining the dome are of planed iron, jointed with gun-metal astragals. The lantern is entered by means of an air-tight door, which will open on the platform of the tower, into which the lantern will be built and bolted down. The metal walls are lined with polished mahogany, in which ventilators are inserted. A curved metal stairway leads to an open ironwork gallery surrounding the apartment at half its height. This gallery will be used for serving and tending the light, which will be a revolving one, and of the first order. Inside the dome, a circle of iron is introduced, from which the T-iron that will support the apparatus for sustaining the light will spring.

This T-iron will rest on the wrought-iron cornice-plates at the spring of the dome. Here will also be fixed the machinery and fixtures for the revolving gear, to which will be affixed a weight, which runs through a hollow metal column, having its base at the foundation of the tower. The weight is to be wound up on the principle of a clock. The whole work has been carried out under the immediate supervision of Mr. Wigham. It is the first of the kind ever manufactured in Ireland.

BUILDING NEWS FROM IRELAND.

Dublin.—A "neutral place of worship," as it has been called, under the name of Merrion Hall, has been opened with solemn service in the presence of a very large congregation, including many clergymen of all denominations, and most of the *élite* of Dublin. It has been erected, by public subscription, at a cost of 16,000*l.*, and is intended for the celebration of divine worship without any of the distinctive characteristics of the different sects; thus affording a neutral ground on which Christians of all denominations may unite in public devotion. The building, which is situate at the corner of Lower Merrion-street and Harcourt-place, is constructed of white Suffolk brick, with an ornamental front of Caen and Portland stone. It covers an area of 6,800 superficial feet, and will accommodote 5,000 persons. The principal front faces Lower Merrion-street, and is in the Italian style, three stories in height, the measurement from foot to top of balustrade being 63 feet. The façade may be said to have three divisions. The centre, or principal feature of the building, projects from the side wings, containing double staircases leading to the galleries. The lower part of the central projection is a piazza, having large arched openings separated by ornamental stone piers. The piazza is 46 feet in length and 9 feet in width, and leads into three internal porches in the body of the hall. The piers also support an entablature of frieze and ornamented cornice separating the two lower stories. The upper part of the centre is composed of Corinthian columns and pilasters, supporting the main entablature, and projecting pediment. Both the upper and lower entablatures are continued along side wings on their fronts and flanks, and the angles have moulded and fluted quoins below, and pilasters above, corresponding with those in the central projection. In the lower story of the staircase the wings are large, the doors with stone pilasters and heavy projecting carved hoods; and the top story has large windows, with stone pilasters and pediments. The sides of the building facing Harcourt-place and Merrion-square were originally designed to be in character with the front, but have been carried out in a more simple manner, in order to reduce the expenditure. On the side next Harcourt-place, between the two projecting staircase-towers, is a large area, which leads to extensive schools in the basement story. The walls of both sides and rear are pierced with four tiers of windows, which light the body of the hall, galleries, and schools beneath. The materials used in constructing the front and ends are Portland and Caen stone, and for the cornices, mouldings, columns, and other dressings; the intermediate spaces being faced with white Suffolk bricks, the first, probably, that have been introduced into this city. On entering from the street level into the body of the hall, three galleries can be seen, one over the other, continued all round the building, and forming the centre part of the hall into an elliptical shape. The loftiness of the building allows space between each of the galleries, without interfering with the light from the side windows. The galleries are supported on ornamented cast-iron columns, continued up from the basement story to the roof, which they also assist in supporting. The fronts of the galleries are formed into enriched cornices, supporting iron ornamental open-pattern balustrades. The platform for the choir, and the pulpit platform, are placed in front of the galleries at the rear of the building, standing well out towards the centre, so that the speaker can be well heard and seen from all parts of the building. The choir floor is at a level half-way between the body or ground-floor of the hall and the first gallery, being sufficiently high to allow the space under it to be occupied on crowded occasions. It is supported on light columns, as is also the pulpit, which is over the lower platform, its floor being on the same level as the front of the lower gallery. Both platforms have semicircular fronts, and are inclosed round with ornamental metal railings. The floor of the body of the hall is sloped down towards the platform, and the seats are arranged in amphitheatre style, so as to face the speaker all round. The building throughout is fitted with pew sittings of stained wood. The means of ingress and egress have been attended to by the architect. There are in all ten entrance and exit doors, specially arranged for the convenience of the body of the hall and the galleries, so that the building is capable of being cleared in a few minutes. The three galleries are approached by six different staircases placed at the angles of the building. The front and side wings each contain two separate double staircases, one in each being for the lower gallery alone, and the others for the two upper galleries. From their position in the angles of the hall all crowding will be prevented. The ceiling of the hall is deeply coned, and springs from ornamental foliated capitals of the iron columns, supporting galleries at present unfinished, from which points enriched bands or ribs run up on the cone, and on the underside of the arches between the columns which form a groin at their junction with the arch of the ceiling. Over the centre of the hall in the ceiling there is formed a large compartment for ventilation. It is enclosed externally with sashes appearing above the roof. Under these sashes are fixed other sashes of ornamental forms, glazed with amber-colour stained glass, which always presents the appearance of the sun shining into the building. These sashes are covered over with perforated zinc for protection. The sashes in the sides of the ventilating compartment in the roof are open for summer ventilation, as also all the window-sashes in the side and rear walls. A means is also adopted at each of the windows for admitting air without the sashes being opened. The undersides of the galleries, instead of being ceiled flat, in the usual manner, are formed into arched cones between the columns and bearers. The building is still in an unfinished state. Round the entire range of galleries are a series of gas pendants, so arranged as to carry away the heat and products of combustion with horizontal rows of pipes traversing the entire length and breadth of the building. These pipes become intensely heated after the gas has been lighted, and, consequently, radiate heat. They continue up the side angles of the building, and are connected to the funnels of the two large sun-lights, which are fixed in the centre of the dome. When the sun-burners are lighted a draft is produced through all the tubes, thereby carrying off all the obnoxious vapours arising from the gas-burners. In the view from the galleries no gas-jets are seen, but a halo of light universally diffused throughout the entire space, which shows with precision the architectural features of the edifice. The idea of this combined principle of lighting, warming, and ventilating is attributed by *Saunders's News Letter* to Mr. H. Bewley, who instructed Messrs. Edmundson & Co., of this city, to carry his idea into practice. There will be accommodation for 3,500 persons, without any pressure; and, standing-room included, the building is capable of containing 5,000 persons. The net cost of the edifice will be about 13,000*l.* The architect of the building is Mr. Alfred G. Jones, of Dublin, who was also the architect of the Dublin Exhibition Palace and Winter Garden Buildings. The contractors are Messrs. Cockburn, of Dublin. The ironwork is done by Mr. Strong, of Dublin.

Kilkenny.—The Cathedral of St. Canice, Kilkenny, having latterly fallen into great disrepair, its restoration was resolved on by the Dean and Chapter of the cathedral within the last year. The task of carrying out the work, which is to be one of strict restoration, has been placed in the hands of Sir Thomas Deane & Son. An examination of the architecture of the building has led to the discovery of interesting arches which had been blocked up; and these, together with the clerestory windows, and all other points in the ancient edifice, will be carefully preserved and renewed. The cost of the restoration is estimated at from 8,000*l.* to 10,000*l.*

Headford.—The plans for the new Roman Catholic Church at Headford, recently noticed in the *Builder*, were prepared by Mr. R. Pierce, of Wexford, and the works are under the superintendence of the Rev. Mr. Conway, P.P. The new building consists of a nave, north and south transepts, chancel, apse, sacristy, and side porches, designed and arranged in the Gothic style. The church will be 90 feet long by 30 feet wide, and measure 60 feet across the transepts, which are entered from the nave through two lofty arches on either side, standing on a pillar in the centre, and abutting on the wall. The church is designed without aisles, and the effect appears to be to bring the congregation near the sanctuary, and within easier reach of the exhortationist. The high altar is placed in the apse, and side chapels will be formed by open-traceried wood screens. The apse will be lighted by a window of four lights with traceried head, to be filled with stained glass, and also by side lights placed high up towards the roof, which will be boarded and panelled for staining and decoration. The side altars are lighted by triplet windows, the transepts by tall lanced lights, and the nave by couplets of considerable height. In the western gable, over the main doorway, will be a traceried window of three lights. The porch will be lighted by small quatrefoil lights, in the seats of which will be fixed holy-water fonts; and the sacristy will be lighted by a tri-light. In a screened-off space at the west end of the church will be placed the baptismal font and stairway to organ-gallery. There will be a piscina for each altar, and the structure will comprise every requisite for a parish church. Ventilation and drainage will be also attended to. The flooring of the sanctuary, &c., will be of boards: the remainder of the church will be tiled. The roof will be open and high-pitched, of intricate construction, standing 32 feet from the floor of the apex; the height of the side walls being 20 feet. The western gable fronts the town, with its doorway recessed and flanked by two buttresses, in which are two other holy-water fonts, and traceried tri-light windows, topped by a belfry, rising to a height of about 75 feet, standing on walls of 4 feet 6 inches thick, and surmounted by a cross. All the other gables will be terminated by floriated stone crosses.

Ennis.—The contract for the erection of the new lunatic asylum for the county of Clare has been declared by the Board of Control in favour of Mr. Michael Meade, of Dublin, builder, at a sum of about 29,000*l.* The site is within a mile of Ennis, on the Gort-road, and consists of about forty acres of land, which have been enclosed by a boundary wall. The architects are Messrs. John Fogarty & Son, of Limerick, in conjunction with Mr. Adair, county surveyor of Clare. The design comprehends a centre building and two wings, extending to a total length of about 600 feet, and, with the yards immediately adjoining, covering a space of about five statute acres. The style is Italian. The walls and dressings are to be executed in the light-coloured limestone of the district. The centre building will contain the board-room, office, chapel, and residences for the physician and matron, and is to be surmounted by a campanile or clock tower, 85 feet in height. One wing will contain the male, and the other the female patients' apartments, the day-rooms occupying the ground-floor, and the sleeping-rooms the upper floor. Two other towers, each 65 feet high, will stand, one at the end of each wing, containing ventilating shafts. The kitchen, laundry, and their several adjoining buildings, are to be at the rear, and there is to be a hall in a central position, in which the whole of the patients, of both sexes, may dine together, and in which they may be occasionally assembled together for lectures, music, and other recreations. The airing and working yards are to be of ample dimensions, planted and laid out as gardens. The rooms will be lofty, with large cheerful windows, projecting in some instances so as to afford views of the surrounding country. Warming, ventilation, and drainage have been provided for. It is expected that the works will be commenced immediately.

Galway.—The Roman Catholic Chapel of the Galway Union has been completed. Immediately after the resolution adopted by the Committee of the House of Commons on the Poor-laws, recommending the establishment of separate religious places of worship in the Irish workhouses, was published, the Poor-law Commissioners issued a circular to the various Boards of Guardians, calling their attention to the subject, and permitting the expenditure of funds from the rates for that purpose. The Relief Extension Act of 1847 had made it lawful for the Poor-law Commissioners to direct that suitable places of worship should be provided in Irish workhouses; but whether from ambiguity in the wording of the Act, or from not understanding its spirit and tenor, there was no attempt to provide separate chapels until after the deliberations of the Parliamentary committee which sat last year. The Guardians of the Galway Union were the first Board in Ireland to give effect to the circular of the Poor-law Commissioners. Owing to the decrease in the number of inmates in the workhouse, the guardians were able to make a portion of the dining-hall available for the chapel. Accordingly a space of 51 feet 6 inches by 30 feet was set apart and walled off for the purpose. Upon the principal altar there is a gilt tabernacle. There are two side altars, one dedicated to the Virgin, and the other to St.

Joseph, each surmounted by its appropriate image. There are two confessionals, one at each extremity of the sanctuary. The railing and woodwork of the altars and confessionals are oak-stained, and the fronting of the altars, and roofs of the confessionals, are ornamented in the Gothic style. The roof is open, the beams being sheeted and oak-stained. The walls are plastered in imitation of Ashlar masonry. The door is a Gothic archway. The windows are also arched Gothic. The floor is boarded and furnished with seats, an open space being left up the centre, the entire length of the chapel, so as to separate the males from the females.

BUILDING NEWS FROM SCOTLAND.

Glasgow. — Instructions have been received from the Hon. Mr. Cowper, the First Commissioner of Works, to remove the two stained-glass windows put into the sacristy of the cathedral. These windows were erected in memory of George Holmes Burnes, who met his death at Lucknow, and of his uncles, Sir Alexander and Charles Burnes, who fell at Cabool. The one window represents David mourning over Jonathan, and the other our Saviour with a child in his arms. The white glass in front of the windows is to be preserved, and painted a dark brown colour.

Greenock.—The contractors for the new stalk now being built at the Greenock Distillery employed a lad of about 16 to receive the buckets of mortar hoisted up, and he was in the act of stretching out to draw in one, when his foot slipped, and he fell down inside the stalk, a distance, it is said, of about seventy feet, in the course of his descent coming into violent contact with several of the spars which are stretched across. He died instantaneously.

Dumfries.—The contractors for the mason work of the New Court-House buildings, Messrs. J. Crackston & Son, Maxwelltown, are commencing their operations, and it is expected that the building will be considerably advanced by the close of the year. The other contractors are Messrs. J. Alexander & Son, Ayr, for the joiners' work; Messrs. Highet & Son, Ayr, plumbers' work; Mr. J. Kerr, Glasgow, for the plasterers' work. Mr. Kerr executed the plasterers' work of the U. P. Church, Buccleuch-street. Mr. S. Bell, Carron-bank, near Thornhill, is contractor for the slaters' and glaziers' work; but Mr. R. Coltart, Dumfries, will execute the glaziers' work.

Hawick.—The gas managers have commenced their contemplated improvements at the gas-works, by the erection of a new chimney stalk. Mr. Harkness is the contractor. The stalk is to be built of red brick, faced with white at the corners. The height will be 100 feet, and the shape octagonal. Other alterations to supply the greatly increased demand for gas will also be made when the chimney is finished.

St. Andrew's.—In accordance with the wish of many friends of deceased distinguished persons connected with St. Andrew's, and by permission of the Board of Works, the glass of the new windows of St. Salvator's Church, which has recently undergone extensive alterations, is to be taken out, and the place supplied with *in memoriam* windows of stained glass, after the manner of Glasgow Cathedral. The three first are to be put in immediately, the glass having arrived for the purpose. They are to be in memory of the late Dr. Thomas Chalmers, Dr. John Hunter, and Sir Hugh Lyon Playfair.

Dundee.—Great preparations are being made for the opening of the Baxter Park on the 9th inst. Arches are being got up in various places, and there is to be a procession in which the Freemasons are to join.

Inverness.—The foundation-stone of the United Presbyterian new church, now erecting in Union-street, is about to be laid. Although several liberal subscriptions have been made by friends in the town and neighbourhood in aid of the funds for the completion of the building, these will require to be supplemented by the general public of the district in order to enable the congregation to carry out the original design of adding a spire to the church.

ALBERT MEMORIALS.

Manchester.—The minutes of a recent meeting of the committee record that in consequence of the foundation being intersected by drains, the clay had to be excavated to the rock, a depth of 17 feet. This had made the adjoining brewery unsafe, and it had been shored up. The tender for the granite steps amounted to 560*l.* The 50,000 bricks presented by the Brickmakers' Association had been used, and an order had been given to Mr. Ludlow for 150,000 more, at 20s. 6d. per 1,000. Mr. Fairbairn had inspected the site and excavation, and expressed himself well pleased with both. The erection of the stonework would be deferred until the spring: 1,400*l.* more will, it seems, be required for the foundation and fixing the statue. The total amount required will be 4,000*l.*, towards which 2,900*l.* have been received and promised. A numerous canvassing committee is to be appointed.

Hastings.—We observe that the hint we threw out a few weeks ago, in relation to the figure of the late Prince, has had effect. The objectionable bead moulding has been removed from the niche.

Abingdon.—At a public meeting convened by the mayor, it has been resolved to carry out the project of a memorial of the Prince Consort. A design prepared by Mr. Gibbs, of Oxford, architect, has been adopted. The memorial will be about 40 feet high. The base will start from a series of steps, in the upper portion of which will be four medallions of the Queen, with monograms, devices, &c. Then will rise four carved columns, with carved and panelled octagonal shafts between, with a cluster of foliated capitals. A frieze-like course, formed of five octagonal shafts, in the panels of which are shown the arms of the county, borough, diocese, &c., rises next, with more carved capitals. Four lions bearing the arms of the Prince, quartered with those of the Queen, and emblazoned in heraldic colours, support the pedestal on which the figure of the Prince is represented. The cost of the memorial is estimated at 300*l.*

OXFORD: PROPOSED IMPROVEMENT IN THE "PARKS."

A PLAN for the alteration and improvement of the Oxford "Parks" has been for some time exhibited in the New Museum. According to the *Oxford University Herald*, the ground to be dealt with forms nearly a square, and comprises, in addition to the Museum and the long narrow piece of land generally called the "Parks," the several fields extending on its eastern side to the Cherwell. The broad avenue at present existing close to the front of the Museum, is to be extended northwards, terminating in a circle near the north boundary. From the middle of this avenue a meandering walk, nearly following the present path to "Parson's Pleasure," is to lead to the Cherwell, along the banks of which a walk is to be constructed. Another walk is to extend from the circle to the south of a thick belt of trees, with which the northern boundary of the estate is to be planted, and to be continued along the banks of the Cherwell and the southern side of the ground, completing the circuit at the north-eastern angle. Two acres and a half of the ground are to be excavated, so as to give the Cherwell in this part the appearance of a lake; and at the south-east angle it is suggested that the long-promised bridge over the Cherwell, leading to the Marston road, should be erected. A keeper's lodge is to be built at the south-west angle of the ground. A large portion of the entire area is to be reserved for sheep pasture; but at the back of the Museum about twenty acres are to be appropriated for cricket grounds, with a cricket-house, dining-room, dressing-room, and kitchen. The estimate for carrying out this scheme amounts to the sum of 9,475*l.*, exclusive of the Cherwell bridge and outer fence.

THE CASUAL LONDON POOR.

ALTHOUGH Lord Raynham's Bill for the better management of the casual poor of the metropolis was withdrawn, it met, upon the whole, with a favourable reception by the House of Commons; and we trust that during the next Session of Parliament the subject, being more generally understood, may be brought to a more decided and satisfactory result. The objections to Lord Raynham's measure were for the most part trifling, and founded on a want of sufficient knowledge of the merits of the case.

At present the reception of the casual poor is unequally managed. For instance, in the rich parish of St. George's, Hanover-square, there were, during a certain period, only 210 casual poor relieved; but in St. Pancras, in the same period, there were 11,375; and it is a well-established fact, that in those parishes, although overburdened with rates, wherein guardians are kindly disposed towards the destitute, the wards are thronged with more than the average number of those who are glad to seek a shelter for the night. Moreover, as we have shown, the accommodation provided at present, is often insufficient for the purpose of preventing the disgrace, in this great capital, of forcing destitute persons to wander during the night, and sometimes to perish in the streets. A chief provision of Lord Raynham's Bill was to establish places of shelter as supplementary to the casual wards; these to be supported jointly by the various metropolitan unions; and it was proposed to enact that "every asylum established in the general district shall be open for the admission of poor persons at all hours, both by day and night; and every person alleging himself or herself to be destitute shall be, *ipso facto*, entitled to admission, and shall be admitted into such asylum, and to food and lodging, for a period not exceeding twenty-four hours at one time."

It was argued that such a measure as this would encourage idle and vagrant persons to flock to the metropolis, and that arrangements of this kind would lead to much imposition; and it must be admitted that, to a certain extent, deception is practised for the purpose of obtaining a night's miserable lodging in the casual-ward, although far better accommodation could be had in many of the common lodging-houses for a single person for 3d.; but it is unfortunately the case that many in this large population are not only without a home, but unable by any honest process to obtain the small but needful sum of even 3d. for a night's lodging. The working of the present casual-ward system certainly needs considerable alteration and amendment. Though there are some, no doubt, who wander from one ward of the metropolis to another in a systematic manner in search of this kind of lodging; and many reared in the workhouses and unions themselves who resort to these places for temporary shelter; nevertheless, the greater number are persons in search of work, or who, having fallen out of employment, are in search of distant friends, and also those who are entirely destitute, and but for such shelters would be obliged to wander in the streets. In winter especially, the sufferings of many of these classes are very severe; and those who are really the most in need, and who have not been accustomed to a vagabond life, fare the worst. The establishment of central works, supported by the united parishes of the London district, and managed by deputies, would be of great advantage to the destitute and houseless poor. Many of the parish authorities would thus be saved a great deal of trouble, and even expense; and prevent much imposition; for, by a well-managed central system, those in the practice of imposing would soon be discovered, and might in some way be punished and prevented from continuing such practices.

Persons who have long been engaged in the relief of the London poor have expressed an opinion in favour of central places for casual relief; and it would be well if the views were collected of a number of practical and experienced men on this subject.

MORE ABOUT TENDERS.

ROADS IN THE ISLE OF MAN.

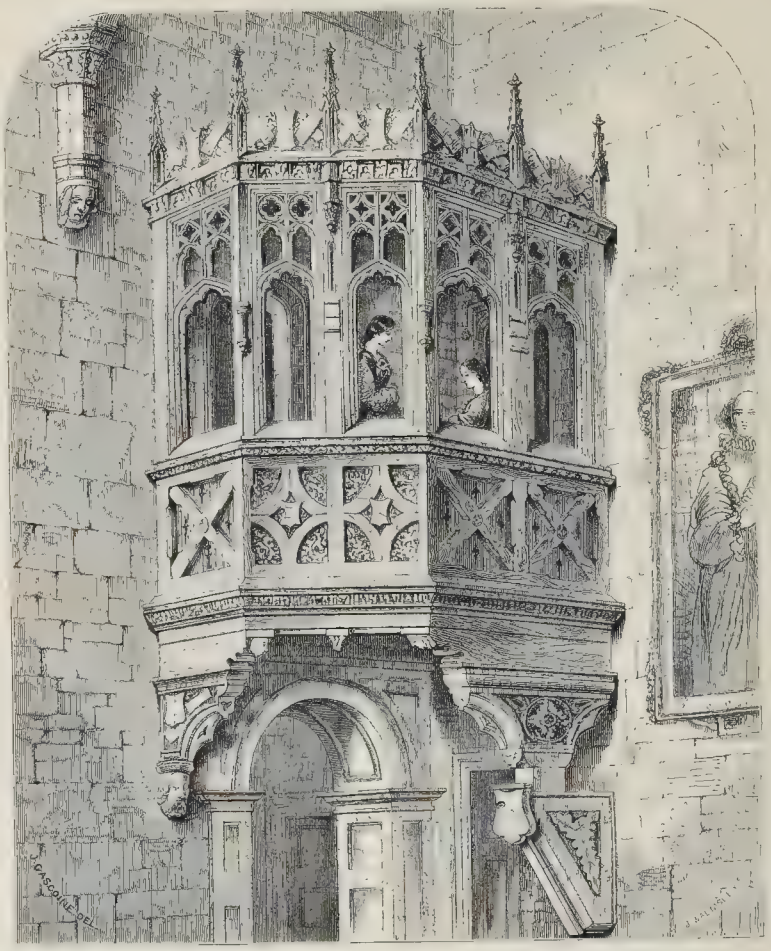
A STATEMENT of the Isle of Man Disafforesting Commission, addressed to the Lieutenant-Governor by Mr. Hans Busk, on the 28th of July last, and published in the *Manx Sun* of the 15th ult., gives some particulars of tenders for the formation of roads in the island. For the first system of roads (557 chains in length) in the southern mountains, the tenders, all from well-known contractors, exhibited the "remarkable and perhaps even unexampled discrepancy" (to use the words of the statement) which appears as following:—

The highest amounted to	£9,177
The next	6,799
The third	5,100
The fourth	3,191
The fifth and lowest, from Messrs. Eustace, of Oxfordshire, to	1,980

a sum actually less, says the statement, by 65*l.*, than the amount which an experienced surveyor had computed to be a fair remuneration for the required work.

The tender of Messrs. Eustace was accepted for these roads, and others.

The contracts now made amount to twenty-seven miles. Certain roads have been some time finished; and they are reported of favourably. Others will be completed by December next. The cost *without* culverts and earthworks will average about 4s. 12d. per yard, and "including embankments, earthworks, and extras, about 5s. per yard."



GALLERY OF COMMUNICATION IN THE HALL, COMPTON WYNNIATTS, WARWICKSHIRE.

MR. M. DIGBY WYATT, ARCHITECT.

GALLERY OF COMMUNICATION IN THE GREAT HALL, COMPTON WYNNIATTS, WARWICKSHIRE.

THE subject of our illustration is taken from an original sketch by Mr. M. Digby Wyatt, for the gallery which has lately been executed by Messrs. COX & SON, of Southampton-street, Covent-garden, and the Belvedere-road, Lambeth, for the hall of the Marquis of Northampton's house, Compton Wynniatts, Warwickshire, the ancient and well-preserved family seat of the Comptons. The main portion is of wainscot, the supports being stone corbels. The whole has been designed to afford a convenient access on the first floor from the new staircase (which has been made to supersede a very bald affair of the end of the last century), and through the hall, to the splendid old set of reception-chambers on the first floor.

SEWERAGE: OUTFALLS ON THE COAST.

BRIGHTON.

ALMOST the whole question of sewerage of towns may be said to be comprised in that of outfall. It may be that ultimately, the sewage of each town will be distributed by many outfalls, on to the land around. But whilst the question is tending to that form of adjustment, we are ejecting sewage into water-courses, or directly into the sea, with some ill effects in each of the cases.

It is important to watch the measures adopted in contending with the evil, as it is felt in many of the places that are resorted to for health. We mentioned in a recent number the proceedings of the town council of Hastings. At Brighton, opposite the Junction Parade, a new outfall is being formed, to be called "the New Albion Outfall." The object is, to carry the sewage of the centre of the town out into the sea to a distance of 1,700 feet, or one-third of a mile,—a distance sufficiently great, according to some authorities, to obviate all unpleasant or unhealthy consequences. The colossal iron pipes which are to form the sewer have been cast in Derbyshire. One "length" of 300 feet has been already joined; and, when the trench that is to receive it, and which commences below low-water mark, has been finished, this "length" will be floated to it—after being made water-tight for the purpose,—and will be embedded in the sand, or rather chalk; for, the marine substratum has been found to consist in a great measure of the latter substance, and not, as was expected, of sand. This has made the work of dredging the trench for the drain a very laborious one. Lately, by an unfortunate casualty, the work was stopped altogether, the "dredger" suffering shipwreck half-way between Brighton and Shoreham. The loss is a great hindrance to the contractors, and will delay the laying down of the pipes. There was some idea, at one time, of floating the whole of the pipes to the bed in one great length; but this, it is understood, has been abandoned as too hazardous; and the 300-feet length will be tried first. Several pipes have been already fixed nearer shore.

Besides the dredging work and the joining of the pipes, a great deal of other work has been done in the construction of a weir for a storm-water overflow, and the connexion with the sewers, which are being formed with massive brickwork, for which a solid foundation has been prepared in the chalk; and a steam-engine is daily employed in pumping out the water which comes in with every tide.

Up to the present moment the contractors are considered to have shown great energy; but it is thought that the work should have been commenced earlier in the year, considering that, in a month or two, rough weather may be expected. October is the stipulated time for the completion of the contract; but it is doubtful whether the work will be accomplished by that month.

BESTWOOD LODGE, NEAR NOTTINGHAM.

OUR principal illustration, this week, represents a mansion which is now being erected, near Nottingham, for the Duke of St. Albans, from the design and under the superintendence of Mr. S. S. Teulon; and which will receive the name of Bestwood Lodge. We must look forward to some other opportunity for supplying further particulars than the view affords.



BESTWOOD LODGE, NEAR NOTTINGHAM.—MR. S. S. TEULON, ARCHITECT.

PROVINCIAL NEWS.

Horncastle.—The contract for building the county-court offices about to be erected at Horncastle has been taken by Mr. W. Huddleston, of Lincoln. The cost will be between 2,000*l.* and 3,000*l.* Mr. Huddleston has also obtained the contract for the erection of a parsonage-house at Sherborne, in Warwickshire, his tender being about 3,000*l.*——A number of workmen have been engaged in pulling down the Rodney Inn, and the Queen's Head is to undergo a similar operation, Mr. J. B. Stanhope, M.P., the owner, being about to erect two new inns on the sites of those pulled down. In the same street as the Rodney Inn the new court-house is to be erected; and it is hoped these two improvements will be the forerunners of others.

Thetford (*Norfolk and Suffolk*).—Public improvements are also being made in Thetford. The new chapel at the Union, the first stone of which was laid in June last, is approaching its completion. It is built in a similar style to the chapels in the cemetery, and is of about the same dimensions. The Primitive Methodists' new chapel in Guildhall-street is now being fitted up; and preparations are making in King-street for a new chapel for the Baptists. The Angel, which was burnt down in the Market-place on the 10th of March last, is now being re-built on an improved scale, and will be an acquisition to the town; and there are numerous other similar improvements now going on in different localities.

Godmanchester (*Hunts*).—The tender for the enlargement of the county hospital, submitted by Messrs. M. Thackray & Son, of this town, has been accepted by the committee, and between twenty and thirty hands are now employed at the work.

Windsor.—Chariott's trustees having lately purchased the old buildings formerly known as Reeves's Almshouses, situate near the British Schools at the rear of William-street Chapel, have determined upon demolishing them, and erecting new almshouses upon the site. The building, according to the local *Express*, is to be in the Tudor style, and is to be constructed of red brick, with Bath stone dressings. At first the erection of the centre portion only is contemplated, leaving space for a wing on each side. The portion to be now built is designed to accommodate four single inmates, having one room each, on the ground floor, and two married couples, with two rooms each, on the first floor. When the tenders for building were opened, that of Mr. Snowball, of Slough, being the lowest (672*l.*), was accepted. The architects are Messrs. Edgington & Tait, of this town.

Bognor (*Sussex*).—A company is being formed here for the erection of a pier to this watering-place. Sir C. Fox is to be the consulting engineer.

Hastings.—A proposal is at present on foot to obtain the Priory Meadows, extending to about 6 acres, for a public park and recreation ground for Hastings.

Chippenham.—The new Temperance and Workmen's Hall, at Chippenham, though not quite completed, has been opened, as already noticed in the *Builder*. The hall has been erected from the designs of Mr. Stent, of Warminster, by Messrs. Smith & Light, of Chippenham.

Bath. — The new hydropathic establishment, erected at the cost of Messrs. Jupe & Son, of Mere, from the design of Mr. Stent, of Warminster, is now open, and complete; and, with the mansion, Turkish and other baths, forms a pile of buildings on the side of the hill.

Plymouth.—The theatre has been re-opened, after having undergone many alterations and a complete renovation, to repair the damage, and obliterate the evidences, of the fire which seriously injured the building last winter. By this fire the entrance at the northern façade was destroyed, together with the staircases leading to dress circles and upper boxes, the refreshment-rooms and the property-room, in the latter of which the fire was supposed to have originated. At this part of the building there has been an "escape staircase" constructed to be used in case of an emergency. It has communication with every part of the house, the doors being protected by fire-proof arches on every landing. An improvement has been made in the upper and lower box lobbies, viz.—the opening of a window from the front, giving light and ventilation. The flooring in the boxes has been raised 9 inches on each tier. The upper box lobby is reached by new fire-proof stone staircases. Ascending by the route of the refreshment-room to the gallery, new contrivances, adapted to improve the ventilation, are seen. Additional windows have been opened on the right-hand side of the gallery, and the low ugly ceiling at the back has been swept away, and replaced by iron binders for supports. Several openings have been made in the roof, and patent ventilators introduced, which can be opened or shut from the manager's box. One of the principal aims of the lessee has rightly been, in the alterations at the theatre, to obtain better ventilation. In the iron roof several new openings have been made to admit light and air. In the direction of the "auditorium," artistic decorations have been effected by Messrs. Martin & Parvis. The lattice-work in the front of the boxes has been re-gilded, and picked out with pink. The front of the next tier has also been embellished, and miniature specimens of Cupids or Psyches are added in relief. Around the gallery front, at uniform distances from each other, are a number of representations of "stage veterans," in blue medallions. The ceiling has been freshly decorated. The subjects of the figure painting are taken from "Midsummer Night's Dream." Suspended from the ceiling is a new chandelier of 300 gas jets. The staircases, property-room, and refreshment-rooms have all been built on improved principles. Mr. O. C. Arthur prepared the plans for the alterations.

Birmingham.—The public buildings in Moor-street are now complete. By the new erections and the alterations in the old buildings ample accommodation is said to be provided for the business of the borough, and also for holding Assizes should Birmingham be made an Assize town. Additional expense has been incurred in consequence of much deeper foundations being essential, and of warming and ventilating apparatuses having to be re-arranged and extended; also in providing for the reception of water from the Kent-street baths. Other alterations were found essential during the progress of the work which could no tbe omitted without injury. The cost of the work was 5,896*l.* 1s. 2d.; the purchase of land, compensation to tenants, and conveyance, 3,400*l.*; and the architect's commission, 294*l.* 16s., making a total of 10,590*l.* 17s. 2d.

Manchester.—The new bridge over the Irwell, connecting Water-street, Manchester, and Ordsall-lane, or Hampson-street, Salford, to be called Prince's-bridge, has just been completed and opened for traffic. The bridge was designed by Mr. James Lynde, the city surveyor, and has been erected during the last twelve months under his superintendence. The cost of the erection will be defrayed jointly by the Manchester and Salford corporations.——The Public Parks Committee have now completed the arrangements in the Mansion at Queen's Park, for the formation of a free museum. Especial preparation has been made for paintings, sculptures, and specimens, illustrations of natural history, and the other branches of science.

Lynn.—A discovery has been made while the corporation committee were inspecting Purfleet with a view to the proposed tunnelling over of that at present open sewer. It was found that the bridge over the fleet, called "High-bridge," and forming part of High-street, was in a dangerous state, a portion of the foundations having been undermined by the tide (with the aid, it is thought, of rats), and was likely to give way very shortly, in which case the houses and shops built upon it would most probably fall to ruin. Immediate steps were of course taken to avert such a catastrophe by shoring up the bridge; but its entire removal and the opening of a new street on the site of the fleet it is considered would be a great boon to the town, on the grounds of public health and convenience.

Doncaster.—The local board of guardians have received tenders for raising the front entrance of the Doncaster workhouse, for an infirmary, consisting of nurse's room, sick wards, staircases, water-closets, lavatories, &c. Mr. Godfrey, the architect, attended with the plans. Four tenders were opened, and it was unanimously agreed to accept that of Messrs. Robert Wood & Son, builders, at the sum of 600*l.*, and that of Mr. Thrush, for the plumbing and glazing, at 54*l.* 7s., making a total of 654*l.* 7s. The highest offer was 910*l.*: with this exception, there was no great difference between the successful and the two next competitors. The contract is to be completed before the end of October.

Carlisle. — The foundation stone of the new workhouse, which is calculated to accommodate 500 persons, was quietly deposited without any ceremony, and now the works have progressed so far that those concerned in its erection have celebrated the "timber-raising" by giving the workmen a dinner in the dining-hall of the building. One half of the main building, besides the dining-hall and kitchen, had been slated.

CHURCH-BUILDING NEWS.

Maidstone.—St. Faith's Mission (iron) church, Maidstone, has been licensed for public worship by the Archbishop of Canterbury. The building has been constructed on the northern side of St. Faith's-green, where the old church of St. Faith formerly stood, and has been erected mainly through the exertions of the Rev. R. H. Baynes, the incumbent of Holy Trinity. The outward aspect of the building is not at all imposing. Its length is 70 feet; width, 30 feet; and height, 30 feet. The exterior is composed entirely of galvanised iron; and at any time the building can be taken to pieces and removed without damage. The inside walls are constructed of match lining and canvass, covered with paper, while the ceiling consists of deal boards stained and varnished. The pulpit is placed at the eastern end of the building, near the reading-desk and communion-table; and as the church will be used as a school during the week these at such times will be inclosed with a curtain. There are forty-eight moveable seats, which will be sufficient to accommodate 400. The entire cost of the building was about 560*l.* The contractor was Mr. S. Hemmings, of London. The church has occupied only about a month in construction.

Waldron (*Sussex*).—The church of St. Bartholomew, Cross-in-Hand, in the parish of Waldron, was consecrated on the feast of St. Bartholomew, by the Bishop of Chichester. Owing to the closing of the parish church for restoration in the previous year, a service was commenced by the rector in a temporary building at Cross-in-hand. This gave rise to an offer on the part of Mr. J. G. Boucher, of Heatherden House, to build a church at his own expense for the accommodation of the inhabitants of that neighbourhood, the most thickly populated portion of the parish of Waldron. This work has now been completed from the designs of Mr. P. St. Aubyn, by Mr. A. Cheale of Uckfield. The church consists of a nave 50 feet long, with chancel, north porch, and south vestry. The chancel is approached from the nave by three steps, and two more to the sacrarium. The altar-table is on a foot pace. The chancel is fitted "stall-ways" with subsellæ, an oak lectern, and floor paved with Minton's coloured tiles. The nave has benches to accommodate nearly 200, and the floor is paved with red and black tiles of Sussex manufacture. The pulpit, of oak, with stone base, stands at the north-east angle. An octagonal font of Caen stone on four red marble shafts stands on an octagon base at the west end of the nave. A bell-cot rises from the west end of the building, capped with an octagon spirelet shingled with oak. The style of the church is Pointed. It is built of stone raised in the parish, and the windows and dressings are of sandstone from a quarry likewise in Waldron. The east window, of three lights, is fitted with painted glass by Messrs. Lavers & Barraud.

Kenilworth.—Exertions are being made to raise funds for the restoration of the parish church of Kenilworth.

Stafford.—The growing importance of the Stafford railway station, and the letting of land by Lord Stafford on long building leases, have led to the development of an important suburb of Stafford, which is known as Castletown. Some three years ago an effort was made to erect a church and schools for the new district, which forms part of the parish of Forebridge, but the difficulty of procuring a site delayed the realization of the object. Lord Stafford, however, has sold a suitable site, sufficient for a church, school, and parsonage-house, in a convenient position, fronting the river. The sum of 458*l.* 11s. 6d. has been obtained. The school-room, capable of holding 150 children, designed by Mr. Ward, of Stafford, has been erected by Messrs. Adams & Pemberton, of the same place, builders, and may be used for occasional services pending the erection of the church. The land has also been levelled and enclosed by a boundary wall, the total cost being 295*l.* 14s. 7d. It is intended next to build a chancel suitable for a permanent church, and a temporary nave of wood or iron. The cost of this will be about 600*l.*, of which about 300*l.* have been obtained. It is intended that, both in the temporary and permanent church to be erected, the sittings shall be all free.

Barnstaple.—The parish church of Barnstaple is about to be restored by Mr. Scott, architect. The building, which was originally erected in the twelfth or thirteenth century, has been greatly mutilated, the arcades having been taken down about forty years since, and Corinthian columns substituted.

Newark (*Notts*).—The churchwardens have recently caused the porch on the north side of the

pari-h church to be renovated. They have also removed Hilton's picture of "The Raising of Lazarus," which for many years formed an altar-piece, from the north transept, where it was placed at the restoration of the church. It is to be hung over the south entrance.

Wells.—Some recent works in the well known church of St. Cuthbert, at Wells, says a contemporary, deserve record, especially as they have resulted in the discovery of an altar to the Virgin, that had evidently been erected at no very distant period from when it was cast down in fragments by the iconoclasts. Placed on the east wall of the north transept several lines of sculptures, comprising figures of saints with their emblems, soar above one another: in the centre was the Virgin holding the Saviour on her knee. Her dress was the customary blue and red robe, powdered with gold stars. The figures are about 4 feet high, and all sculptured in the late manner of the fifteenth century. On the wall the rows of canopies, with carved tabernacle work, bearing fantracery over the head of each figure, remain marvellously perfect: the roses that had been wrought on the pendants, the cuspings and other details are not to be surpassed for finish and preservation. Upon the entire remains the original colourings, red, green, blue, and white, exist in a vivid condition; and the gilding, which had been profusely employed, is still hardly tarnished. On the corresponding wall of the south transept in the same church has been found a Jesse tree, or genealogy of Christ, carved in stone and coloured. The original contract for the execution of this still exists among the city records, and specifies the price at which the whole was produced, namely, 40*l.*,—a marvellously small sum unless, as was probable, the contract included board and lodging for the carvers at the expense of the corporation during their labours. We are glad to learn there is a probability of the proportions of this church being revealed interiorly by removal of certain galleries and opening the tower-arch, now blocked by the organ.

St. Just (*Cornwall*).—A vestry meeting of the parishioners has been held, to take into consideration the propriety of restoring the parish church. The necessity of this has long since been acknowledged, not only because the building itself was in a most dilapidated state, but also on account of its unfitness for public worship, particularly in the winter time. The present fabric has been standing, subject to a few alterations, for some 300 years; and a great part of the roof, after examination, has been found to be in a state of complete decay. Mr. St. Aubyn, of London, architect, has made a survey of the whole building; and in a report received from him, accompanied with plans, it is stated that more than 1,500*l.* will be required to place the building in a comfortable state of repair. Under these circumstances it was determined to ask the vestry to grant, on the security of the church-rates, a sum sufficient to restore the fabric of the building, in raising the walls, and providing a new roof. On condition of this being acceded to the congregation were prepared to take on themselves the collecting sufficient funds for renovating and remodelling the interior. At the meeting in question the vestry agreed to expend 500*l.* on the fabric, as desired; and subscriptions have since considerably added to the sum.

Gloucester.—A circular, signed by the incumbent and churchwardens of St. Mark, has been forwarded to the parishioners and congregation, with respect to a proposed enlargement of the church. The circular states that the edifice was intended to hold about 540 persons; but it is found that such a number cannot really be accommodated. Besides this, some years ago, an organ was placed in the west gallery, and thus the space intended for school children was diminished. It is now proposed to remove the organ to a chamber which can be conveniently built on the north side of the chancel. By this arrangement the gallery can be applied to its original use. And, further, it is proposed to add a new aisle at the south side of the chancel, by which additional accommodation can be obtained for fifty-six adults, or seventy-four children. The entire alterations would give additional space for at least 120 persons. Larger accommodation is much needed. At a preliminary meeting about 120*l.* were subscribed.

Bridgnorth.—The church at Oldbury is now closed for the purpose of being enlarged. The nave will receive a new roof and other additions, including an octagonal stone bell-turret on the west gable, from designs by Mr. Blashill. The work is undertaken by the rector, the Rev. John Purton, in memory of his only son. A floriated cross will be erected by his sisters in the churchyard, on the site of the ancient cross, the foundation of which still remains.

Monington (*Pembrokeshire*).—The bishop of the diocese has just re-opened this little parish church. It is a small structure with nave, 30 feet by 18 feet, and chancel 20 feet by 15 feet; north porch, and vestry south side of chancel. The style adopted is Early Geometric, with very simple detail. A two-light window lights the west end of nave, north side of chancel and east end, and a couplet of trefoiled lancets, the north and south sides of nave. The walls and all external stonework, are constructed of dressed Pantsaisson stone from a neighbouring quarry; internally, Box ground stone is used for all dressings. The roofs are of red deal, constructed with principals and trefoiled braces, and plastered between the rafters. The western bell gable springs from the ground line, and contains the old bell. The covering to the roofs is local slate, with red tile ridge and crest of Cardigan make, and each gable is surmounted by a carved stone cross, and the bell gable by a gilded weathercock. The seats are simple and open, and accommodate eighty adults, the chancel stalls and prayer-desk being a little more dignified. The floors of passages are paved with party-coloured tiles. Five steps lead up to the chancel; and the altar-table, which is of oak, stands on a footpace. The reredos is composed of stone and tiles. All the woodwork is stained and varnished. The windows are all glazed with pattern glazing, formed with white and green glass. The builders were Messrs. Jenkins & Co., of Cilgerran, who have carried out the work from the designs of Mr. Withers, architect, in a most satisfactory manner, for a sum under 500*l.*

Broseley (*Salop*).—The Memorial Pritchard Church at Jackfield was consecrated on the 20th instant, by the Bishop of Hereford. It is of French Gothic character, and cruciform in plan. The nave is 66 feet long, the chancel 30 feet, and the transept 20 feet. The height of the turret is 75 feet. The upper part of the turret is carried on eight circular columns. These columns are of Forest of Dean stone, surmounted by carved capitals of Grinshill stone. At the west end of the building is a wheel window, 15 feet in diameter, divided into ten compartments, each shaft having a carved capital and modelled base. The workmanship is of several coloured bricks, while those of the arch have been moulded. An effect is also produced by introducing earthenware columns of a deep red colour in the windows and entrance. The roof is covered with red and blue tiles, laid in bands, of an ornamental pattern, and surmounted with decorated cress-stone, and there are iron crosses on the east and west gables, and on the roof of the apse. The roof of the nave is of open deal timber, and divided into four bays, each supported by a carved principal resting upon a projecting corbel. The immediate spaces are filled in with rafters. The spaces between the rafters are plastered and coloured. The chancel and transept roof is divided into panels: each division is marked by a carved rib. All the seating is of oak, and open at the ends. The seats in the chancel have the ends carved with conventional foliage. The inside walls are entirely faced with bricks, in bands of white, red, and blue. No plastering is seen except in the recesses of the windows. The glazing is executed in Powell's cathedral glass, with white fluted glass borders. The tracery is divided into geometrical patterns: that on the wheel window is an elaborate arrangement. The apse works, the chancel flooring, and the steps leading to the chancel, are all laid with Messrs. Maw's encaustic tiles, of geometrical, and, in the borders, scroll patterns. All the ornamental bricks used in the construction of the chancel arch are of a peculiar pattern, and have been expressly moulded for this purpose. The capitals of the columns to the chancel arch have been carved with fern leaves, conventionally treated. The font is of stone, the upper part square. Each side is divided into panels, and supported on four earthenware columns in red, with carved caps and moulded bases. The pulpit is of stone and oak, in character with the surroundings. The font is the gift of the six God-children of the late Mr. George Pritchard. The lectern is of oak, the gift of the Rev. J. Hammond. The altar-table is of oak, the gift of Mr. R. Thursfield, of Broseley. The architect is Mr. Blomfield. Mr. H. Carter, of London, was the clerk of the works. The contractors were Messrs. Nevitt, Brothers, Ironbridge. The carving has been executed by Mr. G. Whittingham, of Newport. The whole cost, including architect's commission, clerk of the work's salary, and other expenses, is 2,500*l.*

Durham.—St. Cuthbert's church, Durham, which has been erected in a portion of the parochial chapelry of St. Margaret's, in order to accommodate the inhabitants living on Framwellgate-moor, and the large population scattered throughout the district, with easier facilities for attending a place of worship, has been opened and consecrated. The whole of the sittings will be free. The church has been built from the designs of Mr. E. Robson, of Durham, and is in the style of the early part of the thirteenth century.

DISSENTING CHURCH-BUILDING NEWS.

Leicester.—A new Wesleyan Chapel has been opened on the Humberstone-road, accommodating about 850 people, at a cost, according to our authority, the local *Advertiser*, of about 2,500*l.* It was designed to accommodate the rapidly-extending population covering the site of the old Cricket-ground and neighbourhood; and is constructed with galleries circumscribing the external walls. By an arrangement of wrought-iron and double walls the usual internal obstacles to the sight and convenience of the worshippers are dispensed with, and the interruption usual to the egress and ingress of the public during service rendered inaudible. The design is executed in gauged brickwork, and of an old-fashioned English character of bricks, made on purpose, embellished and banded with stone, especially wheresoever art-decoration is resorted to. The chapel contains a superficial area of about 5,000 feet, averaging 87 feet long, 55 feet wide, 30 feet high to wall-plate of roof. The general contractors were Messrs. Porter & Clifton. There have also been various supplementary contractors. Mr. Barfield executed the carving of the pulpit and screen (forming the rostrum, introduced for the purpose of missionary and other collective occasions), also the carving of the organ, and generally, throughout, of the stone and wood, with the exception of the terminus in the head of the doorway, done by Mr. Farmer's pupil. Mr. Barfield is also engaged in the execution of the panelling in the face of the pulpit over the Communion table. Mr. Eagles, of London, constructed the organ. Mr. W. Whetstone, of Coalville, supplied the paving-tiles introduced in the vestibule. The system of warming and ventilating adopted has been carried out by Mr. Boyd, London. The arrangement for supply of gas was entrusted to Mr. Webb. The colouring and stencilling of the roof, the painting, colouring, staining, and varnishing throughout have been executed by Mr. H. Smith, of Leicester. The ironwork of enclosure, spouting, &c., was from the foundry of Messrs. Law & Son, of Leicester. Mr. Frederick W. Ordish, of Queniborough, was the architect.

Chelmsford.—The foundation stone of a new Primitive Methodist Chapel has been laid in Hall-street, Moulsham, by Mr. J. A. Hardcastle, M.P. The building in Springfield-lane had long been found inadequate for the growing wants of the congregation, and a short time since a movement was set on foot for the erection of the proposed new edifice at a cost of about 350*l.*, upwards of 100*l.* of which has been subscribed. The chapel will be a plain edifice in the Gothic style, with sittings for about 250, and will be built by Mr. Thomas Moss, jun., from designs by Mr. Thomas Moss, sen.

Bilston.—The Wesleyan chapel of Bilston has been closed for some time, for the purpose of repairs, but is now re-opened. Viewed from the outside, the building presents no remarkable feature, and is, in fact, of the most ordinary "meeting-house" character. In the interior, and occupying the upper end of the building, is a comparatively new organ, flanked on either side by a granite grained pillar. The ceiling has been decorated afresh. The entrance-doors have been altered. The whole of the improvements have been effected at a cost of about 500*l.* Mr. Hickman was the builder employed, and Mr. Beecher the decorator.

Wolverhampton.—The improvements and alterations on the Methodist Free Chapel in Cleveland-street are now completed, at a cost of 350*l.* The chapel has been enlarged by an addition of 9 feet to its general length; and the partition wall, which divided two vestries at the entrance to the building from the body of the chapel, has been pulled down, and the room previously occupied by them has now been made use of for additional sittings. A gallery has been erected for the choir, and the old pulpit at the bottom of the chapel has been removed, and its place supplied by a platform. The whole of the old sittings have been taken down, and the interior of the chapel entirely re-pewed. Two new vestries have also been erected

at the end behind the platform. The chapel has been re-opened for divine service.

Shrewsbury.—The chief stone of a new Baptist Chapel, at Wyle Cop, has been laid. The site of the building is the yard of what was formerly the Spread Eagles Inn. The portion now in course of erection does not necessitate the destruction of the house, which has been converted into two private residences. A temporary brick front is to be erected, which will stand till the purchase-money of the property (780*l.*), and the cost of the present erection, are met, when the houses will be pulled down and the chapel brought out so as to seat 700 persons, without galleries; and it is designed then to erect a stone front. The present building will be capable of seating 400 persons; and the dimensions are 53 feet by 45 feet. The plans, &c., have been drawn by Mr. H. Weatherby, and the work is being carried out by Mr. James Edwards, as carpenter; and Mr. Teekoe, as bricklayer.

Vowchurch (*Flintshire*).—A new Primitive Methodist chapel has been opened at Vowchurch, in the Cwm circuit. The edifice is of brick, and is an unpretending structure. Its total cost was about 190*l.* This is the third chapel the people of the Cwm circuit have opened in twelve months.

Whittington (*Lichfield*).—The memorial-stone of a Congregational chapel at Whittington has been laid by Mr. H. Manton, ex-mayor of Birmingham. The Congregational church at Lichfield has for a number of years used a room in the village for the purpose of assembling for divine worship, the only other place of worship for the 900 inhabitants being the parish church. The room has become too small to hold those who assembled; and ground having been presented by Mr. Ralph Wood, of Manchester, for the purpose of erecting a chapel, an effort was made to obtain the funds necessary to secure the erection of a suitable building, and the result is the laying of the chief stone. The new chapel will be a plain early English building, and is to cost 220*l.*, of which 120*l.* have been subscribed. It will seat 160 persons.

Liverpool.—The foundation-stone of a place of worship in connexion with the Presbyterian Church in England has been laid in Beech-street, Fairfield. The style is Decorated. The plan is a rectangle 77 feet by 39 feet inside, a portion of the west end being reduced in width to obtain a more proportionate elevation externally. In the angles formed by the reduced width of the building will be placed the tower and south porch respectively. A vestry with the usual offices, with basement underneath for coals and warming apparatus, will be provided at the east end. The west front will have a gable pierced with a five-light window, filled in with geometric tracery. At the north-west angle will be a tower of two stages, the lower story forming the principal entrance porch. Another entrance will also be provided on the south-west angle. Above the tower will rise a spire to the height of 90 feet. The side elevations will have windows of two lights each, with trefoil heads, a buttress being placed between each window. The west elevation is to be built with Yorkshire parpoints and Stourton Hill stone dressings; the remaining elevations with gray brick, and stone dressings to windows and buttresses. The interior will have an open roof, with arched principals resting on moulded stone corbels, the rafters to be wrought, and the spaces between them plastered. The seats and all woodwork are to be stained and varnished. The aisles and passages are to be laid with red and blue tiles, and the porches with Minton's encaustic tiles. Accommodation is to be provided for 450 persons; and, by the addition of a west gallery, the accommodation can be increased at a small additional cost. The contract for the building, including warming apparatus and boundary walls, is 2,100*l.* The works are being carried out by Mr. T. Urmson, builder, from the plans and under the superintendence of Mr. W. J. Mason, of Liverpool, architect.

Haydon Bridge (*Northumberland*). — The foundation stone of a new chapel for the use of the Primitive Methodists of this town has been laid.

STAINED GLASS.

St. Ann's, Highgate Rise.—The new window lately put up by Messrs. Cubitt, in the east end of the north aisle of this church, has been filled with stained glass by Messrs. R. B. Edmundson & Son, of Manchester. It is of two principal lights, with tracery head. The subjects are—"Jacob blessing the two Sons of Joseph, Ephraim and Manasseh," and "Christ Blessing Little Children." The tracery is filled with angels bearing scrolls, inscribed with texts and the family arms of Mr. Wm. Gladstone, who has erected this window to the memory of four of his children, who died young.

Chelmsford Church.—The testimonial window subscribed for by the parishioners as a mark of esteem for the services of Mr. William Baker, has been placed in the south chancel of this church. It is by Messrs. Clayton & Bell, who have already provided glass for the eastern end of the edifice. The subject of the window in question is the parable of the good Samaritan, the history being embodied in four compartments:—The first represents the traveller being beaten by thieves: the second shows him lying by the wayside stripped of his clothing, the priest in white robes having passed by, and the Levite, with a backward glance, also walking away: the next discloses the good Samaritan dismounted from his beast, tending the wounded man; and, finally, the traveller is seen mounted upon the mule and about to alight at the inn. In the tracery heads of the window four angels are represented, each bearing a scroll, with the words "Alleluia, Amen." The subject is more Mediævally treated than those of the other windows. In connexion with the improvements in this church we may here notice the alteration recently made in the chancel by the rector. The old pews on the south side have been substituted by three open oak benches, having carved poppy-heads, each representing a different flower. The work has been executed by Mr. Wm. Polley, of Coggeshall, from designs by Mr. Chancellor, architect.

Whitchurch Church.—A stained-glass window has been recently put up in Whitchurch Church, in the neighbourhood of Bristol, in memory of the Rev. Lewis Coyle, late curate of the parish, by his friends and parishioners. The design has reference to the office of the deceased, the centre light representing the Crucifixion, the Great Sacrifice, the Good Shepherd giving His life for the sheep; and the side lights having for their subjects Christ blessing little children, and delivering to the Apostles their commission. In the tracery above is the Good Shepherd seeking the lost sheep in the wilderness, surrounded by angels adoring and rejoicing. The artists were Messrs. O'Connor, of London.

Aston Church, Birmingham.—A window, in memory of the late Mr. Philip Meller Twells, has been placed in the north aisle of Aston Church. The design selected consists of four scenes in the life of Abraham. The first depicts the departure of the patriarch with his wife and kinsman Lot, as recorded in Genesis xiii. The father of the faithful, grasping his staff and pointing to the distance, indicates to his companions, who are attentively listening to his remarks, the direction in which they are about to proceed. The second scene represents Abraham at his tent-door in the heat of the day. He has courteously risen from his seat, and with earnest gesture is inviting the "three men" or angels, as "My Lord," to become his guests. The third view is the offering of Isaac. The last episode is the death of Abraham. Each group is enclosed in an oblong medallion, with a background of blue. In the heads of the lights are trefoils, filled in with symbolical allusions to the Holy Trinity; and the space not occupied by the main figures is enriched with conventional foliated tracery. Each light is surrounded by a fillet of lilies, with leaves alternately green and puce, on a blue ground. In the apex of the window an angel with extended wings, and kneeling, displays a scroll, bearing a text.

SCHOOL-BUILDING NEWS.

Hertford.—New schools for the parish of St. Andrew's are about to be erected on the site of the old rectory-house of the parish, standing in the rear of the church. The present rector has become the purchaser of the house and grounds, and made an offer of the property at the price which he had given for it,—about 420*l.* He has been promised 20,000 bricks towards the erection of schools. A committee of the parishioners has been appointed with a view to ascertain whether the requisite sum could be raised, and the plan carried into effect. Mr. Warleigh's scheme includes not only the erection of schools, which are much wanted in the parish, but the purchase of Sele Cottage as a rectory-house; and that the purchase money of the old rectory should go to pay in part for the purchase of Sele Cottage.

Crowle (*Worcestershire*).—For new schools here, the late Mr. R. Smith, of the Green, gave a site of about three-fourths of an acre, and a general subscription was entered into, and plans and estimates obtained from Mr. Hopkins, architect to the Worcester Diocesan Society. After some obstacles thrown in the way by the Committee of Privy Council, the plans in an altered form were adopted. Accommodation is provided in the new building for upwards of 100 children, including infants. The principal room is 42 feet by 18 feet, with a lofty steep-pitched roof of open timbers, the principals resting on stone corbels. A Decorated window is inserted in the east wall, and there are square-headed mullioned windows in the side wall. This room, besides its primary purpose, will be used as a place for parish gatherings, festivities, concerts, and other entertainments. There is likewise a class-room, with open roof, 16 feet to the apex, and lighted by a three-light, trefoil-headed window; a cloak-room, entrance-hall, and porched doorway. A residence for the master and mistress is provided under the same roof. The building is of brick, with Bath stone facings, alternate white and grey stone in the arches of doors and windows, and a course of ornamental brickwork surrounding the school part of the building, beneath the windows. A fence, lawn, garden, and playground, will complete the work, and it is hoped this will be accomplished by the end of September. The parishes of Huddington, Tibberton, and the neighbourhood, are to participate in the advantages of the school. Mr. Shelswell, of Worcester, is the builder.

Gelligaer (*Glamorganshire*).—A short time since the foundation-stone of the Vochrhiw school buildings was laid: the school-room is now fit for the celebration of Divine service, and has been formally opened. The school is 37½ feet by 20 feet. It has been built by Messrs. James & Price, of Cardiff, from a design by Mr. C. Buckeridge, of Oxford. The walls are of native stone, with brick arches: the tiles are also of native stone. There is a bell-turret. In order to facilitate the extension of the room, a brick arch has been built, forming part of the eastern wall. It is intended to add a chancel at the eastern, and a master's house at the western end, of the present room.

Rotherham.—The foundation-stone of new National schools has been laid at Masbro'. The schools are being built on a plot of ground between Masbro'-street and Station-road, adjoining the residence of the Rev. H. M. White. The chief front will face Station-road, the entrance being in the centre, over which will be a room designed to serve as a parochial library. To the left of the entrance will be a large infant school-room; and on the right a class-room. On the south side is left space for a good-sized playground and offices, and there is also room for the erection of a boys' school-room at some future time. The girls' school-room will be 52 feet by 18 feet, and the entrance 9 feet 9 inches by 16 feet. The whole length of the front will be 132 feet. The entrance to the library will be by a spiral staircase to the tower, the full height of the tower being 45 feet from the base, and the turret of it is intended to be covered with dark shingle. The whole of the inside will be built with bricks of red, buff, and black colours, instead of being drawn with plaster. The roof will be open; and the whole of the structure will be built with hollow walls, for the sake of dryness and ventilation. The estimated cost of the whole is 990*l.* The entire expenses will be borne by Mr. and Mrs. White, who wish in this manner to raise a suitable and permanent memorial to their sister, Miss Alcock. The schools, when complete, will accommodate about 325 children. The builder is Mr. Ripley, of Masbro'; and the plans were prepared by Mr. W. White, of London, brother of the donor.

Pensher (*Sunderland*).—The foundation-stone of a new school has been laid at Pensher. The only school in this neighbourhood till now was that at Shiney-row, limited to the children of the workmen of the Marchioness of Londonderry. There was some difficulty in obtaining a suitable site. The necessity of increased accommodation, however, became so apparent that Mr. George Winter, the owner of the only land available for the purpose, offered a site for a new school-house, and a liberal subscription towards the building fund. A meeting of the inhabitants was held, a committee formed, and an active canvas of the parish for subscriptions was immediately commenced. Mr. Winter, to facilitate the project, offered the committee the loan of 100*l.*, Mr. Leighton, of Lambton, presenting them with a plan. Tenders were at once called for and a contract entered into. The school, when finished, will afford accommodation for 140 scholars, and will be used also as a Sunday school.

COMPETITIONS.

Dublin.—The Archdeacon of Dublin contemplates the erection of a new district church, of large dimensions, on a site leading out of Bagot-street, presented by the trustees of the Earl of Pembroke, the owner of the soil. To select an architect, portfolios of drawings of executed works were asked from Sir Thomas Deane, Messrs. Lanyon & Lynn, Mr. Slater, Mr. Withers, and Mr. T. H. Wyatt. The two last were considered as best suiting the tastes of the promoters, and ultimately Mr. Wyatt's was chosen.

Bridlington Quay Hotel.—The provisional committee of the company received, in answer to their advertisement to architects, several designs for the new hotel proposed to be built by them in the centre of Sewerby-terrace, on the North Cliff, Bridlington Quay; and selected the one submitted by Mr. W. B. Stewart, architect. The design was considered to possess not only the most artistically designed exterior, but a well-arranged plan, containing all the requirements of a first-class hotel, such as fireproof halls, corridors, and staircases. The dining and drawing rooms are each 23 feet by 53 feet, and of suitable height: there is also a billiard-room, 23 feet by 26 feet, with every convenience attached; coffee-room, smoke-room, eight large parlours, and seventy-two bed-rooms, making up eighty beds; besides bath-rooms on each floor, three lifts or hoists, two staircases, bar-parlour and bar, the latter so placed as not only to command the principal entrance, which it faces, but also the corridors right and left. In the basement are the necessary offices, with kitchens 23 feet by 53 feet, tap, good cellars, &c. The company have selected a site facing the sea, which has in addition a southerly aspect. They have also secured a plot of ground in front, containing over 2 acres, which it is proposed to lay out with walks, fountains, &c. They have ample room behind for any future extension, and also for stabling.

St. Stephen's Church, near the Citadel Station, Carlisle.—Miss Burdett Coutts has, from seven designs submitted to her by architects resident within the diocese of Carlisle, selected that of Mr. James Nelson, jun., as the one which she wishes to be carried into execution. Miss Coutts desires that it may be known that, while all the plans proposed to her were much liked, those of Mr. Daniel Birkett, of Carlisle, and Mr. Joseph Bentley, of Kendal, were, in conjunction with those of Mr. James Nelson, deemed most handsome; the last, however, being preferred, because it more exactly suited the form of the site. Miss Coutts, who had previously intimated her intention of subscribing 1,500*l.*, has most generously undertaken to bear the whole cost of erecting St. Stephen's Church, in hopes that the subscribers will permit their contributions, after defraying the purchase of the site, to be applied towards its endowment.

THE ACCIDENT AT BLACKFRIARS BRIDGE.

THE coroner's inquest on Ellis, who lost his life by the accident at the new railway bridge for the London, Chatham, and Dover line at Blackfriars, has been held. The most probable cause of the accident, according to the evidence of Mr. D. S. Sherman, C.E., who made the calculations for the International Exhibition building, was one of the trusses getting out of gauge, and thus causing one of the wheels of the traveller to slip off the rails on to the wood. The only means of avoiding such an accident, he added, would have been by more care being taken by the men superintending the operation of carrying the traveller across. If the four trusses had been connected or tied together with rods, he added, they would, of course, have been stronger, but in the present instance the trusses were so strong that the ties might have been properly dispensed with. Other evidence was led which showed that the work had been newly done, and was not tested, and that the traveller had not before passed across. Mr. Woodford, C.E., who had been employed by Messrs. Peto & Betts to design the stages, attributed the accident to a jerk from the traveller climbing the rails and falling on the wood, which was bruised as by the flange of a wheel. A verdict of accidental death was returned; and the coroner said that Mr. Freshfield, the railway company's solicitor, desired it to be mentioned that in future, when the traveller was about to be removed, the danger signal would be put up, so that steamboats and other craft should not go underneath.

Another accident, from rather singular causes, has since occurred at the same place. During a recent thunderstorm the river suddenly rose, and the current was so rapid, that a barge became unmanageable in passing through the bridge, and struck away the diver's ladder, but fortunately without severing the air-pipes. The diver was safely brought to the surface, though in an exhausted state. During this storm the entire works at the bridge and railway were stopped.

ACCIDENTS.

A LABOURER has lost his life while engaged on the works in progress at Peckham for the London, Chatham, and Dover Railway Extension. In assisting to unload a piece of timber 25 feet in length and 13 inches square, weighing nearly half a ton, he suddenly slipped, and the timber fell right across his stomach, crushing in his ribs and causing such injuries that he expired shortly after in St. Thomas's Hospital.

At the Main Drainage Works, Deptford, a large stack of bricks has fallen on a workman and hopelessly injured him.

A woman has been killed while passing along Royal Mint-street, across which Sir William Armstrong, the contractor, was erecting an iron bridge to connect the London and Blackwall Railway with the London Docks. Two boys were in the act of hammering in a rivet, but they missed the rivet head and struck the plate, which fell and struck deceased on the head with terrible force. She was carried to the hospital, where she died from fracture of the skull. The coroner's jury returned a verdict of accidental death, and recommended that the railway company should in future adopt measures to prevent accidents which endangered the lives of passers-by.

A bridge has fallen at the Potteries, on the Liverpool and Garston Railway, killing two workmen. At the coroner's inquest it was shown in evidence that the arch was built on rock, and had been keyed in on the 20th of August. The centres had been struck when the arch fell. The other arches were constructed in dry weather, but during the construction of this arch the weather was very wet, and about half an hour before the portion of the arch fell from which the centres had been removed, there was a considerable fall of rain, which, it was presumed, had exercised a prejudicial effect on the structure. The inquest was adjourned, that some practical witnesses might give evidence.

At Manchester, on Saturday last, one of the large beams forming the scaffolding of the new fish-market building in Victoria-street, gave way, causing the fall of a large portion of the timber and travelling crane, and killing one man who was passing, and seriously injuring two others. The local *Examiner*, in describing the accident says, "A large number of persons visited the place, and many expressed very decided opinions as to the loose mode in which it is permitted to erect scaffoldings in this city. It seems that in this case, the dangerous condition of the timber, owing to the depth of the excavations, was pointed out some two hours before the accident by a policeman, who states that, on reporting the matter to the contractor, he was told that contractors were not accountable for streets giving way. The same policeman then reported it to Mr. Francis, of the paving department, who said it was the duty of the contractor to keep all safe. The only thing left for the constable to do was to watch until the whole came down; and, in the meanwhile, to warn people who were passing near. It seems that Messrs. Ellis & Hinchcliffe are the contractors for the scaffolding, and Messrs. Worthington for the excavation, and that the cause of the beam giving way was the same which also made the side of the street unsafe for traffic, viz., the removal of earth in digging the cellars, the result being that by degrees the hold became insufficient for the timber lodged in the ground."

A house, in a ricketty back alley, in Gateshead, called the Dark Entry, fell in on Thursday in last week. There were three young children in the house at the time, but one ran out at the moment and fainted at the door; thus, however, securing her escape; and the other two were so buried under cross beams that they were got out uninjured.

In Dublin, the floor and back wall of a house now being built over Mr. Sewell's Horse Repository, Lower Mount-street, has fallen, but fortunately no lives were lost, although a number of workmen were engaged on the premises at the time. Two of them, however, were injured. It is supposed that the recent rain acting on the new work was the cause of the accident.

COMPENSATION CASES.

THE PORTSMOUTH FORTIFICATIONS.

WITHIN the last few days, a court has been held at Fareham, before the Under-Sheriff, Mr. T. Phipson, Q.C., assessor, and a special jury, to determine the amount of compensation to be awarded to Mr. H. P. Delmè, of Cams Hall, Fareham, in consequence of certain rights claimed by the Government under the Defence Act. The rights are connected with land amounting to 180a. 1r. 18p., which is situate in various parishes. Some portion of the land, up to the date of these proceedings, has been the absolute property of Mr. Delmè, property he could have disposed of as he thought proper (he having the fee simple); but a greater portion is part of the family estate, in which he has had only a life interest. With the exception of a few acres, the land is wet, heavy, clayey, and very flat, having about six miles and three quarters of open ditches, varying from 2 feet to 5 feet in depth. It appears that the notice given to Mr. Delmè required all the fences to be taken down and levelled, and all the ditches to be filled up with large pipes and gravel. Filling these ditches, it was contended, would entail a depreciation in annual value of 6s. per acre, or an outlay of 7*l.* per acre.

Mr. Johnson, the counsel for Mr. Delmè, endeavoured to explain to the jury what would be the effect of the rights claimed by Government. The property, whatever its nature, whether adapted hereafter for building or agricultural purposes, would have to be kept free from obstructions, and subject to the clearance rights insisted on by the Crown. Not only must every ditch be filled up, but levelled fences must be kept within 4 feet of the road; and in many instances the banks alone were 4 feet high. The effect of these clearance rights would be to prevent the owner from utilising the resources of the land, and to necessitate arterial drainage in place of the ditches now sufficient for the purpose.

The claim on the part of Mr. Delmè varied, according to the ideas of the valuers, from 4,800*l.* to 5,700*l.*

Mr. C. B. Smith, of Wickham and Portsea, made his valuation, 5,446*l.*, depreciation, exclusive of timber.

Mr. Charles Pink, of Woodend and Southampton, estimated the total annual value of land after clearance rights were exercised, at 220*l.*, which capitalised at 25 years' purchase, gave 5,500*l.*; showing a difference in saleable value of 384*l.* To this he added 25 per cent. for compulsory sale or the depreciation in value of the agricultural land, namely, 2,687*l.*, making 671*l.* 15s.; total 4,512*l.* 12s. 2d.; and to this again, 350*l.* timber, making a grand total of 4,862*l.* 15s.; and that, he said, did not include grubbing woodlands, providing fences, or main or arterial drainage.

Mr. Richard Pink calculated the same total amount of compensation.

Mr. R. Wooldridge, of Titchfield, estimated the total amount at 4,870*l.*, exclusive of timber.

Mr. George H. Appleby, examined at considerable length, testified that the loss in the property on the high road at Fareham, would be 490*l.*, and the residue 4,477*l.*, making a total depreciation of 5,067*l.* This valuation did not include timber, which, if estimated at 350*l.*, made 5,417*l.*

Mr. E. P. Squarey, of Westminster and Salisbury, gave his total estimate of damage, exclusive of fencing, 5,164*l.*, including timber.

The assessor having referred to the important question of drainage as materially affecting the inquiry, an arrangement was entered into, Mr. Hawkins agreeing that if any ditches were filled up, the Government would lay down drain pipes, which should maintain the drainage at present effected by the ditches, or pay a sum of money in lieu of incurring the expence. This conclusion, it may be seen, would materially modify any opinion to be formed of the valuations put forth in the statement of Mr. Delmè's case.

For the Government, the first witne.s called by Mr. Hawkins, was Mr. Clutton. He thought a fair amount of compensation was as follows: damages, to land as agricultural land, 879*l.*; building land (Fareham), 420*l.*; timber, 300*l.*; fencing, 870*l.*; total, 2,474*l.* From this sum the witness would deduct 300*l.* for improving twenty-eight acres by grubbing the woodland, and the eight acres of hedge-row thrown into cultivation.

It was agreed that the timber should be taken at 350*l.*

Mr. Lee estimated the actual loss at 1,191*l.*

Mr. Oakley, of the firm of D. Smith & Co., considered in valuing the depreciation at 1,116*l.* 5s. he was liberal; and Mr. F. Clarke estimated Mr. Delmè's loss at 1,670*l.*

The learned assessor summed up, and the jury found damages for Mr. Delmè's land in Titchfield and Rowner, 2,325*l.*; for building land in Fareham, 400*l.*—total, 2,725*l.*

Since the case was decided, "A Witness," writing to the *Hampshire Advertiser*, has pointed out that no opportunity was given to Mr. Delmè's witnesses to say what deduction would be made by them to meet the circumstances as altered during the course of the proceedings. The cost to the War Department of filling in 6¾ miles of ditches, with pipes averaging from 6 inches to 2 feet diameter, would be 2,000*l.*, which sum would be a contribution to Mr. Delmè towards the thorough drainage of his lands; that sum, added to the verdict of the jury, 2,735*l.*, therefore, would make his compensation equal to 4,735*l.*

On another day, a court was held at the same place, to determine the amount of compensation to be paid to Messrs. Whettam for taking compulsory and restrictive rights over about seventy-five acres of land.

The witnesses called to support the claim of Messrs. Whettam were Messrs. Richard Pink, C. B. Smith, Chas. Pink, G. H. Appleby, and E. P. Squarey. The average valuation of these gentlemen was about 4,000*l.*

The witnesses on behalf of the War Department were Messrs. Clutton, Oakley, Clarke, and Lee, whose average valuation was about 2,400*l.*

The special jury viewed the land, and returned a verdict at a late hour for 3,758*l.* 6*s.*

On a third day, a court was held at Yarmouth, to assess the claim by Mr. Charles Seely, M.P., of 3,100*l.* for land required for a military road. The witnesses called in support of the claim were Messrs. Driver, of London; Chas. Pink, of Wood End; Francis Pittis, of Newport; and J. B. Bird, of Northwood.

On the part of the War Department there were called as witnesses Messrs. Clutton, Clarke, Lee, and Oakley, of London, and Ross, of Alresford, whose valuations were about 1,600*l.*

The special jury viewed the land, and after an inquiry which occupied the greater part of two days, returned a verdict of 2,883*l.*

PATENTS CONNECTED WITH BUILDING.*

COATING OR PROTECTING IRON OR STEEL WITH ANOTHER METAL.—*W. & H. Bowser.* Dated 30th December, 1862.—The arrangements for carrying out this invention comprise a reverberatory furnace for heating the iron or steel, and a chamber in close communication therewith, to which latter the iron or steel is transferred to have the coating metal applied to it. The iron or steel plate, sheet, or other like article to be coated, having had its surfaces rendered as clean as possible, must be heated to about a welding heat, or to such a heat that the copper or other coating metal will melt freely upon its surface. When sufficiently heated, the article is transferred to the coating chamber, wherein there is brought into contact with it the coating metal, in the form of sheets, strips, or grains, proportioned to suit the thickness of coating to be applied in one operation. The article may be subsequently reheated, rolled, hammered, or drawn, without the coating metal becoming separated.

MANUFACTURE OF WROUGHT METAL PILES, COLUMNS, AND SHAFTS. *J. E. Dowson.* Dated 2nd January, 1863.—In forming sheets of metal, each edge of a plate is rolled or formed with an interior flange and rib, and by preference of such exterior form at the butting edges that when the edges of two plates butt together the join between them shall not be a plain or straight line. On the contrary, one butting face is made hollow, undulating, or concave, while the other is made undulating or convex, to fit the hollow undulating or concave face of the neighbouring plate, though this is not essential, as plain or flat butting surfaces may be formed to the flanges. A series of longitudinal plates, such as above described, are used in producing a pile, column, or shaft. The plates forming a pile, column, or shaft, are bound together by metal bands fixed externally, which may be shrunk on, or they may be welded on; or they may be otherwise fixed tightly round in any suitable manner, so as to hold the series of butting plates of which a pile, column, or shaft is composed, securely together; or the plates of which a pile, column, or shaft is composed may be combined or held together in any other convenient manner.

ARTIFICIAL STONE. *E. Sabel.* A communication. Dated 19th January, 1863.—The patentee claims the manufacture of an artificial stone by running molten cinder into large pits or moulds prepared for its reception (in the manner described in the specification), and in allowing the masses obtained to cool gradually.

* Selected from the lists in the *Engineer*.

Books Received.

VARIORUM.

PROCEEDINGS of the Northern Architectural Association for 1860-62. Newcastle-upon-Tyne. Printed by Lambert, Grey-street. 1863. This part of the Northern Architectural Association proceedings contains the paper of Mr. Wilson on "The Momentous Sanitary Question"; and that of Mr. Johnson on "Early French Architecture;" both of them read before the Association. Proceedings in relation to the Architectural Alliance, and correspondence with the Royal Institute of Architects, with other matter, make up the remainder of the publication.——Book-keeping; its Use and Necessity; with hints for the tyro in Government or public official life. By J. P. Ward. Second edition: Klenck, Upper Storer-street, Commercial-road. This is a sensible pamphlet, urging, in a series of brief letters, the advantages of correct bookkeeping to all tradesmen and clerks. It does not profess to set forth any new or complicated system, but contains some useful remarks on the subject, which must tend to keep those benefiting by it out of the Bankruptcy Court.——The Laws of Atmospheric Action in their relation to the Ventilation of Buildings. By John Hay. Glasgow. Printed by William Macrone, St. Enoch-square. 1863. This is a reprint of an essay read at a meeting of the Glasgow Architectural Society on 2nd March, 1863.

Miscellanea.

SOUTH KENSINGTON MUSEUM. — During the week ending 29th August, 1863, the visitors have been as follows:—On Monday, Tuesday, and Saturday, free days, open from 10 a.m, to 10 p.m., 8,793. On Wednesday, Thursday, and Friday, students' days (admission to the public 6d.), open from 10 a.m. till 6 p.m., 941. Total, 9,734. From the opening of the Museum the visitors have been 4,201,821.

ST. PAUL'S CATHEDRAL.—A proposal was lately made by Dr. Rogers (of Dalston and Westminster) to place in the apse of St. Paul's Cathedral a memorial window to his ancestor, John Rogers, prebendary of that cathedral, and the first Protestant martyr in Queen Mary's reign. To that proposal Dr. Milman replied, that the dean and chapter would of course be prepared to consider it, with every desire to respect the memory of the individual to be commemorated. He directed attention, however, to the advertisement; which states that it is proposed to fill the windows of the apse "with painted glass of the highest quality, uniform in style, design, and execution;" adding, "the subjects of the whole (the chief events of our Lord's death, &c.) are determined on. From these conditions—framed after mature deliberation and the most competent authority—we can hardly depart." Recognising the propriety of the regulations, Dr. Rogers intends, we understand, either to adopt one of the proposed designs or to select another window.

PETROLEUM STATISTICS. — From the 1st of January last to June 1st, 10,110,810 gallons of petroleum were exported from New York to foreign ports, against 2,920,089 in 1862. In addition, 5,180,762 were exported from Baltimore, Philadelphia, Boston, and Portland, making a total of 15,221,572 gallons. In all likelihood, remarks the *Boston Courier*, which gives these statistics, as great a quantity has been consumed at home. Only one million of gallons were exported in 1861.——A paper on "The Oil Wells of Canada" has been read before the Canadian Institute by Mr. Sandford Fleming, C.E. In this paper Mr. Fleming states that he ascertained the depth of nine separate flowing wells, at points scattered over the whole oil-producing area, to be as follows:—

The deepest well	is 230 feet in the rock.	
The next deepest	is 208	,,
,, ...	is 200	,,
,, ...	is 182	,,
,, ...	is 180	,,
,, ...	is 163	,,
,, ...	is 158	,,
The shallowest	is 109 }	At present
,, ...	is 109 }	flowing.

CLUBS FOR CLERKS.—The success, at Birmingham, of the Club for Working Men, in Newhall-street, has led to an effort on the part of the local clerks to establish a Clerks' Club.

NEW ACT: TELEGRAPHS.—There are several important provisions in the new Telegraph Act passed at the end of last session. A person in the employ of a company, wilfully or negligently omitting to transmit or deliver a message, or divulging the purport of a message, can be fined 20*l.* The Board of Trade can direct a company to erect a telegraph for the exclusive use of her Majesty; and in case of an emergency, the Secretary of State can, by warrant, seize a telegraph, and have the same worked. A warrant is only to last for a week, but successive warrants may be issued. The Treasury in such cases is to pay the company for the loss sustained.

THE BRICKS OF MARLBOROUGH HOUSE.—A "Constant Subscriber" asks "whence were procured the bricks with which Marlborough House is faced." He considers that they are "so far superior to anything we see now-a-days," that the fact would be an interesting one to ascertain. Our correspondent perhaps is not acquainted with the work in facings of rubbed red brick, as it is executed in some of the northern towns, as those of South Lancashire. In the management of the neat putty joints, much of the work is not very inferior to the brickwork that our correspondent praises, or to that of the orangery in Kensington Gardens, and much of that of Hampton Court.

THE LIGHTING OF THEATRES. — Under the heading, "Theatre-Arrangements," in a recent number, we adverted to what we must now consider culpable negligence, on the part of managers, in the matter of contrivances for the protection of dancers from fire. It is true that the *more recent* catastrophes have not been caused by the lights of the "float," or *rampe;* but accidents are as likely to arise from exposed flame in the one contrivance, as from the lights at the wing, or the fire which is introduced for the purpose of certain effects. We have little doubt that the encasement of the lights at the wing, in the Paris Opera-house, will eventually be accomplished. The form of *rampe* which we have heretofore described, continued when we last heard, to work efficiently for the object referred to, as well as for the view of the stage from the pit, and for the comfort of the singers. Mdlle. Emma Livry, whose dress caught fire at "the wing" in the Paris Opera, as we noticed many months ago, has at length succumbed; and some days since, Mdlle. Dolorès, one of the dancers at the Alcazar de la Bastide at Bordeaux, had a very narrow escape from a similar calamity. She approached too near a frame on which some Bengal lights were burning: in a moment her dress was in a blaze; and she would have been greatly injured but for the presence of mind of one of the actors, M. Paul Legrand, who rushed towards her, and extinguished the fire by crushing her dress together with his hands.

SAND PAPER.—The manufacture of sand-paper is an occupation attended with serious evils. The pulverized sand and glass are placed in fine sieves, and, by gentle motion, the powder is equally distributed over paper prepared for its reception. The distribution is done by the hand; and as it is light work, young boys, hardly relieved from leading-strings, are employed at it. The result is, that the distributor, from the moment his work commences, is exposed to the inhalation of the irritative dust. Dr. Richardson, in a recent lecture, stated that a boy was one day brought before him, fatally struck by a chest affection resembling acute pulmonary consumption. On inquiry, he found that the youth, then engaged at the sand-paper business, was in perfect health until the first day he entered on his work. On his return in the evening to his home, he brought with him cough and pain in the chest, which never left him. Quickly his health failed; and when the doctor saw him only three weeks after the commencement of the labour, his chances of life were over; and he died within a month. Making further inquiry into this business, it was found that the poor youth was the representative of a great class of youths similarly disabled. There were few who ever stood the work. It adds, says the doctor, to the shame of these occurrences that, except in the matter of pecuniary saving in the purchase of young hands, all risk is unnecessary; that, by very simple machinery, the manufacturer might dispense with the distribution by hand altogether; and that the particles of irritative powder need never be so distributed through the air as to be breathed either by the manufacturers or their assistants.

PASSAGE OF SOUND.—A "Surveyor" desires to be informed of means of preventing the transmission of sound through a partition which is formed of plate-glass in an iron frame.

TELEGRAPHIC.—The *Malta Times* announces that the telegraphic communication between that island and Alexandria has been established. The flaw was discovered at a distance of 64 miles from Alexandria, at a spot where a stouter cable had been spliced on to the deep-sea cable when the line was laid, owing to the rocky nature of that part of the coast. The line throughout, between Malta and Alexandria, is now re-opened to the public.

THE THAMES CONSERVANCY.—The report of the select committee of the House of Commons recommends, besides other measures: that a Bill be introduced into Parliament in the next session for creating a new Board of Conservancy for the river; that the Board consist of eighteen members, of whom one-half be nominated by the Admiralty, the Board of Trade, the Trinity House, and the corporation of London; and that the other half be elected by the shipowners, bargeowners, and steamboat owners within the jurisdiction of the conservancy; that the representative members of the Board be elected for a period not exceeding three years, but be eligible for re-election; that the accounts of the Board be annually audited by a duly qualified officer, and presented to Parliament; that the monopoly of the ballastage of the river Thames be abolished, and that the Trinity House be released from all care of the buoys and beacons within the jurisdiction of the conservancy; and that the right exercised by the Watermen's Company to control the navigation of the Thames between Teddington and Gravesend be terminated.

SHAKSPEARE AND THE SITE OF HOUSES IN WORSHIP-STREET.—Last week, in the descriptive matter which accompanied our illustration of the houses and shops recently erected in Worship-street, it was remarked that the site was "said to be that on which Shakspeare was accustomed to take charge of the horses of citizens who had gone in to see the performances at the Curtain-road theatre." A correspondent (Mr. James Hibbert), writing from Preston, refers to the doubts expressed as to the truth of the story, doubts which we were aware of, if indeed we did not participate in them. He says,—"Thomas de Quincey, the English opium-eater, in his biographical and critical paper on Shakspeare, adduces facts and arguments tending to disprove the current tradition that the poet ever held horses for the frequenters of the theatre, or that he was ever convicted of deer-stealing. To those of your readers interested in Shakspeare—and who is not?—the biography by De Quincey contains all the known and authenticated incidents of his life, and is remarkable for the ingenious construction built upon those incidents, so few and slender as they are. De Quincey himself esteemed his contribution to Shakspearian biography as the best of his critical productions, and the most exhaustive of the subject. With no other did he ever take so much pains, certain portions of it having been composed and re-cast three times over."

FREE LIBRARIES.—The second annual report of the Birmingham Free Libraries Committee, presented to the Council in May last, has just been issued. It gives a very satisfactory account, on the whole, of the several libraries in embryo with which it has to deal. The Central Reference Library is fast growing up to completion beside its twin sister, the Midland Institute: the land for the eastern branch establishment will be ready for occupation as soon as the present tenancies have expired; while that for the southern branch is in the actual possession of the committee, who state that they are busy with the preparation of plans to be submitted to the Council at an early date. The Free Lending Library and Reading-room in Constitution-hill were opened in 1861. During the first twelve months of the existence of the library, the average number of borrowers per day was 376, and the total number of books issued 108,053. During the second twelve months the daily average was 377, and the total issues 118,863. The borrowers are mostly artisans, clerks, and assistants in shops, together with office boys and school children; and the books issued are all of a healthy character.——The Birkenhead Free Library also has been very successful, as appears from the seventh annual report.——Measures are being taken for the application of the Public Libraries and Museums Act to Burslem.——There are now sixteen free libraries in Britain. London and Glasgow have the by no means honourable distinction of having formally refused to adopt the Act or to institute free libraries.

THE THAMES TUNNEL.—In the week ending 29th August, 1863, the number of passengers was 14,649, and the amount received in tolls 61*l.* 0*s.* 9*d.*

FINE ARTS EXHIBITION IN LIVERPOOL.—The new Society of Fine Arts, in Bold-street, who have taken the rooms in Post-office-place, formerly occupied by the late Academy of Liverpool, have announced the speedy opening of an exhibition of pictures under their auspices. They are said to have secured 300 pictures from foreign artists; but the local artists, it seems, have refused to co-operate with the new society, and have not been asked to contribute. No advertisement was issued.

THE DISTRESS IN LANCASHIRE.—As we predicted, pauperism here continues to decline: in ten Unions there has been an increase of 590, but in seven other Unions there has been a decline of 1,720: decrease in the third week of August, 1,130. The net decrease of pauperism throughout the whole district, in the thirty-six weeks ending August 15th, was 123,520: this, added to the above numbers, shows a total decrease of 124,650. The improvement is most marked in Ashton-under-line, Blackburn, Manchester, Rochdale, Saddleworth, Salford, and Stockport. Let us hope that this additional cloud is passing away. Aid, however, including that under the Public Works Act, will probably, as we have before said, be needed, perhaps more than ever, for the coming winter. In connexion with the Lancashire trade, it is curious to remark, that notwithstanding the short supply of cotton, the forced idleness of so many thousands, and the American difficulty, the general industry of the country shows a large increase.

DRINKING-FOUNTAIN MOVEMENT. — A new drinking-fountain, the gift of Mr. T. W. Hill, of Clifton Park, has just been erected at the entrance to Durdham-down, Redland, and close to the site of the old pond.——A fountain is to be erected on Duppas-hill, Croydon, at the expense of Mr. Vigus, who has exhibited a plaster model to the local authorities.——Nearly two years ago an offer was made by Mr. Edward Caird, merchant, Dundee, to erect an ornamental drinking-fountain on the High-street in Dundee, if permission were given by the town council. After considerable discussion the requisite permission was granted; and Mr. Caird had a fountain made of Aberdeen granite at considerable expense. Further procedure, however, was stopped by an interdict being served by five persons (not teetotallers, doubtless) resident in the High-street, on Mr. Caird and the town council. The council declined to take any action in the matter, the opinion of the town clerk being that they had no power to grant such permission; and at the recent meeting of the council a letter was read from Mr. Caird, withdrawing the gift.

BURSTING OF A WATER MAIN. — On Saturday morning last, about half-past four, one of the New River mains, which runs close by the General Post-office, in St. Martin's-le-Grand, burst, tearing up the pavement for a considerable space towards Newgate and Paternoster-row. A column of water some feet high immediately rushed from below in a vast volume, and in a few minutes inundated the whole of the street, the torrent rushing along the declivity of St. Paul's Churchyard, and completely flooding the basements of several of the houses in the immediate neighbourhood. On turning off the supply, the water with which the main was charged was soon exhausted. But by this time the basements of several of the adjoining houses were several feet deep in water, especially those of Messrs. Thomas, of sewing-mschine celebrity, Messrs. Perry, the steel-pen manufacturers, and others. When the excavators laid bare the pipe, it appeared that the principal collar of the main at its junction with another pipe, 12 in. in diameter, had been by the pressure of the water loosened; and that eventually the screw bolts had given way. The whole of the thoroughfare from Newgate-street to the Bank was stopped, except for foot-pasengers, till the repairs were completed.

TENDERS.

For the erection of a pair of semi-detached villa residences, in Hornsey-lane, Highgate. Mr. J. W. Reed, architect:—

Browton	£2 989 0 0
Burton	2,980 0 0
Warne	2,800 0 0
Hill & Son	2,570 0 0
Smith	2,427 0 0
Wheen	2,373 0 0
Sale	2,257 0 0
Carter (accepted)	2,150 0 0

For the erection of villa and stables at Bickley, Kent, for Mr. Hastings. Mr. H. H. Collins, architect. Quantities supplied:—

Myers	£3,939 0 0
Fish	2,629 0 0
King & Sons	2,485 0 0
Newman & Mann	2,383 0 0

For a new bridge, Enfield, Middlesex. Mr. Beadmore, engineer:—

Hall & Sons	£350 0 0
Saunders	333 0 0
Cushing	289 0 0
Patman	278 0 0

For new farm premises for Mr. T. Whaley, Northaw Herts. Mr. F. G. Widdows, architect:—

Green & Sons	£1,587 0 0
Hopwood	1,580 0 0
Flint	1,568 0 0
Cushing	1,543 0 0
Patman	1,434 0 0
Field & Sons	1,393 10 0

For new stabling at Barnes, Surrey. Mr. C. G. Vinall, architect:—

Manby & Rogers	£509 0 0
Stimpson	470 0 0
Wells	440 0 0
Rhodes & Roberts	425 0 0

For new Church at Windsor. Mr. A. W. Blomfield, M.A., architect. Quantities by J. A. Bunker:—

Wheeler & Sons	£4,773 5 0
Browne and Robinson	4,106 0 0
J. & R. Lawrence	3,991 0 0
Turner & Sons	3,891 0 0
Futcher	3,463 13 1
Holles	3,428 0 0

For river wall and road, and subways behind ditto, at Canada Wharf, Rotherhithe, for the Patent Ventilating Granary Company (Limited). Mr. James Edmeston, architect. Quantities by Mr. Parr:—

Jeffrey	£6,355 0 0
Myers	6,095 0 0
Watts (accepted)	5,984 0 0

For rebuilding Nos. 19 and 20, New Bond-street, for Messrs. Redmayne & Co. Mr. Thos. Harris, architect. Quantities furnished by Messrs. J. C. & G. Lansdown:—

	Add if Portland stone dressings, &c. in lieu of cement.
Robinson £6,684 0 0	£669 0 0
Conder 6,680 0 0	490 0 0
Mansfield & Son 6,520 0 0	480 0 0
Hall (accepted) 5,923 0 0	376 0 0

For building house and shop at Old Ford.—

Payne	£260 0 0
Tolley, jun. (accepted)	250 0 0

For the erection of a villa for Mr. Charles Hughes, Wrexham. Mr. Gummow, architect. Quantities not supplied:—

John Roberts	£1,866 2 8
Pritchard	1,747 0 0
Jane Roberts	1,730 0 0
Parry	1,610 0 0
Hughes (accepted)	1,569 0 0

For erection of warehouse at Hackney Wick. Mr. A. E. Taylor, architect:—

Rider	£2,169 0 0
Lugg	2,079 0 0
Browne & Robinson	2,010 0 0
Henshaw	1,994 0 0
Kilbey	1,987 0 0
Mears	1,737 0 0

For a new wing, County Hospital, Huntingdon. Mr. R. Hutchinson, architect:—

Allen & Smith	£1,025 0 0
Balmer & Cennell	999 10 0
Bunting & Son	995 0 0
Bird	942 0 0
Richardson & Malle	874 0 0
Thackeray & Son	855 0 0

For a pair of semi-detached villas, Huntingdon. Mr. R. Hutchinson, architect:—

Boid	£796 0 0
Cennell	793 0 0
Balmer	758 0 0
Richardson	742 0 0

For Primitive Methodist Chapel, Cambridge:—

	43 ft. long.	45 ft. long.
Bullock & Son	£748 0 0 ..	
Harvey	695 0 0 ..	£720 0 0
Oates	655 0 0 ..	695 0 0
Christmas (accepted)	539 0 0 ..	546 0 0

For villa residence at Hoddesdon, Herts, from the designs of Mr. Josiah F. Fairbank, C.E.:—

Thoday & Clayton	£1,780 0 0
Hunt	1,550 0 0
Allen	1,513 0 0
Conisbee	1,395 0 0
Sanders	1,348 0 0
Watson	1,324 0 0
Cushing	1,295 0 0
Field & Sons	1,287 0 0
Champion & Co. (accepted)	1,075 0 0

For rebuilding No. 320, Strand. Mr. Josiah Houle, architect:—

Conder	£1,595 0 0
Clemence	1,499 0 0
Mansfield & Son	1,498 0 0
Macey	1,494 0 0
Patman & Fotheringham	1,480 0 0
Parsons	1,444 0 0

For workshops in White Hart-yard, Brooke's Market. Mr. Josiah Houle, architect:—

Sands	£974	0	0
Ashby & Sons	968	0	0
Patman & Fotheringham	963	0	0
I'Ansons	940	0	0

For workshop in Roman-road, Caledonian-road. Mr. Josiah Houle, architect:—

I'Ansons	£694	0	0
Patman & Fotheringham	677	0	0
Langmead & Way	599	0	0

For house in Bedford-street, Covent Garden, for Mr. A. Macmillan. Mr. Teulon, architect. Quantities supplied by Mr. Gritten:—

Brown & Robinson	£1,798	0	0
Mansfield	1,785	0	0
Patman & Fotheringham	1,665	0	0
Howard	1,647	0	0
Jackson & Shaw	1,634	0	0
Saunders	1,620	0	0

For a pair of villas at Richmond, for Mr. Styles. Mr. Wm. Paice, architect. Quantities by Messrs. Oliver & Paice:—

Stevens	£1,069	0	0
Tish	970	0	0
Emery	962	0	0
Sharpington & Cole	933	0	0
Ruskin	925	0	0
Bottom & Co.	920	0	0
Donnily	895	0	0
Hart	880	0	0
Martin (accepted)	789	0	0
Godb lt	755	0	0

For two houses at Clapton. Mr. J. H. Jones, architect:—

Perry & Judson	£1,885	0	0
Wood	1,857	0	0
Snewin, Brothers	1,850	0	0
Macers	1,760	0	0
Reome	1,645	0	0

TO CORRESPONDENTS.

T. C. T.—M. D. H.—A. W.—W. H. W.—H. C.—W. G. S.—W. & Ll.—W. T.—Y. B.—T. M. C.—Guernsey.—J. & P. (appeared in our last).—H. & L. (ditto).—C. D.—J. M. W.—P. C.—A. M.—T. B.—J. H.—J. F.—T. W.—F. R. W.—J. A. D. (figures not legible).—T. W.—H. W. T.—G. F.—R. R. R.

Tenders for new Church, Berkenhead.—Mr. Martin, whose name was in the list sent to us, desires us to say that he has not been in partnership with Messrs. Child & Son since March, 1862.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

ADVERTISEMENTS.

The Publisher cannot be responsible for ORIGINAL TESTIMONIALS *left at the Office in reply to advertisements, and strongly recommends that* COPIES ONLY *should be sent.*

AN ENGINEERING and ARCHITECTURAL ASSISTANT, engaged for the past sixteen years on plans, &c for public works of water supply, gas, and town sewerage, and in designing and superintending the erection of private and other buildings, is now open to a permanent ENGAGEMENT. First-class testimonials.—Address A. C. E. 9, Trellick terrace, Vauxhall-road, Pimlico, London, S.W.

MR. ORMES would be happy to TREAT with ARCHITECTS for TAKING OUT QUANTITIES, either at their own Offices or at Home Address, 69, LEADENHALL STREET, E.C.

MR. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLORIST, AND LITHOGRAPHER,
Removed from 21, Montague-street, Russell square, to 58, TORRINGTON-SQUARE, W.C.

NOTICE.—Mr. EDWARD HARRIS, son of the late Mr. William Harris, of 55, Park-street, Grosvenor-square, Architect, having entered into Partnership with Mr JOHN T. LEPARD, of No 9, Cloak-lane, City, Architect and Surveyor, the BUSINESS of his late father will henceforth be CONDUCTED by them at DRUMMOND CHAMBERS, No. 10, John-street, Adelphi; and No. 9, Cloak-lane, City.

AN APPRENTICE WANTED to a CARPENTER and BUILDER, at an old-established shop A small premium required. Apply at 201, Grange-road, Bermondsey S.E.

JUNIOR ASSISTANT WANTED, in an Architect's Office in London. Must be a good draughtsman.—Address, stating qualifications and salary, Mr. K. No. 9, Marylebone-road, W.

TO CIVIL ENGINEERS AND ENGINEERING SURVEYORS.
PARNERSHIP.—WANTED, to join immediately, a thoroughly qualified man, possessing capital of 50 l. to 1,500l. at immediate command.—Address, real name and reference, or testimonials, &c. to G. E. Post-office, St. John's-hill, New Wandsworth.

PARTNERSHIP.—An Architect, who has an extensive practice in public and private works, chiefly Gothic, is desirous of taking as PARTNER a person thoroughly competent to assist in conducting the business. He must be well versed in the various branches of the profession, and more practical than artistic. A premium adequate to the advantages offered will be required.—Address, X. F. O. Office of "The Builder."

PARTNERSHIP in the BUILDING TRADE.—An Opening for a Young Man with a small capital in an old-established business.—Apply to C. H. Garngethin Wharf, Newport, Monmouthshire.

TO ARCHITECTS.
PARTNERSHIP.—The Advertiser, who is well versed in the Gothic styles, &c. wishes to JOIN an ARCHITECT, of well-established practice. A premium will be paid. Address, W. W. *Mercury* Office, Derby.

WATERWORKS FOREMAN.
THE Cambridge University and Town Waterworks Company are in WANT of a FOREMAN, for their Works. He must have a thorough, practical knowledge of Waterworks matters, such as Engines, Meters, plumbing, &c. All applications (endorsed "Foreman"), stating age, salary required, &c. to be addressed to me, at my Office, 7, King-street, Cambridge, on or before MONDAY, the 14th instant. HENRY TOMLISON, Manager.
Cambridge, September 2nd, 1863.

TO PLUMBERS, PAINTERS, GLAZIERS, &c.
WANTED, a WORKING FOREMAN, of good character, for a Jobbing Business in town.—Apply, by letter, stating wages, age, and full particulars, to F. G. Office of "The Builder."

TO MARBLE-CARVERS.
WANTED, a first-class MARBLE-CARVER. No other need apply. Also IMPROVERS to the Stone-carving.—Apply to Mr. JAMES BIRCHENOUGH, [Architectural Sculptor, Cathedral, Manchester.

WANTED, in a Builder's Office, a Principal CLERK. Must be a thoroughly practical man. Salary, 100l. per annum, and situation permanent to a suitable person.—Apply, stating age, capabilities, and references, to Messrs. FASSNIDGE & SON, Builders and Contractors, Uxbridge, Middlesex. N.B. Applications that are not favourable will not be answered.

WANTED, a steady Man as FOREMAN in a Builder's shop. Duties, sawing out work, &c., tracing occasionally; reference required.—Apply to Mr. MEREDITH, Stamp-office, Abergavenny, Monmouthshire.

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WANTED, a thoroughly experienced ASSISTANT, to take charge of an office where several clerks and pupils are employed.—Apply, stating salary and references, to J. R. 17, Dean-street, Newcastle-on-Tyne.

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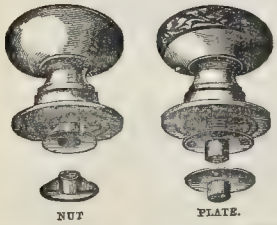
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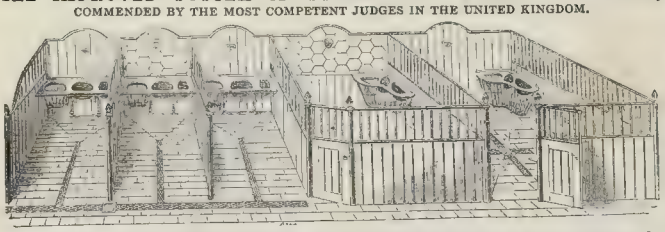
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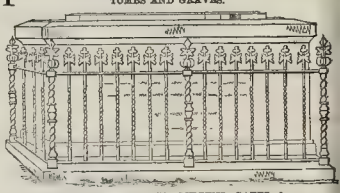


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Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

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GLASS MERCHANT,
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In Cases for cutting up, in Sizes as Manufactured.

	300 feet. 15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	33s. 6d.	33s. 6d.	39s. 6d.	45s. 0d.
Thirds do.	42s. 0d.	42s. 0d.	49s. 0d.	56s. 0d.
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SQUARES, IN 100 AND 200 FEET BOXES.

Small Squares not exceeding 9½ inches by 7½ inches.

Ins. Ins.	Ins. Ins.	Ins. Ins.	Ins. Ins.	Per 100 feet.			
6 by 4	7 by 5	8 by 6	9 by 7	4ths.	3rds.	2nds	Best.
6½ by 4½	7⅓ by 5½	8⅓ by 6½	9½ by 7½	9s. 9d.	11s. 3d.	13s. 9d.	16s. 9d.

Squares not exceeding 14 inches by 11 inches.

10 by 8	12 by 9	12½ by 10½	14½ by 10½	Per 100 feet.			
10½ by 8½	12½ by 9½	13 by 10	15 by 10	4ths.	3ds.	2nds.	Best.
11 by 9	13 by 9	13½ by 10½	13 by 11	10s. 9d.	12s. 3d.	15s.	18s.
11½ by 9½	13 by 10	14 by 10	14 by 11				

Squares not exceeding 20 inches by 18 inches.

15½ by 10½	14 by 12	17 by 13	24 by 16
16 by 10	14½ by 12½	18 by 13	20 by 17
14½ by 11½	15 by 12	18 by [illegible]	22 by 17
15 by 11	15½ by 12½	2[illegible]	[illegible]
15½ by 11½	16 by 12	24 by 11	[illegible]
16 by 14	16½ by 12½	22 by 15	[illegible] by 18
13 by 12	17 by 12	24 by 15	21 by 18
13½ by 12½	18 by 12	22 by 16	

Per 100 feet.			
4ths.	3rds.	2nds.	Best.
11s. 6d.	13s. 6d.	16s. 6d.	20s.

Orchard-house Sizes, as recommended by Mr. Rivers.

Ins. Ins.	15 oz.		21 oz.	
20 by 12	4ths	11s. 6d.	4ths	15s. 0d.
20 by 13	3rds	13s. 6d.	3rds	19s. 0d.
20 by 14	2nds	16s. 6d.	2nds	25s. 0d.
20 by 15	Best	20s. 0d.	Best	30s. 0d.
20 by 16				

Per 100 feet.

Squares Cut to Sizes not on List.

	15 oz. 4ths	3rds	2nds	1st	21 oz. 4ths	3rds	2nds	1st
Under 1 foot super.	1½	1⅔	2	2½	2½	2⅔	3½	4⅓
Under 2 feet super.	1⅔	2	2½	3	3⅓	4	5	6
Under 3 feet super.	1	2½	2⅔	3½	3	3½	4⅓	6
Under 3 feet super.	2½	2⅔	3	4	3½	3⅔	4⅔	6½

Glass Tiles, in Sheet and Rough Plate. Plate Glass. Patent Plate, and Hartley's Improved Rough Plate.

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Linseed Oil Putty	8s.	Patent Dryers	28s. to 42s. per cwt.	Turpentine	8s. 6d.

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" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

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CALEDONIAN ROAD, LONDON.
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PLASTER OF PARIS, both coarse and fine, of very superior quality and colour.
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A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

FLOORING, DEALS, MOULDINGS, &c.

2½ YELLOW BATTENS .....10l. 10s. per 120 of 12 feet.
3 by 9 YELLOW DEALS .....16l. 10s. per 120 of 12 feet.
¾ by 7 WHITE FLOORING .....11s. 6d. per Square.

PRICE LISTS AND MOULDING PATTERNS, POST FREE.

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FLOORING! DEALS! MAHOGANY!

100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
5,000 Yellow Battens ..... from £10 10s. per 120
2,000 Spruce ditto ..... from £9 per 120

SPRUCE DEALS, 2s. 6d. each.
FIR TIMBER 55s. PER LOAD.
Scaffold Poles ..... 1½d. per foot

YELLOW DEALS, £16 PER 120.

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BUILDERS AND CARPENTERS, AND OTHERS,

Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

	Laths, 28s. per Load.
Three-quarter inch Flooring (well prepared) 11s. 6d. per square.	
Yellow Deals, sound and good £18 0 0	per 120, or 3d. per foot.
Spruce Deals 15 0 0	,, 2½ ,,
Yellow Battens, excellent quality 10 10 0	,, 1½ ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES

(LATE WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

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B. J. HUDSON

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

MOULDING WORKS.

WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER YARD, MANCHESTER.

FLOORING, MATCH BOARDS, DEALS,

&c. as low as advertised. White Battens, 9l. 10s. per 120, 12 feet; Yellow ditto, 10l. ditto ditto. ¾ Match Boarding, 14s. per square; ¾ ditto, 16s. ditto. Venetian Blind Laths, 8s. 6d. per 100 feet super. — CHARLES CUTLER, Surrey Sawing and Planing Mills, Church street, Kennington.

JOSEPH & ALFRED ROSLING

beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.

Southwark-bridge Wharf, Bankside, S.E.

LATHWOOD.

—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the River Thames.—For further particulars apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic Wharf, Pimlico, London, S.W. five minutes' walk from the Victoria Station.

GREATER REDUCTIONS.—

Yellow Deals, from 3s. 2d.; Spruce, from 2s. 6d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; ¾ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.

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DRY WAINSCOT,

At 6d. 7d. and 8d. per foot, at

JOHN COUMBE'S,

LADY LAKE'S GROVE, MILE-END-GATE.

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KINDS of WOODS. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Tint, 5s. per gallon; Dark Oak, 6s. per gallon; Mahogany, 8s.; Rosewood, 8s.; Walnut, 8s. Varnishes for NAYLOR'S Stains may be had at the Factory, No. 4a, Jones-street, Oxford street; also Manufacturer of Improved Knotting and Decorative Varnishes.

STEPHENS'S STAINS for WOOD.

A SUBSTITUTE for PAINT, and at HALF the COST.

Mr STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 64, Stamford-street, S.

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(successors to THOS. KENT & CO.), the celebrated

PAINTING and GENERAL BRUSH MANUFACTURERS,

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T. KENT and CROWDEN & GARROD, are stamped on the Brushes.

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are all stamped G. R. KENT & CO.
And are manufactured solely by G. R. KENT & CO.
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Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made.

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No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

Sole Manufacturers of

C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graniers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

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TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

TO PREVENT BLISTERS,

AND

REMOVE OLD PAINT, VARNISH, &c.

USE NAENIARE & CO.'S LETHICIUM. Sold at 5s. per gallon. Also, Brushes to apply and remove, 7s. per pair.—For circulars, &c. apply at 11, St. Andrew's hill, E.C. London. Stamps gratuitered.

N.B. Country orders must contain a Cheque or Post-office Order.

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GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.

Sample gallons may be obtained at the Manufacturers', price 4s.

GARROD & COMPANY,

Varnish, White Lead and Colour Manufacturers,
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"FACTS ARE STUBBORN THINGS."

Ten Thousand Gallons of this TURPS have been sold during the first three months of its introduction to the trade.

Manufactured only by CARLESS, BLAGDEN, & CO. HOPE CHEMICAL WORKS, Hackney Wick, N.E.

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Sold by all Oilmen.

N.B.—Ask for the "Anchor Branded Turps."

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HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen, who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS. Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

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PATENT FLUO-SILICIC INDURATIONS for the PRESERVATION of STONE, CEMENT, and other like materials. The Company apply to the surface of Stone, Cement, &c. a solution of Fluo-Silicic Acid, and Silicate of Potash. These are the only patents which embrace the use of that most valuable agent, Fluo-Silicic Acid. Bath, Caen, and other soft stones, when treated by the Company's solution, become extremely hard. The great expense of high ornament to buildings in hard stone has been an obstruction to Art; but since the Fluo-Silicic process can be applied so readily to soft stone after it is carved, that obstruction exists no longer. The Fluo-Silicic at once permanently arrests the decay of all stone.—For further information, apply to the Manager of the Company, Mr. DUDLEY, Architect, as above.

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DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of SILICATES and ALUMINATES of SODA and POTASH,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.;

PATENT SILICEOUS PAINT, FOR COATING BRICKS, CEMENT, STUCCO, &C.

FIRE-PROOF VARNISH,

For Internal Wood Work, Roofs, and Church Work generally. This Varnish renders Wood Uninflammable, and Preserves it from Decay.

Specimens of the Silicates and Aluminates, and of their applications, may be seen at the CONSTRUCTIONAL DEPARTMENT, SOUTH KENSINGTON MUSEUM.

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MESSRS. COLLINS & GREEN

Beg to advise their Friends and the Profession that as the London, Chatham, and Dover Railway have taken their late premises at Albion-place, for the new Blackfriars Station, they have Removed their extensive Stock of

MARBLE CHIMNEY-PIECES, STOVES, RANGES, &c.

TO THE ROTUNDA, No. 3, BLACKFRIARS ROAD.

C. & G. have now, as heretofore, the best and most varied assortment of first-class Goods in their trade, of every description and at every range in price.

They respectfully invite a visit from Architects and Builders to their present Show Rooms, which include an area of upwards of 12,000 super. feet, and replete with every Architectural requirement in Marble or Iron.

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Estimates given for every description of Marble or Iron Work.

GENERAL IRONMONGERY, AND BATH-WORK, &c.

Hot Water and Range Work, all requisites being kept in Stock.

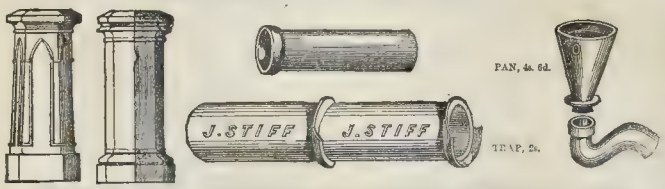
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MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



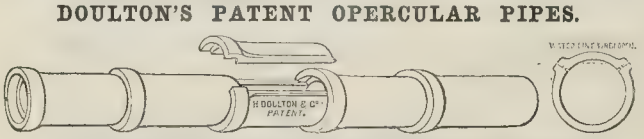
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Makers to the Architectural Museum, South Kensington.

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fixed in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.

MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.

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During the last Ten Years the FIRE INSURANCE DUTY paid by the GLOBE has INCREASED from £36,754 to £47,856.

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REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in Estg. and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.

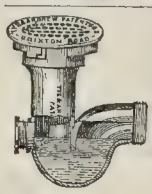
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In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

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now manufactures on HIS OWN ACCOUNT his Patent Regulator Water Closets, Valves Gas Meters, &c on the same premises.

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NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

PRIZE MEDAL AWARDED AT THE INTERNATIONAL EXHIBITION, 1862

THE ARCHITECTURAL POTTERY

COMPANY, POOLE, Dorset, Manufacturers of BALES PATENT INLAND MOSAIC TILES; also superior TESSELATED TILES, 6 inches and 4 inches square, hexagonal and octagonal, &c.; white, red, buff, black, blue, grey, &c. for churches, entrance-halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs, plinths, friezes, string courses, pilasters, &c.; also, white glazed tiles for baths, dairies, &c. They also beg to call attention to their NEW MANUFACTURE OF METALLINE TILES,

6 inches by 1 inch thick, from 63s. per 1,000, delivered to Nine Elms. Also, malt-kiln, ridge, gutter, and hip tiles, buff, glazed, and fire-bricks. Specimens may be seen, and every information obtained, at the Offices, No. 36, Parliament-street, S.W.; also at the Architectural Exhibition, 9, Conduit-street, Regent-street; Kensington Museum; the Fine Arts' Academy; and the Crystal Palace, Sydenham.—Address, The Architectural Pottery Company, 36, Parliament-street, S.W.; or Poole, Dorset.

MINTON, HOLLINS, & CO. Stoke-upon-Trent,

beg to inform architects, the gentry, and others, that, in consequence of the increasing demand for their Encaustic and Mosaic Pavements, and with the view of facilitating the execution of orders, they have opened an additional Show-room, at their Establishment, No. 50, Conduit-street, London, where experienced draughtsmen will be constantly in attendance, to afford all information required.

DRAWINGS and ESTIMATES, on the receipt of plans, will also be promptly furnished, on application at the Manufactory, Stoke-upon-Trent.

MINTON & CO. take the present opportunity of stating that they have always in stock a large and varied assortment of tiles, suitable for flower boxes, stoves, and other ornamental purposes.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED

PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their permissible coverings. MAW & CO.'S Pattern book, designed by M. Digby Wyatt, esq., together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

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London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Shelly, that the trade term, "TERRO METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 551, of the Great Exhibition, 1851, now the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION

MAGNUS'S ENAMELLED SLATE

obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, Two First-class Medals at the Paris Exhibition, and Two Prize Medals at the International Exhibition of 1862.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

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CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

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BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



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WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 „	2 15
4 „	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

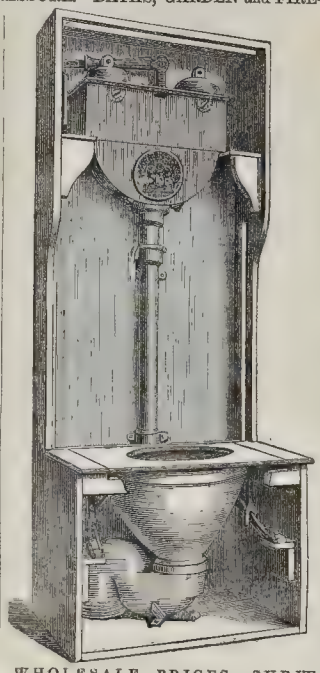
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 „	5 5 0	
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Fitted to the best plank, 8 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
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No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	2 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.



No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 10 0

Sunk Handle, extra 0 2 0

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No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

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HENRY DOULTON & CO., LAMBETH.

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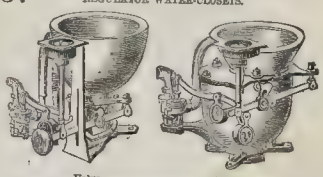
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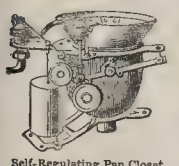
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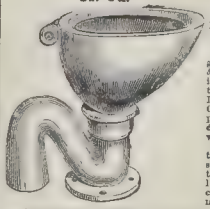
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WESTMINSTER.—The Materials and Fittings of Thirty Houses

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on WEDNESDAY, SEPTEMBER 16th, at TWELVE o'clock, the MATERIALS and FITTINGS of THIRTY HOUSES in Vincent-square, Strutton-street, Bentinck street, Dean street, and Vaughan-place, Rochester-row.—May be viewed one day previous, and Catalogues had at the Offices of Messrs. HUNT & STEPHENSON, 4, Parliament street; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, City, E.C.

WAREHAM, DORSET.—Important Sale of Machinery, comprising nearly-new 35 horse power steam engine, rotary and American brick machines, mills, wire rope and drum, crane, tip wagons, and all the valuable plant and machinery at the Sandford Clay and Pottery Works, with several hundred fine moulds and models, designed by JOHN THOMAS, R.A.; for sale, without the least reserve.

MESSRS. CHINNOCK & GALSWORTHY will SELL by AUCTION, upon the PREMISES, immediately after the sale of the estate, on TUESDAY, 8th SEPTEMBER, and following day, at TWELVE o'clock, by direction of the Liquidators of the Sandford Clay and Pottery Company (Limited), the whole of the valuable PLANT and MACHINERY on the extensive works, situate within half a mile of the Wareham Station on the London and South Western Railway, very recently erected for the manufacture of building and fire bricks, drain tiles and pipes, pottery goods of all kinds, terra cotta, &c., comprising an excellent 35 horse power horizontal steam engine, pair of 30-horse tubular boilers, Bradley & Craven's rotary dry pressure brick machine, powerful American ditto pugging and tempering mills, 14 and 7 feet diameter, powerful drum with wire rope, 20 tip waggons, 1,700 yards of metal in tramway, endless bands, brick moulds, 50 wheelbarrows, crab engine, weight machines, lathes, throwing wheels, pipers, screw presses, two large sluice vats, with crank sleeves, tanks, force pumps, shafts, driving pullies, bevel cog-wheels, gear and machinery, large slate grinding vat and gear, all quite new, vacuum gauge, 120 cast-iron perforated plates, numerous tubs, sieves, lawns, rims, 70 gross of cranks, 18 casks of salts and spars, quantities of dry and wet glaze, whiteleaf, felspar, ground flint, 30lb. cobalt and other useful ingredients; also, a series of several hundred moulds and models, designed by the late JOHN THOMAS, R.A., for the manufacture of terra-cottas, china, earthenware, &c., together with large quantities of shelving, racks, tables, benches, sheds, fittings, tools, implements, and all the effects upon the premises.—May be viewed a fortnight before the sale, and catalogues obtained of Mr. STEVENS, the Manager, at the works; of Messrs. MARCHANT & PEAD, Solicitors, 30, Great George-street, Westminster; at the Sandford Estate Offices, 178, Great George-street, Westminster; and of Messrs. CHINNOCK & GALSWORTHY, Land Agents and Surveyors, 11, Waterloo Place, Pall Mall, London.

OXFORD.—VALUABLE BUILDING MATERIALS, comprised in the several Houses in Beaumont-street and Magdalen-street, the intended Site for the erection of the Randolph Hotel

MR. JOHN FISHER begs to announce that he is instructed by the Randolph Hotel Company to SELL by AUCTION, in the month of OCTOBER next, the above BUILDING MATERIALS; consisting of roofs, floors, doors, shop-fronts, sashes and frames, partitions, staircases, fittings, &c., which will be found peculiarly good from the circumstance that the houses have been built within a few years.—Further particulars will be advertised previous to the sale.

TO BUILDERS, HOUSE DECORATORS, AND OTHERS.

MR. EWINS will SELL by AUCTION, at the MART, near the Bank of England, on WEDNESDAY, SEPTEMBER 23, at TWELVE (in lots previously disposed of by private contract), the LEASE and GOODWILL of the Business of JOBBING BUILDER, DECORATOR, HOUSE AGENT, and UNDERTAKER, established forty years. Groundrent moderate. The premises are commodiously situate, and known as St. Paul's House, corner of St. Paul's road, Ball's Pond-gate, Islington.—May be viewed seven days prior to sale and particulars had of Messrs. J. J. & R. WRIGHT, Solicitors, 25, Bedford-row, W.C.; at the Mart; and of the Auctioneer, 35, Upper street, Islington.

TWICKENHAM and TEDDINGTON.—Valuable Building and Accommodation Land, desirably situate in the pictures que district near to Strawberry Hill, and adjoining upon the high road leading from Twickenham to Teddington and Bushy Park, and within half an hour's journey of London by railway.

MESSRS. DRIVER will SELL by AUCTION, at the MART, near the Bank of ENGLAND, on TUESDAY, OCTOBER 6th, in six lots, about TWENTY ACRES of valuable BUILDING LAND. The property is partly Freehold and part Copyhold, commands great views, is within short distances of Twickenham Teddington, the river Thames, Hampton Court, Bushey Park, and other attractive features of this favourite and now easily be located; and is in every respect liable for the erection of Villa residences.—Printed particulars, with plans, may be obtained at the chief inns at Twickenham, Richmond, Teddington, Hampton, Hampton Court, Kingston; at the Auction Mart, London; of Messrs. NEW, PRANCE, and GARRARD, Solicitors, Evesham; and of Messrs. DRIVER, Surveyors, Land Agents, and Auctioneers, 4, Whitehall, London, S.W.

TO ARCHITECTS, BUILDERS, AND HOUSE DECORATORS.

MR. EDWIN WHITE will SELL by AUCTION at his ROOMS 12, Holborn-bars, and 1, Castle-street, Holborn-hill, on THURSDAY, SEPTEMBER 8, at ONE for TWO o'clock precisely, nearly 10 lost pieces of excellent Modern French and English PAPER-HANGINGS; comprising flocks, golds, satins, gr unds hand-made and other hand-stencils, &c. Also some gilt room-mouulding, a few waterclosets, 1 ton whiteleaf and paint, several memorial tablets, and upwards of 150 chimneypieces manufactured in the most extensive marble, both plain and coloured.—View, and Catalogues on Monday and morning of sale.

CAMDEN TERRACE, CAMDEN TOWN—TO BUILDERS, CABINETMAKERS, AND OTHERS

MESSRS. LEREW & LEREW will SELL by AUCTION, at the YARD as above, near the Old Eagle, on MONDAY, SEPTEMBER 14, at TWELVE, a quantity of PLANKS, DEALS, and BATTENS; 7,000 feet of wide pine board, 120 squares of flooring, 2,000 feet the square, 1,000 feet of mahogany, 6,000 feet of quartering, dry cut stuff, 30 doors, 2 large slate cisterns, old materials, &c.—Auction Offices, Carlington street, Hampstead road.

TO BUILDERS, MASONS, CARPENTERS, DEALERS IN BUILDING MATERIALS, AND OTHERS

F. HALL & SON will SELL by AUCTION, on TUESDAY, SEPTEMBER 8, and following day, on the PREMISES late the Royal Exhibition Stables, west end of the Cromwell road, Brompton, the SURPLUS STOCK of a Builder and Contractor, and removed for convenience of sale as above from the Duke of Buccleugh's and Marlborough-street Police Station; comprising scaffold boards, poles, putlogs, barrows, &c. large timbers, quarters, joists, stacks of flooring, &c. flooring boards, pollutions, windows stone paving, blocks &c. internal and other doors, wrought planks, two very large stacks of deal and various other effects.—May be viewed, and catalogues had on the Premises: at the Hoop and Toy, and Bell and Horns, Brompton; and of the Auctioneer, City cut Stuff, 30 doors, 2 large slate cisterns, old materials, &c.—Auction Offices, Carlington street, Hampstead road.

TO FARMERS AND OTHERS.

MR. FREDERICK INDERMAUR will SELL by AUCTION, on MONDAY, at THREE o'clock, at 29, High-street, Borough, near London Bridge, Large Weighing Machines, Washing Machines, Lawn mowing ditto, Patent Chaff cutting Engines and Slides, Cake-breakers, Turnip-cutters, Hay-forks, &c.—May be viewed, and catalogues had at the Auctioneer's Office, 130, Union-street, Borough.

STOCK IN TRADE OF A TIMBER MERCHANT, UTENSILS, &c.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on MONDAY, 21st SEPTEMBER, at TWELVE o'clock, on the PREMISES, No. 38, Sun-street, Bishopsgate, in consequence of their being immediately required by the North London Railway Extension, the remaining STOCK IN TRADE of the late firm of Messrs. Sykes, Sons, & Sles, Timber Merchants, consisting of a large assortment of dry planks, deals, battens, cut stuff, floor-boards, mouldings, tenons, &c. detailed particulars of which will appear in future advertisements.—May be viewed on the Saturday preceding the Sale, when Catalogues may be had on the premises, and of Messrs FULLER & HORSEY, 13, Billiter-street, E.C.

TO SAW-MILL PROPRIETORS AND OTHERS.—Steam Saw-Mill, with Engine and Machinery, and Two Houses adjoining, in the Hackney road.

MESSRS. FULLER & HORSEY will SELL by AUCTION, on the PREMISES, No. 193, Hackney road, on WEDNESDAY, SEPTEMBER 16 at TWELVE o'clock in one lot, a desirable STEAM SAW-MILL, with the Engine, Boiler, and Machinery therein, late in the occupation of Mr John High, at a rental of 101l per annum, but now in hand; also the TWO HOUSES adjoining on either side, Nos. 190 and 194, Hackney road (formerly Nos. 5 and 6 Edwards-place), let on leases for the remainder of the term, to respectable tenants, at 44l. per annum; the whole being held for twenty-two years, from Christmas, 1849, at the low rent of 80l. a year. May be viewed till the sale, and particulars had on the premises of Messrs. SPENCE & HAWKS, Solicitors, Hertford; of Messrs. HAWKS & WILLMOTT, Solicitors, 82, High-street, Borough; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

VALENCIA SLATE SLAB QUARRIES, COUNTY KERRY, IRELAND

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at the AUCTION MART, London on WEDNESDAY, OCTOBER 28 at TWELVE, in one lot, unless an acceptable offer be previously made by private contract, the extensive QUARRIES and MILLS of the VALENCIA SLATE SLAB COMPANY, situate in the Island of Valencia, County Kerry, Ireland. The works have been carried on by the present company for about fourteen years, and a very large outlay has been made in opening the quarries, and in erecting the mills and the requisite machinery. The quarries are situate on the side of a mountain, about 250 feet above the sea level, and an opening has been made for working about 120 feet wide, running into the mountain to about the same depth, uncovering a succession of platforms of slates of various widths. The slate rock lies most conveniently for working, at an angle of about 35 degrees, and has a regular cleavage. The slabs are severed by wedges instead of by blasting, thus avoiding the large amount of waste occasioned by the latter process. The roof of the quarry is self-sustained, and is perfectly secure. The quality of the slabs is now well known and appreciated, and are taken in large quantities by the principal merchants in London and elsewhere. They take a beautiful and permanent polish, are particularly valuable for enamelling, are unaffected impurely by furnace heat, and are raised in larger sizes than from any other quarry. The waste from the slab blocks is made into roofing slates, for which there is ample local demand. The present yield is about 2,000 tons of slate slabs annually, but by a comparatively small outlay in an extension of the workings this quantity may be doubled, the machinery at the mills being equal to prepare that quantity, and the demand at the present time being in excess of the capabilities of supply.

The mills are situate about 2½ miles from the quarries, are connected by a good road of easy descent, which is kept in repair principally at the expense of the county; but every facility would be afforded by the Knight of Kerry, who is the freeholder, for laying down a tramway by the side of the present road, which would much reduce the cost of transit. The mills are most advantageously placed, being immediately contiguous to the pier, at which vessels of 300 tons burden can lie afloat at all times. There are two piers at present, and a market for the slabs at home there is ample proof of the existence and uniform character of the slate, and the extent to which the workings may be carried: and fitted with machinery for the purpose, and most machinery for the preparation of the slate for market, and it is confidently believed that the works are now in that state that, in the hands of two or three individuals, very profitable results may be anticipated.—The Works may be viewed by cards only, which, with further particulars, may be had of Messrs. PALMER, NETFLESHIP, & ELAND, Solicitors, 4, Trafalgar-square, W.C.; at the *Midland Counties Herald* Office, Birmingham; at the Gresham Hotel, Sackville-street, Dublin; at the Railway Hotel, Killarney, at the Adelphi Hotel, Liverpool; at the Mart, London; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

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MR. JOHN FLINN, GROSVENOR SLATE WORKS, Pimlico, announces to the Public at large, that it has a large STOCK of ROOFING SLATES in hand, of all Sizes, and will Sell at a low figure for cash. Slate Cisterns, 1 inch thick, 4s. 4d. per foot.

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The Builder,

AN ILLUSTRATED WEEKLY JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XXI.—No. 1075. SEPTEMBER 12, 1863. PRICE FOURPENCE. By Post, 5d.

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THE METROPOLITAN SCHOOLS of ART, at 43, Queen square, Bloomsbury, for Female Classes only; Spitalfields, Crispin street; Finsbury, William-street; St. Thomas's Charterhouse, Goswell-street; Clerkenwell, Britannia-row School, Deptford road; St. Martin's, Castle-street, Long acre; Lambeth, St. Oswald's-place; Hampstead, Dispensary Building; Christchurch, St. George's-in-the-East; and St. Mary's, Hide-place, Vincent square, Westminster, will RE OPEN on THURSDAY, 1st OCTOBER. The New Training Schools, at South Kensington, will be OPENED on the 5th OCTOBER.—For information respecting fees, &c apply at each School, or to the Secretary, South Kensington Museum, W.

By order of the Lords of the Committee of Council on Education.

PHARMACEUTICAL SOCIETY of GREAT BRITAIN.—SCHOOL of PHARMACY.—The Twenty-third Session will commence on THURSDAY, the 1st OCTOBER.

LECTURES:—On Chemistry and Pharmacy, by Professor Redwood On Botany and Materia Medica, by Professor Bentley

LABORATORY for Practical Instruction in General and Pharmaceutical Chemistry.—Director and Demonstrator: Dr. Attfield. Assistant-Demonstrator: Mr. Tilden.

A Syllabus of Instruction, and particulars of Terms, may be obtained from the Secretary, 17, Bloomsbury square, W.C.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE will shortly be REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the present establishment. Their well-arranged accommodation for a much larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive operation, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

81, Bishopsgate-street Within, July, 1863.

CONTRACTS.

TO BRICK-MAKERS, DUST COLLECTORS, and OTHERS.—The Works, Buildings, and Sanitary Committee of the Vestry of the Parish of St. Mary Abbots, Kensington, in the County of Middlesex, will meet at the Vestry Hall, Kensington, on FRIDAY, the 18th day of SEPTEMBER instant, at SEVEN o'clock in the evening, to receive TENDERS and to CONTRACT for the SALE and REMOVAL of the COAL DUST, Cinders, Ashes, and Rubbish, from the Houses and premises within the said parish, from the 30th day of September, 1863, to the 29th day of September, 1864. Each days inclusive. The contractor will have to enter into a written contract and bond, and to provide two good and sufficient sureties for the due performance of his contract. The contractor to pay immediately one-fourth part of the money offered by him, and the three succeeding payments in advance of each quarter. The Vestry have divided the parish into two districts, which can be obtained on application at the Vestry Offices, Vestry Hall, aforesaid. No Tender will be received unless made upon one of the said printed forms. Tenders to be sealed, and endorsed "Tender for Dust," and to be delivered at my Office by or before FOUR o'clock in the afternoon of the 18th day of SEPTEMBER. The Vestry do not bind themselves to accept the lowest or any Tender. The expenses of the contract and bond to be paid by the contractor.—By order,

REUBEN GREEN, Clerk to the Vestry.

Vestry Hall, Kensington, September 7, 1863.

CONTRACTS.

WAR DEPARTMENT CONTRACT.

NOTICE to BUILDERS.—TENDERS are required for RENEWING COOKHOUSES, ABLUTION ROOMS, WASHHOUSE, and WORKSHOPS, at Hounslow Barracks, in the County of Middlesex.

Parties desiring to Tender for the ERECTION of these Works must leave their names at the Office from the 21st to the 23rd SEPTEMBER, 1863, inclusive, between the hours of ELEVEN a.m. and THREE p.m. and pay the sum of half a guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, London District, 11, James-street, Buckingham-gate, S.W. September 8, 1863.

WAR DEPARTMENT CONTRACT.—

NOTICE to BUILDERS.—TENDERS are required for the CONSTRUCTION of a SEA WALL at the foot of Cliff, in front of Tavenland Battery, near Sandown, Isle of Wight, in Portsmouth District.

Parties desiring to Tender for the execution of the work must leave their names at this office on or before the 16th day of SEPTEMBER, 1863, and pay the sum of ten shillings and sixpence for the Bills of Quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, 22nd August, 1863.

COAST GUARD CONTRACT.—

NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Camber, near Rye, in the county of Sussex, may inspect the Drawings and Specifications at the Watch-house of the Coast Guard Station, Rye, or at this Office, between the hours of TEN and FOUR, from THURSDAY, the 3rd, to TUESDAY, the 15th SEPTEMBER now next ensuing, and both inclusive (Sundays excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at noon of WEDNESDAY, the 16th SEPTEMBER, under seal and directed to the Commodore Controller General of Coast Guard, and endorsed "Tender for Camber."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 29th day of August 1863, at the Admiralty,

Coast-Guard Office, 12, Spring-gardens, London, S.W.

BOARD of WORKS for the STRAND DISTRICT.—To DUSTMEN, SCAVENGERS, and CONTRACTORS.—The Board hereby give notice, that they are prepared to receive TENDERS from parties who may be willing to CONTRACT for the REMOVAL of all SOIL, SLUSH, SNOW, ICE, STRAW, LITTER, REFUSE, and any other matter or thing that may be swept up or otherwise collected in or upon the several foot and carriage ways in the district, and also for the removal of all dust, ashes, and refuse from the several houses, sheds, and other places in the district, for the term of three years from Michaelmas-day next, determinable at the expiration of the first or second year at the option of the Board, of a specification, which may be seen at the Board's Offices, No. 5, Tavistock-street, Covent Garden, daily from TEN till FOUR. The contractor will be required to enter into a bond with two approved sureties for the due performance of the contract. The Board will meet to open Tenders on WEDNESDAY, the 16th day of SEPTEMBER instant, at HALF-PAST SIX p.m. at which hour parties tendering must attend. All Tenders must be delivered at the Offices, 5, Tavistock-street, Covent Garden, before FOUR o'clock in the afternoon of the day of meeting. The Board do not pledge themselves to accept the lowest or any Tender, and no Tender will be read unless a 20*l.* Bank of England note is enclosed therewith as evidence that the Tender is made bona fide, the same to be returned immediately to persons whose Tender shall not be accepted, and retained until the bond and contract shall be duly executed by the party whose Tender shall be accepted.—By order,

JAMES H. F. LEWIS, Clerk to the Board.

No. 5, Tavistock-street, Covent Garden, September 1, 1863

TO BUILDERS.—Persons willing to TENDER for a new PLATE-GLASS SHOP-FRONT and sundry ALTERATIONS and REPAIRS to the HOUSE of Mr. Turnbull, Tobacconist, High street, Chelsea, may apply to see the plans and specification at the Office of Mr. WEBB, Architect, Guy Hastings, Chelmsford, on and after FRIDAY next, the 4th of SEPTEMBER. Tenders to be delivered to Mr. WEBB on or before FRIDAY, the 11th of SEPTEMBER. The lowest or any Tender will not necessarily be accepted.

HOUSE of CORRECTION, Coldbath Fields, To BUILDERS The Visiting Justices will meet at the Prison, on FRIDAY, the 18th day of SEPTEMBER next, at TWELVE o'clock at noon, to open TENDERS for the ERECTION of a NEW BUILDING there. Persons willing to TENDER for the Works may see the plans, specification, conditions, and form of contract and bond at the Office of F. H. POWNALL, Esq. the Architect, 15, Gower street, Bedford square, on any day, between TEN and FOUR, after FRIDAY, the 4th SEPTEMBER next; and they may obtain copies of the bills of quantities and the forms of Tender on payment of a deposit of one guinea, which will be returned on the receipt of a bona fide Tender. The Tenders must be made on the printed form, and they must be sent in, with a sealed-up schedule of prices, addressed to the Clerk of the Peace, Sessions House, Clerkenwell, by EIGHT o'clock in the forenoon of the 18th of SEPTEMBER. The parties Tendering must attend personally, at the Prison, at TWELVE o'clock on the same day precisely, prepared with the names of two responsible sureties. The Visiting Justices do not bind themselves to accept the lowest or any of the Tenders; and if a Tender should be accepted, the person making the same must forthwith sign the draft contract and bond. Persons Tendering are requested to make themselves previously thoroughly acquainted with the terms of the contract, as set forth in the draft, as the Visiting Justices will not consent to any alteration whatever therein.

August 21, 1863. JOHN S SKAIFE, Clerk.

TO BUILDERS.—TENDERS are required for a PAIR of SEMI-DETACHED VILLAS, to be erected on the Northumberland Park, Tottenham.—Plans and specification may be seen at the Office of Mr. W JENNINGS, 69, Cornhill, E.C. The lowest or any Tender will not necessarily be accepted.

CONTRACTS.

COCKERMOUTH, KESWICK, and PENRITH RAILWAY COMPANY. To BUILDERS.—TENDERS are required for the ERECTION of a large first-class HOTEL, at the Keswick Station, according to plans and specifications prepared by Mr. ROSS, Architect, Darlington, which can be seen at his Offices, Feetham, Darlington; or at the Offices of the Cockermouth, Keswick, and Penrith Railway Company, St. John-street, Keswick, from WEDNESDAY, SEPTEMBER 2, to WEDNESDAY, SEPTEMBER 24, 1863.—Sealed Tenders to be delivered to me before TEN a.m. on the last-mentioned day. HENRY CATTLE, Secretary.

Secretary's Office, St. John-street, Keswick, August 28, 1863.

METROPOLIS MANAGEMENT ACTS.

To BUILDERS, CONTRACTORS, and OTHERS.—The Board of Works for the Plumstead District are prepared to receive TENDERS for ERECTING a new BOARD-ROOM BUILDING and OFFICES, upon a piece of ground situate on the southern side of the High street, in the parish and village of Charlton, Kent, S.E. The drawings, specification, and draft contract for the works, may be inspected, and bills of quantities and forms of Tender obtained, upon application at the Office of the Board, at Old Charlton, S.E. between the hours of TEN a.m. and FIVE p.m. on and after MONDAY, the 7th SEPTEMBER next. The Tenders are to be addressed to the Clerk to the Board under a sealed envelope, endorsed, "Tender for Plumstead District Board Offices," and to be delivered at the above-mentioned office in Charlton, not later than FIVE o'clock in the afternoon of SEVENTEENDAY, the 16th day of SEPTEMBER next. The Board do not pledge themselves to accept the lowest or any Tender, and the party whose Tender may be accepted will be required to provide two sureties satisfactory to the Board, which sureties, together with the contractor, must enter into a joint and several bond to the Board in the sum of 500*l.* for the due performance of the contract.—By order,

CHARLES AUGUSTIN SMITH, Clerk to the said Board.

Old Charlton, S.E. 27th August, 1863.

TO DUST CONTRACTORS.—PARISH of CHELSEA.—The Vestry of the Parish of Chelsea will meet at the Board-room, at the Vestry Hall, King's-road, Chelsea, on TUESDAY, the 15th day of SEPTEMBER instant, at THREE o'clock in the afternoon, to consider TENDERS from persons willing to CONTRACT according to the terms and conditions of a specification (a printed copy of which may be had on application to the Vestry Clerk), for collecting and removing the DUST, ASHES, FILTH, and RUBBISH, from the houses and other places within one or the other or both of the two divisions of the said parish, during the period commencing the 30th day of SEPTEMBER instant, and ending the 29th day of SEPTEMBER, 1864. The draft of the contract to be entered into for carrying out the terms of the specification is now lying for inspection at the Office of the Vestry. Parties tendering must sign their names to the Tenders, which are to specify one-fourth of the sum offered as to be paid on the acceptance of the Tender, and the remaining three fourths as provided in the said draft contract, for the sands, charges, and expenses of, and incidental to, the preparation and completion of the contract, to be paid by the contractor upon the execution of the same. Sealed Tenders, signed by the respective tenderers, with the names and description of two sufficient sureties for the performance of the contract, are to be left at the said Office on or before TWELVE o'clock, on the said 15th day of SEPTEMBER instant, but no Tender will be received or accepted unless made on one of the printed forms, to be obtained at the said Office. The Vestry do not bind themselves to accept any Tender. By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's road, Chelsea

PARISH of CHELSEA, in the County of Middlesex.—FLINTS.—The Vestry of this Parish will meet at the Vestry Hall, King's road, Chelsea, on TUESDAY, the 15th day of SEPTEMBER instant, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to CONTRACT, for Twelve months from the 29th day of September inst. and ending on the 29th day of September, 1864, for the SUPPLY of the best CLEAN GREY BROKEN PIT ROAD FLINTS, according to a sample to be seen here, to be delivered at the Fire Brick Ground, Chelsea, at such times and in such quantities as may be directed. The Vestry do not bind themselves to accept the lowest or any Tender. Sealed Tenders, signed by the proposed Contractor, with the names and descriptions of two sufficient sureties for the due performance of the Contract, to be delivered to the Clerk by or before TWELVE o'clock on TUESDAY, the 15th of SEPTEMBER instant. The legal charges of the Contract to be paid by the Contractor upon the execution of the same; and no Tender will be received or accepted unless made on one of the printed forms, to be obtained at my Office.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, Chelsea, September 3rd, 1863.

TO CONTRACTORS.—The Building Committee of Lake-road Chapel, Landport, Portsmouth, are desirous of receiving TENDERS for the ERECTION of a new CHAPEL, &c. Plans and specification may be seen at the Office of Messrs. BAWLINSON & SONS, Architects, Kingston Cottage, Bucklandd Portsmouth. Tenders to be delivered to Mr. CROWTER, 140, Lake road, Landport, on or before the 29th day of SEPTEMBER, 1863. The Committee do not bind themselves to accept the lowest or any Tender.

Portsmouth, September 2nd, 1863.

PERSONS desirous of TENDERING for the LAKE ROAD CHAPEL, Landport, may obtain the Bill of Quantities at the Architect's Offices, on the payment of Ten Shillings.

CONTRACT for GRAVEL.—The Regent's Canal Company are desirous of receiving TENDERS, on or before the 21st of SEPTEMBER next from parties wishing to CONTRACT for METALLING the TOWING-PATH of the CANAL with LIMESTONE GRAVEL. The specification can be seen at the Company's Office. Tenders to be enclosed in a cover, sealed, and marked "Tender for Gravel."—By order,

EDMD. L. SNEE, Secretary.

Regent's Canal Office, Wharf 20, City-road Basin, N.

September 11, 1863.

For remainder of Contracts see next Page.

CONTRACTS.

NORTHLEACH, GLOUCESTERSHIRE.
Northleach Gas light and Coke Company, Limited, incorporated under the Companies Act, 1862.—In the Matter of Contractors for Gas Works.—In order, as all Others—That all persons are desirous of receiving TENDERS for the ERECTION of GAS WORKS, and all necessary apparatus, and to purchase and laying down the mains for lighting the Town of Northleach with gas, and also TENDERS for the ERECTION of a WORKMAN'S COTTAGE.—Plans and specifications may be seen at the Registered Office of the Company, J. H. HOWARD, Chemist, Market-place, Northleach.
Dated, this 8th day of September, 1863.
J. H. HOWARD, Secretary.

TO CONTRACTORS.—In consequence of the Death of the late Contractor, Sealed TENDERS will be received by the Secretary of the Bridge Committee of the Town of Dro heda from the date hereof up to and upon THURSDAY, the 15th day of OCTOBER next.
For taking down the present Bridge over the River Boyne, at Drogheda, and Building in place thereof a Stone Bridge of Eighty Feet Span.
According to Plans and Specification prepared by J. NEVILLE, Esq. C.E. to be seen at my Office, Fair-street, Drogheda; or at the office of the Engineer, Dublin-street, Dundalk, between the hours of TEN and FOUR o'clock every day (Sundays excepted) after this date. The Lowest or any Tender not necessarily to be accepted.
Dated at Drogheda, this 27th day of August, 1863.
HENRY CLINTON,
Secretary to the Bridge Commissioners of the Corporation Harbour Commissioners and Grand Jury of Drogheda.

TO BUILDERS.—Persons wishing to TENDER for the ERECTION of a VILLA RESIDENCE, at Eastbourne, Sussex can see the plans and specifications, and obtain all particulars, by applying to Mr. J. KENT, Bath Villa, Eastbourne, Sussex, from the 14th SEPTEMBER to the 29th SEPTEMBER inst. to which date Tenders may be sent on or before MONDAY, the 5th and 28th SEPTEMBER, at FIVE o'clock p.m. The lowest or any Tender not necessarily accepted.

TO BUILDERS, &c.—TENDERS are invited from Builders willing to CONTRACT for the ERECTION of a DETACHED VILLA, at Bitham, Kent. Plans and specifications can be seen after MONDAY, the 14th instant, at the Office of Mr. CHESTER HAWORTH, Surveyor, Eltham, to whom TENDERS must be sent by FOUR o'clock on THURSDAY, the 24th instant. The lowest or any Tender not necessarily accepted.

TO SCAVENGERS, CARTERS, and OTHERS.—The Works, Building, and Sanitary Committee of the Vestry of the Parish of St. Mary Abbotts, Kensington, in the county of Middlesex, will meet at the Vestry Hall, Kensington, on FRIDAY, the 18th day of SEPTEMBER inst., at SEVEN o'clock in the evening, to receive TENDERS, and to CONTRACT for CARTING and CARRYING away daily, from all streets and places within the said parish of Kensington, all the DUST, Dirt, Filth, Road Scrapings, Sweepings, Slops, Manure, and Refuse that may from time to time be collected together by the servants of the said Vestry, and as may be directed by Mr. JAMES BROADBRIDGE, the Vestry's Surveyor, from the 29th day of September, 1863, to the 29th day of September, 1864 (both days included), and also to receive Tenders and to Contract for the Supply of Horses and Carts, with proper Carters, at per day and per load. The Vestry has divided the parish into two districts, which may be tendered for jointly or separately. Forms of Tender and other particulars may be obtained on application at the Vestry Office, Vestry Hall aforesaid. No Tender will be received unless made upon one of the said printed forms. Tenders to be sealed and endorsed "Tenders for Scavengering," or "Tender for Carting," as the case may be, and to be delivered at my Office by or before FOUR o'clock in the afternoon of the 18th day of SEPTEMBER. The Vestry do not bind themselves to accept the lowest or any Tender. The expenses of the contract to be paid by the contractor. By order, REUBEN GREEN, Clerk of the Vestry.
Vestry Hall, Kensington, September 7, 1863.

TO BUILDERS and CONTRACTORS.
TENDERS are invited for the ERECTION of a PAIR of SEMI DETACHED VILLAS, at Penge.—Plans, particulars, and specifications can be seen at Mr. WAYGOOD'S, Harley Villa, Oakfield road, Penge, on and after SATURDAY, the 12th inst.

TO SEWER CONTRACTORS, BRICKLAYERS, and OTHERS.—The Vestry of the Parish of Chelsea will meet on TUESDAY, the 15th instant, at the Vestry Hall, King's road, Chelsea, at THREE o'clock in the afternoon, to receive TENDERS from persons willing to CONTRACT, for Twelve Months, for the EXECUTION of GENERAL WORKS connected with the SEWERS and DRAINS, according to a schedule of prices now lying at this Office. Copies of the same and of the Contract and form of Tender may be had upon payment of 10s. to be returned to parties Tendering. The Vestry do not bind themselves to accept the lowest or any Tender, and reserve to themselves the right of making Special Contracts if they shall see fit. Parties Tendering must be prepared to execute and pay for a contract, and to provide sureties for the performance of the same if required. Tenders must be upon the printed forms, and be delivered to the Clerk by or before TWELVE o'clock on TUESDAY, the 15th instant.—By order,
CHARLES LAMEE, Vestry Clerk.
Vestry Hall, King's road, Chelsea, Sept. 3rd, 1863.

BRIGHTON.—To BUILDERS.—Persons desirous of TENDERING for the EXECUTION of proposed ADDITIONS and ALTERATIONS at HOOVE LEA, Hove, Brighton, are requested to send their addresses to JAMES WOODMAN, Esq. Architect, 17, Prince Albert street, Brighton, forthwith. Neither the lowest nor any Tender necessarily accepted.
September 10, 1863.

TENDERS for the CONSTRUCTION of GASWORKS.—TENDERS are required for the CONSTRUCTION of GASWORKS at La Seyne, in the department of Var (France), including the supply and laying down of about five miles of mains through the town, and the supply and erection of about 100 public lamps. Particular official notice for the same may be seen at my office, or at Mr. E. H. THORMAN, West Ham Gasworks, Stratford, London, E.; and the tenders, which must be delivered on or before FRIDAY, the 25th of SEPTEMBER, next, are to be sent to Messrs. HUILETT & CO. 55 High Holborn, London, W.C. The Board do not bind themselves to accept the lowest or any Tender.

BELFAST HARBOUR.—EXTENSION of TIME for RECEIVING TENDERS. The Belfast Harbour Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a FLOATING DOCK and a GRAVING DOCK, of large dimensions, according to plans and specifications now lying at the Office of the Commissioners. Separate Tenders, agreeably to the form attached to the specifications, to be addressed to the Secretary, and to be delivered at the office not later than 7th SEPTEMBER next. Detailed plans and specifications can be had by intending contractors at 35 Strand, London, and Belfast. The lowest or any Tender will not be necessarily accepted.
The TIME for receiving TENDERS has been EXTENDED to 5th OCTOBER.
Harbour Office, Belfast, 2nd September, 1863.

LINCOLNSHIRE COUNTY LUNATIC ASYLUM.—To BUILDERS, CONTRACTORS, &c.—Builders desirous of TENDERING for the WORKS in ENLARGEMENT of the COUNTY ASYLUM, at Bracebridge, near Lincoln (such works consisting chiefly of the addition of two wings, for 140 patients), may inspect the plans and specifications at the Asylum, and at the Office of Mr. ROBERT EVANS, Solicitor, Lincoln, on and after the 1st day of SEPTEMBER instant. The work to be commenced early in the spring, and completed by the 1st of MAY, 1865. Forms of Tender, Notice, &c., and Bills of Quantities can be obtained on payment of one guinea, to Messrs. BATSTONE & HUNT, Surveyors, 11, Park street, Westminster. Tenders, &c. to be sent to the undersigned Clerk to the Visitors, at Sleaford, on or before the 31st day of OCTOBER next, sealed up, and endorsed, "Asylum Tender." The Visitors do not pledge themselves to accept the lowest Tender.
M. P. MOORE, Clerk to the Visitors.
Sleaford, 5th September, 1863.

CITY and BOROUGH of WELLS.—To BUILDERS and CONTRACTORS.—The Commissioners of the City and Borough of Wells acting as the Local Board are desirous of receiving TENDERS for the CONSTRUCTION of a New ROAD, and for BUILDING WALLS and SEWERS in connexion with the proposed New Cattle Market, either separately or together, viz. Contract No. 1.—For the Construction of about 1,100 perches of Boundary Walls and laying about 300 yards of Stoneware Pipe Drains. Contract No. 2.—Excavating for and forming about 230 yards of new Road, 35 feet in width, with foot-paths each side 5 feet in width, from the Priory road to Tucker-street. Plans, sections, and specifications may be seen at my Office. Tenders to be sent to W. J. B. POSTER, Esq. Town Clerk and Clerk to the Local Board, before noon MONDAY, the 21st of SEPTEMBER instant, endorsed, "Tender for making New Road, &c." The Local Board do not bind themselves to accept any Tender.—By order,
GEORGE TOMPKINS,
Surveyor to the Local Board, Chamberlain-street, Wells.
Wells, 8th September, 1863.

EXTENSION OF TIME.
TO ARCHITECTS and OTHERS.—The Committee are desirous of receiving PLANS and SPECIFICATIONS for BUILDING a NEW CONGREGATIONAL CHURCH at Ringwood, Hampshire. To have one gallery, and to seat 350, exclusive of such gallery, which is to seat 150. To be built with Swanage stone, and in correct all the stones in the front to be squared, with the best Boxhill ground dressings; or with white or red brick, with stone dressings. A minister's vestry and site for organ is required, but no school-rooms. The cost is not to exceed £600. A ground plan of the site may be obtained on application to Mr. H. HOLLOWAY, Surveyor, Ringwood. The person whose plan is selected will be appointed architect. Plans and specifications to be sent, sealed, on or before the 10th of OCTOBER next, to HENRY RUMSEY, Secretary to the Building Committee, at the Wilts and Dorset Bank, Ringwood.
Dated 2nd September, 1863.

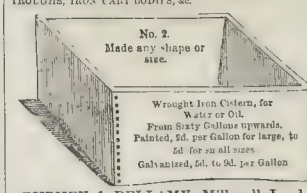
TO CONTRACTORS.—TO BE LET, the several WORKS required in the ERECTION of THREE CLOTH WAREHOUSES, and several PIECE ROOMS, in Leeds. The plans and specifications may be seen at Messrs. S. & S. MUSGRAVE'S Wool Warehouse, Bond street, Leeds, from MONDAY, the 7th, to MONDAY, the 14th day of SEPTEMBER next, and bills of quantities may be had, by written or personal application, at our Offices in Bradford.—Sealed Tenders to be delivered as above, or at our Offices, on MONDAY, the 14th SEPTEMBER, the lowest not necessarily being accepted. LOCKWOOD & MAWSON, Architects.
Post-office Buildings, Bradford, Lincoln's-inn-fields, London.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 95½, Great Guildford-street, Borough, S.E. inventor of the Rotary Ship Pump, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.)
GENERAL IRON FOUNDERS,
MERCHANTS, and PATTERN MAKERS.



COLUMNS, GIRDERS, ROOFS,
TANKS, BRIDGES, RAILINGS,
STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London, Steam-boats from London Bridge call near the Factory.

LAMBERT, BROTHERS, Manufacturers of Lap-welded Boiler Tubes, Locomotive and Marine Engine Fittings, Wrought Iron Welded Pipe, for Steam, or High pressure Water and Gas; High-pressure Steam and Water Valves, Hydraulic Machinery, Pumps, Chests, &c.; Stocks, Taps, and Dies, Chandeliers, and Patent Metallic Bedsteads. Wolwall.

RAIN WATER PIPES, GUTTERS, &c.

Rain Water Pipes.....	3½ in. 10d.	4 in. 1s.	per yard.
Eaves Gutter.....	5 in. 6d.	4 in. 6d.	"
O G Gutter.....	4 in. 11d	4½ in. 1s.	"
Sash Weights, heavy		5s. per cwt.	
Ditto light		5.6d.	"

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, AND YORK ROAD, KING'S CROSS

COX & SON, CHURCH FURNITURE MANUFACTURERS,
28 and 29, SOUTHAMPTON-STREET, STRAND
PAINTED and STAINED GLASS WORKS, 43 and 44, Malden-lane (adjoining Bedford-street), W.C.
WOOD and STONE CARVING and GOTHIC METAL WORKS, Belvidere road, Lambeth, S.W.
CARVING.—A great reduction effected with the assistance of the Patented Machinery
GOTHIC METAL WORK, of every description, both in Silver, Brass, and Iron.
PAINTED GLASS.—Designs and Estimates furnished for Subject Windows; also Quarry and Geometric Patterns.
THE WHOLE OF THE WORK DONE ON THE PREMISES.
COX & SON'S New Illustrated Catalogue (May, 1863), with 350 Wood Blocks of Church Furniture, Painted Glass, and Decoration, forwarded for six stamps.—Show-rooms, 28 and 29, Southampton-street, Strand.

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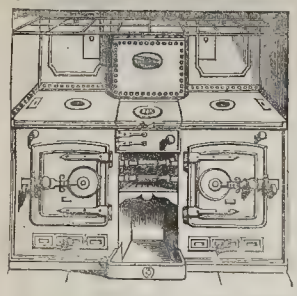
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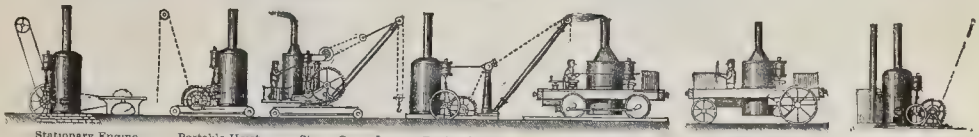
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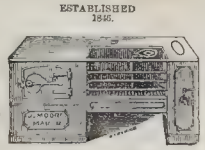
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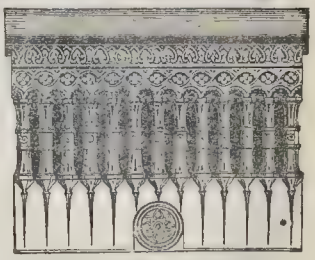
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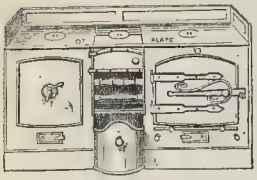
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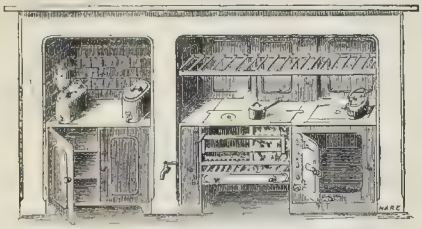
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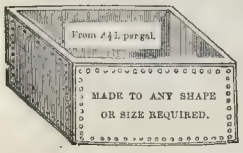
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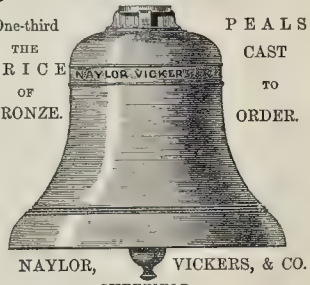
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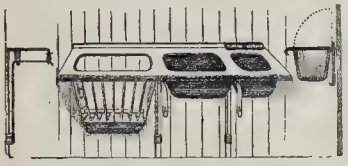
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In use at her Majesty's Stables, Aldershott and Balmoral.



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PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.



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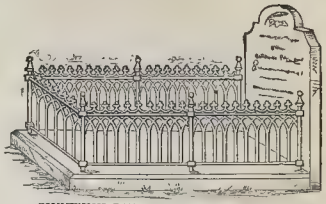
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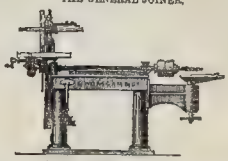
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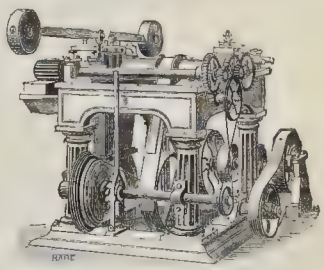
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Makers of Sawing, Planing, Moulding, and other Woodcutting Machinery.

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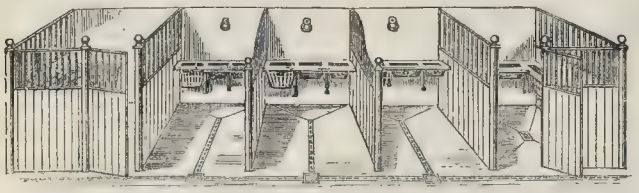
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To BUILDERS, CARPENTERS, and BLIND MAKERS.
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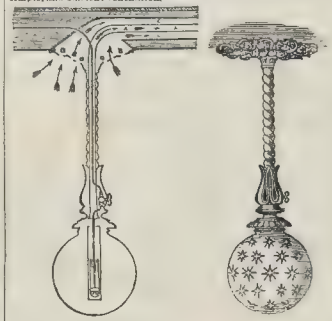
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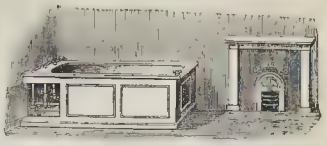
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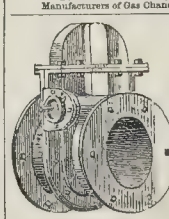
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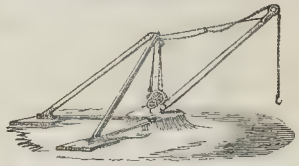
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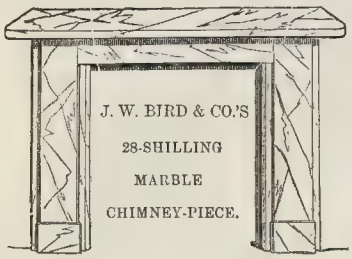
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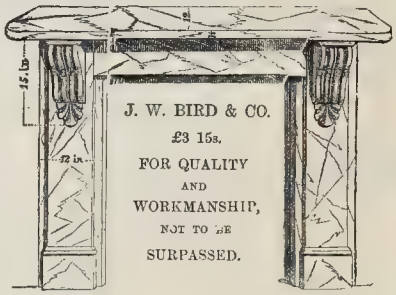
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VOL. XXI.—No. 1075.

French Taste and English.



HE respective characteristics of English and French taste in architecture and decorative art, the fancy and life of invention belonging to the one, and essential attributes of our art not unnoticeable in the other, have repeatedly been pointed to in these pages. Observation in each direction, of the facts referred to, is indeed but one of many aids to progress of every kind, which, we would maintain, would follow from greater perception and appreciation of the merits of each people by the other. The fear sometimes expressed, of losing what are deemed the sterling qualities of the English character, and importing French "trumpery," and vices perhaps, is an exaggerated apprehension. It keeps up the real isolation which is our besetting sin; and ministers to prejudices, if not ignorance, which more than justify the bad odour in which an Englishman on the Continent, finds that his nationality stands: it would limit all progress, commercial, intellectual, and even social and moral; it is inconsistent with the intention of nature, as it is impolitic and illogical. Our valued qualities must be only slightly fused in us, if they can be rubbed off by the contact with others; and we should despise the strength, and suspect the virtue even, of the man who would shut himself in from all sight of that which he ought to feel called upon as a sacred duty, and from the very fact of his superiority, to help to reform. Civilization has ever progressed by the commixture of races: as art, we believe, has progressed by a certain commixture of styles. For, much of the best art has been that of styles which are called *Transitional*. In short, the questions of race now discussed, as in the meetings of the British Association, should possess the utmost interest for the architect; and for that reason, we have noted, in a list in a later portion of this number, the titles of all papers read in Newcastle, pertaining to the subject.

That the French may derive something from English art in its present state, is one of the very points we would advance. We noticed, in a recent leading article, in what way they were arriving at such an impression themselves. But we urge that French art should be looked at in the same spirit as our own, and for a like object of learning something from it. Therefore, when such-and-such merits are pointed to, let it not be said there are such-and-such defects.

A recent visit to Paris, made with the view of considering the nature of French ornament, as it is applied to manufactured articles, has forcibly drawn the attention of one of our correspondents to the subject of this paper.

Remains of the Napoleon festivities still existed in the streets, and Paris was even fuller than usual of provincial and foreign visitors. He writes:—

"The circumstances caused many articles of a temporary character to be employed as adornments to the streets; but whatever is produced with the view of lending enchantment to the fleeting hours of a day, can only be expected to be of a temporary character. indeed, articles required for such a purpose, may advantageously be fleeting, as they are intended to give us charm to present and not future hours. Wreaths, *immortelles*, banners, and other articles of adornment, while of the commonest, may yet be well calculated to contribute to a general gayness."

It is not, however, to this power which the French have of producing a gay effect on a festive occasion with small means, or common materials, that we would now call attention, but to the French method of causing houses and public buildings to appear attractive.

There is a good illustration of this in an hotel which has recently been rebuilt; and upon a description of it we shall base what we have further to say. Although considered a somewhat second-rate house in Paris, the hotel in question would well take a position equal with that of the best kindred establishments in our own country. Not only is the building new, but the furniture is also of recent manufacture, and is uniform throughout the various chief apartments. Upon entering the establishment, it is impossible to evade the impression that everything around is of the most costly character, and that an immense sum of money must have been expended in raising and furnishing such a building.

The entrance from the street consists of a long hall or corridor, of from 20 to 30 feet in breadth, terminating in a broad stone staircase, which continues for about ten steps, and then turns to the left by a square landing. To confine ourselves at present to the lower part of the house, of which we wish especially to speak, at both sides of the hall is a series of pillars, upon which the upper part of the house rests. To the left of the hall, the spaces between the pillars are occupied by pairs of doors with slender framework and large glass panels; and above the doors are glass panels extending to the ceiling. At the right, the hall is treated in a similar manner, only mirrors take the place of transparent glass, and panels of looking-glass replace the doors of the opposite side. Along this right side of the hall, loungers are arranged between the columns, immediately in front of the glass panels, the loungers being of simple and graceful design, consisting of ebony framework, in part polished and in part dead, enriched with simple ormolu beadings and rosettes, and having the stuffed portions covered with bright red morocco. The glass panels at the left are draped with crimson silk curtains. The ceiling of the hall is enriched with ornamental work, and the floor paved with mosaics; while the entire apartment is lighted by many gaslights proceeding from ornamental branches.

To the right of the hall, are certain private offices, and to the left the drawing-room, dining-room, and other apartments. First upon entering the hall, is the drawing-room. Next is the dining-room, about 100 feet in length, and 30 feet in breadth, with a dining-table in the centre, surrounded by about 100 or 120 chairs. The neat design of the black framed chairs, corresponding with the loungers in the hall, and the brilliant red covering of the stuffed portions, are peculiarly attractive. Side-tables of ebony, polished and unpolished, enriched with ormolu, stand at various parts of the room, and a sideboard at each end. The floor, without carpet, is formed of dark wood. The room is lighted by a large lantern, the glass of which is ornamented, yet not coloured. The ceiling is richly ornamented, chiefly with forms in relief, but at either end by coloured decorations. From the ceiling, large glass gaseliers are pendant. The inner and end walls of the room are panelled; some panels are occupied by mirrors, and some by ornamental work. White and gold are prevalent in the decoration. The third room at the left of the hall, is of a similar character: in it, tea is provided. A smoking-room at the end of the hall is similar; but the chairs are covered by a brown leather, on which a small pattern in gold is stamped.

We have said that the effect of all this is pleasing, and that the various apartments have about them an air of magnificence. The simplicity and apparent costliness of the furniture, the elaborate character of the decorations, and the splendour of the gas branches, all contribute to this effect.

We speak now of the general effect produced, and disregard the impression that a detailed inspection might make. Yet, curiously, while the general effect is of a desirable character, a very cursory investigation reveals much that is undesirable.

The building is in that form of the Renaissance architecture which may be regarded as essentially French,—a modification of the style which, while having many noble characters, has also many weaknesses and shortcomings. The decorations are also essentially French. The relief ornaments consist of Louis Quatorze scrollwork, laurel-branches, birds'-nests and birds, and certain husk forms derived from the Romans, which more particularly characterize the period of the Restoration. This ornament is for the most part bad in composition, and weak in design: it is exclusively in white and gold. Some parts are intensely white, as though the quality of the ornament depended upon its immaculate character.

At either end of the dining-hall, we have said there is a compartment of the ceiling bearing a painted decoration. The large central portion of the ceiling of the entire room is occupied by a lantern. In order that the end portions might be in harmony with the central division, they are so painted as to lead the spectator to believe (if he would but do so) that he is standing under an opening in the ceiling, neither protected by roof nor canopied by glass, but having above it nothing but a slightly clouded sky. This curious opening is surrounded by a railing or balustrade, ingeniously yet curiously shown in a somewhat forced perspective. Amidst the railing of the balustrade, flowers are entwined,—nasturtiums, bignonias, convolvuli, and other creepers,—certain sprays of which seemed to hang down into the room through the opening in the ceiling.

The decoration of the hall, and of the other rooms, consists, if we remember rightly, solely of relief ornaments similar to those of the dining-hall, being of the same bad Renaissance style, and in white and gold. The gaseliers are large and imposing, and are in character similar to those shown by the Austrians in the Exhibition of 1862, immediately to the north of the entrance under the western dome. They are largely made up of glass plaques of ornamental shapes,—not the diversified prisms which are in common use with us.

To the furniture, special attention should be directed, as it is both simple and pure in design. Its black and retiring frames, enriched by a simple ormolu bead and a few small ormolu bosses at the square portions of the legs of the chairs (where the legs join the seat), and its brilliant red covering, make it altogether very pleasing.

Upon closely inspecting this furniture, we discover that it is not ebony, as we had imagined, but is merely a common white wood stained and worked into its present form. The red morocco forming the covering to the seats, and to the stuffed portions of the backs, turns out to be American cloth,—the commonest substitute for morocco that has yet been discovered; and every other piece of furniture that we examine is but another specimen of the same character of taste.

This discovery of the true nature of the chairs opens our eyes to the actual state of things. The seeming magnificence tends to check all inquiry into the true nature of the articles before us, for a time. It may often be noticed that, when the general effect of a place is peculiarly pleasing, we forget to search into the true nature of tha

which we behold. We seem instinctively to associate a pleasant aspect with costliness and real worth; hence we do not care to investigate, but take it for granted that whatever is beautiful in general effect, is costly in itself.

Continuing our notice of the hotel,—having once discovered the true nature of those things with which we are surrounded, we make other observations, and thus learn that all before us is as trivial as would be possible in order to the production of the desired effect. Even the glass lustres of the gas branches are cast and not cut; and throughout the whole establishment everything is of the same character.

We should now do well to inquire into the source of the pleasant aspect of the entire building which we have described; and to discover, if possible, how things in themselves paltry, can combine to produce a splendid effect.

First, we may notice that this hotel is a work of architecture, and both in its exterior and interior (at least in its principal apartments), manifests its architectural qualities. We care not how degraded the architectural style; a building that is a work of architecture, is preferable to one that is not; and while an exalted architecture is necessary to the production of a truly noble building, yet any form of architecture is preferable to no form. The presence of a marked style of architecture, even a transitional style, is calculated to give rise to nobleness in the aspect of a building.

Second: concerning the furniture and other adornments, it should be noticed, that while the articles are in themselves second-rate, they are all on the model of first-rate things. It is curious, that with us, common things are almost invariably ugly, and that good things—costly things—alone are beautiful. It is otherwise with French articles. In France, the cheap article and the costly are alike tasteful; and the epithets *good* and *bad* apply only in respect of duration, and not of art; that is, their art, whatever its nature is, is applied with equal skill to the low and high-priced articles.

The furniture of which we speak, while common, is yet of beautiful design, and has that chasteness of effect which we expect only in articles of the higher class. There is no wrong in this, but much that may be commended. If a man can only afford 1*l.* for a chair, there is no reason why it should hence be ugly. A chair of the value of 1*l.* may be beautiful as easily as the chair that is worth 15*l.* Beauty, in the case of the human form, does not confine itself to the rich; and there is no reason why the opulent alone should possess beautiful articles. The truly cultivated artist will see that it is possible to make all things beautiful. The late Professor George Wilson justly said,—"It is astonishing how many people think a thing cannot be beautiful if it is cheap, or comfortable if it is beautiful. They tell you the price of a carpet, as if its cost were the measure of its beauty." And in speaking of the nature of things generally, he inquires—"How does it fare with the majority of our countrymen? They rise in the morning from ugly beds to attire themselves in ugly dresses, to lave their faces in ugly basins, and make their toilets before ugly looking-glasses. They tread hideous carpets till they reach a parlour filled with absurd furniture; and gather round a breakfast-table, where, with the exception of the handsome forms and fair faces of their wives and children, and the graceful outlines of the boiled eggs, which are beyond their power to mar, they see nothing but imperfections, monstrosities, and deformities." These observations of the late Professor are in too many cases applicable. Those articles of furniture which a man in the middle walks of life is compelled to surround himself with, are almost invariably of poor design, if not totally devoid of art qualities: we should do well, then, to copy the French by the production of beautiful, inexpensive furniture.

Another fact to which attention is forcibly called while in Paris, is a mistake which we, as a nation, make in respect of carpets. It is thought in this country, that a room is not furnished unless it be carpeted; and we regard a carpet as dingy and unfit for use when it is not full of bright colours. In the first place, judging from Parisian rooms, it does not seem essential that a floor be carpeted in order that the apartment look furnished, or even magnificent. Neither the dining-room, tea-room, nor smoking-room is carpeted in the hotel of which we have spoken; and whether the drawing-room floor is covered by such a fabric or not, we do not recollect. The deal boards of which our floors are formed, are too light in tone and tint to harmonize with rich colours: hence it is necessary to darken them by a stain, if no carpet is to be used; but thus treated, a floor looks all that could be desired; and with beautiful furniture resting upon it, contributes its full share to the general beauty of the apartment. A small square carpet of subdued colour may be spread under the table, without detracting much from the general effect.

We have illustrations of the darkened floor, in the courts of the Crystal Palace, Sydenham. The boards were found to be too light to harmonize with the decorated walls of the courts; hence they were toned to a harmonizing colour. The effect of the treatment can there be studied: it will be seen to give something of the aspect of the oak floors of the "good old times" of England.

In applying carpets to our floors, we err especially in selecting those with bright colours. A showy carpet detracts much from the aspect of the furniture. Furniture, to look good, must rest on a negative background. A carpet which will set off furniture, will be of tertiary colour and retiring habit. If it force itself into notice, it usurps the place of the furniture, and in proportion to its advancement brings about the recession of the furniture. In the hotel by a description of which we have illustrated this article, there is but one carpet in a public position—that on the stairs. This has a cool grey centre of plain colour, with a band of crimson on each side. There is no pattern; and the carpet is not attractive. But the cool grey harmonizes with the cream-colour of the stone steps on which the carpet rests, and the crimson contrasts pleasingly with both, and marks the boundary of the material. The retiring quality of the carpet is peculiarly pleasant, and adds much to the welcome aspect of the establishment generally. We may learn much from the French, and even what we are too apt to term French trumpery may teach us valuable lessons.

THE CHURCH OF ST. LAWRENCE, WARKWORTH, NORTHUMBERLAND.*

WARKWORTH is not seen correctly unless it is regarded as a link in the chain of ecclesiastical establishments, extending from Lindisfarne to Durham. We know that there was a constant communication kept up between the two houses; we must, therefore, assume that there were certain places on the well-trodden route, at certain distances, which must have been used as stopping places or as stages. Warkworth must have been one of these stages.

Warkworth was granted to the community at Lindisfarne by the Saxon King Ceolwulph, together with the villages of Woodchester (supposed to be now known as Woodhorn), Whittingham, Edlingham, and Eglingham (Symeon). This was the King of Northumbria, "the most glorious Ceolwulph," at whose request the Venerable Bede, wrote his "Ecclesiastical History," and to whom he dedicated it, and to whom he presented it when it was completed, that it might be transcribed. After a short reign of about eight years, he abdicated his throne, and entered the monastery upon Holy Island, where he lived until his death, which did not take place till upwards of twenty years afterwards. It is probable that Saxon churches were built in all these places in his lifetime; for it is on record that Bishop Ecfrid consecrated churches at four of them, and we have architectural evidence at the present day that they were built in two of them, one of them, Warkworth, being that left unmentioned. At Whittingham, part of the Saxon tower is still standing; and in the course of the recent renovations *here*, a length of the foundations of a Saxon church was uncovered in the interior of the nave, a fragment of rough walling, 4 feet thick, as well as a slab of stone, sculptured with a Saxon cross. I have examined Eglingham and Edlingham churches above ground, and saw no traces of Saxon work, but excavations might reveal tokens, as they have in this case. There are ancient churches standing now upon all five places; they are dedicated as follows:—Warkworth to St. Lawrence, Whittingham to St. Bartholomew, Edlingham to John the Baptist, Eglingham to St. Maurice, and Woodhorn to St. Mary.

I wish I could present you with a picture of this Saxon period—so distant,—so long ago; so full of confused figures, conflicts, visions, conversions, miraculous cures, with the lamps of learning and piety burning quietly in the midst. Ceolwulph was the contemporary of four great bishops: Wilfred of York, Peckthelm of Whithorne, Acca of Hexham, and Ethelwald of Lindisfarne. The two last died in the same year that Ceolwulph resigned his crown. This was only fifty years after the death of St. Cuthbert. Bede tells us in his "Ecclesiastical History," which he had concluded before the resignation of Ceolwulph took place, that the beginning and progress of his reign were so filled with commotions that "it cannot yet be known what is to be said concerning them, or what end they will have." After Bede's eyes are closed, and his hand still, another pen takes up the tale and tells us of an eclipse of the sun and another of the moon following year after year, and of a great drought, in 737, leaving the land unfruitful, when "Ceolwulph, voluntarily receiving the tonsure, left the kingdom to Eadbert." The Saxon chronicle gives us but as bare an outline. "A. 731. This year Osric, king of the Northumbrians, was slain, and Ceolwulph succeeded to the kingdom, and held it eight years." And, to the date A. 737: "This year bishop Forthere and Queen Frithsgitha went to Rome. And king Ceolwulph received Peter's tonsure, and gave his kingdom to Eadbert, his uncle's son." His death is recorded against the date A. 760: "and Ceolwulph also died." These sharp, hard outlines, written as though they were burnt in with aqua fortis, we must fill up for ourselves out of such material as we have. Not the least important of these are the remains of Saxon architecture to which I have referred. A Saxon cross, with an interlaced ornamentation, was found at Alnmouth some few years since; and another, of a similar character to that found at Warkworth, among the stones of Lindisfarne priory. These go to show that Saxon work was not all "of wood thatched with weeds," as has been conjectured; but that the green country was dotted with buildings of stone, comparatively small to those since built upon their sites; but not devoid of beauty; being decorated with that pliant, subtle, interlaced ornament we now identify as Saxon.

Warkworth being on the route between Lindisfarne and Durham, was acted upon by the same agencies that affected those buildings. When the funds of the church were abundant, it appeared to have participated in the general prosperity. We may see that, like Lindisfarne, it was rebuilt at the same time that the cathedral was building at Durham. It also shared in the adversity of the mother church. The History of St. Cuthbert states:—"Then Halfdene, King of the Danes, entered the Tyne, and sailed from thence along the coast to Warkworth, laying the whole country waste, and cruelly outraging St. Cuthbert." In later times it shared, to some extent, the fortunes of the castle. When William the Lion invaded Northumberland, he destroyed Warkworth Castle, and pursued the inhabitants of the village into the church and house of the priests, and killed upwards of a hundred men, women, and children. Benedict, abbot of Peterborough, thus relates the circumstance:—

"Et ipse cum parte exercitus quam sibi elegit, intravit villam de Werkeurd et eam combussit, et interfecit in ea omnes quos invenit, viros et mulieres, magnos et parvos: et fecit sate.lites suos frangere ecclesiam Sancti Laurentii, quæ ibi erat, et interficere in ea et in domo clerici ville illius plus quam 100 viros, præter mulieres et parvulos. Proh dolor! tunc audires clamorem muberum, ululatus senum, gemitus morientium, juvenum desperationem."

* A paper read at the meeting of the Architectural and Archæological Society of Durham and Northumberland, on the 7th of August, by Mr. Frederick R. Wilson, architect, Alnwick. It was illustrated by drawings of all the churches in the archdeaconry surveyed by Mr. Wilson; as well as by careful sketches of the fabric, which are to be engraved for the proceedings of the Society, by Mr. Le Keux.

The church in which this outrage was executed was the newly-built Norman edifice. This consisted of a chancel and nave only,—presenting similar details to the structures erected in the same era at Alnmouth, Rock, Rennington, Shilbotell, Bolam, Edlingham, Chillingham, Kyloe, Ancroft, Belford, and Mitford, in this archdeaconry. It possessed a corbel tabling, as Ancroft does to this day: this fact was ascertained in the recent renovations, when two circles of the corbel tabling were found. It is possible that the nave was groined in the same way that we see the chancel was treated, because, if we examine the plan, or the structure, we may see that there are buttresses placed at intervals along the wall of the nave, just as they are placed in the chancel at the points which bear the thrusts of the bays; but of this there is no proof. There is a curious feature of the period to be seen in the north-east angle of the nave: this is the staircase for the ringer of the sanctus bell. The width of the Norman nave was 25 feet 8 inches; the length, 91 feet. The length of the chancel is 32 feet 6 inches; the width, 13 feet 9 inches. The walls were 4 feet thick. The windows are unusually large; those of the same period at Rock and Shilbotell not being above a quarter of the width. With regard to the position of the principal doorway, there is some uncertainty. At Rock there is a west door; at Chillingham, Shilbotell, and Ancroft, the doorways are on the south side. I am inclined to conclude that Warkworth, besides the door on the north, now blocked up, possessed a west door: the shortening of the centre light in the western triplet points to this conclusion; but I am sorry to say no mouldings or any visible signs of Norman work are left to confirm my impression.

It was, probably after this massacre in the reign of Henry II., that the north wall at the west end—perhaps weakened by the thrust of the groining or by the conflagration—was strengthened by the two buttresses still standing; and a tower was thrown out from the west end. This was in the Transitional era, a period of much architectural vitality in this district, the date of the erection of Brinkburne Priory, and the churches of Felton, Framlington, Lesbury, Eglingham, Doddington, Bamborough, Branxton, and Alnham. The west wall of the church, with the window openings in it blocked up, was used as one of the four sides of the tower; and upon this it still stands. It measures, externally, 23 feet square. It is, I think, possible that it was intended as a place of strength, should another inroad of the Scots require the inhabitants to take shelter in the church; for we know it was finished with a flat covering, similar to that of the peel towers. The chronicle of Jordan Fantosme mentions that the castle was then "feible." Edlingham, Eglingham, and Long Houghton have towers of a similar strength. The peel at Ancroft was not thrown out from the church, but absolutely built upon it at the west end. In the Decorated period, when the hermitage lower down the river was built, the church appears to have been put in order, and the spire erected; but no further alterations were made that we can now detect, except the insertion of the curious niche in the angle between the end of the north wall of the aisle and the chancel arch. The chapel at Chibburn and portions of the church at Widdrington are co-eval with this arrangement. The spire is octagonal, built in stone, with louvres at intervals. The broaches are partly concealed externally behind the parapet of the tower; and, internally, they cross the angles, and rest upon flat arches. It is open to the finial from the belfry, without any brace, either of iron or wood.

In the next era of architecture, the Perpendicular period, very extensive alterations were effected as at Alnwick and Hexham. The little Norman church, with its corbel tabling and groined roof, and small round-headed windows, no longer answered the purpose. The roof was taken off, and the south side of the nave taken down. Whether these remained precisely as left by the Norman builders, or whether they had endured any transformations, we are now not likely to learn; but, until the recent renovations, we could perceive exactly what was then done;—the aisle the Perpendicular builders threw out, the clerestory they raised over the arches they placed on the site of the old wall, the low-pitched timber roof they substituted for the former one. Certain armorial devices, here and there, on this work, indicate that the Percies furnished the funds, or liberally contributed to them for this enlargement. The breadth of the aisle is 16 feet 3 inches, a material addition of space.

The porch has the somewhat rare contrivance of a chamber above it, with a winding staircase leading to it, to which access is gained from the exterior of the church. In this particular, it differs from the staircase to the chamber above the church at West Auckland, which is ascended from the interior of the church. At Leverington, in Cambridgeshire, there is a chamber over a porch, which tradition says was a hermitage.

The vestry, which is of late workmanship, possesses a curious window opening, deeply splayed. It consists of three narrow slits, surmounted by a long single light. In the present position of the doorway into this chamber, it is impossible to see the altar from the exterior of the opening, or we could be certain that it was a leper-window; or if we could ascertain that the present position of the doorway was different from the original one, we might come to the same conclusion.

After the enlargement in the Perpendicular era, in the progress of time various repairs were made, all to the disadvantage of the fabric. It was filled with high pen pews: a gallery was placed across the west end; and the walls were whitewashed.

The soil was allowed to accumulate against the walls; and Warkworth Church became damp, close, ill-savoured, and ill-favoured.

There are several documents printed in Hodgson's "History of Northumberland" that relate to Warkworth. Some of them tend to show that it was intimately associated with the fortunes of the see. In one of them Robert, the son of Roger, for the welfare of his soul and that of his wife, bequeaths to God, to the blessed Cuthbert, and the prior and monks of Durham, an annual payment of 20s., chargeable upon his mill at Warkworth, and to be paid on the Feast of St. John the Baptist, to light round about the blessed body of St. Cuthbert. In another, Robert Umfravell is commanded by the king to restore to the prior and convent of Durham the chapel of Mary Magdalene, without the town of Warkworth.

The *Taxatio Ecclesiastica Angliæ et Walliæ*, circa A.D. 1291, quotes Warkworth thus:—

"Werkesworth (Wokwyre) Rector.... £30 0 0
Vicar ejusdem.... £20 0 0"

An Oliverian survey, bearing date "one thousand six hundred and fiftye," states "That the parish of Warkworth is a viccaridge, the late Bishop of Carlisle patron; Mr. Moore, a preaching minister, serveth the cure there and the viccaridge of the yearly value of sixte pounds."

Warkworth is spelt in old writings, besides Wokwyre, mentioned above, Werceworde, Werkewode, Werkeurd, Werkewords, Werkeword, and Werkworth.

Bishop Flambard is recorded to have founded a cell of Benedictine monks at Warkworth, 1257, to which he appropriated the church at Branxton. Traces of a foundation of wall exist 30 yards eastwards from the churchyard wicket (4 feet of the wall existed about a century ago), and traces of buildings are to be found in a neighbouring garden which are not unlikely to be the remains of this establishment; but these I have not examined. In the *Ordinatio Vicariarum de Ellingham, Dalton et Brankeston ex cartuar' ecclesie Dunelm*, there is the following passage:—

"Vicaria vero de Brankyston, in decima lane agnorum, feni molendinorum, ac aliis minutis decimis et Conventionibus ad ipsam ecclesiam spectantibus, nec non quadraginta solidis annuis de decimis garbarum, per manum custodis celle de Werkeworth percipiendis, una cum terra et manso in villa de Brankyston a ipsam ecclesiam pertinentibus, salvo custodi predicte celle, herreo ejusdem mansi, cum situ suo et libero intritu et exitu. Providemus et ordinamus quod predicti vicarii et eorum successores in predictis ecclesijs, canonice instituendi habeant et percipiant omnia supra dicta modo prescripto, eisdemque, proportionibus contenti sint, et omnia onera ordinaria sustineant."

The recent work just completed deserves all praise. There is, however, one wish that every architect will express when he looks upon it;—that is, that the original pitch of the roof had been restored. The corbels are left standing out of the walls that carried the ancient corbel-tabling and roof, and they would still have performed their office well. I, for one, would rather, too, that the ancient priest's door in the chancel had been opened out. With these exceptions, the work has been carried out most felicitously. The abundance of stained glass is a rich and especial feature in the restoration. I would especially draw your attention to three of the windows;—the early triplet at the east end, filled with Passion subjects—the Agony, the Betrayal, the Arraignment, the Mocking, Scourging, Bearing the Cross, &c.; the third pointed window at the west end of the south aisle, representing the Death and Glory of our Lord, with groups of martyrs attendant on the Crucifixion, and of apostles surrounding the Majesty; and the easternmost light on the south side of the south aisle, an Advent window, containing the Annunciation, Nativity, Epiphany, Presentation in the Temple, Flight into Egypt, and Subject to Parents. These masterpieces were designed and executed by Clayton & Bell. They are all memorials;] the first, of the family of Clutterbuck; the second of the family of Smith, of Togston; the third of the late Mr. Joseph Fenwick.

The necessary removal of soil which the indolence of generations had allowed to accumulate, has placed the structure upon a better sanitary footing. Among other discoveries brought about by this imperative but unpleasant task, was that of a stone coffin lying just below the surface in front of the sill of the blocked-up priest's door. There was no lid to it, but it was filled up with soil, and in this lay a skeleton. As those who made the discovery stood by and gazed upon the form, it crumbled to pieces before their sight. Only those who have undertaken the restoration of a church know the anxiety, the labour, the correspondence it involves; the activity, the influences, the energy that must be brought to bear to accomplish the task successfully. The Vicar of Warkworth has so wrought that all things have worked together for good; and we must congratulate him upon the possession of as fit an edifice for the sacred service for which it is designed, as any in this part of the country.

BRITISH ENGRAVERS.

NEW MATERIALS FOR THEIR LIVES.

Valentine Green, A.E.R.A.—In a miscellaneous marine-store kind of lot of pamphlets about art in England, sold many years back by Messrs. Sotheby & Wilkinson, and which it was my good fortune to secure for "a song," I was pleased to find a large-sized quarto, of seventy and odd pages, with this inscription on its original blue cover:—

"To Dr. Johnson,
from the Author."

The quarto was printed in 1782, "for T. Cadell, Bookseller and Printer to the Royal Academy," and the title is as follows:—

"A Review of the Polite Arts in France, at the time of their Establishment under Louis the XIVth, compared with their Present State in England: in which their National Importance and several Pursuits are briefly stated and considered. In a Letter to Sir Joshua Reynolds, P.R.A. and F.R.S. By Valentine Green, Fellow of the Soc^ty^ of Antiq^es^, Mezzotinto Engraver to His Majesty, and to the Elector Palatine; Member of the Royal Academy, London, and Professor of the Electoral Academy, Dusseldorff,"

[with this motto]

"——They order, said I, this matter better in France."
Yorick's Sentimental Journey, vol. i.

This goodly quarto (a large paper copy) had been sent, as in duty bound, by the A.E.R.A. of the Royal Academy of Arts in England to the great lexicographer who filled an honorary professorship in the Academy—one of two professorships in that body dignified by the names of Goldsmith, Sir Walter Scott, Hallam, Grote, Milman, and Macaulay. Poor Mezzotinto-scraper Associate Engraver Green! the presentation copy of your "Review" to the great Samuel Johnson it was my lot to find, sixty-six years after publication, uncut, and therefore—unread. Did the Bolt-court Doctor acknowledge the receipt of Mr. Associate Engraver Green's presentation copy? or did the Mezzotinto-scraper of Newman-street, London, write a letter to our great Bolt-court lexicographer in the vein of the doctor's famous Chesterfield letter of indignation and superiority? Green's printed letter is dated "Newman-street, London, December 23rd, 1782."

Green was born at Hales Owen, near Birmingham, in the year 1739, and died in St. Alban's-street, Haymarket, London, on the 6th of July, 1813, in his seventy-fourth year. To his name on his portraits of Sir Edwin Sandys and others in Nash's "History of Worcester," he appends "Vigornensis." He was justly proud of his native county, and may be more than suspected of preferring the Severn to the Thames.

In what way he took to the noble art of engraving, and under whom he learnt his art, no diligence has, I believe, satisfactorily succeeded in detecting. I have heard that he first became famous through his skill in transferring Sir Joshua's colours to copper; and the little that is known of him confirms the tradition of succeeding engravers. That he was a favourite with Sir Joshua, the pictures he engraved with the approbation of the President, may be readily admitted.

Thus we have from Valentine's graver, and in Sir Joshua's life-time, the fine head of Sir William Chambers the architect, and the noble world-wide famous print of Garrick between Tragedy and Comedy: while in the list of Sir Joshua's seraglio of lovely women, Green has preserved, beyond the reach of fire and Reynolds's fading colours, a Duchess of Rutland, a Duchess of Devonshire, a Countess of Salisbury, a Countess of Aylesford, a Countess of Harrington, and, last and best, that exquisite composition (1781) of the three Waldegrave girls, by far the finest, I have heard skilled engravers say, of all the works of Valentine Green.

The hand of the "mezzotinto engraver to King George III." was not confined to the works of Sir Joshua. Green has given us Romney's fine head of Richard Cumberland, the dramatist, and Gainsborough's full-length of Garrick patronizing the bust of Shakspeare,—fine examples of mezzotinto art.

Nor was his skill wholly restricted to portraits, and the works of Reynolds, Gainsborough, and Romney. He engraved Barry's picture of "Venus Rising from the Sea," and "The Return of Regulus to Carthage," by Benjamin West. The Regulus was published by Alderman Boydell, and is announced in 1773 by its publisher in the following *advertisement* words under his catalogue of "Large Metzotintoes:"—

"*Regulus's Return to Carthage*, by Benjamin West, Esq., in His Majesty's Collection. Engraved by Valentine Green. 25 by 35 in length. Price 2*l.* 2*s.*

N.B. This Print is allowed to be one of the greatest performances ever executed. It contains about 137 figures, all on one Plate; most, or all other Prints, of this size, of consequence, being engraved on two Plates; which makes a disagreeable Line up the middle, and scarce ever joins well together."

A man who engraved with skill and punctuality for Reynolds and West was likely to be soon admitted into the Royal Academy; and, in 1775, Valentine Green was admitted one of the six Associates of that body. His friendships, however, were not confined to the members of the Academy. His portrait, by L. F. Abbot, was No. 431 of the Somerset House Exhibition of the year 1788, and is spoken of in "The Bee, or the Exhibition Exhibited" (a critical review of that day), as "well painted and wonderfully like him." *This* Abbot painted Horatio Lord Nelson and William Cowper, the poet. Where is now Abbot's portrait of Valentine Green? Perhaps Lord Stanhope's Mr. Scharf will kindly tell us.

Green was twice married. His first wife died in 1789, and is buried in Hampstead churchyard, in Middlesex. His second wife (his widow) is remembered by Nollekens, the sculptor, in his will, by a legacy of 100*l.* The last London residence of Green was No. 51, Upper Tichfield-street. Nollekens and the engraver were therefore near neighbours,—and friends, likely, of long standing, for Green calls him in print that "able sculptor, Mr. Nollekens," while, when referring to Bacon, on the very same page, his name is without an epithet of approbation.

It well merits to be told, that Green took an active part in obtaining permission for Barry to decorate the Great Room of the Society of Arts in the Adelphi, and that in his printed work on the Arts already referred to, he claims (p. 52) "the share I myself had in *first* proposing it to that body; a transaction," he continues, "of which the records of the Institution of the year 1774 bear testimony." What do the Society's minutes of 1774 say touching Barry and the history of the decoration of their Great Room? Perhaps Sir Wentworth Dilke will let us know? Barry, single-handed, did nearly a century since better works at the Adelphi, than any *three* artists put together have done in our time in another Barry's New Houses of Parliament.

I shall have "more last words" (and new) about Green when I come to Francis Haward and his memorable engraving of Sir Joshua's "Mrs. Siddons as the Tragic Muse."

PETER CUNNINGHAM.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE papers read in the sections of the British Association, at the meeting in Newcastle-upon-Tyne, included so many that are interesting to us, and of those so many that extended to great length, that it would be impossible for us to print the half, or the third of them, without trenching upon space that our readers expect to find otherwise appropriated. We may therefore best answer the objects of our publication, by printing a somewhat extended list of the titles of those papers which would appear likely in any degree to interest the different classes of our readers, without precluding ourselves from publishing some of the papers in full, should space permit. We may state that it is acknowledged by the officers of sections, that the proceedings of the Association were never better reported than they have been on this last occasion by the local press. Most of the numbers of the journals containing these reports are already out of print; but the reports of the *Newcastle Chronicle* have, we believe, appeared in a separate form, and may be procured at small cost.

The authors' names are prefixed in each case.

SECTION A.—MECHANICAL AND PHYSICAL SCIENCE. President,—Professor W. J. Macquorn Rankine, C.E., F.R.S.

Hermann Schlagintweit.—On a New Revolving Scale for measuring Curved Lines, communicated by the Abbé Moigno.

A. Claudet.—On some Phenomena produced by the Refractive Power of the Eye.

B. S. Proctor.—On the Focal Adjustment of the Eye.

Dr. Akin.—On the Transmutation of Spectral Rays.

E. J. Lowe.—On Ozone, more especially on Ozone Tests.

H. Swan.—On a new kind of Miniature, possessing apparent solidity by means of a Combination of Prisms.

Professor Plücker.—On Spectral Analysis.

The Abbé Moigno exhibited specimens of telegraphic fac-similes produced by Caselli's method.

Professor Sylvester.—On the Quantity and Centre of Gravity of Figures given in Perspective, or Homography.

S. Alexander.—On the Augmentation of the apparent Diameter of a Body by Atmospheric Refraction.

J. J. Walker.—On the Conditions of the Resolvability of Homogeneous Algebraical Polynomials into Factors.

Professor Rankine.—On the Mathematical Theory of Plane Water Lines.

The Abbé Moigno communicated a paper, by M. Oudry, on Galvanic Copper and its Applications.

The Abbé Moigno exhibited and described M. Soleil's Tenebroscope, for showing the Invisibility of Light.

Professor D. E. Hughes.—On a Printing Telegraph.

W. Cook.—On Bonelli's Printing Telegraph.

W. Ladd exhibited an Acoustic Telegraph.

W. Ladd exhibited an Electro-motive Engine.

C. W. Siemens.—On the Electric Resistance and the Electrification of India-rubber under a pressure of 300 tons.

SECTION B.—CHEMICAL SCIENCE. President,—Professor A. W. Williamson, Ph. D., F.R.S.

Papers on Local Manufactures:—

Glass and Earthenware.

Fire Clay Goods.—By J. Cowen, Blaydon Burn.

Glass.—By R. W. Swinburne, South Shields.

Earthenware.—By C. T. Maling, Newcastle.

J. C. Stevenson, R. C. Clapham, and T. Richardson.—Chemical Manufactures.

J. Pattinson.—On the various kinds of Pyrites used on the Tyne and Neighbourhood for the Manufacture of Sulphuric Acid.

I. L. Bell, T. Sopwith, Dr. Richardson, and T. Spencer. Report on the Metallurgy of the District.

Dr. Riley.—On Titanium in Iron.

J. Pattinson.—On Deposit in Blast Furnaces.

J. Pattinson.—On Zinc, Nickel, and Cobalt in Cleveland Ironstone.

I. L. Bell.—On Aluminium.

Dr. Matthiessen.—Report on the Chemical Nature of Alloys.

W. Baker.—On the Impurities contained in Lead and their Influence on its technical Uses.

W. Crookes.—On Thallium.

I. L. Bell.—On Thallium.

Dr. Stevenson Macadam.—On the Analysis of Chinese Iron.

Dr. Davey.—On the Slaking of Quick-lime.

Dr. Zeuner.—On Impurities in Lead.

L. Kessler.—Sur les Procédés de Gravure du Verre à l'Aide de l'Acide Fluor-hydrique par Impression de la Réserve.

Duncan C. Dallas.—On Photelectric Engraving and Observations upon sundry Processes of Photographic Engraving.

The Abbé Moigno.—Short Communications on Galvanic Copper, Photo-lithography, and Photo-microscopic Specimens.

Dr. T. Wood.—On Oxidation by Ozone.

Dr. Richardson and T. W. Benning.—On the Uses of Fuel in Marine Boilers.

F. A. Abel, F.R.S.—Some Results of Experiments on Lucifer Matches and Others ignited by Friction.

H. B. Condy, F.C.S.—On Disinfectants.

SECTION C.—GEOLOGY. President,—Warington W. Smyth, M.A., F.R.S.

G. B. Forster and John Daglish, F.G.S.—On the Magnesian Limestone of the County of Durham.

Alexander Bryson.—On the Origin of Granite.

Professor Phillips.—On the Deposit of the Gravel, Sand, and Loam, with Flint Implements at St. Acheul.

Professor Phillips.—On the Drift Beds at Mundesley, Norfolk.

R. A. Godwin-Austen.—On the Alluvial Accumulations in the Valleys of the Somme and Ouse.

Professor William King.—On the Neanderthal Skull, or Reasons for believing it to belong to the Clydian Period, and to be specifically distinct from Man.

SECTION D.—ZOOLOGY AND BOTANY. President,—Professor Balfour, M.D., F.R.S.

Rev. H. B. Tristram.—A few Facts on the Variation of Species pointing to Western Asia as the Centre of the Palæarctic Area of Creation.

Thomas Bewley.—Description of a new Plant House, communicated by N. R. Ward, F.R.S.

SUB-SECTION D.—PHYSIOLOGY. President,—Professor Rolleston, M.D., F.R.S.

Stewart Clark.—On the Ventilation of Barracks and other Public Buildings in India.

Dr. White.—On the Means of Passing unharmed through noxious Gases or Vapours.

Dr. G. Robinson.—On the Nature and Varieties of Organic Effluvia.

R. Garner.—On the Reciprocal Action between Plants and Gases.

Dr. Edward Smith.—On the Dietary of the Lancashire Operatives.

Dr. Wilson.—On the Coal Miners of Durham and Northumberland, their Habits and Diseases.

Dr. Edward Smith.—On the Dietaries of the Labouring Classes.

B. W. Richardson.—Miners' Safety Mask for Supporting Life in Fire-damp and other noxious Vapour.

SECTION E.—GEOGRAPHY AND ETHNOLOGY. President, Sir R. I. Murchison, K.C.B., D.C.L.

Capt. Bedford Pim, R.N.—Proposed Inter-Oceanic and International Transit Route across Central America.

J. Crawfurd, F.R.S.—On the Commixture of the Races of Man as affecting the Progress of Civilization in the New World.

Dr. James Hunt (Pres. Anthropological Soc.).—On Anthropological Classification.

J. Crawfurd.—A few Notes on Sir Charles Lyell's "Antiquity of Man."

Dr. James Hunt.—On the Physical and Mental Characters of the Negro.

J. Crawfurd.—On the so-called Celtic Languages in reference to the question of Race.

R. S. Charnock.—On Celtic Languages.

George E. Roberts and Professor Busk.—Note upon the opening of a Cist of the Stone Age near the coast of Moray Frith.

Henry Duckworth.—On the Human Cranium found at Amiens.

William Turner.—On the Anatomical Characters of the Human Cranium found at Amiens.

Lord Lovaine.—On the recent Discovery of Lacustrine Human Habitations in Wigtonshire.

Richard Lee.—The Extinction of Races.

J. Crawfurd.—On the Commixture of the Races of Man as affecting the progress of Civilization in Eastern Asia and the Polynesian Islands.

Rev. G. R. Hall.—On the Aboriginal Occupation of North Tynedale and Western Northumberland. An illustration of the Social Life of the Northumbrian Celts.

J. Crawfurd.—The Origin of Gipsies.

George Petrie.—Antiquities of the Orkneys.

Professor Daniel Wilson.—Notice of the Discovery of three additional Runic Inscriptions in St. Molio's Cave, Holy Island, Argyleshire.

SECTION F.—ECONOMIC SCIENCE AND STATISTICS. President,—Mr. Wm. Tite, M.P.

Dr. Jas. Bird.—On the Vital and Sanitary Statistics of our European Army in India, compared with those of the French Army under like Conditions of Climate and Locality.

Dr. Camps.—On the Sanitary Condition of the Troops in India.

C. H. Bracebridge.—Coventry Freehold Land Society.

Frederick Purdy.—On the Decrease of the Agricultural Population of England, A.D. 1851-61.

Henry Fawcett.—On the Effects of the recent Gold Discoveries.

Frederick Purdy.—On Mortality in Lancashire.

James Heywood.—Remarks on Native Colonial Schools and Hospitals, from the Sanitary Statistics of Miss Florence Nightingale.

The President.—The Statistics connected with the Architectural Improvements in the City of Paris.

John Lamb.—On the Reduction of the Death Rate in Gateshead by Sanitary Measures.

Thomas Webster.—Report of the Committee on Technical and Scientific Evidence in Courts of Law.

[illegible].—On the Origin of the Stockton and Darlington Railway. Communicated by James Potts.

SECTION G.—MECHANICAL SCIENCE. President,—Professor the Rev. R. Willis, M.A.

C. T. Porter.—Richard's Indicator for Steam Engines.

P. Westmacott and J. F. Spencer.—Engineering Manufactures of the Tyne and Neighbouring District.

J. Jameson.—Air Engines.

Robert and William Hawthorn.—New Method of Working Railways by Stationary Engines.

R. A. Peacock.—New Plan for Hanging Dock Gates.

Geo. Fawcus.—A new Method of Constructing Boats, so that any number may be packed one inside the other.

D. Passeley.—On Thompson's Universal Stopper for Bottles, Casks, &c.

C. W. Siemens.—On Regenerative Gas Furnaces as applied to Iron Works.

Messrs. E. Salmon & John Collinson.—Reports and Sections relating to Capt. Bedford Pim's projected Transit Route through Central America, showing the *modus operandi* of surveying in the forests of that country.

D. D. Main.—Newcastle and Gateshead Water Supply.

Admiral Sir E. Belcher.—Description of a Spirit Level Telescope for observing Altitudes and obtaining Latitudes independently of natural or artificial Horizons.

C. B. King.—On Extinguishing Fires.

Dr. White.—On the Prevention of Fouling of Ships' Bottoms.

John Sturgeon.—Self-acting Valve Motion for Steam Hammers.

Professor Airy.—On Boiler Explosions.

J. F. Ure.—On the Improvements now being carried out in the River Tyne.

Samuel Firth.—The Application of Machinery to Coal Cutting.

The Abbé Moigno.—Caselli's Auto-Telegraph from Paris to Marseilles.

The Abbé Moigno.—Oudry's Galvano-copper, and Galvano-copper Paint, applicable to buildings, and armour plates for ships.

Thomas Page.—On Bridge Foundations.

W. Smith.—Harding's Valve and Apparatus for Atmospheric Railway Propulsion.

W. Smith.—James Spence's method of covering Boilers, Pipes, and Cylinders of Steam-Engines for preventing the Radiation of Heat.

W. Smith.—Gray's Portable Machinery or Apparatus for Riveting, Chipping, &c.

C. M. Palmer.—Iron Ship Building on the Tyne and neighbouring districts.

Prof. Rankine.—On the Proportions of Ships of least Skin Resistance for a given Speed and Displacement.

Prof. Rankine.—An Investigation of Plane Water Lines for Ships.

Robert Taylorson.—The Diagonal Principle of Iron Shipbuilding.

Admiral Sir E. Belcher.—On an Improved Caisson Gate.

The Abbé Moigno exhibited and gave Explanations of the "Ventilateur à Réaction" of Mons. Perigault de Rennes, and of the "Balance Aérostatique" of Mons. Seiler.

THE CROYDON SEWAGE IRRIGATION.

I HAVE received so many letters respecting the irrigation fields at Beddington, that a few explanatory remarks will be interesting to your readers. Our irrigation has stood the severe test of several injunctions in Chancery; but we have for nearly two years surmounted all opposition. The water runs clear from our outfall, in which several fine trout have been caught; and the offensive matter, instead of fouling the river, is now manuring the land, and producing luxuriant crops of grass.

In order to shorten this letter, I propose to classify my remarks under different heads.

Firstly.—In what manner can sewage-water be most economically applied to land?

The Croydon method is very simple and inexpensive, being carried out by gravitation.

The water is led into a channel along the highest part of the field: it passes from this channel in streamlets on to the fields at regular distances. Another channel is formed along the lower end of the fields to receive the water after it has irrigated the land. From the lower channel, the partly purified water is conducted in open "carriers" on to the land at the lower end of the farm, where the process is repeated; and it is then carried into the river Wandle.

I need not compare this with the hose and jet system, which must cost at least ten times more than the Croydon system.

Secondly.—What quantity of water will the land and crops take?

This depends on the nature of the land and the quality of the sewage-water. At Rugby, I find that they have used 9,000 tons per acre: at Croydon, we use 18,000 tons per acre. The Rugby sewage is, however, twice the strength of the Croydon sewage.

Thirdly.—To what land and crops can it be applied?

With regard to growing crops, it is, with few exceptions, only applicable to fields of water-grass or Italian rye-grass. The sewage-water has so stimulated the production of the last-named grass, that from 30 tons to 35 tons per acre have been cut at Beddington during the spring, summer, and autumn months, and sold at from 18s. to 25s. per ton.

There is no doubt, if the sewage-water is put on to the arable land two months before the land is prepared for sowing, that it will have the same effect as a dressing of farmyard manure.

Fourthly.—What expense is incurred by the Croydon system of irrigation?

There is the expense of levelling the land, cutting the channels, sluices, &c., which in no case need exceed 3*l.* per acre, provided the position of the water-courses be well selected.

The attendance required is very trifling. One man can turn the water, keep the channels clear, &c., on 100 acres.

The contrast between this and the expense of the hose and jet system is very great. Laying water-pipes, hydrants, hose and jets, pumping the water to get a head, would cost at least 30s. to 40s. per acre per annum; and the labour, if a sufficient quantity of water is put on, would be enormous.

Fifthly.—What is its value as a manure?

This, of course, depends on the strength of the sewage. When asked the question before the Committee on the Sewage of Towns, I declined to answer. From my experience since, I think the Croydon sewage is not worth one farthing per ton; and, according to the report of the commissioners on the Rugby fields, it is not worth there one halfpenny per ton. The exaggerated value put upon the sewage water by some, arises from not allowing for waste and evaporation.

Sixthly.—Can it be easily applied to the outfall of town sewers?

I think that there are few places where the system cannot be applied. It is especially applicable to the inland towns. In every case, by pumping a moderate height, the Croydon irrigation system might be carried out even in cases where no profit would arise from using the hose and jet.

I will conclude by stating, confidently, that if the local Boards were to make the irrigation system a part of their drainage scheme in the first instance, they would make a great profit by it. The Croydon Board have hired their land at the great price of 4*l.* per acre, and let it for a term, at 5*l.* per acre; but the land was taken and let under the pressure of legal proceedings, which circumstance I need not say was a great disadvantage.

JAMES FENTON, Civil Engineer.



DRINKING FOUNTAIN LATELY ERECTED IN BRYANSTON-SQUARE,
In memory of the late William Pitt Byrne, M.A.

THE LATE MR. A. H. MORANT.

ANOTHER of the band of promising young men has passed away. Mr. Augustus Hullock Morant, an Associate of the Institute of British Architects, and the subject of this notice, was one of the younger children of the late Mr. George Morant, known to many of our readers from the interest he took in establishing the "Art-Union of London." Mr. Augustus Morant was articled to his relative, the late Mr. William Adams Nicholson, of Lincoln. He afterwards entered the office of the late Mr. Thomas Cubitt, assisting in the works of Buckingham Palace; and subsequently that of Mr. Joseph Jennings, the district-surveyor for South Marylebone. On Mr. Morant's marriage in 1855, he made a professional tour of some months in France and Italy; and then settled at Southampton, where he erected a school-house; but being called to London by his friends, he was establishing a position, when the much regretted deprivation of sight of his relative, Mr. James M. Lockyer, jun., whose name has often appeared in these pages, led to a partnership in December, 1861, since which period he carried on the works then in course of execution, and designed such others as were required after the new connexion was formed. Among these were the extensive alterations to the premises occupied by Mr. Nicholay, Mr. A. Biddle, and Mr. P. Robinson, in Oxford-street; the mansion erected for Mr. O. Lucas, at Esher; the houses, No. 40, Old Compton-street (corner of Dean-street), and No. 18, Greek-street, Soho; the Portland Hotel, in Great Portland-street; the extensive alterations and farm buildings for Captain R. C. Dent, at Highwood-hill, Hendon; and the terra-cotta portico for Viscount Strangford, at No. 58, Cumberland-street, Bryanston-square, which was exhibited by Mr. Blashfield in the last Architectural Exhibition; besides many works of minor importance. He had set out the works for the additions to Messrs. Heal's premises in Tottenham-court-road, when his health became affected, and after a short illness he breathed his last on the 30th ult., aged thirty-one years. He was buried at Stoke, near Guildford. Those who knew his amiable character and the delight he took in his profession, but were ignorant of his attainments in the higher sciences, concealed by his retiring disposition, could only wonder at the energetic self-reliance and tact with which he solved the problems of a practice in London.

DRINKING FOUNTAIN, BRYANSTON SQUARE.

ERECTED IN MEMORY OF THE LATE WILLIAM PITT BYRNE, M.A.

A TOUCHING memorial of affection, has recently been placed at the south end of Bryanston-square. Its position exactly faces the Marble Arch; the distance from the arch, however, being that of the whole length of Cumberland-place. The work is a drinking-fountain, and a monument of the late Mr. William Pitt Byrne, M.A., a gentleman who, as proprietor of the *Morning Post*, was well known in London circles, and whose qualities procured for him the esteem and regard of many persons of note and eminence. Some of these, after his decease, spontaneously combined to raise a fund for the production, after a design by his widow, of the work of which we publish a representation. We do not give it as a work of art; and those who are acquainted with the principles which we have endeavoured to set forth as to be observed, whether in monuments, or in objects of combined utility and decorative art, will scarcely need to be told that the base of imitated rocks and the carved shell of this fountain, directly representative of nature, and not specially designed for the uses of base or bowl, are unaccordant with those archi-

tectonic principles, that union of formative beauty, expressed stability, and utility, essential to every monument,—be it even, mainly or essentially, sculpturesque, that is, by its *motif*, a work to be entrusted for execution to the hands of the sculptor, rather than to those of the architect and mason. The *Builder*, however, is a newspaper, and must catch the image of the works that rise in streets and squares of the actual London, as well as help onward the march of taste.

This much said, and allusion made to objections that would be preferred to the introducing an urn, and perhaps also to a triangular plan, which last, however common in larger works and in pedestals, always tends to cause the structure, viewed from any point not exactly opposite an angle or the centre of a side, to seem out of perpendicular—we may be allowed to find in the design some merits, and a special interest as the work of a lady, whose tastes and accomplishments, and whose devotion to literature and kindred pursuits, would enable her to become a valuable ally in the attainment of ends which we more especially have at heart. For, the special art of architecture will never minister to the extent it should, to the attractiveness of our English houses and homes, and through these to the affections that should abide there, until the something more than fancy, which is the attribute of that art, shall have been noted and appreciated by those who chiefly form those homes,—the "women of England."

The reasons for the publication of the design in our pages, result from the conspicuous position of the monument in London, the worth and talents of the individual commemorated, and from many of the circumstances which have inspired, and accompanied, the design and completion of the work.

Mr. William Pitt Byrne was the son of Mr. Nicholas Byrne, who was sole manager as well as proprietor of the *Morning Post* during a memorable period, when the popular feeling, to which Mr. Byrne's writing had been opposed, manifested itself in an assault upon the office of the paper. The lives of Mr. Byrne and his son, with those of other inmates of the building, were at that time in peril. Subsequently, there were several attempts on the life of Mr. Nicholas Byrne, until at length, in 1833, a blow was aimed to which he became a victim.

We gather from a printed account, that while sitting alone, writing in his private room at the office, and in the dead of the night, he was suddenly attacked by an armed ruffian, who struck at him and immediately retreated. Defenceless as he was, Mr. Bryne rose and pursued his assailant to the street, as yet unconscious that he was wounded: arrived there, however, he fainted from loss of blood; and the miscreant, favoured by the darkness of the night and the confusion, contrived to escape. Although Mr. Byrne lingered for two years, he continued in a hopeless state, and never afterwards returned to the office.

Mr. William Pitt Byrne was educated and prepared for Cambridge, by Archdeacon Burney. At the time of the last assault on his father, he was a Fellow-Commoner of Trinity College. He was recalled to assume the responsibilities and duties the father had, till then, discharged. He devoted himself to his father during the remainder of the life of the latter, and to the work of the paper, of which, although he was only a youth, he acquitted himself with credit. The interval which elapsed before he could return to the University to complete his terms, disqualified him from going in for the higher honours, which otherwise he would have attained; for, he came out, nevertheless, at the head of the poll.

Mr. Pitt Byrne had lost his mother at a very early age; and in 1835, his brother, Mr. Charles Byrne, was seized with the epidemic then decimating the population. On hearing of a case of cholera, the neighbours and servants, with one exception, fled. With a disregard of self which formed the basis of his character, he refused, even after his brother's death, to leave the scene until the last offices had been performed. Mr. Charles Byrne, cut off at the age of twenty-five, had already given proof of intellect and genius.

On quitting Cambridge, Mr. Pitt Byrne was called to the bar. He never practised, preferring to devote his leisure to the more congenial pursuit of literature. He therefore resumed the management of the *Morning Post*, which in his hands fully maintained its high reputation; but so unassuming was his disposition, that few were aware how entirely the success of the journal depended on his administrative talent, political integrity, and literary abilities. Mr. Pitt Byrne wrote with force, elegance, and ease; and his extensive reading, profound knowledge of ancient and modern languages, love of science, and unusual proficiency in music, enabled him to give enlarged scope to the matter as well as the influence of the paper. In him the votaries of art recognized a liberal and discriminating patron, and, from having been theretofore more exclusively a political journal, the *Morning Post* became, under his auspices, also the oracle of the cultivated and refined circles of society. In 1842, Mr. Pitt Byrne married the second daughter of Mr. Hans Busk, of Great Cumberland-place, to whom he was devotedly attached, and in whom he found a companion of congenial tastes. On withdrawing from his connexion with the paper, he continued his literary occupations by contributing to the leading periodicals. In similar avocations, also, his wife engaged. Some time previous to his decease, having rendered himself master of the Hebrew language, he was engaged in preparing for the press a work of considerable research, being an elaborate translation, with critical notes, of the unintelligible and obscure passages in the Old Testament, especially the Psalms.

The winning truthfulness and attaching simplicity of the character, and the noble disposition, cordial hospitality, practical charity, and genuine piety of Mr. Pitt Byrne, are testified to by his surviving friends.

A monument has been erected over the family grave in St. Mary's Cemetery, Kensal-green, the general form of which resembles the prevailing type of the tombs in the cemeteries of Paris. On a black marble tablet within, is an epitaph written by Cardinal Wiseman. Under the sacred monogram, it reads:—

HIC . IN . PACE . XTI . QVIESCIT
GVILELMVS . PITT . BYRNE . M.A.
DOMO . LONDINO
VIR . INDOLIS . SVAVITATE . MODESTIA
AC . MORVM . INTEGRITATE
PARNE . INCOMPARABILIS
QVIBVS . EXIMIIS . ANIMI . DOTIBVS
PRAECLARVM . INGENIVM . CVM . BONARVM . ARTIVM
CVLTVRA . ADIICIEBAT
MATHESEOS . ETIAM . AEQVE . AC . MVSICES . PERITVS
D E V M
SVMMA . PIETATE . ET . RELIGIONE . COLEBAT
ERGA . OMNES . BENEVOLVS . PROPVGNATVS . IN . PAVPERES
SVIS . CARISSIMVS . ILLIDATAM . VITAM . DVXIT
QVAM . CLAVSIT . VI . ID . APRIL
ANNI . MDCCCLXI
ANNOS . NATVS . P . M . LIV
VIRO . PARENTIQVE . IMMATVRE . REEPTO
CONIVX . ET . LIBERI . MOER . POSVERE
AVE . ANIMA . INNOCENTISSIMA
SEMPER . VIVAS . CVM
D E O.

The material of the upper part of the monument in Bryanston-square, is white marble. The rock-work base is red and yellow Mansfield stone. A tablet bearing the arms and an inscription, and the panels of the lamp-pedestals, are of green serpentine. The inscription, which is by Archdeacon Thorp, is as here given:—

Erected by the Friends
of
WILLIAM PITT BYRNE, Esq., M.A.,
After a design by his Widow
In affectionate remembrance
Of the rare combination of estimable qualities
Which in life his modesty concealed,

To
His strict Integrity, political Consistency, noble Disinterestedness,
And uniform Determination
To vindicate the cause of Independent Journalism,
May be ascribed his success
as
Proprietor of the Morning Post,
In maintaining the elevated tone
It had attained under his Father.
His acquirements in classical and general Literature,
His love of Science and Art, his proficiency in Music,
And the countenance by which he promoted their Cultivation,
Were not less attractive than
His singleness of heart, forgiving temper,
generous appreciation of others,
Unobtrusive Piety, and Practical Charity,
Rendering this refreshing Fountain
A suitable Memorial
Of his worth.

THE NATURE AND VARIETIES OF ORGANIC EFFLUVIA.

A PAPER on "Organic Effluvia," read in the Sub-Section D, "Physiology," of the British Association, at the recent meeting, contains some suggestive matter. It is by Dr. G. Robinson, and was read by Mr. Samuelson. After remarking upon the intimate and necessary connexion between natural philosophy, chemistry, and natural history on the one hand, and physiology and pathology on the other, the proof of which connexion, if wanting, would be supplied by the gradual progress of our knowledge of the abnormal constituents of the atmosphere, through which knowledge those noxious influences formerly ascribed to supernatural causes have been traced to operation of the ordinary laws of nature; and upon the necessity for still closer relations than those existing between the cultivators of the natural sciences, and physiologists and pathologists, the paper said,—

A very little reflection will suffice to demonstrate that, under the general term, "organic effluvia," several entirely distinct substances have been confounded; and as it is impossible to entertain any clear ideas of their action as causes of disease, without greater precision in this respect, I am induced to direct attention to the subject. The importance of a clearer classification will be manifest when we consider that our arguments and inquiries respecting epidemic diseases must be materially influenced by the views prevalent as to the composition, properties, and affinities of those peculiar matters present in the atmosphere, which form the basis of such pathological and bygienic researches. In the present state of our knowledge, I am inclined to think that all those abnormal constituents of the atmosphere which are recognized under the general term "organic effluvia," may be resolved into four principal groups, viz.: 1. Gases and the vapours of volatile chemical compounds formed during the decomposition of organic matter. 2. Odoriferous particles *sui generis*. 3. Volatile organic matters not endowed with vitality. 4. Living germs.

1. In the first group, I would place not only the binary gaseous compounds evolved, for instance, during putrefaction, such as the compounds of hydrogen with sulphur, phosphorus, carbon, &c., but also ammonia and its curious combinations with sulphur and phosphorus, described by Dr. Crace Calvert as formed during the decomposition of animal matter. 2. The natural philosophy of odours is so little known that no excuse need be offered for placing in a separate group the volatile particles capable of being detected by the sense of smell, but not demonstrably related to any known gases or vapours. 3. The third class of organic effluvia is one to which I attach great importance from the belief that not only are those volatile organic matters often, perhaps generally, poisonous in themselves, but that they are also injurious to an incalculable extent by sheltering, nourishing, and so propagating the noxious germs liable at all times to be suspended in the atmosphere. And if it can be demonstrated that volatile organic matter is present, under certain circumstances, in the air surrounding us, there is no more difficulty in believing it capable of nourishing and contributing to the growth and development of contiguous germs than in supposing the animalcules present in water to derive their chief support from the animal and vegetable matters dissolved or suspended in it. That organic matter is present in the atmosphere might at once be inferred from the varied odours proceeding from plants and animals, and from the injurious effects exercised on living animals by exposure for a length of time to accumulations of such effluvia. But modern chemistry has converted this probability into a certainty. Vanquelin, on analyzing the liquid obtained by the decomposition of marsh dews, found in the residue an organic substance which blackened or charred on exposure to heat. Zimmerman has described, under the name of "pyrrhine," volatile organic matter universally present in rain and snow water. And more recently Dr. Angus Smith has even determined the relative quantity of the organic constituents of the atmosphere present under different circumstances. This point may, therefore, be considered as definitely settled. 4. The existence of living germs in the atmosphere is proved by the phenomena of what has been erroneously called "Equivocal Generation," such as the appearance of fungi on animal and vegetable substances secluded from everything but the atmosphere, air, &c. The possible dependence of epidemic diseases on the entrance into the blood circulating within the human body of some varieties of these organic germs, is favoured by many analogies and by some direct evidence. For instance, Dr. Robert Dundas Thompson, who examined the air contained in the cholera wards of St. Thomas's Hospital during the epidemic of 1854, states, "that in the atmosphere of a cholera ward, mechanical matters were diffused throughout the air derived from the inmates, that sporules of *fungi*, and germs of *vibriones*, or *vibriones* themselves, were obtained by filtration from the atmosphere." In leaving this subject for the present it may be well to observe that whatever classification of these volatile invisible particles emanating from living or dead animal and vegetable matter

may eventually be adopted, they are doubtless so mixed together as to render their separation in any definite quantity of air very difficult, if at all practicable. For instance, in the effluvia proceeding from a case of small-pox, it could be demonstrated that all the above-described varieties are present. And, in fact, there is every reason to believe that the atmosphere is even more compound than the ocean, containing innumerable substances dissolved or suspended in it, and being constantly affected by, and reacting on, the mass of living organisms with which it is brought in contact.

Mr. Samuelson recommended that for the purpose of ascertaining whether living germs injurious to health are present in the sick wards of hospitals in unusual quantities, a sheet of cotton wool should be purchased from the maker, carefully protected until required, and then stretched across a small hoop, and suspended over the patient's head. The cotton should, after a time, be removed, a part dissolved in ether, and a part washed in distilled water. The distilled water, it had been suggested, should be previously passed through a heated platinum tube. Mr. Samuelson begged that if any results were obtained from this experiment, a little of the cotton charged with germs might be sent to him for examination.

Dr. Smith thought it could not be denied that there were germs of life in the atmosphere, but the fact had been and still was very difficult to ascertain; and what was wanted was not speculation and opinion, but the actual detection of those germs. He did not believe that cholera was produced by their means; that opinion had been disproved.

*** Professor Crace Calvert some years ago, instituted experiments on air collected in the wards of the Manchester Infirmary; and, we believe, then considered that he had found the germs.

THE NAMES OF STREETS IN PARIS.

A REPORT has just been presented to the Prefect of the Seine, by a committee specially appointed, referring to the different terms used to designate the public thoroughfares and open spaces, according to their form, dimensions, situation, or importance. There is certainly great misappropriation of terms, in the Paris nomenclature, as for instance in the use recently, of "Boulevard" to designate such a street as the Boulevard de Sebastopol, which is like the diameter of a circle, and not a circumferential line, as was the boulevard on the site of displaced ramparts. Unfortunately, many of the changes now made are, because they are alterations very confusing. However, it seems to have been resolved to make several very important changes. The use of the word *Square*, which had been adopted from the English, will be discontinued, and "Place" will be in future applied to all open spaces, whether planted as gardens, like the ground before the Arts-et-Métiers and around the tower of Saint Jacques, or left entirely open. The Barrières no longer existing, the word will be abandoned, as also "Route," "Chemin," "Sentier," "Chemin de Ronde," "Allée," and "Chaussée." The name of the "Rue de la Chaussée d'Antin," which is so universally known, caused the committee to hesitate a little before deciding on the suppression of the latter word. The name Chaussée d'Antin being applied not only to a street but also to a whole district, the determination was come to to preserve it for the latter, as an exception, and restore to the street the name of Mont Blanc, which it had previously borne. That street has, in fact, often changed its name, and been successively called Chemin de l'Egout-de-Gaillon, Chemin des Porcherons, Chemin de la Chaussée d'Antin, Rue de l'Hôtel Dieu, Rue de la Chaussée d'Antin, Rue Mirabeau, and Rue du Mont Blanc. The use of the word "boulevard" is also to be circumscribed. That term generally signifies a rampart, and should only be applied to roads which follow the line of the ancient fortifications, or which at least run in a circular direction, and suppose more or less the traces of an old municipal boundary. The wide thoroughfares which traverse the city in an oblique direction, or run from the centre to the circumference, are in reality Avenues. The designation "boulevard," as applied to some of the transversal thoroughfares recently opened in the city of Paris will, however, be retained. The attention of the committee has also been directed to the abuse of certain names in the denomination of the streets or public places,—not less than eighteen bearing the title of Eglise, seven that of De la Mairie, sixteen that of Marie, and the words Notre Dame forming part of the appellations of sixteen others. Such a state of things certainly calls for reform; yet we look with apprehension on the particular reform proposed. Strangers, who have formerly known Paris, will indeed lose every landmark.

PARIS A SEA PORT.

THE *Moniteur de l'Oise* states that all the surveys and soundings for the Paris and Dieppe Canal (recently mentioned by us as in contemplation), have been completed, and that the important question of feeding the canal has been solved. The line proposed by M. Sabattié commences at Gennevilliers, near Courbevoie, in the department of the Seine, where, according to the project, the great mercantile port of Paris is to be established. From Gennevilliers it takes the direction of Ile Adam, skirting the foot of St. Gratien, and, reaching Beaumont, cuts the Oise at Tiverny, passes under Mont Ataire, in the valley of Thérain, and, following the right side of that valley, arrives at Beauvais, where a large basin is to be formed. From Beauvais it enters the valley of the Avelon, by which it enters Gournay: it then follows the valley of the Bray until it arrives opposite the mineral springs of Forges. There it turns to the right into the small valley which receives the waters of those springs, and finds a passage through the not very elevated table-land which blocks up that valley after the rivulet has found an issue below the old abbey of Beaubec. It then meets at Béthune, near St. Saire, and successively arrives at Neuchâtel, Arquis, and Dieppe. At the latter place it sweeps away the fetid slaughter-house, the demolition of which has already been ordered by the city: it skirts the parsonage and infant school of Le Pollet, suppresses the old houses of the Rue de la Lombarderie, cuts off a small corner from the cliffs, and penetrates into the port. Hence it is seen that the point of division of the canal is the plateau lying between Forges and the Abbey of Beaubec. Here, it appears, the ground is 80 mètres (240 feet) above the level of Paris: instead of tunnelling the plateau, a system of locks is proposed, which are to be fed by hydraulic machines; but from what source of reservoir these are to receive their supply has not yet been decided on. The State, it appears, has not been applied to for any subvention or guarantee of interest to the company which undertakes the work.

THE WATER-SUPPLY OF LONDON.

THE last analyses of Dr. R. Dundas Thompson, of the metropolitan waters in August, offer some points of special interest and importance. There was a slight increase upon the organic and total impurity of the preceding month, the most striking examples being illustrated by the Kent and Lambeth companies. Moreover, the Thames water at London Bridge at high water, was highly charged with impurities and sea-water, three experiments having yielded a mean of 232·67 deg. of total, and 26·38 deg. per gallon of organic impurity, while the amount of ammonia from the sewage was ·748 grains per gallon. One of the wells in St. Marylebone contained as much as 2·72 grains ammonia per gallon, an evidence of the large admixture of sewage with which it is contaminated. We give the analysis as in the registrar-general's return:—

	Total Impurity per gallon.	Organic Impurity per gallon.
	Grains or Deg.	Grains or Deg.
Distilled Water	0·0	0·0
Loch Katrine Water, new supply to Glasgow.....	2·35	·605
Manchester Water Supply	3·33	·680
Upper Marylebone-street Well	106·40	7·60
Thames at London Bridge	232·67	26·38
Thames Companies.		
Chelsea.....	17·08	1·40
Southwark	16·40	1·44
West Middlesex	16·72	1·36
Grand Junction	16 64	1·60
Lambeth	17·20	1·72
Other Companies.		
East London	17·52	1·66
New River	16·60	1·20
Kent	26·16	3·68

The table is read thus:—Loch Katrine water contains in the gallon 2·35 degrees or grains of foreign matter in solution, of which ·605 degrees or grains are of vegetable or animal origin.

Great doubts have been expressed, by French authorities as well as by English, of the accuracy, or at least sufficiency of such analyses. What we have no doubt about is, that the supply of London is quite inadequate in quality, as in quantity. What chance is there of a supply from Wales?

SANITARY AND OTHER MATTERS FROM IRELAND.

Dublin.—The sanitary state of this city is exciting attention. The *Irish Farmer's Gazette*, in an article on the subject, says,—None who pass along the quays of Dublin, from King's-bridge downwards, at low-water, can fail to observe the abominable odours which rise from the bed of the river, especially during hot weather; and if the visitor is at all curious in such matters, a walk through some of the back streets, such as Greek-street, Mary's-lane, Bull-lane, and many other crowded parts of the city, will speedily convince him that for pestilential stinks Dublin can vie with any other city in the kingdom. And when a closer examination is made, and courts and crowded tenements are explored, it will then become a matter of wonder how human beings can live from day to day in such localities. The corporation has undoubtedly done much to render the main sewerage of Dublin efficient, but those main sewers are of comparatively little value, from the want of proper drains leading from the houses and back-yards. An eminent medical correspondent of *Saunders's News Letter* has very properly called attention to this matter, stating, that as a consequence of the want of house-drains in many parts of the city, 'the back-yards and premises of houses let in tenements, are in such a condition of filth with human soil, putrid water, and decomposing vegetable and animal matter, that although the sanitary officers of the police and corporation use their best efforts to abate the evil, no sooner have these places been cleaned out than the accumulation again commences, and so disease is extensively produced.' 'I know,' he goes on to state, 'that the deaths occurring from these causes are very numerous, not only from fever, but from scrofulous and other affections.' The corporation has the power to compel the owners of houses to construct house-drains; and we consider, therefore, that immediate steps should be taken to have such carried out, so that the health of the citizens, and those frequenting the city, may be protected. The state of some of the houses let in rooms, where there are no proper house-drains or back premises, is positively dreadful, and a disgrace to a Christian country. It is almost impossible, in fact, to describe these places, under the circumstances mentioned; and the result is that there are three times as many deaths where those 'life destroying influences' are at work than there are 'in those parts of the city where sanitary matters are not neglected.' Were a sanitary commission appointed to visit those parts of the city to which we refer, its report would reveal a tale of horrors of which few have the faintest idea. Yet all this is caused, in a great degree, by the narrow-mindedness of house proprietors, who will not construct proper house-drains and provide suitable conveniences for the use of their tenants; and it is, therefore, absolutely essential that unjustifiable cupidity of this kind shall be met and counteracted by the powers vested in the corporation, for the benefit of all concerned. But if such be the state of certain parts of Dublin, are the provincial towns in a better condition? Are the back lanes and courts of Belfast, Dundalk, Drogheda, Limerick, Cork, Armagh, &c., &c., in such a state of immaculate sweetness as to enable the municipal authorities of these towns to point with scorn at the filthy lanes and fever-producing tenements of Dublin? If not, we trust a spirit will be evoked with reference to this matter, among the inhabitants of these places, which will compel the authorities to take immediate steps for the reformation of the evil.

Belfast.—The water-supply during the past summer in Belfast greatly decreased, and the inhabitants suffered from a scarcity which at length became alarming. The town is supplied from three reservoirs, in which the water, on the 1st of last month, stood at an average of 200 inches below the proper level, and two of them were shortly afterwards completely empty. The supply for manufacturing purposes was stopped, and the inhabitants were obliged to be very economical in the use of the limited quantity available for domestic requirements. A gentleman named Girdwood offered to come to the aid of the authorities by turning the water of his own mill-dam into the town basin for a consideration of 400*l.* per annum; but he could not give any material relief until November, and other millowners threatened legal proceedings if their supply were interfered with. Whether the recent change of weather has to any extent mitigated this serious evil we have not yet heard.——The Belfast Harbour trustees have applied to the Loan Commissioners for a loan of 100,000*l.* for the construction of a floating dock and graving dock.



CONGREGATIONAL CHURCH, BARKING, ESSEX.—MR. W. F. POULTON, ARCHITECT.

NEW CONGREGATIONAL CHURCH, BARKING, ESSEX.

THE memorial stone of a new Congregational Church, was laid on the 6th of last month, at Barking. Of this building we give an illustration. The geometrical character of Gothic architecture has been adopted in the design. The materials of construction are Kentish rag-stone in courses, and Bath stone dressings. The plan of the building is 65 feet 9 inches long and 35 feet 4 inches wide in the clear, with apsidal termination to the back, and vestries. Entrance porches, with double sets of doors, are designed for each side of the principal front, that on the staircase side having coupled outer doors. The staircase, leading to the gallery across the front of the chapel, is formed in a semi-octagonal turret annexed to the entrance porch. A four-light traceried window, 25 feet in extreme height, will form the principal feature of the front elevation. The interior of the church is to be ceiled in somewhat of a Gothic outline, so as to obviate the objections so frequently raised, and not wholly without reason, to the ordinary open roofs of churches, as managed. Provision for ventilation is intended to be secured by openings (under control), in the ceiling; and external air will be admitted to the building in various parts of the chapel, in each case to be regulated by valves, &c. On one side of the apse, a vestry is planned for the use of the minister, 10 feet by 11 feet in size; and on the other side it is proposed to erect a vestry 18 feet by 18 feet, for committee meetings and the like. The accommodation will be for 513 persons; namely, 355 adult sittings on the ground-floor, and 158 children in the gallery. The children's seats are to be sufficiently wide to allow of their use by adults when necessary. There will be the power of increasing the accommodation of the chapel at a future time, by the erection of side galleries. The architect is Mr. W. F. Poulton, of Reading, who has erected several chapels of similar character. Mr. Perry, of Hackney, is the contractor. The contract, including lighting and fencing, as well as the vestries, is 1,604*l*. The building occupies a prominent position, being immediately opposite the Townhall.

We give the view as illustrative of certain tendencies in architecture of the day, that we have occasionally had to remark upon, some of which may not be to be regretted, although minor details accompanying this progression would not receive our approval. A "Clerical Reader" of our journal, in writing to us, notices as a curious sign of the times, that we now set apart a place for "Dissenting Church-Building News," and speaks about "simple forms and proportions," and "pruning down of features by wholesale" as "imperative" in churches for the Establishment, and "the only becoming line to adopt against an unseemly rivalry with other sects in the mere matter of the outward garb of our holy religion." Elsewhere in his letter, he remarks upon some of the tendencies we have noticed, in a spirit which should not be adopted by the clergy in any view of their calling and sphere of influence.

Let the clergy of the Established Church help in the solution of the question,—viz., how should churches be planned and built, adapted to the services of the church, and to the requirements of worshippers and congregations; and taste will no longer be confined,—as it is so greatly in the works of our best church-architects,—in the road of precedent, or to an extent greater than even associations and traditions justify. Let the clergy of the Established Church, and their architects, not be above learning from the Dissenting chapels, that churches must be built for their uses; and let all sections of the profession associate somewhat more; and one section return, for what it may derive, some principles, and some results of experience in the treatment of decorative details.

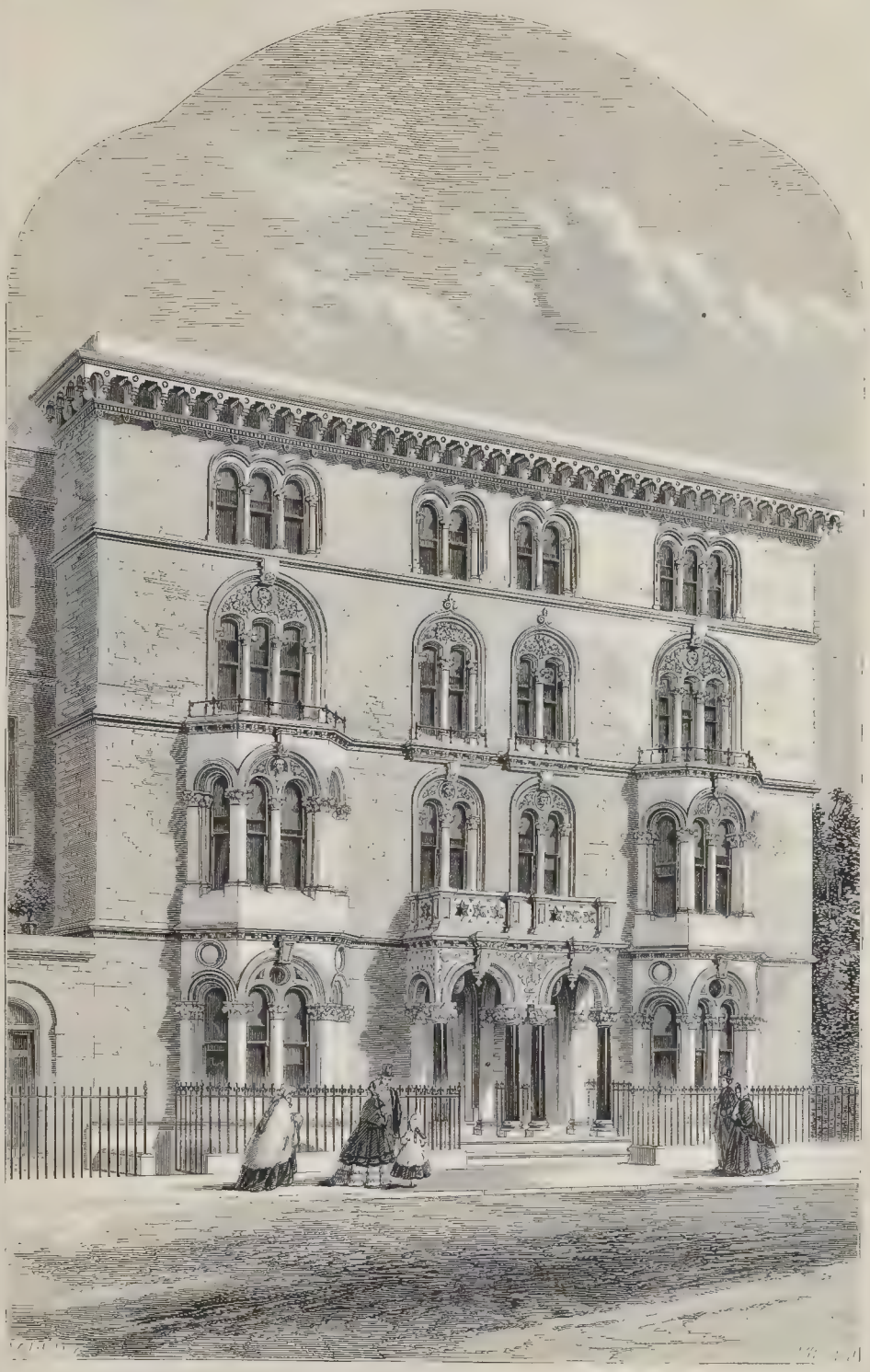
THE LUDGATE HILL VIADUCT.

THE City Commission of Sewers have held a meeting, at which a design of the proposed railway viaduct across Ludgate-hill was submitted for approval, by Messrs. Freshfield & Newman, solicitors to the London, Chatham, and Dover Railway Company, who had engaged to make the structure after a plan to be sanctioned by the Commissioners. The company propose to widen Ludgate-hill to the extent of 16 feet, by setting back the houses that are on the south side of the hill, from about the Old Bailey to Bridge-street. The present width of the hill is 44 feet. It would thenceforward be 60 feet, with a carriage-way 30 feet broad. The proposed viaduct would allow a clear headway of 18 feet for the carriage traffic, and have sides 8 feet high. It would be an iron structure, with a span of 60 feet, and with ornamental brackets at each end, placed against the sides of the abutments, and leaving a headway for foot passengers of about 9 feet. A great deal of surface ornamentation was shown on the sides, giving the appearance at first sight, of an open perforated bridge; but it would in fact have an interior lining to prevent the fall of burning cinders from passing trains. The design, as represented on paper, elicited, according to the newspapers, some expressions of admiration from the commissioners; but their engineer, Mr. Haywood, took occasion to warn them that the thing itself, when put up, would probably fall short of the expectations which the drawing was calculated to produce. They eventually passed a resolution to the effect that they saw no objection to the adoption of the design.

NEW HOUSES, GUY'S HOSPITAL, SOUTHWARK.

THE houses of which we give an illustration, have been recently erected by the governors of Guy's Hospital for the purpose of providing residences for two of their medical staff, who are required to be in almost constant attendance at the hospital, and who have lately been turned out of their former abodes by the operations of the Charing Cross Railway Company near the Southwark end of London Bridge. The principal materials used are red brick with Bath stone dressings. The columns of the portico are of polished granite.

The cost, including fittings, stoves, &c., has been for the two houses about 5,620*l*. Messrs. Newman & Billing, of Tooley-street, were the architects employed by the governors; and the works have been executed by Messrs. J. J. & F. Coleman, of Bermondsey. The carving is by Mr. Seale, of Walworth. The houses can be at present seen, across what was the site of St. Thomas's Hospital, from the raised area in front of the London and Brighton Station. There are in the design, suggestive features that will doubtless be further worked upon.



HOUSES, GUY'S HOSPITAL, SOUTHWARK.—MESSRS. NEWMAN & BILLING, ARCHITECTS.

PRIMEVAL DWELLINGS AND GRAVES IN THE ORKNEYS.

IN the section of Geography and Ethnology of the British Association, at the Newcastle meeting, Mr. George Petrie read a paper on the aboriginal remains in the Orkneys. He said that no district in Scotland possessed so many of these remains. They were found in almost every island, and new discoveries were continually occurring. They frequently appeared as green tumuli of various sizes, and sometimes were unexpectedly met with beneath the surface, and without any external indication of their existence. The ante-Norwegian antiquities of Orkney might be classified as—1st, dwellings and other buildings of primitive architecture; 2nd, the so-called Picts' houses, or Pights-houses; 3rd, barrows or grave-mounds, and ancient graves unconnected with barrows; 4th, miscellaneous antiquities, such as standing stones and cromlechs. The paper gave a general description of the first two of these classes. The dwellings were subterranean chambers or cells, and brochs or circular towers; while the character of the so-called Picts' houses the author believed to be sepulchral; and, if so, they might probably belong to the same race who erected the brochs, and it might be the standing stones also. The author exhibited various ground-plans and sections of the ancient buildings, some of which have been already described in the *Builder*.

THE EFFECT OF FIRE ON CAST-IRON.

ATTENTION has been directed by Dr. Percy, to the fact that several of the cast-iron girders at the German Bazaar, were much bent, and the columns distorted, by the operation of the fire which occurred there some weeks ago. The subject is one of great importance with reference to the use of cast-iron for building purposes. The girders in question were 18 feet long and 13 inches deep in the middle, tapering off slightly towards each end, and flanged, as usual, at the bottom. Of those entire after having fallen to the ground, two were bent laterally in a striking and a nearly equal degree. The flexure was gradual from end to end. The deviation from a straight line at the ends was 22 inches. No cracks could be anywhere detected. Many of the cast-iron columns, which are still upright, Dr. Percy says, have been singularly twisted at the upper part, as though the metal there had been softened by heat, and had yielded without cracking, to the effect of pressure from above. As far as he could judge, there was no very decided evidence of fracture in either girders or columns from the injection of water upon them; and yet, from the fused glass and other objects which lay scattered about, it was certain that they must have been exposed to a pretty high temperature.

We may endorse Dr. Percy's observation, that a museum of objects in illustration of accidents, such as the bursting of boilers, breakage of railway axles and tires, railway collisions, &c., would be as interesting as it would assuredly be important in a practical point of view.

HERNE THE HUNTER'S OAK.

THE venerable and almost classical tree, to which so many pilgrimages have been made, in Windsor Park, has been laid prostrate by the autumn winds. We hear, however, that what remains, is to be preserved in Windsor Castle; but so much anxiety has been shown to appropriate portions of it as it lay in the Home Park, that it has been necessary to place a keeper to watch over it night and day, previous to its removal to a place of security.

We do not like to interfere with long-cherished associations, and seldom do so; but in this instance, it is at least questionable whether the leafless trunk which has just fallen be the identical tree which was known as Herne's Oak in Shakspeare's days (about three hundred years ago). The writer has often had his misgivings on this point; particularly after comparing with it the size of the far-famed Windsor Park oak and others not far away, as well as some of the huge oaks at Hatfield and elsewhere, in connexion with the tradition of Herne the Hunter. There was no doubt a tree called by the name of the sprite who with ragged horns was said to have circled around it; and from Shakspeare's description of the spot, it would be almost heresy to doubt that "*Herne's Oak*" was seen by the eyes of our great poet; but the question for consideration is, was the tree which has just fallen the oak which Shakspeare saw? Towards the end of the last century "Herne's Oak" was marked on the plans of Windsor, about the spot where this tree stood; but we are not aware of the existence of any distinct mark of the position of this same tree at a more early date. It would be very interesting could some reader of the *Builder* give information on the point.

In the dell, close by, there have been found the remains of oaks of very great antiquity, and of far more important size than that which was until lately left; and one of these, which, by its commanding size, attracted to it the story of the weird hunter, may have been the original tree. Three centuries is a long period of time, during which many changes have taken place; and it must be remembered that it was not until about the middle of last century that the knowledge of Shakspeare's plays began to be generally spread among the multitude, and when persons would be likely to search for relics associated with these marvellous works. However this may be, all will regret the fall of "Herne's Oak," if it were only on account of the care which the late Prince Consort took of this relic, which tradition certainly tells us was the identical hollow oak in which the hunter dwelt. A portion of this celebrated tree fell from the trunk upwards of twenty years ago, and has been carefully preserved in the royal stores at Windsor Castle. Since then the tree has been fenced in with park pales, and a plate attached to it, upon which is engraved—

> There is an old tale goes, that Herne the Hunter,
> Sometimes a keeper here in Windsor Forest,
> Doth all the winter-time, at still midnight,
> Walk round about an oak.—*Merry Wives of Windsor.*

Shakspeare, when he wrote the "Merry Wives of Windsor," is said to have lodged at the "Hope Inn," Frogmore, at that time known as "The Bottle on the Moor:" this inn was about 200 yards distant from the tree. Herne is said to have been one of the forest keepers in the earlier part of the reign of Queen Elizabeth; and, having committed some offence that would have occasioned his dismissal from office, he formed the desperate resolution to hang himself upon this tree. Its identity as "Herne's Oak" has been disputed by many writers. In the plan of 1742, already referred to, the position of the oak is clearly defined and marked as Falstaff's oak.

The fairies' dell has been partially filled up; but the late Prince Consort had much of the earth removed, when the oaks, in an upright position, were discovered at the bottom of the dell, which, no doubt, will now be put into a condition to perpetuate the scene of Falstaff's distress and the pranks of the "Merry Wives of Windsor."

LIVERPOOL IMPROVEMENTS.

A GREAT scheme is in hand for new dock works. At a recent meeting of the Dock Board, the special committee on the plans for new works, brought up a recommendation to approve a revised plan of the contemplated alterations in the neighbourhood of the Prince's Basin, &c. The committee had received the resolution of the town council of the 19th inst., to the effect that it was expedient that steps should be promptly taken towards the improvement of the approaches to the landing-stages; and that a plan should be prepared under the direction of a committee of the town council, and the committee of the Dock Board, as a basis for further consideration. The recommendation was referred to the appropriate committee. The committee recommended the board to approve of that portion of the new plan which concerned the construction of the half-tide dock, of west Waterloo Dock, and the Warehouse Dock, and the erection of warehouses on the margin of the latter, the estimated cost being 400,000*l*.

Mr. Brocklebank stated that the cost of building the corn warehouses would be 158,527*l*.

The proceedings of the Improvement Committee before the council last week comprised a recommendation to apply to Parliament in the next session for powers to effect the following improvements—namely, to widen Wellington-road from Thornton-place to Grafton-street, provided the surveyor should fail in making the requisite purchases by private contract; to purchase the reversion in Prince's-park; and to purchase the property required for the improvement of Tithebarn-street, between Oldhall-street and the railway station. After some explanations, the recommendations were agreed to.

The foundation-stone of Woolton-hill reservoir has been laid at Woolton-hill. There is a reservoir now in the course of construction in Dudlow-lane, which receives water from Prescot, and the new reservoir is to have the water pumped up the hill from the one in Dudlow-lane for the especial purpose of supplying the immediate neighbourhood. The land is about an acre in extent, and has been bought by the corporation from the Marquis of Salisbury for the purpose. The contractor is Mr. Samuel Buxton, of Huntslet, near Leeds; and we believe the amount of the contract is between 8,000*l*. and 9,000*l*. The reservoir is to be built in a manner very similar to the other reservoirs. The construction will be under the superintendence of Mr. Duncan, the water engineer.

LOCAL IMPROVEMENTS UNDER THE PUBLIC WORKS ACT.

Manchester.—The General Purposes Committee, at last week's council meeting, recommended the council to empower them to borrow, under the Public Works Act, the sum of 25,000*l*. for a cemetery, and the council have adopted the recommendation. A sum of 30,000*l*. was also agreed to be borrowed for paving, sewering, and other improvements in Ardwick; and 131,283*l*. for additional water-supply and a reservoir at Prestwich. The water-works committee have already expended 1,350,000*l*. upon the water-works, which yield a revenue of 80,000*l*. a year.

Bury.—The provisions of the Act have been explained by Messrs. Rawlinson & Farnall to the Bury Improvement Commissioners, with whom a discussion took place, during which it was stated that 73,000*l*. might be usefully employed for the improvement of the town. Mr. Farrar, the town-surveyor, produced an estimate, showing that about 10,000*l*. would be required for sewering purposes. Ultimately it was decided to adopt the Public Works Act, and a committee was appointed to carry this determination into effect.

Macclesfield.—The local Board of Health have agreed to make application, under the provisions of the Act, for a loan of 42,000*l*. for the completion of the main sewering of the town, the paving and sewering of streets, the construction of the cemetery, an addition to the Town-hall of a post-office, telegraph office, County Court room, &c.; and other local improvements. The guardians have applied for a considerable sum from the same source for laying out and widening roads, erecting new bridges, &c. The local board of Kerridge intended applying for about 1,600*l*. for the carrying out of public improvements in that township.

Oldham.—The town council have decided on adopting the Local Government Act, by which the borough will undergo a thorough sanitary repair. About 100,000*l*. will be spent in sewerage works, paving, and the construction of a park.

MEMORIALS AND MONUMENTS.

A CARVED tomb, to the memory of the late Roman Catholic Bishop Riddell, has just been erected, from the design of Mr. A. M. Dunn, in St. Mary's Roman Catholic Cathedral, Newcastle. It is in the form of an altar tomb. The front is divided into three compartments, by polished granite columns, and the panels are filled with Scriptural subjects,—the centre representing the manner in which the bishop came by his death, in visiting the sick during the fever which raged in Newcastle in 1847. The top is covered with a coped stone, in which a cross is formed of small mosaic tiles: at one end, projecting from a quatre-foil panel, is an excellent portrait of the bishop; and at the other, the head of St. Bead. The carving, which is chiefly executed in Hartlepool limestone, is the work of Mr. Patterson, of Newcastle.

A plain but massive memorial is about to be erected in Hartley Churchyard, over the graves of the sufferers by the Hartley calamity. The names of the 204 men and boys who lost their lives so terribly, will be inscribed on the memorial, with a suitable inscription recording their fate. The work will be executed by Mr. Elliott, of Hartley, from a design by Mr. A. Dunn, of Newcastle, architect.

Two monuments have been erected to the memory of Lord Byron's daughter, Ada, and his grandson, the Viscount Ockham, of whom we had occasion to speak the other day in the *Builder*. The monument to Lady Lovelace is placed in Newstead Abbey, and that to Lord Ockham in the parish church of Ripley, Surrey. Both are Gothic monuments, of white Carrara marble, and are elaborately carved, and surmounted with the arms of the family, the whole having been executed by Mr. T. Gaffin, of London, sculptor. The following are the inscriptions:—"In the Byron vault below lie the remains of Augusta Ada, only daughter of George Gordon Noel, sixth Lord Byron, the wife

of William, Earl of Lovelace: born 10th December, 1815, died 27th November, 1852—R.I.P." "In memory of Byron Noel, Viscount Ockham and Baron Wentworth, eldest son of William, Earl of Lovelace, born 12th May, 1830, died September 1, 1862."

The committee for carrying out the proposal to erect a bronze statue, at Bradford, to the memory of the late Richard Oastler, known for his exertions on behalf of factory children, met recently to inspect models sent in for competition, and have entrusted the commission to Mr. T. Birnie Philip, of London. The memorial will take the form of a group (the figure of Oastler being the centre one), and will cost 1,000*l.*

It is said, that among the arrangements in the will of the late Mr. J. W. Gilbart, of the London and Westminster Bank, is a provision of 3,000*l.*, to meet the necessary expenses of erecting a statue to himself. The request will be carried out in strict accordance with the testator's wishes, and the statue will be placed in Norwood Cemetery.

We hear that Mr. E. G. Papworth is engaged upon a bust of Lord Palmerston, who has given the sculptor the requisite sittings for producing it.

A renovation of John Locke's Monument at the Church of High Laver, near Ongar, Essex, where he lies buried, has been proposed. The church being now in process of restoration, the rector is appealing for subscriptions to repair the philosopher's tomb.

Twenty-six new statues, intended for the façade of the Cathedral of Milan, are now being exhibited in the court of the archbishop's palace of that city. They are executed in Gandoglia marble, and by Milanese sculptors. One-half of these statues, at least, are described as being masterpieces. St. Astero, by Bernasconi, is considered the best.

RAILWAY MATTERS.

THE Kent Coast Railway has been opened to Margate from Herne Bay, giving a direct communication with London. The line was inspected by Captain Rich, Government inspector. The only fault, it is said, which he found with the works was that one or two iron bridges, crossing small streams, were not sufficiently strong. This defect will be speedily remedied, and it is expected that the line will be shortly ready for merchandise traffic.

In the year ending December 31, 1859, the railways of the United Kingdom acquired 25,743,502*l.*, there being 10,002 miles in operation: in 1860 the receipts rose to 27,766,622*l.*, the number of miles at work being advanced to 10,433: in 1861 the earnings further increased to 28,565,355*l.*, the extent of effective lines being 10,865 miles; and in 1862 there was a further expansion to 29,128,558*l.*, produced by 11,551 miles. The progress effected in the last three years amounts to 3,385,056*l.* The working expenses of British railways do not appear to be proportionately reduced, the ratio to the rough receipts last year having been 49 per cent., as compared with 48 per cent. in 1861. Thus, while the profits of 1861 are returned at 14,691,296*l.*, in 1862 they only increased to 14,820,691*l.*

The number of locomotives possessed by English railway companies at the close of 1862 was 5,140; of passenger carriages, 12,584; of other vehicles attached to passenger trains, 4,891; of waggons or trucks used for the conveyance of minerals, live stock, and general merchandise, 153,589; and of other carriages or waggons, 4,270,—making a total of 180,474. At the same date the number of locomotives at work on Scottish railways was 885; of passenger carriages, 1,854; of other vehicles attached to passenger trains, 623; of waggons or trucks used for the conveyance of minerals, live stock, and general merchandise, 27,952; and of other waggons, 188—making a total of 31,503. The railways of Ireland, again, possessed at the same date 373 locomotives, 927 passenger carriages, 423 other vehicles attached to passenger trains, 5,513 waggons or trucks used for the conveyance of minerals, live stock, and general merchandise, and 309 other waggons; making a total of 7,545. We thus arrive at a total for the United Kingdom of 6,393 locomotives (which, at 2,600*l.* each, would represent a capital of 16,631,800*l.*), 14,565 passenger carriages, and 197,758 vans, trucks, &c.,—making a combined general total of 218,716. The value of this immense plant must be estimated at 40,000,000*l.* It may be added that each mile of railway in England possessed last year 22 vehicles of various kinds (including locomotives), while each mile in Scotland had only 18, and in Ireland barely 5. A comparison of this kind affords a valuable means of forming an estimate as to the relative productibility of English, Scotch, and Irish railways.

The average weight of an English goods train, as calculated by Colonel Kennedy from the Board of Trade returns of 1860, is 60 tons; and an average passenger train in England carries seventy passengers in six carriages; whereas a Bombay and Baroda mixed train is composed of seventy-two carriages and trucks, with a gross load of 720 tons, and an average rate of speed of twenty miles an hour. By these means the receipt per train-mile has been raised to upwards of 9s., or more than double the average per train per mile in England, notwithstanding the mean rate of passenger fares per mile of railway bears the proportion of 1·26d. in England, and only 0·24d. on the Bombay and Baroda. Still, with all this, an average receipt per mile of railway of 361*l.* will not cover all reproduction, and the Bombay and Baroda line is not yet paying its expenses. The mileage receipts of the East Indian, 994*l.* last year, and of the Great Indian Peninsula, 368*l.*, although not equal to the average cost of working in England, which is nearly 1,300*l.* per mile per annum, point to the conclusion that when these two colossal undertakings shall be completed from Calcutta to Delhi and Bombay, and from Bombay to Madras, the traffic receipts will greatly increase; and that, after the payment of all working expenses and reproduction, there will be considerable profits for liquidation of the interest guaranteed by the State, and probably also for division among the shareholders in excess of the 5 per cent. guaranteed. Still, fourteen years have elapsed since the Acts of Parliament incorporating these companies passed, and only about three-fifths of the lines have been brought into operation. Possibly, therefore, other five or ten years may be necessary to render them self-supporting.

COMPETITION.

Monaghan and Cavan.—The joint committee appointed to select the best design for the new asylum for the counties of Cavan and Monaghan have, after a lengthened scrutiny, chosen that submitted by Mr. John M'Curdy, of Dublin. There were nineteen competitors from England, Ireland, and Scotland. The asylum will cost about 30,000*l.*

BUILDING NEWS FROM SCOTLAND.

Paisley.—The new Free Middle Church in School Wynd has been opened. It is described as externally, one of the finest ecclesiastical edifices in Paisley, and unquestionably superior in its interior structure and embellishments to any in the town. From its elevated position and its size, the church attracts the eye of the railway traveller as he enters the station, and is seen from all the outskirts of the town, the west excepted. The character of the architecture is that of Early English Gothic, with Continental modifications. From the faulty construction of the roof of the old church, it was gradually giving way, and necessitated considerable fundamental improvements. Advantage was taken of the necessity for reparation to add to the length of the church each way, and increase the number and capacity of the sittings. The form of the building externally, is a parallelogram, with an irregular-sided semi-octagonal apse annexed to the back or north end, roofed in one span, the ridge terminating on the front by a gable, with a stone cross at the apex, and at the back by an iron finial, partly gilded, springing from an apsidal roof. Two centre buttresses on the front gable terminating in octagonal spirelets; four buttresses, with pinnacles at the corners of the building; and five minor buttresses, with pinnacles on either flank, intercepted by a perforated quatrefoil parapet, the parapet being carried round the apse at a higher level, mark the outline characteristics of the edifice. A large five-light window, with pierced tracery in the front gable; a recessed doorway underneath, approached by a flight of steps; and two lancet-headed and traceried windows of the staircases, constitute most of the leading features of the front. The old dank windows have been filled in with mullions and pierced tracery. The apse is lighted by two single-lighted windows at angles, and a treble-lighted one in the centre, with pierced tracery also. The new masonry is banded by red Dumbarton stone. The arrangement internally consists of a front vestibule, with staircases to galleries at either end, with side exit doors. The side and centre galleries are planned in the usual way, but with a square gallery front. The extreme length within the walls is 80 feet, exclusive of the apse; the width 47 feet; and the height to the underside of the ridge 63 feet. The roof is of open timber to the ridge. The couples are of a hammer-beam construction, and spring from stone corbels. The spars of the roof are lined on the underside, giving a free space, which equalizes the temperature in summer and winter. To avoid a sickly monotonous look which large open roofs generally possess if merely stained and varnished, ornamental stencil painting in brilliant colours has been introduced, on the couples and purlins only. The pews are open, stained and varnished, and give accommodation for 1,044 persons, besides about 55 free sittings. The front of the gallery consists of a continuous arcade, broken by clock panels in the centre of the side galleries only. The pillars supporting the gallery have carved capitals, and are bronzed and hatched with gold. The lower part of the apse walls is decorated with an arcade of mosaic work, and gilded imitation grilles. The windows are all glazed with opaque cathedral glass, the borders, tracery, and apse windows excepted, which are of stained glass. The glass in the windows of the apse, and in the tracery of all the other windows, has been obtained by the liberality of four members of the building committee, and is from the establishment of Messrs. Ballantine & Son, of Edinburgh. Three radiated starlights suspended from the roof, and polished brass brackets under the galleries, light the church at night. A vestry and library, with other conveniences, have been erected in the rear of the church; also a large hall, capable of accommodating 250 persons, and lighted from a timber clerestory, supported on trussed beams. The whole woodwork of the hall, library, vestry, &c., is stained and varnished. The cost of the whole works will be about 4,000*l.* The architect is Mr. J. Salmon, of Glasgow. Mr. J. Robertson, builder, Glasgow, executed the mason's work; Mr. M. Blackwood the joiner's work; Mr. C. Wallace, jun., the slater's work; Mr. J. Hutcheson the plasterer's work; Mr. J. Gilmour the plumber's work; Mr. J. Boyd the glazier's work; Messrs. D. Murray & Son the painter's and decorator's work; and Mr. L. Pinkerton the gasfitter's work. Mr. J. Finlay, Glasgow, manufactured and supplied the gas lustres, brackets, standards, &c., and door-handles, all from designs furnished by the architect.

Dunfermline.—Workmen have been employed taking the measurements of the lights of the eastmost window on the north side of the nave of the Abbey preparatory to the erection of a memorial window to Queen Annabella Drummond. The window is immediately above the Gothic tomb of Commendator Pitcairn, which faces the spot on which stood the "rood altar." Lady Willoughby d'Eresby, a descendant of Queen Annabella, has ordered the erection.

Innerleithen.—Two policemen's houses, each of two rooms with attics, are about to be built at Innerleithen, and one of the same size is to be built at West Linton. To each house there is to be a prisoner's cell attached.——Stobo Church, which is several hundred years old, is at present undergoing extensive alterations and repairs. The wall between the church and the chancel has been taken down, and a Gothic arch of fine stone has been erected in its place, to increase the accommodation: a new roof, with arched woodwork inside, has been put up. The interior is to be renewed, the front of the gallery to be placed 3 feet back from its former position. The chancel is to be seated, the seats to be allocated to the lands of Stobo, in consideration of Sir G. Graham Montgomery, who is the principal heritor, bearing the whole expense of the improvements, which amounts to upwards of 700*l.* The architect is Mr. Lessels, of Edinburgh; and the builder Mr. A. Dickson, Peebles.

Oban.—The lunatic asylum for the county at Lochgilphead is now approaching completion. The ground enclosed is fifty acres, situate on an eminence overlooking Lochfyne. The cost of the erection is about 10,000*l.* It has a frontage of 600 feet. A dwelling-house has also been erected for the medical superintendent. The greater part of the works being completed, there are already about seventy inmates in the asylum.——The extension of the pier in Oban Bay is now almost completed, and will prove a great boon to the shipping. About 70 feet have been added to the former pier; and with the extension it is now 213 ft. long and 29 ft. broad. The pier now admits of two steamers lying alongside at the same time. No fewer than 300 cottages are to be erected in the thriving little village of Ballachulish, in connexion with the slate works there. Contracts are in the course of being entered into for the erection of the buildings in the streets.——

Steps are being taken for the erection of a chapel here in connexion with the Episcopal Church.——A new court-house and other buildings are about to be erected in Argyll-square. The plans have been approved by the police commission.

EXHIBITIONS OF PAINTINGS.

The Manchester Royal Institution Exhibition.—The features of this exhibition are much as usual, according to the local *Courier*. The two rooms forming the north wing are well filled, so are the corridor and the vestibule, with contributions which are spoken of, in the aggregate, as unsold works, numbering some 700. In addition to these—the ordinary pictures,—there is in the south wing a collection specially lent by private gentlemen, numbering near upon another hundred works.

The Birmingham Society of Artists' Exhibition.—This exhibition is now open. The local papers speak favourably of it. With only four or five exceptions, all the pictures now on view in New-street have come direct from the painters; and, whether for number or quality, the collection is believed to be fully equal to the exhibition held in any other of the larger provincial towns. The post of honour in the great room is assigned to Mr. Ward's historical picture of "The Ante-Chamber at Whitehall during the dying moments of Charles II."

The Brighton Art Society's Exhibition.—The tenth annual Exhibition of Paintings of the Brighton Art Society has been opened. It occupies the two rooms in the Pavilion devoted to it last year, and fitted up by the town surveyor, Mr. Lockwood, for the purpose. The number of pictures exhibited is 419, of which 224 are in oil, and 175 in water colours. There are also five specimens of statuary. The number of artists who contribute to the exhibition is 156, and of these 30 are country artists.

CHURCH-BUILDING NEWS.

Belton (*Lincolnshire*).—For some months past the church here has been closed, the roofs having been found in a most dangerous condition. New roofs have been placed over the nave and aisles. That over the nave is constructed with moulded tie-beams, principals, carved braces, and embattled cornice, with carved bosses at the intersection of the braces. The aisle roofs are formed with principals and curved braces, the whole springing from moulded stone corbels. All the timbers are visible, and are stained and varnished; being plastered between the rafters. The nave roof is covered with duchess slate, and the aisle with 7lb. lead. The foregoing work rendered necessary repairs to the parapets, windows, &c.; and the clerestory has been re-glazed. Further works are needed. Mr. Whitehead, of Gringley, executed the whole of the works, under Mr. Withers, architect. Mr. Arnaud was clerk of the works.

Long Buckby (*Northants*).—The church here has been re-opened. Previous to the recent alterations, the church much needed the hand of the restorer. At the west end, and at the north and south sides, were large, lumbering galleries, and underneath were high boxes of pews. In addition to this, a Norman arch at the west end was entirely closed up, and another arch in the chancel was partially blocked up. Externally, great barbarisms had been committed, the north and south aisles having been pulled down about ninety years ago, and rebuilt in the style of that day, not the slightest regard being paid to congruity with the character of the original building. The interior of the church has been restored, according to the plans of Mr. Scott. The whole of the galleries and pews have been removed, and open seats, carved, substituted for the pews. The result is that the church will now seat more than it did before. The entire cost of the restoration will be nearly 2,000*l.*; and when the present work in hand is finished, more will remain to be done.

Woolwich.—The new garrison church at Woolwich, ordered to be erected by the late Lord Herbert, when Secretary of State for War, is fast approaching completion, and will be consecrated for Divine service, in October next, by the Bishop of London. The architecture is Byzantine. The building was commenced in February, 1862, under a contract for 14,000*l.*, with 2,000*l.* extras. The organ has been purchased by a general subscription among the officers in the Royal Artillery for the sum of 400*l.* Ten of the stained-glass windows have been fitted in.

Carshalton.—The parish church, which for some time past has been undergoing a state of restoration, has been re-opened. On the 15th of August, 1862, at a parish meeting, it was resolved that the church should be restored, for which purpose subscriptions should be raised, and nearly 1,500*l.* were quickly obtained. It was determined to erect a new portico at the west end of the church; and Mr. Hall, of London, architect, was employed to draw the necessary plans, and Messrs. Dove, Brothers, were the contractors. The new entrance porch is at the west end of the church, and has been thrown back about 10 feet from the original building: on each side there is a staircase leading to the gallery, and in the centre there is a large Gothic window, on one side of which there is a carved head of the Queen, and on the other that of the archbishop, these being intended to represent church and state. The portico is floored with encaustic tiles. The seats are open, and are stained and varnished; the old seats having been remodelled. The communion-table has been removed some distance back, for which purpose the vestry or robing-room has been done away with. The organ, which was formerly in the gallery at the west end, has been removed near the chancel. The work is not yet entirely completed.

Otford (*Kent*).—The parish church is now being restored under the superintendence of Mr. Street, architect. It contains several monuments to the Polhill family, who are descended in the female line from Oliver Cromwell, as is recorded in the inscription upon the monument of David Polhill, on the south side of the church. Upon the north side is the monument of Charles Polhill, which is composed of seven kinds of marble.

Calne (*Wilts*).—The parish church is about to undergo considerable alterations, which will occupy about eight months: they will be principally internal. The present pews are to be removed, and open stalls substituted. The galleries are to be taken down, and all the sittings made free. A stained glass window, given by the late Lord Lansdowne, will be placed at the east end; and many other alterations are to take place, according to a plan by Mr. Slater, of London, architect. The contract is taken by Mr. Penning, of Pewsey, at 2,800*l.*, which sum is already subscribed for. If the whole of the plan be carried out, it is thought a much larger sum will be required.

Worcester.—The work of restoration going on in the interior of the nave of the Cathedral has been so far advanced as to have presented no obstruction to the holding of the Musical Festival in that part of the edifice, and accordingly the orchestra was erected on the customary site, westward of the organ, by Mr. Hemming, builder. The great scaffolding used for scraping the roof and walls was removed, giving an idea of the appearance of the whole interior when the organ and its screen shall have been taken away, and the entire view from east to west left unobstructed. It is not yet decided, according to our authority, the local *Herald*, where the organ shall ultimately be placed, but probably either in one of the transepts or between two piers of the choir. The instrument has been relieved of its temporary casing, and examined and tuned by Mr. Hill, the builder. The paper named, in alluding to the altered character of the Cathedral, as compared with its condition three years ago, says:—"Looking eastward from the west end, the *coup d'œil* is beautiful and solemn. The work of from four to eight centuries is there distinctly marked—diverse yet congruous; all carefully divested of the incrustations which hundreds of years of whitewash and ochre had accumulated; now presenting—here the clean and fresh-looking sandstone, there travertine or Southstone Rock, yonder the dark and shining lines of the Purbeck marble—columns, arches, and vaultings, mouldings and carved capitals, all looking fresh, clean, and sharp, as though it were the creation of but a few years back. The gilded and coloured bosses of the choir have a fine effect, but in the nave the prevailing green colour of the groining immediately surrounding the bosses is not so pleasant to our eye. We know that it is in accordance with ancient examples, but in those days the painting of wall surfaces counteracted the rather *outré* result of such ornamentation of the vaulting." At the west end of the north aisle of the nave an unsightly window has been removed, and the masonry of a new one is on the eve of completion. It is in the Decorated style, and consists of four trefoil-headed lights, with quatrefoils in the tracery. The great north transept new window is likewise of four lights, in the same style, and is one of the chief features of the restoration. The work of refitting the chancel with pavement, stalls, reredos, &c., will commence immediately after the Music Meeting, when Divine service will again be performed in the nave till the final re-opening. The Rev. Richard Cattley, Minor Canon of the Cathedral, proposes to place a first-class clock and peal of bells in the tower, and he asks the public to support him for three principal reasons:—"Firstly, because the clock is really wanted as a standard for all the other time-pieces in the locality; secondly, because the bells will throw their pleasant sounds to a great distance, charming the ear by their special melody with its memory-bringing faculty, and leading up to profitable musing and pleasant thoughts; thirdly, it is intended that the furnishing of the tower of the Cathedral with such appropriate furniture shall take place and be deemed as done in honour of one whom all classes and denominations of people in this county hold in the highest esteem, viz., the Very Reverend the Dean of Worcester."

Ledbury (*Worcestershire*).—The new organ, erected by Mr. Nicholson, of Worcester, in the parish church of Ledbury, has been opened. The organ contains two full manuals and pedal organ. In the great there are open and stop diapasons, dulciana, principal, flute, twelfth, fifteenth, sesquialtra (three rank), and room for trumpet. In the swell there are Bourdon, open and stop diapasons, principal, piccolo, cornopean, and room for viol digamba, flute, mixture (three rank), and oboe. The pedal organ contains open diapason, Bourdon, and room for principal. It has six composition pedals, three to swell and three to great; couplers, great to pedals, swell to pedals, and swell to great, and concave and radiating pedals from C C C to F.

Malvern.—Workmen have been laying the floor of the Priory Church, chancel, and sanctuary with encaustic tiles. The pattern of the tiles has been copied from some ancient ones found in the course of the restorations. The reredos is composed of enamelled tiling, similar in design to some still extant on either side of the communion-table. As regards colours, those of the flooring are green, orange, red, and chocolate, and those of the reredos green, orange, and red. The whole have been furnished by Messrs. Minton & Co., of Stoke-upon-Trent.——The works for the erection of Cowleigh Church are progressing, and it is expected that the building will be ready for consecration in November next. The cost of construction, &c., has been mainly defrayed by voluntary contribution; but a deficiency still exists of about 350*l.*

DISSENTING CHURCH-BUILDING NEWS.

Upton-on-Severn (*Worcestershire*). — The Baptist Chapel in this town is being enlarged and partly re-pewed. When completed it will seat 400. The school-room adjoining is also being enlarged and partly rebuilt. The cost of both will be about 400*l.* The contractor is Mr. E. Taylor, of Worcester.

Naunton (*near Upton-on-Severn*). — A new Baptist Chapel has just been erected and opened in this village, at a cost of 130*l.* It will seat 80. The builder is Mr. E. Taylor, of Worcester.

Llangollen (*North Wales.*)—A new English Wesleyan Chapel has been opened here for divine service. The foundation stone was laid on the 10th April. The chapel is 32 feet by 26 feet inside, and will seat about 150 persons. It is in the Gothic style. The land and the erection of the building cost about 400*l.* As a vestry is wanted, and a wall and iron railings for protection round the property, about 100*l.* may yet be required.

Birmingham.—A new Wesleyan chapel has just been erected and opened in the Shirley-road, Acock's-green. It is in the Gothic style of architecture, with red brick facings and blue brick and stone dressings. The windows are glazed with ground and coloured glass. The inside is fitted up with open stalls and rostrum. The internal dimensions are 45 feet long by 24 feet wide, and 18 feet from floor to ceiling. The chapel will accommodate about 200 persons; and the entire cost, including boundary walls, &c., will be about 500*l.* The architect is Mr. F. D. Johnson, of Bennett's-hill; and the builder, Mr. W. Bennett.

York.—About two years ago, the trustees of the oldest Wesleyan chapel, in New-street, in this city (erected in 1805), determined to remedy the inconvenient arrangement of the interior; and, by the assistance of Mr. E. Taylor, of York, architect, under the direction of a committee, this was done. A large recess was erected behind the pulpit for the organ, which was removed from the gallery, where it had blocked up one of the principal windows: the whole of the pews on the ground floor were re-modelled: a portico was erected in front, and a vestibule made at the entrance: the chapel was warmed with a hot-

water apparatus. During the last month, under the direction of the present stewards, the painting and decoration of the interior has been completed by Mr. Worthington, of this city. On the main ceiling (which is rather low), there is a large centre flower ventilator, with six smaller ones: these have been made use of as the basis of the decoration. Around the centre ventilator are eight panels of azure, bearing gold stars within a broad circle of flat decoration. The stars and the ornament on the styles are on a diminishing scale from the circumference to the centre, giving the whole (without any attempt at relief painting), somewhat of a dome-like appearance. The six smaller ventilators are connected by grey panels and margins of buff and pink, the whole surrounded by a style of very pale green, and finished with various tinted lines. The flowers of the ventilators are white and gold on a subdued red ground. The principal cornice is white and gold, with rosettes at intervals in gold colour. The walls are of a warm cinnamon tint. The circular heads of the windows are surrounded with a Vitruvian scroll, and connected together by a fret, broken at intervals with rosettes. The pillars supporting the gallery are light bronze and gold. The panels on the gallery front are painted in imitation of perforated oak panelling, and the coving below in forms of enriched fluting. The pilasters at the entrance doors are white and bronze, with gold grounds to the ornamental caps, and connected by a decorated facia on gold and red grounds. On the wall above the back seats is carried an imitation of perforated oak panelling on a common ground. The new semi-dome recess, having more architectural character than the older part of the chapel, has afforded the decorator an opportunity for display. The ceiling is azure, with gold stars, the panelled beams white and gold, each panel having an enriched guilloche on a gilded ground, the wall tint being carried up the sides of the beams in a light scroll. The pilasters are enamel white, with the enriched mouldings gilded. The cornice of the recess and the arch are dead white, picked out with gold—the pedestals of the pilasters supporting the arch maroon, relieved with gold, and the plinth black. The organ pipes are decorated in subdued colours on a gold ground. Over the recess is a horizontal window of yellow glass. The chapel has been re-opened.

STAINED GLASS.

All Saints', Derby.—Shortly after the death of the Prince Consort, a proposal was made to introduce a stained glass window into the parish church of All Saints, Derby, which would serve as a local memorial of his Rodal Highness, and be an appropriate decoration of a sacred edifice whose interior is singularly destitute of anything approaching to ornamentation. The proposal was favourably received, and substantial support having been forthcoming, the work was commenced some months ago by Messrs. Clayton & Bell, whose design was selected by the committee. The memorial, according to the local *Advertiser*, is now inserted in the east window. The subject is "The Crucifixion of our Lord," which fills the centre compartment, with "The Baptism by John" and "The Worship of the Magi" on either side. Beneath it is the following inscription:—

"To the glory of God, and in memory of Albert, the Prince Consort, who died December 14, 1861, this window was erected by public subscription, August, 1863."

The cost of the memorial was between 500*l.* and 600*l.* This can only be considered as a first step towards the general improvement of the church.

Snettisham Church (*Norfolk*).—A memorial window has just been erected in Snettisham Church. The window contains three lights, and represents some principal incidents in the Life of King Solomon. It is the second of a series of subjects as arranged for each window in the church. The memorial was designed and executed by Mr. Frederick Preedy.

SCHOOL-BUILDING NEWS.

Clent (*Worcestershire*).—A dinner to the men employed in building the new school in this village was lately given by the patron, and was partaken of by about twenty workmen in the employ of Messrs. Allsopp & Son, of Stourbridge, the contractors for the work. This school is to be endowed by the Durant family, of Clent Hall, and is being erected from a design by Mr. W. J. Allsopp, jun., of Stourbridge. It is in the Gothic style, built of white bricks and stone, with an open roof, stained and varnished.

Tarporley (*Cheshire*).—A school-room has just been erected by the Baptists at Tarporley, capable of holding 120 to 130 scholars, and was opened August 30th.

Manningham (*Yorkshire*).—The new Independent schools at Greenfield, Manningham, the foundation-stone of which was laid early in January last, have been formally opened. The schools are in the Early English style of architecture, and are erected on ground containing an area of 290 square yards, exclusive of the playgrounds, at the east side of Greenfield Chapel, with the style of architecture of which the building corresponds. On the ground-floor there are a meeting-room for members of the congregation, 35 feet by 20 feet; an infants' school-room, 35 feet by 16 feet; three class-rooms, and separate entrance and staircase for boys and girls. The upper story consists of a school-room, 35 feet by 40 feet, and 27 feet 6 inches in height to the apex of the roof timbers, which are of an ornamental character, exposed to view, and stained and varnished. There are four class-rooms, separated from it by means of low partitions, formed at one end of the room. The room is lighted partly from above, but chiefly by four triplet lancet windows, and is heated,—as are also the rooms below,—by a hot-water apparatus. The schools will accommodate 350 children. The cost incurred, including fittings, &c., is about 1,200*l.* The edifice was built from the designs of Messrs. Andrews & Delauny, architects.

PROVINCIAL NEWS.

Ipswich.—The following tenders for the work necessary to carry out the improvement in the Butter Market have been received by Mr. Barnes, the architect for the alterations:—

Gibbons	£2,640	0	0
Luff	2,554	0	0
Pells	2,445	0	0
Morfey	2,380	0	0
Smith	2,333	0	0

The present contract comprises one house in St. Lawrence-lane, a corner shop, and two shops in the Butter Market. The street will be 33 feet wide at the junction with Brook-street. The whole scheme contemplates the removal of the houses on the north side of the Butter Market from St. Lawrence-lane to Brook-street; and, to carry this out, ten new-shops and houses will have to be built.

Northampton.—A new music hall, which has been built from a design by Mr. Thomas, has been opened to the public. The new hall, which stands upon the site formerly occupied by the old building, is capable of accommodating a large number of persons. At one end there is a stage, with wings and drop scenes, and at the other there is a large gallery, the approach to which is from Horse-shoe-lane. The hall is lighted by a number of gas jets suspended from the ceiling, and there are single gas jets, placed at equal distances on the walls. The cost was 400*l.*

South Shields.—The foundation stone of the new Custom-house buildings, South Shields, has been laid by the mayor, in the presence of a numerous assemblage. The building, which is to be of Italian character, will stand completely isolated on the quay, at the Mill Dam, and command an extensive view of the River Tyne, both up and down. The façade next the river will be composed of eight Corinthian columns, coupled, standing upon a rusticated basement of piers and arches, forming an arcade. The four centre columns will be surmounted by a pediment, in which it is intended to place the royal arms. The borough arms are likewise intended to be placed over the centre arch of the arcade. The flank and back elevations are to be of a somewhat plainer character. The main cornice and principal string courses are continued all round with rusticated basement story in keeping with the arcade and moulded quoins at the angles, the whole surmounted by a parapet. The interior will contain accommodation for the customs and shipping business of the town. The shipping-office is on the ground-floor, and comprises shipping-master's office, 20 feet by 16 feet; waiting-room, 20 feet by 15 feet; general shipping-office, 26 feet by 20 feet. The entrance or vestibule to the shipping-office will be paved with Caithness flags. There is also on the ground floor a large bonding warehouse, with other rooms. The first floor will be set apart for the Custom-house, the entrance to which will be by a vestibule 34 feet in length, and paved with tesselated flags. The Custom-house will comprise private office, 20 feet by 17 feet; general office, 23 feet 6 inches by 20 feet; locker's room, 12 feet by 13 feet 6 inches; waiting-room and small office, 20 feet by 13 feet 6 inches. On this floor also will be the Marine Board-room, 25 feet by 20 feet. The cost of the building, it is said, will not exceed 3,000*l.* Mr. Thomas M. Clemence, the borough surveyor, is the architect, under whose superintendence the building is now being carried out by Messrs. Scott & Suddards, of South Shields, builders.

ACCIDENTS.

THERE has been an unusual number of building accidents of late. We have recently had occasion to notice many; and now several more require to be recorded.

At Sydenham, where, as most of our readers know, there is much new building in progress, the fronts of two houses have fallen before they were completed. It appears that one of the bressummers gave way, and the fronts in falling out carried down part of the scaffolding. Five or six men were severely injured, and three were taken to Guy's Hospital.

At Deptford, the Roman Catholic Church in High-street was struck last week by lightning, and the cross carried away; much brickwork in the interior was damaged, and several windows were broken.

At Manchester, two accidents have happened, one at the Victoria station, and the other at the new Fish Market in Victoria-street. At the station, a considerable portion of the roof has been knocked down by the accidental breaking of one of the iron pillars from carelessness in shunting carriages. Such accidents have often occurred. A year or two ago there was one at the same station. At the new Fish Market, in course of erection in Victoria-street, one of the large piles for sustaining the scaffolding and travelling crane gave way, it is said, through insufficient support, and brought down a great part of the heavy timber structure. One man was crushed to death and several other persons were injured. The workmen were fortunately away for their Saturday's half-holiday. In consequence of the sandy soil, the foundation for the new building had to be excavated to a great depth, and this circumstance, added to negligence, seems to have been the cause of the accident. At the inquest, Mr. J. G. Lynde, the city surveyor, said the traversing crane was put up by Messrs. Ellis & Hinchliffe: each upright was set upon a stone flag, at the proper depth from the surface, and on a stiff gravel. He had since found that the flag, on which the upright that had fallen rested, lay partly on gravel and loose soil. He believed that the heavy rain of Thursday and Friday, caused the loose soil to give; and the flag had then slipped. When the crane scaffolding was first erected, it was only intended to alter the front; but he believed, although the whole building had since been taken down, and the foundations excavated below the level of the bottom of the uprights, that they were perfectly safe. He had been in the excavation on the morning of the accident, and did not see the slightest indication of danger. The jury returned a verdict of "Accidental death," coupling with it the remark, "But we think there has not been sufficient precaution taken since the alteration of the plans."

At Liverpool, the inquest on the two men killed by the fall of the arch of the railway bridge in course of erection on the Garston line has resulted in a verdict of accidental death. The jury, however, added that there had been a want of caution on the part of some of the workmen and officials, especially Mr. Arthur Holme, in directing the centres to be struck before the mortar was sufficiently set, and without consulting the resident engineer; and also that the construction of the backing of the arch was not properly done. The coroner said he fully concurred in the verdict: if it had gone further he should have done so also. The evidence of Mr. Rishton, the building surveyor of the borough, was to the effect that in the state of the weather at the time, it was most undoubtedly imprudent and improper to strike the centres within two days after easing them. The remainder of the arch now standing, presented the appearance of very little slackening, if at all: he added, "I examined the mortar: it was quite green and had not set: the mortar ought to have remained a long time to set in such weather. I examined the arch: it consisted of five rings of half-bricks without bond. There was too much mortar by half. I consider the construction very faulty. From what I saw, the arch was not bonded radiately. Such mortar as was used would take a long time to dry. I consider it highly improper

and dangerous to strike the centres of such an arch as this, the spandrils being loaded and the crown of the arch uncovered, considering the state of the mortar and the weather."

At Woodbridge, a well is being constructed in the yard of Mr. Joseph Knight, a manufacturer of Suffolk white bricks. It had been excavated to the depth of about 60 feet; the upper portion, for about 14 feet, being a stiff clay soil, while the remainder was a loose sand. Mr. Charles Dove, of Upford, was the contractor employed; and he and a workman were down in the well, when, to hasten their job, Dove ordered a portion of the brickwork to be removed. This had hardly been effected when the side of the well gave way, and some 30 feet of the sand, with nearly all the brickwork, caved in, completely burying the two men. Means were promptly taken for the recovery of the bodies, but from the tedious nature of the operation they were not removed from the rubbish for a whole day and night.

The Nailsea Glass Works, near Bristol, have been nearly destroyed by fire. Damage was done to the amount of more than 1,000*l.*, which is covered by insurance.

At Carlisle, a new house in Devonshire-street, which was only finished a couple of months since, has gone to wreck. The site had been occupied by a warehouse; and the then existing brick walls were allowed to stand and were built upon for the foundation of the house. A new front, with two large shop windows, was put in and cemented; and, when completed, the building stood three stories high, and extended back to the houses in the Three Crowns-lane. The original side wall on the west was a 15-inch wall, and this was raised several feet, the new brickwork being only 9 inches thick. On this side, the building was unsupported; there being two vacant sites between it and Messrs. Mackie, Davidson, & Gladstone's Bank; but on the other side it was supported by a range of lower buildings extending to the end of the street. From the fact of the house being thus situate, and from its own lofty and narrow construction and the thinness of its walls, says the local *Journal*, it had by no means either an attractive or substantial appearance; but we are assured by the builder, Mr. Bushby, that the walls were sufficiently substantial and durable, and would have remained firm had they not been "molested." A few days prior to the catastrophe, building operations had been commenced on the vacant sites to the west of the house. Two houses were planned, one for the bankers and the other for a joiner; Mr. Walter Wardrop being the contractor. Cellars were to be built; and in order to get foundations for these, considerable excavation had to be made, the earth being removed 4 or 5 feet lower than the foundation of the fallen house.

At the High Church, Paisley, two men have lost their lives, and another, it is feared, has been fatally injured. The church is at present being re-slated; and the men, as is usual, were working upon a scaffold composed of three planks, supported upon needles projecting through the roof immediately above the top of the wall. There were three men and a number of slates upon the scaffold at the west end of the back of the church, when, it is said, another man went upon the same scaffold with a skip, and one of the needles broke, the scaffolding slid down, and three of the men were precipitated head foremost to the ground, from a height of about 32 feet. The fourth man, who was farthest from the place at which the needle gave way, caught hold of the remaining needle, and fortunately escaped without injury.

MASTERS AND MEN IN THE BUILDING TRADE.

A CONFERENCE of workmen is spoken of as in contemplation, for the discussion of certain questions connected with hours of work and rates of pay. Amongst the propositions to be submitted would be:—1. That the mode of working shall be by the hour, at the rate of 7d. per hour, but that ten hours shall be recognised as a working day, and that every hour worked beyond ten should be paid at the rate of time and a half; the hour of leaving off on Saturday to be one o'clock. 2. That nine hours should be considered a working day throughout the week, at the rate of 5s. 6d. per day, with the extra payment for overtime. 3. That ten hours constitute a working day for the first five days of the week, at the rate of 6s. per day, with the extra payment for overtime, leaving off work at twelve o'clock on the Saturday, for which 3s. shall be paid. 4. That overtime be discouraged; but that, where necessary, it shall be paid for time and a half, and that the extra payment be given to men in all branches of the trade. The adoption of either of the above propositions would make the average regular week's wages about 33s. It is also proposed that the resolutions adopted should be submitted to a conference of the employers for their consideration, and that a deputation from the men should attend the conference to explain their objects; the resolutions finally agreed upon to come into operation with the commencement of the ensuing spring season. The men expressly state they desire to take no undue advantage of the present brisk state of the trade, or to interfere with the existing contracts.

Without to any extent thinking that men should not debate upon questions which they may consider affecting their interests, we would urge them to hear and not to attempt to overbear arguments, coming from their own class, or from the well-wishers of their class, deprecating all *cöercion* of their fellow-workmen. The following letter, we may at least say, is well-timed:—

"Last Saturday morning I was somewhat surprised by seeing on the placards of contents of a paper called the *Beehive*, 'A Move in the Building Trade.' Being on a job where there are about fifty hands, and feeling anxious to know what this 'Move' was, I made inquiries, and found that they were as ignorant as myself on the matter. I then laid out twopence for the *Beehive*, and waded through its clippings to no better purpose; but, happening to be in a coffee-house on Monday evening, a friend handed me the *Standard*, pointing out the paragraph containing the prospectus of the above movement. I was still further surprised to find that it was the same movement that entailed so much misery and suffering on us some little time ago. This morning I again made inquiries, and found that the men were perfectly satisfied with the present system of sevenpence per hour and one o'clock on Saturdays; and utterly repudiated and condemned the pretensions of these disturbers and pretended representatives of the trade. They said that it was the clique who received the loaves and fishes in the last affair, that were the instigators of this new movement, thinking that they can again persuade us to become their dupes. But I think, from the temper there displayed, and from what I have seen elsewhere, they will find themselves mistaken. But it will do a great deal of injury to both masters and men, by creating a feeling of distrust and uncertainty; and, to a certain extent, put a check to the prosperous position that the building trade is now in. But, supposing that the movement is sanctioned by a majority of the Union men, I maintain that they do not represent the intelligence or the majority in the trade. This being the case, it behoves us to be up and doing, before we, by our silence, become as it were participators, and are again involved in the misery resulting from our neglect. Knowing your limited space, I will not trespass on it further, hoping you will think this worthy of inserting, as it may be the means of setting on foot a movement which will counteract the pernicious effects of the above movement.

It may be said that I am an anonymous writer; but it is not that I am ashamed or afraid that my name should be known. Did I let it be known, it would at once be said that I had some sinister motive in view, or was a cringing sycophant, when my object is the protection of myself with the great body of workmen that take the same views of this question.

A BUILDING OPERATIVE."*

THE COSTLINESS OF ARBITRATION: THE LIVERPOOL CASE.

MR. THOMAS WYLIE, of Liverpool, whose name was mentioned in Mr. Holme's speech, a report of which was copied in our article of the 22nd ult., is anxious that we should publish, in "justification" of his "professional conduct," a copy of a report which he has lately addressed to the Finance Committee of the Select Vestry of the Parish of Liverpool, on the subject of Mr. Holme's impeachment. We really think Mr. Wylie does not require the use of three or four columns of our journal, to justify himself with those who are most concerned with whatever may have been his small share in the case which we reported, and to some extent commented upon. We give, however, from his letter all that seems important. Mr. Wylie says:—

"Your extract is not the same as the report which appeared in the *Liverpool Daily Courier*, (Mr. Holme's favourite paper),† as in your transcript I am made to say 'that the shop would be let for 275*l.*, in part from having a connexion with it;' whereas the version of the *Daily Courier* is, 'I had no doubt it would let for 275*l.*, perhaps not apart from a connexion,' which was what I did say. The business being as much that of an outfitter as a pawnbroker, will explain why this discrepancy is pointed out, as, in my opinion, it would let for this business, but not for a public-house.

Mr. Holme was not quite correct in stating that two arbitrations had taken place on that day and the day before in St. George's Hall, each having finished during the day,—as these were cases decided before the sheriff's deputy and a special jury.

As one of your constant readers, I attach generally great importance to your remarks when they have direct reference to the interests of the profession; and I agree with the observation that to cheapen arbitration is what architects and surveyors should strenuously endeavour to accomplish.

The employment of counsel, and a great array of witnesses, with attorneys and shorthand writers, soon swells the costs in arbitration to an enormous extent, and if persisted in will very soon render intermediate assize for *Nisi Prius* as necessary as the additional criminal assize; because suitors will rather elect to have trial by jury, with all 'the glorious uncertainty of law,' than adopt the good old plan of leaving their differences to be settled by three honest men, if such extraordinary expenses are to be incurred.—THOMAS WYLIE."

* We have, of course, the name of the writer.—ED.

† The report, sent to us by one whom we can trust, was, we believe, from the *Liverpool Daily Post*.—ED.

Books Received.

Subtle Brains and Lissom Fingers. By ANDREW WYNTER, M.D. London: Hardwicke, 1863.

THE author of "Our Social Bees," and other popular literature, has here been induced by his publisher to collect into a volume, some of those "chisel-marks of our industrial and scientific progress" which he had previously inscribed on the pages of *Once a Week* and the *London Review*, and which many readers will remember to have read under such titles as—"The Buried Roman City in Britain," "Dining-rooms for the Working Classes," "Silvertown," "Railways and City Population," "The English in Paris," "The New Hotel System," "The Restoration of Our Soil," "The Under-Sea Railroad," "Half-hours at the Kensington Museum," "Physical Education," "Air Traction," "Village Hospitals," "The Working-men's Flower-show," "Messages under the Sea," "Town Telegraphs," "Excursion Trains," "Early Warnings," &c. The whole now forms a handsome and interesting volume, well worthy even of a reperusal by those who have already read the several papers desultorily in the weekly mediums where they made their first appearance.

We cannot allow a popular volume like this to pass under our notice, however, with a mere reminder of its contents, and without a special word on those "Early Warnings" with which the volume closes. The "early warnings" relate to those incipient symptoms of insanity which too reckless a use of "subtle brains," in this fast era of the world, but too often excites. Many of the warnings here alluded to ought to be well heeded,—though not, we should say, watched; for to be perpetually on the outlook for symptoms of insanity is to prepare the way for and to precipitate the very evil which is dreaded. There are warnings, however, which cannot be despised or neglected with impunity; and of these some account is given in the paper under more especial notice. At the same time we cannot point attention to such sources of uneasiness without protesting against the alarmist and quackish use which has heretofore been made of many alleged tokens of coming insanity. Attention to such tokens may be very beneficial to mad-doctors; but we very much doubt the benefit to the alleged "patients." Even in Dr. Wynter's excellent paper on this his own especial subject, there are indications of undue importance being given to the merest trifles, to heed which in all cases—and hence in any case,—without other and corroborative evidence, must be most pernicious and most destructive to the peace and comfort of families. For example,—are we to regard such trifling, or even habitual, slips in speech and "laughable blunders" as,—"Everybody feels very languid this *wet* weather—I mean this *hot* weather;" or "Come, who will sit down to supper? Here is cold meat and *pudding*—I mean *pie*,"—as tokens, in all or any case, of an impending "attack of brain disease," merely because a gentleman, previous to such an attack, made such slips of the tongue? The legitimate inference (correct enough, probably, in this particular instance, as it so happened) is, that had the friends of this gentleman at once consulted a mad-doctor, and got his head shaved and blistered, he would have had no "attack of brain disease." But only think to what such inferences, acted on as a rule, in just such cases, must lead in private life, were people really so insane, or such fools at least, as mad-doctors would seem to wish to make them! The writer of these remarks knows a sensible lady who for five-and-twenty years has been in the daily habit of committing just such blunders, only far more absurd and laughable ones than these: *e.g.*, the other day, having desired a servant to put on a large fire, with a pot of water to boil, and having forgotten all about it, till the coal was burnt out and the water boiled away, she suddenly exclaimed to her sister, on seeing it, "Would you believe it! all these coals have boiled away!" Now, had the friends of this lady consulted a mad-doctor when first she began to manifest in speech such ridiculous conglomerations of ideas, and got her head shaved and blistered; doubtless having no subsequent "attack of brain disease," the mad-doctor would have

got the credit of saving his "patient" from the dreadful infliction of insanity; but at what a cost of future peace and happiness, both to her and to her friends, and of peril to sanity itself!—at least, till they learned, by further experience, to laugh at their own folly in giving any heed whatever to such a croaking and worthless omen of evil.

VARIORUM.

Three Prize Essays on Physical Education: Athletic Society: Olympic Festival, June, 1863. Longman & Co. There are here three prize essays on this important subject,—one by Mr. Luke Owen Pike, M.A.; one by Lord William Lennox; and one by Mr. Rowland Evans. Although we are not advocates of "Muscular Christianity," seeing that towards the "wrestling" and the "good fight" of true religion "bodily exercise profiteth little," as the apostolic striver with spiritual powers informs us; nevertheless, the influence of bodily exercise in producing not only a healthy body but a vigorous and healthy mind, no one can dispute, notwithstanding that there are too many instances, we believe, of serious evils from overdoing this "physical education," or, at least, this "bodily exercise."——Chambers's Handy Guide to the Kent and Sussex Coast. W. & R. Chambers, London and Edinburgh, 1863. In the plan of this really handy and useful guide there are six routes or districts, with their head-quarters, or centres, in Gravesend, Rochester, Margate, Dover, Hastings, and Brighton; and every part of the coast, for a distance of 200 miles, is described—from Erith, in Kent, to Bognor, in Sussex. This includes, of course, all the chief watering-places and other interesting spots on the south-east coast, from the Thames to the borders of Hampshire. There are also suggestions for railway trips into the interior, and an appendix of information useful to tourists and excursionists. The whole is illustrated with a convenient and good clue map, and numerous wood-engravings. ——The current *Edinburgh* (Longman & Co.) contains an appreciative, though not entirely commendatory, review of Mr. Fergusson's "History of the Modern Styles of Architecture." The objection mainly dwelt on is to his partiality.

Miscellanea.

THE LATE MR. BUTLER.—We regret to have to announce the sudden death, on Monday morning last, of Mr. William Butler, a gentleman well known to many in the architectural world as an excellent perspective draughtsman, while he also possessed a practical knowledge of architecture. He was a pupil of Mr. C. J. Richardson, and was connected with Mr. Sydney Smirke, who employed him while engaged upon the Conservative Club, and other buildings at the west end of the town. For a long term of years also he has drawn on stone, and assisted in the production of the architectural lithographs that have issued from the establishment of Messrs. Day & Son. His loss, at the early age of forty-three, will be deeply felt by his widow and large family, and a wide circle of friends.

INJURY TO THE NEW ALBION OUTFALL AT BRIGHTON.—The works going on at the Junction-parade for the new outfall, have been subjected to a severe ordeal, according to the local *Herald*, from gales of wind and very high tides, and from the heavy floods of storm-water. At the Albion outfall the water rushed forth in a torrent, which made a clear way through the beach, and threatened to sweep away the strong frame of timber-work which has been erected there for the works in progress. The mouth of the northern drain has been damaged more or less, almost as far back as the point of its junction with the St. James's-street sewer—about 50 feet. This mishap did not stop the outflow of the water; but the drain could not carry off all the streams poured into it by the public gratings and from private houses drained into it. The consequence was that, as in former instances, the basements of many houses were inundated; the pavements of their kitchens, cellars, or yards were blown up; and a flood of slush poured into them to the depth, in some instances, of 3 or 4 feet. Immediate steps must be taken for the reconstruction of the northern drain, which is quite unequal to the work it is now called on to do. It is, besides, in a most dilapidated state. The progress of the new outfall has not been stopped, though obstructed by these occurrences. The new work has stood the test well; and 132 feet of piping have been laid down, reaching some distance into the sea.

THE "NORWICH GATES."—The manufacturers of these well-known gates, Messrs. Barnard, Bishop, & Barnards, have received an order for somewhat similar gates, for the Pasha of Egypt. The details, it is said, will be exceedingly rich and elaborate.

ST. PAUL'S CATHEDRAL. — We mentioned in our last, that Dr. Rogers was in treaty with the Dean and Chapter, for contributing a painted window. We understand he has since had allotted to him the upper central window of the apse. The design proposed (our Lord's Ascension) is by Professor Schnorr, of Dresden. The preliminary sketch is said to promise a good result; but some months will elapse ere its completion, as designs for two other windows in the apse, previously engaged, must first be furnished, and some work for the King of Bavaria completed.

WEIGHTS AND MEASURES.—A committee of Section F of the British Association for the Advancement of Science, adopting a suggestion of the President (Sir W. Armstrong) contained in his address, have passed the following resolution with respect to the decimal system of weights and measures:—That a committee be appointed to ask for an interview with Lord Palmerston and Sir George Grey, to impress upon them the importance of the introduction into the United Kingdom of a decimal system of weights and measures with reference to the interests of science; and that the following gentlemen be the committee to represent the Section of Economic Science, with power to add to their number:—The president (Mr. W. Tite, M.P.), Col. Sykes, M.P., Sir John Hay, M.P., the Right Hon. C. B. Adderley, M.P., with Mr. F. Purdy as their secretary.

PROGRESS OF POST-OFFICE SAVINGS BANKS.—It appears from the last year's Report of the Postmaster-General, that the progress of the Post-office Savings Banks, which were begun nearly two years ago, is highly satisfactory. Many new banks were opened, and there are now nearly 3,000 of them in the United Kingdom. On the 1st of last January, the deposits in them, including interest, amounted to nearly 3,000,000*l*. In each division of the United Kingdom the Post-office Banks have obtained a larger proportion of small depositors than the old banks have been able to attract. This circumstance is attributed mainly to the greater facilities which the Post-office Banks afford,—especially to the fact that they are open daily and for several hours—and partly to the fact that the Post-office Banks have been extended freely to small villages and comparatively poor districts, which had hitherto been unprovided with savings-bank accommodation.

UNWHOLESOME FOOD. — Mr. Simon's annual report to the Privy Council, as its medical officer, on matters relating to the public health, has just been issued; and among the subjects with which it deals, is that of the consumption of the flesh of animals slaughtered while in a state of disease. Mr. Gamgee, Principal and Professor of the Edinburgh new Veterinary College, was requested last year to investigate this subject. He reports that disease prevails very extensively in the United Kingdom among cattle, sheep, and swine; that in very many instances the diseased state of an animal leads the owner to have it immediately slaughtered for consumption as human food; and that, in fact, as much as a fifth of the meat of the country comes from animals considerably diseased! As regards meat infested with parasites, our animal food is for the most part, says Mr. Simon, exposed to so high a temperature before it is eaten, that any parasites which had their home in it are killed; but it is probable that they may outlive the processes by which meat is commonly cured, and may thus get swallowed alive by persons who eat uncooked sausage, ham, or bacon; and we know that meat infested with parasites may become a source of human disease. Mr. Gamgee is confident that there are between 40,000 and 50,000 measly pigs in Ireland, most of which come to Great Britain for consumption; and his impression is that for every measly pig in the kingdom, there is at least one human being with tapeworms! At a convict establishment where diseased cattle are eaten in large quantities, and especially cattle afflicted with lung disease, as many as forty and fifty cases a month of boils and carbuncles occur among 1,500 convicts. From a subsequent report by Dr. Letheby, the medical officer of health for the city of London, it appears that within the last six weeks only, 43,523 lbs. of meat (or upwards of 19 tons) had been condemned in the markets and slaughter-houses; and that of this, 1,377 lbs. were from diseased animals, the remainder being putrid.

ELASTICITY OF STEEL.—Can any of your readers inform me how to calculate the increasing thickness towards the centre, of a steel bow, necessary to make it bend in a *true* circle? The principle is shown, to some extent, in the bow used in archery.—M. M. C.

THE STENCH OF PETROLEUM.—An odd way, remarks a contemporary, has been taken of convincing the authorities of Liverpool and the sanitary officer, Dr. Stench [an odd misprint for Trench], that the smell of petroleum, when warehoused in the town, was disagreeable to the inhabitants. Some gentlemen bought two casks of petroleum, and hired a cart to go through the principal streets, the casks having been perforated to let the fluid drip out and scent the town.

GAS.—It is proposed to erect gasworks for Great Bardfield, at a cost of 1,000*l*.; and a limited company is being formed for the purpose. ——The Portland Gasworks are progressing under the superintendence of the engineer, Mr. John H. Little, of Newcastle-upon-Tyne.——The Portsea Island Gas Company have declared a dividend of 8 per cent. per annum, free of income tax, and the balance, carried to the contingent fund, after the lapse of two years only, amounts to about 2,000*l*. On works and extensions 30,000*l*., raised in shares, have been expended under a late Act of Parliament.——A meeting has been held at Machynlleth, at which it has been resolved to erect gasworks for the town. A company, with a capital of about 2,000*l*., in 5*l*. shares, is being established.

PHOTOGRAPHIC PROGRESS. — The latest discovery in portraiture, is as an invention styled by the patentee, the "Casket of Crystal tube Miniature," by which a solid image of the head is, by a new development of the photographic art, seen looking with a strange living reality from out the centre of a small cube of crystal, every feature standing out in as perfect relief as though chiselled by the hands of fairy sculptors. An account of this discovery was given at the Newcastle meeting of the British Association, from which it appears that the cube alluded to consists of two prisms conjoined, and that the portrait is produced from two, and is thus of the nature of a stereograph, displayed permanently in a crystal stereoscope.

THE NEW STREET FROM BLACKFRIARS TO THE MANSION HOUSE.—The inhabitants of the Ward of Cheap are urging the widening of the thoroughfare at the east end of the Poultry, in anticipation of the projected new street from Blackfriars to the Mansion House. The old banking premises of Sir John Lubbock & Co., at the north-east corner of the Poultry, have recently been pulled down, to make way for a more commodious structure; and it is urged upon the Commissioners of Sewers of the City, that the opportunity should not be lost of setting back the new building some 25 or 30 feet, and buying so much of the ground from the banking firm, with the view to the eventual widening of the Poultry at the point of junction with the new street. The commissioners, convinced of the necessity for the suggested improvement, have invited the Metropolitan Board of Works to join them in the cost.

SANITARY CONDITION OF OUR TOWNS.—The Registrar-General, it appears, has considered it his duty to call the attention of the Privy Council to the prevalence, lately noticed by us, of fever at Whitehaven; and in consequence, the Privy Council have asked for particulars, and especially for a "report upon the sanitary state of those portions of the town where the fever prevails." Meantime the dormant "Harbour Trustees," who are the local authorities, are beginning to turn uneasily in their sleep, symptomatic of a forthcoming wakening up. They have just resolved in committee *not* to move for the application of the Local Government Act to the town, but to thrust some sanitary provisions into a new Water Bill for which they propose to apply to Parliament next Session. It is to be hoped they will shortly feel the sharp steel pen of the Privy Council gently thrust into some sensitive part of the "body corporate."——At Keswick, there have been ten new cases of smallpox in one week, most of them spreading directly along the course of a bad drain leading from a shocking nuisance in Cape's-court, where a fatal case of malignant smallpox had previously occurred. All the sewers have now been cleansed with Condy's disinfecting fluid; and the removal of solid filth is nearly completed.——The sanitary state of Rotherham is exciting some uneasiness in the Local Board of Health, as it well may in so dry a season in a town so short of water as Rotherham is in any season.

GOETHE'S HOUSE.—The Emperor of Austria has presented 1,000 florins towards the fund for the restoration of Goethe's House, in Frankfort, so called from having been the residence of the great poet.

TENDERS.

For pulling down old buildings, and erecting range of warehouses and stables, King-street, Compton-street, Clerkenwell, for Messrs. Davenes, Brothers. Mr. T. W. Constantine, architect. Quantities not supplied :—

Newman & Mann	£2,535	0	0
Sands	2,510	0	0
Sawyer	2,482	0	0
Nash	1,948	0	0
Sargeant	1,947	0	0
Lambell	1,527	0	0

For taking down and rebuilding No. 9, Beckford-row, Walworth, for the Rev. J. C. Clark. Mr. R. Parriss, architect. Quantities supplied :—

Stevens	£740	0	0
Perry	670	0	0
Rimma	637	0	0
Shelton	608	10	0
Lathey, Brothers	603	0	0
Daws	599	0	0
Hale	598	0	0
McPherson	595	0	0
Cubitt	595	0	0

For the erection of a cottage at Wantage, for Mr. W. D. Wasborough. Mr. Edwin Dalby, architect:—

Aldworth & Partridge	£289	10	0
Kent & Sons	230	0	0
Nash (accepted)	160	0	0

For works in alteration and additions to house No. 18, Acton-street, Gray's-inn-road :—

Langmead	£485	0	0
Morley	465	0	0
Emery	431	0	0
Gillatt	270	0	0

For the new Strand Hotel. Mr. Francis H. Fowler, architect. Quantities supplied by Mr. James G. Smither and Mr. William Harris :

Thorn, Brothers (accepted)	£83,000	0	0

For the erection of a villa for Mr. Isaac Shawe, Wrexham. Mr. M. Gummew, architect. Quantities not supplied :—

Pritchard	£1,700	0	0

For building a dwelling-house at Parndon Mill, Essex, for Capt. Slack. Mr. Wm. Wilds, architect. Quantities supplied by the architect :—

Green	£706	0	0
Hitch	700	0	0

For pulling down and rebuilding the Water-mill, Lemsford, Herts, for Lady Palmerston. Mr. Wm. Wilds, architect :

Raves	£973	0	0*
Bloom & Chalkley	970	0	0
Lawrence	963	0	0
Wells	957	0	0
Kent	920	0	0
Young	915	0	0

Ironfounder's and Millwright's Work.

Bloom & Chalkley	£313	0	0

* And the old materials.

For the erection of a villa residence at Bickley, Kent, for Mr. G. Hastings. Mr. H. H. Collins, architect. Quantities supplied :—

Myers	£2,039	0	0
Fish	2,030	0	0
Ring & Sons	2,483	0	0
Newman & Mann	2,383	0	0

For repairs at Houndsditch. Mr. H. H. Collins, architect :—

Wright	£150	0	0
Hurren & Sons	140	0	0
Cohen	110	0	0

For repairs, &c., at Westminster Jews' Free School, Greek-street, Soho. Mr. H. H. Collins, architect :—

Elmes	£174	13	0
Haines	167	15	0
Cohen	151	17	0

For the first portion of a new mission-house at Rock Ferry, for the Rev. Charles Jolibet. Mr. E Welby Pugin, architect. Quantities supplied by Mr. Samuel Marples :—

Simpson & Malone	£3,729	0	0
Roberts & Robinson	3,697	0	0
Smith & Son	3,300	0	0
Baynes	3,300	0	0
Farrell	3,297	0	0
Hogarth	3,250	0	0
Watkins	3,050	0	0
Glaister	3,040	0	0

For finishing three pairs of houses, Thornton Heath, near Croydon. Mr. R. J. Woodcock, architect :—

Hall	£2,290	0	0
Ring	2,249	0	0
Martin	1,860	0	0
King, Burton, & Co.	1,750	0	0
Mason	1,666	0	0
Adams & Co.	1,660	0	0
Humphries & Co.	1,373	0	0

For the erection of new warehouse buildings, Bermondsey New-road, S.E., for Mr. William Stockil. Mr. George Elkington, architect. Quantities supplied by Mr. B. A. C. Farring :—

Conder	£5,164	0	0
Little	4,492	0	0
Capps	4,485	0	0
Hack & Son	4,347	0	0
Wood & Munn	4,329	0	0
Wills	4,299	0	0
Coleman	4,220	0	0
Wells (accepted)	4,200	0	0

TO CORRESPONDENTS.

E. F. J.—H. D.—R. M. P.—F. W. (try Department of Art).—Lady J. W.—J. C. & Son.—M. 30.—J. H.—T. R. S.—S. D. W. (will appear shortly).—A. M. D.—Rev. G. S.—T. L. B.—H. H.—W. P.—Dr R.—H. D. M.—I. Y. W.—A. B.—T. O.—T. C. N.—A Constant Reader (sometimes not one year's purchase).—J. M B—C. M.—J. F.—F. P.—F. W. (matter shall be noted).—S. H.—J. H. B.

We are compelled to decline pointing out books and giving addresses.

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THE Cambridge University and Town Waterworks Company are in WANT of a FOREMAN, for their Works. He must have a thorough, practical knowledge of Waterworks matters, such as Engines, Meters, plumbing, &c. All applications (endorsed "Foreman"), stating age, salary required, &c. to be addressed to me, at my Office, 7, King-street, Cambridge, on or before MONDAY, the 14th instant. HENRY TOMLISON, Manager.
Cambridge, September 2nd, 1863

TO MANAGERS OF WATERWORKS.
THE BANBURY WATER COMPANY (limited) are in WANT of a PERSON to undertake the duties of SECRETARY and MANAGER. He will have to keep the accounts, collect the moneys, and conduct the whole of the operations of the Company. The salary will be 75l per annum, with a commission of 5 per cent. on the gross income of the Company. Any information may be obtained by application at the Office of Mr. HEDLEY, Consulting Engineer, 28, Poultry, London, E.C.—Applications are to be forwarded to THOMAS HUNT, Esq. Chairman of the Water Company, Banbury, endorsed, "Manager," by the 19th of SEPTEMBER next.—By order, T. A HEDLEY, C.E. Secretary.
High street, Banbury, September 8th, 1863.

TO PARENTS.—An Architect has a VACANCY in his Office for a PUPIL (as Apprentice). Premium a secondary consideration.—Address, X. Y. Z. care of Housekeeper, 9, Adelaide place, London Bridge.

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WANTED, a good Mapper and Architectural DRAUGHTSMAN. One accustomed to survey and take out quantities preferred.—Address, stating terms, to C. E. Post Office, Nottingham.

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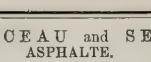
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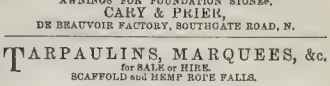
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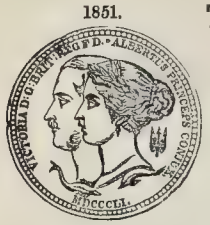
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LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS
WARD'S WHARF, UPPER GROUND-STREET, BLACK FRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Whereat can be obtained, of the best quality:—
GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. A
BENNETT'S PATENT INDURATING and QUICKENING SOL TION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, a DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIO SECOND-S, BLACK BRICKS and BLACK GLAZED HEADERS
WHITE, BLACK, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RE BLUE, and BUFF; also GARDEN EDGINGS
TERRO-METALLIC GROOVED STABLE BRICKS, CHANN BRICKS, and CLINKERS; also DUTCH CLINKERS
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WI CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for W Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE BRICK LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.
WHITE and CEMENT CHIMNEY-POTS, GARDEN VAS TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VAS TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, R LAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

ROMAN, PORTLAND, PARIAN, a KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Co Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

HALKIN HYDRAULIC LIME, ma factured by LLOYD JONES & CO., Halkin Works, Holyw N.W. the same as used in the construction of the Liverpool D &c. and so long celebrated for its strong cementitious and counte powers for subaqueous masonry, can be supplied by rail or wat any part of the kingdom, either in lump (loose), or ground so bags and barrels. The Limestone can be had in full cargoes; L. J. & Co.'s Roman Cement, in barrels, which is of a very supe quality, and warranted pure. Orders to be accompanied by a band reference.—Apply to the Works; or to E. & W. AARON, Agents South John-street, Liverpool.

...EY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
...TOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
..., UPPER GROUND STREET, BLACKFRIARS, S.
...7, NORTH WHARF ROAD, PADDINGTON, W.

...URBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
...4 WHARF, HARROW ROAD, PADDINGTON, W.
...y Article manufactured in their own Works and Mines,
Brierly Hill.
...E-BRICKS, Lumps, Squares, Tiles, and
...rts of all dimensions.
...UCIBLE and CEMENT CLAYS.
...RDEN EDGINGS, of various Patterns.
...F and ORNAMENTAL TILES.
...NKERS and STABLE PAVINGS, noted
...ess and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

...E HYDRAULIC LIME, Manufactured
...m the best HALKIN MOUNTAIN LIMESTONE, same as
...for the construction of the Liverpool and Birkenhead Docks.
...LYWELL LIMESTONE COMPANY are prepared to deliver
..., in lump or ground, packed in bags, into waggons, at the
...l Station of the Chester and Holyhead Railway, or on board
... Greenfield Wharf, Chester River.
...and particulars furnished on application to Mr. EVAN
...NS, Manager, Pary's Mine Works, Holywell, Flintshire.
...pany guarantee the quality of the Lime to be equal to that
...by the Engineer of the Liverpool and Birkenhead Docks.
...ents wanted. No applications attended to without a
banker's reference

...RTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
...h Prize Medal was awarded in 1851, are prepared to supply
...tity of the very best PORTLAND CEMENT, manufactured
...for all purposes to which cement is applicable.—Orders
...at Great Scotland-yard, Whitehall, and at the Works.

...ORGE ALLEN (late W. & T. N.
GLADDISH),
...EMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES
...MNEY-POTS, STONEWARE DRAIN-PIPES, WELSH
AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
... FOOT OF BATTERSEA BRIDGE, CHELSEA.

...ASONED WAINSCOT OAK,
...30,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
...LLUM STREET TIMBER YARD, MANCHESTER.

...ORING, MATCH BOARDS, DEALS,
... as low as advertised. White Battens, 9l. 10s. per 120.
...Yellow ditto, 10l. ditto ditto. ½ Match Boarding, 14s. per
... ditto, 16s. ditto. Venetian Blind Laths, 3s. 6d. per 100 feet
...CHARLES CUTLER, Surrey Sawing and Planing Mills,
...reet, Kennington.

...EPH & ALFRED ROSLING beg to
...m their Customers and the Building Trade generally, that
...nabled to allow a discount of 15 per cent. upon their List
...f Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

...HWOOD.—Best and largest Stock of
...TERSBURG WOOD in London FOR SALE. Delivered to
...ys in London, and alongside of any craft on the River
...For further particulars apply to Messrs. J. & R. KNIGHTS,
...Merchants, Importers, &c. Baltic Wharf, Pimlico, London,
...minutes' walk from the Victoria Station.

...EATER REDUCTIONS.—
...llow Deals, from 3s. 3d.; Spruce, from 2s. 6d.; Pine Plank,
...9d.; Mahogany, 6d.; 9x3 Yellow Battens, 11d. 10s.; 1-inch
...oring, from 14s. 9d.; 1 inch Yellow, from 12s. 3d.; ½ White,
...3d. Carriage free to any part of town.
T. FORMAN,
...1, Walnut-tree-walk, and Walcot place, Lambeth.

...RY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
JOHN COUMBE'S,
...I LADY LAKE'S GROVE, MILE-END-GATE

...AR TIMBER.—THREE fine TREES,
...g containing upwards of 80 feet, and Two Smaller Ones,
...min a mile of the Newport Station, on the Great Eastern
...BE SOLD, by private contract.—Apply to Mr. WILLIAM
...adley-end, and Saffron Walden, Essex.

...WICH UNION FIRE INSURANCE
SOCIETY.
NOTICE.—MICHAELMAS RENEWALS.
...ences of the Company exceeds 70,000,0.0l.
...g paid to Government for the year 1862 was 85,062l. and
...t insured on farming stock 10,986,34?.
...of three-fifths of the profits periodically made to parties
...who have thus from time to time received sums amounting
...ogate to 440,000l.; and the Society now holds a LARGE RE-
...sicable to a future Bonus.
...s of premium are in no case higher than those charged by
...ar principal offices making no returns to their insurers.
...spectuses, apply at the Society's Offices, Surrey-street,
...and 6, Crescent, New Bridge-street, Blackfriars, E.C.

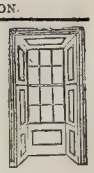
...CCIDENTS
By ROAD, RIVER, or RAILWAY;
...cidents in the Field, the Streets, or at Home,
...be PROVIDED AGAINST by taking a POLICY of the
...LWAY PASSENGERS' ASSURANCE COMPANY,
64, CORNHILL, LONDON.
...ave been already PAID as COMPENSATION for Accidents
of all kinds.
...ty-five Fatal Cases, and 6,880 Cases of Personal Injury.
...and further Particulars may be obtained at the Railway
Stations, of the Local Agents, or of the
...EAD OFFICE, 64, CORNHILL, LONDON, E.C.
WILLIAM J. VIAN, Secretary.
...Passengers' Assurance Company, empowered by
Special Act of Parliament, 1849.

...ASTER ENRICHMENTS.
...CENTRE FLOWERS, SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
...ry description of ornament for internal and external deco-
...ecuted in Plaster, Carton Pierre, Composition, and every
...ment, at reduced prices.
...SSRS. HERBERT, MODELLERS,
...43, EUSTON ROAD, ST. PANCRAS.
...elatine, prepared, and ready for moulding, 2s. per lb.

HUBBUCK'S PATENT WHITE ZINC PAINT.
By the.r process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere
ADULTERATIONS—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing shutters, Doors Staircases, Hand rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.



JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
No. 28, GRAY'S INN ROAD, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by
J. MILLS,
110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET
(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

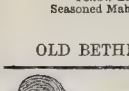
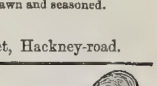
FLOORING, DEALS, MOULDINGS, &c.
2½ YELLOW BATTENS .....10l. 10s. per 120 of 12 feet.
3 by 9 YELLOW DEALS .....16l. 10s. per 120 of 12 feet.
¾ by 7 WHITE FLOORING .....11s. 6d. per Square.
PRICE LISTS AND MOULDING PATTERNS, POST FREE.
J. TERRY & SON, 109, BOROUGH ROAD, S.E.

FLOORING! DEALS! MAHOGANY!
100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d each
5,000 Yellow Battens..... from £10 10s. per 120
2,000 Spruce ditto ..... from £9 per 120
SPRUCE DEALS, 2s. 6d. each.
FIR TIMBER 55s. PER LOAD.
Scaffold Poles ..... 1½d. per foot
YELLOW DEALS, £16 PER 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.					Laths, 28s. per Load.	
Yellow Deals, sound and good	£18	0	0	per 120, or 3d. per foot.		
Spruce Deals	15	0	0	,,	2½	,,
Yellow Battens, excellent quality	10	10	0	,,	1½	,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
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MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
½ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
½ by 7 ,, ...	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,, ...	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,, ...	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.
WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

NOTICE OF REMOVAL.

MESSRS. COLLINS & GREEN

Beg to advise their Friends and the Profession that as the London, Chatham, and Dover Railway have taken their late premises at Albion-place, for the new Blackfriars Station, they have Removed their extensive Stock of

MARBLE CHIMNEY-PIECES, STOVES, RANGES, &c.

TO THE ROTUNDA, No. 3, BLACKFRIARS ROAD.

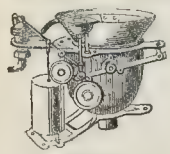
C. & G. have now, as heretofore, the best and most varied assortment of first-class Goods in their trade, of every description and at every range in price.

They respectfully invite a visit from Architects and Builders to their present Show Rooms, which include an area of upwards of 12,000 super. feet, and replete with every Architectural requirement in Marble or Iron.

ROTUNDA GALLERIES, 3, BLACKFRIARS ROAD.
CITY WAREHOUSE, 38, NEW BRIDGE STREET, BLACKFRIARS.
MANUFACTORY, LETT'S WHARF, and OLD SHOT TOWER WHARF, LAMBETH.
Estimates given for every description of Marble or Iron Work.
GENERAL IRONMONGERY, AND BATH-WORK, &c.
Hot Water and Range Work, all requisites being kept in Stock.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.
The only MEDAL for "STONEWARE PIPES" has been awarded to
HENRY DOULTON & CO., LAMBETH.
Extract from Jurors' Report:—
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.









THOMAS LAMBERT & SON,

Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.
PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.
T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.
CLASS 35, NO. 6849.
The only Medal "for Stone Ware" has been awarded to
DOULTON & WATTS, LAMBETH POTTERY,
LONDON.
In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.
FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

JOHN DOULTON, BROTHERS, & CO.
LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO STREET, LIVERPOOL,
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

THE VILLAGE CLOCK.—

A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.
INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No 3,828.



JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
183, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER

by special appointment to Her Majesty the QUEEN and H.R.H. the PRINCE of WALES, and
MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,
Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks

Ladies' Gold Foreign Watches	8 Guineas
Gentlemen's do. do.	10 ,,
Ladies' or Gentlemen's Gold English Lever Watches	18 ,,
Strong Silver Lever Watches	5 ,,
Gentlemen's Gold Compensation Balance Watches	40 ,,
Do. Silver do.	25 ,,
Marine Chronometers	25 ,,

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

T. KENT'S PAINTING-BRUS

MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE is supplied with the same superior quality in and the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-rubber Knife-boards, Coco Nut Matting, Mats, &c. See Catalogue.

KENT'S PAINTING BRUSHE

are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quali for the last eighty-siv years, and may always be depended upon the best that can be made.

PRIZE MEDAL, 1862.

HAMILTON & C

No. 10, GREEK STREET, SOHO SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL
PAINTING BRUSHES.
Distemper Brushes, Sash To ls, Stippling Brushes, Gilders' Graiuers' Tools.
These goods are made of the best materials and workmanship, an have obtained a high reputation among the chief decorators in th kingdom. Varnish and Colour Manufacturers, Oilmen, Merchan &c. are supplied on the lowest terms. Price Lists forwarded application.

PATENT GRAINING APPARATUS.—

TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWA COMPANIES, SHIP BUILDERS, &c.
One of the greatest improvements of the age is KERSHAW PATENT GRAINING APPARATUS, for producing an imitation the various woods. They are very extensively used, and with gre success. They are very cheap, and will repay the cost of them in days' working. They only require a trial, and any person studying interest would not be without them. A prospectus will be sent upo the receipt of a stamped directed envelope addressed to T. KERSHA Patent Graining Tool Manufacturer, 33, High-street, Marylebon London, W.
N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

IMPORTANT to BUILDERS an

PAINTERS. Genuine White Lead, 29s. per cwt.
Linseed Oil, 3s. 9d. per Gallon; Boiled Oil, 4s. per Gallon.
Turpentine, 6s. 6d. per Gallon.
Fine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S W, Every article for the Trade at the lowest prices.

TO PREVENT BLISTERS AND REMOVE OLD PAINT, VARNISH, &c.

USE NAENIARE & CO.'S LETHICIUM. Sold at 5s. per gallo Also, Brushes to apply and remove, 2s. per pair.—For circular, a apply at 11, St. Andrew's-hill, E.C. London. Success guaranteed.
N.B. Country orders must be prepaid. Agents wanted.

TURPENTINE

GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensiv colour.
Sample gallons may be obtained at the Manufacturers', price 4s.
GARROD & COMPANY,
Varnish, White Lead and Colour Manufacturers,
36, Upper Thames street, London, E.C.

THE ANCHOR BRANDED TURPS.—

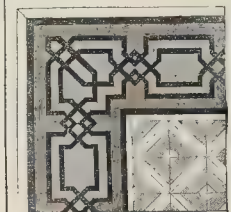
"FACTS ARE STUBBORN THINGS."



Ten Thousand Gallons of this TURPS ha been sold during the first three months of i introduction to the trade.
Manufactured only by CARLESS, BLAGDEN & CO. HOPE CHEMICAL WORKS, Hackne Wick, N.E.
City Office, 2, New London street, near th Blackwall Railway Terminus, E.C. where sam ples and all particulars may be had.
Sold by all Oilmen.
N.B.—Ask for the "Anchor Branded Turps."

TO PAINTERS and BUILDERS.—

White Lead (warranted genuine), 29s. per cwt
Linseed Oil, 3s. 9d per gall n. Turpentine, 6s 6d. per gallon.
Fine Pale Oak Varnish, 9s. per gallon.
For cash FRANCIS TUCK'S Old-Established VARNISH and COLOUR WAREHOUSE, No. 138 EDGWARE ROAD, PADDINGTON, W. next door to the Wheatsheaf, a within five minutes' walk of the Great Western Railway Terminus.
Agent for Hamilton's celebrated Painting and Graining Brushe



SOLI

PARQUET FLOORS.
ARROWSMITH'S PATENT),
From 1s. per foot, various woods, inch thick, grooved ongued, and ker together, not veneered.
For Halls, Staircas Corridors, Reception rooms, Libraries, B liard and Ball Room Picture Galleries, Pa elling, Dados, Ceiling Borders to Carpe Bay Windows, Cha cels of Churches, &c
SHOW ROOMS, 60, New Bond-stre W.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



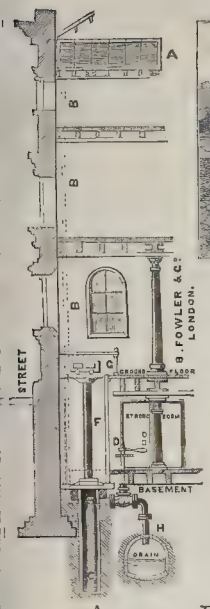
for the admission of Pure A

THROUGH THE EXTERNAL WALL.
These Ventilators are arranged so that the requisite quantity air may be admitted for the due ventilation of an apartment with the slightest draught being felt by the occupants; and as they placed in the external wall, their action is not impeded when house is closed for the evening, at which time a constant supply fresh air is most required.—HAYWARD, BROTHERS, sole Ma facturers, 187 and 189 (late 117 and 118), Union-street, Borou London.

CLINTON & OWENS, LATE
BENJAMIN FOWLER & CO. Whitefriars-street, Fleet-street, London,
MANUFACTURERS OF PUMPS AND HYDRAULIC MACHINERY OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DOMESTIC, AGRICULTURAL, OR MANUFACTURING PURPOSES, OR FOR CONTRACTORS' USE, TO BE WORKED BY HAND, HORSE, WATER, WIND, OR STEAM POWER.

Portable Steam Engines, Powerful Single and Double-Barrel Pumps, Centrifugal Pumps, and Boring Tools for Contractors' Purposes, ON HIRE.



A.



THE LANDSCAPE SKETCH ABOVE SHOWS

THE IMPROVED HYDRAULIC RAM.

This is a simple Self-acting Machine for Raising a considerable Supply of Water for Use in Public or Private Establishments where a fall can be secured from a Stream, Brook, or Springs. Messrs. FOWLER have fixed a great many Hy raulic Rams in various parts of the country, for raising from 600 to 6,000 or more gallons per day of twenty-four hours, varying from 20 to 30o feet, and forcing through main pipes from 50 yards to several miles in length. The fullest particulars and estimates will be handed on application.

No. 37 SHOWS A SET OF

TREBLE-BARREL PUMPS WITH HORSE GEARING,

For Raising Water from DEEP WELLS for the SUPPLY of TANKS in MANSIONS and PUBLIC BUILDINGS. Messrs. CLINTON & OWENS also Manufacture and Erect every other Form of Pump for Deep or Shallow Wells for Hand or other Power.

Fig. A SHOWS

A HYDRAULIC LIFT,

Worked by Pressure from a Cistern. Suited for Banks, Warehouses, and other Buildings. Messrs. C. & O. also Manufacture such Lifts to be worked by Hand Pumps, where pressure cannot be obtained from a Cistern.

CLINTON & OWENS

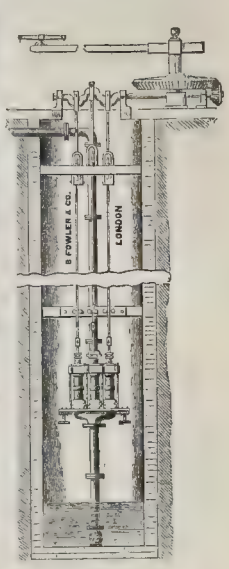
MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

PUMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE, STEAM-ENGINES, WATER-WHEELS, TURBINES, HOISTS, WARMING AND DRYING APPARATUS, BATHS, GAS-WORKS, AND FITTINGS.

ESTIMATES WILL BE HANDED ON APPLICATION.

PRICE LISTS OF PUMPS FREE BY POST.



No. 37.

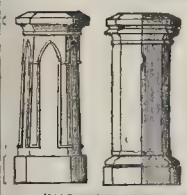
JAMES STIFF & SONS,

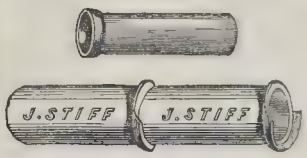
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







PAN, 4s. 6d.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily extended, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

BARTLETT, BROTHERS, & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of SILICATES and ALUMINATES of SODA and POTASH,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.;

PATENT SILICEOUS PAINT, FOR COATING BRICKS, CEMENT, STUCCO, &C.

FIRE-PROOF VARNISH,

For Internal Wood Work, Roofs, and Church Work generally. This Varnish renders Wood Uninflammable, and Preserves it from Decay.

Specimens of the Silicates and Aluminates, and of their applications, may be seen at the CONSTRUCTIONAL DEPARTMENT, SOUTH KENSINGTON MUSEUM.

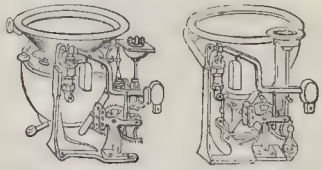
THE FLUO-SILICIC STONE-PRESERVING COMPANY, LIMITED.

39, CHARING CROSS, S.W. & 12, COPTHALL COURT, THROGMORTON STREET, E.C.

PATENT FLUO-SILICIC INDURATIONS for the PRESERVATION of STONE, CEMENT, and other like materials. The Company apply to the surface of Stone, Cement, &c. a solution of Fluo-Silicic Acid, and Silicate of Potash These are the only patents which embrace the use of that most valuable agent, Fluo-Silicic Acid. Bath, Caen, and other soft stones, when treated by the Company's solution, become extremely hard. The great expense of high ornament to buildings in hard stone has been an obstruction to Art; but since the Fluo-Silicic process can be applied so readily to soft stone after it is carved, that obstruction exists no longer. The Fluo-Silicic at once permanently arrests the decay of all stone.—For further information, apply to the Manager of the Company, Mr. DUDLEY, Architect, as above.

GUEST & CHRIMES, FOUNDRY and GENERAL BRASS WORKS, Rotherham; and 37, Southampton-street, Strand, London, W.C.

London House, Mr. THOMAS BEGGS.

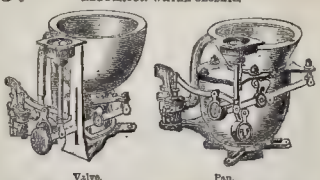


ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient and simple, free from all smell, and requires no cisterns, service boxes, cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipes. It is supplied in three qualities, and equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet, alike dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary direct Service Main Cottage Water Closets.

Chrimes's Patent High pressure Single and Double Loose Valve and Screw Down Cocks; Improved Self-acting and Pull Water Closet; Patent Absolute Water Waste Preventer; Plumbers' and Gas-Fitters' Brass Work of every description. Drawings, Descriptions, Prices, and Testimonials will be forwarded per post on application as above.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No cistern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate-street, London.

PENCILS, BLACK LEAD, and COLOURED CHALKS.

A. W. FABER'S POLYGRADE LEAD PENCILS, sold by all Stationers and Artists' Colourmen.

Sole Agents HEINTZMANN & ROCHUSSEN, 9, Friday-street, E.C.

SALES BY AUCTION.

ST. JAMES'S PLACE.—Excellent Building Materials and Fittings of a large House.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on TUESDAY, SEPTEMBER 15, at TWELVE, the very capital MATERIALS and FITTINGS of the spacious RESIDENCE, No. 34, St. James's-place, St. James's street; comprising about 180,000 sound stock bricks, excellent timber in roofs and floors, floor-boards, twenty square of slates, large skylights, glazed sashes, chimney-pieces, doors, partitions, closet fronts, and interior fittings, five tons of lead, in flats, gutters, cisterns, and pipes; 2,000 feet of copper in flats and covering of roofs, stone staircases, paving, coping and cills, mahogany French casements, hot air apparatus, stoves, and useful fixtures and fittings up. May be viewed one day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

GOVERNMENT STORES, WESTMINSTER.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of her Majesty's Works and Public Buildings, to SELL by AUCTION, at the Store Yard, Great Smith-street, Westminster, on WEDNESDAY, SEPTEMBER 16, at TEN for ELEVEN, a large quantity of OLD STORES: comprising mattresses, feather beds, bolsters, and pillows, scarlet and crimson drugget, walnut desks, presses, framing and book-shelves, Turkey, Brussels, and other carpets, cocoa fibre matting, door mats, floor-cloth, kamptulicon, blinds, chairs, chests, cloth and moreen curtains, old mops, brooms and brushes, tinware, old brass, fenders, and fire-irons, and other effects.—May be viewed one day previous, and Catalogues had at the Office of her Majesty's Works, &c., 15, Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 40 Parliament-street, Westminster, and 80, Fore-street, City.

CHANCERY LANE.—Building Materials of Three Houses.

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on FRIDAY, SEPTEMBER 18th, at TWELVE, in Lots, all the valuable BUILDING MATERIALS and FIX TURES of Three Houses, Nos. 26, 27, and 28, Chancery-lane (the corner of Cursitor street), comprising sound brickwork, stout rafters, joists, and other useful timber, plain and ridge tiles, sashes, doors, partitions, wainscoting, lining, marble and other chimney pieces and interior fittings, plate glass shop fronts, sound floor boards, lead flats, gutters, cisterns, and pipes, iron columns, stone paving, coping, and cills, stoves, &c.—May be viewed the day previous, catalogues had of JOHN BLYTH, Esq. Architect, 1, Noble-street, Gresham-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

WESTMINSTER. The Materials and Fittings of Thirty Houses

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on MONDAY, SEPTEMBER 21st (instead of Sept. 16), at TWELVE, the MATERIALS and FITTINGS of Thirty Houses, in Vincent square, Stanford-street, Beulah-street, Bessborough-street, and Vauxhall-bridge-road: comprising 200,000 stock bricks, plain and pan tiles, sound timber roofs and floors, floor-boards, doors, sashes, partitioning, stoves, ranges, iron railing, pebble paving, lead gutters and pipes, and other effects. May be viewed one day previous, and catalogues had at the Offices of Messrs. HUNT & STEPHENSON, 4, Parliament-street; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, City, E.C.

PORTPOOL LANE—Stock in Trade, Plant, two Carts, nearly new Van, and Utensils of a Builder and Contractor.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, Portpool-lane, Grey's-inn-lane, on WEDNESDAY, SEPTEMBER 23rd, at TWELVE (to clear the ground), the premises being let, the remaining STOCK, PLANT, and UTENSILS of a Builder and Contractor: comprising timber, in useful scantling, deals, planks and boards, capital dry pine boards, flooring, 400 sandhills, about 60 loads of cords, barrows, mortar boards, trestles, marble chimney pieces, useful stone, tiles, bricks, stone saws, 3 crabs, blocks and falls, iron girders and stanchions, iron pipe and gutter ing, wrought and cast iron, a quantity of ballast, 2 builder's carts, and a nearly new van, stacks of useful wood, and various effects.—May be viewed the day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C and 40, Parliament-street, S.W

COW-CROSS-STREET, SMITHFIELD.—BUILDER'S STOCK AND IMPLEMENTS, TWO CARTS, AND EFFECTS.

PULLEN, HORNE, & EVERSFIELD are instructed by the contractors to SELL by AUCTION, on the PREMISES, 73, Cow-cross-street, on TUESDAY, SEPTEMBER 29th, at TWELVE, the remaining STOCK, IMPLEMENTS, and UTENSILS of a BUILDER: comprising deals, planks, and battens, 300 boards of various thicknesses, useful cut stuff, new doors and prepared work, floor boards, scaffold poles and boards, plate glass sashes, and various new and old fittings and materials, seven workbenches, ladders, harrows, grindstone, a brick cart, and a joiner's cart on springs, a truck, cart harness, assortment of ironmongery, and various trade effects.—May be viewed the day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

TWO DAYS' SALE OF MAHOGANY AND TIMBER.

FOR SALE by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER YARD, Canons' Marsh, Bristol, on WEDNESDAY and THURSDAY, 23rd and 24th of SEPTEMBER, 1863, at ONE o'clock precisely. (Luncheon at Half-past Twelve o'clock.) For account of Importers.

40,000 Spruce Deals, Battens, and Ends
8,000 Quebec Pine Deals (new importation)
2,000 St. Petersburg Red and White Wood Deals
2,000 Wyberg Red Deals (fresh Deals)
5,000 Onega Red Deals and Boards (new importation)
1,000 Archangel Redwood Deals, Battens, and Boards
300 4 by 11-inch Fresh Redwood Memel Deals
2,500 Fresh Christiana Battens
800 Loads Quebec Board Yellow Pine (fresh timber)
100 Loads Quebec Red Pine (fresh timber)
600 Loads Quebec Pine
50 Loads Quebec Oak (fresh timber)
50 Loads Quebec Ash (fresh timber
150 Loads Fresh Meme. Timber
300 Loads Dantzic Redwood Timber
30 Loads Swedish Timber
1,000 Norway 4 to 8-inch Spars
100 Dittos 9-inch Ditto
20 Fathoms Hemlock and Dantzic Fresh Lathwood Flooring.

With other Goods.

SECOND DAY'S SALE, SEPT. 24th, 1863.

93 Logs Mahogany, Cargo per "Nicolaus," from Tonala direct
100 Logs Fresh Birch
35 Wainscot Oak Logs

With other Goods.

Catalogues will be issued in the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, September 8th, 1863.

The Longcroft Larch Plantations, near Tring, Herts.

MR. W. BROWN has received directions to SELL by AUCTION, at the MART, London, on WEDNESDAY, OCTOBER 7, 1863, at TWELVE o'clock, in Three Lots, by direction of the Devisees of the late owner, a truly valuable FREEHOLD and COPYHOLD ESTATE, abutting upon the public road dividing the counties of Hertford and Buckingham, little more than two miles from the town of Tring, and within four miles of the London and North-Western Railway and Grand Junction Canal. It comprises a brick and tiled cottage, with garden; an orchard planted with choice fruit-trees, two highly productive inclosures of grass land (with cowhouse thereon), rated by ornamental timber and plantations, presenting an eligible site for the erection of a good residence; also, near thereto, two other plantations of about 23 acres, filled with fine larch of clear growth and good dimensions, considerable attention having been paid for many years to a judicious thinning and management thereof. The situation being convenient both for railway and water carriage, presents an excellent opportunity for profitable investment, by an annual sale for telegraph, railway, and other purposes.—Particulars, with plans attached, will be published in due time, and may be obtained at the Principal Inns in the vicinity; also at the "Estate Gazette" Office, Fleet-street; the Mart, London; of Mr SHUGAR, Solicitor; and at the Offices of Mr. W. BROWN, Land Agent, Tring.

TO PIANOFORTE-KEY MAKERS AND OTHERS.

MESSRS. C. & H. WHITE will SELL by AUCTION, on the PREMISES, Lett's Wharf, Commercial-road Lambeth, on TUESDAY next, SEPTEMBER 15th, at ONE, about Eleven Loads LIME-TREE BOARDS, adapted for pianoforte-key makers and others.—Catalogues of the Auctioneers, Kennington-cross, S.

CAMDEN TERRACE, CAMDEN TOWN.—TO BUILDERS, CABINET MAKERS, MANGLE MAKERS, AND OTHERS

MESSRS. LEREW & LEREW will SELL by AUCTION, at the YARD, as above, near the Old Eagle, on MONDAY, SEPTEMBER 14, at TWELVE, a quantity of PLANKS, DEALS, and BATTENS; 7,000 feet of wide pine board, 120 squares of flooring, 2,000 feet din square, 1,000 feet of mahogany, 2,500 feet of birch, 6,000 feet of quartering, dry cut stuff, 20 doors, 2 large slate cisterns, old materials, ladders, barrows, &c.—Auction Offices, Cardington street, Hampstead road.

TO PAINTERS, DECORATORS, BUILDERS, AND OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, at the YARD, in Camden-terrace, Camden Town, on TUESDAY, SEPTEMBER 15th, at TWELVE for ONE, in consequence of a sale not being permitted on the premises, the genuine STOCK and IMPLEMENTS-in-TRADE of Mr W. Larken, Charles street, Westminster, who has retired from business: consisting of very old varnishes, oils, and turps, glass in plate, brown, sheet, squares, and quarries; dry colours in great variety, made up paints, pumice stone, lift-pumps, plumbers' tools, paper-hangings, old building materials, and miscellaneous items. Auctioneers' Offices, 2, Cardington-street, near the Euston Station, N.W.

BISHOPSGATE-STREET WITHOUT.—TO BUILDERS, CONTRACTORS, AND OTHERS.

MR. MARSH has received instructions to SELL by AUCTION, on the PREMISES, on THURSDAY next, SEPTEMBER 17th, at TWELVE o'clock punctually, the BUILDING MATERIALS of Twelve Dwelling-Houses, Range of Stabling and Coach Houses, with rooms over, situate Nos. 20 and 21, New-street, the whole of New-street Mews, Nos. 1, 2, and 3, Cock-hill, and Nos. 1 to 5, Catherine Wheel-Alley, Bishopsgate-street Without: comprising about 100,000 sound stock bricks, tiles, slates, timber in roofs, floors, sashes and frames, doors, stable fittings, stone paving, lead, &c.—May be viewed the day prior to the sale, and Catalogues had on the Premises, and of Mr. MARSH'S Offices, 2, Charlotte row, Mansion house.

OXFORD.—VALUABLE BUILDING MATERIALS, comprised in the several Houses in Beaumont-street and Magdalen-street, the intended Site for the erection of the Randolph Hotel.

MR. JOHN FISHER begs to announce that he is instructed by the Randolph Hotel Company to SELL by AUCTION, in the month of OCTOBER next, the above BUILDING MATERIALS; consisting of roofs, floors, doors, sash-fronts, sashes and frames, partitions, staircases, fittings, &c. which will be found peculiarly good from the circumstance that the houses have been built within a few years.—Further particulars will be advertised previous to the sale.

TO IRONFOUNDERS, ENGINEERS, BOILER MAKERS, AND OTHERS.

ELLIOTT & SHAW are instructed to SELL by AUCTION, during this Month, unless previously disposed of privately, the valuable LEASE and PLANT, with possession, of an IRON FOUNDRY, known as the Grove Foundry, 91, Guildford-street, Southwark.—For orders to view, and all particulars, apply to the Auctioneers, 77, Basinghall-street, E.C.

TO SAW-MILL PROPRIETORS AND OTHERS.—Steam Saw-Mill, with Engine and Machinery, and Two Houses adjoining, in the Hackney road, with possession.

MESSRS. FULLER & HORSEY will SELL by AUCTION, on the PREMISES, No. 197, Hackney road, on WEDNESDAY, SEPTEMBER 16, at TWELVE o'clock in one lot, a desirable FREEHOLD SAW MILL, with Engine, Boiler, and Machinery therein, late in the occupation of Mr John High, at a rental of 104l. per annum, but now in hand; also the TWO HOUSES adjoining on either side, Nos. 196 and 198, Hackney road (rental of 60l. a year), and Edward's place, let on lease for the remainder of the term, to respectable tenants, at 44l. per annum; the whole being held for twenty two years, from Christmas 1849, at a low rent of 60l. a year. May be viewed; the sale and particulars had on the premises; of Messrs. SPENCE & HAWS, Solicitors, Hereford; of Messrs. HAWKS & WILLMOTT, Solicitors, 31, High-street, Borough; and of Messrs. FULLER & HORSEY, 13, Billiter street, E.C.

TO TIMBER MERCHANTS, BUILDERS, CABINET MAKERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on MONDAY, 21st SEPTEMBER, at TWELVE o'clock, on the PREMISES, 35, Sun street, Bishopsgate, in consequence of their being immediately required by the North London Railway Company, the remaining STOCK-IN-TRADE of a TIMBER MERCHANT, belonging to the late Firm of Messrs. Sykes, Sons, & Stoe, including 1,000 well seasoned 12 feet pine planks, 2 in pine and square deal boards, Christian, white, yellow, and pine dry deals and battens, 7,000 feet cut pine, white, yellow, and spruce planks, deals and battens from ¼ to 2-inch, 4,000 feet of 4-inch quarring, 4,000 feet dry battens in parcels, from ½ to 2-inch, 200 feet run of oak plank, 500 feet oak sills, 500 feet ash railing, 200 feet Swedish timber quantity of slating laths, about 100 squares of white, yellow, Christiana, and spruce prepared flooring and match lining, 1,000 feet ¼-inch birch, 1,000 feet birch planks, 2 to 6-inch, 30,000 best Honduras mahogany and walnut, 5,000 feet bird's-eye maple and satin wood veneers, 2,000 feet Spanish and Honduras mahogany ditto, pit, framed, and cross-cut saws, pit-screws and rollers, double purchase timber-jack, 2 trucks, and numerous other effects.—May be viewed the Saturday preceding and Morning of Sale, when Catalogues may be had on the Premises; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

IN BANKRUPTCY.—TO FURNISHING IRONMONGERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by the Assignee to SELL by AUCTION, on the PREMISES, No. 1, Albert-terrace, Bishop's-road, Paddington, on THURSDAY, SEPTEMBER 24, at TWELVE o'clock, the STOCK of a FURNISHING IRONMONGER; including a painted toilet sets and tea trays, moderator lamps, plated and metal dish covers and teapots, fenders and fire-irons, copper tea urns and kettles, cabinet brassworks, quantity of locks, wrought and cast hinges, 200 gross wood screws, half ton wrought and cut nails, an assortment of black ironmongery and tinware, a 4 ft. 6 in. patent kitchener, kitchen-ranges, fronting, flue, and register stoves, three patent knife cleaners, portable forge and bellows, smiths' tools, glazed show cases, counter and shop fittings, a few lots of household furniture, and other effects.—To be viewed the day preceding and morning of Sale, when catalogues may be had, on the Premises; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

THE ENTIRE STOCK of a BUILDER.—BAGNIGGE WELLS-ROAD, CLERKENWELL.—To clear the ground for building. Important Sale of New Deals, Wide Mahogany, Flooring, Timber, Die Square, and the surplus Materials removed from various contracts and repairs.

F. HALL & SON have received instructions to SELL by AUCTION, on WEDNESDAY, SEPTEMBER 16th, 1863, at TWELVE o'clock, on the PREMISES, adjoining the North London Schools, near the Union Public-house and Pakenham Arms, and opposite the Rosemary Branch, Queen's-head, Bagnigge Wells road, STOCK, comprising about 50 stacks yards of flooring, 500 yellow deals and battens, new boards and planks, long die square timber, new and very excellent 14-inch mahogany tops, from 3 feet to 5 feet wide, and from 10 feet to 20 feet long, 2,000 feet of birch, elm, and beech planks and boards, mahogany, 50 loads of useful oak, quantity of half inch wainscot, 10,000 feet of quartering, handsome mahogany doors and quantity of glazed mahogany sliding sashes, room and other doors, sashes and frames, partitions, 50 squares of old flooring, match boarding, glazed counting-house, mahogany desks and office partition, grindstone, corn crushing machine, work benches, weighing machine, mahogany and maple veneers, ladders, marble slabs, firewood, and other effects.—May be viewed, and catalogues had of the Auctioneers, Kennington; or 1, Thurlow-terrace, Waudsworth-road.

CHARING CROSS RAILWAY, CITY TERMINUS.—To BUILDERS, CONTRACTORS, PAVIOURS, and OTHERS.

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, on TUESDAY, SEPTEMBER 22nd, 1863, at ONE o'clock punctually, the valuable and useful BUILDING MATERIALS of the Falcon Public House, on the east of a range of warehouses, stabling, coach-houses, and a farrier's shop, on the west side of Cousin-lane, Upper Thames-street, City: comprising 600,000 sound stock bricks, several tons of lead in pipes and gutters, plain and pan tiles on roofs, slates, stout timber and joists, sound flooring boards, sashes and frames, doors and frames, iron guards, quantity of pebble and other pitching, and a variety of useful fixtures and fittings.—May be viewed the day prior and morning of Sale, and Catalogues had at the Contractor's Office, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

WOOLPIT, SUFFOLK.

WHITE and RED FACING BRICKS, and other kiln Goods, at moderate prices.—Samples at T. ALLEN'S, 7, Great Smith street, Westminster; or from Mr. CAWSTON STUTER, at the Works.—See R. G. BURNELL'S Report on Building Materials in "Mackenzie's Record of International Exhibition," p. 77

BRICKS

Cutters, Seconds, Pickings, Paviors, Shippers, Bright Stocks, Stocks, Half-and-Halves, Place, &c. can be obtained on reasonable terms at W. HILLS Brickfields, Ilford and Wanstead Flats, on application to the Foreman at the Brickfields, Ilford.—N.B. The Bricks can be delivered alongside in the Thames, or to any station on the Great Eastern Railway. Contracts for large quantities can be made with Mr. H. personally.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, offers

Red Pantiles, at 27s. 6d. per 1,000.
„ 8-inch Pavings, 65s. per 1,000.
„ Floor Bricks, 40s. per 1,000.
White kiln ditto, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. Quantities may be delivered by Vessel at any of the Thames Wharfs.

HOLLOW BRICK FIRE-PROOF FLOORS.

BUNNETT'S PATENT.

THIS PATENT FOR SALE, OR LICENSES GRANTED
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BRICKS, TILES, SLATES,
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TERRA COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS,
RED AND WHITE FACINGS,
STAFFORDSHIRE AND FIRE GOODS,
MALM CUTTERS, PICKINGS,
AND BUILDING GOODS GENERALLY.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

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Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE ROAD, LAMBETH. The Public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and STEER CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods to any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS.
By Messrs. Aldis & Co. Ballingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS By Messrs. Caleb Hitch & Co. Ware, Herts

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, and Little Wakering, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; by Messrs. J. Batchelor & Son, of Otterham Quay and Lower Rainham; and also by Messrs. J. & C. Parker, of Wickham, near Strood, Kent.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The BALLINGDON DEEP BLACK RUBBING and BUILDING BRICKS, and the CHELFONT and BALLINGDON DARK and BRIGHT RED RUBBERS.

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The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

TO PLUMBERS, GASFITTERS, HOUSE DECORATORS, &c.—TO BE SOLD, an old-established and good JOBBING BUSINESS in the above line, with house and shop in the front road, and workshop behind. Lease of house 81 years.—For particulars address B. L. No. 4, Albert-terrace, Old Kent-road.

DEVON.—An old-established MARBLE and MADREPORE MANUFACTORY to BE SOLD by Private Treaty (price about 1,200l.), or Let for a Term.—For further particulars apply to Messrs. KITSON, Solicitors, Torquay.

TO IRON FOUNDERS, IRON MERCHANTS, ENGINEERS, and OTHERS.—Large IRON-FOUNDRY, in full operation, with Plant, Engine, Shop, Warehouse, Stock, &c. in the neighbourhood of Edinburgh, FOR SALE by PRIVATE CONTRACT. The Works are well known, established about thirty years, have an extensive local trade, and are exceedingly well situate for the London and Continental markets. A more desirable opportunity is rarely to be met with. The most satisfactory reason will be given for the sale, and full particulars will be afforded on application to Mr. HENRY ROGERS, 43, Upper Thames-street, London.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, September 12, 1863.

The Builder,

Architect, Engineer, Operative & Artist.

VOL. XXI.—No. 1076. | SEPTEMBER 19, 1863. | PRICE FOURPENCE. By Post, 5d.

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BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1864, be open to PUBLIC COMPETITION

A Competitive Examination will accordingly be held in this office in the month of JUNE next. Full printed particulars of the conditions on which Candidates will be admitted to the Examination may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 10th July, 1863.

BUILDERS' BENEVOLENT INSTITUTION.—The SIXTEENTH ANNUAL DINNER will be held at the London Tavern, on THURSDAY, OCTOBER 29th next.

Mr. Alderman the Sheriff LAWRENCE President of the Institution, in the chair.

Gentlemen desirous of promoting the interests of this charity by becoming Stewards, will be pleased to forward their names to the Treasurer, GEO. PLUCKNETT, Esq. (Messrs Wm. Cubitt & Co.), 258, Grey's-Inn-road; or to the Secretary, at the Offices, 23, Southampton-street, Bloomsbury, W.C. A. G. HARRIS, Secretary.

ARCHITECTURAL UNION COMPANY (Limited).—The EXHIBITION of BUILDING INVENTIONS, MATERIALS, &c. at the Gallery, 9, Conduit-street, Regent-street, is now OPEN DAILY from ELEVEN till FOUR, FREE.

PHARMACEUTICAL SOCIETY of GREAT BRITAIN.—SCHOOL of PHARMACY.—The Twenty-third Session will commence on THURSDAY, the 1st OCTOBER.

LECTURES.—On Chemistry and Pharmacy, by Professor Redwood. On Botany and Materia Medica, by Professor Bentley.

LABORATORY for Practical Instruction in General and Pharmaceutical Chemistry.—Director and Demonstrator: Dr. Attfield. Assistant Demonstrator: Mr. Yilden.

A Syllabus of Instruction, and particulars of Terms, may be obtained from the Secretary, 17, Bloomsbury square, W.C.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE will shortly be REMOVED to the NEW PREMISES, 72 74, Bishopsgate street Within, a few doors from the present establishment. These will afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

82, Bishopsgate street Within, July, 1863.

TO ENGINEERS and SURVEYORS.—PRIVATE BILLS, New Standing Orders for the ensuing Session, Levelling Books, Drawing Paper, Drawing Paper, and every requisite for the use of Engineers, &c. engaged in the preparation of plans for deposit. Plans, &c. lithographed with the greatest expedition.—WATERLOW & SONS, 49, Parliament-street, and 65, London-wall, London.

HOUSES of LORDS and COMMONS. SESSION, 1864.—The New Standing Orders relative to Private Bills are now ready, and will be delivered post free. Price, 5s.

WATERLOW & SONS, 49, Parliament-street, Westminster.

COMPETITIONS.

SAINT WINEFRED'S WELL, HOLYWELL. To ARCHITECTS and OTHERS.—The Local Board of Holywell having determined upon constructing NEW BATHS and improving and altering the present Baths and Premises of Saint Winefred's Well, Holywell, hereby offer a PREMIUM of THIRTY POUNDS for the TWO BEST PLANS; viz. FIFTEEN POUNDS each, one plan for the improvement and alteration of the existing baths and premises at present in the occupation of the said Local Board, and the other plan for the same premises as above, including the site of the mill and brewery, such plans to be accompanied with sections, elevations, specifications, and estimates. If the architect of either of the successful designs be employed to carry out the work, the premium to merge in the commission. All particulars and information may be obtained upon application to the undersigned. The designs to be sent in on or before the 31st day of OCTOBER next, under motto, with sealed envelopes addressed to

WM. DAVIES, Clerk to the Holywell Local Board.

Holywell, September 14, 1863.

CONTRACTS.

WAR DEPARTMENT CONTRACT. NOTICE to BUILDERS.—TENDERS are required for RENEWING COOKHOUSES, ABLUTION ROOMS, WASHHOUSES, and WORKSHOPS, at Hounslow Barracks, in the County of Middlesex.

Parties desiring to Tender for the EXECUTION of these Works must leave their names at this Office from the 21st to the 23rd SEPTEMBER, inclusive, between the hours of ELEVEN a.m. and THREE p.m. and pay the sum of half-a-guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, London District, 11, James-street, Buckingham-gate, S.W. September 8, 1863.

COCKERMOUTH, KESWICK, and PENRITH RAILWAY COMPANY.—To BUILDERS.—TENDERS are required for the ERECTION of a large Roadside HOTEL at the Keswick Station, according to plans and specifications prepared by Mr. ROSS, Architect, Darlington, which can be seen at the Offices, Feetham, Darlington; or at the Offices of the Cockermouth, Keswick, and Penrith Railway Company, St. John-street, Keswick, from WEDNESDAY, SEPTEMBER 9, to WEDNESDAY, SEPTEMBER 16, 1863.—Sealed Tenders to be delivered to me before TEN a.m. on the last mentioned day. HENRY CAITLE, Secretary.

Secretary's Office, St. John-street, Keswick, August 28, 1863.

TO CONTRACTORS.—In consequence of the Death of the late Contractor, Sealed TENDERS will be received by the Secretary of the Bridge Committee of the Town of Dreghedia, for the date Hereof up to and upon THURSDAY, the 15th day of OCTOBER next

For taking down the present Bridge over the River Boyne, at Drogheda, and Building in place thereof a Stone Bridge of Eighty Feet Span.

According to Plans and Specification prepared by J. NEVILLE, Esq. C.E. to be seen at my Office, Fair-street, Drogheda; or at the Office of the Engineer, Leigh-street, Dublin, between the hours of TEN and FOUR o'clock every day (Sundays excepted) after this date. The Lowest or any Tender not necessarily to be accepted.

Dated at Drogheda, this 29th day of August, 1863

HENRY CLINTON,

Secretary to the Bridge Committees of the Corporation Harbour Commissioners and Grand Jury of Drogheda.

TO BUILDERS, &c.—TENDERS are invited from Builders willing to CONTRACT for the ERECTION of a DETACHED VILLA at Eltham, Kent. Plans and specifications can be seen after MONDAY, the 14th instant, at the Office of Mr. F. CHESTER HAWORTH, Surveyor, Lisbon, to whom TENDERS are to be sent on FOUR o'clock on THURSDAY, the 24th instant. The lowest or any Tender not necessarily accepted.

BRIGHTON.—To BUILDERS.—Persons desirous of TENDERING for the EXECUTION of proposed ADDITIONS and ALTERATIONS at HOOVE LEA, Hove, Brighton are requested to send their addresses to JAMES WOODMAN, Esq. Architect, 17, Prince Albert street, Brighton, forthwith. Neither the lowest nor any Tender necessarily accepted.

September 10, 1863

LINCOLNSHIRE COUNTY LUNATIC ASYLUM. To BUILDERS, CONTRACTORS, &c.—Builders desirous of TENDERING for the WORKS in ENLARGEMENT of the COUNTY ASYLUM, at Bracebridge, near Lincoln, or any works comprising a Portion of the Whole of those Works, for the private, may inspect the plans and specifications at the Asylum, and at the Office of Mr. ROBERT YOUNG, No. 1, High-street, Lincoln, on and after the 21st day of SEPTEMBER, instant. The work to be commenced early in the spring, and completed by the 1st of MAY, 1865. Forms of Tender, Schedules, and Bills of Quantities can be obtained on payment of one guinea, to Messrs. BAYSTONE & HUNT, Surveyors, 11, Park-street, Westminster. Tenders, &c. to be sent to the undersigned Clerk to the Visitors, at Sleaford, on or before the 23rd day of OCTOBER next, sealed and endorsed "Asylum Tender." The Visitors do not pledge themselves to accept the lowest Tender.

M. P. MOORE, Clerk to the Visitors.

Sleaford, 5th September, 1863.

SURREY COUNTY SCHOOL.—Notice is hereby given, that Plans and Specifications for the above-named School, to be built at Cranley, eight miles from Guildford, will be lying at Archbishop ABBOT'S Hospital, at Guildford, from WEDNESDAY, the 23rd instant, until SATURDAY, the 3rd day of OCTOBER next, Sunday excepted, and all persons desirous of CONTRACTING for the Works must send in sealed Tenders, addressed to the Rev. J. H. BAPTE, Cranley Rectory, Guildford, on or before SATURDAY, the 10th day of OCTOBER, 1863. Neither the lowest nor any other Tender will necessarily be accepted. The Contractor shall, if required, enter into the usual legal bond for the due fulfilment of his contract, with two good and approved sureties, at his own expense and cost.

CONTRACTS.

TO CONTRACTORS for WORKS of SEWAGE.—Notice is hereby given, that the Vestry of the Parish of St. George the Martyr, Southwark, is prepared to receive TENDERS for the EXECUTION of WORKS of SEWERAGE within the aforesaid parish. The forms of Tender and particulars may be obtained at the Office of the Vestry Clerk, Vestry Hall, Borough-road, Southwark. The Vestry does not engage to accept the lowest or any Tender. Every Tender must be delivered under cover, and endorsed "Tender for Sewers Work," at the Vestry Clerk's Office as above, before ELEVEN o'clock in the morning of THURSDAY, the 24th day of SEPTEMBER instant.—By order,

DANIEL BIRT, Vestry Clerk.

Vestry Hall, Borough-road, Sept. 12th, 1863.

TO BUILDERS.—The Directors of the South Staffordshire Railway are desirous of CONTRACTING for the ERECTION of COTTAGES, of an inexpensive character, at the four level crossings of the newly opened Tipton and Darlaston branches, viz.:—at—

The road leading to Mr. Howl's Brick Works.
Ditto called Church lane
Ditto leading to Messrs Bagnall's Works, on the Tipton branch, near Prince's-end Station.
and Ditto leading to Willenhall, on the Darlaston branch, near Darlaston Station.

Tenders, accompanied by the Builder's designs and specifications, to be sent on or before 24th SEPTEMBER, 1863, addressed to the undersigned, and endorsed "Tenders for Cottages," with the cottages are to be erected, may be seen at the Office of Mr. W. KNOX, Newstreet Station, Birmingham; and the cottages must be completed within four months, of good materials and workmanship, to the satisfaction of the Company's engineer.—By order,

C. E. STEWART, Secretary.

Offices, Euston Station, London, September 10, 1863.

TO BUILDERS.—TENDERS required for the ERECTION of FOUR HOUSES, at Norwood—Plans, &c. can be seen at the Office of Mr. T. K. GREEN, Architect, 25, College-hill, E.C.—The lowest or any Tender not necessarily accepted.

TO BUILDERS.—The PHILHARMONIC ROOMS, SOUTHAMPTON.—The Directors of the Southampton Philharmonic Rooms Company (Limited) are prepared to receive TENDERS for the ERECTION of the above ROOMS, in the Above Bar-street, Southampton. The drawings, specification, and conditions of contract may be inspected at our Offices, 24, Portland-street, Southampton

The Directors will not necessarily accept the lowest or any Tender, and the party whose Tender may be accepted may be required, if required, to give security for the due performance of the contract

HINVES & BEDBOROUGH, Architects.

PLASTERERS' WORK TO BE LET, at Kilburn. Immediately, of GEO. NAISH, 62, Snowhill. None need apply but with good references.

TO BUILDERS. — Persons desirous of TENDERING for BUILDING a GARDENER'S HOUSE, at Pavenham, near Bedford, the property of Joseph Tucker, Esq. of Pavenham, Bury, may see the plans and specifications by applying to the GARDENER, who will show the Estate of the building. From THURSDAY, the 17th, to THURSDAY, the 24th SEPTEMBER (inclusive).—Tenders to be sent in on or before TWELVE o'clock, on THURSDAY, the 24th SEPTEMBER, to Mr. WILLIAM WATSON, Surveyor, Henlow, Biggleswade. The lowest or any Tender will not necessarily be accepted.

Henlow, September 9, 1863

TO BUILDERS and OTHERS.—Persons desirous of TENDERING for the EXECUTION of the whole or any portion of the WORKS of the proposed MASTER'S HOUSES, in connexion with the Carlton College, are requested to apply at the plans and specifications on application to the Architect, Mr. CHARLES F. HANSOM, from MONDAY, the 21st instant, to SATURDAY, the 26th inst. The quantities in separate trades, or parts, can be had of Mr. J. A. CLARKE, Broad-street. Sealed Tenders to be delivered at the Office of the Architect, Bank House, Carlton, not later than NOON on MONDAY, the 5th of OCTOBER. No pledge is given for the acceptance of the lowest or any other Tender.

Carlton, September 18, 1863.

TO BUILDERS. TENDERS are invited for the ERECTION of the NEW CHURCH of ST. JOHN the EVANGELIST, at Masbrough, Yorkshire.—The plans and specifications may be seen, and quantities may be obtained, either at Masbrough, by application to the Rev. H. MASTER WHITE; or in London, at the Office of the Architect, W. WHITE, Esq. 23a, Wimpole-street. Tenders, on TUESDAY, SEPTEMBER 22, sealed Tenders to be sent in by or before THREE p.m. on MONDAY, OCTOBER 5, to the Rev. H. MASTER WHITE, Masbrough, Rotherham. The Committee does not bind itself to accept the lowest or any Tender

TO BUILDERS. — The Directors of the Ascot Hotel and Stables Company are prepared to receive TENDERS for some ADDITIONS to the Hotel and Stables. Plans and specifications of the Works may be seen at the Hotel, Ascot Heath, near Staines. Tenders to be delivered on or before the 1st day of OCTOBER next, to Messrs. CLARK & HOLLAND, Architects, Newmarket. The Party or Parties whose Tender will not necessarily be accepted

TO BUILDERS and OWNERS of HOUSE PROPERTY.—Mr. THOMAS BULL has numerous Applications for Houses in the Suburbs of London.—Particulars to be sent to the Auction and Estate Agency Offices, 60, Cornhill, E.C.

IMPROVEMENT of CALCUTTA.—Mr. W. CLARKE, Engineer to the Justices of Calcutta, has arrived in London, and any parties wishing to COMMUNICATE with him can do so by addressing to care of Messrs. W. THACKER & CO. East India Agents 87, Newgate street.

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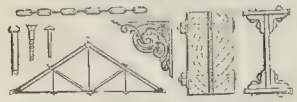
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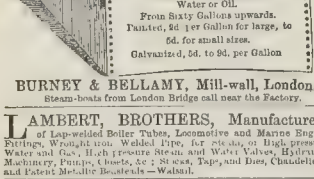
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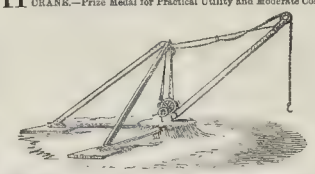
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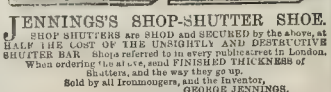
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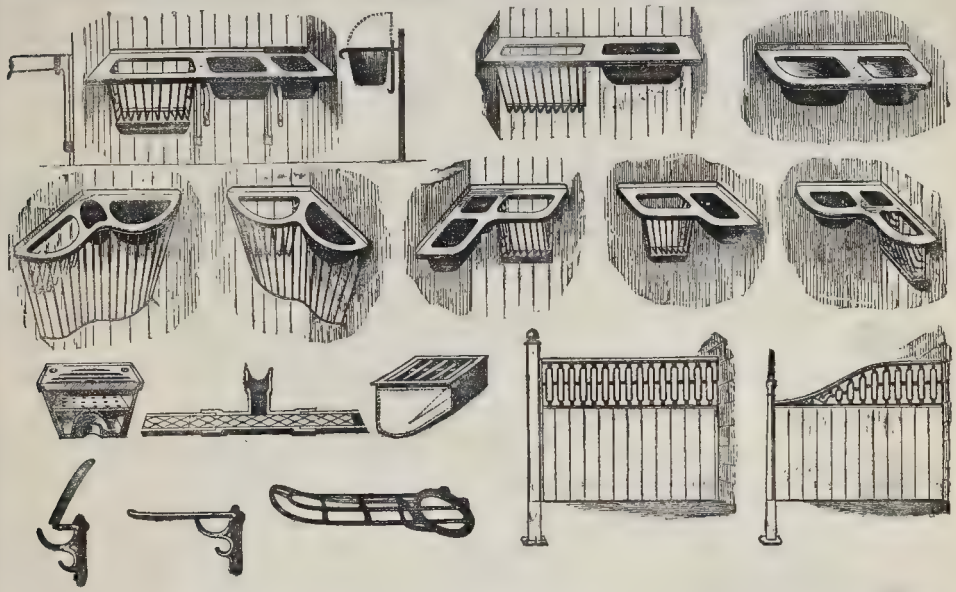
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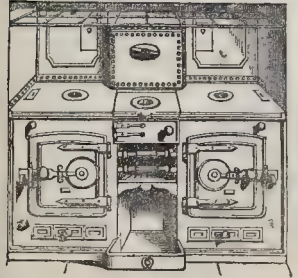
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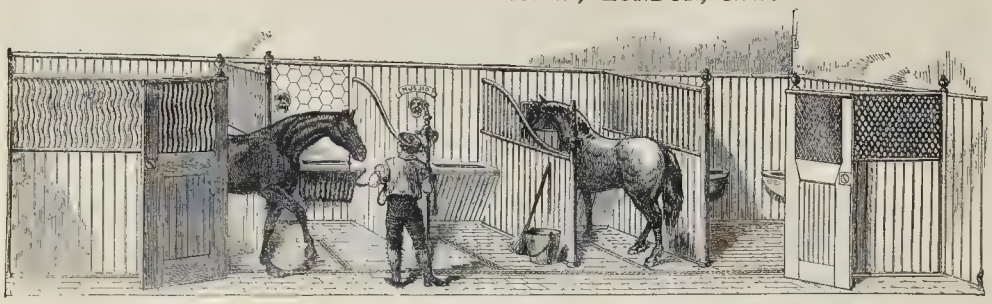
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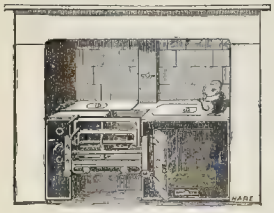
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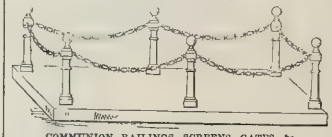


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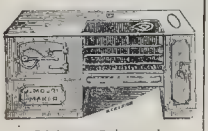
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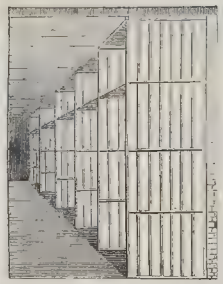
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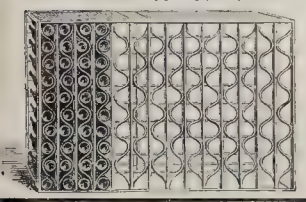
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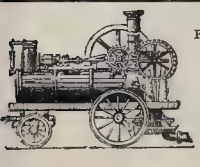
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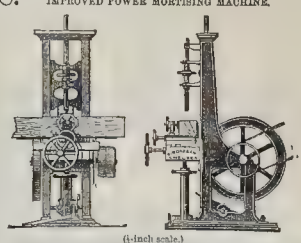
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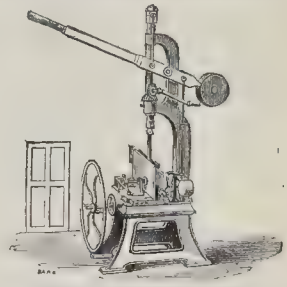
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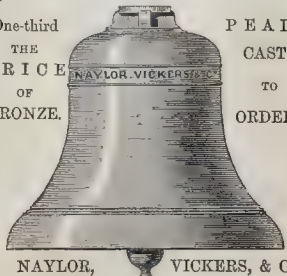
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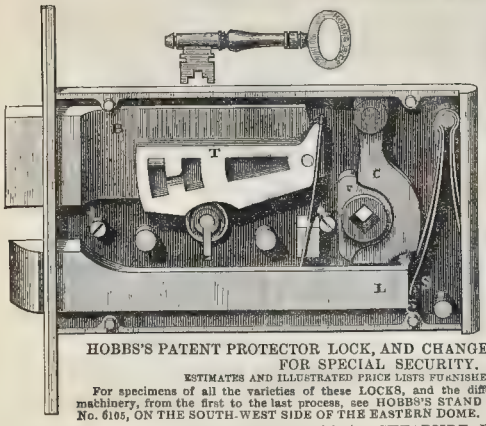
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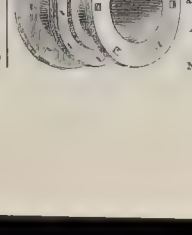


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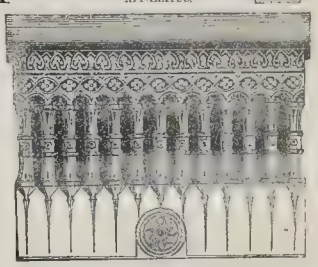
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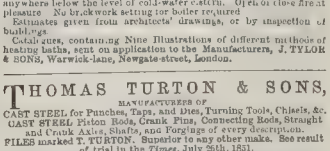
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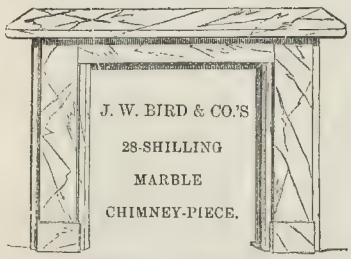
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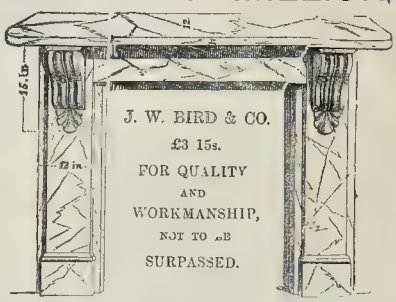
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The Builder.

VOL. XXI.—No. 1076.

Going Along.
Paris: Strasburg.



ALL know nowadays that travelling is a comparatively easy matter, that railways have removed crookednesses, and that very much may be seen in a short time. Still, sitting at home and viewing far-off places through the old traditional medium, many scarcely realize what *can* be done in a few weeks, and with what little trouble. It occurs to us, therefore, that it may not be useless to jot down some notes of a recent rapid (though not hasty) tour, which ran thus,—Paris, Strasburg, Carlsruhe, Munich, Linz, the Danube, Vienna, Salzburg, Innsbruck, the Alps, Botzen, Verona, Venice, Vicenza, Milan, the Italian Lakes, Turin, Geneva, Macon, and so home again by Paris first-named. It occupied six weeks, including three or four days for the new buildings in the last-mentioned city, and the fresh collections in the Louvre,—that wonderful storehouse of things beautiful. An esteemed professor of our art was not far wrong when, being asked a few days ago, by one who was going to Paris for the first time and had but a week to spare, how best to employ it, he said,—"Exhaust the Louvre." "Beware of the man of one book" is an old maxim for the disputatious; the man of one museum, that museum being the Louvre, would be a still stiffer opponent. However, the exhausting process is not our present purpose, as will be seen from what we have already said. It will be readily understood that we do not advise such rapid travelling as that here described to those who can give more time to it, and return on their footsteps again and again. The object we have in view is to show those who have but little time to spare how much they may nevertheless see in it. To our younger readers, led to undertake such a trip or part of it, we would first say, as we have said before, take plenty of maps, guide-books, and sketching materials. Draw, draw, draw; and omit not to keep a diary. Remember, too, as Bacon hath it, that "he that travelleth into a country before he hath some entrance into the language, goeth to school and not to travel." At the same time we must observe, the fact of ignorance of foreign languages should not keep people at home. This would be simply making bad worse. With a smattering of French, or even without it, any one can now get along easily and still with profit.

The road we take is a hackneyed one, well known to many of our readers and thoroughly described in Murray's excellent handbooks. To others, however, it is unknown; and as we shall but touch it here and there, our notes may serve to refresh the memory of the first while they may excite the attention of the second, and certainly will not be long enough to tire either. We may hope to hit a new point or two, and shall bring in some illustrations of recent works. The South-Eastern Railway Company take us to Paris by way of Folkestone, Boulogne, and the *Chemin de Fer du Nord*, past the fine cathedrals of Abbeville and Amiens, and the towns of Clermont, Creil, and Pontoise. Between these three last-mentioned places the traveller for the first time is surprised by the number of churches that appear, the towers of which are gabled, and have a saddle-back roof. Some of these are of the twelfth century, and deserve study. Mr. R. J. Johnson, in his valuable "Specimens of Early French Architecture," has illustrated one close to Creil. Nearing Paris, say at Enghien, the great change which is taking place in the mind of the Frenchman touching a residence becomes observable. Cottages, "villas," and other residences for one family only, have been erected in all directions; and this is everywhere to be seen around Paris.

The new Paris Station of the Northern Railway, by which we arrive, is approaching completion. The front, of stone, is large, handsome, and appropriate, and shows the hand of an accomplished architect—M. Hittorff. His son has superintended the erection. The central archway has an elevation of about 100 feet, and is surmounted by a statue symbolizing the City of Paris. Besides this there are twenty or thirty other life-size figures representing cities, exceedingly well executed. We must do more in this way in England than we have yet done, thanks to the parsimony of employers and the state of public opinion on the subject. Without sculpture, life and character in a building are scarcely obtainable. Have we even yet the men in any number (willing so to work) capable of executing efficiently sculpture for architectural purposes? Paris is fortunate in having a good stone near at hand, an atmosphere not charged with coal-smoke, plenty of artist-workmen, and a right feeling as to the desirability of employing them. We have said lately so much of Paris, so much of the remarkable changes effected in it under the inspiration of the Emperor, that we shall now not stop there very long, but may touch it again in returning, and illustrate a few fresh features. Something, however, we must at once say.

The new collections at the Louvre, under the title of "Musée Napoléon III.," include antique sculptures, vases, majolica ware and other *faïences*, some rare glass, jewelled cups, early metal-work, Limoges enamels of wonderful beauty, and 303 pictures ranging from the time of Cimabue to that of Carlo Dolci, being a selection from the Campana Collection. The Gallery of Apollo, which contains some of the best of the glass and enamels, has been decorated quite recently, indeed is not yet finished, with a series of portraits, down to the knee, of architects and sculptors, very well executed, and very flattering to art. There are here an eleventh century metal shrine with figures, and two of the best pieces of Limoges work, signed "Lionard Limosin, 1553" (and well known), that are to be found. These consist each of a large centrepiece, with smaller pieces surrounding it. The centre of one, the finest, represents the Ascension, inscribed, *Donec totum impleat orbem.* In a lower compartment kneels Francis I., and as Henry II. was then reigning, we find the interlaced H. and two D.s amongst the ornamentation. The centre compartment of the other piece represents the Crucifixion.

Lionard was formerly considered the founder of the school, but it has been made clear that Limoges has been in the constant and uninterrupted possession of the art of enamelling from the eleventh century. He was, however, the head director of the royal manufactory of enamels founded at Limoges by Francis I., who bestowed on him, says Labarte, with the name of Limousin, to distinguish him from Leonardo da Vinci, the title of "*Peintre émailleur, valet de chambre du roi.*" This story is doubtful; but let it pass. The works of Lionard (or Léonard) range from 1532 to 1574. Those of which we have been speaking, two of his finest, were painted by order of Henry II., for the Sainte Chapelle. In the same gallery there is another well-known work in Limoges enamel, an oval dish, signed "Suzanne Court," usually considered one of the family of Courteys or Courtois, whose fine works in the Hôtel Cluny will be remembered by those who interest themselves in such matters. A little examination, however, leads to the belief that the Courts were a separate family of enamellers. There is another of her works in the museum of the Sèvres establishment, signed in a precisely similar manner, "Suzanne Court." There are some very fine specimens of Palissy ware and engraved glass in the Musée Napoléon III., and a bronze winged helmet of Roman times, or more probably Gaulish, which would gladden the heart of Ronge Croix Planché.

Of the quaint and rare "Henry II. ware" there are eight pieces, namely, four salt-cellars, two cups, a small kettle-shaped vessel with crucifix in front, and a cover of a cup not there. None of them equal in size or beauty some of the specimens exhibited last year in the Loan Court of the South Kensington Museum.* Nor must we omit to mention the illuminated "Hours" of the Emperor Charlemagne, A.D. 780; the metal, curule, chair still marked as that of Dagobert, A.D. 628, but which looks to be part earlier and part later, though none of it is more modern than the tenth century; and the grand Ivory Retable de Poissy, which is about 7 feet wide, 7 feet high, and displays seven ranges of carved figures, illustrating the life and passion of the Saviour, with three canopies at top, besides niches and figures at the bottom. If we recollect rightly, but we made no note at the time, it is a work of the fifteenth century.

Touching the pictures, with a diffidence to be commended, though the result is not satisfactory, M. F. Reiset, who has arranged them, and prepared a catalogue under direction of the Count de Nieuwerkerke, has named the painter of but few of them, contenting himself with classing them in schools. Thus, under the head of "School of Giotto" (Giotto died A.D. 1336), he places a remarkable St. Christopher bearing the infant Jesus. The child carries a globe, on which may be read "Asia, Africa, Uropia." A series of scenes from the Life of our Lord on nine panels, enclosed in three frames, is a very noticeable work of the same period. The earnestness and sentiment depicted in the heads give these early pictures a remarkable character. We might point also to the Annunciation, attributed to Agnolo Gaddi, painter and architect, son of the best of Giotto's pupils, and who died at the end of the fourteenth century; and to works by Lorenzo Veneziano (dated 1372), and Stefano Veneziano (dated 1353). In a picture of the School of Sienna,—commencement of the fifteenth century, wherein the Virgin is represented standing, holding the Infant Christ, and having under her mantle a crowd of persons of all conditions,—the heads of the latter display remarkable delicacy and beauty. In the foreground of the picture a number of penitents are administering flagellation to themselves, a portion of the dress of each being removed to show, curiously, the wounded back. A predella of five parts, illustrating the Life of St. Jerome, by Ansano, or Sano di Pietro, who died in Sienna in 1481, justifies the high opinion of a late editor of Vasari, who places Ansano amongst the most celebrated miniaturists. Vasari himself has not spoken of him. His works before us show great purity and elevation of thought. There is a Portrait of a Man dressed in black, and wearing a black cap, signed *I. Francia Aurifex Bononiæ*, and although we agree with M. Reiset that this writing is a forgery, and believe that the picture has been rehandled, it is a striking and charming work. We may not attempt, however, to point to all that interested us, but must get out into the air again. In due time some of the pictures now hung will be turned out and others will be rightly named.

The square and octagon Gothic tower (something like the upper part of the tower of St. Dunstan's-in-the-West), erected at the east end of the Louvre to tie into a whole the new mairie of the arrondissement and the restored ancient church of St. Germain l'Auxerrois, is not successful.

* At the Hôtel Cluny, by the way, there is one piece of this ware, a sugar-dish with cover.

The details and carving are as bad as need be. The mairie, while it is made to match in mass and outline with the old Gothic church, with rose window, parapet, and gable, is of the Renaissance style in its details. A very large church, also in the style of the Renaissance, is being erected, and has made considerable progress, in the Rue St. Lazare. This stands at a point formed by the meeting of two streets, opening into the Rue St. Lazare, and serves to terminate the Rue de la Chaussée d'Antin. The greatest care, wisely, has always been taken in the French capital to place public buildings at the end of vistas; where, while they may be well seen, they aid the general effect. A new building for the Tribunal of Commerce and Prud'hommes is rising on the quay, not far from Notre Dame. It has a dome of peculiar and not pleasing shape. The exterior being at present wholly *en bloc*, it would be unfair to judge of its ultimate appearance. Various statues, of which we hear good things, are to form part of the main façade. The river front of the Tuileries is being completed; and two more new streets are being opened. One improvement struck us as much needed, and that is the removal of the ugly hospital, or Hôtel Dieu, next the river, which shrouds and damages Notre Dame, now restored. And, while suggesting, we would point to the English Protestant Church in the Allée Marbeuf of the Champs Elysées, as a positive disgrace to our faith and country. Would not an effort obtain means, without much difficulty, to erect a better building? The manner in which the services have been performed here lately is not very satisfactory; and we might ask why, with necessarily a fluctuating congregation, a private hymn-book,—of which, moreover, the second edition differs from the first,—is substituted for the psalms and hymns of the Prayer-book in every one's hand? The places used for Protestant worship in other countries besides France are discreditable and damaging, as we may take occasions to show.

The Chapel of St. Ferdinand, a *Chapelle Ardente*, erected on the other side of the Champs Elysées, on the spot where Louis Philippe's eldest son, Ferdinand Philippe, Duke of Orleans, died after a fall from his horse, in 1842, is externally a poor mean thing. Within, it is less unsatisfactory, and that is as much as can be said. The style followed is Byzantine. It contains a recumbent marble statue of the duke, by M. Triqueti, with an angel at the head by the Princess Mary of Orleans; stained glass in the windows, executed at Sèvres, from the designs of Ingres and others; and a large portrait-picture of the Prince's last moments, his family and the ministers standing around. Farther on, towards the Bois de Boulogne (one of the best monuments of the Emperor Louis Napoleon's reign) is the Russian Church, lately completed, of which our readers have heard more than once. This, too, is Byzantine in style, but a work of very different character; though here, also, the exterior, with its domes, Russian crosses, and porch, is less satisfactory than the interior. The porch, which has a trefoil arch on each side, and one in front, all springing from one slight column at each angle, is coming to pieces, and may need what the older architects often introduced at first, a horizontal bar at the springing. "The arch never sleeps." The interior of the church, a Greek cross in plan, is painted and gilt from top to bottom by Messrs. Sarroquin, Vassillieff, & Bronikoff, all Russian artists. The cherubim in the spandrils of main arches, and the red winged figures around the Saviour in the centre cupola, are ugly and disagreeable. The Iconostasis is adorned with painted figures on a gold ground, which, from the distance at which alone visitors are allowed to view them, appear to be good works; and the effect of the whole interior is certainly harmonious and pleasing.

The building for the Permanent Exhibition, at a short distance from Auteuil, about two miles out of Paris on the road to Sèvres, and of which illustrations have been given in the *Builder*, is being fast proceeded with. The columns, girders, and external stone walls for the lower story are up all round, and parts are much more advanced. Thus the principal entrance is up to the extent of perhaps 45 feet, and one end of the building is roofed in. Two travelling scaffolds on a railway, founded on those which were contrived for the construction of our International Exhibition building at South Kensington, are in use. The iron work is strong, almost to the extent of clumsiness; but this appearance will be lessened by the painting and decoration which are to come. The floor of the galleries is formed with concrete on girders. The dome, as our readers know, is to rise to a height of 345 feet, and the building will present a clear space 1,050 feet long, and 130 feet wide, and be 110 feet in height to the crown of the semi-circular roof. Omnibuses running on rails all the day make the building less than half an hour off from the brilliant Place de la Concorde.

One note more, and that a small one, though with practical bearing, and we leave for the present magnificent Paris,—Paris which has now the finest set of streets in the world; and yet presents in parts houses arranged as if for the purpose of injuring health and shortening life; dens overcrowded from roof to foundation, producing fevers which are not to be limited to where they are first fostered. The note applies to the beauty of the writing in the streets, in the large majority of cases, on shop-fronts and other establishments; especially as contrasted with the coarseness and ugliness of that to be seen in London. The *Cinque-cento* writings of Italy appear to have afforded the principal types. Remembering the ugly letters used in the streets of Paris ten or fifteen years ago, the improvement is even more striking. The same excellence in this respect is now to be observed in Austria and Italy.

A run to St. Denis showed us that the Government are wiping out the blots that were made in the cathedral by a previous Government. Money was spent to spoil, and now money is being spent to get rid of the effects of the first expenditure. The sham Royal Mausoleum, as the crypt was termed, is shut up; the modern glass, mostly very bad, is to give place to better; the monuments are being re-arranged, and, under M. Viollet le Duc, the east end, shut off by partitions, is undergoing complete repair and restoration, and has received a new high altar of his design. The effect of the exquisite triforium of the nave, open to the light, is entirely destroyed by the stained glass now in it, which mars its lines and prevents it from being properly seen. The thirteenth century glass at the west end; two carved capitals ascribed to the eighth century, now in a chapel on the north side; a fine sixteenth century carved wood altar-piece, illustrative of the life of Christ; the excellent fourteenth century (?) sculpture in the chapel of St. Philip; and a singularly large and perfect incised memorial slab, should not be overlooked.

A long day on the rail; past Meaux, where the cathedral is suffering restoration; Chalons, Vitry, Bar le Duc, Toul, and Nancy; brings us to *Strasburg*. On the road, more of the towers with saddle-back roofs are seen, and fresh signs of the life which is everywhere evident in France,—new residences, mills, and churches. It was night when we reached Strasburg, and the first thing done was to run to the Cathedral, with the hope of a moonlight effect; nor was the hope unfulfilled. Dark at first, we were soon able to say with Croly:—

> "How like a queen comes forth the lovely moon
> From the slow opening curtains of the clouds;
> Walking in beauty to her midnight throne!"

Spire and open staircases, pinnacle and parapet, are gradually lighted up; quietly spreads the mild radiance; and soon the whole of the glorious structure shines in splendour; the crowning cross lost amongst the stars. Such a sight becomes thenceafter a piece of one's life, and never departs.

THE TUNNEL THROUGH THE ALPS.

This extraordinary and gigantic work was sanctioned by the Sardinian Government, on the 15th April, 1857, for the purpose of effecting direct railway communication between the kingdoms of France and Italy. It is, therefore, an international work of great importance; and from the nature of the project, and difficulties to be overcome, it has attracted a large and increasing amount of interest throughout the length and breadth of Europe. Historians of the classic age gravely tell us that Hannibal forced a passage through the Alps, for himself, army, and elephants, by the simple process of dissolving them with vinegar. It is much to be regretted that modern engineers cannot adopt the process of Hannibal, at once so simple, short, and sublime. He must have had better chemists, or, at least, stronger vinegar than we possess at the present time. Cannot this wonderful vinegar be rediscovered by some of the learned members of the British Association for the Advancement of Science, or by some of the erudite academicians of Paris or Turin, who are so deeply interested in the cutting of this tunnel? Hannibal's famous vinegar, however, like the Greek fire, perpetual motion, the black broth of Sparta, and the philosopher's stone, stands a poor chance of being rediscovered, unless it should be stumbled upon, as usual, among some of the musty records so carefully treasured up in the flowery land of China. "*Mais, mes amis, revenons à nos moutons.*"

At present there is a grand break in the railway system connecting France and Italy, this break being occasioned by no less an obstruction than the snowy Alps. Mont Cenis blocks the way.

To pierce a passage through these Alps is the object of this tunnel now in process of execution. The line from Genoa and Turin at present stops at Susa, and that from Lyons at St. Michel, Mont Cenis intervening its lofty head.

The northern entrance of the tunnel is near the little hamlet of Fourneau, and less than half a mile from the small town of Modane, the latter place being the last scene of Sterne's "Sentimental Journey;" and not a long way farther up the same valley Horace Walpole lost his favourite lapdog, through the agency of a hungry wolf, who rushed from the rocks and gobbled him up, much to the grief of that nervous little gentleman. The southern end is in a deep valley at Bardonnèche, on the Italian side of the Alps.

The entrance to the tunnel on the side of France is 1202·82 metres above the level of the sea, and its termination on the Italian side 1335·38; so that the actual difference of level between the two extremities of the tunnel is 132·56 mètres, or about 435 feet, the Italian end being this much the highest. There are two gradients in the tunnel, which divide it nearly in two equal lengths, the ascending gradient from the side of France rising to 135·63 mètres, from which point it gradually falls to the opposite end on the side of Italy, to the amount of only 3·07 mètres, or about 10·072 English feet, in a length of nearly 3¾ miles; so that for this latter distance it may be considered as being practically level.

The rising gradient ascends to the middle of the tunnel at the rate of 20·22 mètres in 1,000 or 1 in 45 according to the English mode of expressing the value of gradients. The descending one falls at the rate of 0·50 mètre in 1,000 which is equivalent to 1 in 2,000; so that one half of the tunnel has a tolerably stiff gradient and the other quite easy; but for such an Alpine country the 1 in 45 is much better than might have been expected under the circumstances. This is, however, sufficiently heavy, when it is borne in mind that the whole of the railway traffic between France and Italy will have to traverse the tunnel.

It was, of course, necessary to prepare accurate plans and sections, to determine the levels, fix the axis of the tunnel, and set it out on the mountain top; to erect observatories and guiding signals solid, substantial, and true. The mountains had to be surveyed and triangulated, bases measured, and the exact length and levels of the tunnel determined with the greatest care and accuracy, for errors in the angles and reduced calculations would have led to the most disastrous consequences in a tunnel of this enormous length.

The difficulty of tracing the axis and setting out a corresponding line over the summit of an Alpine range, over rocks, ravines, and precipices of continually climbing, ascending, and descending the immense heights, from point to point and from station to station, will be readily appreciated by those accustomed to ramble among lofty mountain ranges.

Great as the labour and difficulty of climbing and scaling these rugged heights may have been, they were as nothing compared to the engineering difficulties created by the inclemencies of the weather. These were the greatest stumbling-blocks of all, from the impossibility of continuous work with levels and theodolites in such a wild and exposed place. The engineers were exposed to all the tempests common to these Alpine regions,—rain, mist, sleet, drifting snow, and their more troublesome and ever constant enemy, the howling wind, ever constant in its wild and fierce inconstancy.

It was impossible to work with delicate instruments when exposed to storms and hurricanes at these lofty elevations; hence it frequently happened for days together that not a single observation or an angle could be taken.

All this involved the daily necessity of climbing and scrambling among pathless rocks, from 800 to 1,000 mètres in height, to embrace any favourable opportunity or lull in the storms which might occur, and snatch an observation, an angle, or run a level, when a lucky chance presented itself. They had to watch opportunity, and be ready for every occasion.

However, after a long, laborious, and patient work, this all-important and interesting triangulation, with all its troublesome details, was brought to a happy issue and triumphant conclusion; the final direction and exact length of the axis of the tunnel accurately determined; all the observations and signals firmly fixed in their true positions;—worthy monuments of high skill and patient perseverance under difficulties and embarrassments of no ordinary kind.

The total length of the tunnel was determined to be 12,220 mètres, or about *seven miles, four furlongs, and one hundred and sixty-four yards*; and notwithstanding all the difficulties of the various operations, and ceaseless hinderances; in spite of Alpine seasons, so accurately was the triangulation executed, that the maximum deviation from exactitude was confined within the limit of 11·417 inches in the whole distance of 7½ miles, or about 1½ inch per mile, which, of course, can have no practical effect in a work of this magnitude: a great and distinguished proof of the energy and ability of the Italian engineers employed in this delicate and critical operation.

The mountain through which the tunnel is to be pierced is exceedingly rough and irregular in outline, and, as might have been expected, very steep and rugged, being, in fact, a true Alp.

The lowest point is at Fourneau, close by the main route over Mont Cenis. From this valley, which is at an elevation of 1,096 mètres above the level of the sea, the mountain ascends rapidly 106 mètres, to the northern entrance to the tunnel, which is in a picturesque gorge in the valley. It then rises rapidly 348 mètres more, to Les Aysards, a cluster of chalets in the slope of the mountain, where is placed the first signal-station. The line then runs along the rugged slopes, and rises a further height of 102 mètres, immediately after which it drops down to the ravine in which rushes the Torrente del gran Vallon. After crossing this impetuous stream, it rapidly ascends a height of 741 mètres, till it reaches the station La Riond with a further ascent of 221 mètres. From this latter point it skirts the shattered slopes of a steep precipice to the Vallonet station with a rise of 306 mètres. The line then crosses the apex of the rocks, and at once rushes precipitously up to the Observatory, on the pinnacle-like summit, with a further rise of 75 mètres, this summit being 9,675 feet above the level of the sea, and 5,714 feet above the tunnel mouth at Fourneau. From this point the mountain descends with great rapidity over exceedingly rugged and broken ground, no less than 1,094 mètres at one swoop to the torrent of the Merovine, which flows down a deep valley. It once more rises 116 mètres, passing a wild and broken country, to the apex of a precipice at the Banda station, from which it again falls with a rapid drop of 457 mètres, to the southern mouth of the tunnel at Bardonnèche, close to the torrent of the Rochemolles.

The heights of some of the Alpine peaks in the immediate neighbourhood of the course of the axis of the tunnel, reach the following elevations, expressed in English feet:—

	Feet.
Mont Rond	8,057
Mont Pelouse	10,384
Punta di Frejus	9,761
Bellcoil	7,886
Chabrière	7,358

So that the summit of the highest Alp, Mont Pelouse, near the line of tunnel, is 10,393 feet above the level of the sea, being thus considerably above the limit of perpetual snow, and nearly twice the height of the great road over Mont Cenis.

The various sectional heights of the axis of the tunnel, as traced along the summit of the mountain, and of the various signal stations, placed along the course of the line, may be briefly tabulated as under; commencing from the north or French side, and passing over the summit to the Italian side, the heights being in mètres taken from the longitudinal section:—

0. Entrance to the tunnel	1202·82
1. Signal station on line	1550·04
2. Ditto	1659·35
3. Ditto	2847·51
4. Ditto	2374·96
5. Ditto	2375·66
6. Ditto	2568·89
7. Ditto	2574·03
8. Ditto	2547·47
9. Ditto	2874·68
10. Ditto	2874·94
11. The summit	2949·16
12. Signal station	2426·66
13. Ditto	1971·98
14. Ditto	1959·86
15. Ditto	1792·55
16. Exit of tunnel, Bardonnèche	1335·58

Besides these signal stations and observatories, there are others on the mountains facing the entrance of the tunnel, three on the French and two on the Italian side, all being well-built structures of great solidity.

The highest summit of the mountain under which the tunnel passes is 9675·71 English feet above the sea level.

The preparatory works were of vast magnitude, including the construction of new and solid roads, of vaulted canals, bridges, magazines, offices, workshops, forges, furnaces, and machinery driven by a turbine of 12-horse power; extensive reservoirs,—some underground, to shelter them from the frost, high up on the mountain side; residences for the men, offices for engineers; being in fact a complete and perfect establishment of great extent and variety of detail, both at Bardonnèche, Modane, and Fourneau.

As the excavation of the tunnel was not to be effected by manual labour,—nor indeed by steam,—other means had to be adopted, and new machinery devised for the purpose. The power of water,—so plentifully supplied by the Alpine snow and rain, was the great motive power determined upon, as being the most economical and manageable for such a mountainous locality: hence new hydraulic and pneumatic machinery had to be invented, tested, varied, and improved. Water was the generating power, but the perforating machinery was to be driven by the action of *compressed air*,—the *modus operandi* of which had to be determined, and put to the test of actual work and experiment, on a grand scale, before the real labour of the excavation began.

Besides driving the perforating tools, the same air had to ventilate the tunnel, and keep it in a fit state for respiration; for it will be seen, that a tunnel *without shafts*, more than 7½ miles long, could not be ventilated by the ordinary method usually employed for such purposes.

Passengers traversing Mont Cenis pass through the little Alpine town of Modane, where are numerous works, connected with the tunnel; and also the hamlet of Fourneau, where again are seen extensive establishments of an appearance and character little dreamt of by travellers in a wild and romantic pass like this. The mass of pipes and tubes for air and water look quite bewildering—looming like the apparatus of some Titanic distillery.

It seems incredible to the passing stranger that this pile of pipes, tubes, tanks, and reservoirs, are employed for the purpose of boring into the bowels of an Alpine mountain, of hard and solid rock, without the aid of steam, and little help from manual labour. Black mail is levied on wind and water,—arrested in their course, they are compelled to work their passage; seized upon by engineers, and reduced to subjection, they are imprisoned in iron pipes and tubes, and only liberated to go where they list, after performing their allotted labour.

Although in June, 1858, and September, 1859, arrangements were made for procuring the necessary materials for compressing the air, and for the perforating machinery, it was not till November, 1860, that five of the machines were really erected and put to work at the tunnel at Bardonnèche.

A novel machine for perforating hard rock was not easily brought to perfection; it required a long and elaborate series of practical working experiments, and numerous modifications in detail, before being considered fit for the real work it had to do.

It required to be of sufficient power to do the work with ease and precision, to be of such size and weight as to be easily managed by one or two men, and so strong and simple in form and construction as to avoid the necessity of frequent stoppage and repair; for the work such a machine was required to do should be continuous night and day as far as possible.

It appears from the report of the engineers, that the time the machines were actually at work during the year 1861 at Bardonnèche, was only 209 clear days, with an actual advance of the whole front of the excavation of 170 54 mètres, which only gives a daily progress of 0·81 mètres.

At the same place during 1862, there appears to have been 325 full working days, with an actual advance of the tunnel of 380 mètres, which gives for the daily working progress of the complete tunnel 1·17 mètres. At the northern end of the tunnel at Modane for the same year, 1862, the advance is stated to have been at the rate of one mètre per diem.

Since 380 mètres were actually advanced in 325 days at Bardonnèche, this will give for the entire year, if in full operation at the same rate, an advance of 462 mètres, and if we add the 365 mètres for the progress at Modane during the same period, the total progress forward at both ends for an entire year will be 827 mètres,—so that at this rate of working it will require 14½ years to complete the excavation, and, taking all the circumstances of the case into consideration, it is doubtful if the tunnel can be bored through in a less period of time.

The total estimated quantity of rock to be excavated is 600,000 cubic mètres, or about 784,666 cubic yards. As the tunnel is 13,354 yards long, this will give for the lineal yard forward, and for the whole face of the tunnel to be removed, nearly 58 cubic yards. At the average advance of 1·17 mètres per day as above stated, this will give a daily removal of 73½ yards cube; and if both faces are worked at the same progressive rate, it will yield 147 cubic yards of daily excavation for the joint work of all the boring machines in operation.

This supposes continuous working, which, however, is scarcely possible, for there is always time required to charge the bore holes, fire the blast, break down the shattered rock, and remove the whole of the loosened material out of the tunnel.

There will also be a sensible loss of time occasioned by prolonging the pipes and tubes for the compressed air, to work the machines, for the water and gas pipes; for all these must keep pace with, and follow up the advance of the perforating machines in the tunnel, as well as the timbers and rails for carrying the machines, and other indispensable work of the kind, all of which must advance simultaneously.

The rock in which the excavation is at present being made is of a quality exceedingly difficult to work, having what the engineers have called an "infelicitous stratification," with great diversity of texture, which has proved very trying to the perforators. The rock is a crystallised calcareous schist, very much broken and contorted; being interspered in almost every direction with large masses of pure quartz, in veins of variable dimensions, straggling irregularly through the general body of the rock.

It has proved difficult to work in a diversified material of this character from the unequal resistance presented to the perforators by the calcareous schist and quartz, it not unfrequently happening that the chisels have to be turned from their proper direction, through meeting with a block of quartz, which of course leads to loss of time.

The production of compressed air at Bardonnèche for the year 1862 amounted to 117,000 mètres cube per month, with an actual pressure of six atmospheres; the entire year giving the immense amount of 1,404,000 cubic mètres; which is equivalent to a volume of air at its ordinary pressure of 8,424,000 mètres cube, or 11,024,000 cubic yards English.

It was ascertained by experiment that each perforator working at its ordinary rate consumed three litres of compressed air per second, so that the nine machines expended 27 litres per second, which is at the rate of 97 mètres cube per hour, equal to a consumption of about 3,425 cubic feet English, of air, compressed to a pressure of six atmospheres, or in round numbers, with a working force of 90lb. per square inch of surface.

When the air so compressed to six atmospheres is liberated in the tunnel, and expands to its normal state of pressure, it is found to absorb nearly the same quantity of heat which it gave out in the act of compression. By this absorption of heat from the air in the tunnel, the temperature which has been heated by the workmen, the lamps, and gas, is considerably lowered, thus ren-

dering it more cool, fresh, and suitable for respiration.

At Bardonnèche, during the 325 useful working days, the number of holes bored to a depth from 0·75 to 0·80 mètres amounted to the number of 45,751; the number of chisels employed was 72,538; the gunpowder consumed weighed 40,735 lb.; and the length of match for firing the mines amounted to 76,510 mètres.

In 1861 the machines advanced the tunnel 170 mètres, by boring 20,000 holes; in 1862 they bored 46,000, besides 6,000 made during the working experiments; amounting altogether to 72,000 holes, divided amongst 80 perforators: from this it results as a mean, that 900 holes were drilled by each of the perforators.

The eight machines worked ten perforators, and made 80 holes in 7 hours 39 minutes, so that each machine took 7 hours 39 minutes to bore 10 holes, or three quarters of an hour for each mine hole. In three quarters of an hour each machine worked at the rate of 3 blows per second, making 8,100 evolutions complete, thus giving 8,100 blows of the chisel to execute one hole. The 900 holes bored on an average as above stated, gives for each perforator $8,100 \times 900 = 7,290,000$ blows, worked by air with a percussive force of 90 kilogrammes, or about 197 lb. for each blow.

By way of comparison of cost, it may be observed that the Bletchingly tunnel on the South-Eastern Railway, in blue clay, shale, and sand, cost at the rate of 71*l.* 18s. 7d. per yard forward; the Saltwood tunnel, on the same line, 118*l.*; the Kilsby tunnel, on the London and Birmingham, 125*l.*; and the Clay Cross, on the Midland Railway, 100*l.* per yard forward. The estimated cost of the *Mont Cenis* tunnel is stated to be within the limit of "*quattro mila lire al metro currente*," which will be at about the rate of 166*l.* per lineal yard: assuming this to be near the mark, the entire tunnel will cost at this rate, upwards of two millions sterling. One item of cost in this tunnel which must not be overlooked, is the heavy amount of transport, the length from the middle of the tunnel to either mouth being upwards of three miles and a half. The tunnel is for a double line of rails.

The wear and tear of the perforating machinery has been found greater than was expected; for the hard, sharp-cutting particles of dust from the drilled quartz and other rocks, causes constant and considerable damage to the machines. This will be readily imagined when the number of blows, pushes, and revolutions made by the boring tools are enumerated. To bore eight holes $2\frac{3}{4}$ feet deep in the rock, when of average working quality, the motory cylinder completes 57,600 revolutions; the striker, or driving piston, 57,600 blows, each with a percussive force of 90 kilos.; and the chisels make the same number of turns or twists; so that, to bore these holes to the above depth, a force of 11,347,200 lb. is expended, or 1,418,400 lb. for each hole; which will be quite sufficient to illustrate the cause of the wearing of the machines when exposed to quartz dust and effecting this amount of work.

As a matter of mere curiosity, to show the magnitude and extent of the various operations to be performed and labour required, it may be stated that, if the above rates of working should be maintained, the number of holes necessary to be bored to get through the whole tunnel will exceed 1,599,709. The total depth of all these holes, when bored, will amount to 1,279,767 lineal mètres, or 4,265,890 feet, which is 105 times longer than the entire length of tunnel to be excavated. The number of blows required to be struck by the perforators to do this work will reach the high figure of 12,957,642,900; while the total magnitude of all the percussive blows showered on the chisels will amount to no less than 2,551,957,651,300 lb. English; so that each cubic mètre of rock extracted will require a percussive power of 4,253,262 lb. to force it from its place, as applied at the head of the boring chisels, to bore the holes alone, to which must be added the explosive force of the gunpowder when the charged hole is fired.

It may be explained briefly, that the tunnel for its whole width of face is not attacked at once, a "gullet," or heading is driven considerably in advance of the completed work. This small gallery is rather more than 11 feet wide, and $7\frac{1}{2}$ feet high, and square in form. A line of rails is laid nearly the whole length of this gallery of usual gauge, to communicate with the line in the main tunnel; beside this there is a line of rails of lesser gauge for the small *trollies*, used to convey the broken rocks from the head of the gallery to the common trucks. In general the machines which attack the front of this heading, are armed with nine or ten perforators,—some acting directly in the face, others diverging to the right and left, and thus carry on the borings in the gullet, till all the holes are ready for their charge of powder. Thirty-seven men and boys are required to attend to the machines and other matters in connexion with them.

The work of the main tunnel follows up the small gallery, which is progressively widened to the extent and form required for the full section of the complete excavation. It has been estimated from data obtained by actual working of the machines, that the tunnel may possibly be excavated in fifteen years, but it appears that twenty years is the time calculated upon by the engineers engaged in the conduct of the work. The limit assigned for the completion of the tunnel in the convention agreed between the French and Italian Governments, is twenty-five years. It is, however, a work requiring time, money, and patience; it cannot be hurried, and must look to completion from steady and unremitting labour, day and night, without ceasing. It is a great and noble work, boldly and skilfully begun. Let us, therefore, indulge the pleasing hope that it will be brought to a satisfactory conclusion, and open a passage for the iron horse through the grand barrier of the Alps.

JOSEPH LOCKWOOD.

THE PRESENT REQUIREMENTS OF ARCHITECTURE IN ORDER TO A SUCCESSFUL COMPETITION WITH ANTIQUITY.*

AT the beginning of the present century, and for some time previous, our cathedrals, and the great works of antiquity, were placed amongst the "Seven Wonders," without a thought of any future rivalry. Now, however, such immense strides of art and engineering are made, that the time has arrived when it ill becomes us to strike our colours ignobly to a less tutored age. The institution of this and like societies having for its object the promotion of architecture, we have to expand the narrow views that are taken. Nor are we to yield to the feeble imputations of absurdity when we propose to emulate the successes of former times. Progress is the rule of life; and it behoves us, gigantic as the task may be, to strive to come up to, and to excel, those who as yet leave us so far behind.

To improve the system in the practical working, and to increase the encouragement, are the two points to be attended to. With this view it is important, in our efforts for the advancement of architecture, to inquire into the secret of its success when it most flourished: we therefore propose to consider the advantages of former periods, with suggestions for the recovering of them. We shall confine ourselves to the Gothic style; and intend to corroborate our remarks with criticisms upon some examples both ancient and modern. This latter part of our paper must form a sequel at a bi-monthly meeting, as time and circumstances forbid its being so extended on the present occasion. The ancient remains which we possess are chiefly ecclesiastical, and they show that an almost incredible amount of interest in the art was sustained for some five centuries; after which the interest subsided, and the indigenous style was abandoned for such as was more or less borrowed and wretchedly insipid in comparison. Now we ask, What was it that kept up this great architectural movement and secured so great success? And what past advantages, or equivalents, can we regain?

We will name for consideration five things, which we imagine mainly contributed:—1. The demand for cathedral and abbey and other churches of great splendour. 2. The fascination of Gothic design. 3. Seclusion allowing concentration of the architect's whole mind upon his work. 4. No more being carried out under one individual than could receive unlimited attention. 5. Collective help; valuable suggestions in design being accepted by the chief architect from ecclesiastics or others, including the trained body of free masons; and not rejected as officious; the religious and artistic object overriding every other interest. We venture to say it is not that our professional men are inferior in taste and skill to their forefathers: it is owing to a change in the system and patronage of art, that such prodigious fruits do not now appear; and it devolves upon us to make every effort to recover as much as is practicable of the facilities and helps which we have lost.

1. As to ecclesiastical demand,—which we mention in the first place,—no doubt the feudal system, united with some conscientious feeling of duty on the part of the lords of the soil, was favourable to pecuniary supplies, whilst peculiarities in religious ceremonies and religious life rendered imposing edifices a matter of all-absorbing consideration; and we do not expect, nor do we wish for, a return of such times,—as one of our poets has it in an exquisite effusion on the ruins of Kendal Castle,"—

> "Times of rude faith, and ruder men—
> God grant they never may come again!"

But we hope to succeed without these auspices. A sense of what the houses of God ought to be in priority over the dwellings of men is all that is required, and that is reviving amongst us: instances are not entirely wanting, where the mansions, or superb "ceiled houses" as the lament of the prophet expresses it, are surpassed, as they should be, by the costly character of the temple. To this quarter—the church—it is not only right still to look, but we are compelled to do so; for it is not sufficient, in the higher interests of architecture, that secular public buildings and domestic structures be required: the church is infinitely the best sphere; and until the erection of magnificent and gorgeous ecclesiastical edifices comes again into vogue, encouragement to architecture cannot recover its full proportions. We know it will be said,—having as a nation done with monastic establishments and gorgeous ceremonial, the scope for such grandeur is gone. Still, we demur to the inference, and we aver that it is not idle to contend for, at least, the erection of cathedrals of great magnificence. This we must insist upon, much as the contrary impression may prevail; and we can do so on principle, as well as in the interest of art. We recommend to be read Mr. Beresford Hope's "Cathedral of the Nineteenth Century." The notion is erroneous that our Protestant ritual is so precise and simple that it forbids altogether imposing processions: the inspired sentiment of the Hebrew psalmist teaches better. Much less can it be said that our principles are so ultra-puritan that the "sublime and beautiful" of the cathedral are incompatible with Anglican worship. What man having taste united with his piety ever found it to be so? Who would not deplore the loss of those noble buildings which we possess? Who would condemn the efforts expended on the modern Cathedral of St. Paul? Who would not like to see the insufficient ones of Manchester and Oxford exchanged for better? or, with the demanded extension of the episcopate, a corresponding provision for the highest solemnities of our religion in the new dioceses? The procession and the large gathering at an ordination, at visitation, or confirmation, or on any other great occasion, so much aided in effect by cathedral grandeur with its concomitant sublime tones of music, are not empty pomp pandering to a pseudo-religious feeling, but legitimately impress the mind and heart that the spiritual benefit may be the more lasting. Nor, independently of this, vacant space in the cathedral a waste, as we have it objected. The nave as a spacious avenue most effective for solemnity: the house of God naturally symbolizes heaven, the dwelling-place of the Infinite; and is not necessarily a mere pa for a congregation. The influence of immensity is felt to be not a little potent, and that even in the ordinary services. Witness the confessions of those great men, Milton and Robert Hall, which even their unecclesiastical spirits were constrained to give utterance. The former, referring to cathedral architecture with the "pealing organ," has the glowing lines,—

> "Dissolve me into ecstacies,
> And bring all heav'n before mine eyes."

And the latter remarked that "he could not enter York Minster without the sublimest and most d vout imaginations pouring into his mind." Equally fallacious is the objection, that higher claims would have their support diverted. Our ide may seem large to those who are not prepar for the demand we make; and they may be great distant from realization; but it is little mo than a dream of despondency, arising out of t niggard spirit in honouring our Great Creat that at present represses noble aspiratio England's elder university rests content with provisional cathedral!—an interesting antiqui but a priory fragment, and little better than village church. Could we but stir up the peo to it, and combine in a new one at Oxford t continental grandeur with the English su riorities—the high vault of Amiens, with t higher lantern, the spacious transept, and "long-drawn aisle" of York,—it would produc

* By Mr. Vincent Wing, of Melton Mowbray. Read at meeting of the Northamptonshire Architectural Society.

consciousness of national advance and universal congratulation. Nor is there occasion for despair: individuals are found now whose offerings to church architecture amount to the hundred thousand; and, with the rapid increase of the country's wealth, it is but reasonable to bespeak this standing acknowledgment and honour to the Giver of our substance. Such becoming employment of the highest class of talent would go far to guarantee to architecture the culmination to be aimed at; for edifices of transcendant magnificence are necessarily very many years in hand, and their erection would furnish what the art most needs; namely, an enduring field for its highest cultivation. On the contrary, if cathedral building is to be passed off as visionary, it is equivalent to quitting in despair: the very sphere required being abandoned, antiquity will only mock the modern architect's attempt at rivalry. In the promotion of architecture, then, our views must be expanded in reference to the church: the church must not be left, as it is, in dwarfed proportions, but partake of the general progress. We ought no longer to allow the huge tavern to be looking down on the steeples of our churches. And we hesitate not to say,—If our attainments in the art are to equal those of the ancients, if we are to resuscitate its bygone splendour, and bequeath to far-off generations equal monuments of our times, magnificent cathedrals and churches must, as formerly, furnish the leading encouragement. To this then it behoves us to stir up the people. We have the superiority in wealth, in intelligence, in mechanical power, and in advantages generally, together with purer inducements; why are we not, in this chief sphere, as in others, aroused to surpass our less favoured predecessors?

2. The next thing we have to allude to is, the fascination experienced by those who designed the structures of the Middle Ages. The extreme pleasure afforded to them is seen unquestionably in the effects. And on this it is unnecessary to dwell; for we doubt not that it will be felt again in a similar degree, if the unlimited opportunities of indulging it return. The sphere itself has no bounds: if the seven notes in music are found inexhaustible, the combinations in Gothic art must be as much so. Be it that a peculiar charm would accompany when all was new; yet, notwithstanding, if the means and demand be presented, the gifted practitioner, finding no limit to his encouragement, will have the same fascination in design as formerly, and revel in a luxury that will never satiate. Those only who have a true taste for it know its untiring interest. As far as the pleasure in the work is essential in order to recover the success of former times, all is assuring, provided that equal munificence can be called forth.

3. We have in the third place to consider, that formerly the whole mind of the man of genius was, in a manner, concentrated unremittingly on his creations. We may imagine how some Peter Lightfoot, or cloistered monk, would pursue uninterruptedly his avocation, as if he lived only to beautify his abbey church; or the æsthetic brilliancy that would be brought to bear from some archbishop devoted to the work, as William de Melton, it may be, during the rise and progress of the nave of York Minster. In this respect past advantages are not to be recovered, for we cannot ask for such seclusion again; but we submit the question,—Can we in our great works, upon the adoption of a more perfect practice and study, obtain its equivalent? If less were undertaken in order that increased attention might be given, possibly equal excellence in design might be attained to; but the difficulty is in the compensation, which must be so regulated as to admit of the required application.

4. This brings us, in the fourth place, to inquire more particularly into the system of practice in the olden time, which gave a circumscribed and a more fixed sphere of labour to the responsible architect. Upon this somewhat obscure subject we cannot enter without first briefly referring to an institution which has its bearing on more than one point before us: we mean Freemasonry; not in the form it has existed in since its revival at the beginning of the seventeenth century, but in its Mediæval system. Much secrecy and mystery attended it, which partly accounts for the obscurity in which history leaves us as to architects and their operations. We know, however, that from a very early date there was an organised fraternity of masons, who, from travelling and observation, as well as practice, gained intelligence, and by well-devised plans, communicated the benefit to their whole body as far as practicable; the members constituting an order, partly religious, in some sort, and partly professional, with one object and interest in common. The importance which architecture then possessed as an art can scarcely be overrated: for which reason the organisation was fostered by the clergy; the rearing of religious structures was allowed to be monopolized by the freemasons; and it is a fact that ecclesiastics were frequently *associated*; which circumstances render more intelligible the zeal of the masons, both in accumulating, and in confining to themselves, the knowledge of their art. It is also evident, from the curious correspondence in the details of work, that the organisation was very complete; and, as it is to be inferred from the remains of structures of the later period of the Roman empire, from a universal similarity of arrangement, that there was a central control, the same principle may have been transferred from Roman usage. The silence of history leaves us very much to conjecture concerning the main agents in the erection of our ancient edifices. The rearing of them, as a trade, would be in the hands of the freemasons (that name implying workers in freestone, or *freestone masons*), and much would depend on the wardens, who were the foremen of parties of ten of them, and upon the masters; but in a great undertaking some presiding man of genius, whose skill alone qualified him, must have had the chief control. Priests possessing a taste for it were not only associated in freemasonry, but readily initiated; and from that class sometimes would arise the pre-eminent architect. Architectural ability, indeed, seems to have worked its way to this position by association with, or development amongst, the freemasons. With the mysteries and emblems that have come down through this channel, even from the Egyptians and Grecians, our inquiry has no concern; but it is material to note that the secrets of the masonic art, whilst confined to themselves, were disseminated unreservedly amongst that body. Selfish ambition and jealousy would thereby be obviated: every man of taste could enter the association; and thereupon his suggestions became the common stock of the fraternity, available to the architect, who would be associated with them in his labours. In proceeding to consider the limited sphere of the chief architect, we have to note how originality in design was prized as a principal item of merit. For, in contemplating the extraordinary productions of the Middle Ages in the better period, one is struck with the variety and the prolific inventions. How diverse is York Cathedral from Lincoln, for example: how unlike are they both to Ely; and so on to Salisbury, Wells, and almost all others. Now this indicates as many chief architects as varieties, and the sphere of labour accordingly limited. It would be an historical problem to find the same architect to have been the designer of many cathedrals: rather was he engaged only for what he could entirely devote himself to. And, unless similar advantages can be secured, it is vain to look for equal originality and beauty in modern productions. Is it possible, then, we are tempted to ask, in any way to bring about a change in the present system? To apportion in some degree, for instance, to leading architects what is more strictly design only; relieving them of much of the constructional responsibilities, and giving such compensation as would command their time more exclusively for the important part devolving upon them? This is a question which, we are aware, the profession only are competent to grapple with; but as those great attainments to which we aspire seem in some measure dependant upon it, we shall not be out of place in pressing it on public attention. We conceive such a change is not altogether impracticable. Progress has, in the present century, completed a separation of the labours of the architect from those of the builder. A diversion has been made, too, in favour of the civil engineer; and we may suppose that a further subdivision of labour in the highest sphere is within the range of possibility. Or we may ask the question,—Can the labours of leading men in any other way be lessened? At present any one whose brilliant attainments have raised him to eminence has his reward in a killing amount of work, whereby one great genius, at least, has already fallen a victim. Only the same percentage is paid as to the inexperienced. How much better would justice be done on both sides if, instead of advantage being obtained by the ablest men in the extent of their employment, it were given in increased percentage? This might secure the necessary limitation of labour, and, therewith, more satisfactory results. It must be evident that they whose works are to endure in a manner for all time,—being ecclesiastical and national, or of the first class,—can only receive and do justice when the opportunity of sufficient application is secured to them. Unlimited application carried the day formerly; and without it equal success is not attainable. In a small way, France seems to be taking the lead in this matter. There "some architects having private property of their own, only make use of their professional acquirements in the carrying out of the design of one or more tombs, either for their friends or for some great personage; a tomb being regarded by French architects as the highest possible ideal of the art." It is, we apprehend, mainly a question of large and adequate compensation. If so, to obtain it, we must look to a greater appreciation of design. This will advance in proportion as a general taste is cultivated; and whilst the effect of such cultivation will be also a corresponding improvement in the art, success in design will attract attention and reciprocally encourage the cultivation of taste. Then, if the movement be fairly commenced, such is the disposition of the various influences to run in the same current, that we need not despair of a revolution that will eventually advance architecture again to its supremacy in the school of arts; and the results will leave vestiges which will command for us an honourable position in the estimate of succeeding generations. The munificent offer for designs for the Liverpool Exchange may be regarded as a good experiment, and encourages what we have ventured to advocate.

5.—Lastly, it has been intimated that in Mediæval practice help was acceptable to the architect from any quarter. There must have been encouragement to, and ingenuousness in receiving suggestions. At all events, the chief architect would accept them from his ecclesiastical employer, whether an associated mason or not, in many cases; and in others, where the ecclesiastic might be chief, he would be on terms of candid partnership with his masons. In present circumstances, the amateur part of our question is difficult to be brought to bear, and delicate to broach; but it is necessarily connected with the subject, for the part borne by the amateur in the old system is a leading feature. That formerly Wykeham and others, not professed architects, had their fingers in work which is now held in such rapturous admiration can scarcely be denied. Alan de Walsingham, the sacrist at Ely, became architect of the cathedral; and, after the fall of its centre, gave it its culminating grandeur. A bishop of Noyon was originally an artisan, and rose to that eminence from his skill as a goldsmith. Other examples might be referred to, but these are sufficient to show how in those days the interests of the church, excluding considerations of personal fame, gave to skill and taste an open door. Assistance then was accepted wherever merit recommended it, and taste was invited in whatever brain it existed; appetite for beauty, together with religious zeal, having sway over every other feeling. The bishop, with the clergy around him, and a troop of freemasons, would form a college of artists; eager, not only to devise, but to obtain from any source whatever what would tend to the adornment and splendour their cathedral. It is true that circumstances are now very different: we live not in a recluse, but in a mercantile age, and the trade element is perhaps unavoidably too preponderating to give free course to the practice of art. We shall venture to say, however, that the crudeness which attends the amateur need not make his suggestions contraband now any more than formerly; and recovering past advantages, does it not enter into the question, what auxiliary service he can be useful for? Can this suggestive element, if we may call it so, any way re-enter, and the amateur again take his part?—or, in other words, can we have a benefit by adopting some plan for taking advantage of the drawings of non-professional persons, when anything new and valuable occurs to them. If institutions for exhibiting and rewarding designs were candidly open to amateurs in competition with others; whilst every advantage would still remain with the educated architect, exceptionally an amateur might be brought forward, and, not

"Born to blush unseen,"

quit his false position and join the profession. Taste has its occasional inspirations in the rough, and sometimes of the richest quality, possibly, without the pale of professional cultivation. Provided amateurs could,—not by botching on their own account, but in some legitimate way,—be made useful, it would moreover tend as much as anything to that general diffusion of taste, which is the only atmosphere in which the profession can vitally prosper. As a polite accomplishment, architecture to some extent (we refer to artistic

design only), admits of private pursuit like other fine arts; and it is important to remark, that the public, since they have the patronage, should be adequately educated that they may better exercise it. The Mediæval system, like the ocean, received the stream from every channel; and if architecture for its own sake is to be promoted,—if a general taste is to be fully cultivated, and the attainments in this age rival the past,—whilst the responsibilities rest with the profession, the practical study of the art, it would seem, should be open to all who are capable of it; and, in a subordinate form, non-professional help again become tributary.

Upon reviewing the circumstances that favoured architecture in times gone by, it must be owned that the difficulties of competing with antiquity are great. The advantages grasped by the art were more than peculiar—human faculty was then in a manner sold to it: in the *dark ages* we see genius arbitrarily extinguished save in this one phase; and the whole light of the intellectual firmament at that time may be regarded as absorbed from others to be concentrated on this subject. We can point to a hundred years, in which about a hundred abbey and cathedral churches of first-class character were erected in this country, when it possessed but a tithe of the present population and means. Now, the modest demand for only one such cathedral to recommence with may be too much to be realized; and, if so, puny in comparison is the revival of Gothic architecture. Without going to Mediæval extremes, to impart the necessary feeling is no small matter; for not the despotic potentate and feudal lords, nor a paramount hierarchy, but a whole people have to be moved to do themselves credit. Yet, notwithstanding, the present age having the ability demanded, with far greater wealth, greater facilities for travelling, and various better helps for acquiring intelligence and proficiency, we ought not to succumb to the past. And if taste received only the utmost rational fostering and encouragement, it is not presumptuous to say that, instead of being behind, we might hope to distance our forefathers in the race of architectural development.

THE CURRENT OF ARCHITECTURE.*

CHARTS to exhibit the chronological sequence of styles, and to present at a glance, information as to what different styles were contemporary, naturally suggest themselves to most searchers and expounders of the history of architecture. Charts of general history, and even of the progress of literature, and of painting, have long been in use; though more advantage might be derived from such appliances in teaching. The Germans have done much in the way of compilation of these tables. One of the most instructive, and best known forms, which we believe originated in Germany, is that of "the Stream of History," wherein the ruling nationalities are represented in the form of parallel rivers, or streams; which absorb, flow into, or branch out of one another, after the same manner as the nations became absorbed or branched out. Mr. Huggins has been the first to apply this idea to the illustration of the history of architecture. In connexion with a synoptical table of the styles which we find in the volume which is before us, accompanying the chart, and the chapters themselves of the volume (some of which have before appeared), the chart will form the basis of many future improvements in the method of illustration, and of much more exact appreciation of the contemporary facts of architecture, than can now be said to exist. Existing publications in the form of chronological charts of architecture, are confined to single countries, or to some few centuries of the succession of styles; and the true teaching of architectural history does not come forth in them at all. Architectural history, however, altogether, has only lately been properly attended to by English writers; and the discovery of the fact that comprehensive study of such history has an immediate bearing upon the production of art of the future, may be said to have been made during the period of the existence of, if not also by the help of, our journal. Mr. Huggins owes of course something to the labours of writers like Mr. Fergusson; and he acknowledges all assistance of this kind; but he has certainly contributed to the elucidation and exposition of the facts, and to the placing in the proper light the question which forms the heading of one of his last chapters, "The Style of the Future."

Mr. Huggins's disposition of the styles is a compromise between the chronological and the geographical. In the chart, "Mexican" and "Peruvian" appear as distinct streams, to the extreme left, or west; whilst "Buddhist" and "Chinese" are as similar streams to the right, or east; though research may eventually show connexions, in the case of these four styles, with members of the central group, which the chart does not attempt to indicate. The great styles of Europe, Asia, and Africa, are as nearly as possible, in their proper places, the Gothics being westward, and the Byzantines and their offspring (the Saracenics), eastward, of the central classical trunk. In the demonstration of the line leading on to the later Italian styles, from the earlier, there is some omission of the thin stream of pure Roman which was never altogether dry in Rome, whilst a stream of Romanesque directly to the Venetian-Italian, is the only apparent connexion; and the styles of one and the same country, Venetia, must be looked for in two different positions, geographically, of the chart. Moreover, the derivation by the Greek style, of Ionic elements from the Assyrian, noted in the volume, appears to be ignored in the chart. Further, the tints of colour, which are changed as the streams flow, or ramify, do not seem to us quite what the author intended. These are features of the chart, showing the difficulty of the task, for which we are, nevertheless, indebted as having been to some extent accomplished.

The influences operating in the generation of styles, or during their transition into other forms, the author observes, proceed "at one time from a neighbouring style; at another, from the spirit of a new religion; at a third, from the energies of a new race." Some of the rays of influence, he indicates on the chart as proceeding from orbs of Christianity, Islamism, National Characteristics of Teutonic tribes, and Saracenic art. The first of these generated the Christian Romanesque out of the Roman; the second, the Persian, Indian, and other Saracenics, out of the Byzantine and Sassanian (the Sassanian being the freshened stream of the Persian-Assyrian, with Roman confluents), and also generated the Turkish Saracenic offshoot from the Byzantine,—although "the later modifications of Arabian architecture" are pointed out as "owing to the introduction into the Mahommedan community of nations, of new races—Seljukian and Ottoman Turks, Pathan and Mogul Tartars, &c.",—the Teutonic characteristics generated the Lombardic and Rhenish, the Frankish, Burgundian, and Norman, the Anglo-Saxon, and the Spanish Early Gothics; and the Saracenic art, through the Crusades, produced pointedness.

In the volume, the chapter on Egyptian architecture, and the remarks on the same style towards the conclusion of the book, show full appreciation of the style. In the chapter on Christian Romanesque, it is noted that the Jewish synagogues, being places not only for worship, but, like the Pagan basilicas, for holding local courts of justice, would not be without influence upon the form of the first Christian churches. In one of the concluding chapters, the author names some of the styles, native or adopted, which he rightly considers would deserve to be placed in a representation of the "course and current of architecture," did we know more about them. Such are the styles of the architecture of the Phœnicians, and the Lydians; and of the inhabitants of Pergamus, Galatia, and Cappadocia; of ancient Iberia, and even of Britain. But he believes a review of the ground traversed in his volume, will show that the most potent influences brought to bear on the career of architecture, are those of religion and race; and that "climate, local scenery, and geological structure," only give rise to subsidiary varieties. And he says:—

"Difference of race, like difference of religion, has divided the styles of the world into groups, so that they have a general ethnographic arrangement as well as a theological, which may be expressed thus from West to East:—Teutonic, Celtic, Slavonic, Arabian, Tartar; the Teutonic branches being those of the Gothic styles; the Celtic of the Romanesque; the Slavonic of the Byzantine; the Arabian of the earlier varieties and developments of the Saracenic; the Tartar of the later."

The generation, from the Roman stem, of the succeeding styles, was "almost entirely the achievement of the influences of religion and race." Next to the agency of religion and race in the development of styles, is the influence of styles upon one another. But to these influences, is to be added that of events involving changes in political and social condition, or literary or scientific status. It would appear that our author ascribes less importance to *materials* available for buildings than sometimes has been ascribed. Yet this point deserves some attention, even for the larger divisions in classification. The early Romanesques, probably derived a distinctive character, as generally supposed, from the possession of those materials of Roman buildings which were so largely made use of.

In the chapter on the Style of the Future, before adverted to, there is much matter which is accordant with our own expressed views. Beyond this, the author does much to show what may be derived of new art, from all the styles, whilst preserving a general unity. Such unity he does not look for by proceeding from the style of buildings which, to him, he says, always look like reproductions of Mediæval structures; but from the classical columnar architecture, for which, however, he indicates numerous additions to it, elements of change, and freshness. He distinguishes between the condemnation of windows behind the columns of a portico, and the tendency once manifested towards dispensing with them altogether in buildings of classical character, whereby many atmospheric effects were lost. Amongst his suggestions, are those of modifications in the Corinthian, to which order he would give columns for interiors of much more attenuated proportions than those of the ancient examples, and for exteriors more massive character, as required by our climate; whilst the capitals he would compose less thickly of foliage, as to the covering of the bell, in order that the supporting office of the member might not seem interfered with. He would derive numerous suggestions for the decoration of supporting members, and other structural parts of architecture, from the Egyptian and Indian, as well as other styles. He takes the same hopeful views, as we have, of the capabilities of our race, or opposed to those who "forget that the blood of a score of different tribes of mankind is flowing in our veins as well as the Teutonic," and so concludes what (looking over some few errors of the press, which should not have been allowed to remain,) we must regard as, with the chart, a well-timed and useful contribution to the popular knowledge of architecture, its examples and history, and to the future progress of architecture, the art.

* "A Chart of the History of Architecture, showing under the Similitude of Streams, the Rise, Chronological Sequence, Relations and Periods of the various known Styles of all Countries and Ages." By Samuel Huggins, Architect. London: Printed in Chromo-Lithography by Day & Son, and published by them, and by John Weale. April, 1863.

"The Course and Current of Architecture: being an historical Account of the Origin, Successive and Simultaneous Developments, Relations, Periods, and Characteristics of its various known Styles." By Samuel Huggins. Designed as a Companion to his "Chart of the History of Architecture."

WOODEN BRIDGES BY THE UNITED STATES ARMY.

MR. RUSSELL WEST, writing from Philadelphia, gives us particulars of some of the railroad bridges which have been rebuilt by the United States army.

The truss frames of the bridge which carried the Richmond, Fredericksburg, and Potomac railroad over the Potomac creek having been burned by the Confederates, the soldiers of General M'Dowell's army, in May, 1862, under the direction of Brig. Gen. Hanpt, constructed a trestle work 400 feet long and 80 feet high, which has for more than a year carried daily from ten to twenty heavy railway trains, and has been frequently and severely tried by freshets in the river. It was built in nine days, chiefly of round sticks cut from the woods in the vicinity, and not even divested of bark. It is four stories in height,—one of crib-work and three of trestles. The legs of the trestles are poles from 9 inches to 12 inches in diameter, and about 25 feet long, the ends dowelled together with 2-inch wooden pins. The diagonal braces are also round poles, very little sawed timber being used in the structure. The bridge over the Rappahannock, 600 feet long and 65 feet high, was rebuilt in a similar manner by the same army.

Gen. Hanpt is a civil engineer, and was for many years in the service of his native state, Pennsylvania.

A VOICE FROM GENEVA.

IN this ancient and beautiful city there has been a meeting of watchmakers and other manufacturers to consider the subject of Sunday labour and recreation. This meeting seems to have been attended by both the employers and the employed. On this occasion it was observed that Monday replaces Sunday for a number of workmen, but whilst Sunday rest is ordinarily given to the family, and suitable recreations, Monday has almost always a very different

character. It was wished that the public museums, libraries, public establishments, and divers collections, should be opened by degrees on Sundays after morning service. The objection that this would force the *employés* of these places to the exercise of their functions was argued, but it was said that this inconvenience would be small compared with the advantages to a whole population, and that it was very easy to insure to the *employés* sufficient rest by small administrative precautions. In suppressing a working day, the effective quantity of work accomplished is not diminished, because the man properly rested has ability to do more than he who has not had the necessary repose. England, where Sunday is better observed, sustains advantageously its place with the other countries of Europe. It appears that a great number of the manufacturers of this city have discussed this question amongst themselves, and tried to resolve it in a truly liberal spirit without the intercession of the State. The same problem has been brought before the French Senate, under a different form; in effect, nine inspectors-general, or engineers-in-chief, of bridges and roads, three generals, and eight architects of the city of Paris, and of the Government, solicited the intervention of the Senate to obtain the boon that work might be discontinued on Sundays in Government dockyards. It was mentioned that in consequence of the want of a weekly day of rest, a country which formerly furnished fine men for cavalry regiments, furnishes to-day infantry of but small stature; and that the want of Sunday's repose causes the need of a holiday on the Monday, in which the most part of the family cannot partake; and on these Mondays it is said "that a man may be seen, glass in hand, drinking, with shaking hand, the blood and tears of his wife and children. It is objected, it is true, that the wants of man are the same every day, therefore work ought to be carried on every day wherewith to serve these material wants. But England, who knows how to observe the Sunday, what does she make of this objection? She passes beyond it, convinced that she is quite right—that rest on Sunday can be but an element of prosperity for the family."

THE GENERAL HEALTH.

THE Registrar-General, in his last quarterly return, tells us that small-pox carried off 788 persons in London, or nearly nine daily; and scarlatina and diphtheria, 1,230. "Though the former disease carried off fewer persons than the latter," he says, "it was more powerful in inspiring the public mind with a salutary dread." He adds,—"It should not be overlooked that prophylactic measures are available against scarlatina as well as small-pox, and both maladies are subject to modification." Small-pox was not confined to London. "Its presence, which in some instances assumed a character of virulence, is announced by registrars in many and distant parts of the country." "Not only small-pox, but also measles and scarlatina, attacked the industrial populations both in Lancashire and Yorkshire."

The deaths in London show an increase; and in Lancashire and Cheshire, the districts which have suffered most from the recent distress, the increase is more considerable.

In London the deaths "rose from 15·230 and 15 695 in the June quarter of 1861-2, to 17·417 last quarter;" but in the north-western counties they rose from 17·576 and 18·017 to 19·467. In Oldham, Manchester, and Warrington, the increase in the last quarter on the mean mortality of the two previous seasons is 20 per cent., and in Chorlton and Wigan 25 and 24 per cent. Measles and other epidemics are spreading throughout these parts; and it "is probable that fewer deaths have been registered in many districts," owing to the emigration or removal of the inhabitants; for, doubtless many places are situate like Belmont, respecting which the Registrar writes, "that it is almost uninhabited, owing to the badness of trade;" and it must be regarded as a providential interposition in favour of the under-fed and under-clad workmen and their families, that the period embracing December and four succeeding months was distinguished by a higher temperature than any corresponding period since 1771.

Throughout the whole country the number of births has increased except in Lancashire and Cheshire, where they have decreased; and in that district the population is perishing by disease as surely as it is in the United States from the perils of war.

The distress in Lancashire and Cheshire is lessening: considerable numbers have emigrated, and it is satisfactory to note that the last report of the central executive relief committee mentions that a large number of ablebodied men included in those "out of work" have been enabled to find temporary employment in various out-door occupations; 4,718 operatives have left for New York and the colonies; and it is pleasing to find that wherever out-door employment has been provided by the local committees the operatives have become skilled in their new occupation. Their physical condition has been greatly improved; and there can be little doubt that the works about to be undertaken under the provisions of the recent Act, will largely contribute to an equally beneficial result.

SANITARY CONDITION OF LONDON DISTRICTS.

THE seventh annual report to the Vestry of St. James's, Westminster, has been made by the medical officer of health, Dr. Lankester, and printed. It relates to the year 1862. The total number of deaths was 727, being slightly in excess of the average of the last seven years, which was 718; but below the mortality of the previous year; thus on the whole representing a favourable state of health in the parish for 1862. The mortality of the Berwick-street division, the most over-crowded and poorest in the district, has never been so low any year of the last six as last year. This district has been most acted on by sanitary measures, and the utility of this action, as in so many other instances, thus seems to make itself manifest. Whilst in 1861 whooping-cough claimed the greatest number of victims amongst zymotic diseases, scarlatina carried off the greatest number in 1862. In no one year has any of these contagious forms of disease been so fatal as scarlet fever was last year. Of sixty-six cases twenty-nine occurred in the Berwick-street division, thus clearly showing that where the population is most overcrowded, there this disease is most deadly. Dr. Lankester recommends the vestry to use their influence with the magistrates to prevent the licensing of cowhouses altogether. The milk is unwholesome, the practice unhealthy, and property is deteriorated wherever cows are confined and crowded amongst human beings as they are in London; and besides, an abundance of good wholesome milk is now obtainable by railway from all parts of the country round London. Under the head of overcrowding, the reporter states that upwards of 200 kitchens and lodging-rooms have been emptied; but he fears that, while emptying is going on in one direction, overcrowding goes on in another within the same limited area.

The seventh annual report for the Holborn district, by Dr. Gibbon, has also been printed. In 1862 there were 1,468 births and 1,238 deaths in this district: these occurred in a population of 46,317 persons. The births, therefore, have been in the proportion of 31·7, and the deaths of 26·7, for every 1,000 of the inhabitants. In all London, the average birth rate was 33·7, and the death rate 23·5 per 1,000 of the population. While, therefore, the proportion of deaths in the district has been above the average for the metropolis, that of the births has been a little below it. In 1861 the epidemical scarlet-fever and whooping-cough sent many patients to the Children's Hospital; and, during the past year, the typhus epidemic has compelled many of the inhabitants to enter fever and general hospitals. It is satisfactory to observe, that the deaths under two years of age are not so numerous as in former years. This year they are 24 per cent., whereas last year they were 28 per cent. on the number of births. The distribution of the deaths, excluding those occurring in the workhouse and hospitals, varies according to density of population. Thus, the proportion of deaths was highest—viz., 23·6 per 1,000 of the population—in the St. Andrew Eastern Sub-district, where there are 392 persons to every acre of ground; then come Saffron-hill, with 21·0, St. George the Martyr, with 20·0, and the Liberty of Glasshouse-yard, with 19 3 per 1,000. The last is an exception to the general rule, as it ranks second in density of population, having 291 persons to an acre.

In an appendix, extracts are given from the fortnightly reports of the officer of health. Under the head of "A Fever Nest," he says (July 28th, 1862):—"Cases of low fever have increased from 5 to 22 cases. These have occurred chiefly in Mr. Gibson's district, especially in Ely-court, Holborn, which is under the sanitary supervision of the City Commissioners of Sewers. I have deemed it right, in forwarding a written complaint from one of the neighbours, to inform them that although the houses have been cleansed and lime-whited, they are still pervaded by a sickening sewer-smell, in consequence of the drains being defective and untrapped, and the closets without water-supply, and, in some instances, overflowing with soil. Several of these densely-peopled houses are without a drop of water on Sundays. If any one is desirous of seeing the influence of proper dwellings on the physical, moral, and even intellectual condition of the poorer classes, I advise him to visit this wretched court, and contrast the squalid, half-naked, plague-stricken appearance of the inmates, who are constantly inhaling an atmosphere of decomposition, with the orderly, healthy-looking, and clean inmates of the adjoining Black Bull Chambers."

And, under the head of Fever (June 30th, 1862), he says of Fullwood's-rents:—"Since your last meeting, in company with your inspector of nuisances, I have made a house-to-house examination of Fullwood's-rents, where there has recently been a good deal of low fever. All the houses are old, and more or less dilapidated. Although the rooms are lofty, some to the extent of 41 feet, the staircases are dark and unventilated. Several of them require to be cleansed and limewashed, and to have the water supply reinstated or improved. Unfortunately the ventilation of the court is impeded by the low entrance from Holborn, and the stone wall on the side of Gray's-Inn-gardens; otherwise, I know of no other court so admirably circumstanced for salubrity. Not only is it well drained, and in close proximity to the large garden of Gray's-Inn, but the houses themselves, especially those on the east side, have each a considerable piece of garden ground attached to them. As several of the houses are to be sold, it has occurred to me that it would be an admirable spot for the erection of model dwellings for artisans. If we may judge from the success that has attended the erection of the Black Bull-chambers, Holborn-hill, the demand for dwellings of two or three good rooms is great in this locality. It might be desirable, therefore, to direct the attention of the trustees for the outlay of Mr. Peabody's munificent gift to this as one of the eligible spots in London for the erection of such buildings."

THE STEAMER "BARON OSY."

THE work of raising this vessel was commenced early on Saturday, the 12th instant. Chains having been passed under her bottom, and lighters pinned down to them at low water, warps were laid out to haul her into the shore as she lifted. One of Norton's V-shaped pumps was placed over the fore hatch, and one of Fowler's centrifugal pumps over the after hatch; but the leak being in the fore part of the vessel, and the compartments having stood with very trifling leakage, the brunt of the work fell on the first. When this was got to work, it was found that it reduced the depth of water forward at the rate of 2 inches per minute. The area of the compartment is 57 feet by 22 feet by 14 feet. In thirty-five minutes after commencing work, 5 feet of water had been pumped out, and the vessel rose on the early flood and was safely got over to the south shore of the river, where the rent in her bottom will be temporarily repaired, previously to her going into dry dock.*

SOMERSET ARCHÆOLOGICAL SOCIETY.

THE fifteenth annual meeting of this Society commenced on Wednesday, the 9th instant, at Wells. In the county magistrates' room of the Town Hall antiquities and curiosities were arranged as a temporary museum.

The annual meeting was held in the Council Hall; the president, Mr. F. H. Dickinson, in the chair; when the report was read, which congratulated the Society on its continued prosperity. Mr. E. A. Freeman then gave a notice of the antiquities of Wells; and Professor Willis discoursed, as he had done on previous occasions, on Wells Cathedral. He gave a minute account of what he believed was the original form of the church. He said it was shorter than it was now, and was elongated in the fourteenth or fifteenth century. Originally the end was square, and he believed there was no apse. There was now a polygonal lady-chapel at the east end, and aisles had afterwards been added to connect it with the church. He supported his view as to where the

* We give dimensions, &c., of the pump:—A pair of 8-inch V's by 12-inch stroke, 10-inch suction-pipe, worked by 6-horse-power engine, seventy revolutions, 35 lb. pressure of steam. Consumption of fuel, 84 lb. per hour.

original church ended by details respecting the stonework and its peculiarities. The chapter-house, he went on to say, was one of the most beautiful examples of its kind. Returning to the nave, down which he conducted his audience, from east to west, he said the character of its architecture was unlike that of any other cathedral building, and deserved to be called the pure Somerset style. It was very beautiful, and did credit to the county. The work was not the work of masons sent for from elsewhere, whereas in all other specimens of Early English they found the same mouldings and methods of building, varied only by some difference of material, showing the work to be of the same school of masons. All of a sudden, when they got to the west end, they found a change, as if an architect had been then called in, like Mr. Scott, of the present day, who would have his own way and his own style; for they then had Early English, and not the Somerset style. The two styles were mixed together in the most complicated way he had ever seen. If they examined the spandrils they would see that three remarkable changes had taken place. The work, in his opinion, was commenced, continued, and carried on westward, in order of time. The west front was of somewhat later date.

At the evening meeting the Rev. F. Warre produced a plan of the earthworks at Masbury Hill, which it was not deemed advisable to visit on that occasion. Mr. W. A. Sanford read a paper on the Coal Strata of the County, and Mr. W. B. Dawkins one on the Antiquity of Man. A paper on the Roman Villas discovered at Bath was read by the Rev. Prebendary Scarth. He described seventeen villas within seven miles of the city.

On Thursday morning the members reassembled at the council hall, the president in the chair, when Mr. J. H. Parker delivered an address on the ecclesiastical houses appertaining to the cathedral, as to which like Professor Willis on the cathedral itself, he had expatiated on previous occasions. Mr. Parker's lecture was illustrated by large plans prepared by Mr. Hippisley, and sketches drawn by Mr. A. Clarke. After Mr. E. A. Freeman had read a paper forwarded by the Rev. J. F. Dymock, on Vicars Choral, and the Rev. A. Ducane one on the Vicars Choral of Wells, the members and their friends, to the number of more than 200, adjourned to the bishop's palace, to which they were cordially welcomed by Lord Auckland, and over which they were conducted by Mr. Parker. Here Professor Willis and Mr. Parker had a discussion about certain alterations of the towers adjoining the chapel. Mr. Parker then conducted them through the vicar's kitchen, and a house he had himself lately purchased and restored in a way to surprise those accompanying him. Mr. Parker stated that his attention had been attracted to this ancient building by a notice affixed,—"This malt-house to let." One of the vicar's houses, also restored by Mr. Parker, was next visited: it had been converted from a miserable ruin into a comfortable abode.

At the evening meeting, Dr. Daubeny read a paper on agriculture, principally relating to the question of sewage utilization; the Rev. T. Hugo one on Minchin Berrow Priory, near Bristol; and the Rev. G. Williams another on Bishop Beckington. The company, by invitation, then assembled at a *conversazione* in Mr. Parker's restored house.

On Friday, the members again assembled at the council hall to hear the reading of papers, which were more numerous at this than at any former meeting. The party then proceeded to St Cuthbert's Church, upon which Mr. Freeman read a paper.

Afterwards, the archæologists went on an excursion to Wookey Hole, Hyæna Den, Castle-hill, Ben Knoll, finishing at Somerleaze, and thus terminated a highly successful meeting.

THE LATE MR. WILLIAM RANGER.

MR. WILLIAM RANGER, civil engineer, who died on the 12th instant, at his residence, St. George's-square, was known of late years, chiefly from having been employed by the Board of Health upon many of the inquiries into the condition of towns, preliminary to the provisional orders and application of the Public Health Act. His reports include those on Aylesbury, Barnard Castle (two), Barnsley, Cambridge, Chatham, Cheshunt, Coventry, Crumpsall, Darlington, Dartford, Dewsbury, Doncaster, Edmonton, Eland-cum-Greetland (two), Enfield, Grimsby, Halifax, Hartlepool, Heckmondwyke, Hexham, Hertford, Hitchin, Hoddesdon and Broxbourne, Leicester (besides one on the burial grounds), Northallerton, Northowram and Southowram (Halifax), Romford, Ryde (two or three), Shipley, Shirley, New Sleaford, Southampton, Spalding, Stockton-on-Tees (two), Thurmaston, Tottenham, Tynemouth, Uxbridge (two), Wakefield, Waltham Abbey, Ware and Great Amwell (two, and one on the burial grounds), West Cowes, Whippingham (two), and perhaps some others, besides that on Croydon, for which he was associated in the inquiry with Mr. Page. Some seven or eight and twenty years ago, Mr. Ranger's name was most known in connexion with a patented system for the formation of concrete in blocks for the building of walls in the manner of masonry. The principal applications of the material that we can call to mind in London buildings, were those in part of the Wellington Barracks, and in Barry's front of the College of Surgeons, Lincoln's-inn-fields. In these cases the effect was superior at least to that of cement; but in some buildings in which the material was employed, the durability for ornamental accessories, if not plain surfaces, has not been found sufficient. Still, the artificial stone of the College of Surgeons is in as good a state as the natural stone of the hall and library of Lincoln's Inn, hard by,—of so much later date. Mr. Ranger died aged 63. He was a Fellow of the Royal Society.

ROCHESTER AND DOVER CASTLES.

IN his paper read at Rochester already alluded to, the Rev. C. Hartshorne agreed with those who ignore the popular belief that Rochester Castle was constructed by Bishop Gundulph, as from documentary and other indisputable evidence the present building was erected some years after the death of that prelate. Taking his stand in the garden ground beneath the castle, Mr. Hartshorne explained that the outer wall was erected in the fourteenth century, and the space it inclosed filled with buildings all in connexion with the castle. Passing into the interior of the keep, Mr. Hartshorne stated that there was little or no doubt that it was built by William Corbyl, Archbishop of Canterbury, between the years 1126 and 1139. There was a tower, doubtless built by Gundulph, but not the present tower, which was erected some years after that prelate's decease. There were, again, certain marks in the tower which placed it beyond dispute that it was not the work of Gundulph; the joints, &c., of the several arches being altogether different from the form he used. The fine Norman keep was second only to Dover, which was a little larger than the keep at Rochester. They had evidence to prove that Dover Castle cost, for its erection, the sum of 1 200*l.*; and as the castle at Rochester was a little smaller, he should fix the original cost of that building at 1,000*l.* Taking, therefore, the present depreciation in the value of money, 1,000*l.* of the period mentioned would be about 25,000*l.* of the present day. The bottom of the castle keep was originally occupied by the stones, armour, &c., and the first floor and upper stories by the retainers. A well within the keep supplied water for the inmates. A beautiful arcade, a portion of which was now fitted up by a stone screen, ran round the building. It was evident the tracery work could not have been executed by Gundulph, as it belonged to a period after his death. A portion of the castle was knocked down in 1214, and rebuilt in 1227; and from the injuries to which the castle was always liable from war there was little doubt that the work of repair was constantly going on within it. With regard to the situation of the chapel which undoubtedly existed within the castle he could not speak with certainty, although he believed it was in the south-east corner of the building.

THE CHOIR OF WORCESTER CATHEDRAL.

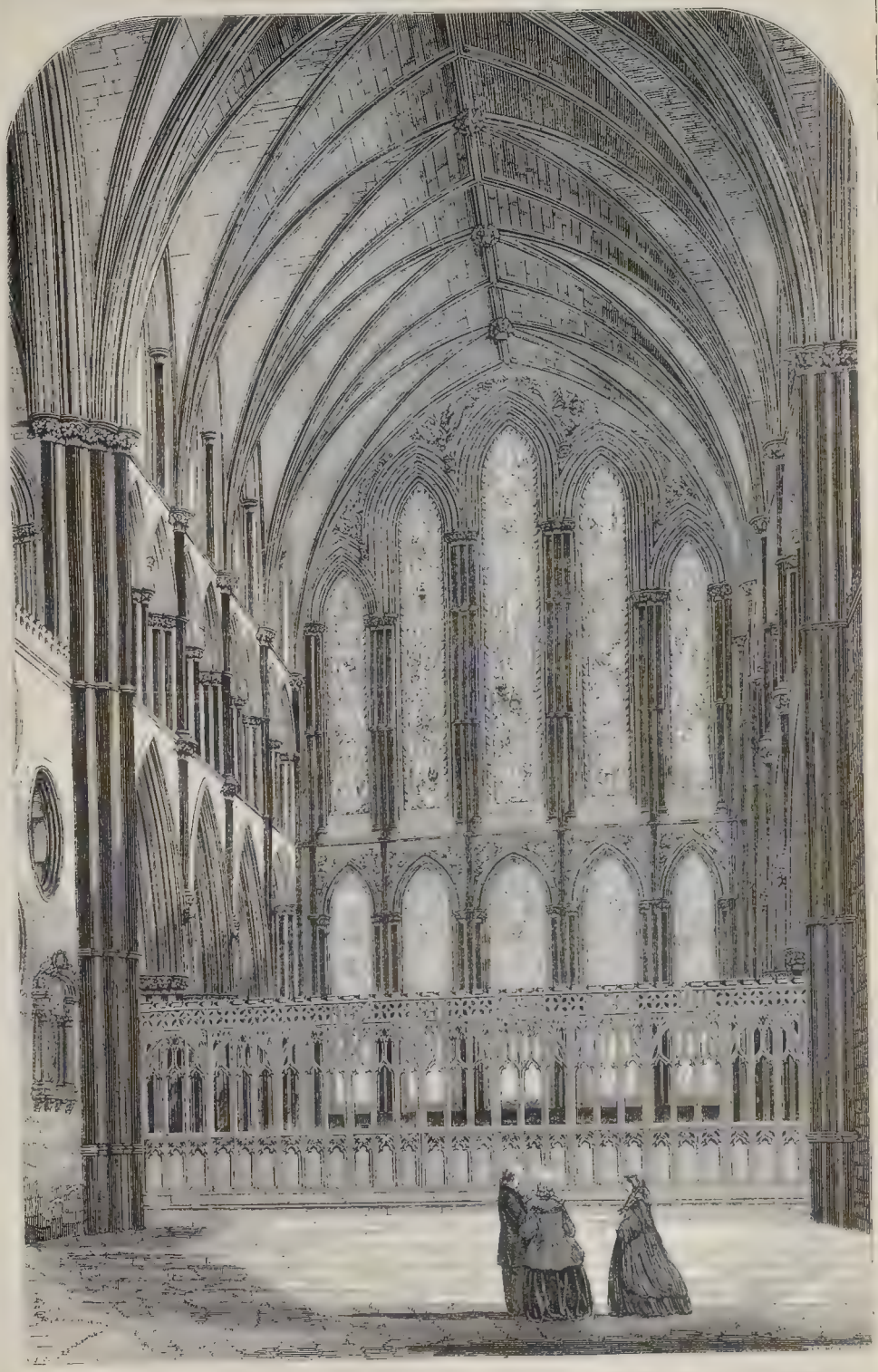
THE Musical Festival recently held in Worcester Cathedral has led to many notices of the present aspect of the venerable building, and provoked some curiosity which the accompanying engraving may satisfy. It shows the east end of the cathedral, as restored under the direction of Mr. A. E. Perkins, of Worcester. The new east window replaces another inserted about the beginning of the present century, of the poorest design and details, and filled with stained glass of the worst description. That window, though so recently inserted, had, together with the gable and adjoining walls, become so much dilapidated that an extensive repair, amounting to an almost entire rebuilding of these parts, was necessary. On careful examination of the eastern portion of the walls, indications were found of what the architect believed had in all probabili been the position of the Early English windo which he supposed occupied the position. As traces whatever remained of a more *rece* ancient window, it was judged expedient to p in one of Early English design, using as authori the windows of the two eastern transepts, whi parts, together with the choir, lady-chapel, & form an unbroken pile of Early English archite ture. The present window was inserted at a co of 500*l.*, and is of Corsham Down stone, wi Purbeck marble columns. It has been filled wi stained glass by Messrs. Hardman, of Birmin ham, for the inhabitants of Worcester, as a tes monial of their respect and esteem for Dr. Jo Peel, Dean of Worcester.

The upper five lancets are filled with grou showing the divinity, power, and glory of o blessed Lord, of which "The Ascension" fills t centre large one. The other subjects, readi from base of dexter light, are—"The Annunci tion," "The Adoration of Kings," "Presentati in the Temple," "Teaching in the Temple." 2n "The Baptism of our Lord," "Angels ministeri to our Lord after the Temptation," "Transfig ration," "Stilling the Storm," "Preaching to t Apostles." 3rd. "The Resurrection," "Noli m tangere," "The Ascension," "Descent of the Ho Spirit," "Our Lord in Majesty." 4th. "Marria Feast at Cana," "The Pool of Bethesd "Feeding the Multitude," "Healing the Blin Man," "Cure of the Sick Man." 5th. "Raisi Jairus's Daughter," "The Raising of Lazarus "Raising the Widow's Son of Nairn," "The Ce turion's Son healed." The lower lancets a filled with subjects from the passion and suffe ings of our blessed Lord, of which "The Cru fixion" is the principal and centre one. T others are the following, reading from base dexter light:—1st. "The Nativity," "Circum sion," "The Flight into Egypt," "The House Nazareth." 2nd. "The Agony in the Garde "The Betrayal," "The Denial of Peter," "T Mocking." 3rd. "Carriage of the Cross," "T Crucifixion," "The Entombment." 4th. "Befo Herod," "Barrabas or Jesus," "The Scourging "The Condemnation." 5th. "Casting of Jes out of Nazareth," "Stoning in the Templ "Weeping over Jerusalem,—'The Son of M hath no where to lay his head.'" The subjects the glass were designed by Mr. John Hardm Powell.

A printed paper put forth by the managers the festival says correctly,—

"This venerable edifice abounds in examples of ev style of ecclesiastical architecture, from the earliest N man to the latest Perpendicular, of excellent composit and detail. The crypt, one of the finest examples of Ea Norman work, has a beautiful eastern apsidal terminat of peculiar interest, being one of the earliest, perhaps earliest, specimen of that beautiful system of groini radiating from central pillars, afterwards so perfec developed in the fine Norman chapter room, with beautiful mural arcades and vaulting of variegated sto all of which had till lately been hidden beneath an ac mulation of plaster and whitewash. Several portions ha been discovered, during the restorations, of the m ancient Norman Cathedral, the extent of which h hitherto been chiefly matter of conjecture: the rec discoveries have, however, served more clearly to def this. The two western bays of the nave are exceedin fine specimens of the later Norman work, contain specimens of very peculiar ornamentation." "T whole of the nave, with the exception of the west bays and some few other parts, is a fine composition the Decorated period, and together with the two gr transepts, which contain portions of fine Norman Perpendicular work, has been thoroughly freed fr whitewash, and restored and opened to view in its anci state. The whole fabric appears to have fallen at early period into a state of decay, and to have suffe much from the hand of violence, and not less, perha in some cases from the injudicious and ineffec attempts at repair, by which much of its external ar tecture was defaced or destroyed, and the interior m mutilated and hidden from view. In the year 1835 it found that the ordinary annual repairs were insuffici for the preservation of the fabric, and that the accum tion of decay rendered it necessary that a thorough re should at once be undertaken. To effect this, and as as possible to bring about a complete restoration of th Cathedral to its pristine beauty, the Dean and Chapter their own unassisted efforts, began the extensive wo which have been in progress since that time under direction of the Cathedral architect, Mr. Perkins."

In carrying out these works, it has been fou necessary to remove some monuments, and removal of Bishop Maddox's cenotaph in the gr cross aisle has opened a Norman arch, which probably a portion of the structure raised by Wulstan. It is rather curious that in furt prosecuting these works a second Norman a has been discovered, in the corresponding positi on the north side of the great cross aisle, beh the famous monument, by Roubiliac, of anot Worcester bishop (Hough). This is built up i a solid wall, like the arch now open in the so aisle; and a suggestion has been made for op ing this, and removing Roubiliac's work to a ther position.



THE CHOIR OF WORCESTER CATHEDRAL.—Architect in the Restoration, Mr. A. E. Perkins.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION.

WE have before us the photographs, twenty-two in number, which have been taken, by order of the committee, for this year's issue. From these, which are obtainable only by members of the Association, subscribers of one guinea are entitled to select ten, and subscribers of two guineas, twenty. The subjects are taken from the Church of St. Trophime, Arles; Auxerre Cathedral; Bourges Cathedral; St. Gilles Abbey Church; Archbishop's Palace, Lyons; Sens Cathedral; Church of St. Martha, Tarascon; and the Abbey Church, Vezelay. The majority of them are portals of Romanesque character, very interesting and valuable. As photographs, some of them might be better. We can praise, however, even in this respect, the north door of the west portal of St. Gilles; west portal of Sens Cathedral; salle synodale of the same building; the south portal of St. Martha, Tarascon; and the west portal of Vezelay Church. We can fairly recommend our readers to join the Society at once.

Subscriptions may be paid to Mr. William Lightly, who acts as hon. secretary, 23, Bedford-row.

THE CLOSE COURTS IN LIVERPOOL.

ATTENTION is now being urgently called to those plague spots which have long given Liverpool a bad notoriety among English towns, and have been the main source of that unhealthiness for which this town has been noted; and although it is locally maintained that the town is not now an unhealthy one, and although no doubt great improvement in that respect has of late years been effected; still there are spots here and there which are as bad as ever, if not increasingly worse than when less densely populated. In the local council, lately, one of the aldermen admitted that "there are courts in this town which are never without fever, winter or summer." This remark has produced some impression; and "a gentleman of wealth and influence in the town" has written to the mayor, making the following offer:—

"With a view of promptly commencing to alleviate this misery, I beg that you will count on me for 1,000*l.* (only, however, on the terms mentioned at the foot of this letter), in the earnest hope that you may, before the close of your year of office, originate a voluntary committee having the management of a fund, raised by subscriptions, for the express purpose of buying up and obliterating these plague spots of our town.....

Thus, a few thousand pounds in the hands of a voluntary committee would go a long way; especially as many owners of property might part with it more easily to private persons than to the corporation. Perhaps a voluntary subscription will never bur up *all* the ill-constructed courts; yet we may reckon that those in which fever continually reigns can only be a small proportion of the mal-constructed ones; and this limited number might soon be purchased by the managers of such a voluntary fund, aided, perhaps, by the resale of the cleared land to the Finance Committee.

In many cases, where the rear of the court is wide enough, instead of purchasing the whole, it would be sufficient to remove one house, forming, as it were, the 'cork' to the court; and this ought to cost a mere trifle, as its removal would enhance the value of the houses behind.

If such a voluntary movement lead to an Act of Parliament for the compulsory removal of all such courts from Liverpool, so much the better."

The conditions on which the offer is made are these:—

100*l.* to be paid at once if the fund be originated on or before the 9th October next.

The remaining 900*l.* to be paid in the proportion of 100*l.* to every 10,000*l.* after the first 10,000*l.* that shall be actually raised before the 9th September, 1864.

The offer sounds liberal; but it will require a good many equally liberal subscribers to render such an offer of any really practical and efficient use.

PREMIUMS FOR DESIGNS FOR COTTAGES.

TWO prizes of 25*l.* each have been placed in the hands of the council of the Society of Arts, to which is added the Society's medal, to be offered for the most approved designs for cottages, with three bedrooms in each, to be built singly or in pairs, at a cost not exceeding 100*l.* each.

They are offered, one for competition among the members of the Architectural Association, and the other to be open to the United Kingdom.

In order to secure a proper sanitary condition, such provisions are to be made as have the sanction of practical experience.

"It is deemed necessary that each cottage should contain, on the ground-floor, a living room, of about 150 feet superficial; a scullery, or kitchen, of not less than 70 feet superficial, with a ventilated pantry; and, on the upper floor, three bedrooms, one of which must not be less than 100 feet superficial: in two of the bedrooms fireplaces should be provided. The height from ground to first-floor should be 9 feet, and the bedroom, or upper floor, be 8 feet clear.

The memorandum of the Inclosure Commissioners with respect to the substantiality of agricultural buildings (as applied by them under the several Improvement Acts), shall be adhered to.*

The drawings are to be on a uniform scale of one-eighth of an inch to a foot, and they are to be not fewer than six in number, viz.—two plans, three elevations, and one section.

Each design is to be accompanied by a detailed specification, and an estimate stating in full the quantities of all the materials required, and the *cost* price at which they are calculated. Brickwork at 8*l.* per rod reduced; countess slates at 23*s.*; and Baltic pine timber at 2*s.* 3*d.* per foot cube. In regard to other materials and labour the whole are to be calculated at cost price. An allowance of 20 per cent is to be made for contingencies and builder's profit, with 5 per cent. for the cost of superintendence, so that the *prime cost* of each house must not exceed 84*l.*, which amount must include not only the cottage but the fixtures, water supply or well, fencing, paving, and all those necessary addenda which the cottage owner must provide, and which, costing money to provide, he requires interest for in the shape of rent."

In the selection of the plans for premiums, experienced professional assistance will be obtained, and the estimates will be subject to the examination of a competent surveyor. The designs will be submitted to public inspection, if deemed worthy thereof, and the two most approved will be retained for publication or not, at the option of the council.

The judges will be an architect, a land agent, and a builder, named by the council of the Society of Arts.

It would be an advantage if each competitor could name a contractor who would undertake the erection of ten pairs of cottages, according to the design and estimate.

The plans, drawings, and specifications must be sent to the Society's House, John-street, Adelphi, not later than the 1st of January, 1864.

* This may be obtained at the Society's house.

ST. PETER'S PRIMITIVE METHODIST CHAPEL, CAMBRIDGE.

THE following were the tenders; Mr. Christmas, of Cottenham, architect:—

	For the Work according to the Drawings.	If the Chapel be 2 feet longer than the drawings, add.
	£ s. d.	£ s. d.
Bullock, Cambridge	748 0 0	—
Harvey, ditto	695 0 0	25 0 0
J. Oates, ditto.....	655 0 0	30 0 0
Christmas, Cottenham, the architect (accepted)	539 0 0	7 0 0

Thus Mr. Christmas is in the anomalous position of architect and builder. We hear that he intends to appoint a clerk of works on his behalf as architect, to see that he as builder does justice to his own design as architect: it is not clear, however, whether the architect is to look after the clerk of works, or whether the builder is to look after both.

TELBIN'S DIORAMA OF THE HOLY LAND.

THE pictures painted by Mr. Wm. Telbin, and exhibited in a piece produced at the Haymarket Theatre, are now shown at the Egyptian Hall, with some additional views, chiefly in the form of the moving diorama. There are seventeen subjects, including Cairo, Philœ, Jerusalem, the Holy Sepulchre, Ford of the Jordan, Plain of Jericho, the Dead Sea, Nazareth, Galilee, Mount Hermon, Distant View of Damascus, Interior of a Turk's House, Bäalbec, Beyrout, Street in Smyrna, Constantinople, and Entrance to the Bosphorus. The greater number of the subjects are as finely painted as anything that has come from Mr. Telbin's hand, and certain effects of light are well managed. In the exhibition of the view of the interior of the Church of the Holy Sepulchre, one of the best of the number, the sepulchre opens, and discloses the body of the Saviour, the head supported by angels,—a beautiful piece of effect. The details of architecture in the Bäalbec view are not sufficiently made out. The statement in the description that the Great Temple of the Sun is supposed to have been built by Solomon, should be corrected, or supplemented, to the extent of saying that the existing remains are undoubted Late Roman. This, the mouldings and ornamentation are quite sufficient to show. There is one omission, common in the lectures accompanying such exhibitions as the one we are noticing, and not compensated by any amount of sounding words. The lecturer does not point out, with sufficient clearness for his audience to discover, the separate buildings or other objects of which he speaks, or which are included in the picture. The enterprise which prompted Mr. Telbin's journey to the Holy Land for the purpose of obtaining faithful representations, the supreme interest of the places shown, and the skill and power which the pictures display, make a strong claim on public attention. Vocal music is added to the attractions of the exhibition.

HOW TO PREVENT THE TRANSMISSION OF SOUND THROUGH GLASS.

A CORRESPONDENT asks in the *Builder* how sound is to be prevented passing through a plate-glass partition. "Civil Engineer" says,—The answer is, Have two plates with an air-space betwixt. An ordinary window may be glazed with double "sheets" or "squares" of glass; and if an air-space of ¼ inch is left betwixt each sheet or square of glass, sound will be deadened, and heat be retained. Mr. Bridges Adams has, I think, proposed "double windows," as described; that is, ordinary window-sashes with double glass, having ¼ inch or ½ inch air-space betwixt each square of glass. Ordinary windows in offices or street-fronts will be warmer, and deaden the sound, if so glazed.

ARCHITECTS AND BUILDERS.

SHOREDITCH WORKHOUSE.

"AN Architect," who sends us a local paper containing a report of a recent meeting of the Board of Guardians of Shoreditch, draws our attention to a statement (as reported by one of the speakers) of the architect of the workhouse which is being built for that parish, tending to discredit the architectural profession. It had been objected that in a contract of 43,000*l.* the sum of 7,000*l.* is left at the disposal of the architect, Mr. W. Lee, without control, for engineering and other works. The architect satisfied the board, and the objection was withdrawn; but the statement made by him rankles in the mind of some of our readers. What the architect's defender said was this:—

"He had made it his business to consult Mr. Lee upon this question, and asked him whether it was an expected thing with professional men to get a profit out of these things? He said, 'Yes; it is usual.' He said, 'Now, Mr. Lee, do you mention that in confidence, or can I make any use of it?' He said, 'Yes; you can make any use you please of it.'"

We should like to know on what grounds Mr. Lee makes this assertion?

BUCKLAND ST. MARY, SOMERSET.

THE Church of Buckland St. Mary, which has been entirely rebuilt, at nearly the sole cost of the rector, the Rev. J. E. Lance, has been consecrated and opened for divine service, by the Bishop of Bath and Wells. Through the lapse of years the old church had become much dilapidated, and almost unfit for the purpose of religious worship; and its condition was long a subject of serious anxiety to the rector. At length he came to the resolve to rebuild the church at his own expense; but he was joined in the work by the parish, and friends and relations. Notwithstanding this assistance, however, the rector is said to have expended 16,000*l.* on the church, the total cost of rebuilding being 20,000*l.* The new church of St. Mary Buckland is built in the Second Pointed style of the later floriated character. The building has been several years in progress, it being the desire of its founder that every part of it should be built as solidly as possible and of the best materials. The plan of the church consists of a nave, north and south aisles, with a tower at the south-west end, a south porch, a chancel with side chapels, the south appropriated as a vestry. The nave may be said to consist of five bays, and is separated from the north and south aisles by an arcade of clustered columns and deeply-moulded arches. Over the apex of the arches are placed twelve canopied niches, each niche containing a statue of an apostle. In the gable wall over the arch is an elaborate niche, with a statue of our Lord. The whole of the statues were provided by Mr. Earp, of London. The roofs, both to the nave and aisles, are of oak. The former has moulded and arched trusses resting on hammer beams; the latter moulded trusses on carved brackets and divided into panels by moulded ribs. The west end of the nave has a six-light window, filled with painted glass, executed by Messrs. Clayton & Bell. The aisle windows are ornamented by painted glass, by Messrs. O'Connor and others. The chancel roof has much carving,

enriched by polychromy, the work of Mr. A. Stansell, of Taunton. The vestry on the south side and the north chapel are separated by wrought stone screens, with enriched cornices, shafts, and decorated tracery work. The chancel is separated from the nave by a low arcaded stone screen of different coloured materials, and the little pillars composed of stones and marbles, the productions of Somerset, and other details, are executed in green and other marbles. In the centre is an opening, to which are hung brass gates, with cinquefoil tracery and other ornaments. Combined with this screen stands the pulpit, on the north side approached from the chancel. This, again, is composed of Ham stone, inlaid with various marbles, the body of the pulpit being supported upon a large central column surrounded by smaller pillars of coloured marble, with carved capitals of white lias—all these materials from the county. There are five deeply-recessed arches, containing figures of the four evangelists, our Lord occupying the centre one. The east end of the chancel has a traceried five-light window, filled with painted glass, by Messrs. O'Connor. In the east window, the lower compartment represents the sufferings and crucifixion of Jesus. The upper division represents Jesus on His throne of glory, surrounded by glorified saints. The north window represents the resurrection; the south, the ascension. The window in the north transept is by Messrs. Powell, and represents four subjects;—Abraham offering up Isaac; Jesus in subjection to his parents, and reasoning with the doctors; and Hannah presenting Samuel to the Lord. All the remaining windows are by Messrs. Clayton & Bell. That in the tower represents the passage of the Red Sea, and the plagues. In the west window is a representation of the Day of Judgment. On the north side of the west end of the nave are two windows filled with stained glass. One is a one-light window, the subject of which is the Baptism of our Lord, and the other, a two-light window, the subject represented being the Entering into the Ark. In the north aisle is a mercy window, with subjects from St. Matt. xxv. Below the east window is a sculptured reredos, filled with arcaded and inlaid work of Derbyshire and Watchet alabaster, the centre panel of white alabaster, with gold metal cross. In the north side of the sanctuary there is placed a mural recessed segmental arch, having deeply-sunk mouldings, consisting of a memorial of the Rev. Mr. Lance's first wife. The coped gravestone is bursting asunder for a final resurrection. The artist was Mr. Forsyth. The chancel is furnished with oak stalls, the front and ends being carved. The chancel is paved with encaustic tiling. The aisles are filled with solid benches, the ends panelled, traceried, and carved. The nave is fitted with loose benches of oak. The western tower communicates with the nave by a segmental arch. Opposite the entrance stands the font, made of native stones and marble. It is octagonal in shape, the bowl being made of Williton sandstone, and in the alternate sides are inserted, in medallions, figures of the four evangelists, the other sides containing representations of the baptism of the eunuch by Philip, the baptism of Christ by St. John, Christ's rebuke to those who kept back little children from approaching him, and Christ's charge to his apostles to go into all the world, &c. This is supported by columns of Somerset marble from the Quantock Hills, and the capitals are of Watchet alabaster. The whole rests upon a stand of polished lias. It is surmounted by a carved and canopied cover of oak, made from the old oak of the former church. The font is the gift of Mr. H. Davis, of Taunton, by whom the entire church has been built. The tower stands at the west end of the south aisle, and has an entrance from the west. The interior is groined with stone, and contains a four-light window filled with stained glass. In the upper stage is a peal of six bells. The tower is strengthened by graduated buttresses, and terminates with an enriched parapet and pyramidal roof. There is also a south porch, groined with stone. Inside the south door is a canopied niche, which contains a figure of the patron saint of the church. The span roofs of the nave and chancel, as well as the lean-to roofs of the aisles, are covered with Bridgwater tiles. The church is built of Ham Hill stone dressings, and flint facings. The entire building was designed by Mr. Ferrey, the diocesan architect; and the work has been executed by Mr. H. Davis, of Taunton, who recently re-built the tower of St. Mary's Church, Taunton. The organ, which is placed in the north chapel, has been built by Mr. W. Sweetland, of Bath. The great organ (CCC to F, 54 notes) contains the following stops:—open diapason, stop diapason (treble and bass), dulciana, principal, twelfth, fifteenth, German flute. The swell (tenor C to F) contains:—open diapason, dulciana, stop diapason, principal, fifteenth, hautboy, and trumpet, inclosed in a Venetian swell constructed on a new principle. There are also pedal organ, CCC to C; open diapason from CCC to F, and three composition pedals. There is a metal pipe front.

CHURCH-BUILDING NEWS.

Chew Stoke (*Somerset*).—The parish church of St. Andrew, Chew Stoke, after undergoing a restoration, has been re-opened for divine service. The old edifice, which was in a very dilapidated state, consisted of a chancel, nave, and south aisle; but a north aisle and north chancel chapel have been added. The tower has been preserved, and the new work made to harmonise with it. Interiorly the south arcade is of the thirteenth century, as is also the east window; but other portions indicate the fourteenth century period; and instead of designing the alterations all in one style, the old features have been retained. The church, therefore, as restored, represents three periods of Gothic architecture. The south aisle is said to have been rebuilt, stone for stone, according to the old design; but the north aisle has been built in the same style as the tower, and is divided from the nave by an arcade of clustered columns with friezes of angels for capitals. The north chancel chapel, in continuation of the aisle, is divided into an organ chamber and vestry by means of screens; and the chancel itself is separated from this chapel and the south chapel by par-closed screens. The fittings and roofs are all new. The pulpit, which is octagonal and in the Decorated character, is sculptured and inlaid with marble; and the same may be said of the reredos under the east chancel window, which is inlaid with coloured marbles, and is to be elaborately ornamented. The east window represents incidents in the life of St. Andrew, the patron saint of the church, and was executed by Mr. Bell, of Bristol. It was the special gift of the rector, the Rev. W. P. Wait. The stone font, which is made to agree with the Early English work of the church, was given by Mrs. F. Durke, the wife of the contractor. The font stands at the west end of the church under the tower, which forms a baptistry. On removing the gallery which formerly blocked up this portion of the church, a groined ceiling to the tower, and which is now exposed to view, was discovered. The chancel floor is inlaid with Minton's and Mawe's tiles. The roof is of open timber, stained and varnished, with carved angels at the cornices, and the seats are also of stained wood, with carved *fleur de lis* ends. The old church could accommodate 239 persons, including the west-end gallery, which blocked up the tower; but now it will accommodate, without the gallery, 318, and the larger portion of the seats are free and unappropriated. The churchyard has been levelled. The old organ has been restored by Mr. Vowles, of Bristol, and now stands at the north of the chancel. There is a south porch, with open pierced parapet work, and battlement cornices to the nave and aisles throughout. Underneath the church is a heating chamber, containing an apparatus of Mr. Aden, of Trowbridge. It was not intended at first to effect so complete a restoration in the edifice as has been done; but as the work progressed the old building was found to be so dilapidated that sweeping improvements were required. The whole of the alterations were designed by Mr. J. Norton, of London and Bristol, architect, the contractor being Mr. F. Durke, of Chew Stoke.

Nantddu.—The church recently built in this place has been opened for divine service by the Bishop of St. David's. The church is situate in a valley that has great attractions to the people of Merthyr. The edifice was designed by Mr. Buckridge, of Oxford; and the builder was Mr. W. Williams, of Brecon. The cost was 400*l*.

Llanfihangel (*Brecon*).—The committee for the restoration of Llanfihangel Fechan Church have received the undermentioned tenders, according to the plans and specifications prepared by Mr. T. Nicholson, of Hereford, architect:—Mr. W. Williams, builder, Watton, 531*l*.; Mr. R. Price, builder, Llanfaes, 528*l*; Messrs. Williams & Sons, Llanfaes, 480*l*. The last-named was accepted. The building of Curist College, which is rapidly drawing to a close, and the old Christ College Church, which is about being restored, are both under the superintendence of Messrs. Williams & Sons.

Shrewsbury.—The works at Shrewsbury Abbey Church are now brought to an end. These comprise the re-establishment of the structural parts of the edifice, the restoration, so to say, of much of its foundation, and under-pinning. Some centuries ago, the ancient Norman clerestory had been destroyed, and the roof lowered to the level of the triforium arcade. Want of funds determined the committee not to attempt to replace this clerestory, or restore the transepts and part of the choir, as at first proposed. The lighting of the interior has been obtained by opening the triforium arcade, and fitting it in accordance with the character of that part of the structure, and in something like harmony with the western and later parts of the building. The gallery that filled up the interior tower base, with the cumbrous organ it supported, has been removed, and the windows on the side of the town, as being of good proportions, have been opened. Thus, the great west window is now displaced. Some farther details will be found on p. 572, *ante*.

Wilmslow (*Cheshire*). — The ancient parish church of Wilmslow, dedicated to St. Bartholomew, has been re-opened for divine service. Considerable repairs and alterations have been made, at a cost exceeding 3,000*l*. An addition has been made to the churchyard, at a further cost exceeding 1,000*l*. A transept has been added to the church, and also a gallery for Sunday-school children. The pews have been removed, and their place supplied by open sittings.

PROVINCIAL NEWS.

Peterborough.—The cattle market project is progressing, and operations, it is said, will be commenced shortly after Michaelmas. The plan has been prepared by Mr. T. C. Thorburn, the architect of the Derby cattle-market, and approved by the directors. The stalls are to accommodate 825 store beasts, 685 fat, 104 calves, 4,448 sheep and lambs, 520 pigs, and 145 horses. The area of the land is about 5½ acres.

Haileybury (*Herts*).—The council of Haileybury College (which was formerly the East-India Company's Cadet College) are now having waterworks erected for the supply of their extensive establishment. The supply is from a deep well sunk into the chalk, whence springs an unlimited quantity of water of the purest quality. The water will be pumped into a tank holding 10,000 gallons, erected on a tower 234 feet above the water-level. The works include a high-pressure steam-engine, Cornish boiler, pumps, and other work, and will supply 4,000 gallons per hour. The swimming-bath, lately erected, will require 235,000 gallons of water, and is one of the largest in England, being 210 feet long. Mr. Josiah F. Fairbank, C.E., designed these works, and is entrusted with the execution of them.

Buckingham.—The council having issued notice for tenders for a new iron foot-bridge in lieu of the present wooden and unsafe one near the Woolpack Inn, the one sent in by Mr. Wright, of Stamford, was chosen, the cost being 90*l*. The bridge is to be constructed of wrought iron, and to be of 32 feet span. The abutments, &c., will have to be completed under a separate tender. The council received plans and tenders from eight different firms.

Aldershott. — The Mission-hall and Soldiers' Institute, the first stone of which was laid on the 11th of February by the Earl of Shaftesbury, was to be formally opened on the 4th. The building is in the Early Anglo-Gothic style, and is furnished with a reading-room, smoking-room, library, coffee-bar, and other offices, together with a lecture-hall, capable of accommodating 500 persons. The architects are Messrs. Eggar & Stapley, of Farnham, and the builders Messrs. Goddard, of the same place. The object of the Mission-hall is to furnish the soldier with wholesome means of recreation in place of the vitiating temptations which exist at Aldershott. Amusements will be provided, and occasional lectures on interesting subjects will be given.

THE MAIN DRAINAGE AND SUBURBAN GARDENS.

Mr. Glenney complains of the ill effect of the deep cutting of the Main Drainage on the market and other gardens which surround London. He tells us that many wells and other sources of water-supply have been dried up, and that the moisture has been so much absorbed from the soil that trees, plants, &c., lack nourishment, and suffer severely. Mr. Glenney's opinions on subjects of this nature are well worthy of consideration, but it should be borne in mind that this summer

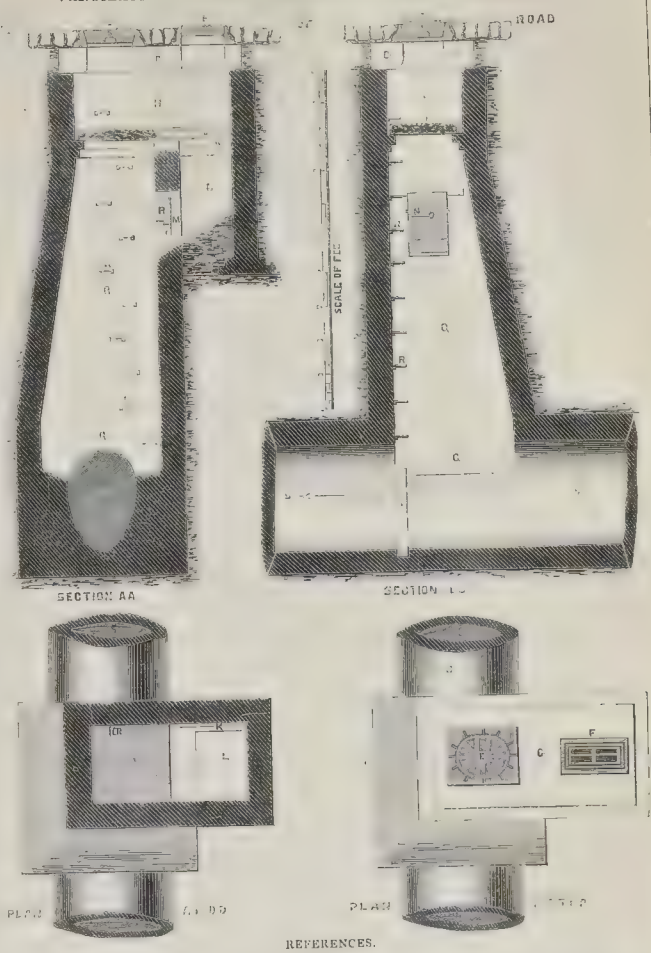
has been one remarkable for the small extent of rain-fall; and it may be, that what is complained of is but temporary: but in one respect we should not regret this drying of the soil, which, if other things are well managed, is in great cities conducive to health. This gentleman does not approve, except in cases of extremity, the watering of flowers and plants upon the surface; but when we notice that pipe drainage of both fields and gardens has had a most beneficial effect, and that the rain descends from heaven and waters the earth, it seems natural that some plan of irrigation—different from that at present in use—may be applied with success in the preservation of the beauty and usefulness of our parks, gardens, &c. It will be said that the cost of water in the metropolis would prevent the application of this to any sufficient extent; but it is not likely that London can be supplied with this necessary in the same manner as at present, but that ere long we will have new supplies, from distant and pure sources of water, without limit. The Main Drainage being completed, it is not unlikely that the public attention will be directed to this most important matter.

MAIN SEWER VENTILATION.

In the construction of main sewers it is of the utmost importance to provide for full, free, and unceasing ventilation at many points; and also, as far as is possible, to *disinfect* sewage gases before these escape into the street above the sewer. Some twenty or more years since the London sewers were, for the first time, extensively and permanently ventilated, with, it must be confessed, great sanitary advantages to the residents in the metropolis. The London sewers are, however, unfortunately for the most part ventilated by vertical shafts *direct* from the sewer to the street; the ventilating grates allowing sewage gases to escape direct into the open air above; street mud, ground macadam, sticks, straw, and any other material which will pass through the open spaces of the ventilating grate, falling down and tending to block the flow of sewage below. Some years since Dr. John Stenhouse proposed the use of charcoal as a disinfecting medium for sewage gases. Mr. Robert Rawlinson, sanitary commissioner in 1855, adopted charcoal at the suggestion of Dr. Stenhouse, in the British Hospitals on the Bosphorus, as also in the Crimea, and, subsequently, in various towns in England on main sewers; as, at Worksop, at West Ham, at Brighton, at Winchester, at Windsor Castle, at Swansea, and at other places. Dr. Letheby, the City Officer of Health, and Mr. Wm. Haywood, the city engineer, have also used Dr. Stenhouse's mode of applying charcoal to disinfect sewage gases in the City sewers; and, as reported by these gentlemen, with advantage. There are difficulties on the City sewers peculiar to the City of London. The volume of sewage is vast, and the sewers are large, having flat inverts, with small falls. They have also to be cleansed by hand labour; any check, therefore, to the free flow of air to and from the sewers, to dilute the sewage gases, is attended with some danger, and the intervening of screens of fine charcoal *might* retard ventilation in a degree. The remedy is, however, to be found, not in abandoning a use of charcoal, which is so beneficial, but by increasing the area for ventilation, so as to compensate for any retardation of an escape of sewage gases by the ordinary openings. The following facts have been proved:—Ordinary wood charcoal, broken small in grains like coffee beans, and placed in wire boxes, or trays, so as to "*screen*" the sewage gases, oxydises such gases as they pass through the charcoal. This effect is not evanescent, but is permanent, in a great degree. The charcoal abstracts oxygen from the atmosphere by its enormous area of pores, and combines this oxygen with the sewage gases in such manner as to produce a sort of slow combustion, or such recombination, as to render sewage gases comparatively innocent. Dilution in the air has a similar effect, but is not so rapid.

In main sewer ventilation, charcoal can be used at all ordinary manholes, as shown on the diagram, plans, and sections. A manhole-cover is placed over the vertical shaft above the sewer, which forms the street surface, and is air-tight, but moveable. A side chamber is formed, over which to place the open ventilating grate, and a wire tray, to be filled 3, 4, or more inches deep with fine charcoal, is so placed that it will slide over the vertical shaft, and so cause all gases escaping from the sewer to pass through the charcoal when in action. The tray can be drawn or pushed back over the side chamber when it is desirable to enter the sewer to examine, to cleanse, or to flush it. Such ventilating chambers, at some 300 feet to 500 feet intervals, are in use on the main sewers in West Ham, and in other places. The side-chamber is an advantageous arrangement, if there be no charcoal tray, in preventing dirt falling upon the sewer invert, and so impeding the sewage flow.

VENTILATION OF MAIN SEWERAGE.—*Mr. R. Rawlinson, C.E.*



REFERENCES.

EEE. Manhole Cover.
FF. Ventilating Grate.
GGG. Stone Cover.
HH. Ventilating Chamber.
II. Charcoal Screen.
J. Position of Screen when removed.
KKK. Iron Bars.
LL. Receptacle for Road Grit.
M. Opening for removal of Road Grit
NN. Iron Door.
O. Iron Bar to fasten Door.
P. Concrete.
QQQQ. Manhole Shaft.
RRRR. Step Irons.
SSSSS. Brick Sewer.
T. Slot to receive Sluice.

THE SANITARY STATE OF OUR TOWNS.

The Privy Council having sent down Mr. Bristow to Whitehaven to make a sanitary inspection of the town, he attended a meeting of the sub-committee of the Board of Health, and in the course of his remarks on the filthy state of the town, part of which he had then visited, he referred to the report made on the town thirteen years ago by Mr. Rawlinson, whose recommendations as regarded waterworks and the burial of the dead outside the town had been carried out, but in other respects the town had remained till now in precisely the same state as then. Many things, he remarked, could be done under the Local Government Act, if they had the co-operation of the local magistracy; and the Nuisances Removal Act would enable the local authority to remove nuisances, and to compel whitewashing.——Small-pox, it appears, is still spreading at Keswick, and cleansing processes and vaccination there are still the order of the day. Dr. Leitch, a local medical authority, states that there has been a gradually increasing mortality for many years in Keswick, showing that there must be some special cause of death at work, and in his belief the increased mortality is due to the circumstance that the old imperfect drains are unfitted to carry the refuse of water-closets and cesspools, which have gone on increasing during the last ten years. Mr. Rawlinson, in a letter to him, expresses his indignation that ignorance and prejudice should so long continue to oppose effectual measures for restoring Keswick to a more healthy state: he says that main sewers might be got for a 6d. rate.——At Edzell, in Scotland, lately, Professor Miller, at the close of a lecture, urged that this village should be thoroughly drained; and the Earl of Dalhousie, while passing through to Dundee, has intimated to Professor Miller that he will be at the whole expense of putting in the main or leading drain in the village, and carrying it down to the river North Esk.

National Association for the Promotion of Social Science.—The seventh annual meeting will be held in Edinburgh, commencing Wednesday, 7th of October, under the presidency of Lord Brougham.

THE CONSERVATION OF NAVIGABLE RIVERS.

AT the recent meeting of the British Association for the Advancement of Science, at Newcastle-upon-Tyne, in the Mechanical Section, Mr. J. F. Ure, engineer to the River Tyne Commissioners, read a long and interesting paper on the several methods adopted towards improving the navigation of the river.

In the discussion, Mr. J. Scott Russell quite agreed with the plan at present being adopted by Mr. Ure for the improvement of the river, but thought Mr. Ure had rather understated than overstated the advantages that might be expected as resulting from an improved depth of water in the river. Having been connected for about forty years with the Clyde, he well remembered the revolution that had been produced there, and he remembered when only a few fishing-boats could get to the quays, and also when he went down with great wonder to see the first two-masted ships come up to the quays at Glasgow; they had now from 16 to 20 feet of water, and all this had been accomplished by the same system now being adopted on the Tyne—namely, by dredging. He congratulated them upon the fact that instead of taking the little-and-little-bit plan, they had had the courage to apply at once the most modern principle with which they were acquainted. They were going to encourage the tidal wave to come in by giving it great depth, uniformity of channel, and great widening to the mouth of the sea.

Admiral Sir E. Belcher totally disagreed with Mr. Ure as to the plan adopted by him, and quoted the Clyde, as showing that the improvements there had been effected not by dredging, but by narrowing the channel.

On another day Mr. Ure conducted a party down the river. The works comprise piers at the mouth of the river, which will cost 660,000*l.*, and inner works estimated to cost 950,000*l.* The dredging plant is said to be worth 250,000*l.*: it includes two of the most powerful dredging-machines in the world, lifting three millions of yards of sand from the river-bed in one year.

We may remark that the reports do not convey quite a clear impression of the arrangements at the mouth of the Tyne, designed by Mr. Walker, so far as the piers tending to narrow the mouth are concerned. These arrangements, it has been said by some engineers, tend to produce silting up of the river, although no doubt the dredging would at least retard that operation.

MEETING OF THE NOTTINGHAM ARCHITECTURAL SOCIETY IN LICHFIELD.

ON Monday, the 17th ultimo, the members of this society, accompanied by their president, Mr. T. C. Hine, held their annual excursion meeting at the cathedral town of Lichfield. The following members and associates were present:—Mr. T. C. Hine, president; Messrs. Jalland, Gilbert, Clarke, Norris, Evans, John Jackson, Heazell, S. D. Walker, Hickson, F. Booker, R. Booker, G. F. Hine, R. C. Clarke, Ingle, and G. Hickson, with Mr. Frederick Jackson, the honorary secretary. The party devoted a large portion of the day to the examination of the cathedral, and visited other places of interest. Amongst them was Dr. Johnson's house. This house, at the corner of Sadler-street, still presents its ancient front, but has degenerated into a draper's shop: fronting it is an unworthy statue of the doctor himself, supposed to be in deep meditation; and near the Market-house, Edward VI.'s grammar-school, in which Johnson was trained, as were Addison, Garrick, Bishop Newton; Salt, the Egyptian traveller; and other eminent men. The doctor was wont to say that Dr. Hunter never taught a boy in his life: *he* whipped and *they* learned. In the castle, on the site of which are erected the Newton almshouses, Richard II. was confined. The neighbourhood is somewhat rich in antiquities. Amongst these is Edial, or Edgehill, an old high-roofed house where Johnson lived in 1736, when Garrick was his pupil; and at Stow Hill he wrote the greater part of his "Lives of the Poets." A Roman station, called Etocetum, was supposed to be here, from which the town is said to have taken its name. A number of martyrs suffered under the Romans, in a field close to the station, in the third century. Lich being the Saxon for dead body, hence the name Lichfield.

The restorations in the cathedral, our readers know, include a new chancel floor of illuminated and glazed mosaic work; the carved oak throne, with the dean, chapter, and choir sedilia, by Evans; a reredos, commenced,—to cost, it is said, 3,000*l.*; and the chancel screen, in brass, copper, and iron, richly coloured, a work worthy of comparison with its sister screen, made for Hereford cathedral. It is to be regretted that the screen was not confined to the space between the clustered piers of the chancel arch. The stonework has been somewhat defaced and hidden from view by the metal work extending beyond the space before named.

ACCIDENTS.

HEMBRIGG Mill, where a recent terrific boiler explosion occurred, is again the scene of a disaster. During a gale of wind the chimney has been blown down. It was about 25 yards high, and was built after the boiler explosion, two months ago, and only required the coping-stones at the top to complete it. It was erected on the site of the old chimney. Across two houses, one occupied by the owner, the chimney fell, and completely battered in the roofs and floors; and, though the buildings were three stories high, several loads of bricks and rubbish were deposited in the first story. The inmates had barely time to escape.

The roof and side wall of a foundry at Salford, Todmorden, have fallen in. The cause is supposed to be the drying of the timbers by the heat arising from moulding. Fortunately the building fell after work hours.

At the Ouseburn Engine Works, Newcastle-upon-Tyne, while stripping an immense casting, it was found necessary to shift its position, and a traversing crane was employed for the purpose. While this operation was being performed, one of the iron girders on which the crane travelled gave way, it is supposed, from the oblique strain brought to bear upon the coupling chain; and seven men were brought to the ground, one of whom was killed, and three others, were injured.

A number of workmen, in the employment of Mr. Thomas Davies, have been at work for some time past in the removal of several old cottages situate in Mill-street, Leominster, new ones having been erected. To serve the purposes of a workshop, and as a place for lime and other things, the workmen had left an old house standing in the rear of the new buildings; and this was covered with a very heavy roof of tile and stone. A week before, the workmen cut away the binder or tie which held the roof together, and to this act is attributed the circumstance that the building fell and killed one of the workmen. Verdict, "Accidental death."

The verdict on the bodies of the two men, killed by the falling in of a well in the course of being built at Woodbridge, was, "That the death of the deceased was caused by accident by the partly caving in of a well, arising from the deceased, Charles Dove, incautiously taking some bricks from one quarter of the well without properly securing the quarter from which those bricks were taken."

THE COLOURED DECORATIONS IN NEW STREET CHAPEL, YORK.

THE above decorations, which have just been brought to issue, have been completed under the superintendence of Mr. Worthington, of Blake-street. The design, though in some points open to exceptions, is on the whole very satisfactory. The walls of the chapel and orchestra are tinted a light cinnamon. A continuous painted band or label, in white and chocolate, is carried round the window arches, and connects them at their springings; the circular part being filled in with a Vitruvian scroll and the horizontal with a Doric fret, interrupted at intervals by a four-leaved flower. The ground-floor has a stiff maroon arabesque above the skirting, and a white honeysuckle ornament on gilt and chocolate grounds beneath a portion of the cornice. The gallery front remains in its old state, but the plastered cove immediately below it is filled in with upright patterns in pink and buff, the effect of which is not altogether satisfactory. The pews above and below are stained in imitation of oak. The design of a painted ceiling is often determined to a great extent beforehand by its panels, &c.; but in the present instance there was nothing to restrict the fancy of the artist except an internal moulding and the disposition of the ventilators. This arrangement is in the main simple and effective, and the general tone of the colouring very harmonious, and neither positively poor on the one hand nor unduly brilliant on the other. The groundwork tint is a light pink. The (quasi) panels are a grey azure, separated from their light buff margins by a running fret. Those around the large central ventilator are similarly treated, but the blue is deeper, and (like the semi-dome of the orchestra) diapered with gilt stars, and immediately bordered with bands of guilloche, &c., painted white and cholocate on a ground of rich orange buff. A light green margin, above a foot wide, runs round the whole of the ceiling close to the cornice, which is white picked out with gilding. The ventilators are surrounded by the interlacing pattern, in white and greenish buff, and exhibit a white flower on maroon ground, both being relieved with gilding. The walls to corridors are a light grey azure, the old skirtings of wood colour being retained. The tint in question may be very serviceable and durable, and form a very effective contrast, but surely this will not justify the treating of plaster like wood, the graining it as such, and above all, the careful imitation of the joints of carpentry.

YORK.

A GROWL AT THE PRESENT.

SIR,—After a recent walk through the City, I could not help making the following anything but consoling reflections. The recently-finished buildings one observes have certainly the merit of expressing the characteristic traits of the age, pretence and ostentation; and I know no reason why we should expect our architects to differ in any degree from their employers. Even in the last century the architecture still retained some of the good old English tradition; the good old brick houses retained in a slight degree that homeliness, that simplicity, that we have considered as our own, and handed down to us from the early middle ages. A glance at some of the old drawings of our Mediæval towns will at once explain my meaning; but now a cotton warehouse imitates, and that very badly, the palace of a Florentine noble; and a linseed broker must have a bad imitation of a Gothic palace on the grand canal at Venice; at other places is a nondescript style, invented for this peculiar age,—and the carving on it, I am told, is French Gothic in character: it certainly does not resemble any I ever saw: however, that is nought; but this I do know of it, that it is, in the vulgarity of its undercutting and snobbishness of its coarseness, quite worthy to decorate the dens where that money is made, to be spent afterwards in the sham of society or pettiness of life in the suburban villa, all of which life consists in trying to appear somewhat above its actual position in the social scale. Old hostelries —all things old—are going; not a sign on the part of the architect to retain in his new buildings one particle of dear old English tradition. French, Italian, Renaissance, German, but of English not a sign,—none of the sweet, dear, homely poetry of England's architecture. If we build a church it is French, a convent is Roman, an insurance-office is Renaissance, something else is Lombardian; whatever it is, there is one prevailing idea,—something large, coarse, showy, thick, clumsy, would be grand, but not an idea of any of the tradition of England's sweet poetic loveliness and littleness. England never aimed in olden times at grandeur: it left that to France and Italy: it sought in accordance with its landscape, its life, its poetry, a small sweet homeliness. We live in an age that hates willow-pattern plates, Dutch tiles, and everything else but show, money, and sin.

X. Y. Z.

ARCHITECT AND HOTEL KEEPER.

SIR,—I enclose you a copy of a circular sent round to the directors of the Bridlington Hotel Company, and would draw your attention to a new phase in the architectural world, viz.—a person styling himself "Hotel keeper and architect," thinking it might be advantageous to the profession to calculate the benefits that might arise from such a combination. Either hotel-keeping must be advancing in rank, or architecture must be on the decline.

P. W.

*** In the prospectus in question, the competitor calling himself architect makes it a claim for consideration of his drawings that he keeps an hotel himself.

"CARLISLE BRIDGE COMPETITION."

SIR,—Though a "non-expectant" in this matter, I cannot help expressing an opinion that sufficient time has elapsed since the drawings were sent in (May, 1862) for the committee to have come to some decision in the selection of a design. Their doing so would, at all events, allow the competitors who may be unsuccessful an opportunity of getting back their drawings, some of which, produced at no small expense and trouble, *must* receive considerable injury from dust and exposure in forming pictorial decorations for the walls of the Dublin council-chamber, which service, I understand, they are at present performing. If such injury do result, I am inclined to think that the committee can be held responsible, having detained the drawings for such a considerable time beyond what was reasonable and necessary for the purpose for which they were submitted to them.

Whether the committee have not money to pay the premiums, or whether, having the money, but not intending to carry out the work, it is hoped the matter

may die out and be forgotten, leaving them in possession of a gallery of engineering designs, I cannot pretend to say; but one or other of these conclusions would appear inevitable. "A NON-EXPECTANT."

*** The course which has been pursued is very discreditable to the committee. Some of the gentlemen forming it can scarcely have given the subject a thought, or a decision would long since have been come to.

Books Received.

Elementi di Architettura Gotica: Elements of Gothic Architecture. By COUNT EDOARDO MELLA. Vercelli: Guglielmoni, 1863. Two large folio volumes, with numerous plates.

COUNT MELLA, a professional architect, well known for his skilful and learned restoration of the cathedrals of Casale, Saluzzo, and Acqui, and who is now engaged in the erection of a new Basilica, on the model of those of the primitive ages, at Berghem, in Norway, has, after thirty years' studies and practice, published this work, which analyses, both practically and theoretically, the principles and laws which directed the erection of the Mediæval buildings throughout Europe. Count Mella has availed himself, for this purpose, not only of the various hints scattered through the writings of ancient authors, but also of the practical experience he has acquired in his travels through every part of Europe, during which he made a most complete collection of drawings of all its Gothic monuments. This archæological work has a mathematical character at the same time, and gives detailed drawings and specifications of even accessary constructions.

VARIORUM.

A DISCOVERY concerning Ghosts; with a Rap at the Spirit-rappers. By George Cruikshank. Arnold, 86, Fleet-street. In these days of so-called "spirit" manifestations, and "ghost" revivals, with a legion of mischievous though merely subjective "devils," as it were, let loose upon society, the good-humoured ridicule of the whole affair by George Cruikshank is well timed and may do good. Mr. Cruikshank, however, is wholly mistaken in thinking that no one but himself has ever thought of the absurdity involved in the apparition of ghosts of old clothes. This has long and often been urged in argument against the modern spiritualists, so far as they patronize the orthodox "ghosts," as well as, longer still, against ghost believers in general. We are persuaded, however, that ridicule will not put down the "ghosts" so effectually as science is capable of doing. Sir David Brewster explains the phenomena of ghosts as being of the nature of *images* projected on the retina from the brain, and *seen* with the eyes open or shut; and Hibbert, in his "Theory of Apparitions," had many years before broached the same idea. That this is really the general nature of such "spiritual" representations as "ghosts" was *practically proved*, so long ago as the year 1839, at Edinburgh, and also at Glasgow in 1843, by the author of the recent articles on Geometrical Symbols in the *Builder*; who then showed *how to raise such ghosts*, almost at will, by the fixture, for a time, of the eyes of susceptible persons upon almost any outward object, but especially on a mirror, or other polished surface even though not reflective.

Miscellanea.

LIGHTNING CONDUCTORS.—The Bishop's Waltham Clay Company have made a brick with a hole through a moulded portion of it, for the purpose of securing lightning conductors. The material, of which the brick is composed, appears to be of admirable quality.

WORK FOR CONVICTS.—The construction of a railroad from Dartmoor Prisons to Okehampton, there to join the projected central line of the South-Western Company, is in contemplation. The line would be about twelve miles in length, and almost a level plane. The works will be done by convict labour.

INDIGO SUPERSEDED.—At Elbœuf, in Normandy (a seat of the broadcloth manufacture), a newly-devised chemical combination has been discovered, which is said to produce a brilliant blue, less costly than indigo, if not also a faster colour. It has been brought under the cognizance of our Board of Trade, and may possibly affect a large class of interests in India.

THE SUPPLY OF WATER TO BELFAST.—The *Northern Whig* of Wednesday week says:—"Yesterday, at one o'clock, although the rain fell heavily during the morning, there was not a drop of water coming over the overfall to the basins. About 1⅛-inch was passing through the 'mill-owners' slot.'"

MARRIED MEN STEADIEST.—The Guardians of the Holborn Union have been lately advertising for candidates to fill the situation of engineer at the workhouse with a single man, a wife not being allowed to reside on the premises. Twenty-one candidates presented themselves, says the *City Press*; but it was found that, as to testimonials, character, workmanship, and appearance, the best men were all married men. The guardians, therefore, elected a married man.

RESIDENCES OF CELEBRATED MEN.—With regard to the proposition that the Society of Arts should take up the matter of marking the residences of remarkable men, Mr. John Leighton states that the Board of Works, who name and number the streets, and ought to see to such records, refused permission to artists who wished to place a marble tablet on the house in which J. M. W. Turner was born and lived, in Maiden-lane, Covent Garden, and who had subscribed a sum for that purpose.

WILFUL DESTRUCTION BY BRICKMAKERS.—Last week it was ascertained that no less than from 13,000 to 14,000 bricks had been destroyed by being trampled upon during the previous night, in the brickyard belonging to Mr. John Tetlow, situate in Cow Hill-lane, Ashton. It seems that the bricks made by Mr. Tetlow have, for some time, been the work of various members of his own family only. Notwithstanding this, about two months ago, a large number of bricks were destroyed, but of which no publicity was made at the time. A fortnight ago Mr. Tetlow engaged two additional men, who, although they had applied to be admitted members of the union, for some reason or other were refused; and, Mr. Tetlow having retained them in his service, it is conjectured that he has been made to pay the penalty for so doing. The number of butts demolished is seven, which have taken upwards of three weeks' labour, the cost being 6s. 10d. per 1,000 for moulding, &c., and 1s. 6d. per 1,000 for casting the clay, to which has to be added the payment of quarterage, &c. Mr. Tetlow has offered a reward for the apprehension of the offenders.

MEETING OF THE BRITISH ARCHÆOLOGICAL ASSOCIATION IN LEEDS.—The British Archæological Association will hold its 20th anniversary in this town during the ensuing month, the proceedings being commenced on Monday, the 12th of October, and extending to the Monday following. The president of the association is Lord Houghton (late Mr. Monckton Milnes). The arrangements for the meeting devolve upon the council of the Leeds Philosophical Society, as the local committee. Papers will be read on various topics interesting to archæologists and antiquaries, and excursions will be made by the members, amongst other places to Ripon and Fountain's Abbey, Adel, Farnley, Ilkley, Harewood, Wakefield, Pontefract, Boroughbridge, Aldborough, Kirkstall Abbey, Halifax, and York, each of them presenting a wide field of attractive study. The list of papers is a good one.

ASSESSMENT OF RAILWAYS, GAS, AND WATER COMPANIES.—The recent decisions in the Court of Queen's Bench upon the subject of rating railways and other companies who either destroy rateable property or occupy land and premises beneficially, have induced several of the metropolitan parishes entirely to revise their assessments in this particular. The assessment rate and appeal committee of the parish of St. Pancras have therefore taken into consideration the subject in relation to the assessment of the London and North-Western, the Great Northern, the North London, the Midland, the Metropolitan, and the Hampstead Junction Railway now existing or in course of progress in that parish; as also the Imperial and Chartered Gas Companies, the New River and West Middlesex Water Companies, the Electric Telegraph and the London Cemetery Companies; and they find that the assessment on the rate made on the 11th of April of the present year was 63,936*l.*, a sum totally disproportionate to the amount of land and premises occupied beneficially, or of property destroyed; and they have therefore recommended to the representative vestry to increase the assessment upon these properties by a sum of 30,542*l.*, or in the aggregate to the sum of 94,478*l.* The recommendations of the report have all been adopted.

NEWINGTON BUTTS NEW VESTRY HALL.—At a vestry meeting of the parish of St. Mary, Newington, the tender of Messrs. Chinnock & Co., for the erection of a new vestry hall for the sum of 6,240*l.* was accepted. An amendment that Bath stone instead of Portland should be used, was wisely negatived by a majority of 34 to 4.

TOMB OF LEONARDO DA VINCI.—The *Gazette des Etrangers* says:—"An important discovery in the history of art has just been made. A few months back M. Arsène Houssaye was commissioned by the State to direct researches at Amboise (Indre-et-Loire), with the object of finding the tomb of Leonardo da Vinci, the position of which was unknown. Last week the pursuit was crowned with success. A sort of case, found in an old church at Amboise, and containing a coffin, was pointed out to the notice of M. Houssaye. An inscription on the lid of the coffin is said to leave no doubt of the authenticity of the remains which it contains. Thus are refuted, as was expected, the suppositions that Leonardo da Vinci had died elsewhere than at Amboise."

STRIKES IN THE NAIL TRADE.—Those men, women, and children who make the nails called "thousand nails," greatly outweighing in number any engaged in any other branch of the nail trade of the districts known as Coseley Coppice, Sedgley, Lower Gornal, Upper Gornal, Cotwall End, &c., have given notice of a strike for a rise of 10 per cent. on present prices. The makers of horse-nails have given notice for a rise of 6d. per cwt. Some masters say it is only for 3d. An advance of 6d. has been made in some quarters. At present the masters have large stocks on hand, and can wait for many weeks, unless there should come a great and sudden demand. With respect to the common nail makers it is not improbable that differences which exist will shortly be settled. In some districts the men have never left work.

CASTLE-HILL IMPROVEMENTS, NORWICH.—At an inquiry to ascertain and assess the value of a dwelling-house and premises in Golden Ball-street, required for the contemplated improvements there, an offer had been made by the corporation of 500*l.*, which had been declined. The corporation took the whole property, when they wanted only the front portion, and the purchase-moneys of the premises in the three last conveyances were 499*l.*, 525*l.*, and 600*l.*: they had also been mortgaged for 400*l.* The owners valued the property at 600*l.*; Mr. J. Grand had unsuccessfully offered 600*l.* for it; Mr. W. Browne (builder), thought it was worth 80*l.* a-year rental, and would sell for 500*l.*; Mr. D. Balls estimated its value to a willing purchaser at 600*l.*; Mr. S. W. Spelman thought the corporation ought to give 650*l.* for the property; Mr. J. Lacey and Mr. W. Warman agreed with Mr. Ball's estimate. For the corporation, Mr. Butcher and Mr. Wilde gave evidence, the former of whom considered 460*l.* a fair and liberal price, the latter 500*l.* The jury found a verdict for the plaintiffs for the full amount claimed, 600*l.*

THE LOCAL IMPROVEMENTS UNDER THE PUBLIC WORKS ACT.—The amount of loans to be applied for by the Manchester and Salford corporations is not yet formally announced, but seems to be virtually settled as follows:—Manchester, 250,000*l.*; Salford, 100,000*l.*——The committee appointed by the town council of Stockport are preparing a scheme of public works for the employment of skilled and unskilled labour in the borough, and classifying a number of suggestions for improving and draining existing streets and constructing new ones, to be submitted to the approval of the Home Secretary. The committee and surveyor have had the benefit of the advice of Mr. Rawlinson, in the selection of the works. The system of drainage to be adopted, according to the local *Advertiser*, will be of a highly-improved and scientific character. The cost of the works has been variously estimated at 50,000*l.*, 60,000*l.*, and 70,000*l.*——The Stalybridge town council have resolved to apply for a loan of 3,000*l.*, to be applied in constructing, altering, enlarging, repairing, and cleansing the common sewers, drains, culverts, and watercourses within the borough. The Health of Towns Acts will be adopted, and the council are considering what can be done as to a cemetery and waterworks.——The Ashton town council has resolved to apply for a loan of 76,000*l.*, a first instalment of 5,500*l.* immediately. It is intended to make a main trunk sewer, and to sewer, pave, flag, and otherwise complete several streets.—— We understand that the entire 1,500,000*l.* provided by Parliament for sanitary works in the Manchester district, will be taken up on the terms offered, viz., 3½ per cent., to be repaid in thirty years.

BARRY'S PAINTINGS.—With reference to the steps recently taken by the Society of Arts to preserve Barry's paintings, Mr. Chas. Keene, of 18A, Orchard-street, says he has in his hands, for a similar purpose, Barry's picture, "Alexander and his Physician," which was painted expressly for Edmund Burke. It may be seen by any one who will call. It is little known.

DOCK EXTENSION AT SUNDERLAND.—An important step towards the execution of the contemplated dock extension at Sunderland has been taken. At a special meeting of the Wear commissioners, the seal of that body was affixed to a mortgage for the sum of 50,000*l.*, being the first instalment of the loan of 150,000*l.* from the Public Works Loan Commissioners. The money having now been obtained, the preliminary works will be pushed forward as speedily as possible.

THE PRINCESS'S THEATRE.—London is indebted to Mr. Walter Montgomery for a series of very well acted plays at a time when such things are scarce. The principal part in each has been played by himself, and when we mention *King John, Sir Giles Overreach, Claude Melnotte, John Mildmay,* and the *Duke* in "The Honey Moon," it will be seen that his scope is considerable. His personation of *Sir Giles Overreach* was a remarkably good piece of acting, discriminating and effective. He is unquestionably a great gain, and it is to be hoped that the metropolitan stage will not lose the advantage of his services. The season closes (this) Saturday night with performances for his benefit.

FOOTPATHS AT CHELSEA SUSPENSION BRIDGE.—Within the past week numbers of workmen have been engaged in making improvements at and near the Chelsea Suspension Bridge, under the direction of the Metropolitan Board of Works. The approaches to the bridge on the Middlesex side have been widened and improved, as well as those to the recently finished barracks. It was found that the footways of the bridge were defective, and on examination the wooden blocks were discovered to be in an unsound condition, and inadequate for the purpose for which they were laid down. The Board of Works decided that the blocks should be removed, and in their place the entire footways, &c., are being covered with Seyssel asphalte, by Armani & Co., of Guildhall-chambers. The works are being pushed forward with vigour.

THE LIVERPOOL SCHOOL OF SCIENCE.—Lord Stanley, M.P., presided at the prize delivery of this school of science; and before delivering the prizes, briefly stated the circumstances which attended the formation of the school, and paid a tribute to the liberality of Sir William Brown; the school having its seat in the buildings which were mainly established by Sir William. Speaking of the immediate and practical good to be derived from schools of science, Lord Stanley said the result was twofold—partly it tended to give men practically engaged in various pursuits a knowledge of the principles which they have to apply—it enabled them to work intelligently as men, and not blindly as machines; partly, also, it serves to correct a vague, loose habit of thinking, by a training more strict and severe than that of ordinary life. Even in the education of our upper classes, of those who ought to be the brain-workers, as opposed to the hand-workers of society, too much time is given to the study of the works of man, and too little to those of nature.

MONUMENTAL.—The memorial statue of the late Earl Fortescue, Lord-Lieutenant of Devonshire, has been placed on its pedestal, in the Castle-yard, Exeter. The work is in Sicilian marble, and is from the chisel of Mr. E. B. Stephens, of London, the sculptor of Sir Thomas Dyke Ackland's monument. The figure, which is nearly white, is 8 feet high, and stands upon a pedestal of the same height. The entire height of the monument is 16 feet. The base is of granite, and has been cut by Mr. Easton, of Exeter.——A monument has just been erected on the north side of the chancel of St. Michael's Church, Louth, to the memory of the late Rev. W. Wright, M.A. It consists of a canopied niche, with sculptured panel in the arch above, and a pediment terminating in a carved finial. The slab containing the inscription is of polished serpentine, with gilt letters. Mr. Fowler was the designer of the monument. ——The inhabitants of Stafford are making an effort to obtain subscriptions, to erect a memorial to their townsman, Izaak Walton, of piscatorial celebrity.——It is proposed to erect a duplicate of Foley's Dublin statue of Oliver Goldsmith in London. The statue is 7 feet 6 inches high, and was cast in bronze by Messrs. Elkington. It stands on a granite pedestal 8 feet 6 inches high.

THE NEW ALBION OUTFALL AT BRIGHTON.—The first length of the new iron outfall has been floated to the bed prepared for it below low-water mark. The length first tried was 300 feet (of 1,700 feet in all); but some fear being entertained while floating it that injury to it would result from so long a length being taken out at once, it was cut in two, and the first part has been safely floated out.

THE HARTLEY COLLIERY ACCIDENT.—In connexion with the Hartley Colliery Accident Fund, it is stated that, after making ample provision for all the widows and children who suffered from that terrible catastrophe, a sum of about 20,400*l.* remains unapplied, and that it has been agreed by those having charge of the said fund to distribute this amount in equal proportions to the twelve mining districts of England, Wales, and Scotland.

INJURY TO THE HÔTEL DE VILLE, BRUSSELS, BY LIGHTNING.—During a recent thunderstorm a flash of lightning struck the spire of the Hôtel de Ville of Brussels, and broke one of the turrets of St. Michael's tower into hundreds of pieces. The *débris* fell into the court of the Hôtel de Ville, and upon the Grand Place. No person was hurt. This is the third time within the last few years that the Hôtel de Ville has been struck by lightning. The expense of the restoration of the building is estimated by the engineer of the city at 10,000fr.

OPENING OF THE BAXTER PARK, DUNDEE.—As previously announced, this park has been inaugurated with great ceremonial, and formally handed over by Sir David Baxter to the trustees for its conservation. The day was held as a complete holiday. Earl Russell was present, and received the freedom of the town. The park occupies the space of 38 acres, and is said to be tastefully laid out. In the centre stands a pavilion, in the Italian style, built at a cost of 6,000*l.* The cost of the park, its embellishments, and the sum set apart by the donor for its maintenance, cannot be less than 50,000*l.*

LIVERPOOL INSTITUTION OF FINE ARTS.—The first exhibition held under the auspices of this new body has been opened to the public in Old Post-office-place. If the value of the Institution is to be judged by the number of works of art which have been brought together, its importance, according to a local paper, has been established. The collection is large and varied, twelve hundred and forty-one works being shown in the rooms, which are very much crowded, and even the staircase is filled. The collection includes specimens of the productions of favourite artists of the day, both British and foreign, and many works have been excluded from want of space for exhibiting them. At the private view on Saturday last, notwithstanding the unfavourable nature of the weather, the galleries were crowded by an assemblage of ladies and gentlemen of the first position and influence in the town.

RAILWAY MATTERS.—The traffic receipts of railways in the United Kingdom amounted, for the week ending the 29th of August, on 10,882 miles, to 641,770*l.*, and for the corresponding week of last year, on 10,428 miles, to 637,615*l.*, showing an increase of 454 miles, and of 4,155*l.* in the receipts.——The Bristol and South Wales Union Railway has been opened for public traffic. The carriages placed on the line are those lately released from the Metropolitan Railway. There is a good deal yet to be done on the Welsh side, but the work is being pushed on. A station will be soon erected at the Portskewet Junction. The line will be of advantage to Bristol and neighbourhood.——The Rev. W. R. Bowditch, of Wakefield, is said to have discovered a process by which railway carriages can be illuminated cheaply and simply with a bright and steady light. By the application of Mr. Bowditch's apparatus each foot of gas is said to give 5½ times as much light as given under ordinary circumstances. As described, the process seems merely to be one of those in which gas is impregnated with hydro-carbonic vapours. The gas, before being burnt, is passed through an air-tight box, containing hydrocarbons of high density. These are heated by the burning gas, and so are volatilised in the box. The gas, in its passage through the box, carries with it a part of the vapour, the carbon of which renders the gas highly illuminating. The hydrocarbons cost about 1d. a pound, and about 1½ lb. is sufficient for two lights for a week. The apparatus is at work in one of the lamps at the Wakefield railway station, and the light from it is said to be brighter than that from the lamps adjoining. We understand that the invention is being tried on some of the principal railways.

GOVERNMENT SCIENCE SCHOOLS AND CLASSES, 1863.—The total number of individuals under instruction in 1863 was 3,811, and in 1862, 3,413: of these 869 were in uncertificated classes last year, and about 700 this, making the increase in students in certificated classes between May, 1862, and May, 1863, 566. The total number of individual candidates who applied for examination in 1863 was 2,000, and in 1862, 1,708.

NEW WATER-WORKS FOR BRECON.—At a recent meeting of the Brecon local Board of Health, a report having been read, it was agreed that it was necessary to have a sufficient supply of pure and wholesome water for the inhabitants of the town, and that such supply of water be confined, preferably, if not absolutely, to the source at Rhydgoch, on or near the spot indicated by the town surveyor. It appears that the estimated cost of the works does not exceed the sum of 4,600*l.* Mr. Isaac Davies was appointed surveyor and engineer, at a salary of 125*l.*, with the use of Mr. Bert's map, plans, &c., of the borough.

TENDERS.

For draining a part of the Roath district, to join the Cardiff sewer. Mr. John Williams, surveyor:—

James & Price	£738 0 0
John	669 0 0
Ayres	600 0 0
Francis	551 0 0
Watkins	515 0 0
Moore	499 0 0
Gibbs	490 0 0
Price	485 0 0
Turner	469 0 0
Thomas (accepted)	450 0 0

For St. Ann's Church, Nottingham. Mr. R. Clarke, architect:—

Ward, Ansell, & Co.	£2,869 0 0
Willemott	2,852 0 0
Acton	2,580 0 0
Demett & Co.	2,549 0 0
Wright	2,493 0 0
Haw & Wooll (accepted)	2,487 0 0

For alterations and additions to house and premises at Toft, near Bourne, Lincolnshire. Mr. R. W. Johnson, architect:—

Taylor & Hobson	£1,230 0 0
Bradshaw	1,195 0 0

For farm buildings, Cross Oaks, Shenley, Herts, for Mr. Richard Durant. Mr. Thomas Hill, architect:—

Laidlow	£797 0 0
Mashman	797 0 0
Bottom	705 0 0
Young	688 0 0
Miller	661 0 0

Accepted tenders for Pontefract workhouse. Messrs. Lockwood & Mawson, architects:—

Brickwork, and Carpenter and Joiner's Work.

Neill	£3,935 0 0

Mason's Work.

Wildop	£1,071 17 0

Plumber's Work.

Stead	£410 0 0

Ironfounder's Work.

Benett	£325 0 0

Plasterer's Work.

Driver	£289 0 0

Slater's Work.

Hill	£295 0 0

Painter's Work.

Butler	£156 0 0

For additions, &c., to Hawthorn dene, Bonchurch, Isle of Wight, for the Rev. E. Venables. Mr. Francis Newman, of Ryde, architect. Quantities supplied:—

Spary	£481 15 0
Beavis & Son	480 17 0
Day	458 0 0

For the erection of a shop, with warerooms, dwelling-house, &c., in Union-street, Ryde, for Mr. J. E. Scott, upholsterer. Mr. Francis Newman, architect. Quantities supplied:—

Langdon	£2,171 0 0
Meade	2,163 0 0
Colenutt	1,854 0 0
Denham	1,750 0 0
Sibley	1,720 0 0

For alterations and repairs to mansion at Pentre, Cardiganshire, for Mr. A. H. Saunders Davis. Mr. St. Aubyn, architect. Quantities supplied by Messrs. J. C. & G. Lansdown:—

Dimont	£6,647 0 0
Patman & Co.	5,740 0 0
Estcourt	5,655 0 0
Pollard	4,998 0 0
Williams	4,850 0 0
Lewis	4,747 0 0

For the first portion of a new mission house at Rock Ferry, for the Rev. Charles Jolivet. Mr. E. W. Pugin, architect. Quantities supplied by Mr. S. Marples:—

Simpson & Malone	£3,739 0 0
Roberts & Robinson	3,697 0 0
Smith & Son	3,300 0 0
Baynes	3,300 0 0
Farrel	3,297 0 0
Hogarth	3,250 0 0
Watkins	3,050 0 0
Glaister	3,040 0 0

For additional store reservoirs, Heywood waterworks. Mr. Cowley, engineer. Quantities supplied :—

Diggle	£10,750	0	0
Hooper & Co.	9,617	3	5
W. & J. Worthington	9,540	0	0
M'Guire	9,000	0	0
Taylor	8,691	3	3
Dawson	8,000	0	0
Buxton	7,600	0	0
Pearson & Son	6,676	11	0
Skelton & Co.	6,364	2	11
Chadwick (accepted)	5,150	0	0

For vestry hall and offices for the parish of St. Mary Newington, Surrey. Mr. Henry Jarvis, architect :—

	Vestry Hall.		Offices.
Child & Son	£8,000	....	£500
Sandiman & Co.	7,629	....	700
Sawyer	7,438	....	675
M'Pherson	7,490	....	514
Thompson	7,340	....	430
Hill, Keddell, & Robinson	7,390	....	650
Tarrant	7,390	....	400
Kent	6,970	....	300
Hack & Son	6,957	....	297
Mann	6,945	....	924
Kirk	6,930	....	318
Henshaw	6,920	....	350
Hart	6,786	....	533
Harding	6,498	....	392
Chinnock (Brothers)	5,980	....	360

For alteration to house at the rear of No. 415, Strand, for Mr. Beckingham. Mr. H. Jarvis, architect :—

Kent	£420	0	0
Childs & Co.	418	0	0
Henshaw	418	0	0
Tarrant	400	0	0

For St. Ives Church, Huntingdonshire. Mr. J. Tarring, architect. Quantities furnished by Mr. Eppy :—

Hicks	£5,268	0	0
Richards	5,000	0	0
Myers	4,919	0	0
Bird	4,185	0	0
Burnett	4,124	0	0
Saunders	3,788	0	0

For rebuilding Stoke paper mills, near Guildford. First portion of the works. Mr. Henry Peake, architect :—

Nye (accepted)	£918	0	0

For new police station and magistrates' room, &c., at Market Harborough, for the county of Northampton. Mr. Alex. Milne, architect. Quantities supplied :—

Henson	£1,722	0	0
Barlow & Butlin	1,601	11	5
Stanyan & Son	1,512	0	0
Ireson	1,457	0	0
Palmer	1,365	0	0
Burdett	1,353	0	0
Cosford	1,329	0	0
Gee	1,302	10	0
Bassett	1,217	14	0

For alterations and repairs to No. 34, Cavendish-square. George B. New, architect :—

Bettinson (accepted)	£250	0	0

For alterations, &c., to the Grapes Tavern, Newgate-market. Mr. Wm. Paice, architect. Quantities supplied by Oliver & Paice :—

Steed	£261	12	0
Newcomb	236	0	0
Percey	234	0	0
Emery	198	0	0
Matthews	195	9	0
Babbs & Bennet	188	1	0

For villa and stabling at Caterham, for Capt. Saxon. Mr. J. C. Hukins, architect. Quantities supplied by Oliver & Paice :—

Gun	£2,500	0	0
Matthews	2,499	0	0
Howard & Son	2,448	0	0
Percey	2,470	0	0
Elliot	2,430	0	0
Scott	2,389	0	0
Cooper	2,259	0	0
Wardle & Baker	2,138	0	0
Donnelly	2,033	0	0
Henshaw	1,995	0	0
Kirk	1,950	0	0
Dawson	1,855	0	0
Newcomb	1,830	0	0
Walker & Co.	1,802	0	0

For villa residence at Handsworth, near Birmingham, for Mr. H. Wilkinson. Mr. F. D. Johnson, architect. Quantities supplied :—

W. & B. N. Smith	£1,330	0	0
Corbett	1,327	0	0
Matthews	1,279	0	0
Barker	1,260	0	0
Bennett	1,260	0	0
Naden & Sons	1,255	0	0
Horsley (Brothers) (accepted)	1,222	0	0

For two houses at Acock's Green, near Birmingham, for Mr. F. D. Johnson, architect. Quantities supplied :—

Matthews	£1,424	0	0
Naden & Sons	1,375	0	0
Bennett (accepted)	1,349	0	0

For house at Handsworth, near Birmingham, for Mr. S. Haseler. Mr. F. D. Johnson, architect. Quantities supplied :—

Hardwick & Son	£829	0	0
Harley & Blower	780	0	0
W. & B. N. Smith	765	0	0
Corbett	753	0	0
Barker	750	0	0
Bennett	740	0	0
Matthews	737	0	0
Street & Birch	725	15	0
Horsley (Brothers)	717	0	0
Naden & Sons (accepted)	708	0	0

For cottage at Acock's Green, near Birmingham. Mr. F. D. Johnson, architect :—

Twigg & Fowke	£361	0	0
Bennett	350	0	0

For villa residence at Handsworth, near Birmingham, for Mr. T. Bragg. Mr. F. D. Johnson, architect. Quantities supplied :—

Naden & Sons	£1,264	0	0
W. & B. N. Smith	1,174	0	0
Bennett	1,149	0	0
Matthews	1,147	0	0
Corbett	1,097	0	0
Barker (accepted)	1,050	0	0
Horsley (Brothers)	1,049	0	0

TO CORRESPONDENTS.

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We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than FIVE o'clock, p.m., *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

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11	by 9	13	by 9	13½	by 10½	13	by 11	
11½	by 9½	12	by 10	14	by 10	14	by 11	10s. 9d. 12s. 3d. 15s. 18s.

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15½	by 10½	14	by 12	17	by 13	24	by 16	
16	by 10	14½	by 12½	18	by 13	20	by 17	
14½	by 11½	15	by 12	18	by 14	22	by 17	
15	by 11	15½	by 12½	22	by 14	24	by 17	
15½	by 11½	16	by 12	24	by 14	20	by 18	Per 100 feet.
16	by 11	16½	by 12½	22	by 15	22	by 18	4ths. 3rds. 2nds. Best.
13	by 12	17	by 12	24	by 15	24	by 18	
13½	by 12½	18	by 12	22	by 16			11s. 6d. 13s. 6d. 16s. 6d. 20s.

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20	by 15	Best	20s. 0d.	Best	30s. 0d.
20	by 16				

Per 100 feet.

Squares Cut to Sizes not on List.

	15 oz.				21 oz.			
	4ths	3rds	2nds	1st	4ths	3rds	2nds	1st
Under 1 foot super	1½	1½	2	2½	2½	2½	3½	4½
Under 2 feet super	1½	2	2½	3	2½	3	4	5½
Under 3 feet super	1	2½	2½	3½	3	3½	4½	6
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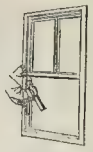
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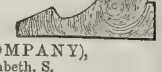
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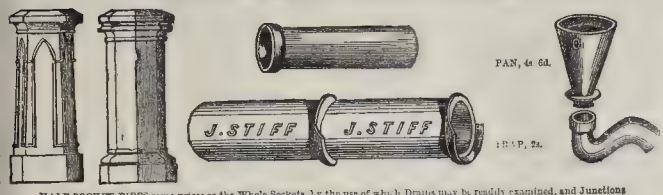
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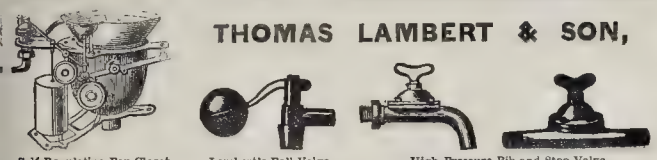
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NOTICE OF REMOVAL.

MESSRS. COLLINS & GREEN

Beg to advise their Friends and the Profession that as the London, Chatham, and Dover Railway have taken their late premises at Albion-place, for the new Blackfriars Station, they have Removed their extensive Stock of

MARBLE CHIMNEY-PIECES, STOVES, RANGES, &c.

TO THE ROTUNDA, No. 3, BLACKFRIARS ROAD.

C. & G. have now, as heretofore, the best and most varied assortment of first-class Goods in their trade, of every description and at every range in price.

They respectfully invite a visit from Architects and Builders to their present Show Rooms, which include an area of upwards of 12,000 super. feet, and replete with every Architectural requirement in Marble or Iron.

ROTUNDA GALLERIES, 3, BLACKFRIARS ROAD.

CITY WAREHOUSE, 38, NEW BRIDGE STREET, BLACKFRIARS.

MANUFACTORY, LETT'S WHARF, and OLD SHOT TOWER WHARF, LAMBETH.

Estimates given for every description of Marble or Iron Work.

GENERAL IRONMONGERY, AND BATH-WORK, &c.

Hot Water and Range Work, all requisites being kept in Stock.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 49 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.

CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Baryte from ten to thirty per cent. Why they sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such materials. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

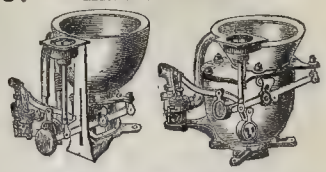
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

J. TYLOR & SONS' PATENT

REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No cistern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

3s. 9d.

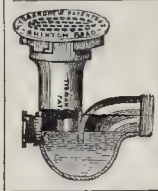


The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON

In expectation of a greatly increased sale, D. & W. have determined to introduce the patented pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

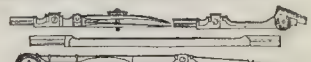
FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,

20, WESTMINSTER BRIDGE ROAD, LAMBETH,

Near Astley's Theatre.

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

J. PALLANT,

SURVEYING and MATHEMATICAL INSTRUMENT MAKER to the METROPOLITAN BOARD of WORKS.

J. P. begs respectfully to call attention to his highly finished Transits, Theodolite Levels, &c. fitted with the latest improvements, and which are now being used in carrying out the GREAT MAIN DRAINAGE of LONDON. Lists of Prices sent post-free.

MANUFACTORY, 44, MUSEUM STREET, NEW OXFORD STREET, LONDON

SECONDHAND ARCHITECTURAL and SURVEYING INSTRUMENTS.

The Best and Cheapest House in London for SECONDHAND ARCHITECTURAL and SURVEYING INSTRUMENTS is at C. BAKER'S, 244, HIGH HOLBORN

Every description of New, of the finest quality, at the wholesale prices. Instruments of all kinds taken in exchange.

ESTABLISHED 1760.

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Only Medal awarded for "excellence of construction of Mathematical Instruments."

T SQUARES.—W. F. STANLEY, late STANLEY & ROBINSON'S IMPROVED.

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use.

Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d post free.

STANLEY'S IMPROVED DRAWING PEN

PRIZE WAGGONS and CARTS.—HAYES & SON,

Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,

Coach and Cart Wheelwrights, Spring Van and Waggon Builders, Timber Merchants Contractors, &c.

Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation.

Contractors' and Builders' Dobbin and other Carts, Barrows; Navvy, Excavators', Crowding, and Off-bearing ditto, on the shortest notice and of the best materials; &c.

HAYES & SON,

SCOTGATE WORKS STAMFORD.

SALES BY AUCTION.

WESTMINSTER.—The Materials and Fittings of Thirty Houses

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on MONDAY, SEPTEMBER 21st, at 12N for ELEVEN, the MATERIALS and FITTINGS of Thirty Houses, in Vincent-square, Stanford-street, Bentinck-street, Dean-street, and Vauxhall-bridge-road: comprising 20,000 stock bricks, plain and pan tiles, sound timber roofs and floors, floor-boards, doors, sashes, partitioning, stoves, ranges, iron railing, lead gutters and pipes, and other effects. May be viewed, and catalogues had at the Offices of Messrs. HUNT & STEPHENSON, 4, Parliament-street; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, City, E.C.

FORTPOOL LANE.—Stock in Trade, Plant, two Carts, nearly new Van, and Utensils of a Builder and Contractor.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, Fortpool-lane, Gray's-inn-lane, on WEDNESDAY, SEPTEMBER 23rd, at TWELVE, to clear the ground: the premises to be let, the remaining STOCK, PLANT, and UTENSILS of a Builder and Contractor: comprising timber, in useful scantlings, deals, battens, and boards, quantity dry pine boards, 2 in scaffold poles, 6 sets of hall boards, 3 sets of sashes, 4 arches, mortar boards, tools, marble of many pieces, useful stone, tiles, bricks, stone saws, 3 cranks, blocks and falls, iron gutters and stanchions, iron pipe and gutters 2, wrought and cast iron, a quantity of ballast, 2 builder's carts, and a nearly new van, also 4 loads of soil, and various effects. May be viewed the day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

COW-CROSS-STREET, SMITHFIELD.—BUILDER'S STOCK AND IMPLEMENTS, TWO CARTS, AND EFFECTS.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, 14, Cow-cross-street, on TUESDAY, SEPTEMBER the 29th, at TWELVE, the remaining STOCK, IMPLEMENTS, and UTENSILS of a BUILDER: comprising deals, planks, and battens, 200 lengths of various thicknesses, iron and steel, new doors and moulded work, floor boards, scaffold poles and boards, plate glass, sashes and sash-cords, a quantity of ironmongery, a new van, benches, ladders, barrows, grindstone, a brick cart, and a joiner's cart on springs, a truck, cart harness, assortment of ironmongery, and various useful effects. May be viewed the morning of sale, and catalogues had on the PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

TWICKENHAM and TEDDINGTON.—Valuable Building and Accommodation Land, desirably situate in the pretty residential district known as Strawberry Hill, and abutting upon the High Road leading from Twickenham to Teddington and Hampton Court, and within half a mile's journey of London by railway.

MESSRS. DRIVER will SELL by AUCTION, at the MART, near the Bank of ENGLAND, on TUESDAY, OCTOBER 6th, in six lots, about TWENTY ACRES of valuable BUILDING LAND. The property is partly Freehold and partly Copyhold, and is well adapted for the erection of villa residences of the first class, and is within a few minutes' walk of Twickenham Station, the Railway Junction, Richmond Park, and other attractive features of this favourite and increasing locality, and is now in the occupation of the proprietor of villa residences—Private particulars, with plans may be obtained at the chief inns of Twickenham, Richmond, Teddington, Hampton, Hampton Court, and Kingston; of the Auctioneers, Messrs. DRIVER, NEW, PRANCE, and GARRARD, Solicitors, Evesham; and of Messrs. DRIVER, Surveyors, Land Agents, and Auctioneers, 4, Whitehall, London, S.W.

The Large and Lovely Plantation, near Tring, Herts.

MR. W. BROWN has received directions to SELL by AUCTION, at the MART, London, on WEDNESDAY, OCTOBER 7, 1863, at TWELVE o'clock, in Three Lots, by direction of the Devisees of the late owner, a truly valuable FREEHOLD and COPYHOLD ESTATE, situate in the public road leading from the centre of Hertford and Bark-hamstead, little more than two miles from the town of Tring, and within four miles of the Aylesbury and Wendover Railway at Wilstead Station, and comprises a brick and tiled cottage, with garden; an orchard planted with choice fruit trees, two highly productive nurseries of grass land with Oak, Beech, Chestnut, Ash, and Elm timber and other plantations, presenting an eligible site for the erection of a good residence; also, near thereto, two other plantations of about 23 acres, filled with fine larch, clear growth and good dimensions, considerable attention having been paid for many years to a judicious thinning and timely cutting of the same, being conveniently both for railway and waggon carriage, forming an early and good opportunity for profitable investment, by an annual sale for telegraph, railway, and other purposes. Particulars, with plans attached, will be published in due course, and may be obtained at the Principal Inns in the vicinity; also at the "Estate Gazette" Office, Fleet-street in the Mart, London; of Mr. SHUGAR, Solicitor; and at the Offices of Mr. W. BROWN, Land Agent, Tring.

CHARING CROSS RAILWAY, CITY TERMINUS.—To BUILDERS, CONTRACTORS, PAVIORS and OTHERS.

MESSRS. WILLIS & HARROW are favoured with Instructions from the Contractor to SELL by AUCTION, on the PREMISES, on TUESDAY, SEPTEMBER 22nd, 1863, at NINE o'clock punctually, the Considerable useful BUILDING MATERIALS of the Falcon Public House, on the east of a range of warehouses, stabling, coach-houses, and a farrier's shop, on the west side of Cousin-lane, late of Thames-street, City: comprising decayed materials, bricks, lots of lead, lead gutters, pumps and pan tiles on poles, slates, stout timber and posts, sound flooring boards, sashes and frames, doors and fittings, iron guards, quantity of pebble and other pitching, and a variety of useful fixtures and fittings.—May be viewed the day previous and morning of Sale, and Catalogues had on the Contractor's Office, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

BISHOPSGATE-STREET WITHOUT.—To BUILDERS, CONTRACTORS, AND OTHERS.

MR. MARSH has received instructions to SELL by AUCTION, on the PREMISES, on THURSDAY next, SEPTEMBER 24th, at TWELVE o'clock, the BUILDING MATERIALS of Two Dwelling-houses, Range of Stabling and Coach Houses, with rooms over, situate Nos. 20 and 21, New-street the whole of New-street Mews, Nos. 1, 2, and 3, Cricklefit, and Nos. 1 and 2, Catherine Wheel-alley, Bishopsgate-street Without: comprising about 400 tons of stock bricks, tiles, slates, timber in roofs, floors, sashes and frames, doors, stable fittings, stone paving, lead, &c. May be viewed the day prior to the Sale, and Catalogues had on the Premises, and at Mr. MARSH'S Offices, 2, Charlotte-row, Mansion House.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS.—Important Sale of a Timber Merchant. The Premises required for building purposes.

MR. MARSH has been favoured with instructions to SELL by PUBLIC AUCTION, on TUESDAY, 25th SEPTEMBER, 1863, on the PREMISES of S. Poole, Wind-mill street, Lambeth, near the Palace, comprising 3,000 Yellow and White Deal Spring, Red Yellow, White, and other Deals, Mahogany Scantlings, Slating Battens, and other goods.—Particulars in catalogues, which will appear three days prior to sale. Catalogues had on the premises, and of the Auctioneer, 20, Skinner-street, Bishopsgate, E.C.

In the immediate neighbourhood of the Town of Maidenhead.

MESSRS DANIEL SMITH, SON, & OAKLEY will SELL by AUCTION, at the BEAR HOTEL, Maidenhead, on WEDNESDAY, 7th OCTOBER, at THREE o'clock, in Eight Lots, and subject to Conditions to be then produced, Valuable FREEHOLD BUILDING and ACCOMMODATION LAND, in the parish of Cookham, well adapted for villa residences, in a favourite and healthy locality. Most of the lots are adapted for the erection of villa residences, for which there is a great demand. Also a well-secured ground rent of £21 per annum; a valuable shop and premises, in High-street, Maidenhead, occupied by Mr. Trendell; also a house and premises on Ferry-hill, occupied by Mr. Fleming. The properties are free of land-tax and great tithes. Particulars, with plans, showing the mode of letting, may be had of Messrs. BLANDY, Solicitors, Reading; of R. A. WARD, Esq. Solicitor, Maidenhead; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents, 10, Waterloo-place, Pall-mall, S.W.

1,500 OAK, ASH, ELM, and LARCH FIR TREES, between Barnet and St. Albans.—By

MR. RUMBALL, at the GOLDEN LION INN, at London Colney (three miles from St. Albans), on FRIDAY, SEPTEMBER 25, at ONE o'clock, in suitable lots: Many of the oak and ash are large and fine, and come to good trees.—May be viewed. Catalogues of Mr. RUMBALL, St. Albans, at the Golden Lion Inn, London Colney; Waggon and Horses, Ridge Hill; at the White Horse, Shenley Hill; all between Barnet and St. Albans, near to which the timber is lying, and is lotted with white paint.

CAMBERWELL.—Freehold Building Land, very eligible situate, and suitable for the erection of Shops and Cottage Residences, also a substantial Br. Rebuilt Infant School and Building thereon, let at £40 per annum.

MESSRS. CRAFTER & SON will SELL by AUCTION, by direction of the Assignees, at GARRAWAY'S, on MONDAY, SEPTEMBER 21st (with consent of the mortgagee), a valuable PLOT of FREEHOLD BUILDING LAND, with capital frontages to Edmond-street and Market-street, Sheffield-street, and other places, where numerous good houses may be satisfactorily erected.—May be viewed, and particulars obtained of Messrs. SLEE & ROBINSON, Solicitors, Parish-street, Southwark; of Mr. KENNETT, Solicitor, Great Knightrider-street, Doctors-commons; at Garraway's; and of the Auctioneers, 4 Stamford-street Blackfriars-road.

OXFORD.—VALUABLE BUILDING MATERIALS, comprised in the several Houses in Beaumont-street and Magdalen-street, the intended Site for the erection of the Randolph Hotel.

MR. JOHN FISHER begs to announce that he is instructed by the Randolph Hotel Company to SELL by AUCTION, on the 8th of OCTOBER next, the above BUILDING MATERIALS; consisting of roofs, floors, doors, shop-fronts, sashes and frames, partitions, stairs, &c. fittings, &c. which will be found good and sound in the respective lots that the Houses have been built within a few years.—Further particulars will be advertised previous to the sale.

TO IRONFOUNDERS, ENGINEERS, BOILER MAKERS, BLACK LEAD MANUFACTURERS, STONEMASONS, AND OTHERS

ELLIOTT & SHAW are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, OCTOBER 5th, the valuable LEASE, with power of sub-let, of an IRON FOUNDRY, known as the Grove Foundry, Great Grimsbird-street, Southwark; also the PLANT, in full working order: comprising an artesian well and high-pressure steam engine, with patent boiler, two hoisting cranes, new 20-inch Hoyle fan, a useful horse and cart, 10 tons finest Cumberland black lead in casks, all sorts of fine Bilston ingredients, and numerous effects.—For full particulars, and orders to view, apply to the Auctioneers, 77, Basinghall-street, E.C.

TO TIMBER MERCHANTS, BUILDERS, CABINET MAKERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on MONDAY, SEPTEMBER 21, and following day, at TWELVE, on the PREMISES, 45, Sun-street, Bishopsgate, in consequence of their having planned their premises with the North London Railway Extension Company, the remaining STOCK-IN-TRADE of a TIMBER MERCHANT, belonging to the late Firm of Messrs Sykes, Sons, & Sice, including 1,000 well seasoned 12 feet pine planks and spruce and spruce ditto, 500 Christiana, white, yellow, and pine dry deals and battens, 60,000 feet cut pine, white, yellow, and spruce planks, deals and battens from 1 to 2 inch, 20 cubic feet mahogany, 40 feet dry American pitch boards, from 1½ to 3 inch, 250 feet of oak plank, 200 feet of ash plank, 200 feet ditto in lengths, 2½ feet 8-month timber, quantity of slating, battens, about 15 squares of white, yellow, Christiania, and spruce prepared floor boards and match lining, 1,000 feet 4-inch birch, 1,000 feet birch planks, 2 to 6 inch, 10,000 feet Riga pine in deal and whitings, 10,000 feet 1-inch spruce in sale and whitings, 2,000 feet Spanish and Honduras mahogany ditto, pitch, frames, and crosses of saws, pulley saws and rollers, double purchase timber-jack, 2 trucks, and numerous other effects.—May be viewed the Saturday preceding and Morning of Sale, when Catalogues may be had on the Premises; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

IN BANKRUPTCY.—TO FURNISHING IRONMONGERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by the Assignee to SELL by AUCTION on the PREMISES, No. 1, Albert-terrace, Bishop's-road, Paddington, on THURSDAY, SEPTEMBER 24, at TWELVE precisely, the STOCK of a FURNISHING IRONMONGER; including a panned toilet sets and tidrays, moderator lamps, plated and metal kettle covers and teapots, fenders, stoves, register stoves, fire irons, bells, cornice poles, brass and iron curtain pins, 2½ feet sweetish bronzed quantity of slating, tiles, about 1½ squares of white, yellow, Christiania, and spruce prepared floor boards and match lining, 1,000 feet 4-inch birch, 1,000 feet birch planks, 2 to 6 inch, 10,000 feet Riga pine in deal and whitings, 10,000 feet 1-inch spruce in sale and whitings, 2,000 feet Spanish and Honduras mahogany ditto, pitch, frames, and crosses of saws, pulley saws and rollers, double purchase timber-jack, 2 trucks, and numerous other effects.—May be viewed the Saturday preceding and Morning of Sale, when Catalogues may be had on the Premises; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

VALENCIA SLATE SLAB QUARRIES, COUNTY KERRY, IRELAND.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at the AUCTION MART, London on WEDNESDAY, OCTOBER 28 at TWELVE, in one lot, unless an acceptable offer previously made, all that valuable and extensive QUARRIES and MILLS of the VALENCIA SLATE SLAB COMPANY, situate in the Island of Valencia, County Kerry, Ireland. The works have been carried on by the present company for about fourteen years, and a very large outlay has been made in opening the quarries, and in erecting the mills and the requisite machinery. The quarries are situate on the side of a mountain, about 1,200 feet above the sea level, and an opening has been made for working about 12 feet wide, running into the mountain to about the same depth, uncovering a succession of platforms of slate of various widths. The slate rises most conveniently for working at an angle of about 35 degrees, and has a regular cleavage. The slabs are severed by wedges instead of by blasting, thus avoiding the large amount of waste occasioned by the latter process. The roof of the quarry is self-sustained, and is perfectly secure. The quality of the slabs is now well known, and appreciated, and has found a large reputation by the principal merchants in London and elsewhere. They have a beautiful and permanent polish, are particularly valuable for enamelling, are unaffected by any variety of furnace heat, and are used in larger sizes than from any other quarry. The slabs from the small blocks is made into roofing slates, for which there is ample local demand. The plant consists of a steam engine of 40 horse power, but by a comparatively small outlay in an extension of the engine this quantity may be doubled, the machinery at the mills being equal to prepare that quantity, and is adequate at the present time being in excess of the capabilities of supply.

The mills are situate about 2½ miles from the quarries, are connected by a good road of easy descent, which is kept in repair principally at the expense of the county; but every facility would be afforded by the Knight of Kerry, who is the freeholder, for laying down a tramway by the side of the present road, which would much lessen the cost of transit. The mills are most advantageously placed, being immediately contiguous to the pier, at which vessels of 500 tons burden can load alongside, and there are no pier dues nor wharfage payable. The harbour of Valencia is both safe and commodious, and freights to London are about the same as from the North Wales ports. The harbour is open at all times, and is perfectly sheltered. They are fitted with sawing and planing machinery of the best description, fitted by Blyth, of Lincehouse; and there are overhead cranes, tramrails, and every appliance for saving manual labour. There are also ten dwelling houses, manager's residence, and about thirty-five acres of farm land. There is a plentiful supply of water for the purposes of the mills, from large reservoirs at the quarries, and works are held by lease from the Knight of Kerry for ever at a rent. The present Company have expended upwards of £10,000 on the property. The Lease will be produced, including the requisite deed, at market fair, the slabs, and have it ought to possess the valuable and uniform character of the slate, and the extent to which the workings may be carried: and they have supplanted and fitted the most modern machinery for the production of the slate for market, and it is confidently believed that the Works are now in that state that, in the hands of two or three individuals very little further outlay will be anticipated.—The Works may be viewed by Cards only, which, with further particulars, may be had of Messrs. PALMER, NETTLESHIP, & KLAND, Solicitors, 4, Trafalgar-square, W.C.; at the *Midland Counties Herald* Office, Birmingham; at the Grosham Hotel, Sackville-street, Dublin; at the Railway Hotel, Killarney; at the Adelphi Hotel, Liverpool; at the Mart, London; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

AT GARRAWAY'S COFFEE-HOUSE, Cornhill, on WEDNESDAY, 30th SEPTEMBER, at TWO o'clock,—

TIMBER, 5,40 Loads, Foreign and Colonial.
DEALS and BATTENS 100,400 Pieces ditto.
And other Wood Goods
BY FREEMAN & CO. Brokers.
3, Crooked lane, Cannon street, E.C.

TO MAHOGANY and TIMBER MERCHANTS, Cabinet, Pianoforte Chair, and Mangle Make rs, Builders, Carpenters, and Others.—Cumberland timber, Candlewick.

MESSRS. LEREW & LEREW will SELL by AUCTION, at the YARD, as above, on MONDAY, SEPTEMBER 28th, at TWELVE, 6,500 feet of MAHOGANY, 2,000 feet of birch, 6,500 feet wide pine, 1 inch, 2 inch, and 3-inch thicknesses; a quantity of planks, deals and battens, flooring, mouldstuff, quarter-ing, new rail, dry cut stuff, thirty doors, ladders, old materials, &c.—Auction Offices, Cumberland street, Hampstead-road.

TO DEALERS in BUILDING MATERIALS and OTHERS.—TO BE SOLD, by PUBLIC TENDER, on the PREMISES, No. 1, Nos. 3 and 4, and Nos. Bishopsgate-street Without, on MONDAY, the 21st instant at TWELVE for ONE precisely, in One Lot, the MATERIALS of the TWO HOUSES, comprising about 9,000 bricks, 3 tons of lead, roofing and slates and Lias flooring, plate glass shop front, sashes and frames, marble and other chimney-pieces, stoves, ranges, fire-castors, doors, wire-work, two staircases, and other items.—May be viewed Friday and Saturday preceding the sale. Particulars of Mr. HUMPHREYS, Surveyor, of Leadenhall-street, E.C.

THE PATENT FILE COMPANY (Limited).

Incorporated under the Companies Act, 1862.

Capital 100,000*l.* in 10,000 shares of 10*l.* each (of which not more than 2,000*l.* will be required to set the Works in full operation)

Deposit on application, 2s. per share; payment on allotment, 1s. per share; calls of 1*l.* per share, at intervals of not less than two Months.

DIRECTORS.

CHAIRMAN.—Mr. Bernard Gilpin (William Gilpin, sen. & Co Edge Tool Manufacturers, Wednesbury, Staffordshire).

OFFICES:—27, Moorgate-street, London; 29, Waterloo-street, Birmingham.

ABRIDGED PROSPECTUS.

This Company has been formed to manufacture files by Machinery in lieu of hand labour, whereby the cost will be materially reduced and the quality improved; it is founded on the experience of similar undertakings successfully established in France and Belgium.

Detailed prospectuses and forms of application for shares may be had at the Offices of the Company, 27, Moorgate-street, London, and 29, Waterloo-street, Birmingham; and also of the following Brokers:—

The Members of the Birmingham Stock Exchange
Mr Samuel Ermbacher, Manchester.
Mr. Richard Withers, Liverpool
Messrs. John Watson & Son, Sheffield.
Mr. Jonathan Drewry, Newcastle-on-Tyne.
Mr. W. H. Green, Gloucester.
Mr. G. & S. Bryant, Bristol.
Mr. George Ridsdale, Albion-place, Leeds.
Messrs. Aitken & Mackenzie, Glasgow.

PATENT FILE COMPANY (Limited).

NOTICE.

The Directors will proceed to an Allotment on the 30th instant. Applications for the remaining shares to be made before that date.

By order of the Board, HENRY HOWELL, Secretary.

29, Waterloo street, Birmingham, 10th September, 1863.

LIVERPOOL and LONDON FIRE and LIFE INSURANCE COMPANY.

At the ANNUAL MEETING of the Proprietors, this Company, held on Thursday, 27th February, 1863,

JAMES ASPINALL TOWN, Esq. in the Chair,

The Report of the Directors for the year 1862 was read. It showed

That the Fire Premiums of the year were	£436 965	0 0
Against those in 1861, which were	360,131	0 0
Giving an increase in 1862 of	75,934	0 0
That the new Life business comprised the issue of 785 Policies, insuring	46,374	0 0
On which the annual premium is	13,395	7 11
That new Annuity Bonds have been granted, securing annual payments of	39,416	17 11
And that the aggregate of the Annuities now payable is	24,084	1 3
That there has been added to the Life Reserve the sum of	79,277	11 4
That the balance of undivided profit was increased by the Sum of	25,723	9 7
That the Invested Funds of the Company amounted to	1,417,898	8 4

In reference to the very large increase of 75,000*l.* in the Fire premiums of the year, it was remarked in the Report, "The Premiums paid to a company are the measure of that company's business, and a large share of that part, and often is, re-insured with other offices. In this view the yearly addition to the Fire premiums of the Liverpool and London Company must be very gratifying to the proprietors."

SWINTON BOULT, Secretary to the Company.
JOHN ATKINS, Resident Secretary, London

BONUS DIVISION.

GLOBE INSURANCE,

CORNHILL and CHARING CROSS, LONDON.

ESTABLISHED 1803.

Capital—£1,000,000 Sterling, all paid up.

DIRECTORS.

SHEFFIELD NEAVE, Esq. Chairman.
WILLIAM DENT, Esq. Deputy Chairman.
GEO. CARR GLYN, Esq. M.P. Treasurer.

William Cleaver, Esq.	Nathaniel Hodgson, Esq.
Thomas M. Coombs, esq.	Fowler Newman, esq.
John Rankin Dowland, esq.	W. H. C. Plowden, esq. F.R.S.
Robert William Hanbury, esq.	William Tite, esq. M.P. F.R.S.
John Edward Johnson, esq.	T. M. Wagnelis, esq. M.P.
Richd. Lambert Jones, esq.	Richard Westmacott, esq. F.R.S.
	Benjamin G. Wheeler, esq.

Life Department.—FREDERICK HENDRIKS, Actuary.

At the close of the present year 1863, a BONUS DIVISION will be made on GLOBE MUTUAL SCALE LIFE POLICIES, for the Five Years then ended.

All Classes of FIRE, LIFE, and ANNUITY Business are invited.

MERCANTILE INSURANCES AT REDUCED RATES.

During the last Ten Years the FIRE INSURANCE DUTY paid by the GLOBE has EXCEEDED the AMOUNT of its Capital.

WILLIAM NEWMARCH, F.R.S. Secretary.

CARTS, LADDERS, BARROWS, &c.—

GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Iron use, Agriculture, and Exportation.

LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE GANGWAYS,

and every description of Contractors', Builders', and Decorators' Trade Requisites

Vans, Waggons, Dobbin and other Carts, specially adapted for exportation. Fag-mills, Jack-rolls, Trolleys, and Portable Railways. Sadbolting, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire.

Price Lists on application.

GEORGE ELL & CO.
EUSTON WORKS, 364 and 365, EUSTON ROAD, LONDON, N.W.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, September 19, 1863.

The Builder,

Architect, Engineer, Operative & Artist.

VOL. XXI.—No. 1077. SEPTEMBER 26, 1863. PRICE FOURPENCE. By Post, 5d.

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AN ARCHITECTURAL UNION COMPANY (Limited).—The EXHIBITION of BUILDING INVENTIONS, MATERIALS, &c. at the Galleries, 9, Conduit-street, Regent-street, is now OPEN DAILY from ELEVEN till FOUR, FREE

A PHARMACEUTICAL SOCIETY of GREAT BRITAIN.—SCHOOL of PHARMACY.—The Twenty-third Session will commence on THURSDAY, the 1st OCTOBER. LECTURES—On Chemistry and Pharmacy, by Professor Redwood. On Botany and Materia Medica, by Professor Bentley. LABORATORY for Practical Instruction in General and Pharmaceutical Chemistry.—Director and Demonstrator: Dr. Attfield. Assistant Demonstrator: Mr. Tilden. A Syllabus of Instruction, and particulars of Terms, may be obtained from the Secretary, 17, Bloomsbury-square, W.C.

SCIENCE and ART DEPARTMENT of the COMMITTEE of COUNCIL on EDUCATION, SOUTH KENSINGTON. The NEW ART TRAINING SCHOOLS of the Science and Art Department of the Committee of Council on Education will be OPENED for PUBLIC INSPECTION on FRIDAY and SATURDAY, 2nd and 3rd OCTOBER, from TWELVE to NINE. The classes assemble on MONDAY, 5th OCTOBER.—By order of the Committee of Council on Education.

SOCIAL SCIENCE.—The SEVENTH ANNUAL MEETING of the NATIONAL ASSOCIATION for the PROMOTION of SOCIAL SCIENCE will be held in EDINBURGH, from the 7th to the 14th of OCTOBER next. President, the Right Hon. LORD BROUGHAM. Member's subscription, One Guinea, constituting the volume of Transactions; Associate's, 10s. 6d. Either may be entered as Members or Associates. Subscriptions are received at the Offices in Edinburgh and London, where programmes of the railway and general arrangements, and every information relating to the meeting, may be obtained.—Offices, City Chambers, Edinburgh; and 29, Waterloo-place, Pall-Mall, London, S.W.
GEORGE W. HASTINGS, Hon. General Secretary.

VAUXHALL (LAMBETH) SCHOOL of ART, St. Oswald's-place, Upper Kennington-lane, S. The School will RE-OPEN on THURSDAY, OCTOBER 1st. Classes for the Study of Anatomy, Figure Drawing, Painting from Life, Landscape Drawing, Perspective, Geometry, Design, Machine and Architectural Drawing, &c. Manufacturers and others can make engagements with the students for colouring photographs, designing of every description, colouring architects' perspective drawings, &c. &c. Fee on application to the Head Master. Morning Classes for Ladies. Night Classes for Masters, Mistresses, and Pupil Teachers, every Saturday.
JOHN J. OXER, Hon. Sec.

PROFESSOR DONALDSON'S COURSES of LECTURES on ARCHITECTURE and CONSTRUCTION, for the Session 1863-4, at University College, commence on TUESDAY EVENING, the 20th of OCTOBER.—Full particulars can be obtained free on application at the Office of the College.

MINERALOGY, KING'S COLLEGE, LONDON. PROFESSOR TENNANT, F.G.S. will give a COURSE of LECTURES on MINERALOGY, with a view to facilitate the Study of Geology, and of the Application of Mineral Substances in the Arts. The Lectures begin on FRIDAY, OCTOBER 2nd, at NINE a.m. They will be continued on each succeeding Wednesday and Friday at the same hour. Fee, £1. 2s.
R. W. JELF, D.D. Principal.

NOTICE

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE will shortly be REMOVED to the NEW PREMISES, 73–74, Bishopsgate-street Within, a few doors from the present establishment. These will afford accommodation for a full larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.
81, Bishopsgate-street Within, July, 1863.

COMPETITIONS.

TO ARCHITECTS.—COVENTRY and WARWICKSHIRE HOSPITAL.—The Committee of the above Hospital are desirous of receiving PLANS for a NEW HOSPITAL, to be built in the city of Coventry. The outlay not to exceed 7,000l. inclusive of fencing and draining. To provide accommodation for fifty beds for in-patients, baths, a waiting-room for out-patients, two consulting rooms, house surgeon's and matron's rooms, servants' rooms, operating-room, dispensary, board room, and other requisites for a hospital. The plans to be so arranged as to allow of future extension. Ground plans will be supplied on application to the Secretary. A premium of 20 guineas will be awarded to the second best design.—Plans to be sent in to the Secretary (each Plan bearing a motto and accompanied with a sealed envelope corresponding with such motto, and containing the name of the architect) on or before MONDAY, the 23rd day of NOVEMBER next.
Coventry, Sept. 15th, 1863. ALFRED J. SODEN, Secretary

DESIGNS for "RAISING HOLBORN VALLEY."—To ARCHITECTS, ENGINEERS, and OTHERS. Notice is hereby given, that the Improvement Committee of the Corporation of London will meet at Guildhall on MONDAY, the 19th day of OCTOBER next, at ONE o'clock precisely, to receive DESIGNS, with descriptions, plans, sections, and estimates, for "RAISING HOLBORN VALLEY," and making such alterations and improvements in and adjacent to Holborn hill and Skinner street as would tend to the convenience of the public and to the economization of the metropolitan traffic. The plans of the streets and suggested improvements to be drawn to the same scale as a plan of the locality which may be obtained at the Architect's Office, Guildhall, upon payment of 5s.; the property required to be taken to be coloured red on the general plan. Premiums of 250l. and 150l. respectively, will be given for the most approved designs. Such designs will become the property of the Corporation; but the Corporation do not engage to employ in the execution of the work either of the persons who may be appointed. The several designs, with all necessary accompanying documents, must be delivered at the Town Clerk's office, Guildhall, by TWELVE o'clock at noon precisely, on the above-mentioned day, sealed up and endorsed, "Holborn Valley."
WOODTHORPE.

SAINT WINEFRED'S WELL, HOLYWELL.—To ARCHITECTS and OTHERS.—The Local Board of Holywell having determined upon constructing NEW BATHS and improving and altering the present Baths and Premises of Saint Winefred's Well, Holywell, hereby offer a PREMIUM of THIRTY POUNDS for the TWO BEST PLANS, viz. FIFTEEN POUNDS each, one plan for the improvement and alteration of the existing baths and premises adjoining, excluding the site of the mill and brewery; the other plan to comprise the same premises as above, including the site of the mill and brewery; such plans to be accompanied with sections, elevations, specifications, and estimates. If the architect of either of the successful designs be employed to carry out the work, the premium to be merged in the commission. All particulars and information may be obtained upon application to the undersigned. The designs to be sent in on or before the 31st day of OCTOBER next, under motto, with sealed envelopes addressed to
WM. DAVIES, Clerk to the Holywell Local Board.
Holywell, September 14, 1863.

CONTRACTS.

TO CONTRACTORS.—In consequence of the Death of the late Contractor, Sealed TENDERS will be received by the Secretary of the Bridge Committee of the Town of Drogheda, from the date hereof up to and upon THURSDAY, the 15th day of OCTOBER next.
For taking down the present Bridge over the River Boyne, at Drogheda, and Building in place thereof a Stone Bridge of Eighty Feet Span.
According to Plans and Specification prepared by J. NEVILLE, Esq., C.E. to be seen at my Office, Fair-street, Drogheda; or at the Office of the Engineer, Jocyn-street, Dundalk, between the hours of TEN and FOUR o'clock every day (Sundays excepted) after this date. The Lowest or any Tender not necessarily to be accepted.
Dated at Drogheda, this 27th day of August, 1863.
HENRY CLINTON,
Secretary to the Bridge Committees of the Corporation Harbour Commissioners and Grand Jury of Drogheda.

TENDERS WANTED for SIXTY-FOUR THOUSAND BRICKS.—12,000 Stocks or Grizzles, 42,000 Place, and 10,000 Old Bricks, at per thousand, delivered near the Waterworks, Battersea Fields. Tenders wanted for the BRICKWORK of FOUR HOUSES, Labour and Scaffolding only.—Apply to Mr. LLOYD, No. 54, Hanley-street, Battersea-fields, London.

TO CONTRACTORS. — HAILEYBURY COLLEGE.—TENDERS are required for certain DRAINAGE and EARTH WORKS, on land at Haileybury College, Herts. Persons willing to Tender may see the plans, sections, and specification, and obtain copy of quantities, at the Offices of JOSIAH FORSTER FAIRBANK, C.E. 30, Parliament-street, Westminster, S.W. on and after the 1st OCTOBER, until 8th OCTOBER, from ELEVEN to FOUR each day.—Tenders, endorsed "Tender for Earth Works," addressed to the Steward, Haileybury College, Hertford, to be sent in at NOON, on the 9th OCTOBER. The Lowest or any Tender will not necessarily be accepted.
30, Parliament-street, Westminster, September 21, 1863.

CONTRACTS.

TO BUILDERS and OTHERS.—Persons desirous of TENDERING for the EXECUTION of the whole or any portion of the WORKS of the proposed MASTERS HOUSES, in connection with the Clifton College, can inspect the plans and specification upon application to the Architect, Mr. CHARLES F. HANSOM, from MONDAY, the 28th instant, to SATURDAY, OCTOBER 3rd. The work has been separated into trades, or parts, and can be had of Mr. J. A. CLARKE, Bond-street. Sealed Tenders to be delivered at the Office of the Architect, Bank House, Clifton, not later than NOON on MONDAY, the 5th of OCTOBER. No pledge is given for the acceptance of the lowest or any other Tender.
Clifton, September 19, 1863.

TO CONTRACTORS and OTHERS.—SEWERAGE WORKS.—The Local Board for the District of Ealing are prepared to receive TENDERS for the CONSTRUCTION of about 3,200 lineal yards of BRICK, and about 3,000 lineal yards of STONEWARE PIPE SEWER, and other works connected therewith, according to plans, specification, bill of quantities, and form of Tender, which may be inspected at the Office of the Surveyor of the Board, Mr. CHARLES JONES, No. 2, Church terrace, Ealing, on and after MONDAY, the 28th instant, between the hours of TEN a.m. and FOUR p.m. Sealed Tenders to be sent to the undersigned Clerk of the Board, at his Office, No. 5, Court-yard, Albany, Piccadilly, London, on or before the 14th OCTOBER next, endorsed "Tender for Sewerage Works." The Local Board do not bind themselves to accept the Lowest or any Tender.—By order, (Signed)
24th September, 1863. ALEX HUNTLEY, Clerk

TO BUILDERS. — The Directors of the Ascot Hotel and Stables Company are prepared to receive TENDERS for some ADDITIONS to their Hotel and Stables. Plans and specifications of the Works may be seen at the Hotel, Ascot Heath. Tenders to be delivered on or before the 1st day of OCTOBER next, to Messrs CLARK & HOLLAND, Architects, Newmarket. The lowest or any Tender will not necessarily be accepted.

EXTENSION OF TIME FOR TENDERS.
METROPOLIS MANAGEMENT ACTS.
To BUILDERS, CONTRACTORS, and OTHERS.—The Board of Works for the Plumstead District are prepared to receive TENDERS for ERECTING a new BOARD-ROOM BUILDING and OFFICES, upon a plot of ground situate on the southern side of the High-street, in the parish and village of Charlton, Kent, S.E. The drawings, specification, and draft contract for the works, may be inspected, and bills of quantities and forms of Tender obtained, upon application at the Office of the Board, at Old Charlton, S.E. between the hours of TEN a.m. and FIVE p.m. on and after MONDAY, the 21st SEPTEMBER instant. The Tenders are to be addressed to the Clerk to the Board under a sealed envelope, endorsed, "Tender for Plumstead District Board Offices," and to be delivered at the above-mentioned Office in Charlton not later than FIVE o'clock in the afternoon of WEDNESDAY, the 30th day of SEPTEMBER instant. The Board do not pledge themselves to accept the lowest or any Tender, and the party whose Tender may be accepted will be required to provide two sureties satisfactory to the Board, which sureties, together with the contractor, must enter into a joint and several bond to the Board in the sum of 500l. for the due performance of the contract.—By order,
CHARLES AUGUSTIN SMITH, Clerk to the said Board.
Old Charlton, S.E. September, 1863.

TENDERS are invited for 346 Tons, more or less, of CAST IRON PIPES, for the Justices of the Peace for Cheshire. Particulars and specifications may be obtained from Messrs. W. THACKER & CO. 87, Newgate street, E.C.

TO STEEPLE-BUILDERS, &c.—The Spire of St. Mary's Church, Monmouth, which is about 200 feet high from the ground line, being in a dilapidated state and out of perpendicular to the extent of about 2ft. 6in. from the summit, the Churchwardens are ready to receive TENDERS for the REPAIR thereof. They do not bind themselves to any, the lowest or any Tender. Specifications and all information to be obtained of the Churchwardens. Tenders, addressed to the Churchwardens of Monmouth, to be delivered on or before the 30th instant.
Monmouth, September 16th, 1863.

TO BUILDERS.—"HOOVE LEA," BRIGHTON.—The drawings and specification of proposed ADDITIONS and ALTERATIONS may be seen between the hours of TEN and FIVE, at the Office of Mr. WOODMAN, Architect, No. 17, Prince Albert street, Brighton, to whom TENDERS are to be delivered not later than THREE o'clock, p.m. on WEDNESDAY, the 7th proximo. No pledge given to accept the lowest or any Tender.
September 23rd.

TO BUILDERS.—TENDERS are required for a HOUSE and SHOP to be ERECTED at Eltham, Kent, for Mr. Cooke. Plans and specification may be seen at my Offices, between TEN and FOUR o'clock, on and after MONDAY next, the 28th instant. Tenders to be delivered at my Office, endorsed "Tender for House at Eltham," on or before ELEVEN o'clock of MONDAY, the 12th OCTOBER. Mr. Cooke does not bind himself to accept the lowest or any Tender. JOHN WHICHCORD, Architect.
16, Walbrook, E.C. Sept. 21, 1863.

NORTHLEACH GASLIGHT and COKE COMPANY, LIMITED.—TENDERS for the whole or any part of the GASWORKS required by the above-named Company will be received up to the 3rd proximo. Copies of the plan and specification, and estimate of quantities, may be had on the usual terms, on application to the Surveyor, Mr. THOMAS REDMAN, Coldaston, near Northleach, Gloucestershire; or may be seen at the Company's Office, Market place, Northleach.—The Works are required to be completed as early as possible.
JAMES H. H. HOWARD, Secretary.
Northleach, Gloucestershire, September 22, '63. 3

[For remainder of Contracts see next Page.

CONTRACTS.

BRECON LOCAL BOARD of HEALTH.—TO SEWER CONTRACTORS.—The Board are prepared to receive TENDERS for the CONSTRUCTION of about ONE MILE of BRICK and PIPE SEWERS, to be entered for in three sections. Plans and specifications may be seen, and other information obtained on application to Mr. KIRK, Surveyor to the Board, Watton, Brecon. Sealed Tenders to be sent to me, not later than NOON, on MONDAY, the 5th OCTOBER next. The Board do not bind themselves to accept the lowest or any Tender.

S. B. EVANS, Clerk to the Board.

Brecon, 16th September, 1863.

TO BUILDERS.—The PHILHARMONIC ROOMS, SOUTHAMPTON.—The Directors of the Southampton Philharmonic Rooms Company (Limited) are prepared to receive TENDERS for the ERECTION of the above ROOMS, in the Above Bar street, Southampton. The drawings, specification, and conditions of contract may be inspected at the Offices of Messrs. HOVENDEN & HEATH, 4, Broad-street buildings, London, and at our Offices, 24, Portland street, Southampton.

Sealed Tenders to be delivered at our Offices, as above, not later than NOON, on WEDNESDAY, 7th OCTOBER.

The quantities can be obtained on application to Messrs HOVENDEN & HEATH, as above

The Directors will not necessarily accept the lowest or any Tender, and the party whose Tender may be accepted must, if required, provide security for the due performance of the contract

HINVES & BEDBOROUGH, Architects.

LINCOLNSHIRE COUNTY LUNATIC ASYLUM.—To BUILDERS, CONTRACTORS, &c.—Builders desirous of TENDERING for the WORKS in ENLARGEMENT of this COUNTY ASYLUM, at Bracebridge, near Lincoln, which work consisting chiefly of the addition of two wings, for 140 patients, may inspect the plans and specifications at the Asylum, and at the Office of Mr ROBERT YOUNG, No 1, Hallcatter, Lincoln, on and after the 21st day of SEPTEMBER, instant The work is to be commenced early in the spring, and completed by the 1st of MAY, 1865 Forms of Tender, Schedules, and Bills of Quantities can be obtained on payment of one guinea, to Messrs BATSTONE & HUNT, Surveyors, 11, Park street, Westminster. Tenders, &c. to be sent to the undersigned Clerk to the Visitors, at Sleaford, on or before the 21st day of OCTOBER next, sealed up, and endorsed, "Asylum Tender." The Visitors do not pledge themselves to accept the Lowest Tender

M. P. MOORE, Clerk to the Visitors.

Sleaford, 5th September, 1863

HINCKLEY POOR-LAW UNION.—TO LAND SURVEYORS and VALUERS.—The Guardians of the above Union are prepared to receive TENDERS for a SURVEY, PLAN, and VALUATION of the Parish of Hinckley, within the said Union, the Area of which is about 3,365 acres; the plan to be made upon a scale of two chains to an inch, and the valuation according to the form prescribed by the Poor-Law Board. The contract to be entered into will contain a clause limiting the time of completion to six calendar months. The Guardians do not bind themselves to accept the lowest or any Tender. A form of the contract to be entered into may be seen, and further information obtained on application to me at my office at Hinckley Tenders sealed and endorsed, "Tender for Survey, Plan, and Valuation of the Parish of Hinckley," must be sent to me before or on WEDNESDAY, the 14th day of OCTOBER next.—By order of the Board.

Hinckley, September 24th, 1863 SAMUEL PRESTON, Clerk.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanised ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators. HULETT & CO. 55, High Holborn.

RAIN WATER PIPES, GUTTERS, &c.

Rain Water Pipes.....	2½-in.	3-in.	3½-in.	1s. per yard.
Eaves Gutter.....	3½-in.	4-in.	5-in.	6d. "
O G Gutter.....	4-in.	11d.	4½-in.	1s. "

Sash Weights, heavy..... 5s. per cwt.
Ditto light..... 5s. 6d. "

ST. PANCRAS IRON WORK COMPANY, OLD SAINT PANCRAS ROAD, and YORK ROAD, KING'S CROSS

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 65, Charles street, City-road, E.C. near the Cattle Bridge.

E. GOLLOP, SOLE PROPRIETOR.

A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor springs, Gate hinges, Rising-hinges, Rising spring hinges, Not-rising spring hinges, Double acting Spring-hinges, Rising and Not rising Door Back springs, &c

Price List and Drawings on application as above.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER. THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public All kinds of Bent Glass delivered.

N.B.—The usual discount to builders and the trade.

COX & SON, CHURCH FURNITURE MANUFACTURERS,

28 and 29, SOUTHAMPTON STREET, STRAND

PAINTED and STAINED GLASS WORKS, 43 and 44, Maiden-lane (adjoining Southampton street), W.C.

WOOD and STONE CARVING and BOLTHS' METAL WORKS, Belmont road, Lambeth S.W.

CARVING.—A great reduction effected with the assistance of the Latest Novelty

GOTHIC METAL WORK, of every description, both in Silver, Brass, and Iron.

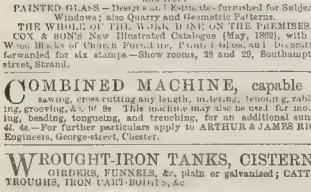
PAINTED GLASS.—Designs and Estimates furnished for Subject Windows; also Quarry and Geometric Patterns.

THE WHOLE OF THE WORK DONE ON THE PREMISES.

COX & SONS' New Illustrated Catalogue (May, 1862), with 350 Wood Blocks of Church Furniture, Prints, Glass, and Decoration, forwarded for six stamps.—Show rooms, 28 and 29, Southampton-street, Strand.

COMBINED MACHINE, capable of sawing, cross cutting any length, tenoning, rebetting, grooving, &c. by 8 in. This machine may also be used for moulding, beading, tongueing, and trenching, for an additional sum of 4l. 4s.—For further particulars apply to ARTHUR & JAMES RIGG, Engineers, George-street, Chester.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c



BURNEY & BELLAMY, Mill-wall, London. Steam boats from London Bridge call near the Factory.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 95), Great Guildford-street, Borough, S.E. Inventor of the Rotary Shear Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.)

GENERAL IRON FOUNDERS, MERCHANTS, and PATTERN MAKERS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE CASTINGS,

And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

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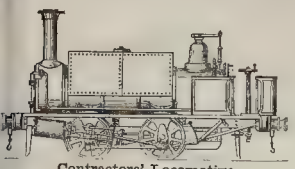
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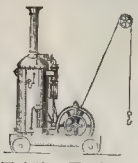
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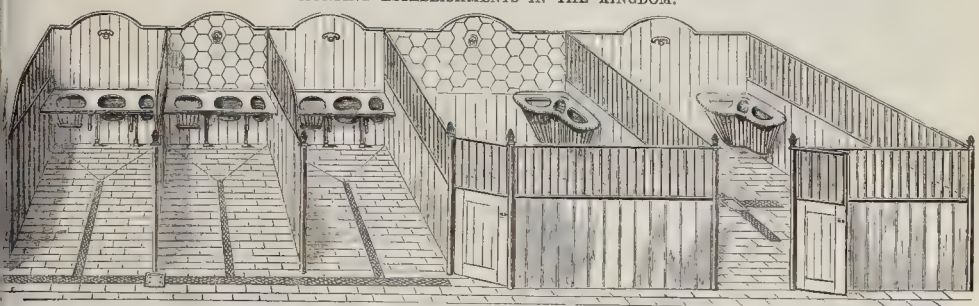
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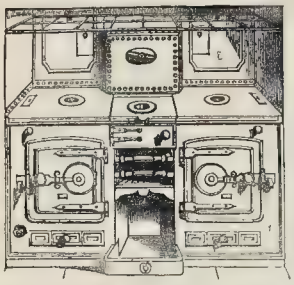


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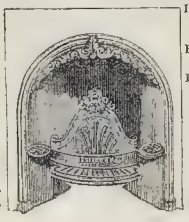
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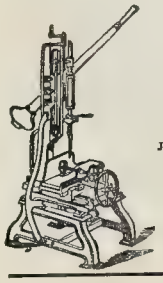
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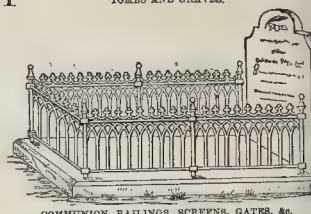
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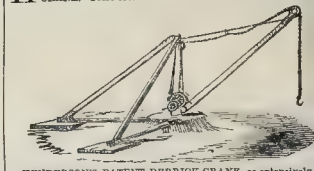


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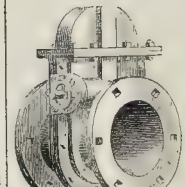
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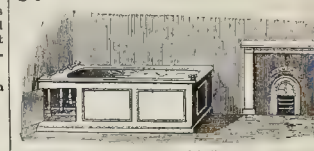
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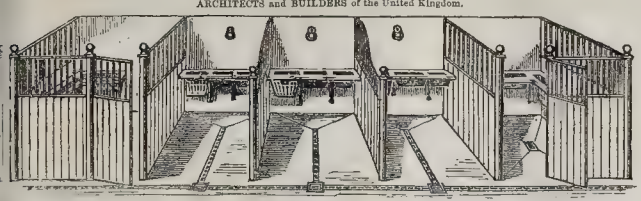
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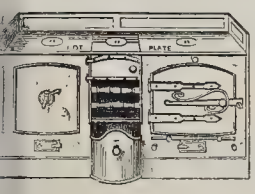
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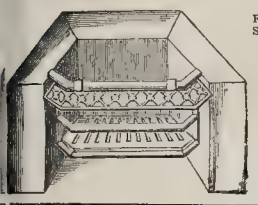
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36 ,,	24 ,,	.....	31	0			
38 ,,	27 ,,	.....	36	0	Extra strong.		
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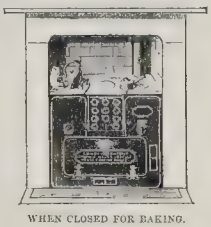
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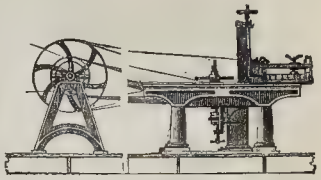
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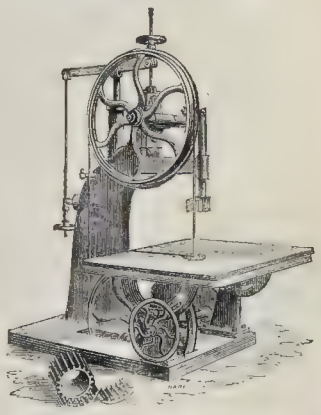
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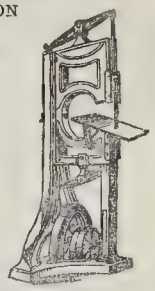
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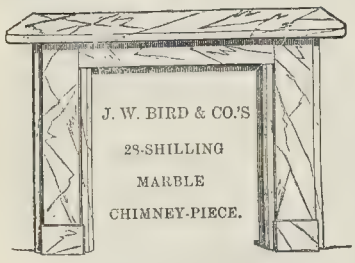
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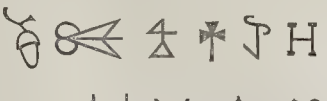
VOL. XXI.—No. 1077.

Going Along.
Strasburg: Carlsruhe: Munich.

ERWIN VON STEINBACH has all the credit popularly of Strasburg Cathedral, the loftiest building in the world, and deserves a great deal of that credit. Several other men, however, co-operated in producing the present pile, which, notwithstanding certain discrepancies in the proportions of the various parts, produces astonishment and admiration in all who look upon it with the mind. In the year 1028, a cathedral here, on the site probably of a still older building, was roofed in. It experienced vicissitudes, and in 1140 a tower belonging to it was destroyed by fire. Erwin von Steinbach comes on the scene in the latter half of the thirteenth century, when great part of the then existing building was taken down; and in 1275, under the direction of Bishop Conrad, he had nearly finished a new nave. Attention was then directed to the western façade and the towers, and "*A.D.* 1277 *in die beati Urbani* [25th of May] *hoc gloriosum opus inchoavit magister Erwinus de Steinbach.*" Erwin died in 1318, and left a family of artists, one of whom, John, succeeded him at the cathedral, and died in 1339. By 1365, the two towers at the west end were finished. Fire destroyed the interior of all but the choir in 1384. In 1429, John Hültz, of Cologne, was called in, and in 1439 he completed the spire on the north tower, laying the last stone exactly 162 years after Conrad had placed the first stone of the tower. That Erwin designed the spire is not likely: certain ancient drawings exist, and are pointed to as Erwin's, but the authorship is doubtful. During the Revolution of 1793, one Teteral, a Jacobin, proposed to demolish the spire because its height, exceeding that of ordinary houses, insulted the principle of equality! Fortunately his fellows were wiser.

There is no view in the interior so fine as that of the east end, where the semi-circular arch prevails, and which belongs to a period earlier than that of Steinbach. Some of the stained glass, ranging in date from the fourteenth century, is very beautiful. The sculptured figures which surround the upper part of a column in the south transept, and are ascribed to Erwin's daughter Sabina, are more striking as a whole, than beautiful singly. The well-known curious astronomical clock close by, which puts all kinds of figures in motion at stated times, and notes all sorts of periodic events, a modern work improved from an ancient model, still gathers its crowd of country folks and foreigners at twelve o'clock in the day, when the cock crows, Death strikes his dart, and the twelve Apostles pass before the figure of Christ. It was finished in 1842. Its external aspect is sufficiently ugly. Using this word, we have before us a miserable cabin, built for the custodian on the top of the unfinished southern tower of the cathedral. This is a great eye-sore from below and around, and should be made to take a different shape.

The stonework of the cathedral is in a very good state. Masons' marks abound both within and without. To give but a few, here are some from the lower part of the great western front:—



These two are from the interior of the chapel of St. John, built prior to Erwin's work:—



The annexed mark is on the outside of the parapet, round the platform at the top of the west front and foot of the spire-tower; and this, a rude outline of a leg, is in the first gallery of the spire-tower.



The latter is particularly noticeable, as a leg thus used (with other marks) has been recently found on a pinnacle of the Church of St. Nicholas, Norwich, lately taken down as unsafe.



It is not a proper occasion to carry on this subject; but it is worth noting that the masons at Strasburg Cathedral still form a "lodge," the origin of which is said to go back to the time of Erwin de Steinbach. At any rate, writes a local historian, it is certain, that in very early times the masons of this cathedral formed themselves into a body, not receiving others into it excepting under conditions, and that they had signs for recognition amongst themselves. This lodge became the mother of others in Germany. Dotzinger, the successor of John Hültz as architect of the cathedral, united them in one corporation. An assembly of the heads of the different lodges, held in 1459, at Ratisbon, arranged laws, and adopted as grand master the architect of Strasburg Cathedral. Maximilian I., it is stated, confirmed the incorporation on the 3rd of October, 1498. At the commencement of the eighteenth century, however, the principal lodge (*Hauptlhütte*) was transferred from Strasburg to Mayence.

In an old building near the Minster, called the *Frauenhaus*, where lives M. Klotz, the present architect to the cathedral lay authorities, and which building, as many of our readers will remember, is used as a sort of museum, there is a very elegant Gothic winding staircase from the top of the house to the bottom, all the stones of which bear marks similar in general character to the mark given as from the parapet of the platform at foot of the spire-tower. Here is one of them to show the similarity. In the *Frauenhaus* we were shown part of Erwin's tomb, formerly in the cathedral, where he was buried. Why it should be here and not there still, affectionately preserved, we are not able to say.



The monument to Marshal Saxe, the second lion of the town, and in St. Thomas's Church, now used by Protestants, is more noticeable for the manipulative skill shown in it than its design. France, a female figure, not without beauty, endeavours to keep him from the grave and to put back Death,—the best figure of the group. The mixture of allegory and reality seldom gives lasting pleasure, and this monument is not amongst the exceptions. Its chief attribute, too, is flurry rather than repose.

The church contains several curious tablets and inscriptions, mostly of the thirteenth and fourteenth centuries: and the capitals of the main columns of the church, thirteenth century, are good. Amongst the memorials is a sculptured skeleton (the head as of life, and very fine), lying on a mat, the whole cut from one block.

On the road to St. Thomas's, the visitor passes the modern monument to Gutenberg (who made his earliest attempt at printing in Strasburg), with its clever inscription, equivalent to this,—"And there was light."

Proceeding to *Carlsruhe*, at Kehl we get into Germany: and at Appenweier station the mountains of the black forest are finely in view. Fan-shaped Carlsruhe, with its remarkable avenue of lofty poplars, has been greatly improved within the last dozen years. Many large houses are being built in the suburbs, all displaying colour externally, and many of them ornament in terra-cotta and tile-work. The theatre, built by the architect, Hübsch, who has done much for the town, is mainly of terra-cotta externally, including figures in the tympanum of the pediment, and has painted decorations under the portico, the whole very agreeable and suggestive of the purpose of the building. The Polytechnic School, built by the same architect some years ago, is being enlarged. The stones of the semi-circular arches of the windows and up the sides of the openings are incised with a simple ornament, which produces a good effect.

On a bright day the main streets of Carlsruhe are pleasant to look at; the balconies, with which the houses are mostly provided, being filled with brilliant flowers, shaded with gay awnings. Here and elsewhere it will be observed that in modern houses at the corner of a street, the opportunity of forming a bay-window at the angle to look both ways, corbelled out over the ground-story, and running up the whole height of the house (as in more ancient buildings in Nuremberg and other old cities), is seldom neglected, and serves to give variety and movement to the façade. This arrangement, spite of legislative enactments somewhat opposed to it, might be usefully adopted amongst us more often than it is.

The road to *Munich* has much to interest. At Esslingen is seen the open-work spire of the Liebfrauenkirche, designed in the fifteenth century by Hans Böblinger, who lies buried within. The covered ascent to the old castle here is also striking. Throughout the journey, small hamlets, of half-timbered houses around a church, pleasant quiet spots, succeed each other. Towards Geislingen station, at the foot of the Rauhe Alp, the valley of the Neckar and that of the Fils afford views of lovely character. The two valleys cross; the mountains, studded with a ruin or two, are covered with foliage,—there is a brilliant blue sky above: and the harvest people below, the waggons drawn by cows, give additional animation to the scene. At Ulm, where the minster is glorious, large barracks and other new buildings are in progress. Augsburg, birthplace of Holbein the elder, and site of several fine Mediæval structures, follows; and then pass villages and churches, the latter more remarkable for their number than their architecture.

As at Strasburg, it was night when we arrived in Munich:—

> "Silently, one by one, in the infinite meadows of Heaven,
> Blossom'd the lovely stars, the forget-me-nots of the angels."

A great fair was in full swing, and everywhere on our road to the *Baierischer Hof* in Promenaden Platz, where flags were flying from the windows, the city looked bright and gay. In this Platz, by the way, several bronze statues, including one of Glück, the composer, are stowed away, with very little advantage from their position. Munich is a sort of pattern-book, as every one now understands. Thus, the Basilica of St. Bonifacius is mainly a copy of a well-known church in Rome; the "new palace" is taken from the Pitti Palace in Florence; the Hall of the Marshals from the Loggia de' Lanzi, in the same city; the *Siegesthor* follows the arch of Constantine; and so on. Little blame, however, attaches to Ludwig I., the late though living king to whom, as all know, the city owes its present fame. He had some clever architects, but he did not happen

to get hold of a genius. Had he done so, the money and care expended might have advanced art generally: as it is, what was done merely advanced his city. With his painters he was more fortunate than with his architects, and the influence of those he developed has been felt much more widely. Indeed, what King Lewis effected as a whole is truly marvellous considered with reference to his resources. An equestrian statue of the ex-king has been lately raised in his honour in Ludwig's Strasse. On each side of the main figure is a page on foot, holding a tablet inscribed respectively Magnanimous and Just. At the angles of the pedestal on which these stand are four other figures symbolising Art, Science, Religion, and Music. All the figures are of a bright-coloured bronze; the pedestal is of a reddish stone. We give a view, which, though made from hastily obtained and therefore slight materials, serves to convey a fair idea of the aspect and merits of the monument.*

Building has been going on to an immense extent in the suburbs. Many hundreds of houses have been erected, some of them with elegant exteriors. The statement on the spot is that they have overbuilt, and that rents are low in the suburbs in consequence. New Law Courts are being erected, forming a large building in the modern Gothic style of Germany, which is flat and spiritless. The building in question, however, has claims for praise. Its architect shows himself more than a mere copyist. The exterior is of terra-cotta. The brickwork is first carried up with indented courses at regular intervals, by means of which the terra-cotta facings and decorations are secured. The apartments within are being adorned with colour and gilding. The architect is Herr Bürkeim. A new building, also, of size and pretension is being erected for the collections known as the Old German Museum: in style it seemed a curious mixture of Gothic and Italian.

The collections, of recent formation, and at present poorly accommodated, are large, and include many valuable and interesting objects, but being classed chronologically, the real value of the best things is overlooked through their being mixed up with heterogeneous and inferior matters. There is no catalogue; none of the specimens are ticketed, and the attendants speak only German, so that the majority of foreigners examine it with difficulty. We have pleasure, however, in saying that the director, Baron Aredin, being told by one of the persons in charge that there were visitors who appeared to take special interest in the Museum, came unasked and accompanied us as entire strangers through the remainder of the collection. As we understood, the Museum is not open ordinarily to the inhabitants of the city; only to artists and foreigners. The number of objects was guessed at 5,000: pictures and casts are made to aid in the completion of certain classes. Illuminations by Hemling, sketches by Albert Durer, fifteenth-century triptychs, carvings in mother-of-pearl, Palissy goblets, seals, watches, bronze tablets after Peter Fischer, sculpture, furniture, and metal-work, are a few of the remembrances of the collection that come back to us.

We must say a few words of some of the older structures and collections, well known though they are. The Royal Library, a building by Gaertner, finished in 1843, has a very grand staircase, including two wide flights up of twenty-seven steps each. The Bavarian granite, by the way, used greatly for steps and shafts of columns, has a soapy or cementitious aspect not agreeable. The library is of great extent, and contains no fewer than 800,000 volumes! These are arranged in twelve general classes and 180 sub-classes. The earliest printed book here is a Bible of 1450-55. The miscellaneous contents are curious, including MSS. of the sixth and seventh centuries; an amazingly small copy of the Koran—a wonderful piece of minute writing; a ninth-century Codex, jewelled; Boccacio's "Noble Men and Women," 1458, illuminated, with an array of heads admirably executed; some other fifteenth-century illuminations of great beauty; Albert Durer's Prayer-book, and specimens of early bindings. The number of students in the library seemed very small.

The church of St. Lewis, close by, contains, it will be remembered, Cornelius's large picture, "The Last Judgment," which, notwithstanding many high qualities, gives real pleasure to very few. The composition is confused, and wanting in concentration; the general tone of colour is brick-dusty. Some of the figures in the vaulting of the transepts and at the *crux*, painted from the cartoons of Cornelius, are very fine, spite of the white woolly clouds. There is an immense amount of decoration of all kinds, but the interior of this church is nevertheless very ugly.

The interior of the church dedicated "In honour of All Saints, 1837," is one of the most satisfactory things in Munich. Klenze was the architect, and Hess and his pupils have covered it with frescoes on gold ground. Scagliola faces the walls, and the columns are of marble: yet the whole is richly grave and harmonious. The effect of the gold ground here and elsewhere is most satisfactory, lighting up the groups and setting them in air. Some of the single figures, for example, in the spandrels at the west end, seem to stand in a brilliant sky, infinitely distant. We have nothing of its kind to show against this interior in London;—the more's the shame.

The interior of the Basilica of St. Boniface is also admirable. There Hess co-operated with Ziebland, the architect. It includes an enormous amount of fresco painting and scagliola, and a forest of monolithic marble columns forming two aisles on each side of the nave. The capitals, of white marble, exhibit much variety of design. The tie-beam roof and the west end of the church (where stands the organ in four pieces between the windows), are the least satisfactory portions of the interior. The amount of art shown in the exterior is but small. All the paintings, we may note, being withinside, appear to stand very well. Used externally, however, fresco is not more durable in Munich than it would be with us. Thus the painting on the Isar Thor, dating from 1833, is in a very bad condition.

In the Cathedral a new carved oak pulpit, by Sickinger, has been set up quite recently. It is very lofty and elaborate, full of figures, and a beautiful piece of carving. The bronze figures (size of life) at the sides and angles of the tomb here, of King Lewis, the Bavarian, 1622, are fine, and support the reputation of their maker, Peter de Witte, who was called Candido.

The bust of this artist will be found with that of others in the Bavarian Hall of Fame; the Doric *Stoa* erected by Klenze at the back of the large figure of Bavaria. The wall under the portico, and open to the air, is coloured red: the busts are supported on brackets against it. Amongst the men thus honoured are Holbein the elder; P. Fischer; Wolfgang Miller; Neumann, baumeister; Graf von Rumford; Alois Senefelder, the inventor of lithography; Ohlmüller, baumeister; Schwanthaler; Schelling, weltweiser; and others. Every one knows of the large bronze figure, with its sofa for three persons in each cheek, the work of Schwanthaler. Schwanthaler's studio is preserved for the public, and kept open for inspection. The works, as there exhibited, did not extort from us the amount of admiration we had calculated on giving. His quaint little cellar-like *sanctum*, or "club-room," where with an occasional friend he spent many of his leisure hours, with the knicknacks that fill the shelves and line the walls,—a carved root of a lemon-tree, odd goblets, morsels of armour, and so forth,—is not the least interesting part of the house. "Here," said one, who remembered the time, "the late king often came, and enjoyed without restraint that society which he loves best, the society of artists." "He used to catch all artists," said another, "and make them work; but he paid them well." The ex-king had true artist-like feeling. He showed it in many ways; once, when he took from his own private collection a noble head of Christ, by Albert Durer, and gave it to the town of Nuremberg, saying "Durer was your glory,—you have a right to his masterpiece." Durer's fellow citizens did not honour him as he deserved while he lived: he had to visit Venice to be properly appreciated; but they called him upon his tombstone, with but little exaggeration, "*Pictor, Chalcographer, Sculptor, sine exemplo.*" He was, indeed, a wonderful fellow; great in all these arts,—painting, engraving, and sculpture,—and not in these alone. We shall see some of his best works presently in the Pinacothek. It was to him that Raffaelle, when sending him a drawing, wrote,—"Your name has long been the object of my veneration;" and again,—"In this drawing I do not know whether I have attained to the proper height,—I am almost afraid not; but accept it, and never cease to love me as I love and honour you." On the back of a drawing by Raffaelle now in Vienna, Albert has himself written the German words that amount to this:—"1515, Raffaelle, of Urbino, who has been so well esteemed by the Pope, drew these naked figures, and sent them to Albert Durer, in Nuremberg, to show him his hand." This, however, would seem to be a second drawing, not the one that accompanied Raffaelle's letter that we have quoted. The record of such kindly interchanges warms and delights one. Art without heart goes but a little way.

* See p. 688.

OBITUARY.

The late President of the Society of Arts.—At his house in Russell-square, on Sunday last, died Mr. William Tooke, F.R.S., and who was last year elected president of the Society of Arts, whereof he had long been an active and distinguished member. Mr. Tooke was born in St. Petersburgh in 1777, and was consequently in his 86th year. Law was his profession, and literature and the society of literary men his pleasure and delight. He represented Truro in Parliament from 1835 to 1837, and took an active part in the establishment of the Society for the Diffusion of Useful Knowledge, of which he was the treasurer. We have seen a letter to him from Lord Brougham, when the idea of the Society was first broached, commencing somewhat thus:—"When anything good is to be done I look to you to help in it." Good was to be done in the direction indicated, and he did help in it for many years. In society Mr. Tooke was always a welcome guest. He had an excellent memory; and his recollections of men and things for the last sixty years and more gave a value to his conversation to which many can testify. Mr. Tooke published an edition of "Churchill's Poetical Works," in 1804, which was re-published by him in 1844, with a life of the poet. More recently he published a work called "The Monarchy of France: its Rise, Progress, and Fall." We had the good fortune to know Mr. Tooke for many years, and we lament in his loss an esteemed friend as well as an able and good man.

The late Mr. William Herbert.—Three old friends to grieve for in one week.—Mr. Tooke, Mr. Cockerell (of whom we have spoken at greater length on another page), and now Mr. William Herbert, of Clapham-common, who died at Great Malvern, on the 18th instant, in the seventy-second year of his age. Mr. Herbert was known to many of our metropolitan readers in two classes,—artists, and those connected with building. The improvements in West Strand and King William-street were due to his enterprise and energy; and by the exercise of his business, there and elsewhere, he realized an ample fortune, which enabled him to cultivate a natural taste, and become a considerable buyer of pictures and sculpture. He was for many years an active and very useful member of the council of the Art-Union of London, and will be remembered for his kindness of heart by all who had the good fortune to enjoy his friendship.

THE LATE MR. CHARLES ROBERT COCKERELL, R.A., ARCHITECT.

HONOURED by every member of his profession at home, as by men of taste and learning abroad, and endeared as he was to every one who ever knew him, Mr. Cockerell is now added to the list of those who have been taken from the higher walks of the pursuit and practice of architecture; and his remains have been followed to a resting-place in St. Paul's Cathedral, by a crowd of sorrowing friends. Mr. Cockerell died on Thursday, the 17th instant, at his house, No. 13, Chester-terrace, Regent's-park, and his funeral has taken place on this Thursday. He was in the seventy-sixth year of his age. He had for the last three or four years, retired from professional avocations, and even from meetings of the Institute of British Architects, and other societies to which he had some time previously renewed an interest that had been at all times valued; and which became at last especially so, as a bond of union under circumstances that threatened to break up the chief representative body of the profession, if not to act prejudicially on the growth of art in architecture for some subsequent time.

When after the death of Earl de Grey, it became necessary to name his successor in the presidency of the Institute, an office which many of the members had been long contending ought to be filled by a professional architect, there was one name at least that all respected, and that united all parties. Mr. Cockerell was elected; but at the expiration of the session 1860-61 his health compelled him to finally relinquish the office. Although on Mr. Cockerell's refusal to be again nominated, a contest took place, the objects sought originally to be attained by his election, probably did not cease to be influenced by it, as they certainly were by the estimation in which he had been, and continued to be, held. This respect and regard were manifested in the placing of his portrait in the rooms of the Institute, and by the presentation during the present year, of an address beautifully illuminated by Mr. Owen Jones, and signed by all the members of the Institute. These latest marks of the esteem of his professional brethren, touched all the sensibility of his excellent nature, and may have given some solace to the final days of his life.

Charles Robert Cockerell was born in London, or one of its suburbs, on the 28th of April, 1788. He was the son of Mr. Samuel Pepys Cockerell, an architect and surveyor, whose name is well known to old members of the profession as surveyor to the East-India House and to several important London estates, and who appears to have been in extensive practice in the closing decade of the last century. We have, however, just now, few particulars of his works, beyond what are afforded by the names of some of them. He resided in Saville-row, or in the corner house of that street and Old Burlington-street; the address attached to his drawings,—as to those of Mr. C. R. Cockerell when they came to be shown in the exhibition of the Royal Academy in Somerset House,—being sometimes Saville-row, and sometimes No. 8, Old Burlington-street. Few as our particulars are of Samuel Pepys Cockerell, they may however be interesting, and be here appropriately given as helping to show the school in which the chief subject of this notice was nurtured in part.

In records of Exhibitions of the Academy, we first meet with the name of S. P. Cockerell, of Saville-row, in 1792, when Mr. C. R. Cockerell would be four years of age. In the exhibition of that year, the twenty-fourth of the Academy's existence, Mr. S. P. Cockerell displayed four works, namely, a "Design for a Town Residence," a "Design for Improving the Foundling Hospital," a "Design for a Church now building at Banbury, in Oxfordshire," and a "Design for a Marine Cottage, built in the Isle of Thanet." In 1793, he exhibited "The Church in Normanton Park, the Seat of Sir Gilbert Heathcote, Bart., as proposed to be decorated," and "Middleton Hall, in Caermarthenshire, building for W. Paxton, Esq.:" in 1795, "Principal Front of Gore Court, Sittingbourne, Kent;" in 1797, "East View of the Church of St. Martin, Outwich, now building;" and in 1798, an "Internal View" of the same church, and in 1799, a "Design for the Inside" of the church "as executed." In the exhibition of the last-named year, also appeared from his hand, a "Design of the East End of the Church of St. Margaret, Westminster." At this time George Dance was "Professor in Architecture;" and Paul Sandby, and James Wyatt, were Academicians; and Joseph Bonomi, and John Soane, Associates. J. and T. Malton, R. Brettingham, D. Alexander, W. Atkinson, J. Savage, A. Pugin, W. R. Laxton, W. Leverton, F. Nash, T. Chawner, Jeffry Wyatt, T. Hardwick, H. E. Kendall, C. H. Tatham, J. Shaw, G. Wyatt, S. Ware, jun., C. Beazley, J. Buckler, T. Taylor, J. W. Pocock, J. A. Repton, P. F. Robinson, and J. Britton, are amongst the names in the catalogue. Some of these were destined shortly to be replenished by names of contemporaries of Mr. C. R. Cockerell, to whose works the recent appearance of the architectural room, greatly more sparkling though it may have been chromatically, has made no approach in merit.

In the year 1801, Mr. S. P. Cockerell exhibited "A Frame with Four Drawings, viz., A Design for a [so in catalogue] Entrance to Buckland Abbey, Devonshire, formerly the seat of the celebrated English circumnavigator Admiral Sir Francis Drake, and now of his descendant Lord Heathfield, situated on an eminence, and intended to perpetuate the memory of Sir Francis Drake, and at the same time to serve as a sea-mark; The new Entrance to the Stables of the Light Horse Volunteers, in Worship-street; A Design made in the Year 1790, for a new Corps de Garde near St. James's: Design for the new Tower to be built to the Church of St. Ann's, Soho." He also exhibited "A Design for the inside of St. Margaret's, Westminster, as now executing, with new Ceiling, Galleries, and Organ." In 1802, he exhibited "Nutwell Court, near Exeter, the Seat of the Right Hon. Lord Heathfield;" and in 1803, "Sketch of a Design for a Church at Huntingdon, adapted to the old tower and the materials on the spot." The family name does not again occur in the catalogues till fifteen years later, when the son of Samuel Pepys Cockerell began to exhibit. We have now to pursue the life of this son, the distinguished architect just deceased.

Mr. C. R. Cockerell, it appears, was first sent to a private school near the City-road and Battle Bridge. Subsequently, that is 1802, he was sent to Westminster School, where he was the form-fellow of men afterwards eminent, who became his fast friends through life. Amongst these were the Earl of Tavistock, afterwards Duke of Bedford, and his brother, Lord John Russell; John Cam Hobhouse, now Lord Broughton; and Fitzroy Somerset, afterwards Lord Raglan. At Westminster, he acquired a foundation of that classical taste which was manifested in him throughout his career. For the school, he always retained affection; and in 1857, he testified this by the gift of wall-paintings which were executed in *tempera* by Mr. Fenton, representing Athens and Pompeii restored from his well-known designs. From Westminster, he entered his father's office, where he remained during between four and five years. His pursuits about the time when he would be attaining manhood, and after his majority, may be conjectured from the evidence of his father's avocations. But it is known, that somewhere about the year 1809, he went to Mr., afterwards Sir Robert, Smirke, as confidential assistant, at the time of the rebuilding of Covent Garden Theatre. Sir Robert always expressed himself indebted to Mr. Cockerell, for his aid in that arduous and extraordinarily rapid work of construction. Between his father's office and the theatre, thus, he was engaged till May, 1810, when he left England to commence a course of travels and of exploration in Greece, Asia Minor, and Sicily, which produced the most important results in our information concerning Grecian architecture and sculpture, procured some of the most valued treasures of the British Museum, and of the Glyptothek in Munich, and laid a foundation for that antiquarian and artistic knowledge and appreciation of sculpture in its relation with architecture, which was always afterwards one of his specialities.

In estimating the course which his labours took, we may here fittingly note what were the circumstances of architecture and its study at the time. Observation of examples themselves had more importance attached to it, than it has even now that the facilities of travel are so much increased. Such observation we ourselves must regard as an essential, whilst assessing at their highest value the most complete drawings or the accuracy of photography. To this requirement of observation as estimated, was added that of study of the examples through the aid of *actual* "*admeasurement*" of them. Foreign travel, further, was the complement of the education of a gentleman; and amongst the higher classes of society, the architect, unless a surveyor also, had to look for his patronage and employment. The church- and chapel-building age had barely commenced; indeed, up to the time of the Gothic churches of Barry, Vulliamy, Rickman, and others, and the works in a different manner of Soane, Repton, and the subject of this memoir, architecture in the class of buildings, might be said to be represented by the brick proprietary chapels, as those near Portman-square, and in May Fair and Percy-street, or the carpenter's Gothic of Tavistock Chapel; though we will not say that these examples were all precisely of the same date. The taste for the Grecian orders had set in; and the portico of Covent Garden Theatre, as we have seen, had been presented to public notice. The Manchester Exchange, by Harrison, now much altered, dates like the London Theatre, in 1809. Wilkins had published his "Antiquities of Magna Græcia" in 1807, and been employed in the building of Downing College, Cambridge; and the Russell Institution, built for an assembly-room, belongs to 1808. Aikin's "Essay on the Doric Order" appeared in 1810. Moreover, in 1810, Turkey and Greece were almost the only countries open to travellers.

Mr. Cockerell left for Constantinople. He was entrusted with despatches, by the late Wm. R. Hamilton, at the time Under Secretary of State for Foreign Affairs, and sailed on board a small lugger of war, incurring thereby some risk. He passed within sight of Cadiz during the bombardment; but got without stoppage of any kind, to his place of destination. At Constantinople he passed some months. In the same year, 1810, he was in Athens, where he spent the winter with Lord Byron, Hobhouse, Baron Stackelberg, Herr Linckh, of Wurtemburg; Baron Haller, of Hallerstein, architect to the King of Bavaria; the Chevalier Bronstedt, of Copenhagen, and Mr. Koes; and Foster, the architect, of Liverpool. Early in 1811, after spending an evening with Lord Byron, and pouring out libations in propitiation to the god Neptune, for his safe voyage to England, Messrs. Cockerell, Foster, and Linckh left the Piræus for Ægina. They bivouacked in an *adytum* under the Panhellenian Mount, the descendants of the Æacidæ, according to the account, looking on in amazement. Here the discovery was made of marbles of the greatest importance in the history of Greek sculpture. They are characterized by that peculiar rigidity and formality which was anciently called Æginetan. They consist of entire statues; and, with the figures from the Parthenon pediments, are, according to Mr. Scharf, "the only instances of an extensive range of Greek composition that we can refer to, as still existing." The discoveries excited great interest throughout Europe. The information gathered by Mr. Cockerell, however, did not all appear until so late as the publication of his volume, of 1860. The marbles were obtained and deposited in Zante. Ultimately they were purchased by the Bavarian Government, having been declined by this country; and casts only are to be seen in the British Museum. The Museum is, however, fortunate in possession of results of Mr. Cockerell's next researches.

From Zante, Mr. Cockerell went to Arcadia, in the Morea, where he investigated the remains of the temple at Bassæ, near Phigaleia, and ascertained the existence of the sculpture now known as the Phigaleian marbles. But the discovery could not at the time be turned to the account desired, the jealousy of the authorities causing excavations to be deferred. Mr. Cockerell then returned to Athens. In the latter part of 1811, and the commencement of 1812, he visited the coast of Ionia, Lycia, and Cilicia, and made a short tour through the Seven Churches. Then, cruising along the coast of Karamania, he fell in with Captain Beaufort, commanding a king's ship, and engaged in surveying that southern shore of Asia Minor. Captain Beaufort after-

wards published some account of his expedition. Mr. Cockerell was asked on board, and remained cruising with Captain Beaufort for some time. Having left the ship at Malta, he went on to Sicily, where he spent the rest of the year 1812. In Sicily, he obtained materials for his restoration of the Temple of the Giants at Girgenti, the ancient Agrigentum, since published in the supplementary volume to the second edition of Stuart's "Athens," and in investigating fortifications and other remains of Syracuse. At the latter place, his opinions are to this day, staple of the information given by local guides and *savans*. Meanwhile, or during his stay in Sicily, the marbles of Bassæ had been excavated by a party of artists and others. With the party was Mr. Donaldson, who published the first account of the temple in the supplementary volume to Stuart's "Athens." The excavation at the time, was necessary on account of the uncertainty of the relations with the authorities from whom permission to excavate had been obtained. Mr. Cockerell returned to Greece early in 1813, by way of Albania, and proceeded on a tour through the north of Peloponnesus, visiting Argos, Orchomenos, Sicyon, Corinth, and other places. After this, it is somewhat difficult to follow his wanderings accurately till the beginning of 1815. He had intended visiting Egypt with Mr. (afterwards Lord) North; but an accident to the ship, caused him to be detained at Candia so long that he was obliged to give up the journey. He likewise visited the islands of the Archipelago. Early in 1815, according to one account, he arrived in Naples, where he passed the summer, devoting much time to the ruins of Pompeii. We, however, infer, from the title of one of his drawings, that he must have commenced the Pompeian studies in the preceding year. He was in constant intercourse with Mazois, Caristie, Leclere, and other French artists. He passed the winter of 1815-16 at Rome, whither his reputation had preceded him; and he was received with much distinction. In the spring he went to Florence, and devoted much study to the group of Niobe, the arrangement and architectural purpose of which had long been a matter of dispute. His disposition of the group in a pediment, was generally approved. He etched a plate of the group, and had some impressions struck off for private circulation, accompanied with explanatory letter-press. After continuing his studies at Florence through great part of the summer, he went in the autumn to Lombardy, and to Parma and other places.

In the year 1817, he returned to England to commence professional labours. He would then be about 29 years of age. He had already established a high reputation at home, by his discoveries, and for his knowledge and judgment in matters of art. He commenced business on his own account, sharing, however, the office and staff of his father in Saville-row. During the first few years after his return, he was much occupied in the completion of labours commenced in his travels, some of the fruits of which soon appeared in the exhibitions of the Royal Academy.

The first mention that we find of his name in the Academy catalogues, is in the year 1818, when he exhibited a "Sketch of a Kiosk Siendrivan of Ali Pasha, made in Ganina, in Albania, in the year 1813; and Restoration of a House in Pompeia, from admeasurements and studies made in the remains of that city in the year 1814," and "Sketch of a decoration of the Temple of Jupiter Panhellenius at Ægina, from actual admeasurement and discoveries made in an excavation by the author and other travellers in 1811."

John Soane was at this time "Professor in Architecture."

In 1819 Mr. Cockerell was appointed surveyor to St. Paul's Cathedral; and somewhere about the same time, he was officially associated with his father in the surveyorship of the India House. In the year just mentioned, when his address is given as No. 8, Old Burlington-street, he exhibited his "Idea of a Restoration of the Capitol and Forum of Rome—from an elevated point between the Palatine Hill and the Temple of Antonine and Faustina, from the existing remains, the authorities of ancient writers, and the dissertations of Piranesi, Nardini, Venuti, and others." This work, and the companion restoration of Athens, are well known from the published engravings, and have been alluded to once before in this biographical sketch.

In 1820 he exhibited a "Restoration of the East Front and Pediment of the Parthenon, with the Scenery surrounding the Acropolis of Athens; showing the relative situations of the statues now deposited in the British Museum, and which formed a part of the group representing the contest of Minerva and Neptune for the patronage of Athens, and in the presence of the assembled gods. The metopes, the golden shields, and inscriptions, &c., &c., restored from drawings and observations made on the spot." In 1821 he exhibited, according to the title in the Academy catalogue (which we follow *verbatim* and *literatim*), "Perspective Elevation, with the Plans and Sections, of the Philosophical and Literary Institution now building in Park-street, Bristol. The scite forms an angle with Hanmer's-place, and is on a rapid declivity." The building appears to have been commenced in the previous year, and to have been completed in 1823. In 1821 he replaced the ball and cross of St. Paul's with a new one, which is larger than the old, and rather too large we have always thought. Doubtless a statement that the work was done under the direction of the Dean and Chapter is correct. In 1822, when his address is again "Saville-row," he exhibited a "Design for a Chapel." Probably this design was that for Hanover Chapel, Regent-street; for, the first stone of that building was laid on the 6th of June, 1823. The Chapel was in progress during two years, and was consecrated on the 20th of June, 1825. This work has been greatly admired. It deserves examination as much for the treatment of its interior as for the effect of its portico,—much marred, it must be confessed it is, by a state of griminess even exceeding that of other London buildings, and which has been ascribed to the oiling that was adopted for the preservation of the stone.

Mr. Cockerell's numerous friends, made in Italy, or previously, had now become useful to him; and he was actively employed. Indeed in 1821 to 1824, he was engaged upon some sixteen or eighteen works of more or less importance. Besides those already mentioned, the number includes a chapel at Bowood for Lord Lansdowne, the Bristol Literary and Scientific Institution, several large country-houses, and other buildings or designs to be immediately named. In 1824, the exhibition of the Academy contained his "Sketch of Athens, as it may have been in the Time of the Antonines; the principal features from drawings taken on the spot in 1811." This was the companion work to the View of Rome. In 1829 he exhibited, "View of the College of St. David's, at Llanepeter [Lampeter] Cardiganshire, erected by subscriptions raised by the late Lord Bishop of St. David's, and the Rev. Dr. Burgess, and under the patronage of his Majesty George the Fourth," and "Sections of the National Monument of Scotland, of which the western portico is already erected on the Calton-hill, Edinburgh; being from the model of the Parthenon of Athens, and of the same dimensions, 228 feet by 102 feet. The porticoes and vestibules are adapted to the reception of commemorative statues, and the interior to the purposes of a church." The subject of the "View" is curious as one of the very few Gothic buildings that Mr. Cockerell designed. The work shown in the "Sections" is known to most of our readers as having been commenced, but as being still incomplete.

We should here mention that, during the progress of the Greek insurrection, Mr. Cockerell was an active member of the London Committee.

In 1828, in June, he had married Miss Rennie, second daughter of John Rennie, the celebrated engineer. He was just turned forty years of age. In 1829, he was elected an Associate of the Royal Academy. About the same year, was commenced Trinity Church, Hotwells, Bristol, which was in progress for three years following. Between 1829 and 1837, he was engaged in three separate competitions for the building of the Cambridge University Library. Ultimately he was employed; but one wing only was built. This may have been so late as 1839.

Notwithstanding Mr. Cockerell's professional avocations, he never ceased working in those particular branches of æsthetics and design to which he had always in a great measure devoted himself. Besides his exhibited restorations, he was occupied (as he continued to be for twenty years) upon the preparation of a work already alluded to, upon the structures of Ægina and Phigaleia, which he eventually published, and which we recently reviewed. In 1830, he exhibited a drawing entitled "Restoration of the Western Pediment of the Temple of Minerva Parthenon, at Athens; done at the request of the trustees of the British Museum for the illustration of the Elgin Marbles," a quotation being attached to it from Pausanias. In 1832, he exhibited "The Theatre of Pompeii Restored, as it may have appeared in the interval of the Earthquake, A.D. 63, and the final catastrophe which overwhelmed the City, A.D. 79," and a "View of the Westminster Life and British Fire Office, lately erected in the Strand under the direction of" the exhibitor. The building in the Strand here mentioned, which is at the corner of Agar-street, has undergone so much plasterers' and painters' work during its several recent changes of occupation, that we could not answer for its fairly representing now the original design. But the truth is, though exhibiting many of the features and something of the character to be found in the author's latest works, which were some of his best, it was never quite pleasing; and we believe a very useful essay might be written to point out reasons for the difference of expression resulting from works having so many points of resemblance, as the earlier and later. It is enough here to say that we think it could be shown that one reason of the comparative shortcoming of the Strand building, would be found to start from the use of cement; a material which has, as usual when treated as stone, not only the defect, whether dirty or newly-painted, of perfectly even tint or shininess, — the last things that an artist would think of representing in a drawing,—but which facilitates the introduction of a multitude of features, and rather seduces the architect to introduction of them at a quicker rate than he can keep pace with by study, or often in excess of the demands for consistent decoration along with relieving plain surface. Still, our architect was making an experiment in a path which he subsequently made his own—that of forming a version of the Italian, in which all advantage should be taken of the knowledge of the Greek orders and Greek ornament, to produce a Greco-Italian,—a style, new, whilst the best development of the parentage.

About the year 1833, Mr. Cockerell was appointed Architect to the Bank of England, on the resignation of Sir John Soane. In that capacity, he designed and superintended some important works. He seems almost immediately to have been engaged upon the new dividend pay and warrant offices and accountant's drawing-office, forming the south side of the garden-court in the Threadneedle-street buildings. This work was one of the best things he ever did. It was, however, pulled down to make room for the present drawing-office erected by him about the year 1847 or 1850. Its general arrangement, and the allegorical and other ornamentation, designed part of it by Mr. L. G. Rennie, sculptor, are shown in four lithographic plates, which were dedicated to the Governor and Directors of the bank, by the architect and the sculptor named, in the year 1835, but which possibly were not published. The paper-cover displays some Greco-Roman ornament, designed and drawn by Mr. Cockerell in his best manner.

In 1836, Mr. Cockerell was elected a Royal Academician. In the London and Westminster Bank, in the City, commenced in the following year and completed in 1838, Mr. Tite was associated with him, but apparently the design was in the main Cockerell's. The Greek feeling in all the details, the openings of sufficient width for light, and having metal shafts or mullions, and the columns within the entrance, with shafts fluted only at the base and necking, as those of the Temple of Apollo in the island of Delos, are peculiarities which we recollect. In the year 1838, of which we were speaking, we find that Mr. Cockerell had removed to No. 87, Eaton-square. In this year, he exhibited his "Tribute to the Memory of Sir Christopher Wren, being a Collection of his Principal Works," with the motto *Lector si monumentum requiris circumspice*. The engraving from this, not so exact in the details as such a subject required, is well known. In 1840, Mr. Cockerell was appointed Professor of Architecture in the Academy. He succeeded Wilkins.

Mr. Cockerell had been one of the competitors for the building of the Houses of Parliament, as he had been for the National Gallery, and the London University; and as he was, later, for the Carlton and Reform Clubs; and, somewhere about the year 1840, he was in competition with Mr. Tite for the Royal Exchange. The circumstances under which this competition took place, have been of late so much misrepresented, that we could wish to state them were there space. Suffice it to say, that the competition between the two architects named was not the first one; there had been a general competition, when a design by Mr. Grellier, since deceased, had been accorded the first place in one class, and a design by Mr. Donaldson the first place in another class not deemed within the instructions. However, passing over the *mêlée* waged after the announce-

ment of the first decision, and over the strife that was renewed by the reviews and journals, when the question lay between Professor Cockerell's design and Mr. Tite's, we may state that the first architect's design, of which a large model was to be seen, had for its chief feature salient columns in the front, supporting statues; and in some respects can be regarded as an expansion of the design of the Roman triumphal arches. A drawing, representing essentially this design for the Exchange, appeared in one of the exhibitions of the Academy; and we believe it is the work styled in the catalogue of 1841, "Study for the Front of a Public Building." Somewhere about this time Mr. Cockerell went to reside at North-end, Hampstead.

The Taylor and Randolph buildings, Oxford, belong to the date 1841-42, and form a work beautiful in the grouping and in the details. The ecclesiologists, however, stigmatized the architect as "one who paganizes in the Universities;" and could not be got to see such merits as we have instanced. There is one peculiarity in the design which certainly should be mentioned here: the real entrance is not where the portico is; but however this be regarded, one must have little feeling for art not to appreciate the beauty that exists in the work. The Sun Fire-office, in Threadneedle-street, belongs to about the date 1842. It has some excellent details, and has the novelty of orders in the upper portion of the building and not the lower. In the same year, certain works of renovation and cleansing were in progress in St. Paul's Cathedral. About this time, or possibly later, several branch banks of the Bank of England, were erected from his designs. The chief of these are at Manchester, Liverpool, Bristol, and Plymouth. It may be said of them that their impress is one in character with their purpose, that their general forms and details are the result of original thought, added to that of study from examples, and that they are works which may be handed down to posterity as amongst those creditable to our age.

Professor Cockerell, talented himself, and naturally gifted with the disposition to admire merit in others, and to help it on if needed, gave evidence of these features of his character, through the generous praise that he awarded to Elmes's efforts in the realization of the design of St. George's Hall and the Assize Courts, Liverpool. He went further: he gave to Elmes's work the contribution of his artistic abilities. In 1846, in the exhibition of the Academy, appeared the drawing entitled "Design for the Sculpture of the Pediment of St. George's Hall, at Liverpool, now erecting under the direction of H. Lonsdale Elmes, Esq., architect. Composed upon the Greek system of the Parthenon, and other examples, in entire statues, with symmetry of parts and eurythmy of lines and quantities. The subject represents Britannia in the centre, and Neptune at her feet; in her left she holds out the olive-branch to Mercury and the four quarters of the globe, of whom the last, Africa, does homage to the liberty she and her children owe to her protection; beyond, are figures representing the vine, and other foreign commercial productions; in her right she extends her protecting spear over her own productions—agriculture, sciences, domestic happiness, the plough, the loom, and the anvil." After the death of Elmes, the praise which Mr. Cockerell publicly gave to his work, and the generous exertions for his widow, will not soon be forgotten. Elmes died in 1847, and from that time to the completion in 1854, the building was under Mr. Cockerell's hands. To the professor is due the completion and ornamentation of the interior, including the concert-hall, and the *emplacement* or accessories of the area, in which last he was not altogether so successful as in the interior. To the year 1847, is to be ascribed the Church of St. Bartholomew, Moor-lane, in the City, erected in lieu of the church destroyed for the extension of the site of the Royal Exchange, and in its tower intended to recall the general character of that of the old building.

In 1849, he exhibited "The Professor's Dream: a Synopsis of the principal architectural monuments of ancient and modern times, drawn to the same scale, in forms and dimensions ascertained from the best authorities, and arranged on four terraces—Egyptian, Grecian, Roman, and Mediæval and Modern; the last of which shows more particularly the comparative height: this synopsis being a development of that first published in the 'Useful Knowledge' Society's Life of Sir Christopher Wren."

In 1854 the name of his son, the present Mr. F. P. Cockerell, first appears as an exhibitor in the Academy.

Mr. C. R. Cockerell commenced his latest building in 1855. This was the structure for the Liverpool and London Insurance Company in Liverpool. It was completed in 1857. At some period of his career, he built a work not yet named, and in the Gothic style, the chapel and speech room, Harrow. He also completed the Fitzwilliam Museum, Cambridge, after the death of Mr. Basevi. Doubtless he produced many other works; and of some of those we have named it might be impossible to pronounce opinion without the works themselves before us. It may be that his reputation will depend more upon his well-known æsthetic acquirements in all branches of art, than on executed works, which though generally appreciated, are not so numerous as those of many of his contemporaries.

In 1857, his name first disappears from the Academy list of professors: but he could not be idle; and in 1858, he exhibited a "Study of the Mausoleum at Halicarnassus, from the texts of Pliny, Vitruvius, and Martial, from the measurements of the fragments recently excavated by the British Government, and now in the British Museum, and according to the idea published in the *Classical Journal*, 1847, by Mr. C. Newton and the author, C. R. C., R.A." On the death of the Earl de Grey, as said, he accepted the office of president of the Royal Institute of British Architects, at urgent request. He had previously been recommended to her Majesty, by the Institute, to be, and had been, the first recipient of the Royal Gold Medal.

We cannot here recapitulate even the prominent features of his lectures; but this brief record would be incomplete without a reference to the fulness and variety of the information which he conveyed, orally, and by the help of a most extensive collection of plans drawn to the same scale, and by numerous other and most valuable illustrative drawings. Never has lecturer in the Academy collected around him more attentive listeners. Whilst he strove to inculcate eternal truths of composition, or to explain the facts of architectural history, and the legacies of the past, he sought also to show the way to promote the influence of the profession for good. The architect was ever to conduct himself as an educated gentleman, fitted for the society of the learned and great,—equally ready "to take by the hand the humble artificer." It was impossible not to feel warmed by the fervour of the Professor's manner at frequent times, and touched by the kindliness of his interest in the battle, and the responsibilities, of every student's life.

In his earlier lectures, he had spoken against the taste for the revival of Gothic architecture, in words which seemed not sufficiently appreciative of that style. In subsequent lectures, however, he expounded what he conceived to be the system of proportions of the Gothic cathedral.

As a member of the Archæological Institute, he contributed valuable papers on Sculpture in its relation with Gothic architecture, and other subjects. In fact, he was enthusiastic on Mediæval art. In the Transactions are his essays on "The Architectural Life of William of Wykeham," "The Sculpture of Lincoln Cathedral," and others. His best known essay printed in separate form, is one illustrative of certain Mediæval works which he long studied especially. It was entitled,—"Iconography of the West Front of Wells Cathedral, with an Appendix on the Sculptures of other Mediæval Churches in England," and was published in 1851.* He fell into some errors, however, in this essay, which have since been pointed out. He also made many contributions to the Library of Useful Knowledge, and the Classical Museum; and during the controversy on the subject of placing the statue of Wellington on the arch of the Green Park, he supported the contrary course, with learning and judgment. Mr. Cockerell, however, before coming to the publication of the noble volume of 1860, had given to the world in the supplementary volume to the second edition of Stuart's "Athens," the results of his researches at Agrigentum into the arrangement and details of the temples of Jupiter Olympius and Hercules. In 1857, to the "Illustrations, Architectural and Pictorial, of the Genius of Michael Angelo Buonarotti," published by Mr. Harford, he contributed a most interesting letter, wherein he succeeds in clearing the fame of the artist from some of the aspersions which have arisen from the interference with his work by his successors. All his contributions to architectural literature, however, are overshadowed by that which he completed at the close of his valuable life.*

* Oxford and London: John Henry Parker. 4to. pp. xxiv., 126, and 115, with lithographs.

Besides being a Royal Academician and Professor, and a Fellow, President, and Royal Gold Medallist of the Royal Institute of British Architects, Mr. Cockerell was an honorary Doctor of Civil Law, of Oxford; a member of the Society of Dilletanti, one of the eight *Associés étrangers* of the Académie des Beaux Arts of the Institute of France (being elected in 1841), and a Chevalier of the Legion of Honour; one of the ten Members of Merit of the Academy of St. Luke in Rome, and a Foreign Honorary Member of the Royal Academy of Fine Arts of Bavaria, Munich; of the Royal Academy of Denmark, Copenhagen; and of the Academies of Geneva and Genoa, of the Archæological Society of Athens and the American Institute of Architects, and an Associate of the Royal Academy of Belgium.

It may be added, that Mr. Cockerell was one of the most active members of the direction of the School of Design, Somerset House.

To such a man, a public funeral in the church over the structure of which he presided, and a grave near that of the great architect whose works he had so much esteemed, were fitting tributes from the hands of those by whom he had been honoured and loved, his associates and pupils. The council of the Institute of British Architects therefore, with the concurrence of the family, sought the permission of the Dean and Chapter of St. Paul's for the interment of the remains in the crypt of the cathedral; and this being obtained, invited the members of the Royal Academy to associate themselves with the Institute on the occasion. The place in which the remains are now deposited in the crypt below the choir and aisles, is in the second or middle bay of the south aisle, close to the grave of Rennie. The easternmost bay where in the window recess, is the grave of Wren, was fully occupied by the remains of various artists. The pall-bearers were Professor Donaldson, the president of the Institute; Mr. Owen Jones, Mr. Penrose, and Mr. C. C. Nelson, of the Institute, on one side; and, representing the Academy, on the other, they were Mr. Sydney Smirke, who is the present professor of architecture, and is also of the Institute, Mr. Knight, Mr. Charles Landseer, and Mr. Calder Marshall—four Royal Academicians. The profession was numerously represented.

THE WALL PAPERS OF THE PRESENT SEASON.

MUCH has been written and said during the last few years concerning wall-papers, with the view of bringing about an improvement in their art qualities. Critics have pointed out their defects. Theorists have dwelt upon the nature of the surface to be decorated, and the necessity for the harmony of the ornament with the conditions of the surface on which it rests. The subject has been brought before the public; and, although opposite views have in many cases been advocated with much cogency, the desire of the advocates of the various views has been that of bringing about the advancement of art as associated with the wall-paper decoration.

Fifteen years back, no wall-paper was considered fit for the market unless its forms were brought into the highest relief by dint of light and shade. Loose scrolls, or irregular masses of meaningless ornament, heaped together, with but little order, had favour with the public, and floral patterns were considered the *beau-idéal* of beauty. Flat patterns were considered tame and meaningless, and the fact that, if produced, they invariably proved commercial failures, demonstrated that the public was unprepared to receive them.

Schools of design had been some time in existence, but they were few in number, and were thus incapable of materially affecting public taste. Besides this, they were as yet little more than drawing-schools, for it was well known that a great power of drawing must be gained before designing could satisfactorily be attempted.

Not only were these schools little more than drawing-schools, but they had adopted no regular principles upon which designs were to be founded: the schools had arisen with the view of enabling us in some measure to cope with our French neighbours in the market of design, and our chief

* "The Temples of Jupiter Panhellenius at Ægina, and of Apollo Epicurius at Bassæ, near Phigaleia, in Arcadia, by C. R. Cockerell, Professor of Architecture in the Royal Academy, &c., &c.; to which is added a Memoir of the Systems of Proportion employed in the Original Design of these Structures, by William Watkiss Lloyd. London: John Weale, 59, High Holborn. 1860." Pp. x. and 94: Ægina, 11 vignettes, 17 plates; Bassæ, 2 vignettes, 16 plates.

aim was to follow the example of our more advanced rivals.

Shortly after the close of the parent of all International Exhibitions, the schools of design were increased in number, a "Department of Practical Art" was organised by the Government to minister to the art wants of the country: a training-school was established in London with the view of educating art-masters who should diffuse a true knowledge of ornament throughout the kingdom; and a museum of works of art was founded.

In connexion with the foundation of this extended system of art education, Mr. Owen Jones was requested to give a series of lectures with the view of laying down principles such as the newly founded institution might safely follow.

The principles laid down seemed diametrically opposed to the public taste. As a wall is flat, it was urged that all decorative forms placed on a wall should be flat also. Thus the wall-papers bearing ornaments in imitation relief were condemned. Flowers, it was said, should never be used naturally; but flat ornaments founded on flowers were alone legitimate. Thus floral patterns were doomed to the low places in art, and all shams were condemned. Thus granite papers on the staircase-walls of the poor were no longer permissible.

Statements so new to the world, and so contrary to entertained views, of necessity met with great opposition. No one received them, and many were champions in their opposition. Truth must win its way. Opposition was offered, yet the judgment felt the power of the arguments by which the new facts were upheld; and in time, the judgment being convinced, the tongue ceased to oppose what it had learned to regard as truth, even if the fear of condemnation through having adopted a new faith prevented any utterance in favour of the new creed.

Without further tracing the history of the effect of the new tenets upon national taste in its gradual development, let us notice at once the nature of the wall-papers produced for the present season. An observation of these will obviously reveal to us the present state of the taste of the nation in respect to such articles of manufacture, and will show us whether the upholders of the new tenets have gained a victory over public taste, or whether the opposition has maintained its ground. Before entering into a consideration of the nature of the new wall-paper patterns, it would perhaps be well to say, for the benefit of those who are not familiar with the usages of the wall-paper trade, that the new patterns are all brought out in the October of each year, and that there is as much pains taken in the production of the year's designs to meet the public taste, or to keep the fashion, as there is on the part of ladies to follow the example of their French dictators of dress.

We have been afforded an early opportunity of seeing many patterns for the coming season; and this is worthy of special note, that scarcely a floral pattern is to be seen amongst them. Even ornamental or conventional treatment of flowers is rare amongst them. These form a class of patterns which is not wholly without its representative in the coming season, yet they are by no means common. A little conventional fuchsia by Messrs. Turner & Oust, and a treatment of the pansy by Mr. John Catto, are fair representatives of the class. The greater portion of the designs are in conventional ornament. Some few are in the historic styles, a pure Gothic or a simple Greek appearing here and there; but the great majority of the patterns are in what we may call the modern style, as they consist of new forms which cannot be classed with those of any by-gone age.

It seems to us a peculiarly happy fact that but few of the patterns are formed of the ornament of an historic style. The rooms in Greek buildings may advantageously be papered with a wall-paper bearing Greek ornament; but few houses (the buildings in which wall-papers are chiefly used) are Greek in character; and while Gothic houses should be papered with Gothic wall-paper, but a small proportion of the houses which we erect are of Gothic architecture. Whatever may be said to the contrary, it is doubtful whether any style of architecture which has arisen and passed away with a people is appropriate to us. Modified to meet the wants of the present day, a style might, perhaps, reappear in a manner consistent with our feelings. But what we want is an architecture having those qualities of past styles which are appropriate to us, and will yet embody and hand down to after ages *our* sentiments and faith.

The great majority of our houses are merely erections in which we may dwell, rather than monuments of architecture. To the rooms of such buildings any wall-paper may be applied without any great contradiction being induced between the stonework and the decoration. Yet a pattern fully setting forth the sentiments of that period in which Gothic architecture prevailed as a national style would scarcely be appropriate to the walls of such a structure; neither would a pure Greek pattern. Forms or shapes have associations bound with them which lead us to seek for a harmonious response to their utterances: hence it is better for a plain house to dispense with a pattern which is a severe treatment of a by-gone style. To all such houses, good patterns in new ornament will be very welcome, and we are bound to say that in our judgment the wall-papers of the present season offer much that is very satisfactory.

But all our houses are not without some pretension to architecture. Many new dwellings are very worthy attempts at combining beauty with utility, and no few are novel in character and fresh in their effect. There are houses which are Italian in their features, but there are also many which are neither Italian, Gothic, nor anything else in their expression; and this character of dwelling requires the production of wall-papers which are beautiful, and yet are neither in a classic nor ecclesiastical style of ornament. As regards the new patterns which we have seen, most are in a simple yet vigorous style. Many seem to be the productions of ornamentists well acquainted with their art.

That there is much scope for the production of good ornament in wall-papers is proved by the patterns before us, for some are certainly all that could be desired as wall decorations of a transitory character. The newest things that we have seen are issuing from the firms of Messrs. Cook, of Leeds, Jeffery & Co., Catto & Co., Wm. Woollams, Jno. Woollams & Co., of London; but many good things are also coming from the firms of Scott, Cuthberston, & Co., Turner & Oust, and Carlisle & Clegg, of London; Snape & Co., of Darwen, and others equally deserving of notice with these; but we have had no opportunity of seeing their works. This, then, must be distinctly understood, that those whose works are left without notice are not necessarily undeserving it.

To some of the manufacturers thanks are due, as will appear from the following:—Some short time since, when conversing with one of the *largest* wall-paper manufacturers in the kingdom (who by no means produces the best patterns), upon the necessity for better designs and purer ornament, we were informed that the better patterns did not yet pay as well as those which were inferior in character. "They will pay," said the manufacturer, "but some one must lose by them, or make but little for the time: there must be a few martyrs. WE are neither disposed to be martyrs nor to lose; but as soon as ever they PAY best we will produce them!"

Here is a manifestation of a spirit too frequently exhibited. A strong desire for progress must animate that man who will produce good designs when they *pay best!* Such a man must surely be a hero. Many manufacturers are, however, labouring to advance true art, though of small means comparatively. They are willing to do with small earnings in order to bring about advancement. These are true men, who are worthy of public recognition and thanks.

While speaking of wall-paper patterns, we may allude to an error which is in some cases committed. Greek patterns and Gothic designs are in some cases required, and are produced in order to meet the want. Wall-paper manufacturers frequently speak of flat patterns as Gothic, as though all flat patterns were of this style. This is obviously an error, but is not that to which we would call attention. What we wish to point out is the fact that both the Greeks and the artists of the Middle Ages employed different forms for the decoration of flat surfaces and the enrichment of stone by carving. Metal-work also had its particular treatment. The error which we often see perpetrated is that of using a treatment of ornament which is suited especially to metal or stone work on flat surfaces. Forms well adapted for cutting in stone are frequently unsuited to the decoration of walls, and modes of treatment which are necessary for ironwork are also inapplicable to the decoration of wall-papers. A want of the knowledge of distinctions of this kind leads to the perpetration of many minor defects, and frequently to the false representation of a style of ornament. In several of the new wall-papers, otherwise very meritorious, a peculiarity may be noticed which would seem to indicate that their designer was especially acquainted with the treatment of metal-work, ties and connecting members being carefully introduced, which would be necessary if the ornament were formed of separate pieces of metal, but are unnecessary and curious in the case of forms having only length and breadth. Great flatness prevails in most of the patterns, a feature which is desirable, and which acknowledges the condition of the surface on which the ornament is wrought.

The strange alterations in the character of wall-papers during the last fifteen years point significantly to the triumph of the new principles over the old dogmas of art; and, in our judgment, to a greatly-advanced knowledge of ornament on the part of the public. But perhaps the most striking change is the manifestation of a desire to give up the imitation granite and marble papers which have so long held their places in the halls and staircases of the middle classes. The desire for relief patterns has long given way, and the cherished floral patterns are little more than matters of history. While both have faded, the granite papers have remained; but they, too, are passing. Simple patterns suited to the hall and staircase are now sought after as preferable to the imitation of the more costly materials. Shams are surely destined to fade: true and simple beauty is preferable to flaunting show. The Greeks loved pure art, and sought to manifest their knowledge of beauty by their decorations. The Romans loved wealth, and sought to manifest their riches by their buildings. Thus slighted, Roman art declined; while, under the fostering care of the Greeks, art flourished. Our abandoning apparent lavishness, and embracing simple beauty with truthful expression, will certainly tend to the exaltation of art.

KITCHEN STUFF.

SIR WILLIAM ARMSTRONG'S remarks on the English coal-fields, at the recent meeting at Newcastle-upon-Tyne, are worthy of the most grave and careful consideration; for, doubtless, with the exhaustion of our "black diamonds," a large part of the prosperity of these islands would depart. Hopeful persons think that we are on the verge of other motive means than coal; that our towns will be lighted by electricity; and that new agents will be found for cooking our food and producing warmth. We have not, however, these means at our disposal yet. Indeed, Sir William Armstrong doubts the possibility of electricity superseding steam from coal at all, as a motive power; and he suggests no other substitute. Did modesty prevent him from hinting that his hydraulic inventions may to some extent fill up the gap from coal exhaustion? Meanwhile the consumption of British coals is yearly increasing. We have our steam-engines to drive, the gas-works to supply, our own fire-grates and those of a multitude of foreign neighbours to provide for, and great manufacturing, smelting, and other furnaces need to be fed with coals. It, therefore, behoves us to take the matter into account, to take stock of what remains, and look with care on this subject, on which the greatness of our country depends. There can be no doubt that, for many years to come, except from some new application, the demand for coals will increase, both at home and abroad. It is, therefore, of great importance that we should be economical in their use. And yet how terrible is the waste of this valuable article! Sir William Armstrong directed attention, as we have often done, to the unnecessary consumption of coals in our house and other fires; of the heat which is sent uselessly up the chimneys; the ill-construction of house stoves and cooking apparatus for the million. Much might be said on this point; but our object in just now referring to it is to direct attention to a remarkable example of the saving of money which can be effected by using improved plans.

In a large London establishment, in which 200 of the persons employed were boarded, in 1840, the butcher's meat consumed was 400lb. per head per year, and its cost 12*l.* 11s. 10d.; in 1850, the quantity consumed was 369lb., the cost 9*l.* 11s. 7d.; while in 1860 the quantity was only 271lb., the cost being 8*l.* 12s. The explanation afforded is this: in 1840 the butcher's meat consisted of second-rate joints, containing a large quantity of bone. When roasted, it was placed before a large fire, fixed on spits running through the joints, occasioning great waste, and producing indifferent results in the cooking, the outside being generally burnt and the inside not sufficiently done.

The inferior joints were abolished, and meat only of the best quality, free from bone, was purchased: the spits were laid aside, and the bottle-jack substituted in their place: the open fire for roasting was still retained. The balance-sheet for

this period shows a decrease of 98lb. per head of butcher's meat, and a saving of 3l. 0s. 3d. Another ten years passed, during which the open fire system was abandoned and the plan of cooking by gas was introduced: this caused a further saving of 98lb. per head, of butcher's meat, and of money, 1l. 0s. 4d., although the price of meat was higher by nearly 3d. per pound.

TO PREVENT POISONING BY LEAD PIPES.

FEW persons have become the occupants of a new house without some serious charge against the builder, on the score of drains; the architect, as to the sanitary or other mal-arrangements of the premises; or, failing to trace to either of these personages the cause of some sickness that has seized them, they decry the situation; or, if some sage friend has been consulted, and finds the situation favourable as to the four winds, the substratum is referred to; and then, if clay be the obnoxious foundation, even the pulling down of the house is pronounced useless as giving no remedy against the existing evil, which has been attributed to so many imaginary causes.

Of all the departments, the plumber's is the least suspected. He goes scot free: for if there be an abundance of water, what blame can attach to him? We do not say that blame *as yet* does attach to him, but we confidently assert that the cause of the evil is often found in his department. That metal which is so pliant under his hands, and can be so easily moulded to his will, with its bright clear face, that seems as if it would throw back with indignation any charge of poisoning, is the culprit after whom the whole house has been in search. In time the hunters are worn out in the chase; and having passed the worst, matters begin to mend; not so much from acclimatization, as the victims suppose, but from the pipes having changed their faces from a leaden hue to one more white; not, indeed, paled from sorrow at the mischief they have done, but from falling in with some companion who has tarried, and in whose society the metal is so engrossed as to cease to exercise a poisonous and deleterious influence over our own.

To those who have not been able to follow our analogy, let us sum up in clearer words.

Lead is soluble in pure water. A solution of lead is highly poisonous. There are cases in which pure water, drawn through leaden pipes, or from leaden cisterns, has carried a sufficiency of the lead in solution to poison a whole family. But a plea of exemption may arise from those who have not pure water. To such we would reply,—Impure water coats the lead, in process of time, with a white film of a carbonate of the metal, which is insoluble, with exceptions; one being the presence of water containing carbonic acid. Such water, in passing through the carbonate of lead, takes up an equivalent of the same, which equivalent may be sufficient to cause distinguishable colic, or set up a non-traceable source of indisposition through a whole family. We now approach the termination of our summary by answering a query that may be put by some sceptics. How is it that, after all, some lead pipes do not poison water? It arises from the fact that old age has wrought a change for the better in their disposition; for when water impregnated with sulphur salts has for a long time passed through leaden pipes, or has long acted on leaden cisterns, the lead becomes coated with a sulphate or a sulphide; and sulphide of lead, being perfectly insoluble in pure water, and equally so in water not too excessively charged with foreign matters to be potable, renders the leaden vehicle perfectly harmless, and thus perfects it for the duties which in all other respects it performs in such a utilitarian manner. But we have a moral to append to our subject. Are we to wait content to be poisoned until our pipes become transmuted, or what are we to do? The remedy is said now to be easily attainable without waiting. Dr. Schwarz, a chemist of Breslau, has made a discovery that cannot be too highly esteemed in a sanitary point of view, which is, that by passing a hot solution of the sulphide of potassium through leaden pipes, the interior face is transmuted from the metallic state to that of a sulphide in a few minutes, at a cost too insignificant to mention. If, then, the need of some change in our water conduit be satisfactorily shown (and we have endeavoured to do this for years), and the change proposed is based on equally well-known scientific truths; if water in the mines of galena, the sulphide of the noxious metal, be drunk with impunity, let us by all means see that for the future, at any rate, our pipes and cisterns be no longer silent poisoners; but made to support the character they have hitherto not fully deserved, of useful auxiliaries to the requirements of daily life.

SELF CULTURE.

UNDER this title Cardinal Wiseman delivered an address in the hall of the Hartley Institution, Southampton, to inaugurate the thirty-fourth session of the Polytechnic Institution. In the course of it the speaker said,—Self-culture might be divided into three distinct ranges or spheres, and had to be applied—firstly, to the intellectual powers; secondly, to the power of acquisition—the power of aggregating what is without to our own minds; and, thirdly, to the cultivation of the moral powers. These three powers were distinct. The first—the cultivation of the intellectual powers—had little or no aid from without. That was a work from within. Each man must cultivate his own intellect, his power of judgment, his power of acting through the operation upon the operations of his own mind. The second, the power of acquisition, was of a mixed character. It was the power of bringing into our minds and under the judgment of the intellect that which was prepared by others, and which we did not ourselves make, and which was not within us. It was mixed: there was the double operation, the acting upon materials which we had not naturally within our reach through the means of the faculties within us. The third power, again, was of a mixed character—that moral portion of our being which, while it has to be cultivated also within, yet has its action without, because from that come forth duties and obligations which reach those that are without ourselves; so that one is purely inward; the second is partly exterior through its objects; the third is partly exterior through its aims. Beginning with the intellectual powers, they were subject to a triple subdivision. There was, first, the power of thought, and what immediately depended upon it; and then came the imagination and the memory. Upon the two latter points his remarks would be very short, because the principles which he was about to lay down were embodied in the first point, on which he wished fally to open his mind. He did not intend to go into any metaphysical definitions or explanations of the power of thought, believing that he could make his meaning more clear by comparison and by illustration. He would take the sense of sight as the one parallel to thought in the mind, and trace its operation. The eye was never satiated, never satisfied with seeing. Whatever the multiplicity of objects, they held no place, but were continually changing. If we walked into the country alone by a pleasant path there was not an instant in which we did not see something—the trees, the cottages, the distant mountains: as we moved the head and inclined it in a different angle, as we moved the pupil of the eye, every possible change took place in our bodily relation to the outward objects presented to the vision; and yet all these objects were connected, and there was not a moment without some picture being presented to the eye. Exactly so with thought. We were never a moment without thinking. Even while reading a book there was a train of thought passing through the mind, over which it exercised no control. One thought succeeded another, more linked, more united by the power of association than the objects that met the eye. That corresponded exactly to the action of the eye. It would be exceedingly difficult to render an account of the thoughts passing through the mind during the day. But there was another power,—the power of arresting thought; and there commenced the self-command necessary for self-culture. A man might pass a whole day never distinctly distinguishing any object with his eye; but, by exercising a certain degree of mental power, he might stop, and examine some object, and fix it upon his memory. With respect to the eye, that would be observation; to the mind, it would be reflection. When thoughts were passing through a man's mind he might consider some one of them rather singular, and reflect upon it, and thus arrest the current of thought, and fix upon something distant which would occupy his mind in future years, and lead to something useful and practical. That was the second step. But there was a third, and a higher and more important one. A man might not be satisfied with a passing view of an object, but desire to know something more about it. For instance, in looking for the first time at the ruins at Netley Abbey, he saw all that could be seen in passing by. That was observation. It occurred to his mind that, if ever he passed that way again, he would make an examination into its architecture, and try to make out its history, having previously gathered such information as he might be able to do from books treating on the subject. That would be a very different degree of observation from either of the first, and might be called contemplation. That would be seeing in the highest sense. Exactly the same thing took place with regard to the mind. A man might say, "I wish to cultivate my powers of thought. I am not satisfied with dwelling for a few minutes on a thought which invites my attention. Here is a great question on which a thoughtful and earnest man cannot remain satisfied in ignorance, and I will study it." For this purpose he would collect the necessary materials, and exercise the varied powers of his mind, and memory, and reasoning, until he came to a solemn and well-matured decision how he ought to think and act. That was the course of thought,—the operation of the mind corresponding exactly with the third operation of the sense of sight; and this analogy brought forward all the processes of which thought was capable.

GAS.

A NEW gas company has been formed for the additional supply of Guildford, Godalming, Shalford, and neighbourhood, with gas at a rate not exceeding 5s. per 1,000 cubic feet. The attendance at the meeting of gas consumers and others to form the company was both numerous and influential, and those present, by their resolutions, appear to be determined to carry out their object, and so procure a supply of gas for themselves both cheaper and better, as well as more abundant in quantity than the old company has heretofore supplied. Captain Mangles occupied the chair, and Mr. Hughes gave an elaborate and able exposition of the state of matters, and carried the feeling of the meeting entirely along with him, the result being a series of resolutions for the immediate formation of the company.——It is stated by Mr. Flintoff, in his lectures on gas-lighting, about to be published, that there are in the metropolis thirteen gas companies, having twenty-three stations for the manufacture and sale of gas. The capital invested is 5,801,815*l.* 3s. 8d. The amount received for gas alone in 1862 was 1,498,569*l.* 15s., so that the quantity *paid for* by the public would be six hundred and sixty millions of cubic feet. During the same period the coals used cost 728,555*l.* 0s. 1d., which yielded 335,411*l.* 5s. 10d. for coke, tar, and ammoniacal liquor, so that the cost of coal, fuel, for generating, and leakage and losses in transmitting 1,000 feet of gas from the works to the consumer, is only 1s. 2¼d.——The Bristol Gas Company have announced their intention of reducing the price of gas, from the 1st of January next, from 3s. 9d. to 3s. 6d. per 1,000 feet.——At the half-yearly meeting of the proprietors of the Birmingham Gas Company, the usual maximum dividends were declared, and the affairs of the company were reported to be in a satisfactory state.——At the annual general meeting of the shareholders of the Downpatrick Gas Company a dividend at the rate of 6 per cent. was declared payable on 1st October; and a resolution passed to reduce the price of gas to consumers, to 6s. 8d. per 1,000 feet, on all gas supplied from the 1st January next.

NEW ITALIAN CHURCH, ST. PETER'S, HATTON WALL, HATTON GARDEN.

THE first portion of this building has been erected from the designs of Mr. John Miller Bryson, architect, to accommodate 2,000 persons; but when the proposed extensions are carried out, it will be capable of holding 3,400. The walls are of grey stock bricks, tied together with iron hoop bonding at intervals of every 6 feet in height, laid in cement all round the building. The columns that support the triforium and clerestory are of hard York stone, and of the Ionic order. The piers of the triforium are of similar stone, with merely plain caps: eventually the caps will be of the composite order. There are two side aisles, a nave, chancel, and apse. The edifice is in the Roman basilica style, the only church of the same style in the kingdom. Statues of the four Evangelists are in niches, two at each side of the chancel. There are two galleries in the church, one on either side over the side aisles (as triforia), to which access is obtained by means of stone stairs. At each side of the high altar there will be the means of communication with the sacristy, but this portion has been suspended from



EQUESTRIAN MONUMENT TO THE EX-KING LEWIS I., MUNICH.* [* See p. 682, *ante*.

want of sufficient funds. Under the chancel there is a subterranean church or crypt, which was opened on the 25th December of last year. The crypt is entered from Back-hill, and is capable of holding 200 people.

When all the works at present contemplated are executed, there will be a priest's house in Back-hill, part of which is now erected, and schools in George-yard, where from 400 to 500 boys and girls will be educated. There will also be a hall of debate for the temperance society.

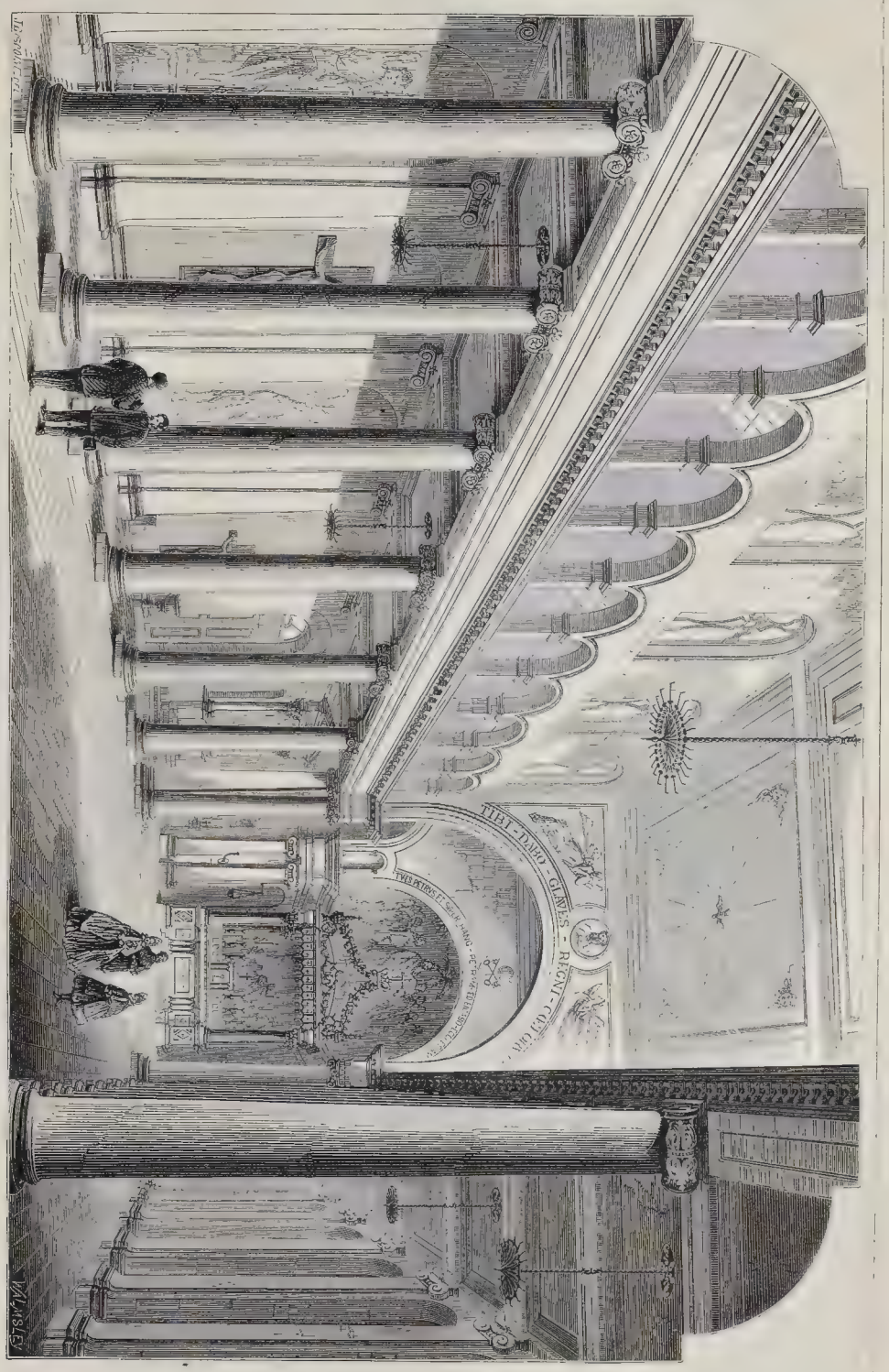
When the church is completed there will be five entrances, viz., three in Little Saffron-hill, on the site where five houses now stand; and in that direction east the church will be extended, having a cut stone front and portico.

The ceilings are flat, in a series of panels, which will eventually be painted, as also will be the walls. There will be a tower at the south-west end of the church (part of which is now built), carried up to a height of 100 feet, where will be hung a bell (weighing four tons) that was purchased of Messrs. Vickers & Co., of Sheffield, and shown at the International Exhibition last year.

The high altar has four polished black and gold marble columns, standing on pedestals, with white marble caps and bases of the composite order, surmounted with a cornice wreath, crown canopy, and cross, which will be gilt. The tabernacle and steps of the high altar are of different coloured marbles, all of which have been obtained from Italy.

The church at present is 138 feet long and 70 feet wide: the height from floor to ceiling is 56 feet. The side aisles are 88 feet by 17 feet, and 20 feet high. The triforia are 88 feet long and 10 feet wide, having small rooms at the sides for keeping the valuables connected with the church. The body of the church is lighted by clerestory windows, in each of which is a design in the shape of a cross, made of iron and wood. The chancel is lighted by windows of a similar design and make.

The amount expended up to the present time, including the portions executed by contract, and those portions carried out on day time, as well as the amount paid for the site, is about 15,000*l.*, which has been collected abroad by the priests connected with the church. It would probably be unfair to criticise the building in its present unfinished condition.



ST. PETER'S NEW ITALIAN (R.C.) CHURCH, HATTON WALL, LONDON.—MR. JOHN M. BRYSON, ARCHITECT.

THE REGISTRATION OF DEATHS.

WE have several times directed attention to an imperfection in the management of the registration of deaths, particularly those of young children; and many facts have come before the public, which show the truthfulness of our statements. The case of the Hackney undertaker, and that of the wholesale discovery of remains in the tower of Whitechapel Church, are the two most recent important examples of the working of the present arrangements. As regards infants, it is very clear that the case with which the so-called "still-borns" can be disposed of affords a ready opportunity, and is even a temptation, for the murder of infants whose mothers may find it desirable to get rid of their offspring. Thousands of women in London alone each year bring children into the world without the aid of the proper medical practitioner. And we all have some idea of the nature of a large number of the midwives, and "Sarah Gamps," who practise amongst the poor. Nothing is at present more easy, if it is not desirable that an infant should live, than for the nurse and mother to arrange its death: to go to some undertaker for a box for a still-born child and then convey it to the undertaker, or even to the grave-digger of some cemetery, who, although the child has been destroyed, will bury it for 2s. 6d., without making the least inquiry. Even at the risk for a time of causing the disgraceful exposure of dead infants in our public places, this should be put a stop to: it should be forbidden by the law, under a severe penalty, that any interment of even a "still-born" child should be allowed to take place without a medical certificate; and punishment should fall on undertakers, nurses, and others who are implicated in assisting in the disposal of human remains without a proper certificate. We have well studied this matter, which affects a large amount of infant life, and are aware of the difficulty—even the impossibility—which there is for many to provide proper medical attendance at the time of child-birth; but, if it were known that no burial could take place without a certificate, and that punishment would follow concealment, a large part of the mischief would be stopped, and many children who would have been wrongly buried, saved alive. To carry this out in poor neighbourhoods would entail extra labour upon the parish district surgeons; but, in that case, they should have additional remuneration, or a larger staff of those useful workers should be appointed. In a matter of life and death—and, in what is to us a cause of both shame and sorrow, —a little extra expense should not be taken into consideration. We trust that this will meet with attention at the next meeting of Parliament, and that the present facilities for the murder of the innocents will not be much longer allowed. This is a matter which affects both town and country.

CONGRESS OF BRITISH ARCHÆOLOGICAL ASSOCIATION.

THE meeting will commence, as we have before mentioned, on the 12th of October, at Leeds, and be continued until the 19th, at York, where it will terminate. It will be presided over by Lord Houghton. The business will commence at the Town Hall, where the president, associates, and visitors will be received by the mayor and corporation of Leeds, and the president will deliver his address. In the evening, papers will be read and discussed; and among those already prepared may be mentioned,—Mr. T. Wright, "On the Early History of Leeds," and "On the Discovery of Anglo-Saxon Jewelry and other Antiquities by the late Lord Londesborough, at Seamer Lime Quarry, near Scarborough;" Mr. Planché, "On the Badges of the House of York;" Mr. C. E. Davis, "On Ripon Cathedral, the Crypt commonly called St. Wilfred's Needle," etc.; Mr. Gordon Hills, "On Fountains Abbey;" Mr. Edw. Roberts, "On Kirkstall Abbey, and on Adel Church;" the Rev. Mr. Hartshorne, "On the Honor and Castle of Pontefract;" Mr. F. R. Wilson, "On Wakefield Wayside Chapel;" Mr. E. Levien, "On unpublished MSS. relating to Meaux Abbey;" Mr. George Wentworth, "On Ancient Houses in Wakefield, on Aldborough, and other places to be visited;" Mr. H. Syer Cuming, "On the Weapons of the Ancient Tribes of Yorkshire;" Mr. O'Callaghan, "On the Discovery of an ancient Boat or Canoe, at Giggleswick, near Settle," and "On Historical Autographs;" Mr. Baigent, "On Walter Giffard, Archbishop of York A.D. 1266–79, and his Brother, Godfrey Giffard, Bishop of Worcester A.D. 1268–1302;" Mr. John Jones, "On Harewood Castle;" Mr. Clarence Hopper, "On a Petition to Oliver Cromwell from the Town of Leeds, in 1656;" Mr. Leyland, "On the Roman Roads intersecting the Parish of Halifax;" the Rev. Mr. Scott F. Surtees, "On the Locality of Hengist's last Battle, and his Burial Place;" Mr. Shaw, "On Masons' Marks;" Mr. Lukis, "On Cromlechs," &c.

The excursions will commence on Tuesday, the 13th;—first, to Adel, to view the church; to Ilkley, the Olicana of the Romans, where also are to be seen in the churchyard some Runic crosses; thence to Harewood Castle. On Wednesday, the 14th, the excursion will be to Ripon, to view the cathedral, the crypt, St. Wilfred's Needle, &c. If time permit, some antiquities in the town and its immediate neighbourhood will be visited, and the Association then proceed to Fountains Abbey. On Thursday, the 15th, an excursion will be made to the town of Wakefield, the ancient houses of which will be inspected, the records kept at the Town Hall and other muniments examined. A visit will be paid to Pontefract. On Friday, the 16th, the Association will proceed to Boroughbridge. The antiquities of this place, the Isurium of the Romans, will fully occupy the attention of the Association. On Saturday, Kirkstall Abbey will be viewed: thence the party will proceed to Bradford; after which they will go on to Halifax, and be received at the Town Hall by the mayor, inspect the old and new churches, and return to Leeds in the evening, to wind up the general business of the Congress, prior to their departure, on Monday, the 19th, to York, where the several antiquities in York will be pointed out, and the Minster, its crypt, library, &c., will be inspected.

THE NEW PRINCE OF WALES'S THEATRE, SYDNEY.

A HANDSOME new theatre has been opened in Sydney, with the performance of the opera "Martha." The Prince of Wales's Theatre, as it is named, has been built upon the same site as that which was destroyed by fire two years and a half since. Upon purchasing the property in the following year, Mr. Fitzgerald offered a prize of 100*l.* for the best design for a new theatre. The prize was competed for by four architects; and the design of Mr. J. F. Hilly having been preferred, he was instructed to take the necessary steps for proceeding with the re-erection of the theatre. In August, 1862, the works were put in hand, when contracts were taken by Mr. Alston for the masonry, and by Mr. Bishop for the carpenters' work. As the fire which destroyed the late theatre spared the front part of the premises, there was no occasion to rebuild that portion; and as a consequence there is nothing in the exterior of the theatre to call for notice. The dress circle and upper circle are, as in the case of the old theatre, entered from Castlereagh-street: the two passages are, however, to be thrown into one, and will form a saloon, 40 feet by 16 feet. The staircase is 8 feet wide, with two 8-feet landings. The upper circle has two staircases, one on each side: either of these can be used for ordinary occasions, and both will be available in the case of an alarm. There are two staircases leading to the gallery. We get some further particulars from the *Sydney Morning Herald*. The shape that has been adopted for the dress circle is that of a semi-circle with the ends curved outwards, so as to form on either side a pair of ogees, the figure somewhat resembling that of a flat-topped bell. Its superiority to the old horseshoe shape is proved, in the present instance, by the excellent view that is obtained of the stage from every part of the house. In the front of the dress-circle there are six rows of seats, which are 3½ feet in width, extending round the semi-circle; and there are private boxes at either angle, each about 14 feet by 12 feet: that to the right of the stage is to be the state-box. Imitation maple has been used for the fittings in the dress-circle, and the cushions are covered with amber satin.

For the front of the dress-circle the ogee shape is adopted. Above and below there are egg-and-tongue mouldings. At intervals there are carved trusses surrounded with wreaths of rose and thistle; and between these the panels are filled with open ornamental ironwork. The fronts of the dress and upper circle are of white, relieved with gold.

The upper circle and the gallery are similar in shape to the dress-circle, but they are more in recess. The height of the upper circle is 10 feet, and it is arranged for seven lines of seats, about 2 feet 8 inches in width, round the circle. The upper circle opens upon a spacious balcony, erected over the gateway from Castlereagh-street, which will be a great convenience to visitors to that part of the house.

The pit is 60 feet from the foot-lights to the back wall, and 58 feet in width, with a rise of 7 feet; and all the seats are fitted with backs. The height to the underside of the dress-circle tier in front is 10½ feet, and at the back 15 feet.

The proscenium has an opening of 30 feet, with a height of about 29 feet. The ornamentation principally consists of papier mâché scrollwork, in panels of French pink ground. In recesses on either side there are statues representing Comedy and Tragedy.

The stage has been fitted up throughout by Mr. John Renno, and is supplied with all the most recent appliances. The stage is 98 feet in length by 60 feet in width, and rises three-eighths and a sixteenth of an inch to the foot. The painting of the ceiling, of the act-drop, and of the scenes, has been performed by Mr. W. J. Wilson and Herr Habbe. The act-drop is from a picture by J. J. Chalon, R.A.: in the foreground is a pleasure-party embarking in a galley from beneath a Corinthian portico; the lake and the mountains in the distance being lit up with a bright Italian sky.

The provision for the lighting of the house consists of a sunlight, composed of a number of rings of jets, comprising above 130 burners. The brilliancy of this body of light is intensified by a chandelier of cut-glass, made by Defries, of London, and purchased in Melbourne for the theatre. For the footlights there are thirty-six burners; and for the ground and wing lights on the stage there are nearly 100 burners.

With a view to ventilation, flues have been built in the wall, 12 feet apart, and the gas-burners have funnels fixed over the lights and conducted into the flues in the walls. In the centre of the ceiling there is a funnel from the reflector conducted through the roof to the external air, and four other funnels of this kind from the angles of the building. Cold air can thus be admitted through slides in the pit floor, at any point where it may be found desirable.

The pit will seat comfortably about 900, or will hold on a crush double that number. The dress-circle and private boxes will seat 400, and, with additional chairs, 100 more. The upper circle and gallery will hold from 600 to 800 each, according to the closeness with which the people are packed. The receipts are estimated as follows:—Pit, 1,200, at 2s. 6d., 150*l.*; dress-circle and private boxes, 500, at 5s., 125*l.*; upper circle, 600, at 2s., 60*l.*; gallery, 600, at 1s., 30*l.*: total, 365*l.*

NEWS FROM SCOTLAND.

Glasgow.—Kelvinside Free Church, Glasgow, has been opened. The church is situate in Great Western road, nearly opposite the Botanic Gardens. It is seated for 1,000 persons. The interior is lofty, and the floor slopes toward the pulpit, which is low, and somewhat in the form of a platform. Attached to the church are a hall, which will hold from 300 to 400 people, a session-house, vestry, ladies' room, and beadle's house. The architect of the church was Mr. C. Douglas, of Glasgow. The style of the architecture is unusual, many features of French and Italian Gothic being introduced. The tower, which is 95 feet high, is crowned with the fork-shaped battlements common on Italian buildings of the Middle Ages, from within which rises to a height of 170 feet from the ground a square spire, ornamented at interv als with bands of ornament running round it- and by four smaller spires or pinnacles on the sides, supported on detached columns. The tower is without buttresses, and only 17 feet 6 inches square. The belfry stage rises clear above the roof of the church, and has on each side a large window ornamented with tracery and carving. At the base of the spire is a porch with blue granite columns. The church has a higher centre part or clerestory, with aisles leaning against it containing the side galleries. These are not placed, as is often done, across the windows, but have double lancet lights under them in each division, and wheel windows over them. The clerestory is terminated at the west end by an octagonal apse, in which is the entrance door. The vestibule is semi-octagon in plan, occupying the lower part of the western apse under the gallery. The dimensions of the church are —length inside, exclusive of gallery over west entrance, 72 feet; breadth, 52 feet: the length of clerestory is 88 feet, and its breadth 29 feet. The tower is founded by means of iron columns slipped down, through bores made in the rock, on purpose, to the bottom of an old coal waste, which

is about 50 or 60 feet from the surface of the ground; several mining engineers having advised that the tower, without some precaution of the kind, should not be placed over the old coal waste, the evidence of which in that part had been previously ascertained by boring. The tradesmen who built the church were—Mason, Mr. Milligen; wright, Mr. Nisbet; plumber, J. & G. Haddow; slater, James Stewart & Son; plasterer, Alex. Campbell. The heating apparatus was by Combe & Son, the ventilation by Gibson & Co., who also executed the large central gaselier. The stained glass was erected, under the direction of the architects, by Mr. Wailes, of Newcastle, and Mr. M'Alister, of Glasgow. The stone carving in the interior was done by Mr. W. Mossman—on the exterior by Mr. Shanks, and by Mr. M'Gaw. The painter's work was done by Mr. R. Steele; and the enclosure railing, &c., by Mr. Cameron.

Ayr.—The new compass pier at Ayr has just been completed. It is about 160 feet in length. Contractors having been advertised for, only one came forward, but his estimate was so large that the Harbour Trustees resolved to undertake the work themselves. Mr. Boyd, the harbour master, accordingly took the job in hand, and engaged men and procured materials; and the result is that he has erected the pier at an expense of something under 1,400*l.*, the estimate being 2,800*l.*! Mr. Boyd has also completed the work within two months of the estimated time. The stones were procured from four different quarries, viz., Bellstone, Kilwinning, Ardrossan, and Ballochmyle. The granite coping was brought from Newry.

Aberdeen.—A reply has been received from the Home Office to the report and plans for a new Court-house here, recently transmitted on behalf of the Commissioners of Supply for the county. The Home Secretary expresses his opinion that the estimate (27,125*l.* in gross) is too high, but adds that he will be ready to receive and consider any modifications. The Sheriff Court-house is proposed to form a part of the public buildings, to include also a town-hall and police accommodation.

SCHOOLS OF ART.

The Bristol School.—The annual meeting of this school has been held at the Academy, Queen's-road. Mr. P. W. S. Miles presided; and, in the course of his opening remarks, stated that, under the new rules adopted by the Department of Science and Art, prizes were now awarded only for merit, irrespective of numbers or attendance. He said this in explanation of the fact that prizes would be fewer in future than heretofore; but this should stimulate to further exertion. It was gratifying to know that the school had lately increased in numbers and efficiency. The committee reported that the difficulties under which the institution was labouring a year ago, were materially lessened. The expenditure had been brought within the income, and the financial statement for the year ending the 31st of March last, showed a balance in the hands of the treasurer of 130*l.* 2s. 10d. This agreeable result had been attained by the reduction of expenses, by an accession of receipts consequent upon the increased number of students, and by the aid of donations and subscriptions. The committee expressed a hope that the debt of 650*l.* would be liquidated. They reported that the artisan class especially, was increasing. The number of artisans in the evening class had increased from fifty-six in the month of March, 1862, to ninety-four in the same month of the present year. These gratifying results were in a great degree to be ascribed to the energy and ability of the head master, Mr. Hammersley. The increase of pupils had compelled the appointment of a second master, Mr. Alfred Nicholls.

The Cambridge School.—A local committee has been appointed for the establishment of a branch of this school at Huntingdon.

The Norwich School.—At a recent meeting of the town council, the subject of the School of Art was brought under notice. Mr. Field formally announced that the Government had taken away fixed payments to the amount of 105*l.* per annum, and had given them payments depending upon examination, which would probably bring them in about 12*l.* 10s., leaving something like 95*l.* short. The result must be that unless the citizens were prepared to make up that deficiency, the corporation must stop their School of Art. At present, he was not prepared with any motion on the subject, because the committee had first to ascertain from the managers of the charity schools whether they were prepared to have their children taught for a payment of 5*l.* per school: if they did that, the School of Art might be able to struggle on, but the committee had reason to believe that the charity schools could not afford to pay that sum. He merely mentioned this subject to the council for the sake of getting their case put before the public. Probably they could not keep up the charity schools: they must, therefore, centralize themselves, and try to keep up a school for the adult artisan classes. The principle upon which the Department was making allowances to the country, it seemed to him, was so devised as to keep all the money for South Kensington, in order to avoid the necessity of their going to Government for more money. The mayor recommended that proper notice should be given, so that the whole matter might be brought before the corporation in a regular manner.

The Sheffield School.—Owing to ill health, the well-known and able head-master of this school, Mr. Young Mitchell, has been obliged to resign. His successor is Mr. Sounes, the master of modelling at the Birmingham School.

The Sunderland School.—This school, which came into existence about two years ago, has ceased to exist.

The Glasgow School.—From a summary of the official returns connected with this school, it appears that the school is in a satisfactory state; but the withdrawal of the Government grant seems to be exciting misgivings as to the result.

The Dublin School.—Mr. Macmanus is retiring from his labours in the School of Art of the Royal Dublin Society; and some of his pupils propose to present him with a testimonial, to consist of a silver palette and a sum of money.

PROVINCIAL NEWS.

Brighton.—The town council is turning its attention to the conversion of the Riding-school of the Pavilion into a public hall or assembly-room. At its last meeting it empowered the Pavilion committee to prepare plans for this purpose, and for some further appropriation of the northern part of the Pavilion estate. These plans will shortly be submitted to the council for its approval.

Cheltenham.—The water supply of Cheltenham is to be improved. Mr. Horsley, we understand, has been inspecting a spring on land in the neighbourhood of Cirencester. The supply is spoken of as practically inexhaustible, the yield being estimated at 800,000 gallons per diem; and the quality by analysis good, there being only 17 grains of solid matter to the gallon of water. The objection to this source of supply would be the distance (sixteen miles) from Cheltenham, and the consequent expense of storage and piping.

Bath.—The first section of the new provision markets has been opened to the public. The principal feature of the design is a wide avenue, intended eventually to lead from the corner of Bridge-street to the end of the present fish-market; intersected by another main avenue, leading from the entrance near the police station in High-street to New Market-row. At the intersection of these two avenues is placed a dome, 40 feet in span, rising 50 feet to the lanthorn. Ranged round this dome are several small shops, for the sale of fruit, &c. The butchers' market forms a ring round the dome, which is a figure of twelve sides. The main entrance from High-street is intended for the sale of vegetables, a range of shops similar to those in the dome being placed on both sides of such entrance. The fish market and the principal vegetable market yet remain to be constructed, but will be completed and opened to the public in the course of the next two months. Iron has been largely introduced in the construction of the roofs, which are of a light and ornamental character. The whole of the butchers' stalls are lined with Parian cement. Over the butter market a new roof, corresponding with the rest of the design, has been placed.

Bristol.—A large block of warehouses to the west side of Saint John's-gateway is, we hear, about to be pulled down, in order that a spacious structure may be raised for business purposes. The present premises stand on the site of the old warehouses burned towards the close of the last century by the notorious incendiary, "Jack the Painter," who was afterwards hanged, we believe, at Portsmouth, for an attempt to set fire to the royal dockyard. A head carved in freestone, and which is fixed on the north front of the present warehouses, facing Quay-street, has been long pointed out by tradition as "the head of Jack the Painter," being popularly supposed to be a carved likeness of the incendiary. For this relic, which will have to be removed when the walls are being rebuilt, it is said a local collector has offered the contractor a handsome sum of money; but the head in question is supposed by well-informed Bristol antiquaries to be a portion of a corbel from the old church of St. Lawrence, which is recorded to have stood on this spot, using jointly, with St. John the Baptist's Church, the tower that stood between the two sacred edifices.

CHURCH-BUILDING NEWS.

Cold Hanworth (Lincolnshire).—A new church has been erected here to the memory of the late Col. Cracroft, and has just been opened. The edifice is dedicated to All Saints, and has been built at the sole expense of Commodore P. Cracroft, C.B., and his wife. It consists of nave, chancel, vestry, tower, and spire. The style is Decorated, and is treated very freely. The walling is rough-faced, from the Hackthorn quarry. The exterior and interior dressings are of Ancaster stone, except the reredos and font, which are partly of Caen stone, and red Mansfield, with green polished marble shafts. The interior of the church is partly of red brick and partly plastered. The whole of the roofs are of Memel timber, stained and varnished, the covering being of Broseley brindled tiles, with a crested ridge. The height of the tower and spire is about 60 feet, and the top of the spire terminates with a weather vane. The whole of the benches (which are open) are of deal, stained and varnished. The pulpit, reading-desk, communion-rail, and font top are of oak. The terminations, capitals, springers, &c., are carved, both interiorly and exteriorly. The windows are glazed in cathedral glass, the tracery in geometrical patterns. The east and west windows, it is intended, will be removed soon, and painted windows put in their places. The nave and porch floors are paved with Minton's plain red, buff, and black 6-inch tiles. The chancel, sanctuary, and baptistery (which is formed under the tower) are paved with encaustic tiles. The church is seated to accommodate about eighty, enough for the whole parish. The churchyard, on the west, south, and north, is enclosed with a low wall of the same materials as the church, with Ancaster stone piers at intervals forming it into bays. The coping is surmounted with a round wrought-iron rail and cast-iron standards. A lych gate is placed at the west entrance, the roof and gates of which are of oak, and cover a space of about 12 feet square. The roof of the gateway is covered with the same kind of tiles and ridge as the church. The architect was Mr. J. Croft, of London; and the builder, Mr. W. Huddleston, sheriff of the city of Lincoln. The cost will be upwards of 2,000*l.*

Antingham (Norfolk).—The church of Antingham St. Mary, near North Walsham, has been re-opened for divine service after having undergone a repair and internal restoration. In all, a sum of 432*l.* has been expended upon the present alterations and improvements, and the work has been carried out by Mr. R. Cornish, of North Walsham, builder, who has recently restored the neighbouring churches of Buxton, Bradfield, Swafield, Trunch, North Walsham, and Scottow. With the removal of the gallery at Antingham Church a tower arch was opened to view; and when many successive coats of plaster were taken from the walls, the staircase to the rood loft, a piscina on the south side of the chancel, and a second, somewhat unusually placed beneath the rood loft, were discovered. The whole of the old internal fittings have been swept away, and low oak benches substituted in their place. Black and red tiles have taken the place of the former uneven brick flooring, and the central alley is paved with the monumental slabs belonging to the church. The sanctuary is reached by three stone steps, and some encaustic tiling imparts a glow to the east end. The altar cloth (furnished, together with the hangings, &c., by Mr. French, of Bolton), is of rich crimson cloth, with the sacred monogram embroidered in gold silk, placed on a stone footing. A new cast window of four lights has replaced an insertion of the basest type.

Bury.—The Roof Committee of St. James's Church have determined to have the pillars and arches of the church scraped, and the walls stuccoed, at an expense of about 200*l.* The west end portion of the roof is completed, and the remainder, it is expected, will soon be commenced; but the committee have resolved to wait the arrival of slates from North Wales before beginning it, rather than permit the inconvenience of the roof again remaining for a time not covered in.

Shireoaks (Newark).—At the new church Shireoaks, recently erected by the Duke of New

astle, a peal of five bells has just been hung. hey were cast by Messrs. Taylor & Co., of Loughorough. It is expected that the church will be pened about the middle of October.

Tenterden.—The new church dedicated to St. Michael, at Bore's Isle, Tenterden, which place ontains about 600 inhabitants, has been consecrated by the Archbishop of Canterbury. The rection of the edifice was commenced exactly welve months ago, the architect being Mr. Hill, London. It stands on an elevation overlooking ie high road, and has a plain appearance. The urch consists of a chancel, 25 feet long and 17 et wide, with a nave of 53½ feet by 22 feet; and as a south aisle opening to the nave by an arcade three arches: at the east end of the aisle ands the tower, which remains to be completed funds permit. A vestry is attached to the north de of the chancel. There are 276 sittings, mostly ee. The style is based upon models of the early rt of the thirteenth century. At the east end the chancel there is a three-light window with eometrical tracery, filled in with stained glass by r. Hughes, of London, and which is the gift of rs. Eyres, in memory of her late husband, Capt. yres, R.N. In the south aisle there are five loured windows, the gifts of various individuals. ie contractor for the building was Mr. Bourne, Woodchurch; the execution of the mason's ork being entrusted to Mr. A. Smith, of Rye.

STAINED GLASS.

St. John's Church, Eton.—In the early part of t year an enrichment of this church was effected the filling of the rose window at the east end the south chancel aisle with jewelled glass, ving for its design the "Cross," surrounded by oring angels, and having at its terminations e emblems of the four Evangelists. Messrs. Connor, of London, were the artists who executed ; and its success led to a scheme proposed by one the officiating clergymen, the Rev. J. W. Roper, ving for its object the possibility of eventually ing the church with painted glass, as a series. is work has just been inaugurated by the erecn of the first two windows, counting from the st end, in the south aisle. The stone-work of e windows is of the Geometric period, and conls of three lights and a tracery. The church ng dedicated to St. John the Evangelist, the ole of the subjects refer to our Lord's life, pecially in connexion with St. John. The sysn adopted is that of a glowing grisaille, banded ch a subject in the centre ope of each window, d in the side opes a panel bearing a badge or blem. The grisaille is composed of natural ms of foliage, broken throughout with colour, d the whole is surrounded with a border. The t subject is the calling of St. John with the ner apostles, and on a scroll beneath the legend 'hey followed him." This is a memorial win-w. The subject of the second window is our rd sending forth the Apostles, with the legend neath "And he surnamed them Boanerges." e fixing of the windows was intrusted to Mr. Harrison, surveyor, of the College.

Newbury Church (Berks).—A two-light window, signed and executed by Mr. F. Preedy, has n recently erected in Newbury Church. The ject is the Annunciation.

St. Michael's, Farndish.—A chancel window of ined glass has been recently placed in this urch. The principal subject in the centre ining is that of our Lord upon the cross, at foot of which are Mary, the wife of Cleophas, ry Magdalene, and one of the Apostles. The side compartments are occupied by figures resenting the Mother of our Lord, several of Apostles, and the Roman Centurion. The ject is completed by a distant view of the city Jerusalem. The smaller upper divisions of the dow are filled with figures of the Four angelists, and its apex contains the emblem of Holy Spirit in the form of a dove. The work executed by Mr. C. Gibbs, of London; and he gift of the churchwarden, Mr. W. H. S. cock, of Farndish. The ancient fabric of Farn- church was internally restored throughout e years ago by Mr. Adcock, mainly at his own

Bardwell Church, Suffolk.—A very satisfactory morial painted window for the east end of rdwell Church, Suffolk, has been completed by ssrs. M. & A. O'Connor, for Mrs. Hutchings.

Shepherdswell Church, near Dover.—Stained s has been placed in the five windows of the e of the new church in the village of Shepherdswell. The centre window is occupied by ll-length figure of the Saviour in the Ascension. In the four side-windows are represented full-length figures of the Evangelists. The whole are surmounted by rich canopies. The glass was executed by the Messrs. Pilkington, of St. Helen's, and has been fixed by Mr. A. Goslett, of Soho-square. The cartoons are by H. Casolani, of London.

BUILDERS' BENEVOLENT INSTITUTION.

WE have pleasure in drawing attention to the announcement that the next annual dinner of this valuable institution will take place on the 29th of October next, at the London Tavern. The treasurer, Mr. Plucknett, will receive the name of any gentleman willing to act as steward, or to attend the dinner. It promises to be a good meeting. Mr. Alderman and Sheriff J. Lawrence, who is to preside, is an excellent chairman, and will, we have no doubt, carry it through well.

His elder brother, by the way, Mr. Alderman William Lawrence, will doubtless be the next Lord Mayor of London. It is a remarkable thing to find two brothers following their father as aldermen and sheriffs of London, and one of them, while still a young man, about to take upon himself the duties and honours of chief magistrate. When this does occur, it is to be hoped he will be better advised than the present Lord Mayor (Rose) seems to have been, whose mayoralty, looked at from out of doors, is unmarked by any noticeable acts except mistakes.

THE DEVONSHIRE ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, LITERATURE, AND ART.

THIS association, which has not long been established, held its second annual meeting at Plymouth, commencing on Wednesday, the 29th ultimo. The inaugural meeting took place at the Athenæum in the evening, when Sir John Bowring, the retiring president, took the chair. Mr. Spence Bate delivered the inaugural address, in which he discussed various scientific and literary subjects; incidentally stating that Bishop Colenso was a native of Cornwall, and was educated at Devonport. In allusion to the freedom of thought evinced in modern times, Mr. Bate remarked that perhaps in no period of the world's history had there been an equal amount of daring research to that which has characterised the present age; and here might be seen the great advantage that the modern inductive philosophy had had in all recent inquiries. The promulgation of an error had never yet done harm to mankind if its discussion were not prevented: the great enemy of truth is apathy. A false theory will soon in the atmosphere of free inquiry have all the deceptive buttresses which give it support speedily knocked away, and the skeleton alone would be apparent in its hideous nakedness. In literature, no less than in science and art, had intellectual progress shown an attempt at independent inquiry. It was for the benefit of free inquiry, for the advantage of liberal and enlightened discussion, that men of intelligence agreed to band themselves into a society such as that—not as a field for labour, but to form an arena in which the results of labour and industrious thoughts are made manifest.

On Thursday the proceedings were resumed at the Athenæum. Mr. Bate took the chair; and Mr. W. Pengelly, F.R.S., read a paper "On the Chronological Value of the Red Sandstones and Conglomerates of Devonshire." Mr. E. Vivian, of Torquay, gave two addresses;—the first on the Devonshire caverns; and the second on the principle and use of his self-registering hygrometers, by one of which the extreme difference between temperature and dew-point, and by the other the mean, could be registered. The Rev. J. E. Risk, M.A. followed with a paper, entitled "Some Remarks, on recent Controversies respecting the Antiquity of the Human Race." He founded his objections principally upon the differences of opinion between the English and French geologists in regard to the Abbeville jaw. Mr. Pengelly explained that this difference did not affect their entire unanimity upon the general conclusions. Some remarks upon recent additions to the Fauna of Devon were then made by Mr. J. B. Rowe, F.L.S.; and Mr. E. Appleton, F.I.B.A., of Torquay, read a paper on "Our Homes," pointing out the means by which they might be improved. He drew particular attention to the advantages to be derived from hollow walls, for the purpose of securing warmth and dryness, and also of a hollow system of foundations, for the prevention of the rising of damp from the earth. Other papers were read; and Mr. J. N. Hearder, of Plymouth, gave some practical observations on imperfections in the mode of fitting lightning-conductors. Dr. Scott read a paper "On the Deaf and Dumb." A *conversazione* took place in the evening, which was well attended.

On Friday an excursion was made up the river Tamar, the members lunching at Pentillie. Cotehele was next visited, where Mr. E. Appleton elucidated the architecture, some of which dates back to the end of the fifteenth and beginning of the sixteenth centuries, having been erected by Sir Richard Edgcumbe in the reign of Henry VII. The dining-hall has an open roof of good design and workmanship. Parts of the building belong to the time of Henry VIII. and Elizabeth. There are also some good tapestry and furniture of the same date, besides a small collection of armour and weapons. The domestic chapel adjoins the hall, and contains some sixteenth-century woodwork, and a few fragments of stained glass. A small votive chapel, erected close to the river, still exists, in which some well-executed fifteenth-century bench ends, now used as a wall lining, are to be seen: there are also a few portions of carved work, which appear to be Spanish. The Morwell Rocks were next examined, under the guidance of Mr. W. Pengelly, of Torquay.

SOCIAL SCIENCE IN EDINBURGH.

PUBLIC HEALTH DEPARTMENT.

AMONG the papers sent in to be read in this department, at the meeting which commences on the 7th October, the following are of special interest:—"The Sanitary Statistics of Colonial Native Schools and Hospitals;" and another paper on the "Army in India," by Miss Florence Nightingale; "The Changes which have occurred in the Type of Disease in Edinburgh during the last Fifty Years," by Professor Christison; "Diseases in Cattle," by Professor Gamgee; "The Sanitary Arrangements of Edinburgh, as compared with other large Towns," by Dr. Littlejohn; "On the Necessity for Prospective Legislation to prevent Dwelling-houses being built in disregard of the Conditions of Health," by Colonel Oldfield. Various other important subjects will be brought forward, as the sickness and mortality of merchant seamen; the contamination of water by sewage and by public works, &c. We hope many of our readers will be present.

THE RAISING OF HOLBORN VALLEY.

THE Court of Common Council of the City of London have unanimously agreed to their Improvement Committee's report on this subject, wherein they recommend that they should be authorized by the court to advertise for designs, plans, and estimates for raising Holborn valley, and to offer premiums of 250*l.* and 150*l.* respectively, for the two most approved designs.

SHILBOTELL VICARAGE, NORTHUMBERLAND.

THE Early English "turris de Schilbotell," now incorporated with the vicarage-house at Shilbotell, is in course of restoration. This ancient fabric is one of the earliest peles in Northumberland. It is a quadrangular tower, built on the scalp of a rock, cropping out of the surface on high ground; and is formed of large stones placed in even courses. The lowest course rests on the surface of the rock without foundations. The walls are 4 feet thick. The site adjoins the churchyard, and is within a short stone's-throw of the little Norman church. Before the present restorations, the tower had been reduced to two stories in height, the window-opening enlarged to receive modern sashes, and covered with a red pantile roof. Two sides of the tower had been built up, one by a granary, and the other by a small cottage, which, with stables and a washhouse, formed the extent of the vicarage-house.

There is occasional mention of Shilbotell in old writings. William de Vescy held Schipplingbothill in the *Testa de Nevill.* John de Vescy held Shepelbodel in the reign of Edward I. In 1367, Henricus de Percy appears as the owner of Shillingbotle Villa. A further and still more curious rendering of the word occurs in the *Taxacio civitatis et diocesis episcopatus Dunelmensis* (1291), when the rector of "Schiplinbotel (Schiplebodil)" was taxed at 12*l.* 2*s.*, and vicar *ejusdem* 5*l.* In the calender of the *Inquisitiones post Mortem*, or escheats commencing with the early part of the reign of Henry III. the name

is written Shiplingbotill. A MS. list of the peles and castles of Northumberland, *circa* 1460, mentions that the Turris de Schilbotell is in the occupation of the Duke of Bedford, who also held Prudhoe Castle, in the same county, at that time.

The vicar of Shilbotell, now incorrectly written Shilbottle, the Rev. J. B. Roberts, M.A., finding the limited accommodation of the vicarage-house very inadequate and inconvenient, resolved to enlarge it, and, acting upon the advice of his architect, Mr. F. R. Wilson, to make a restoration of the venerable tower the principal feature of the scheme. A new dining-room, with drawing-room above it, are disposed on the site of the granary, which the commutation of tithes had left in disuse and decay for many years. These rooms are lighted by triplets in accordance with the character of the tower. The removal of the granary exposed one side of the turris that had long been hid by it: on the basement story was a plain narrow loophole, as a splayed opening in the groined chamber within had suggested. The external aperture had been filled in. On the upper story there were traces of two doorways of different dates, both of which had been built up in previous alterations. The new works also comprise a new kitchen, offices, and cellar (the latter being blasted out of the rock), with the addition of bed-chambers above stairs. The tower is now under the masons' hands, receiving an additional story, with a staircase turret leading to the leads above, from which a wide range of country will be placed under observation. The oblong carpenters'-sashes will be removed, and the window openings restored to their original forms. The windows of the principal chambers command fine sea views beyond the church, the grey and red roofed colliery village and sloping country. The Ecclesiastical Commissioners have made a grant of 200*l.* towards the cost of this restoration. The contractors are Mr. Hudspeth, Alnwick, mason; Mr. Forster, Alnwick, joiner; and Mr. Dixon, Leamington-bank, Alnwick, slater.

The following inscription, cut in Early English capitals, will be inserted in one of the faces of the tower:—

"Hæc
Imminuta
Turris de Schilbotel
Primitus in speculum redificata
Temp. Hen. III
Victoria Regnante
Instaurata fuit
MDCCCLXIII.
Joanne B. Roberts, M.A., Cantab,
Sacerdote Vicario.
Frederico R. Wilson, Soc. R.B.I.,
Architecto.

H. Hudspeth, Lapicida.
T. Forster, Fab. Lign.

Earth builds on earth, castles and towers;
Earth says to the earth, All shall be ours!"

EXHIBITION OF STAINED GLASS.

THE proposed exhibition of stained glass is getting into shape. The Science and Art Department invited leading firms engaged in the production of stained glass to meet at South Kensington, and explain to their representatives the nature of the plan and its means of carrying it out. The Department proposes to hold the exhibition in the gallery in the west wing of the South Kensington Museum, which contains fifteen windows, each 11 feet high by 4 feet 9 inches wide, and could, if necessary, apply the windows of a gallery adjoining that in question to the same purpose. The manufacturers present accepted the offer. Messrs. T. Gambier Parry and R. Burchett were appointed an executive committee on behalf of the exhibitors, to conduct the necessary arrangements in concert with the Department. The following are the names of firms represented at the meeting:—Messrs. T. Baillie & Co., H. M. Barnett, Chance, Brothers, & Co., Clayton & Bell, Cox & Son, Evans, Field, & Allan, J. A. Forrest, C. Gibbs, Hardman & Co., Lavers & Barraud, Morris, Marshall, Faulkner & Co., O'Conner, J. Powell & Sons, F. Preedy, Pilkingtons, Ward & Hughes, J. P. Warrington, W. Warrington, &c. Mr. Wallis acts as Secretary.

WHO BUILT OUR CATHEDRALS?

THE writer of a paper printed in the *Builder*, p. 669, makes the statement, that *Freemasonry in its Mediæval system* differed from *the form it has existed in since its revival at the beginning of the seventeenth century*. It is very desirable to know where the writer of that passage has found any statement dating previously to 1600, and showing what that system really was: if he has no better authority than the usual dictionary articles, one error would be the assumption that any one has any knowledge of what was Mediæval Freemasonry in England (and it must be noticed that the whole passage to which reference is here made treats solely of England,—not of Scotland nor of Ireland, and not of France nor of Germany). It would also be very useful to know where that writer found any evidence that *Freemasonry revived at the beginning of the seventeenth century in a different form*. If he refer to the usual dictionary articles, or to the absurd histories that have been manufactured since 1725, he will find that Ashmole's date (1646) is paraded as a proof that the Mediæval system was then still in existence unchanged; so that, unless he has alighted upon some document, a second error would be the statement, that Mediæval Freemasonry was revived about 1600–1625; and a third error would be the inference that it ever was revived. The fourth fault seems to be the statement, that we know that from a very early date (by the way, what period is indicated by that expression? Is it the time at which the King of Bohemia built his "seven castles?") there was an *organized fraternity of masons—constituting an order partly religious and partly professional*. No notice of anything of the nature indicated appears in any of the histories of Orders, civil, military, or religious, which have reached my hands; and perhaps, by *order* he does not mean Order, but merely Society. Of course, it is only proper to give him credit for knowing that the masons of London were (or are said to have been) incorporated about 1410, by the name and title of the Freemasons, and for being aware that statutes were directed, 1360-1425 against alliances and covines of masons and carpenters. But the London fraternity or guild will not serve his purpose in any explanation of what is above italicised; nor would such knowledge show the existence at a very early date of an organised fraternity (partly religious) of masons, *who, from travelling and observation, as well as practice, gained intelligence*. These last words are so decided, that it would be well to know, where any proof has been found, that the body of Mediæval freemasons, or rather masons, in England and in France, travelled at all. My own researches tend to a totally different conclusion, which would count the "travelling" as a fifth error. The sixth fault seems to be the assertion that *we know that these masons, by well-devised plans, communicated their intelligence to their whole body*. If, by "plans," the writer means "designs," he is understandable; but, if he means "system of communication," it would be useful to know what these plans were, or where any ground except imagination exists for them. The seventh error seems to be conveyed in the assertion that *the organization was fostered by the clergy*. No proof of that has yet occurred to me. The eighth fault is the assertion that *the rearing of religious structures was allowed to be monopolised by the Freemasons* as an organised body. No safe evidence on that point has been yet adduced in its favour by the most fervently zealous members of the craft. But, if they cannot find any proof that *it is a fact that ecclesiastics were associated* to the Mediæval body; or, that *priests possessing a taste for it were not only associated in Freemasonry, but readily initiated*, they will thank me for thus asking for the long-desired evidence which would show that those words do not convey a ninth error. Probably you will think that nine such faults justify merciless criticism; but please to observe that if there is little excuse for any one of them, there would certainly be less for the inferences with which the lecturer has followed them. As no documentary evidence that *the organization was very complete, and under a central control*, has ever been published, it is open to me to urge that no sound archæologist could hope to establish so much on the faith of *curious correspondence in the details of work*, or *from a universal similarity of arrangement*. No doubt exists in my mind upon the anxiety of the *Builder* to forward any mode of ascertaining who built our cathedrals: so I take this opportunity of beseeching that journal to remove one great obstacle, viz., the usual nonsense about Freemasonry.

It is a pity that the columns of the *Builder* should have been allowed to disseminate such ideas as that a bishop of Noyon (at column 3, line 52, St. Eloi, 640—659 is meant), owed his episcopal dignity to his skill as a goldsmith; and as that it would be a problem to find a Mediæval architect employed on different works. Has Mr. Wing never heard of Colchester? or of Farleigh? to say nothing of Winford? He surely cannot be a diligent peruser of the *Builder*.

WHO IS HE?

*** This subject may be very usefully discussed; but it may be done without acerbity.

THE BURNING OF LIME.

WILL you allow me to suggest the burning of lime by the same method as iron, viz., by hot blast?

It is a well-known fact that, after long experience, lime-burners cannot tell exactly the proper time that lime should be burnt. It is also as well known that lime either over or under-burnt is little better than useless. Such, then, being the case, I think that if the hot-blast system could be applied on a somewhat large scale, it would not only save great expense and time, but the lime also would be much better burnt. R. J.

SHOREDITCH WORKHOUSE.

ARCHITECTS AND BUILDERS.

SIR,—In reference to a paragraph which appeared in your journal of the 19th inst., permit me to say that some error has arisen; and my words, which I cannot exactly remember, must have been misunderstood.

I certainly have no "grounds" for any such assertion, and should be very sorry to cast any discredit on the profession; for I feel convinced that every respectable member of it would act as I have always done, and would neither filch the trade profit from the builder, nor place himself in the hands of sub-contractors for the sake of a trifling commission. WILLIAM LEE.

*** The statement of Mr. Lee's words was publicly made at the meeting of the Board of Guardians, and with such circumstantiality as to render it difficult to attribute misconception. We are glad, nevertheless, to receive the disavowal.

HOLBORN VALLEY.

MY attention has been called to a paragraph in several of the daily and weekly papers, copied from the *City Press*, in which, after referring to the two plans now before the public, by which the evils of Holborn-hill and Skinner-street may be mitigated, if not altogether removed, it properly assigns to Mr. J. B. Bunning, the City architect, the authorship of one scheme; but with regard to the other it states—"This plan was advocated, *though not originated*, by Mr. Marrable, the late architect of the Metropolitan Board of Works, and it would be cheaper." The paragraph does not state who was the *originator* of the design; and until I read the paragraph I had found, thought, that whatever might be the merits of the scheme, I was the author of it. Before I put it forward at all, or laid it before the Board of Works, so long ago as 1859, I took every possible means to discover whether any plan, taking the same line and possessing the same features and advantages, had ever been devised before. I consulted several eminent engineers and architects, among the rest, Mr. Bunning,—and I was assured by all that the plan was at least *original*.

The drawings hung for many weeks in the library and reading-room at the Guildhall. I exhibited them and explained the advantages of the scheme at a general meeting of the Royal Institute of British Architects, when a discussion took place, and the merits and demerits were canvassed. The drawings were also exhibited at a *soirée* of the President of the Institution of Civil Engineers in 1859; and further, two views, looking east and west, of the proposed high level road and viaduct, were exhibited at the Royal Academy, in 1861; and a large and full article, explaining and going into the merits of the scheme, appeared in the *Illustrated London News*, of June 29th, 1861, with a full-page engraving of one of my views. Thus the design has been before the public and the profession for five years, and has as the first time have ever heard its originality impeached. But as the question of doing something to improve the state of the hills on either side of the Holborn valley is seriously under consideration by the City authorities, the public given by many of the leading journals to the statement is calculated to do me much injury; and I shall be greatly obliged by your insertion of this communication statement; as I never saw or heard of any other scheme that proposed to treat the difficulties to be overcome in the same manner that I do.

FREDERICK MARRABLE.

CARLISLE BRIDGE COMPETITION.

SIR,—Sometimes I go to Ireland. The last time I was there I made very particular inquiries as to the Carlisle Bridge Competition, and the knowing gentlemen whom I laughed at me. It appears to be the hobby of a certain alderman of Dublin, and that only. There is not a penny applicable for such a purpose, so far as I could discover. The town will give no funds, and no one in Dublin ever had an idea the affair could be carried out. I asked them,—"How could you be so dishonourable as to advertise, and cause so many gentlemen to spend large sums of money?" The answer was, "Oh, sure we thought the Government would help us." "But will they help you for a bridge in Dublin any more than one in any other town?" "Now doesn't Ireland pay 60,000*l.* more in taxes to England? and isn't it fair they should build a new bridge?" Here is the beginning and end of the Irish affair; and some sixty or seventy gentlemen have been made fools of. The best thing would be to get the drawings back and pocket the affront; or to club together and commence an action against those who issued the advertisement, and caused them to expend their time and money. If common law would not do, Chancery would compel something to be done. AN ENGINEER.

PROPOSED MEMORIAL OF IZAAC WALTON.

I HAVE much pleasure in informing your readers that the Stafford people have determined to erect a memorial to "good old Izaak Walton," who was born here, and whose fame is great. His name is dear to every lover of "the angle" throughout the length and breadth of our island. The town council has taken this project in hand, and shortly an appeal will be made by it to the sportsmen of England, when I have no doubt enough money

forthcoming to enable the council to do full justice to the claims that Walton has to the gratitude and affection of his fellow countrymen.

Who has not been instructed and delighted when he has perused the pages of that ever charming book, "The Complete Angler," which is even now, after the lapse of two centuries, read with as much avidity and zest as when first it appeared in type? I have often thought that it was a reproach to the Stafford people that they should have allowed all those years to roll by and not have raised a memorial, however humble it might have been, to the memory of their highly-gifted townsman and *benefactor*. But it reminds us that "a prophet has no honour in his own country." Since the good old man went down to his grave full of years and surrounded by true and loving friends, nearly 16,000*l.* of money arising out of his charity has been distributed among the poor of this borough, and it is hoped that it will continue to be dispensed among them for ever. Hence I am glad that the town council has determined to erect a memorial which shall be worthy of the man and an honour to the town.

JOHN SHALLCROSS.

COMPENSATION CASES.

Metropolitan Railway.—At the Lord Mayor's Court, Sept. 19th, Mr. Duffield, coach-builder and harness-maker, of Long-lane, Smithfield, and Aldersgate-street, whose repository is about to be removed to make way for the Smithfield extension of the Metropolitan Railway, claimed the sum of 13,000*l.* as compensation for the leases, removal, depreciation of stock, loss of trade, and the consequent injury that would accrue to his business. Some twenty witnesses were examined on his behalf, and a large number on the other side. The evidence, which was of a very conflicting character, occupied nearly the whole day. Ultimately the jury gave their award as follows:—2,500*l.* in respect of the leases, 200*l.* for the fixtures, 100*l.* for removal, 900*l.* for depreciation of stock, and 1,200*l.* for loss of trade, making a total compensation of 4,900*l.*, or 8,100*l.* less than the total amount claimed.

London, Chatham, and Dover.—The action, Knapp *v.* The London, Chatham, and Dover Railway Company, in the Court of Exchequer, was for compensation from the company for having taken the plaintiff's house, and injuriously affected it by the works of their intended railway, without having made any satisfaction to him for it. The court held that where the occupier of land or houses has not a greater interest therein than as a tenant for a year, or from year to year, and such land has been entered upon or injuriously affected by the promoters of an undertaking within the 8th Vic., c. 18, he can obtain compensation only by the determination of two justices under sect. 121, and is not entitled to have his claim settled by arbitration under sect. 68.

Miscellanea.

THE LATE MR. WILLIAM RANGER.—The Secretary of the Royal Society directs our attention to the fact, that Mr. Ranger was not a fellow of that society, as stated in our recent notice. Mr. Ranger was advertised in the obituary of the *Times* as F.R.S., and that misled us.

THE PUBLIC LIBRARY AT ENNIS.—A rate of one penny in the pound has been struck in Ennis, to fit up the rooms of the public library—or, rather, the structure built for the purpose, but remaining yet unfinished. A library, in fact, is in course of creation in the Freemasons' lodge which has been opened in the town.

THE NEW BOURSE OF BERLIN.—The new Bourse, or Exchange, of Berlin is to be opened on the 28th. The king has been invited to be present at the ceremony. The edifice is situate in Burg Strasse, on the right bank of the Spree. Within the building telegraph-offices are in course of erection, which will bring it into immediate connexion with every capital of Europe.

A NEW ORGAN FOR THE CHURCH OF ST. MARY-LE-STRAND.—The old organ has been taken down from the west gallery, and a new instrument, constructed by Messrs. Hunter & Webb, of York-road, Lambeth, erected north of the communion-table. The organ is built upon the German principle, and consists of two complete manuals and pedal-board. The great organ has the following stops:—Unison open, closed unison, octave, super-octave, dulciana, harmonic plate, duodecimo, sesquialtera (three ranks), and trumpet. The swell stops are thus distributed:—Unison closed, unison open, octave, super-octave, hautboy, and trumpet. Pedal organ—Unison open, C C C, octave, and posaune. The various pipes extend throughout the entire compass of manuals and pedal-board, thus rendering the instrument complete as far as its resources allow.

THE CHURCH OF ST. NICHOLAS AT HAMBURG. This church, which was destroyed during the disastrous fire of 1842, having now been rebuilt from the designs of Mr. Scott, is to be consecrated with ceremony this week.

METROPOLITAN BOARD OF WORKS.—THAMES EMBANKMENT.—On (this) Friday the Metropolitan Board of Works will re-assemble after the recess. At the meeting on that day the tenders for the execution of the embankment works on the northern side of the Thames will be opened and considered.

REMAINS OF LACUSTRINE HUMAN HABITATIONS IN WIGTONSHIRE. — Lord Lovaine has been draining Dowalton Loch, between Wigtown and Fort William, and has found traces of lacustrine habitations in the bed of the loch. Artificial islands appear to have been made by means of stones mixed with fern and other branches, boughs of trees, and other timber rudely worked. Piles have also been found, and many teeth and other bones of animals; a bronze vessel, earthenware articles, a small granite quern, beads, fragments of armlets, and other relics. No distinct remains of dwellings have yet been found, and no tool or weapon of any kind.

HAYMARKET THEATRE.—Mr. Buckstone, in a short "shut up," after a season that has lasted for years, and secured him, we hope, a nice little fortune, has renovated and improved his house before the curtain very considerably. An additional row of stalls has been formed; chairs have been substituted for the confined seats in the dress circle; and the amphitheatre is made more commodious. At the opening night, on Monday last, the revived drama of "Charles XII.," capitally acted by Miss Louise Keeley, Mr. Wigan, Mr. Buckstone, Mr. Compton, and Mr. Walter Gordon; and "The Bengal Tiger," furnishing Mrs. Wigan her best part, formed the staple. "Finesse" will return to the bills next week.

AMALGAMATED SOCIETY OF OPERATIVE PAINTERS.—On Tuesday evening the half-yearly general meeting of the members of this society was held at the King and Queen Tavern, Foley-street, Fitzroy-square. The meeting was presided over by Mr. Bruck, the president of the Amalgamated Society, who having stated that there were now eight lodges in connexion with the society, the secretary read a report of the proceedings in connexion with it for the half-year ending the 24th of August last. From this statement it appeared that during that period the income of the trade fund had amounted to 17*l.* 13s. 8d., and that of the burial gift fund to only 1*l.* 15s. 2d.; while the expenditure in respect of the former had been 7*l.* 10s. 9½d., and in respect of the latter 3*l.*; making a total of income of 19*l.* 8s. 10d., and of expenditure of 10*l.* 10s. 9½d., and leaving a balance in hand of 8*l.* 18s. 0½d.

ASTRONOMICAL ERRORS.—Confession, according to the Roman Catholics, is good for the soul; and we trust Mr. Hinde's soul will be much benefited by the rather humiliative confession which he has at last felt himself compelled to make in that popular medium the *Times*, wherein he has so long flourished as a dictatorial and irreproachable oracle. In a long letter to the editor he demonstrates, or, rather, he goes through the demonstration already given by others, not only that the hitherto assumed distance of the earth from the sun is incorrect, but that a long retinue of errors follows in the wake of this great mistake. The distance between the sun and the earth now appears to be 4,000,000 miles less than astronomers have imagined: therefore (says Mr. Hinde), "I subjoin a few of the numerical changes which will follow upon the substitution of M. Le Verrier's solar parallax (8s. ·95) for that of Professor Encke, on which reliance has so long been placed. The earth's mean distance from the sun becomes 91,328,600 miles, being a reduction of 4,036,000;—the circumference of her orbit 599,194,000 miles, being a diminution of 25,360,000;—her mean hourly velocity 65,460 miles;—the diameter of the sun 850,100 miles, which is smaller by nearly 38,000. The distances, velocities, and dimensions of all the members of the planetary system, of course, require similar corrections, if we wish to express them in miles. In the case of Neptune, the mean distance is diminished by thirty times the amount of correction to that of the earth, or about 122,000,000 miles! The velocity of light is decreased by nearly 8,000 miles per second, and becomes 183,470 if based upon astronomical data alone. These numbers will illustrate the great importance that attaches to a precise knowledge of the sun's parallax in our appreciation of the various distances and dimensions in the solar system."

LOOK TO YOUR COIN DEPOSITS.—The foundation-stone of the Church School at Garnard, Isle of Wight, has been found to have been tampered with. An exaggerated report had got abroad of the number and value of the coins deposited with the stone. Sufficient knowledge, however, was not possessed by the would-be culprit to discover the deposit, as both stone and slate beneath were removed together; and if the treasure had been found, the amount, it is said, was only 1s. 10½d.

THE ATLANTIC TELEGRAPH.—By a communication from the Atlantic Telegraph Company, it appears that the necessary capital for carrying out their enterprise has now been provided; and out of tenders, it is said, submitted by eight different contractors, the directors have selected that of Messrs. Glass, Elliot, & Co., on the unanimous recommendation of the scientific committee, consisting of Captain Galton, R.E., Professors Wheatstone and Thompson, and Messrs. W. Fairbairn and Joseph Whitworth. The contractors have already commenced the manufacture of the cable, which is to be subject to the approval of the scientific committee and the board, and they undertake to lay the line across the Atlantic before the end of next year.

DORSET LUNATIC ASYLUM.—The works are now finished. The original contract was taken by Messrs. Eaton & Habgood; and on their failure, in 1862, the completion was undertaken by Mr. Roberts, of Islington, who has brought them to completion. The site is three miles north of the county town, and the enclosures extend to about four acres, besides which there is ground for farm and garden operations for the more tractable patients. The style of the asylum is Lombardic; and of the chapel, Gothic. Water towers ascend on each side of the chapel, and the wings are partly of two stories above the ground-floor, though the other portions have only one story. The material is principally red brick, with facings of light and black brick, and dark-bluish bands. There is accommodation for 300 patients. Mr. H. E. Kendall, Jun., of London, was the architect.

ANTS.—A correspondent who resides in Guildford-street complains that the neighbourhood is infested with ants, and wishes some other correspondent could suggest how to keep them down, for he despairs of getting altogether rid of them. This is a subject which has more than once been noticed in the *Builder*, and various suggestions have been made; but we cannot call to mind any one special mode of killing such vermin which has been found decidedly effectual. Acids and alkalis have probably been more used than anything else; but it unfortunately happens that if the pests *have* been got entirely rid of in any one effectual way, the *Builder* which suggested the trial is not informed of the result. Failing other means already suggested, or which may now be proposed in our columns, we should recommend a trial of powders of the class of plants called pyrethrum or Persian insect-killers. Keating's insect powder, which is said to be from the same class of plants, and which certainly kills other insects, may be useful in clearing dwellings of ants. Keating's *vermin* killer is another and a poisonous article, but the *insect* killer is said to be only injurious to insects.

RAILWAY STATISTICS.—In 1862, no less than 180,429,071 passengers travelled on the railways of the United Kingdom, besides 56,656 season-ticket holders, who of course all travelled very many times; and also, besides 262,334 horses, 386,864 dogs, 3,094,183 cattle, 7,800,928 sheep, and 1,989,892 pigs. The passengers were more than in 1861 by about 7,000,000. They paid 12,295,273*l.* for their fares. The first-class passengers paid 3,332,380*l.*; the second-class, 4,018,221; the third-class, 4 639,250*l.* The proportion of third-class passengers is still increasing, and second-class rather diminishing. Thirty-five passengers were killed (nine of them owing to their own misconduct or want of caution), and 536 were injured. This is less than half the number who lost their lives in 1861 by railway accidents. So much for the severity of juries, of late, in their assessments of damages against railway companies. The passenger trains travelled 57,542,831 miles, and the goods trains nearly as many more. The passenger traffic supplied 47·76 per cent. of the total receipts of the companies and the goods traffic 52·24 percent. The receipts, from all the traffic amounted to 29,128,558*l.*—— The traffic receipts of railways in the United Kingdom amounted, for the week ending the 5th of September, on 10,882 miles, to 645,314*l.*, and for the corresponding week of last year, on 10,428 miles, to 635,814, showing an increase of 454 miles, and of 9,500*l.* in the receipts.

LAYING THE FOUNDATION STONE OF HARTSHEAD PIKE, ASHTON.—On the occasion of the marriage of the Prince and Princess of Wales, a large bonfire was held on the ancient beacon called Hartshead Pike, near Mossley, and it was then resolved to raise a subscription to re-erect the Pike, in commemoration of the event. About 200*l.* have been raised, and the foundation stone of the new Pike has been laid by Mr. S. D. Lees, Mayor of the Manor, assisted by a large number of members of the Masonic order.

THE PROPOSED MEMORIAL CHURCH AT CONSTANTINOPLE.—Mr. C. H. B. Hambly writes from Constantinople, to draw attention to the fact, that though it is five years since the Turks gave a site for this church, no visible progress has been made towards its completion. There are 1,000 English residents, and 20,000 British sailors annually, but the provision for English worship is wholly inadequate. Mr. Hambly says:—"The Turks believe, as expressed by their national proverb, 'Inglis din siz,' that the English are without religion. I leave your readers to judge whether our delay in this matter is likely to decrease their belief." A private letter fixes the blame where we should be sorry to find it.

DRINKING FOUNTAIN MOVEMENT—A memorial fountain, the gift of Mrs. Little, widow of the late Major Little, for many years barrack-master of the Woolwich Royal Marine Division, is about to be erected, at a cost of 200*l.*, on a site granted by the War Department on Woolwich Common. The fountain will be constructed by Mr. Tongue, of Plumstead, from a design by Mr. E. Gregory, C.E.——The new drinking-fountain at Croydon, the gift of Dr. Westall, is now nearly completed, at the new Public Hall. The design is a simple one.——The first stone of the Isaac Fountain, for Northampton, has been laid by the mayor. Mr. Watkin has undertaken to complete the stonework of the base by the end of this month, and by the end of October Messrs. Barwell will have completed the iron structure. It will then be formally presented to the mayor, as trustee for the local public, by Captain Isaac.

BONELLI'S PRINTING TELEGRAPH.—Messages have now been forwarded and delivered in a distinct Roman type on the Liverpool and Manchester route, where the modern locomotive and railway system was finally established. So says the *Albion*. The first message sent from the Manchester end was addressed to the *Albion* office, with a request to know if it was satisfactory, and the reply was in the affirmative. The advantages of the Bonelli system, says the *Albion*, are rapidity and accuracy, and these are attained through the passage of a rule of type under a comb containing five teeth, each of which is insulated and represents the termination of a line wire. Thus it will be seen that the instrument requires five line wires to work it efficiently, but the same wires are used for the up and down traffic; and as the rules of type pass under the comb, the messages are legibly printed off at the rate of 400 words per minute, with accuracy amounting to certainty. Any errors are corrected before the despatch of the message, and thus the transmission of them is checked at the outset. The system of the promoters of the Bonelli telegraph enables them to make a reduction in the charge of transmitting telegrams.

LIGHT AND ECONOMIC BRIDGES.—Among the mechanical inventions exhibited at the Royal Cornwall Polytechnic Society's rooms, at Falmouth, are the models of the cheap bridges invented by Mr. Angelo Sedley, of London, as to which a series of tests were made upon the day previous to the closing of the International Exhibition. The model was 17 feet 6 inches clear span, and its total weight was 25 lb. The extreme width was 3 inches, and the extreme height 4½ inches; whilst thin veneer and tape, fastened together with glue, were the materials used in its construction. The result showed that the breaking strain of a bridge 1,050 feet span (the scale indicated by the model tested) on Mr. Sedley's system was twenty times its own weight, whereas in the experiments made before the Menai tubes were built, on the small models of the same, the breaking weight for a span only two-fifths of the above was twelve times the weight of the model operated on. A bridge upon this principle is being built for a park at Staplehurst upon a small scale, 40 feet span, and another in Wharfdale of 180 feet span. A wooden foot or bridle road bridge, 50 feet clear span, 4 feet wide, and equal to a load of 20 tons, can be constructed, it is said, for 50*l.*, and that the bridges are delivered at any railway station in London, of 30 feet span and 4 feet wide, in wood, for 30*l.*, and of the same dimensions in iron for 50*l.*

WINDSOR.—Cardinal Wolsey's Chapel is now being restored; and, while erecting some carved stonework last week, it became necessary for the workmen of Messrs. Poole to cut away a portion of the wall on each side of the doorway opening into the cloisters, opposite St. George's Chapel. On removing the masses of stone from the mortar in which they were embedded, sixteen or eighteen of the pieces were discovered, we are told, to have formed (it is supposed) a portion of the chapel erected by Henry III. These relics form portions of the jamb of a doorway with ogee mouldings, pillars, and other parts of an ancient ecclesiastical edifice. On one of the stones is an angel's wing, while the mouldings and surfaces still bear the crimson, green, red, and black colours with which they were decorated in curved and zig-zag lines.

PERFORATED PARIAN.—A parian vase lately manufactured by Messrs. Grainger & Co., of Worcester, is described by the *Worcester Chronicle*. It is in the Classic style, raised on a pedestal, the whole measuring 31 inches in height and about 13 inches in width. The material is of the hue of the purest wax, and is perforated, so that the vase presents a series or course of intersecting patterns in delicate open-work, with masks, scrolls, leaves, and other ornamental embellishments. In works of this nature the article comes from the mould with the design embossed on its outer surface. The depressed portions of this are afterwards dexterously cut away, while the material is in a plastic state, by a tool like a small penknife blade, leaving an elaborate structure of delicate open-work, resembling filagree or lace, but wrought into richer and more complex designs. Great peril attends this work of perforation.

THE ACT FOR THE REGULATION OF BAKEHOUSES.—By this Act, it should be noted, the inside walls and ceiling, or top, of every bakehouse within towns of 5,000 population, and the passages and staircase leading thereto, must be limewashed or painted with oil, or partly the one and partly the other. Where painted, there shall be three coats of paint; and the painting shall be renewed every seven years, and shall be washed with hot water and soap once in every six months. Where limewashed, the limewashing shall be renewed every six months. Every bakehouse, wherever situate, shall be kept in a cleanly state, shall be provided with the proper means of ventilation, and shall be free from effluvia arising from any drain, privy, or other nuisance (sec. 4). In towns, no place on the same level as the bakehouse shall be used as a sleeping-place, unless effectually separated from the bakehouse by a partition extending from floor to ceiling, and unless there be an external glass window at least 9 feet square, of which half at least shall be made to open (sec. 5). The penalties on occupiers, &c., of bakehouses not complying with these regulations are summarily recoverable before justices, and range from 2*l.* to 10*l.* The local authority is required to enforce the Act.

POMPEII.—Discoveries are reported from Pompeii. A house has been uncovered, which, to judge from the splendour of its interior furniture, must have belonged to a wealthy proprietor. The dining-room is paved with mosaic, representing a number of gourmandizers of the time. The completely served table is covered with petrified remnants of dishes; and around it are found three divans, or rather table-beds, of bronze, richly adorned with gold and silver, upon which reposed several skeletons. The new regulations established at Pompeii by the Italian Government greatly enhances the enjoyment of the excursionist, for he has only to pay a moderate entrance-fee, and to push his way through a patent self-registering turnstile, as he might at the Crystal Palace, and he finds himself at liberty to wander from temple to theatre, from palace to *thermæ*, with no pragmatical cicerone to dog his footsteps, and no exacting key-bearer to disturb his archæological researches or his historical reveries in the city of the dead. Whereas it was formerly impossible to find fees enough to satisfy the rapacity of the various hangers-on of Pompeii, it is now impossible to get any of the guardians or *custodi*, who are perfectly civil and obliging in their explanations to any one requiring their assistance, to accept anything more than a cigar, as they are regularly and sufficiently paid by the Government, and forbidden to take fees. For visitors of a class to whom economy is a paramount consideration, Sunday is set apart as a free admission day; and many parties of indigenous sight-seers, to whom Pompeii under the old *régime* would have been a tabooed city, now avail themselves of the privilege thus afforded them to gaze on the habitations of their ancestors.

THE MULREADY MEMORIAL.—The memorial of Mr. Mulready is to consist of a tablet on his tomb at Kensal Green, and to be supplemented by a statue in the National Gallery.

QUARRY ACCIDENT AT CARDIFF.—A fatal accident has occurred at Llandaff stone quarry, about two miles from Cardiff, resulting in the instantaneous death of two men and severe injuries to seven others. The quarry in question is of rather an extensive description, and supplies material for the construction of the Penarth Harbour Dock. The depth being somewhat considerable, an engine is employed to raise the blocks of stone. This engine overhangs the pit of the quarry, and is supported upon two large beams of wood. As the work was proceeding, a more than usually large piece of stone had to be raised. The engine had raised the stone some slight distance when the whole structure—beams, engine, stonework, and ruins—fell down the pits.

DRILLING STONE.—Mr. J. S. French, of Bangor (Maine), has invented a machine by which the common hand drill is worked by one man with three or four times the rapidity and execution obtained by the old sledge-striking operation. The *Maine Whig* says:—"We saw one of his machines (manufactured by Messrs. Hinckley & Egery) at work. By turning the balance-wheel of 2 feet in diameter, which is done with much ease, the drill is struck by a 25 lb. sledge, from sixty to ninety times a minute, and penetrates the hardest granite as fast as four men will do it by the ordinary process. The machine is intended for quartz mining operations, where horizontal tunnels are to be carried into the bowels of the gold-bearing hills, and it can easily be arranged so as to drill in all directions. It appears to be an important labour-saving invention." The use of a somewhat similar contrivance, in the Mont Cenis tunnelling operations, will probably lead to future economy in all descriptions of mining-work in rock.

A NEW MECHANICAL AND PNEUMATIC VENTILATOR.—A correspondent, speaking of a ventilator and gas expeller patented by Signor Giachosa, of Warwick, and of experiments with it witnessed by the writer, says:—"It is perfect in its construction, and in every way capable of improving the ventilation, not only of coal mines, but also with slight modifications, of hospitals, ships of war and private houses. The machinery Signor Giachosa uses is of an inexpensive character, and may be worked either by the action of a spring, manual labour, or by steam power. The model is simple in its arrangements, and very effective in its operation. One part of the apparatus was connected by an elastic tube, 40 feet long, with a large glass vessel filled with smoke; and almost instantly after the machinery was put in motion the smoke began to disappear from the vessel where it was confined. It is calculated that a 6-feet square machine would be capable of expelling 10,000 cubic feet of noxious gas, foul air, or smoke per minute; and, if what are termed the 'collectors' of the carbonic acid gas (or choke damp) are stopped, the power of the collectors for the expelling carburetted hydrogen (or fire damp) would be doubled. Another advantage of Signor Giachosa's patent is, that it not only disturbs the foul air, but at once removes it."

CHURCH ARCHITECTURE IN SCOTLAND.—At the opening of the new Free Church at Crathie, already noticed, Dr. Guthrie said:—"I highly approve of the resolution of our friends that led them to build such a house as this; because there is no greater mistake in the world than to fancy that while God is a God of holiness, a God of power and of justice, He is not also a God of taste. I say that God is a God of taste, just as much as He is a God of anything else that is lovely and good. And how do I prove that? you may ask. I prove that by just asking you to go to the seashore and find out for me a shell that is not pretty. I prove that by asking you to go to those meadows and find out a flower that is not pretty. Let me tell you that the flowers would have produced the kind according to the law although they had never been painted. It is not necessary for the rose and the lily that the one should blush so beautifully red, and the other bloom as white as snow. God has made a useful flower—a useful rose and useful lily—and then painted them. It is as certain that the Bible is true that He is a God of taste, as much as He is possessed of those other attributes. And therefore it is, I say, that I rejoice in the erection of such a building for God's service. Our old stupid notion was—we abhorred Popery so much that we recoiled to the other side—that God was never so well worshipped as in an ugly house. It is a great mistake,—a mistake contrary to the Bible—contrary to reason and common sense."

A CONNECTOR SHIP.—The idea has been revived of having a part of a vessel devoted to the stowing of freight, the part to be at once removable on coming into port, and the motive portion attached to another freight-loaded part, which can be immediately sent off.

VALUE OF LAND IN VENTNOR, ISLE OF WIGHT. A dispute having arisen between Mr. B. Myers and the Pier Company as to the value of the steep bank and small slip of land lying between the road in front of Devonshire-terrace and the sea, consisting altogether of rather over two acres, and which the Pier Company had given notice to the owner that they required for the purposes contemplated in their Act of Parliament, it was made a matter of arbitration before the Under-Sheriff of the county and a jury. From the opening address of the counsel for the claimant, it appeared that the sum in dispute was the difference between 3,450*l.* claimed by Mr. Myers, and 770*l.* offered by the Company. Mr. Newman, of Ryde, architect and surveyor, was of opinion that the amount claimed by Mr. Myers was but a fair and reasonable price. By erecting a sea-wall, steps, &c., at a cost of 1,442*l.* 10*s.*, so as to protect the land from the wash of the sea, and prevent the slipping of the loose parts, the property would readily realise 210*l.* a year ground-rents for building purposes. Mr. Josephs, of London, architect and surveyor, concurred in this view. For the company, Mr. Saunders disputed Mr. Newman's accuracy, and estimated the cost of a sea-wall at 3,500*l.*, and was of opinion the company's offer was sufficient. Other witnesses on both sides were called, and the jury awarded 1,000*l.* to the claimant.

ELECTRO-TELEGRAPHIC.—The *Hawthorne* arrived at the supposed place of the fault in the Malta and Alexandria Cable, about 64 miles from Alexandria, on the 10th of August; and after creeping for five days across the line in which the cable was laid, a fragment of the cable, about half a mile in length, was picked up in 27 fathoms. The creeping was then repeated, and an end raised, which, on testing, was found to be in communication with Benghazi. Four more detached pieces of the cable were picked up, of about half a mile each in length, and on the 17th an end was found that was in perfect communication with Alexandria. A new piece of cable was spliced in, and perfect communication restored throughout the whole line. In the length of 3 miles that was actually picked up there were no less than ten faults, where the cable had been completely severed, evidently for some time. Some 150 sponge-boats were found by the *Hawthorne* at work on the spot, and the inference is that their anchors cut up the cable. The discovery of the fault at almost the exact distance from Alexandria at which it was foretold, reflects great credit on Mr. Saunders, and tends to increase confidence in electricity as a science,—unless, indeed, the sponge-boats suggested the locality.

TENDERS.

For erecting town hall, butchers' market, and corn exchange, at Ruthin. Messrs. Walker & Poundley, architects. Quantities supplied:—

Chester & Co.	£4,236 0 0
Conway	4,150 0 0
Heymore	4,100 0 0
Prichard	3,981 17 6
Owen & Jones	3,905 0 0
Ellis	3,580 0 0
Roberts & Holland	3,558 0 0
Porteus	3,546 0 0
Roberts	3,494 0 0
Neille	3,353 0 0
Evans	3,307 0 0
Williams	3,300 0 0

For alterations and decorations to Reading Town Hall. Mr. W. H. Woodman, borough surveyor:—

Dover	£1,900 0 0
Sawyer	1,745 0 0
Biggs	1,735 0 0
Barnicoat	1,694 0 0
Grover	1,486 0 0
Sheppard (accepted)	1,461 0 0

For additions to house, Queen's-road, Reading. Mr. W. H. Woodman, architect:—

White	£446 0 0
Sheppard	445 0 0
Biggs	430 0 0
Goswell (accepted)	394 0 0

For erecting new premises, in New King-street, Coventgarden, for Messrs. Heaton, Butler, & Bayne. Mr. A. W. Blomfield, architect. Quantities by Mr. J. A. Bunker:—

Turner & Sons	£2,141 0 0
Clemence	2,060 0 0
Simpson	1,999 0 0
Jackson & Shaw	1,995 0 0
l'Anson	1,954 0 0
Browne & Robinson	1,947 0 0
Child & Son	1,869 0 0
Howard	1,797 0 0

For additions to the warehouse of Messrs. Cannock, Tait, & Co., Limerick. Mr. W. Fogerty, architect. Amounts exclusive of plate glass, revolving shutters, and fixtures:—

Scanlon	£1,680 0 0
Ryan & Son	1,589 0 0
Malone & Cavanagh (accepted)	1,570 0 0

For new wing to house at Wargrave, Berks. Mr. W. H. Woodman, architect:—

Simmonds	£586 0 0
Grover	535 0 0
Scott (accepted)	500 0 0

For new wing to Sutherlands, Reading. Mr. W. H. Woodman, architect:—

Bricklayer's Work.

Wheeler (accepted)	£300 0 0

Carpenter's Work.

Simmonds (accepted)	186 0 0

For the erection of a villa residence, at Port Hill, Burslem, Staffordshire, for Mr. B. Cork. Ward, Son, & Ford, architects. Quantities supplied:—

Woolrich	£1,486 0 0
Harley & Dean	1,458 15 0
Watkin	1,443 5 0
Matthews	1,421 0 0
Massey	1,320 0 0

For building three houses, at Northampton, for Mr. Edwards:—

Cosford (accepted)	£1,000 0 0

For six houses, bakery, and stabling, in Peto-street, Plaistow, West Ham, Essex, for Mr. William Stanley Masterman. Mr. John T. Fisher, architect. Quantities supplied by Messrs. Curtis & Son:—

Rivett	£1,887 0 0
Hack & Son	1,759 0 0
Cushing	1,700 0 0
Chapman	1,599 0 0
Sheiton	1,575 0 0
Cerdery	1,545 0 0
Fisher	1,380 0 0

For making a new road, building walls, &c., in connexion with the proposed new cattle-market. Mr. Geo. Tompkins, surveyor:—

Brock	£750 0 0
Beaven & Son	693 0 0
Hartree	585 0 0
Beavent	550 0 0
Summons & Hillman	518 17 0
Durke (accepted)	475 0 0

For a pair of semi-detached villas, Barnet, Herts. Mr. Barron, architect:—

Roberts & Strange	£2,305 0 0
Treharne	1,998 15 0
East	1,898 0 0
Ginger	1,775 0 0

For chapel, Church-street, Deptford, Kent, for the London Diocesan Home Mission. Messrs. Newman & Billing, architects. Quantities supplied:—

		If ornamental brick facing is omitted to sides and back, deduct
Patrick & Son	£4,583 0 0	£83 0 0
Dove, Brothers	4,475 0 0	55 0 0
Jackson & Shaw	4,420 0 0	100 0 0
Downs	4,352 0 0	76 0 0
Axford & Co.	4,280 0 0	40 0 0
Thompson	4,230 0 0	50 0 0
Wells	4,200 0 0	47 0 0
Peake (accepted)	3,667 0 0	25 0 0

In the list of tenders for vestry-hall, St. Mary's, Newington, given in our last, the separate amounts headed "Offices," should have been titled, "*Extra, if in Portland stone.*"

TO CORRESPONDENTS.

H. C.—Dr. D.—W. F.—W. H.—J. G.—S. R.—J. Y.—C. C. (fill in with slips of wood).—H. D. G. (several objections to the plan).—D. M.—E. K. (thanks).—S. T. (thanks).—H. S.—P. R.—C. B. C.—A Young Architect (inquire at the Department). T L., Bristol (next week) —J S. W. (materials came from the architect).—J. S. (did not arrive).

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

CHURCH, TURRET, AND STABLE CLOCKS.—Clergymen, architects, committees, &c., can be furnished with estimates and specifications for every description of horological machine, especially cathedral and public clocks, chiming tunes on any number of bells. A short pamphlet on church and turret clocks post free, on receipt of one stamp. J. W. Benson, Maker of the Great Clock for the Exhibition, 1862, 33 and 34, Ludgate-hill, E.C.—[Advt.]

ADVERTISEMENTS.

The Publisher cannot be responsible for ORIGINAL TESTIMONIALS *left at the Office in reply to advertisements, and strongly recommends that* COPIES ONLY *should be sent.*

TO ARCHITECTS

MR. CHARLES WARREN,
Architectural Colourist,
No. 9, Pershad-gardens, Notting-hill, London, W.

AGENTS WANTED.—The CALEDONIAN INSURANCE COMPANY (Established 1805 by Royal Charter and special Act of Parliament) is prepared to APPOINT additional AGENTS for either the Fire or Life Departments. Commission liberal.—Applications to be addressed to JAMES MUIR, Esq. Resident Secretary, Caledonian Insurance Office, 39, Lothbury, E.C.

ASSISTANT SURVEYOR of ROADS.—The Board for the Repair of the Highways in the parish of Hornsey are desirous of APPOINTING an ASSISTANT SURVEYOR who has practical knowledge of road-making and general superintendence. The salary will be 100 per year, and he will be expected to devote his whole time to the service of the Board.—Further particulars may be had at the Office of the Highway Board, High-street, Highgate, on any morning from NINE till TEN, on Saturday afternoon from 1 THREE till FIVE.
September 23. WILLIAM POTTER, Clerk to the Board.

AN IMPROVER WANTED, in the Office of an Architect and Surveyor, at the West-end. Practical advantages. State age, and if salary required. Also WANTED, the IMMEDIATE TEMPORARY ASSISTANCE of a good perspective DRAUGHTSMAN.—Address, K. Club's Library, Westbourne grove, Bayswater.

LONDON GENERAL OMNIBUS COMPANY (Limited).—The Directors are desirous of ENGAGING the EXCLUSIVE SERVICE of a Person fully qualified by experience in the trade, to take the MANAGEMENT of their OMNIBUS DEPOTS.—Applications, stating qualifications and references, and the salary required, to be addressed to the undersigned, on or before the 8th OCTOBER.—By order, A. C. CHURCH, Secretary.
31, Moorgate-street, 19th September, 1863.

STAINED GLASS WINDOWS.—WANTED, an ORNAMENTAL DRAUGHTSMAN, and FIGURE PAINTERS.—HEATON, BUTLER, & BAYNE, Cardington-street, Hampstead road, London.

WANTED, an AGENT for the sale of ABERTHAW BLUE LIAS LIME in London.—Apply, stating terms, to W. C. Clarke, Cardiff.

WANTED, by an old-established Insurance Company, a CLERK in the Fire Department, qualified to draw plans and to survey properties proposed for insurance. Salary about 120*l.*—Apply by letter, stating qualifications, addressed to ALPHA, Williams & Lloyd, 20, Moorgate-street, E.C.

TO FOREMEN.

WANTED, a thoroughly Practical Man, to take CHARGE of a JOINER'S SHOP in the country.—Apply, stating age, &c. to Mr. FREDERICK COLLINGS, Littlehampton.

TO MASONS, POLISHERS, AND SAWERS

WANTED, for Fancy Marble Work, a few EXTRA HANDS. Also, a few STRONG MEN, well acquainted with the rubbing in Mason's Yard.—Apply at the Westminster Marble Works, Earl street, Westminster.

WANTED, an ENGAGEMENT, by a Junior Assistant, who completed his articles in a London office. Is a good perspective draughtsman and colourist. Address, A. H. 21, Wilton square, Islington, N.

TO BUILDERS.

WANTED, by a thoroughly practical Man, an ENGAGEMENT as SHOP FOREMAN of JOINERS. First-class references.—Address, G. T. O. No. 23, Camden street, Islington-green, N.

TO BUILDERS AND CONTRACTORS.

WANTED, an ENGAGEMENT, as CLERK in a Builder's Office, by a middle aged man of great practical experience. Can measure, estimate, take off quantities, &c. and is well acquainted with the whole duties of a builder's office.—Address, S. V. R. Office of "The Builder."

WANTED, a SITUATION as ENGINE DRIVER. Is quite capable of taking charge of engines, and doing ordinary repairs. Would prefer giving a week's notice before leaving his present situation.—Address, W. M. care of Mr. Piper, West Hill, Dartford.

WANTED, a SITUATION as FOREMAN of MASONS. Good references.—Address, K. Q. X. Post office, Cleobury Mortimer, Bewdley.

TO BUILDERS AND CONTRACTORS.

WANTED, a RE-ENGAGEMENT, by a BUILDER'S CLERK. Is a thorough bookkeeper, and a tolerable draughtsman. Security if required. Salary moderate. Good references.—Address, A. E. Office of "The Builder."

TO CARPENTERS AND JOINERS.

WANTED, by a Young Man, aged 20, a SITUATION as IMPROVER. Town or country.—Address, F. C. 36, Old Compton-street, Soho.

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WANTED, by a Youth, aged 19, who has just completed an engagement upon the works of a railway, a SITUATION as ASSISTANT to an Engineer or Surveyor, either at home or abroad. Is a complete draughtsman, and has a good knowledge of railway, land and engineering, surveying, levelling, &c. Salary not so much an object as an opportunity for further improvement. Good references can be given.—Address, C. E. Office of "The Builder."

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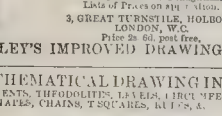
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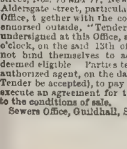
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GUILDHALL, London, 23rd September, 1863. The Committee for Letting the Bridge House Estates will meet at Guildhall, on FRIDAY, the 9th OCTOBER next, at ONE o'clock precisely, to receive PROPOSALS for BUILDING LEASES, for Eighty Years, of THREE PIECES of GROUND, on the south-east side of Bermondsey New-road, in the County of Surrey. Also to receive Proposals for a Lease of a Shop at the corner of Wellington-street and the Blackfriars road. Plans of the property may be seen and forms of Tender obtained upon application to the Architect's Office, Guildhall. FERDINAND BRAND, Comptroller.

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14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta, Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference

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LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS —
WARD'S WHARF, UPPER GROUND-STREET, BLACK FRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
We can be obtained, of the best quality :—
GREY STONE CHALK, PLAIN, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
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WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS
Ditto, ditto, ORNAMENTAL ROOFING and HANGING TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Landers, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
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HALKIN HYDRAULIC LIME, manufactured by LLOYD JONES & CO, Halkin Works, Holywell, N.W the same as used in the construction of the Liverpool Docks, &c. and so long celebrated for its strong cementitious and connecting powers for submarine masonry, can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground and in bags and barrels. The Limestone can be had in full cargoes; also L. J. & Co's Roman Cement, in barrels, which is of a very superior quality, and warranted pure. Orders to be accompanied by a banker's reference.—Apply to the Works; or to E. & W. AARON, Agents, 66, South John-street, Liverpool.

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CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble — Manufacturers, FRANCIS, BROTHERS, & FOTT, Nine Elms, London.

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Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 60, CONDUIT STREET, REGENT STREET.
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DESIGNS AND ESTIMATES PREPARED.
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STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Brosley colour.
PAVING TILES in various colours and designs
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
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JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
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LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
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SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME,
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GREAVES'S BLUE LIAS LIME.
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L. M. TATTHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail

ESTABLISHED 1802
PORTLAND CEMENT WORKS,
MORDEN WHARF, EAST GREENWICH.
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Manufacturer of PORTLAND CEMENT of the best quality only, for the English and Foreign Markets.
Vessels loaded alongside.
NOT CONNECTED WITH ANY OTHER HOUSE.

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ON THE MEDWAY, NEAR ROCHESTER.
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Every Article manufactured at their own Works and Mines, Brierly Hill.
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CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
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JOHN BOARD & Co.'s CEMENT and LIAS LIME WORKS, Dunball (near Bridgwater); Office, Queen-street, Bridgwater. JOHN BOARD & Co. beg to inform Builders, Contractors, and Merchants that they continue to manufacture CEMENTS and BLUE LIAS LIME, at Dunball, near Bridgwater, and from increased appliances to their works, are enabled to execute orders for the same to a most any extent.

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And 23 and 24, BILLITER STREET, LONDON,
PATENTEES AND MANUFACTURERS OF ASPHALTE ROOFING, SHIP SHEATHING, BOILER AND INODOROUS FELTS.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly have any other Paint for their best work

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

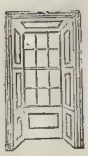
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WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.



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WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand rails, and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

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JOINERY OF EVERY DESCRIPTION.

STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

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(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

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2½ YELLOW BATTENS .....10*l.* 10s. per 120 of 12 feet.

3 by 9 YELLOW DEALS .....16*l.* 10s. per 120 of 12 feet.

¾ by 7 WHITE FLOORING .....11s. 6d. per Square.

PRICE LISTS AND MOULDING PATTERNS, POST FREE.

J. TERRY & SON, 109, BOROUGH ROAD, S.E.

FLOORING! DEALS! MAHOGANY!

100,000 Dry Prepared Flooring Boards ..... } from 10s. 6d. per square

10,000 Pine Planks .....from 3*l.* 6d. each

5,000 Yellow Battens.....from £10 10s. per 120

2,000 Spruce ditto .....from £9 per 120

SPRUCE DEALS, 2*l.* 6d. each.

FIR TIMBER 55*l.* PER LOAD.

Scaffold Poles ..... 1½d. per foot

YELLOW DEALS, £16 PER 120.

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Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.				Laths, 28s. per Load.		
Yellow Deals, sound and good	£18	0	0	per 120, or 3d. per foot.		
Spruce Deals	15	0	0	,,	2½	,,
Yellow Battens, excellent quality.....	10	10	0	,,	1½	,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

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OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.



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SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

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Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

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At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
⅜ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
½ by 7 ,, ...	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,, ...	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,, ...	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised. White Battens, 9*l.* 10s. per 120, 12 feet; Yellow ditto, 10*l.* ditto ditto. ⅜ Match Boarding, 14s. per square; ¾ ditto, 18s. ditto Venetian Blind Laths, 8s. 6d. per 100 feet super. — CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington

SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER YARD, MANCHESTER.

JOSEPH & ALFRED ROSLING beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.

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LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the River Thames.—For further particulars apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic Wharf, Pimlico, London, S.W. five minutes' walk from the Victoria Station.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 3d.; Spruce, from 2s. 6d.; Fine Plank, from 3s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11*l.* 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

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DRY WAINSCOT,

At 6d. 7½. and 8d. per foot, at

JOHN COUMBE'S,

LADY LAKE'S GROVE, MILE-END-GATE

T. KENT'S PAINTING-BRUSH MANUFACTORY

Is continued by his Successors,

CROWDEN & GARROD,

Falcon-square, London, E.C.

Where the TRADE is supplied with the same superior quality made the name celebrated.

N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.

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KENT'S PAINTING BRUSHES

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And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W.

Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made.

PRIZE MEDAL, 1862.

HAMILTON & CO.

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

Sole Manufacturers of

C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL

PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graniers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 23s. per cwt. Linseed Oil, 3s. 9d. per Gallon; Boiled Oil, 4s. per Gallon. Turpentine, 6s. 6d. per Gallon.

Fine Pale Oak Varnish, 9s. per Gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouses 30, Upper Ebury-street, and 45, Colesbill-street, Pimlico, S.W.

Every article for the Trade at the lowest prices.

TO PREVENT BLISTERS, AND REMOVE OLD PAINT, VARNISH, &c.

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N.B. Country orders must be prepaid. Agents wanted.

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GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.

Sample gallons may be obtained at the Manufacturers', price 4s.

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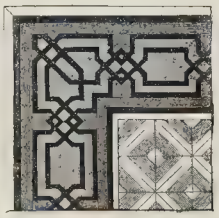
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TO PAINTERS and BUILDERS.—White Lead (warranted genuine), 22s. per cwt. Linseed Oil, 3s. 9d. per gallon. Turpentine, 7s. 6d. per gallon. Fine Pale Oak Varnish, 9s. per gallon.

For cash at FRANCIS TUCK'S Old-Established VARNISH and COLOUR WAREHOUSE, No. 138, EDGWARE-ROAD, PADDINGTON, W. next door to the Wheatsheaf, and within five minutes' walk of the Great Western Railway Terminus.

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From 1s per foot, in various woods, inch thick, grooved, ongued, and keyed together, not veneered

For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

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A STOCK OF THE ABOVE ALWAYS ON HAND.

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VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

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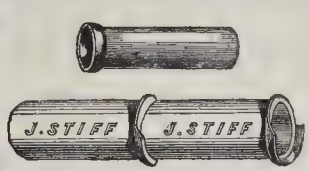
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IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 9s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



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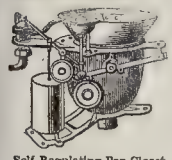
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"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

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THOMAS LAMBERT & SON,



Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

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Beg to advise their Friends and the Profession that as the London, Chatham, and Dover Railway have taken their late premises at Albion-place, for the new Blackfriars Station, they have Removed their extensive Stock of

MARBLE CHIMNEY-PIECES, STOVES, RANGES, &c.

TO THE ROTUNDA, No. 3, BLACKFRIARS ROAD.

C. & G. have now, as heretofore, the best and most varied assortment of first-class Goods in their trade, of every description and at every range in price.

They respectfully invite a visit from Architects and Builders to their present Show Rooms, which include an area of upwards of 12,000 super. feet, and replete with every Architectural requirement in Marble or Iron.

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CITY WAREHOUSE, 38, NEW BRIDGE STREET, BLACKFRIARS.

MANUFACTORY, LETT'S WHARF, and OLD SHOT TOWER WHARF, LAMBETH.

Estimates given for every description of Marble or Iron Work.

GENERAL IRONMONGERY, AND BATH-WORK, &c.

Hot Water and Range Work, all requisites being kept in Stock.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862.

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Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronised by

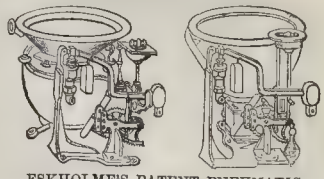
HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSIONERS OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland, at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses, and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and in lengths best suited to their roofs. The original works where the above roofing is made are F. McNEILL & CO.'S Manufactories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER, upwards of Three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, of nearly One Million Feet. A Liberal Discount allowed to the Trade.

GUEST & CHRIMES, FOUNDRY and

GENERAL BRASS WORKS, Rotherham; and 37, Southampton-street, Strand, London, W.C.

London House, Mr. THOMAS BEGGS.



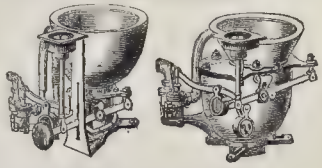
ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient and simple, free from all smell, and requires no cisterns, service boxes, cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipes. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet, alike dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary direct Service Main Cottage Water Closets.

Chrimes's Patent High pressure Single and Double Loose Valve and Screw Down Cocks; Improved Self-acting and Full Water-Closet; Patent Absolute Water Waste Preventer; Plumbers' and Gas-Fitters' Brass Work of every description. Drawings, Descriptions, Prices, and Testimonials will be forwarded per post on application as above.

J. TYLOR & SONS' PATENT

REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cistern valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

TERRA COTTA and Fine STONEWARE

POTTERY, warranted to stand Frost.

JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and economised the manufacture of TERRA COTTA and Fine STONEWARE for ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to harmonize with Marble, Portland, and other Stones, and equal in hardness to Granite.

A Medal at the International Exhibition was awarded, in Class 10, Section C, Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra[illegible]Cotta."

Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusters, Capitals, Crosses, Terminals, Vases, Statues, Brackets, Consoles, Garden Edging, Guttering, six, nine, and twelve inch Paving Tiles, &c &c.

Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

London Office, 377, Oxford-street, W.

MINTON, HOLLINS, & CO. Stoke-upon-

Trent, beg to inform architects, the gentry, and others, that, in consequence of the increasing demand for their Encaustic and Mosaic Pavements, and with the view of facilitating the execution of orders, they have opened an additional Show-room, at their Establishment, No. 50, Conduit-street, London, where experienced draught-men will be constantly in attendance, to afford all information required.

DRAWINGS and ESTIMATES, on the receipt of plans, will also be promptly furnished, on application at the Manufactory, Stoke-upon-Trent.

MINTON & CO. take the present opportunity of stating that they have always in stock a large and varied assortment of tiles, suitable for flower boxes, stoves, and other ornamental purposes.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED

PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthal Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield street North, City-road Basin, N. Sndly, that the trade term, "TERRO METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactures known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION.

MAGNUS'S ENAMELLED SLATE

obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, Two First-class Medals at the Paris Exhibition, and Two Prize Medals at the International Exhibition of 1862.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works 39 and 40, Upper Belgrave-place, Pimlico, S.W.

PLASTER ENRICHMENTS.

CENTRE FLOWERS, SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,
243, EUSTON ROAD, ST. PANCRAS.

Best Gelatine, prepared, and ready for moulding 2 per lb

SALES BY AUCTION.

COW-CROSS-STREET, SMITHFIELD.—BUILDER'S STOCK AND IMPLEMENTS, TWO CARTS, AND EFFECTS.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, 75, Cow-cross-street, on TUESDAY, SEPTEMBER the 29th, at TWELVE, the remaining STOCK, IMPLEMENTS, and UTENSILS of a BUILDER: comprising deals, planks, and battens, the boards of various thicknesses, useful cut stuff, new doors and prepared work, floor boards, scaffold-poles and boards, plate-glass sashes, and various new and old fittings and materials, seven workbenches, ladders, barrows, grindstone, a brick-cart, and a joiner's cart on springs, a truck, cart harness, assortment of ironmongery, and various trade effects. May be viewed on the previous day, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

TO MARBLE MASONS, BUILDERS, AND OTHERS.—CARGO of MARBLE, ex Residency, in Block and Slab.

PULLEN, HORNE, & EVERSFIELD are instructed by the Consignees to SELL by AUCTION, at Messrs. Grierce & Grellier's Marble Wharf, Belvidere-road, Lambeth, on FRIDAY, 16 OBER 2nd, at TWELVE, a fine parcel of MARBLE, consisting of 23 blocks of Sicilian, 6 blocks of Velo, 1 block of dove, and several thousand feet of slab of various thicknesses.—Approved bills at four and six months. The slabs may be viewed at St Katherine's Docks, and the blocks at the Place of Sale; where catalogues may be obtained; also of Messrs. PULLEN, HORNE, & EVERSFIELD, 80, Parliament-street, and 80, Fore-street, City.

GREAT QUEEN-STREET, LINCOLN'S-INN FIELDS. — Building Materials of Seven Houses—By order of the Committee of the Grand Lodge of Freemasons of England.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on MONDAY, OCTOBER 5th, at TEN for ELEVEN, the MATERIALS and FITTINGS UP of SEVEN HOUSES in Queen's-place, Great Queen-street, Lincoln's-inn-fields, of the usual description, including the lot for the lead and New Buildings May be viewed the day previous and Catalogues had at the Office of F. P. COCKERELL, Esq. Architect, No. 3, Regent-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, Westminster.

BANKSIDE.—Capital SAILING BARGES, suitable for the Brick Trade.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, at CARNE'S WHARF, 85, Bankside, Southwark, on WEDNESDAY, OCTOBER 7th, at TWELVE for ONE, the following superior SAILING BARGES, with their Rigging and Stores, viz —The "Claude," 80 tons; the "Robert," 75 tons; and the "William and George," 70 tons; all of which are half-decked, with hatches, spritsail rigged, well found in stores, and in good condition.—May be viewed three days previous; and catalogues had at the Place of Sale; at the Coal Exchange; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, City.

BRULAH HILL, NORWOOD.—Capital detached Residence, let on lease at a low rent, offering a safe and improving investment, with prospect of early possession, and Two Plots of Building Land adjoining.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, OCTOBER 20, at TWELVE, in three lots (unless previously disposed of by private contract), an excellent detached RESIDENCE, known as The Grange, situate near the summit of Beulah hill, in one of the highest grounds in Surrey. It comprises eleven good bed-chambers, double drawing-room, dining room, library, breakfast-room, and capital domestic offices, lawn, flower and kitchen gardens. The property is occupied and let on lease at 140/. 10s. per annum, determinable at Midsummer, 1865, and underlet at an increased rental. Also a Plot of Freehold land and another Plot of Copyhold Land adjoining, possessing extensive frontages to the Grange road, commanding magnificent views, and adapted as a valuable addition to the above, or offering delightful sites for building; with a four-stall stable, shed, and cottage erected thereon.—Particulars of FRANCIS KEARSLEY, Esq. Solicitor, No. 32, Bucklersbury; and of the Auctioneers, 80, Cheapside.

LEYTONSTONE PARK.—Important Freehold Building Estate, of about 18 acres, only five minutes' walk from Leytoustone Station, and five miles' drive from London

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, OCTOBER 20th, at TWELVE, a Valuable and Immediately Eligible FREEHOLD BUILDING ESTATE, known as Leytone Park Estate, and having frontages of upwards of 2 0 feet to the Woodford and Wanstead roads. The soil is a dry gravel; first-rate water is close at hand, gas mains pass the property, the drainage is good, and the air of the district pure and bracing. The railway fares are moderate, and trains very numerous to Bishopsgate-street and Fenchurch-street, and the great demand for houses leaves no doubt about a judiciously conceived building scheme being at once profitable; or the estate could be advantageously resold in lots, or let on building leases. The whole is land tax redeemed. Particulars of Messrs. COVERDALE, LEE, COLLYER-BRISTOW, & WITHERS, Solicitors, 4, Bedford-row; and of the Auctioneers, 80, Cheapside.

CITY of LONDON.—Valuable Freehold Properties, near Bishopsgate-street, occupying an area of nearly 9,000 square feet.

MESSRS. DEBENHAM & TEWSON have received instructions to SELL at the MART, on TUESDAY, OCTOBER 20, at TWELVE, in eight lots, Seventeen FREEHOLD HOUSES, some Living Shops, with yards and premises attached; comprising Nos. 5, 6, 7, 8, 10, 11, 17, 18, and 19, Widegate-street; Nos. 1, 2, 3, and 4, Sandy's-street; and Nos. 1 and 2, Sandy's-row; 17, Artillery-lane; and No. 5, Two Pair-yard, all within a few paces of Bishopsgate street. Some let on Lease, and others to yearly tenants, at very low rentals, amounting to 431/. per annum. Also a ground rent of 9/. per annum, secured on Nos. 26, 27, and 28, Widegate-street; and a plot of vacant ground in Catherine Wheel-alley. The vast improvements taking place in and around the City in every direction render property of this class exceedingly eligible as investments, and these lots afford valuable sites for warehouses, manufacturing premises, and model dwellings for the working classes.—Particulars, with plans of the estate, of HENRY BLYTH, Esq. Solicitor, 34, Essex-place, Holborn; and of the Auctioneers, 80, Cheapside.

TO RAILWAY CONTRACTORS, BUILDERS, and OTHERS.—Great SALE of RAILWAY PLANT, at the MIDDLETOWN STATION, on the Shrewsbury and Welshpool Railway, 12 miles from Shrewsbury, and 45 from Aberystwyth.—100 Tons of PERMANENT RAILS (new), 60 tons of temporary rails, 20 tons of sailing rails (new), 15 tons of scrap iron, 103 earth waggons, 16 ballast waggons, engine tender, three pairs of engine wheels, pile engines, stone and timber waggons, 13 carts, chaff engines, bean mill, 15 sets of horse gears, large trolley, 45 earth-waggon axles, 4 pedestals, 75 waggon couplers, 4 baists, 14 sets of break tackle, 16 spring bars, whines, 2 pairs of new cart arms, 2½ inch quantity of bridge centres, ladders, brick moulds and tables, engine tank, force-pumps, quantity of timber, Avery's & Pooley's patent weighing machines and weights, 2 pairs of 36-inch bellows, 3 anvils, quantity of blacksmiths' tools, 16 pulley-blocks, 3 strong vices, patent mortising machine, joiners' tools, and other valuable property.

MR. WILLIAM HALL is favoured with instructions from the Contractors of the Shrewsbury and Welshpool Railway, who have completed the line, to SELL by AUCTION, the foregoing, at the MIDDLETOWN STATION, on WEDNESDAY, the 30th day of SEPTEMBER, 1863. The 10-20 a.m. and the 12.15 trains from Shrewsbury, and the 11.30 train from Welshpool, will call at Middletown. Sale to commence at ONE o'clock, on the arrival of a train from Shrewsbury.—Particulars, in catalogues, to be had at the Auctioneer's Office, High street, Shrewsbury

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS.—Important Sale of a Timber Merchant. The Premises required for building purposes.

MR. MARSH has been favoured with instructions to SELL by PUBLIC AUCTION, on TUESDAY, 29th SEPTEMBER, 1863, on the PREMISES of S. Poole, Windmill-street, Lambeth, near the Palace, comprising 3,000 Yellow and White Flooring, 3,000 Yellow, White, and other Deals, Mahogany Scantlings, Slating Battens, and other goods.—Particulars in catalogues, which will appear three days prior to sale—Catalogues had on the premises, and of the Auctioneer, 20, Skinner-street, Bishopsgate, E.C.

TO MAHOGANY and TIMBER MERCHANTS, Cabinet, Pianoforte, Chair and Mangle Makers, Builders, Carpenters, and Others.—Camden-terrace, Camden-town.

MESSRS. LEREW & LEREW will SELL by AUCTION, at the YARD, as above, on MONDAY, SEPTEMBER 28th, at TWELVE, 6,500 feet of MAHOGANY, 2,500 feet of birch, 6,000 feet wide pine; a quantity of planks, deals and battens, flooring, die-square, quartering, arris rail, dry cut stuff, ladders, old materials, &c.—Auction Offices, Cardington-street, Hampstead-road.

BUSHY PARK ESTATE, TEDDINGTON.—Ten Acres of Beautifully Wooded FREEHOLD BUILDING LAND in 28 LOTS, suitable for the erection of a First-class Hotel, several Shops and good Villa Residences, Frontage to the public Roads, upwards of two thousand feet, within three minutes' walk of the Teddington Railway Station

MESSRS. R. KENYON & CO. will SELL by AUCTION in 28 LOTS, at the CLARENCE ARMS HOTEL, adjoining the Railway Station, Teddington, on MONDAY, the 5th day of OCTOBER next, at THREE o'clock precisely, 10 Acres of excellent FREEHOLD BUILDING LAND, situate at the corner of the Roads leading to Twickenham and Hampton, and overlooking Bushy Park, Teddington The Estate is beautifully wooded, and in most eligible for the erection of a First-class Hotel; on the corner plot, several good Shops and first-class Villa Residences. Each lot has an excellent frontage to the public road. The subsoil is gravel and sand, and the Estate is free of Land Tax and Tithe.—Printed Particulars and Plans may be obtained at the Clarence Arms, Teddington; the Griffin, Kingston; the Mitre, Hampton Court; the Red Lion, Hampton; the Greyhound, Richmond; the Railway Hotel, Twickenham; the Star and Garter, and the Greyhound, Richmond; of Messrs. PATERSON & LONGMAN, Solicitors, 3, Winchester Buildings, City; HENRY PEYTON, Esq. Solicitor, 1 & 2, Gray's Inn Place, Gray's Inn; Messrs LAWS & DENNISON, Architects, 12, Doughty-street, Mecklenburg square; and of Messrs. R. KENYON & CO. Auctioneers and Land Agents, 11, Alchurch-lane, City.

CHARING CROSS RAILWAY, CITY BRANCH, SOUTHWARK SIDE.—To BUILDERS, CONTRACTORS, PAVIOURS, and OTHERS.

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor to SELL by AUCTION on the PREMISES, on TUESDAY, OCTOBER 6, 1863, at ONE o'clock punctually, the valuable BUILDING MATERIALS of several houses and shops in the Borough Market, and portions of the Borough Market Distillery, Stoney-street: comprising several tons of lead in pipes and gutters, slate and pan tiles in roofs, sound timber and paste sound flooring boards, sashes and frames, doors and frames, pebble pitching, and a variety of useful fixtures and fittings up.—May be viewed the day prior and morning of Sale, and Catalogues had on the Premises; at the Contractor's Office, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

CHARING CROSS RAILWAY.—CITY TERMINUS.—To Builders, Contractors, Paviors, and Others

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, on WEDNESDAY, 7th OCTOBER, 1863, at ONE o'clock punctually, the valuable BUILDING MATERIALS of the range of Warehouses, Stabling, Dwelling Houses, and the Steel Yard Public House, on the west side of Allhallows-lane, Upper Thames street, City, comprising several tons of lead in pipes and gutters, plain tiles on roofs, sashes and frames, doors and frames, iron guards, pebble and other pitching, and a variety of useful fixtures and fittings up.—May be viewed the day prior and morning of Sale, and catalogues had on the premises; at the Contractor's Office, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

VICTORIA PARK AND BOW ROAD.—Three superior Residences, held at nominal ground-rents; also a Builder's extensive Premises, and Five Freehold Dwelling Houses.

MESSRS. C. C. & T. MOORE will SELL by AUCTION, at the MART, on THURSDAY, OCTOBER 8, at TWELVE, in eight lots, a substantially-built semi-detached RESIDENCE, with garden and forecourt, No. 36, Approach-road, Victoria-park, also, in the rear, extensive PREMISES, with workshops, counting house, stabling, gateway cover, and private entrance to Robinson-road, in occupation of vendor. Estimated annual rental, 160/. Term 60 years, ground rent, 10/. Also, TWO ten-roomed RESIDENCES, 27 and 28, Approach-road (let at 41/. each, ground rent, 14 each), and five newly built freehold eight-roomed HOUSES, in Merchant-road, Bow road, rental, 240/. each, ground rents 20/. each. All the above are finished in a very superior manner.—Particulars of W. T. HOWARD, Esq. Solicitor, Guardian Office, Bethnal-green; at the Mart; and Auctioneers' Offices, Mile-end-road, E.

BOW-ROAD.—Eligible Building Plots, in a first-class situation, with frontages to Bunhouse-place, in the hamlet of Mile and Old-town, the newly formed road from Limehouse to the Victoria Park

MESSRS. C. C. & T. MOORE have been favoured with instructions from the Metropolitan Board of Works, TO LET, on BUILDING LEASES, by AUCTION, at the MART, on THURSDAY, OCTOBER 15, at TWELVE, in eighty-nine lots, EIGHTY NINE valuable PLOTS of LAND with frontage of 18 feet and upwards, adapted for 18- and 20-feet dwelling houses, shops, or warehouses.—Particulars, plans, and conditions of Sale will shortly be issued, and may be had at the Superintending Architect's Office, Spring-gardens, S.W.; at the Mart; at the Royal Hotel, Mile-end-road; and at the Auctioneers' Offices, Mile-end road, E.

FOR PEREMPTORY SALE, WEDNESDAY next.—Important to Builders and Others.—Two unfinished detached villa Residences, situate near the Railway Station, Walton-on-Thames, Seventeen Miles from Town, on the South-Western Railway.

MR. MOXON will SELL by AUCTION, at the MART, near the Bank of England, on WEDNESDAY next, SEPTEMBER the 30th, at TWELVE o'clock, in separate lots, by direction of the mortgagee, TWO well designed VILLA RESIDENCES, one roof only completed, the other in carcase and covered in, situate on the Hersham road. They stand each in an acre of ground, have well-proportioned reception rooms, one with seven bedrooms, and the other with eight bedrooms, and the whole property is leasehold for 97 years, and subject to a ground rent of 15/. per annum.—N.B. A third villa, finished and fit for immediate occupation, is also for sale by private treaty.—Further particulars may be obtained at the Auction Mart, City; of Messrs. ABBOTT, JENKINS, & ABBOTT, Solicitors, New Inn, Strand; of Mr. MORPHEW, Architect, Queen-street Place, Bush-lane, Cannon-street; or by application to Mr. Wm. MOXON, 3, St Martin's place, Trafalgar square.

KENNINGTON CROSS, LAMBETH.—CONTRACTOR'S STOCK.—Horses, Brick, Water and Rubbish Carts, Harness, &c.—TO BE SOLD by AUCTION by

MR. J. GOWER, on the PREMISES, as above, on THURSDAY, OCTOBER 8th, 1863, at TWELVE o'clock, SIXTY useful, universally known, powerful VAN or CART HORSES, Thirty-five Brick, Rubbish, and Water Carts, vans, timber carriages, useful timber, &c. Also the whole of the valuable property of Mr T Pearson, he contracts being completed on the Southern High Level Main Drainage and Southwark new street.—On view two days prior. Catalogues had on the Premises; and of the Auctioneer, at his Repository, Barbican

TO BUILDERS, OWNERS OF HOUSE PROPERTY, CONTRACTORS, AND OTHERS

MR. W. HOLLINGSWORTH is instructed to SELL by AUCTION, at the SALE-ROOMS, 13, High Holborn, on MONDAY next, SEPTEMBER 28th, at TWELVE precisely, the extensive STOCK of an IRONMONGER, and numerous BUILDERS' MATERIALS, including about 250 dozen mortise, rim, and other locks, 2,000 gross screws, 400 dozen pairs of hinges, 200 dozen tower and barrel bolts, 10 tons of wrought and cut nails, 120 register stoves and ranges, galvanized coppers, 300 yards of piping and guttering, brass foundry and cast iron goods of every description, new gaselers and brackets, iron stable fittings, two lawn mowing machines, a plough, a drill, garden and other tools, lathes, crabs, cramps, vices, portable forge, blast fan, 2 h.-p. power steam engine, tarpaulings, tackle and fall, wheelbarrows, planks, ladders, oak scantling, new doors, sashes and frames, yellow deals, white lead and colours, oils, turps, 1,200 pieces of paperhanging, super or marble and slate chimney pieces, iron door, and other building materials.—On view two days prior. Catalogues now ready.

NORTH LONDON RAILWAY.—CITY EXTENSION. MATERIALS of about 20 Houses, a large draper's shop, with the capital fittings and fixtures; mahogany counter, plate-glass front, with brass sashes; drawers and shelving, some public-house fittings, large spirit vats, mahogany cabinet, &c.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, by order of the Directors of the North London Railway Company, on the PREMISES, near the Kingsland Gate, on TUESDAY, OCTOBER 6th, 1863, at TWELVE for ONE, the above Excellent and Useful MATERIALS.—May be viewed the day previous to sale, and catalogues had at the Auctioneers' Offices, Camden-town and Islington-green.

NORTH LONDON RAILWAY EXTENSION.—Important Sale.

MR. EDWIN WHITE is directed by the Proprietors of premises taken for the above purpose, to SELL by AUCTION, without reserve, at his ROOMS, 12, Holborn-bars, and 11, Castle-street, Holborn hill, on TUESDAY next, 1st ONE, a MANUFACTURER'S STOCK of PAPERHANGINGS, in great variety; a large assortment of sanglicia and Sienna marble papers; several hundred pieces of elegant French hangings; gilt room mouldings; a ton of white lead and colours; 20 dozen good pale sherry; 41 rolls of enamy cloth, enamy paper, and glass cloth; and nearly 200 wh te an l coloured marble chimney pieces, suitable for first and second class property.—Catalogues and view MONDAY and Morning of Sale

HOLBORN. Most important Leasehold Property, comprising the well-known Old Kent Tavern, in Brownlow-street, Holborn, with the Goodwill attached (established upwards of 100 years), No. 62, High Holborn, nearly facing Chancery-lane; Nos. 5 and 6, Warwick-place, Bedford-row; and a large space of vacant Building Land on the rear, the whole occupying an area of about 16,370 square feet

MR. BRAY, Jun. is favoured with instructions from the Proprietor to SELL by AUCTION, at the MART, on THURSDAY, OCTOBER 8th, 1863, at TWELVE, the above-named Valuable LEASEHOLD PROPERTIES, possessing immense advantages for enterprise, affording as they do facilities of communication from each of the frontages to the building ground in the rear, which alone comprises an area of about 12,870 square feet, a space offering an opportunity for the erection of a music hall, gymnasium, theatre, or place of public entertainment in connexion with the several premises to be met with in one of the leading thoroughfares of this great metropolis Plans of the estate will accompany the particulars and conditions of sale, which will be ready for distribution ten days prior to the sale, and may be had at the Old Kent Tavern; of Messrs THOMSON & SON, Solicitors, 60, Cornhill, E.C.; of Mr. JOSEPH LAVENDER, Architect, 28, Bedford-row, W.C.; at the Mart; and at the Offices of the Auctioneer, 16a, King's-road, Bedford-row, W.C

OXFORD.—VALUABLE BUILDING MATERIALS, comprised in the several Houses in Beaumont-street and Magdalen-street, the intended Site for the erection of the Randolph Hotel.

MR. JOHN FISHER begs to announce that he is instructed by the Randolph Hotel Company to SELL by AUCTION, in the month of OCTOBER next, the above BUILDING MATERIALS; consisting of roofs, floors, doors, shop-fronts, sashes and frames, partitions, staircases, fittings, &c. which will be found peculiarly good from the circumstance that the houses have been built within a few years.—Further particulars will be advertised previous to the sale.

AT GARRAWAY'S COFFEE-HOUSE, Cornhill, on WEDNESDAY, 30th SEPTEMBER, at 2WO o'clock,—

TIMBER, 500 Loads, Foreign and Colonial.
DEALS and BATTENS, 100,000 Pieces ditto.
And other Wood Goods.
HY. FREEMAN & CO. Brokers.
3, Crooked lane, Cannon street, E.C.

SUTTON, near the Station.—PLOTS of FREEHOLD BUILDING LAND FOR SALE. Land-tax redeemed, conveyance free. Also, PLOTS TO BE LET, on a Building Lease, for ninety nine years For plans, &c apply by post, pre-paid, to Mr. TRIBE, Builder, Sutton, Surrey, S.

FARNBOROUGH and ALDERSHOTT FREEHOLD and GROUND-RENT SOCIETY (Limited).—To BUILDERS and OTHERS.—Land on this Society's Estate at Farnborough, TO BE LET on building leases, or TO BE SOLD, upon liberal terms to suit purchasers All the Lots are staked out by the Architect, Mr. H. CURREY, 4, Lancaster-place, Strand, W.C.; or at the Offices of the Society, 18, New Bridge street, Blackfriars.
EDWARD CHATFIELD, Managing Director.

TO TIMBER MERCHANTS and OTHERS. TO BE SOLD, by PRIVATE CONTRACT, a first-class SITUATION for almost any Business, and especially for a Timber Merchant, where an extensive Business has been carried on for many years, near to Bargate Bridge, Boston The Premises have been fitted up with Machinery of a superior description within the last few years. A steam-engine, capable of working up to 30-horse power, with excellent boiler, vertical saw frame, circular saw benches, timber frame, moulding and planing machines, a superior tenoning machine, &c. &c. On the Estate there are two tenements, offices, and other things required to enable an active man to do a first-class business. The Estate and Machinery will be sold either together or divided, to suit purchasers.—Application to be made to Mr. WILLIAM STAINTON, the proprietor, to view and treat for the Property Boston, September 10th, 1863.

A PIECE of GROUND WANTED, to PURCHASE or RENT on long lease, not less than 180 feet by 60 feet, within half a mile of the South Kensington Museum, for establishing head-quarters for the 1st Middlesex Engineer Volunteers, Gravel with old buildings would not be objected to.—For particulars apply to Major HARVEY, 71, St. George's-road, Pimlico, S.W.

ELIGIBLE FREEHOLD BUILDING LAND, in KENT, within one mile of two stations on the North Kent Railway, and thirty minutes' ride from London Bridge or Charing cross—TO BE LET or SOLD, in large or small plots, from TEN to TWENTY ACRES of MEADOW LAND, on the high road to Erith, admirably adapted for gentlemen's residences and villas, delightfully situated, with fine views of the country and River Thames, near a church, gravelly soil, good water and gas laid down. Ground-rent moderate.—Apply to Mr. DAVENPORT, Land and Estate Agent, 35, Bucklersbury, City, E.C.

TO BUILDERS.—SEA SIDE, HERNE BAY, Kent.—TO BE LET, for Ninety-nine Years, at a moderate ground rent, THREE substantial brick built CARCASES; two intended for Shops, having together a frontage, on the south side of High-street, of 42 feet; and the third, a double-fronted House, with bay windows, having a frontage to Brunswick-street of 26 feet, excellent depths, and will be let separate in the south side, giving a back entrance to each house. Each of the Carcases is arranged for an eleven-roomed house, consisting of four floors and a basement, with areas, vaults, and a small yard in the rear. They are all fitted with well seasoned timber, and have slated roofs and thick lead gutters The House fronting Brunswick street, which is the road to and from the Herne Bay Railway Station, is admirably adapted for a private residence or for lodgings. A plot of land, 44 feet 4 inches frontage by 85 feet depth, next adjoining the carcases, and on which are erected brick wall, may also be had if required. The great demand for houses since the opening of the London, Chatham, and Dover Railway from London to Herne Bay, and which will shortly be opened to Margate and Ramsgate, makes this a desirable investment for Builders.—To view, apply to Capt. GARDINER, Herne Bay; and to treat, apply to Mr. WEBB, 31, Southampton-buildings, Holborn.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "The Builder," No. 1, York-street, in the Parish of St Paul, Covent-garden, both in the County of Middlesex.—Saturday, September 26, 1863.

The Builder.

AN ILLUSTRATED WEEKLY MAGAZINE FOR THE Architect, Engineer, Operatives & Artist.

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place; or by Mr. ALFRED HILL, 7, Tonbridge street, Euston-road, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

ARCHITECTURAL UNION COMPANY (Limited).—The EXHIBITION of BUILDING INVENTIONS, MATERIALS, &c at the Galleries, 9, Conduit street, Regent-street, now OPEN DAILY from ELEVEN till FOUR, FREE.

MINERALOGY, KING'S COLLEGE, LONDON.

PROFESSOR TENNANT, F.G.S. will give a COURSE of LECTURES on MINERALOGY, with a view to facilitate the study of Geology, and of the Application of Mineral Substances in the Arts. The Lectures begin on FRIDAY, OCTOBER 2nd, at NINE a.m. They will be continued on each succeeding Wednesday and Friday at the same hour. Fee, £1 1s.

R. W. JELF, D.D. Principal.

PROFESSOR DONALDSON'S COURSES of LECTURES on ARCHITECTURE and CONSTRUCTION, for Session 1863-4, at University College, commence on TUESDAY EVENING, the 27th of OCTOBER.—Full particulars can be obtained on application at the Office of the College.

ROYAL SCHOOL of MINES, JERMYN STREET.—The following COURSES of LECTURES will be commenced on MONDAY, the 5th OCTOBER:—Fifty Lectures on Inorganic Chemistry, by Dr. Hofmann, F.R.S. to be delivered at NINE o'clock on every week day but Saturday; Fifty Lectures on Metallurgy, by Dr. Percy, F.R.S. to be delivered on MONDAYS, TUESDAYS, and WEDNESDAYS, at a QUARTER to TWELVE o'clock; Seventy Lectures on Natural History, by Professor Huxley, to be delivered on every week-day but Saturday at TWO o'clock. Fee for each Course, £6.—Tickets and Prospectuses of the School may be had on application.

TRENHAM REEKS, Registrar.

SOCIAL SCIENCE.—The SEVENTH ANNUAL MEETING of the NATIONAL ASSOCIATION for the PROMOTION of SOCIAL SCIENCE will be held in EDINBURGH, on the 7th to the 14th day of OCTOBER. President, the Right Hon. LORD BROUGHAM. Members subscription, One Guinea, entitling to the volume of Transactions; Associates, 10s. Either subscription admits to all the meetings and papers. Ladies may be enrolled as Members or Associates. Railway arrangements: Intending visitors to the Association are requested to write to the Honorary Secretaries for a voucher ticket, to enable them to take advantage of the arrangements for return tickets made with the various railway and steam-boat companies. Subscriptions are received at the Office of the Edinburgh and London, where every information relating to the meeting may be obtained.—Offices, City Chambers, Edinburgh; and 8, Waterloo place, Pall Mall, London, S.W.

GEORGE W. HASTINGS, Hon. General Secretary.

TO the BENEVOLENT. — SUBSCRIPTIONS are earnestly desired for GEORGE DEW, aged 9½ years, to assist in securing his ELECTION, in JANUARY next, to the LONDON ORPHAN ASYLUM, Clapton. His father was clerk of the works to the late Earl Jersey, subsequently a builder and contractor at Syresham. He died in January, 1862, of fever, leaving seven children entirely dependent on their mother, who is in very reduced circumstances and delicate health. One child is of weak intellect; a second, from deafness and defective sight, is quite incapacitated for every business living—Donations will be gladly received by the Rev. O. P. SERGEANT, the Rectory, Syresham, North Hants: the Rev. C. PEEL, the Rectory, Bonsham, Oxford; and Miss SMYTH, the Mount, Upper Norwood, Surrey, S.

SPRING GROVE BRICKFIELDS, HOUNSLOW, W. MIDDLESEX.—Mrs. ANN ELIZABETH BURCHETT begs to thank her numerous friends for the patronage received during the last twenty-five years, and having DISSOLVED PARTNERSHIP with her son Mr. JAMES BURCHETT, has again OPENED the above BRICKFIELDS on her own account, where by strict attention to all orders she trusts to receive the same encouragement hitherto so liberally bestowed upon her. Office—Caswell Cottage, Hounslow-road, Hounslow, W.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE will shortly be REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the present establishment. These will afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

81, Bishopsgate street Within, July, 1863

BILLING'S PATENTS.—CHIMNEY TERMINALS, THROAT VALVES.

NOTICE TO ARCHITECTS.—The Proprietors of the late Mr. Billing's Patents have secured the services of Mr. H. H. COLLINS, M.I.B.A. of No. 30 Poultry, E.C. as the Consulting Architect, to whom to refer for information as to their scientific application of the same. Estimates and the reduced prices may be obtained from the Manager, Mr. TYLER, 12, Abingdon street, Westminster, S.W.

COMPETITIONS.

TO ARCHITECTS.—COVENTRY and WARWICKSHIRE HOSPITAL.—The Committee of the above Hospital are desirous of receiving PLANS for a NEW HOSPITAL, to be built on the city of Coventry. The outlay not to exceed £5000 exclusive of fencing and draining. To provide accommodation for fifty beds for in-patients, baths, a waiting-room for out-patients, two one-shilling wards, house surgeon's and matron's rooms, servants' to be, operating room, carpentry, board room, and other rooms as for a hospital. The plans to be so arranged as to allow of future extension. Ground plans will be supplied on application to the Secretary. A premium of 20 guineas will be awarded to the second best design.—Plans to be sent in to the Secretary (on Plan bearing a motto and accompanied with a sealed envelope corresponding with such motto, and containing the name of the architect) on or before MONDAY, the 23rd day of NOVEMBER next.

Coventry, Sept. 15th, 1863. ALFRED J. SODEN, Secretary.

DESIGNS for "RAISING HOLBORN VALLEY."—To ARCHITECTS, ENGINEERS, and OTHERS. Notice is hereby given, that the Improvement Committee of the Corporation of London will meet at Guildhall on MONDAY, the 19th day of OCTOBER next, at ONE o'clock precisely, to receive DESIGNS, with descriptions, plans, sections, and estimates, for "RAISING HOLBORN VALLEY," and making such alterations as improvements in, and adjacent to Holborn-hill and Skinner street as would conduce to the convenience of the public and to the accommodation of the metropolitan traffic. The plans of the streets and suggested improvements to be drawn to the same scale as a plan of the locality which may be obtained at the Architects' Office, Guildhall, upon payment of 5s.; the property required to be taken to be coloured red on the general plan. Premiums of £200 and £100 respectively, will be given for the two most approved designs. Such designs will become the property of the Corporation; but the Corporation do not engage to employ in the execution of the work either of the persons whose designs may be so approved. The several designs, with all accompanying documents, must be delivered at the Town Clerk's Office, Guildhall, by TWELVE o'clock at noon precisely, on the above-mentioned day, sealed up and endorsed, "Holborn Valley."

WOODTHORPE.

CONTRACTS.

ST. MARYLEBONE, October 1st, 1863.

To BUILDERS, SEWER CONTRACTORS, &c.—Notice is hereby given that the Vestry of the parish of St. Marylebone, in the county of Middlesex, will meet in the Board Room of the Court House of the said parish on THURSDAY, the 15th day of OCTOBER, 1863, at ELEVEN o'clock in the forenoon, to receive TENDERS from persons willing to CONTRACT for BUILDING NEW BRICK SEWERS in Long-street, Bell-street, James-street, and part of Henrietta-street; UNDERPINNING and REPAIRING OLD SEWERS in Henrietta-street; and LAYING NEW PIPE SEWERS in Gray's-yard and Gee-court, all in the said parish of St. Marylebone. Further particulars may be known, and drawings and specifications seen, on application to the Vestry's surveyor Mr ROBERT SCALE, at his daily attendance at the Court House, from TWELVE till ONE o'clock. Tenders to be delivered to the Vestry Clerk, at the Court House, at or before ELEVEN o'clock in the forenoon of THURSDAY, the said 15th day of OCTOBER, sealed and endorsed "Tender for Sewers." No Tender will be received after that hour. The Contractor to find satisfactory securities for the performance of the works and to pay the expenses of the Bond and Contract. The Vestry will expect the parties Tendering, or some persons on their behalf, to be in attendance at the time of opening the Tenders. The Vestry do not pledge themselves to accept the lowest or any of the Tenders.—By order,

W. M. GREENWELL, Vestry Clerk.

CONTRACTS.

TO CONTRACTORS.—In consequence of the Death of the late Contractor, Sealed TENDERS will be received by the Secretary of the Bridge Commissioners of the Town of Drogheda, in the date hereof up to and upon THURSDAY, the 15th day of OCTOBER next.

For taking down the present Bridge over the River Boyne, at Drogheda, and Building in place thereof a Stone Bridge of Eighty Feet Span.

According to Plans and Specification prepared by J. NEVILLE, Esq. C.E. to be seen at my Office, Fair-street, Drogheda; or at the Office of the Engineer, Jocelyn-street, Dundalk, between the hours of TEN and FOUR o'clock every day (Sundays excepted) after this date. The Lowest or any Tender not necessarily to be accepted.

Dated at Drogheda, this 25th day of August, 1863.

HENRY CLINTON,

Secretary to the Bridge Committees of the Corporation Harbour Commissioners and Grand Jury of Drogheda.

TO CONTRACTORS. — HAILEYBURY COLLEGE.—TENDERS are required for certain DRAINAGE and EARTH WORKS, on land at Haileybury College, Herts. Parties willing to Tender may see the plans, sections, and specification, and obtain copy of quantities, at the Office of JOSIAH FOSTER FAIRBANK, C.E. 20, Parliament-street, Westminster, S.W. on and after the 1st OCTOBER, until 8th OCTOBER, from ELEVEN to FOUR each day.—Tenders, endorsed "Tender for Earth Works," addressed to the Rev. Maxwell Hayward, Haileybury College, Herts, to be sent in at NOON, on the 9th OCTOBER. The lowest or any Tender will not necessarily be accepted.

21, Parliament-street, Westminster, September 21, 1863.

HINCKLEY POOR-LAW UNION.—To LAND SURVEYORS and VALUERS.—The Guardians of the Hinckley Union are prepared to receive TENDERS for a SURVEY, PLAN, and VALUATION of the Parish of HINCKLEY, within the said Union, the area of which is about 3,585 acres; the plan to be made upon a scale of two chains to an inch, and the valuation according to the form prescribed by the Poor Law Board. The contract to be entered into will contain a clause limiting the time of completion to six calendar months. The Guardians do not bind themselves to accept the lowest or any Tender. A form of the contract to be entered into may be seen, and further information and application to me at my Office at Hinckley. Tenders, sealed and endorsed, "Tender for Survey, Plan, and Valuation of the Parish of Hinckley," must be sent to me before or on WEDNESDAY, the 14th day of OCTOBER next.—By order of the Board,

Hinckley, September 24th, 1863. SAMUEL PRESTON, Clerk.

TO CONTRACTORS and OTHERS.—TENDERS wanted for the REMOVAL of about 1000 cubic yards of RUBBISH, from Hartshorn-court, Golden-lane, St. Luke's. The Tenders to be delivered by the 5th inst., and the Contract to be entered into and carried out by the parties, and to begin the work of removal forthwith upon receiving directions to do so. Tenders to be sent to A. C. VIRWEG, Esq., 81, Wood-street, Cheapside, on or before TUESDAY, 6th OCTOBER instant.—Mr. VIRWEG does not bind himself to accept the lowest or any Tender.

GREENWICH UNION.—TENDER for COOKING APPARATUS.—The Guardians of the Greenwich Union are desirous of receiving Sealed TENDERS from persons willing to CONTRACT for SUPPLYING and FITTING UP a COOKING APPARATUS (with boilers, furnaces, and all other requisites) for the service of the new kitchen now in course of erection at the Union House, Woolwich-road, Greenwich.—Information as to the required capabilities, and other details, may be obtained on application to Mr. R. P. BROWNE, Architect, 54, Clement's-inn, Lond n, or Royal Hill, Greenwich.—Each Tender must be accompanied by a drawing or drawings of the apparatus and its appurtenances, and a detailed specification of the works to be performed, and the materials to be used in constructing and fitting up the same. All Tenders must contain the names of two sureties willing to enter into a bond for the due performance of the same, in a sum equal to one-third of the amount of the Tender; and such Tenders must be sealed up, addressed to the Guardians of the Greenwich Union, endorsed, "Tender for Cooking Apparatus," and delivered at the Clerk's Office, Union House, before TWELVE o'clock on THURSDAY, the 15th OCTOBER instant, on which day the same will be opened at a meeting of the Guardians; and the persons tendering, or their authorised agents, must be in attendance on that day at FIVE p.m. precisely.

SAMUEL SAW, Clerk to the Guardians.

Greenwich, S.E. October 1, 1863.

TO BUILDERS.—TENDERS required for the erection of TWO HOUSES with SHOPS, at Upper Norwood, close to the Crystal Palace. The Builder whose tender is accepted (not necessarily the lowest) will be required to take a plot of ground for erection of Two Houses adjoining, at a low ground rent, with liberal advance.—Plans, &c., at the Office of Mr. T. K. GREEN, 23, College-hill, Cannon-street, E.C.

TO BUILDERS.—Persons willing to TENDER for the whole or any part of the WORKS required for the ERECTION of a NEW RESIDENCE at Tapton Park, near Sheffield, are to find plans and specifications on and after MONDAY, SEPTEMBER 28, on application to the Architect, Mr. E. M. HADFIELD, Cornish-house Chambers, Sheffield, from whom all further particulars may be obtained. Tenders to be delivered not later than MONDAY, the 19th OCTOBER, 1863. No pledge is given to accept the lowest or any Tender.

STEPNEY UNION.—To PAINTERS, &c. The Guardians of the Poor of the Stepney Union will, at their meeting to be held at the Ratcliff Workhouse, York street, West Ratcliff, on THURSDAY, the 8th day of OCTOBER, 1863, receive TENDERS for PAINTING the CHILDREN'S INFIRMARY at Limehouse, and Repairing the Roof thereof. A specification of the work to be done, and all further particulars, may be obtained upon application at the Clerk's Office, Ratcliff Workhouse.—By order of the Guardians,

W. H. SWEPSTONE Clerk.

September 25, 1863.

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS.—TENDERS are required for the REBUILDING of a CHURCH in Carlton-street, Brighton, Sussex. The drawings, specifications, and terms of Contract, may be seen at the Offices of Messrs. JEN and FOUR, in the Vestry of the parish Church, the Church of JEN and FOUR, in the Vestry of the parish Church, the Church of JEN and FOUR, in the Vestry of the parish Church, the Church of

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

APPROVAL OF THE ROYAL VETERINARY COLLEGE.

THE MEDALS OF ENGLAND AND FRANCE,

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That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

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The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

THE HALTER BALL, ATTACHED BY A NEW IMPROVEMENT, WORKS NOISELESSLY, AND ALMOST WITHOUT FRICTION.

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These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

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EVERY DESCRIPTION OF STABLE FURNITURE.

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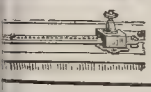
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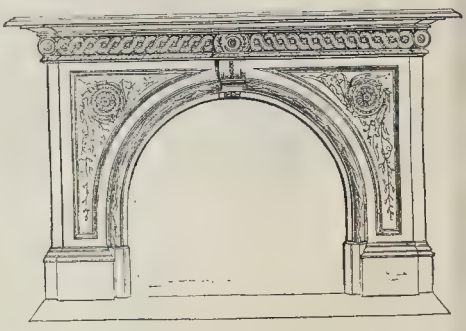
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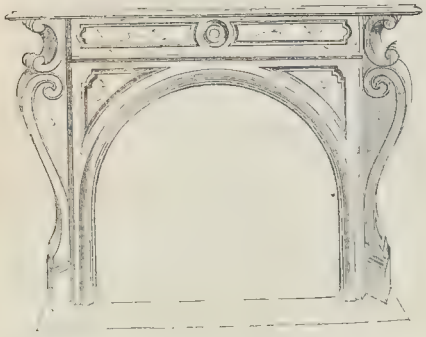
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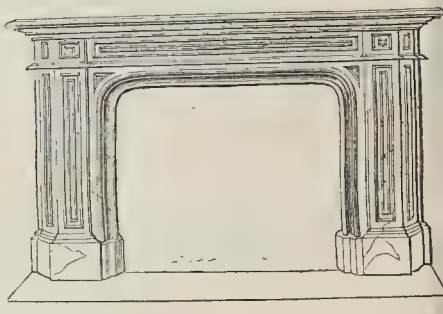
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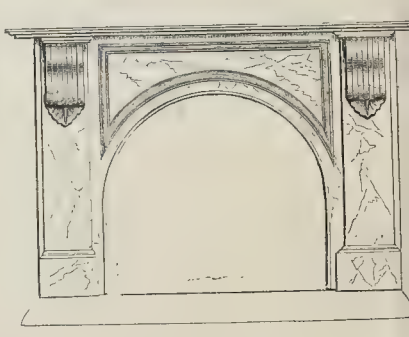












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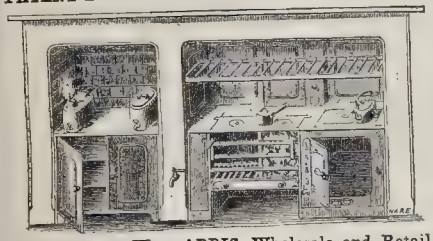
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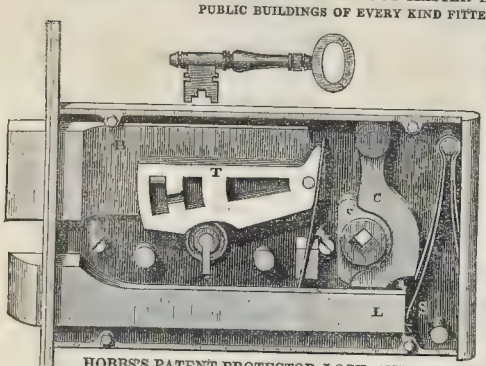
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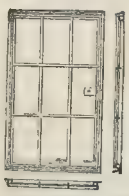
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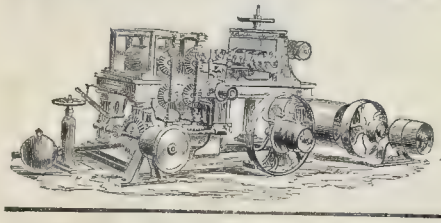
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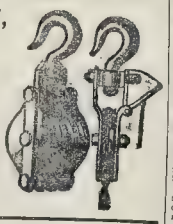
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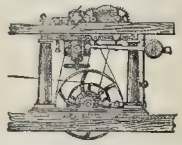
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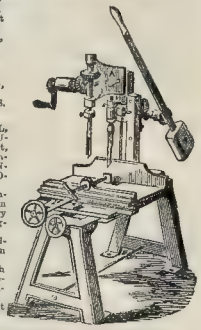
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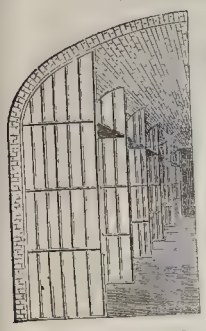
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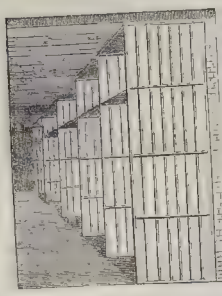


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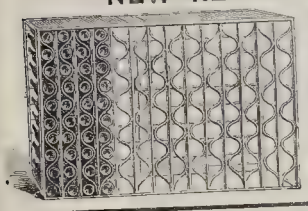
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J. B. SCAMMELL & Co. (late Thomas Pugh & Co.)

WHOLESALE IRONMONGERS,

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NUT



PLATE.

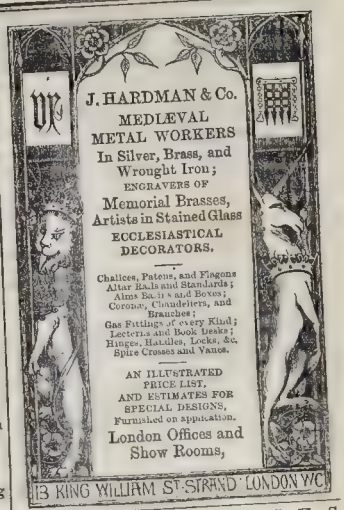
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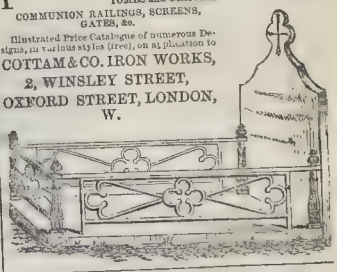
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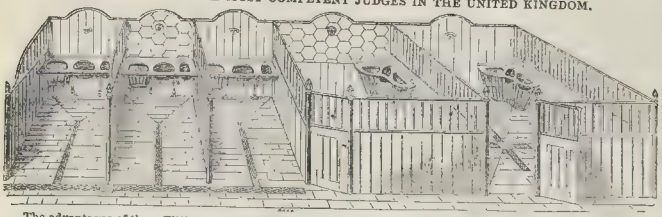
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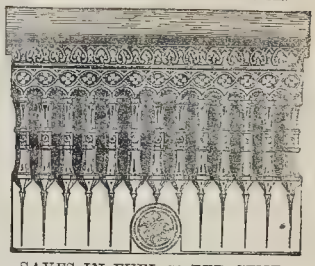
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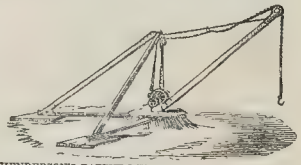
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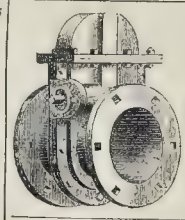
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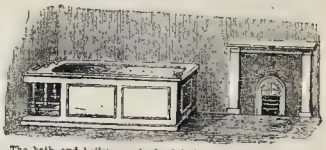
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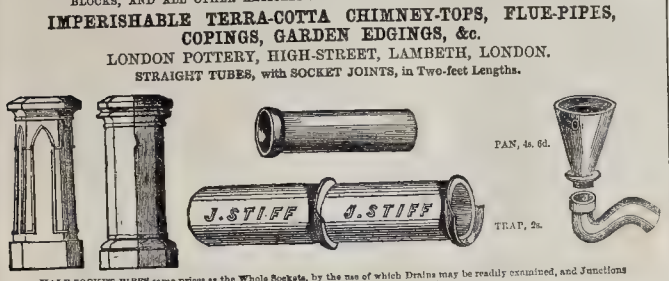
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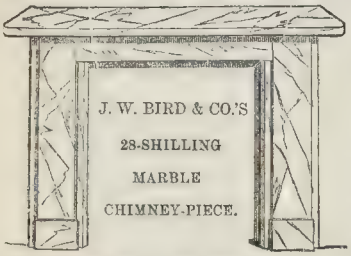
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THE SCULPTURE AT THE INTERNATIONAL EXHIBITION, 1862.

IN THE ART JOURNAL for OCTOBER (price 2s. 6d.) are comprised Engravings from the SCULPTURE OF THE EXHIBITION, among which are,—J. S. Westmacott's "Leti," J. Gibson's "Venus," W. Theed's "Druid," J. Mozier's "Wept of Wishton-Wish," J. A. Jerichau's "Bathers Surprised," F. Thrupp's "Nymph and Cupid," W. C. Marshall's "Cupid Captive," J. P. Malin's "Grapplers," J. Durham's "The Queen," Baron de Triqueti's "Edward VI." W. Brodie's "Atone," G. Strazza's "Bride," W. C. Marshall's "Ophelia," E. Davis's "Rebecca," G. M. Bennett's "Zephyr and Flora," J. Mozier's "Jephthah's Daughter," Miss Hosmer's "Puck," C. Corti's "Satan," C. A. Fraikin's "Venus," Marshall Wood's "Daphne," J. Durham's "Hermione," Mozier's "Indian Girl," A. Munro's "Sound of the Shell," L. Guglielmi's "Fortune-Teller," R. Monti's "Sleep of Sorrow and Dream of Joy," P. Magni's "Reeling-Girl," G. Halse's "Defending the Pass," P. Magni's "First Footsteps," E. Mullet's "Nymph and Cupid," J. Albertoni's "Nymph of Diana," V. Vela's "Prayer," Tantardini's "La Bagnanti," &c. &c. with descriptions by J. B. Atkinson. The Line Engravings are, Hanley's "Pet of the Common," Turner's "Hannibal Crossing the Alps," and T. Allom's "Pergamos."

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The Builder.

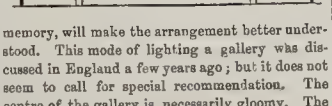
VOL. XXI.—No. 1078.



"*Going Along.*"
Munich to Linz.

HE first words seen on entering the Glyptothek, *anglicè* Sculpture Repository, tell you that the erection and adornment of the building were presided over by the Chevalier Léon Klenze (*Regis jussu ædificio exstruendo et decorando præfuit Leo Klenze eques*); and the next that Peter Cornelius painted the pictures with which the ceilings of the apartments are embellished. It is thus throughout the city: the artist is in all cases loudly acknowledged, and has the credit of his work. In the interior of the Glyptothek the architect took a course the correctness of which was less generally acknowledged than it is now. Instead of the cold, dull colours, and the poverty of decoration which had been thought most suitable in sculpture galleries, he introduced a considerable amount of ornament in the ceilings, coloured and gilt, and made the walls take the aspect of marbles of various kinds,—in some cases with good effect so far as the ancient sculpture is concerned, and in others with bad. The floors are paved with marbles in patterns. The apartments have their several names from their purpose or the chief object in each of them, and to this the ornamentation is made to have reference. To the *Salle Egyptienne* succeeds the *Salle des Incunables*, where are placed what may be called the tentative doings of the Greeks more or less influenced by the works of earlier nations, and the imitative works of the Romans trying to be Greek; art in its cradle (*incunabula*), so to speak. And then the *Salle des Eginètes*, the *Salle d'Apollon*, the *Salle Bachique*, *Salle des Niobides*, *Salle des Sculptures à Couleur*, and so on; ending with the *Salle des Modernes*, containing eighteen works. The Eginetan room displays, with care and learning, the remarkable statues which were discovered, as we mentioned last week, by Cockerell, the Baron Haller, and others, in the ruins of a temple on the island of Egina. When the purchase of these for the British Museum had been declined in England a messenger was despatched abroad empowered to give 8,000*l.* for them; and yet by some ever-to-be-regretted bungle the ex-king of Bavaria, then Prince Royal, was permitted to buy them for 6,000*l.* The subject of the groups has been differently explained, but the received opinion is that they illustrate the doings of the Æacidæ, the group from one pediment representing the combat of Hercules and Telamon with the Trojan king Laomedon; and the group from the other, the fight of Greeks and Trojans over the body of Patroclus. Certain it is, that they are of the highest value, as well for being steps in the history of art as for the beauty and delicacy of execution shown in them. In date they are a little earlier than the time of Phidias, and retain some of the conventionalities of the more primitive art which Phidias brought to perfection. The statues would seem to have been coloured at one time, and some of the ornaments must have been of metal, attached, as in the case of the Mausolus marbles now in the British Museum, or, rather, outside it. These statues from Egina were skilfully restored by Thorwalsden. Too many of the other statues in the Glyptothek are patched, often vulgarly. There are some rare and beautiful things, nevertheless; and if we were to let our pen run, we should carry the account to greater length than would balance with other notes made "going along." Suffice it but to name three or four; for example, the "Barberini Faun," as the colossal sleeping figure found in the ditch of the Castle of St. Angelo is called, one of the most marvellous pieces of representative sculpture in the world. "Silenus with the Infant Bacchus" is a charming group: no wonder it was famous even in the best time of Greek art. Living man never nursed a baby so grandly. Ino, also holding in her arms the infant Bacchus, is another wonderful example of what the Greeks could do with a block of marble. The head is exquisite. It must surely be a divine instinct that makes us worship beauty. The "Apollo," sometime called the "Barberini Muse," in drapery of the highest style, of a time a little before that of Phidias, is noticeable also in this, that the eyelashes are formed of little thin plates of bronze: the eyeballs were probably of precious stones. We may not, however, lounge here longer. And as to the exterior of the building, it is too late now to say anything, save to remind that it presents an Ionic octastyle portico, with a group in the pediment, and that in the extension on either side of the portico are niches containing statues of Phidias, Pericles, and Hadrian; Vulcan, Prometheus, and Dædalus. 1816 saw its commencement, and 1830 its completion. The people of Munich are proud of the Glyptothek; and when it was a new thing with them the lower orders there, who connect everything with what they love best, namely beer, used to show their admiration of the building by calculating how many measures of the drink it must have cost. Spite of this, however, Von Klenze is an overpraised man.

The building known as the New Pinacothek, designed by the architect Voit, by direction of the ex-king, to receive works of the nineteenth century, is opposite the Glyptothek. The first stone was laid by the king in October, 1846, and the museum was opened to the public in October, 1853. There are here on the upper floor 327 pictures in ten large apartments, and fourteen cabinets; besides twenty-three paintings by Rottmann of famous places in Greece, in a large apartment built purposely to receive them, and where the light is admitted by upright sashes out of sight of the spectator. In other words, a solid ceiling covers the apartment to within a few feet of the walls all round: then at this termination of the solid ceiling (which is carried on columns in the apartment), and above it, rise upright lights all round supporting at a higher level the roof of the narrow slip over which the central solid ceiling does not extend. The outline below, from



memory, will make the arrangement better understood. This mode of lighting a gallery was discussed in England a few years ago; but it does not seem to call for special recommendation. The centre of the gallery is necessarily gloomy. The views, in encaustic, are little more than sketches, but have a value.

Amongst the most important pictures of the general collection are Kaulbach's "Destruction of Jerusalem," the "Discovery of the Body of Wallenstein by the Astrologer Seni," painted by Carl Piloty, whose powerful picture of Nero, shown at our late International Exhibition, will long be remembered in England; and a curious altar-piece by Hess, introducing, at the foot of the throne, on which is seated the Virgin Mary with the Child, the patrons of the four churches which the ex-king built and endowed,—St. Boniface, with the model of the Basilica; St. Lewis, with the church of St. Lewis; St. Stephen Martyr, with the church dedicated to All Saints; and an angel, with the church dedicated to *Notre Dame de Bon Secours*. Future antiquaries will prize it. The fourteen oil sketches by Kaulbach, introducing the king and the various artists who executed important works for him, are interesting and valuable,—though on the onteide of the building where they are seen, enlarged and poorly painted by another hand, the effect is unsatisfactory. They include in various situations portraits of Cornelius, Klenze, Hess, Kaulbach, Rottmann, Schwanthaler, Schadow, Voit, Rauch, Thorwaldsen, and others. One of the pictures shows the Foundry (while the colossal head of "Bavaria" is being raised from the mould); a second, the stained-glass works and those concerned in them; and, a third the porcelain manufactory.

In another part of the collection will be found Wilkie's "Reading of the Will," and pictures by Achenbach, Overbeck, Riedel, Kirchner, Louis Gallait, Verboekhofen, and other true artists.

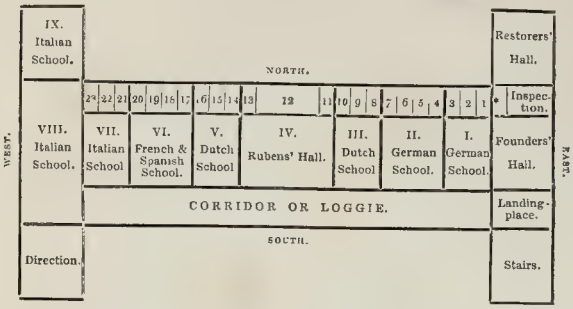
Before looking into the Pinacothek proper, the gallery of ancient paintings, and a famous collection, let us run to the English Garden,—one of the finest promenades a city ever had,—and clear the vision. To look at paintings when weary is a mistake and waste of time. This English Garden, or rather park, though narrow (say half a mile), is four miles long, and is full of fine trees. Branches of the river Isar water and diversify it, and good roads pierce it in every direction. It is a good thing to have so charming and prized a place known as English. In the hot weather people may be found there as early as four o'clock in the morning, seeking fresh air and exercise. Munich is indebted to Count Rumford, of *grate* reputation, for the first planting and planning of this delightful retreat. Rumford was an American of remarkable ability and mental activity. He was knighted in England in 1781, for taking the Royal side in the war between England and America. He shortly afterwards went to Bavaria, took a distinguished position in the service of the state, and worked for social amelioration. This English Garden is one of the results. He returned to London, helped to found the Royal Institution, and then went to Paris, where he afterwards died.

Freshened in mind and eyesight, we enter the Pinacothek to enjoy such a treat, especially in respect of works of the old German masters, and other early artists, as can be obtained in few places. There are here 1,281 pictures, 592 of them being in the central halls, and 689 in 23 cabinets. Klenze was the architect, and finished it in 1836. The king had laid the first stone on Raffaelle's birthday, April the 7th, in 1826. Before touching any of the pictures, let us say a few words about the corridor, or loggie, reached on ascending the staircase. This is adorned with fresco paintings designed by Cornelius, and has scarcely received the praise it deserves. There are twenty-five compartments, half of which have pictures, chiefly in the vaulting, to illustrate the progress of Italian painting, and the other half the progress of painting in Germany and the Low Countries, arabesques and fanciful decorations, filling all the spaces around them. The pictures vary very much in merit, and the lower part of the walls is sickly in colour; but, as a whole, the gallery is suggestive and delightful,—a gallery of

instruction. The surface peels in parts (it was done in 1840), and appears to be kept constantly in repair.

Following the example in "Murray," our printer has formed with rules and types an outline plan showing the arrangement of the building.

GROUND PLAN OF THE FIRST FLOOR OF THE PINACOTHEK.



The dress in Stieler's portrait of King Lewis I., hanging in the Hall of the Founders, at entering, is very cleverly presented: it is evidently easier to paint satin than mind. Plenty of even that, however, will be found in some of the pictures within. The first apartment is rich in works by Albert Durer (notably his grand full-lengths of St. Peter and St. John, and St. Paul and St. Mark), Holbein, Wohlgemuth, Burgkmair (look at his remarkable "Victory of Scipio Africanus over Hannibal at Zama"), Matsys, Coxcie, and Kulmbach. Of a picture in this room, ascribed to John van Eyck, "The Offerings of the Magi," hard things have been said by the most recent writers on the Flemish painters, Messrs. Crowe and Cavalcaselle. These investigators call it the work of an imitator in the early half of the sixteenth century.* If so, he was a man of no common skill. They further assert that the gallery contains no real picture by John van Eyck, but are willing to place "The Adoration of the Kings," a triptych in the third cabinet, ascribed to him, amongst the first productions of Van der Weyden. Whoever painted it, it is a wonderful work; the two wings show respectively "The Annunciation of the Virgin," and "The Presentation in the Temple." It is much superior to the majority of pictures known to be by Van der Weyden, clever as these are. A repetition, by Quentin Matsys, of his "Usurers" (he seems to have painted the same models frequently) is inferior to that in Windsor Castle. The Rubens Hall is a grand apartment. In this and other parts of the building there are eighty-eight paintings, the majority of them large, and some of surpassing merit, ascribed to this mighty colourist. Admit, what we know to be the case, that he had a body of disciples or pupils who worked with him, and advanced his pictures; still, the amount of work scattered over the world which shows his hand and mind is truly astounding. Only now and then a picture by Rubens touches us: for personal hanging we would prefer a fine Francia, a Perugino, a Gian Bellini, or even a Memling to half a dozen of his gorgeous spreads; still, what a mighty genius the man was! How universal his knowledge; how boundless his invention; how correct his pencil; how marvellous his power over colour! Of the painters we have just now mentioned, the gallery contains some exquisite specimens. The Virgin with the Infant on the ground, amidst roses, is one of the most beautiful pictures Francia or any other man ever produced, though inferior to his "*Pietà*" in our own National Gallery, which we regard as one of the finest pictures in the world. It was in 1517 that he died. Of Perugino, too, Raffaelle's master, there are some good examples: one, The Virgin, accompanied by two angels, appearing to St. Bernard under an open portico, dwells pleasantly on the memory. He died seven years after Francia and four years after Raffaelle. Oehlenschläger, in his art poem, "Correggio," well Englished by Mr. Theodore Martin, touches cleverly some of his weaknesses, as thus:—

"How fairest thou, worthy Perugino, with
Thy soft green tone, thy figures ranged to match
On either side, thy still repeated thoughts,
And thy unfailing St. Sebastian!
Still, thou'rt a glorious fellow! though, perchance,
Some more invention had not been amiss."

Of Memling, miscalled Hemling, whose pictures range, says Wornum, from 1450 to 1499, there is his most noted work, "The Seven Joys of the Virgin Mary, and the Arrival of the Three Kings," presenting hundreds of miniature figures, for the most part exquisitely painted. His "Seven Griefs of Mary," at Turin, seemed to us inferior to it. His picture "St. Christopher with the Infant Jesus on his Shoulders," in the Pinacothek, is also charming. Forty works by Van Dyck, and marvellous specimens by Mieris, Denner, Kranach, Schoorel, Teniers, Rembrandt, and others, ought to be spoken of, but cannot be. We shall meet with works of the same men in other quarters. Of drawings by the old masters there are thousands in the lower story of the building. The galleries, we must mention by the way, are floored with a white cement, which is friable, and spoils the appearance of the boots and shoes of visitors very speedily. A more serious complaint is being made with reference to this gallery; and that is, that the managers are either ignorant of the value of the pictures in their possession, and so sell them at ridiculously low prices, or that, knowingly, they sacrifice the interests of the gallery to serve some private end. We heard some strange stories exemplifying this assertion, but have no means personally of confirming or refuting it. This, however, we can say, that several of the pictures are in a very bad state for want of attention, and that the hanging shows anything but skill or discrimination.

We must pass many buildings in Munich and many things, only staying to say a dozen lines about the Royal Palace, which offers much to interest;—Stieler's hall of pretty women, and, much better, Schnorr's fine pictures in the Hall of Charlemagne and the Hall of Barbarossa, illustrating the lives of those worthies;—expressive, well grouped, and well drawn. The twelve colossal bronze statues, which stand six on each side of the central walk up the throne-room, have been lately regilt at the cost, according to an attendant there, of about 230*l.* each. These statues are nearly 10 feet in height, and were designed by Schwanthaler.

Leaving Munich for Linz, the railway ride is very fine, and within an hour of Salzburg, where the road winds in and out up the gorge, grand in the extreme. The beautiful Chiemsee is coasted; and up to Salzburg and some few miles beyond, the well-wooded slopes rise from the rushing sparkling river at their base, and are topped by the bold giant forms of the Salzburg Alps, their heads enwreathed by fantastic, flowing cloud-robes above and around them. To beautiful Salzburg we shall come again presently, and shall have something to say of its lovely situation, its cathedral, and its salt-mines. At present we rail on to Linz, past a panorama of mountains,—amongst which the Traunstein is seen prominently for miles, with an outline at the top that resembles the profile of more faces than one,—there to take water and enjoy the varied beauties of the Danube. Nature is a true mother to her true child: to her real lover she ever brings delight and peace. A poet has already sung the same strain:—

"Nature never did betray
The heart that loved her; 'tis her privilege,
Through all the years of this our life, to lead
From joy to joy; for she can so inform
The mind that is within us, so impress
With quietness and beauty, and so feed
With lofty thoughts, that neither evil tongues,
Rash judgments, nor the sneers of selfish men,
Nor greetings where no kindness is, nor all
The dreary intercourse of daily life,
Shall e'er prevail against us, or disturb
Our cheerful faith, that all which we behold
Is full of blessings."

Happy, thrice happy, the holder of that faith.

* "The Flemish Painters: Notices of their Lives and Works." Murray. 1857.

DESECRATION OF BURIAL PLACES IN IRELAND.

I have recently been in Ireland, seeking for a few weeks' relaxation and pleasure among the beauties of nature and art which abound in this favoured country. I was staying for a few days with a friend in one of the villages of Mayo; and he, anxious to gratify my love for architectural antiquities, took me with his family to visit Ross Abbey, near Headford; our party consisting of several ladies, as well as the gentlemen. This ruin is one of the most perfect instances of an ecclesiastical group that I have ever seen. The walls of its church and monastic buildings remain unroofed, it is true; but its cloisters, staircases, the kitchen with its fire-place, oven, cistern, water-conduits, and scullery, and all the other offices, and the refectory, dormitory, and residential parts are as when first erected. But, sir, its church was a scene of horror!

As is the case with most of the ruins of the old places of worship in Ireland, it is used as a burial-place, and the very floor was strewed with the scattered remains of the dead! Fragments of human skeletons lay at our feet, and we were obliged to tread cautiously lest we should crush these relics of the departed; and skulls and bones, with somewhat less irreverence, were here and there promiscuously piled up in the recesses of the walls or on tomb-stones. In one transept there was a coffin barely sunk in the earth, its top level with the surface of the soil, the lid gone, the sides crushed in, the bones lying in confusion. *Here*, in a recess, where once an altar stood, and the holiest rites of the Roman Catholic church were anciently performed, is a tomb of some pretension, belonging to a respectable family, and the vault sunk in the earth. Two or three of the covering stones were cracked and broken in or displaced, and exposed the scene of desolation below. Several coffins, one over the other, lay transversely, the bones scattered! *There*, is another cenotaph in the nave more pretentious: we looked down into the dark hollow recesses of this receptacle of the dead, and we saw tiers of coffins piled, the upper ones crushing in those below, the remains lying confused, intermixed. Sir, I ask, do we live in a Christian country, and can such things be?

But this is unhappily, and to our shame, not a solitary instance of such desecration. I was at Athenry, and one of the proudest tombs in the sacred enclosure of the church belongs to the family of one of our peers, whose eloquent tongue pleads in the senate with powerful force a nation's wrongs or a nation's rights. The whole surface of the church is strewed with confused blocks of the ruined walls, as thickly strewed as the stone fields of Connemara, and as difficult to walk over. The tombs are in various stages of dilapidation and decay, and overgrown with verdure, not quite to such a degree as in Ross Abbey; but the area is used for the vilest and foulest purposes of human nature. Again, at Mukross, on Killarney's Lake, I could not but admire the care observed in preserving the exquisite ruins of the abbey, which are most judiciously kept, avoiding the trim drawing-room appearance of our Tintern and the foul neglect of Ross, and preserving a wildness

and, at the same time, a propriety and order satisfactory to the feelings of the visitor. But even here fragments of human skeletons lay about to be trodden under foot.

I inquire as to Ross and Athenry, and am told that though there may be a proprietor, he has no general control over the state of the edifice. I cannot learn that either the minister or the priest has any authority. The whole is a scene of misrule; and if any one were so sacrilegious as to attempt to disturb this harmony of desolation, the howls of *Anathema! Maranatha!* would fall upon his head. But, sir, are the ruins of even a consecrated precinct to be thus impiously treated? Are the remains of the dead, of beings whose souls are immortal, and now perhaps in the presence of the Saviour and Redeemer—of the fathers, mothers, brothers, sisters, of the children, perchance, of those still living,—to be mutilated and thus profanely left? The wildest savage is said to expose his dead upon the surface of the plain, to be devoured by the wolf and the hyena; but no witness of his shame remains. The Indian commits the body of his beloved to the waters of the Ganges, as a holy deposit; but the sun, which at its rising shines on the sad corpse as it floats on the surface, does not at its setting see any, the smallest, fragment of the departed. But here Christians can with assumed reverence dig graves and raise memorials to the dead in sacred enclosures, as though the sanctity of the place ensured a resurrection to a life of blessedness and peace; and their unhallowed remains are allowed to be as the very refuse of the vilest animals of creation.

Again, I say, should such things be tolerated in a Christian country? THOS. L. DONALDSON.

THE CLEVELAND IRON DISTRICT.

THE most impressive of the excursions made by the British Association from Newcastle was a visit to "the youngest child of England's enterprise," as the Chancellor of the Exchequer called Middlesborough. This is a new town of 24,000 inhabitants in North Yorkshire, situate on the south bank of the Tees, about eight miles distant from a range of ironstone hills, known as the Cleveland Hills, that has risen with Californian rapidity, but English substantiality, since 1850. In that year we are informed, Mr. Vaughan, of the firm of Bolckow & Vaughan, whilst out walking in the hill district, stumbled over a boulder of ore. He picked it up and examined it; and, being convinced of its genuine quality, prosecuted further researches. These ultimately ended in a determination to mine. The necessary arrangements were made between the firm and the proprietor of the soil, and in a very few weeks the Eston Mines were commenced. It must not, however, be understood that Mr. Vaughan's boulder was the first indication of iron that had come under notice. It was a recognised fact that there was plenty of ironstone; but there was also a practical as well as scientific conviction abroad that it was not of any commercial value. But, on the memorable occasion in question, a nativity was cast: the man, the place, and the time were in conjunction, as a horoscope would say; and flaming, panting, smoking, sweating Middlesborough is the result. Forty years ago the site of this large town was occupied by one farm-house. In old times men used to cut branches of hazel rods, shaped like the letter Y, at the time of certain planetary aspects; and, taking hold of the two forked ends, wasted their days in wandering about in mineralogical districts, hoping the pointed end would direct them to places where they would find veins or seams of ore; and, since then, many fortunes have been spent in testing our underground treasures. In this case, accident proved more potent than centuries of magic and scores of experiments. The wealth that has been hidden for thousands of years was stumbled upon by chance. Neither time nor money has been ill-spent, and a magnificent industry has arisen as with an enchanter's wand.

As like begets like, so luck appears to beget luck. An increased water supply being required for the works of Messrs. Bolckow & Vaughan, it was decided to sink an Artesian well. In the course of this operation, which has already occupied four years, the sinkers came upon a salt-bed, 1,300 feet below the surface. The borings through this bed up to the present date prove it to be of 140 feet thickness, and there is no appearance of having yet exhausted its extent. It is conjectured that this extraordinarily thick stratum lies under the whole town. As Newcastle, in its various chemical works is computed to consume 100,000 tons of salt annually, Messrs. Bolckow & Vaughan will have a market for their vast treasure-trove close at hand. Sections of the strata the borer has so far penetrated were exhibited by Mr. Marley, in the Geological Section, Newcastle, and told the newest secret of the bowels of the earth to the Association. The prospect of inspecting the new and tremendous wealth and wonders which time has so recently revealed, attracted about 280 members to join the excursion to the Cleveland iron district. At the close of the long day, every one agreed that it had been the most pleasant of all the days in the wise week. Not that the weather put forth its smiles; not that the county aristocracy repented them of their disregard, and at the last moment killed the fatted calf, and made science and its representatives welcome; for the sky was sombrely draped in grey, and the scientific circle had received no accessions: but a general though unfathomable impression prevailed that this, the last day of the congress, was the most enjoyable. Iron now occupies so prominent a position among building materials that we doubt not but that our readers will be equally interested in an account of this important iron district and its principal work.

A special train left Newcastle at 8 o'clock a.m., and returned about 11.30 p.m. Before starting every member was furnished with a dinner and wine ticket, as well as with a memorandum of the prominent objects of interest on the route and of the arrangements of the day. Thus they were apprised that after crossing the Tyne by Stephenson's high level bridge they would be in the borough of Gateshead and county of Durham. About eight miles on the way, as they approached the river Wear at Washington, they were to look out for the iron furnaces and chemical works of Mr. Isaac L. Bell, the mayor of Newcastle, and his partners; and the Greek monument on Pensher Hill, erected by public subscription to the memory of the late Earl of Durham. When on the Victoria Bridge, by which the railway crosses the Wear, they were told to observe the towers of Lambton Castle; and, a mile farther on, on the left, one of the principal collieries of the Marchioness of Londonderry. Passing Houghton-le-Spring and Sherborn Hospital, Durham Cathedral and city would be found on the right. At the Ferry Hill junction the train would proceed on the West Hartlepool Railway as far as Billingham junction, and pass Mainsforth, the residence of the late Mr. Surtees, the historian of Durham; Wynward Park, Lady Londonderry's residence; the column founded by the late Duke of Wellington to commemorate his visit to his friend the late Marquis, in 1827; and Messrs. Warners & Company's blast furnaces.

The Mayor and Mayoress of Newcastle accompanied the excursionists. Arrived at the end of this section of the journey, they first conducted their visitors to the works of the firm of which the mayor is a member, at Port Clarence, on the Durham side of the Tees. These are justly admired as the most orderly of all the works that have been established in the district. The furnaces, hydraulic hoists, engine-house, and water-tower are built in one long line. The furnaces and hydraulic hoists are placed alternately in this line of towers, and are connected with feeding galleries at the top, and by two huge iron tubes about midway of their height. The hoists are surmounted with spirelets, and are decorated with Gothic ornament. They serve to hoist the requisite lime, coke, and mine (as the ore is locally called after it has been calcined in kilns, and the water, carbonic acid, and sulphur expelled) to a level with the top of the furnaces. Men stationed on the feeding galleries throw these ingredients on to the hoppers or lids of the furnaces, which descend when they fall in, and then ascend again and close up the openings hermetically. The waste gases made in each furnace are used most economically. They are fanned into flame and employed for raising steam or heating the blast. When the ore is melted it sinks to the bottom of the furnace, and the slag floats upon its surface. Five furnaces were tapped on this occasion. A man stood by each, and took a spike and hammered it into the base of the towering kiln as though he was tapping a huge barrel of beer. The spike thrust in, out streamed a rivulet of bright copper colour into a channel formed for it on the ground. This channel directed the molten ore into a maze of glistening sand moulds placed to receive it, and hold it until it cooled into pigs. Simultaneously with the thrusting in of the spike a shower of sparks is forced out by the blast from a door in the furnace, which is on a higher level than the place tapped, and even with the top of the trucks, into which the slag or refuse is then poured for conveyance away. Each furnace blasts twenty tons of pig iron per diem, *i.e.*, 400 pigs, each weighing 1 cwt. 140 waggon-loads of the ore are brought to the works daily from the mines of the Messrs. Bell, at Skelton and Normanby. Previous to the discovery and use of the Cleveland ironstone, quoting from a paper, by the mayor, on the manufacture of iron in connexion with the Northumberland and Durham coalfield, there were but thirty-five blast-furnaces in operation; but since the consumption of the Cleveland stone seventy-five others have been built, and about twelve others are either in course of formation or projected, making a total of 118. They are worked under different conditions from those of Staffordshire. There the coke is friable, and the mine small. The North Country coke is hard, and capable of resisting great pressure; and the ironstone, worked out of large blocks, is sufficiently large to permit a free passage of air through a much higher column than would otherwise be the case. The practical proof of this assumption was tested by Mr. Vaughan, who erected a furnace 75 feet high. The furnaces of the Messrs. Bell are of a cylindrical form, and of uniform height. The bases are built of stone above the furnace door: bricks are then used. Every third course of brickwork is strengthened with a band of iron, and the cap of the huge pillar is plated with iron. The feeding-gallery, with its brackets and gangway, are entirely of iron, and the quadrangular hoists are iron plated.

Twenty Ordnance maps of the Cleveland district on the one-inch scale were distributed among the visitors; and a copy of a painstaking history of the rise and progress of the town of Middlesborough, by Mr. Landor Praed, in the form of a pamphlet, was presented to each member. Farther on, in the course of the day a reprinted sheet from the *Stockton Gazette* and *Middlesborough Gazette*, entitled "A Day at Saltburn-by-the-Sea," was also placed in everybody's hand.

Crossing the river, whose banks appear sown with chimneys and lined with volcanoes of slag, the excursionists took the Stockton and Darlington line to view the preliminary process of mining, passing, *en route*, Marske Hall, where William Penn spent his honeymoon, and halting by the way at a new watering-place the wealthy manufacturers have resolved to create. This is Saltburn-by-the-Sea. The railway company has already erected a handsome hotel, five stories high, containing upwards of eighty chambers, on the edge of the cliff there. To this Zetland Hotel the party was conducted, and it promptly displayed its resources in a choice luncheon well served. The grounds are laid out tastefully in terraces; and balconies afford still more extensive views. As the scenery is remarkably picturesque and the sands wide and firm for an extent of eight miles, there is but little doubt that Saltburn will prove a formidable rival to Scarborough. At the foot of Cat Nab, about twenty years ago, was a row of cottages with a publichouse at the end of them. Every one of these was inhabited by smugglers, and possessed a secret vault for the hiding of booty; and the sides of Cat Nab and adjoining hills are said to have been honeycombed with caves used for the same purpose. Huntcliffe Nab rises about 360 feet above the sea: here the wealth of the district, ironstone, crops out. Great masses of the rock have fallen, and lie upon the shore in blocks. The strata of these rocks abound with fossils; and at low tide they are found covered with living creatures, more common but equally curious, crabs, lobsters, and small shell-fish. From the top of Huntcliffe Nab may be seen Marske, Redcar, Hartlepool, Sunderland, Tynemouth, and, weather permitting, the Cheviot Hills; and, looking westwards, the hills of Westmoreland and Cumberland.

The immense field of ironstone worked by the Messrs. Pease, at Upleatham, where 2,000 tons of ironstone are wrought out daily, was next examined. There is a great contrast between an iron-mine and a coal-pit. The surroundings of the latter are black and cindery; but the external appearance of an iron-mine is not more unsightly than a cave in a hill-side. In fact, to enter the Upleatham mines, the visitor must ascend a hill in a pleasant country, and when midway between its base and top he will see an opening into the heart of it, into which he must pass. The entrance is further marked by a few miners' cottages, and by the contrivances to bring the ironstone down the hill ready for transport by the rail. On alighting from the train in the valley these are the first objects that meet the eye. There is, too, a depôt midway between the line and the mine. Small trucks, drawn by a miniature engine, bring the ironstone from the mine to the depôt, where their contents are shot into larger waggons on a

lower level. These waggons, when full, run down an inclined plane by their own weight, and in so doing, pull up an equal number of empty waggons, which place themselves under the shoot ready to be filled in their turn. When these are full they run down the inclined plane, and so bring up the first set despatched. The members of the Association were provided with trains of new miniature trucks, of the kind used between the mine and the depôt, the said trucks measuring 3 feet 6 inches by 5 feet at the edge, and sloping down to a space of much less dimension, in each of which four passengers contrived to seat themselves and were conveyed in them to the entrance by locomotives. The drift, as the passage-way into the heart of the hill is called, consists of a central nave, with an aisle on either side of it, supported by timber props. Larch or fir poles form the entrance posts and lintel, and from that point timber props stretch overhead along the drift, and line the sides as pillars on either side of a passage with aisles. This main way was lighted with thousands of paraffine lamps and candles. After a length of 700 yards of it was traversed, the visitors were conducted into a main junction, in which there were many passages leading off from it right and left. Some of these were dark, deserted workings: in others men were at work blasting. The stratum at one place observed is 11 feet thick. The mode of working is similar to that used in a quarry. A channel is bored, gunpowder laid in it, a light applied, and a block blasted out. The men said they received a shilling for every ton of 25 cwt. they detached. They found the necessary gunpowder themselves; but all tools, with the exception of shovels, which they likewise had to provide for themselves, were found by their employers, who held them responsible for them. Along the main lines of passages which are all furnished with tramways, there are places of refuge for people to stand up in while a train of trucks is passing. Turning into one of the workings at the distant end of which there appeared to be a great light or fire, the visitors became conscious of a damp mist or fog; and, as they neared the light, which turned out to be an enormous fire to a ventilating shaft, they could perceive that the mist was being rapidly drawn towards the furnace. No more conclusive proof of the efficacy of a fire could be imagined. The mist visibly floated in the direction of the fire: all the drippings from the roof and walls were thus satisfactorily consumed. The rock or stone abounds in fossils, which are strewn in every direction: these suggest names for the locomotives, one being called the Ammonite. The general tint of this underground city is of a rusty iron colour. Returning in the direction of the entrance to the drift, the visitors saw what at first appeared a blue fire at several hundreds of yards' distance. As they approached it, its appearance partook more of the character of burnished silver: this, as they proceeded again altered, and they found the beautiful phenomenon to be the daylight seen through the mouth of the drift. It was observable that the farther they got out of the influence of the ventilating fires, the more moisture was apparent upon the face of the workings. For this city of subterranean passages, the Messrs. Pease pay royalty fees to the Earl of Zetland, amounting to 12,000*l*. At another entrance into a drift a portable locomotive was observed at work. It appeared to be very busy, yet showed no result. It was engaged in drawing up trucks to a certain point in the workings, whence they started afresh in another direction.

The Eston mines are not less considerable. They are lighted with gas for a great distance into the hill-side, beyond which lanterns are used. They are, however, beyond our present limits, as they were not visited on this occasion, the members of the Association being next conducted to the furnaces and rolling-mills of Messrs. Bolckow & Vaughan, where they manufacture the produce of their mines at Eston. Eighteen hundred persons are employed on these works, which cover 22 acres. Here the newly-found salt-bed may be peered at down the orifice made by the borer. Here the highest furnace in the world (that mentioned by the mayor), is to be seen; and here is a monster nugget of iron-ore, weighing 5 tons and 2 cwt., which well expresses the monster trade to which it has given rise. Sixty boilers hiss around, and the air trembles with the *thud* of steam-hammers and clang of machinery: it appears next to an impossibility to move without falling into masses of molten iron, or getting irretrievably entangled in the rolling-machines; and what with the steam, flames, heat, smoke, smell of sulphur, and din, a very undignified sense of danger is awakened. One of the workers standing close to a blinding furnace, stripped to his waist, with perspiration streaming down his body, was asked how long he could stand the heat and strain at a time. He replied, "An hour and a half at a spell." After the ore is smelted as described at the Port Clarence Works, it is put through the puddling process. Five or six pigs are thrown into a puddling furnace, prepared with hematite or "bull-dog" to receive them, and well puddled or kneaded into large lumps of red-hot metal, weighing a cwt. each. These are seized one by one, by a man at the furnace door, and thrown on to a hand-cart, and wheeled away as quickly as possible to the steam hammer, which forges them into "blooms" or slabs. These are taken, sometimes two at a time, to the puddling-mill, where they are rolled out into puddling bar. From this puddled bar iron rails or ship and boiler plates are made. For rails, slabs of the puddled bar are re-heated and hammered together, and then rolled out: for plates, the slabs are heated and hammered together, and further rolled out. Mr. Bell stated that the old intermediate process of refining was done away with in all the new works, and that those works which possessed refineries were not using them in some cases. The manager of one of the largest Scotch bar-iron works had made him a return of the quantity of Scotch pig-iron required to make one ton of puddled bar. He gives 22½ cwt. of pig for one ton of refined metal; 21½ cwt. three-fourths refined and one-fourth pig to a ton of puddled iron: this equals 23½ cwt. of pig per ton of puddled iron; and when the pig is not refined, but puddled direct, 23½ cwt. are required for one ton of puddled iron. The Cleveland process gives a more economical result. From two works using pig iron of Cleveland ironstone, returns showed that the produce for the whole of 1862, was 22 cwt. 0 qr. 16lb. of pig to the ton of puddled iron; and for the first six months of 1863, it was 22 cwt. 0 qr. 17 lb. at the same work. The second establishment gives for the year 1862, 22 cwt. 0 qr. 16 lb. of No. 4 iron to the ton of puddle bar. The loss, therefore, on iron produced from Cleveland ironstone is only about 66 per cent. of that on Scotch; and the quality of the former dispenses with the necessity of refining it.

The first step in the rapid growth of Middlesborough, was the fact of its having been selected as the terminus of the Stockton and Darlington Railway (George Stephenson's first work), and the shipping-place for coals brought down that line: the last step was the opening out of the ironstone in the neighbouring hills, as we have related. It is still increasing in population as well as in commerce. There are other works in the town only second to those we have mentioned. Messrs. Hopkins's works cover 14 acres, and have 300 yards of river frontage. They have two blast-furnaces, making about 600 tons of iron weekly, and employ about 600 men. The works of Messrs. Gilkes, Wilson, & Co. occupy a similar area. Girders and ribs for bridges, dock-gates, locomotives, boilers, tanks, anchors, cables, railway bars, sleepers, and every description of iron-work are carried on in this busy town. The new meat market is made of iron. Houses rapidly spring up: in 1840 there were 600: in 1861 there were 3,295: last year 500 more were erected and inhabited. There is a church, dedicated to St. Hilda, and eleven chapels, a corporation-hall, mechanics' institute, a literary and scientific institution, an Odd Fellows' hall, and two banks. The various ministers hold preaching and praying services in the pattern shop of the Messrs. Bolckow & Vaughan whilst their men take their breakfast; a custom first introduced by Messrs. Gilkes, Wilson, & Co.

The drawback to this bright picture of piety and industry is the unwholesome state of the atmosphere, induced by the smoke with which it is laden. The best plan to mitigate its effects is to provide the workers with large, lofty, light rooms, to live and sleep in, with an abundant supply of good water. After the dinner provided for the visitors by the Corporation and gentlemen of the district, guests and entertainers exchanged courtesies. Among the speakers was the African lion, Captain Grant, who stated that he had seen iron in Africa; but children only were employed in manufacturing it, who did so by blowing into a furnace formed of sticks.

At Jarrow, the various processes employed in the manufacture of iron are all accomplished in the establishment of the Messrs. Palmer. The ore is brought in at one end of their premises, and turned out at the other manufactured into iron ships. Cinderella's godmother, when she turned the pumpkin into a state carriage, did not make so wonderful a transformation. If enterprise continue to progress at this rate, our stock of fairy tales will prove insufferably insipid to our descendants.

BRITISH ENGRAVERS.—NEW MATERIALS FOR THEIR LIVES.

SIR ROBERT STRANGE.

In an article, entitled "Town and Table Talk," in the *Illustrated London News* of the 21st of October, 1854, the following extraordinary statement, connected with a forthcoming life of Sir Robert Strange, appeared in print for the first time:—

"We have heard a curious story about Strange's copperplates, which Mr. Dennistoun should either confute or confirm. Long after the great engraver's death, a portion of his stock was sold at Christie's, we believe, by order of his son, then a judge in India. A second sale took place some time after, at equally high prices; and a third soon followed, when the prices fell. The remaining stock was then sold, with the plates, to a well-known firm in Pall-mall, who are said to have made 'a good thing' of it, by working the plates till they could stand no more even tolerable impressions. The plates were then defaced and sold as waste copper, with a condition that they were to be destroyed. This condition was, however, not complied with. The slashes were skilfully removed: the plates were then retouched; and an attempt was made by the party to whom they had been sold to supply the market with another portion of the stock. Some law proceedings followed, and the plates in consequence were at length effectually destroyed."

The statement attracted a large share of attention in the realms of art, and did not fail to fall under the eye, as it was meant it should, of Mr. Dennistoun himself. The following letter was the result:—

"Private.] Edinburgh, 119, George-street,
23rd October, 1854.

Sir,—In your last number, page 391, is an allusion to a small work I am about to publish, of which I shall only say that I shall be glad if the *Memoirs of Strange* do not disappoint the expectations you kindly express.

I believe that your paragraph regarding the destruction of Strange's large copperplates is in the main correct; but, as your informant seems acquainted with the facts, it would be very satisfactory to me to have an opportunity of communicating with him. My information comes from a good source, but is, perhaps, scarcely complete; and as I am, of course, desirous of perfect accuracy, I should feel very much obliged if your correspondent would enable me to correspond with him on the subject, by addressing me here.—I am, &c. (Signed) James Dennistoun."

As the writer of the article referred to, Mr. Dennistoun's letter was put into my hands. I at once wrote to him in reply, and gave up my authority for the statement. The substance of that statement was as follows. I transcribe a memorandum of a conversation made by me for future use long before Mr. Dennistoun's work was announced:—

"1850. Called on Frank Graves in Pall-mall, and had an interesting chat with him about Walpole's 'Anecdotes of Painting,' for a new edition of which he has made many memoranda as I myself have done. Mr. Haviland Burke, Mr. Sackville Bale, and others, looking at some choice Sir Sir Joshuas, our talk turned on Sir Robert Strange and the poor impressions that exist from many of his noble plates. F. G. then told me the following story:—

'Strange had a son a judge in Madras—Sir Thomas Strange—there is by the way an engraving of him by Charles Turner after Sir Thomas Lawrence. When the judge went to India he left all his stock of his father's plates, and the copperplates themselves, with Payne & Foss, in Pall-mall. He afterwards gave instructions for their sale, and Christie sold them. I have the catalogue at home. There were, I think, three sales: the first brought large prices, the second good prices, but the third drugged the market. The copperplates themselves, after a trial by Dixon, were defaced and sold to a man in Portland-street, on the distinct understanding that they were to be destroyed. The purchaser broke the conditions of sale: he did not destroy the defaced plates, but effected an arrangement for their restoration with Colnaghi & Puckle. The restoration proved a failure. The faces had been slashed through. Some law proceedings followed. The plates were given up to Lady Strange, and at length irrecoverably destroyed. I do not know a parallel case to it of equal consequence in the history of engraving. The worn-out plates produced, I need hardly tell you, impressions injurious to the great and well-deserved reputation of Sir Robert Strange.'

When I add to Mr. Graves's narrative the

simple fact that there is no English master of whom certain proofs are so rare, the man's many motives for furbishing up the old plates into a working condition may be fully understood."

It is a well-known circumstance in the life of our great engraver, that he was "out" for the Pretender in the fatal forty-five, and by what means he escaped the scaffold. An *unknown* anecdote connected with his Jacobitism I found recorded by Lord Buchan on the back of a letter from Lady Strange, written in 1787. King George III., though never wholly reconciled to Strange, consented to his engraving the well-known Apotheosis picture of two of his children. The patronizing earl found Strange at Buckingham House (the Queen's house), and gave loose to his tongue on so tempting an occasion. They were together, he tells us, in the king's bedchamber while the room was getting ready for the king's use. "I could not resist," he records, "the impulse of taking Sir Robert into a corner and saying, 'My dear Sir Robert, who would have thought of this—in the year 1746?'" Our great engraver was in a very fair way for Carlisle walls or a Tyburn tippet. We were nearly losing those masterly Jacobite engravings, from Vandyke, of "Charles Stuart in his Coronation Robes," of "Charles Stuart standing by his Horse," and of Charles's three children. Strange did not disguise his Jacobitism: nor did his friend, Allan Ramsay, the painter, conceal, when in London, his liking for the exiled family.

Sir Robert Strange was his own publisher, and made money by the publication of his own engravings. Here is one of his addresses "To the Public," dated in the last year of the reign of King George II.:—

"*To the Public.*

Many reasons have been assigned why the imitative arts have not yet in England attained that perfection at which they have arrived in Italy and some other parts of the Continent. The following, though not much attended to, will be found to have had great influence in retarding their improvement. In this country an artist, having acquired a degree of reputation sufficient to attract the notice and favour of the public, is too often seized with the desire of turning this reputation to the best account with respect to his private circumstances. Instead of exerting all his faculties for the extension of his genius and the improvement of his art, his endeavours centre in schemes and efforts to increase his fortune.

The author of the following proposals, far from pretending a total inattention to interested motives, proposes to unite both objects in the plan of his future conduct. He hopes he has given manifest proofs of his inclination to improve in his art, by the different specimens which he has already exhibited: and it is with pleasure he takes this opportunity to express his grateful acknowledgment for the favourable reception they have met with from the public. This indulgence, and the love he bears to his profession, has encouraged him to proceed in his favourite plan, and to devote himself entirely to the study of engraving historical pieces.

Every admirer of painting must observe with regret the decline of this branch of engraving in Europe. Italy has, within these few years, lost her Jacomo Frey. Ever since the days of Rubens and Vandyke, when Bolswert, Pontius, and Vosterman flourished, this art has been almost totally neglected in Flanders and Holland; and France has not now a Gerard Audran nor an Edelink. In this last nation, indeed, there are still many excellent artists, such as Cars, Dupuis, Le Bas, and others; but we cannot help lamenting that these have exercised their talents so little upon the Roman, Florentine, Lombard, and Venetian schools; a circumstance probably owing to their partiality for their own painters, and a decline of the public taste. Hence the French nation has for many years preferred the humble productions of Teniers, and others in the same style, to the sublime compositions of the Italian masters. Influenced by these considerations, Mr. Strange proposes to visit the treasures of Italy, where alone he can judge with certainty of the works of a Raphael, Corregio, Titian, Carracchi, Domenichino, &c., and where there are a great variety of capital pictures which have never yet been engraved. He proposes to spend some years in making drawings after the works of the most celebrated masters, some of which he may probably engrave during his residence at Rome or Florence. This undertaking, he flatters himself, will prove acceptable to all nations that love and encourage the liberal arts: it may diffuse over Europe beauties in painting which are now confined to one place, transmit to posterity some of the finest works of art that are daily perishing, and may do some little credit to the taste of our own country.

Every person of taste, while he approves of this undertaking, will at the same time be sensible of the great expense which must necessarily attend it, especially as the author can reap no immediate pecuniary advantage from his labour. He is, therefore, encouraged to hope for such a generous subscription to the subsequent proposals as will enable him, without forgetting his duty to his family, to execute his design at leisure, and with all proper attention; as the advantage, however considerable, which he may reap from the liberality of the subscription, will be chiefly employed for the further entertainment of his patrons.

London, March 5, 175 .

Proposals for engraving, by Subscription, Three Historical Prints. The first represents 'St. Agnes,' by Domichino; intended as a Companion to the 'Beisarius,' some time ago published from Salvator Rosa. The second exhibits 'Venus Attired by the Graces,' by Guido Rheni. Both of these are in the Royal Palace of Kensington. The third is 'The Judgment of Hercules,' by Nicholas Poussin; in the Collection of Henry Hoare, Esq. By Robert Strange.

A drawing of the 'St. Agnes,' and Specimens of the Work, may be seen at the Golden Head, Henrietta-street, Covent-garden; where the subscription is opened, and will be continued till the End of May.

N.B. That he may be the better enabled to execute his plan, Mr. Strange has come to a resolution of disposing of the drawings from which all his engravings have been made. They will be shown with the other specimens as above.

Conditions.—I. The work will be printed on the finest paper. II. The subscribers will be served with the first impressions. III. The price, one pound four shillings; half a guinea to be paid at subscribing, and the remainder upon the delivery of the prints, which will be finished with all possible expedition."

I have said that he dealt in pictures, and to good purpose, though two priced catalogues now before me, each a two days' sale he had at Christie's in 1773 and 1775, do not exhibit anything approaching to the Christie & Manson prices of 1863. I will give an example or two of pictures and prices. A Nicholas Poussin, "The City of Terracina," painted in 1648, was bought by Sir Watkins Wynne for 650*l.*; a Claude, "A Landscape, representing the Coolness of the Morning," was bought by Lord Chesterfield for 420*l.*; and a Leonardo da Vinci, "Our Saviour with the Virgin and St. Joseph, &c.," was purchased by Lord Clive for 270 guineas. Are these pictures now known, and will they in these days more than maintain their early Christie prices?

Lot 48. Friday, May 5, 1775, has a genealogy suggestive of pleasant thoughts—the well-known picture in our National Gallery, "The Return of the Ark," by Sebastian Bourdon. The purchaser was Sir Joshua Reynolds; the price only 23*l.* 2*s.* Sir Joshua left this fine picture to Sir George Beaumont, and Sir George gave it to the British nation. What Sir Robert, Sir Joshua, and Sir George thought a good picture must merit the approbation of the choicest connoisseur.

A Holbein purchase made for 13*l.* 2*s.* 6*d.* (good things were then cheap) will interest Lord Stanhope:—

Lot 51. HOLBEIN.—A portrait of Edward VI., formerly in the Royal Collection, and presumed to be one of the capital works of this master.

A Vandyck (its whereabouts now, I believe, unknown) should put Mr. Scharf on the look-out for such a portrait treasure.

Lot 115. "The Marquis of Montrose, a half-length, painted originally for King Charles I., and purchased by one of the Dukes of Valentinois, who had been connected with Montrose when in France. It remained in that collection till of late years, there being a division in the effects of that family between the present Duke and his brother, the Prince of Monaco, when this picture was purchased. Certain it is, there is no other original of this great man extant that we know of, not even in the possession of his descendants."

The sale price under Christie's hammer was 84*l.* The purchaser was Sir William Maine. Who has it now? Mr. Mark Napier, the biographer of Montrose?

Letters of Sir Robert Strange and letters relating to Sir Robert are of rare occurrence. In my long experience of autograph sales I do not remember to have seen his handwriting. From two letters in the characteristic handwriting of his wife I have MS. memoranda. In one she refers to her husband's portrait of Dr. Archibald Pitcairn — the first he published. "It never made its way in the world," she observes, "and Mr. Strange will be very well pleased that it should remain in oblivion." This was written in 1763. Why in oblivion? In the other letter, dated 30th April, 1791 (it is addressed to Lord Buchan) she tells her correspondent that Sir Robert had "gone to Ramsgate for his health now much impaired, and not to be wondered at," she well observes, "after his forty years of close application to his art."

Sir Robert Strange died 5th July, 1792, and is buried beneath a nameless stone in St. Paul's, Covent Garden. Lady Strange died 28th February, 1806, and Isabella Katherine Strange, their daughter, died at Southampton, 14th March, 1849, in the ninety-first year of her age. Who else alive in 1849 could have said that her father had been "out" in arms in the fatal forty-five,—not "sixty years since," like Waverley, but "one hundred and four years since?" Thus much

"Thus of 'enough, enough, and now no more,
As honest old George Gascoigne said of yore,'"*

touching a great artist who could engrave human flesh better than it has been engraved before or since his time, and "who has never been equalled (I use John Burnet's words) in all that pertains to colour and texture."

PETER CUNNINGHAM.

* Southey's Epistle to Allan Cunningham.

THE LATE MR. JOSEPH GWILT, ARCHITECT.

We have again to fulfil a sad duty, that of recording a loss to our profession, by decease of one of its most eminent members. Mr. Joseph Gwilt, a name to be honoured by every present and future student or professor of architecture, died on Monday, the 14th ult., at South-hill, Henley-on-Thames, where he had lately resided. He was in the eightieth year of his age. For the last few years of his life, he was retired from the profession which he had so long pursued with unwearied assiduity; and, during many years previously, he was scarcely known to the present generation of architects, except by his valuable contributions to architectural literature. But, by these he was universally known. His works have, most of them, gone through several editions; and his "Encyclopædia" is a production of extraordinary value, whether for purposes of elementary and advanced study, or for those of general reference. It has *lacunæ*, which have been pointed out; but its fulness, and yet conciseness, constitute it a monument of the labour of one man, and a work of so much importance that it must be taken in great measure as foundation of future treatises and text-books of the encyclopædia and dictionary class, and of several other kinds. This work, however, was not the only one for which Mr. Gwilt's name deserves to be honoured, or will have to be recorded in the short summary that we are able to give of the incidents of his life. These, or so far as we have them at hand, will be found comprised chiefly in particulars of his published books.

Joseph Gwilt was born in the parish of St. George the Martyr, Southwark, on the 11th of January, 1784. He was the son of Mr. George Gwilt, architect, who was Surveyor to the county of Surrey, and erected Horsemonger-lane Gaol and Newington Sessions House, besides other buildings. The elder Gwilt died on the 9th December, 1807. One of his sons was George Gwilt, born the 8th of February, 1775, who became an architect, and whose name is well known in connexion with the restoration of the choir and the Lady Chapel of St. Mary Overie's Church (St. Saviour's, Southwark), and with the restoration of the steeple of Bow Church, and the works of reparation and maintenance of the foundations, in the course of which the remains of the original Norman building were discovered. This George Gwilt, the younger, had commenced his professional career about the year 1801, with the building of warehouses at the West India Docks. He became, however, best known as an antiquary. Some notice of his life may be found in our volume for 1856, in which year, on the 27th June, he died, having passed the age of eighty-one. Joseph Gwilt was a younger brother of George.

After having passed some years at a boarding-school, Joseph Gwilt was sent at the beginning of the year 1798, or when he would be about fourteen years of age, to St. Paul's School, where he remained nearly two years. At the end of the year 1799, he was placed in his father's office. He was admitted a student of the Royal Academy in 1801; and he obtained the Silver Medal of the Academy on the 10th December in the same year, for the best drawing of the tower and steeple of the church of St. Dunstan-in-the-East. In 1811, he published a work on the equilibrium of arches, which proceeded to a second edition in 1826, and later, to a third edition, from which (though this edition does not appear to have had the author's sanction), we transcribe the title,—"A Treatise on the Equilibrium of Arches, in which the Theory is demonstrated upon familiar Mathematical Principles. London: John Weale, 1839."* In 1815, on the 9th of March, he was elected a fellow of the Society of Antiquaries of London. At the end of the following year, when he would be approaching the thirty-third year of his life, he visited Rome and the other principal cities of Italy. How long he was absent, we are not aware. Some time previous to his departure, in order that nothing worthy of notice might escape him, he compiled a species of *catalogue raisonné* of the buildings in the chief towns, classified under the names of their architects. Having every reason to be satisfied with the result in economy of his time, he thought fit to publish the catalogue, with some preliminary and other matter. The work appeared in 1818, under the title "Notitia Architectonica Italiana; or, Concise Notices of the Buildings and Architects of Italy, preceded by a Short Essay on Civil Architecture, and an Introductory View of the Ancient Architecture of

* 8vo., pp. xvi. 104. 4 plates and frontispiece.

the Romans. To which are added some Tables of general use, and two Plates. London: printed for the Author, and sold by T. Egerton, Military Library, Whitehall. 1818."* The different cities and towns are arranged alphabetically, and in cities where the objects are numerous, a list of all the buildings is first given, with a figure or figures before each, referring to a corresponding figure in a section immediately following, wherein the works of each architect are kept distinct, so as to show all that was done by him in that particular city. The principal table in the latter portion of the volume, is a list of the architects mentioned in the preceding part, with the dates of their births and deaths, and the names of the cities and towns wherein they were employed. Then follow a list of the popes from the year 999, with their birthplaces, and the names of English sovereigns that they were contemporary with, some foreign measures, a table showing the ratio of the walls and points of support of several edifices to the total superficies which they cover, and a short table of dimensions of various edifices in Europe. This "Notitia Architectonica" deserves to be better known to architects of the present day, both as a handbook in travelling and a work of reference; and it would well deserve to pass to a new edition. The bulk, if not all of the matter, however, may be found embodied in the "Encyclopædia" of a later date.

In the year 1818, we find his address 20, Abingdon-street, Westminster; and there he continued to be till recent years. About the same time, as we learn, he was a contributor to several periodicals.

In the year 1820, he wrote, and in the following year he printed, a pamphlet entitled "Cursory Remarks on the Origin of Caryatides," which he addressed to the late John Britton, but did not publish. He reprinted the matter of it, however, in his introduction to "Chambers's Civil Architecture" (p. 53 *et seq.*); and the substance of it is also included in his "Encyclopædia." In 1822, he seems to have made the design for new London Bridge, which forms the frontispiece of the edition of his "Equilibrium of Arches," of which the exact title has been given above. On the subject of the bridge, a pamphlet came from his pen in the year following. This would appear to be the *brochure* entitled in one of Priestley & Weale's catalogues, "The Conduct of the Corporation of the City of London considered, in respect of the Designs submitted to it for rebuilding London Bridge, in a Letter to George Holme Sumner, Esq., M.P., by an Architect." In 1822, he had published the first edition of the well-known work on the projection of shadows; and in the beginning of 1824, this came to another edition where the title reads:—"Sciography; or, Examples of Shadows; with Rules for their Projection; intended for the use of Architectural Draughtsmen and other Artists. Second Edition, with considerable additions and improvements, and six additional plates. London: Printed for Priestley & Weale, Library of Works on Art, High-street, Bloomsbury. 1824."†

At the date of first publication of this work, it does not appear that there was any useful and practical English treatise on the projection of shadows; although there were several French works. The author's original intention was to have published a mere version of Stanislas L'Eveillé (Études d'Ombres); and he had actually translated that work and redrawn the examples; but he subsequently saw reason to change his intention. To L'Eveillé, as well as La Vallée, however, he acknowledges obligations, whilst claiming to have made his own work clearer than theirs.

In 1823, on the 4th of March, he had read at "the Architects' and Antiquaries' Club," "An Historical, Descriptive, and Critical Account of the Cathedral Church of St. Paul, London." This was "ordered to be printed by the committee," and a copy is now before us.‡ It bears the motto, on the title-page, from Hooker, who seems to have been one of Mr. Gwilt's favourite authors,—"We count those things perfect which want nothing requisite for the end whereto they were instituted." Some half-dozen pages, additional to those which were originally written by Gwilt, and two plates, would appear to have been added by Mr. Brayley. The copy is marked "Not published." But the plates and letterpress seem to be identical with those of the account of St. Paul's Cathedral, in Britton and Pugin's Public Buildings of London, that bears Mr. Gwilt's name.

* 8vo. pp. lvi. & 140. † Pp. viii. & 55. 24 plates.
‡ 8vo. pp. 40, eight plates.

In 1824, he published a sheet engraving, giving a Comparative View of the Four Principal Modern Churches in Europe by means of transverse sections of them to the same scale.

In 1825, was commenced the publication of the well-known octavo edition of Chambers's Civil Architecture, which Mr. Gwilt enriched with valuable notes, and prefaced with original matter on Grecian Architecture and several plates.* The work appeared in six numbers, on the alternate months, and is generally bound in two volumes. Mr. Gwilt's preface (to which there is a note giving a long extract from a magazine article by the late Mr. J. B. Papworth in defence of Chambers) and a memoir of Chambers by Mr. Thomas Hardwick fill 52 pages. These are followed by the matter, by Gwilt, entitled "An Examination of the Elements of Beauty in Grecian Architecture, with a brief investigation of its origin, progress, and perfection" (66 pages), and by eleven plates giving examples of the Greek orders. This "Examination" includes a statement of principles that had not previously been expounded with the same clearness; although lately they may have been recognized by most of those who have written on the subject of beauty and design in architecture. The plates in the body of the work, were carefully reduced from the folio size of Chambers's latest edition, from which the text was taken. In the "Examination," in a note, particulars were first given of some of Barry's investigations in Egypt, with certain reproductions of his sketches, which constituted a very important contribution to our knowledge of the Egyptian derivation of Grecian architecture. In 1826, Mr. Gwilt produced his well-known translation, which he had been engaged upon for many years, of the Architecture of Vitruvius, the only complete translation of the ten books, in the English language, that has any merit.† The translation is preceded by a short life of Vitruvius, and a list of the several editions and versions; and it has ten plates, besides vignettes to the ten books. There is also a good Index. In the same year, he published an octavo volume, the "Rudiments of Architecture, Practical and Theoretical, with Plates."‡

This work treats of the materials used in building, and of their combination, of the orders, arcades, proportions of rooms, and many other matters of architectural design; and gives a "Cursory View of Ancient Architecture," and a Dictionary of Terms, besides a table of foreign measures and length. The contents of this little work, with the illustrations, may be considered as afterwards included in the "Encyclopædia."

In 1833, Mr. Gwilt was elected a member of the Royal Astronomical Society. He always upheld the importance to the architect, of being a sound mathematician. In addition to his other acquirements, he was an accomplished musician; and the treatise on the Art of Music, published in the "Encyclopædia Metropolitana" in 1835, was from his pen. Somewhere about the same time, he also wrote a small work entitled "Rudiments of the Anglo-Saxon Tongue," which was published by Pickering.

In 1837, Mr. Gwilt published a thin octavo, but embodying much historic and other information, under the title, "Elements of Architectural Criticism for the Use of Students, Amateurs, and Reviewers," to which he joined in the following year an "Appendix." The first publication was meant to controvert certain opinions on the merits of the modern German school of architecture, which views had been put forth in several articles in the *Foreign Quarterly Review*. The faults of the Museum at Berlin, and of the Pinacothek at Munich, are exposed: justice, however, was hardly done to those works, or to their character of art. For a reference made to the critics, in the "Elements," Mr. Gwilt was not soon forgiven; and the results were many subsequent expressions of opinion, in which neither side was quite right, and differences not exactly tending to more accurate views amongst the public on the subject of art. In a letter to the writer of this present notice, in 1856, he said:—"As to the German controversy, it was mixed up with *personal* reflections on Soane, which, at the time, though no admirer of his taste in design, I thought unjustifiable, and which no doubt added a little to the acerbity of what I wrote; and, moreover, I did not approve of my brother artists and countrymen being run down, knowing the talent there was and still is amongst them." And he added, referring to the competition for the Government offices then in agitation:—"I should not be surprised in this great Downing and Parliament Street competition, if an attempt is made in favour of some German architect in the disposition of the premiums." The "Elements" were inscribed by Mr. Gwilt, to his friend Mr. C. R. Cockerell, now deceased. In 1842 the Encyclopædia of Architecture was first published.* The author acknowledges that he has taken some matter direct from such writers as Euler, Rondelet, and Durand, and from the *Encyclopédie Méthodique;* and he mentions that he has preferred Rondelet's matter on arches to his own; whilst he has thrown aside, to greatly improve upon, his own Sciography. But he believes his attempt to produce a *Complete Body of Architecture*, an entirely original one. We have already expressed high opinion of the attempt. Some of the few omissions were indeed strangely made, and seemed to have been made under influence of prejudice. In later editions several of these were remedied.

One of those editions, the second of the work, appeared in 1851; a third came out in 1854; and a fourth, at a cheaper rate, appeared in 1859.† In these later editions, the old Building Act, printed at length in the first edition, was taken out, as having been repealed. In place of it was inserted an Appendix or "Supplemental View of the Symmetry and Stability of Gothic Architecture." This was to be had separately. The author said of it, in one of his communications, in 1856:—"I did not think of mentioning it; though I think the infinite number of self-created critics now-a-days on the subject, might learn something by a perusal of it: but this may, on my part, partake of some degree of self-estimation." In the year of publication of the first edition of the Encyclopædia of Architecture, 1842, he contributed to "Brande's Dictionary of Literature, Science, and Art," all the articles relating to architecture and music. A second edition of this dictionary was published about the year 1854. We have, perhaps, not mentioned all the nominal editions of Mr. Gwilt's works. Some of the plates and copies of the works published by Weale and his partner, at one time got out of the original hands, and may have been re-issued merely with new title-pages. We have given, however, the dates to the last editions that received the author's supervision. In 1838 there was privately printed, in the form of a pamphlet, or thin 8vo., with plates, "A Project for a National Gallery on the site of Trafalgar-square, Charing-cross, Proposed and Designed by Joseph and John Sebastian Gwilt, Architects." The proposal, which it will be seen dates long subsequent to the completion of the present buildings in Trafalgar-square, was for the erection of a building on the ground which is now occupied by the asphalted area and fountains. Mr. Gwilt's last literary labour was the editing a new edition, published by Mr. Bohn, of the "Principles of Architecture" of Peter Nicholson, whose labours were held by Mr. Gwilt in great esteem. He revised the work, made many corrections, and supplied a plate that had been omitted.

Mr. Gwilt's works as a practical architect, included the church at Lee, near Lewisham, lately pulled down, and the approaches to Southwark Bridge. His principal work was Markree Castle, near Sligo; and one of his most recent, was the Byzantine church at Charlton, near Woolwich, dedicated to St. Thomas. He also designed and executed additions and alterations to the hall of the Grocers' Company, or the premises extending from Grocers' Hall-court in the Poultry to Princes-street by the Bank; in which latter street, an elegant Italian doorway may be judged as having come from his hand. To this company he was surveyor. He held a similar office for the Waxchandlers'; and he was also architect to the Imperial Insurance Company.

Mr. Gwilt was one of the surveyors of the sewers in Surrey, having succeeded his father. The district extended from East Moulsey into Kent, to the river Ravensbourne. His tenure of the office ceased about the year 1846.

In one of the notes before alluded to as ad-

* "A Treatise on the Decorative Part of Civil Architecture: by Sir Wm. Chambers, K.P.S., F.R.S., F.S.A., F.S.S.S., with illustrations, notes, and an examination of Grecian Architecture." London: Priestley & Weale. 1825.

† "The Architecture of Marcus Vitruvius Pollio, in Ten Books. Translated from the Latin by Joseph Gwilt, Fellow of the Society of Antiquaries of London. London: Priestley & Weale. 1826."

‡ London: Priestley & Weale, 1826. 8vo. pp. xx. 236, plates 11 and vignettes.

* "An Encyclopædia of Architecture, Historical, Theoretical, and Practical. Illustrated with more than One Thousand Engravings on wood, by R. Branston, from Drawings by John Sebastian Gwilt. London: Longman, Brown, Green, & Longmans. 1852." 8vo., pp. xii. & 1,089.

† These editions have 1,092 pp.

dressed ten years later, to the present writer, he wrote,—"Mr. Chadwick got us all bundled out; and I rather think the consequent confusion and curious schemes for draining the metropolis, are only now at their beginning;" and in another,—"With the old Commission I never had any rupture, having held office under it for upwards of forty years. When the *general* Commission was appointed, I declined to act under it from the beginning, and never did act. I received from it a very complimentary letter for past services, but no compensation for loss of office. I totally disapproved of the Chadwick system, and therefore would have nothing to do with it." Mr. Gwilt advocated sewers of large dimensions in contradistinction to a proposed system of pipe sewerage. Both extremes of opinion have since undergone modification.

Mr. Gwilt's evidence was frequently sought for by committees and commissions, on questions relating to the subjects over which his wide range of study and pursuit extended. Though known as the author of few designs or erected buildings, he possessed in an eminent degree the combination of attainments required in the practical architect; and the manner in which these attainments were turned to account for the benefit of the profession and students, should entitle his name to a permanent debt of gratitude.

POPULARISING PHYSIOLOGY.*

Dr. Lawson is Professor of Physiology in Queen's College, Birmingham; and one of the lecturers on natural science under the Science and Art Department of the Committee of Council on Education. This little work of his is one of the best we have seen of the popular treatises, in plain and intelligible language, on a science so full of "loud-sounding essays and terrific jaw-breaking Greek names," as Physiology usually is. The volume is illustrated by instructive engravings of the various organs, and tissues, bones, blood-vessels, nerves, &c. The lively description of the process of digestion, from its preliminary stages in the mouth and fauces, where the food is triturated and mixed with the solvent saliva, to its absorption into the general circulation, after passing through the stomach and intestines, where it is dissolved, is particularly well and popularly written, and must be understandable by every reader, so far as it is understandable at all at present; for here, as elsewhere throughout the animal economy, there are still mysteries even to the most skilful and learned physiologist.

In this especial branch of the subject, by the way, we observe what cannot but be held to be an important omission as regards the route of the food and its connexions with the blood circulation. Not one word that we can recollect relates to the very peculiar and important system of the vena portæ, which connects the venous absorbents of the stomach and intestines directly with the liver; and, through that, with the general circulation. This system bears a strong analogy to the pulmonary circulation, connected with the lungs; and it is probably only the comparative obscurity in which the functions of the liver are still involved which prevents physiologists from regarding the hepatic or liver circulation as not only analogous to the pulmonary or lung circulation, but of probably equal importance with that to the constitution of the blood; and this is saying a good deal, considering the association of the lung circulation with the respiration and the vital air. Dr. Lawson himself explains, in a very interesting way, how the food, *all but what is in it of the fatty and starchy* FUEL, as it were, of the frame, is absorbed,—during its rotary motion in the stomach, and after its mixture with the acid gastric juice,—by the venous circulation in the coats of the stomach; but he does not tell us clearly where this dissolved food then goes; leaving us rather to suppose that, like the dissolved fatty matters and the saccharized starch, which are prepared by the alkaline pancreatic juice and the bile in the duodenum or second stomach and absorbed by the lacteals,—it is sent at once into the general circulation; whereas, it is a very remarkable fact that it is precisely, and only, the venous blood which comes from the intestines, and which carries the dissolved food (the portion of fatty and sugary fuel already prepared, thus forming a no less remarkable exception), that is conveyed to the liver *before* being sent into the general circulation. Majendie and others also long since demonstrated, that all fluids the basis of which is *water*, were absorbed from the stomach and intestines by the veins (and not by the lacteals) and conveyed direct to the liver, where this water appeared to exercise some special influence on the blood, were it merely from the thorough *amalgamation of the water and the blood* here effected; and the question which at once suggests itself, on a proper consideration of this fact, is,—may not water bear a similar or analogous relation to the blood in the liver with that which air bears to it in the lungs?—a question, the significance of which is much enhanced by the circumstance,—which a little reflection as to the breathing apparatus in this connexion clearly shows,—that the diaphragm, or midrif, is so situate, with the lungs above and the liver below, that while, by its contraction and its connexions with the ribs, &c., it *expands* the *lungs*, it at the same time *compresses* the *liver*; and, *vice versâ*, while, by its relaxation, it *compresses* the *lungs*, at the same time it *expands* the *liver*.

The comparative obscurity in which the functions of the liver are still involved is thus admitted and described by Dr. Lawson:—

"Some physiologists have thought that the liver, besides secreting bile, altered the blood passing through it, by giving it sugar. The notion has recently been completely upset; so that, though this organ *may* fulfil other offices besides the formation of bile, the latter is all we can maintain to take place in it. The ancients believed that the liver exercised a powerful influence over the mind; and . . . . there is no slight reason to suppose that the state of the mind *does*, in some measure, depend upon the condition of the liver."

So that the ancients may have known more of the functions of the liver than all the little that the moderns seem confessedly to do; and hence, perhaps, the singular and obscure allusions, in the East, to bosom friends as "the life of their liver;" and the mysterious mythological connexions of the liver; such as the liver of Prometheus, growing by night and being devoured by day. Plato, apparently with mythological significance, tells us that the liver is the seat of the spirit of prophecy; and, even in Christian doctrine, we have evident and curious allusions to the liver of "him who *came by water and by blood*," in the wound of the right side, whence "there came forth *water and blood*."

As to Dr. Lawson's hint that the formation of sugar has been attributed to the liver as its re-cretory function, although physiologists may have been right in rejecting this hypothesis, is it not an instructive fact that it is precisely the sugar, either swallowed with the other food, or produced from the starch of the food in the duodenum or upper portion of the intestines, which, *along with the oleaginous or fatty material* of the animal fuel, passes through the lacteals into the general circulation, and does *not* pass first through the liver? The oleaginous and sugary materials thus passed on are just so much of the fuel as is *already prepared* for the combustion which takes place in the lungs; and we thus see that when the more fitting materials for this fuel are got from without, they are dissolved in the intestines, and *sent directly to the lungs, while all else is sent to the liver*; and, when we also consider that, in certain diseases, the liver is found to be gorged with fatty matter, and in others with sugar; may not physiologists have been rather hasty in concluding, as they have at least indirectly done, that the liver has nothing to do with the final preparation of the food into blood before it is sent to the lungs? and, on the contrary, would it not rather appear *as if the liver were the hydridizer of the food*, by means of water, and so its final *solver*; just as the lungs are the *oxydizer of the food* by means of air, and so its *concreter* (as oxygen is now found to be), into *clotting* blood, fit for the repair of the tissues?

This, however, is a subject on which we cannot here enlarge: we only desired to point attention to a very important matter which, perhaps excusably, has been overlooked by Dr. Lawson in his very able popularization of the recondite science of physiology. Such books as this belong to us as bearing materially on the "public health" question. The spread of information of this description would save much illness.

* A Manual of Physiology; being an Attempt to Explain the Science of Life in Untechnical Language. By Henry Lawson, M.D. London: Hardwicke.

THE SITE OF FOLEY HOUSE, AND CROOKEDNESS OF LANGHAM PLACE.

Whoever deliberately perambulates a large town may observe many strange contortions and obstructions in the arrangement of the streets and buildings, which must appear unaccountable to those who view them in after ages. It is now more than sixty years since our Government determined to make a good leading thoroughfare from where Carlton House once stood, in Pall-mall, to the Regent's Park (formerly Marylebone Fields), and proposed, in a limited competition, to offer a premium of 1,000*l.* to the successful author of a plan for the improvement of the whole estate, which resulted in Mr. Nash's design being submitted to the Prince Regent and to Parliament, and an Act was then obtained for carrying his plan into execution. Mr. Nash was the only competitor who ventured to interfere with the aristocratic quietness of Portland-place, which, being inclosed at both ends, was not a leading thoroughfare, having only streets crossing it from east and west. This grand place was remarkable for its peaceful dignity and undisturbed character. In it few sounds were heard, except those emanating from the wheels of private carriages. During the fashionable season, after dinner, in the twilight of a fine evening, it was not unusual to see parties, slowly walking up and down, enjoying the fresh air, with no further addition to their evening costume than a round hat for gentlemen, the ladies with an immense lace veil loosely thrown over their head and shoulders. Any interference likely to convert the retirement of Portland-place into a decided thoroughfare for all kinds of traffic would, of course, meet with considerable opposition; but the Prince Regent nodded assent, and, with the aid of his powerful party, overwhelmed all attempts at investigation. On went the public street through Portland-place, in any way that Mr. Nash and his royal master thought proper to direct, regardless of the most potent arguments of those who were termed *busy meddlers*, and of all opinions and petitions, both in and out of Parliament. This Act of the Legislature was probably the most stringent, powerful, and arbitrary of any in modern times; for it was to supersede all other Acts and laws relative to buildings, streets, or public thoroughfares in any way connected with the new street.

In order to understand the cause which gave rise to the curved way between Portland-place and Regent-street, a slight sketch of the history of Langham-place and its neighbourhood may be necessary as well as interesting. William, second Duke of Portland, was married at Marylebone (commonly called Oxford) Chapel, in Vere-street, on the 11th of July, 1734, to the Lady Margaret Cavendish Harley, only child and heiress of Edward, second Earl of Oxford and Mortimer; hence the Marylebone estate, at that time nearly all fields, became the property of the Portland family. Soon afterwards, Lord Foley became a tenant on lease of a nearly square piece of ground, about two or three acres, in the middle of the estate, on which he built a detached residence, surrounded by a garden, from the designs of S. Leadbetter, the same architect who erected the chapel in Great Portland-street. There was a restrictive clause in the agreement between the Duke of Portland and Lord Foley, that no other buildings should be erected upon the same estate, to the north. It is probable this stipulation had no other object than to prevent incidental nuisances to Foley House; but when Lincoln's-Inn-fields, Red Lion-square, Queen's-square, Soho-square, and their neighbouring streets, became no longer fashionable town residences, hundreds of first-class houses rose in a few years in the parish of Marylebone. Lord Foley then saw the beauty of his situation preserved by the force of this stipulation; and the Duke of Portland felt that his contemplated improvements were checked by the same means. In due time both landlord and tenant, assisted by the valuable judgment of the celebrated architect, Robert Adam, brought their contending interests to a conclusion by making Lord Foley's house and garden freehold instead of leasehold, and building Portland-place 126 feet wide, exactly the width of the front of Foley House; thus conforming strictly to the original covenant without materially affecting the prospect from his lordship's house, or obstructing the ardour of speculation on the part of his grace.

There was nothing particularly to admire externally at Foley House; nor in the arrangement of the plan, or decoration of the rooms: it was a plain brick house, with stone dressings, consisting of a basement, ground floor, and bed-rooms above. The entrance was from Chandos-street: the ground was enclosed on the east, south, and west, by the backs of neighbouring houses; and a blank brick wall, without a door or opening of any kind, was built across Portland-place.

Mr. Nash's original plan for Regent-street was to continue Portland-place in a direct line southward, to where Hanover Chapel is situate east of Hanover-square. To attain this project, the freehold of Foley House and garden was to be sold in one lot, and, Mr. Nash being possessed of almost unbounded control, managed to become pur-

chaser of the entire property, and thereby deal out the ground in separate lots for private houses, and a large portion for the public thoroughfare Considerably beneath this intended straight street, from Portland-place, southward, before any of the old houses were pulled down, an immense sewer was constructed by tunnelling under the houses, to convey the water and sewage from Park-crescent, perhaps even from the east side of Regent's Park, through the New-street, Pall Mall, Charing Cross, into the Thames somewhere by Scotland-yard; and, it is worthy of remark, that this large sewer does not run in the crooked line of Langham-place, but straight from Portland-place to Regent-street, proving the originally intended line of thoroughfare.

As soon as possible the old house was pulled down, to make way for the public thoroughfare; and the very first applicant for a site, on which to erect a mansion and offices, was Sir James Langham, to whom the new proprietor of the Foley Estate sold a plot of the freehold, conditionally that the vendor was to be architect to the new building. These terms being settled without loss of time, Mr. Nash immediately began to erect a town residence for Sir James, the principal front being in a line with the west side of Portland-place. This building was in progress before any others on the Foley estate; even the fence-wall which separated it from Portland-place was not yet taken down. Sir James Langham's new mansion was already roofed in, when most important, extraordinary, and unwarrantable proceedings occurred, in consequence of the new structure presenting unmistakeable evidence of insecurity. At this period of the building another architect was employed to remedy the defects of construction. Mr. Nash, who had almost unlimited power, as regarded the new street, was dismissed by Sir James Langham: the former then immediately commenced altering the originally intended straight line to that of the crooked one which Langham-place now presents, and prepared to erect houses with their backs close to the principal front of Sir James's new mansion. In this dilemma the worthy baronet had no alternative but to purchase, at an enormously high price, the piece of garden-ground on which the large hotel is now being erected.

C. H. Smith.

THE SANITARY STATE OF OUR ARMY IN INDIA.

That this subject has not only been taken up by the Government, but by the Press, if not also by the public at large, cannot but be highly gratifying to us, who first urged it on the attention both of the Government and of the public. The report of the Royal Commission, of which Lord Herbert and Lord Stanley were the successive heads, fully justifies all we said on this subject, and renders it imperative on the Government to institute, both figuratively and literally speaking, the most sweeping measures for the sanitary improvement of our Indian Army. By comparison with those remediable and, in fact, quite inexcusable causes of ill health and premature mortality which cut down our men in India, the unavoidable influence of the climate is as nothing; and, in truth, it is chiefly through those inexcusable abominations of which we speak that the burning sun of India operates to the production of virulent cholera, fevers, and other fatal forms of diseases for which "the climate" is perpetually blamed. And the result is not only fearful as regards the waste of human life, but enormous as regards the cost.

It is estimated that the expense to this country, in money, by the avoidable excess of mortality among the army in India is 388,000*l.* per annum. The estimated cost of sickness amounts to 200,000*l.*, but as matters are at present every soldier in India costs us 100*l.* a year; and of those for whom we pay such a large sum there are always an average of 5,880 sick. The commissioners assign the periodical fevers and certain other forms of disease to *malaria* as the chief cause,—a cause of evil, however, which everywhere disappears before clearing, subsoil drainage, and improved agriculture; and they remark, what is well known, that "retentive soil, having imperfect natural drainage, expanses of shallow and partially dried-up water, neglected tanks, hollows filled with water, marshy ground, and damp and wet ravines, are all well-known sources of malaria in India." We very much doubt, however, whether much of what is called malaria do not simply mean foul air from filth in station barracks and towns. The commissioners further say,—"That climate alone is not the cause of the excessive waste of life amongst our soldiers in India is obvious from the fact that the mortality of the officers is less than that of the privates, and of the civilians less than that of the British officers." Sir Ronald Martin says it is 'evident that due regard has not been paid to the sanitary condition of the Indian barracks, *and that proper attention has not been paid to their surroundings.* The same gentleman also tells us, that "of all the causes which go to foster and maintain epidemics, the ill-selection of localities, the structural defects as to ventilation, drainage, cleanliness, and the personal habits of the soldiers, *are the most important questions.* There are other evils which call for remedy, if the lives of our soldiers in India are to have their natural expansion. Barrack accommodation must be improved: the well-known causes of offensive and poisonous effluvia must be removed; the great evil of overcrowding be stopped, and the means of cleanliness be provided in every case." Sir John Lawrence reports that both officers and men are very careless in these respects; and that their habits of life are inimical to health; that the habits of a cold climate are extremely pernicious in India, and soon produce bad health and an increased mortality: the men under the circumstances eat too much animal food; eating it sometimes two or three times in the day, irrespective of season or temperature. "Government," says Sir John, "should try to induce the men to use more vegetable diet in the hot weather:" besides, there are intemperance, a certain amount of immorality and want of interesting employment,—all causes which affect health: but we believe that if the barracks were thoroughly improved, those in bad situations closed, and a proper amount of cleanliness enforced, we should cease to be pained by hearing accounts of the wholesale destruction of life in our army in India.

Each month's experience,—every new inquiry made into the matter,—only shows more and more clearly and evidently the evils everywhere, and in all countries, of sanitary neglect, and the advantages of proper precautions. Miss Nightingale and her staff, aided by the health-officers sent to set the camp and hospitals in order, saved our army in the Crimea; and fifty other important instances might be given to show the sure beneficial effects of resorting to right measures. In connexion with our soldiers in India it is necessary that these measures should be promptly applied. Our opinions have been recently corroborated by very competent authorities, as at the Newcastle-upon-Tyne meeting.

On this point Dr. Bird said that he had no fear of the climate of India, if what was necessary to be done for the health of the army were accomplished. This gentleman remarked that intemperance and vice were but partial causes of the mortality. The chief causes were heat, moisture, and bad localities. In some cases where disease prevailed in the army, the greatest part of the outbreak was occasioned by the *overcrowding of the barracks*, and the *filthy cesspools* in the midst of them. Men might be acclimatized to elevated degrees of temperature, but it was impossible to acclimatize any human being to the effects of foul localities and miasmatic diseases. He decidedly objected to the view by Colonel Sykes, that vice and intemperance were the main causes of disease in the army in India; and maintained that the mortality chiefly arose from filthy localities and unsuitable and ill-ventilated barracks. Good barracks could not, however, alone secure good health, unless all other accessories were attended to in the same way.

Dr. Hunt was also of opinion that the excessive deaths were not to be attributed to intemperance and immorality. He thought that good might be done by selecting localities more suitable to a warm climate.

Colonel Sykes does not seem to have discussed the sanitary part of this question. He stated that where great heat and moisture were combined, there resulted the greatest injury to health; and this circumstance shows the need there is of choosing dry localities as resting-places for our troops; for, without taking the loss of life and health into consideration, the money-waste caused by the destruction of these trained soldiers is enormous.

A most careful examination of the Indian barracks should be made: we ought to know the difference of the death-rate in different localities; and this ought to be considered in relation to the sanitary state of the places as to drainage and cleansing, water-supply, and so on. It would also be worth while to consider what dresses could be provided for the men suited for the climate.

It has often been a matter of surprise and regret that several of our army-leaders are not sufficiently acquainted with, or are neglectful of those sanitary laws which so materially affect health. There does not appear to be any reason why this useful knowledge should not be combined with military duties. The army surgeons could often effect a great deal of good in this way, but they do not like to interfere: nor would they, in some instances, be listened to if they did. In the hot Indian sunshine all pollated matters should be quickly and effectually removed from camps and barracks. In the stations there is needed not only extensive ventilation, but a shade from the heat, and every care should be taken of the purity of the water-supply, and of the drainage of all stagnant pools and other similar places. We have recently met with some soldiers who have returned from India, in sorely shattered health, and who complain of the lack of intellectual amusement to employ the many hours of leisure: there can be no doubt that this long and forced idleness is a cause of mischief.

We have alluded to the state of the drainage and water supply, cleansing, &c., in India; but what will our readers think when we assure them that drainage by sewers, and water supply by pipes, and often even cleansing by any process, appear to be among the sanitary improvements which can scarcely be said to exist at all in India as yet; and that many places are in a far worse state as to sanitary matters than they used to be in this country in our very worst towns before there was any sanitary agitation at all.

Miss Nightingale was lately applied to by the Royal Commissioners for comments on the "Stational Returns" from barracks, hospitals, and towns in India, which were laid before her for that purpose. These returns Miss Nightingale has carefully dissected, and her report upon them has been reprinted from the report of the Royal Commission, to which it formed an appendix.*

Such a task, we are perfectly certain, never before fell to the lot of a lady to perform; and the ministering spirit of the Crimea alone could be expected to perform it. The result was, as the publisher has well said, that—

"Those who have Miss Nightingale's other volumes will thus be able to add to them a book which is second to none of them in charm of style, and will promote the reform of the sanitary condition of the British army, as well as conduce to the well-being of the natives of India."

In the outset of her report, or observations, Miss Nightingale says:—

"If there be a single station in India with a good system of drainage, water supply, and cleansing for itself and its bazaars, with properly planned and constructed barracks and hospitals, provided with what is necessary for occupation and health—a station where the men are not encouraged to drink, and where they are provided with rational means for employing their time—to such a station these remarks do not apply. *But I have not found it.* Everywhere there are grievous sanitary defects, which, wherever they exist, can lead only to sickness and loss of life to the degree in which they exist. And let those who doubt whether this representation is true, taken as a whole, look at the stational reports for themselves. In the papers sent me I find an amount of evidence showing the causes of disease in the Indian army, such as perhaps was never before brought together on any similar subject."

Yes, and such evidence! such a wading through all sorts of filth and some sorts of vermin,—"bad water, bad drainage, filthy bazaars, want of ventilation, surface overcrowding in barrack huts and sick wards."

As to the water, it often swarms with animal life, as at Hyderabad [surely Hydra-bad must be the right spelling?] and a composition which "reads like a very intricate prescription, containing nearly all the chlorides, sulphates, nitrates, and carbonates in the pharmacopœia, besides silica and large quantities of organic matter—animal and vegetable,—which the reports apparently suppose to be nutritive [as well as remedial], for few of them but 'consider' the water 'good' and 'wholesome.'" Miss Nightingale gives amusing illustrations of the "beginning" and the "end" of the "water-pipe" of India, in the shape of two "bheesties," one loading himself with his water-skin, and the other emptying it into a water-jar.

As for the bad drainage,—

"This may be rendered no drainage whatever, in any sense in which we understand drainage. The reports speak of cesspits as if they were dressing rooms. At Nusseerabad and Kolapore, 'a small cesspit is attached to each bathing-room, urinal, or privy,' and 'to each married man's quarter there is a bathing-room with cesspit.'

At the capital of the Bombay Presidency, where civilization has introduced a 'main drain' 2 feet square, with a flat 'bottom,' this 'main drain' is a 'great nuisance,' and the 'stench at times scarcely to be endured.' At Fort George, in Bombay, the 'latrines are not drained except into an open ditch, which is always in a foul state.'

* "Observations on the Evidence contained in the Stational Reports submitted to her by the Royal Commission on the Sanitary State of the Army in India." By Florence Nightingale. London: E. Stanford, 6, Charing-cross. 1863.

Indeed, Bombay would gladly say, as the London woman said when asked to point out the drains, in the days when London drainage was in a similar state, 'No, thank God, sir, we have none of them foul stinking things here.' * * * * * * * * *

Everywhere the system of 'drainage' is that 'cesspits' are 'emptied' when 'filled' or 'when necessary,' and their contents carried away by hand."

The Indian drainage system is graphically represented by a night-pail carried across a bamboo by two Indians,—"bheesties," too, we suppose.

"It is impossible" (adds the reporter after her observations on the water supply and drainage) "to pursue this subject further. There are so much worse things in the Stational Reports than what I have chosen to give, that I must say to those who call my 'bonnet ugly,' 'There are much uglier bonnets to be had.'

The system of water supply and drainage in India may be briefly defined as follows: they draw water from a well, not knowing whence it comes, and if there be any means to drain off water it is into a cesspit, or into long, pervious drains, not knowing whither it goes. When this is not done, all the fluid refuse is collected into open cesspits, and carried away by hand-labour or carts. Or else it is allowed to dispose of itself in the air or earth as best it can.

Drainage, in the sense in which we have found it necessary for health in this colder climate, is by no means considered necessary for health in the hot climate of India; for, as in the case of the water supply, most of the reporters consider *no drainage* a sufficient guarantee for health."

The filthy bazaars, Miss Nightingale remarks, it is almost impossible to describe,—they are simply in the first savage stage of social savage life,—except where the two Lawrences have left their more civilized traces.

Ventilation, like all else, is in a primitive state:—

"Generally, very little attention appears to have been paid to independent ventilation as a cardinal point of barrack construction. Doors and windows have been trusted to; yet they are so placed that men are often exposed in bed to hurtful draughts, and if shut, the fresh air is also shut out. Sometimes there is no glass in the windows, and when these are shut there is darkness as well as foul air.

A knowledge of the proper application of sanitary appliances to building in India appears to be as yet in its infancy."

So with regard to the population of the barracks:—

"The men are far too crowded in their Indian barracks. In almost every case there are too many men in the rooms for health. The floors in most barracks are merely the ground bricked over, or they are of stone or of a kind of plaster.

At some stations the floors are of earth, varnished over periodically with *cow-dung*! a practice borrowed from the natives. Like Mahomet and the mountain, if men won't go to the dunghill, the dunghill, it appears, comes to them.

To sum up: it is not economical for Government to make soldiers as uncivilized as possible. Nature sends in her bill—a bill which has always to be paid—and at a pretty high rate of interest too."

One of the station reporters talks of the accommodation of 300 men per room as being "without inconvenient overcrowding." Miss Nightingale asks "what is convenient overcrowding?" and however difficult it may be to give a satisfactory reply, we fear there *is* a vast deal of "convenient overcrowding" in our Indian barracks.

The description given of the state of native towns in the reports submitted to Miss Nightingale she describes in one word as "astonishing."

"Can it be possible," she says, "that such a state of things exists after all these years of possession and unlimited authority?

So far as one can judge from the evidence, the sanitary state of entire large cities is as bad as, if not much worse than, was the state of the worst parts of our worst towns before there was any sanitary knowledge in the modern world at all."

Intemperance, excess of food, want of occupation and exercise, the plans and condition of hospitals, the hill stations, and various other subjects, are brought under review in Miss Nightingale's valuable contribution to the sanitary history of our Indian army; and we believe that nothing that has till now been written on the subject will so thoroughly rouse the public attention to this important subject as her "Observations on the Sanitary State of the Army in India."

THE SANITARY IMPROVEMENT OF OUR TOWNS.

Carlisle and Cockermouth.—A very influential meeting has been held in the Court-house, Cockermouth, to hear an address from Dr. Elliot, of Carlisle, on the subject of sanitary reform, and to consider as to the adoption of the local Government Act. Although only a few hours' notice of meeting had been given, yet at the time announced for its commencement the building was crowded, a proof of the interest taken in this important question by the people of Cockermouth. Dr. Elliot, in course of his address, alluded to what had been done at Carlisle. The sanitary reformers had had their little battles to fight in Carlisle, he remarked; and when the subject was first mooted they were resisted tooth and nail. They had to enlighten the inhabitants upon a subject which they knew little about. He had five or six plans of the city drawn upon tracing paper. He gave one to the overseers, requesting them to mark in Indian ink upon the plan, the places where the greatest amount of money was expended, and where an extra amount was expended to mark the place or places doubly black. He gave one to the police, and requested them to adopt the same rule with reference to those places which gave them the most trouble. He gave one to the Dispensary, and requested that the places where the Dispensary doctors gave the most medicine to those who could not afford to pay for it, might be marked upon the map; and by this means he got hold of the fever list. He gave another to the city surveyor, and told him to paint in with Indian ink the low levels of the city. He received them all back; and, when they were suspended in the Athenæum, where they held their meetings, the audience was singularly struck by the marvellous identity of the four maps. The places were marked exactly alike in each: in fact, they all seemed the work of one hand. These facts proved that, where dirt prevailed, vice and crime prevailed as a natural consequence. In Carlisle they had an experience of twelve or thirteen years of the working of the Health Act. They could speak practically now: they had a right to do it; and he would recommend the sanitary reformers of Cockermouth to send a deputation to Carlisle for the purpose of ascertaining whether or not the working classes of that city had derived any benefit from waterworks, sewerage, and the Board of Health. He pledged himself that the answer would prove satisfactory. The question, from a medical point of view, was an important one to the working men, their wives, and children. For the preservation of good health it was necessary that the blood should be pure; but what chance had the blood of being purified when the air taken into the lungs was impure and polluted? He could remember the time when typhus fever prevailed in the best streets in Carlisle to such an extent that, previously to the removal of a patient to the fever hospital, which contained fifty beds, care had to be taken that there was a vacant bed. It was a common case then for the fever hospital to be full, but it had not been half nor a quarter full since the application of the Sanitary Act. This Act had not only knocked down fever, it had almost destroyed it. He had that day visited the hospital, and there was only one case in it, and that was not a case of fever, but of diphtheria. He called earnestly upon the community of Cockermouth, especially the working classes, to assist in the work. Amongst all the great and good works of the present day it would be difficult to find a nobler one than sanitary reform. It was unanimously resolved, at the close of Dr. Elliot's address, that the local Government Act ought to be applied to the town.

Bacup.—At a great and crowded meeting of the ratepayers of Bacup, to consider as to the adoption of the local Government Act, an energetic address in favour of the object in view was delivered by Mr. Rawlinson, and the result was that a resolution to adopt the Act was carried by a considerable majority.

Kidderminster.—At a recent meeting of the town-council, the sanitary state of the town was brought under notice by the following communication from the clerk to the board of guardians. "The Mill-street and Bales-hill nuisance, reported a month ago, still remains unattended to, as also several others. The river and drains generally are in a very foul state. Nuisances daily occur to us in our visits, but it is useless reporting them unless some person has the power to compel their removal. There is a great outbreak of fever of a violent type in the town, and every measure should be exerted to prevent accumulation of filth, even in small quantities. Diarrhœa also is very prevalent, and this of a type evidently attributable to the foul air generated in the various localities in which these sufferers resided." The communication was accompanied by an urgent request that the council should take immediate steps to abate the nuisance complained of. The town-clerk was requested to assure the board of guardians that they would spare no pains in exercising the powers vested in them for the removal of nuisances.

Tamworth.—A meeting has been held in the Townhall to consider whether any and what steps can be taken to amend the defective drainage, and otherwise promote the general health and welfare of the town. The mayor presided. The following resolutions were, after some discussion, adopted:—"That a committee be appointed to consider and report as to the necessity of draining the town, or particular parts of it, and the best means of doing it, and that they be sanctioned to consult at their discretion a competent surveyor;" and "that this meeting is ready to adopt such Act of Parliament as is requisite for carrying out the objects contemplated, and is in accordance with the views of the committee; and that the mayor be requested to call a public meeting, as before, as soon as the committee certify him that they are ready to present their report."

EXCAVATION OF THE TEMPLE AT BASSÆ.

THE LATE MR. COCKERELL, R.A.

Professor Donaldson writes to us as follows:—

"In your interesting memoir of our late lamented friend C. R. Cockerell, Esq., there is one statement, in which my name is mentioned, and which I hasten in justice to him to correct, as it contains a slight inaccuracy. It says that, during Mr. Cockerell's absence in Sicily, I was with the party of German artists who excavated the ruins at Bassæ, and the first account of which I published in the supplementary volume of Stuart's 'Athens.' The fact is, that Mr. Cockerell did himself, then and there, with his able companions, ascertain all the details of the temple, published in his last great work of 1860. I did not visit the ruins of Bassæ till the year 1820, with my fellow-travellers W. Jenkins and J. L. Wolfe, some years after the investigations of Mr. Cockerell and his German friends, and when all was clear and in order, and every part appreciable. When I returned home, and Mr. Weale applied to me for materials for his contemplated supplementary volume to Stuart's 'Athens,' I went to Mr. Cockerell, and asked him if he had any intention of publishing the Temple shortly—and I told him of Weale's application to me. He replied, that he could not tell how long it would occupy him, but that he did not think he should be able to complete it for a very considerable period; and he said he left it quite at my own discretion to do as I liked. I therefore accepted Mr. Weale's proposition. I was intimately acquainted with Messrs. Link and Stackelberg, at Rome, two of Mr. Cockerell's colleagues and friends, and at Rome furnished the latter with the plan published in his work on the sculptures. The other colleague, the Baron Haller, architect, and who was at Athens, under the special sanction of the King of Bavaria (grandfather of the present king), at the time of Mr. Cockerell's arrival there, was a man of great knowledge, perfect master of his art, and thoroughly acquainted with Greek antiquities. He attached himself to his young English friend; and to his profound experience Mr. C. was much indebted for his thorough acquaintance with Greek art; as at that time the professional education of the architect was at a low ebb in England.

Mr. Cockerell erected a Norman chapel for Sir Thos. D. Acland, at his seat, Killerton, Devon; and I believe a Gothic church at Athens, for the English Protestants there.

The idea of the pedimental arrangement of the Niobe group at Florence was suggested by the Chevalier Bartholdy, and worked out by Mr. Cockerell, as stated in Mr. C.'s etching, published in 1861, a copy of which, presented by him to me, is in my possession, and having his own autograph."

METROPOLITAN BOARD OF WORKS.

TENDERS FOR THE NORTHERN EMBANKMENT OF THE RIVER THAMES.

The Board met on Friday, the 25th, for the first time since the vacation; Mr. Thwaites in the chair. The following tenders for the embankment of the Thames on the north side were read:—

Wythe	£683,000 0 0
Lavers	649,669 0 0
M'Cormack & Son	633,727 0 0
Ayres & Son	617,000 0 0
Brassey & Co.	583,000 0 0
Ritson & Co.	536,827 0 0
Pearson	534,248 0 0
Myers & Son	533,000 0 0
Lee & Son	525,000 0 0
Furness	520,000 0 0
Moxon & Co.	510,076 0 0
Baker	495,500 0 0
Ridley	495,000 0 0

The tender of Mr. Samuel Ridley was accepted, subject to the usual inquiries.



PARK CHAPEL AND SCHOOLS, CROUCH END, HORNSEY.

PARK CHAPEL AND SCHOOLS, CROUCH END, HORNSEY.

This chapel was erected some years since under the superintendence of Mr. Joseph James; but latterly the chapel has been enlarged, and the new lecture and school room (now open) erected, under the superintendence of Messrs. Lander & Bedells.

In order not to impair the general effect of the whole by these additions, an octagonal roof has been adopted, culminating in a central turret, as seen in the view we now give.

The lecture-room (originally about 32 feet long and 19 feet wide, accommodating about 120 persons), and a small and inconvenient minister's vestry, have given place to a lecture-room, 42 feet by 42 feet, which will accommodate about 350 persons, and is for the most part 24 feet high. To avoid draughts, an internal lobby and swing folding-doors, in addition to a projecting porch, with its external and internal doors, have been provided. Ventilation has been arranged by shafts in the walls, casements in the upper windows, and the large central louvred turret already referred to. Further particulars, already given, will be found on p. 607, *ante*; but we may here add that the materials used externally are Bath stone, Kentish rag, and slates; that the total outlay is 950*l.* to 1,000*l.*; and that the builders were Messrs. Hill & Sons.

CHALMERS'S HOSPITAL, EDINBURGH.

The new hospital in Lauriston, Edinburgh, is now nearly completed. It is nearly thirty years since Mr. Chalmers, a plumber in Edinburgh, left a fortune of about 30,000*l.* to the Faculty of Advocates, as his trustees, for the purpose of erecting an hospital for the "sick and hurt." The money was allowed to accumulate till it reached the sum of 70,000*l.*, or thereby, sufficient to build and endow an hospital such as the testator wished to found. Ten years ago, the trustees acquired the property of Lauriston House, and the large field behind it, extending down to the Meadows. The ground covered a space of eight acres, and as this was a good deal more than was required for the hospital, the trustees formed the street, now called Chalmers-street, which is in course of being feued for self-contained dwelling-houses. They reserved for the hospital itself its necessary offices, and airing grounds about two acres; and in May, 1861, the erection of the building was begun from the plans of Messrs. Peddie & Kinnear. The accommodation was restricted to forty-eight beds.

The building is composed of three portions—a central block, with accommodation for the medical staff and domestic attendants, and two wings for the patients. The central part of the building comprises four stories, one of them partially sunk. The wings are only two stories in height; but there is a large open space below the lowest floor, with a free current of air through it, so as to secure the utmost possible dryness in the wards. The architecture of the building may be described as Italian, very freely treated. The entrance-door is in the middle of the central portion, ornamented with architraves, trusses, and cornices; and on each side there are windows supplied with architraves, chamfered on the inner margin. The six windows of the two upper floors are treated together, one above the other, as if they belonged to one story. The whole exterior is of polished ashlar work, so as to secure it externally from any impurity which might attach to it. Internally the same care is taken to effect the same object. The wards for patients are in the wings, one wing being reserved for male and one for female patients. Each ward occupies the whole breadth of the building, and is lighted by windows from both sides. The portion of the side wings immediately adjoining the central building is occupied by a large open staircase. Each floor of each wing beyond the staircase is occupied by a single ward, 54 feet long, 25 feet wide, and 16 feet high, having a fire-place and a range of five windows on each side; the windows being so arranged that a single bed occupies the space between each pair of windows. The floors are of polished oak; and for the sake of warmth the windows are all supplied with plate-glass. The skirtings, &c., are all of Parian cement, and the only wood fittings are the doors and window sashes. Each ward accomodates twelve beds, and has its own bath-room, water-closet, &c. The contractors are,—for the mason's work, Messrs. W. & D. M'Gregor; for the wright's work, Messrs. J. & R. Wilson, Leith; for the plasterer's work, Messrs. J. Craigie & Sons; for the plumber's work, Mr. J. Low; for the slater's work, Messrs. J. Young & Co. Mr. Parnell has the cooking and heating apparatus in preparation; and Mr. Moxon is doing the painting. The clerk of works is Mr. J. B. M'Fadzean. The cost of the whole building, including the laying out of the grounds, and other expenses, will be little over 7,000*l.*

The Reading School of Art.—This school has been re-established, with a new committee, under the presidency of the Mayor, and the number of pupils already under instruction is about 800. The head master is Mr. C. R. Havell.

HOUSES IN NOTTINGHAM.

STREET ARCHITECTURE IN THE PROVINCES.

These houses, eight in number, form a group known as "Terrace Royal," which fact is duly signified to the public by a carved ribbon bearing that name upon it, while above the ribbon appear the Prince of Wales's feathers and motto, and below, the date, 18th March, 1863, being the date of the Prince's marriage, and also the date of the completion of the whole block of buildings. They are constructed of brick (pointed with dark-blue mortar), and stone dressings of the cream-tinted oolite from the Ancaster quarries. The style chosen is the Decorated Gothic. The roof is constructed upon the Mansard principle, and contains two bed-rooms for each house, the water being conducted into eaves spouting, crested with wrought-iron ornamental work. The dormer windows,—an ornamental feature,—are of wood, with the exception of the finial terminals, which are of iron. Stone gargoyles conduct the water from the eaves into the down spout.

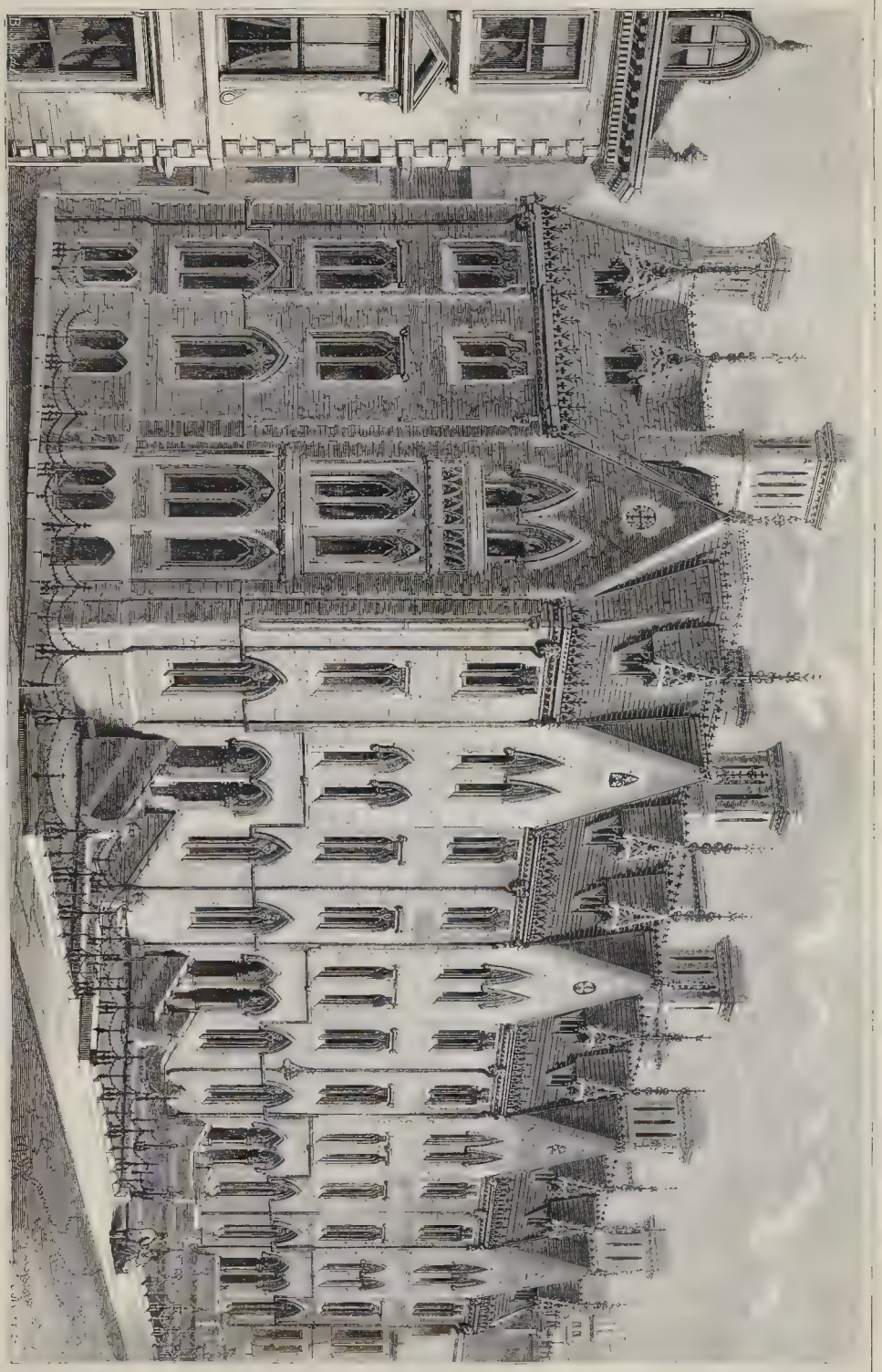
The carving has been executed by Mr. Smith, of Nottingham, late of Oxford, and is very satisfactory. The window-heads on the ground-floor are filled with carved spandrels and quatrefoils, each quatrefoil being occupied by a sculptured head. Thus, in Clarendon-street, busts of the Earl of Clarendon, Queen Elizabeth, Edward VI., Queen Anne, &c., appear; while, in Shakspeare-street, sculpture suggestive of the departed bard occupies the windows,—as, for example, the heads of King Lear, Cordelia, and so on.

The upper windows are enriched with carved foliage of various forms, and the hood-moulds are terminated with the heads of various animals and groups of birds. Discharging arches of the blue Cropwill stone relieve the bright colour of the white stone.

On the Shakspeare-street frontage the bay window of two stories is the most striking feature, the upper story of the bay being made to recede, giving a very light effect to the group. The sculpture comprises busts of the Queen, the late Prince Consort, the Prince of Wales, the Princess of Prussia, the Princess Alice, &c.; while, above an adjoining window, a likeness of the Princess Alexandra is carved.

The garden plots in front of the houses are inclosed by cast-iron standards and wrought-iron chain work of an ornamental character.

These buildings, which form a conspicuous portion of what may be termed New Nottingham, have been erected after designs by Mr. Wilson and Mr. S. Dutton Walker, architects, of that town.



THE "TERRACE ROYAL," NOTTINGHAM.—Mr. Wilson and Mr. S. Dutton Walker, Architects.

ART AND HEALTH AT THE RECENT GHENT CONGRESS.

In the section of "Art and Literature," the following question was proposed by M. Ulback:—"Has material progress been injurious to thought and feeling in the arts?"

M. Eugène Dognée said the question was as interesting to refined and philosophical minds as it was to practical men. What, he said, was now wanted, was a search after the beautiful and useful; and it was important to combat, as far as possible, the vulgar results produced as much by a desire of a good market as by the abolition of corporations. M. Dognée suggested the following plans for instilling artistic ideas into workmen;—That the principles of artistic teaching, aided by museums carefully selected, should be carried out in all primary schools; that central industral schools of art should be established, with necessary models, specializing the arts indicated previously by the nature of the soil, the productions of local industry, or of ancient tradition still extant; that in associations for the encouragement of art, room should be appropriated for industrial artists by the side of artists. He clearly showed the benefits which would arise from artistic teaching, and what material advantages could be added to our luxuries by the search after noble and refined enjoyments.

M. Alexandre Weill submitted the examination of the following question to the meeting:—Is it necessary that a man's life should be on a par with his works, even if he be a man of genius, to enable him to exercise a salutary influence on his age? He affirmed that contemporary literature, and its masters especially, were responsible for the debasement, the disorder, and uncertainty of our times.

M. Ulbach said, that men of genius were humanity itself, with its troubles, its anguish, its revolts, its doubts expressed in attractive and immortal words. If their ideas were only submitted, with sincerity and talent, they could have no bad influence on our consciences.

Mdlle. Royer and M. Foucher de Careill both asked for men of genius a calm appreciation, and gratitude for the benefits they conferred. They asserted that if a man possessed one talent, he ought not to be expected to have all; nor ought he to be condemned if his life were not as perfect as his writings.

M. Weill persisted in asserting that great men who led a life of evil were the intellectual malefactors of their age. He passed in review many well-known and admired names. He was particularly severe on the works of the present age, and concluded by saying, that if they seemed to him to be confused and wanting in morality, it was because their authors were guided by no fixed rules, no solid and absolute principles.

On the question,—"Has material progress been injurious to thought or feeling in art?" one orator only, Mr. Urlin, replied, and maintained that material advancement must necessarily be in harmony with intellectual advancement. Almost every example, he said, proved that men who laboured the most usefully at material progress, were also those whose intellectual aspirations were of the highest order. Why then, he inquired, separate the real from the ideal? Is there not in the telegraph a sympathetic feeling which conveys our hopes and fears to the farthest extremities of the globe? These are the discoveries in material order which have aided the development of our ideas. It was by the invention of printing that the riches of the mind, formerly hidden away in a few manuscripts, have become the patrimony of all humanity, and have been made free to millions of understandings. Material and intellectual progress are the two great wheels turning the steam-vessel which bears us towards that goal at which humanity ought to unite.

The last question examined by the Assembly was one by M. Pascal Duprat;—"Should art in its various manifestations be a mental pleasure or an instruction?" He passed in review some of the most beautiful works in art and literature; proving, for example, from the lovely songs of the Eneid, from the monuments of architecture and Hôtels de Ville in the city, that artists and writers have been especially great when they have divined the popular idea, and at the same time expressed the nobility of their age and country.

This section entered into the examination of the following question;—"On the influence of administrative centralisation upon the development of art and literature." MM. Foucher de Careill, Pelletan, and Dognée considered centralisation to be specially fatal and dangerous. M. Foucher de Careill also sought to prove from the examples of Athens and Florence that great artists have always developed themselves to more advantage where the hand of Government neither fettered nor directed their actions.

M. Pelletan opposed administrative centralisation in art, as it introduced bureaucracy, school prejudices, routines, and the exigencies of authority. The freedom of art was injured by excessive Government interference, as well as the liberty of the artist, whose conscience was menaced by favours, those state premiums which extinguish free inspiration instead of giving birth to it.

M. Wagener supported the idea that individual efforts did not suffice for the encouragement of science and art. He cited, also, the great artistic movements of Athens, Florence, and Rome, and showed that in them could be traced the fruitful intervention of a powerful centralisation. In his opinion, the communes, to whom, it had been suggested, the right of interference with, and encouragement of, art, ought to be intrusted, was restricted in its influence: it was a centralisation, a state. If a commune were allowed the privilege, surely so ought that great commune, the Government, which is the nation, be permitted to assist in giving birth to those great compositions which individuals would not be able to command, and which are so invaluable for the instruction of the people.

In the section Benevolence and Public Health, the following question was selected for discussion:—

1. How ought sanitary measures of relief in the country to be organised?

A great number of orators were unanimous in their opinion that the organization of relief was necessary, with the exception of M. Burggraeve. There were nearly as many orators as there were systems. One thought it necessary to establish dispensaries; another thought the plan of domiciliary visits better; a third that emoluments ought to be fixed by law;—it was but right that the man entrusted with the physical health of the community should be remunerated, as well as he who was entrusted with their moral health; a fourth demanded cantonal doctors; a fifth thought medical instruction diffused among the country people would be enough. All agreed, however, in the need for the organisation, and seemed convinced of its efficacy.

The section examined the question,—What improvements have taken place in working men's dwellings during the past year, and in what manner can those improvements be propagated?

M. Kayser, after describing the present miserable dwellings of many of the poor, said he thought it was incumbent on the Government to modify this state of things by aiding in every way possible those who sought the solution of the problem,—How to lodge a workman suitably, and at a moderate cost. He thought it might possibly stimulate capitalists to action.

M. Jacquemyns considered that kind of encouragement would not take effect. What caused the high price of dwellings was, that the proprietor not only saw that his property was uncared for by those who dwelt in it, but that it was also often much injured by them; and to obtain compensation he exacted a high rent. It was, then, the workman himself who must have developed in him a sufficient love of order and justice to teach him that payment of his rent was a sacred thing. This end obtained, and proprietors, assured of the safety of their property and that their rent would be paid, would become more tractable. He advised the plan adopted at Ghent to be everywhere carried out; viz., to inspect the dwellings of the workmen. Since these inspections have been in force, the proprietors, seeing that their property was kept in better condition, have constructed new houses; and now the workman has a much better house, and for the same price he formerly paid for the dilapidated one.

M. Van Waes did not want working men's cities. It was, in his opinion, a bad plan. For many reasons workmen ought not to be separated from the other citizens.

M. Ecrevisse proposed, as a remedy to the present state of things, that societies should be established for the advancement of capital to workmen for the construction of working men's dwellings.

M. Favre said he had well studied the example of the working population of Paris and Mulhouse, and he found that, above all, it was necessary for the well-being of the workmen that a *consensus* be obtained; that is to say, that he accepts and acquiesces. Once engaged in social progress, the workman is brought to an intimate progression with its organisation, which increases his susceptibility to receive impressions from the unfavourable surroundings to which he would remain subjected.

M. Burggraeve spoke very feelingly on the subject, as Ghent still contains many horrible little hovels, without air and light, where epidemics make frightful havoc. What was desirable in Ghent was desirable elsewhere, and he advised demolition *en masse*.

M. Dumont closed the debate by insisting upon the necessity of the working-men's dwellings being better ventilated.

We have pleasure in drawing attention to the circumstance that the *Social Science Review* gives, in a number devoted to the subject, a report of all the proceedings during the week.

What the Church party of Ghent think of these philanthropic inquiries is shown by the following announcement in the *Bien Public* of that city:—

"A solemn mass will be celebrated in the Church of Saint-Jacques, on the 23rd and two following days, at seven in the morning, as an act of reparation for the blasphemy and impiety attending the sittings of the Congress of Social Science which has just been held at Ghent. The holy sacrifice will be offered in order to appease the Divine anger, and obtain the mercy of God for the inhabitants, so that they may preserve the precious deposit of the faith!!"

THE STATE OF BETHNAL GREEN.

Each month's painful experience shows the absolute necessity which exists for the better regulation of houses let to numerous tenants, and we are firmly of opinion that the extent and danger of this monster evil are not sufficiently known to those whose duty it is by wholesome laws to protect the lives and health of the poorer classes of the population. We could repeat hundreds of instances in addition to those which have been put before our readers again and again; but just now will particularly refer to a case that illustrates, in a remarkable manner, the ill effects of improper sanitary provisions in the houses which are crowded by many thousands of men, women, and children of the working and poorer classes, and which has already attracted much attention.

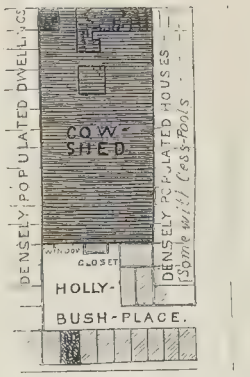
In No. 10, Hollybush-place, Bethnal-green, a little girl, twelve months old, died of low fever, and three other children in the same family were ill of a similar complaint; and of these cases, without removal to better air, one at least is likely to prove fatal. Respecting these cases, Mr. E. Moore, M.D., says, that all the children were suffering from a low state of debility: there was no specific disease, although the blood appeared to be poisoned. "I told the parents that medicine was of no use unless they were taken away, as they were suffering from impurity of the air. I attended Mr. Mandrill's two children, who died also; and Mr. Butterfield's child, who also died. These deaths took place in houses in the same court: they died in the same way as the child at No. 10." Dr. Moore made a post-mortem examination in the last case, and found the brain healthy, *but the blood liquid* and tarry: the lungs were healthy, but gorged with dark liquid blood; the heart healthy, but the blood in a semi-putrid state: the stomach was healthy, and contained milk; and the liver, intestines, and kidneys all healthy. "The child," says Dr. Moore, "was well nourished, and one of the finest children of her age I have ever seen. There were no marks of ill usage on the body." Here, in fact, in connexion with this child, are all the elements of a life which with fair play might have been prolonged to the three score years and ten of man's days; but, as it has happened, this life has been cut short. As the medical authority found that one of the finest children he had ever seen was killed by the inhalation of impure atmosphere, most likely from hydro-sulphate of ammonia, a coroner's inquest was held, and the jury returned the following special verdict:—"that the deceased came to her death by blood poisoning, caused by the impure state of the atmosphere; and the jury are of opinion that the sanitary inspector has been guilty of great neglect of duty in not seeing to the court sooner; and request the coroner to write to the parish authorities to that effect."

Our readers, from our own early and from subsequent reports, know something of the extent of the great poverty which prevails in this and other districts of the East part of London;—how helpless, for the chief part, the people are; and how sadly they are overcrowded in houses which, like those in Hollybush-place, are, in the state in which they have for years been allowed to remain, a source of sickness and death. Still, year after year goes by, and the necessary means of inspecting tenemented dwellings are not given. Last year, this most important matter was brought before the notice of the Social

Science Congress in the London Guildhall; and it is hoped that the subject will not be lost sight of at Edinburgh. At any rate, we should have a parliamentary inquiry into the condition of the London poor and the present state of their dwellings, and have recorded the experience of men like inspectors Price and Hunt, of the sanitary police, the most intelligent of the district surgeons, Scripture readers, and other persons of intelligence who have been accustomed to visit in poor neighbourhoods; for, we believe that the extent of the evil to which we refer is understood neither by the Government nor by any of the members of the Legislature. Take, for instance, the numerous army of labourers who present themselves morning after morning at the docks, in hope of meeting with casual employment. At the London Docks alone, it is said that seldom less than 4,000 men offer themselves each day for work; but barely 1,000 of these obtain anything like steady employment; and then the full extent of their earnings is not more than 10s. or 12s. a week: the remaining 3,000 may remain several days, at times for a week or more together, without having the opportunity of earning a shilling. But the names are all placed on a list in the order that they have been in attendance; and in case several ships should come into dock and require discharge of cargo, there is occasionally a demand for all the labour that can be obtained; and in case any one is not in the way to answer to his name in the order in which it stands upon the list—and this often obliges them to stand idle at their post—he is passed over. We have good authority for stating that the earnings of the large majority of these men are not on the average so much as 6s. a week. To this subject we will refer at some other time; but would just now state that the income of many thousands in this and other parts of the metropolis is not sufficient for the proper nourishment of families, and renders it all the more necessary that every possible care should be taken to enforce as much as possible right sanitary arrangements. This is, however, a matter sadly neglected in great part of the Bethnal-green district, in which so many deaths from fever, small-pox, and similar disorders, have occurred; and we find the condition of Hollybush-place and the parts surrounding quite sufficient to account for the disastrous state of affairs. This court is reached by a narrow, dirty street, much neglected by the scavengers, and with scarcely any means of surface drainage, so that stagnant water collects and putrifies. The houses here are small, some having four little rooms, and an attic formed in the slanting roof. In eight cases out of ten each room is occupied by a separate family. At the bottom of this street a narrow opening leads to Hollybush-place, in which are twelve or thirteen houses somewhat similar to those just mentioned. Some of these are now undergoing repair, and preparations seem to have been made for improving the drainage.

No. 10, in which the girl died, is a house which has probably been standing there for not less than two centuries, as is shown by its peculiar form and the panels and stair-rails which still remain in the interior: at one time it was probably in a large garden, part of which is now covered by other dwellings. No. 10 is two stories high, with a garret above: beneath is a cellar, in which there is a 16-feet well: the water of this has not been lately used for domestic purposes, nor would it be well to do so: it is therefore hoped that this undercroft may be kept locked as it is at present. The ground-floor is divided into two apartments, which are occupied by a family of six or seven persons; and the place when we saw it was clean and comfortable-looking. Above is one large apartment, with windows at the back and front: this was also neatly kept. There were two looms (standing idle) and three beds. It seems that the couple who live here and rent the house have children; but while they occupy one bed themselves, they let the other two beds to single men! It was admitted that three young men were at times accommodated in this way; but it has been stated that there were occasionally four. Besides the indecency of such arrangements, subletting in this way to persons who are not members of the same family is illegal. There is no doubt that this practice is carried on to a considerable extent, and the police are unable to prevent it in consequence of not being able to interfere unless they have some certain information. A short flight of stairs leads to the garret in which the child died. Here was a scene of misery and neglect. The ceiling and wall-plaster were falling in all directions: in front of the fire on the floor on a few bedclothes sat one of the sick children: not far off was another: the father was at work at shoe-making. He was a sober and intelligent-looking man; but being affected with some chest disease, he was not able to work so steadily and long as he might otherwise have done: besides the machines had caused a reduction, and he declared that, one week with another, his earnings did not average 5s., out of which 1s. 6d. a week had to be paid for rent. This man said,—and we are assured from inquiry that his statement is trustworthy,—that he had not tasted a piece of butcher's meat for five months. He showed his book, in which were the regular receipts for rent. He said, "I do not owe a farthing for this. The way we manage is, before we buy bread we put away 2d. each day: this comes to 14d., and leaves a little to make up at the end of the week." On directing attention to the circumstance that the windows were closed, he pointed to a large shed, one end of which was a few yards off. On examination we found this occupied by *fifty* cows and three or four horses: we were told that pigs were also kept, but there were none visible at the time of our visit. The occupier of the attic said that the smell from this and from closets, dungheaps, and drains, was frightful,—particularly when the wind set from a certain quarter.

Our readers may judge from this sketch-plan, showing the position of the house, whether or not this is to be wondered at.



Some are of opinion that cowsheds, surrounded by a thick population, are wholesome. Indeed, we were told at another large establishment of this kind, situate at no great distance from it, that the atmosphere was so salubrious that medical men sent patients there for the benefit of the air. On asking for the name of one gentleman who had recommended this treatment, and calling upon him, it was not surprising to find that he repudiated the idea altogether. The interior of the cowshed near Hollybush-place forms a curious scene. In long perspectives the cows stand side by side, very close together. In one part is the tank for the reception of the various kinds of refuse, with a place for the storing of grains. It is supposed that the dung-heap is cleared every day; but this seems not to be so thoroughly done as is necessary, and very bad smells arise from the grains if they are allowed to get stale. Upon the whole there seems to be a desire on the part of the proprietor to keep the animals in as clean and good a condition as is possible, and the water supply seems excellent; but there were three large untrapped gully-holes, which must be bad for the cows as well as for human beings. It is a singular fact which we have before noticed, that those who have in their premises a sanitary deficiency, complain of something which they consider worse in a neighbour's place. For instance, the cowkeeper, who is much complained of by those surrounding, directed attention to the numerous cesspools which were close against his walls, and not only did damage, but were the cause of most unpleasant smells. There can be no doubt that both are a cause of mischief; and, as regards the cowhouses in London, we have always found that, although every precaution be used, there are complaints for some distance around, particularly in the summer time; and we feel certain that these, when accompanied by overcrowding and bad drainage, cause a considerable amount of fever and disease of this class. We have found the same to be the case in St. Pancras, Islington, and other districts; and it would be useful to strike a circle round some of these places, which are thickly populated, and from the medical attendants' and registrars' reports obtain a statement of the general amount of sickness and death, so as to compare this with other localities where there are no cowhouses, but which are situate in a similar manner as regards population, drainage, and so on.

To return to Hollybush-place. Dr. Moore says, that in house after house to which he is called in this neighbourhood he finds exactly the same state of things; that within five weeks he had attended five cases of low fever, or blood poisoning, all of which had proved fatal; and that when he held the unpaid office of sanitary inspector three years ago, the parish complained, and got rid of him on the ground that they could not be constantly troubled by his reports on the sanitary condition of the parish. While here, the women and children flocked out of the houses, and in much excitement complained of the noise which had been made in consequence of the child's death. One woman said, "Have I not had two children died lately of scarlet fever? Did I say anything about it?" Another, a daughter of the above: "I am in the same house, but no one heard me grumble." Others boasted of the patience with which they had borne the loss of children, considering that it was wicked to grumble at the will of God. The passion shown against the man and his wife of No. 10 was extraordinary; and we believe that these people, having more sense than those around, and so, having, with a good object, directed attention to the unfortunate case of their child, were liable to be burnt in effigy, or personally injured, by the very people who, having themselves had children destroyed by sanitary derangements, should have felt thankful to any one for endeavouring to promote a change. On asking one of these women at random the number of her children, we learnt she had had ten born: two only were living. Another had had thirteen children born, and five were living. With the fact before us of such wilful destruction of human life; with the knowledge of the ignorance and carelessness which exist; considering the condition of the thousands of houses in which too many are obliged to make their homes; who can say that there is no necessity for police interference* with the tenement-dwellings, as well as with the lodging houses? The necessity is even greater; for in the lodging-houses the majority of the inmates are people who have arrived at years of discretion; whereas, in the tenements helpless children are allowed to suffer.

The water supply of Hollybush-place is of the imperfect kind often met with in similar situations. There are no cisterns: there is only a small pipe, the water from which runs for about twenty minutes each day, except Sundays.

It is a pleasant contrast to come from such scenes to the palace-like building which has been raised by the munificence of Miss Coutts, in Columbia-square. Few who have not seen this can form an idea, now that the various wings are completed, of its noble aspect, and of the good effect of the spacious play-ground, in which is the clock tower, engraved not long since in the *Builder*. The open stair-cases are easy of ascent; the landings roomy; the baths and lavatories, and fittings of the apartments, excellent. The covered drying place and wash-houses, at the top of the building, are very convenient. There are here 183 distinct suites of apartments, the rents being 5s. 6d., 4s. 6d., 4s., 3s. 8d., 3s. 6d., 2s. 9d., and 2s. Here there has been no fatal spreading of fever. There were three cases of small-pox, which were slight, and which were said to have been introduced from a school close by. This did not spread beyond the apartments in which the family dwelt. We do not exactly know the rate which this institution pays per cent. for the very large expense which has been incurred. It would seem, however, that it has in this instance been rather the intention of the benevolent foundress to show an example of dwellings which might be the means of leading to an entire change, in this neglected neighbourhood, of the dwellings of the industrious and poorer classes. Still this is not exactly the thing which is needed for the class of people who live in Hollybush-place.

* It is certain that many of the parish inspectors of nuisances are too lax in their duty. Indeed, in some parishes, they would be likely to give offence to the boards by showing too much zeal. The proprietors of dilapidated property have influence; and in east London a large business is done in the purchase of the fag-ends of leases; and, during the time these have to run, getting as much money as possible from the poor people's rooms, and doing as little as possible to the property.

STATE OF THE MARBEUF CHAPEL, IN PARIS.

An esteemed correspondent, signing himself "A Traveller," writing to us on this subject, says:—

"Will you allow me to offer a few remarks on the notice in your paper relative to the Marbeuf Chapel in Paris?

The building is indeed a wretched one. At the same time it should be remembered that it was the first English chapel in Paris except the ambassador's in his own private residence. There was considerable difficulty in obtaining permission to erect any chapel; and it was necessary in those days that the building should be plain and unobtrusive. It was erected at the expense of a private individual; and the present owner derives no pecuniary advantage whatever: he merely appoints a minister.

However, the chapel and the street will soon be swept away by the improvements now in progress. Of course, a new chapel must be erected in the same quarter of the town: and you will do a great service to the Church of England in Paris by calling public attention to the contemplated changes, which involve the removal of the present building. As a new chapel must be erected, it is most desirable that it should be a suitable one.

I should not, however, have addressed you but for the following words: 'The manner in which the services have been performed here of late is not very satisfactory.' This, I think, is not just to the minister. I knew the chapel in Mr. Lovel's time, and under Bishop Spencer; and I must say that the services were never conducted with more propriety than at the present time. Besides the morning and afternoon services, there is a third at night, a short one, for the working classes; and I can only account for the severe censure in the article by supposing that the writer attended that service and mistook it for the regular one.

The Hymn Book is that of the Society for Promoting Christian Knowledge. It can scarcely, therefore, be called a private collection. It was introduced by Bishop Spencer, and has been continued by the present minister. You would, I think, have spoken in a softer tone if you had been acquainted with these circumstances. The notice is calculated to excite prejudice against the chapel and the minister."

The writer, it will be seen, corroborates all we stated touching the Marbeuf Chapel, excepting so far as regards the manner in which the service is performed; and, as he bears such strong testimony in favour of that, we should have been disposed to believe that our experience was an unfortunate exception. Since the appearance of our remarks, however, we have received from other recent travellers such strong expressions of opinion similar to our own that we are forced to let our first objections stand exactly where they were. As to the miserable ugliness of the building, and its slovenly and unbecoming appearance inside, there cannot be two opinions.

NEWS FROM SCOTLAND.

Kilmarnock.—The new corn exchange here has been opened. It is situate at the junction of London road with Green-street. It covers an area of 1,602 square yards, has a frontage to Green-street of 136 feet, and to London road of 92 feet. The lower story is rusticated. The second story has twenty-five semicircular windows, which are divided by pilasters with carved capitals and key-stones. Above the windows is a cornice, having moulded trusses and intervening wreaths. Above these again there is a balustrade with vases of stone. The tower at the angle of the building is 110 feet in height. Above its first story there is a balcony supported by ornamental carved trusses. Upon the pedestal rest eight columns with Corinthian capitals. Then follow in succession a moulded architrave, a frieze, a cornice, and parapet, the whole being surmounted by a dome covered with lead, with a finial and vane. The market is at the south-east end of the building. It is designed for the sale of butter and other farm produce. It has two entrances, both from Green-street. The main entrance to the hall is at the angle of the building. The hall is designed to accommodate 1,200 persons, the platform being capable of accommodating an additional 130. At its north end there is a gallery, which runs half way along either side. The hall is lighted both from the roof and from the east side, and one of the windows is illuminated with agricultural emblems. The building affords ample accommodation for the amalgamated Kilmarnock library, and for the Athenæum reading-room. Another room is designed for sales of property, committee meetings, &c. In the lower flat there are six shops. The building has been erected at a cost of about 5,300*l.*, exclusive of the tower, the cost of which, 600*l.* has been defrayed by private subscription. The whole exterior is in the Italian style of architecture, from a design by Mr. James Ingram, architect, Kilmarnock.

Partick (near Glasgow).—St. Mary's church, Partick, has been opened. The dimensions of the interior of the church are 66 feet by 50 feet, and it is seated for 980 persons. It consists of a nave and aisles, in the Gothic style, the roof of the nave being supported by light iron pillars, which also support the galleries. The copes underneath the galleries are moulded: those under the spring of the arches are foliated, and are picked out in colour and hatched in gold. The pillars themselves are bronzed. The gallery front is divided into panels, filled in with tracery, and the whole is stained. The lining at the back of the tracery is coloured a crimson purple, in the centre of which is a gilt star. The roof is open the whole way, and is also stained a light colour: iron tie-rods have been substituted for wooden tie-beams, painted a deep blue, with ornaments at centre, ends picked out in colour and gold. The spire is not yet commenced, but it is to be proceeded with at once, and the whole building has yet to be pointed. The building has been carried on under the superintendence of Mr. O'Donoghue, architect, Glasgow, from whose design the church has been erected. Mr. O'Donoghue has been awarded the first prize for his designs for the proposed new United Presbyterian church at Partick.

Inverness.—The chief stone of the United Presbyterian new Church, in Union-street, has now been laid. The edifice is to be in the Late Decorated style of architecture. The frontage will be to Union-street, with a breadth of 48 feet, the length being 75 feet. The entrance will be by a porch in the centre of the frontage, 10 feet wide by 18 feet in height, with a gable over this. Above is the principal window, composed of five large traceried windows; while at some distance from this, on either side, are windows of smaller dimensions. On the west side of the church there are also five windows. The tower rises from the west end of the church, and is surmounted by a lantern. The total height is 100 feet. The body of the church is 60 feet long by 38 feet wide. The seats are in three main divisions, facing the pulpit at the extreme south end, with transepts running through the church from two lobby entrances. There is a large gallery at the north end; and a few sittings are likewise situate facing the sides of the pulpit, or rather platform, with desk in the centre. The roof will be of open timber, stained and varnished. Above the platform is a circular traceried window. It is proposed to erect a small vestry at the back of the church. The architects are Messrs. Ross & Joass, and Mr. Hendry is the builder. The entire cost is at present estimated at 2,600*l.*, the tower alone costing 600*l.*

Wick.—The foundation stone of the new harbour at Wick was to be laid on the 1st inst.

PROVINCIAL NEWS.

Leicester.—The Town Council have passed a resolution to the effect that a Town-hall ought to be built, and appointing a committee to consider the subject and report.

Cambridge.—The Governors of Addenbrooke's Hospital are about to consider the question of improving the Hospital. A committee, after deliberation, had agreed to recommend the Governors to adopt one of the three following courses:—No. 1. The improved plan of Mr. Digby Wyatt, cost 9,000*l.* No. 2. A modification of Mr. Wyatt's plan, cost 7,000*l.* No. 3. The erection of a new building, cost 13,000*l.*

Witney.—The completion of a railway to Witney has been followed by the erection of a Corn Exchange on the site of the old Corn Returns Office. The building was estimated to cost 1,800*l.*, the site 500*l.* The building occupies a prominent position in the Market-place, immediately opposite the Marlborough Arms. It consists of a room for the use of farmers and dealers attending the market, 70 feet by 35½ feet; reading-room for the use of the Athenæum, 21 feet by 15 feet; lecture-room on the upper story, 39½ feet by 21 feet; and two smaller rooms, each 11 feet by 9 feet. The architect was Mr. Collier; and the builder, Mr. Bartlett.

Gloucester.—The new Cattle Market has been opened. Accommodation, says the local *Chronicle*, has been furnished for between five and six thousand head of stock. A shed, 370 feet in length, has been erected from near the London-road entrance to the Wellington Hotel, and may be used for the sale either of horses and valuable cattle, or of agricultural implements, or of both. Accommodation has been provided for about 480 horses, standings for 680 cattle (including bulls), and pens for about 3,500 sheep and 580 pigs. The entrance for pigs is near the Northgate brewery, where an inclosed space, entirely independent of the remainder of the market, has been set apart for the pig trade. At this entrance a house for the reception of the city fire-engine and fire-escape has been erected, and the entrance to the horse-fair will adjoin the engine-house. The centre is devoted to the reception of horned cattle, for which separate standings, about 30 feet in length, and convenient for auction sales, have been erected. A shed, for the convenience of persons attending in inclement weather, and a settling office, have been erected near the centre of the market; also two private offices, one for the market-keeper, and one which may be let. All the space on the south side has been devoted to the sheep fair. The entrance for cattle is opposite New Market-parade: the sheep will enter at a gate between Clarence-street and Dog-lane. The cattle and pig standings are paved with Bristol stone, and the sheep-pens with Broseley brick. The remainder of the market is laid with broken stone and gravel. The boundary from the London-road entrance to Clarence-street is a dwarf brick wall, with iron palisading, and from the entrance opposite Clarence-street to the Wellington Hotel a high brick-wall with Bath stone coping. There are two outlets in the Station-road for cattle going by rail, and large drinking-troughs have been placed at the different entrances. A covered archway has been left in the centre of the horse or implement shed, leading to the space on which the sheds formerly used for the cheese fairs stood, and which space is available for conversion into either cheese, wool, or skin markets. Mr. Griffiths, of Bridgnorth, county surveyor of Staffordshire, was the architect and designer of the market; and the work has been carried out by Messrs. Jones & Sons, of Gloucester.

Hereford.—The new bank recently erected in Broad-street, for the National Provincial Banking Company, is to be opened on the 21st inst. The work has been carried out by Mr. R. Welsh, of Hereford, the contractor. The style is Italian.

Presteign (Herefordshire).—The new market-hall and public room building, originated by a few individuals forming a limited liability company, has made a commencement. The site is in the centre of the town. The architect of the building is Mr. T. Nicholson, and the builder Mr. W. Bowers, both of Hereford.

Newtown.—The *Shrewsbury Chronicle* states that Mr. John Stephens, of the Bank, has determined to build a market-place upon his property in Severn-street, almost in the centre of the present market-place, and a few yards distant from and parallel with the Butchers'-arcade, to which it appears similar in size. It is intended to appropriate the ground or lower story to a butter, cheese, and poultry market; the upper for grain and wool.

——In speaking of the building trade in Newtown, the same paper says;—When the question of the introduction of a railway to this town was discussed, and the *pros* and *cons.* of the subject taken into consideration, it was calculated that the local trades of the neighbourhood would receive a great impetus therefrom, and especially the building trades. So far as our observation goes, every anticipated advantage has been or is in the course of realization; but none, in our opinion, are receiving the benefit to an equal extent with those who are connected with the trades to which we now refer. Never, from the time of the great building mania, which extended from about 1825 to 1835, has there been such a number of new buildings in progress as at present. For years it has been calculated that should the drooping energies of the town again revive, and the trade, local and general, assume its wonted business, a better class of houses would be required than then existed; and no axiom was ever more correct. The building of small houses is quite beside the question, it being considered that of them there are a sufficient number already in existence; and that in the matter of dwellings society generally requires a move upwards; and to all appearance that process is taking place.

Devonport.—The Devonport, Stonehouse, and Cornwall hospital has been completed, and when furnished will be opened for patients. It stands in a healthful situation, on the top of a hill, with windows facing the sea. Mr. Norman was the architect. At a bazaar held to aid in providing

funds for furnishing the hospital, the sum of 800*l.* has been realized.

Sedgley.—Arrangements for commencing the new Public Office are now completed, and the building will be proceeded with forthwith. The building will front the Vicarage, and will be erected where the old Workhouse now stands. There will be a Police-court 37 feet by 20 feet, the entrance to which will be from Gospel End-street. The charge and reserve rooms, and the superintendent's parlour, with bed-rooms over, will form the front building. There will be at the back of the Court a retiring-room for the Justices, and there will be kitchens and bed-rooms for the superintendent and his men; also a number of cells and other necessary buildings. Mr. Charles Hartland is the builder. The cost of erection will be about 750*l.*, according to the contract; and, with the land, the outlay will be upwards of 1,200*l.*, for which the county will pay 60*l.* a-year, and take it on a lease for fourteen years.

CHURCH-BUILDING NEWS.

Cowes.—A considerable population has been gradually gathering in the National Freehold Land Society's estate at Gurnard; and, as no place of worship stood within a mile or two of the spot, the Rev. E. Silver, of Trinity Church, formed the project of erecting there a school-church. The foundation-stone of this building has just been laid by Miss Ward, of Westhill. The dimensions are 48 feet 6 inches by 18 feet 6 inches; and the edifice is situate on the old road to Gurnard Bay, just below Blackwell's Gurnard Hotel.

Winscombe.—Some time since it was discovered that the roof of Winscombe Church was leaky, and the churchwardens made arrangements with Mr. Gibbs, of Bristol, to exchange the old lead roof, which was very heavy, for one of a thinner kind. On stripping the roof, it was found that the beams were rotten, and it was agreed to call in the services of an architect to report upon the state of the building. This duty was confided to Mr. Norton, of London, and he reported upon the urgent necessity of new roofs to the nave and south aisle, and at the same time suggested that a thorough internal restoration of the fabric should be effected. This suggestion was considered and agreed to. A sum of 500*l.* was obtained from the Exchequer Loan Commissioners, the amount to be spread over several years for repayment. This formed the nucleus of the restoration fund. The church has now been entirely reseated, and new roofs and floors provided. The seats are open, and of wainscot oak, many of the antique carved bench ends which were in the old buildings being worked up in the new seats. There is also a new hammer-beam roof, with angel corbels. The walls and pillars have been scraped, and the church has been supplied with one of Haden's apparatus for heating. The chancel was in a very dilapidated state, and it was decided to restore it. The church itself is in the Perpendicular style of the fifteenth century, but in the process of demolishing the chancel it was discovered that it was in the Early English style of the thirteenth century. This being the case, the Rev. J. A. Yatman, a friend and relative of the vicar, decided on rebuilding it in the original style, and there are, consequently, two widely different schools of architecture in the building. There is a triplet window in the east wall, with Purbeck marble shafts. This window will be filled with coloured glass. There are side windows in the chancel, which are to be filled with stained glass from the old windows, cleaned and restored for the purpose. The floor of the chancel is laid with encaustic tiles. The whole of the work of restoration has been performed by Mr. H. Hughes, of Bristol, builder, at a cost of 1,400*l.*, exclusive of the amount for rebuilding the chancel, which will cost about 600*l.*, and which, with the exception of a donation of 100*l.* from the lay vicar, will be defrayed by the Rev. J. Yatman. A new organ has been erected by Mr. Willis, of London.

Hope Bowdler.—The *Shrewsbury Chronicle* reports the re-consecration and opening of the church here. For some years past a movement had been a-foot for its restoration, the old Norman structure having become so dilapidated as to be totally unfit for sacred purposes, and even dangerous to any congregation assembling in it. Such being its condition, it was determined to remove the nave and chancel, and a subscription was entered into for the purpose. A very considerable portion of the sum raised for re-building the church was contributed by the family of Brooke and the relatives of Mrs. Riou Benson, the rector's wife. The east window was erected by the Rev. G. Curtis, in memory of his mother. During the progress of this part of the work it was discovered that the tower was in a dangerous condition, and it was resolved to pull that down likewise: this involved the entire re-building of the church. The new edifice is upon a larger scale than the former one, but upon the same site, and has been built by Messrs. Nevett, of Ironbridge, from designs by Mr. S. Pountney Smith, of Shrewsbury. The building is of stone from the Sowdley quarries in the neighbourhood, with slight mixtures of Grinshill stone in the arches of the exterior. The walls inside are of dressed stone, so that no plastering is used except between the rafters of the nave roof. The roofs of the chancel and vestry are boarded, stained, and varnished. The three lancet windows at the east end are filled in with stained glass by Mr. Evans, of Shrewsbury, the subjects being, "Our Saviour raising Lazarus," "The Woman at the Well," "The Last Supper," "The Crucifixion," and "The Ascension." It was placed there by the Rev. George Curtis, a late incumbent, as a memorial of his deceased mother. The seats are all open, with elbows, and the backs are in part made out of fragments from the old church: the panels of the pulpit are carved relics from the former one, cleaned up and varnished. The choir seats and the reading-desk are framed out of the old timber, also the arched principals and ashlers in the chancel roof.

Lichfield.—St. Chad's Church, the original foundation of which must have been laid upwards of a thousand years ago, was enlarged about twelve years since, by the liberality of Miss Dyott. Much more, however, remained to be done, and the work of renovation has been continued for several years by the Ecclesiastical Commissioners and the rector, by whom the chancel has been restored to its original condition. A new vestry has also just been added, and many other alterations made. From a statement just issued by the Rev. John Graham, incumbent, it appears that a deficiency of 88*l.* remains to be raised to meet the expenses incurred.

Liverpool.—The chief stone of the new church for a part of the district of St. Martin's, to be dedicated to St. Titus, has been laid upon a site selected in Front Portland-street, Vauxhall-road. The site, 108 feet by 54 feet, has been obtained by pulling down a number of houses in Front and Back Portland streets. The only frontages will be to these streets, the east and west ends abutting upon the adjoining property. The style of architecture adopted is a simple adaptation of the Geometric Middle Pointed. The church will be constructed of grey bricks, with red stone dressings, fire-brick arches, and blue brick bands. The edifice will consist of a nave 85 feet long, and north and south aisles, separated by light iron pillars, having hammered iron foliated capitals supporting the open timbered nave roof and gabled aisle roofs; and a chancel, 22 feet by 15 feet, lighted by a triplet sash-window filled in with geometric tracery. The seating will be all free, and consist of open benches, stained and varnished, accommodation being obtained for 600 persons, without galleries. The entrance will be by a double entranced porch, having a triplet window over filled in with geometric tracery. At the north-west angle will be a simple bell-turret, about 75 feet high. The cost of the church will be about 3,200*l.* The architect is Mr. William Culshaw, and the builder Mr. James Burroughs, both of Liverpool.

Wigan (*Lancashire*).—The foundation-stone of a new church, to be dedicated to St. James, has been laid at Poolstock, a rising neighbourhood in which several new cotton mills and other works have lately been and are even now being erected. The edifice will be built and endowed in pursuance of a trust in the will of the late Mr. James Eckersley, of the firm of James Eckersley & Sons, cotton spinners, Wigan, that gentleman having left a sum towards the object, and the funds having been further augmented by Mr. N. Eckersley, the surviving brother of the deceased donor. The building, which will be in the Perpendicular style, will be 78 feet 6 inches long. There will be a tower 100 feet high and 16 feet square, and a peal of six bells. It is calculated that accommodation will be provided for about 700.

Leeds.—When St. Matthew's Church was re-opened, after its enlargement last year, a pulpit and lectern, in Caen stone and marble, were given, the former by the ladies of the congregation, and the latter by Mr. Corson, the architect, under whose superintendence the alterations had been carried out. The old reading-desk, in stained wood, was still used. This has now been removed, and has been replaced by a new one in keeping with the pulpit and lectern. It consists of a moulded Caen stone base and surbase, supporting two pilasters of polished dark red serpentine marble, and coupled polished Languedoc marble shafts, with carved and foliated caps, from which spring two cusped arches and cusped brackets supporting the book-rest. At one end of the desk a carved corbel supports a polished marble shaft with enriched cap. Upon this stands a polished brass standard for the light. Around the book-rest is a border of carved hawthorn leaf. The carving has been executed by Messrs. Mawer & Ingle, of Leeds, who also carved the pulpit and eagle. The brasswork is from Mr. Brawn, of Birmingham. The desk was designed by Mr. Corson, and is the gift of Mr. John Maude, churchwarden.

Allerton Bywater.—The foundation stone of a new church at Allerton Bywater is about to be laid by Mr. T. D. Bland, of Kippax Park. The church is to be dedicated in the name of St. Mary-the-Less, and the necessity for its erection has long been felt in the locality. Messrs. Perkin & Backhouse, of Leeds, are the architects.

Cayton (*Yorkshire*).— The parish church of Cayton has been re-opened. The church had been in the most dilapidated condition. The galleries have been all removed, and the nave seated throughout with uniform open benches.

Hull.—The church of St. Mary, Lowgate, Hull, has been re-opened for service after being closed two years and a quarter, during which time the entire edifice has been restored in accordance with the plans and designs of Mr. Scott, architect. This church was a very unsightly building.

TERCENTENARY OF ELIZABETH COLLEGE, GUERNSEY.

"The School of Queen Elizabeth," or "Elizabeth College," as it is now termed, was founded by that sovereign in the year 1563, and 300 years having now elapsed, the directors have celebrated this event first by a special service in the town church, by the Right Rev. the Lord Bishop of Winchester (Dr. Sumner), the diocesan of the island and visitor of the College.

By the regulations passed in September, 1563, it was ordered that the school should be called the "School of Queen Elizabeth;" also that "The church and cemetery of the Cordeliers, with 26 perches of ground on the north side, and 30 perches on the south side, were given for the building of the school."

It appears that this church stood lower down than the present building (which was erected in 1826), and that the school was really for some time kept in it, besides accommodating the master with a residence. A French historian has said that Richard II. founded a convent of Cordeliers on this site; but Mr. F. B. Tupper is inclined to doubt the assertion.* However this may be, it is certain that the college was originally endowed from lands and buildings belonging to the Crown, which had been either escheated or forfeited.

RAILWAY MATTERS.

The Government inspector has approved of the junction lines on the Great Northern Railway at King's-cross. Through trains between Farringdon-street and King's-cross for the Great Northern were to commence running on the 1st inst.——Formal notice has been given to the Railway Department of the Board of Trade that the Charing-cross Railway will be completed by the 1st of November. The time specified in the contracts for the completion of the works has already expired, and the delay in opening has been solely attributable to the slow progress made in the preparation and delivery of the ironwork for the bridges and stations. The dispute in the iron districts has retarded the delivery of a large quantity of the girders and other portions required for the Charing-cross Station. ——A survey, it is understood, is now proceeding for the purpose of enabling the promoters to obtain parliamentary powers in the next session for the construction of a railway from the Brighton and South-Western on Wandsworth Common to Wimbledon Common, Kingston Vale, Norbiton, Petersham, Star and Garter at Richmond, Kew, and to join the North and South Western at Brentford. The length of the proposed railway would be about eleven miles and a half, and it is estimated by Mr. Fulton, the engineer, that the cost would be 350,000*l.*——Mr. Hawkshaw is to

* "History of Guernsey." A work which has supplied much of the information here presented.

the engineer of the new railways about to be nstructed in the south of Russia, from Moscow Sebastopol and Odessa. The sum to be expended them is 25,000,000*l.*

THE MONTHLY RETURNS OF THE DISTRICT SURVEYORS.

The Superintending Architect, Mr. George Williamy, has made his annual report to the etropolitan Board of Works on the monthly turns by the District Surveyors.

"A general abstract of the returns of fees for e year 1862 is appended to this report, along ith a list showing the comparative revenues of e several districts.

The total of the gross fees for the year is 3,315*l.* 2s. 3d., received in respect of 15,707 rks; of which upwards of two-thirds were done thin the year.

The gross fees received in 32 districts vary from .*l.* to 378*l.*; 11 being under 200*l.* each, 10 under 00*l.* each, and 11 under 400*l.* each. In 24 dis-cts the incomes vary from 406*l.* to 1,267*l.*

The expenses of the district offices, taken mostly the basis of 1861, are 5,049*l.* The fees remain-g due for all arrears are 17,163*l.* 13s. 7d., and the ms abated or lost are 1,140*l.* 17s. 9d.

The results of the present abstract, compared th those of former years, show an increase—

	Works.		Fees received.
In 1856	14,654	..	£19,964 14 11
„ 1857	15,339	..	20,969 11 4
„ 1858	15,500	..	21,732 11 2
„ 1859	15,518	..	22,385 9 2
„ 1860	15,030	..	22,791 2 3
„ 1861	14,008	..	21,386 2 8
„ 1862	15,707	..	25,315 2 3"

NEW IRON BUILDING, GLASGOW.

A building, now in course of construction in gyle-street, a little to the west of Jamaica-street, onstructed, so far as regards its framework, m the level of the street to the roof, entirely of n. The cast-iron columns which rise from the eet level in front and rear of the building rest on massive butts of very hard sandstone, while se in the interior rise from a solid foundation ube stones under the basement floor.

The three structural divisions of the building, ich correspond to the main divisions in the vation, are spanned at each floor by McConnell's rent beams resting on the columns: these beams ich are constructed on a principle patented by ssrs. R. McConnell & Co., in which advantage s once taken of the tensile strength of mal-ble iron united to the resistance and rigidity cast iron) are again connected transversely by lleable iron joists of the T section, each about feet long, by a depth of 6¼ inches, which were ed by the Glasgow Iron Company, from a section pared expressly for the building. The centres oists are 6 feet 6 inches apart. The flooring is 2½ inch battens, 6¼ inches broad, grooved, and gued with strong hoop-iron. The flooring is ened to the malleable iron joists by strong ews. The roof is of timber, in three bays, pported with trussed couples and purlins, and ked in the usual way. The building, which has rontage of 57 feet 6 inches, by a depth of feet, is to be divided on the street-floor into e shops, having large saloons behind, and cor-mponding cellarage below. The upper stories h be divided for warehouses.

The work is expected to be completed before e end of October. The architects are Messrs. n Baird and James Thomson, of Glasgow. construction of the iron-work has been en-sted to Messrs. McConnell & Co.

LETTING OF GAS AND WATER WORKS.*

How gas-works, water-works, and railways are e rated, has been a constant subject of litiga-. The principle of a rate is simple enough the abstract—the value is that for which the table property would let for the purpose to hich it is applied. That principle is not difficult application where the whole property is situate ne parish. But, where the property lies in or more parishes, and especially if the value hat property in the one parish depends upon connexion with some common use of it by the r parishes—how then? For instance, gas-rks are in parish B; the pipes run into parish Without the works the pipes would be worth-s and without the pipes the works would be worthless. The establishment that governs the whole concern is in parish B; the receipts are there collected. How is this to be rated? In the first place, how is the value to be ascertained, and then how is it to be apportioned?

What is its rateable value? The general rule is, that it is that which it would let for by public auction to be used for the purposes to which it is applied. But this rule does not solve the problem of railways, gas-works, and water-works, because they are never so let; and therefore the assessors can only proceed to ascertain the value precisely as a prudent man would do, if contemplating a lease from the company. How this should be done—that is to say, in what manner the amount should be taken—has been the cause of all the difficulties and disputes that have arisen, and which the courts have settled in a very clumsy and unsatisfactory fashion. The process has been adopted of inquiry into profits—a test that is plainly erroneous. When we desire to ascertain the rateable value of a grocer's shop, we do not make him produce his books and prove what are his profits; for this reason, that profits are not rateable, but only the property on which these profits are earned; and if a grocer, with a business of 1,000*l.* a year, choose to carry it on in premises worth 50*l.* a year, while another grocer making only 500*l.* a year prefers to occupy premises worth 100*l.* a year, the poor-rate would be assessed on the value of the respective premises, and the smaller business would pay the higher rate. Therefore, the profits are not a true test of the value of the premises, and there is no just reason why a gas company should be rated otherwise than a grocer is rated. The right manner of ascertaining value would be to leave profits and earnings wholly out of the question, and for a competent surveyor to value the works precisely as he would do if employed by a purchaser;—then in like manner to calculate the annual value of the privilege to occupy so much waste land with pipes. It matters not what these pipes convey, nor where they carry it: the gas is no more an element in the rateable value of gas-pipes than if they carried sewage or smoke: with as much reason might the grocer's rate be raised because he had a pipe to carry his oil from one floor to another. The sum of the two estimates would exhibit the value for sale: a percentage upon this—perhaps about 6 per cent.—would represent the letting value; and the letting value is the rateable value, *minus* the deductions allowed by the law.

Instead of this, the courts have gone into an elaborate calculation of *profits*, and, of course, have been involved in endless difficulty; for the elements of profits vary with almost every business. A fight over a rate at quarter sessions is a conflict about profits—a battle of figures—what the company has spent and what it has received. Starting with a wrong principle, a satisfactory conclusion is not arrived at, and every new case leaves the law more confused than it found it.

The courts appear to be beginning to feel this. In the case of *The Sheffield Gas Company* v. *The Overseers of Sheffield*, 8 L.T. Rep. N.S., 692, the Queen's Bench has confessed the unsatisfactory character of the present rule: "The whole subject-matter appears to be involved in so much difficulty and uncertainty, that we have taken much time in considering whether we could not place the rules as to rating these companies on more intelligible and satisfactory principles, and which should be capable of uniform application. We have not, however, succeeded in laying down a rule which should be consistent with existing legislation and decisions on this subject, and would, at the same time, be capable of being satisfactorily worked."

Having thus confessed that the law is a bad law, the court proceeds to inquire whether the case of *Reg.* v. *The West Middlesex Water-works Company*, 1 E. and E., 716, had been properly adopted in the present case. Now, that case laid it down, rightly enough, that the test of value was what a hypothetical tenant would pay for the property by way of annual rental; but, then, it sanctioned what appears to us to be a wrong method of ascertaining what rent such a tenant ought to pay. It took into calculation the profits of the company, an item which, we respectfully submit, has nothing whatever to do with rating. Whether the company cleared 50 per cent. or lost money by the concern in no way affected the rateable value of the premises it occupied. A bankrupt grocery shop is valued precisely the same as a flourishing grocer's shop—of equal value as a building—neither more nor less. To rate gas-works, water-works, or railways fairly, the right course would be to value the buildings and land as if for sale, and make the assumed rental a fixed percentage on that value, and to rate the pipes at the sum which in fairness might be asked and paid for the privilege of laying the pipes there; and then each parish would be entitled to rate just so much of the property as was within its bounds, and no more. A bill should be submitted to Parliament next session, to settle the mode of assessing these companies upon the basis we have here sought to describe.

* From *The Law Times*.

REMOVAL OF OLD THINGS.

BOLTON, YORKSHIRE.

Sir,—In Mr. Parker's notes on Bolton Castle, Yorkshire, he remarks that "near the fireplace in the kitchen of the smaller hall is a sink or water-drain of plain character, but original, and the leaden pipe which conveyed the water was sold a few years since for 7s., by order of the steward, for the benefit of the estate."

As a sequel to this, I may state that I have just been visiting the castle, and went into the church adjoining. This has just been *restored*, or *re-seated*, by Mr. Atkinson, architect, York. There were here some very fine miserere, screen-work, and other carving, all of which have been turned out, to be replaced by meagre stained deal seats; and, it is said, all this fine work has been *bought by the architect*, with the consent of the vicar and other parties concerned.

This is one of the most gross cases of destruction that I have met with: and when architects assist in destroying what they ought to preserve, it ought not to pass unnoticed.

W. W. Fawcett, M.A., Architect.

KING INA'S PALACE.

Sir,—Many of your readers will probably remember the visit paid by the Somerset Archæological Society to the old house at South Petherton, popularly called by the name of King Ina's Palace. The only conjecture which the archæologists could make respecting the origin of the name was, that the present house may possibly be on the site of a palace, which, having been of wood only, has long since disappeared. But the house as it then stood was pronounced to be a very valuable and rare example of an English manor-house of the fifteenth century, which had altogether escaped alteration, and remained to us in its original state, with all the internal arrangements perfect, including the hall, with a fine roof of open timber-work, the offices, and all the wooden partitions perfect, though in a decayed state. It was probably built by Sir Giles Daubeny, in the time of Henry VI., who is buried in the parish church; and the character of his tomb agrees with that of the house, which remained just as he had left it until the present year. It was an interesting chapter of the history of England, bringing forcibly before us the manners and customs of our forefathers. It was quite capable of being repaired without any alteration, and in that state would have made an excellent school-house, which is much wanted for the parish.

I am sorry to inform you that this interesting relic has fallen into the hands of the Philistines, and has been utterly and entirely ruined. Only just enough of the old building is left to show that the walls have not been entirely rebuilt, and the fine bay window has been marvellously preserved, but in other respects no one could recognize the house as the same. This valuable chapter of our domestic history is totally erased and obliterated for ever. The only chance of our having any record of it preserved is, that some architect may have made a set of careful drawings of it; and, if this should be the case, I hope he will communicate the fact to the public through your pages. It is not to be expected that the man who has done this wicked deed should have preserved any such record of his own stupidity: he evidently has all the self-conceit which so often accompanies extreme ignorance, and he has added insult to injury by changing it into a piece of vulgar Cockney Gothic, with a ludicrous attempt at Gothic chimneys, in the place of the valuable treasure which he has destroyed, because he was too stupid to understand its value. He was fairly warned of the consequences of what he was going to do, and that he would bring upon himself the execration of every archæologist in England, and their name is legion. The pillory is unfortunately abolished, or he would richly deserve it, but a moral pillory still exists through your pages, and this should be brought into full play. Every edu-

cated man of his acquaintance should *cut him*, as unworthy to associate with educated people: every educated lady should laugh at him, or express her scornful pity for his ignorance. If he is a member of any society of architects, he should at once be expelled from it as a disgrace to the body, and not fit to bear the name of an honourable profession. His employer, who purchased this well-known relic of antiquity over the heads of several others who wished to buy it for the purpose of preserving it, will have reason enough to repent of his rashness: he could have built a better house in a better situation for less money, and have left the old fabric alone: he would not then have had to pay for draining a swamp, nor for a law-suit arising from the bad title, and would not have made himself the laughing-stock of all his acquaintance. F. S. A.

AN INQUIRY AS TO PORTLAND CEMENT.

It will be a satisfaction to architects and builders generally, if any of your chemical correspondents will inform them what are the peculiarities of Portland cement which should make it a permanent and enduring substitute for Roman cement. The latter is a natural cement: the other is synthetic. Portland cement becomes excessively hard; so will many other compositions; but the question is, whence does it derive the element of durability? It has not been known more than twenty years, if so long.

The heavier this cement is, the more it is generally preferred; and this property is derived from burning the ingredients so highly, that all trace of their original properties, either as clay or lime, are entirely destroyed, and converted into something else. What?

I venture to make this inquiry of your scientific readers, because it is of the utmost importance to all our building operations, that they should be carried out with confidence, and because, as a practical man, I fear that such confidence is not justified. If it were not invidious I could point to several works in Portland cement of the most respectable houses in the cement manufacturing business, where, after months' and years' duration, and even after rewards and medals by the Exhibition of 1851, it, now only, appears palpably to be failing.

I am very much of opinion that Portland cement will eventually be found to be inferior to the natural cements; that it is a "nine days' wonder;" but I am at a loss to understand why a material which indurates so excessively for a time should not continue that property, but bulge and crack, and disintegrate. I will take three or four of the first manufacturers for my instances, and show where their works were highly approved, and are now failures. I believe that they know little or nothing of the intrinsic properties of the article they make. For this reason I ask for information that may guide us all. Cautious.

ANCIENT HEWERS OF WOOD: A STUDY FOR OUR TIME.

Considerable skill is required to hew timber. It requires more expertness to fell and prepare timber than is generally practised. Reading Vitruvius's rules relative to this (lib. ii., cap. 9), I venture to send you the sum: "*Usui civium decori urbium*" our motto:—1. Trees should be felled in autumn, or in the winter, and in the wane of the moon; for in this season the trees recover their vigour and solidity. Strength was dispersed among their leaves, and exhausted by their fruit, in spring and summer: they will thus, late in the year, be free from a certain moisture, very apt to engender worms and rot them; which damp in autumn and winter is consumed and dried up. 2. Trees should not be cut down *at once*. They should be cut carefully round towards the pith, that the sap may drop down and distil away; and thus left until thoroughly dry, and then cut down entirely. 3. When fully dried, a tree should not be exposed to the south sun, high winds, and rain; and should be smeared over with cow-dung, to prevent its splitting. 4. It should never be drawn through the dew, but be removed in the afternoon. 5. It is not fit for floors, doors, or windows till it has been felled three years. Perhaps these directions attended to would prevent the dry rot. We see from them that sawyers, carpenters, joiners, and builders, ages ago, were taught how to cut timber. The Sidonians excelled herein (1 Kings v. 6). They cut cedar out of Lebanon for Solomon. Cedar, naturally bitter, therefore offensive to worms, was found fresh in the Temple of Utica, in Barbary, about 2,000 years old. Some, in modern times, build in a hurry, and the building does not last, the wood being worm-eaten. As a chemist, I venture to assert that timber, steeped in intensely bitter solution, viz., bichloride of mercury, being distasteful to worms, will be indestructible, if the rules of Vitruvius be followed fully.

The Canadian woods at present produce much timber; but, alas! the trees are tapped for resin and turpentine; their natural antiseptic principle is removed; the wood is sapless; the dry rot follows. The natives are too greedy in tapping; and our houses suffer in consequence. It seems, therefore, necessary, to restore artificially, what has been thus removed from foreign timber.

Worm Fence.

HOLBORN VALLEY.

Sir—You will oblige me by inserting in your next number the following extract from a letter which appeared in various journals, January, 1859:—

"The improvement of the communication from Holborn-hill to Skinner-street, first occupied my attention in 1839, when I made the requisite surveys, and submitted my plan to the Court of Common Council in 1841, which was referred to the Farringdon New Street Committee, and subsequently, in 1842, to the London Bridge Approaches Committee. The plan met with much support from the late Thomas Henry Hale, Esq., and other influential members of the Corporation; it was also brought under the notice of the then First Commissioner the Earl of Lincoln, and by his Lordship favourably entertained. In June, 1855, I was examined by a Committee of the House of Commons relative to this project and the proposed New Line of Street from the King's Cross to the Post Office."

Copies of the said letter were forwarded to the Architect and several members of the Metropolitan Board of Works, and to those members of the Corporation who have taken much interest in the project when under their consideration.

I was induced to give every publicity to my claim of priority immediately after my attention had been called to Mr. Marrable's drawing when it hung in the reading-room at the Guildhall, January, 1859. My effort, however, does not seem to have produced the desired effect.

Thos. Taylor.

*** Since this was set up we have received a letter from Mr. Marrable, stating distinctly that his plan differs entirely from that made public by Mr. Taylor.

QUANTITY SURVEYORS.

Sir,—Never was your publication so much required by the surveying profession as at the present time. I hope that through its columns it may lead to the reformation of the disgraceful abuses now existing among a certain few touting surveyors, who run after everything advertised in your journal. With reference to the Thames Embankment estimates, as advertised, a certain party, I will suppose, obtain a copy of conditions, &c., begin and get out quantities, and send round to builders, stating they are employed by So-and-so, and asking or begging they will take a copy from them (I have a letter by me).

To say the least of such conduct, it appears offensive and troublesome. No consideration is made by these worthies whether they interfere with another's connexion or not, and in many instances the respectable surveyor (who awaits his business in the usual way) loses the opportunity of working for his old clients. Builders, in many instances, are induced to take copy from the circumstance of seeing other names, although their own surveyor would have been employed in the ordinary course of business, thereby insuring confidence in all that is done. I, for one, am desirous of stopping this system among a certain few, and would suggest a meeting of builders, to adopt a line of conduct agreeing (as in former days)), to employ men only of experience and standing in the profession. Scrutator.

Miscellanea.

Archæological Discoveries at Athens.—Some tombs have been discovered in the suburbs of Athens on the Via Sacra. In one of these is a *bas-relief*, representing a combat between an armed equestrian and a warrior on foot, having indents for the insertion of ornaments in bronze. An inscription declares that the tomb was erected in the time of the Archon Eubulitos (B.C. 394), in honour of an Athenian killed in the battle of Corinth, twenty years after the death of Pericles.

Discovery at Pershore.—In the course of some excavations at Pershore Abbey Church, Worcestershire, the workmen, in digging round the foundations, have found the remains of a tesselated pavement, which once constituted the floor of the north wing of the abbey church. Remains of a similar description were found in St. Edgar's Chapel. Men with bows and arrows, lions, deer, and other devices were depicted on the pavement. It is contemplated to take the whole of the pavement up, and replace it in the interior of the church. Pieces of the bells which were broken or melted at the great fire which consumed a portion of the edifice have also been found.

Munificent Parsees.—Sir Jamsetjee Cursetjee, son of the late Sir Jamsetjee Jeejeebhoy, has contributed a lac of rupees for the construction of a college at Poonah; and Mr. Cowasjee Jehanghir, a well-known and liberal Parsee merchant, has offered 7,500 rupees to complete the steeple of the Protestant Memorial Church of St. John, Bombay, and to place in the tower an illuminated clock. He has also undertaken to erect forty drinking-fountains at different places on the island.

Action through Breakage of an Hydraulic Press. — The plaintiffs were Messrs. Perera, Spanish merchants, Deansgate, and the defendants, Messrs. Bellhouse, engineers, Manchester. The action was brought to recover 50*l*. for damages sustained by reason of the breakage of an hydraulic press furnished by the defendants. A number of practical and consulting engineers were examined on each side, and their evidence was very conflicting. The plaintiffs' witnesses swore that the machine was so lightly constructed and so made that it was impossible to sustain a pressure of three tons. On the other hand, the defendants' witnesses proved that, making full allowance for the defective casting, the machine was quite capable of sustaining a pressure of six tons. They attributed the cause of the accident to a fracture, which had probably arisen months before the accident, through what was possibly carelessness in the use of the machine. The case occupied the court about five hours. The judge ultimately gave a verdict to the plaintiffs for 40*l*. 10s. 6d.

Blasting Extraordinary. — A remarkable blast in iron mining took place at the Lake Superior Mine a short time since. In ordinary ones but a 1¼-inch hole in diameter is drilled, but in this case one of 4 inches and 18 feet deep was made, distant from the edge of the cliff about 10 feet, into which one keg of powder was put and exploded as a preliminary, and which had the effect to open a seam to the depth of 50 feet. Sixteen kegs of powder were then put in as a final charge, which threw down over 3,000 tons of ore completely broken up.—*Galignani* speaks of a gigantic mine that was exploded on the 18th, near Mergozzo (Piedmont). A gallery had been pierced under the granite hill to be blasted, a work which it had taken a whole year to complete. The mine was charged with 20 metrical quintals (4,430lb.) of gunpowder, and fired from three different points at a time. The quantity of granite thus detached was estimated at 30,000 cubic metres, much less than was calculated upon; but the rest is much shattered. The firm was obliged to deposit 1,000,000fr., as a security for damages to neighbouring landholders in case of disaster; but the shock was hardly felt at a distance of 2 kilometres.

Railway Preference Shares. — Of the 20,524,251*l*. of shares issued by the Great Western proper at the close of 1862, 12,138,778*l*. was preference stock. It is under this enormous burden of preferential capital, at from 3 to 8 per cent. interest, that the dividends of the ordinary shareholders have been slowly falling. The dividend on the ordinary stock (8,173,487*l*.) was 2·62 per cent. in 1861, and 1·75 per cent. in 1862. The company has this year undergone a complete transformation, having absorbed the West Midland and South Wales; but new Acts of Parliament cannot enable undertakings to dispense with previously existing obligations. The Lancashire and Yorkshire has a much smaller proportion of preferential capital, the total at the close of last year having been 3,077,570*l*. The ordinary capital of the company is no less than 12,093,594*l*. which received 5½ per cent. in 1861 and 3⅞ per cent. in 1862, the reduction arising from the depression in the cotton trade. Up to the period of the measures now in progress for raising 2,197,000*l* of preferential capital, the directors of the London and North-Western appear to have rigorously abstained from the creation of preference stock only 270,000*l*. having been outstanding at 5 per cent. in 1861 and 1862, while the ordinary share capital amounted to 25,296,921*l*. in 1862, on which 4⅝ per cent. was paid, as compared with 25,224,349*l*., on which 4¼ per cent. was paid, in 1861. The London and South-Western, at the close of 1862, had preference stock outstanding to the extent of 1,648,905*l*. The ordinary stock of the company amounted in 1861 to 7,200,256*l*. receiving 4¾ per cent.; while in 1862, 7,381,281*l*. received 5 per cent. The London, Brighton, and South Coast had 3,339,000*l*. of preferential capital outstanding at the close of 1862. The ordinary stock amounted to 4,620,000*l*. in 1861, and 4,705,473*l*. in 1862—a steady 6 per cent. being paid in both years.

Milton Hall, Camden-town.—This new hall, for concerts and various social, moral, educational, and religious purposes, of which we have already spoken, is now open to the public. The cost of the building, which is in the Tuscan style, is stated at about 1,000*l.* The hall seats 400 persons, and there are class-rooms, school-room, &c., connected with it. Intoxicating drinks will not be allowed to be used on the premises. Mr. W. Scocter, of Kentish-town, was the builder.

New Machine for Blacksmiths.—A machine for making socks has lately been invented by Mr. Birnie, an Aberdeen blacksmith. It is adapted, says a local paper, for making, with a slight adjustment, which can be effected in a minute, both plain socks, and socks with raised backs, long or short in the barrel, deep or ebb on the land side, or a fractional part of an inch; and is so much superior to the old method that, to a person with a fair trade, there is a saving by the use of it of at least fifty per cent.

Antique Pavement at Dorchester.—There has been a recent discovery at Dorchester of an antique tessellated pavement, which came to light during the laying of a drain on the south of a new house between the County Hospital and the West Walks, and about 2 feet below the surface: a paved area of 15 feet by 7 feet was eventually laid bare. The pavement, as described in the local *Chronicle*, consists of two portions, one running nearly east and west, and the other at right angles to it. These may have formed parts of two sides of an *atrium*, a portion of tessellated work, perfectly plain, appearing at the angle. The coloured portions at the sides are of geometrical design. The principal feature in one case is that of intersecting circles, and in the other of half circles. The intersections of the circles are filled in with colours, the prevailing tone of which is ornamental brick red and blue lias.

Cheap Railways.—The county of Donegal, says the *Freeman*, has gained the distinction of making the cheapest railway yet constructed in the United Kingdom. It is termed the Finn Valley line, and has just been inaugurated by the Lord Lieutenant. Its length is thirteen miles, and the total cost has been 69,972*l.*, or 5,380*l.* per mile, while the average cost of all the railways in Ireland has been 18,424*l.* Only 8*l.* 10s. per mile of receipts per week is required, therefore, to enable the shareholders to enjoy a dividend of 5 per cent. The work is stated to be thoroughly well executed; and although, of course, the route was in itself of an easy character, the main causes of the economy achieved are stated to have consisted in vigilant supervision and the absence of enormous compensations for land or other drawbacks of that description. There are also other lines in progress in the same district. One is a railway of nine miles from the city of Derry to Farland Point, the cost of which it is said will be only a little over 30,000*l.*, and the other is to be an extension of seven miles to Buncrana, at a cost of 29,000*l.*

London Water Supply, South Essex Water Works.—In consequence of the recent remarks in the *Builder* as to the waters at present supplied to London, and the opinion expressed that they are neither sufficiently pure nor copious, the Secretary to the South Essex Water Works Company writes us, and especially in reply to the question, "What chance is there of a supply from these?" stating that his company "is quite prepared to supply any deficiency that exists in any part of London with spring water [from the Lea, in Essex, of which we have before spoken, which is said to be] of excellent quality, perfectly free from organic impurity;" and that as the water they offer to London "requires only thirty miles of main instead of one to Wales, it can be supplied at a much cheaper rate, and it is also more wholesome and pleasant water to the consumer." The present parliamentary powers of the company, it appears, enable it to distribute over to Brentwood, Romford, Ilford, Barking, and other places between the Grays and the district present to the eastern suburbs of London. After dividing for these districts, a very large surplus water, it is said, will remain, which it is proposed eventually to carry to the metropolis in augmentation of the present limited supply. The three districts have been divided for the high and low services. The former includes Brentwood, Wanstead, and places adjacent: the latter comprises Romford, Ilford, Barking, and other places between the Grays and the east end of London. The high service is finished; and the low service, as far as Romford, is in course of construction, and nearly completed.

Improvement in Wheels.—A wheel, invented by Mr. Henry Mulliner, of Leamington, instead of being made with the ordinary number of fellies, one to every couple of spokes, is formed of two pieces only, which are bent by machinery to the circular shape, and are clamped together at the joints with a bent iron plate, which is riveted through the wood to the iron tire. The timber employed is the white hickory of America.

Tenterden.—We are asked to make clear that the architect of the new church here, attributed to "Mr. Hill, of London," in our last, is Mr. Gordon M. Hills; and we do so willingly. Mr. Gordon Hills is one of the unpretending workers whose good doings we shall always be glad to chronicle. By the way, it seems more than likely that Tenterden is to have the advantage of a railway closer at hand than at present exists. The Government is understood to favour the scheme.

The "Great Eastern."—Long ago I recommended in your columns two screws to be placed, one on each side of the rudder-post, to facilitate the steering of this vessel. This the daily papers have lately described as having been tried successfully in another steamer. It now appears, also, the mountainous paddles become liable to injury in a stormy sea. Permit me to suggest that these be removed altogether, placing instead three smaller paddles, with their appendages, on each side. This could be done with present engines, adding extra shafts and cranks, also lowering bearings. The steerage power of the "Great Eastern" would, with this alteration, be equal to any conceivable emergency, as the paddle abaft midship on one side could be reversed, whilst the forward paddle on contrary side is by its action turning round the bow of the vessel. Besides, with any sea, one of the sets of paddles would be working efficiently.—George Walcott.

St. Cuthbert's Church, Wells.—Some recent works in St. Cuthbert's, at Wells, have resulted in the discovery of an altar to the Virgin, that appears to have been erected at no very distant period from when it was cast down in fragments by the iconoclasts. Placed on the east wall of the north transept, several lines of sculptures, comprising figures of saints with their appropriate emblems, soar above one another: in the centre was the Virgin holding the Saviour on her knee. Her dress was the customary blue and red robe, powdered with gold stars. The figures are about 4 feet high, and all sculptured in the late manner of the fifteenth century. Upon the entire remains the original colourings, red, green, blue, and white, exist in a very vivid condition, and the gilding, which had been profusely employed, is still hardly tarnished. On the corresponding wall of the south transept in the same church has been found a Jesse tree, carved in stone and coloured. The original contract for the execution of this still exists among the city records, and specifies the price at which the whole was produced—namely, 40*l.* There is a probability of the proportions of this church being revealed interiorly by removal of certain galleries and opening the tower-arch, now blocked by the organ.

York School of Art.—The annual meeting of this school has been held in the rooms of the school, in Minster-yard—the Archbishop in the chair. In course of his address, his grace alluded to the demand for beauty in the market. They might depend on it, he remarked, that ugliness was going out of fashion. He spoke of the improvement which was being made in the appearance of dwellings. Antiquity was York's great beautifier; but London in its modern aspect, he had perceived, was greatly altered. A man now turned his attention towards making his house and warehouse places of beauty; and no doubt many places in the streets, instead of being long rows of plain windows and doors, now were rendered objects on which the eye could rest with delight. But this was only one reference to that which affected everything. His grace then referred, as a result of these art institutions, to the improvements which had been made in carpets, and alleged that the designs into which precious metals were now wrought exhibited some impress of the artist's hand. They owed it to these schools that they were surrounded by objects of beauty. Something like 1,000 children were indirectly under instruction by means of this school. The truth was, that every one of them ought to have a little education in art. He could not sympathise with the report, and the sanguine language in which it spoke of the stride which the institution had made from 99 to 111 pupils. There was not a child in York but who ought to learn something about drawing, without reference to his prospects.

Restoration of Gloucester Cathedral.—The dean and chapter of Gloucester have requested Mr. G. Scott to make an examination of the cathedral in conjunction with Mr. T. Fulljames, and prepare plans and estimates for its restoration.

West London Union Workhouse Competition.—Thirty-three designs were submitted in reply to advertisement, and have been exhibited to the guardians and others in an out-of-the-way room called Farringdon Hall, just off Snow-hill. Holloway, we believe, is the intended site.

File-making by Machinery.—A "Report on the Employment of Machinery in the Manufacture of Files," by Richard Allinson, has been published under the auspices of the Patent File Company of London and Birmingham. From this report it appears that the patents to be used by this company are that of M. Bernot, which has been in use for four years in Belgium, and that of Mr. Greenwood. The object is to carry out the manufacture in its various processes; and it is said that not only far cheaper, but better files can thus be produced than by hand; the teeth being more regular and hence wearing more uniformly and doing more work in a given time. The new company is said to be establishing itself satisfactorily, and measures are in progress for starting their manufactory in Birmingham with the least possible delay. The machines have been tested, and the *Birmingham Daily Post* reports very favourably on the subject.

Architects' Charges for Extras.—In the Wrexham County Court, before a Welsh jury, an action was brought by Mr. M. Gummow, architect, Wrexham, to recover 10*l.* 2s. from Mr. Bunn, a builder, in Wrexham, for certain measuring and surveying alleged to have been done on Mr. Bunn's behalf. In 1861 the defendant, Mr. Bunn, agreed to build a villa for Captain M'Coy. Mr. Gummow was the architect, and superintended the work. The original contract was deviated from, and some additions were made. The builder sent in a bill for extras, amounting to something like 808*l.* This was finally agreed to, and the 808*l.* was paid by Captain M'Coy to Mr. Bunn. These extras had been measured by Mr. Gummow, the builder assisting. The custom, according to plaintiff's counsel, was that the expense of measuring and valuing extras should be divided between the builder and the owner of the house. This he said he should be able to prove, and he should also be able to prove that the defendant had made an application to the plaintiff to do this measuring. Evidence was then given both for and against the assertions on the part of the plaintiff; and the judge having summed up, the jury gave a verdict for the defendant, in which the judge said he quite agreed.

Transmission of Musical and other Sounds by Electric Telegraph.—Our readers may recollect being amused some years ago with the idea of playing musical instruments, or distributing a concert, by telegraph. An invention of a Mr. Ladd is now spoken of, which seems to realize something like this idea. The instrument, as described, consists essentially of two distinct pieces of apparatus, which it would occupy too much space to describe. "The method of producing sound in the receiving-instrument depends upon the fact that, at the moment of magnetizing or demagnetizing a piece of iron, there is an alteration in the arrangement of the particles which gives rise to a slight ticking noise. Having connected the transmitter, by means of an insulated wire, with the receiver, and the binding-screws having been brought in connexion with a battery of three or four elements, if the finger-key on the transmitter be pressed the person at the receiving station hears the ticking noise; and, as all musical notes are the production of pulsations at regular intervals, we have simply to find some means of making and breaking contact a number of times equal to the pulsations of the note to be conveyed. This is done by the elastic membrane. The operator places his mouth to the tube in front of the instrument and sings a note, when immediately the membrane begins vibrating in accordance with the note sounded, and at each vibration breaks contact between the pin and plate in its centre." The "finger-keys and small magnet at the sides of the instruments are for the purpose of varying the methods of communication by the combination of single sounds, and can also be used with the other parts for the purpose of regulating the length of the notes, and dividing them into varying portions, so as to form a sound-alphabet somewhat similar to the signals written by Morse's telegraph."

Gas.—The Shaftesbury Gas Company have declared a dividend of 6 per cent. per annum, and resolved on a reduction in the price of their gas. ——The Sunderland Gas Company have declared a dividend of 4 per cent. for the last half-year.

Panic in the Iron Trade.—The strike of nineteen weeks having ended in the masters giving way and agreeing to a rise of 1s. a ton, or about 5s. 6d. a week, on the puddlers' wages, and a proportional rise in other wages, the masters meditated a second nominal rise in the price of iron such as that of 10s. a ton, which they then put on; and as the workmen threatened a new demand in consequence, a rush of orders came upon the iron-masters, who at length refused to take more except at an advance of 1*l.* a ton. They have since had a meeting, and have declared a farther rise of 1*l.* a ton, making a rise of 1*l.* 10s. in six weeks, and the nominal price of best Staffordshire bars 8*l.* 10s. a ton. Wages at the same time are to be raised 1s. a ton for puddlers, and others in proportion, as before; so that puddlers will now receive 10s. 6d. and certain millmen 12s. 6d. a week more than before the strike. It is believed consumers will not buy at the prices indicated.

The Hotel Building Movement.—The Clifton Hotel Company propose erecting in Clifton a building at a cost of 40,000*l.* The directors are gentlemen of influence and position, and a large number of shares have been taken. The company have purchased the Bath Hotel and several adjacent houses, being unable to obtain possession of another site, as originally intended. The whole of the premises, with the exception of one house in Gloucester-row, will be pulled down, and a large building erected.——A new hotel is also to be built in College-green, Bristol, by a company who have purchased the houses between the cathedral and St. Augustine's Church, on which site the hotel will stand. In the event of a central station being built, this hotel will be desirably situate.——It is stated that the Great Northern Railway Company have purchased the Wellington Hotel, near the Central Station, Leeds, and the property surrounding it, for 8,000*l.*, with the intention of erecting a large new hotel upon the site.

Pneumatic Despatch.—Workmen have commenced the necessary excavations in Seymour-street for the extension of the Pneumatic Despatch from the Euston Station of the London and North-Western Railway, to the General Post-office in St. Martin's-le-Grand, and to Messrs. Pickford's depôts in Gresham-street. The total additional distance between Euston-square and the City will be 2½ miles; making, with the distance between the North-Western District Post-office and Euston-square, now in daily operation, a length of 3½ miles. There will be a central intermediate station at the Holborn District Post-office, opposite the London and Westminster Branch Bank. It is also in contemplation to have a station at Smithfield, and branch lines to Covent Garden and to Charing-cross Railway and Post-office. A 5½-inch tube, instead of a 30-inch, is now being constructed, and it is expected that the line may be so far completed as to permit of the transmission of the Christmas traffic into the City from the London and North-Western Railway at that period.

Artesian Well, Doncaster.—Although the contractors have been delayed in the boring for the artesian well in the Holmes, says the local *Gazette*, it is confidently expected that the contract for the additional depth will be completed in a fortnight. The boring rods are now passing through a bed of clay, and the prospects of finding water adequate for the supply of the borough at the present depth are doubtful. Mr. Dale, the engineer of the Hull water-works, met the local board of health, at the Mansion House, on Monday last, and he expressed an opinion that at the completion of Mr. Clark's contract, a fresh source of water would not be met with. He stated that he had come to this conclusion from the circumstance that on his taking charge of the work he was led to believe that gritstone had been reached, but he had since ascertained that this was not correct. He considers it desirable to obtain water from the red sandstone, and he believes that the supply from it would be adequate for a population much larger than Doncaster. After hearing Mr. Dale's opinion, the board decided that the present contract should not be stopped, but if water be not then reached, the board will deliberate upon the plan to be pursued for the future. Mr. Dale has had considerable experience in artesian wells, and he entertains, we understand, a decided conviction that the result of the boring will ultimately be successful.

The Drinking Fountain Movement.—A new drinking-fountain, in the Market-place of Durham, has been formally inaugurated by the mayor and corporation of the city. The erection is from designs by Mr. Robson. The total cost of the structure is 180*l.*——The first stone of the fountain in the centre of the Market-square of Northampton, presented by Mr. S. Isaac, has been laid.

A Disputed Contract.—At a recent meeting of the Taunton Board of Health, Mr. John Edwards, house decorator, complained that he had been dealt most unfairly by, with reference to a tender for renovating and decorating the premises of the Board. He was at the Board-room ten minutes before twelve o'clock, the time specified for the reception of tenders; remained there until after twelve; and, when he left, no other tender was brought in. Mr. Hellard observed that Mr. Edwards's tender was the only one which was given in at the time specified, and there was no doubt that he was legally entitled to the contract. He moved that Mr. Edwards's tender be accepted. The chairman said the committee had accepted the lowest tender, and the work would be commenced the following morning. As to the question of legality, no one was legally entitled to a contract until his tender was accepted. Mr. Goodland said the questions in these matters were, whether twelve o'clock was a strict limitation, and whether a tender delivered after that time could be accepted. Mr. Marwood said he would have received tenders at any time on Saturday. Mr. Hellard's motion, after a lengthened discussion, was put to the meeting, and lost by nine votes to three. Mr. Edwards stated that he should instruct his solicitor to claim the contract.

TENDERS.

For the erection of four villas at Norwood. Mr. T. K. Green, architect —

Matthews	£2,930 0 0
Huckle	2,654 0 0
Donelly	2,475 0 0
Harrington & Brown	2,440 0 0
Macey	2,350 0 0
Ring	2,200 0 0
Cook	2,110 0 0
Richards	1,827 0 0
Harwood	1,650 0 0

For building two houses at Goose-green, Peckham, for Mr. Tyler. Mr. Rawlings, architect :—

Thompson	£1,876 0 0
Harrington & Brown	1,795 0 0
Sawyer	1,583 0 0
Brasher	1,547 0 0

For pulling down and rebuilding premises at Berner's-mews, Oxford-street, for Mr. Tozer. Mr. Henry M'Calla, architect :—

Simmonds	£378 0 0
Howe (accepted)	237 0 0

For the erection of three houses at the corner of the East India-road and Stainsby-road. Mr. F. Fred. Holsworth, architect. Quantities supplied by Mr. R. Richardson :—

Bishop	£3,545 0 0
Manley	3,372 0 0
Patrick	3,334 0 0
Baugh	3,204 0 0
Harvey	3,195 0 0
Tracey	3,177 0 0
Simmonds (accepted)	2,984 0 0

For the erection of New United Methodist Free Church, Stockwell, Surrey. Mr. S. Stedman, architect. Quantities not furnished —

Jenner & Hopson	£1,135 0 0
Marsland	800 0 0
Lathey, Brothers	747 0 0
Warne & Geddy	654 0 0

For the erection of a new inn at Emmer-green, Oxon, for Messrs. Blandy, Hawkins, & Co. Mr. Wm. Brown, architect :—

Bricklayer's Work.

Wheeler (accepted)	£410 0 0

Carpenter's Work.

Woodroffe (accepted)	335 0 0

For erecting a Wesleyan Chapel at Enfield Town. Mr. F. G. Widdows, architect. Quantities supplied :—

Green & Son	£1,765 0 0
Farr	1,700 0 0
Simmonds	1,639 0 0
Field & Son	1,620 0 0
Patman, Bros.	1,568 0 0
Cushing	1,536 0 0

For new church now erecting in Barham-terrace, Lambeth :—

Cubitt	£5,661 0 0
Patman	5,584 0 0
Higgs	5,300 0 0
Cumlet	5,055 0 0
Jack & Shaw	4,750 0 0

Accepted for cloth-warehouses, for Messrs. S. & S. Musgrave, Leeds. Messrs. Lockwood & Mawson, architects —

Excavator's, Bricklayer's, and Mason's Work.

Nicholson & Son	£2,875 0 0

Joiner's Work.

Cookson	2,000 0 0

Plumber's Work.

Lindley & Johnson	264 0 0

Plasterer's Work.

Wilson & Son	182 15 0

Ironfounder's Work.

Marsden	99 11 5

Slater's Work.

Watson & Wormald	107 15 0

Painter's Work.

J. B. Hopes	108 8 7

For sail-loft and shops, Emmett street, Poplar, for Mr. George Saul. Mr. J. W. Morris, architect :—

Brown	£948 0 0
Munday	925 0 0
Watts	840 0 0
Jeffrey	825 0 0
Heiser	819 0 0
Sheffield	779 0 0
Salt	771 12 0
Hack & Son	738 0 0

For rebuilding house and premises, Emmett-street, Poplar, for Messrs. Young, Son, & Company. Mr. J. W. Morris, architect :—

Salt (accepted)	£300 0 0

For a pair of villas at Woodford, for Messrs. Blidberg & Tho'ander. Mr. J. W. Morris, architect :—

Watts	£1,605 0 0
Jeffrey	1,6 0 0 0
Atherton	1,472 0 0
Sheffield	1,459 0 0
Hack & Son	1,430 0 0
Salt	1,430 0 0
Heiser	1,388 0 0
Brown	1,374 0 0
Kilby (accepted)	1,215 0 0

For the erection of market, hall, &c., Ruthin. Messrs. Poundley & David Walker, architects. —

Chester & Co.	£4,236 0 0
Conway	4,200 0 0
Hamer	4,100 0 0
Pritchard	3,981 17 6
Owen & Jones	3,965 0 0
Ellis	3,580 0 0
Roberts & Holland	3,556 0 0
Neil	3,550 0 0
Porteous	3,546 0 0
Roberts	3,494 0 0
Evans	3,387 0 0
Williams	3,300 0 0

For alterations and additions to St. John's Church, Buckhurst-hill. Messrs. Smith & Widhams, architects. Quantities supplied by Mr. W. R. Gritten :—

Ennor	£2,786 0 0
Williams	2,273 0 0
Myers	2,241 0 0
Wades	2,240 0 0
Howlett & Brown	2,100 0 0
Jacobs	1,985 0 0
Hill & Sons	1,920 0 0
King & Sons	1,893 0 0
Dove, Brothers	1,895 0 0
Hack & Sons	1,787 0 0

For finishing the Clarence Hotel at Teddington, for Mr. Hodgson. Mr. Wimble, architect. Quantities furnished:

Brown & Robinson	£3,700 0 0
Piper & Wheeler	3,570 0 0
Nicholson & Sons	3,510 0 0
Macey	3,389 0 0
Goulter	3,380 0 0
Mason	3,264 0 0
Sharpington & Cole	3,177 0 0
Adamson & Sons (accepted)	3,083 0 0

For a detached villa at Barnet, Herts. Mr. Es architect :—

Menhanes	£1,443 0 0
Hill	1,150 0 0
Pocock	1,128 0 0
Taylor	1,120 0 0
Scrivener & White	1,074 0 0
Ginger	1,060 0 0
Martin	1,033 0 0
Kilby	985 0 0
East	831 0 0

For alterations and additions at the Railway Ho Barnet, for Gripper, Brothers :—

Ginger	£196 10 0
Miller	178 10 0
Patterson	156 0 0

For finishing house and shop, Cornwall-road, Paddi ton, for Mr. A. Conratti. Mr. J. C. Hukins, architect

Foale	£645 0 0
Cooper & Savage	628 0 0
Martin	625 0 0
Spiers	599 17 0

For barrel sewer to Burlington-mews, Ledbury r Paddington. Mr. J. C. Hukins, surveyor :—

George	£183 0 0
Thurst	145 0 0
Crockett (accepted)	135 0 0

TO CORRESPONDENTS.

H. L. (such instances are perfectly well known) D.—S. D. C—H.—J. K. (in type)—St. Paul's (a Constant Reader should have sent his name).—W. H. C. (a letter was already in type).—O. N. S. (the paragraph seems incorrect).—C. J. H.—T. B.—H. McC.—R. C. S.—W. M.

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All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

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JOHN HOWARD, Clerk.

Guildhall Chambers, Portsmouth, September 24th, 1863.

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No. 31, Moorgate-street, September 30 1863.

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WANTED, in a Land Agent and Surveyor's Office, a neat and expeditious DRAUGHTSMAN.—Applications to be made in writing to Mr. JOSEPH SMITH, Land Agent and Surveyor, Bradford, Yorkshire.

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WANTED, for a permanency, in a Watering Place about sixty miles from London, a steady, experienced THREE-BRANCH HAND, with a knowledge of Gas-fitting. 30s. per week will be given to a thoroughly competent, trustworthy man.—Apply, by letter only, with references, &c. to C. B. care of Messrs. Tylor & Sons, Warwick-lane, Newgate-street, London.

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WANTED, by an Experienced ASSISTANT, an ENGAGEMENT, either temporary or otherwise. Is a first-rate draughtsman, good colourist, and thoroughly competent to prepare working, detail, and finished drawings, specifications, &c. Thoroughly understands surveying.—Address, G. C. C care of T. Eade, 168, Pentonville road, N.

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WANTED, by a Middle-aged Man, EMPLOYMENT as CIRCULAR SAWYER. Town or country. Can work any kind of saw-bench. Understands filing.—Address to A. B. 40, Neville street, Upper Kennington lane, Lambeth, S.

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A PLUMBER is in WANT of WORK, a Job or constant. Has had good experience in new and old work. Can do painting and glazing if required. Reference if necessary. Age 31.—Address, W. M. Plumber, 2, Stacey-street, Soho, W.C.

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AN Experienced Land Surveyor and Leveller desires EMPLOYMENT. He has been thirteen years employed on the Ordnance Survey. Good reference.—Address, A. B. Post-office, Romford, Essex.

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A THOROUGHLY practical Man, of twenty years' experience, is open to an ENGAGEMENT as CLERK of WORKS or FOREMAN. Has just completed an extensive job. Is a good draughtsman, measurer, &c. No objection to the country. Good reference.—Address, with terms, &c. INDUSTRIA, 24, Chant-street, Stratford, E.

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A YOUNG MAN, aged 20, is desirous of a RE-ENGAGEMENT as ASSISTANT. Has been 4½ years in the profession. Terms moderate.—Address, B. D. 2, Bolton terrace, Oakfield-road, Penge, S.E.

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A THOROUGHLY qualified ESTIMATING, QUANTITY, and MEASURING CLERK, will be united with Builder's and Contractor's business, is open to an ENGAGEMENT, or would take the Management of a Business if required. First class testimonials and references.—Address, A. B. Post-office, 193, Queen's-road, Dalston.

FREEHOLD GROUND RENTS, CITY of LONDON.—The Commissioners of Sewers of the City of London will meet in the Guildhall, of the said City, on TUESDAY, the 13th of OCTOBER next, at HALF-PAST TWELVE o'clock precisely, to receive PROPOSALS for the PURCHASE of FREEHOLD GROUND RENTS, on premises let on building lease, having about eighty years unexpired, and severally situate Nos. 70 and 71, Watling-street, Nos. 76 to 177, Newgate street, and No. 4, Maidenhead-court, Aldersgate-street, particulars and plans of which may be had at the Office, together with the conditions of sale. Tenders must be sealed, endorsed outside, "Tender for Ground Rent," and addressed to the undersigned at the Office, and must be delivered in before TWELVE o'clock, on the said 13th of OCTOBER next. The Commissioners do not bind themselves to accept any Tender, unless the same be deemed eligible. Parties tendering must attend personally, or by an authorized agent, on the day of treaty, and be then prepared (if their Tender be accepted) to pay the required deposit of 10 per cent and to execute an agreement for the completion of the purchase, agreeably to the conditions of sale.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, September 22, 1863.

GUILDHALL, London, 23rd September, 1863.—The Committee for Letting the Bridge House Estates will meet at Guildhall, on FRIDAY, the 9th OCTOBER next, at ONE o'clock precisely, to receive PROPOSALS for BUILDING LEASES, for Eighty Years, of THREE PIECES of GROUND, on the south side of Bermondsey New-road, in the County of Surrey. Also to receive Proposals for a Lease of a Shop at the corner of Wellington-street and the Blackfriars-road. Plans of the property may be seen, and forms of Tender obtained upon application to the Architect's Office, Guildhall.

FERDINAND BRAND, Comptroller.

CHISLEHURST, Kent.—TO BE SOLD, about 17 acres of FREEHOLD LAND, being part of the Camden Estate, one mile from Bickley station, on the Mid Kent line, and a few minutes walk from the station on the direct Tunbridge line from Charing-cross and London Bridge, delightfully situate, well timbered, gravelly soil, and well adapted for villas. Also, TO BE LET, on building leases from 50 acres to 10 acres, at moderate rents.—Apply to Mr DAVENPORT, Estate Agent, 35, Bucklersbury, City, E.C.

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GROUND in BASINGHALL-STREET, now occupied by Houses and Warehouses, known as Nos. 20 and 21, Basinghall street, TO BE LET by TENDER, for Building purposes. A plan of the ground and form of Tender may be obtained at the Offices of EDWARD PANSON, Esq. No. 70, Lawrence Pountney-hill, Cannon street; or of Messrs. HOLLINGSWORTH, TYERMAN, & GREEN, No. 24, Gresham street, London.; where Tenders, under seal, are to be delivered on or before the 14th OCTOBER next. The Owner does not bind himself to accept the highest or any Tender.

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BUILDING LAND, EALING.—TO BE LET, in PLOTS, direct from the Freeholder, for Villas. This estate is within 100 yards of a Station, at which more than 50 trains stop daily, and abutting on the high road. Its most important feature is, that on completion of the Railway the extension of the Metropolitan Railway, this site will be actually within half an hour of the Bank of England. The subsoil is gravel, and the roads and sewers are made. Particulars of Messrs. GRAY & BERRY, 105, Edgeware-road; or Mr. JONES, Architect, Ealing, W.

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Fields, or Messrs. TRESS & CHAMBERS, Architects, 27, Queen street, Cheapside.

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BUILDING GROUND, Milk Street, Cheapside.—Notice is hereby given, that the Committee for Letting the City's Lands will meet at Guildhall, on WEDNESDAY, the 14th OCTOBER next, at ONE o'clock precisely, to receive PROPOSALS for a BUILDING LEASE for 80 years of a piece of ground on the east side of Milk-street, Cheapside, in the City of London. A plan of the ground may be seen, and forms of Tender obtained, upon application at the office of the City Architect, Guildhall.

FERDINAND BRAND, Comptroller.

Guildhall, 24th September, 1863.

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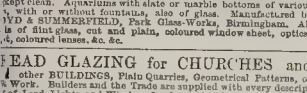
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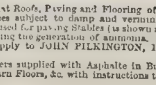
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	lb.	lb.		lb.	lb.		lb.	lb.
196	115	575	277	112	515	342	118	675
197	117	527	278	115	790 Ex.	344	122	790 Ex.
198	122	685	279	117	615	346	115	525
199	113	430	281	113	790 Ex.	348	113	663
200	117	512	282	110	570	349	122	790 Ex.
203	115	725	283	120	692	350	111	748
205	117	751	284	113	610	351	111	705
210	110	623	285	113	445	353	112	703
212	111	684	286	110	626	354	110	740
220	110	565	288	115	790 Ex.	355	117	541
223	113	658	289	110	745	357	110	615
229	112	458	291	110	730	358	114	790 Ex.
231	110	650	293	117	680	359	111	710
232	112	625	295	115	446	360	116	720
233	112	554	296	110	578	362	112	703
234	110	705	297	111	709	363	110	790 Ex.
235	111	618	299	114	728	365	110	700
236	122	746	301	114	581	366	113	712
241	121	722	302	111	624	367	122	790 Ex.
242	112	680	303	122	681	368	111	730
244	122	520	306	124	755	369	111	790
247	115	359	308	120	790 Ex.	370	115	469
248	114	690	309	113	790 Ex.	371	120	613
249	111	710	311	112	680	372	112	680
250	117	420	312	114	742	373	110	790 Ex.
252	110	770	313	111	628	374	115	682
253	115	696	314	122	645	375	111	688
254	115	575	315	113	397	376	112	790 Ex.
256	113	426	316	114	568	378	115	642
257	113	527	217	123	732	379	119	740
259	124	515	318	120	552	380	115	740
260	122	596	319	112	610	381	112	740
261	113	727	320	110	674	383	116	712
262	118	625	321	114	526	384	113	673
263	112	790 Ex.	323	115	260	385	120	688
264	116	527	324	112	760	386	117	790 Ex.
265	117	518	325	116	790 Ex.	387	111	700
266	115	537	329	111	762	388	111	732
267	115	340	330	114	551	389	112	772
268	124	554	331	112	681	390	114	733
269	118	622	333	110	562	391	118	736
271	110	735	334	117	433	392	122	712
272	111	720	335	111	741	394	116	731
273	112	638	338	111	790 Ex.	395	116	448
274	114	690	339	112	746	396	115	512
275	113	576	340	115	790 Ex.	397	110	710
276	120	705	341	113	766	400	110	695
						401	116	488

N.E. Ex. means Exceeded.

SUMMARY OF THE ABOVE.

In 1 instance the breaking strain required on the 1¼-inch square (viz. 260 lb. was under 300 lb.
In 3 " " " " was between 300 and 400.
In 10 " " " " " 400 and 500.
In 27 " " " " " 500 and 600.
In 38 " " " " " 600 and 700.
In 63 " " " " " 700 and 800.

142

In 142 instances only 10 per cent. broke under a strain less that 500 lb.; 2½ per cent. less than 400; and ¾ per cent. (one solitary case) less than 300 lb.

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PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. This cement will carry more sand than any of the lime cements, so much of which is now brought into the market and sold as Portland.

PLASTER OF PARIS, both coarse and fine, of very superior quality ground or

LIME.—Grey Stone, Chalk, and Blue Lias Lime, well burnt, by the barge or yard, and may be had fresh ground daily, by steam power, for concrete.

BRICKS from our fields in Kent, by the barge alongside, in the river or canals, or by cart from the above wharf, of good quality and moderate price.

A large Assortment of Glazed Stoneware Drain-pipes, Yorkshire Plain, Pan, and Paving Tiles, Hair, Laths, Chimney-pots, &c. always kept in stock.

BRICK FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS, FRINDSBURY, near ROCHESTER, KENT.

F. & G. ROSHER, LIME, CEMENT, and BRICK MERCHANTS. LONDON WHARFS—

WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.

MILLBANK STREET, WESTMINSTER, S.W.

KINGSLAND BASIN, KINGSLAND-ROAD, N.E.

OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.

LIMEKILN HILL, LIMEHOUSE, E.

Wherever can be obtained, of the best quality:—

GREY STONE CHALK, FLARE, and BLUE LIAS LIME.

ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.

COWLEY and KENT BRICKS.

WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and

DOOR JAMBS.

Ditto and ditto WALL COPING BRICKS and TILES.

YELLOW and PALE MALM CUTTERS, FACINGS, PAVIORS,

SECONDS BLACK BRICKS and BLACK GLAZED HEADERS.

WHITE, BLACK, and RED RUBBERS.

STAFFORD-SHIRE ORNAMENTAL PAVING-TILES, in RED,

BLUE, and BUFF; also GARDEN EDGINGS

TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL

BRICKS, and CLINKERS; also DUTCH CLINKERS

Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH

CREASE, BLUE, RED, and GREEN

DUTCH and ENGLISH WHITE GLAZED TILES, for Wall

Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.

WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS,

LUMPS, and TILES, of every description and size.

GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.

RED DRAIN PIPES, TILES, and CHIMNEY-POTS.

TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES

TRUSSES, and BALUSTRADING, in Artificial Stone.

HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BAL

LAST, and other BUILDING MATERIALS.

Goods forwarded by Railway with despatch.

LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

HALKIN HYDRAULIC LIME, manu factured by LLOYD JONES & CO., Halkin Works, Holywe N.W. the same as used in the construction of the Liverpool Dock &c. and is long celebrated for its strong cementitious and connecti powers for subaqueous masonry, can be supplied by rail or water any part of the kingdom, either in lump (loose), or ground and bags and barrels. The Limestone can be had in full cargoes; a L. & Co.'s Roman Cement, in barrels, which is of a very superi quality, and warranted pure. Orders to be accompanied by a batch reference, c—Apply to the Works; or to E. & W. AARON, Agents, South John-street, Liverpool

MINTON & C Have REMOVED FROM ALBION PLACE, BLACKFRIA TO 50, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS. EARTHENWARE AND PLAIN TILES

DESIGNS AND ESTIMATES PREPARED. MANUFACTORY, STOKE-UPON-TRENT.

JOHNS & CO.'S PATENT PERMANEN STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT. CLARK & BENGOUGH, Manufacturers also of White Lead and Colours. GRAND SURREY CANAL BRIDGE, OLD KENT ROAD Office, 5, George-yard, Lombard-street.

STRINGFIELD & BLYT BANGOR WHARF, CAMDEN TOWN, N.W. LIME, CEMENT, SLATE, AND BRICK MERCHANTS, PLASTER OF PARIS MANUFACTURER Thames Sand and Ballast by the Yard or Barge, and Buildin Materials generally. Country orders forwarded with despatch.

STRINGFIELD & BLYT SOLE CONSIGNEES OF NELSON'S BLUE LIAS LIME, No. 16, SOUTH WHARF, PADDINGTON BASIN, W. ORDERS ADDRESSED TO MESSRS. S. & R. BANGOR WH CAMDEN TOWN, N.W. will receive prompt attention.

GREAVES'S BLUE LIAS LI GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W. L. M. TATHAM, Age THE ONLY WHARF IN LONDON WHERE OTHER LIME THAN BLUE LIAS IS KEP Delivered to any part of London, direct from the Works, by rail, or cart, and to every part of the Kingdom by canal or

ESTABLISHED 1852. PORTLAND CEMENT WOR MORDEN WHARF, EAST GREENWICH. EDWIN HOLLICK, Manufacturer of PORTLAND CEMENT of the best quality the English and Foreign Markets. Vessels loaded alongside NOT CONNECTED WITH ANY OTHER HOUSE.

PURE HYDRAULIC LIME, Manufac from the best HALKIN MOUNTAIN LIMESTONE, supplied for the construction of the Liverpool and Birkenhea The HOLYWELL LIMESTONE COMPANY are prepared t the above, in lump or ground, packed in bags, into waggo Holywell Station of the Chester and Holyhead Railway, or vessels at Greenfield Wharf, Chester River. Price and particulars furnished on application to Mr. EVANS, Manager, Parry's Mine Works, Holywell, Flintsh The Company guarantee the quality of the Lime to be equa used by the Engineer of the Liverpool and Birkenhead D Agents wanted. No applications attended to without banker's reference.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

STOURBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines,
Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and
as Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted
for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

TO BUILDERS, CONTRACTORS, &c.
PORTLAND CEMENT.—
JAMES NESBIT is prepared to supply Portland Cement of superior quality and strength, at such a price as will enable Builders to use it for purposes from which the high price usually charged has hitherto prevented its being used. Terms on application.—Bersey Farm, Portland Cement Works, Burgh Castle, Great Yarmouth

PORTLAND, ROMAN, and PLASTER
CEMENT MANUFACTORY, on the River Medway, Strood,
Kent,
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, from White Lion Wharf, Bull-wharf, London.
N.B. Shipping Merchants' and Bankers' Orders promptly executed

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

ROMAN, PORTLAND, PARIAN, and
KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta, Chimney Pots, Trusses, Copings, &c.; Stoneware Drain pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

STAFFORDSHIRE RIDGING and ROOF-
ING TILES, Plain and Ornamental, in Blue or Browsley colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on Application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
Whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

GEORGE ALLEN (late W. & T. N.
GLADDISH),
for CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, FIRE-CLAY, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

ESTABLISHED 1844.
JOHN BOARD & Co.'s CEMENT and LIAS
LIME WORKS, Dunball (near Bridgwater); Office, Queen-street, Bridgwater. JOHN BOARD & Co. beg to inform Builders, Contractors, and Merchants that they continue to manufacture CEMENTS and BLUE LIAS LIME, at Dunball, near Bridgwater, from increased appliances to their works, are enabled to execute orders for the same to almost any extent.

PATENT ASPHALTIC ROOFING FELT.
D. ANDERSON & SON,
BELFAST.
And 23 and 24, BILLITER STREET, LONDON,
CONTRACTORS AND MANUFACTURERS OF ASPHALTE ROOFING, SHIP SHEATHING, BOILER AND INODOROUS FELTS.

FLOORING, MATCH BOARDS, DEALS,
&c. as low as advertised. White Battens, 3½. 10s. per 120. 3 by 7; Yellow ditto, 10l. ditto ditto ¾ Match Boarding, 14s. per square; 1 ditto, 16s. ditto. Venetian Blind Laths, 8s. 6d. per 100 feet — CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK,
30,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
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JOSEPH & ALFRED ROSLING beg to
inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings A large Stock of Dry Flooring at low prices.
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WALTHWOOD.—Best and largest Stock of
ST. PETERSBURG WOOD in London FOR SALE. Delivered to Wharves in London, and alongside of any craft on the River Thames. For further particulars apply to Messrs. J. & E. KNIGHTS, Timber Wood Merchants, Importers, &c. Baltic Wharf, Pimlico, London, Five minutes' walk from the Victoria Station.

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At 6d. 7d. and 8d. per foot, at
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PENCILS, BLACK LEAD, and
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W.W. FABER'S POLYGRADE LEAD PENCILS, sold by all Stationers and Artists' Colourmen.
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J. GURMAN,
Inventor and Patentee of a New SASH POCKET and Fittings,
For Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows.
They can be taken out in a minute, and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4 ONSLOW ROAD, Southampton; or of Mr. G BRADBURY, 11, GARLICK HILL, Cannon-street, London, where Windows may be seen, and information obtained.
Also of the following Agents:—
LIVERPOOL—Mr. T. C. OWEN, PRINCE'S BUILDINGS, NORTH JOHN STREET.
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Windows may also be seen at the Kensington Museum, Iron on.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Sk rings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air Light Window Fittings, Glass Show Cases, &c.
Green-houses, Hot-house, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
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JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
No. 28, GRAY'S INN ROAD, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by
J. MILLS,
110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET
(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

FLOORING, DEALS, MOULDINGS, &c.
2½ YELLOW BATTENS .....10l. 10s. per 120 of 12 feet.
3 by 9 YELLOW DEALS .....16l. 10s. per 120 of 12 feet.
¾ by 7 WHITE FLOORING .....11s. 6d. per Square.
PRICE LISTS AND MOULDING PATTERNS, POST FREE.
J. TERRY & SON, 109, BOROUGH ROAD, S.E.

FLOORING! DEALS! MAHOGANY!
100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
6,000 Yellow Battens..... from £10 10s. per 120
2,000 Spruce ditto ..... from £9 per 120
SPRUCE DEALS, 2s. 6d. each.
FIR TIMBER 55s. PER LOAD.
Scaffold Poles ..... 1½d. per foot
YELLOW DEALS, £16 PER 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

	Three-quarter inch Flooring (well prepared) 11s. 6d. per square.	Laths, 28s. per Load.
Yellow Deals, sound and good	£18 0 0 per 120, or 3d. per foot.	
Spruce Deals	15 0 0 ,,	2½ ,,
Yellow Battens, excellent quality	10 10 0 ,,	1½ ,,

Seasoned Mahogany, Plank and Board, 5d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.



MOULDING WORKS.
SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.
Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

CLARK & CO. PATENTEES,

And Manufacturers to the Honourable Board of Works,

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

CLARK'S Patent Self-Coiling Steel Shutters, 3/6 per Foot.



CLARK'S Patent Self-Coiling Wood Shutters, 2/6 per Foot.

5*, Pall-mall, September 17th, 1863.

Gentlemen,—In reply to your letter of this day, I have not the slightest hesitation in stating that I think your Patent Steel Revolving Shutters possess every necessary qualification, viz. security, ease in working, &c. The Patent Revolving Shutters you have fixed under my direction at the Head Office of the London and County Bank, Lombard-street, and at their branches in Oxford-street, Uxbridge, Epsom, Bayswater, Hastings, Brighton, Chatham, Dartford, have in each case given great satisfaction.

I am, yours, &c.

Messrs. Clark & Co. Gate-street. C. O. PARNELL, Architect.

St. George's-square, Portsea, July 9th, 1863.

We are perfectly satisfied with the working, &c. of your Patent Steel Shutters fixed by our direction at the Hampshire Bank, Landport; and having on several occasions used your Patent Steel Shutters, find that they are extremely simple in action, and afford every security. You are at liberty to make use of this.

We are, yours truly,

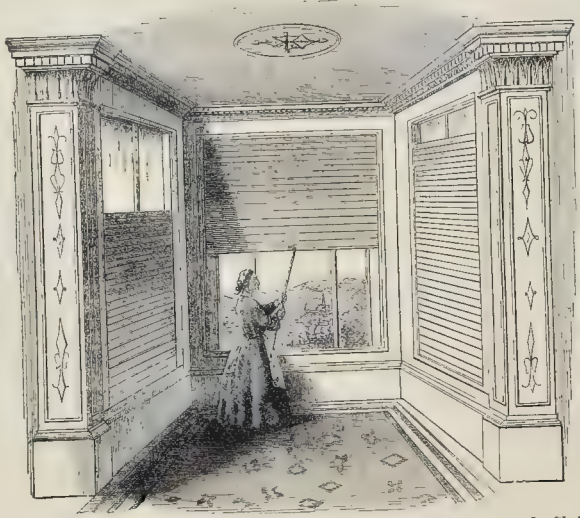
Messrs. Clark & Co. RAKE & RANWELL, Architects.

1, Lonsdale-road, Barnes, Surrey.

Gentlemen,—I certify that your Patent Self-Coiling Wood Shutters, which you have fitted to the seven shops at Holloway-road, measuring 1,300 feet, have met my approval, the appearance and working of the shutters being very satisfactory, some of them 10 feet by 11 feet 6 inches, containing 114 superficial feet, being easily worked by hand without machinery.

I am, yours, &c.

Messrs. Clark & Co. THOS. ALLOM, Architect.



Staff College, Sandhurst, Sept. 18th, 1863.

Gentlemen,—I beg to inform you that your Patent Self-Coiling Shutters, fitted here, answers very well, affording a simple and secure mode of closing the windows.

I am, &c. WM. NAPIER.

These Shutters are Manufactured solely by the Patentees, Messrs. CLARK & CO. and are the only Shutters made that do not require Machinery or Gearing Apparatus, while the cost is nearly the same as the ordinary Lifting Shutters.

Architects should be particular in specifying for CLARK & CO.'S Patent SELF-COILING SHUTTERS, as other parties are endeavouring to introduce a Spurious Article.

THOMAS MILLINGTON,

GLASS MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

Reduced Tariff for Sheet Glass.

The Agricultural Hall, Islington, containing an Acre of Glass, was supplied by me. Mr. Rivers, and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured me with orders for home use and for exportation.

SHEET GLASS.

In Cases for cutting up, in Sizes as Manufactured.

	3 0 feet.	200 feet.		
	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	33s. 6d.	33s. 6d.	39s. 6d.	45s. 6d.
Thirds do.	42s. 0d.	42s. 0d.	49s. 6d.	56s. 0d.
Seconds do.	62s. 0d.	64s. 0d.	74s. 6d.	85s. 6d.
Best do.	88s. 6d.	88s 6d.	103s. 6d.	118s. 6d.

CRYSTAL SHEET GLASS.

For Pictures and best glazing purposes.

Averaging 16 oz. to the foot.

Best quality, in cases of 200 feet ..... 100s.
Second quality, in cases of 100 feet ..... 82s.

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Best quality, in cases of 100 feet ..... 100s.
Second quality, in cases of 100 feet ..... 82s.

SQUARES, IN 100 AND 200 FEET BOXES.

Small Squares not exceeding 9½ inches by 7½ inches.

Ins. Ins.	Ins. Ins.	Ins. Ins.	Ins. Ins.	Per 100 feet.		
6 by 4	7 by 5	8 by 6	9 by 7	4ths.	3rds.	2nds Best.
6½ by 4½	7½ by 5½	8½ by 6½	9½ by 7½	9s. 9d.	11s. 3d.	13s. 9d. 16s. 9d.

Squares not exceeding 14 inches by 11 inches.

10 by 8	12 by 9	12½ by 10½	14½ by 10½	Per 100 feet.		
10½ by 8½	12½ by 9½	13 by 10	15 by 10	4ths.	3ds.	2nds. Best.
11 by 9	13 by 9	13½ by 10½	13 by 11	10s. 9d.	12s. 3d.	15s. 18s.
11½ by 9½	12 by 10	14 by 10	14 by 11			

Squares not exceeding 20 inches by 18 inches.

15½ by 10½	14 by 12	17 by 13	24 by 16	Per 100 feet.		
16 by 10	14½ by 12½	18 by 13	20 by 17	4ths.	3rds.	2nds. Best.
14½ by 11½	15 by 12	18 by 14	22 by 17	11s. 6d.	13s. 6d.	16s. 6d. 20s.
15 by 11	15½ by 13½	22 by 14	24 by 17			
15½ by 11½	16 by 12	24 by 14	20 by 18			
16 by 11	16½ by 12½	22 by 15	22 by 18			
13 by 12	17 by 12	24 by 15	24 by 18			
13½ by 12½	18 by 12	22 by 16				

Orchard-house Sizes, as recommended by Mr. Rivers.

Ins. Ins.	15 oz.		21 oz.	
20 by 12	4ths	11s. 6d.	4ths	15s. 0d.
20 by 13	3rds	13s. 6d.	3rds	19s. 0d. Per 100
20 by 14	2nds	16s. 6d.	2nds	25s. 6d. feet.
20 by 15	Best	20s. 0d.	Best	30s. 0d.
20 by 16				

Squares Cut to Sizes not on List

	15 oz.				21 oz.			
	4ths	3rds	2nds	1st	4ths	3rds	2nds	1st
Under 1 foot super	1½	1⅔	2	2½	2½	2⅔	3½	4½
Under 2 feet super	1⅔	2	2½	3	2⅔	3	4	5½
Under 3 feet super	1	2½	2⅔	3½	3	3½	4½	6
Under 3 feet super	2½	2½	3	4	3½	3⅔	4⅔	6

Glass Tiles, in Sheet and Rough Plate. Plate Glass. Patent Plate, and Hartley's Improved Rough Plate.

COLOURED GLASS AND ROSETTES, FLUTED, GROUND, AND EMBOSSED GLASS, OF EVERY DESCRIPTION.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead ..... 30s. } per cwt.
Anti-corrosion Paint ..... 28s. to 34s. } per cwt.
Linseed Oil Putty ..... 8s. } per cwt.

Fine Oak Varnish ..... 10s. to 12s. } per gallon.
,, Carriage ..... 12s. to 14s. } per gallon.
Patent Dryers ..... 28s. to 42s. per cwt.

Linseed Oil ..... 3s. 9d. } per gallon.
Boiled Oil ..... 4s. 2d. } per gallon.
Turpentine ..... 8s. 6d. } per gallon.

Milled Lead in Sheet and Pipe of all sizes. Old Lead bought or taken in exchange. Lift Pumps, Water Closets, and Plumbers' Brass Work of all kinds, subject to the fluctuations of the Markets.

NET CASH.



BUNNETT & CO.'S PATENT REVOLVING IRON SHUTTERS.

SNOXELL & CO.'S

PATENT REVOLVING SHUTTERS IN IRON OR WOOD.

BRASS SASH BARS, STALL BOARD PLATES, AND BLIND MAKERS.

96, REGENT STREET, W.; MANUFACTORY, 35, OLD STREET, E.C.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—

Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.



THOMAS LAMBERT & SON,



Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.
T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.



HENRY DOULTON AND CO.'S

PATENT COMBINED SMOKE AND AIR FLUES.

BY THIS INVENTION PERFECT DRAUGHT AND COMPLETE VENTILATION CAN BE SECURED.

The air-flue follows the line of the smoke-flue, the passages being quite distinct. The heat from the smoke-flue causes a current, which carries off the vitiated air admitted by junctions near the ceiling. The pipes or blocks are *all made to bond with ordinary brickwork.*

Where the blocks come together, each air-flue has a lip or projection, which enters the next block and completely shuts off the air-flue from the smoke-flue at the joint. This lip, with dowels at the opposite corners of the blocks, also holds the lengths firmly together.

Curves are made to suit any inclination.

Manufactured in terra cotta for smoke-flues equal to 12 in 10 in. and 8 in. diameter, with ventilating-flues of proportionate size.

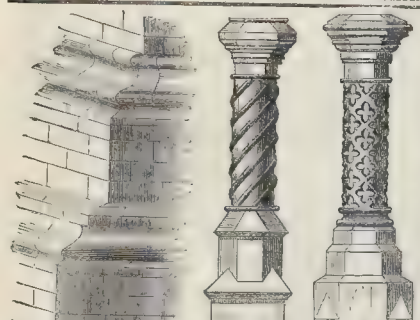
Small models will be forwarded to architects on application to
Henry Doulton & Co. High-street, Lambeth

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fired in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.
MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.



BRICK & TILE WORKS,
INGATESTONE,
ESSEX.

ALFRED TUCK has on Sale a great variety of Moulded Bricks, adapted for ECCLESIASTICAL and DOMESTIC ARCHITECTURE, selected from existing examples of Ancient Brickwork.

The patterns are numerous, and suited for Door and Window Jambs, Mullions, Transoms, Tracery, Cornices, Mouldings, String-Courses, Chimney-Shafts, Bases, Parapets, Gables, Finials, and Copings.

Plain Tiles, Pantiles, & Ridge Tiles.

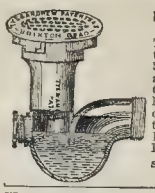
CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage. 3rd. It effects a saving of half the lumber usually required. 4th. It can be easily applied by any laborer and person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for lamp walls and floors under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c., preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

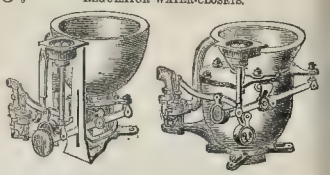
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No system-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

INTERNATIONAL EXHIBITION, 1862.
CLASS 33, NO. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the sanitary pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

F. G. UNDERHAY

now manufactures on HIS OWN ACCOUNT his Patent Regulator Water-Closets, Valves &c. Meters, &c. on the same principles.

CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER by special appointment to Her Majesty the QUEEN and H.R.H. the PRINCE of WALES, and

MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,

Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	6	Guineas.
Gentlemen's do. do.	10	,,
Ladies' or Gentlemen's Gold English Lever Watches	12	,,
Strong Silver Lever Watches	5	,,
Gentlemen's Gold Compensation Balance Watches	40	,,
Do. Silver do.	25	,,
Marine Chronometers	20	,,

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.

A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,243.

JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George street East, London.

PRIZE WAGGONS and CARTS.—HAYES & SON,

Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,
Coach and Cart Wheels, Lights, Spring Van and Waggon Builders,
Timber Merchants, Colormakers, &c.

Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agricultural, and Exportation.

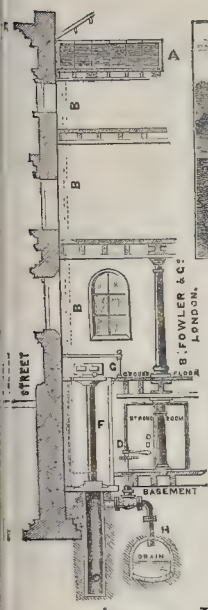
Contractors and Builders' Delivery, Light Carts, Harrows, Navvy, Excavators', Crowding, and Oil bearing carts, on the shortest notice and of the best materials; &c.

HAYES & SON,
SCOTGATE WORKS STAMFORD.

CLINTON & OWENS, LATE
BENJAMIN FOWLER & CO. Whitefriars-street, Fleet-street, London,
MANUFACTURERS OF PUMPS AND HYDRAULIC MACHINERY OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DOMESTIC, AGRICULTURAL, OR MANUFACTURING PURPOSES, OR FOR CONTRACTORS' USE, TO BE WORKED BY HAND, HORSE, WATER, WIND, OR STEAM POWER.

Portable Steam Engines, Powerful Single and Double-Barrel Pumps, Centrifugal Pumps, and Boring Tools for Contractors' Purposes, ON HIRE.



A.



THE LANDSCAPE SKETCH ABOVE SHOWS

THE IMPROVED HYDRAULIC RAM.

This is a simple Self-acting Machine for Raising a considerable supply of Water for Use in Public or Private Establishments where a fall can be secured from a Stream, Brook, or Spring. Messrs FOWLER have fixed a great many Hydraulic Rams in various parts of the country, for raising from 600 to 6,000 or more gallons per day to elevations varying from 30 to 500 feet, and forcing through main pipes from 50 yards to several miles in length. The fullest particulars and estimates will be handed on application.

No. 37 SHOWS A SET OF

TREBLE-BARREL PUMPS WITH HORSE GEARING,

For Raising Water from DEEP WELLS for the SUPPLY of TANKS to MANSIONS and PUBLIC BUILDINGS. Messrs. CLINTON & OWENS also Manufacture and Erect every other Form of Pump for Deep or Shallow Wells for Hand or other Power.

Fig. A SHOWS

A HYDRAULIC LIFT,

Worked by Pressure from a Cistern. Suited for Banks, Warehouses, and other Buildings. Messrs. C. & O. also Manufacture such Lifts to be worked by Hand Pumps, where pressure cannot be obtained from a Cistern.

CLINTON & OWENS

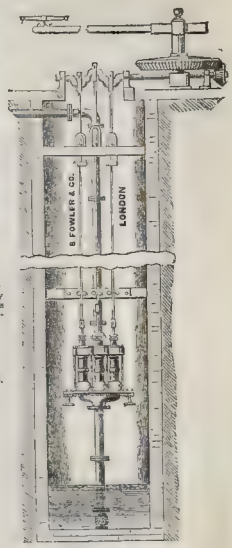
MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

UMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE, STEAM-ENGINES, WATER-WHEELS, TURBINES, HOISTS, WARMING AND DRYING APPARATUS, BATHS, GAS-WORKS, AND FITTINGS.

ESTIMATES WILL BE HANDED ON APPLICATION.

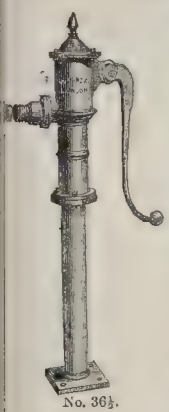
PRICE LISTS OF PUMPS FREE BY POST.



No. 37.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.
BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 „	2 15
4 „	3 15

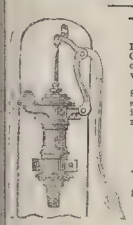
No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

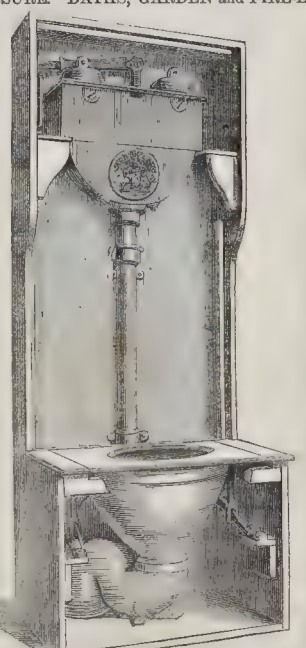
2½ inch	£4	0
3 „	5	5
3½ „	6	6

Larger sizes when required.

Fitted to the best plank, 8 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3	10 0
3 „	4	0 0



IMPORTANT TO WATER COMPANIES

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Ditto Ware without Wood Case	1 2 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.



No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0

Bunk Handle, extra 0 2 0

Blue Basin, extra 0 1 0

No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

GREAT QUEEN STREET, LINCOLN'S-INN FIELDS.—Building Materials of Seven Houses.—By order of the Committee of the Great Lodge of Freemasons of England

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on MONDAY, OCTOBER 5th, at 7PN for ELEVEN, the MATERIALS and FITTINGS UP of SEVEN HOUSES in Queen's place, Great Queen-street, Lincoln's-inn, of the usual description, for clear the Site for the New Grand Lodge Buildings.—May be viewed the day previous and Catalogues had at the Office of F. P. COCKERELL, Esq., Architect, No. 8, Regent street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament street, Westminster.

BANKSIDE.—Capital decked SAILING BARGES, with the option of converting their lower compartments in the Hold Trade.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, at CARNE'S WAYS, 85, BANKSIDE, on WEDNESDAY, OCTOBER 7, at TEN for ELEVEN, the full wing superior SAILING BARGES adapted for the Coals, with their rigging and stores, viz.:—The "Claude," 80 tons; the "Robert," 75 tons; and the "William & George," 70 tons, all of which are spirit sail rigged, well found in stores, and in good condition.—May be viewed three days previous, and Catalogues had at the place of Sale; at the Coal Exchange; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, City.

CHARING CROSS.—To Builders, Paviours, Masons, and Others.—The superior Stone Paving of Trafalgar square

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Her Majesty's Works and Public Buildings to SELL by AUCTION, on the PREMISES, as above, on TUESDAY, OCTOBER 13, at TWELVE for ONE, in lots, about 2,000 feet superficial of STONE PAVING, consisting of York, Portland, and Rockhill, of considerable portion of which are large stones, suitable for landings.—May be viewed, and catalogues had at the Office of Her Majesty's Works, &c. 2, Whitehall-place, S.W. and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore street, City.

BUSHY PARK ESTATE, TEDDINGTON.—Ten Acres of Beautifully Wooded FREEHOLD BUILDING LAND in 28 LOTS, suitable for the erection of a First-class Hotel, several Shops and good Villa Residence, Frontage to the public Road of upwards of two thousand feet, within three minutes' walk of the Teddington Railway Station.

MESSRS. R. KENYON & CO. will SELL by AUCTION in 28 LOTS, at the CLARENCE ARMS HOTEL, adjoining the Railway Station, Teddington, on MONDAY, the 5th day of OCTOBER next, at THREE o'clock precisely, 11 Acres of excellent FREEHOLD BUILDING LAND, situate at the corner of the Roads leading to Twickenham and Hampton, and overlooking Bushy Park, Teddington. The Estate is beautifully wooded, and is most eligible for the erection of a First-class Hotel; on the corner plot, several good Shops and first-class Villa Residences. Each plot has an excellent frontage to the public road. The subsoil is gravel and sand, and the Estate is free of Land-Tax and Tithe.—Plotted Particulars and Plans may be obtained at the Clarence Arms, Teddington; the Griffin, Kingston; the Mitre, Hampton Court; the Red Lion, Hampton; the King's Arms, Hampton Wick; the Railway Hotel, Twickenham; the Star and Garter, and the Greyhound, Richmond; of Messrs. PATERSON & LONGMAN, Solicitors, 3, Winchester Buildings, City; HENRY FRYER, Esq. Solicitor, 14, 2, Gray's Inn Place, Gray's Inn; Messrs. LAWS & DENNISON, Architects, 12, Doughty-street, Mecklenburg-square; and of Messrs. R. KENYON & CO. Auctioneers and Land Agents, 11, Abchurch-lane, City.

CHARING CROSS RAILWAY.—CITY TERMINUS.—To Builders, Contractors, Paviors, and Others.

MESSRS. WILLIS & HARROW are favoured with instructions from the Directors to SELL by AUCTION, on the PREMISES, on WEDNESDAY, 7th OCTOBER, 1863, at ONE o'clock punctually, the valuable BUILDING MATERIALS of the range of WOOD SHEDS, Standing Timber and Boards, and the Steel Yard Fixed House, on the west side of Hill's Lane, Upper Thames street City, comprising several lots of oak timber and pitch pine scantling, seasoned deal boards, wood and iron guards, pebble and other pitching, and a variety of useful fixtures and fittings.—May be viewed the day prior and morning of sale, and catalogues had on the premises; at the Company's Office, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 1, Newman's court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

VICTORIA-PARK AND BOW ROAD.—Three superior Residences, held at nominal ground rents; also a Builder's extensive Premises, and Five Freehold Dwelling Houses.

MESSRS. C. C. & T. MOORE will SELL by AUCTION, at the MART, on THURSDAY, OCTOBER 8, at TWELVE, in eight lots, a substantially-built ten-roomed RESIDENCE, No. 1, Victoria-park, forming the corner of Grove road, Victoria-park; also, in the rear, extensive PREMISES, with workshops, counting-house, stabling, gateway to the rear, and cart entrance to Rochford-place; and the Leasehold Dwelling-house, rental £60 per annum, held for a long term of 99 years; ground-rent, £8. Also, TWO ten-roomed RESIDENCES, 27 and 34, Approach-road; let at £41 each, ground-rent £5 each; and Five newly-built freehold eight-roomed HOUSES, in Meadow-road, Bow road; rental, £50 each, tenant paying taxes. All the houses are fitted and finished in a very superior manner.—Particulars of W. F. HOWARD, Esq. Solicitor, Guardian Office, Bethnal-green; at the Mart; and Auctioneers' Offices, Mile-end-road, E.

BOW-ROAD.—Eligible Building Plots, in a first-class situation, with frontages to Burdett-road, in the hamlet of Mile-end Old-town, the newly formed Road leading from the Victoria Park.

MESSRS. C. C. & T. MOORE have been favoured with instructions from the Metropolitan Board of Works, to LET, on BUILDING LEASES, by AUCTION, at the MART, on THURSDAY, OCTOBER 15, at TWELVE, in eighty-nine LOTS, EIGHTY-NINE valuable PLOTS of LAND, with frontage of 18 feet and upwards, adapted for building dwelling-houses, shops, or warehouses with shops, plots, and parts of plots, which will shortly be formed, and are to be set out under the superintendence of the Architect's Office, Spring-gardens, S.W.; at the Mart; at the Royal Hotel, Mile-end-road; and at the Auctioneers' Offices, Mile-end-road, E.

NORTH LONDON RAILWAY, CITY EXTENSION.—MATERIALS of about 90 Houses, a large dumper's shop, with the capital fittings and fixtures; mahogany counter, plate-glass front, with brass sashes; drawers and shelving, some public-house fittings, large spirit vats, malt-safes, hurse, &c.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, by order of the Directors of the North London Railway Company, on the PREMISES, near the Kingsland Gate, on TUESDAY, OCTOBER 6th, 1863, at TWELVE o'CLOCK the above Excellent and Useful MATERIALS.—May be viewed the day previous to sale, and catalogues had at the Auctioneers' Offices, Camden-town and Kingsland green.

In Bankruptcy.—*Re* W. Hepburne.—King-street, Holborn.—To Iron-mongers, Builders, Ousenmakers, and Others.

MESSRS. CUTTEN & DAVIS will SELL by AUCTION, on the PREMISES, 7, King street, Holborn, on MONDAY, OCTOBER 12th, and follow 12 days, at TWELVE for ONE o'clock, the extensive STOCK of BUILDER'S IRONMONGERY and CABINET BRASSWORK, comprising several thousand pieces of screws, 2,000 lbs. locking and other locks, 500 dozen brass fish and other bolts, 300 dozen brass and iron axle pulleys, 2 tons brass cutts, 70 dozen sash fastenings, an assortment of fire, bell, furniture, general ironmongery, and brasswork; 120 register, elliptic, and other stoves, ranges, rainwater-pipes, &c.; 3 tons of castings, 3½ tons of bails, &c.; and tools and implements. Catalogues may be had on the Premises, and of the Auctioneers, 9 and 10, Bailiff-hall-street, E.C.

NORTH LONDON RAILWAY.—CITY EXTENSION.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, on WEDNESDAY and THURSDAY, OCTOBER 14th and 15th, inst. by order of the Directors of the North London Railway Company, the MATERIALS of HOUSES, WAREHOUSES, FACTORIES, and other BUILDINGS, standing on the Section from Sun street to Worship street, Bishopsgate street.—See future advertisements.

Camden-town.

OLD STREET ROAD.—Freehold Houses and Ground Rents, including the New Tariff public house and Twelve other Houses and Shops; the whole producing a Rental of about £614 in eight lots.

MR. PHILIP D. TUCKEIT is instructed to SELL by AUCTION, at the MART, Bartholomew lane, London, on TUESDAY, the 27th of OCTOBER, 1863, at eight lots, a very desirable FREEHOLD PROPERTY, including the Dwelling Houses and Shops Nos. 39, 40, 41, and 42, Old Street road, and Nos. 7, 8, and 9, Boot street, in the Parish of St. Leonard, Shoreditch; let to respectable tenants at very low rents; an ample annual RENT of 125*l.* per annum, arising out of that well accustomed public house known as The New Tariff, and three adjoining houses; together with the REVERSION of the above valuable property after an unexpired term of forty-nine years; and a GROUND RENT of 14*l.* per annum, arising out of Nos. 3 and 4, Boot-street, producing a rack rental of 91*l.*—Part only, with plans and conditions of sale, may be obtained at the Mart; of Messrs. POOLE & GAMBIER, Solicitors, 3, Grey's Inn-square; and of Mr. PHILIP D. TUCKEIT, Land Agent and Surveyor, 76, Old Broad-street, E.C.

TWICKENHAM and TEDDINGTON.—Valuable Building and Accommodation Land, desirably situate in the picturesque district near to Strawberry Hill, and adjoining upon the Road leading from Twickenham to Teddington and Bushy Park, and within half an hour's journey of London by railway

MESSRS. DRIVER will SELL by AUCTION, at the MART, near the Bank of ENGLAND, on TUESDAY, OCTOBER 20th, in six lots, about TWENTY ACRES of valuable BUILDING LAND. The property is partly Freehold and partly Copyhold, commanding good views, is within short distances of Twickenham, Teddington, the river Thames, Hampton Court, Bushy Park, and other attractive features of this favourite and now accessible locality, and is in every respect suitable for the erection of villa residences. Printed particulars and plans may be obtained at the chief inns at Twickenham, Richmond, Teddington, Hampton, Hampton Court, and King-ton; at the Auction Mart, London; of Messrs. NEW, FRANCIS, and GARRARD, Solicitors, 3, Bedford-row; and of Messrs. DRIVER, Surveyors, Land Agents, and Auctioneers, 4, Whitehall, London, S.W.

VALENCIA SLATE SLAB QUARRIES, COUNTY KERRY, IRELAND.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at the AUCTION MART, London, on WEDNESDAY, OCTOBER 28 at TWELVE, in one lot, unless an acceptable offer be previously made by private contract, the extensive QUARRIES and MILLS of the VALENCIA SLATE SLAB COMPANY, situate in the Island of Valencia, County Kerry, Ireland. The works have been carried on by the present company for about fourteen years, and a very large outlay has been made in opening the quarries, and in erecting mills and the requisite machinery. The quarries are situate on the side of a mountain, about 420 feet above the sea level, and an opening has been made for working about 120 feet wide, running into the mountain to about the same depth, uncovering a succession of platforms of slates of various widths. The slate rock lies most conveniently for working, at an angle of about 35 degrees, and has a regular cleavage. The slabs are severed by wedges instead of by blasting, thus avoiding the large amount of waste occasioned by the latter process. The roof of the quarry is self-sustained, and is perfectly secure. The quality of the slate is now well known and appreciated, and are taken in large quantities by the principal merchants in London and elsewhere. They take a beautiful permanent polish, are particularly valuable for out-door using, are unaffected injuriously by furnace heat, and are sawed in larger sizes than from any other quarry. The way to from the slab blocks is made over roadway slabs, for which there is ample local demand. The present vield is about 400 tons of slate slabs annually, but by a comparatively small outlay in an extension of the workings this quantity may be doubled, the machinery at the mills being equal to perform that quantity, and the demand at the present time being in excess of the capabilities of supply. The mills are situate about 2½ miles from the quarries, are connected by a good road of easy descent, which is kept in repair principally at the expense of the country; but it is believed that every facility would be afforded by the Knight of Kerry for the formation of a tramway down a tramway by the side of the present road, which would much lessen the cost of transit. The mills are at all times ready to shipped, being almost adjoining the pier, at which vessels of 500 tons burden can load alongside, and there are no port dues nor wharfage per ton. The harbour of Valencia is safe and commodious, and perfectly accessible at all times except in the winter months. The buildings are well planned, and substantially erected. They are fitted with saws and planing machinery of the best description, fitted by Messrs. Bentley, Shannon, and Hanbury, and erected, framed, and every appliance for saving in hand is. There is a plentiful supply of water for the purposes of the mills, from a large reservoir. The premises, with the slate quarries, are held under an agreement for lease from the Knight of Kerry, for a term of fifty seven years from 1st January, 1861, terminable at the lessee's option on giving six months' notice. The lease, a draft of which may be seen prior to the sale at the Offices of the Vendor's Solicitors, will be granted by the Knight of Kerry direct to the purchaser. The present Company have expended £10,000 upon the property. They have a good connection in establishing the reputation of, and a market for, the slabs, and are thoroughly prepared for extensive and uniform character of their supplies. Should the whole not be taken, they are prepared to dispose of the mills and machinery separately, with the residue of the power, very profitable sales may be anticipated.—The Works may be viewed by Cards only, which, with further particulars, may be had of Messrs. PARKER, SHEPHIP, & ELAND, Solicitors, 4, Trafalgar-square, W.C.; at the *Midland Counties Hotel* Offices, Birmingham; at the Great Northern Hotel, Peterborough; at the Railway Hotel, Kilburn; at the Adelphi Hotel, Liverpool; at the Mart, London; and of Messrs. FULLER & HORSEY, 11, Billiter-street, London, E.C.

HOLBORN.—Most important Leasehold Property, comprising the well known Old Kent Tavern, in Brownlow-street, Holborn, with the Goodwill attached (established upwards of 100 years), No. 41, High Holborn, nearly Opposite Chancery-lane; Nos. 6 and 6, Warwick-place, Bedford-row; and a large space of vacant Building Land in the rear, the whole occupying an area of about 15,970 square feet.

MR. BRAY, Jun. is favoured with instructions from the Proprietor to SELL by AUCTION, at the MART, on THURSDAY, OCTOBER 8th, 1863, at TWELVE, the above-named Valuable LEASEHOLD PROPERTY, comprising numerous advantages for entering into, all fully described in particulars of communication from each of the frontages to the Building ground in the rear, which is a most eligible area of about 12,000 square feet, a space offering an opportunity for the erection of a music hall, gymnasium, theatre, or place of public entertainment in connexion with the several premises, and is in the centre of the most leading thoroughfares of this great metropolis. Plans of the estate will accompany the particulars and conditions of sale, which will be ready for delivery in a few days after the sale may be had at the old Kent Tavern; of Messrs. THOMSON & SON, Solicitors, 71, Cornhill, E.C.; of Mr JOSEPH LAVENDER, Architect, 26, Bedford-row, W.C.; at the Mart; and at the Offices of the Auctioneer, 16a, Basinghall-street, Bedford-row, W.C.

84, BERMONDSEY NEW ROAD.—To CONTRACTORS, ENGINEERS PUMP MAKERS, WELL SINKERS, &

MR. PERKINS is instructed by the Proprietor, who is relinquishing business, to SELL by AUCTION, on the PREMISES, on THURSDAY, OCTOBER 15, at TWELVE o'clock, in lots, the remaining STOCK of IMPLEMENTS in TRADE of the above-established business, including a variety of pumps, wedge moulds, boring rods, well sinking and boring tools for ground work, a wrought-iron sinking cylinder, pipes, metal boxes, buckets, rollers, useful lead, iron and brass work, a pile-driving monkey lathe, screw taps, dies, force bellows, and numerous effects.—May be viewed the day previous and morning of Sale, and Catalogues had on the Premises; and at the Auctioneer's Offices, 25, Tooley-street, and Rye lane, Peckham, S.E.

OXFORD.—VALUABLE BUILDING MATERIALS, comprised in the several Houses in Beaumont street and Magdalen-street, the intended Site for the erection of the Randolph Hotel.

MR. JOHN FISHER begs to announce that he is instructed by the Randolph Hotel Company to SELL by AUCTION, in the month of OCTOBER next, the above BUILDING MATERIALS; consisting of roofs, floors, doors, stoop fronts, sashes and frames, partitions, staircases, fittings, &c. which will be found peculiarly good from the circumstance that the houses have been built within a few years.—Further particulars will be advertised previous to the sale.

TO PUBLICANS, PUBLIC-HOUSE FITTERS, BUILDERS, AND OTHERS.

MR. C. PUGH will SELL by AUCTION at TWELVE o'clock on MONDAY, OCTOBER 5th, at the BLACK HORSE AND SWAN, 9, Blackman-street, the STOCK FIXTURES, FITTINGS, TRADE UTENSILS, and BUILDING MATERIALS of the Tavern, comprising large metal taps counters and bar fittings, handsome, superior plate bar and table, excellent bagatelle board, and a small stock of choice wines, spirits, and cigars.—The Building Materials consist of good stock bricks, slates, tiles, laths, flooring, deals, sashes, gas fitting, chandeliers, shower lamps, plate glass shop front, &c.—May be viewed on morning of sale. Catalogues at the Auction Office, 6, Blackman street, S.E.

KENNINGTON CROSS, LAMBETH.—CONTRACTOR'S STOCK.—Horses, Brick, Water and Rubbish Carts, Harness, &c.—TO BE SOLD by AUCTION, by

MR. J. GOWER, on the PREMISES, as above, on THURSDAY, OCTOBER 8th, 1863, at TWELVE o'clock SIXTY useful, universally known, powerful VAN or CART HORSES, Tarpy five Brick, Rubbish, and Water Carts, vans, timber carriages, useful timber, &c. chail and chain harness, the property of Mr. T. Pearson, his contracts being completed on the Southern High Level Main Drainage and Southwark new street.—On view two days prior. Catalogues had on the Premises; and of the Auctioneer, at his Repository, Brixton.

V.R. TOWER.

SALE of STORES.—By Order of the SECRETARY of STATE FOR WAR, Mr. GEORGE SPILLMAN will SELL by PUBLIC AUCTION, in the Tower, on THURSDAY, the 8th of OCTOBER, 1863, at ELEVEN o'clock in the Forenoon precisely, the following STORES:—

Bed Cases and Blankets.	Small Arms of various descriptions.
Grey Clothing and Woollen Caps.	Ammunition.
Hammock Rugs.	Armourers' Pack-saddle Papers.
2-inch Coppers.	Sets of Ironwork for ditto.
Range complete, with Ovens and Boilers.	Files, various.

May be viewed at the Tower from TEN to FOUR o'clock the two days previous to the day of sale, and catalogues may be had at the War-office, Pall Mall; the Tower; and Royal Arsenal Woolwich.

SUNBURY COMMON.—Valuable Freehold Building Land, tithe free and land-tax redeemed

MR. BUCKLAND is instructed to LET as an Entirety or otherwise, several PLOTS of LAND, possessing excellent frontages, and suitable for the erection of small stages, which are in great demand. There is a station now in course of erection on the Metropolitan and Thames Valley Railway within a few minutes' walk of the estate, and it is about 11 miles from the Felt'am Seat on on the London and South Western Line. A plan of the ground may be seen at Mr. WILSON'S, Feltham Hill facing to the property, and further particulars obtained of Mr. BUCKLAND, Auctioneer and Land Agent, Clapham Rise, S.

CHARING CROSS RAILWAY, CITY BRANCH, SOUTHWARK SIDE.—To BUILDERS, CONTRACTORS, PAVIOURS, and OTHERS.

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, on TUESDAY, OCTOBER 6, 1863, at ONE o'clock punctually, the valuable BUILDING MATERIALS of the Extensive Premises, at the Corner of Tooley street, forming the Borough Market Distillery, Stoney street: comprising several lots of lead in pipes and gutters, plain and pan tiles on roofs, stanchions of iron, slates, oak and deal boards, wood and iron frames, sliding and iron doors, pebble and other pitching, and several patent fireproof safes by Milner, stone coping, marble chimney pieces, turret clock, handsome staircase, with ornamental cast-iron balusters and mahogany handrail, and a variety of useful fixtures and fittings.—May be viewed the day prior and morning of Sale, and catalogues had on the premises; at the Contractor's Office, Worcester street, Southwark; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 1, Newman's court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

To Fly and Job Masters, Contractors, Wharfingers, Agriculturists, Coal Merchants, Private Buyers, and the Trade.—The Entire of the extensive and well-known Stock in Trade of Messrs. Driffield and Son, long established Carriage Builders, Harness Manufacturers, of Long Isaac and Aldgate-street, the premises being required immediately by the Metropolitan Railway Company, for the extension to Farringdon Street.

MESSRS. EDWIN FOX & BOUSFIELD are directed to SELL by AUCTION, on the PREMISES, the Repository, Aldersgate street, and Zebra house, Long-lane, adjoining, on Saturday, the 17th, and several following days, commencing at 11 precisely each day, the important and well-made STOCK in TRADE of a well established CAB MASTER, Job-Master, Horse Dealer, Coach Builder, and Wheelwright, comprising about 45 carriages, including broughams, britzkas, barouches, landaus, and other phaetons, single and two horse cabriolets, gigs, &c.; a lot of the most valuable harness, 2,000 collars to suit all horses and work, 1,200 nose bags, headstalls, and halters, with brushes, and every requisite for the stable, a choice variety of riding and carriage whips, mats, &c.; the unmanufactured stock consists of prime harness leather, crop butts, with a large assortment of plated and brass furniture and cart gear, bits, stirrups, rowels, &c.; a quantity of iron, steel, and tools, and 1,500 feet of the extensive assemblage of harness in parts; about 50 pairs of carriage and gig springs, patent axles and springs, new and second hand; a quantity of lead in sheets, pumps and pipe of lead, prints and printers' plant, and effects, &c. May be viewed three days prior and one morning of sale, and catalogues had of Messrs STUCHBERY and DAVIS, Solicitors, 14, Gresham-street; on the premises, and at Messrs EDWIN FOX & BOUSFIELD'S Office, 41, Coleman-street, Bank, E.C.

TO IRON FOUNDERS, ENGINEERS, BOILERMAKERS, BLACK-LEAD MANUFACTURERS, STONEMASONS, and OTHERS.

ELLIOTT & SHAW are instructed to SELL by AUCTION, on the PREMISES on MONDAY, OCTOBER 5th, and Following Day, the valuable LEASE, with plant, &c. of the IRON FOUNDRY, known as the "Grove Foundry," Great Guildford-street, Southwark; also the PLANT, in full working order, comprising an arte tan well and head pump, crane, and ascending boiler; two wrought iron cupolas, with 22 inch Lloyd's fan; a useful 10-horse power Tonge's Lancashire Cumberland ash sieve, in cwts. about two best Blast ironstones, and numerous effects.—For full particulars and orders to view, apply to the Auctioneers, 77, Basinghall-street, E.C.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding PATENTS, their only book of price list to be supplied gratis by the General Patent Company (Limited), 74, Fleet-street, London. ROBERT M. LATHAM, Secretary.

PAPERHANGINGS!

PAPERHANGINGS!

The Cheapest and Largest Variety in London is at W. SHAWCROSS'S WHOLESALE WAREHOUSE, 85, Wardour street, late 4 doors from Oxford-street, Soho.

Patterns free.

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The Builder.

An Architect, Engineer, Operative & Artist.

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BUILDERS' BENEVOLENT INSTITUTION.—THE SIXTEENTH ANNUAL DINNER in aid of the funds of the Charity will be held at the LONDON TAVERN, on THURSDAY, 29th inst. Mr. Alderman JAMES C. LAWRENCE, President of the Institution, in the Chair.

STEWARDS.

Anderson, Mr W C.	Jarvis, Mr. Henry
Bayles, Mr Philip	Jay, Mr. John
Brown, Mr Frederick	Jennings, Mr George
Bunnett & Hayes, Messrs.	Kennard, Mr. R. W. M.P.
Burnett, Mr Jesse, J. J.	Lawrence, Hon. Messrs
Cubitt, Mr. Joseph	Lee, Mr William, M.P.
Cundell, Mr. M. F. C.	Lee, Mr Henry
Dickinson & Murray, M ssrs.	Lucas Brothers, Messrs
(Bristol chapel	Mann, Mr. S. L.
Dowsett, Mr Thomas	Maw, Mr James
Grissell, Mr R. K.	Morris, Mr. John
Hollins & Stanbury, Messrs.	Myers, Mr George
(Birmingham)	Newton, Mr. M. Burns
Hunter, Mr E.	Nicholson, Mr David
Kellook, Mr. Benjamin	Nutcombe, Mr. Wilfred
Lowdritch & Co. Messrs. George	Notley, Mr. J. H.
Lucas, Mr. Thomas	Peters, Mr. C.
Mellingford, Mr. W. H.	Phillips, Mr. William
Merrett, Mr. R. L. sen.	Hackwett, Mr. George
Mines, Mr. George	(Croydon)
Munday, Mr William	Richy, Mr. Joseph
Munnings, Mr. W. M.	Roberts, Mr. Richard
Nesbitt, Mr. Christopher	Robertson, Mr. A. A.
Nicholson, Mr. Thomas	Robins, Mr. Thomas
Nutt, Mr Charles	Rogers, Mr. W. R
Orrinson, Mr Charles	Saywell, Mr John
Peachman, Messrs. W. & J.	Saunders, Mr J Buckler
Rhamnion, Mr. J. B	Sawyer, Mr. John W.
Gardiner & Bell, Messrs.	Smith, Mr Alfred
Scoulter, Mr. James	Smith, Mr. G Spencer
Scritten, Mr. W. R.	Stirling, Mr. Thomas
Stock, Mr Charles	Stirling, Mr. William
Tarbell, Mr. Matthew	Thomas, Mr Richard
Tarding, Mr William	Thorn, Mr John
Thread & Co. Messrs. George	Trivett, Mr. Samuel
Tubbald, Mr. J.	Wallis, Messrs. F. & T.
Twigg, Mr William	Webb, Mr. William
Tunder, Mr. J. H	Wood, Mr William
Watherston, Mr William	Wood, Mr William, jun.
Watkins, Mr. Thomas	Wood, Mr. H
Watkins, Mr William	Wood, Mr James

Gentlemen desirous of promoting the interests of the Institution will be pleased to forward their names to the Secretary at the Offices, 21, Southampton street, Bloomsbury, where Tickets may be obtained (each), also of the Treasurer, Mr. G. PLUCKNETT, 2'8, King's-arms-yard; the Stewards; and at the London Tavern.

A. G. HARRIS. Sec

THE METROPOLITAN BUILDING ACT, 1855. Section 33.—The Institute of British Architects hereby give notice, that an EXAMINATION of persons desirous of obtaining a CERTIFICATE of COMPETENCY to perform the duties of DISTRICT SURVEYOR, will take place at the Rooms of the Institute, No. 9, Conduit street, Hanover square, W. on FRIDAY, the 30th day of OCTOBER, at TEN o'clock in the forenoon. Persons desirous to be examined must, on or before TUESDAY, the 27th day of OCTOBER, send an application, which must be accompanied by a statement, according to a form to be previously obtained at the Rooms of the Institute.

JOHN P. SEDDON, } Honorary
CHAS. FORSTER HAYWARD, } Secretaries.

Conduit street, October 6, 1863.

EVENING LECTURES at the ROYAL SCHOOL of MINES, JERMYN-STREET. Professor HUXLEY, F.R.S. will commence a COURSE of TEN LECTURES on the ELEMENTS of ZOOLOGY, on FRIDAY, the 16th OCTOBER, at EIGHT o'clock, to be continued on each succeeding FRIDAY EVENING, at the same hour. Tickets for the whole Course, price 10s. may be had at the Museum of Practical Geology

TRENHAM REEKS, Registrar.

SOUTH KENSINGTON MUSEUM.—The New NATIONAL ART TRAINING SCHOOLS, for Male and Female Classes, will be OPENED for the inspection of the Public every SATURDAY, from TWO till NINE p.m. Entrance through the Museum.—By Order of the Lords of Committee of Council on Education.

ARCHITECTURAL UNION COMPANY (Limited).—The EXHIBITION of BUILDING INVENTIONS, MATERIALS, &c. at the Galleries, 9, Conduit street, Regent-street, is now OPEN DAILY from ELEVEN till FOUR, FREE.

PROFESSOR DONALDSON'S COURSES of LECTURES on ARCHITECTURE and CONSTRUCTION, for the Session 1863-4, at University College, commence on TUESDAY EVENING, the 13th of OCTOBER.—Full particulars can be obtained on application at the Office of the College.

NOTICE

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE will shortly be REMOVED to the NEW PREMISES, 72—77, Bishopsgate street Within, a few doors from the present establishment. These Premises afford ample room for a still larger stock of their Patent Prize Metal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the execution of more extensive orders, by the manufacturing machinery, of all descriptions of hot water, bath, laundry, and kitchen work.

81, Bishopsgate street Within, July, 1863.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of a WASHHOUSE and LAUNDRY for the Married Soldiers' Quarters, in Charlton Common.

Plans required to render the execution of these works most leave their names at this Office on or before the 22nd day of OCTOBER, 1863, stating the sum of the Tenders and number of the Bricks Quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Woolwich, October 7, 1863.

TO CONTRACTORS.—In consequence of the Death of the late Contractor, Sealed TENDERS will be received by the Secretary of the Bridge Committee of the Town of the Sheds, from the date hereof up to and upon THURSDAY, the 29th day of OCTOBER next.

For taking down the present Bridge over the River Boyne, at Drogheda, and Building in place thereof a Stone Bridge of Eighty Feet Span.

According to Plans and Specification prepared by J. NEVILLE, Esq., C.E. to be seen at my Office, Fair street, Drogheda, or at the Office of the Engineer, Dean's street, Dublin, between the hours of TEN and FOUR o'clock every day (Sundays excepted) after this date. The Lowest or any Tender not necessarily to be accepted.

Dated at Drogheda, this 24th day of August, 1863.

HENRY CLINTON,

Secretary to the Bridge Committees of the Corporation Harbour Commissioners and Grand Jury of Drogheda.

TO BUILDERS.—Persons willing to TENDER for the whole or any part of the WORKS required for the ERECTION of a NEW RESIDENCE at Tapton Park, near Sheffield, may see the plans and specifications at and after MONDAY next, when further particulars will be furnished. Mr. M. E. HADFIELD, Corn Exchange Chambers, Sheffield, from whom all further particulars may be had. Tenders to be delivered not later than the Office hours on the 16th OCTOBER, 1863. No pledge is given to accept the lowest or any Tender.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A meeting of this Board will be held on MONDAY, the TWELFTH day of OCTOBER, 1863, at SIX o'clock in the evening, at the Office of the Board, No. 1, Great Alie street, Whitechapel, to receive TENDERS for PAVING the portion of the Whitechapel Road (extending from Great Garden street to the eastern boundary of the district, in the middle one, with the materials particularly described in the specification prepared by the direction of Mr. Peter Ree, the Surveyor to the Board, between the hours of ELEVEN and FOUR o'clock, of whom forms of Tender can be obtained. All Tenders must be delivered at the Office previous to the hour of meeting, and any Tender which is not upon the form prepared by the Board, and signed by the person or persons tendering, will be rejected. Persons tendering, or their Agents duly authorized, are required to attend the meeting of the Board. The Board do not bind themselves to accept the lowest or any Tender.

ALFRED DUTTON, Clerk to the Board.

19, Great Alie-street, Whitechapel, 1st October, 1863

THE OLD MATERIALS of the PORTMAN BARRACKS FOR SALE. TENDERS by the 13th inst. Apply to Mr. BARLOW, 11, Portman street, W.

TO BUILDERS, ROAD CONTRACTORS, and OTHERS.—Persons desirous of CONTRACTING for the FORMATION of a WHARF and BRIDGE, and for the IMPROVING of a ROAD on the Estate of the Carpenters' Company at Stratford, Essex, may inspect the plans and specification at the Office of the Architect W. W. TOOKE, 5a, Gravenstreet, Strand, where TENDERS are to be delivered on the 19th instant, at THREE o'clock, p.m. The Company do not bind themselves to accept the lowest or any Tender.

CONTRACTS.

LANCASHIRE and YORKSHIRE RAILWAY.—The Directors are prepared to RECEIVE TENDERS for the IRON GIRDERS of the BRIDGES for the Extension from Salford to Victoria Station, Manchester. Drawings may be seen, and forms of Tender obtained, at the Fine Arts Office, Hunt's Bank, Manchester, on and after the 5th OCTOBER next, and Tenders, properly endorsed and addressed to the Directors, must be in the hands of the undersigned not later than MONDAY, the 26th OCTOBER instant.—The Directors do not undertake to accept the lowest Tender.

WM. S. LAWN, Secretary.

Manchester, 1st October, 1863.

WEST LONDON UNION.—ERECTION of NEW WORKHOUSE.—The Guardians do hereby give notice, that of the Plans and Designs sent in for Competition, they have selected, as the first, second, and third best, those bearing the mottoes of—

"Hon" ..... 1st prize.
"Honesty is the best Policy" ..... 2nd ditto
"Experience" ..... 3rd ditto

And gentlemen who have, therefore, unsuccessfully competed, are hereby informed that their Plans and Designs will be returned on an application being made at my Office between MONDAY, the 12th, and THURSDAY, the 29th day of OCTOBER instant, and between the hours of ELEVEN in the morning and TWO in the afternoon.—By order,

JOHN PONTIFEX, Clerk to the Guardians.

5, St. Andrew's-court, Holborn, October, 1863.

WEST HAM LOCAL BOARD of HEALTH.—Notice is hereby given, that the Board of Health for the District of West Ham, in the county of Essex, are prepared to receive TENDERS for the ERECTION of TWO COTTAGES, on their land at Canning Town, adjoining the Sewerage Outfall Works. Contract Drawings, forms of Tender, and any other information may be obtained at the Office of the Local Surveyor, at Rokeby House, in Stratford, E. between the hours of TEN and TWELVE o'clock. Tenders are to be delivered at my Office, at Rokeby House, in Stratford, not later than MONDAY, the 26th instant; and each of them must contain a Ten Pound Bank of England Note, endorsed by the party tendering, to be returned in the event either of the Tenders not being accepted, or on the completion of the contract bond.—By order of the Board,

CHARLES WILSON, Clerk.

Rokeby House, Stratford, E. October 14th, 1863.

GREENWICH UNION.—TENDER for COOKING APPARATUS.—The Guardians of the Greenwich Union are desirous of receiving Sealed TENDERS from persons willing to CONTRACT for SUPPLYING and ERECTING APPARATUS for COOKING by STEAM (with boilers, furnaces, and other requisites) for the service of the new kitchen now in course of erection at the Union House, Woolwich road, Greenwich.—Information as to the required capacities, and other details, may be obtained on application to Mr. R. P. BROWNE, Architect, 33, Clement's lane, London, or Royal Hill, Greenwich. Each Tender must be accompanied by a drawing and description of the apparatus and its appurtenances, and a detailed specification of the works to be performed and the materials to be used in constructing and fitting up the same. All Tenders to be sent by or addressed to the undersigned, and endorsed, "Tender for Cooking Apparatus," and delivered at the Clerk's office, Union House, Greenwich road, on THURSDAY, the 15th OCTOBER instant, on or before FIVE o'clock on THURSDAY, the 15th OCTOBER instant, on which day the same will be opened at a meeting of the Guardians; and the persons tendering, or their authorized agents, must be in attendance at that day at FIVE p.m. The lowest or any other Tender will not necessarily be accepted.—By order,

SAMUEL SAW, Clerk to the Guardians.

Greenwich, S.E. October 1, 1863.

GREENWICH UNION.—CONTRACT for DRYING STOVES.—The Guardians of the Greenwich Union are desirous of receiving Sealed TENDERS from persons willing to CONTRACT for the CONSTRUCTION of TWO WROUGHT IRON DRYING STOVES (with slides, rollers, flues, and a side stove to each for drying rooms) in the Laundry of the Union House. Further information as to the required capacities may be obtained on application to Mr. R. P. BROWNE, Architect, 33, Clement's lane, London, or Royal Hill, Greenwich. Each Tender must be accompanied by a drawing and description of the apparatus and its appurtenances, and a detailed specification of the works to be performed and the materials to be used in constructing and fitting up the same. All Tenders to be sent by or addressed to the undersigned, and endorsed, "Tender for Drying Stoves," and delivered at the Clerk's office, Union House, Woolwich road, Greenwich, on THURSDAY, 15th OCTOBER instant, on which day the same will be opened at a meeting of the Board, and the parties tendering, or their authorized Agents must attend the Board on that day at FIVE o'clock. The Guardians do not bind themselves to accept the lowest or any Tender.—By order,

SAMUEL SAW, Clerk to the Guardians.

Greenwich, S.E. October 1, 1863

TENDERS are invited for 346 Tons, more or less, of CAST IRON PIPES, for the Justices of the Peace for Calcutta.—Particulars and specifications may be obtained from Messrs. W. THACKER & CO. 87, Newgate street, E.C.

BOROUGH of NEWCASTLE-UPON-TYNE.—HOSPITAL of ST. MARY THE VIRGIN.—ERECTION of the ROYAL FREE GRAMMAR SCHOOL.—The BUILDERS and Others of the Corporation of Newcastle-upon-Tyne are to TENDERS for the ERECTION of the above-named SCHOOL, and for the ERECTION of the ROYAL FREE GRAMMAR SCHOOL, and other Works connected therewith, at Newcastle-upon-Tyne, according to plans, working drawings, and specifications approved by the Town Council, and which may be inspected on and after the 21st instant, at the Architects, Messrs. JOHNSON, LOCKE, & SONS, 35, Pilgrim street, where further information can be obtained, and blank forms of tenders procured. The Quantities and Bills of Quantities, Quantities, and Hospitals, will be received at the Town Clerk's Office, Guildhall, up to SIX o'clock, p.m. TUESDAY, the 27th day of OCTOBER next. The Council do not bind themselves to accept the lowest or any Tender.—By order,

JOHN CLAYTON, Town Clerk.

Guildhall, Newcastle, 30th September, 1863.

[*For remainder of Contracts see next Page.*

CONTRACTS.

TO BUILDERS.—Persons desirous of giving in TENDERS for the ERECTION of a CHURCH, at Clearwell, near Coleford, in the county of Gloucester, for the Right Honourable Caroline, Dowager Countess of Dunraven, can see the plans and specifications at the Reading-room, Clearwell, from 31 OCTOBER 18th to OCTOBER 31st instant. JOHN MIDDLETON, Architect.
Cheltenham, October 1st, 1863.

TO BUILDERS.—LANGFORD
ST HOOES near BIGGLESWADE. Builders are invited to submit TENDERS for the ERECTION of SCHOOL BUILDINGS at Langford. The plans and specifications can be inspected at the Crown Inn Langford, on and after MONDAY, the 12th inst. Each also to be forwarded by the 27th instant, to the Architect JOHN NORTON, Esq. 24, Old Bond street, W. The Vicar does not bind himself to accept the lowest or any Tender.

CITY of MANCHESTER. To ARCHITECTS and LANDSCAPE GARDENERS.—MANCHESTER CEMETERY EXTENSION of TIME NOTICE. Persons desirous of obtaining PLANS or further particulars to enable them to prepare for the design for laying out this Cemetery, can obtain them by application at the City Surveyor's Office, Town Hall, Manchester, on or after the 9th of OCTOBER instant. The time of limitation for receiving plans having been postponed, a copy of the order extending has been made in the time allowed for sending in designs.—For particulars as to premiums offered, &c. see former advertisements.—By order,
JOSEPH HERON, Town Clerk.
Town Hall, Manchester, 5th October, 1863.

TO BUILDERS.—It is intended to ERECT HOUSES and MAKE STREETS on the ground recently forming the site of Buckley's Floorcloth Manufactory, Waddington Bridge-road, Lambeth. Persons willing to TENDER for the EREXTION and COMPLETION of the same, can see the drawings and specifications, prepared by Mr THOMAS DANBY, Architect, Peckham, at the Office of Mr R A WITHALL, 21, Parliament-street, Westminster, on and after THURSDAY, the 15th of OCTOBER, inst, between the hours of ELEVEN and THREE. Tenders to be sent to Mr W H WITHALL, 7, Parliament-street S.W not later than the 26th OCTOBER, 1863. Neither the lowest nor any other Tender will necessarily be accepted.

TO STONEMASONS and PAVIOURS.—The South Local Government Board are desirous to receive TENDERS for PAVING and LAYING DOWN about 1700 yards of CURB STONE in their district.—Specimens and full particulars to be obtained upon application to the Clerk, at the Office of the Board, Wicker Lane, Sheffield. Each Tender to be sent in on or before WEDNESDAY, the 21st day of OCTOBER, inst. The Board reserve to themselves the right to reject any or the whole of the Tenders.—By order of the Board,
JOHN H. HETHERINGTON, Clerk.

TENDERS. Notice is hereby given, that the Hastings Local Board of Health are ready to receive TENDERS from persons desirous of CONTRACTING with them for the SUPPLY of about 2,500 YARDS of 9-inch CAST IRON WATER-PIPES, BENDS, JUNCTIONS, &c. The specifications and particulars may be had on application at the Town Clerk's Office, High-street, Hastings where Tenders, duly sealed, must be delivered before TEN o'clock of the forenoon of FRIDAY, the 23rd day of OCTOBER next. The Local Board do not bind themselves to accept the lowest or any Tender.
ROBERT GROWSE, Town Clerk.
Hastings September 28, 1863.

TORQUAY HOTEL COMPANY (Limited).
TO BUILDERS.—The Directors of the Torquay Hotel Company (Limited) are willing to receive TENDERS for an HOTEL to be ERECTED on The Town Pleasure Ground, from the designs of the Architect, E. N. CLIFTON, 17, St Helen's place, Bishopsgate street, London. Copies of the quantities may be obtained of Messrs WILLIAMS & SCHOFIELD, 15, Modena street, Russell square, London, W.C. on application with the sum of five guineas which will be returned after the delivery of the Tender. The Directors do not bind themselves to accept the lowest or any Tender. The Directors will require the Builder whose Tender is accepted to give the names of two sureties, to be bound jointly with himself in the sum of 3,000l. for the due execution of the works. By order of the Board,
E. N. CLIFTON, Architect of the Company.
17, St. Helen's place, Bishopsgate street, London,
7th October, 1863

CROYDON LOCAL BOARD of HEALTH.
TO DUST CONTRACTORS and OTHERS.—Any person willing to CONTRACT for the REMOVAL of the ASHES and all other RUBBISH and REFUSE now or that may accumulate from the houses and roads in the special district of the town of Croydon, may see the specification, at the Vestry Hall, between the hours of TEN and FOUR o'clock. Tenders to be delivered at the Office of Mr H. RICHARDS, 26, High-street, Croydon, on or before MONDAY, the 19th of OCTOBER instant, endorsed "Tender for Refuse." The Board will not be pressed to accept any Tender. H RICHARDS, Clerk.
Croydon, October 1st, 1863

D. O. HASWELL, SIGN WRITER, and WRITER on GLASS to the Trade, 43, GREEK-STREET, SOHO, W. Price Lists on application.

EBOR STAINED-GLASS WORKS.
J. W. KNOWLES, 74, Goodramgate, York, begs to inform the clergy, gentry, and trade, that he can execute GOOD PAINTED WINDOWS in the first style of art, and at the lowest scale of prices. Geometrical windows from 5s per foot; Quarries from 3s. per foot. Designs and estimates supplied free.

PATENT and BRITISH PLATE GLASS
JAMES HETLEY & CO. beg to inform Architects, Builders and the Trade generally, that their new Hall of Process for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, St. Bride's-square, London

STAINED GLASS WINDOWS
of every description, for Ecclesiastical and Domestic Use
MURAL DECORATION, MONUMENTAL BRASSES, and ILLUMINATED COMMANDMENTS.
BY A NEW PROCESS ON PLAIN GLASS.
R. B. EDMUNDSON & SON,
NEW WAKEFIELD STREET, OXFORD STREET.
Near the Bridge, Manchester.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

WINDOW GLASS! WINDOW GLASS!
Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at moderate prices. Crown and sheet Glass, Cut rites, and Ornamental Roman, Rolled, and Patent Plate. Bevelled Glass for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at
CHRIST'S CITY GLASS WAREHOUSE,
No. 47, Chiswell street, opposite Whitbread's Brewery, E.C.

LEAD GLAZING for CHURCHES and other BUILDINGS, Plain Quarries, Geometrical Patterns, or Pict Work. Builders and the Trade are supplied with every description of Lead Lights and Window Lead, on the shortest notice and lowest terms, by ODELL & BURFORD, Plain and Ornamental Lead Glaziers to the Trade, 8, Bath street, City-road, E.C.; and 12, Grafton mews, Fitzroy-square, W. Estimates forwarded on receipt of particulars.

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MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

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ENDELL STREET, BLOOMSBURY, LONDON, and 48, JOHN DALTON STREET, MANCHESTER.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be obtained WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

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WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Rolled, Enamelled, Flashed, Rough Plate, Photographic, and every description of Glass
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Where the TRADE is supplied with the same superior quality made the name celebrated.
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And are manufactured solely by G. R. KENT & CO.
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KENT'S BRUSHES have long celebrated for their superior quality for the last eighty six years, and may always be depended upon as the best that can be made.

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No. 10, GREEK STREET, SOHO SQUARE, LONDON, W.
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Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graining Tools
These goods are made of the best materials at 1 workmanship, and have obtained a high reputation among the trade of decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c are supplied on the lowest terms. Price lists forwarded on application.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 23s. per cwt.
Linseed Oil, 3s. 3d. per Gallon; Boiled Oil, 3s. per Gallon.
Turpentine, 6s. 6d. per Gallon.
Fine Pale Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Oil and Colour Merchants Warehouses 30, Upper Thames street, and 45, Colest street Pimlico, S.W.
Every article for the Trade at the lowest prices.

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USE NAENIARE & CO.'S LETHICUM. Sold at 3s. per gallon. Also Brushes to apply it 1 remover, 3s. per pair For circulars, &c. apply at 11, St. Andrew's-hill, E.C. London. Success guaranteed.
N.B. Country orders must be prepaid Agents wanted.

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GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.
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White Lead (warranted genuine), 23s. per cwt
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For cash at FRANCIS HICK'S Old-Established VARNISH and COLOUR WAREHOUSE, No. 138 EDWARE-ROAD, PADDINGTON, W. Two minutes' walk of the Metropolitan, and within five minutes' walk of the Great Western Railway Terminus.
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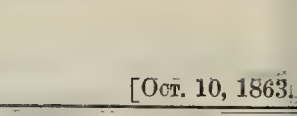
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Rain Water Pipes.....	2½ in.	10d.	3-in.	1s per yard.
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ventor of the Rotary Shop Front, Patentee of the Tubular Rail
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And every description of Iron work, wrought or cast, for Builders other purposes, estimated for and executed. Designs furnished

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OTHERS.—FOR SALE, a number of Sets of STOCKS DIES, complete, quite new, suitable for cutting and screwing gas steam pipe, of the following sizes, viz.—4 inch, 3 inch, and 1½ inch, 1¼ inch, and 1 inch; 2½ inch, 2 inch, and 1½ inch. are part of a quantity ordered by a foreign house, who, finding they have not room for all, were induced to dispose of one supplied at a considerable reduction. They are a thoroughly good Engineers make, and will be sold very cheap, separate or together.—To be seen, and price given, at WILLIAM BUGG'S, 19 and 20, Marsham street, Westminster, S.W.

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Engineer, 16, Wellington street, Glasgow, continues to supply the ECONOMIC ENGINE and GAS PHANTOMS which are cheap, simple, and effective, as it is evidenced by the number now fixed and working. Plans and Estimates furnished for New Works and Alterations.

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Builders Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the
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MANUFACTURERS OF
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EDGE TOOLS marked WM. GREAVES & SONS. Electro Boiler Steel, warranted to wear out three Tools made of Cast Steel.
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MANUFACTURER.—THOMAS FOX, 80, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are more effective and durable yet presented to the public All kinds of the Glass silvered
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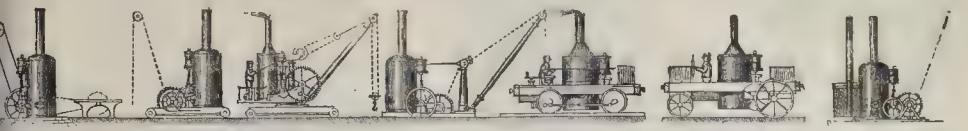
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Boilers, Tanks, and every description of Iron Work, Cylinders, and wrought castings to any pattern, by GRIMMOND, LAING & CO 15, Cannon street West, London, E.C.

PORTABLE STEAM-ENGINE, 10-horse power, by GARRETT & SON. It has only been used a few times, and is as good as new. Price, 240l. cost 280l. First class NEW PORTABLE ENGINES, from 2 to 12 horse power, on reasonable terms.—Apply to BARROWS & CARMICHAEL, Engineers, Dauntsey

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Stationary Engine. from 1 to 30 horse power. | Portable Hoist. 1 to 30 horse power. | Steam Crane.* 30 cwt. to 10 tons. | Engine & Crane. 2 to 25 horse power. | Contractor's Locomo. 6 to 27 horse power. | Traction Engine. 6 to 27 horse power. | Ships' Engine. Winding and Cooking.

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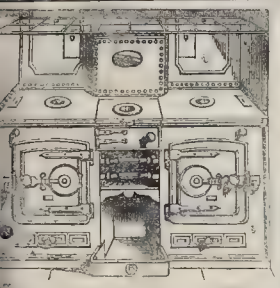
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Orders requiring Despatch and Punctuality can be executed in a few days.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 13*l.*; Chimney-pieces, from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth-plates.

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MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

lave been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive ight of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST XCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call pecial attention to the beautiful and varied productions in ART BRONZES and METAL WORK, dapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. ow on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS.
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
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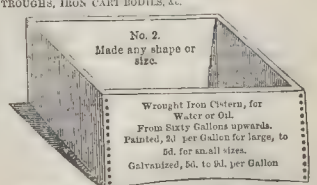
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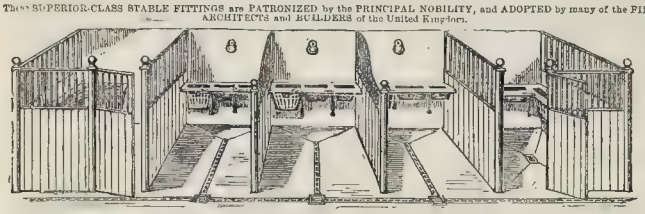
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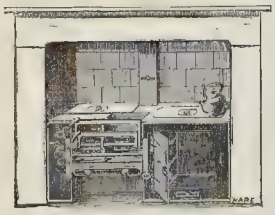
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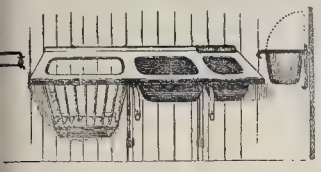
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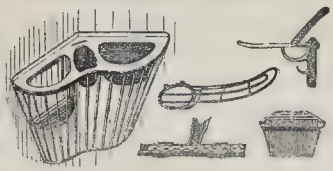


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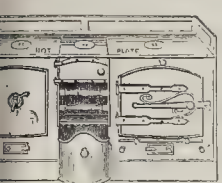
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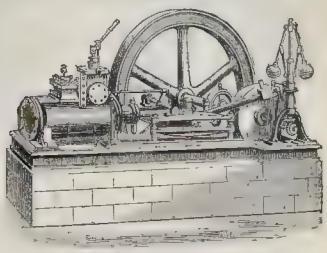
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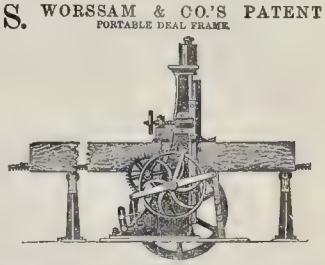
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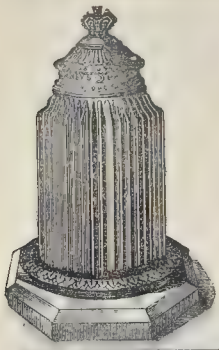
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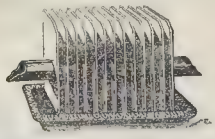


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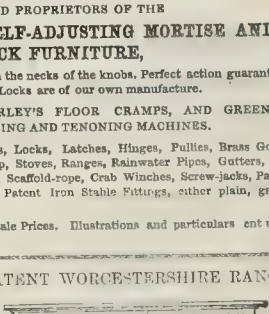
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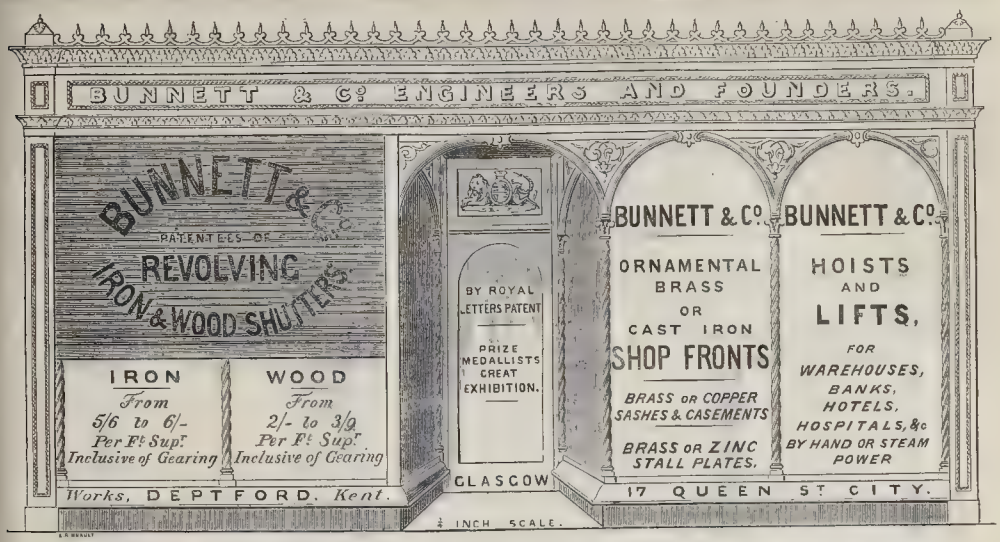


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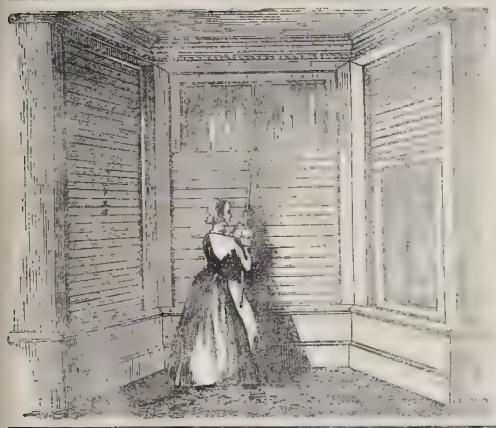
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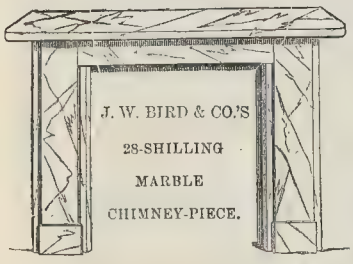
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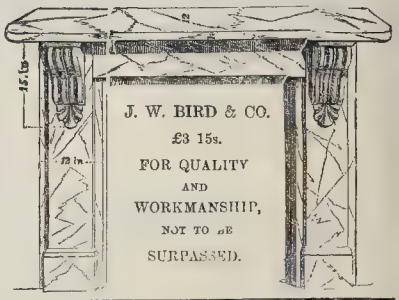
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The Builder.

VOL. XXI.—No. 1079.

"*Going Along.*"

The Danube. Vienna.



FROM the windows of the very well-conducted "Hôtel de l'Archiduc Charles" at *Linz*, the view of the Danube is beautiful, giving good promise for the voyage to Vienna between its banks. Hills covered with foliage run up from its edge on the opposite side dotted with church and houses, while on the side next the hotel two steamers and some small boats form a foreground. Many of the houses in Linz are very lofty, and have the ground story vaulted with stone,—whether to preserve the upper part from possible inundation, or to cut it off from the shop or store below, is not clear. The height at which they are built above the river almost precludes the former supposition. A stone in the hotel, however, 2 feet 9 inches from the floor, shows where the water once stood in the house, and the level of the river must be 15 feet or 16 feet below the road there. The Great Market Place is not miscalled: it is singularly extensive; and besides two fountains, one at each end, has in the centre what is termed the Column of the Trinity, to commemorate the deliverance of the town, once from the plague and once from the Turks. This wretched taste-perverter, erected in 1723, is intended to represent clouds piled up, sprinkled with angels' heads and saints, and is more suggestive by its forms of goitre and ceretinism than anything else. A fellow traveller calls it all lumps and rolls, like soft sausages. It should be pulled down forthwith. The damage done by such monstrosities is greater than is supposed. By way of antidote, drive out to Jägermier's Hotel, on the hill behind the town, whence Linz itself, the winding river with its island and bridge, the separate round towers which constitute the fortification here, and the Styrian Alps behind,—

> "Where the mountains
> Lift, through perpetual snows, their lofty and luminous summits,"

form a picture of great loveliness. Should evening come on while you are there, the lights of the Beer-hall on the banks, multiplied in the water, and the mist rising from the river and stealing up the mountain sides, will add fresh features to the scene.

The promise made for the Danube at Linz is not broken. In parts the Danube exceeds in beauty the Rhine, though the more striking views are farther apart, so that it scarcely makes the same impression as a whole. Early, the river spreads about in all directions, taking half a dozen separate channels, with small islands in between, and making the navigation difficult through want of water in the stream. At Mauthhausen the toll-house and picturesque private houses adjoining with turrets, are interesting; and then comes the castle of Nieder-Walsee on the rock, with its tall square tower and bell-shaped top, joined to a large modern building. Past Grein, castle crowned, the sides of the river become more mountainous: trees and rocks conjoin. There is a village, with its church, at the foot, and the view all around is magnificent. Other villages and other castles succeed. At Ips, and, indeed, in more places than one, some large buildings are in progress. At Ips a record may be noticed that the water rose up the front of a house 13 feet on the 31st of October, 1787, and 10 feet on the 3rd of February, 1862, the ground on which the house stands being about 4 feet more from the present level of the river. At Mölk stands a stately Benedictine monastery, the walls in part upright with the perpendicular face of the rock. The castle of Aggstein, perched on the rock at a great height above the river, and the castle of Dürrenstein, both strongholds of robber-chiefs in early days, are fine ruins. Mr. Planché, in his graphic "Descent of the Danube," which has supplied the materials for the guide-books since, and is still the pleasantest story of the historic and romantic river, records a tradition connected with the first of these castles, which is truthlike if not truthful. It is said in it that the castle was anciently held by a robber-knight named Schreckenwald, who, after plundering unfortunate travellers on the Danube, thrust them through an iron door over the rocks into a deep abyss, behind the castle, that he called his Little Rose Garden, and from which the chance of escape was next to *nil*. An Austrian proverb still says of a man who is in a great fix, "he is in Schreckenwald's Rose Garden." It is pleasant to hear through the aforesaid tradition, that one of the intended victims did get out of the garden, and that its scoundrel cultivator was hanged. In the castle of Dürrenstein, if not in that of Aggstein also, Richard, the Lion-hearted of England, was imprisoned treacherously by Leopold of Austria, at the end of the twelfth century. Some other castles hereabout claim to have held Richard for a time. Where Blondel sang it seems hard to say. Dürrenstein is magnificently placed, high up at the end of a long range of hills, with cottages below, and jagged peaks of rock around. The ruins of the nunnery of St. Clare here come into the superb picture which the whole forms. Past Stein, and Krems, both picturesque, rises another enormous Benedictine monastery, the monastery of Gottweih, looking more like a small town on the top of the hill than one establishment. The library there is large and curious. After Krems the views become less interesting; but the banks of the river, it should be noticed, are excellently well kept, and in parts where the river spreads, the current is marked out and aided by artificial embankments in the stream. Birch, beech, and willows line the banks. Klosterneuburg is passed, with its towers and church. At Korneuberg we get a picturesque effect. The country people, in grey-coloured dresses, have come down to see the steamer; the red and white flag is floating, and the whole is illumined by the bright sunshine. Soon after, a smaller steam-boat receives the passengers, and runs them up the Danube-canal right into *Vienna*.

The change in this city within the last dozen years is very great. We have heard much at times of the decay of Austria, but Austria can evidently stand a great deal of ruining. The great event for the prosperity of the city was the removal of the fortifications,—not yet completed,—by which a wide belt of land, the glacis, surrounding the city proper, is made available for building, decorative, and recreative purposes, and will unite to the latter the suburbs that extend widely on all sides. On the land thus provided, on the southern side of the city, many large blocks of costly houses, five and six stories in height, have been erected, French in character, with ornamented pilasters and friezes, bay windows, and handsome metal-work. One pile here, opposite to where the new opera-house is being erected, is six stories in height, including mezzanine, has projecting windows at the angles very highly decorated, statues in niches, and so forth. The decorations are, for the most part, in cement and terra cotta, but parts, such as the projecting windows, are of stone. The carving is somewhat blunt on close inspection, but is, nevertheless, agreeable in the whole. Such a block includes a considerable number of residences, with inner courts. The ceilings of the passage-ways are handsomely decorated with colour. The architect was the late Mr. Ludwig Förster, editor of the *Bauzeitung*, a man of knowledge and ability. Close by, another block of residences has been erected from the designs of his son-in-law, Mr. Hansen. This has square turrets at the angles, surmounted by vases, containing aloes, probably of metal painted. The panels between the windows of the top story are decorated with painted figures and arabesques on a gold ground. The rest of the building is of a cement and stone: the wall-surface of the first and second story is of a pale red, the remainder of a stone colour. The windows of the third story have caryatides on each side. The roadways here are very wide, contrasting strikingly with the very narrow and tortuous streets of the city proper, which, moreover, have no *trottoirs*, and where, by the way, the coachmen drive as if the life, or, at any rate, the legs of a pedestrian were not of the slightest consequence. In one of the new roadways, Kärnther Ring, in which stands one side of Mr. Förster's houses alluded to above, two rows of trees, apparently a kind of ash, are planted, one on each side, separating it from the portions appropriated to walkers.

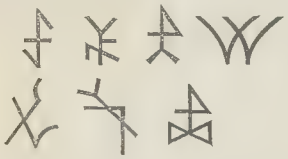
The character of the houses rising up in the new parts of Vienna will be better understood from the view we give of the entrance front of a large house, erected also from the designs of Mr. Förster, on the northern side of the city, in the Jägerzeile, which leads to the Prater.* This structure, built for the Herrn Albert von Klein, extends far back and is of considerable size. It includes shops on the ground story in front. To make the details of the elevation clearer, we add a drawing, showing part of the upper two stories on a larger scale. The ornamental metal work with which it terminates forms the face of the gutter.

On another part of the glacis, of which we were speaking, the Votive Church, often talked about, is being erected, somewhat slowly. It is an edifice of large size (very nearly 300 feet long), and will have two lofty open-work spires at the west end, and a *flèche* at the junction with the transept. It is a reproduction and recombination of Geometric Gothic architecture, and very creditable in that point of view to Herr Heinrich Ferstel, the architect. The parts are rather thin and liny, but it is greatly superior to anything of the kind heretofore done in these days in Austria. We shall give a view of the church in a following chapter of our jottings. Movement is evident in Vienna, and progress, too; and that not only in our speciality, but elsewhere. For example, it is notably seen in the introduction of the English system of banking, by the newly-formed "Imperial Royal Privileged Union Bank of Austria."

Another new building is the Arsenal, an enormous pile, including barracks, armoury, chapel, and storehouses, constructed mainly of brickwork red in colour, with occasional stone dressings; the whole displaying more thought, adaptation to present wants,—in short, more art, than we have elsewhere seen here. It will be judged from what has been said that there is no great architectural genius at present amove in Vienna. We are getting dull, however, amongst the brick and mortar of to-day, and must mix with it a little of the dust of antiquity. Let us run off, if but for a passing glance, "going along," to one of the few buildings in Vienna bequeathed to the world by the Middle Ages, and which we should "not willingly let die." "Whatever makes the past, the distant, or the future predominant over the present raises us in the scale of thinking beings. Within the narrow circle of the present are comprised all our passions, all our appetites, all our selfishness, and all our vices: when you step beyond that circle, when you enter into the domain of the

* See p. 725.

past, of the remote, or of the future, you at once step into the regions of pure intellect, of lofty imaginations, of noble aspirations." Dr. Johnson, eloquent dogmatist, says so, and we will not stop to qualify the assertion, agreeing fully in the leading idea. A walk round, into, and up St. Stephen's, the cathedral church, and literally the centre of the city, expands the mind, raises the aspirations, feeds with thoughts, and spiritualizes, let us say, the beholder. The men of seven centuries ago have left us a bit of their handy work at the west front, and those of the fourteenth and fifteenth centuries, working on and off during 120 years, have given us the main fabric. We hear of Master Octavius Falckner in connexion with the first part of the work, and of Jörg Ochsel and Anton Pilgram as architects, one after the other, of the present church. Underneath the elaborately carved pulpit in the nave is a sculptured bust of a man,* as if looking out from an opening, and at the foot of the corbel that carries a small stone organ-loft projecting from the north wall of the nave near the transept is a second bust. These are both said by some authors to represent Pilgram; but we should rather agree with another writer, who says the bust under the organ-loft is intended for Ochsel, and that under the pulpit for his successor, Pilgram, who designed it. In the hand of the latter is a pair of compasses: the figure under the organ-loft holds a square. The heads, on comparison, are quite different. On the top of the stone parapet of the steps to the pulpit is carved a string of toads, lizards, snakes, and other reptiles devouring each other: there are twenty-nine of them: at the top nearest the pulpit sits a dog. The stonework of the pulpit displays a large variety of masons' marks,—very large considering the smallness of the work. Here are representations of a few of them:—



The enormous scaffolding which has long disfigured the outside of the Cathedral is still up; but is to be removed before long. Within, restoration is going on in the north aisle of the choir, under the architectural direction of Professor Schmidt. The south tower, tapering from soil to summit, and of wondrous height, serves, many will remember, as a station for the fire-watch, who telegraph from it for assistance when a fire occurs. The great bell here is 11 feet in diameter at the mouth. When rung it swings, and is made to strike against the clapper, which also swings. A huge wheel in the roof of the church, caused to revolve by men walking in it, is used to raise from the pavement, 87 feet below, such materials as may be needed in works of reparation or otherwise. The enormous roof is covered outside with coloured tiles; white, buff, green, and brown, forming the Austrian eagle, of large size, and some other designs:—the effect is frightful. These were unhappily renewed, at great cost, in 1831. The external gables over the lofty windows of the south aisle are remarkable specimens of stone tracery, as our readers shall see when our sketch is engraved.

The interior affords some admirable effects. David Roberts's picture exhibited a few years ago, and bought by the late Mr. Thomas Cubitt, will be remembered. This gives somewhat too much of importance to the wide archway at the west end from which the view was taken, and where the archway was made to form the frame. The carved stone canopy on the north side, at the west end near the confessional, with an old man kneeling just under the red awning, his white hair flowing over a sorrowful face, his eyes immoveable, his thoughts unaffectedly far away from all things here, is a picture worth looking at, and might serve as a subject for Mr. Burton. In St. Stephen's are interred the *bowels* of such members of the Imperial family as die; in the Capuchin church, the *body;* and in the church of the Augustines, the *heart* of each member. We mention the curious and revolting arrangement simply that we may point the attention of those interested in metal working to the elaborately ornamented metal coffins in the vaults of the Capuchin church, ranging from 1619 up to the present time. Those of late days are mostly executed by Moll, and show more hand than head. In St. Augustine's is Canova's elegant monument to the Archduchess Maria Christina, of Teschen,—"*Uxori optimæ Albertus.*" The group entering the tomb is particularly fine: the effect of the whole satisfactory. A repetition of this design, with differences, has been erected as a monument to Canova himself, in the church of the Frari, in Venice, but is very inferior. The church of St. Maria Stiegen has a remarkably fine and lofty Gothic altar-piece, including a large canopy over the crucifix, carrying figures also under canopies. The main pillars of the nave have carved figures around them under canopies. In the Graben there is a horrible column of clouds and saints, erected in honour of the Trinity, very nearly as bad as the monstrosity at Linz, and which, like that, should be forthwith pulled down and carted away to any place where rubbish may be shot. A new Gothic church for the Jesuits, near the railway station, is nearly finished, and is a fair reproduction of old forms,—what may be called architecture of the Thoughtless Style. The new synagogue should be looked at, and the modern Greek church, with its painted Iconostasis.

Amongst the private collections in Vienna, that of the Prince de Liechtenstein is prominent. Rubens shines here in a series of pictures illustrating the life of the Roman Decius, and Vandyke in a portrait of Wallenstein and one of himself. A circular "Holy Family," by Raffaelle, differing considerably from any other version by him of the same subject; numerous fine specimens by Guido; Caravaggio's "Woman playing on a Lute," and Giorgione's glowing Lucretia Borgia contemplating a sketch of Lucretia, and inscribed "*Nec villa impudica Lucretiæ exemplo vivet,*" are amongst the works that must be looked at. Titian was the friend and companion of Giorgione, and drew inspiration from him. His life was unhappily shortened. An artist who worked with Giorgione carried off from his house a young girl whom the latter loved greatly. He fell into despondency, and died at thirty-three. The same temperament that made him a charming painter prevented him from living. The great hall of the Prince of Liechtenstein's palace calls for a note. The coved ceiling is decorated with paintings of buildings so drawn that they can be seen in the shape they are intended to present from one spot only,—the centre of the floor. Viewed from any other part of the room they are horrible distortions,—running and tumbling all ways. The right teaching of this clever caprice is,—"what to avoid." In our next we shall rave a little about the Upper and Lower Belvedere.

* A view of the pulpit will be found in the *Builder*, vol. xvi. p. 727.

DINING-ROOM WALLS.

Papering walls is a modern custom. Paint or whitewash formerly made rooms look clean and decent; and even now, in Holland, and some of our own provinces, the more simple wall covering is yet much in use. Whitewash will make the walls of an apartment look clean, though it will probably fail to produce any soft or artistic effect. Paint may give a tint to the sides of the room which will cause the walls to blend into harmony with the furniture and adornments; but by these simple agents no pattern can be produced—no rich breaking up of the surface by graceful lines or flowing curves: these are reserved for some other treatment. Except indeed so far as can be effected by "combing" the surface, by means of which the light is pleasantly reflected and the surface varied.

The decoration of a wall by hand has always been, and will always continue to be, an expensive process. To produce ornament on the wall at more moderate cost, stencilling was introduced; and in years within the recollection of many living, the best rooms in many second-class houses had their walls enriched by this process.

Wall-papers in their turn came to supersede stencilling; and so completely have they gained favour, that they are found in every house, frequently from the kitchens to the attics, while a stencilled room is rarely met with, save in a public and highly decorated building.

While wall-papers, as a means of decoration, have thus superseded the earlier mode of enriching walls, and have even induced its final overthrow as a method of ornamenting the houses of the middle classes, it is curious that up to the present time papers have not been held in much favour for the walls of dining-rooms. Dining-rooms, it is said, should present a dark and rich effect: flock-papers were considered best calculated to give rise to the aspect desired; but to flock-papers the objection has been urged, that their roughness causes them to gather and retain the various odours or effluvia of the edible articles served in the room. If this be the case, their use must be objected to, and flock-papers must be regarded as unsuitable to dining-rooms.

Whether such be the case or not, a feeling that it is possible has in many cases prevented the use of flock-papers in dining-rooms; and as these have long been considered the only papers for such rooms, it has been thought desirable to dispense with their use altogether, and to retain the older treatment by simply giving to the wall an even tint of paint.

Flock-papers as dining-room decorations certainly do not seem appropriate. It is more than probable that a rough surface will retain effluvia which in time, by its augmentation and combination, may induce disease. A smooth surface appears to have a much less power of retaining nuisance of any kind than one which is rough hence it is probable that the practice of white washing the walls of out-houses arose not only from the known decomposing power of lime, but from the ascertained fact, also, that a smooth surface is less likely to harbour that which shall generate disease than a surface that is rougher.

To flock-papers altogether an exception may be taken. They are said to be an attempt at imitating a woollen fabric, or cloth, in paper work; and many attempts have been made at imitating a particular fabric by the use of this ground wool in a particular treatment,—as red, for example.

Shams can scarcely be commended in any form. If we are to regard a flock-paper as an imitation of a woven fabric, then it is open to severe condemnation; for, while a material is capable of yielding beautiful effects which are peculiar to itself, it is very undesirable that it should do badly what another material can achieve much more perfectly. If, however, we are to consider flock-papers as efforts at producing beautiful effects, then they are open to fair consideration.

Flock certainly gives a rich and full effect; but to us the less pretentious aspect of the more simple pigments is the most welcome, and the flat wall-paper is certainly cleaner than the flock. The use of flock-papers is rapidly on the decline, and we are scarcely disposed to grieve that their day is passing, as we deem it an omen of good that the public taste has become so far changed as to enable it to prefer the more simple effect.

Dark papers have long been in use in dining-rooms, and a somewhat sombre appearance is considered desirable in the case of the walls of the dining-room. An Englishman is said to be a man who dines; and certain it is that he esteems the dinner the chief meal of the day. This being the case, an effort has been made to concentrate the whole attractiveness of the dining-room on the table. The walls have been made dark or negative in colour; the furniture unobtrusive; and oil paintings of sombre aspect have been hung upon the walls. All this, together with the white table-cloth, over which the gas is suspended, certainly tends to make the table the one attractive object in the room.

Whether this, when carried to such an extreme, be desirable or not, it is for us now to consider. The dining-table may advantageously look attractive, and in every way calculated to induce an appetite, yet it is somewhat animal to let the whole man be absorbed in that which only administers to the body. If a low key of colouring be

desirable as a contrast to the gay lightness of the drawing-room, some improvement might probably be effected by the table-cloth being toned to a less obtrusive colour than that in which it usually appears. The strong white, while attractive and cheerful, is in harmony neither with the dulness of the room, nor with any colouring possible when only dark tints are used. It cuts up the entire harmony of the room, to use an artistic mode of expression: hence the desirability of a table-cloth of a dark cream hue, such as is now much adopted in window-blinds; or even of one into which negative tints of colour have been introduced.

While the use of a dark paper for the dining-room prevails, it is possible, and even probable, that the use of middle tints (tints half-way between light and dark,—black and white), might be advantageously substituted for the darker hues in some cases. A room naturally dark may be rendered somewhat cheerful without in any way detracting from the adaptability of the room to answer its proposed end; and persons of a melancholy disposition should have everything around them of a cheerful character. Yet we do not think that the dining-room should be as light as the drawing-room. We seek variety; and, as the drawing-room should be light, the dining-room should hence be somewhat dark, if making it so do not bring about any departure from consistency.

What a dining-room paper should be it may be difficult to say. To us it appears that somewhat rich colours may advantageously be employed if they are carefully harmonized. The mere painted wall is not altogether satisfactory, inasmuch as it does not afford us the charms which arise out of the contemplation of colour harmony. Colours *may* have intrinsic beauty, as individual notes in music may be pleasing; but, when harmoniously combined, they give rise to colour harmony as fully as chords of music produce harmonies of sound. We also derive pleasure from the observation of beautiful forms. As, then, colour gives pleasure, and the harmony of colour gives pleasure as well as form, it is certainly desirable that all these means of producing delight in the beholder should be employed for such a purpose.

We have said that rough surfaces harbour effluvia and miasmata: it is hence obvious that smooth walls to the dining-room would be conducive to health. This leads us to propose, as the proper papers for a dining-room, such as have a satin ground. To the satin there is this objection, that in some lights its glabrous character renders the ornament indistinct and its colours altogether invisible. Yet health must precede artistic effect, for no one would be justified in producing an agreeable aspect at the sacrifice of national good. The satin paper, of medium depth of colour, with a richer colour-harmony than has hitherto been employed, may be recommended for the dining-room walls.

OLD LONDON.

Another of those famous old mansions, for which London proper in past days was celebrated, has within the last week or two disappeared, sold for its old materials. It was a house we had set our eyes upon very often, intending to enter and describe what we saw; feeling, as we did, that the interior would repay us for the trouble. Lately, we noticed, with dismay, our old acquaintance plastered over with large posting bills, announcing that the abode was to be sold in lots. Seeing that its days were numbered, we immediately procured a catalogue, and for the first and last time passed the threshold of the mansion. The house was situate about the middle, and on the right hand side, of the Old Jewry: it was well known as the Lord Mayor's Court office, that portion next the street being wholly occupied as such; but the finer part of the house in the courtyard was let out in different offices. From the street front you entered under a gateway to this courtyard. Two boldly carved brackets, in foliage, terminating in a great rose, affected to support the beam, whereas the seeming bracket supports are carved on the beam itself. Immediately before us is the house, which was ascended to by a flight of steps to a door, with jambs and architrave, enriched with foliage, carved in oak. This brings us at once,—at least originally did, for a passage had been taken from it,—into a fine hall, of large dimensions, in which the original panelling, chimney-piece, and we believe the very windows themselves, still exist. It is of lofty and fine proportions. At one end of this apartment was once the staircase, and no doubt a noble one, that which now occupies a portion of its space being a more modern erection. From this hall you entered into three very fine rooms, *en suite*, measuring in length about 70 feet, of a proportionate width, and lofty. In one of these rooms we were captivated by a most charming ceiling: it was slightly domed in the centre, and where a chandelier once hung, for the hook was still there: an eagle, with expanded wings, formed the middle ornament, round which, and filling up the whole of the compartment, were a crowd of Cupids or cherubs. We at first took them for a lot of Ganymedes buffeting the eagle form of Jupiter, but they were innocent cherubs. Each angle of this elegant ceiling was formed of foliage, and the whole was in very high relief. We have seldom seen a piece of work of this sort which took our fancy more than this did; and, hoping against hope, we took a rod which happened to be near us, to try if it might not by some good chance have been carved in wood; but on gently tapping the tip of one of the boys' wings, it fell to the ground, a piece of plaster: if it had been otherwise we had made up our mind to purchase it: as it is, it is doomed to destruction. The end of this room, the boudoir, perhaps, of some rich merchant's wife, was divided off by an open screen of pillars. We have seldom seen rooms of finer proportions than these, the lofty windows, and to all appearance the original ones, reaching almost to the ceiling and to seats a short distance from the ground, and which seats, as was usually the case, lifted up, having useful cupboards within them: the richly-carved wood cornice running round the ceiling. The oak floor, of parquet work, gave to these rooms a grandeur not often met with: they reminded us of Hampton Court and Kensington Palace; making, of course, due allowance for the difference in the requirements of a private person and a sovereign. These rooms looked originally, as we suppose, into a large garden, once belonging to the abode, but now only a long court; buildings of a more recent date, belonging to Grocers' Hall, having been erected on either side. There are many nooks and corners in this house cut up into closets, offices, and various other contrivances, to suit the wants of those who lately occupied them, together with ample bed-room accommodation above. This house we take to have been built in the reign of William and Mary, a period when the city had ceased to be fashionable for the Court and its followers, but continued still to be the abode of many opulent people, especially of the great merchants, who then lived near their places of business. Evelyn says in his "Diary," September 20th, 1672:—

"The palace of Sir Robert Clayton, in Old Jewry, contained a superb banqueting room, wainscoted with cedar, and adorned with battles of gods in fresco."

This state of things no longer exists: the smallest retailer of wares now shuts up his shop and starts off to his suburban villa, the train enabling him to do this. These and similar reflections have induced us to turn our attention to those deserted mansions of old London which still exist, but must, we prophesy, ere long, give way to buildings more useful and better adapted to the wants of the present period. A great and prosperous city like London is ever changing its appearance. Even its western end is liable to this alteration. Of all the splendid palaces that once lined the Strand—for palaces they were—and adorned the north bank of the Thames, not one exists excepting Northumberland House, the most western of all; and that, we imagine, is greatly altered since the time of Elizabeth. In the heart of the City still exists on the banks of the Thames, and tolerably intact, the town-house of the great Earl of Derby, king of Man, now occupied as the Heralds' College.

THE "STRAND HOTEL."

The first stone of the proposed building was laid on the 2nd inst. by the chairman of the company. Lyon's Inn, part of Holywell-street, and part of Wych-street have been cleared away, and give a large site, to which will be added a plot of land running up to the Strand, where, of course, will be the main entrance. There will be about 400 rooms, and in the lower part a large hall, available for public meetings. The division walls for the rooms and open areas above this are carried on iron girders. It is intended to be a middle-class hotel, with moderate charges. Mr. F. J. Fowler is the architect. The contract, 73,000*l.*, for the part to be proceeded with, has been taken by Messrs. P. & A. Thorne, who agree to receive 40,000*l.* of the amount in debentures, the repayment of which is to be spread over several years.

CONTINUED "BLOOD POISONING" AT BETHNAL-GREEN.

The excitement in connexion with blood poisoning,—as it is now popularly called,*—in Bethnal-green, still continues; and new and important cases are being brought before the public notice through the sad medium of the coroner; and, so startling are the circumstances, that the Government and even the parish authorities have been roused to make a show of exertion; and many will feel a hope that now something effectual will be done to put an end to existing disgrace and danger. We trust that these anticipations may prove correct; but many disappointments in this way have rendered us doubtful, and still lead us to fear that when the influential portions of the daily press, thinking sufficient has been done to effect a beneficial change, have relaxed in their vigilance, things will be allowed to relapse into their former state. The parish authorities look carelessly at the sickness and death around them, and sceptically and contemptuously at the actual causes; discouraging the medical officers when they bring too true reports to their notice of the shocking state of suffering which exists. Sanitary inspectors, under such circumstances, will be as lax in their movements as usual, and the relieving officers withhold, to the utmost extent, the relief which is required by the sick and suffering poor. The absolute necessity for important changes in the management of many thousands of the metropolitan dwellings is so evident, that the need of them must eventually be perceived by the Legislature: we will therefore, for our own part, not lessen those exertions which have been made by us during many years for the improvement of the industrious and poorer classes; in the hope that we may the sooner have those changes made which are so necessary in many places besides Bethnal-green. But, to the latter place, the public attention is just now particularly directed. More coroners' inquests have been held, and new instances of neglect and carelessness, and municipal manslaughter, brought to light. Within five weeks, five children of one family had all perished from exactly the same disorder as on the previous inquiry, viz., a "poisoning of the blood," by the impurity of the air, the bad water supply, and other defective sanitary conditions; and the evidence which was given in connexion with the death of one of these children is so remarkable, and shows so clearly the need of that powerful and summary interference which we advocate, that it is necessary to give it particular notice.

Susanna Rogers said, that the deceased, George Rogers, was her grandson, and had lived with his father, a weaver, of No. 19, Thorold-square, Bethnal Green. He went off in a fit the moment the breath went out of his sister's body, on "Friday last" (this was six days before the inquest was held). He was the third child then lying dead and awaiting burial.

* Medical objection has been taken, and perhaps,—strictly and professionally speaking,—rightly enough so, to the use of the compound word "blood-poisoning" in these particular cases; but, besides the fact that several of the medical men examined as witnesses, themselves made use of the same expression under the circumstances, one of them, indeed, suggesting it; a popular and sanitary use has been made of the word which is not now likely to give way to any mere professional restriction of meaning. And after all, we are by no means clear that the public are wrong, even strictly speaking: quite the contrary; for one of the medical men who called the cases blood-poisoning described the blood as of a liquified and tarry description; and if this be not denotive of poisoned blood, we cannot imagine what poisoned blood must mean. Healthy blood, exposed to the action of pure vital air is concretive or clotting in its nature,—not tarry or unduly liquified, or anclotting; so that, even negatively speaking, the vital evil arising from mere want of good pure air here manifests itself; but undoubtedly the active and positive foulness of the air which the children habitually and admittedly breathed contributed to the tarry and unconcretive or unhealthily liquified nature of the blood in question; and so manifested its active and *positive* influence as a blood-poisoner. It will be of no avail for medical men to maintain that the blood in all typhus, typhoid, scarlatina, and other fever cases may as well be called poisoned blood also: let it be so: the expression is sufficiently correct for sanitary and popular use; and we shall continue to use it occasionally in just such cases. The blood is the "life;" and all that deteriorates the blood, or even prevents it from sustaining its life-giving properties, must be poison to it. There are blood-poisons of another kind than that which happened to be operative at Bethnal-green,—blood-poisons which act in an opposite manner; that is by rendering the blood unduly concretive, so that clots of fibrine precipitate as it were prematurely from the mass of fluid blood, and sometimes clog up the vessels, and even the aorta, or the heart, and so kill the patient: such blood occurs in virulent cholera,—it *may* be, either from the cholera.c virus positively and directly decomposing the blood, or from its irritative action on the bowels withdrawing the serum or fluid portion, without directly or actively decomposing the blood itself: but still, this too is just blood-poisoning in a popular sense as well as the other; and the public, and especially all interested in sanitary matters, are indebted to Dr. Moore for the suggestion of so truthful and significant a compound word as *blood-poisoning*.

The mother of the dead children, Mrs. Emily Rogers (with the fear of distress warrants and notices to quit before her eyes), denied that she had ever said that the deceased died through the filthy state of the square, although she had lost five children in five weeks. At a further stage of the inquiry this woman declared that she had never noticed any bad smells,—a statement, the value of which she unwittingly illustrated by the remark, that "*if other people liked to get into a muddle, she did not, and she would keep out of it.*" All her children were attacked in the same way, she believed with scarlet fever.

Here, then, is the lamentable case of a mother actually denying the truth—notwithstanding her heavy loss—for the purpose of screening the landlord of this poisonous property. It afterwards transpired, however, that there were arrears of rent due, and the family was very ill off, while the landlord was distraining and dealing notices to quit right and left amongst those who did dare to speak out.

A second inquest was held on two other of the children, when it was stated that in the twenty-two houses in the square, twenty children had been attacked, and that twelve of these had died. The Roger family occupied one room, and were ten in number,—eight children and the father and mother. Here, even without any other cause, the overcrowding was sufficient to produce pestilence: but George Stratford, a weaver, a sensible fellow, who lives at No. 4, tells us that there had been no water supplied to any of the houses but three, for eighteen months, except through a broken and unuseable pump. In the heat of the summer they never had a pail of water for three weeks, except what they begged from others as best they could. (Another witness said she had to wash herself with the same water three times running, which reminds one of a short supply on shipboard and at sea.) The closets were bad at witness's house and in the adjoining premises. The closets had no pans, and were not trapped: in fact, they might be called cesspools: sometimes they were empty, but he had seen them running over with soil. He had written to Sir George Grey on the subject, but was referred by him to the Townhall authorities, namely, the district board. There were sixty families in the square, and about 350 children among them.

Surely such a place as this should have had the careful attention of the parish sanitary inspectors; but Mary Ann Clayborn, who had lived at No. 1 in this square, and whose husband was a shoemaker, had made a complaint at the Townhall, to a "dark gentleman" whom she saw there, that the water-supply was very defective, and that the stench from the place was so bad that she was unable to remain in the house; and in reply this official only jeeringly asked her why she did not take one of the big houses on the other side of the park. This was only adding insult to injury; but probably the intelligent gentleman believed that a mere clay-born woman and her children could suffer no injury from stenches or want of water. He put Mrs. Clayborn's name, however, in a book; but, at the end of a week, no one having called, the witness went again to the Townhall, and asked the clerk if they were to be allowed to perish for want of water. He replied:—"Bethnal-green is a large parish; but the complaint is down in the inspector's lists: he will see to it to-day." Witness threatened that if the matter was not immediately attended to she would complain to a higher authority. He then stupidly said:—"Every one seems to come here to complain of every trifle: this is not a divorce court;" and added, "Don't you come to the Townhall to complain, else you will have to leave your house." And shortly after the woman did receive notice to quit her apartments, and was compelled to quit,—not of course at the clerk's instance, but at her landlord's; the clerk's hint, however, being but too significant of many a like result. Such conduct on the part of landlords is very disgraceful.

Mr. John Gay, the superior medical officer of the Great Northern Hospital, said that he had made a *post mortem* examination of one of the children. He found the lungs healthy, but almost bloodless: he believed that deceased died from blood disease from the want of sanitary measures. The houses were unwholesome: several of the water-closets were choked up, and the families looked unhealthy, pale, and wan, clearly from the inhalation of impure atmosphere: the houses are not fit for habitation. Mr. Massingham, the district surgeon, expressed the same opinions as Mr. Gay.

The jury agreed that the deceased, being children of tender age, had died from the mortal effects of blood disease, accelerated by want of water and of sanitary measures.

The medical authorities agree that the deaths which have occurred in this square are not the result of any infectious complaint; although one gentleman, Dr. Powell, in the first case, gave it as his opinion that the child had died of blood poisoning *from diseased kidneys*; but on being reminded that in five weeks five children in one family had died precisely in the same way, besides seven others on the same spot, he admitted that fœtid air and bad water-supply would cause poisoning of the blood. All we need say as to this evidence is, that if, strangely, all the twelve children had died of poisoned blood caused by diseased kidneys, then the production of disease of the kidneys must be the way in which fœtid air and bad water-supply poison the blood; but there is no reason to believe that any of the other children had disease of the kidneys at all; and although, in the case in question, such a disease would accelerate the death, undoubtedly the child died from one and the same cause which killed all the other eleven under similar circumstances. The jury, however, on Dr. Powell's evidence, gave a verdict of died from blood-poisoning by diseased kidneys.

Even this wholesale slaughter is not to be wondered at when we find people surrounded by every sanitary neglect; living in rooms dirty and without ventilation, to the number of nine and ten in each—and more, frequently, at night.

The insanitary state of neighbourhoods which, month after month, and year after year, remain unmitigated in their filth, unless some fever or other pestilence break out, might, even in the present state of the law, be greatly improved; and such a state of things only too evidently shows that, in east London, the parish inspectors, as they at present exercise their functions, are next to useless. No more striking instance of the need of change could be given than Thorold-square, where twenty cases of a dangerous disease, which had, at the time of the inquest, been fatal in twelve instances, were known to have occurred, in consequence of the foulness of the place. The parish medical attendant must have been quite aware of this; and ought, we think, to have reported on this mortality to the Board. As for the landlord or his rent collector, when the poor people, in consequence of the handle of the pump having been broken, or from other causes, had been without water for weeks together, and were suffocated with bad smells, he only laughed at them, or abused and threatened them if they dared to complain. And with reference to the district authorities, the woman, who with a little more energy and independence of feeling than her neighbours displayed, went to the Townhall, was treated, as we have seen, with contempt by the clerk there, and was afterwards turned out of her place by her landlord, as the clerk knew well she would be. For weeks after the complaint had been made, and entered in the book, no inspector appeared; and it is impossible to say how long it might have been before that official would have taken the trouble to call had not the woman been driven, by sickness and headache, to threaten an appeal to higher powers.

Even the medical gentleman (Dr. Moore), to whom the public are indebted for refusing a certificate of the cause of death in the first of these Bethnal-green blood-poisoning cases, and thus forcing them on the notice of the coroner and his jury, has since been badgered and worried by some of his own constituents, the local board of guardians, as if he were some unworthy servant who had in this failed to do his duty, and had made misstatements in order to screen himself from their just indignation: such is actually the shameless face which these unworthy members of the Bethnal-green board of guardians have put upon the whole case. Even the reporters for the daily press have come in for a share of the obloquy, for having but too faithfully reported to the public all the abominations which such worthies would have concealed. A vestryman, who we regret to say is a builder, managed, covertly, to threaten the reporters by requesting the coroner to "require that the reporters present should give their names and their addresses, and should also state the names of the newspapers which they respectively represented." This extraordinary demand, and its manifest object, says the *Star*, created a marked sensation in the court. The coroner, of course, treated it with the contempt which it well merited. Two vestrymen and the vice-chairman of the board of guardians were about to allow themselves to be sworn in as jurymen, when they were discovered, and expunged from the list. What a multiplicity of crooked and obstructive interests, all working towards the wholesale manslaughter of the helpless people and their poor little children, this most instructive investigation has disclosed!

At an even later period of the inquiry, we find the inspector of nuisances, Mr. Morris, not only naïvely acknowledging that he allowed himself to be bribed by the owners of slaughter-houses to be licensed, but positively making a charge, before the whole vestry, against the beadle, for appropriating some of these "fees" or "privileges," which he said he "would be plain" enough to confess that he expected and received, but that in certain cases "the beadle had usurped his privileges by going round promising *his* assistance in *obtaining* the license, and had pocketed the money; and he need not remind them of the old adage, that it was 'difficult to take butter out of the mouth of a dog.'" A couple of nice dogs truly, whose "scent" after "filthy lucre" must be much more vivid than their faculty for ferreting out "nuisances!" Proper men should be appointed in their places immediately.

We are glad to learn that the attention of the Home Office has once more, and now effectually, been drawn to the deplorable condition of the dwellings of these poor inhabitants of Bethnal-green. On Wednesday and Thursday in last week, a Government inspector made an official survey of the premises in Hollybush-place or lane, the seat of the late mortality. The inspector, accompanied by Mr. Massingham, Mr. Defries, and Dr. Meldola, three of the medical officers of the district, went over the house in question, which was found to be in a wretched condition. An order was given for the several rooms to be limewashed, and the back premises to be repaired and better drained. Several dwellings adjoining were also visited; and instructions issued by the inspector for cleansing and draining, with the view of arresting the progress of the disease. The parochial officials have also now "*warmly* taken up the matter," and the sanitary inspector has even received orders from the board of guardians to carry out various improvements. A special meeting of the members of the vestry was held on Thursday afternoon, in the Town Hall, Bethnal-green-road, for the purpose of investigating the facts "connected with the late allegations as set forth by Dr. Moore," the parochial medical officer of the district, and several persons were summoned to give evidence, but the subject, after some discussion, was adjourned.

It is imperative that houses let to various lodgers should be systematically and most carefully inspected, and made sanitarily habitable. There should be no possibility of twenty-two houses swarming with people being left for weeks without water; with choked closets, imperfect drains, and interiors on which the landlord had not paid 1s. for repairs or cleaning for a long period. To effect what is needed, as we have often said before, must not be left to parish authorities, but be placed in the hands of a power quite independent, and not likely to be biassed by either local or personal considerations. Long ago, and especially last year, this important matter was discussed in these pages; and again we urge the necessity, and repeat the groundwork of a plan which, if carried out, would make a surprising change in the state of these squares, courts, and alleys, which are at the present time so unwholesome and dangerous,—a plan which would be the means of saving many lives, and in the end would be satisfactory both to landlords and to tenants. Throughout the metropolitan district all the dwelling-houses which are sub-let into more than a certain number of tenements should be placed, with certain restrictions, under the inspection of properly qualified persons, who should be empowered to grant *licences for the letting* of these places, provided that their condition was satisfactory,—viz., the premises in good repair, and clean; the rooms, staircases, &c., sufficiently ventilated; the drainage good; a proper quantity of water supplied; and dust-bins and closets rightly ordered. This would occasion some expense; but the amount, levied with the police-rate of the metropolis, would be comparatively small; some parishes would actually gain; and the saving of life and of the cost of pauperism, caused by the sickness and death of parents, would be immense. We believe that a measure of this kind, well managed, would, to a considerable extent, remove one of the foulest blots of the metropolis. There are many houses which, with proper sanitary care, might be made tolerable and fit for human habitation; and along with this improvement there would come a beneficial alteration in the manners of the people.

THE RURAL HOMES OF AGRICULTURAL LABOURERS AND THE PITMEN OF THE NORTH.

In a letter recently addressed to the *Times*, Mr. Clarke, sanitary inspector, of Castle Meadow, Norwich, gave an account of upwards of fifty cottage-dwellings which may be taken as a fair example of the houses of a large part of the industrious classes in that district, where we find instances of the most gross sanitary neglect, and arrangements, by existing circumstances forced upon the people, which set all the rules of decency at defiance. Sadly do these notes prove the condition existing at the present day, to which we have year after year directed attention; and it must not be forgotten that Mr. Clarke's account, which concerns one county only, might be also applied to the chief of the agricultural districts.

From Norwich we have accounts of places in which ventilation seems to have been altogether neglected: in others it is quite insufficient. In one small cottage of two rooms, occupied by a couple of families consisting of nine persons, the only means of ventilation is a casement 1 foot wide and 2 feet deep. In other instances, walls needed propping up: in some are rents and cracks: filthy dykes, full of stagnant drainage-matter; and most of the other evils which neglect, ill-construction, &c., produce, attend the dwellings provided for an industrious population. It is impossible, during either the night or day, to prevent the admixture of young people of both sexes. Windows are stuffed with rags, floors are full of holes, roofs are leaking, and plaster and walls are in a shattered condition. But this state of things is now so generally understood, that it would seem scarcely necessary to enter into details. There are, however, one or two of Mr. Clarke's descriptions which we cannot forbear repeating.

"A cottage with two small sleeping-rooms, occupied by a man and his wife and ten children:—Son, 23; daughter, 21; son, 19; son, 17; son, 15; daughter, 14; son, 11; daughter, 8; son, 6; son, 4 years of age."

"Seven children sleep in one room, with low ceiling. Complained of being very hot in summer. The size of the window, 2 feet 11 inches: ages of children—son, 17; daughter, 15; boy, 11; girl, 8; boy, 6; girl, 4; boy, 2."

"One bed-room, occupied by a man, his wife, and four children, as follows:—Girl, 18; boy, 14; girl, 5; girl, 3."

In one cottage, occupied by a man and his wife and eight children, there was only one bed-room; but, for the purpose of observing a little decency, the occupier had built a partition across the room; but as there was only one casement, one of the places parted off has no ventilation, and this dark space, 6 feet wide and 14 feet 6 inches long, was occupied as follows:—Daughter, 24; son, 21; son, 17; daughter, 15; girl, 11; girl, 7; boy, 5: the other was an infant, and slept with its parents. There were only two stump-bedsteads in the house.

How can we expect, under such unfortunate circumstances, that our peasantry will be "*their country's pride?*"

Mr. Clarke does not refer to the water supply, but mentions instances of the total neglect of closet accommodation, and of some most abominably situate.

As we have already mentioned, it is not in the district of Norwich alone that this terrible state of things is allowed. In Bedfordshire, Hertfordshire, Buckinghamshire, and other counties, in which a large part of the population is engaged in agricultural pursuits, matters will be found as bad, if not even worse; and it is to be observed, that these are the dwellings chiefly occupied by married workers and their children; and there are many unmarried men and women, who are accommodated with sleeping space in the premises of the farmers, who are not better accommodated than those above referred to. This is a matter which has not been much noticed; but it is well worthy of consideration, for it is a serious source of mischief.



THE STEPHENSON HOVEL; DEWLEY BURN, NORTHUMBERLAND.

In parts of Yorkshire, portions of Durham and in Northumberland, the cottage dwellings are of large size and better built than those in the southern counties; but, notwithstanding, there is a sad want of proper plans adapted to the use of an increasing family: here are to be found, in various directions, the most wretched hovels.

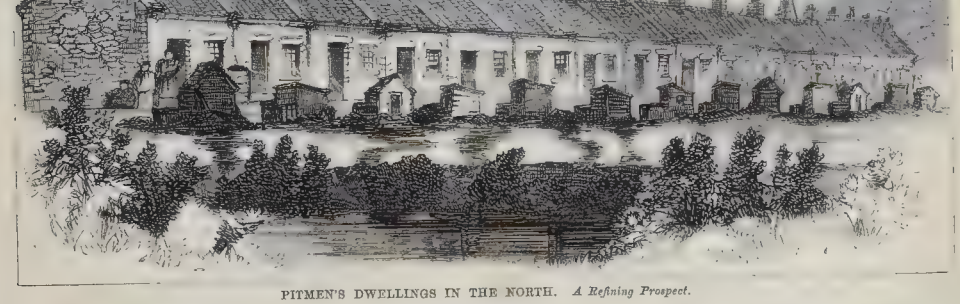
On the estates of the Duke of Northumberland and elsewhere, during recent years, a marked improvement has been made; but farther northward there are villages to be met with which are probably not better circumstanced than those which were to be found in this country in the Middle Ages.

It is not, however, in connexion with the houses of the agricultural classes alone, that there is reason for complaint; but throughout the mining districts of Northumberland and Durham there is also great need for improvement. "*The Pit Rows*" (rows) are mostly long ranges of dwellings, of only a single story in height. In front of each house there is generally a door and a single window. The front room is for the most part of fair dimensions, in which the family live, and where part of them sleep. The inner room is of smaller size, and is neatly and well furnished. This is used for sleeping; and on Sundays, or important occasions, for the reception of visitors. For the most part, there are in these houses no sculleries or accommodation for washing clothes, and this must therefore be done in the principal room—or, when the weather is fine, in front of the house. Behind each of these buildings, there is usually a garden. In some there are privies, with cesspools, which are often rudely constructed by the pitmen themselves; but, in a multitude of instances, *there is no provision of this kind at all.*

To a considerable extent, paving and draining are neglected.* In front of the houses are dust-heaps, mostly altogether uninclosed, on which all household refuse is thrown. Near this there is generally a pig-sty; and it seems to be a remarkable circumstance, that while the gardens are well kept, and the interiors of the houses beautifully clean, the furniture brightly polished, the bedding well attended to,—while the men and boys after their work take care to wash themselves clean, and the women are particular as regards neat and tidy dress; they should, notwithstanding, cause such unsightly accumulations before their own doors, which are as indecent as they are unpleasant and dangerous. But the people themselves are not altogether to blame for this, for we do not see how, with the present arrangement of a majority of the dwellings of this kind, it is altogether to be avoided.

These pit rows are nearly, if not entirely, the property of the owners of particular collieries, to whom it is customary for the men and boys to bind themselves for a stated period, and for certain money and other considerations: part of the latter is the possession of a house, rent free, with coals, and sometimes candles; and in this way the workpeople are entirely dependent on their employers for the construction of their homes.

This very important matter, which affects a vast and industrious multitude, was brought under the notice of the British Association, at Newcastle; and it is hoped that the need of change which was then shown will lead to beneficial results, and that at an early day the Marchioness of Londonderry, the Earl of Durham, Lord Ravensworth, Mr. Matthew Bell, and other large colliery proprietors, who derive enormous revenues from this trade, will strive in a worthy spirit of rivalry for the removal of an evil which is disgraceful to themselves, and stops the right progress of the persons whom they employ.



PITMEN'S DWELLINGS IN THE NORTH. *A Refining Prospect.*

* At Killingworth Colliery Village, a black open ditch passes at no great distance from the front of the houses. This carries off part of the surface water, but is in itself a source of poison.

The dwellings of this class are provided for the most part by the masters: the men have no choice in the matter: it is therefore clear that the employers are responsible for the fashion and condition of these places; and they might, if proper facilities were furnished, easily put a stop to middens and other abominations in front of the dwellings. Having said so much, we will offer a few words of practical advice respecting the pit rows which are at present in existence, and those which will be required, in consequence of the extension of the coal trade, and through the decay of houses which are now in use.

It is unfortunately the case that many of the rows are built on sites which are quite unsuitable, where it is next to an impossibility to provide, if even the disposition were shown, even surface drainage. This, it is said, is caused by the necessity which exists for having the homes of the men near their work, and so preventing them from being under the necessity of walking long distances, often in the night time, to and from the pit. It is also stated that a limited space of land only, round the pit's mouth, being the property of the coal owner, has been made use of, when a better site, at no great distance off, might have been obtained at a little extra cost. Generally, in the neighbourhood of the coal-pits, the land is barren, and of small worth for agricultural purposes, the richness of the bowels of the earth atoning for the nakedness of the surface. The quantity of ground needed for houses and their appurtenances is of comparatively small consideration; therefore, plenty of space should be allowed. In situations where drainage cannot be effected (we allude to buildings now erected), the gardens at the back of each house should be extended, and privies, connected with a properly covered dust-bin, provided. The contents might be usefully distributed in the garden, or they would be readily taken away for use elsewhere. The pitman could not be easily persuaded to do without pigs; in fact, they supply many with a considerable quantity of food, and can be fed at a small cost with the refuse of the garden and waste matters from the family use. They might, however, be more fitly accommodated in connexion with the dust-place, at the back of the gardens, which very often abut upon inclosed fields. Supposing that the styes and middens were removed from the front to the rear, part of the space in the front might, if it were of any use, be railed off; and, as an equivalent, a roadway made along the gardens at the back of the row, which would allow the passage of carts for the removal of any refuse when necessary. This done, the casting of filth, in front of the rows should be strictly forbidden. Then, for some extent in the front of the cottages, the space should be paved. Means should be used for providing spouts for carrying the rainwater into covered casks, where it would be useful for washing and other purposes.

Where it can be done, the front part of houses which are occupied by pitmen who have more than two children should be raised another story, so as to afford more sleeping accommodation.

At present, in many of the pit villages, there are brick ovens erected in the front of the rows, in a line with the piggeries and "closets." It is the custom to bake bread in large loaves, and in sufficient quantity to last the family for a week. On the "baking day," the persons who are to use the oven attend to the heating of it. There is no scant of fuel. The cracks of the bad brickwork are filled with clay. In the end the bread is generally well baked; but improvement is needed in this direction.

As regards new pit-rows (the pit-rows of Queen Victoria's reign), they should be established in some situation where proper drainage is possible; for, often the population of those places amounts to 1,000 men, women, and children, and upwards. Drainage is indispensable. We do not see that it is necessary that these houses should be built in one line, unless suitable space for this purpose can be found. The houses should not be planted on the surface of the ground. There should be houses adapted to the use of the people, according to the extent of their family. There are other matters to which we may presently refer; but just now we will content ourselves with adding that scavengers are necessary in even the best-constructed of the pit-rows. It must not be forgotten that within a short distance of the Earl of Durham's residence, in Lambton Park, cholera carried off hundreds of people.

We have made a drawing of one of the Pit Rows to show their evils, exaggerating nothing. We also append a view of a cottage near Dewley Burn, Northumberland, which has an added interest from association. It seems that the engineers and stokers connected with the machinery used in the collieries are not provided with free lodgings, like the pitmen, so are obliged to take up with such accommodation as they can obtain in the neighbourhood of the works. In the small, unwholesome hovel here shown, "old Bob" the stoker, the father of George Stephenson, found a shelter for himself, his wife, and several young children, when he left Wylam Colliery. George found employment with Widow Ainslie, who lived not far off, at 2d. a day, and the sum was afterwards raised to 4d., when he was big enough to prevent the cows from straying away.

ISLINGTON GREEN.

Men are at work converting Islington Green into a garden. Each side of the area will be enclosed and planted, and the public will be admitted to a broad central walk, with seats, shaded by an avenue of trees. The alteration will doubtless be a great improvement to the neighbourhood; but there are usually two sides to an act, and so it is in this case. The green has heretofore been the resort of hundreds of children daily, and a great boon to the poor dirty things,—dwelling in the close alleys and other places thereabout. Will these still be admitted? And if not, where can they get a little fresh air and muscle-developing recreation?

The main road from the Angel northward is being greatly improved. A wide piece of waste land, lying between the pathway and the road, and heretofore occupied by wooden sheds, old furniture, and tumble-down signboards, is being levelled, and added partly to the road and partly to the footway, with great advantage.

ST. PAUL'S AND WESTMINSTER ABBEY.

A correspondent, who signs "Ecclesiasticus," writes as follows:—"If any evidence were required to demonstrate the improved religious feeling, which happily characterises the present century from the eighteenth, a stronger proof could not be adduced than the desire evinced in almost every diocese to repair, restore, and beautify the cathedral or mother church. It is most gratifying to witness the liberality displayed by all classes, rich and poor, clerical and lay, where their contributions are solicited for so noble an object; and not less pleasing is it to be able to admit that the funds raised have been for the most part judiciously and profitably expended. The artistic skill, constructive knowledge, and æsthetic taste manifested in the restoration of these glorious piles, have extracted from all foreigners the strongest expressions of surprise and admiration. York Minster and Durham, Ripon and Ely, Wells and Gloucester, Canterbury and Chichester, St. Mary's Redcliffe, and Sherborne, Romsey, and Shrewsbury, and the round churches at Cambridge and Northampton, may be mentioned as among the choicest examples of successful restoration. If so much has been accomplished, and that with such marked success in the provinces, surely it behoves the inhabitants of the most populous, wealthiest, and, take it altogether, the grandest of capitals, to show a like interest in the beautifying and adornment of two such splendid edifices as St. Paul's and Westminster Abbey. Too much praise cannot be given to the Dean and Chapter of St. Paul's for the exertions which they have made, and are so unremittingly making, to augment the funds at their disposal, that they may proceed at once to carry out those improvements which will add so much to the effect of this truly magnificent cathedral. Not less praise is due to the Dean and Chapter of Westminster, who not only contemplate the restoration of the chapter-house, but have given orders to Mr. Scott to prepare a new screen, of rich and elaborate design, the works upon which have been already commenced. The Dean and Chapter of St. Paul's, and also of Westminster, having done so much, it is now incumbent upon the laity to assist them liberally in their earnest endeavours, and to provide funds for the carrying out of the grand achievements they contemplate."

We endorse this exhortation to the fullest extent; and trust it may be responded to. We are forced, however, with respect to St. Paul's, to express a grave doubt, whether the character of the ornamentation there determined on, as already set forth in portions of the building, will prove satisfactory. We state this with great reluctance, and shall say hereafter whatever we may find it necessary to advance on the subject with an earnest desire to give no pain, and to throw no obstacle in the way of a work so desirable. It is so serious a matter, however, that plain speaking in opposition to any personal feeling is imperatively called for, and we are forced to assert that what has been done is timidly poor, and sadly ineffective; and, we fear, that what is intended, so far as we can learn, will be equally so. St. Paul's needs colour and fine art.

ART WORKMANSHIP PRIZES.

The Council of the Society of Arts have announced that they have found it necessary to defer, for the present, holding an exhibition of the works sent in to compete for the Art-Workmanship Prizes offered by the Society, as the repairs now going on in the Society's house render it impossible that the articles could be displayed in a suitable manner, and also because a large number of those who would be specially interested in seeing such works are absent from London at this season.

This step will not be considered satisfactory, or gain for the Council any great credit; they should have fixed the date later in the first instance.

THE NEW NATIONAL ART TRAINING SCHOOLS AT SOUTH KENSINGTON.

The new schools which have come into use are the first *permanent* buildings which have been provided for the National Art Training Schools. The buildings heretofore occupied by the art classes have all been of a temporary kind. In the first instance, in 1837, when the School of Design was instituted, the classes were held in rooms on a second floor in Somerset House. Next the classes met in 1852 in Marlborough House; then in wooden buildings at South Kensington, to which place the training schools were removed in 1856. The present buildings are of brick, plain, but apparently substantial, and provide for all the special requirements of an Art School. A distinct series of rooms has been provided for male and female classes; those for males being on the second, and those for females on the first, story. In each series, separate rooms are assigned for drawing, painting, and modelling; and there is a lecture-room in common for the male and female classes. The entrances to the respective classes are in Exhibition-road. Models of the best description, objects of art to form subjects, pictures, prints, in fact everything that students can need or wish for in this respect are provided. There is plenty of space too, and we shall hope to find the number of pupils greatly increased. The colour adopted for the walls of the various apartments seemed to us gloomy.

It may be useful to say that the courses of instruction pursued in the school have for their object "the systematic training of teachers, male and female, in the practice of art and in the knowledge of its scientific principles, with the view of qualifying them to impart to others a careful art-education, and to develope its application to the common uses of life, and its relation to the requirements of trade and manufactures." Special courses are arranged in order to qualify schoolmasters of parochial and other schools to teach elementary drawing as a part of general education concurrently with writing.

The instruction comprehends the following subjects:—Freehand, Architectural, and Mechanical Drawing; Practical Geometry and Perspective; Painting in Oil, Tempera, and Water Colours; Modelling, Moulding, and Casting. The classes for Drawing, Painting, and Modelling include Architectural and other Ornament, Flowers, Objects of Still-life, &c., the Figure from the Antique and the Life, and the study of Anatomy as applicable to Art.

The annual sessions, each lasting five months, commence on the 1st March and the 1st October, and end on the last day of February and the last day of July, respectively.

In connexion with the training school, and open to the public, separate classes are established for male and female students, the studies comprising drawing, painting, and modelling, as applied to ornament, the figure, landscape, and still life. The fees for classes studying the whole day, are 4*l.* per session; for classes studying only in the morning, from ten till half-past twelve, 3*l.* per session; for the afternoon class, from one till three, 2*l.* per session; with an entrance-fee of 10*s.* to each of these classes. Evening class, 2*l.* per session, with no entrance fee. An evening class for females meets on Mondays, Wednesdays, and Fridays, from seven to nine o'clock—fee, 10*s.* per session.

There is a special class for artisans for instruction in elementary drawing, geometry, perspective, mechanical and architectural drawing. Fee, three evenings a week, 10s. per session; five evenings a week, 15s. per session.

The head-master is Mr. Richard Burchett; the deputy head-master, Mr. R. W. Herman.

PROVINCIAL SCHOOLS OF ART.

The Stoke School.—The annual report of the committee states that for the first time since the establishment of this school the receipts for the year have been sufficient to meet the expenditure. This result is due partly to a reduction of the rent of the Memorial Building, partly to an increase of subscribers, and partly to the necessity having arisen for dispensing with the services of M. Protat and Mr. Bacon. The committee hopefully look forward to the time when they shall be able to reinstate the full staff of masters. Their report, as well as that of the master (Mr. S. Rice), speaks favourably of the operations of the school during the past year. A public meeting for the distribution of the prizes gained at the national competition and local examinations of 1862 and 1863 has been held in the Town-hall, under the presidency of the Rev. L. T. Stamer, Bart. There was an exceedingly numerous and influential attendance. The rev. chairman opened the meeting, after which it was addressed by Mr. A. J. B. Beresford Hope, who, in course of his remarks, before distributing the prizes, said he felt that the nation was going through a great transitionary state. Material science was advancing with giant strides. They saw the effect of railways; of mills with their engines of stupendous power, employing thousands of hands; and of the immense ironworks carried on in the Moorlands and other parts of England; and they asked themselves what was to counteract that materialistic tendency in the minds of the people of England? He had seen two things grow up side by side in the last few years; and though they might be surprised at his classing the two together, he would say—God grant that they might prosper! One was the movement in which they were engaged that evening, and the other was the rifle movement. One might be termed the gentle and refined feminine improvement, and the other the stalwart masculine development. These two tendencies would counteract the materialistic tendency, and convert it into a blessing. They would keep up the active, manly, joyous characteristics of Englishmen: and he said, "God speed them both." The art element would purify the highest as well as the lowest grade of society. He believed, as Lord Stanley said at Preston, the other day, that the people of England were as artistic as the people of any other nation in the world; and of late years much taste and refinement had been spread through the country. The Hon. C. B. Adderley, M.P.; Alderman Copeland, M.P.; and Viscount Ingestre, M.P., also addressed the meeting; and Mr. Henry Cole said that, as to the new minutes of the Council, there was no intention to damage schools of art. It was not considered desirable to give aid towards the cost of the instruction of the middle classes, but that the Government grant should be applied for the benefit of the artisans, of whom, he observed, the pupils of the Stoke schools were almost entirely composed; whereas schools like that at Exeter would be the losers, the pupils in the school in that city and some other places belonging almost exclusively to the middle classes. He thought the schools of art ought not to depend upon subscriptions, but that they should be put into the hands of the people of the respective localities in which they were situate. Thus, if the people of any town would consent to a small rate of 1d. in the pound upon their rental, they would establish the school in a flourishing condition for ever.

The Taunton School.—The annual meeting for distribution of prizes has been held at the local school. Mr. W. A. Sanford presided. The attendance was not very numerous. The Rev. W. A. Jones read the report, which referred to the large number of prizes and medals awarded by her Majesty's Inspector, and to be distributed, as a sufficient evidence of the value and success of the system of art-teaching adopted in the school. In addition to twenty-four local medals awarded for drawings and paintings in various stages, executed by the pupils in the school during the past year, there were seventy-six prizes given by the Department of Science and Art to the School for drawings, &c., executed in the presence of the Inspector. Mr. Jones remarked that his chief interest in the school was in connexion with the provision which it afforded to the artisans of Taunton to obtain art instruction of the highest character for a very low sum; and he still hoped with Mr. Elliot to interest them in the school, and to convince them that it was to their advantage to attend. They hoped likewise to induce the employers of skilled labour to urge upon their apprentices and workmen the advantage of attending that school.

ARCHITECTURAL SCULPTURE.

A Working Sculptor writes as follows:—

The following paragraph appeared in the leading article of a recent number of your journal:—

"Have we even yet the men in any number (willing so to work) capable of executing, efficiently, sculpture for architectural purposes?"

Now, sir, I know that we have sculptors who can execute first-rate figures, but who will not do them at a price likely to render good sculpture available for architectural purposes. But this reluctance to work cheaply arises from the fact that they have confined their attention chiefly to portrait-sculpture in marble; and when they condescend to execute a figure in stone for a building, they think it must be highly wrought as to surface and detail: they cannot, in fact, *dash off work in a bold manner*, not having been accustomed to it. But I think there are men to be found who can do this, and who would do it for building purposes effectively and cheaply, if confidence could be exercised towards them. I know others, but I speak now for myself. I have been twenty-one years in London, carving marble busts and figures, and I have not been above stone whenever I had it to do. I can model a bust or figure well, and have gone through every process, I have attempted to become independent of journey work, but my means would never allow me to stand long enough on my own ground; and I have seen that little men have no chance. I have work to be seen at my own shop, open to the street, which will prove my ability; yet no architect has ever asked me to do a figure for him. I will find others who would do such work gladly. Whose fault is it, then? Let architects seek, and they will find.

COMPETITIONS.

West London Union Workhouse.—The guardians of the West London Union have made their selection from the thirty-three designs sent in for the proposed workhouse, and have awarded the first prize to the design having the motto "Homo," in blue (there being two with the same motto), and this, with some modifications, will be adopted in the erection of the workhouse. The estimated cost of the building, according to this plan, is 18,000*l.* or 20,000*l.*; but with architect's commission, fittings, and other extras, the total cost will reach 25,000*l.* The successful competitors are Messrs. Searle, Son, & Yelf, of Bloomsbury-place. The second prize has been awarded to the design with the motto, "Honesty the Best Policy," the author being Mr. H. Jarvis, of Trinity-square, Borough; and the third prize to the design with the motto, "Experience," the author of which is Mr. H. S. Isaacs, of Gray's-inn.

Cheltenham Parish Church.—The committee have awarded the premium of 105*l.* to Mr. C. H. Cooke, and that of 52*l.* 10*s.* to Mr. W. Norton, both of London.

THE NOBILITY OF LABOUR.

Our lords are every now and then giving their practical testimony to the nobility of manual employment. One day we find a lord hard at work, expending his noble surplus energies in the usual labour of extinguishing conflagrations. At another time we find one working busily in a ship-yard, like Peter the Great, and highly ambitious to become the head of an eminent ship-building firm. Again, we see a truly manly lord inventing and constructing a "fire-horse" for common roads, and traversing the country with it, as the engine-driver, with his wife beside him. This same nobleman, the Earl of Caithness, whose practical knowledge of the steam-engine is well known, was the other day going by train from Edinburgh to London, to accompany her Majesty to Scotland, when an accident happened by which his lordship's acquaintance with steam was turned to good account. Shortly after leaving Newcastle-upon-Tyne, the train came to a dead stand; and on the earl inquiring the cause, he was informed that an essential part of the engine had given way, and that no mechanical engineer could be got to repair it. His lordship immediately jumped out of his carriage, and, in less than a minute, was hammering away at the disabled engine as if he were the working engineer of the line himself. Sooty fingers, greased clothes, and awkward positions in reaching the injured member, formed no obstacle to Lord Caithness; who, in less than an hour, had everything put to rights, and returned to his carriage to prosecute the journey, not quite so lordly-looking in face and fingers as when he started. Only one little feature in the pleasing picture was awanting to render it complete; and that would have been the presence of her Majesty, and of his lordship in her presence, with the "sooty fingers" and the "greased clothes,"—a sight, we feel assured, that would have better pleased that gracious and sensible lady than his lordship in his robes and coronet. Clearly "Lord Dundreary" is not the only "noble" lord whom we can call "a Briton."

DISCOVERIES OF ROMAN AND MEDIÆVAL REMAINS.

Archæologists are reaping a rich harvest of their own especial crops at present,—Roman, Anglo-Saxon, Celtic, and other remains cropping out in various directions, throughout England and Scotland, as well as on the Continent.

Excavations are in progress on lands at Wycomb, Andoversford, near Cheltenham, where extensive foundations of Roman buildings have been found. The traditions of the neighbourhood have always stated that a Roman town or station stood on the spot. A large quantity of pottery, coins, and other Roman relics have been found during the excavations, and amongst them a singular Roman carving, in the common oolite, of three figures, in bas-relief.

Some interesting antiquarian researches are now being made at the village of Sarre, in the Isle of Thanet, in connexion with the Kent Archæological Society, the president of which (the Marquis Camden, K.G.), with Mr. Roach Smith and other local antiquaries, lately visited the scene of operations. In the field where the diggings are going on Anglo-Saxon relics had from time to time been discovered, and at length a thorough research was resolved upon. Numerous, swords, daggers, centres of shields, medals, gold coins, crystals, earthen vessels, &c., have been found; and so far the discoveries favour the supposition that this was the scene of some sanguinary battle.

At Chester, a piscina of an unusual character, of the Mediæval period, its length being 22 inches by 11 inches, has been dug out of the *débris* at the old Feathers Hotel. In the centre of the basin is a grotesque head, with a profusion of hair, and a protruding tongue. The water, which was used to wash the hands before receiving the Sacrament, passed away through the ears into a channel at the back. Near it were found a portion of a drinking-cup, of the reign of Elizabeth, with skull and bones of the elk. During the excavations several fragmentary portions of broken tesselated pavement have appeared, showing evidence of constant use.

The supposed "Roman Remains" at Pershore spoken of by contemporaries, turn out to be a mistake of a local paper. A few *encaustic tiles* were turned up, a considerable number having previously been discovered, chiefly on the site of the destroyed north transept, and a few were found on the south side of the choir, where St. Edburgh's (not St. Edgar's) chapel formerly stood. The tiles are apparently of the fourteenth and fifteenth centuries, and exhibit a variety of patterns, some of which differ from any before observed in this neighbourhood.

In the paragraph sent us from Wells, and given in our last number, it was wrong to use the word "recent" with reference to the discovery of an altar in St. Cuthbert's, as that took place some time ago. The sculpture found in fragments imbedded in the niches is of the finest fourteenth century character. As the fragments have, too, their original illumination in the richest and most delicate pattern-work, it is to be hoped that the greatest possible pains will be observed as to their preservation, especially from "restoration."

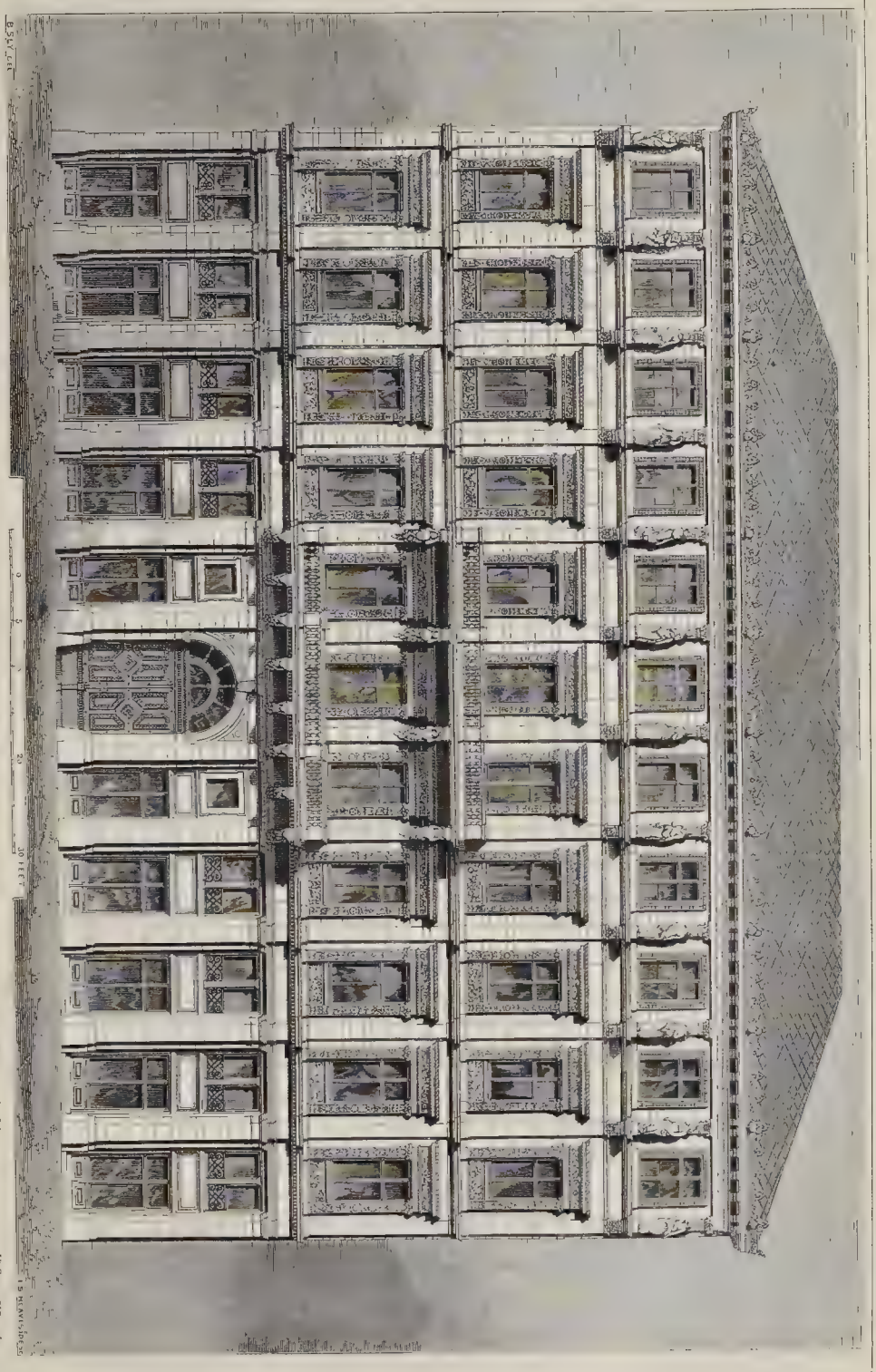
Stone cists and kjokkenmoddings, or shell-heaps, have been found at Bennett-hill, Burghhead, Elginshire, Scotland, as was announced by Mr. Roberts, at the Newcastle meeting of savans. The following may be given as the result of the explorations. The stone cists now in existence are two in number, and are situate at the extreme eastern end of the hill. The stones forming the sides of the largest cist are respectively 3 feet 10 inches and 3 feet 5 inches in length, while the skeleton taken from the same measured 5 feet 8



MODERN ARCHITECTURE IN VIENNA.—*Details of House in Jagerzeile.*

or 9 inches. A third cist was discovered by the workmen employed on the railway cutting about twelve months ago. The shell-heaps are also three in number, the largest measuring upwards of 50 feet in circumference. Two of these heaps are separated from the third by a railway cutting. Beneath the stratum of shells, chiefly the whelk, limpit, and mussel, is a dark rich mould, probably formed of decayed animal matter. Mixed among the shells were found quantities of animal bones.

In April last, M. Féraud, an interpreter to the French army in Algeria, having set out from Constantina, in company with an Englishman, Mr. H. Christy, who has been for many years engaged in searching after Celtic monuments, found, on arriving at the sources of the Bou-Marzoug, at 35 kilometres S.W. of Constantina, the ground entirely covered with Celtic monuments within a range of at least 3 leagues radius. There were dolmens, menhirs, cromlechs, and tumuli, amounting to several thousands, scattered about the country. M. Féraud examined more than a thousand of them. The dolmens are surrounded with one or more square or circular walls built of large stones. The slabs used for tables are so placed that one of their corners is higher than the rest, and some are grooved. At one of the corners of some of the stone walls above mentioned there is a menhir; and, lastly, the zone within which all these monuments are placed is surrounded by rows of heavy stones placed upright on the ground, and forming uncovered alleys connecting the dolmens, tumuli, and cromlechs together. Seventeen of these several burial-places have been searched, and found to contain human bones, as well as those of horses and birds; buckles, iron and copper rings, vases and fragments of vases, &c. In three of these tombs the skeletons were lying on the left side, with their knees almost touching the chin, and their arms passed crosswise over the breast, or as dead bodies in Etruscan tombs are placed. Human skulls were placed at the feet. The third tomb contained, besides the bones of a man, those of a horse, with flint implements, and a medal bearing the name of Faustina, who flourished in the year 141 of our era. This Celtic necropolis therefore belongs to the second century of Christianity.



MODERN ARCHITECTURE IN VIENNA.—*Residence of the Herrn Albert von Klein, Jugenik.*[*]—*The late Ludwig Forster, Architect.*

[*] See p. 717, *ante*.

THE CITY ARCHITECT.

We hear with sincere regret, and the regret ll be participated in by many readers, of the ntinued illness of Mr. Bunning, the City archi- t. Rest, abroad, for some months past has not ought the cure that was expected. Let us hope, wever, that it may speedily come to him in his n country. At the last meeting of the Court Common Council, the Town Clerk read a com- unication from Mr. Bunning to the Lord Mayor, signing his office, which he had held for about enty years, and assigning as a reason failing alth during the last two years. Mr. Bunning ated in his letter that while holding the distin- ished position of City architect he had erected veral important buildings, at a cost of three- urths of a million sterling, connected with the ducational, trading, and social interests of this eat City, and he trusted that they would orthily transmit his name as their officer to pos- rity. Among them he referred to the Freemen's rphan School, Billingsgate Market, the Coal xchange, the New Cattle-market, the New City rison, and the Lunatic Asylum—all works of agnitude and of public utility. He referred to ther public services, and in conclusion he asked ne Court, in just and kind consideration of those rvices; to grant him, while it might please God o spare his life, such a pension as they might eem right.

Alderman Dakin, prefacing a motion he after- ards made on this subject, bore his testimony, nong many sympathizing expressions of the ourt, to the fidelity and devotion with which Ir. Bunning had discharged his duties; adding, hat he would leave behind him monuments of aste in the erection of many public buildings, and roofs of judgment in the application of his great alents to matters concerning the well-being of he landed property of the corporation. He oved a resolution expressing the deep regret of he Court that severe indisposition had caused Ir. Bunning to tender his resignation, and their ense of the faithful and efficient manner in which e had discharged the duties of his office. To his a request was appended that he would con- inue to hold the appointment until arrangements ould be made for the due execution of the depart- ent.

The resolution was carried unanimously.

PROGRESS OF THE MAIN DRAINAGE WORKS.

METROPOLITAN BOARD OF WORKS.

At the meeting on the 2nd inst., the Chief Engineer presented the following report on the progress of the Main Drainage works:—

"Spring-gardens, Oct. 1.

"Satisfactory progress continues, upon the whole, to e made in the execution of the several sections of the orks intended for the main drainage of the metropolis. Messrs. Brassey & Co. have now completed about 10½ miles of the middle level sewer and its branches, in sizes rying from 4 feet by 2 feet 8 inches to 12 feet by 9 feet inches. A junction has been effected between the works ssing under the various private properties from Wilder- ess-row to Clerkenwell Sessions-house, and the sewer, th slight exception, is now complete from Old Ford up that point. The Metropolitan Railway has yet to be crossed at Victoria street, the design a single wrought ron aqueduct) for effecting which object is now under the onsideration of the Board. The works for the diversion f the Fleet sewer are progressing as fast as their nature nd the difficulties of the locality and ground will permit. The main line westward of the Fleet, passing along Liquorpond street, Oxford-street, and other leading horoughfares, is, with the exception of a portion by Saf- ron-hill and some minor works, completed. The works of the Piccadilly branch are also in progress. The total alue of the work executed up to this date is about 78,000*l.*, being 20,000*l.* in excess of my last report. Rather more than two miles of the western sewers, of izes varying from 3 feet 9 inches to 2 feet 6 inches to feet circular, have been completed by Messrs. Moxon & Co., at a probable cost of 32,000*l.*, or 6,000*l.* more than at he date of my last monthly report. The northern outfall ewer, with the exception of some portion of the embank- ment, the parapets of the bridges, and the apron in the bed of the river, may be said to be completed throughout its entire length of 5½ miles. The sewage of the high and middle level sewers has now been permanently turned into two of the 9-feet sewers, and is discharged through the tumbling-bay direct into the Thames near Barking Creek—thus permitting the abandonment of the temporary measures adopted in July last for diverting the sewage from the River Lea. The accomplishment of these works has facilitated the testing of the third 9-feet sewer, which has been satisfactory, no leakage being per- ceptible from either the ironwork or brickwork. The total cost of the work done by Mr. Furness under the contract is about 630,000*l.*—15,000*l.* being due to the pro- gress made since presenting my last report. One com- partment of the Northern Outfall Reservoir is completed, and a second is in a forward state. The foundations of the remainder are nearly all got in, and the brick piers and walls are being built thereon. The amount of the work done under this contract by Mr. Furness is esti- mated at 80,000*l.*, or 17,000*l.* more than last reported. At the Crossness pumping Station the engine and boiler- houses, reservoir, culverts, and other works are all ad- vancing. Upwards of 130,000 cube yards of excavation and 65,000 cube yards of concrete have been executed, in addition to about 25,000 cubic feet of masonry. 65,000 superficial feet of York paving have been laid, and 56 penstocks fixed. The value of Mr. Webster's works under the contract is about 147,000*l.*, of which 22,000*l.* is due to the work done since my last report. Upwards of ¼ mile of the Southern Low Level Sewer have been constructed by Mr. Webster, at a cost of about 47,500*l.*, being 23,501*l.* in excess of my last report. Messrs. Aird & Son have completed a length of nearly three miles of the Ber- mondsey branch of the Southern Low Level Sewer at an estimated cost of 86,000*l.*, or 4,000*l.* more than last re- ported. Mr. Pearson is making fair progress with his contract for the completion of the Southwark new street, between Great Guildford-street and the Blackfriars-road. Up to the present date he has completed 1,130 feet of the subway, with about 500 feet in progress, 1,140 feet of sewer, 740 feet of area wall, about 1,200 feet of pipe connexions, and 119 vaults are also completed. The value of these and other works incidental thereto, including about 1,000 yards super. of new granite paving, amounted to 12,500*l.*, 4,500*l.* more than at the date of my last report."

THE COST OF ST. MARY'S TOWER, TAUNTON.

The following has been sent to us as abridged from a statement of receipts and expenditure by the late churchwardens of Taunton St. Mary Magdalene, for the rebuilding of the tower:—

"Receipts.

1857-63.	£	s.	d.
To cash from 'Tower Repair Account'	27	2	8
To grant from the parish, as per vote of vestry	2,000	0	0
To late Charles Haman's legacy and interest	138	12	9
To proceeds of bazaar, August, 1859	1,084	2	9
To balance for premiums and interest on Exchequer-bills	176	7	10
To sale of old materials	19	11	9
To donations—			
Mrs. O'Brien, towards building buttress as a memorial of Col. Dansey £50 0 0			
Friends, by H. Bedcock, towards a new trumpet-stop to organ 10 0 0			
Balance of a fund for procuring telegrams during Crimean war 3 5 0			
A payment by some person unknown 1 0 0			
The whole of the Williton stone by Sir A. A. Hood, Bart., M.P.			
Valuable professional services by the late Richard Carver			
Flag-staff and flag by Downing Blake			
	64	5	0
To subscriptions	5,184	15	6
	£8,693	3	6

Expenditure.

1857-63.	£	s.	d.	£	s.	d.
By cash paid Henry Davis, builder—						
Amount of his contract	5,422	0	0			
,, extra for using Williton stone	361	18	0			
,, carving, as per contract	435	0	0			
,, extras at tower, north porch, &c...	520	11	8			
				6,739	9	8
By G. G. Scott and R. Ferrey, architects, after deducting a donation of 10*l.* from each				484	19	0
By clerk of works, rent of office, &c.				289	10	8
By law-charges				262	2	11
By printing, advertising, and stationery				32	16	8
By accountant's charges				23	5	2
By travelling expenses				37	17	6
By Mears & Co., for re-casting tenor bell ..				83	13	0
By C. Oliver, for clock and chimes				54	5	0
By removing the organ, and entirely remodelling the instrument				401	14	6
By restoring and repairing gas fittings, &c.				24	7	0
By Newall & Co., for lightning-conductor ..				13	1	0
By sundry other bills, stamps, and incidentals				112	11	2
By balance at bankers' (Messrs. Bedcocks')				33	10	6
				£8,693	3	6

This does not include the cost of attempting to restore, nor the railing and gates to inclose. These added, together with the gifts not included in the statement, will bring the figure nearly up to 10,000*l.*

THE NEW BRIDGE IN DERRY, IRELAND.

This new bridge has been opened by the Lord Lieutenant of Ireland. The site is about 250 yards south-west of that occupied by the wooden one. The new bridge is 1,172 feet in length, 30 feet wide, and consists of six principal openings—119 feet each—a double swing-bridge, spanning two openings, of 45½ feet each, and two subordinate openings, 62 feet each, landwards—one on each side of the river. The piers for the principal openings are each composed of two cylinders, 11 feet in diameter, and 24 feet apart, from centre to centre. The pier for the swing-bridge is composed of seven cylinders, each 8 feet in diameter, sunk into the bed of the river, and all enclosed in one large cylinder, 30 feet in diameter. The cylinders are all filled in with concrete. The principal openings are spanned by large girders, placed transversely, 24 feet apart, resting on granite blocks imbedded in the concrete contained in the cylinders. The bridge is a double one, the lower level being constructed for the transit of railway carriages, to be drawn across by horses, and the upper one being designed for ordinary traffic. The upper roadway is 20 feet wide, divided down the centre into two channels by the water tables: on either side of the carriage-road is a pathway 5 feet wide. The height of the railway part over low-water mark is 14 feet, and the depth of water at high tide under the swing-bridge is 33 feet. The bridge is of iron. The new approaches are open thoroughfares, formed from the corner of Bridge-street, in Foyle-street, from the outside of Ferray-quay-gate, and from Bishop-street, on the Derry side, and by a new cutting from the end of Clooney-terrace at the waterside.

BAVARIAN STAINED GLASS IN GLASGOW CATHEDRAL.

We learn that the stained glass required to fill the windows of the west end and north aisle of Glasgow Cathedral has been placed. It has been executed by Mr. Ainmiller, a Bavarian painter of note. Those in the north aisle represent incidents in the life of Job. In the first he is seen undergoing his troubles; in the second, rejoicing in his prosperity, and surrounded by friends and servants. The windows in the west end are on each side of the doorway, and represent, by "compositions," on the one side, Prayer and Thanksgiving; and on the other Early Training and Education.

We lately saw in Mr. Ainmiller's *atelier* in Munich another window in preparation for the cathedral, having Daniel for subject. This is for the south aisle. We also saw there a figure of St. John, for a church in Boston, U.S., very admirably painted. Admit that windows are to be filled with pictures on glass, and Mr. Ainmiller's productions call for considerable praise. His charge, as we understood him, is about 2*l.* per foot superficial; and, when there are many figures, about 3*l.* per foot.

NEWS FROM SCOTLAND.

Dumfries.—The work of preparing the foundation for the new court-house is proving a more extensive and expensive matter than was at first anticipated, according to the local *Courier*. In addition to concrete, timber is being largely used in the foundation. In the bottom of the excavation, battens, 5 feet to 6 feet in length, are laid across, about 10 inches apart: on these are laid two rows of yellow pine logs, 4½ feet over, and screwed with strong iron bolts: the space between the logs will be filled with concrete. There are three interior cross walls, and the foundation for these is prepared in a similar manner; the ends of the logs are bolted to those in the foundation of the outside walls. The work, when finished, will resemble an immense oblong double wooden frame, divided into four compartments by double bars. The extra work on the foundation will add considerably to the cost of the structure.

Pollokshaws.—The new parish church of Pollok has been opened. It is the gift of Sir John Maxwell to the parish, and has been erected on the site of the old parish church, immediately to the west of Pollokshaws. The style of the architecture is Gothic, of the Transitional period. The building has been arranged on a cruciform plan, with nave and transepts, the entrance being through a porch in the base of the steeple, which is placed at the west end of the nave. The church contains sittings for 650 on the area floor, and 415 in the three galleries, which are confined to the north and south transepts, and to the west portion of the nave. The passages being all arranged along the side walls of the church, give a compact appearance to the interior, and prevent unpleasant draughts, besides allowing of every sitter having a full and undisturbed view of the pulpit. The pulpit and precentor's desk are placed on raised platforms against the east wall of the nave, which is extended some 10 feet beyond the transepts, completing the cruciform plan of the church, and giving to it, both externally and internally, says our account, all the effect of a chancel. In the design of the pulpit, a medium has been struck between the open platform of the lecture-hall and the more common inclosed pulpit. The pulpit is in the form of a half-octagon, its three fronts projecting on Gothic corbelling, and each front enriched with moulded cusped and carved panelling. This platform extends the whole width of the nave, and is 10 feet broad. The pews are all formed of open benches, and the roof is of open timbers; all the wood-work being

stained and varnished. The spaces between the roof spars are plastered and decorated with a stencilled diaper pattern in maroon and green, upon a cream-coloured ground: the walls are tinted salmon-colour; and the book-boards of the gallery-front are covered with blue cloth, and the windows filled in with cathedral-tinted glass bordered with blue. The dimensions of the interior are as follows:—Width of nave and transepts, 36 feet; length of nave from east to west, 78 feet; width across the transepts, 72 feet; height of side walls, 24 feet; and height of ceiling from floor, 40 feet; height of ridge of roof, 50 feet. The steeple rises buttressed on each corner to the height of 71 feet as a square tower, with a bell-floor in the upper story, and is surmounted with a simple broached spire, terminated with an iron finial giving an additional height of 65 feet, which makes the total altitude to the spire above the ground 136 feet. Acutely-pointed gables, buttressed at the angles with crozier finials, terminate the north and south transepts, and the east end of the nave: these gables are filled with large traceried windows. The one over the window is 12 feet wide, divided into six lights with stone mullions, which diverge at the spring of its arch into tracery, the centre part of which resolves itself into a figure suggestive of the "Crown of Thorns," the name by which a small window in Melrose Abbey has long been designated, and which the architect had in view while designing this one. The other windows of the church are on the ground floor, their arched heads being filled in with simple plate cusping, excepting two on either side of the nave, which are of much greater height, and assist, with the two gabled windows at the west end of aisle, to light the west gallery. The estimated cost of the building is 3,800*l.* The architects were the late Mr. C. Wilson, and his coadjutor and successor, Mr. David Thomson, of Glasgow. The contractors for the different works were, — Mr. J. M'Intyre, mason; Mr. J. Connell, wright; Mr. R. Neill, slater; Mr. D. Smith, plasterer; Mr. D. R. M'Callum, plumber; Mr. C. M'Laren, glazier; Mr. R. Steel, painter; Messrs. J. M'Haffie & Co., gas-fitters; and Mr. A. Cree, upholsterer. Mr. H. Purnell, Glasgow, furnished the heating apparatus. A bell, weighing fully 17 cwt., has been presented by Mr. Walter Crum, of Thornliebank. Mr. John Wilson was the bell-founder.

Arbroath.—It is proposed to form a company, on the limited liability principle, to carry out the projected public buildings at Brothock Bridge; the capital of the company to be 5,000*l.*, in 500 shares of 5*l.* each. Shares to the extent of fully half the capital have already been subscribed for. The proposal is, that the ground left, after widening the public street towards Grimsby and the harbour, presenting a frontage of about 130 feet, will be made available for the public buildings. It is intended that, on the ground floor, there will be shops and offices; and the public hall, with suitable ante-rooms will be above these. For the hall itself there is space for an apartment of 100 feet in length by about 45 feet in breadth. It is contemplated that the public offices, such as the registrar's office, the offices for the collectors of the various rates, and the offices of the inspectors of the poor, might be made to converge in the building.

Wick.—Whatever be the state of other trades, in Wick, it is said, during the next twelve months, masons and house carpenters will be kept tolerably busy. The following are amounts to be expended:—

New Free Church	£4,000	0	0
Mr. Louttit's Buildings	3,000	0	0
New Court House	5,000	0	0
On the new Harbour, first year	20,000	0	0
Baptist Chapel	1,000	0	0
Total	£33,000	0	0

PROVINCIAL NEWS.

Taunton.—This town has been very considerably improved within the past few years, as in drainage, gas, and waterworks. The villas and houses are well let, as it is a genteel and inexpensive place to live in. Gas has lately been reduced to 4s. 6d. Another new railway is in progress from Taunton, to join the South-Western at Chard. A railway is also projected from this place to Barnstaple. There is a new church, with spire, by Mr. Scott, the gift of the Rev. Mr. Smith. Taunton is the county town of Somerset; and, according to the Registrar General's report, the healthiest locality in England (with only one exception). Besides other advantages, it has good church and chapel accommodation, reading-room and museum, collegiate and other schools, school of art, gymnasium, market, and shops. The town contains about 15,000 inhabitants. Its site is a picturesque and interesting one in the Vale of Taunton Deane.

Reigate.—A site has been selected in the neighbourhood of Reigate for the erection of a large central military prison for the reception of prisoners from Aldershott and the adjacent districts.

Faringdon (Berks).—The corn exchange has been opened for market business, but without any public celebration, which will be deferred until the works have finally passed out of the contractor's hands. The building is of Gothic design, built of native stone, with Bath stone dressings. The principal entrance is embellished with carved female figures, bearing emblems, and mounted on pedestals, covered by canopies, the whole in Bath stone. Carved bosses, illustrative of agriculture, horticulture, and the arts, embellish both the interior and exterior of the structure. Besides the corn hall, there is a suite of apartments for the use of the agricultural library, reading-room, &c. Mr. J. Luker, of this town, was the architect, and his design has been carried out by the builders, Mr. J. Wheeler, and Messrs. Cadel & Son, also of this town.

Basford.—An edifice, in the Byzantine style of architecture, has been erected on the Nottingham-road, between New and Old Basford, for the combined use of the officers of the union and the parish. It is about 60 feet by 45 feet, and, with its grounds, occupies a space of about 3,000 yards. The building contains clerks', collectors', and surveyors' offices, porter's living-rooms, paying-rooms, relieving officer's room, and a board-room, 40 feet by 20 feet, and 17 feet high, adapted for public meetings. Access is had to the building by a porch, intended to be surmounted by the Basford arms, flanked by cornucopias of fruit and flowers. At either side of the porch are triple windows, the piers of red brick, with ornamental arches, the keystones of which are filled in with arabesque tracery. The façade of the upper or first floor presents a series of ten-arched compartments, eight of which are filled in with plate-glass windows, leaving two blanks at either side of the central windows. A cornice projects above the whole, formed by vari-coloured brick, with terra-cotta frieze, and an ornamental pierced parapet. The end elevations of the building are carried out in the same manner; and the back, although plain, is consistent with the prevailing features of the building. The pavement of the halls is of tiles, in buff, red, and black colours, so arranged as to give the appearance of cubes standing on their corners. The railing in front, as well as the gates, will be of wrought iron. The business of the parish was previously carried on in a small and most inconvenient building, and the erection of this edifice is a sign of progress in Basford. The architect was Mr. J. B. Heard, the surveyor to the Basford Local Board; and the builder, Mr. James Acton, of Nottingham. The expense will be about 3,000*l.*

Derby.—The tenders for the erection of the Derby Market Hall and Fish Market have been accepted by the Town Council of this borough. The plans and specification were prepared by Mr. T. C. Thorburn, C.E., the borough surveyor, assisted by a sub-committee of the Market Committee, composed of the architectural members and the chairman.

Manchester. — At a recent council meeting, the subject of a new town-hall for Manchester was mooted. The General Purposes committee have passed a resolution to the effect that a sub-committee to take this subject into consideration should be appointed.

Halifax. — Architectural drawings of the Orphanage now being erected by the Messrs. Crossley, near Halifax, and of the dwellings proposed to be erected at West Hill-park, Halifax, have been exhibited in the town. The latter gives a bird's-eye view of West Hill-park as it will be when the whole of the contemplated dwellings have been erected. The houses will be about 200 in number, and will be divided into four classes. When completed, they will have the appearance of a small model town, and the drawing now on view includes a place of worship and a school. It is understood that the erection of thirty-two of the houses will be commenced shortly. They will belong to the fourth class, will cost 160*l.* each, and are expected to be ready next spring.

"The Art Journal."—The *Art Journal* of the month contains, with its usual fine prints, a notice of the sculpture in the late International Exhibition, with wood engravings of thirty-two of the works.

CHURCH-BUILDING NEWS.

Nottingham. — The foundation stone of S Saviour's Church, Arkwright-street, was laid o the 28th ult., by the Bishop of Lincoln. Th church will be of Decorated Gothic character, an consist of nave, aisles, and chancel. The lengt of the church will be 74 feet; width of nav 24 feet; width of aisles, 17 feet. The chanc will be 30 feet deep by 24 feet wide. The aisl are divided from the nave by an arcade supporte on octagonal piers with carved caps. There wi be a clerestory, with ten triangular windows o each side. The roofs are to be of open timbe work, with the spandrels of the principals filled i with traceried work. The entrances will t through a porch at the west end of the nort side, and at the west end of the south side re spectively. The chancel seats are to be filled i with open tracery: the nave seats will hav moulded ends. A five-light window is to be place at the east end of the chancel. The other window are all to be two-light windows. A tower of thre stages, surmounted by a spire of timber work slate in coloured bands, will be placed at the south-we corner of the building. The gables will be finishe with ornamental crosses. The material to be use is Bulnell stone, with Ancaster stone dressing Messrs. Sutton & André, of Nottingham, are th architects; and Mr. J. Barker, of Nottingham the contractor.——The chief stone of St. Ann Church, St. Ann's-well-road, has been laid by Ea Manvers.

Tunstead.—The church here has been restore and re-opened. The exterior of the edifice ha been by degrees put into order, a new roof put o the windows restored, and the chancel re-seated the expense of Mr. Mack, a former vicar, and th resident owners and occupiers. These improve ments made the old pews and benches appear mo unsightly than before, and the succeeding incun bent, the Rev. H. J. White, with the consent the parishioners, determined to remove them soon as possible. The old pews and benches we swept away, and the new seats were being erecte when the vicar and his wife suddenly died. Th work of restoration, however, was not delaye the new vicar, the Rev. G. H. Harris, carryin out the plans of his predecessor. The bench are all of oak, and the pulpit is carved, and stan upon a stone pedestal on the north side of th chancel arch. The lectern was the gift of M Cornish, the builder. The font, from the desig of Mr. R. M. Phipson, of Norwich, the architec has been executed by Mr. Moore, of Nort Walsham.

Leicester.—A chapel has been erected an opened on No Man's Heath. The contract, whic was taken by Mr. G. Radford, of Haunton, w for 337*l.* 10s. The designs for the building we by Mr. G. E. Street, of London. The walls a of brick, both inside and out: the doorway, wi dows, and bell-turret are of stone. A strin course of stone runs along the walls, below th windows, externally, and below the windows the chancel inside. The length of the nave of th chapel is 12 yards by 6 yards, and the chancel 6 yards in length, and slightly narrower than t nave. The chancel arch is of stone, with moul ings and without capitals. Between the arch a the dripstone above it is a row of stones, inla with black crosses and circles, red and black bric intervening between the stones. The east windo is a sexfoiled circle. The sill of one of the sou windows is formed into a piscina, and that of t other is the credence-table. In the nave are t windows, of three divisions each, in the sou wall; a similar one in the north wall; and west window of two lights, with a cinquef opening above. The wall-plates lie upon a corni of projecting bricks. The floors are of red, blac and yellow tiles. The choir seats and pulpit s very plain, and there are chairs for the congreg tion instead of benches. Externally, the sou elevation is the best. The door is of oak, wi spreading iron hinges, and on each side is a bu tress. Another buttress strengthens the wall wh the chancel arch thrusts. The roof is of variou coloured tiles, arranged in a pattern with orn mental crest tiles.

Stow.—It is proposed to restore the church St. Mary, at Stow, which is the mother church this diocese. An appeal has been issued, stati that Stow Church is a structure of greater in rest than any other in the county of Lincoln. T appeal is made under the sanction and patrons of the bishop. The sum required will be betwe 4,000*l.* and 6,000*l.* It is hoped that the wo may be commenced next spring.

Cambridge.—St. Clement's Church has been opened. Extensive alterations have been made

e interior. Most of the old pews have been placed by open seats of stained deal, designed d executed by Messrs. Bell, of this town. The or of the chancel has been laid with tesselated vement, and, though a trifle lower than it was, still raised by four steps above the level of the ve. The east wall of the chancel has been hung ith tapestry; and in place of the old communion- ble is a new one of oak, set upon a foot-pace, id furnished with a covering of velvet and cloth. he old screen which formerly shut in the chancel is been removed, and its place supplied by a very ght one of iron and brass. The new seats are ain. Want of funds rendered it necessary, for ie present to leave some of the old square pews the side aisles.

Farnham (*Suffolk*).—A subscription has been t on foot for the purpose of restoring Farnham ll Saints' Church, which has fallen into a very lapidated condition. The following tenders ve been received for effecting the required reno- ation :—

Thoday & Clayton	£1,784 0 0
Jackaman	1,694 17 4
Frost	1,574 14 0
Rednall	1,579 1 10
Andrews	1,504 0 0
Farrow	1,487 14 0

Hayward's Heath (*Sussex*). — Mr. Fabian, of righton, the contractor for the erection of the ew church at Hayward's Heath, is making pro- ress with his work, and the corner-stone will be id on the 12th instant. The church will be amed after St. Wilfrid, the patron saint of Sussex. hen completed, standing as it will upon high round in an open country, it will be seen for iles around. Considering the growing import- nce of Hayward's Heath, the numerous villa and ther residences which have recently sprung up the immediate neighbourhood, the several sales land of late for building purposes, and the dis- nce from the churches of Lindfield, Cuckfield, id Wivelsfield, the erection of a church here is aturally regarded with satisfaction by occupants id visitors.

Pewsey (*Wilts*).—The new cemetery in the arish of Pewsey has been consecrated by the ishop of Salisbury. The chapel is First Pointed style, and is built of Murhill stone, with bands f Pennant. There is a small tower and spire at ie north-west angle, and a robing-room is pro- ided. The whole of the buildings have been rected from the designs of Mr. C. J. Phipps, of ath.

Woodchester.—A church has been erected in is parish. The edifice consists of a nave, chancel, id a north aisle. A tower 126 feet high is laced on the south side, and the line of this side broken at the junction of the nave and chancel y a projecting vestry and organ chamber, which re entered from the outside by a flight of steps id an open staircase. The windows, which are umerous, also give character to the exterior. The ide windows contain two lights each, the heads eing large quatrefoils, French in style. The east id west windows are much larger, and the heads hibit more elaborate tracery, while the organ amber contains a rose window. The tower has lso several windows and openings: the broach pire has four niches or tabernacles just above its unction with the tower, and openings at intervals lmost to its apex. The building is entered by a w doorway in the west front, and through a outh porch which almost fills the angle formed y the projection of the tower and the nave: this lighted by an open double arcade. Entering ie interior it is found to be divided by five arches esting on clustered marble columns. The con- olvulus, water-lily, fern, and other wild plants of ie neighbourhood, have been reproduced in the aliage of the capitals. The roof is of oak, of very igh pitch, and supported on hammer beams. The eams of the chancel terminate in carved figures epresenting a choir of angels. There are four ainted windows. One, in the south side of the hancel, is to the memory of the Rev. Dr. Williams, ormerly incumbent of the parish: it represents ie Church triumphant, the faithful minister isiting the sick, and administering the Sacrament. second window in the south side is to the emory of Basil Williams, B.D. It represents our incidents in the life of St. John, one figure eing the Angel of Death. A third window, ad- ining the last, consisting of three lights, repre- nts the Annunciation, the infant Jesus, the rucifixion, the Ascension, the day of Pentecost, nd Jesus in glory. It has been erected to the emory of John Woolwright, and Wilhelmina, mily, and Julia, his three children. The fourth indow, a single light, represents the Holy amily, and is the gift of the architect of the hurch, Mr. Teulon. The first three windows are the work of Mr. Preedy: the fourth is by Messrs. Lavers & Barraud.

Llandyssil.—The foundation-stone of the new parish church has been laid. The new church is to be a Gothic structure, with a nave 67 feet long, and 22 feet wide; also a side aisle, to be carried on marble columns and stone arches. It is to have a chancel, 26 feet long by 17 feet wide, with a tower and spire. The church is to contain sittings for 362 persons, and to cost about 2,400*l*. It is being built from plans drawn by Mr. T. Wyatt, of London, architect; and the building of it is entrusted to Messrs. T. W. Chester & Son, of Liverpool. Mr. T. Garland is the resident clerk of the works. It is also intended to build a school and master's house, attached.

INA'S PALACE.

I BEG to inform your correspondent "F. S. A.," that two or three years ago I made careful measured sketches of the charming little building known as Ina's Palace, both generally and in detail.

I quite agree with him on the subject of the late perverse mutilation. The person's folly is shown in every way, for it can never be a fit place of residence, being so damp. Although it was in the middle of summer when I was there, yet the well under the dresser in the kitchen was full of water, almost to the brim.

PHILIP E. MASEY.

STEERING THE "GREAT EASTERN."

SIR,—In your last number I observe a suggestion from Mr. Walcott, proposing the removal of the present paddle-wheels of the *Great Eastern*, and placing instead three smaller ones on each side. As this would, no doubt, be an expensive operation, permit me to suggest a more economical contrivance, viz.—the placing of a double-bladed paddle or *fan*, immediately above the fore-foot, to be worked athwart ship, or at right angles to the keel, in the direction required for the ship to turn. This paddle could be worked by gearing carried forward from the present paddle engines, and when not required, could be brought to bear and secured by a system of screw, with catch-box to receive blade, to offer no resistance to retard the progress of the ship.

Liverpool Dockyard. J. E. WILLIAMS.

MATTER FOR THE HISTORY OF THE REVIVAL OF GOTHIC ARCHITECTURE.

DEAR MR. EDITOR,—Do, pray, let me write a touching little chapter. The "revival of Gothic architecture" had spread throughout the length and breadth of the land. It had infused a spirit of talented imitation, and an enlightened gleaning up of precedent, both in the English and Roman Church, and also amongst the various and diversified denomination of Christendom; and great was the reputation of the architect who could point to this and that work he had "carried out," as being after the famous cathedral at "Chairo Oscuro," or the beautiful old parish church at Requiescam in Pace, or the much-admired slantindicular chapel built in the eleventh century, at Middle-cum-Farthingale. Such was the strength of this "revival" in the Established Church, that in the matter of small towers and spires great was the rise thereof. Nor were other sects backward in imitating the imitation. In the Social Society, for instance, a great stir was made about it. It was hard, at first, to get people out of their conventicle chimney pot and tubular-truncated notions of chapel building; but, at length Dr. Jobbins was "raised up," who, having had the felicity to be an architect's clerk before entering the ministry, took up the advocacy of the subject, and at length brought forth a book in illustration of his views both by pen and pencil; showing, in high contrast, the *"usual"* chimney-pot style prevalent in their society, and the more appropriate *"Gothic style."*

Gothic Ecclesiastical Architecture undoubtedly owes much to the labours and researches of this (physically) great man. Had Dr. Jobbins lived in the present age, what a source of gratification to him would it have been to witness the results of his strenuous exertions, in the pains that are taken to prop up the hallowed walls, and tie together the falling roofs of those buildings which were the result of his peculiar appreciation and advocacy of the "Gothic style." While paying this tribute to the memory of Dr. Jobbins in connexion with the revival of Gothic architecture, it may not be amiss to allude to the means by which so much was done in the Social Society to advance this important movement.

Dr. Jobbins, in conjunction with an eminent architect and F.G.H.A.B.C., who came from Bath (the date of whose return to that city is uncertain), caused many chapels and schools to be built in the "Gothic style." These two gentlemen being collectively and individually somewhat unacquainted with the principles of construction demanded by this "style," or with the principles in the abstract as is supposed,—attention having been much absorbed by the contemplation of the F. G. H. A. B. C.,—the buildings erected occasionally fell down, all but depriving future generations of those monuments of skill and genius and of those landmarks (which let us be thankful still exist) pointing (the architecture being pointed) towards a haven of architectural triumph.

In spite of obstacles such as these, which had to be overcome by dint of labour and force of genius, the revival spread. A "model" chapel was arrived at on which subsequent erections were to be founded; and this model chapel, even after the tremendous lapse of time that has intervened, still stands in the town of Shockingem, an example to the people of that favoured locality and to the architectural world of what may be achieved in ecclesiastical art when the glorious models of the Middle Ages are copied and adapted; constituting models for future generations to admire and imitate; thus perpetuating the perpetual perpetration from generation to generation. As evidence of the utility of this justly celebrated model, it has been imitated in numerous instances, even to the very patching and propping up which invariably accompany the peculiarity of the style. "This building," says Dr. Jobbins, in his luminous work, "was built after the emulsions of Gargoyle Whatsisname, Esq., F.G.H.A.B.C., Architect, of Bath, and received the prize of fifty guineas, as being, in the judgment of the Model Plan Committee, the best design submitted to them for a chapel in the Gothic style." The building is "thoroughly consistent with the period of its style," a consistency upheld by Dr. Jobbins and others, and the more remarkable considering the inconsistency of the consistency. In describing this celebrated building (and for the sake of those who have not had the privilege of seeing it, the doctor's description will answer), the doctor says the "Chaste and pleasing appearance of the angular turrets will not be fully inferred from the engraving." The fact is, that this chaste appearance can only be inferred from a visit to the place; but for those who wish to witness this chastity at its real source a visit to the little Mediæval chapel of Middle-cum-Farthingale, from which this feature is copied, will equally answer. "The front is divided," says the doctor, "by bold projecting buttresses;" a boldness, by the way, if criticism may be allowed after the doctor's excellent criticism, strikingly illustrated by the cupola with louvre at the top—(no, not "strikingly," for there is neither clock nor bell nor anything of a striking nature in it); which, not knowing what else to put there, the architect *boldly* put; and there it remains to this day — lapse of time, as before remarked, notwithstanding. The side windows are taken from the cathedral and church at Magnum Bolus; the flowing, wave-like tracery of the parapet, from Florabella Abbey Church; and the large central window divided into four lights, from the Priory Church of Duplicando-et-Multum-in-Parvo. The interior of this edifice is carried out in a somewhat similar revival spirit. "The roof," Dr. Jobbins informs us, "has been pronounced by the most practical judges to be safe and good," which, in addition to the views of Gargoyle Whatsisname, esq., F.G.H.A.B.C., is satisfactory.

There is one feature about the internal construction of which Dr. Jobbins appears not to have taken note, and which feature has been thought worthy of being repeated in other structures of the same class,—and seems an idea the original credit of which is due to Gargoyle Whatsisname, esq.,—and that is the manner in which the ceiling is "hoved up" (as the mother of Francis Bacon says of the stomach of a dropsical subject) to make way for the large central front window, which otherwise it would have been difficult to work in.

After the erection of this model chapel numerous chapels and schools were built under the superintendence of the F.G.H.A.B.C., or after the "model." Features both of an ornamental and constructional character were imitated and repeated even to the tumbling down, propping up, and tying together; and those that did not tumble

quite down still stand as monuments of skill and imitative genius, and of the revival spirit of the period to which this historical sketch alludes. The "bold" gables and buttresses from Cockstraddle Abbey, the chaste crocketed pinnacles and bell-less bell-turrets, from the beautiful little church of Barnaby-Dickens, and the flowing window tracery from Flamblazingford, sprang up and developed themselves like mushrooms, of which more anon.

HI JACULIS ILLI DEFENDERE SAXIS.

THE LUDGATE HILL VIADUCT.

SIR,—If it is not too late, permit me again to draw your attention to the much-worn subject of St. Paul's Cathedral and the Ludgate-hill Viaduct. When you did me the honour to publish a letter which I addressed to you some six months ago, and in which I expressed my belief that the bridge was *inevitable*, and suggested that, if inevitable, it should be made a really grand monumental work, you made a note at the end, thus:—"Is it inevitable?" and I heartily wish, sir, that your doubts had been confirmed, and that I had been entirely in error; but it now seems that I was not very far wrong.

We are to have the bridge; and, from your impression of the 12th ult, it seems that people are not quite unanimous as to its beauty. Mr. Haywood objected to it; and probably he was, of those present, the most competent to give an opinion. Of its merits I know nothing, not having seen the design; but the rumours of "ornamental iron" are enough to strike terror into every one who reflects what has been put up of late under that name in the shape of bridges. I have no prejudice against the material itself, but only regret the offensive erections recently designed by engineers.

These latter gentlemen have lately put up works in iron which, however great their *science*, are a disgrace to an age in which all the *arts* have so rapidly advanced. But there is no public officer to put a veto upon them, and to save us from being outraged: there seems to be absolutely no redress: and London is being everywhere made hideous, both in its streets and on the river. Should not some of the leading architects be called in to help us out of the Ludgate-hill "difficulty?" or cannot there be an open competition? As I said before, "whatever is once there, is there for ever;" and therefore it is surely worth while to use every exertion to procure the best design that can be had. H.

GOOD OLD FLAT CEILINGS; OR THE WHITECHAPEL DISCOVERIES.

THE revivers of open timber roofs of thirty years ago little knew, perhaps, at that time, what serious evil they were preventing in their warfare against flat ceilings and aisleless churches. And we little know to what extent Whitechapelism may not have been carried out in those *good old* churches built between 1700 and 1840.

With the exception of St. Paul's and Westminster Abbey, with their spacious and (to visitors) *inaccessible* triforia, the oldest church in London with a false ceiling is that erected by the equally *false* piety of Francis Duke of Bedford, in Covent Garden. Some of Sir Christopher Wren's churches are similarly commodious; but most of these being divided into nave and aisles, the roofs have not rise sufficient to make them easily accessible for the above-named purposes.

In the last century, the parish church of Islington was rebuilt, with an open timber roof of great beauty; but, for some reason, a flat ceiling was put under it; whether because it was in character with the building, or better for sound, or more convenient for some purpose not desirable to be made known, I cannot tell. Whatever was the reason, I have no doubt but that this church will be carefully examined, as well as others having flat ceilings accessible from the belfry.

The following are the principal churches thus constructed, in London and its suburbs; and it may be as well at once to direct the eye of the public towards them:—St. Anne, Limehouse; All Saints, Poplar; St. Alphage, Greenwich; Audley-street Chapel; Brunswick Chapel; Brompton old Chapel; St. Botolph, Aldgate; Christ Church, Southwark; Curzon Chapel; St. Edmond, Lombard-street; St. George in the East; St. George, Bloomsbury; St. George the Martyr; St. George, Camberwell; St. George, Southwark; St. John, Waterloo-road; St. Lawrence, Jewry; St. Luke, Norwood; St. Mary, Islington; St. Mary, Fulham; St. Mary, Newington Butts; St. Mary, Rotherhithe; St. Mary, Kensington; St. Matthew, Brixton; St. Mark, Kennington; St. Paul, Clapham; St. Pancras, New-road; Park-lane Chapel; St. Paul, Covent-garden; Quebec Chapel; Regent-square Chapel; Stockwell Chapel; and many other Episcopal chapels and meeting-houses in London and its suburbs, as well as in most larger manufacturing towns and watering-places.

In smaller provincial towns are—All Saints, Lewes; Trinity, Ipswich; St. Cuthbert, Carlisle; three churches at Whitehaven; All Saints, Oxford; All Saints, Derby; St. Mary, Lichfield; St. George, Gravesend; Parish Church, Woolwich; St. Giles, Cambridge; and in most towns where there are several churches at least one will be found with a flat ceiling covering the whole building. W. SCARGILL.

* Examined, and found guilty.

HOLBORN HILL IMPROVEMENTS.

SIR,—It may not be uninteresting to your readers at this time to be in possession of the following memoranda of the various schemes for the improvement of Holborn-hill, which I believe commenced *(on the viaduct principle)* with my own, made in 1832. In 1833 I petitioned the corporation to permit me to lay my plan and model before them, which were under consideration in March and October, 1839. In 1836 Messrs. Burnard & Geary planned similar improvements by means of a viaduct, but placed it on the north side. In 1838, in the second report of the Metropolitan Improvements, my plan is published, and also one by Mr. Pocock, designed by him in 1836. In 1845 Mr Wishaw designed a deviating line of traffic by a viaduct running at the back of St. Andrew's Church, over Farringdon-street. In 1839 Mr. Thomas Taylor designed a viaduct improvement on the north side, taking rather a diverted course. In 1858 Mr. F. Marrable designed a viaduct line, also on the north side; and I may be allowed to add that in February, 1842, a paper I had prepared upon the various suggested improvements of Holborn-hill up to that time, was read at a meeting of the Institution of Civil Engineers. In 1853 Mr. Cubitt (late alderman) showed me a model for a viaduct on the south side, but I am not aware if he made his design public: his plan, as nearly as I recollect, was identical with the one I had made.

J BIN TURNER, Architect.

COMPENSATION CASE.

Charing Cross Railway and E. Denenholm.—This claim (at Sheriffs' Court, Red Lion-square) was for compensation for loss of light and air in respect of the house No. 41, Craven-street, in which the claimant carried on the business of a lodging-house keeper, and of which she has a lease for twenty-six years, at a rental of 90*l.* 10*s.* per annum. Mr. Hawkins, Q.C., and Mr. Mellor, appeared for the company. Mr. Kidd for the claimant.

The sum claimed was 975*l.*

Mr. Bull, as surveyor for the claimant, valued the house at 30*l.* per annum before the railway was commenced; and now values it at 240*l.* Mr. Broadbridge, surveyor, supported Mr. Bull.

The claimant and her daughter proved the profits of the business. The company had in attendance Mr. Ryde, Mr. George Pownall, Mr. Charles Lee, Mr. E. N. Clifton, and Mr. Marrable, but they were not called.

The jury gave a verdict for 150*l.*

THE STAGE.

New Adelphi Theatre.—The new piece, "Leah," and the new actress, Miss Bateman, have proved very successful. The piece deals with the persecutions to which the Jews were subjected for long years in Servia, as well as elsewhere; and though in parts a little gloomy, is interesting and exciting. Miss Bateman has considerable power over the emotions of her audience, and is statuesque and graceful in her *poses*. Mr. Billington acts in the drama remarkably well. Mr. Callcott has painted some scenes for the piece; and they are so good that it is the more to be regretted the "raggedness" at the sides and top which unfortunately disfigures so much of our scenery, and destroys all illusion, should not be obviated.

Princess's Theatre.—Herr Hermann, the quick-fingered, as he calls himself, is uncommonly neat and perfect in his operations. The majority of his tricks, such as the production of basins of water from an empty handkerchief, have been performed by others; but by none better. He varies his entertainment with some imitations of singing birds.

PATENTS CONNECTED WITH BUILDING.*

APPARATUS FOR CURING SMOKY CHIMNEYS. *C. B. Clough.* Dated 3rd January, 1863.—This invention consists in adapting to the outside of any ordinary earthenware or other chimney-pot a covering of zinc, or other suitable metal or material, surrounding such pot, and leaving an annular space between the pot and the outer casing, which should extend to the top of the pot. At the base of the casing, and on diametrically opposite sid thereof, the patentee forms two vertical ape tures, and he divides the annular space by placin partitions in the space between the pot and th casing, midway between the opposite opening The wind, entering one of these openings, is pr vented from escaping through the opposite ope ing by the partitions above mentioned; and, co sequently, an upward current of air is carried ou side the pot on the windward side of the chimne

LIGHTING HALLS, THEATRES, &C.—*E. J Keeling.* Dated 5th January, 1863.—This inve tion relates to the diffusion of intense light, an to the prevention of shadows. The patentee tak an electric light, a lime light, or other source intense light, and places it in some elevated spo above the space to be lighted. Under or befor or part under and part before, this light, he su pends or fits a plain white, tinted, or colour curtain or screen; and again in some instances h places under or before, or part under and par before, a ceiling of glass or other transparen medium. By these means he removes the ot stacles that have hitherto prevented the successf application of the electric, lime, or other intens lights to the lighting of the interior of large room and public edifices.

COLOURING, BRONZING, AND PRESERVING IRO AND STEEL. *H. A. Bonneville.* A communic tion. Dated 20th January, 1863.—The patent claims, first, the creation at the surface of th iron or steel of an adherent coat of peroxide iron. Secondly, the transformation under the i fluence of water, at an elevated temperature, the peroxide of iron into black oxide, which is le oxidised. Thirdly, the renewing of the operatio until the black coat is sufficiently thick and a herent. Fourthly, the immersion of the articl in a bath of luke-warm water, for the purpose removing the acidulated or saline particles a hering to their surfaces, so as to allow of the being greased with olive oil.

LOCKS. *W. H. Tucker.* Dated 9th Januar 1863.—This invention consists, first, in a mode preventing the positions of the gatings in th levers or tumblers of locks being felt or asce tained, by the aid of end pressure directed again the bolts of the said locks; and the patent produces this effect by the use of a moveab lifting piece, so constructed and disposed in th lock that, if end pressure be directed against th bolt, the said piece will be so influenced by it th a pin or stump in it will lift or gather up th levers or tumblers in a mass, and thereby preve their being acted on separately by picking instr ments, so as to feel or ascertain the position their gatings. Secondly, in modes of constructi and connecting the knobs, roses, and spindles locks in such a manner that their requisite firm ness of hold to the doors to which they a attached, and their ready and accurate adjustme to their varying thicknesses, shall be mo effectively combined than has heretofore be the case.

MACHINERY FOR CUTTING CLAY IN THE MAN FACTURE OF BRICKS, TILES, ETC. *J. G. Dahll* A communication. Dated 6th January, 1863. This invention consists in mounting upon a frar with wheels, for travelling on rails or trams, a s of rollers covered by an endless belt, which b receives the clay from another set of rollers, on which it is expressed from a moulding machi At the further end of the rollers other rollers a fixed, and over them a frame capable of transve motion. Between the endless belt and transve frame a cutting wire or blade is placed, and t far end of the transverse frame is provided wit door, which usually remains closed, but whi may be opened when required. The endless b rollers and the transverse frame are all connect to the wheeled frame, and are capable of bei moved to and fro. On the clay being fed fr the moulding machine, it travels along the endl belt, and its outer end abuts against the d before mentioned. The cutter is then brou into action, and severs the clay between the e less belt and that contained in the transve frame. Then the transverse frame is pulled laterally, whereby the clay is brought into cont with, say, three, cutting wires or blades, and three portions of clay so cut, say, bricks, removed ready for being stacked. In be pulled out, the frame fails, and the clay, continuing to issue from the moulding machi is received on the rollers over which the transv frame has been drawn. On the frame being turned to its original position, it rises over rollers, receives the fresh charge, which is seve as before, when the frame is again pulled out, so on. It will be understood that the block clay drawn out by the transverse frame may

* Selected from the lists in the *Engineer*.

vided into any desired number of parts, accordg to the number of cutting wires to which it is posed in its lateral travel.

Making Sash Frames and Sashes, and suspending the same by Atmospheric Pressure. *J. W. Meears.* Dated 21st January, 1863.—For the purposes of this invention, instead of sustending and working the sash, as at present, by nes, weights, and pulleys, the patentee fits it with bes of elastic material, charged with atmospheric r or with gas. These tubes are attached to the sh, one on each side thereof, and (when working with the sash) they slide up and down in correspondng grooves or recesses in the jambs or fixed sashrame or window-frame, and thus retain the sash t any required height in the frame. Each such roove or recess may be semicircular or semilliptical in horizontal section; and when the sash is in the frame each recess in the sash has opposite d a corresponding recess in the fixed sash-frame or amb: such two opposite recesses, when together, rm a cylindrical or elliptical space in which he tube fitting closely, one half in the sash groove and the other half in the frame or jamb groove. The tubes are made of caoutchouc, gutta-percha, r of caoutchouc or gutta-percha compounds, or of ther flexible and elastic material, and are hermecally closed or secured at both ends. They are harged, by pumping or otherwise, with air or gas, nder such pressure as may be required to sustain he weight of the sash, by means of any suitable pparatus for injecting the air or gas, and closing he same when filled, as is well understood.

Apparatus for cutting Metallic Tubes or Pipes. *T. C. Barraclough.* A communication. Dated 15th January, 1863.—This apparatus consists of two metallic jaws—by preference made of malleable or other elastic description of cast iron r steel—hinged together at one extremity, and so formed near the hinge or joint as to receive the pipe to be cut at right angles to the cutter employed. To these jaws, at the further end to the hinge, two steel or wrought-iron rods are attached. The cutter, which is made of steel, slides vertically through one of the jaws, and its cutting force or pressure may be adjusted by means of a thumbscrew above it. The pipe to be cut is placed in the hollow made for its reception, the two opposite ends of the rods brought nearly together, and secured by a link, links, or other substitutes, the said jaws being thus caused to hold the pipe, and the cutter is tightened thereupon. If now the pipe be held firmly in a vice, and the apparatus turned several times round in a direction at right angles to the axis of the pipe, the cutter will penetrate the material and dissever the tube. If the metal or substance of which the tube is made be very thick, more pressure is to be applied gradually to the cutter by means of the screw until it is cut through.

Wrought-iron Casements. *J. H. Johnson.* A communication. Dated 14th February, 1863.—In carrying out this invention, as applied to a French casement, the two side frames are rolled of an angled form, and have strips of wood secured to them, which fill in the aperture in the masonry to which they are to be applied. The bottom of the sash-frame consists of a bar curving outwards, so as to carry off the rain, and is secured at each end to the side frames by rivets, a similar mode of attachment being employed in securing the ends of the top part of the frame, which is in the form of a flat bar, having a raised rib or web rolled thereon near its lower edge on the inner side. Each sash is hinged to the frame by having tubular sockets screwed thereto, which drop into hinge-pins in the frame, a hinged piece capable of being turned up when required serving to lock the sockets down upon the pins, or to release them when the sash is to be lifted off its hinges. The bottom bar of the sash is connected with the vertical bars by a mortise and tenon joint, and a somewhat similar plan is adopted in the upper bar, which plan is also used for the intermediate bars. The bottom bar curves outwards so as to throw off the rain, and a flat grooved bar is riveted to it, which closes against and interlocks in the bottom bar of the window-frame, a strip of india-rubber being interposed to keep the sash weather-tight. The outer edges of the vertical sash-bars are rebated so as to close over two faces of the side-bars of the frame, and the two adjoining vertical sash-bars are bevelled in order to fit accurately together when the casement is closed. A longitudinal groove or channel is made in one of these bars, into which a strip of india-rubber is inserted, for the purpose hereinbefore described, a corresponding rib and groove on the opposite bar locking into and bearing upon the india-rubber in the groove of the bar last referred to. The window-frame is kept closed by an espagnioletto or French casement fastening, the rod of which is fitted to the sash-frame by means of two hinges let into the frame. It is provided at the top and bottom with a hook, which hooks, when closed, engage into corresponding notches in pieces attached to the opposite sash. Through the centre of the rod is passed the spindle or axis of the handle, on the end of which is fitted a latch which, when the handle is in a vertical position, presses upon the vertical bar of the opposite sash, and thereby causes the two sashes to bear throughout their entire length against the sash-frames.

Chimney Tops. *J. Durant.* Dated 17th February, 1863.—On the tapering can or top of a chimney the patentee mounts a six, eight, or other sided figure, of a slightly tapering form, the smaller end being uppermost: this part, which he terms the body, is much larger than the chimney top before mentioned, which he denominates the base. This base, however, he makes no longer than is conveniently necessary to reduce the square form of the flue below to a round form at the upper part: the body-part is down upon and envelopes the base to about a third of its length, and is, by suitable bracket-pieces or stays, fixed securely thereto. At each of the angles of the body are projecting radial leaves or plates, extending to the whole height of the body. These leaves he forms hollow, to allow the passage of air up the interior; and, being bent to the form of the same sheet of metal, gives stiffness and strength to the structure of the body. At the lower part of the body, and throughout the extent to which he envelopes the base, he forms openings of large area, and fits thereto inclined surfaces, which spring from the bottom and larger diameter of the body, and are carried up to the smaller diameter, near to the upper end of the base. These openings are altogether below the top of the base, terminating a short distance below that point. The effect of wind striking against the sides of the body, and entering these openings, is to enter and drive itself in an upward direction in the chimney top, creating an upward current therein, and carrying the smoke with it out at the top.

Fabrics for Covering Floors, Walls, Roofs, &c.—*H. H. Henson.* Dated 27th January, 1863.—One part of the present invention consists in an improved combination of the compounds of india-rubber, gutta-percha, or substances having similar properties, and cork dust, peat dust, ground leather, ground tan, flock, oxidized oil, boiled oil, gums, resins, umber, litharge, or other similar or fibrous materials, with a certain class of woven, plaited, or netted fabrics of considerable strength and substance, such as cocoa-nut fibre, or other matting, the plastic or other compound being applied as an outer coating to one or both sides of the textile fabric. Another part of the invention consists in manufacturing a new fabric consisting of any of the before-mentioned compounds of india-rubber, gutta-percha, or similar substances, with other materials, such as pigments, for forming the under-surface of any suitable woven, textile, felted, netted, or other fabric, such as the fabrics called "scrim," "canvas," or "hessian," and any compound of oxidized oil or boiled oil for the upper surface, or *vice versâ*, such compound of oxidized or boiled oil being formed by boiling with the oil any description of gums or resins, in greater or less proportions, with an admixture of fibrous or other materials, such as cork dust, peat dust, ground leather, ground tan, flock, litharge, umber, and other pigments, according to the purpose to which the fabric is to be applied. Another part of the invention consists in manufacturing "kampilicon" of two layers, of which the lower layer is composed of a mixture of Trinidad pitch, india-rubber, gutta-percha, and cork, while the upper layer is composed of india-rubber, gutta-percha, or similar substances or compounds, of oxidized oil or boiled oils, with gums or resins, with the admixture of such materials as are capable of receiving dyes, such as flock, cocoa-nut fibre dust, leather waste, ground tan, hair, wool, or other similar material.

Revolving Shutters.—*S. W. Francis.* Dated 28th January, 1863.—These improvements consist in constructing the laths or plates of revolving shutters that such shutters may revolve in either direction around the roller to which they are attached; and for this purpose the patentee forms a groove in the bottom or lower edge of each lath or plate, and along the entire length of each lath or plate of which the shutters is composed (except the bottom lath of each shutter), and he constructs the upper edge of such lath or plate thinner than the lower edge thereof, to fit into the groove in the lower edge of the lath or plate immediately above it. He then unites the several laths or plates, of which the shutter is composed, by means of belts, webs, chains, cords, or wires, passed through holes or mortises in the breadth of each lath or plate in the usual manner.

Books Received.

An Inquiry into the Nature of Heat, and into its Mode of Action in the Phenomena of Combustion, Vaporization, &c. By Zebah Colburn. London: Spon. 1863.

On the very debateable question, What is heat? we have here a thoughtful and suggestive treatise, in which various hypotheses that have been entertained as to this question are brought under review, and dismissed as unsatisfactory,—even Professor Tyndal's (if we can rightly call it so), that heat *is motion*, being here regarded,—as it was in the *Builder*, by the way, on review of his book,—as not quite unobjectionable either. Mr. Colburn's own hypothesis is, that heat *is force*,—*repulsive* force; but there is no novelty in this idea any more than in the others. Sir Humphrey Davy expressed his opinion that heat is "the power of repulsion;" but it did not occur, even to Davy, that there must be some special *reason* why "the power of repulsion" assumes at one time the aspect of heat, and at another some other form, such as magnetic or electric repulsion: the force might be repulsive in both cases; but why do we call it heat in one case and not in another? Till *the reason* of this difference be discovered we cannot know precisely *what* heat is, even though we be assured that it *is* repulsive force: all we are till then entitled to say is, that it is *a* repulsive force. Now an attempt was made in the *Builder* on the 11th of November, 1854, by Mr. John E. Dove, while considering the question, "What is Electricity?" to point out this *reason*.

> "There are [he remarks] a limited series of recognised or recognizable physical forces operative in the general economy of nature, both interior and exterior to those masses and strata of which our planet, and probably the whole system of planets to which it belongs, consists; and which seem to be more or less engaged in all that general economy, at least on the face of our own little planet. Of the general nature of these forces all we need at present say is that they are regarded as essentially of two kinds only, namely, attractive and repulsive forces, although variously operative, as in what have been called atoms, molecules, particles, masses, strata, and spheres. To one division of the attractive order of these forces we give the name of chemical attraction; to another magnetic attraction; to a third, cohesive force; to a fourth, weight; and to a fifth, gravitation; but all of these are essentially just attractive force. Now it would appear on a little consideration, as if Nature were quite capable of carrying on all her strictly physical operations—all her compositions and decompositions, expansions and contractions, changes and elections,—all the attractions and repulsions, in short, amongst the atoms, molecules, particles, masses, strata, and spheres of which men of science have felt themselves obliged to conclude that she is the aggregate, simply by means of these attractive and repulsive forces, the existence of which they are also obliged to stipulate."

He then goes on to treat of those "mongrel principles to which much of the economy of nature has been ascribed,—namely, 'fluids,' such as 'caloric' once was;" and shows reason to conclude that while the *identities* of such principles as those, for example, of light, heat, and actinism, as in the threefold solar ray, "consist in this,—that they are all three radiative or repulsive forces; their *diversities* will be found to consist in this,—that *they are each connected with a different form or substructure of matter, such as the atom, the molecule*," &c.; and, as regards light in particular, that *it is* the repulsive force *operative in the atoms;* whilst heat *is the repulsive force operative in the molecules composed of these atoms;* and cold merely its antithesis, or the attractive force operative in such molecules. On such a view it is easy to see how and why one form of repulsive force is related to another, and why and how one can evolve the other, while each is a specific and distinct form of repulsive force in itself, though so intimately related to those on either side of it.

We need not here go farther into this subject, and must refer to the paper itself from which we have been quoting; but we may remark, in conclusion, that the issue of such treatises as those of Professor Tyndal and Mr. Colburn seems to indicate that the time has arrived when the importance of such views as those just adverted to will be appreciated.

Vicissitudes of Families. Third Series. By Sir Bernard Burke, LL.D., Ulster King of Arms. Second Edition. London: Longman & Co. 1863.

To the surprise of the author, but not to ours, nor, we are sure, to that of the public, the two

previous series of the "Vicissitudes of Families" have gone through four or five editions; and the third series now appears to be steadily following in the wake of its predecessors. Considering the great and varied interest of these volumes, especially to the class who can well afford to purchase them, it would only have been to be wondered at if an author so competent, both officially and personally, as Sir Bernard Burke, had failed to interest the public on a subject so happily chosen by way of recreation amidst his more strictly professional labours.

The present volume contains many curious, romantic, and not a few very touching stories of the vicissitudes of families. Some, such as the Cole family of Brancepeth Castle, went up like a rocket and came down like the stick; old Cole, by help of his smithy-bellows, blazing suddenly up into a baronetcy in the sixteenth century, and the last one or two of the baronets sinking into denizens of "a mean room of a lowly house in Durham, utterly destitute," and the last of them buried at the cost of others as an act of charity. Other families not only rose and fell, but rose again. One family, the Seaforth, had its fate notoriously predicted, in the time of the second Charles, by an actual "Warlock of the Glen," who was called upon by a countess of the family to tell her, by magical vision, what her husband, Lord Seaforth, was about in Paris, and why he did not come home. The warlock "professed to exercise his power of clairvoyance by means of a circular white stone, with a hole in the middle, which he used to hold up to his eye and *look* through, in order to *see* the passing events of far distant countries." He *saw* Lord Seaforth, as he said, but refused to reveal more than that he was well and merry. Being pressed, however, by her ladyship; he at length, to his own sad condemnation, told her that her lord was "in a gay and gilded room, grandly decked out in velvets, and silks, and cloth of gold; and on his knees before a fair lady, with his arm round her waist, and her hand pressed to his lips." Her ladyship's fury knew no bounds: it involved the poor warlock in its fell maelstrom, and he was doomed to death; but before his murderous execution, he again looked through his magic one-eyed "spectacle," doubtless in search of the evil which might happen to the family, but not probably pretending to "*rule* their planets," as some modern astrological impostors of a low order affect to do. Evil he soon *saw*, and prophesied against the fated family; and, strange to say, that evil has come to pass in the precise forms predicted, even down to the nineteenth century, when a "white-hooded lassie from the East,"—Lady Hood, a widowed, and hence white-capped or hooded daughter of the house, from India,—handed over the estates from the Seaforth family altogether, into the possession of a second husband. Part of this terrible prediction still hangs over the heads of living remnants of the family; and even the killing of her sister by "the white-hooded lassie" (who herself survives), was predicted, and took place, by accident, while driving in a pony carriage

> "In this very remarkable instance of family fate [says Sir Bernard] the prophecy was not found out after the events occurred: *it had been current for generations* in the Highlands, and its tardy fulfilment was marked curiously and anxiously by an entire clan and a whole county. . . . The gradual development of the doom was watched with sympathy and grief; and the fate of Seaforth [the last of them deaf and dumb, as predicted] has been, during the last half-century, regarded as one of the most curious instances of that *second sight*, or, as we should now term it, prophetic clairvoyance, for which the inhabitants of the Highlands of Scotland have so long been celebrated."

There is another terrible story of "magic art" called "A Tale of Magic on Loch Lomond," in which the family of Colquhoun, of Luss, in Dumbartonshire, bordering on the Scottish Highlands, were involved. In connexion with this story we would note the rather curious circumstance that the *science* of magic, in its modern or mesmeric aspect, was reintroduced, in a literary way, to Scotland, by the late Mr. J. C. Colquhoun, high sheriff of Dumbartonshire, who wrote several very curious works on the subject, one under the title of "Isis Revelata," and another on the history of magic.

"Self-Reliance" is an interesting story of two young and high-born ladies, who, in adversity, resolved to become laundresses rather than governesses; apprenticed themselves to their mother's old lady's-maid, whom they happened to meet on the streets of London; and are now fast realizing a new fortune.

But, in truth, every story in the book is full of interest; and we need say no more in recommendation of a work so well fitted for the enjoyment of a leisure hour.

Miscellanea.

New Waterworks for Brecon.—At a recent meeting of the Brecon Local Board of Health, a report having been read, it was agreed that it was necessary to have a sufficient supply of pure and wholesome water for the inhabitants of the town; and that such supply of water be confined, preferably if not absolutely, to the source at Rhydgoch, on or near the spot indicated by the town surveyor. It appears that the estimated cost of the works does not exceed the sum of 4,600*l*.

Iron Streets.—A project has been broached in New York for paving the streets with iron, and conducting the traffic by steam carriages moving on these iron floors. It is urged that the saving to clothing, furniture, and goods, from damage by dust and mud would be enormous; that the resistance on clean iron floors would be small, the wear on carriages slight, and the noise but trifling in comparison with what it is at present. Shoes, it is represented, would wear much longer on iron side-walks than on stone.

Typhus Fever.—In a pamphlet entitled "Application du grand Air dans le Treatment de la Fiévre Typhoide," Dr. Shrimpton, of Paris, publishes several remarkable cures, chiefly attributable to the free admission of fresh air to the patient's bedroom. Dr. Shrimpton, says *Galignani*, considers typhus fever to be a kind of paralysis or asphyxia of all the vital functions, occasioned by the respiration of a lethiferous atmosphere emanating either from a patient in typhus or from some other morbid source; and he particularly demonstrates not only the great advantages to be derived from the effects of open air in the treatment of typhus fever, but maintains the absolute immunity from contagion or infection in the open air.

The Prince's Well.—In commemoration of the visit of the Queen and Prince Consort, in 1861, to the well at the Hill o'Craig o'Doon, Lord Dalhousie called it the Queen's Well. Since the death of Prince Albert the earl has erected here a memorial to the Prince. Over the well, six arches of roughly hewn granite rise about 20 feet high, terminating in a rude cross of white quartz, the whole forming an imitation of the old Scottish crown. Within its base the well now bubbles up in a basin of sandstone, on the margin of which runs this legend,—

> "Rest, travellers, on this lonely green,
> And drink and pray for Scotland's Queen."

Outside of all, smooth green turf is laid, and beyond that is the natural herbage, soon lost among the brown heath and grey stones of the mountain side, on which small white cairns rise. An inscription on the lower stone of the central arch sets forth that "Her Majesty Queen Victoria and his Royal Highness the Prince Consort visited this well and drank of its refreshing waters the 20th September, 1861, the year of Her Majesty's great sorrow." By Her Majesty's wish, the well is now called the Prince's well.

Accidents.—At the Manchester Cathedral a lofty scaffolding has been erected on the side of the demolished tower; and at the top,—a height of about 70 feet,—there is a travelling crane. An iron cap belonging to it, weighing about 8 lb., was accidentally knocked over, and it fell upon the head of a workman who was on a platform about 25 feet below, and killed him instantaneously. Verdict, "Accidental death." The evidence showed that the works, which are under the superintendence of Messrs. Graham, were carefully conducted, and the only attempt at blame was for allowing the cap to be loose; but this was unavoidable, as the crane was in course of erection. The foundation of the new tower was to be commenced this week.——A scaffolding, about 30 feet high, erected in the interior of St. Philip's Church, Salford (which is undergoing re-decoration), gave way on Saturday, and four workmen were severely hurt, two having their legs broken.——During a thunderstorm which passed over Canterbury on the 24th ult., the lightning passed down the wire which connects the telegraph with a dial-plate at the keeper's lodge, arranged to communicate to him the necessary instructions for opening the gates on the approach of the trains. The man describes that he heard a tremendous report; and on looking, he found that two holes were fused in the dial-plate, and a small gaspipe close to it was severed and melting, while the gas was ignited, and burning from the fused end. The telegraphic communication was entirely suspended between Canterbury and all stations up the line for some time.

From Bombay.—The Governor of Bombay laid the foundation-stone of St. Paul's Church, at Poona, on the 29th August. The church is to be a large and elegant structure. The health of the town and island of Bombay had slightly improved. The mortality, however, was still above the average of the last decade of years.

Ascent of Salisbury Spire.—A workman named James Matthews, in the employ of Mr. F. R. Fisher, builder, Salisbury, has made an ascent of the cathedral spire in that city, for the purpose of painting the external ironwork at the summit,—an operation which occupied him nearly two hours, and necessitated his mounting the cross above the vane, which is at the height of more than 400 feet from the ground. The ascent was accomplished by means of twenty or more small iron handles firmly fixed to the spire above the weather-door, which latter is reached by a flight of ladders inside, placed almost perpendicularly one above the other. During the process of painting Matthews secured himself to the spire with a leathern belt.

Liquid Silk.—From Lyons we learn that "a process is talked of by which silk can be liquified and the produce of the worms kept in casks for artificial re-issue in filaments susceptible of a quite novel form of manipulation: it would appear that what is meant bears some affinity to the treatment and uses of gutta percha." Whether this be merely the solution of silk by cupride of ammonium, or ammoniuret of copper, we do not know; but it appears to bear upon a suggestion of ours that *artificial* silk might be made in a fluid form by means of some imitative composition, as of indiarubber and gum lac, which could readily be drawn into fine threads, as we have seen a mixture of gutta percha and pitch drawn out by a paint-brush into hundreds of beautiful filaments. The drying might perhaps be helped by means of steam.

Workmen's Combinations.—A document has just been issued by the committee who directed the recent strike of puddlers in South Staffordshire and East Worcestershire, which evidence the growth of combination among the artisan classes of the kingdom; and the prevailing condition of the iron market, where all the different descriptions of Staffordshire finished iron are now 1*l*. 10s. a ton more than they were before the strike, shows how powerful an effect these combinations have upon the trade of the country. The documents in question show the several weekly amounts that were contributed during the twenty-one weeks over which the strike lasted. The sums range from 15*l*. to 339*l*., exclusive of in some five weeks, subscriptions from flint-glass makers ranging from 5*l*. to 55*l*. Including 143 from the glass-makers, the puddlers received during the twenty-one weeks a grand total of 3,679*l*. At the commencement of the strike 40 men were out, and seven works were standing, and the dividend was 7½d. per head. Afterwards the men increased to 815 and the works standing to 18, whilst the dividend rose to 8s. per head. The have since the strike obtained a rise of 2s. a day wages, and have now got "a permanent union."

Welch's Double-Action Patent Register Stove.—This invention is intended to warm one or two rooms, supplying them with fresh but heated air, by one and the same fire, while also promoting ventilation, and preventing draughts,—purposes long striven for in various ways. The draught from the open fire, instead of flowing upwards and into the chimney, flows downward (towards the feet), and into an iron box behind the fire; and from thence, through sheet-iron pipes, into the chimney. By this means, not only is a better open fire obtained, but a stream of fresh air is passed over the pipes in the air chamber, and led into the room or into the bedroom above; thus obtaining more than double the warmth, it is estimated, of an ordinary fire, but capable of regulation at pleasure. If the ash-pan is drawn a little outwards the downward draught ceases, and the stove then acts like those in ordinary use. As regards ventilation, by supplying room liberally with fresh warm air, the foul air from the combustion of gas, &c., and from exhalations from the lungs, is brought below the breathing level, and swept into the fire. A hollow fender, connected with the warming apparatus, also a part of this invention, which may, at will, be filled with heat from the fire, and this warmth brought to the feet, corresponding with that of hot-water. This hollow feet-warming fender is not necessarily a part of the stove. The first of these stoves brought to London may be seen at work at 259, Holborn.

Hopping for a Window. — Eight or nine ladies of Wrecclesham have been picking hops, the proceeds of their labour to be devoted towards placing a coloured window in the church of that village.

Sanitary State of London.—The health of London has settled down to about the average point. The ten years' average of mortality for the week before last is 1,240; the actual number for the week, 1,233, being seven below the average. Infant mortality is, however, on the increase, the deaths from scarlatina having risen to 148 in the course of the week. The births for the week did not reach more than 1,801, which is 79 below the ten years' average.

The Local Government Act.—A poll has been taken at Cockermouth on the question of adopting the Local Government Act, and the result is, a majority for the Act, of 388, to 292 against it. The same question is creating a stir, or what the Scotch would call "a stour," at Stourport. There, too, there is a strong opposition; but although a meeting of the inhabitants has voted by a small majority against the adoption of the Act, a poll of the ratepayers has been demanded, and it is believed there will be a large majority for the Act.

The Monuments of Italy. — Mr. Victor Delarue has published fifty-two views of the most remarkable monuments of Rome, Venice, Pisa, Florence, and Milan, photographed by Messrs. Bisson, Frères. The views are of large size, and include—St. Peter's; the Colosseum (admirable); Arch of Constantine; Column of Phocas and Arch of Septimus Severus; the whole of the remarkable group at Pisa; a good general View of Milan Cathedral; St. Mark's, Venice; the Ducal Palace, Column of St. Mark, and Quay des Esclavons; the Bridge of Sighs, giving the water wonderfully; and a View of St. Maria della Salute, the Piazetta, and the Grand Canal of Venice.

Scarlet Fever on the South Coast.—During the past week or two something of a panic has been caused among the residents at Eastbourne, by the prevalence of scarlet fever in that town. Several deaths have already taken place from this epidemic, and amongst those who have fallen victims to it are two sons of Mr. R. Hanbury, M.P. for Middlesex, whose family reside here. Mrs. Hanbury also died on Sunday last, although not from the prevailing malady. Eastbourne has hitherto shown a lower rate of mortality than almost any other place in England. At Brighton, as we understand, scarlet fever is also showing itself. In one large school eleven cases have occurred. An immediate examination by competent and disinterested persons should be made at both places, to detect, if possible, the local cause.

Monumental.—A marble statue of the Queen at Hull, which has recently been presented to the town by the mayor, Mr. Ross, will, it is expected, be uncovered by Earl de Grey on the 14th inst., when the foundation stone of a new bridge to cross the Hull is also to be laid.——There is a movement at Glasgow for the erection of a monument to Lord Clyde in his native city.——In the parish church of Bishopwearmouth, Sunderland, a monument is being erected to the late unfortunate *Times* Correspondent in China, Mr. Thomas William Bowlby. Mr. J. Pennethorne is the architect, and Mr. Wren, of Pimlico, is executing it. The design is Gothic, and on a black marble tablet is an inscription written by Mr. Tom Taylor, a fellow townsman.——At Barnstaple, an additional wing to the North Devon Infirmary has been erected at a cost of about 700*l.* out of the funds wherewith to raise a memorial to the late Lord Fortescue, lord-lieutenant of Devon. A statue of the earl had already been placed in the Castle-yard at Exeter. The Infirmary wing has just been opened.——Mr. H. J. Foley, R.A., has been selected by a committee of noblemen and gentlemen to execute the marble statue of Stonewall Jackson, of heroic size, to be presented to Virginia on behalf of the people of England.——The statues of Allen Ramsay and Professor John Wilson, which are to be erected respectively in the West and East Princes-street Gardens, Edinburgh, are expected to be ready shortly for inauguration.——A deputation from the committee of subscribers (17,000 in number) to the Dundee Baxter testimonial have presented an address to the sculptor of the marble statue of Sir David Baxter (Mr. Steell, of Edinburgh), expressive of their admiration of the way in which he has executed his commission; and at the same time the deputation presented a silver tea and coffee service to Mrs. Steell, for which and for the address Mr. Steell thanked the deputation in appropriate terms.

South Kensington Museum.—The visitors during the week ending 3rd October numbered 13,304.

Prince Napoleon.—Last week, Prince Napoleon and suite visited Mr. George Jennings's depôt of sanitary inventions, and stopped three-quarters of an hour. They examined everything; and, before leaving, the Prince, in very good English, expressed himself as much pleased with all he had seen. Soon after, the Count de Fleury, and several other French gentlemen, went over the establishment.

Proposed New Esplanade at Brighton.—The local directors and guardians have almost unanimously passed a resolution "That an application be made to the town council for permission to employ the pauper labour upon the bank under the Marine-parade wall, so as to form a road or wall, subject to the approval of the council." A walk or esplanade in the position indicated would be sheltered from the north-east winds. The matter was referred to the new workhouse committee.

Shrewsbury Sewerage. — The following tenders were opened on Thursday last for the construction of the main outlet sewer; Mr. Curley, engineer:—

Moore	£10,834	0	0
Charles	10,970	0	0
Field	12,866	0	0
Moxon	18,864	0	0
Dickson & Co.	19,750	0	0
Thomas	30,890	0	0

The *Hereford Times* says,—"Considering that the quantities were supplied, the *Builder* would, no doubt, call some of these 'blind tenders.'" And our contemporary will surely not disagree with us if we do. The list is very discreditable.

The Late Mr. William Buckle, C.E.—The builder of the first locomotive engine which made the journey from Liverpool to Manchester, so unfortunately remembered less for the triumph of engineering art than for the dreadful death of Mr. Huskisson, ought not to pass away from the world without a line of friendly notice. William Buckle, whose death is just announced, was the contemporary and friend of Watt and Stephenson, and his name is associated with many scientific improvements. He was born at Alnwick Castle, in 1794, and was educated at the Hull Grammar School. Mr. Buckle superintended the arrangements of the visit of George IV. to Ireland. After this he became connected with the Soho works of Messrs. Boulton & Watt, at Birmingham, where he held a responsible post till 1851, in which year he was appointed by Sir J. Herschel to an important office in the coining department of the Royal Mint. Mr. Buckle was a vice-president of the Institute of Mechanical Engineers.

Steam Boiler Gas Furnaces.—The patentee of this proposed substitute for coal, respecting the practicability of which there has recently been much discussion, is Mr. A. Jackson, of the East-India Chambers. A boiler to which the gas fuel is applied in Messrs. Cutler's works, in Wenlock-road, City-road, is about 3½ feet in diameter, and it is perforated by a great number of perpendicular tubes, through which the heat of the gas flame passes, so as to present a large heating surface. The quantity of gas consumed per hour is stated not to exceed 200 cubic feet, which will guarantee 2 lb. weight of steam per minute. The engine supplied with steam from the boiler is equal to four-horse power. The steam indicator showed that the pressure was not steadily maintained above 30 lb. to the inch. As there is no smoke from such a furnace, no chimney is required, the vaporous products of combustion being carried off by a small tube. It is stated by Mr. Jackson that in his application of gas its cost is three times greater than that of coal for generating an equal quantity of steam, but he asserts that the extra cost of fuel is more than compensated by the saving of labour. With illuminating gas at the present prices, the invention seems to be only applicable to special circumstances.

TENDERS.

For villa residence, Surbiton, Surrey, for Mr. L. Wilson. Mr. Henry M. Molyneux, architect:—

Manby & Rogers	£1,527	0	0
Higgs & Co.	1,250	0	0
Hart	1,245	0	0
Nicholson	1,200	0	0
Adamson	1,197	0	0
Sharpington & Cole	1,159	0	0

For Wesleyan Chapel, Epsom. Mr. E. Bassett Keeling, architect. Quantities not supplied:—

Hooker (accepted)	£852	0	0

For foundations for the Royal Masonic Institution for Boys, Wood-green, including the walls 1 foot 6 inches above the ground line, and the rain-water tank. Messrs. Edwin Pearce and S. B. Wilson & Son, architects:—

Turner & Sons	£1,919	0	0
Patrick & Son	1,858	0	0
Humphreys & Son	1,850	0	0
Piper & Wheeler	1,797	0	0
Patman & Fotheringham	1,790	0	0
Brass & Son	1,695	0	0
Lawrence & Son	1,668	0	0
Hill, Keddell, & Robinson	1,654	0	0
Matthews	1,652	0	0
Parker	1,649	0	0
Myers & Sons (accepted, subject to the confirmation of the quarterly court on the 19th instant)	1,589	0	0

For a dwelling house and provision warehouse, St. John-street, Smithfield. Messrs. Richard Tress & Chambers, architects:—

Brass	£7,193	0	0
Macey	7,177	0	0
King & Sons	7,090	0	0
Hawtry & Son	7,054	0	0
Sewell & Son	6,921	0	0
Lawrence & Sons	6,922	0	0
Browne & Robinson	6,900	0	0
Auley	6,800	0	0
J. & J. Coleman	6,659	0	0

For the erection of school-house, &c., Lewisham park, for Miss M. L. Smith. Mr. Fricker, architect:—

Gorran	£2,483	0	0
East	1,887	0	0
Rivett	1,823	0	0
Maeers	1,785	0	0
A. & J. Smith	1,705	0	0
King & Sons	1,698	0	0
Wood, Brothers	1,693	0	0
Corbett	1,520	0	0

For alterations to premises at West Smithfield, for Messrs. Fryer & Coultman. Mr. William Lee, architect. Quantities supplied by Messrs. Linsdell & Gifford —

Maeers	£1,327	0	0
Hill, Keddell, and Robinson	1,144	0	0
Perry & Judson	1,137	0	0
Cannon	995	0	0
Fish	980	0	0

For house and premises in Russell street, Hanley, for Mr. Turnock. Messrs. R. Scrivener & Son, architects:—

Steel, Brothers	£495	9	6
Steele	473	0	0
Matthews	476	0	0

For alterations and additions to Blundeston House, Suffolk, the property of Mr. Maurice Johnson. Mr. W. Oldham Chambers, architect —

Swatman	£1,8[illegible]	0	0
Jackson & Rounce	1,794	10	0

For four small houses at Woking. Mr. H. P. ak, architect, Guildford:—

Bryan	£855	0	0
Whitburn	839	6	0
Faggetter	825	5	0
West	798	0	0
Duke	794	0	0
Pollard	778	0	0
Footer	750	0	0
Garnett	730	0	0
Mason	709	0	0
Smith	697	0	0
T. Pollard	665	0	0
Beagley	649	3	0
Harris	647	0	0

For pulling down and rebuilding The Three Wheat Sheafs, Islington, for Mr. H. Davis. Quantities supplied:—

Rankin	£2,400	0	0
Eaton	2,026	0	0
Hill & Son	1,777	0	0
Case	1,737	0	0
Chapman	1,691	0	0

For a new church at Thorpe-next-Norwich. Mr. Thos. Jeckell, architect. Quantities supplied —

	Brick footings.			Concrete.		
Simms	£7,050	0	0	£900	0	0	£837	0	0
Lloyd	4,926	0	0	642	10	0	539	0	0
Boardman	4,350	0	0	573	0	0	484	0	0
Cornish	4,316	19	0	458	0	0	564	3	6
Worman	4,284	0	0	539	0	0	479	0	0
Brooks & Wiseman	4,137	0	0	750	0	0	649	0	0
Rust	4,111	12	4	549	4	1	529	0	0

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Aqua (the "carbon block filter" would probably answer the purpose; but we cannot give addresses).—G. M. (is an advertisement).—J. L. W. (See notice of Burial Places in Israel (next week).—M.—S. C.—E. J. P.—W. H.—J. B. H.—D. M'C. (it may be called "perpendicular").—C. H. D. (thanks; not suitable).—F. M.—S. D. W. (we are always glad to receive information).—H. M.—H. W.—J. A. W.—W. B.—T. B.—Domestic Economy.—C. J. H.—P. P.—H. B. & B.—J. E. W.—T. W. C.—H. P.—E. C.—D. & H.—W. O. C.—E. R.—F. L. D.—T. H. H.

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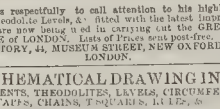
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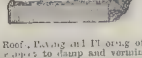
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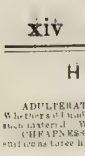
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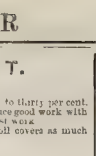
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Sashes and Frames, moving pattern, Doors Staircases, Hand rails and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air tight Window Fittings, Glass Show Cases, &c.

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¾-inch White Flooring, good quality	11s. 6d. per square.
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3 by 9 Yellow Deals	16l. 10s. ,,
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FLOORING! DEALS! MAHOGANY!

100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square

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Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

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Yellow Battens, excellent quality	10	10	0 ,,	1¾	,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

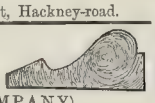
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Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
⅞ by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	15s.	16s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

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FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised. White Battens, 9s. 10s. per 120, 12 feet; Yellow ditto, 10l. ditto ditto. ¾ Match Boarding, 14s. per square; ⅞ ditto, 16s. ditto. Venetian Blind Laths, 6s. 6d. per 100 feet run. — CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK, 20,500 feet in Plank and Board, sawn three years.

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JOSEPH & ALFRED ROSLING beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. up to their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.

Southwark-bridge Wharf, Bankside, S.E.

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DRY WAINSCOT,

At 6d. 7d. and 8d. per foot, at

JOHN COUMBE'S,

LADY LAKE'S GROVE, MILE-END-GATE

SPRING GROVE BRICKFIELDS, HOUNSLOW, W. MIDDLESEX.—Mrs. ANN ELIZABETH BURCHETT begs to thank her numerous friends for the patronage received during the last twenty-five years, and having DISSOLVED PARTNERSHIP with her son, Mr. JAMES BURCHETT, has again OPENED the above BRICKFIELDS on her own account, where by strict attention to all orders she trusts to receive the same encouragement hitherto so liberally bestowed upon her. Office—Caswell Cottage, Hounslow-road, Hounslow, W.

WOOLPIT, SUFFOLK.

WHITE and RED FACING BRICKS, and other Kiln Goods, at moderate prices.—Samples at T. ALLEN'S, 7, Great Smith-street, Westminster; or from Mr. LAWSTON STUTER, at the Works. See R. G. BURNELL'S Report on Building Materials in "Mackenzie's Record of International Exhibition," p. 77

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS

By Messrs. Allen & Co. Ballingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS By Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT-COLOURED STOCKS, from the Fields at South Shoebury, and Little Wakering, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; by Messrs. J. Butcher & Son, of Otterham Quay and Lower Rainham; and also by Messrs. J. & G. Parker, of Wickham, near Strood, Kent.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tilton, near Melton; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The BALLINGDON DEEP BLACK RUBBING and BUILDING BRICKS, and the CHALFONT and BALLINGDON DARK and BRIGHT RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS, IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kentish Bridge. } SOLE CONSIGNEES.

The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Oakley. They would also call the attention of the public to the very superior quality of their Portland Cement.

HOLLOW BRICK FIRE-PROOF FLOORS

BUNNETT'S PATENT.

THIS PATENT FOR SALE, OR LICENSES GRANTED

Apply to Mr. J. BUNNETT, ENGINEER, DEPTFORD.

VICTORIA BRICK and LIME WHARF and DRAW-DOCK, NINE ELMS, S.

BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES AND RED GOODS,
TERRA COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS,
RED AND WHITE FACINGS,
STAFFORDSHIRE AND FIRE GOODS,
MALM CUTTERS, PICKINGS,
AND BUILDING GOODS GENERALLY.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

JOHN DOWNEY, Victoria Wharf, Nine Elms, S.

Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, offers

Red Pantiles, at 47s. 6d. per 1,000.
,, 8-inch Pavings, 55s. per 1,000.
,, Floor Bricks, 40s. per 1,000.
White Kiln ditto, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. Quantities may be delivered by Vessel at any of the Thames Wharfs.

PATENT ASPHALTIC ROOFING FELT.

D. ANDERSON & SON,

BELFAST,

And 23 and 24, BILLITER STREET, LONDON,

PATENTEES AND MANUFACTURERS OF ASPHALTE ROOFING, SHIP SHEATHING, BOILER AND INODOROUS FELTS.

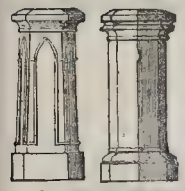
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s 6d.

TRAP, 2s.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains can be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleared without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

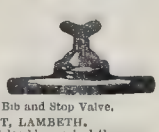
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.



THOMAS LAMBERT & SON,







Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME obstructions removed, and CAP-JUNCTIONS of any size inserted on the event of further connections being required) without breaking a pipe, or materially checking the flow of sewage.

They require no more labour in the laying down, and are placed at the same price as the ordinary Socket Pipes.

SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES TERRA-COTTA CHIMNEY-POTS, GARDEN VASES, &c. &c. BRICKS, LIME, CEMENT, SAND, LATHS, HAIR, and all other BUILDING MATERIALS

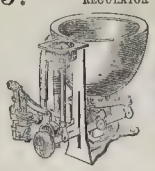
Supplied on the lowest terms direct from the WHARF, or from the WORKS, BOURNE VALLEY POTTERY, near POOLE, DORSET. Illustrated Lists with full Particulars and Prices may be obtained of

STANDING & MARTEN, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent-street, W.

J. TYLOR & SONS' PATENT

REGULATOR WATER-CLOSETS.



Valve.



Pan

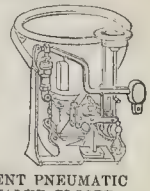
The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, a perfect flushing is insured. Any number can be worked by one supply pipe. No pattern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick Lane, Newgate-street, London.

GUEST & CHRIMES, FOUNDRY and

GENERAL BRASS WORKS, Rotherham; and 37, Southampton street, Strand, London, W.C.

London House, Mr. THOMAS BEGGS.





ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient and simple, free from all smell, and requires no cisterns, service boxes, cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipes. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet, also dispensing with all cisterns, service boxes, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary direct Service Valve Water Closets.

Chrimes's Patent High Pressure Single and Double Loose Valve and Screw Down Cocks; Improved Self-Acting and Full Waterway; Patent Absolute Waste Preventer; Plumbers' and Gas Fitters' Brass Work of every description. Drawings, Descriptions, Prices, and Testimonials will be forwarded per post on application as above.

TERRA COTTA and Fine STONEWARE

POTTERY, warranted to stand Frost.

JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and economised the manufacture of TERRA COTTA and Fine STONEWARE for ARCHITECTURAL PURPOSES. He is able to make of a much new clean body, so as to harmonize with Marble, Portland, and other Stones, as required in Last bers to Granite

A Medal at the International Exhibition was awarded, in Class 10, Section C, Architectural Objects, for "Perfection in materials and beauty of form." A Medal was also awarded for "Terra-Cotta."

Moulded Bricks, String Courses, Copings, Sills, Trusses, Balusters, Capitals, Crosses, Terminuses, Vases, Statues, Brackets, Cornices, Garden Edging, Gutters, Cresting, and twelve inch Paving Tiles, &c. &c.

Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

London Office, 377, Oxford-street, W.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED

PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their permanent coverings. MAW & CO.'S Pattern book, designed by M. Digby Wyatt, esq. together with a special design and cost mate of cost adapted to any given dimensions of hall, passage, conservatory, vestibule, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield street North, City Road, N. Sudley, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietors; and 3rdly, that the "Reports of the Jurors," page 581, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "Tue Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION.

MAGNUS'S ENAMELLED SLATE

obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, Two Prize Medals at the Paris Exhibition, and Two Prize Medals at the International Exhibition of 1862.

Trade Mark.—Many imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney pieces, Billiard Tables, Tabletops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works 39 and 40, Upper Belgrave-place, Pimlico, S.W.



SOLID

PARQUET FLOORS, ARROWSMITH'S PATENT,

From 1s. per foot, in various woods, inch thick, grooved, ploughed, and tongued together, and secured by

Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

SHOW ROOMS, 80, New Bond-street W.

SALES BY AUCTION.

TRAFALGAR SQUARE. TO BUILDERS, PAVIOURS, MASONS, AND OTHERS

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Her Majesty's Works and Public Buildings to SELL by AUCTION, on the PREMISES, Trafalgar-square Charing-cross, on TUESDAY, OCTOBER 13th, at TWELVE for ONE, in lots, about 20 to 40 feet superficial STONE PAVING, consisting of York, Portland, and Rockhill, a considerable portion of which are large slabs, suitable for landings. May be viewed, and catalogues had at the Office of Her Majesty's Works, &c. 12 Whitehall place, S.W. and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 50, Fore-street, City.

METROPOLITAN RAILWAY.—Southfield Lodge Building Materials, several Packages Deal, Dwelling-houses, and Premises, Shirley-alley and Red Lion-alley, Cow Cross-street

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on WEDNESDAY, OCTOBER 28, at TWELVE for ONE o'clock, in lots, the valuable BUILDING MATERIALS from the Factories, Dwelling-houses, Stables, and Premises in Sharp's-alley and Red Lion-alley, Cow Cross-street, Smithfield, comprising a quantity of bricks, oak and red timber, deals and battens, iron and slate, doors, sashes, and frames, fittings, flooring boards, fencing gates, posts, rails, and palisading; lead, cast-iron pipes, cisterns, stoves, and about 15 ft. of shop front. May be viewed two days previous, and Catalogues had of Mr. BURCHELL, Solicitor, Bread-street-hill; and of PULLEN, HORNE, & EVERSFIELD, 50, Fore-street, E.C. and 40, Parliament-street, S.W.

OLD STREET ROAD, Finsbury.—Freehold Houses and Ground Rents, including 11, New Turnpike-street, and Twelve other Houses and Shops; the whole producing a Rental of about £90 per Annum.

MR. PHILIP D. TUCKETT is instructed to SELL by AUCTION, at the MART, Tokenhouse-yard, London, on TUESDAY, the 27th of OCTOBER, 1863, in eight lots, a very valuable FREEHOLD PROPERTY, including the Dwelling-Houses and Shops Nos. 38, 39, 40, 41, and 42, Old Street-road, and Nos. 7, 8, and 9, Bond-street, in the Parish of St. Leonard, Shoreditch, let to respectable tenants at very low rent; an amply secured RENT of £90 per annum, arising out of that well-established public-house known as The New Turnpike, and premises adjoining, together with the REVERSION of the above valuable property after an unexpired term of forty-nine years and a GROUND RENT of £47 per annum, arising out of Nos. 2 and 4, Bond-street, making a total rental of £91.—Particulars, with plans and conditions of sale, may be obtained at the Mart; of Messrs. POOLE & GAMLEN, Solicitors, 3, Gray's Inn-square; and of Mr. PHILIP D. TUCKETT, Land Agent and Surveyor, 70a, Old Broad-street, E.C.

OXFORD.—VALUABLE BUILDING MATERIALS, comprised in the several Houses in Beaumont-street and Magdalen-street, the intended Site for the erection of the Randolph Hotel.

MR. JOHN FISHER begs to announce that he is instructed by the Randolph Hotel Company to SELL by AUCTION, in the month of OCTOBER next, the above BUILDING MATERIALS, consisting of roofs, floors, doors, shop-fronts, sashes and frames, partitions, staircases, fittings, &c. which will be taken down and removed from the premises before the houses hereby are built within a few years. Further particulars will be advertised previous to the sale.

NORTH LONDON RAILWAY FIFTH SECTION.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, on the PREMISES, late Sykes's Timber Yard, Sumner-street, City, the Offices and Sheds on the North End on the Railway Company's Line, on TUESDAY and WEDNESDAY, OCTOBER 27th and 28th, 1863, at TWELVE for ONE o'clock, the useful and valuable MATERIALS of the Houses, Warehouses, Factories, and Buildings required to be pulled down for this portion of the City extension, together with the Sun street, Long-alley Pavement of Worship-street, &c. May be viewed, and catalogues had on the Premises, and at the Auctioneers' Offices, Camden Town, N.W.

TO BUILDERS, CONTRACTORS, AND OTHERS.—TIMBER, PAVING, &c

MESSRS. KENNEDY & BONNY will SELL by AUCTION, on the PREMISES in street, Bishopsgate-street, E.C. on TUESDAY, OCTOBER 20, 1863, at TWELVE for ONE, the MATERIALS of the Extensive TIMBER SHEDS and STORES standing upon the Premises, partly occupied by Messrs. Sykes, Timber Merchants, comprising a large quantity of useful seasoned timber, York paving, paving pitching, tiles, bricks, and other materials, and the fixtures and counting-house fittings.—May be viewed any time; and catalogues had on the Premises; and at the Auctioneers' Offices, Camden Town, N.W.

To Fly and Job Masters, Contractors, Wharfingers, Agriculturists Coal Merchants, Proprietors of Omnibuses, and Others.

MESSRS. EDWIN FOX & BOUSFIELD are directed to SELL by AUCTION, on the PREMISES, the Extensive and well-known Stock in Trade of Messrs. Duff & Co., the old-established Carriage and Harness Manufacturers, of Long-lane and Bermondsey-street, the premises being required for immediate occupation by the Metropolitan Railway Company, for their extension to Finsbury.

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HOLLOWAY.—Important Sale of Pianos, Decorative Furniture, and Oil Paintings.

MR. THOMAS KING is instructed by Messrs. Cox & Cutler, who are dissolving Partnership, to SELL by AUCTION, on the PREMISES, No. 4, Lyndale-terrace, Holloway-road, on SUNDAY, OCTOBER 25th, and following day, without the least reserve, the valuable and quite modern STOCK in TRADE, comprising pedestal and other Pianos of every description, sheet lead, cloud pipes, chests, &c.; Mantelpieces in imperial, Sienna, and other marbles, of plain, and a quantity of ornamental glass, varnishes, diamonds, brushes, oil bottles, gas fittings, numbering 150 chandeliers; buckets and pedestals, iron barrel, japanned and other tongs, shop fixtures, earthenware, black and oil stoves, mantle, counting-house, and kitchen fenders, Eastern-range, register, and other stoves, and a large number of useful articles.—To view MONDAY, OCTOBER 19th, the Stock may be had on the Premises, and of Mr. THOMAS KING, Auctioneer and Surveyor, No. 7, Railway-place, Holloway-road, N.

CROYDON, SURREY.—Valuable Building Plots.

MESSRS. BLAKE will SELL by AUCTION, at the New Inn, Croydon, on SATURDAY, OCTOBER 24th, at TWO for THREE o'clock, Thirty highly Valuable FREEHOLD BUILDING PLOTS, having important frontages in the High-street (at South End), Lower Coombe street, South-bridge-road, Reed's road, and a new road connecting the High-street with South-bridge-road. The land offers to capitalists and builders first-rate sites for the erection of shops and private houses, being immediately contiguous to the town, and within easy distance of the railway-station. The intended railway terminus at South End, when completed, will materially enhance the value of the Land.—Particulars, with plans, may be had at the New Inn, Croydon; at Garraway's Coffee-house, Change-alley; of Messrs. CURREY & HOLLAND, No. 9, Old Burlington-street, London; and of Messrs. BLAKE, Croydon.

TEDDINGTON, MIDDLESEX Valuable FREEHOLD BUILDING LAND, in the finest and healthy situate, adjoining the pictures sque village of Teddington, near Bushy Park, the River Thames, Hampton Court, and other attractive features of this favourite locality.

MESSRS. DRIVER & CO. will SELL by AUCTION, at the CLARENCE ARMS INN, Teddington, on FRIDAY, OCTOBER 16, in 20 lots, about 15 acres of exceedingly valuable BUILDING LAND, delightfully situate on a gravelly soil, close to an entrance to Bushy Park, abutting on two high roads, within a few minutes' walk of the Teddington Station on the Kingston bridge line of railway, and close to a proposed station on the Thames Valley line, thus presenting numerous inducements for the erection of villa residences, for which the size and position of the lots are well suited. Printed particulars and plans may be had at the chief Inns at Richmond, Twickenham, Teddington, Hampton, Kingston, and Hampton-wick; at the Mart; and of Messrs. PARKINSON & LONGMAN, Solicitors, Winchester-buildings, City; at the Place of Sale; and of Messrs. DRIVER & CO. Surveyors, Land Agents, and Auctioneers, 4, Whitehall, London, S.W.

TEDDINGTON and HAMPTON WICK, MIDDLESEX Valuable FREEHOLD BUILDING LAND, beautifully situate in the Valley of the Thames, close to the new Railway station at Hampton-wick, near to Kingston, Hampton Court, Bushy Park and Teddington, and within 40 minutes' ride of London, laid out and arranged in lots admirable for the erection of villa and other suburban residences, many of the lots having frontages upon the high turnpike road, all commanding extensive and pleasing views, and being of good and convenient size.

MESSRS. DRIVER & CO. will SELL by AUCTION, at the CLARENCE ARMS INN, Teddington, on FRIDAY, OCTOBER 23, in 47 lots, about SEVENTY ACRES of exceedingly valuable BUILDING LAND, freehold, rent-free, and land-tax redeemed, situate in the high pasture, ride and favourite residential district lying between Teddington, Bushy Park, and Kingston and now being in certain respects only a mile out of the metropolis. The estate will have frontages from 20 to 80 feet, and with depths of from 200 to 250 feet, so as to form suitable sites for the erection of large or small detached mansions.—Printed particulars and plans may be had at the chief Inns at Richmond, Twickenham, Teddington, Hampton, Hampton Court, Kingston, and Hampton-wick; at the Place of Sale; of Messrs. TERRELL & CHAMBERLAIN, Solicitors, 30, Basinghall-street, London; and of Messrs. DRIVER, & CO. Surveyors, Land Agents, and Auctioneers, No. 4, Whitehall, London, S.W.

TWO DAYS' SALE OF MAHOGANY AND TIMBER.

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY and THURSDAY, 21st and 22nd of OCTOBER, 1863, at Ten o'clock precisely. (Luncheon at Half-past Twelve o'clock.) For account of Importers.

3,000 Spruce Deals, Battens, and Ends
7,000 Quebec Pine Deals
2,000 St. Petersburg Red and White Wood Deals
8,000 Oregon Red Deals and Boards
3,000 Archangel Red Wood Deals, and Battens
500 Lofty Blanch Yard Redwood Mast Deals
5,000 Sydenham Redwood Deals, Battens, and Ends
4,000 Fresh Christiana Battens
500 Logs Quebec Board Yellow Pine
100 Logs Quebec Red Pine
900 Logs Quebec Pine
50 Logs Quebec Oak
50 Logs Quebec Ash
20 Loads Fresh Memel Timber
300 Loads Dantzic Redwood Timber
300 Loads Swedish Timber (fresh timber)
1,000 Ditto 4 to 6-inch Pine Spars
100 Ditto 4-inch ditto
200 Fathoms Birmack and Danzic Fresh Lath-wood
Flooring.

With other Goods.

SECOND DAY'S SALE, 22nd October, 1863.

40 Logs Mahogany, Cargo per "Nations," from Para direct
30 Logs Log Beech
250 Logs Fresh Lath
35 Waggon Oak Logs
A quantity of Mahogany Planks, Boards, &c.
With other Goods.

Catalogues will be issued in the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, 6 October, 1863.

In Bankruptcy.—Re W. Hemphrey, King-street, Holborn.—To Iron Founders, Engineers, Boilermakers, and Others.

MESSRS. CUTTEN & DAVIS will SELL by AUCTION, on the PREMISES, 5, King-street, Holborn, on MONDAY, OCTOBER 12th, and following days, at ELEVEN for TWELVE, the extensive STOCK of BUILDERS' IRONMONGERY and CABINET BRASSWORK, comprising several thousand gross of screws, 25 dozen mortice and other locks, 150 dozen brass fittings, and other bolts, 400 dozen brass and iron axle pullers, 70 dozen brass butts, 70 dozen sash fastenings, an assortment of files, bell furniture, general ironmongery, and brasswork; 130 register, elliptic, and other stoves, ranges, rainwater-pipes, &c.; 2 tons of castings, 34 tons of nails, &c.; and trade utensils.—Catalogues may be had on the Premises, and of the Auctioneers, 9 and 10, Basinghall-street, E.C.

IN BANKRUPTCY.—TO TIMBER DEALERS AND BUILDERS.

MESSRS CUTTEN & DAVIS will SELL by AUCTION, on the PREMISES, Seymour-place York street, Walworth, on TUESDAY, OCTOBER 13th, at ELEVEN for TWELVE o'clock, the STOCK of English and Foreign TIMBER, comprising 16 loads of elm, in log; 18 loads ash and beech plank, 6 loads teak, 2,000 yellow and white pine deals, 20 squares of flooring, a quantity of cut stuff, battens, and effects. Catalogues may be had of the Auctioneers, 9 and 10, Basinghall-street, E.C.

LONDON, CHATHAM, and DOVER RAILWAY, BERMONDSEY.—Of a piece of FREEHOLD BUILDING, WHITELEAD, GLASS, BRUNSWICK GREEN, and EFFECTS.

MR. KEMP will SELL by AUCTION, at the FACTORY, 165, Bermondsey-street (in the rear of the Fox and Goose Tavern), on TUESDAY next, at ONE o'clock, without reserve, the STOCK of a PAPER-STAINER: comprising 3,000 pieces, in every design in marbles, satins, flocks, gold, &c. 40 lbs of whitelead, glass, Brunswick green, and effects.—View morning of Sale, and catalogues.—Auctioneer's Offices, 27, Coleman-street, Bank.

LOWER-ROAD, ISLINGTON.—Useful Building Materials.

MESSRS. CRAWTER are favoured by instructions from the Governor and Directors of the New River Company, to SELL by AUCTION, with all reserve, upon the PREMISES, on WEDNESDAY, OCTOBER 21, 1863, at ONE o'clock precisely, the MATERIALS, comprising a quantity of brickwork, masonry, plain and ironing, slating, tiling, carpentry, joinery, chimney pieces, cisterns, stoves, sash bars, &c. of seven houses and premises, being Nos. 4, 5, 6, and 7, in the Lower-road, and Nos. 16, and a double cottage and premises part of Bull's-buildings, in the rear. May be viewed the day prior to the Sale, and Catalogues had at the Premises, No. 44; the Angel Inn, Islington; and of Messrs. CRAWTER, Surveyors, &c. 5, Bedford-row, Gray's-inn, W.C.

TIMBER DEALER'S AND BUILDER'S STOCK.—Camden Town

MESSRS. LEREW & LEREW will SELL by AUCTION, at CAMDEN TERRACE, on MONDAY, OCTOBER 19th, at TWELVE for TWELVE, a large quantity of PLANKS, DEALS, and BATTENS, Dry Cut Stuff, 2½ feet Spanish and Honduras Mahogany, 1½ feet Birch, 7,000 feet wide Pine, 4,000 feet Pine Square, Prepared Flooring, Scantling, Slating Battens, Panel Laths, useful Materials, &c.

BUILDING LAND TO BE LET, on lease, situate in the best part of Norwood, within ten minutes' walk of the Crystal Palace, and immediately adjoining the Gipsy Hill Station. This eligible building ground is suitable for detached or semi-detached villas, which are in great demand. Money can be advanced to builders if required, at moderate rates of interest.—For particulars, apply, personally, to Mr. WILLIAM BACKHOUSE, Architect, 32, Southampton-buildings, Chancery-lane, W.C.

FREEHOLD GROUND RENTS, CITY of LONDON.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 13th of OCTOBER next, at HALF-PAST TWELVE o'clock precisely, to receive PROPOSALS for the PURCHASE of FREEHOLD GROUND RENTS, on premises let on building leases, having about eighty-one years to run, and several reversions from 50 to 74, Watling-street, Nos. 76 and 77 Newgate-street, and No. 4, Maidenhead-court, Aldersgate-street; particulars and plans of which may be had at this Office, together with the conditions of sale. Tenders must be sealed, endorsed outside, "Tender for Ground Rents," and addressed to the undersigned at this Office, and must be delivered in before TWELVE o'clock, on the said 13th of OCTOBER next. The Commissioners do not bind themselves to accept any Tender, unless the same be deemed eligible. Parties tendering must attend personally, or by an authorized agent, on the day of treaty, and be then prepared (if their Tender be accepted), to pay the required deposit of 10 per cent and to execute an agreement for the completion of the purchase, according to the conditions of sale. JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, September 22, 1863

TO BRICKMAKERS and OTHERS.—TO BE SOLD, or LET on lease for a term of years, a BRICK-FIELD, in the immediate neighbourhood of an important town in Kent. The Land is freehold. The demand for bricks is large, and daily increasing, and an unlimited grant of the bricks exclusive quality of the soil is offered. The situation is within a mile of two railway stations.—For further particulars and terms, address, Z. Z. Z. Office of "The Builder."

FARNBOROUGH and ALDERSHOTT FREEHOLD and GROUND-RENT SOCIETY (Limited).—To BUILDERS and Others.—Land on this Society's Estate at Farnborough, 1½ mile from the Station, to be SOLD or LET on advantageous terms.—Particulars may be had of the Architect, Mr. H. CURREY, 3, Lancaster-place, Strand, W.C.; or at the Offices of the Society, 18, New Bailey-street, Blackfriars.

EDWARD CHATFIELD, Managing Director.

GROUND in BASINGHALL-STREET, now occupied by Houses and Warehouses, known as Nos. 20 and 21, Basinghall-street, TO BE LET by TENDER, for Building purposes. A plan of the ground and form of Tender may be obtained at the Offices of EDWARD PANSON, Esq. No. 7a, Lawrence Pountney-hill, Cannon-street; or of Messrs. HOLLINGSWORTH, YEOMAN, & GREEN, No. 24, Gresham-street, London; where Tenders, under seal, are to be delivered on or before the 1st DECEMBER next. The Owner does not bind himself to accept the highest or any Tender.

BUILDING LAND, EALING.—TO BE LET, in PLOTS, direct from the Freeholder, for Villas. This estate is within 200 yards of a Station, at which more than 50 trains stop daily, and abutting on the high road. Its intrinsic value is, that on completion of the Finsbury Extension of the Metropolitan Railway, this side will be actually within half an hour of the Bank of England. The subsoil is gravel, and the roads and sewers are made. Particulars of Messrs. GRAY & BERRY, 108, Edgware-road; or Mr. JONES, Architect, Ealing, W.

CITY of LONDON.—FREEHOLD BUILDING LAND.—The site of two houses at the corner of College-hill and Cloak-lane (land-tax redeemed), TO BE LET by the Worshipful Company of Cutlers, on a BUILDING LEASE for eighty years. Tenders to be sent to the Clerk's Hall, on or before MONDAY, the 9th of NOVEMBER, 1863. For further particulars apply to Messrs. BEAUMONT & THOMPSON, Solicitors, 19, Lincoln's-inn Fields, or Messrs. TRESS & CHAMBERS, Architects, 27, Queen-street, Cheapside

BUILDING GROUND, Milk Street, Cheapside.—Notice is hereby given, that the Committee for Letting the City's Lands will meet at Guildhall, on WEDNESDAY, the 21st of OCTOBER next, at ONE o'clock precisely, to receive PROPOSALS for a BUILDING LEASE for 80 years of a piece of ground on the east side of Milk street, Cheapside, in the City of London. A plan of the ground may be seen, and forms of Tender obtained, at the Office of the City Architect, Guildhall.

FERDINAND BRAND, Comptroller.

Guildhall, 24th September, 1863.

TO BUILDERS.—MUSWELL HILL, near to the Church and Alexandra-park.—Some eligible sites LAND in the Lessee's district, suitable for the erection of three pairs of Villas. TO BE LET on BUILDING LEASE. Apply the Landlord, and to water bailiff on Liberal advances will be made.—Apply to M. HEATHEY, Land Surveyor, 40, Fetter-lane, E.C.

SUTTON, near the Station.—PLOTS of FREEHOLD BUILDING LAND FOR SALE. Land taxe redeemed, conveyance free. Also, PLOTS TO BE LET, on a Building Lease, for ninety-nine years.—For plans, &c. apply by post, prepaid, to Mr. THIRS, Builder, Sutton, Surrey, S.

KEYNSHAM BLUE LIAS LIME and CEMENT WORKS, SOMERSET.—TO BE SOLD by PRIVATE CONTRACT, by order of the Liquidator, the newly-formed FREEHOLD WORKS, comprising 4 acres of LAND, and premises, with the existing kilns and ovens are capable of producing 700 to 800 tons of lime and 15 tons of cement weekly, both premises being supplied by large contracts and ordered at a steady, increasing rate, the Lime being of the Government fortifications now in progress. The substance is very substantial and the machinery is of the best description, and recently erected, and will be sold with the stock in trade, or separately. Coals are supplied to the works at a very low price, and the Great Western Railway Station is within a short distance.—For further particulars apply to Messrs. N. LINDS & SONS, Solicitors, 47, Moorgate-street; of F. MAYNARD, Esq. Liquidator, 19, Bread-street, Cheapside; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London.

TO CONTRACTORS, BUILDERS, and BRICKMAKERS Near to Morden, Old Malden and Wimbledon Park, and Sutton Railway stations. TO BE LET, about EIGHTY ACRES of valuable BRICK-EARTH LAND, which may be worked without much labour and at a moderate royalty. Specimens of various strata may be inspected, and further information obtained at the Offices of Messrs WIGG, SON, & OLIVER, No. 7, Bedford-row, W.C.

BATTERSEA. — Between Clapham and Battersea Park.—To BUILDERS and OTHERS.—LONG HEDGE FARM ESTATE TO BE LET on BUILDING LEASES direct from the Freeholders, at most rate greater rents. The property lies most favourably for Central Access, Battersea Bridge, and immediately adjoining the Works of the London, Brighton, and South Coast Railway Company, and the Wandsworth road and Station, whereby Omnibuses pass and repass every few minutes. Roads and Sewers now forming. The Low Level Sewer in course of construction will effectually drain the whole of the said estate.—For plans and further particulars, application may be made to Messrs. COLLYER BRISTOW, & WITHERS, Solicitors, 4, Bedford-row, W.C.; to Mr. CHARLES LEE, 20, Goldensquare; or to Mr. R. J. WITHERS, 31, Doughty-street, W.C.

REPAIRING LEASES.—To TRUSTEES, SURVEYORS, and OTHERS.—The Advertiser is desirous of taking on lease, at a rental, an Estate of weekly or other houses requiring an outlay for repairs. Ample references.—Address, A Z care of Housekeeper, 6, Southampton-buildings, Holborn.

LEE, KENT.—LAND TO BE LET, by the Merchant Taylors' Company, on Building Leases of 88 years from Michaelmas next.—Plots to be addressed, before the 31st OCTOBER next, to SAMUEL FISHER, Esq. Solicitor, Merchant Taylors' Hall, Threadneedle-street, London, of whom particulars, with a plan, may be obtained. The Company do not bind themselves to accept the highest or any Tender.

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The Builder,

Architect, Engineer, Operative & Artist.

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BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1864, be open to PUBLIC COMPETITION.

A Competitive Examination will accordingly be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which Candidates will be admitted to the Examination may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 10th July, 1863.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS.—The Lecture Committee of the above Institution have great pleasure in announcing that Professor DONALDSON, President of the Royal Institute of British Architects, will deliver a LECTURE to the members and their friends, on WEDNESDAY EVENING, OCTOBER 28th instant, at No. 9, Conduit-street, Regent-street, "On the Transport and Erection of large Monoliths, as in Obelisks, Columns, &c." Lecture to commence at Half-past EIGHT o'clock.—Tickets can be had on application to any of the members, and at 9, Conduit street

R. WEBSTER, Librarian.

FIREPROOF WAREHOUSES.—Working and other PLANS WANTED at once, in print, or otherwise.—Address, by letter only, to H. B. care of Messrs Vacher, 29, Parliament street, Westminster.

ARCHITECTURAL ASSOCIATION.—The Opening Meeting and CONVERSAZIONE of the above Association will take place at the Rooms, 9, Conduit street, Regent-street, on FRIDAY Evening, OCTOBER 30th.

Gentlemen desirous of becoming Members can obtain the necessary information of the Honorary Secretaries.

CHARLES J. ADAMS, 6, Adam street, Adelphi, } Hon.
J. DOUGLASS MATHEWS, 10, Cloak lane, City, } Secs.

SOUTH KENSINGTON MUSEUM.—The New NATIONAL ART TRAINING SCHOOLS, for Male and Female Classes, will be OPENED for the inspection of the Public, every SATURDAY, from TWO till NINE, p.m. Entrance through the Museum.—By Order of the Lords of Committee of Council on Education.

ARCHITECTURAL UNION COMPANY (Limited).—The EXHIBITION of BUILDING INVENTIONS, MATERIALS, &c. at the Galleries, 9, Conduit-street, Regent-street, is now OPEN DAILY from ELEVEN till FOUR, FREE.

PROFESSOR DONALDSON'S COURSES of LECTURES on ARCHITECTURE and CONSTRUCTION, for the Session 1863-4, at University College, commence on TUESDAY EVENING, the 27th of OCTOBER.—Full particulars can be obtained on application at the Office of the College.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE will shortly be REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the present establishment. These will afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

61, Bishopsgate-street Within, July, 1863.

ARCHITECTURAL PHOTOGRAPHS. 2,000 Specimens.—English, French, Belgian, and Italian Buildings, Antiquities of Rome, Athens and Egypt, Views in Venice, &c. A large quantity of soiled copies on sale, at half-price.—T. H. COLDWELL, 21, Gracechurch-street, London.

CONTRACTS.

ARMY CONTRACTS.—TENDERS will be received at this Office until TWELVE o'clock, Noon, on TUESDAY, the 3rd NOVEMBER, 1863, from persons who may be willing to enter into CONTRACTS to SUPPLY FLOUR and MEAT, in such quantities as may be required from 1st DECEMBER, 1863, to 31st MAY, 1864, for the use of Her Majesty's Forces stationed at Aldershott Camp, and within the command

Separate Tenders are required for Flour and for Meat.

Forms of Tender and Conditions of Contract may be obtained on application at this Office, by letter or in person, between the hours of TEN and FOUR o'clock.

The Tenders must be properly filled up and signed, and delivered at this Office (under closed envelope, marked on the outside "Tender for Army Supplies,") and no Tender will be noticed unless made on forms obtained from this Office, and delivered by the hour appointed.

Commissariat Office, Aldershott, 9th October, 1863.

ARMY CONTRACTS. TENDERS will be received at this Office, until TWELVE o'clock, Noon, on THURSDAY, the 5th NOVEMBER, 1863, from persons who may be willing to enter into CONTRACT to SUPPLY PALLASSE STRAW and STRAW for ROYAL ENGINEER SERVICE, in such quantities as may be required from the 1st DECEMBER, 1863, to 30th NOVEMBER, 1864, for the use of Her Majesty's forces stationed at Aldershott Camp, and within the command.

Forms of Tender and conditions of contract may be obtained on application at this Office, by letter or in person, between the hours of TEN and FOUR o'clock.

The Tenders must be properly filled up and signed, and delivered at this Office (under closed envelope, marked on the outside "Tender for Supply of Straw"), and no Tender will be noticed unless made on forms obtained from this Office, and delivered by the hour appointed.

Commissariat Office, Aldershott, 9th October, 1863.

ARMY CONTRACTS.—TENDERS will be received at this Office until TWELVE o'clock, Noon, on TUESDAY, the 3rd NOVEMBER, 1863 from persons who may be willing to enter into CONTRACT to SUPPLY FLOUR for HOSPITAL BREAD, in such quantities as may be required, from the 1st DECEMBER, 1863, to the 31st MAY, 1864, for the use of Her Majesty's Forces stationed at Aldershott Camp, and within the command.

Forms of Tender and Conditions of Contract may be obtained on application at this Office, by letter or in person, between the hours of TEN and FOUR o'clock.

The Tenders must be properly filled up and signed, and delivered at this Office (under closed envelope, marked on the outside "Tender for Army Supplies"), and no Tender will be noticed unless made on forms obtained from this Office, and delivered by the hour appointed.

Commissariat Office, Aldershott, 9th October, 1863.

LANCASHIRE and YORKSHIRE RAILWAY.—The Directors are prepared to RECEIVE TENDERS for the IRON GIRDERS of the BRIDGES over the Irwell-son from Salford to Victoria Station, Manchester. Drawings may be seen, and forms of Tender obtained, at the Engineer's Office, Hunt's Bank, Manchester, on and after the 5th OCTOBER instant, and Tenders, properly endorsed and addressed to the Directors, must be in the hands of the undersigned not later than MONDAY, the 26th OCTOBER instant.—The Directors do not undertake to accept the lowest Tender.

WM S. LAWN, Secretary.

Manchester, 1st October, 1863.

WEST HAM LOCAL BOARD of HEALTH.—Notice is hereby given, that the Board of Health for the District of West Ham, in the county of Essex, are prepared to receive TENDERS for the ERECTION of TWO COTTAGES, on their land at Canning Town, adjoining the Sewerage Outfall Works. Conditions of Contract, forms of Tender, and any other information may be obtained at the office of the Local Surveyor, at Rokeby House, in Stratford, E. between the hours of TEN and TWELVE o'clock. Tenders are to be delivered at my Office, at Rokeby House, in Stratford, not later than MONDAY, the 26th instant; and each of them must contain a Ten Pound Bank of England Note, endorsed by the party tendering, to be returned in the event either of the Tenders not being accepted, or on the completion of the contract or bond.—By order of the Board.

CHARLES WILSON, Clerk.

Rokeby House, Stratford, E. October 10th, 1863.

BOROUGH of NEWCASTLE-UPON-TYNE.—HOSPITAL of ST. MARY THE VIRGIN.—ERECTION of the ROYAL FREE GRAMMAR SCHOOL.—To BUILDERS and OTHERS.—The Corporation of Newcastle-upon-Tyne invite TENDERS from Builders and others for the ERECTION of the ROYAL FREE GRAMMAR SCHOOL, and other Works connected therewith, at the Hill, in Newcastle-upon-Tyne, according to plans, working drawings, and specifications approved of by the Town Council, and sanctioned by the High Court of Chancery. The plans and specifications may be inspected on application to the Architects, Messrs. JOHNSON, HOGG, & SONS, 32, Pilgrim-street, where further information can be obtained; and sealed Tenders, addressed to "The Chairman of the Committee on Schools, Charities, and Hospitals," will be received at the Town Clerk's Office, Guildhall, up to SIX o'clock on TUESDAY, the 27th day of OCTOBER next. The Corporation do not bind themselves to accept the lowest or any Tender.—By order,

JOHN CLAYTON, Town Clerk.

Guildhall, Newcastle, 30th September, 1863.

TO BUILDERS.—Persons desirous of giving in TENDERS for the ERECTION of a CHURCH, at Clearwell, near Coleford, in the county of Gloucester, for the Right Honourable Caroline, Dowager Countess of Dunraven, may see the plans and specifications at the Reading-room, Clearwell, from OCTOBER 19th to OCTOBER 31st instant. JOHN MIDDLETON, Architect.

Cheltenham, October 1st, 1863.

TO WORKING BRICKLAYERS.—TENDERS WANTED, for the Workmanship only, of about Seven Rods of BRICK WORK, contained in the proposed New Baths, Washhouses, School, Chapel, Club Rooms, Cooking Depôt, and Work and Men's Lodging Houses, about to be erected in Hartshorn-court, Golden-lane, Barbican.—Further particulars can be seen at the Office of Mr. WM. BURNS, C.E. No. 100, Golden-lane, Barbican, E.C.—Tenders to be sent to the above address, on or before TUESDAY, the 27th OCTOBER, 1863.

London, 15th October, 1863.

CONTRACTS.

CITY of MANCHESTER.—To ARCHITECTS and LANDSCAPE GARDENERS.—MANCHESTER CEMETERY.—EXTENSION of TIME.—NOTICE. Persons desirous of obtaining PLANS and other particulars to enable them to compete for the design for laying out this Cemetery, can obtain them by applying at the City Surveyor's Office, Town Hall, Manchester, on or after the 8th of OCTOBER instant. The date of furnishing particulars having been postponed, a proportionate extension has been made in the time allowed for sending in designs.—For particulars as to premiums offered, &c. see former advertisements.—By order,

JOSEPH HERON, Town Clerk.

Town Hall, Manchester, 5th October, 1863.

TENDERS.—Notice is hereby given, that the Hastings Local Board of Health are ready to receive TENDERS from persons desirous of CONTRACTING with them for the SUPPLY of about 5,500 YARDS of 9 inch CAST IRON WATER-PIPES, BENDS, JUNCTIONS, &c. The specification and particulars may be had on application at the Town Clerk's Office, High street, Hastings, where Tenders, duly signed, must be delivered before TEN o'clock of the morning of FRIDAY, the 23rd day of OCTOBER next. The local Board do not bind themselves to accept the lowest or any Tender. ROBERT GROWSE, Town Clerk.

Hastings, September 28, 1863

TO WELL-SINKERS and BORERS.—TENDERS WANTED for SINKING a WELL in the Two Brewers-court, Golden-lane.—Intending contractors can see the plans and specifications at the Office of Mr. WILLIAM BURNS, C.E. No 100, Golden-lane, Barbican, E.C.

TO BRICKMAKERS and OTHERS.—TENDERS WANTED for about ONE MILLION of STOCK BRICKS, and about TWO HUNDRED THOUSAND WHITE SUFFOLK, or other equally good white facing BRICKS, to be delivered at Hartshorn-court, Golden lane, Barbican.—Conditions and further particulars can be seen at the Office of Mr. WILLIAM BURNS, C.E. No. 100, Golden-lane, E.C.

TO CARTERS, CONTRACTORS, and OTHERS.—TENDERS WANTED for about 400 Cubic Yards of BALLAST for Concrete, and 1,000 Cubic Yards of Sharp SAND, to be delivered at Hartshorn-court, Golden-lane. Intending Contractors can see the conditions at the Office of Mr. WM. BURNS, C.E. No. 100, Golden-lane, E.C.

TO LIME BURNERS, CEMENT MANUFACTURERS, and OTHERS.—TENDERS WANTED for about 300 CUBIC YARDS of GREY SKINS of LIME, and about 3,000 Bushels of ROMAN CEMENT, 3,000 Bushels of PORTLAND CEMENT, 3,000 Bushels of PLASTER of PARIS, to be delivered at Hartshorn-court, Golden lane, E.C. Further particulars can be seen by applying at the Office of Mr WILLIAM BURNS, C.E 100, Golden-lane, Barbican, E.C.—N.B Tenders for the above Well, Bricks, Ballast, Sand, Lime, and Cement, to be sent in to Mr WILLIAM BURNS, C.E. No. 100, Golden lane, Barbican, E.C. on or before THURSDAY next, 22nd OCTOBER, 1863.

London, October 15, 1863.

TO SEWER CONTRACTORS, BUILDERS, and OTHERS.—The Board of Works for the Plumstead District are desirous of receiving TENDERS for CONSTRUCTING about 2,856 feet lineal of BRICK SEWER, 20 feet by 3 feet in the clear, to extend from the present termination of the Ravensbourne and Lee Green Sewer, at Lee Green, in the parish of Lee, to a certain point opposite the Harrow Cottages, in Kidbrooke Road, in the parish of Eltham, in the county of Kent. All persons wishing to submit such Tenders can inspect the drawings and specification and form of contract for such new Sewer and Works at the Office of Mr. T. C. HAWORTH, Surveyor, at Eltham, Kent, or at the Office of Mr. F. F. THORNE, Surveyor, in Lee Road, Lee, Kent, where further particulars and Tender may be obtained. The Tenders are to be delivered, free of expense, at the Office of the Board of Works for the Plumstead District, at Old Charlton, S.E. at or before FIVE o'clock in the afternoon of WEDNESDAY, the 28th instant. The lowest or any other Tender will not be necessarily accepted.—By order.

CHARLES AUGUSTIN SMITH, Clerk to the Board.

Old Charlton, 14th October, 1863

TO MASONS and PAVIORS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the SUPPLY and LAYING complete of about 5,300 feet run of 12-inch by 8-inch DRESSED ABERDEEN FLAT CURB, and about 17,000 feet superficial of 3-inch TOOLED YORK PAVING, 4 feet wide, in the parish of Battersea. The specification can be seen at the Offices of the Board, as below, between the hours of TEN and FOUR. Tenders are to be sent in under seal, addressed to the Board, and indorsed "Tender for Paving Battersea," on or before the 23rd day of NOVEMBER next. Security will be required for the due execution of the Contract. The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District,

ARTHUR ALEXR. CORSELLIS, Clerk to the Board.

Battersea Rise, Wandsworth, S.W October 15th, 1863.

TO MASONS, PAVIORS, STONE MERCHANTS, and OTHERS.—The Vestry of the Parish of Chelsea will meet at the Vestry Hall, King's-road, on TUESDAY, the 27th OCTOBER instant, at THREE o'clock in the afternoon, to receive TENDERS from persons willing to CONTRACT for the Works required for the EXECUTION of WORKS and for the SUPPLY of MATERIALS connected with the above trades, in the said parish, as may be required and directed.—Further particulars, with the form of Tender, may be had on application at this Office. Sealed Tenders, signed by the proposed contractor, with the names and description of two sufficient sureties for the performance of the contract, to be delivered to the Clerk by or before TWELVE o'clock on TUESDAY, the 27th instant. The legal charges of the contract to be paid by the contractor upon the execution of the same. No Tender will be received or accepted unless made on the printed forms.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's road, Chelsea, October 14, 1863.

[*For remainder of Contracts see next Page.*

CONTRACTS.

TO CONTRACTORS and OTHERS.—The Local Board for the District of Chorley (Alderley Edge), Cheshire, are desirous of receiving TENDERS for the EXECUTION of CONTRACT No 2, being the necessary Works in making and completing about 2,000 lineal yards of Brick Main Sewers. Plans and sections may be inspected, and specifications obtained, at the Office of the Engineer to the Board, Mr. S. C. TRAFF, 18, Cooper-street, Manchester, on payment of 5s. Sealed Tenders, endorsed "Tender for Contract No. 2," must be left at the Office of the undersigned, 16, Cooper-street, Manchester, on or before THURSDAY, 29th OCTOBER. The Board do not bind themselves to accept the lowest Tender.—Dated this 2nd October, 1863.

W. L. WELSH, Law Clerk to the Board.

TO BRICKMAKERS, DUST CONTRACTORS, SCAVENGERS, and OTHERS.—Notice is hereby given, that the Board of Works for the Fulham District are prepared to receive TENDERS, and to CONTRACT for the SALE and REMOVAL of the COAL-DUST, ASHES, and CINDERS from the Houses of the Inhabitants of the District, for a period of twelve months from the date of contract. The work to be done according to the specification, which, with the form of Tender, may be had at the Office. No other form of Tender will be received. The Tenders must be in a separate form for each one for the parish of Fulham, and one for the parish of Hammersmith; to be sent in sealed, and marked "Tender for Dust and Ashes" on the outside, on or before TEN o'clock of WEDNESDAY morning, the 21st day of OCTOBER, 1863, addressed to "The Chairman of the Board of Works for the Fulham District, Broadway House, Hammersmith." The contractor will have to enter into a written contract and bond, and to provide two good and sufficient sureties for the due performance of his contract, and will have to pay, on signing the contract, one fourth part of the money offered by him, and the three succeeding payments in advance of each quarter. The Board do not bind themselves to accept of any Tender.—By order,

W. LOVELY, Clerk.

CONTRACT for GUERNSEY GRANITE and KENTISH RAG.—The Chatham Local Board of Health are prepared to receive TENDERS for the SUPPLY of 200 TONS of best GUERNSEY GRANITE and 200 TONS of best KENTISH RAG STONE, free from hassock. The above to be broken to a gauge of 2 inches, and to be delivered on a wharf or into carts at Chatham, at the option of the Board, and at such times as the Surveyor, after acceptance of the Tender, shall require. Tenders to be sent to the Office, 311, High-street, Chatham, on or before the 21st OCTOBER inst. and the Local Board will not be bound to accept the lowest or any Tender Separate Tenders will be received for the above, and further particulars may be obtained of Mr. WILLIAM WREDEN, the Surveyor, Alma place, High-street, Chatham.—By order of the Board,

THOMAS HILLS, Clerk.

311, High-street, Chatham, October 10, 1863.

NOTICE to CONTRACTORS.—The Directors of the Dare Valley Railway Company are prepared to receive TENDERS for the EXECUTION of WORKS required for the formation of a portion of that Company's Railway, being in length about 24 miles. Further information may be obtained on application to the undersigned, at the Dare Vale Railway Company's Offices, Crockherbtown, Cardiff, on and after WEDNESDAY, the 14th instant. Tenders, addressed to the Board of Directors of the Dare Valley Railway Company, to be delivered at the above-mentioned Offices on or before TUESDAY, the 27th instant. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

GEORGE FISHER, Engineer.

Cardiff, October 8th, 1863.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A meeting of this Board will be held on MONDAY, the 26th day of OCTOBER, 1863, at SIX o'clock in the evening, at the Office, 15, Great Alie-street, Whitechapel, to receive TENDERS for the CONSTRUCTION of a BRICK SEWER, in Thomas-street, partly in the parish of Whitechapel and partly in the hamlet of Mile-end New Town, within the said district. Plans, section, and specification may be inspected, and further particulars, with printed forms of Tender, obtained on application to Mr. PRICKER, Surveyor, between the hours of TEN and FOUR, at the Office of the Board. Sealed Tenders, in which a lot note is to be inclosed, must be delivered at the Office, previous to the hour of meeting; and any Tender which is not upon the form prepared by the Board, and duly signed by the person or persons tendering, will be rejected. Persons tendering, or their representatives, are required to attend the meeting of the Board. The Board do not bind themselves to accept the lowest or any Tender. ALFRED TURNER, Clerk to the Board.

15, Great Alie-street, Whitechapel, 14th October, 1863.

TENDERS WANTED for the BRICKWORK of FOUR HOUSES. Labour and scaffolding only.—Apply to WM. LLOYD, 54, Haines-street, Battersea Fields.

TO CONTRACTORS and OTHERS.—Persons willing to contract with the Marshland Smeath and Fen District Commissioners, for the CONSTRUCTION of a NEW OUTFALL SLUICE, at the Outlet of the District Outfall Drain into the River Ouse, and the Works connected therewith, are requested to deliver sealed TENDERS for the same at our Office, on or before WEDNESDAY, the 4th day of NOVEMBER next. A specification and drawings of the Works can be seen on application to WM. PLEWS, Esq. C.E. King's Lynn; or at our Office in Wisbech. The Commissioners do not pledge themselves to accept the lowest or any Tender.—By order,

Wisbech, October 1, 1863. R. F. & E. JACKSON.

TO BUILDERS and OTHERS.—Persons willing to CONTRACT for the ERECTION of a VILLA RESIDENCE, to be built near the Durham Turnpike, Baltwell, Gateshead, may now inspect plans and specifications, and obtain quantities, at the Office of Mr. ALFRED SWAN, Architect, 50, Grainger-street, Newcastle, between the hours of TEN o'clock in the morning and SIX o'clock in the evening. Tenders will be received up to the 29th inst. The Advertiser does not bind himself to accept the lowest or any Tender

TO BUILDERS.—TENDERS are required for ALTERATIONS and ADDITIONS to the CITY MUSIC HALL.—Plans, specification, &c. can be seen daily at the Office of the Architect, Mr. WILLIAM FAICE, 11, Great James-street, Bedford-row, London.

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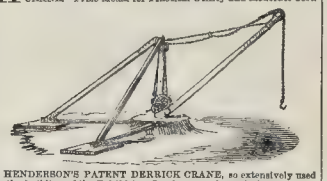
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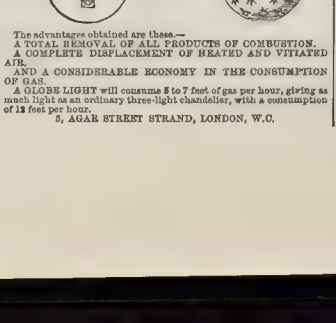
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They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

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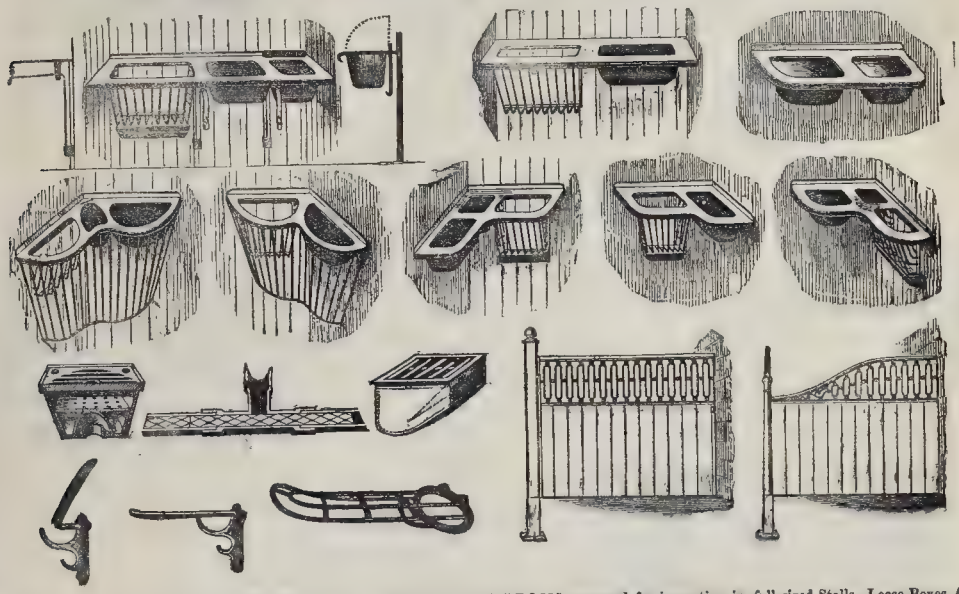
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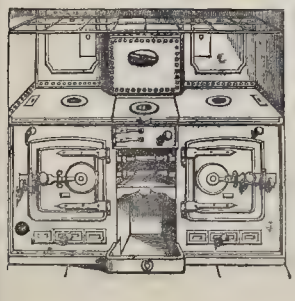
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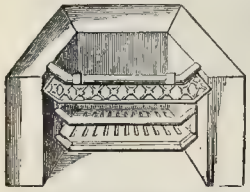
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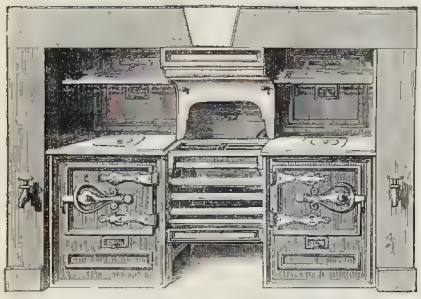
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36	,,	24	,, ...	30	0	} Extra strong.		
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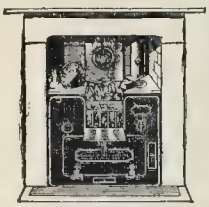
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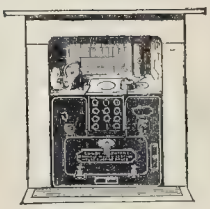
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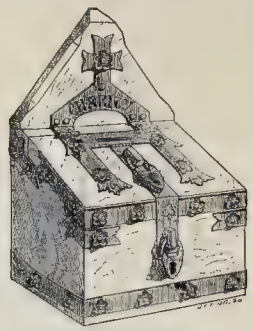


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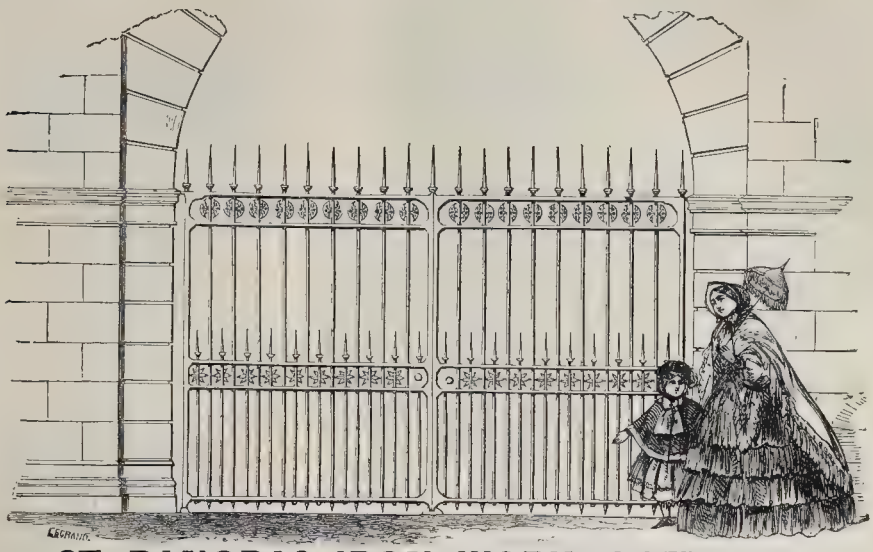
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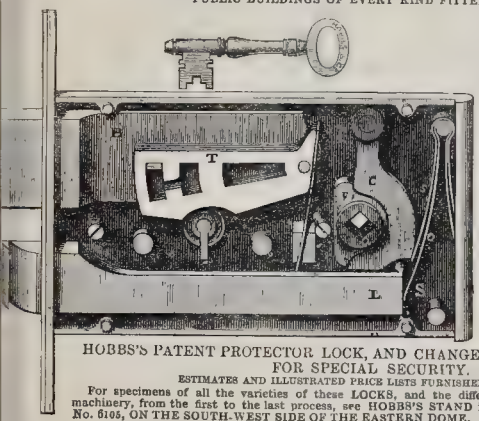
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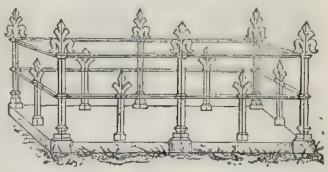
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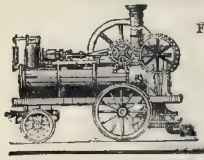
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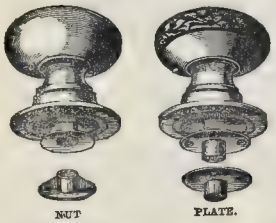
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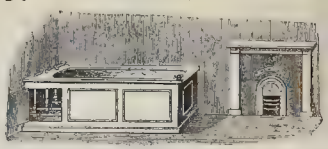
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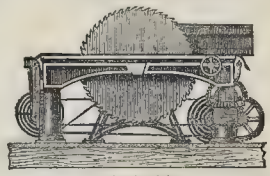
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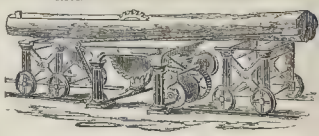
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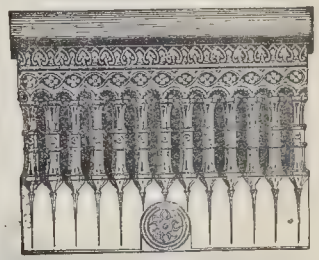
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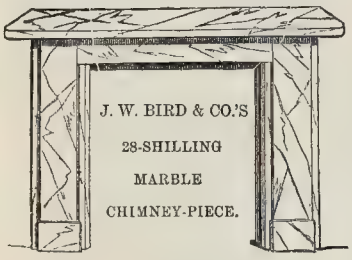
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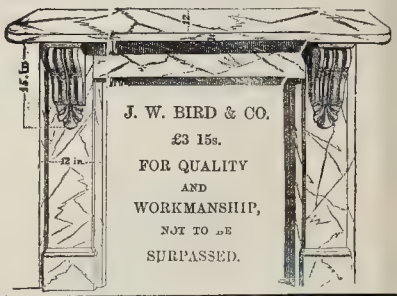
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The Builder.

VOL. XXI.—No. 1080.

"Going Along."
Vienna. The Votive Church.



E threatened to rave a little concerning the Royal Collections in the Belvedere; and if we were to do so, it would certainly be excusable. There are here 1,526 pictures, to say nothing of a number of modern works, in thirty-five apartments, and amongst them many of rarest merit. The palace was built from the designs of Jean Luc de Hildebrand, for Prince Eugene, of Savoy, about 1724, and afterwards became Imperial property. It is in the French-Italian style of that period, and is adorned with a large number of statues placed on the crowning entablature of the central mass of building, and the parapet of the wings. The collection includes a large number of pictures bequeathed to the Emperor in 1662, by the Archduke Leopold William, "as the most precious and most cherished objects" of his inheritance. David Teniers was the director of the Archduke's gallery, and there is an excellent picture by him in the Belvedere, representing the Archduke and himself, in a fine gallery hung with the pictures the Archduke had collected, and which are now in the Belvedere. There are several other remarkable pictures by Teniers, especially "A Village Fête in the Low Countries," and the "Fête of the Cross-bowmen in Brussels," dated by the painter, 1652. "Murray," for once, wrongly describes when he calls this picture "Shooting at the Popinjay." It represents the representation of a cross-bow by a deputation of the Guild of Cross-bowmen of Brussels to the Archduke Leopold William, the patron of the artist. Teniers has painted portraits of himself and family in the foreground.

Nearly all the schools are represented in the collection. In that of Venice, Titian, the unequal Tintoretto, Paulo Veronese, Giacomo Palma, and Alessandro Buonvicino, or Il Moretto, as he is called, shine marvellously. The picture by the last, who is less known in England than some of his contemporaries, represents St. Justina by the side of a man who is praying, and is a beautiful work. Amongst the Titians is the famous "Ecce Homo," wherein various portraits, including that of the painter himself, his friend Peter Aretino, and the Emperor Charles V. are recognizable. The figure of Christ is the weakest in the composition; the colouring of the whole is magnificent. It is signed by the painter, and dated 1543. There are a number of portraits by him, too, of the grandest kind. The number of representations of the "Madonna and Child" (there is one by Raffaelle, 1506, and one by Gian Bellini amongst them) is striking; and surprise is felt here, as elsewhere, at the multitudinous repetition of this group during a long period in the history of art. The fact is, it was not merely a representation, but the expression of a faith, a theological symbol. Mrs. Jameson, in her "Legends of the Madonna," puts it pithily. The Nestorians maintained that in Christ the two natures of God and man remained separate, and that Mary, His human mother, was parent of the man, but not of the God, and that consequently the title which had been applied to her, "Mother of God," was profane. The opponents of Nestorius maintained that in Christ the divine and human were blended in one incarnate nature. By decree of the Council of Ephesus, in the fifth century, Nestorius and his party were condemned as heretics: and thenceforth the representation of the Madonna and Child became the banner, as it were, of the orthodox faith.

Amongst the paintings of the Flemish school Rembrandt's head of his mother (1639) and portrait of himself, and Hoogstraeten's "Old Jew at a Window" (1653) take attention. The Vandyke room contains some marvellous portraits by that master, besides his great picture, "The Infant Saviour giving a Crown of Flowers to St. Rosalia;" and two rooms appropriated to Rubens contain forty-three works attributed to him. Prolific Rubens! No. 1 in these rooms, Ignatius Loyola before the Altar driving out Devils, is one of his finest works: the portrait of Helena Forman, Rubens' second wife, one of his best portraits. Of the works of the old German school there is an interesting and valuable collection. It has been justly said that Albert Dürer cannot be fully appreciated by those who have not seen his works in this gallery. Notice, in proof, the picture of King Sapor II. of Persia causing the Martyrdom of 10,000 Christians, and that of the Holy Trinity surrounded by a Glory of Angels, with Saints worshipping, truly grand. In both these the figure of the artist is introduced, bearing a tablet; the first inscribed—"Este faciebat anno Domini 1508 Albertus Durer Alemanus:" the second, "Albertus Durer noricus faciebat anno · a · virginis · partu. 1511." Dürer's first master was Michael Wohlgemuth, of Nurnberg, from whose hand there is a very remarkable picture here, an altar-piece with two pairs of wings. The principal subject is, St. Jerome with the Lion, a man kneeling on one side of him, a woman, a girl, and a child on the other. Numerous saints and royal personages fill the wings. The heads are expressive, and minutely finished. If the date with which it is said in the catalogue to be inscribed be correct, 1511, Michael was in his seventy-seventh year when he painted it. Of Lucas Cranach the elder, the contemporary of Dürer, and Burgkmaier, to some extent Dürer's follower, and whose engravings on wood illustrating the "Triumph of the Emperor Maximilian," every one knows, there are some good specimens. Ten or eleven pictures by Holbein the younger,—that is, our Holbein,—were looked at pretty carefully with reference to the recent discovery in London, by Mr. Black, of the will of a "John Holbeine," supposed to be the painter. If correctly attributed, the will shows that Holbein died in 1543, instead of 1554, as believed up to this time; and, consequently, that some pictures illustrating events that occurred after the first date, and supposed to be by this remarkable painter, are not so. Some later investigators strengthen Mr. Black's inference, and none of the dated pictures we saw in the Belvedere interfere with it. There is one portrait by Holbein of a man, marked Geryck Tybis, London, aged 33, and dated 1533, which has been mentioned in the discussion that has taken place; but the latest date we observed was on the portrait of a young man in a black pelisse, holding a book thus inscribed:—"*Anno Dñi* 1541. *Ætatis suæ* 28." Does any one know of a signed and unquestionable Holbein dated after 1543?

The authenticity of nearly all the so-called Van Eycks in the Belvedere, whether by Hubert or by John, is denied in Crowe's book. What an exquisite work, nevertheless, is that of the Virgin, crowned, holding the Infant to her bosom, in front of an elaborately-adorned throne! We should like to gossip of the Van Eycks and the medium they made known, but may do so better by-and-by in front of some of their admitted best pictures.

The Ambras Museum in the Lower Belvedere (formed originally in the Castle of Ambras), includes the collection of armour which is so well known and remarkable: in fact, in one point of view, the historical, it is the *most* remarkable collection of armour in existence. It consists mainly of suits which belonged to known eminent men, and these are set up and attended to in the most admirable manner, forming a beautiful sight. The stuffed skins of horses are used to show equestrian equipments, and the knights they carry are models of arrangement. As an exposition of armour of all times and countries, a national educational museum, or for artistic reference, it is less complete than might be expected, considering its world-wide reputation. Its strength is in armour of the sixteenth century, and splendid suits, both for man and horse, these are: such, for example, as those of S. Bathori, 1586, black and gold, exquisitely engraved; Herzog v. Olica, 1616, red and black; Christian Graf v. Fugger, 1615 (notice the scroll-work on the shoulder and on the pommel of the saddle); Sebastian Venieri, Doge of Venice, 1578; Alexander Farnese, 1592; and others. This last-named suit is an especially superb one, covered with highly-wrought figures and ornaments, though the forms are not very pure. Many caprices will be found in the collection, such as plaited petticoats of steel, arm coverings in imitation of sleeves of softer materials, and helmets in the shape of a bird's head: and there are, of course, other helmets of different dates, swords, jousting-lances of enormous size, with rests to match, and ponderous maces,—such as Richard Cœur de Lion might have used when,—

> "With hys hevy mase of stele
> There he gaff the kyng hys dele,
> That hys helme al to-rove,
> And hym over hys sadell drove."

When shall we see our own interesting and important collection of armour in the Tower of London properly attended to, and intelligently weeded and added to? It furnishes a large revenue, and might, without cost to the nation, be made the most perfect collection in the world, and of the utmost advantage in an artistic and educational point of view.

Of the other contents of the Ambras Museum, curious old paintings and portraits, carvings, jewelry, pieces of costume, the genealogical tree of Rudolf of Hapsburg (some of the heads full of character), and a cross-bow etched by Albert Dürer, who seems to have been ready to turn his hand to anything, and when he had done so, ever left it an object of desire, it is unnecessary to speak. We must run elsewhere.

What is known as the Treasury, or the Imperial Jewel Office, contains several curious matters, besides the splendid collection of precious stones. The so-called Crown of Charlemagne, although of ancient workmanship, would seem to be more recent than his time. Some embroidered robes, with worked figures of saints; a carved horn of ivory, dated 1199; sixteenth century pendant ornaments, or "jewels," as they are termed; egg watches; a carved crucifix, ascribed to Cellini; and a very curious clock, given to the Empress Maria Theresa, deserve examination. The clock is an elaborate contrivance. Effigies of the Emperor and Empress appear when it strikes, and a figure of Fame writes with a pen a sentence of praise on the face of it, the letters appearing as the pen proceeds.

In the streets there is something to notice. For example, the completion of the shell of a building in Vienna is more forcibly marked by the workmen there than with us, amongst whom two or three coloured pocket-handkerchiefs, stitched together and nailed to the top of a scaffold-pole, are the usual indication. In the case of one building we saw on the quay, the front was cleverly covered with elaborate greenery, intermixed tastefully with shields

and well-written inscriptions, including good wishes to the architect and the builder by name. Dr. Spurgin's material-hoister is in use at nearly all new buildings, both here and over the Continent generally, doubtless with as little profit to the ingenious inventor as its use in England has given him.

Good wine, it seems, *does* need "a bush" in Vienna: at any rate a bush is still seen over the door of many wine-shops, as it is also in other parts of Germany, France, and Italy. In some cases an artificial construction of hoops and leaves, intended to represent a bush, is used instead. A similar counterfeit bush was once in use in England. A story is told of a landlord in Aldersgate-street who, when King Charles I. had his head cut off, painted his bush black, to show his sorrow, and so led to his house being long called "The Mourning Bush at Aldersgate."

One is startled in the narrow roughly-paved streets to find palatial residences of size and grandeur; decorated within, too, at great cost. The streets are necessarily very noisy, and to lessen this inconvenience, as well probably as to guard against strong atmospheric changes, double windows are largely resorted to, with injury to the appearance of the house fronts, which are thus flattened,—the extra window lessening the depth of the recesses. A much worse evil, however, attends all this, and that is the entire absence of ventilation in bed-rooms at night. Even in the best hotels, the *Hôtel de l'Empire Romain*, for example, where we stopped, sleep is scarcely possible in the smaller bedrooms in warm weather in consequence: if the windows be left open the noise, and if they are closed the want of fresh air, prevents it. The use of some means for admitting and emitting air, irrespective of the windows, is loudly called for: and it is not alone in Vienna, by the way, that this great want is felt.

There must be other deadly agencies in operation in Vienna, if the annual death-rate officially reported be correct. In London, on an average of ten years, twenty-four persons out of every thousand die each year, and this is greatly in excess of some of the healthiest parts of England where, as at Eastbourne, *formerly*, for example, only fifteen persons out of every thousand died each year. Even in districts of London, sixteen or eighteen in the thousand is the usual death-rate. Now, in Vienna, an average of forty-nine persons out of every thousand die each year; so that if the population be taken at 580,000, which is probably correct, *fourteen thousand five hundred persons die every year merely because they reside in Vienna instead of London!* Much of this frightful waste of life and its accompanying misery to survivors might surely be prevented. Here is a noble work that wants doing. We recommend it to the attention of the Emperor. A commission of inquiry should at once be issued (not to-morrow, but to-day) to a certain number of enlightened, disinterested, and instructed men, including, if it could be arranged, two or three Englishmen who have given special attention to the subject. Causes being made evident, remedies could be pointed out, and weakness, misery, pauperism, crime, and death, would be lessened, just as certainly as that good food, if taken, will nourish, and prussic acid, if taken, will kill. Would it not be well, O Emperor, that history should say:—

"In the reign of Francis Joseph Charles life was lengthened and sorrow abridged in this city of Vienna?"

Especially, too, as the present,—men, women, and children of to-day,—would reap the advantage of the steps that might be taken.

However, we must be "going along;" and before quitting Vienna we will take the kindly reader once more to the glacis, that we may say a few additional words about the Votive Church there, and show the aspect it will present. It was subscribed for in all parts of the Austrian Empire, as a monument of gratitude for the preservation of the Emperor's life. It will therefore be called the Church of the Saviour; and with reference to this dedication a row of typological representations in the principal façade will set forth the work of salvation. The church originated in 1853, and its first stone was laid in 1856. The design of the architect, Herr Ferstel, of Vienna, was selected in competition, and to him, in conjunction with the Master Stone-cutter of the city, the superintendence of the work is entrusted. The plan, let us add, includes a nave and two aisles, with side chapels, transept, and choir; and round the choir-aisle, semicircular in plan, there is a wreath of seven apsidal chapels.* The material used is a limestone from the neighbourhood of Wiener-Neustadt, and the ordinary masons, they tell us, have now acquired sufficient skill to execute the carving of the corbels, the capitals, and the "water-spitters." It will be the best reproduction of Pointed architecture yet effected in Germany; and with that agreeable sentence, meaning also verdict, we may as well end the chapter.

THE LAW OF BUILDINGS, LAND, AND PUBLIC WORKS.†

The branches of the law which require an architect's attention in order that he may successfully practise his profession, are very numerous. The Metropolis Building Act, and Local Management Act; the various local improvement and health Acts applicable to the country towns; the laws relating to arbitrations, building-societies, burials, and contracts; to freeholds, leases, and copyholds; dilapidations and fixtures, and other divisions of the law of landlord and tenant; to highways, water-rights, sea-defences, partnerships; and patents, designs' registration, and copyright in general; are only some of the items of a list. But, each of the branches, to be understood, requires a watching of the proceedings of the courts; and such attention, few members of our profession are able to give. The books presenting results of the *cases*, therefore deserve to be known to architects.

The book now before us, however, is one of this class of works, rather than a treatise explanatory of some of the departments of the law of which the knowledge is important to the architect. There is no preface to the Essay; and the first chapter, on "Waste," commences with,—"The principle upon which waste depends," &c., rather than with definition of the term. In the second chapter, however, which is on "Nuisance," and in the third on "Trespass," the definition starts with the opening sentence. These terms are the headings of the three first chapters: the fourth chapter is on "Construction of Public Works."

The volume, as we have said, is rather a digest of *cases*, than a treatise elementary or rudimentary, or a complete body of the law; and the remark applies especially to the matter of the fourth chapter, wherein the questions considered are mainly those which arise between landowners and persons who have obtained parliamentary powers to construct canals, or railways, and do not include those of the specific performance of contracts. This Essay by Mr. Yool, however, is one giving much information on points of the law and equity of the subjects named in its title. The mere list of the *cases* which are referred to, fills about twenty-five pages; and the digest of these, which forms the body of the work, is so condensed, and so arranged with marginal references, foot-notes of the *cases*, and a good index, that the book must be invaluable to lawyers, for all questions of remedy for waste, nuisance, or trespass.

Waste appears to be capable of definition as damage done to a leasehold, or an inheritance; and it "may be either (1) By diminishing the value of the estate; (2) By increasing the burthen upon it; (3) By impairing the evidence of title." Even that which increases the value of the estate may be waste, if the act "damages the inheritance in either the second or third of the above modes. Such acts are termed Meliorating waste." Waste is either *voluntary* or *permissive*. The former of these consists in commission of acts which the tenant has no authority for, as pulling down buildings, felling timber, or opening mines: the second arises from the omission of what was the tenant's duty, as, for example, in the case of suffering buildings to go to decay. Beyond knowledge of these definitions, however, there is much required, as with reference to questions of against whom, and by whom, proceedings may be taken. Thus, it "is said that an action for waste will lie by a copyholder in remainder against a copyholder for life, but not by the lord of a manor against his copyhold tenants;" though, "according to the later authorities," an injunction would lie in the latter case: whilst, in Ireland, it has been settled that "the holder of a lease for lives, renewable for ever, is not at liberty to commit destructive waste;" though "it seems that he may commit meliorating waste." Incident to every estate for life or for years, is "the right to take estovers, that is to say, so much wood, stone, &c., as may be required for repairs, husbandry," and so forth. But, in addition, it is a common practice in family settlements to provide that the estates of the tenants for lives shall be *without impeachment of waste*. Still, proceedings may be taken successfully in the courts of equity to prevent waste, though there would be no remedy at law. Thus, a tenant for life "without impeachment of waste," has been restrained from exercising his legal power. This seems to be the reason of a distinction between "Legal Waste" and "Equitable Waste," the headings of the two first sections of Mr. Yool's chapter on waste in general. The aggravated acts of waste or of a character destructive to the inheritance, or of wanton mischief, which the courts of equity have assumed jurisdiction to restrain, are such as pulling down the mansion, or other buildings, felling ornamental or very young trees, or destroying underwood. Sometimes a question would arise as to what constitutes timber. Oak, ash and elm, are timber everywhere; other trees are according with custom of particular counties. The general property of timber-trees is in the lessor but the lessee has property in the fruit and shade as well as a general property in bushes and trees which are not timber, though he must not cut them so as to injure their future growth. Even if the lease mention the trees, this does not give right to fell them. There is, however, an exception in the case of fruit trees planted as by a nurseryman, for purposes of his trade. The case of timber, and other trees, and underwood, especially ornamental timber, however, requires too much detail of explanation to be here gone into. After consideration of the description of waste just mentioned, comes the question of waste in minerals, which also we must pass by.

The sections headed "Waste in Buildings," "Landlord and Tenant," and "Mortgagor and Mortgagee," will be deemed by our readers, three of the most important in the work. It is difficult, however, to select from the information afforded or to present it in words more condensed than those of our author. The case of destruction of house by fire is not now waste: "the landlord's action against the tenant has been taken away by statute." But "a lessee who covenants generally to repair, is still bound to rebuild after a fire; moreover, "whether the lessee is bound to rebuild or not, he remains liable to pay the rent." Permissive waste, as by a tenant for life, is interfered with by the courts of equity under special circumstances, and injunctions may be granted. "The legal powers of a tenant for life without impeachment of waste to deal with the buildings as he pleases are very much limited by the doctrine of equitable waste." In the *Raby Castle Case*, the tenant for life was pulling down the principal mansion-house. He was required to "put it in the same plight and condition it was in at the time of his entering thereon." As respects the treatment of premises demised, the relation of a tenant to his landlord "is usually defined by the custom of the country or by express agreement, the tenant remaining in addition under the obligations imposed by the common law, except so far as they may be excluded by the terms of the tenancy." But acts "of like mischief with acts of waste," not essentially breaches of the common law, seem to be restrainable by injunction. Some of the *cases* quoted, as cases of waste at the common law, and others as breaches of agreement. "This distinction has been drawn, that whereas acts of pure waste are restrained on the ground of irreparable damage, in cases of contract the person entitled in possession subject to the lease has a right to insist on the performance of the stipulations, *modo et for-*

* See p. 741. In length the church is 995 feet. The width of the nave and aisles, including chapels between the buttresses, is 95 feet; the transept is 158 feet between the walls. The height of this and of the nave is 91½ feet. The western towers and spires are 307 feet in height, and the central *flèche* is 223 feet.

† "An Essay on Waste, Nuisance, and Trespass, chiefly with Reference to Remedies in Equity; treating of the Law of Timber, Mines, Lights, Water, Support, the Construction of Public Works, &c. &c." By George V. Yool, M.A., of Lincoln's Inn, Barrister-at-Law, late Fellow of Trinity College, Cambridge. London: W. Maxwell; 1863. 8vo., pp. xxxii. & 267.

irrespective of the question of damage." As to the case of mortgaged property, a mortgagee in possession must not commit waste, and he is bound to do necessary repairs. But there are exceptions to this, in the use of timber and mines, when the security is otherwise insufficient. Waste where ecclesiastical corporations are concerned, has a distinctive section devoted to it in Mr. Yool's volume; but it is remarked that Acts have recently been passed by which episcopal and capitular estates will be regulated.

As to what constitutes *Nuisance*, it may be first remarked that there is a "refined distinction between direct and indirect injuries to real property." "Injuries to easements," says our author, "and such injuries to natural rights of property as do not directly interfere with the possession of the soil, are nuisances." A distinction has been made between a nuisance of a public, and one of a private nature; but the courts of equity will interfere in both of the cases, though only where the thing complained of is a nuisance at law. A question once arose whether the frequent ringing of the bells of a Roman Catholic church, close to the plaintiff's residence, constituted a public nuisance. The Vice-Chancellor Kindersley then observed, in effect, that to constitute a public nuisance, a thing must be a nuisance or injury to all persons coming within the sphere of its operation. Such a nuisance was that of noxious fumes from a manufactory, or the stoppage of a highway, but was not that of the sounds in question, which might be even pleasureable to persons at some distance. Whether the nuisance be public or private, a judgment at law seems to be desirable or necessary precedent to any application for an injunction. And it does not seem the courts of equity would interfere where damages would be adequate compensation. They would interfere where the prevention by injunction, as well as the pecuniary compensation, would be required. The Court of Chancery interferes where the extent of the damage and injury is such that the law will not afford an adequate and sufficient remedy; and it has been held that this position of things is not experienced oftener in the case of public than in that of private nuisances.

One of the Nuisances to Dwelling-houses which most frequently calls for the interference of the Court of Chancery, is the interruption of the access of light and air to windows, by an erection on neighbouring land. Lord Eldon indeed said that the Court would not in all such cases interfere. To secure an injunction, or maintain an action, it seems the case as to the deprivation of light and air must be very plain. The latter, however, might be maintainable in many cases that would not secure the former. The shutting out of a prospect is no ground for interference. An invasion of privacy by a new window in a neighbour's house, is no ground for suit or action, unless there be breach of an agreement: "the remedy is to block the new window up."

But, besides that the right to passage of light may be given by express agreement, there is such a case as that where a severance of one part of ground from the other, has been made by the original owner of the whole; and where a house had been erected on the first portion of the ground and sold, the second portion being parted with subsequently, to a different purchaser. It was resolved that "as the builder himself could not stop the lights, as that would be to derogate from his own grant, so neither could any person claiming under him;" and in cases where a man was known to have taken certain premises for a trade especially requiring light, it has been "said that the landlord would not be allowed to diminish the light in the slightest degree." There may, however, be "considerable difficulty respecting lights" in a case of severance; for, it is settled that a reservation of easements of necessity can be implied, as for the enjoyment of the part of the property retained. According to one judgment, supposing "the land had been sold first and the house after, the vendee of the land might stop the lights;" whilst, according to another,—"whether the land be sold first or afterwards, the vendee of the land cannot stop the lights of the house in the hands of the vendor or his assignees." Where two houses built by the same proprietor about the same time, and intended as part of a general plan, have been sold in an unfinished state, at the same sale, to different persons, the window-openings being sufficiently marked, it has been held that "a condition was implied that nothing should afterwards be done by either purchaser, by which his neighbour's windows might be obstructed."

"There are," says Mr. Yool, "three modes of establishing a title to an easement by user, (1) By sufficient evidence of enjoyment during the whole time of legal memory; (2) By proof of enjoyment for such time and under such circumstances as will justify the finding of a lost grant or agreement since the commencement of legal memory; (3) By proof of enjoyment for such time and under such circumstances as will justify the provisions of Lord Tenterden's Act."* As to the first mode of proof, a period of little more than one hundred years has been deemed sufficient to warrant a jury in presuming the condition of things to have existed time out of mind. A title made out in this manner, is a title by "prescription," strictly speaking; though the term is frequently used of titles made out in the second and third modes. Prescription supposes a document creating the right, to have existed before the time of legal memory. To prevent the failure of an old title, where the commencement of the enjoyment could be shown to be subsequent to the time of legal memory, "the fiction which is the basis of the second mode of proof," was introduced. Our author has "pointed out that no action lies against a man for opening a new window which overlooks his neighbour's lands;" and, he says,—

"... consequently light is an exception to the general rule that the exercise of an acquired easement must, in the first instance, have been legal, for this reason it is called a negative easement.† Now, in the case of affirmative easements, if the owner of the land over which they are being exercised brings no action, and takes no step to obstruct the acts of enjoyment for twenty years, his acquiescence gives rise to the presumption of a grant of the easement having been made and lost; and, by analogy to this doctrine, although the right of light perhaps does not lie in grant, and acts of enjoyment give no cause of action, yet if the owner of the neighbouring land allows the windows to remain unobstructed for twenty years, this is a sufficient foundation for the presumption of an agreement or covenant by him not to obstruct them."‡

The anomaly of requiring a jury to find the existence of a grant or agreement where in all probability no grant or agreement ever existed, continues our author, led to Lord Tenterden's Act, intended to answer the same purpose, or to prevent the title to matters long enjoyed, being defeated by showing the commencement of such enjoyment. "The third section" of this Act, "provides with regard to light," quoting from the book now before us:—

"'That when the access and use of light to and for any dwelling-house, workshop, or other building, shall have been actually enjoyed therewith for the full period of twenty years without interruption, the right thereto shall be deemed absolute and indefeasible, any local usage or custom to the contrary notwithstanding, unless it shall appear that the same was enjoyed by some consent or agreement expressly made or given for that purpose by deed or writing.'"

Our author then observes:—

"By the construction placed upon this section together with the fourth, it appears that there must be twenty years from the commencement of the right or enjoyment to the commencement of the suit, and that no interruption is to be considered as preventing the twenty years from running, unless it has a duration of one year, so that if there has been an enjoyment for nineteen years and a fraction, and then an interruption takes place, the right may be established at the end of the twentieth year."

Should a lessee "allow a valuable right to be acquired against his landlord's property," "it is difficult to say what remedy, if any," the landlord would have.

The privilege of receiving light through a particular window may be lost, where the window has been blocked up with bricks and mortar for twenty years, or for a less period where the intention is manifested of abandoning right of using the window, or so as to lead the neighbour to incur expense; and it may be lost by pulling down, or altering the buildings, so that for two or three years, intention of re-building may be taken to be abandoned; and an owner who re-builds, or alters, is not entitled to more light than he enjoyed before: his new windows must be neither larger nor more numerous than the old. When the new windows are only partially in the same positions as the old ones, such portions of the new apertures as were open before, remain privileged. Yet the whole may, it seems, be obstructed until the windows are restored to the former condition. Cases have occurred in which the owner of a house having removed an obstruction to light, which had existed on his own premises for more than twenty years, it has been suggested that the adjoining owner may be entitled to erect an obstruction as great; but it appears only to have been settled that heavy sashes and frames may be replaced by others of lighter construction. The privilege of receiving light carries with it that of receiving air; so that a neighbour may not obstruct the windows having the privilege, by a transparent screen or skylight. Currents of air for trade purposes, such as drying timber or serving a wind-mill, can be retained only on evidence of their having existed from time immemorial; and "Lord Tenterden's Act does not apply to any negative easement except light." The whole statement of the matter of nuisance to dwelling-houses, by interruption of light and air, is supported, as are the statements throughout the volume, by reference in foot-notes to numerous cases, as well as to such works as "Gale on Easements," "Law of Dilapidations and Nuisances," and "Best on Presumptions."

Questions "as to the manner and place in which brick-burning may be carried on so as not to be a legal nuisance" frequently arise, as our volumes show. The *cases* are now treated by Mr. Yool at considerable length. We may say that in one of the older *cases*, *Barwell* v. *Brooks*, the points discussed were:—1. Whether there had been acquiescence? 2. Whether brick-burning was a nuisance? 3. Whether a court of equity would restrain a qualified use of it for the temporary purpose of building? The injunction was granted; and the clay seems to have been clay of the same land. In *Hole* v. *Barlow*, a *case* which "has been the subject of much comment," the clay had been carried to a place close to the plaintiff's house, and there burnt. Two questions were left to the jury; the first was whether the place of burning was a proper one; and supposing this decided in the negative, the second was, whether the nuisance was such as to make "enjoyment of life and property uncomfortable." The verdict was for the defendant. But this *case* was expressly overruled in *Bamford* v. *Turnley*, where even the plaintiff had purchased his house on conditions mentioning that the adjoining land was fit for brickmaking. The *case* may be regarded as further important, since the defendant had not merely worked up the earth of his own land, but had accumulated heaps of ashes brought from other places, and since the jury were directed that if the spot was a proper one, and the burning was a reasonable use by the defendant of his own land, he was entitled so to use it, whether the plaintiff's comfort was interfered with or not. In the Exchequer Chamber, however, it was ruled, that as an offensive trade could be indicted as a public nuisance, so it would be actionable where it greatly incommoded an individual; although it was said that acts necessary for the common use of lands and houses, as burning weeds and making noises during repairs, might "be lawfully done, if done in a reasonable way." In each of these three *cases*, the parties complaining had taken their houses knowing the probability of the brick-making on the adjacent land. But this would still leave the question, one of much wider bearing than that of brickmaking, whether the coming to a nuisance would involve deprivation of the remedies whether in equity or at law. Lord Tenterden, indeed, once ruled, that a person is entitled to continue his trade, if it were previously established remote from habitations, though become a nuisance through the approach to it of public roads and houses. "But," says Mr. Yool, "this is probably not now law;" at least he only alludes to exceptions where a right to carry on the trade "has been acquired by prescription."

Besides the cases of nuisances to dwelling-houses that have been mentioned,—some of which must include nuisances to buildings of other descriptions,—equitable relief has been sought in the cases of soap-boiling, coke-ovens, smoke of a steam-engine, gas-works, bell-ringing, manufacture of gunpowder, obstructing a chimney, and even holding a regatta. A brewhouse "is not necessarily a nuisance;" and a hospital for infectious diseases seems to be in the same position. There are, however, the important cases of "nuisances relating to support," or which may concern the structure and maintenance of buildings. To these, our author devotes a separate section. He previously treats of nuisances relating to water. We may here note, that other *cases* of nuisances brought before the Court, include those of obstructions and other damage to a navigable river, a canal, a mill-race, a ferry, a highway, a private right of way, a private siding to a railway, a colliery way-leave, the entrance to a vault, a market, a right of stallage, ground dedicated to public recreation, and the construction of a railway, besides damage to crops.

There can be no division of a work of this kind, more important than one treating of the "Nuisances Relating to Water;" and this section of Mr. Yool's chapter on nuisances, deserves to be studied in parts of England, midland and northern districts, where the wants of manufactures, the use of water for drinking and domestic purposes, the beauty of streams, and the outfall for drain-

* "2 & 3 Will. 4, c. 71."
† "Gale on Easements," 3rd edit., p. 18.
‡ We omit the note of *cases*, here.

age, have to be considered in the legal or equitable point of view, as in more than one other aspect. Our limits, however, allow a mere reference to the value of the section; and it is only justice to the author to say that the *resumé* that we can give of any section, or have attempted to give, would be no substitute for the volume itself. But it may help to the popular comprehension of *cases* of right to the use of running water, that are constantly reported, to state that *primâ facie* the riparian proprietors own half the land covered by a stream, whilst that there is no property in the water. Every one has equal right of use of the water, and no one proprietor can use it to the prejudice of another. He cannot diminish the water which would otherwise descend, or throw it back upon the proprietors above. Still, this permits such use of the water as for irrigation, even though there may be a small percentage of loss by evaporation and absorption before the main quantity returns to the original channel. The original title of riparian proprietors to have the water of streams in the natural purity, seems to be clearly settled where there is no established right to an easement, as from twenty years' continuance of such a practice as that of discharging foul water. But, a claim to foul a natural stream is within Lord Tenterden's Act. Artificial streams involve special questions between the upper and lower proprietors. The general law respecting the right to streams is not applicable to water which does not flow in any defined channel: a landowner may therefore collect such water. One of the most recent *cases* of application for injunction to restrain the pollution of streams, *Wood* v. *Sutcliffe*, shows that there may be considerable difficulty in getting the injunction, where the pollution has been allowed to go on for any time, or could be compensated by damages.

In the matter of "Nuisances relating to Support," the first point to notice is that the Common Law,—

"... gives to every landowner the right to have his own soil in its natural state supported by the adjoining soil or by some equivalent, so that no one is entitled to remove his own soil in such a manner as to cause his neighbour's land in its natural state to fall in."

In mining districts, however, "the surface and the strata lying under it frequently belong to different persons;" and there is some difficulty when the surface soil has been weakened by excavations or mining, whether there is a natural right to additional lateral support. Ordinarily, the owner of the surface unencumbered by buildings is entitled to have it supported from below. The "rights of lateral and vertical support extend to buildings not so heavy as sensibly to increase the tendency of the soil to subside." But "there is no right of support from the adjacent land for new buildings which exceed that weight." As intimated, however, "there may be such a right of vertical support." It seems that right to lateral support for heavy buildings from the adjacent soil, may be acquired by twenty years' enjoyment. A right of support from the subjacent, or adjacent strata, in excess of the ordinary common-law right, may be constituted from the manner of the severance; that is to say, a person who has granted part of his land, may be unable to deal with what he retains, in any way to cause that which he has granted to sink or fall.

The question is constantly arising in the practice of architects, whether ancient buildings have acquired right to support by adjoining buildings, through the enjoyment. Mr. Yool says it "is very doubtful."

"Such enjoyment will in general be secret, and even if not, there is no way of obstructing it, except by the neighbour who is injured pulling down his house. On the other hand, where the dominant messuage visibly overhangs the adjacent soil, some action may lie, so as to make this an affirmative easement, and therefore to bring it within Lord Tenterden's Act. There is no clear authority on the point; but the tendency of recent decisions is adverse to the acquisition of such an easement by long enjoyment only."

But, mutual rights of support between buildings may, like other rights of the like kind, proceed from an original unity of title.

We have not much space for the consideration of the two remaining chapters of Mr. Yool's volume. We may, however, explain what is the nature of *Trespass*. The author's definition is, "An illegal entry upon, or immediate injury to, real property corporeal in possession." The jurisdiction of the Court of Chancery to grant injunctions "was formerly not exercised in cases of pure trespass." Usually the acts of trespass have arisen in some confusion of boundaries.

It is well never to forget that, contrary to a not uncommon notion engendered by the delays of the Court of Chancery, the action of the Court is in certain procedure much more swift than that of proceedings at law. Injunctions of the Court in cases of trespass offer evidence of this. In the *case* of *Robinson* v. *Lord Byron*, the defendant at one time stopped water flowing to the plaintiff's mill, and at another allowed it to go in excessive quantities. An injunction was granted on the ground of the irreparable mischief that would have been done to the mill, before there could have been any trial at law.

"In *Clowes* v. *Beck*, the plaintiff alleged that he was seised of a tract of land between high and low water-mark, from which the defendants had carted away a great quantity of shingle and sand for the purpose of repairing the highway, and that the consequence would be that the sea would encroach upon the plaintiff's lands, upon which his mansion stood, to his great and irreparable injury. The answer denied the plaintiff's title, and that any injury would ensue, and justified under certain Acts of Parliament. An injunction was granted before the legal right was determined."

The Chapter on "Construction of Public Works" is devoted chiefly to the Lands Clauses Consolidation Act (with respect to the Purchase of Lands by Agreement, or otherwise), and to the Construction of a Railway.

It will have been seen that this "Essay on Waste, Nuisance, and Trespass," is not all sufficient for the purposes of our profession, even in the branches of the law on which it treats. To students, it supposes much to be known,—as, for example, the distinction between the business of the courts of equity, and that of the courts of law; whilst the architect-reader must often be compelled to find the utility of the book, far within what it might have been to him with the addition of half a dozen explanatory sentences. We may also observe that the presence of "Addenda and Corrigenda," to the extent of, as here, more than a page, does not prepossess the reader, any more than the reference to "Appendix," there being no Appendix to be discovered. But, however improveable, the work is essential as an index, and guide to, and a digest of, the law on many of the most important matters connected with building; and it deserves to be procured and carefully gone through by all the profession engaged in the practice of architecture and building, as well as by the profession of the law.

THE DESECRATION OF BURIAL PLACES IN IRELAND.

To any one who has, in his wanderings, been in the habit of turning aside into the wayside churchyards of Ireland, the energetic and able letter of Professor Donaldson requires no corroboration. It is an unhappy fact that a vast majority of the last resting-places of the dead are as he describes them,—many very much worse. The causes to which this is to be ascribed, in a country where a remarkable reverence for the dead pervades all classes, are unaccountable in a great measure; and it is important that they should be ascertained, if possible, as a first and necessary step in remedying so deplorable a state of things. It has appeared to me to arise in many cases from the fact that many ancient graveyards are nominally under the control of the rector of the parish, while almost exclusively used for interment by his Roman Catholic parishioners. From a consequent want of community of action in the use of them as places of interment, a certain amount of apathy exists as to caring for them. For this the remedy is very simple,—a harmonious effort on the part of their legal guardians, and those who are more immediately interested in their decent preservation.

If attention were once directed to it, the good feeling necessary is not wanting; and I could quote instances where the clergy of different creeds have laudably vied with each other to effect a radical improvement in the state of their common parish churchyards. Another evident cause is the frequent absence of owners of the soil, and their consequent ignorance of the state of these sequestered cemeteries, to which I have no doubt many only require their attention to be directed to effect an improvement. An innumerable number of these desolate melancholy places occur to me on reading the letter above referred to;—the crumbling ruins of a desecrated church standing in their midst, all unenclosed and worse than neglected. One instance I select, as it appears to me discreditable to a public body, who, I was informed, should be its natural guardians. Some time since, I wandered into the churchyard of a parish in the county of Kildare, which has, I believe, no rector or vicar to care for it, the revenues arising from it being appropriated to the Ecclesiastical Commissioners. I was chiefly attracted by the circumstance that the remains of the once busy rebel Wolfe Tone lay in the quiet shadow of its ruined church. It was melancholy to witness the state in which I found it; cattle straying at will through the neglected wilderness, and making it such a place as cattle left to their own devices in such a place only can; and, on prosecuting my searches further, I found the body of the roofless church carefully cleared, and *appropriated as a ball court*; and doubtless to this day many an exciting game goes on day by day over the heads of the silent and uncomplaining dead below.

While on the subject of graveyards, may I direct attention to the enclosed extract from the proceedings of the town improvement committee of the corporation of the rapidly-rising and important town of Belfast, which is the very heart of the enterprise and energy of the country, and whose rate of progress in wealth and commerce has been unequalled by even that of Liverpool itself in its earlier days. Among certain other social evils which require a remedy, in spite of its boasted energy and enlightenment, that of the graveyard referred to is one of the most crying ones. Language utterly fails to convey a notion of the state it was in eighteen or twenty years ago, when I last had strength of mind to visit it. On an occasional visit since, I have frequently *smelt* it a considerable distance, and shudder to think of the state it must be in now.

I learn, also, from the proceedings of the Board of Guardians that the burial place set apart for the interment of the paupers was liable to be flooded by water, and that one or more chaplains, I now forget which, thought it unnecessary to perform any burial service over the remains, alleging that the admonitions thereof were thrown away on the limited number of paupers who conveyed the remains to their last resting-place.

To this state of affairs the well-ordered and beautiful cemeteries of the City of Dublin, at Glasnevin and Mount Jerome (where a host of celebrities lie buried), present an agreeable contrast, and one returns from a visit to them with even fresh pleasure.

Before concluding, may I digress from my subject and suggest, with very great deference, that much good might be effected should the editor of the *Builder* have leisure to turn his attention to the important town (Belfast) which I have referred to, and do it the honour of investigating its social and sanitary state in an article on the Condition of our Chief Towns. Its grave-yards; its lamentable want of a proper water-supply; its pestilential river in its midst, and the fever consequently prevailing so universally at present;—these, and other social evils, deserve as much to be unsparingly investigated and reprobated, as its important public buildings (rapidly rising), its interesting and extensive manufactories, its thriving port and commerce, deserve and repay a visit, and claim admiration and just praise.

X. Y. Z.

"MODEL DWELLINGS."

At the last meeting of the Society for Improving the Condition of the Labouring Classes, the Secretary reported that a new model lodging-house has been lately erected in an open space in Commercial-street, in a line from Whitechapel to Shoreditch, a new thoroughfare of good dimensions, and dividing in its course many smaller streets abounding with dark and narrow alleys and courts. In this crowded locality the inhabitants are principally Jewish poor, who are compelled by their daily avocations to live near the neighbourhood. The building contains accommodation for thirty families. Each set of apartments possesses a separate entrance, and is wholly complete within itself, — living-rooms, bed-rooms, scullery, with water-closet, pantry, coal-cellars, &c. The ground floor is appropriated for shops.

The building will be shortly opened.

The Metropolitan Board of Works has assented to an application from Mr. J. A. Mays, the secretary of the Improved Industrial Dwellings Company, asking for leave to erect, on a piece of land close to the Great Northern Railway Station, King's-cross, several large blocks of dwellings, after the model of those recently built for Alderman Waterlow, in Finsbury. The dwellings will comprise separate and distinct houses for about a hundred families.

NEWCASTLE-UPON-TYNE IN A HANDBOOK.*

To have been born at Newcastle is a reputation in itself, more to be preferred than to have been born with a caul or with a silver spoon in one's mouth, or, apparently, with any other congenital advantage with which we are acquainted. In the colonies, we are told, if a man meets with another who has lived in the same street, or the next, or the next but one, two, or three, to that in which any relation or friend in the mother country is living, or has lived, the fact is considered equal to a letter of recommendation, and he is made welcome to a seat by the fireside and a knife and fork at the table, without further credentials. In the same way, in the north country, it would seem, a man has but to be born in Newcastle, and he is accredited with genius, enterprise, tact, taste, and every other good quality, both of head and heart. Nature, Art, and Time are assumed to have overlaid Newcastle with their choicest gifts; and each generation, including the present, has so judiciously partaken of them as to arrive nearer and nearer to perfection, and yet to have awakened no jealousy in the rest of the world. It is not quite clear that Hotspur was a Newcastle man; but, as the early Earls of Northumberland had a town residence in the Close fronting the Tyne, it is just possible that a portion of his infancy was spent there; and we know that the *burr* in his speech, which Shakspeare makes his wife admit was a blemish, was so admired by the gallants of his day that they imitated it. And so on, downwards, through successive generations of tenants of the tall, rickety, many-paned houses of old Newcastle to those of the new town, fast supplanting them. The spire of St. Nicholas's Church is the finest in the kingdom: the Tyne produces the finest seamen in the world: the castle is the grandest specimen of Norman military genius we have. Prim, precise Camden, laying aside all heraldic formalities, cries,—"And now, near the meeting of the wall and Tyne, stands Newcastle, the glory of all the towns in this country." Parsons and White agree, in their "History, Directory, and Gazetteer of Durham and Northumberland," that "The town of Newcastle, whether considered with relation to early history, or to its present improving condition, is a highly interesting portion of the kingdom." All the local writers speak in the same terms. And now Dr. Bruce takes up the same brushes, and paints upon the same canvas with the same colours. Everything about Newcastle and its population is idealized, idolized, and dwelt upon with rapture. The commonest objects of Newcastle life are matters of the tenderest concern, the most plaintive reflections, the most touching memories. The vendors of black puddings—a north-country delicacy, composed of blood, suet, oatmeal, &c., stuffed into the intestines of a pig or sheep, with somewhat of the result of a loose, dark, untidy sausage—used most to congregate in a certain passage in Newcastle, now known as Pudding Chare. Their vicinity resounded with invitations and solicitations to purchase their wares. "A nice black pudden, man! A nice het pudden, hinnie! A nice fat pudden, smoken het, maw jewel!" "These cries," says Dr. Bruce, pathetically, "have nearly ceased: we did not know the value of them while we had them." Thus everything belonging to Newcastle is invested with, may we not say, a fictitious fascination.

Doubtless there are good men and true in "Canny Newcassel" as elsewhere,—as good and true as the merchant princes of London, or the cotton lords of Lancashire, or the iron-masters of Birmingham. Brave, brawny, big-hearted, swarthy, sinewy men we know the workers must have been whose work we came upon with pleasure, as upon an old acquaintance, not long since under Italian skies;—locomotives carrying to and fro the fame of Hawthorn and Stephenson; but we cannot allow a picture of Newcastle to be a faithful portrait if it be painted without shadows. Dr. Bruce has used no hue more sombre than neutral tint. The ghastly shadow that fell from the principal gate when one quarter of the slain Hotspur was exposed there he has suppressed. The gaunt shadows that fell



NEWCASTLE-UPON-TYNE FROM THE SOUTH; SHOWING THE CASTLE, AND THE SPIRE OF ST. NICHOLAS.



PRINTING COURT AND PRINCE'S BUILDINGS.

* "A Handbook to Newcastle-on-Tyne." Illustrated with a geological map of the district, maps of the town, and of the river Tyne, and upwards of fifty woodcuts. By the Rev. J. Collingwood Bruce, LL.D, F.S.A. London: Longman, Green, Longman, Roberts, & Green. Newcastle-upon-Tyne: Andrew Reid, Printing-court-buildings. 1863.

upon the streets in the times when the town was smitten with plague and famine, even unto death, have not been so much as outlined. There is no indication that Defoe saw Newcastle draped in very dismal attire. He wrote, "The situation of the town to the landward is exceedingly unpleasant, and the buildings very close and old, standing on the declivity of two exceedingly high hills, which together with the smoke of the coals makes it not the pleasantest place in the world to live in." Nor any suggestion of the broad shadow that fell from Dr. Johnson's portly figure when he wrote to Mrs. Thrale, Aug. 12, 1773: "On Tuesday night we came hither. * * I have been taking a view of all that can be shown me, and find that all very near to nothing."

Apart from this amiable weakness, so cordially shared in, and probably admired, by all his fellow townsmen, Dr. Bruce's handbook has a genuine value. It reads, as he says in his preface he intended that it should read, much like the pleasant, chatty, suggestive, explanatory gossip of a person well acquainted with the history of a town, who is showing it to a stranger. It is, perhaps, owing to the circumstance of his having assumed in his own mind that his reader is a personal friend on a visit to himself that he has not made mention of the present hotels and inns. The first practical use a traveller generally makes of a handbook is to see what accommodation there is in the town or city in question for sojourners, so that he may decide by its assistance at which house he will put up. In this matter Reid's Handbook, good as it is, is no guide. But as the illustrated advertisements occupy nearly a fourth of the volume, this omission can be, to some extent, repaired by looking through them. A more important objection might be taken to the fact that there is no suggestion that Newcastle has placed herself under the banner of the fine arts, and boasts a school of design: for this elevating influence is at least worthy of acknowledgment. Speaking of the once clean and tidy condition of the houses in notorious Sandgate (without hinting at their present perilous unsanitary state), our genial author sentimentally cites the verse that was often to be seen on the showy teapots with which the wives of their sea-going residents ornamented their mantel-shelves:—

> "My heart is fix'd, it cannot range:
> I love my choice too well to change."

He might have added that at the present day similar indications of the ebb of art in Newcastle may be seen on pudgy milk-jugs and squat sugar-basins, inscribed respectively, amidst a profusion of flourishes, "Be canny with the milk," "Be canny with the sugar." We are assuredly not expecting too much when we look to the school of design to disseminate at least an appreciation of beauty of form in ceramic wares; and its establishment in a town where much earthenware is made should be esteemed one of the principal events tending towards the general civilizing feeling for art that has taken place of late years. And we must also point out as an omission that can be repaired in future editions, that there is no list of the great manufacturing and chemical works which the courtesy of their proprietors permits strangers to see.

After a few preliminaries respecting the situation, size, and style, extent of the population, and revenue of the town, we are conducted straightway to the Castle. We turn over the pages in search of a plan of the structure, that will enable us to understand the references in the text, without success: there is an old view of the Black Gateway taken before the houses were removed from against it, six or seven years ago; and small cuts of the audience-chamber, the king's chamber, the gallery, the commandant's chamber, and the dungeon; but no plan. The absence of this information as well as of any architectural description will be felt as a draw-back by those who visit the fabric for its architectural interest. The keep is of late Norman workmanship and of a quadrangular plan, covering an area of 66 feet by 76 feet, having projections at each angle. Two of these projections are rectangular and two of them are polygonal: there are also flat buttresses running to the full height of the keep between each angle. With the exception of a modern doorway it retains much of its integrity up to the parapets, which are mock Edwardian. The window openings are characteristically small and few. The curtain wall is destroyed: it covered an area of three acres and a quarter. There is an Edwardian gate tower, that known as the Black Gate, still standing, though isolated from its original surroundings: it has had extra stories built upon it in the Jacobean era.*

Leland tells us that the strength and magnificence of the walls of Newcastle exceeded those of every city in England and of most of the towns in Europe. They were built, Camden says, in the reign of Edward I., after a very rich burgher had been captured and carried off by the Scots from the middle of the town. He ransomed himself by the payment of a round sum of money, and immediately began to take precautions that the same circumstance should not recur. He was assisted by the rest of the townsmen, who desisted not till they had encompassed themselves with stout walls. It was on these walls that the residents found it expedient to keep a watch of a hundred men in 1402. Our author indicates the out-of-the-way corners where we may find portions of them still standing. Seven of the ancient towers may be counted, one of which has, however, suffered much from adaptations. The ancient bridge over the Tyne had a hermitage upon it as well as a chapel dedicated to the Virgin, and three gateway towers. This was destroyed by a flood in 1771. Another ancient chapel, that belonging to the hospital of St. Thomas à Beckett, stood until 1830, when it was removed.

There are three ancient churches in Newcastle. As the lantern spire of St. Nicholas is acknowledged to be a masterpiece of design and construction, we may pardon the justifiable pride with which it is represented seven times in the illustrations. There were four ancient churches; but in 1786 the Newcastle worthies, sharing in the dearth of archæological feeling then prevailing over the whole kingdom, resolved to replace the thirteenth-century All Saints' Church by the mock Grecian edifice now standing on its site. They filled it with solid mahogany pews, surmounted it incongruously with a spire, and paid 27,000*l.* for their bargain. They left one relic of the contents of the old fabric. This is the monumental brass that covered the tomb of Roger Thornton, the Dick Whittington of Newcastle, and his wife. The said Roger is traditionally reported to have walked into Newcastle.

> "With a hap, and a halfpenny, and a lambskin,"

and with these slender materials to have laid the foundation of the princely fortune he ultimately acquired. If the handsome brass had not been preserved his name would not have faded from recollection, for it is associated with the ancient charities of the town. He founded the *Maison de Dieu*, now replaced by the Guildhall.

In the Guildhall in question, built by Robert Trollop, circa 1658, are preserved the plate of the corporation and the regalia. The silver-gilt mace bears the date 1687. There was also a curious relic preserved here, which has now been removed to the new office of the town's treasurer. We allude to the strong box, or hutch (*huche*), in which the money belonging to the Corporation was deposited. This recalls the days when a miser made his chest his couch. It is furnished with eight locks, the keys of which were kept by the mayor and seven chamberlains, and could therefore be only opened by their unanimous consent. Another curiosity of old time preserved here has been placed in the museum in the castle. This is a framework of iron, with a spike attached to it, made to be slipped over the head of a scold. When it is securely fastened behind, the spike is forced into the mouth, and thus prevents further tirade. The name by which this instrument was known was the branks.

The Mansion House is of about the same date as the Guildhall. It was built in 1691. It is now used as a timber warehouse.

Although the formation of new streets has caused the destruction of several of the ancient residences of the North-country gentry,—among them, Anderson Place, where Charles I. lodged when a prisoner in the town,—there are still some picturesque remains of domestic architecture to be seen in the streets. On the Sandhill is a four-storied house, believed to have been the town mansion of Lord Derwentwater. There is a more modern romance attached to it. The whole front of the house consists of four tiers of lattices, only divided from one another by pilasters; but one of the lattices has a blue pane inserted in it. This is to distinguish the window from which Miss Surtees eloped with Mr. John Scott, afterwards chancellor of England. The ground-floor is occupied as a shop; but the upper part of the house retains its oak panellings and carvings of seventeenth century workmanship: it is used as the offices of Messrs. Belton, Williams, & Co. In Love-lane stands a house, once occupied by Mr. William Scott, the father of the Lords Stowell and Eldon, where the latter are supposed to have spent their youthful days. This is likewise occupied as offices by Messrs. Ridley & Thompson. The house in which Mark Akenside was born has been rebuilt; but side by side with the ordinary three-storied straight-lined brick house now occupying its site is a two-storied overhanging tenement, the upper rooms of which are approached by an outside stair, which is a *fac simile* of that in which the poet first saw the light. The house in which Lord Collingwood was born is standing in the Side: it is built of brick, in last century workmanship. John Wesley built an orphan-house in Northumberland-street, which has been recently removed, to make room for new school-rooms. There were, too, in recollection, several ancient hostelries in Pilgrim-street—the route pilgrims took to the chapel at Jesmond, and perhaps to the scene of St. Cuthbert's miracles at Lindisfarne; but these have been likewise modernized. It is somewhat remarkable that ancient Newcastle was built of timber, like old London, notwithstanding the abundance of stone in the immediate neighbourhood. Only three ancient stone houses are known to have existed.

Modern Newcastle, in the first days of its extension, was built of brick. But in 1823 Mr. John Baird built two new houses of stone, Nos. 37 and 39, Northumberland-street, respectively; and Picton House was built about the same time of polished stone by Mr. Todd. From this period the principal buildings and houses in the streets of Newcastle have been built or faced with stone. All the new streets built by the late Mr. Grainger are fronted with stone. Of the million pounds worth of property constructed by this indefatigable man, we have often given particulars. We may add that the whole of it is now occupied, and in a fair way of making a remunerative return for the enormous outlay. The most recent addition to the attractions of modern Newcastle is the Stephenson monument, which has been likewise described in these pages. The new townhall buildings are now completed. The estimated cost of the whole was 17,000*l.*: the actual cost amounted, it is understood, to 50,000*l.* Three new groups of buildings have replaced the property damaged in the great fire, called the Merchants' Offices, the Queen's buildings, and the Prince's buildings. They very much improve the appearance of the quay side. Another new building, since our survey of the town, is a large printing and stationery establishment, built on the site of the old Nag's Head Inn. These are the premises of Mr. Reid, the publisher of the "Handbook," and of "Reid's Railway Guide." The ground-floor is occupied as a shop: above this are three stories, and above them two mansard roofs, containing two attics, one above the other in each. The lower attics are lighted by two dormers apiece, the upper by one. Eight vanes rise from the metal crestings of the mansards. We give a view of this creditable building: Mr. Wardle was the architect.

We transfer to our pages several other of the engravings with which Mr. Reid has liberally adorned his book.

A third of the volume is devoted to the industrial resources of Newcastle and its neighbourhood. In this chapter, which is ably written by the mayor of Newcastle, is condensed the information that, diluted by many hands, was afforded to the members of the British Association at the recent congress. Mr. J. T. Bell appears to have diligently collected every fact and figure appertaining to the mines, manufactures, collieries, and trade of the district, and, first refining them, placed them under the compressing power of a most ponderous steam hammer. We have, in very limited space, a compact and digested account of the rise and progress of the commerce of Newcastle. He gives the first place to coal. Few persons would suppose that so much water as coal is lifted from a coal-pit. For every ton of coal raised to the bank as much water must be pumped up. In many cases, seven or eight times the weight of water is raised more than of coal; and in one or two instances its weight is thirty times that of the coal. This causes a great expenditure in pumping machinery, as well as furnishes the source of many an accident. A second cause of expense and casualties is the highly inflammable air pent up in crevices of the strata, known as fire-damp. Mr. Bell relates a case of explosion that came within his own experience. On the occasion in question, he estimated that there was no more inflammable air present than could be di

* A good view of the Castle will be found in one of our early volumes.

filled from 1½ cwt. of coal, or consumed in a day by eight or ten argand burners; and yet it caused the death of more than twenty men and boys, some of whom were killed at a distance of half a mile from the scene by the mere concussion of the air; and damage was done to the mine to an extent of 10,000*l.* The combustion of fire-damp on a larger scale, with the gases resulting from the combustion, produce a series of casualties that cast a deep shadow over this useful branch of commerce. And, unfortunately, the influx of water and inroad of gas are not the only cause of peril. What with the fall of stone in the workings, accidents in travelling up and down the shafts, and other untoward circumstances not to be classified, such as the cause of the Hartley calamity, it is estimated that for every 100,000 tons of coal worked a life is lost. Mr. Bell reports well of the workers whose industry and courage are so essential to our comfort. Although, perhaps, less educated than Newcastle mechanics, they have gladly availed themselves of the means of improvement placed within their reach by the Wesleyans, who have established Sunday-schools and chapels in many pit villages, and are as prudent as their fellow-labourers in other branches of employment. About 80,000 men are employed in and about the collieries of this great northern coalfield, which, up to this date, is estimated to have yielded a thousand million tons of coal. The men employed in superintending and conducting the various operations are, locally, classed as viewers, under-viewers, overmen, keepers, wastemen, hewers, putters, barrowmen, cranemen, drivers, trappers, shifters, onsetters, banksmen, brakesmen, gin-drivers, corvers, wallers, and screeners, — names which indicate the numerous branches into which the processes are divided. Touching the question of the exhaustion of supply, our author foreshadows an intervening calamity, namely, a great increase in the cost of extracting it, which will put as effectual a barrier of its general use as its exhaustion.

Gas, coke, lamp-black, asphalte, patent fuel, crude naphtha, and light and heavy oil, or creosote, besides essences of delicate flavour used in confectionery, are among the irreconcileable articles into which coal and its accessories are converted upon the banks of the Tyne. Iron is placed at the head of the next section, metallurgy; and a history of the development of the mode of treating the ore from the days of the Romans to the adoption of the Cleveland ironstone at Middlesborough is entered into. Although we have recently given the details of the wonderful extension of commerce resulting from this circumstance at the last-mentioned place, we may be permitted to add a few particulars relating to the Newcastle branches of the iron trade. Messrs. Hawthorn have reduced the manufacture of locomotives so completely to a matter of routine that they can engage to turn out an engine every week. This firm employs about 1,100 men. R. Stephenson & Co. employ about 2,000 men. The manufacture of railway wheels of malleable iron, started by the late Mr. William Losh, at Walker, is still carried on. Marine engines are made in great number on the Tyne. Steam-hammers, iron bridges, boilers, railway waggons and trucks, and cables, are among the miscellaneous articles piled up by Mr. Bell as being manufactured by Messrs. Hawks, Crawshay, & Sons. Sir William Armstrong, who, besides his numerous ordnance improvements, was the first to apply hydraulic power to cranes, employs about 4,000 men at his engine and ordnance works at Elswick.

About 3,000 tons of steel only are annually produced in this district. This trade is so nearly engrossed by Sheffield, that not more than 300 persons gain a livelihood by it here. The Messrs. Spencer & Sons, at Newburn, possess the most extensive of the Tyneside Steel-works. They have six converting and thirty-six melting furnaces.

Lead and silver mining and manufacture is a much larger item in the industry of the north country than the production of steel. The Alston Moor and Weardale districts yield about 20,000 tons of lead per annum. Alston Moor formed part of the possessions of the unfortunate Earl of Derwentwater. The Commissioners of Greenwich Hospital are the present owners of it. They do not speculate in the mining operations, but grant leases, in which royalties are agreed to, varying from 1-7th to 1-10th of the produce of the mines. There is something like Californian risk attending lead mining operations. Sometimes a miner may, by a lucky chance, make as much as 300*l.* in a year: at others he can scarcely reckon upon 25*l.*; for he shares in the chance of the quantity yielded. As some time elapses before the produce of the mine is washed up and the yield ascertained, an instalment of 10*s.* per week is paid per man. At the end of the year a balance is struck, and the surplus is paid or the shortcoming demanded. This uncertain subsistence is eked out by the small plot of ground of which nearly every miner employed by Mr. W. B. Beaumont, M.P., the largest lessee, now enjoys the use. The quantity of silver found in a ton of lead varies from the merest trace to 30 oz. or 40 oz. Mr. Bell relates that the method at present employed to extract the silver from the lead was devised by the late Mr. Hugh Lee Pattinson, of Alston, who at one time filled the office of Assay Master to the Commissioners of Greenwich Hospital. He observed that when lead was melted in a crucible and stirred with an iron rod, particles of the metal in a semi-crystalline condition fell to the bottom, while the remainder continued fluid for some time longer; and he concluded that the two portions would vary in the amount of silver they contained. They were assayed, and the result proved his inferences. The lead that crystallised first left the silver behind, squeezed out, as it were, from the less valuable metal during congelation. The crystals, still containing some silver, are melted again and again, till there is not more than an ounce left in a ton of metal; while the rich lead is subjected to the process over and over again till it contains 200 oz. of silver to the ton. Thus far the Pattinson process. The two metals are ultimately separated by converting the lead into litharge. The gain of the new process consists in the difference between refining lead containing 10 oz. to the ton or the same weight containing 200 oz. or 300 oz. As much as 1,000 tons of lead would be dissipated into vapour out of every 18,000 tons refined by the old process, a waste which is now very materially lessened. Newcastle enjoys the privilege of an assay-office. The Goldsmiths' Company appoint an assay-master, who assays and marks silver plate.

Lead is rolled into sheets by Messrs. Locke, Blackett, & Co., at St. Anthony's; and likewise manufactured into shot by the same firm as well as by Messrs. Walkers, Parkers, & Co. The same firms also produce large quantities of gas and water pipes. Red lead, white lead, and a substitute for the latter,—an oxichloride of lead,—are among the minor manufactures from the same metal, carried on by various firms. About 800 tons of zinc are produced annually at Hartley Burn by Mr. Atwood, who was induced to undertake its manufacture from the circumstance of the lead mines yielding a mineral known by the name of black-jack, which is a sulphuret of zinc.

Some pounds of the new metal, thallium, prepared at the Washington Chemical Works, were exhibited to the members of the British Association. Mr. Bell devotes a paragraph to it in the "Handbook." He states, impartially, that its discovery is due to Mr. Crookes, of London. This gentleman was investigating the properties of different substances by what is termed spectrum analysis, in which different bodies affect the prismatic spectrum in different ways. "A specimen of material from which selenium has been obtained, was placed in the apparatus, and a well-defined green line appeared, which Mr. Crookes ascertained to be due to a new metal he named thallium, from a Greek word signifying a green twig. So delicate is this test that 1-250 millionth of a grain can be detected in the spectroscope. Mr. C. next tried a substance which partly sublimes, and is partly carried away mechanically from the furnace in which pyrites is calcined in the soda works, and in it he discovered from one to two per cent. of this hitherto very rare metal." The newest metal before this discovery,—aluminium, is successfully manufactured at the same works by Messrs. Bell, Brothers. They deem it yet in its first stage of infancy, and capable of extended application.

Three thousand five hundred men only are employed in iron ship building on the Tyne. About 3,000 or 4,000 tons of iron wire are annually converted into ropes; and about 2,000 tons of hemp are spun into ropes in the district; the principal ropemakers on the Tyne being Messrs. T. & W. Smith, Crawhall & Co., and Henry Webster. 2,500 tons of anchors are annually manufactured at the Newcastle anchor forges.

Among the chemical products soda stands first: bleaching powder is the next on the list: this is followed by bicarbonate of soda, better known as baking powder. Something like 10,000 tons of this new article of request among housewives are now furnished by Newcastle annually. Forty years ago an order came into the town for two pounds of it, which quantity could only be obtained by uniting the stocks of three shops. Oxichloride of lead, magnesia, pearl hardening, hyposulphite of soda, cement, alum, copperas, Venetian red, prussiate of potash, Epsom salts, chemical manures, sulphate of ammonia, acetate of lime, soap, and grease, are all manufactured on the Tyne.

Another highly important item in the trade of this busy place is glass. In 1615, Sir Robert Mansell established himself at Newcastle as a glassmaker. In 1838, out of the 120 tons of window-glass produced weekly in the kingdom, 60 tons were made on the Tyne, and 20 tons on the Wear. The works of the Messrs. Swinbourne & Co., at South Shields, and those of Messrs. Hartley, at Sunderland, have proved formidable opponents to the Newcastle glass trade, which is chiefly now confined to bottle making. The "Handbook" gives a considerable amount of statistical information concerning the glass trade, which has been furnished by Alderman Hartley and Mr. R. W. Swinbourne. It appears Belgium is able to undersel the north country manufacturers on the item of light-cut wine-glasses: these can be imported for 1*s.* 4*d.* a dozen, a price at which the local makers are totally unable to produce them. The stained glass-works of Mr. Wailes employ from eighty to one hundred persons.

The raw materials of which earthenware is made, being brought in large quantities to Newcastle, led to the establishment of potteries for the coarser kinds of ware. From information afforded by Mr. C. T. Maling, it is shown that 1,200 men are employed in this branch of industry. They are distributed in thirteen potteries. There are 12,000 tons of white clay, 3,000 tons of brown clay, and 34,000 tons of coal used annually in these. Plates are made in large quantities. One house received an order for as many as 12,000 dozen at a time.

Tobacco-pipes are made in immense quantities in small potteries exclusively employed in that manufacture. Fire-bricks are made at the rate of 80,000,000 per annum. Mr. Richard Coil manufactures, at Gateshead, about 250 tons of bricks a day. The process is so rapid that a week after the clay has been removed from its natural bed, it may be found forming a part of the walls of the houses which are springing up around.

No whalers now leave the port of Newcastle. Their errand is superseded by three oil-mills on the Tyne, which consume annually 25,000 quarters of seed. There are also two larger steam flour-mills in the Close.

The manufacture of tobacco employs 200 men, besides steam power. From 120 to 130 men are occupied in the weaving of canvas: 500 are engaged in the converting of hare and rabbit skins into felt, and subsequently into hats. In Messrs. Wilson's establishment the fur of 1,500 hares and rabbits is stripped off every week by rapidly revolving knives. A fan blast blows the fibres into two groups,—the one of coarse hair, the other of fine. These are propelled through a second tube in which there is a cone of thin copper, pierced with small holes, and revolving with great rapidity. A fan revolving at the rate of 3,500 times a minute draws the air quickly from the interior of the cone, and a current is created which makes the light fur adhere to its surface. In a very short time sufficient fur has accumulated to form the felt. Wool is also felted; and both kinds of felt are fashioned into hats, waterproofed and dyed. About 300,000 lb. of paper is made in the district. Newcastle also tans the skins of seals, sheep, and calves in great quantities; and coach building is now employing some 300 or 400 men.

The resources of the vicinity are further revealed to us in the description of the banks of the Tyne to its source; and in a chapter on the Tyne as a port. We are reminded, too, of the neighbourhood of Alnwick and Warkworth Castles.

In a word, Newcastle, as shown in Reid's Handbook, is a picture of quaint old-world beauty set in the radiance of a most wonderful commercial prosperity;—not a blot, flaw, or shadow upon it; much less any need of sanitary reform. But in reality it still stands in crying want of the improvements we have from time to time indicated as imperatively called for.

An Ancient Bell.—An interesting archæological discovery, it is said, has just been made at Ornolac, near Usat-les-Bains (Ariége). On taking down a bell to make certain repairs in the steeple of the church, it was found to bear the date of 1079, and must consequently be one of the oldest bells in Christendom. This needs confirmation: dates are often misread.

NEWCASTLE-UPON-TYNE.



THE RAILWAY STATION, AND THE NEW STEPHENSON MONUMENT.



THE TWO BRIDGES.

THE SOCIAL SCIENCE CONGRESS.

The meeting in Edinburgh has passed off very successfully, and will doubtless bring about good, though the good comes slowly. The daily papers have reported pretty fully the proceedings, including Lord Brougham's lengthy address in full. We content ourselves with a few detached reports of papers and discussions connected with the public health question. At the commencement of the proceedings,

A paper was read by Miss Nightingale titled "*How People may Live and not Die in India.*" The Royal Commission on the sanitary state of the army in India had shown that unless the health of the British army in India could be improved, and the enormous death-rate reduced, this country would never be able to hold India with a British army. The average death-rate of the troops serving in India was no less than 69 per 1,000 per annum. That death-rate, moreover, did not include those who were invalided and who died on the voyage to England, or soon after their return; but taking it simply as it was, and assuming the strength of the British army at 73,000, it proved that such an army would lose on an average of years an entire brigade of 5,037 men per annum: sometimes it would be half that number, but in other years it would lose two such brigades. The Royal Commission had shown that if the death-rate were reduced to even 20 per 1,000 per annum (which is too high)—this was double that of home stations since these stations had improved—to India would be saved a tax equal to 1,000*l.* sterling. And this represented the mere cost of replacing the men cut off by excess of premature and preventible mortality. Referring next to the question how this great death-rate in India had arisen, Miss Nightingale said,—I am afraid that the reply must be that British civilization is insular and local, and that it takes small account of how the world goes on out of its small island. The diseases from which the soldier mainly suffers there are miasmatic: now, intemperance never produced miasmatic diseases yet. They are foul-air diseases, and foul water diseases, fevers, dysenteries, and so on. Intemperance may cause liver diseases, and put the man into a state of health which prevents him from resisting miasmatic causes. What are these causes? We have not far to look. The Briton leaves his national civilization behind him, and brings his personal vices with him. At home there have been great improvements everywhere in agriculture and in town drainage, and in providing plentiful and pure water supplies. There is nothing of the kind in India. There is no drainage either in town or country. There is not a single station drained. If such a state of things existed at home, we should know that we have fevers, cholera, and epidemics to expect. But hitherto no one has expected anything of the kind from these same causes in India, although they are



THE VOTIVE CHURCH, VIENNA.—Herr Heinrich Ferstel, Architect.* [* See p. 734, *ante*.

always happening. As regards water, there is certainly not a single barracks which is supplied, in our sense of the term, at all. There are neither water-pipes nor drain-pipes. Water is to be had either from tanks into which all the filth of the neighbouring surface is washed by the rain, or from shallow wells dug in unwholesome or doubtful soil. So simple a piece of mechanism as a pump is unknown. The evidence showed that all that the climate required was that men should adapt their social habits and customs to it—as, indeed, they must do to the requirements of every climate under heaven; be particularly careful to have a plentiful supply of pure water laid on for every purpose; drain all dwellings; have no cess-pits; attend rigidly to cleansing, not only surface-cleansing; never crowd large numbers into the same room; build separate barrack-rooms instead of large barracks; place these so that the air plays freely round them; raise them above the ground, with a current of air beneath; never build in a wet hollow nor on a sludgy river bank, which would be avoided even at home. Do these things, and the climate may be left to take care of itself. But, if we would make India about as healthy as England, only somewhat hotter, let us have improved agriculture and agricultural drainage. If all these improvements were carried out, the normal death rate of the British soldier would be not 69 per 1,000, but 10 per 1,000, say the Commissioners. But it is not for the soldier alone we speak. The report has a much deeper meaning and intent than this—it aims at nothing less than to bring European civilisation and appliances to the natives of India. Such revelations are made, especially in the reports from the stations, with regard to the sanitary condition of these, as to be almost incredible. Everywhere they are suffering from epidemic diseases, fevers, dysentery, cholera—constant epidemics we may call them, and constant high death-rates. (How high can never be known, because there is no registration.) The plague and pestilence are the ordinary state of things. But the extraordinary is when these sweep over large tracts, gathering strength in their course to pass over gigantic mountain ranges, and to spread ravages over Western Asia and Europe. And all this might be saved. We know the curses of epidemic outbreaks here. Take the worst condition of the moist and most neglected districts at home: multiply it ten and a hundred times over—and that is, to say the least of it, the normal condition of every city and town in India. Not one city or town is drained. Domestic filth round the people's houses beggars description. Water supply is from wells or tanks in ground saturated with filth. No domestic conveniences. Every spare plot of ground is therefore in a condition defying us to mention it further. The air in, and for some distance around, native towns is as foul as sewer air, there being no sanitary administration and no sanitary police. Here, then, we have, upon a gigantic scale, the very conditions which universally precede epidemics at home. India is the focus of epidemics. Where should we be now, with all our schools, if London were like Calcutta, Madras, or Bombay, the three seats of government in India? The next great work, then, is sanitary reform in India. There is not a town which does not want water supply, draining, paving, cleansing, healthy plans for arranging and constructing buildings, together with agricultural drainage and improved cultivation all round. These things the people cannot do for themselves. But the Indian Government can do them. Three health departments (one for each of the presidencies) have been recommended by the royal commission, together with a home commission to help these departments in bringing the appliances of home civilisation to India. The work is urgent. Every day it is left undone adds its quota of inefficiency to the British army, and its thousands of deaths to the native population. The question is no less a one than this—How to create a Public Health Department for India—how to bring a higher civilisation into India. What a work, what a noble task for an Indian government! No "inglorious period of our dominion" that, but a most glorious one! That would be creating India anew, for God places His own power, His own life-giving laws, in the hands of man. He permits man to create mankind by these laws, even as He permits man to destroy mankind by neglect of these laws.

Additional interest was given to the reading by the presence of Prince Alfred, who arrived at the commencement of the proceedings of the department. In the discussion which followed,

Mr. Chadwick said that in the presence of his Royal Highness, and the special attention given to the topic before them, the section would see an assurance of the regard paid to the subject, so important to the welfare of the people. He (Mr. Chadwick) would state that if all landowners paid the same attention to the sanitary condition of their labourers, or to the condition of their cottages, the general mortality, even of rural labourers, would be reduced by nearly one-half. It was frequently put forth, as defensive of the army mortality, that disease was a necessary consequence, and an inevitable one, from massing men together in barracks. But they were massed more closely together in ships, and in ships in the Royal navy, where some sanitary care was taken, the death-rate was less than one-half that prevalent in barracks. On the home stations the death-rates were six and seven in 1,000, whilst in the barracks the death-rate was seventeen in 1,000. In the Royal navy, however, there was yet much to be done, especially for the improvement of the ventilation between decks.

Mr. Rawlinson thought that if similar measures were adopted in India to those which had been adopted elsewhere with regard to the army, there was no doubt that they might expect the results predicted by Miss Nightingale. They remembered the fearful mortality which occurred in the army which left our shores for the Crimea—a mortality which had no parallel in our history, which even exceeded that of the Walcheren expedition. That mortality was attributed to the climate and to certain other things, to the want of roads, to excessive trench duty, to great exposure to the weather, &c.; nevertheless, owing to the exertions made in the camp, the mortality in the Crimean army during the last eighteen months of the campaign was reduced to a less rate than that army had ever enjoyed in its barracks at home. Since that time great improvements had been made in our barracks at home, and in their sanitary condition, and the rate of mortality had in consequence been reduced from 17½ to 8½ per 1,000. If the same thing were done in India, if better barracks were erected, better sites chosen, and the spirit ration abolished, he believed, humanly speaking, they might place the British army in India, now nearly 80,000 strong, in such a position that, in place of its mortality rising up to 60 and 70 per 1,000 it would not exceed 20 per 1,000.

On another occasion, Dr. Stevenson Macadam read a paper on "The Contamination of Water by Imperfect Drainage in Towns and Villages."

In the discussion which followed, Professor Gairdner, Glasgow; Provost Whitelaw, Dunfermline; Rev. Mr. Farquharson, Selkirk; and Dr. Mackenzie, Kelso, bore testimony to the great benefits which had arisen from Provost Lindsay's Police Act.

Professor Bennett thought people were apt to confound offensive smells and impure water. He had a strong idea that smells did no harm, and it had not been proved that smells arising from drainage had the slightest effect on our health; at all events, not to produce ill-health.

Mr. Elliott, Carlisle, maintained that fresh sewage did not injure water, and stated that fish had increased in the Eden, notwithstanding the introduction of sewage, which, he held, afforded food for the finny tribe.

Dr. Alexander Wood expressed great surprise at what Professor Bennett had stated, and gave it as his opinion that in the majority of cases where a bad smell existed it was an indication given by the Almighty that something was wrong which required to be put right. He begged, in the name of most medical men, to protest against the doctrine that pure water was of more importance than pure air, and he would beg all gentlemen who were interested in that measure not to wait until the extraordinary problem of the utilization of sewage was solved, but to go forward and benefit the living generation.

Mr. Elliott read a paper on "*Domestic and Hospital Ventilation.*" A discussion took place on this subject, in which there took part Professor Gamgee; Mr. Heywood; Mr. John Casse, London; Dr. Spence; Mr. Lundy, Leith; Mr. Mawson, Newcastle; and Mr. Stephenson, Edinburgh. Hints were thrown out by the speakers as to the ventilation of public and private buildings. In any room where people live, it was properly urged that there should be an unceasing current of air passing through the apartment. Reference was also made to the evils arising from confined bed-closets, as well as windows which did not open from the top.

In a paper read by Mr. Kelman on *Co-operation* in Germany, he stated that at the end of last year there were 900 co-operative societies in Germany, possessing a paid-up capital of 300,000*l.*, with a borrowed capital of 1,200,000*l.*, making a working capital of one and a half million, and doing an annual business to the amount of 4,500,000*l.* Of the 900 societies, 600 were loan and credit societies, 200 were for raw materials, bazaars, &c., and 100 co-operative stores. He gave an explanation of the system in its varied branches.

For the meeting of working men the largest building in Edinburgh proved wholly inadequate to accommodate the thousands who were desirous of being present. The applications for tickets were about 35,000 in number, and not more than a tenth of the applicants could gain admission.

At this meeting M. Garnier Pages spoke in French, and was interpreted sentence by sentence. He said,—I do not know a more solemn sight than that of a free man coming before such a great assemblage as this, and speaking some words to it with a free heart. I will speak to you as a free man, and I will speak the words of truth. It is evident that of all sovereignties the first one is the sovereignty of the nation; and it is not less evident that this sovereignty must be exercised with science and with all the gifts of intelligence. You have all of you rights, and you are free to exercise these rights. But I take the liberty to tell you that, if you are possessed of rights, you have also useful and special duties to fulfil. The first duty is, as the noble Lord Brougham has well said, to try, every one of you, to get all the information and all the knowledge which you require to have. When you see men here of all sorts and ranks—men of every description associating themselves for the purpose of studying science, the duty of every one of you should be seen to be, to try to profit by these efforts which are being put forth in this direction. When the representatives of the working classes of Paris came to London, they were received as brothers; and I am sure that, if the representatives of Paris were to come to Edinburgh, they would be received in the same kind and affectionate manner. We must consider that there are other nations who at this moment are suffering, but I feel certain that you have great sympathy for these nations. When there is suffering on the earth, when there are miseries in the world, it should be your wish that there should arise in both countries,—in England and in France,—a spirit of concord, and of determination to help the nations that suffer.

The Sanitary Arrangements of Edinburgh as compared with other large Towns.—Dr. Littlejohn read a paper on the above subject, in which he advocated the daily removal of the solid and other refuse of houses. In no town in England, London not excepted, was this system carried out. In Scotland it was only adopted in a very few towns. The plan adopted in Edinburgh was to compel the inhabitants to carry down their solid and other refuse to the streets or courts in buckets or other suitable vessels, under a penalty of 40s. This refuse was removed by the authorities, sixty carts being employed in the service. The removal was superintended by an inspector of cleaning, assisted by a large staff of scavengers. There were 57,000 tons of solid refuse removed from the streets of the city every year. This was sold to the farmers in the vicinity within a radius of twenty miles of the city, and realized 7,000*l.* per annum to the revenue of the city. In comparison with other manures, such as guano, bone, &c., it was invaluable, as it was much cheaper, and was besides practically inexhaustible. Dr. Littlejohn said that in Liverpool not a single copper went to the funds of the city from the sale of its manure. To be effectual, the cleansing of large towns should not be left to private enterprise. It must be left to the authorities, who had ample means of accomplishing the work. As the drainage of London and Leicester was carried out, a large amount of money was wasted and entirely lost.

Dr. Andrew Wood said he had been a medical practitioner in the city for thirty years, and should know a little about its sanitary condition. The question of the sanitary state of large towns was a large and important one. There were some people who maintained that there was no harm in a bad smell—that it, in fact, had a fattening effect. He was against everything that had a bad smell, because wherever there was a bad smell there was something wrong. Wherever there was a bad smell there must be lurking most deleterious substances calculated to produce disease. He then detailed a case of fever which came under his notice in one of the best squares in the new town. There was nothing in that fashionable house to lead one to suspect what had caused the disease. First one and then six of that family fell ill, and then he made an examination, the result of which was, that a cesspool was found under the house which had not been cleaned for years.

He knew houses in the city where human beings lived where they would not put their pig; where a lighted candle was necessary at midday to see the inmates. Body and soul were here contaminated. Pure air, the light of heaven, a plentiful supply of water, and good drainage were what the working-classes required.

Mr. Ker Porter said he had been engaged in constructing houses in Ireland, and in Huntingdonshire in England, and he found that by introducing a flue rising from the ceiling to the top of the houses was a great boon to the health of the inmates. During the visitation of fever in these places, the inmates of the houses thus ventilated entirely escaped its ravages.

Mr. Newlands, Liverpool, said he was no advocate of the "midden" system of Lancashire, but it was better than no drainage at all, as was the case in parts of Edinburgh. He said that it cost Liverpool 13,000*l.* annually for cleaning, from which they never derived any benefit.

Mr. Girle said that in the course of time water would be introduced into every house in Edinburgh, and especially those of the poorer classes. He maintained that two out of three houses in the old town of Edinburgh had sufficient room to be supplied with water and water-closets.

The Laws of Property, and the Dwellings of the Working Classes.—Mr. Thomas Hare read a paper on "The Difficulties which the Laws of Property oppose to the Improvement of the Dwellings of the Working Classes." He said he should nominally confine himself in his paper to the subject of the dwellings of the working classes in London, which he had had most opportunities of examining, and in which, from its vast population, the necessity of providing better habitations presented itself in every form; but he might add that there was very little in what he should say which would not apply to any populous city. He had proposed for the Department of Jurisprudence a draft of a proposed law, having four main objects;—First, to facilitate the work of obtaining sites for the erection of buildings greatly more capacious than at present; secondly, to provide for the erection of these buildings, in larger and smaller tenements, so as to be within the reach of all classes, especially the poorer; thirdly, to regulate by by-laws, adopted by the proprietors themselves, the relations of each to the rest for the common maintenance and good condition of the whole property, and the prevention of anything which might interfere with its enjoyment; fourthly, for a cheap system of local registration of titles, so that tenements might be transferred from one owner to another without deeds, readily and inexpensively, thus making it not only an investment of the highest moral and domestic value, but one in which earnings might as conveniently be placed as in a savings bank. The proposed law was adapted, as he conceived, to remove the present legal and almost insurmountable difficulties in the way of this greatest and fundamental step in the moral progress of the masses of the people. He had framed the Act for London only, but a dozen words would extend it to any other locality.

Public Inspectors for Rural Cottages.—Dr. Begg read a paper on "The Necessity of Appointing Public Inspectors for Rural Cottages." The case of rural cottages, he said, differed widely from that of the houses of workmen in cities. The workmen in the country were entirely at the mercy of servants and landlords; and, unless good cottages were provided for them, they could not obtain them by any efforts of their own. It was admitted that a certain number of good cottages had already been erected in different districts; but in many districts little or nothing had been done in improving the dwellings of the rural labourers. Even where the houses of the farmers had been immensely improved, and the most splendid steadings for the accommodation of cattle had been erected, the lodgings of the ploughmen were often disgraceful. It was beyond a doubt that to this cause,—the miserable accommodation of rural labourers,—must mainly be traced much of the immorality which prevailed in certain rural districts. In his opinion the time had come when the community, on the ground of humanity and in self-defence, should bring the matter to a point. One way to accomplish this result effectually would probably be to appoint authorized and paid public inspectors to examine all the cottages in the rural districts, and to report to some magistrate, who should have the authority to order the redress of existing evils.

IS TASTE AN EXPENSIVE INDULGENCE?

In a recent Parliamentary debate it was stated by a high personage, "that the indulgence of taste proved very expensive," and this caused some merriment from those who unthinkingly concurred.

But it may be well, in these days of art museums, of schools of design, and of truthful work, to consider briefly whether this is borne out by facts, and whether it be not something besides taste that costs so much. This abused quality seems in places to be quite misunderstood; and it appears to be thought that taste and extravagance are synonymous terms; an exercise of the one being carried out only by an unlimited supply of the other.

Now, as the subject under discussion was a matter of building, it will be right to consider it with reference to that, in the first place.

Buildings cost more or less as they are large or small, substantially constructed, or otherwise, and if plain or enriched; and herein lie so many points of taste.

The value of a building is computed, not merely from its original cost, but from its substantial condition, or otherwise, after some years of wear and tear, and is raised or reduced accordingly. So the taste of the person who builds is exercised, in the first instance, by having it well or ill built, and taking measures accordingly, by the employment or not of proper advisers in the matter, and paying an adequate amount for the work.

It is exercised again by the condition of the design, by its beauty or faultiness, and its fitness for the proposed erection, for its consistency and unity.

Further, it is exercised by the elaborations in the form of structural and superposed decorations which are intended to give *éclat* to the whole thing.

Now, be it observed, that the design, the structure, and its decorations form three points of necessity: we must have all three to make one building complete; and unless true taste be exercised in every part, and under all circumstances, it will prove to be a very dear building indeed. If badly designed, ill built, and vilely "decorated," it will be a perpetual discomfort, and entail an endless expense in repair, alterations, and improvement; while, if taste have been exercised, it will form almost a sacred protection to it, and elicit expressions of continuous enjoyment and satisfaction, while outlay for improvement will not be needed at all.

If we look to the old buildings, both sacred and secular, which now rear their heads amongst us, perhaps not so complete and entire as when first erected, but in which, if there be only ruin or the mutilation left by the fanatic, there will yet be perceptible the presence of taste,—of regard for consistency and the elements of beauty and strength of which the present day is more regardful. And these remains,—these bold, plain stones and oaken rafters, parts of the structural necessity itself,—would not have cost less had they been shaped in any other way, which would have equally suited the purpose of their position and use; and the moulded edges, sculptured bosses, and enriched details which meet the eye at every turn, they are joys for ever as things of true beauty, which no doubt delighted those in whose generation they were built, and now serve as examples and guides in this distant day of their existence; when, if left only to time, many of them would have still retained much of their original freshness and perfection. But the hand of man has been laid on with violence, thus hastening their disruption and ruin. Thus the point of substantiality is vindicated; and it may here be asked, How many of our present buildings will last 500, 300, or 200 years? Do contracts, competitions, and speculation aid the cause of really cheap and effectual building? This may be well doubted, seeing the method of construction in ordinary use in the present day.

On the other hand, some really fine structures have been and are in course of rearing which will do honour to their projectors now and for many years hence, from the simple reason that, having exercised in them the threefold taste, all will honour them; and indeed every one feels, from reasons perhaps which he cannot explain, that he is bound to give his assistance in upholding such desirable works, which, perhaps, have afforded him only a gratification of the eye in passing.

But if, on the contrary, an outrage be perpetrated upon even ordinary taste, its removal and destruction are univerally acquiesced in.

Taste in building may be said to be the most perfect adaptation of the means to the end; the best expenditure of money for a certain purpose; an eye to the whole before the work is commenced; and a rigid attention to the execution of the work during its progress.

Taste does not consist in extravagant outlay for an insignificant purpose; in covering up bad work with a tinsel clothing; or bedizening a structure with an elaborate superficial ornation to the neglect of important structural conditions.

If a building be required for a palpably small sum, there are of course certain matters and purposes to be provided for, as in the most costly edifices;—strengths here, piers and voids there, as is usual. It is in the artistic disposition of these and other necessary matters that the "taste" will consist and evince itself. And it is well known that when a form has to be many times multiplied, that very fact reduces the cost of its production very considerably; so that "things of beauty" may meet the eye even for small sums, and so render the parts and the whole of our large building tasteful in an eminent degree without being expensive. But if, on the other hand, something very egregious be attempted at one part to the sacrifice of others of equal importance, which are left crude in consequence of the cost of one monstrosity, then taste is not displayed. It is mere expenditure without satisfactory result or return.

Taste is even more shown in a consistent plainness altogether than in an ornate group with accessories of the barest and commonest character surrounding it, serving to make the bare appear worse, and the ornate ridiculous.

In another case, however, there may be a worthy object to be attained, and an adequate sum wherewith to accomplish it. Here the exercise of taste has another phase: all substantial parts are sure to be provided for, and then the enriched portions will have the attention and require the exercise of suitable taste. For, however meagre or elaborate adornments may be, they must accord with the general purpose and style of the building, and serve to enhance its beauty.

Taste will first be exhibited in the fitness of the structure, and then in the enrichment, as it were, of that fitness; and an outlay for this is entirely legitimate when it can be well afforded.

There can be no question, and it should be well remembered, that the first cost is the cheapest, and is the best investment of money in building.

Low-cost building is a great bane. There is quite a thirst amongst a certain class for big buildings for little sums; and, alas! contractors are found who favour this mania by tendering and showing themselves a good deal lower than angels by undertaking to erect them; the small figures in the tender frequently swelling into large ones in the balance-sheet of bankruptcy,—a conclusion unsatisfactory to the builder, and not likely to lead to pleasant reflections in the possessor of such underpaid magnificence.

Taste, again, is shown in proper pay for good work; but in its most popular sense, it may be taken to mean—show, appearance, decoration, spending a large sum of money; and here, for "taste," might certainly be read "extravagance." True taste, however, is generally profitable, like all good things, and its appreciation grows larger day by day.

Turn we from the actual building to its adornments,—those articles of *vertu*, fine pictures, peculiar china, glass, or metalwork, the life-like statuary,—those things which etherealize an earthly tenement to those who have an appreciative taste. True, each and every one of these may have cost a large sum of money; but it does not require much research to discover that the purchase of such things is a very excellent investment. They are as good, or better than gold, as their value for the most part increases with years; and if a collection of a well-known judge be to be sold, what a rush do we find to the auction-room! what eagerness at the biddings, what premiums are paid upon the original cost, and what handsome sums do we find realized almost daily by their disposal in this manner! What a fine legacy a few dusty bronzes, antique cups, or some small squares of canvas may turn out to be, if converted into cash, as many persons can testify?

Therefore, an indulgence in taste in the higher arts is not expensive when the word is misread as wasteful and useless; but is the acquirement of valuable "portable property" and heir-looms, which gladden the eye while they profit the pocket, an outlay which, for the most part, returns

to the possessor in a few years with adequate money interest, if so desired.

And surely, apart from profit, even the gratification of the eye with objects of true taste is no small matter, but one which should be allowed some scope: although it is not at all admitted that a tasteful building or article need cost more money, or so much, as one utterly devoid of taste and consistency, where real extravagance is developed and allowed to run riot, either in unscientific construction, defective stylar characteristics, in meretricious decoration, or in impurity of form and inconvenience of arrangement.

A display of real taste is frequently a negative exhibition, the simplicity of outline and purity of form being amply sufficient to delight the senses; as "beauty unadorned" is beauty still, untrammelled by excrescent addenda, which deform while they add to the cost; the composition possessing a *bizarre* appearance wherein beauty is hidden; and consequently no rest or satisfaction is afforded to the eye.

The adornment of perfect beauty, then, is waste; and if a building or work of art is to be profusely decorated, it should only be judged when completed, when its clothing, robes, and jewels are set about it. Before this it is a mere carcase, a framework to receive that which is to constitute its chief excellence, to make it presentable to the eye of taste by beauty of figure.

The skeleton of the human form divine may possess all the structural elements necessary to the various uses to which it is to be applied, but it is in the muscular development and surface-carving that we discern the finished beauty which is acceptable to the general eye, which is now getting very critical and wakeful in art matters. It therefore behoves those having the appointment of placing objects before it so truly to study the form, proportion, and uses before doing so, that they shall exhibit a superior order of knowledge of taste in their works, so as to be truly leaders, and not pretenders, who do much harm and are blind guides.

An exercise of taste proper may, therefore, be fearlessly indulged in by those who understand it and are well advised, whether it be in a building or in its fittings, in works of art, or in any matter of composition where the educated eye is to be consulted in connexion with the cost.

True form is one great item, and simple forms are mostly tasteful: much mischief is done by overloading with decoration: the *ensemble* is not pleasing, it may strike the eye by its pomposity, its many parts and colours may bewilder, but of repose there is none. It is trickiness from ground to roof, from end to end; patchy, gaudy, but oh! so costly, so much labour and material consumed; the only satisfaction being that it did cost so much, which is a common answer of many persons.

Meretricious design must be one of two things;—exceedingly paltry, from its bareness and impurity, its inartistic form and arrangement; or very gaudy, from the defective form being required to be wrought over with something very glaring, to take off the attention, and cover the multitude of sins underlying the coat of many shapes and colours; appealing to a sense of vulgar importance without innate or inherent modest intrinsic merit of any kind. While taste, on the contrary, may be known to impart true and lasting pleasure at the least possible sacrifice of money value. Beautiful objects may be produced, or a building may be erected having a high standard of excellence. The secret of this, however, may lie in its simplicity, entirety, and fitness, without extraneous parasitical ornation. It is the whole truth and nothing but the truth, which no one can gainsay, but it may cause exclamation,—How could there be so much excellence for so little money? Why, indeed? Because tasteful judgment had been exercised from beginning to end.

Therefore it may be fearlessly asserted that an indulgence in taste is not a wasteful expenditure of cash, but a source of true and refined pleasure. A general cultivation of this, too, is a national advantage; encouraging, as it does, a higher class of artisans, and elevating the ideas of the people generally, not only in matters of art, but in every branch of social economy; all catching gleams of the sunshine of refinement, by which dark places of ignorance are lighted up, showing them in all their tawdry hideousness, and leading to their abandonment, in favour of ways and pursuits resulting from better information, of which there is still plenty of need, and for which there is ample scope without fear of over-education.

An indulgence in true taste, therefore, may be said to be a safe investment of capital.

THOMAS GOODCHILD.

THE BETHNAL-GREEN "BLOOD-POISONING" CASES.

In a fair and well-toned article, the *Lancet* questions the correctness of the "so-called blood-poisoning;" but admits the existence of "malignant scarlet fever;" and states that, on personal examination, the writer had found the state of the locality to be "simply infamous." Nevertheless, he thinks that "the outbreak and malignancy of scarlet fever are not so clearly linked with *insanitary* conditions that we may venture to dogmatize upon the relation of the one to the other." But surely the writer cannot believe that there is no evidence of the close and causal connexion between the malignancy of the disease, whatever he may call it, and the infamousness of the locality. And besides, doctors so differ amongst themselves on this very point, that their opinions neutralize each other; and the sanitary public may, we think, be excused, under such circumstances, and in what we may fairly call the absence of any *positive* or *unneutralized* medical evidence or dictum on the subject, if they form an opinion of their own as to the essential connexion between the abominable, disgusting, infamous state of the locality on the one hand, and the malignancy of the disease there generated on the other. As for the medical, and really after all merely technical, objection to the term "blood-poisoning," we had anticipated this in a note to what we said last week on the subject of the Bethnal-green inquests; and we must now repeat, that even were the medical profession unanimous, which they are not, in opinion that these were not, strictly speaking, such cases as they have heretofore known as blood-poisoning; "a popular and sanitary use has been made of the word, which is not now likely to give way to any mere professional restriction of meaning." And again we say, if tarry and unclotting blood be not poisoned blood, what is it? All fevered blood must be poisoned blood, in a sanitary and popular sense, even were nothing but *infection* from some diseased human being the actual cause. What is the "buffy coat" of fevered blood, as it used to be, and is probably still, called amongst the faculty, if it be not poisoned blood? The old sangradoes must have had some such idea of it when they bled the patients so mercilessly in order to get rid of it, little heeding that they were at the same time pouring out the remanent life's blood which alone could cope with its deadly influence.

When Dr. Moore, the medical attendant on the patients, called the disease blood-poisoning, surely he knew well enough what scarlet fever, and even malignant scarlet fever, was; as did also Dr. Powell, when he gave evidence in one of the cases (all of which, be it noted, the *Lancet* maintains—just as we had ourselves urged last week—were doubtless essentially of one and the same nature) that *it* was a case of blood-poisoning; only he differed from Dr. Moore inasmuch as he attributed this case to poisoning from kidney disease.

We fear that the doubts expressed by the *Lancet* may unintentionally mislead the public into the erroneous idea that the disease not being strictly and professionally speaking what it has been called, the insanitary state of the locality can have nothing to do with it, and may therefore be allowed to continue as before without any ostensible, serious, or fatal influence being attributable to it. This we feel assured the able writer is far from meaning, whatever side of the moot question of the connexion of filth with malignant scarlet fever he might happen to take. And if the infamously foul state of the locality *do* produce any fatal influence, how does that influence manifest itself, if not in the malignancy of the very disease, by whatever name we characterize it, which prevails in such a locality? Doubtless want, and also infection, may contribute to the propagation of the disease, but no one—certainly not the *Lancet* writer—alleges that the state of the place has *nothing* to do with the fatality of the disease. And fearful as is such a disease, whether we call it malignant scarlet fever, or blood poisoning, *or both*, a still more horrible form of disease prevails in this very locality,—a loathsome disease of the skin,—a new disease, far worse than the ancient leprosy it must be, considering the not only unsightly but most unsavoury nature of it,—an odour which itself betrays its but too close connexion with the emanations from that unclean animal the sow, which so abounds in Bethnal Green. That the blood is poisoned, even were it from this source alone, is it reasonable in such a case to doubt?

The faculty would do well to consider whether, with all their modern enlightenment, they have not departed somewhat too far from the "humoural pathology," as it has been called, of past time. Medical men, of old, really did regard the blood as the life; impurity or poisoning of the blood as the main cause of disease; and purity of blood as the grand sanitary agent which swept away all, or nearly all, forms of disease. If the modern faculty still entertain the same opinions, they do not manifest these opinions, we suspect, as they ought to do, and as a sincere belief in them would impel them on all occasions to do.

WATER SUPPLY IN BETHNAL GREEN.

The expense of coroners' inquests in this neglected parish must be considerable, for scarcely a day passes without finding in the public prints some account of a necessary and often important inquiry. One of the most recent inquests in this district, has been held in Half Nichol-street, respecting the death of a child who had died of cramp. On this occasion Mr. Leach, of Church-street, a lodging-house keeper, and one of the jury, said, that a great deal of disease and filth arose from the fact that there was no adequate supply of water. It was laid on even in districts composed of densely crowded houses for only twenty minutes in the twenty-four hours, and on Sundays there was none. On Sundays poor people might be seen running about with pails in their hands, begging everywhere for water, which was not to be had. The water-rate was 2*l.* a-year, and the landlords were unwilling to complain or ask for more water lest the rate should be increased.

The water companies supplying the district are the East London and the New River company. Mr. Massinghan, the parish surgeon, said that he could testify to the fact that disease was actually generated by the filth consequent on the bad water supply. Only that afternoon he had sent two persons to the Fever Hospital, whose illness, in his opinion, had been originated by want of cleanliness,—entirely by that cause. The coroner, Mr. H. Raffles Walthew, said that the want of water was a very serious danger to the health of the community, and he hoped that the public attention would be directed to the matter. It would be in vain to hope that any real improvement in the state of the district could be made until so important a means of procuring cleanliness and health was placed within the reach of the inhabitants.

For many years past we have directed attention to this great neglect, which cannot be so much charged to the water companies,—although it is clear that we need a cheaper supply of this necessary in the metropolis,—as to the parties who have the letting of the poorer kind of property, and the parish inspectors, who should not allow houses to be occupied unless a sufficient supply of water be provided for each house. As matters are managed at present, it is often the case that ten, twelve, fifteen houses, each room of which is crowded by people, have often only the supply which runs from one small pipe for from a quarter of an hour to twenty minutes,—seldom more. In courts and squares, there is for all the multitude barely enough for the supply of one house occupied by an ordinary family; and our readers know that this source of mischief exists in many districts besides Bethnal-green. In one court we lately counted upwards of 250 men, women, and children, who were supplied in the way above mentioned by a single pipe. It cannot be said that the rental paid by the tenants of these dwellings is insufficient to meet this expense of water supply, for even the small, miserable houses of four rooms in the worst state of repair pay a rental of about 8*s.* or 9*s.* a week—a sum more than enough to pay for water and other things needful. The day may not be far distant when the whole of our great population will have cause to regret the neglect of these matters. It is important that the parish inspectors should be men above reproach, possessed of a large amount of general and some scientific knowledge. The present rate of payment for these important functionaries is not sufficient to procure the right description of men, who in poor and crowded districts are of as much consequence in the preservation of life as the medical officers are. What dependence is to be placed on some of them was shown in our last. If owners will pay them better to overlook than the parish pay them for looking over, the result is not wonderful.

DEAL PUBLIC ROOMS, COMPETITION.—The plans of Mr. Thomas Hillyer, of Ryde, Isle of Wight, architect, submitted for competition for building public rooms at Deal, in reply to advertisement in the *Builder*, have been selected.

THE MEMORIAL STATUE OF THE PRINCE CONSORT AT ABERDEEN.

The inauguration of the memorial statue of his Royal Highness the late Prince Consort took place at Aberdeen on the 13th, in presence of her Majesty and various members of the Royal Family. The statue, which was subscribed for by the city and county of Aberdeen, is of bronze, by Baron Marochetti. It is placed upon a polished granite pedestal, and represents the Prince seated, and wearing a field marshal's uniform, with the robe of the thistle over it: in one hand he holds a roll, and in the other the field marshal's hat. Previously to the uncovering of the statue, Mr. Anderson, provost of the city, presented an address from the committee of subscribers to the statue; to which the Queen, through Sir G. Grey, returned a reply. After the address and reply, the Queen was pleased to confer the honour of knighthood upon the Lord Provost, thenceforth Sir Alexander Anderson.

INAUGURATION OF THE PRINCE CONSORT'S STATUE AT GUERNSEY.

On Thursday, the 8th of October, the memorial to the Prince Consort was inaugurated by Major-General Sir M. J. Slade, Bart., Lieut.-Governor of Guernsey, who was assisted by the authorities of the island, and surrounded by spectators numbering from 10,000 to 15,000. The day was held as a high holiday, with processions, decorations, &c. The statue is an electro-deposit, 10 feet in height, from Mr. Durham's model, prepared for the Memorial of the Great Exhibition of 1851, now in the Horticultural Gardens, at Kensington. The copy has been electro-deposited by Messrs. Elkington, of London. A view of the statue appeared in the *Builder* of June 6, 1863. The pedestal of the Guernsey memorial, however, differs, being merely a granite pedestal, beautifully worked, from the Cheesewring quarries, from which a part of the granite employed in the 1851 Memorial was had. It appears that, though it be excellent for macadamisation, Guernsey granite becomes spotted after some time; as, for instance, on the slabs marking the spot where the Queen landed on her visiting Guernsey some years ago. The *Comet* gives the following description of the pedestal:—"It consists of a step and landing, upon which are two courses of granite, rusticated. Upon these rest the plinth and a deep moulded base, the latter supporting the shaft, which is surmounted with a moulded capital. The statue crowns the whole." The entire height of statue and pedestal is about 27 feet.

The statue is erected in St. Peter's Port Harbour, and is visible from the sea. The staging which was put up to accommodate the people was erected by Mr. John de Putron, builder, who also had put up 120 poles, decorated with flags, along the quays. The bailiff of Guernsey (Mr. P. S. Carey) said, on the Governor presenting him with the statue on behalf of the community,—"The ceremony .... forms an era in the annals of our island, not only as disclosing to our view a work of art above all praise of mine, but, more than that, as recording to future generations the feelings of which that glorious work is the manifestation and the symbol. .... And never let it be forgotten, that when the respect of mankind is paid to one who is so truly worthy of it as the Prince whose noble presence stands before us, the honour that is done to him redounds to the credit of those who have shown themselves capable of appreciating his merit."

The statue itself cost 900 guineas, and the estimate for the pedestal was 200*l*.

ARCHITECTURAL SOCIETIES.

Liverpool.—The first meeting of the sixteenth session, on the 7th instant, was presided over by Mr. W. H. Weightman. Mr. Kilpin, after stating that death had recently been very busy in thinning the ranks of their profession, referred to an article in the *Athenæum*, attributing to Mr. Cockerell the honour of being the architect of St. George's Hall. They all knew, however, that the sole merit of the design and execution of the building was due to Mr. Elmes alone, and that Mr. Cockerell had nothing to do with it except finishing the interior. As they all wished to be remembered by their deeds, he considered it an act of injustice to Mr. Elmes that this most erroneous statement should have gone forth to the public. These observations appeared to meet with general sympathy. The President then delivered the annual address, and in his concluding observations referred to the necessity for further improvements in the dwellings of the poor, and to the widening of streets in the various localities in the town. Mr. Hay having proposed a vote of thanks to the President, the meeting broke up.

Bristol.—The first meeting this season of the Society of Architects was held on the 7th instant, at the Fine Arts Academy. Mr. Gabriel read a paper "On the Pantheon," which was illustrated by a model brought from Rome by Mr. Palmer, and presented by him to the Academy of Fine Arts. A discussion ensued as to whether the rotunda and portico of the building were of the same date.

Worcester.—The annual meeting of the Worcester Diocesan Architectural Society has been held in the council-room of the Natural History Society. The report, which was read by Mr. J. Severn Walker, stated that while the committee were unable to report any considerable accession of new members, they had to deplore the loss by death of two of its original supporters—Earl Beauchamp, one of its vice-presidents, and the Rev. J. H. Wilding, a member of the committee from the formation of the society. The annual volumes of reports and papers for 1861 and 1862 have been distributed amongst the members. They contain numerous contributions of interest, by the Rev. E. Trollope and other well-known writers upon architectural and archæological subjects. A review of architectural works in the district was also given in the report; after the reading of which the members and their friends proceeded on an excursion to Colwall, Coddington, Bosbury, and Ledbury. The weather was fine, and the company numerous. When at Colwall, the party were photographed by Mr. Downes, of Malvern, who also took the church and adjoining manor-house. The company, after inspecting all the interesting objects in the neighbourhood, adjourned to the rectory, where they were heartily welcomed and entertained at luncheon by the rector, the Rev. Mr. Custance, and his lady. The party then returned to Worcester, after having passed a pleasant day.

DISSENTING AND ROMAN CATHOLIC CHURCH-BUILDING NEWS.

Turnham-green.—The first stone has been laid, by the Rev. Dr. Manning, of a new Roman Catholic church at Turnham-green. The church is to be in the Gothic style, and will contain about 600 persons. The architects are Messrs. Willson & Nicholas.

Lacock (*Wilts*).—A new Wesleyan chapel has lately been opened here for divine service. It is situate near the wharf, and the foundation-stone was laid in May last. The chapel is in the Gothic style, with porch entrance, and was designed by Mr. John Gale, of this place, by whom, in conjunction with Mr. James Long, of Bradford-on-Avon (who executed the mason's, tiler's, and plasterer's work), the building has been erected. The dimensions are 32 feet by 22 feet inside, affording accommodation for about 160 persons. The cost, including deep foundations, vestry, boundary-walls, iron railing, brass fittings for lighting, window-blinds, &c., has been rather over 500*l*. The site was given by a gentleman of the neighbourhood, who also contributed towards the cost of the building.

Hulme.—The foundation-stone of a new Presbyterian chapel, with schools to be attached, specially intended for the English-speaking descendants of Welsh Presbyterians residing in the district, has been laid on a plot of ground fronting to Upper Medlock-street and Booth-street, Hulme. The proposed building will be in the Italian style. The frontage to Upper Medlock-street will be 40 feet, and to Booth-street, 65 feet. The school and vestries will be underneath the chapel. The entrance to the school will be in Booth-street, and to the chapel, in Upper Medlock-street. It is proposed to accommodate 400 persons in the chapel, and a similar number of children in the schools. The estimated cost of the building and fittings is 1,500*l*., the whole of which will be defrayed by subscription. The contractor is Mr. Mitchell, of Greenheys.

Bradford.—The new Horton-lane Congregational Chapel, Bradford, Yorkshire, has been opened for divine service. It is in the Elizabethan style of architecture; but the details are principally Italian. The new building is situate in Horton-lane, above the old chapel, and immediately below the new school, the chapel and school together being of an L form, with the lower part of the letter, which represents the school, reversed. The pulpit is of Caen stone, and is the gift of Mr. George Salt, of Saltaire. The organ has been entirely remodelled and refitted under the management of Messrs. Sagar & Radcliffe, of Leeds. To the right and left of the organ are the minister's and deacons' vestries. The ceiling, which rises at least 45 feet above the floor of the area, is of plaster, moulded to correspond with the rest of the building. In the chapel there is accommodation for about 1,300 persons, allowing 20 inches to each individual, of which number 730 sittings are on the ground floor. The chapel and school have cost together nearly 11,000*l*. Towards this 8,000*l*. has been raised. The architects are Messrs. Lockwood & Mawson, and the clerk of the works, Mr. John Morpeth.

Sheffield.—The foundation-stone of a new edifice to be called Broom Park Congregational Church has been laid at Sheffield. The site of the chapel adjoins Newbould road, which runs along the west side of Wesley College grounds from Clarkehouse road to Glossop road. The building will only be large enough to accommodate 300 persons, but it is to be so constructed as to form the nave of a much larger chapel to be hereafter erected. It will be in the Gothic style of architecture, with a gable to the front. There will be a large window in the gable, and under the window a projecting parapetted porch, with two doors forming the entrance to the chapel. There will be four two-light windows, on each side, with buttresses dividing the nave into bays. The windows are to be ornamented with tracery. The roof is to be boarded; the outside slating to be in patterns. The seats will be of red deal, varnished. The complete design comprises a tower in front and vestry and transepts at the back. Mr. C. Innocent is the architect; and Mr. B. Carr contracted for the mason's work; Mr. W. Gibson for the woodwork; Mr. Staniforth for the slating; Mr. G. Taylor for plastering; Mr. Bissett for plumbing and glazing; and Mr. Puttrell for painting.

Hexham.—The corner-stone of a new United Presbyterian Church has been laid at Hexham. The edifice is in the Gothic style of architecture, from a design by Mr. Thomas Oliver, of Newcastle-on-Tyne, architect. The material is stone. The ground floor will accommodate 365 persons, and provision has been made for future enlargement by the addition of an end gallery. The sittings are open benches of commodious size. The building will be heated by a Gill stove, and will be ventilated in conjunction with both the heating and artificial lighting. The roof is on a span, ceiled about two-thirds from the apex, for the purpose of ventilation. At the rear of the church are a school-room and vestry. The contractors are—for the mason's and slater's work, Mr. Bulman; carpenter's and joiner's work, Mr. Snowball; plasterer's work, Mr. Olive; ironwork, Messrs. Pattinson, Davison, & Spence; and plumber's work, Mr. Wilson, all of Hexham. Mr. John Ridley is the local superintendent of the works.

FEVER IN BELFAST.

The want of water so much complained of and to which we more than once alluded in the course of the past summer, is now, combined with filth and want of drainage, producing its dreaded fruits of such a state of things. Fever has got into the town; and not among the poorer classes only, but in the more respectable localities, where there have been two, three, and four fever cases in a single house. In one row, only one house was exempt. In many instances the fever is of a mild typhoidal type, but cases of malignant fever are spoken of. A correspondent of the *News Letter*, who points attention to the horrible state of the Friar's-bush graveyard, where holes 12 feet deep, are filled with coffins packed one close above another, to within 12 inches of the surface! The wind for some time had been blowing, he says, from the south-west; and, in the north-east part of the town, near the Botanic Gardens, fever has been marked as prevalent and malignant. The state of this graveyard was pointed out some years ago by the press, but the abomination is still permitted. There are many streets, of four and five years' standing, undrained; and festering cesspools prevail in some parts of the town. There are also pestiferous marshes called the Bog meadows, near the town. The water is still defective in quantity, except the Lagan water, which is believed to have injured the health of the town from its bad quality. The engine-power of the waterworks also seems to be insufficient.

CHICHESTER CATHEDRAL.

Your correspondent, "Ecclesiasticus," mentions Chichester Cathedral as "among the choicest examples of successful restoration." I am afraid this well-meant commendation may lead your readers to think that the works are complete. It is true that the roofs and gables of the transept have been rebuilt; that the arches of the crossing have been turned; and that the woodwork provided by the Chandler Memorial Fund is ready, but we still require 12,000*l.* to complete the spire, without which the effect of the building would be wholly marred on the exterior. Any help of the laity who may feel inclined to follow the example of their forefathers, and assist the dean and chapter in their earnest endeavours, by providing the lacking funds, would be gratefully received by them. Smaller or the smallest sums contributed by those either unable to give much, or unwilling to have their names known, may be sent to me, at 64, Ebury-street, S.W., and I would thankfully acknowledge the gift (if you give me permission) in your columns.

Mackenzie E. C. Walcott,
Precentor of Chichester.

HOLBORN VALLEY, AND IMPROVEMENT OF THAT NEIGHBOURHOOD.

Being well acquainted with London, and having resided some years in Hatton-garden, close to the scene of daily—I may almost say hourly—accidents, I feel particularly interested in the improvement of that untoward or vexatious incline; which is constantly painful to the horse, the driver, and the observer. Now, only now, the Corporation of London seem inclined to do something in this matter; and publicly advertise for "Designs, with descriptions, plans, sections, and estimates" for this important work; to be prepared and delivered within the inconsistently short time of about three weeks. This is so evidently unreasonable, that I refrain from commenting upon it, in any way whatever. Living, as I have already said, in the adjoining district, and having no occupation, I have deliberately, carefully, and thoroughly examined the site and neighbourhood, with the five-shilling plan of the locality in my hand. In making such alterations and improvements in, and adjacent to, Holborn-hill and Skinner-street, "as may conduce to the convenience of the public, and to the accommodation of the metropolitan traffic," great care must be taken, in attaining the principal object, not to destroy or deteriorate the value of adjoining property, more than is absolutely necessary. While examining the neighbourhood of Holborn-hill and Skinner-street in one direction, and Farringdon-street running north and south in the other direction, it seems quite evident that no plan should interfere with, or obstruct the present main thoroughfares: there must always be a good wide roadway, communicating with Farringdon-street from east and west; therefore, it appears advisable that Holborn-hill, Skinner-street, and Farringdon-street, north and south, should remain unaltered, in order that the traffic to and from the lower street, may not be more inconvenienced than at present: hence the household property, as we now find it, will not be materially decreased in value by the alterations now under consideration.

The author proposes to form an entire new street, about the width of Hatton-garden, commencing westerly at the corner of Fetter-lane and Holborn, crossing Bartlett's-buildings and Thavie's Inn; not interfering with St. Andrew's-court; over the burial-ground south of St. Andrew's Church on arches; no other buildings on the churchyard; the school-house to be taken down, and arches to carry the new road erected in its place; crossing Shoe-lane on an arch, close to Messrs. Pontifex & Wood's premises; across Farringdon-street on three arches, a large one for carriages, and two smaller ones for foot-passengers, continuing towards the Old Bailey opposite Newgate-street; altogether a distance of about 500 yards. The greatest depth beneath a straight line, from Fetter-lane to Old Bailey, is, in Farringdon-street, about 25 feet.

The merest glance at the before-named vicinity, or ever so hasty a visit to the line proposed, must satisfy those who are acquainted with such class of buildings, that, with few exceptions, the houses and their inhabitants between Fetter-lane and Bartlett's-buildings, also those between Shoe-lane and Old Bailey, are of the very lowest order; narrow courts and passages, in many cases without a thoroughfare, inhabited by a numerous population, generally with a family in each room. Under these circumstances, it would be difficult to find such a site, which, as at present, is almost worthless, surrounded by many valuable business streets; and, as regards sanitary matters, it would be doing good service to the community, by altering so crowded and thereby unhealthy a locality; at the same time dispersing the inmates, and inducing them to settle in a more wholesome part of the town.

By making an entirely new, wide, level roadway, communicating, at both ends, with a long-established trading thoroughfare, in the heart of the mercantile world, namely, Holborn to the west, and Newgate-street to the east, the ground on each side will, in all probability, be readily taken at a profitable ground-rent, for the purpose of erecting buildings with offices, or first-class shops. The formation of this proposed elevated way will tend considerably to lessen the confusion, which is so inconvenient, in consequence of the crossing both ways at Holborn-valley, recently much increased by the great traffic to and from the Underground Railway.

The following is an approximate estimate of the cost, exclusive of building the houses:—

Extreme length 500 yards, by about 60 yards wide, of freehold ground and buildings, at per lineal yard ..... £400 [This item would average about 1,400*l.* for a moderate-sized house and the freehold ground belonging to the same.]	£200,000
Getting rid of old buildings, clearing ground, &c., &c., at per lineal yard £20	10,000
500 yards in length, by 20 yards in breadth, and averaging 5 yards in height, of arches, masonry, use of implements, &c., total 50,000 cubic yards, at per yard ..... 30s. [This mode of valuation is something after the manner that architects and builders arrive at a rough estimate, by cubing the outside dimensions of an edifice, and valuing it according to the class of workmanship, at from 6*d.* to 18.s., or 1s. 2d., per foot cube.]	75,000
	£285,000
Professional services at 5 per cent.....	14,250
	£299,250
Contingencies ...	20,000
Total	£319,250

C. H. Smith.

HOLBORN VALLEY.

To Mr. Turner's list of projects for the Holborn Valley you can add the following:—One by the late J. A. Galloway, civil engineer, and Mr. W. M. Higgins, architect, for a viaduct, 30 feet in width, in the centre of the road from Hatton-garden to the Saracen's Head, the road made the uniform width of 80 feet; another by the late Charles Pearson and J. B. Stevens, architect, who pulled down the whole of the houses included in the space between Ludgate-hill and Clerkenwell green, Cow cross-street, and Shoe-lane; one by the late J. B. Papworth; another by Mr Marsh Nelson—a viaduct from Hatton-garden to Clerkenwell-green; and last but not least, one by Mr. Bunning, the present City architect. Most of these plans can be seen in the library at the Fine Art Museum, South Kensington.

R.

A GREAT FACT IN COMPETITION.

Sir,—It is a fact no less sad than true that, in nineteen out of twenty cases of public competition, the result is—*mirabile dictu!*—the success of "our fellow townsman." The decision of the Cheltenham Parish Church Competition Committee is another instance of these *strange coincidences*. Certainly, no one will blame Mr. C. H. Cooke for being successful, but the thirty-two unsuccessful competitors will draw their own conclusions on learning from the *Cheltenham Examiner* the connexions of that gentleman with the town.

Subscriber.

EASTBOURNE.

EPIDEMIC ATTRIBUTABLE TO BAD DRAINAGE.

Sir,—As no publication has been more earnest or more successful in directing attention to the great national subject of public drainage than the *Builder*, I solicit permission to offer a few brief remarks in reference to the epidemic now unhappily so prevalent in Eastbourne. It is very natural to assume, and very probable, that the scarlet fever was in the first instance introduced into Eastbourne by some of the many invalids who resort thither for the re-establishment of their health; but there must have been other predisposing agencies at work to have aggravated and spread the malady; and amongst them bad and imperfect drainage must be regarded as the principal.

To the westward of Eastbourne, near the hill upon which the martello tower stands, and in close proximity to the site selected for the new Cavendish Hotel, is a pond of considerable size filled up with putrid matter, now being partially covered over by the earth taken from the excavations for the many new buildings rising so rapidly in this vicinity.

To the east of the town, in the direct rear of the new fort, and abutting upon the ground appropriated to rifle practice, are large pools of mud and stagnant water, mixed with the filth and dirt from the adjoining cottages and pig-sties.

The *old* town is most imperfectly drained, and it is questionable whether the new town is drained at all!

It is, therefore, clearly evident that the identical same causes which occasioned so much illness a short time since at Croydon, Sandgate, Southsea, and, I must add, Brighton, have this season produced at Eastbourne the same distressing result. Let the parochial authorities of Eastbourne only exert themselves in the right direction, viz.,—drain, cleanse, and purify their town, and Eastbourne will soon once more become the favourite resort of wealth and fashion. As this is the first time, and possibly may be the last, upon which I may have occasion to address you, allow me to convey to you the expression of my earnest thanks for your unremitting and philanthropic efforts to ameliorate the sanitary condition of this country, and improve the dwellings of the poor, both in town and country.

A Fugitive from Eastbourne.

KING INA'S PALACE.

Sir,—Under the above heading a letter has lately appeared in your paper, to which my attention has been directed; and being the unfortunate person whose judgment and taste, or the want of it, in the restoration of the above palace has secured for him the pillory of the press,—the material pillory being no longer one of our institutions, to the intense regret of "F. S. A.;" I may be allowed perhaps a short space in your next issue.

It is with me a cherished principle to hate and despise anonymous writing; nor would I condescend to notice the communication of "F. S. A." were it not for the purpose of daring him to lift the vizor, and show the world that he has a claim to a higher grade of being than that of the bushranger or the assassin.

If he has the courage to fling off the mask, which is only needed to shield the cheek of the coward, or the brow of the villain, I will break a lance with him on any issue he may choose to raise respecting the manner in which the restoration of "Ina's Palace" has been effected.

If he has not the courage to do this, either in your paper or any other that may be open to us, and put his name to what he has to say, I shall still have to hesitate whether to regard the "Fellow" as belonging to a "Slandering Association," or the "Society of Assassins:" most probably the latter, as he seems such an adept at stabbing in the dark: if so, he will not come out from his lurking-place to meet the combat he has provoked, nor shall I therefore be able to

> "Put but a drop of water in a spoon,
> And it shall be as all the ocean,
> Enough to stifle such a villain up."

Frome, Somerset. Joseph Chapman.

BOW COMMON.

Sir,—Taking a stroll the other day to the East end of London, I walked over Bow Common to see how matters were progressing in that quarter, and confess I felt very much grieved to notice the wretched state of things there. The Common appears everywhere to be marked out for streets; and, in some places, houses are built, but no *streets* are finished. The houses finished or building are of a very inferior description, the materials used being of bad kind. Besides, the houses are too small, and small houses run up with bad materials are always more or less deficient in sanitary arrangements.

But what I am most anxious to draw public attention to, through the columns of the *Builder*, is the fact, that no provision is made for a public park or garden. This is to be deeply regretted. The neighbourhood is densely populated,—Blackwall, Poplar, Bow, and Stepney. The people used to have athletic games on the Common before it was enclosed. Of course, that is now out of the question, the ground being cut up, bricks burning, and so on. Why should not a portion of the Common be reserved for the use of the poor people of that locality? We see some parishes now regretting having allowed all the land in their neighbourhood to be used; and, not having left any portion for a park, now obliged to seek land miles away (Finsbury, for instance); and yet we allow some rich person to close the few open places remaining, which really belong to the people, and never call out till it is too late.

However, even now two small gardens might be made, and should at once be seen after, as the other blocks have one or more houses already erected thereon. If the opportunity be allowed to pass by, future generations will have to deplore the present apathy of those whom it concerns.

West End.

PROCEEDINGS UNDER METROPOLITAN BUILDING ACT.

On the 6th, Mr. Barnett, district surveyor of Marylebone, summoned, before Mr. Mansfield, Joseph Patterson, of Hereford-street, for commencing to build without proper notice, under the 41st section of the Act. The magistrate fined him 5*l.* for neglect.

Another summons was taken out against the same builder, for erecting a washhouse with 4½-inch walls, instead of 9-inch walls. An order was made to amend within one month.

Charles Fairnington and Joseph Short, nurserymen, of Elm Tree-road, were summoned for building greenhouses with 4½-inch walls, instead of 9-inch walls. An order in each instance was made to amend within one month, with a recommendation from the magistrate for the parties to apply in the interim for the sanction of the

Metropolitan Board of Works to allow the walls to remain, expressing his regret that neither he nor the district surveyor under the Building Act had any discretion in the matter.

On the 9th, Mr. Godwin, South Islington, summoned Peter Brewster, of Howard-road, Stoke Newington, before Mr. Barker, Clerkenwell Police Court, for erecting a water-closet adjoining a house in Canonbury-road, without giving the notice required by the Act. Fined 2*l.* and expense of the summons.

Miscellanea.

Memorial of the late Prince Consort at Perth.—This memorial is to take the shape of a statue, to be executed by Mr. Brodie, sculptor, Edinburgh, and erected on the North Inch. This resolution has been carried by a majority of 30 to 9 of the subscribers, and a committee has been appointed to see the work carried out.

Street Improvement in Bradford.—The special street committee of the local council have reported as to the projected improvement of the crooked and narrow thoroughfares of the town. They propose the widening and improving of the Bowling-green end of Tyrrel-street, various similar improvements in Market-street, the extension of Brook-street, the formation of a new street between Westgate and Thornton-road, and the widening and other improvement of Kirkgate, Ivegate, and Carlisle-road.

A Putrid Well.—At a meeting of the Truro Town Commissioners, an extraordinary fact was brought to light. The Board of Commissioners had been newly elected, and the "new blood" was rather troublesome in asking questions about divers things. One of these questions was put to the surveyor under the Board, who admitted that there was a public well, or pump, in Rosewin-lane, Pydar-street, which had been used by the poor people in that populous neighbourhood for the last two years, and was found to emit such a stench that workmen now employed could not stand over its mouth. A common sewer opened into it. Complaints had been made respecting the pump two years ago, and the grievance had only recently been remedied. Such is the state of sanitary matters in the principal town in the duchy of Cornwall.

The Tyndale Memorial.—The *Bristol Daily Post* states that this structure has now attained a height of about 60 feet, but that, about 20 feet above the surface of the soil, the stone has given way, causing a long rent, which has so weakened the building that the entire structure must be taken down. Various causes are assigned as to the origin of the accident, but the most correct opinion appears to be that which attributes it to the mixture of the hard stone from Box, with the soft sandstone of the locality, causing the latter, from the immense weight, to give way under the pressure. The *Gloucester Chronicle* adds,—We regret that we must confirm the statement of our Bristol contemporary. The stones with which the column is built are too small for the purpose, and they have been put together with mortar which has no binding quality. Cracking has begun, and the tower must be taken down. In other words, the money of the subscribers, 800*l.*, which has been spent upon it, is lost. We hope, however, that this will not prove an end to the project of a Tyndale Monument.

The Earthquake as felt at Tenby.—A correspondent at Tenby, who resides on a sea-girt limestone rock whose strata show the contortions produced by former convulsions of nature, says:—"I was awakened by a feeling that I was moving with intense rapidity; then I heard a fearfully loud deep-toned noise, as if approaching, which it did rapidly, with a crashing sound, very much like near thunder muffled, if you can imagine what that would be. I felt everything shake, and I was immediately turned from my right side on which I was lying, on to my back, and then back again. I sprang up to rush to the children. The height of our house made me feel our case hopeless, for an earthquake I felt convinced it was..... You know how rapidly all this passes through the mind. The noise passed on, but the motion continued; not the same swing, but a jerking motion, as though the mighty rock on which our house is built was settling into its place. I fully expected to hear the falling of houses, and looked out of the window. A more perfect picture of peace could not be imagined. It was a lovely night, and Tenby lay asleep in a flood of moonlight—you know how beautiful. As I looked I doubted myself, but had only to close my eyes to feel the truth of the awful sound and sensation just experienced."

Lundy Granite Company.—The first ordinary meeting of this company has been held in the City, for the purpose of increasing the capital from 25,000*l.* to 100,000*l.* The whole of the capital had been subscribed by friends. The motion for increasing capital from 25,000*l.* to 100,000*l.* was carried unanimously.

Accident at Brixton.—A serious accident has happened at a large chapel for the Methodists, in course of enlargement at Brixton Hill. A large beam of timber fell, carrying with it a small portion of the roof and five poor fellows who were at work there. One of the men had to fix the beam, when it gave way, carrying him with it, fracturing his skull fatally, and injuring the others. At the inquest, it appeared that the breaking of an old tie-beam was the cause of the accident.

Female Scholarships in Art.—The Committee of Council on Education propose, with the sanction of the Treasury, to establish two scholarships, to be held by the two most eminent female students of the schools of art throughout the country; the endowment for such scholarships having been provided by the fees taken for inspecting the wedding presents of their Royal Highnesses the Prince and Princess of Wales, at South Kensington Museum, in May last.

Royal English Opera.—Mr. W. Harrison commenced his eighth season on Monday last with a new opera by Mr. Vincent Wallace, called *The Desert Flower;* and the Prince and Princess of Wales, the Prince and Princess Christian of Denmark, and the King of Greece, amongst his audience. Miss Susan Pyne, Mr. Weiss, Mr. Corri, and Mr. Harrison, sang the principal parts; Mr. Grieve had painted the scenery; and Mr. Mellon conducted; so that the opera had every chance of success, and achieved it; at any rate a *succès d'estime.* We must take another opportunity to speak more in detail.

Death of Mr. John Sheepshanks.—This gentleman died on Monday in last week at his residence in Rutland Gate: he was born in 1787. The public will know him by name as the munificent donor, in 1856, of "the Sheepshanks Gallery" of pictures at the Kensington Museum; for which noble gift, by the way, worth 60,000*l.*, and containing many of the best works of Mulready, Leslie, Landseer, and others, he might have received some honorary recompense besides mere thanks. An order of merit is much wanted in this country as a legitimate recognizance of public benefactors; but, in the case of Mr. Sheepshanks, and Mr. Vernon, the grant of such an order might have been otherwise supplied.

Important Sanitary Measure for Liverpool.—The Liverpool town council, on the recommendation of the health committee, have at length resolved to apply to Parliament for powers to purchase the courts and alleys of the borough, of the state of which we have lately spoken, in order that they may effect comprehensive improvements, and prevent, if possible, the continuance of fever and other diseases in these localities. One-fifth of the population of Liverpool at present reside in these courts and alleys, which are 3,103 in number, containing 18,610 persons, and many of which places, as lately remarked, are so ill-ventilated that fever is never absent. It is proposed to charge the cost of purchasing this property on the general rate authorized to be levied by the local sanitary Acts, the rate not to be increased beyond 1d. in the pound in any one year.

Deaths from Foul Air in a Cistern.—At Leicester, four persons have been killed by carbonic acid gas in a cistern holding grains and swill for pigs. The cistern, according to the local *Advertiser*, was 6 feet 6 inches deep, by about 2 feet by 2 feet 2 inches; and was usually covered by a lid, and descended by a ladder. The cover had not been removed at night preparatory to descent into it in the morning as usual; and a boy, who seems to have been the only sensible person in the family, refused to go down, on account of the foul air, when his master went down himself, and was suffocated. He was followed by his daughter, who was also killed; and she was followed by a young man, who met the same fate; when another young man had the folly, notwithstanding all these significant warnings, to descend also, and was suffocated like the others. How four grown persons could ever descend into a cistern of such dimensions as those described, so as to be all suffocated, while a ladder also stood inside, and grains at the bottom, it is hard to conceive. A hook and rope were at last got, and the four unfortunates were all readily got out, as the first one might have easily been in the same way, without the sacrifice of the other lives. The case is very similar to what so often happens in wells.

Railway Traffic Returns.—The traffic receipts of railways in the United Kingdom amounted, for the week ending the 26th September, on 10,882 miles, to 634,737*l.*, and for the corresponding week of last year, on 10,428 miles, to 615,801*l.*, showing an increase of 454 miles, and of 18,936*l.* in the receipts.

Brighton: the new West Pier.—At a meeting on Tuesday last, Mr. H. Moor, in the chair, it was resolved to extend this company's capital from 20,000*l.* to 25,000*l.* The result will be that the new pier will be 40 feet wide instead of 10 feet 6 inches, as at present. The work is to be delivered, perfect, in twelve months from the time the contract is taken.

Water for Leeds.—The Leeds Town Council has been discussing the water supply of the borough, and has approved contracts with Mr. A. M. Child for brickwork, and with Messrs. J. Butler & Co. for cast-iron girders and tie-rods to be used in covering over Woodhouse Moor reservoir, at a cost of 5,863*l.* 13*s.* 7*d.* It will be twelve months before the additional engine get to work which was being put down at Arthington, and then the daily supply to Leeds will be 7,500,000 gallons. The waterworks committee will then be able to cheapen the price of water a little.

St. Bartholomew's Hospital, Chatham.—The Hospital erected by means of Gundulph and Watts's gifts has been opened. It is not of an ornate character outwardly, but is described in the local *News* as well adapted inwardly to the restoration of health. The wards are spacious, light, and airy, and fitted with iron bedsteads. The plastering of the walls is non-absorbent. The western wing is devoted to lock patients. The laundries have all the modern improvements for washing, wringing, drying, and mangling clothes. The hospital was erected from designs by Mr. R. P. Pope, of London, architect. Mr. A. Stump, of Brompton, was the contractor; and Mr. Richards, clerk of the works.

TENDERS.

For converting the Three Kings, in the city of Wells, into a grocer's shop and premises, for Mr. Way. Mr. G. Tompkins, surveyor.

Beaven	£246 0 0
Knight (accepted)	240 0 0

For earth-works &c., at Haileybury College, Herts, Mr. Josiah Forster Fairbank, C.E. Quantities supplied by engineer.—

Hartland & Bloomfield	£709 5 0
Sanders	627 0 0
Fryar	549 0 0
Prince	545 0 0
Carter	500 0 0
Viney	450 9 0
Bevington & Topham	448 0 0
Adamson & Co. (accepted)	401 0 0

For the Royal Dock Hotel, Grimsby. Mr. M. E. Hadfield, Sheffield, architect. Quantities supplied —

Wade	£5,483 0 0
Craven, Brothers	5,389 0 0
Ward	5,179 0 0
Robinson, Jun.	4,820 0 0
Brown	4,700 0 0

For alterations and additions to two houses and shops, Smithfield, Birmingham, for Mr. E. Robins and the trustees of the late C. Robins. Mr. Douglas J. Williams, architect:—

Twigg & Fowke	£425 0 0
Pashley (accepted)	385 0 0
Oldham	385 0 0

For stabling, &c., at the Castle and Falcon Inn, Snowhill, Birmingham, for Mr. Ashmole. Mr. Douglas J. Williams, architect:—

Jeffery & Pritchard (accepted)	£755 0 0

For the erection of a new parsonage at Little Wymondley:—

Butterfield	£1,527 10 0
Jeeves	1,454 0 0
Warren & Son	1,360 10 0
Allen (accepted)	1,339 0 0

For alterations to the Queen's Hotel, Harpurhey, Manchester. Mr. Herbert E. Tijou, architect. No quantities given:—

Warburton	£238 0 0
Stokoe	227 0 0
Tully	222 0 0

Accepted for masters' houses, Clifton College. Mr. Chas. Hansom, architect. Quantities supplied by Mr. J. A. Clark:—

Mason's, &c., Work.

Thorn	£2,801 0 0

Plasterer's, Tiler's, and Painter's Work.

Lewis & Son	£998 0 0

Carpenter's and Joiner's Work.

Harris	£1,510 0 0

Plumber's Work.

Gibbs & Thatcher	£193 0 0

Glazier's Work.

Gay	£105 0 0

Ironfounder's and Smith's Work.

Williams	£220 0 0

For the erection of the Proprietary College, Malvern, Mr. Chas. Hansom, architect. Quantities supplied by Mr. J. A. Clark :—

		Extra for Cradley Facing.
Smart	£28,100 0 0	—
Wood & Son	19,823 0 0	£823 0 0
Estcourt	19,800 0 0	850 0 0
Wilson	19,375 0 0	888 0 0
Davis & Son	18,500 0 0	1,190 0 0
Harris & Beaven	17,374 0 0	—
McCann & Everall	16,979 0 0	1,400 0 0
Warburton, Brs.*	15,300 0 0	925 0 0

*Accepted.

For two semi-detached villas, Oakfield-road Penge, for Mr. Twist. Quantities supplied by Mr. Cecil G. Saunders :—

Dunk (accepted)	£1,395 0 0

For new premises, Counter-street, Southwark, for Mr. Davenport. Mr. Marrable, architect :—

Rider	£1,680 0 0
Coleman	1,670 0 0
Hill & Keddale	1,633 0 0
Downs	1,632 0 0
Howard	1,597 0 0

For house and shop at Eltham, Kent :—

Nightingale	£949 0 0
East	945 0 0
Todd	922 0 0
Gray & Russell	875 0 0
George	847 0 0
Kent	799 0 0
Chapman	797 0 0
Longmead	785 0 0
Glen	770 0 0
Dover (too late)	716 9 6
James & Ashton	705 0 0
Kirk & Parry	689 0 0
Hall	665 0 0
E. & A. Jones	630 0 0
Brett	610 0 0
King	595 0 0
Richards	587 0 0
Harwood	549 0 0

For villas in Oakfield-road, Penge, Surrey :—

Tracy & Co.	£2,020 0 0
Clayton	1,975 0 0
Stephenson	1,907 0 0
Loder	1,893 0 0
Kempling & Co.	1,805 0 0
Mackferson	1,800 0 0
Perry	1,780 0 0
George	1,717 0 0
Dover	1,699 0 0
Lemmington	1,560 0 0
Drake	1,549 0 0
Ward	1,530 0 0
Dunk	1,395 0 0
Gaved	1,345 0 0
Slater	1,333 0 0

For works proposed in first contract for the restoration of St. John's Church, Maidermarket, Norwich. Messrs. Emslie, Franey, & Haddon, architects :—

Gilbert	£705 0 0
Boardman	649 0 0
Lacy	645 0 0
Rust	644 0 0
Ling	614 0 0
Youngs	597 0 0
Hall (accepted)	550 0 0

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C. R. H. (next week).—Portland Cement (ditto).—C. & Sons.—G. B.—T. D.—B. & Co.—Dr. T.—C. J. H.—R. C. P.—W. C. B.—Messrs. H—W W M—Dr. C.—Dr. C.—T S. L. (should look to recognized table of charges).—J. R.—Mr. T—I. B.—Working Men's Club (cancelled : having appeared elsewhere) W. H. R.—A. S.—C J. R.—N. B. (next week).—Lover of Stained Glass and Justice (the information drawn is by no means certain).—J K. C. R. R—S T—J. W. B—J. R.—M. A B.—Surveyor Hex.

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender, not necessarily for publication.

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CONTENTS :—
I. PROGRESS OF ENGINEERING SCIENCE.
II. THOMAS HOOD AND HIS LIFE AND WRITINGS.
III. CO-OPERATIVE SOCIETIES.
IV. LYELL'S ANTIQUITY OF MAN.
V. JAPAN
VI ANTI-PAPAL MOVEMENT AMONG THE ITALIAN CLERGY.
VII. FROUDE'S QUEEN ELIZABETH.
VIII. THE CHURCH OF ENGLAND AND HER BISHOPS.
JOHN MURRAY, Albemarle-street.

THE EDINBURGH REVIEW, No. CCXLII. was published YESTERDAY.
CONTENTS :—
I. QUEENSLAND.
II. GREGOROVIUS' MEDIEVAL ROME.
III CADASTRAL SURVEY OF GREAT BRITAIN.
IV. MACKNIGHT'S LIFE OF LORD BOLINGBROKE.
V. AUSTIN ON JURISPRUDENCE.
VI THE ROYAL ACADEMY.
VII CHINCHONA CULTIVATION IN INDIA.
VIII PHILLIMORE'S REIGN OF GEORGE III.
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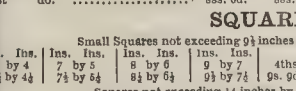
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Particulars furnished by Mr. JOSEPH CHADWICK, Agent and Manager, at is Office on the premises, or by post.

LITTLE CASTERTON FREESTONE.
Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 29, Savile-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

SLATES.—JONES & CO. have a STOCK of SLATES of different sorts, from the best quarries in Wales. SLABS and CISTERNS delivered at any station in quantities of not less than five tons, from their depôts, Bangor, Garston, Saltney, Chester, and Gloucester.
Prices forwarded and estimates given on application.
1, BOLD TERRACE, CHESTER.

ROOFING SLATES, of various sizes, from 26 in. by 15 in. to 13 in. by 10 in.
At W. SQUIRE & CO.'S
City-road Bridge Wharf, E.C.

D. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the cart or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lane, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised. White Battens, 9l. 10s. per 120, 7 feet; Yellow ditto, 10l. ditto 6 feet; Boarding, 14s. per square; ¾ ditto, 16s. ditto. Venetian Blind Laths, 8s. 6d. per 100 feet per.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK,
20,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER YARD, MANCHESTER.

JOSEPH & ALFRED ROSLING beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to railways in London, and alongside of any craft on the River Thames.—For further particulars apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic Wharf, Pimlico, London, S.W. five minutes' walk from the Victoria Station.

DRY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
JOHN COUMBE'S,
LADY LAKE'S GROVE, MILE-END-GATE.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER by special appointment to Her Majesty the QUEEN and H.R.H. the PRINCE of WALES, and
MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,
directs attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.
Ladies' Gold Foreign Watches ..... 8 Guineas.
Gentlemen's do. do. ..... 10 ,,
Ladies' or Gentlemen's Gold English Lever Watches ..... 18 ,,
Strong Silver Lever Watches ..... 5 ,,
Gentlemen's Gold Compensation Balance Watches ..... 40 ,,
Do. Silver do. do. ..... 25 ,,
Marine Chronometers ..... 35 ,,
Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,248.
JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

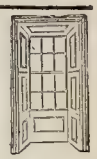


J. GURMAN,
Inventor and Patentee of a New SASH POCKET and Fittings,
For Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows.
They can be taken out in a minute, and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, OAKLICK HILL, Cannon-street, London, where Windows may be seen, and information obtained
Also of the following Agents:
LIVERPOOL—Mr. T. C. OWEN, PRINCE'S BUILDINGS, NORTH JOHN STREET.
BRISTOL—Messrs. CHILCOTT & GARDINER, IRONMONGERS, JOHN STREET.
NEWCASTLE-ON-TYNE—Mr. T. DUNN, IRONMONGER, GRAY STREET
EDINBURGH—Messrs. BELL & SON, IRONMONGERS, FREDERICK STREET.
BRIGHTON—Messrs. LANGWORTHY & REED, IRONMONGERS.
Windows may also be seen at the Kensington Museum, London.





TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.



JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
No. 28, GRAY'S INN ROAD, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by
J. MILLS,
110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET
(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

FLOORING, DEALS, MAHOGANY, &c.

¾-inch White Flooring, good quality	11s. 6d. per square.
¾-inch White Matched Lining	12s. 0d. ,,
¾-inch ,, ,, ,,	14s. 0d. ,,
2½-inch Yellow Battens	10l. 0s. per 120 of 13 feet.
2½-inch White Battens	9l. 0s. ,,
3 by 9 Yellow Deals	15l. 10s. ,,
Honduras Mahogany	0s. 6d. per foot super.

PRICE LISTS AND MOULDING PATTERNS, POST FREE.
J. TERRY & SON, 109, BOROUGH ROAD, S.E.

FLOORING! DEALS! MAHOGANY!

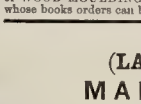
100,000 Dry Prepared Flooring Boards	from 10s. 6d. per square
10,000 Pine Planks	from 3s. 6d. each
5,000 Yellow Battens	from £10 10s. per 120
2,000 Spruce ditto	from £9 per 120
SPRUCE DEALS, 2s. 6d. each.	
FIR TIMBER 55s. PER LOAD.	
Scaffold Poles	1½d. per foot

YELLOW DEALS, £16 PER 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

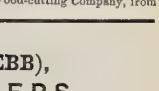
BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.				Laths, 28s. per Load.	
Yellow Deals, sound and good	£18	0	0	per 120, or 3d. per foot.	
Spruce Deals	15	0	0	,,	2½ ,,
Yellow Battens, excellent quality	10	10	0	,,	1¾ ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.



MOULDING WORKS.
SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.
Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.



BUNNETT & CO.'S PATENT REVOLVING IRON SHUTTERS.

SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS IN IRON OR WOOD.

BRASS SASH BARS, STALL BOARD PLATES, AND BLIND MAKERS.

96, REGENT STREET, W.; MANUFACTORY, 35, OLD STREET, E.C.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—

Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete fro
3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

JOHN DREW,
SHOP FRONT BUILDER,

4, CHRISTOPHER STREET, HATTON GARDEN,

MANUFACTURER of every description of **FITTINGS** for **BANKS, INSURANCE OFFICES, &c.**

Of well-seasoned Mahogany and superior Workmanship.

DRAWINGS, ESTIMATES, AND REFERENCES TO WORK DONE.

SEVERAL DESKS IN STOCK.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTER
FOR
SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters	.....	2s. per foot sup
Wood Self-Coiling	do.	2s. 6d. do.
Iron	do. do.	3s. do.
Steel	do. Fire and Thief Proof..	3s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c, &c.

15, Gate-street, Lincoln's Inn Fields, W.C
AND 4, MARKET STREET, MANCHESTER.

JAMES STIFF & SONS,

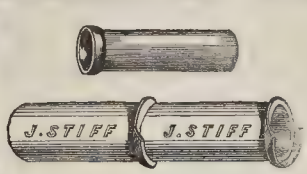
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.
Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for all Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,







Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.
T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Baryte from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

THE FLUO-SILICIC STONE-PRESERVING COMPANY, LIMITED.

39, CHARING CROSS, S.W. & 12, COPTHALL COURT, THROGMORTON STREET, E.C.

PATENT FLUO-SILICIC INDURATIONS for the PRESERVATION of STONE, CEMENT, and other like materials. The Company apply to the surface of Stone, Cement, &c. a solution of Fluo-Silicic Acid, and Silicate of Potash. These are the only patents which embrace the use of that most valuable agent, Fluo-Silicic Acid. Bath, Caen, and other soft stones, when treated by the Company's solution, become extremely hard. The great expense of high ornament to buildings in hard stone has been an obstruction to Art; but since the Fluo-Silicic process can be applied as readily to soft stone after it is carved, that obstruction exists no longer. The Fluo-Silicic at once permanently arrests the decay of all stone.—For further information apply to the Manager of the Company, Mr. DUDLEY, Architect, as above.

BARTLETT, BROTHERS, & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

PATENT INDURATING SOLUTIONS,
For the Preservation of Stone, Cement, &c.;
PATENT SILICEOUS PAINT, FOR COATING BRICKS, CEMENT, &c.
FIRE-PROOF VARNISH,

For Internal Wood Work, Roofs, and Church Work generally. This Varnish renders Wood Uninflammable, and Preserves it from Decay.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.

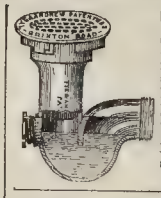


PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions, Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREWS, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

INTERNATIONAL EXHIBITION, 1862.

CLASS 36, NO. 6349.

3s. 9d.



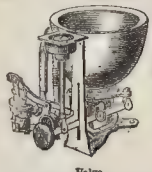
The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

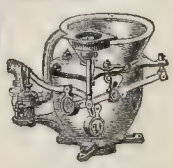
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cistern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED PAVEMENTS,

combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, front, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield street North, Uxbridge road, Boats. N. Lastly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and lastly, that the "Reports of the Jurors," page 231, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION.

MAGNUS'S ENAMELLED SLATE

obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, Two First-class Medals at the Paris Exhibition, and Two Prize Medals at the International Exhibition of 1862.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works 39 and 40, Upper Belgrave-place, Pimlico, S.W.

POLONCEAU and SEYSSEL ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Area Floors, &c. with instructions to lay it down.

DURABILITY of GUTTA PERCHA TUBING.

—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving, in reply to the following letter FROM SIR RAYMOND JARVIS, Bart. VENNOR, ISLE OF WIGHT—Second Testimonial.—"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction that answers perfectly. Many builders and others persons have lately examined it, and there is not the least apparent deterioration since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

NB From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

SALES BY AUCTION.

GREAT QUEEN STREET, LINCOLN'S-INN-FIELDS.—Building Materials of two large Houses, by order of the Committee of the Grand Lodge of Freemasons of England

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES on WEDNESDAY, OCTOBER 21, at TWELVE, in lots, the MATERIALS and FITTINGS UP of TWO HOUSES, Nos. 59 and 60, Great Queen street, Lincoln's-inn-fields, of the usual description, to clear the site for the new Grand Lodge building.—May be viewed the day previous, and catalogues had at the Office of F. P. COCKERELL, Esq. Architect, 8, Regent street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

METROPOLITAN RAILWAY.—Smithfield Loop.—Building Materials of several Cottage Dwelling-houses, and Premises, Sharp's-alley, and Red Lion-alley, Cow Cross-street.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on WEDNESDAY, OCTOBER 28, at TWELVE, in lots, the valuable BUILDING MATERIALS of several Factories, Dwelling-houses, Stables, and Premises in Sharp's-alley and Red Lion-alley, Cow Cross street, Smithfield, comprising capital stock bricks, oak and fir Lumber in roofs and floors, pan and plain tiles and slates, sashes, doors, weather boarding, flooring boards, folding gates, pebble, clinker, and other paving, lead gutters and pipes, cisterns, stoves, and other useful fixtures.—May be viewed the day previous, and Catalogues had of Messrs. BURCHELL, Solicitors, Broad Sanctuary; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street, S.W.

HIGHGATE.—BUILDING MATERIALS OF A LARGE RESIDENCE

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on FRIDAY, OCTOBER 30th, at TWELVE, in Lots, all the excellent BUILDING MATERIALS, Fixtures, and Fittings up of a large Residence, with Coach houses, Stabling, &c known as Elms Court House, Highgate, near the Toll-gate, comprising about 160,000 sound stock bricks, 30,000 plain tiles, 40 squares of slates, stout rafters, joists, girders, and other useful timber; 50 modern sashes and casements, 60 doors, marble chimney pieces and interior fittings, 75 ft. more of sound floor boards, York and Portland paving stones, window cills and steps, pebble and clinker paving, stable fittings, lead gutters, cisterns and pipes, stoves, and other useful fixtures. Also a quantity of growing timber and shrubs, several thousand yards of turf, &c May be viewed the day previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

FOR SALE, at GARRAWAY'S COFFEE HOUSE, WEDNESDAY, 28th OCTOBER:—
500 Loads Timber, foreign and colonial,
50,000 Pieces Deals and Battens, do. do.
And other Wood Goods.
HENRY FREEMAN & CO. Brokers, 3, Crooked-lane, E.C.

PRELIMINARY ANNOUNCEMENT OF SALE.—CHARING CROSS RAILWAY, CITY TERMINUS.—To BUILDERS, CONTRACTORS, PAVIORS, and OTHERS

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor, to PREPARE for SALE, at an early day, the sound and useful BUILDING MATERIALS of several Houses in Mandeville, Chequer-yard, and large Warehouses on the north side of Upper Thames-street.

IMPORTANT SALE OF LOOSE BUILDING MATERIALS.

MR. C. F. SMYRK will SELL by AUCTION, on the PREMISES, Marlborough place, Old Kent-road, facing the Nelson, on MONDAY, OCTOBER 19th, at ONE for TWO o'clock, an infinite variety of superior sound MATERIALS, FITTINGS, and FIXTURES, taken down for improvement, and removed for convenience of Sale, and lotted to suit Builders and others, including oak and deal flooring and framing, joists, plates, girders, and brestsummers, flooring and lining boards, Portland and York stone paving and landings, sashes, doors, stoves, ranges, dressers, and other fixtures and requisites.—Catalogues had on the Premises; or of Mr. C. F. SMYRK, 1a, Newington-place, S.

BUILDING MATERIALS, GROVE-LANE, CAMBERWELL.

MR. C. F. SMYRK will SELL by AUCTION, as above, on WEDNESDAY OCTOBER 21st, at TWELVE for ONE, 200 lots of capital sound BUILDING MATERIALS, Modern Fittings and Fixtures, in great variety; 6,000 tiles, 30 loads of long timber of various scantlings, 4,000 feet pine, 1½ and ¾ flooring battens, iron stable fittings, 100 doors, 50 feet sashes and frames, partitions, closet fronts, slacks, fire-wood, register stoves, and other fixtures.—Catalogues on the Premises; or of Mr. C. F. SMYRK, 1a, Newington-place, S.

VALENCIA SLATE SLAB QUARRIES, COUNTY KERRY, IRELAND.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at the AUCTION MART, London, on WEDNESDAY, OCTOBER 28, at TWELVE, in one lot, unless an acceptable offer be previously made by private contract, the extensive QUARRIES and MILLS of the VALENCIA SLATE SLAB COMPANY, situate in the Island of Valencia, County Kerry, Ireland. The works have been carried on by the present company for about four years, and a very large outlay has been made in opening the quarries, and in erecting the mills and the requisite machinery. The quarries are situate on the side of a mountain, about 400 feet above the sea level, and an opening has been made for working about 120 feet wide, running into the mountain to about the same depth, uncovering a succession of platforms of slates of various widths. The slate rock lies most convenient for working, at an angle of about 35 degrees, and has a regular cleavage. The slabs are severed by wedges instead of by blasting, thus avoiding the large amount of waste occasioned by the latter process. The roof of the quarry is self-sustained, and is perfectly secure. The quality of the slabs is now well known and appreciated, and are taken in large quantities by the principal merchants in London and elsewhere. They take a beautiful and permanent polish, are particularly valuable for enamelling, are unaffected injuriously by furnace heat, and are raised in larger sizes than any other quarries. Tables made from the slab blocks is made into roofing slates, for which there is ample local demand. The present yield is about 2,000 lots of slate slabs annually, but by a comparatively small outlay in an extension of the workings this quantity may be doubled, the machinery at the mills being equal to prepare that quantity, and the demand at the present time being in excess of the capabilities of supply. The mills are situate about 2½ miles from the quarries, are connected by a good road of easy descent, which is kept in repair principally at the expense of the county; but it is believed that every facility would be afforded by the Knight of Kerry, who is the freeholder, for laying down a tramway by the side of the present road, which would much lessen the cost of carriage. The mills are most advantageously placed, being immediately contiguous to the pier, at which vessels of 150 tons burden can load alongside, and there are no pier dues nor wharfage payable. The harbour of Valencia is both safe and commodious, and freights to London are about the same as from the North Wales ports. The buildings are well arranged, and substantially erected They are fitted with sawing and planing machinery of the best description, fitted by Blyth, of Limehouse; and there are overhead cranes, tramrails, and every appliance for saving manual labour. There is a plentiful supply of water for the purposes of the mills, from a large open reservoir. The quarries and works are held on easy terms under an agreement for lease from the Knight of Kerry, for a term of fifty-seven years from 1st January, 1864, determinable at the lessee's option on giving six months' notice. The lease, a draft of which may be seen prior to the sale at the office of the Vendor's Solicitors, will be granted by the Knight of Kerry direct to the purchaser. The present Company have expended upwards of £9,000 upon the property. They have succeeded in establishing the reputation of, and a market for, the slabs, and have thoroughly proved the existence and uniform character of the slate, and the extent to which the workings may be carried: and they have supplied and erected the most approved modern machinery for the preparation of the slate for market, and it is confidently believed that the Works are now in that state that, with the personal attention of the owner, very profitable results may be anticipated.—The Works may be viewed by Cards only, which, with further particulars, may be had of Messrs. PALMER, NEVILLE, SHARP, & ELAND, Solicitors, 4, Trafalgar-square, W.C.; at the *Midland Counties Herald* office, Birmingham; at the Graham Hotel, Sackville-street, Dublin; at the Railway Hotel, Killarney; at the Adelphi Hotel, Liverpool; at the Mart, London; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

LANGHEDGE NURSERY, UPPER EDMONTON.

MR. A. RICHARDS will SELL by AUCTION, on TUESDAY and WEDNESDAY, OCTOBER 20 and 21, at ELEVEN, the valuable NURSERY STOCK; including 5,000 apple, pear, plum, and cherry trees; 800 peach and nectarines, 2,000 gooseberries and currants, 1,000 choice standard roses, fine evergreens of all descriptions, 100 weeping ash, forest trees, &c.—On view. Catalogues obtainable on the Premises, and of the Auctioneer, Tottenham.

OLD STREET ROAD.—Freehold Houses and Ground Rents, including the New Tariff public house and Twelve other Houses and Shops; the whole producing a Rental of about £360.—In lots.

MR. PHILIP D. TUCKETT is instructed to SELL by AUCTION, at the MART, Bartholomew-lane, London, on TUESDAY, the 27th of OCTOBER, 1863, in eight lots, a very desirable FREEHOLD PROPERTY, including the Dwelling Houses and Shops Nos 38, 39, 40, 41, and 42, Old Street-road, and Nos 7, 8, and 9, Boot-street, in the Parish of St. Leonard, Shoreditch, let to respectable tenants at very low rent; an amply secured RENT of 12s per annum, arising out of that well accustomed public house known as The New Tariff, and three adjoining houses; together with the REVERSION of the above valuable property after an unexpired term of forty-nine years; and a GROUND RENT of 14l. per annum, arising out of Nos 3 and 4, Boot-street, producing a rack rental of 91l.—Particulars, with plans and conditions of sale, may be obtained at the Mart; of Messrs. POOLE & GARLICK, Solicitors, 3, Grey's Inn-square; and of Mr. PHILIP D. TUCKETT, Land Agent and Surveyor, 76, Old Broad street, E.C.

TO BUILDERS, CONTRACTORS, AND OTHERS.—TIMBER, PAVING, &c.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, on the PREMISES, Sun-street, Bishopsgate street, E.C. on TUESDAY, OCTOBER 20, 1863, at TWELVE for ONE, the MATERIALS of the Extensive TIMBER SHEDS and STORES standing upon the Premises lately occupied by Messrs Sykes, Timber Merchants, comprising a large quantity of useful seasoned timber, York paving, granite pitching, tiles, bricks, and other materials, and the office and counting house fittings.—May be viewed any time; and catalogues had on the Premises; and at the Auctioneers' Offices, Camden-town, N.W.

CROYDON, SURREY.—Valuable Building Plots.

MESSRS. BLAKE will SELL by AUCTION, at the New Inn, Croydon, on SATURDAY, OCTOBER 24th, at TWO for THREE o'clock, Thirty highly Valuable FREEHOLD BUILDING PLOTS, having Eligible Frontages in the High-street (at South End), Lower Coombe-street, South-bridge-road, Keen's-road, and a new road connecting the High-street with South-bridge-road. The land offered to capitalists and builders at fair rates for the erection of shops and private houses, being immediately contiguous to the Town, and within easy distance of the railway-stations. The intended railway terminus at South End, when completed, will materially enhance the value of the Land.—Particulars, with plans, may be had at the New Inn, Croydon; at Garraway's Coffee house, Change-alley; of Messrs. CURREY & ROLLAND, No 9, Old Burlington-street, London; and of Messrs. BLAKE, Croydon.

OXFORD.—VALUABLE BUILDING MATERIALS, comprised in the several Houses in Beaumont-street and Magdalen-street, the intended Site for the erection of the Randolph Hotel.

MR. JOHN FISHER begs to announce that he is instructed by the Randolph Hotel Company to SELL by AUCTION, in the month of OCTOBER next, the above BUILDING MATERIALS; consisting of roofs, floors, doors, shop-fronts, sashes and frames, partitions, staircases, fittings, &c which will be found peculiarly good, from the circumstance that the houses have been built within a few years.—Further particulars will be advertised previous to the sale.

LOWER-ROAD, ISLINGTON.—Useful Building Materials.

MESSRS. CRAWTER are favoured by instructions from the Governor and Directors of the New River Company, to SELL by AUCTION, without reserve, upon the PREMISES, on WEDNESDAY, OCTOBER 21st, at ONE precisely, in 8 lots, the MATERIALS, comprising a quantity of brickwork, masonry, plain and pan tiling, slating, paving, carpentry, joinery, chimney pieces, cast-iron girders, sashes, frames, doors, and other fittings and premises, being Nos. 44, 5, 55, 6, and 7, in the Lower-road, and No 10, and a double cottage and premises, part of Bird's-buildings, in the rear.—May be viewed the day previous and on the morning of Sale, and catalogues had at the Premises, No 45; the Angel Inn, Islington; and of Messrs. CRAWTER, Surveyors, &c. 5, Bedford row, Gray's Inn, W.C.

WESTMINSTER BRIDGE APPROACHES.—EIGHTH SALE OF BUILDING MATERIALS.

MESSRS. GLASIER & SON are favoured with instructions from the Commissioners of Her Majesty's Works and Public Buildings, to SELL by AUCTION, on the PREMISES, on WEDNESDAY, OCTOBER 28, at TWELVE for ONE, the valuable BUILDING MATERIALS of Four Houses, Nos 16 and 17, Bridge street, and 2 and 3, New Palace yard, comprising 500,000 capital stock bricks, pan and plain tiles, slates, sound timber, flooring, wainscoting, doors, sashes and frames, shop front, iron columns, water-closet apparatuses, paving, and lead gutters, pipes, cisterns, &c.—May be viewed the day prior and morning of sale. Catalogues had at the Office of Works, 12, Whitehall place; of JAMES PENNETHORNE, Esq. 7, Whitehall-yard; on the Premises; at GARRAWAY'S; and of the Auctioneers, 41, Charing-cross, S.W.

REPOSITORY, BARBICAN.—Railway Cart Horses

MR. J. S. GOWER is instructed to SELL by AUCTION, on FRIDAY next, OCTOBER 23, TWELVE superior powerful active CART or VAN HORSES, the property of Mr. T. Lansbury; have been employed on the Herne Bay and Ramsgate line.—On view two days prior, when catalogues may be had of the Auctioneer, Barbican.

Early Sale, on account of the number of Lots.—Timber Dealers' and Builders' Stock and Plant.—Camden Town

MESSRS. LEREW & LEREW will SELL by AUCTION, at CAMDEN TERRACE, on MONDAY, OCTOBER 19th, at ELEVEN for TWELVE, a large quantity of PLANKS, BRACKETS, BATTENS, Dry Cut Stuff, 2,000 feet Spanish and Honduras Mahogany, 4,500 feet Birch, 7,000 feet Wainscot Pine, 4,000 feet Die Square, Prepared Flooring, Seasoned, 6 loads of Holly, Slating, Battens, Deals, Laths, 250 Sacks of Plaster, Boards, and Pitch-pine; 7 dozen Cords, 6 capital Benches, 16 Ladders, Iron Columns, Marble Bath, useful Materials, &c May be viewed, and catalogues had on the premises; and of R. GROSSLEY, Esq. Accountant, 17, Moorgate street, City; and of the Auctioneers, 2, Cardington-street, Hampstead-road.

TO ARCHITECTS, BUILDERS, AND OTHERS.—BRIGHTON.

MR. DELL is instructed by the Proprietor, Mr. G. Feist, to SELL by AUCTION, upon the PREMISES, the Clifton-ville Marble and Stone Works, Hove, near Brighton, on MONDAY, 26th OCTOBER, 1863, at TWO o'clock (to suit the trains), a large number of MARBLE CHIMNEY PIECES, of the most elegant designs, inclosed, and finish, in Statuary, Veined, Black and Gold, and other Marbles.—May be viewed at Mr. FEIST'S Cliftonville Marble and Stone Works, 57, George-street, Hove, of whom catalogues may be obtained; and of Mr. DELL, Auctioneer and Valuer, No 45, Middle street, Brighton.

EXTENSIVE SALE of BUILDING MATERIALS, Chester-street, Kennington. To BUILDERS and OTHERS.—100 Stoves, Stone Paving, &c. &c.

F. HALL & SON will SELL by AUCTION, on MONDAY next, OCTOBER 19th, at TWELVE for ONE o'clock precisely (on account of the number of lots), on the PREMISES, at the Sir Sidney Smith and King's Arms, Chester street, Kennington, the whole of the very excellent TIMBERS, FITTINGS, FIXTURES, and other effects, of some Government Offices, taken down and removed, and comprising the yellow paste, from 21 feet to 32 feet long, long plates, the sound yellow flooring and match boarding, 10,000 feet of rafters and quartering, the modern fittings, fixtures, &c. in 50 handsome folding room and other doors, 40 pair of sashes and frames, excellent partitions, with doors, 50 closet and cupboard fronts, several nests of pigeon holes with doors, 50 feet of cocoa-nut matting, 300 brooms and brushes, various, 12 pairs of water boots, large map press, excellent stone paving, stone sinks, 30 marble and other chimney-pieces, and other effects. Catalogues of the Auctioneers, 1, Thurloe-terrace, Wandsworth-road.

TO BUILDERS, DECORATORS, LANDLORDS, AND OTHERS.

MR. EDWIN WHITE will SELL by AUCTION, at 12, Holborn Bars, and 1, Castle-street, Holborn Hill, on TUESDAY Next, at ONE, a Stock of FRENCH and ENGLISH PAPERHANGINGS, in great variety, comprised in about 150 lots. Also, nearly 200 Pain and Sculptured CHIMNEY PIECES in marble and slate; half-ton of paint and white lead, seven water-closets, 650 feet gilt moulding, 10 dozen sherry, and items.—View and catalogues Monday and Morning of Sale.

TO BRICKMAKERS.—All Parties who burn BRICKS in CLAMPS are invited to inspect the NEW MODE of SETTING, patented by Mr ROBERT WHITE, and which may be seen in operation at the Brickfields of

J. R. WHITE & BROTHERS, Erith, Kent.

The advantages of this plan are two fold.

1st. Nearly all the bricks are burnt into stocks, and the yield of inferior bricks is reduced from 45 to about 10 per cent of the total make, which in itself represents a large permanent saving.

2nd. The bricks are so much improved in colour and soundness as to give them a considerable additional value in the market over common stocks.

Licenses for use of the Patent granted to Brickmakers, on application to the Patentees, 17, Millbank street, Westminster.

BRICKS.
FINE WHITE FACING BRICKS.
WHITE ORNAMENTAL BRICKS.
RED AND WHITE CUTTERS.
RIDGE TILES AND ROOFING TILES,
OF GREAT VARIETY.
Apply to RICHARD LANGLEY,
EAST COWES PARK, ISLE OF WIGHT.

SPRING GROVE BRICKFIELDS, HOUNSLOW, W. MIDDLESEX.—Mrs. ANN ELIZABETH BURCHETT begs to thank her numerous friends for the patronage received during the last twenty-five years, and having DISSOLVED PARTNERSHIP with her son, Mr JAMES BURCHETT, has again OPENED the above BRICKFIELDS on her own account, where by strict attention to all orders she trusts to receive the same encouragement hitherto so liberally bestowed upon her. Office—Caswell Cottage, Hounslow-road, Hounslow, W.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS
By Messrs Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT-COLOURED STOCKS, from the Fields at South Shoebury, and Little Wakering, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; by Messrs. J. Butcher & Son, of Otterham Quay and Lower Rainham; and also by Messrs. J. & G. Parker, of Wickham, near Strood, Kent.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The BALLINGDON DEEP BLACK RUBBING and BUILDING BRICKS, and the CHALFONT and BALLINGDON DARK and BRIGHT RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH. The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, HILLS, PUTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

HOLLOW BRICK FIRE-PROOF FLOORS.
BUNNETT'S PATENT.
THIS PATENT FOR SALE, OR LICENSES GRANTED.
Apply to Mr. J. BUNNETT, ENGINEER, DEPTFORD.

VICTORIA BRICK and LIME WHARF and DRAW-DOCK, NINE ELMS, S.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES AND RED GOODS,
TERRA COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER FACINGS,
RED AND WHITE FACINGS,
STAFFORDSHIRE AND FIRE GOODS,
MALM CUTTERS, PICKINGS,
AND BUILDING GOODS GENERALLY.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c by barge alongside, where required.
JOHN DOWNEY, Victoria Wharf, Nine Elms, S.
Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, 55s. per 1,000.
" Floor Bricks, 40s. per 1,000.
White Salt Bricks, 45s. per 1,000.
Ridge Tiles, at 70s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. Quantities may be delivered by Vessel at any of the Thames Wharfs.

PENCILS, BLACK LEAD, and COLOURED CHALKS.
A. W. FABER'S POLYGRADE LEAD PENCILS, sold by all Stationers and Artists' Colourmen.
Sole Agents HEINTZMANN & ROCHUSSEN, 9, Friday-street, E.C.

PITCH PINE.—TO BE SOLD, a small parcel of Dry PITCH PINE, some fine and large, and some short lengths, all dry and fit for joinery purposes.—Apply, by letter only, to Mr. CARD, 17, Cambridge Heath-road, Bethnal-green, N.E.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles in the-fields, and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, October 17, 1863.

The Builder,

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Architect, Engineer, Operatives & Artist.

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BUILDERS' BENEVOLENT INSTITUTION.—NEXT THURSDAY.—The SIXTEENTH ANNUAL DINNER will be held at the LONDON TAVERN, on THURSDAY next, the 29th instant, Mr. ALDERMAN JAMES C. LAWRENCE, President of the Institution, in the Chair. Tickets may be obtained, its each, at the Office, 23, Southampton-street, Bloomsbury; of the Treasurer, GEO. TRUCKNETT, Esq. 238, Gray's-inn-road; the Stewards; and at the London Tavern

October 23, 1863. A. G. HARRIS, Secretary.

ARCHITECTURAL ASSOCIATION.—The CONVERSAZIONE and Opening Meeting of the above Association will take place on FRIDAY Evening next, OCTOBER 30th, at the Rooms, 9, Conduit-street, Regent-street, commencing at EIGHT o'clock.

Gentlemen desirous of becoming Members can obtain the necessary information of the Honorary Secretaries.

CHARLES J. ADAMS, 6, Adam-street, Adelphi. } Hon.
J. DOUGLASS MATHEWS, 10, Chalk-lane, City. } Secs.

LIFE ACADEMY for ARTISTS and AMATEURS, 21, Bloomsbury-street, Bedford-square.

The Studio will RE OPEN on TUESDAY, the 3rd of NOVEMBER Terms, Three Guineas a Year for Three Evenings a Week. Mr. F. S. DAREY'S school of Art, for Students and Amateurs, is open every day.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS. The Lecture Committee of the above Institution have great pleasure in announcing that Professor DONALDSON, President of the Royal Institute of British Architects, will deliver a LECTURE to the members and their friends, on WEDNESDAY EVENING, OCTOBER 28th instant, at No. 9, Conduit-street, Regent-street, "On the Transport and Erection of large Monoliths, as in Obelisks, Columns, &c." Lecture to commence at Half-past EIGHT o'clock.—Tickets can be had on application to any of the members, and at 9, Conduit-street.

R. WEBSTER, Librarian.

SOUTH KENSINGTON MUSEUM.—The New NATIONAL ART TRAINING SCHOOLS, for Male and Female Classes, will be OPENED for the Inspection of the Public, every SATURDAY, from TWO till NINE, p.m. Entrance through the Museum.—By Order of the Lords of Committee of Council on Education.

ARCHITECTURAL UNION COMPANY (Limited).—The EXHIBITION of BUILDING INVENTIONS, MATERIALS, &c. at the Galleries, 9, Conduit-street, Regent-street, is now OPEN DAILY from ELEVEN till FOUR, FREE

PROFESSOR DONALDSON'S COURSES of LECTURES on ARCHITECTURE and CONSTRUCTION, for the Session 1863-4, at University College, commence on TUESDAY EVENING, the 20th of OCTOBER. Detail particulars can be obtained on application at the Office of the College.

MARYLEBONE and WEST LONDON SCHOOL of ART, 202, Portland-road, W. NOTICE to STUDENTS.—A SOIREE will be held on the occasion of the Opening of the new School Buildings, on FRIDAY Evening, OCTOBER 30th, 1863. Tickets to be obtained at the School:—Gentlemen's, 2s.; Ladies', 1s. Tea at Seven o'clock.

*** The places of those students of the School not actually attending at the beginning of November cannot be retained, in consequence of the great number of applicants for admission.

23rd October, 1863.

NATIONAL SHAKSPEARE COMMITTEE.—On MONDAY, NOVEMBER 2, this Committee will take into consideration a proposal for holding a PUBLIC MEETING in LONDON, to do honour to the Memory of Shakspeare.

W. HEPWORTH DIXON, } (Hon. Secretaries.
J. O. HALLIWELL, }

Committee-room, 190, Fall mall, S.W.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION.—Subscribers for 1863 are entitled, for One Guinea, to select Ten of the Photographs from French Cathedrals, &c. which have been taken specially for the Association.—For lists of subjects, &c. apply at 23, Bedford-row, W.C. where a complete set of the Photographs may be seen. WILLIAM LIGHTLY, Hon. Sec.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE will shortly be REMOVED to the NEW PREMISES, 73—74, Bishopsgate-street Within, a few doors from the present establishment. These will afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

81, Bishopsgate-street Within, July, 1863.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for WORKS to be EXECUTED in TAKING DOWN and RE-BUILDING about 230 feet in length of the GUNWHARF WALL, Portsmouth.

Parties desiring to Tender for these works in mass are to leave their names at this Office on or before the 3rd day of NOVEMBER, 1863, and pay the sum of ten shillings and sixpence for the Bills of Quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, 19th October, 1863.

BOROUGH of NEWCASTLE-UPON-TYNE.—HOSPITAL of ST MARY THE VIRGIN.—ERECTION of the ROYAL FREE GRAMMAR SCHOOL.—To BUILDERS and OTHERS.—The Corporation of Newcastle-upon-Tyne invite TENDERS from Builders and others for the ERECTION of the ROYAL FREE GRAMMAR SCHOOL, and other Works connected therewith, at Rye Hill, in Newcastle-upon-Tyne, according to plans, working drawings, and specifications prepared by Mr. John Dobson, and sanctioned by the High Court of Chancery. The plans and specifications may be inspected on application to the Architects, Messrs. JOHNSTON, HOOD, & SONS, 34, Pilgrim-street, where further information can be obtained; and sealed Tenders, addressed to "The Chairman of the Committee on Schools, Charities, and Hospitals," will be received at the Town Clerk's office, Guildhall, up to SIX o'clock on TUESDAY, the 27th day of OCTOBER next. The Corporation do not bind themselves to accept the lowest or any Tender. By order,

JOHN CLAYTON, Town Clerk.

Guildhall, Newcastle, 30th September, 1863.

TO MASONS and PAVIORS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the SUPPLY and LAYING complete of about 3,000 feet run of 12-inch by 8-inch DRESSED ABERDEEN FLAT CURB, and about 15,000 feet superficial of 4-inch ROLLED YORK PAVING, 4 feet wide, in the parish of Battersea. The specification can be seen at the Offices of the Board, as below, between the hours of TEN and FOUR. Tenders are to be sent in under seal, addressed to the Board, and indorsed "Tender for Paving Battersea," on or before the 1st day of NOVEMBER next. Security will be required for the due execution of the Contract. The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District, ARTHUR ALEXR. CORSELLIS, Clerk to the Board.

Battersea Rise, Wandsworth, S.W. October 14th, 1863.

TO MASONS, PAVIORS, STONE MERCHANTS, and OTHERS.—The Vestry of the Parish of Chelsea will meet at the Vestry Hall, King's road, on TUESDAY, the 27th OCTOBER instant, at THREE o'clock in the afternoon, to receive TENDERS from persons willing to CONTRACT for twelve months for the EXECUTION of WORKS and for the SUPPLY of MATERIALS connected with the above Parish, in the said parish, as may be required and directed.—Further particulars, with the form of Tender, may be had on applicat on at this Office. Sealed Tenders, signed by the proposed contractor, with the names and description of two sufficient sureties for the performance of his contract, to be delivered to the Clerk by or before TWELVE o'clock on TUESDAY, the 27th instant. The legal charges of the contract to be paid by the contractor upon the execution of the same. No Tender will be received or accepted unless made on the printed forms.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's road, Chelsea, October 14, 1863.

TO BUILDERS.—TENDERS are required for the whole or any part of the several Works in ERECTING and COMPLETING COTTAGES and HOUSES at Hurst, near Ashton-under-Line, for John Whittaker, Esq.—Application for bills of quantities to be made to us, per post, on or before SATURDAY, the 31st inst. after which date all particulars as to time and place for inspecting the drawings, &c. will be forwarded.

PAULL & AYLIFF, Architects, India-buildings,
Dated 21st October, 1863. Cross-street, Manchester

BUILDERS and CONTRACTORS desirous of TENDERING for certain ADDITIONS, ALTERATIONS, and REPAIRS to a HOUSE situate at Standen, in the county of Hertford, for the purpose of converting same into a RAILWAY INN, for the Mr. ST. PALMER, of Hertford, may see the plans and specification upon the Premises, on MONDAY, the 26th instant; and at the Office of the Architect, on and after TUESDAY, the 27th instant. Tenders to be addressed to the Architect, and delivered not later than TWELVE o'clock on SATURDAY, NOVEMBER 1st.

CHAS. CHAPMAN, Architect.

7, St. Mildred's-court, Poultry, London, E.C.

CONTRACTS.

TO CONTRACTORS and OTHERS.—The Local Board for the District of Chorley (Alderley Edge), Cheshire, are desirous of receiving TENDERS for the EXECUTION of CONTRACT No 2, being the necessary Works for making and completing about 2,800 lineal yards of Brick Main sewers. Plans and sections may be inspected, and specifications obtained, at the Office of the Engineer to the Board, Mr. S. C. TRAPP, 18, Cooper-street, Manchester, on payment of 5s. Sealed Tenders, endorsed "Tender for Contract No. 2," must be left at the Office of the undersigned, 16, Upper street, Manchester, on or before THURSDAY, 29th OCTOBER. The Board do not bind themselves to accept the lowest Tender.—Dated this 2nd October, 1863.

W. L. WELSH, Law Clerk to the Board.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A meeting of this Board will be held on MONDAY, the 26th day of OCTOBER, 1863, at SIX o'clock in the evening, at the Office, 15, Great Alie-street, Whitechapel, to receive TENDERS for the CONSTRUCTION of a BRICK SEWER, in Thomas street, partly in the parish of Whitechapel and partly in the hamlet of Mile-end New Town, within the said district. Plans, section, and specification may be inspected, and further particulars, with printed forms of tender, obtained on application to Mr. FREDERICK, Surveyor, between the hours of TEN and FOUR, at the Office of the Board. Sealed Tenders, in which a 10*l.* note is to be inclosed must be delivered at the Office, previous to the hour of meeting; and any Tender which is not upon the form prepared by the Board, and duly signed by the person or persons tendering, will be rejected. Persons tendering, or their representatives, are required to attend the meeting of the Board. The Board do not bind themselves to accept the lowest or any Tender. ALFRED TURNER, Clerk to the Board.

15, Great Alie street, Whitechapel, 14th October, 1863

ST. SAVIOUR'S DISTRICT.—To Contractors, Builders, and Others.—The Board of Works for St. Saviour's District are desirous of receiving TENDERS for the performance of the WORKS in making the requisite ENTRIES from Houses and Buildings into the MAIN and other SEWERS, and otherwise connected with the Drainage and Sewerage within the district, for the term of one, two, or three years. The Tenders to be based on the schedule of prices printed for the purposes of the Board, a copy of which can be had upon application at the Board room on deposit of 1*s.* to be refunded on the schedule being returned. The Contractor will have to enter into a contract according to the printed form attached to such schedule, and he and two sureties to execute a joint and several bond in 250*l.* constituted for the performance thereof. All persons tendering must fill in the printed form of Tender, with names of sureties inserted in schedule, and must send in their Tenders (which will be sealed up and endorsed "Tender for General Works," as per before FOUR in the afternoon of WEDNESDAY, the 4th day of NOVEMBER next, and the Contractor and his sureties are attended at SIX o'clock in the evening of that day. The Board will pay the expense of the contract, that of the bond must be borne by the Contractor. The Board do not bind themselves to accept the lowest or any Tender. By order of the Board,

HERBERT STURMY, Clerk

Board room, Emerson-street, Bankside, 21st October, 1863.

TO SEWERS CONTRACTORS and OTHERS.—The Sewers Committee of the Parish of Saint Mary, Newington, Surrey, will meet at the Vestry-room of the Parish Church, on FRIDAY, the 6th of NOVEMBER next, at SEVEN o'clock in the evening, to receive TENDERS for the EXECUTION of JOBBING and MEASURED WORKS in connexion with the Drains and Sewers in the parish.—Printed schedules and forms of Tender can be obtained at the Office of Mr. HENRY LEVER, the Surveyor of Sewers, 2, Trinity square, Newington, on payment of 10*s.* which money will be returned to the parties tendering when the Tenders are opened. No other Tenders will be received. Securities will be required for the due performance of the contract, and the Committee do not bind themselves to accept the lowest or any other Tender.

H. & F. CHESTER, Joint Surveyors to the Vestry.

October, 1863. 1, Church-row, Newington Butts

METROPOLITAN BOARD of WORKS.

THAMES EMBANKMENT, MIDDLESEX SIDE.—To BUILDERS, CONTRACTORS, and OTHERS. The Metropolitan Board of Works hereby give notice that they will meet at the Office of the Board, Spring-gardens, S.W. on FRIDAY, the 27th day of NOVEMBER next, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to ENTER INTO CONTRACT for CONSTRUCTING, CONSTRUCTING, and MAINTAINING in REPAIR for TWELVE calendar months, the following WORKS, that is to say:—A certain intended Embankment Wall, 1,570 feet in length, or thereabouts, with certain landing places, Steam-boat pier, Sewers, Subway, Storm outlets, and other works in connexion therewith, situate in and adjacent to the foreshore of the River Thames, on the Middlesex side, between Waterloo Bridge and the Eastern end of the Temple gardens. Parties desiring to submit Tenders may, on and after WEDNESDAY, the 14th inst. upon payment of 10*s.* 6*d.* obtain plans, sections, specification, form of letter, and other particulars, on application to Mr J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE a.m. and FOUR p.m. or on Saturdays between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 26th day of NOVEMBER next. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office before FOUR o'clock on the last-mentioned day, and no Tender will be received after that hour. The parties Tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the works

JOHN POLLARD, Clerk of the Board.

Spring-gardens, S.W. October 3, 1863.

TO BUILDERS.—Persons desirous of TENDERING for the ENLARGEMENT of ST. PAULS CHURCH, Cambridge, may see the drawings and specification at the Office of the Architect, Mr. R. REYNOLDS ROWE, 21, Emmanuel-street, Cambridge. Sealed Tenders to be delivered to the Rev. HENRY HALL, St Paul's Parsonage, not later than SATURDAY, the 7th day of NOVEMBER, 1863. The Committee do not bind themselves to accept the lowest Tender.

[For remainder of Contracts see next Page.

CONTRACTS.

BUILDERS desirous of TENDERING for the ERECTION of a DETACHED VILLA, at Eltham, Kent can see the plans and specifications at the Office of Mr. THOMAS CHESTER HAWORTH, Surveyor, Eltham, to whom Tenders must be sent, on or before TUESDAY, the 3rd day of NOVEMBER, 1863, by FOUR o'clock. The lowest or any Tender not necessarily accepted.

TO BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the various WORKS required to be done in the ERECTION of a NEW WAREHOUSE in Rutland street, Leicester, may inspect the drawings, specification, and conditions and obtain the quantities, at my Office on and after NOVEMBER 2nd. Tenders to be delivered on or before NOVEMBER 7th, at TWELVE o'clock. The lowest or any Tender not necessarily accepted.

FRANCIS DRAKE, Architect, 30, Market street, Leicester.

TO BUILDERS, CONTRACTORS, PROMOTERS of PUBLIC COMPANIES, and OTHERS.—Messrs. C. A. HAIG & CO. having purchased the Freehold of Argyll House, the residence of the late Earl of Sondes, for the purpose of Building Wine Vaults, are prepared to receive TENDERS for the BUILDING LEASES, for nearly the whole upper portion of the Ground, comprising about half an acre, in the immediate neighbourhood of Regent Circus, with frontage to Argyll street, Regent street, and access at the back to Marlborough Mews and Queen street, Oxford street. Plans may be seen and full particulars obtained at the Offices of C. A. HAIG & CO. Wine Merchants, 134, Fenchurch street, City; or 88, St. James's-street, S.W.; or from Messrs. HARMOOD & PATHSON, Solicitors, No. 10, Clement's-lane, E.C.

MIDLAND RAILWAY.—The Directors are prepared to receive TENDERS for the ERECTION of ADDITIONAL FITTING SHOPS, and other Works in connexion therewith, at the Well Green Station, at Leeds. Parties desirous of Tendering for the same may inspect the plans &c. and obtain copies of the quantities, upon application at the Engineer's Office, at the above Station, on and after MONDAY, the 26th instant. Sealed Tenders (upon the printed forms supplied by the Midland Railway Company) to be forwarded to the Secretary to the Way and Works Committee, Midland Railway, Derby, by 10 A.M. on or TUESDAY, the 3rd day of NOVEMBER next. The Directors do not bind themselves to accept the lowest or any Tender. By order,

Derby, October 20, 1863. G. N. BROWNE, Secretary.

WEST HAM LOCAL BOARD of HEALTH.—To BUILDERS.—Notice is hereby given, that the Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS for the ERECTION of TWO COTTAGES, in their Land at Canning Town, adjoining the Sewerage outfall Works.—Conditions of Contract, forms of Tender, and any other information, may be obtained at the Office of the Local Surveyor, at Rokeby House, in Stratford. Tenders are to be delivered at my Office, at Rokeby House, not later than MONDAY, the 2nd NOVEMBER, and each of them must contain a ten-pound Bank of England note, endorsed by the party Tendering, to be returned in the event either of the Tenders not being accepted, or on the completion of the contract or bond. By order of the Board,

CHARLES WILSON, Clerk.

Rokeby House, Stratford, E. October 21, 1863.

TO BRICKMAKERS.—All Parties who BURN BRICKS in CLAMPS are invited to inspect the NEW MODE of SETTING, patented by Mr. ROBERT WHITE, and which may be seen in operation at the Brickfields of

J. B. WHITE & BROTHERS, Erith, Kent.

The advantages of this plan are two-fold:

1st. Nearly all the bricks are burnt into stocks, and the yield of inferiors is reduced from 5 to about 10 per cent of the total make, which itself represents a large percentage saved.

2nd. The bricks are so much improved in colour and soundness as to give them a considerable additional value in the market over common stocks.

Licence for use of the Patent granted to the makers, on application to the Patentees, 12, Millbank-st. Westminster.

TO BRICKMAKERS, BUILDERS, and OTHERS.—TO BE SOLD, by PRIVATE CONTRACT, a CLAYTON'S PATENT No. 8 B BRICKMAKING MACHINE, latest improved, nearly new, having been in use only two seasons; the present proprietor parting with it to make room for a larger one. It is now making 30 thousand bricks per day, and may be seen at work, and terms, &c. known on application to Mr. HAYWARD, Yard Farm, Brixton, or to Messrs. HAYWARD, Yard Farm, Brixton, or to Messrs.

BRICKS.

FINE WHITE FACING BRICKS,
WHITE ORNAMENTAL BRICKS,
RED AND WHITE CUTTERS,
RIDGE TILES AND ROOFING TILES,
IN GREAT VARIETY.
Apply to RICHARD LANSLEY,
EAST COWES PARK, ISLE OF WIGHT.

SPRING GROVE BRICKFIELDS, HOUNSLOW, W. MIDDLESEX.—Mrs. ANN ELIZABETH BURCHETT begs to thank her friends and customers for the patronage bestowed during the twenty-one years carrying on the DISSOLVED PARTNERSHIP with her late husband, Mr. JAMES BURCHETT, has again OPENED the above BRICKFIELDS on her own account, where by strict attention to all orders she trusts to merit the same encouragement hitherto so liberally bestowed upon her. Office—Caswell Cottage, Hounslow road, Hounslow, W.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

VICTORIA BRICK and LIME WHARF and DRAW-DOCK, NINE ELMS, S.

BRICKS, TILES, SLATES,
LIME, CEMENT,
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SAND, BALLAST,
GLAZED DRAIN PIPES AND RED GOODS,
TERRA COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS,
RED AND WHITE FACINGS,
STAFFORDSHIRE AND FIRE GOODS,
MALM CUTTERS, PICKINGS,
AND BUILDING GOODS GENERALLY.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

JOHN DOWNEY, Victoria Wharf, Nine Elms, S.
Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, offers
Red Pantiles, at 47s. 6d. per 1,000.
" Stock Pavings, 27s. per 1,000.
" Red Bricks, 20s. per 1,000.
White Kiln ditto, 20s. per 1,000.
Ridge Tiles, at 70s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. Quantities may be delivered by Vessel at any of the Essex Wharfs.

WOOLPIT, SUFFOLK.

WHITE and RED FACING BRICKS, and other KILN Goods, at moderate prices.—Samples at 7, ALLEN'S, 7, Great Smith-street, Westminster; or from Mr. DAWSON STUTER, at the Works.—See R. G. BURNELL'S Report on Building Materials in "Mackenzie's Record of International Exhibition," p. 77.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS.
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS By Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, and Little Wakering, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; by Messrs. J. Butcher & Son, of Otterham Quay and Lower Rainham, and also by Messrs. J. & G. Parker, of Walkham, near Strood, Kent.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr W. Gilbert, of Tipton, near Tividale, and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The BALLINGDON DEEP BLACK RUBBING and BUILDING BRICKS, and the CHALFONT and BALLINGDON DARK and BRIGHT RED RUBBERS.

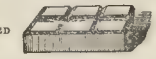
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IN ANY QUANTITIES, BY BARGE ALONGSIDE.

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The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

HOLLOW BRICK FIRE-PROOF FLOORS
BUNNETT'S PATENT.
THIS PATENT FOR SALE, OR LICENSES GRANTED.
Apply to Mr. J. BUNNETT, ENGINEER, DEPTFORD.

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For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for Basement Skylights (as shown above), the absence of joints preventing the generation of animalcula. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c with instructions to lay it down.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of GUTTA PERCHA Tubing, the Object Per Se Commends itself as one to be adopted, and the following extract from PROFESSOR RAYMOND'S, Fleet Street, Report, dated "Wright Son, Pocklington, 4th March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many leaders and other pipes we have lately examined it, and in no case the least Thing to become the first appearance, however, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

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18, WHARF-ROAD, CITY-ROAD, LONDON.

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Manufacturers of
PATENT ASPHALTE ROOFING,
BOILER, RAILWAY, SHEATHING, and INODOROUS FELT,
For Damp Walls, at 1, Laing's-court, Horse-s,
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Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,
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SCOTGATE WORKS STAMFORD.

TO MOULDERS, BUILDERS, and OTHERS.—TO BE SOLD, cheap, a large quantity of CEMENT and PLASTER CASTINGS, and MOULDS of all descriptions.—Apply to L. T. 125, Cheapside, E.C.

PLASTER ENRICHMENTS
CENTRE FLOWERS, SHOP FRONT TRUSSES,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
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Best Gelatine, prepared, and ready for moulding 2s. per lb.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator  for the admission of Pure Air.

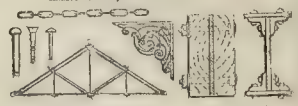
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These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of the apartment without the sensible draught being felt by the occupants, and as they are placed in the external wall, the action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 137 and 139 (late 117 and 118), Union street, Borough, London.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs, ready in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or re-voiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

JOHN UNDERWOOD, ARCHITECTURAL and MONUMENTAL WORKS, 42, High-street, Camden Town, executes every description of Architectural and Monumental Sculpture, in the best style of workmanship, at moderate charges. Estimates submitted free.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 95½, Great Guildford-street, Borough, S.E. inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.)
GENERAL IRON FOUNDERS,
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COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

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D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists 12s.—Nos. 55 and 56 High Holborn.

MR. SAMUEL STEWART, Gas and Civil Engineer, 146, Wellington-street, Glasgow, continues to supply his COMBINED ENGINE and GAS EXHAUSTERS. They are cheap, simple, and effective, which is evinced by the great number now fixed and working. Plans and Estimates furnished for new Works and Alterations.

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MANUFACTURERS OF
CAST STEEL for Punches, Taps, and Dies, Turning Tools, Chisels, &c
CAST STEEL Piston Rods, Crank Pins, Connecting Rods, Straight and Crank Axles, Shafts, and Forgings of every description.
FILES marked T. TURTON. Superior to any other make. See result of trial in the *Times*, July 26th, 1851.
EDGE TOOLS marked WM. GREAVES & SONS. Electro Borastic Steel, warranted to wear out three Tools made of Cast Steel.
DOUBLE SHEAR STEEL, BLISTER STEEL, | SPRING STEEL, GERMAN STEEL,
LOCOMOTIVE ENGINE, RAILWAY CARRIAGE, AND WAGGON SPRINGS AND BUFFERS.
Illustrated Catalogue, with Prices, forwarded on receipt of 12 Stamps.
SHEAF WORKS and SPRING WORKS, SHEFFIELD.
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COMBINED MACHINE, capable of sawing, cross-cutting any length, mitering, tenoning, rabbetting, grooving, &c. 9d. 9s. This machine may also be used for moulding, beading, tongueing, and trenching, for an additional sum of 4l. 4s.—For further particulars apply to ARTHUR & JAMES KIGG, Engineers, George street, Chester.

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Steam boats from London Bridge call near the Factory.

LAMBERT, BROTHERS, Manufacturers of Lap welded Boiler Tubes, Locomotive and Marine Engine Fittings, Wrought-iron Welded Pipe, for Steam, or High-pressure Water and Gas; High-pressure Steam and Water Valves, Hydraulic Machinery, Pumps, Cleets, &c.; Stocks, Taps, and Dies, Chandeliers, and Patent Metallic Bedsteads.—WALSALL. New Illustrated PRICE LIST CATALOGUE, complete, price 1s. to the trade (post-free).

IRON BRIDGE for SALE.—At Plymouth a wrought-iron bridge, 125 feet long, rail 6 feet high. Roadway 12 feet wide, constructed by G. Bennet & Co. from designs by the late Mr. Brunel. Is in first-rate condition, strong. Capable of carrying 50 tons. To be sold a bargain.—Apply to the Dockmaster, Plymouth Great Western Docks, Plymouth.

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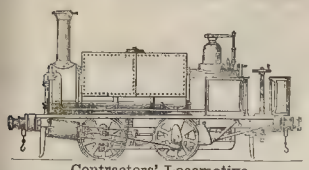
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11	„	„	10½ „	×	18	„	...	...	210		

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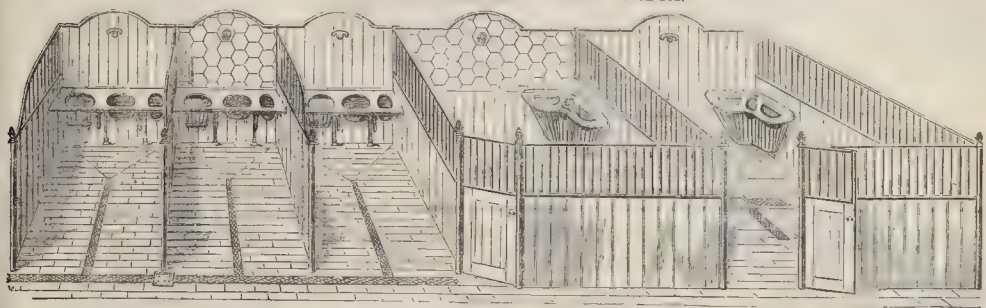
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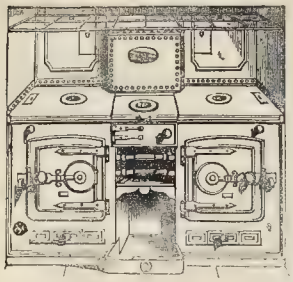
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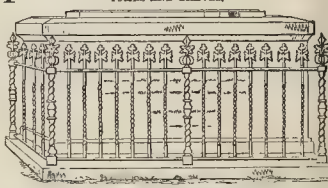
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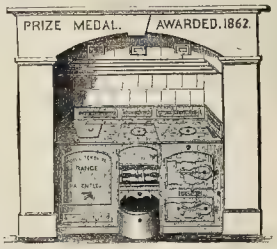
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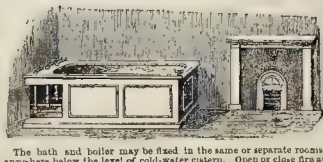
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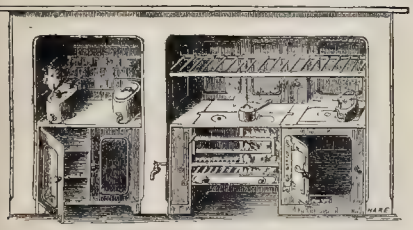
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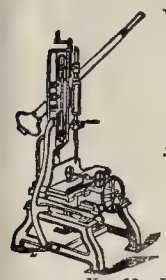
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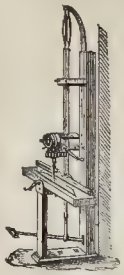


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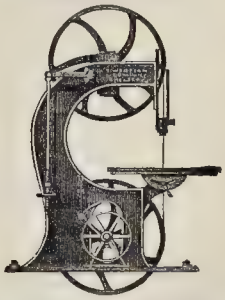
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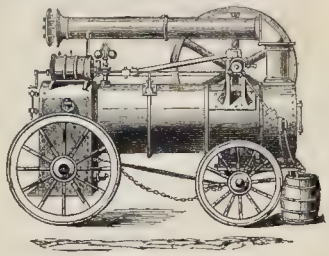


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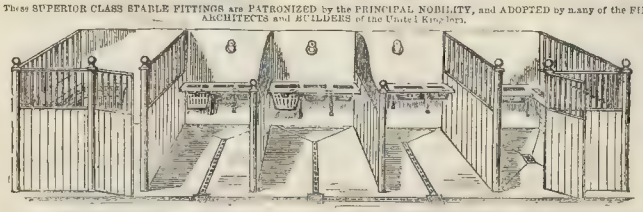
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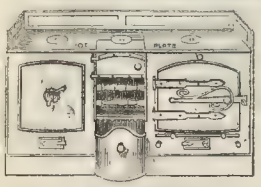
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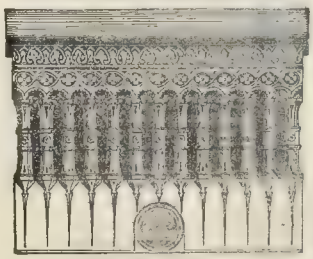
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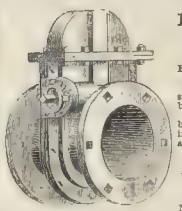
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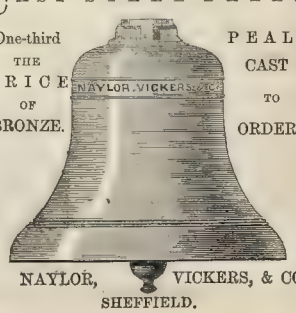
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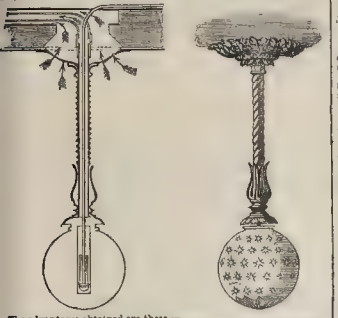


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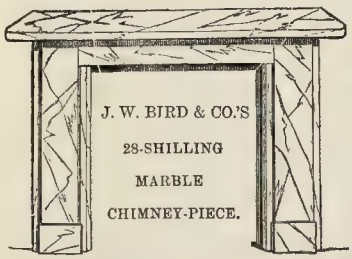
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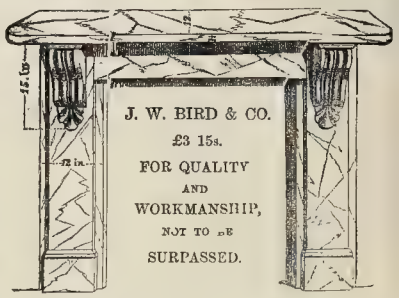
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No. CCXXVIII. is published THIS DAY.
CONTENTS:—
I. PROGRESS OF ENGINEERING SCIENCE.
II. THOMAS HOOD AND HIS LIFE AND WRITINGS.
III. CO-OPERATIVE SOCIETIES.
IV. LYELL'S ANTIQUITY OF MAN.
V. JAPAN.
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VOL. XXI.—No. 1081.

"Going Along."
Salzburg. Insbruck.

FROM Vienna we return to Salzburg, in order to get to Tyrol, and so into Italy, but this time by rail. To go *up* the Danube would be a very long affair. Going along we have an occasional sight of the river here and there. Mölk and its large monastery, which we saw when going down the Danube, come into view; then Amstetten, Enns, where we once more hear of the Cœur de Lion, the walls having been built with his ransom-money; the large monastery of St. Florian, Ebelsberg, where the French and Austrians fought in 1809; Linz; and then on to Salzburg by a line we have already travelled.

The beauty of the position of Salzburg cannot be exaggerated: it passes description. The castle crowning the hill, with the church at the foot, splendid mountains around covered with verdure, the Salza winding through green meadows, which are spotted with villas, and varied with occasional rocks, are some of the features of the truly lovely scene. On the journey to this favoured spot, by the way, one cannot but be struck, as a *per contra*, with the horrible love of whitewash that everywhere prevails, and renders each building a sharp spot in the landscape.

In Salzburg Mozart was born, and *Elixir-vitæ* Paracelsus died. Two houses are marked prominently with the great composer's name; one as his birthplace, the other as his dwelling for a time on his return from London; and a good statue of him, by Schwanthaler, has been set up on a pedestal in his honour. What honour could be too great for the man who bequeathed to the world "Don Giovanni," the greatest opera ever written (and *opera* is Latin for work, let us remember), and a pure and elevating enjoyment for ever? It must be consoling to some, though saddening to more, to remember that the merit of this wonderful work, when first produced,—it was in Vienna,—was not recognized: it was received with the greatest coldness. It takes time to grow up to what is much above us.

The interior of Salzburg Cathedral, an edifice in the Italian style, ranging in date from 1614, or perhaps a little earlier, to 1628, startles by its size and the grandeur of its lines. Scamozzi, when travelling in Germany with the Venetian ambassador (an event in his busy life), had made the acquaintance of the Archbishop of Salzburg; so, some years after, when a new cathedral in that city was needed, the archbishop invited Scamozzi from Venice, where he then resided, to consider the project and make a design. Scamozzi went, then returned to Venice, and occupied himself during three years in the work, making complete drawings and a model. As was the case with many of Scamozzi's *projets*, the designs were carried into execution by another; but, it is understood, this was done very faithfully. Scamozzi himself (born in 1552) died in 1616. This church, a Latin cross in plan, the chancel and transepts having apsidal ends, is 466 feet long and 109 feet in height. Just compare these dimensions with those of churches that occur to you. The nave alone has aisles, and there is an octagonal cupola at the junction with the transept. Over each main arch in the nave, and at intervals throughout the transept and chancel, is a handsomely-carved balcony, a striking feature. The organ is divided over the three west windows. The characteristics of the interior, with sufficient variety in the composition, are dignity and harmonious simplicity. Scamozzi, though a weak, vain man, was an architect of no ordinary ability.

As we came out from the church (the iron railing, it may be noted, as showing that the works were going on for some years, bears the date of 1675), we found resting in front a carriage containing a peal of five new bells, bedded on flowers and ferns, on their way to some church tower at a distance. The bells were ornamented very handsomely with Gothic borders, blue and red colours, and inscriptions; to the eye remarkably good specimens of German bell-founding. One bore the very disputable words, — "Nemo venit ad veniam qui nescit amare Mariam;" another, the more common inscription on old bells, "Mortuos plango vona vis requiem;" and so forth.

Through part of the rocky hill on which the castle stands a lofty passage-way, more than 400 feet long, was worked a hundred years ago by order of Archbishop Sigismond,—an undertaking of which more was thought then than in these Alp-boring and tunnel-driving days. A charming picture is obtained looking through it. An ornamental frontispiece is formed in the natural rock, and three Latin words remind the passer-by that the rocks speak to us. Shakspeare had earlier written of sermons in stones. The rocks do, indeed, tell a story to all who can read them,—a wondrous story; they do, indeed, speak to all who understand their language. And what part of Nature does not speak? Göethe calls Nature "the living visible garment of God;" and Carlyle writes finely when, with a similar idea in his mind, he terms Nature "the time-vesture of God, that reveals him to the wise, and hides him from the foolish."

As we are so far out of the town, we will take our readers on a couple of miles farther to the Château of Hellbrunn, to see Nature mimicked and travestied. The house itself is decorated with odd, mad pictures of birds and animals; but the real lions are the water-works, which are let off at stated hours for public delectation. These pipal caprices and fluid fancies of an archbishop who lived in 1613 are very varied. In one place we have a grotto wherein it rains, and we get a rainbow; while along the pathway leading from it is an arrangement of jets placed, obliquely, so as to thoroughly wet every one who leaves it. The most elaborate of the devices shows a miniature town, with scores of figures variously employed, which are all set in motion by water. Carpenters are roofing in a house, coopers are making butts, harlequin is playing his antics, and an old woman deprecatingly shaking her head. A little farther on, and an arrangement is reached which must have led to bad blood, and in fighting times, one might expect, to frays. Stone seats are arranged around a table: the refection has perhaps been served to the guests; when, suddenly, from a hole in the centre of each seat, spouts out a flood of water, and any attempt to escape by the pathway is cut off by other jets, placed along it. Specimens of more costly trifling and elaborated littleness it would not be easy to find. One would sooner suppose the whole the work of some enterprising plumber anxious to show his manipulative power over piping, than the wit in lead of a learned archbishop.

All who go to Salzburg are urged to visit the salt-mines in the mountain called Dürrenberg, close to Hallein hard by; and though little real information is to be got by the visit, the excursion is so novel and amusing that it should be made. A full account of such a trip might be thought out of place in these jottings, but we are tempted by the recollection of the day to say a few words about it "going along." Broadly, we may observe, the salt is obtained by forming a chamber in the right stratum of the mountain, filling it with water from a stream above, allowing the water to remain there until it has dissolved away sufficient salt to turn it into brine, and then letting it out at the bottom to be conveyed by wooden pipes to the evaporating house, sometimes a long, long distance off. The mountain is pierced in all directions with galleries and chambers, at different levels, communicating by means of inclined planes, at an angle of from 45 deg. to 70 deg., formed of two smoothed planks, placed side by side about a foot apart. The visitor, in proper attire, which includes a stout leather apron put on *behind*, and a thick glove for the right hand, sits between the planks with one leg over each, holds with his gloved hand and under his arm a rope affixed to the side of the excavation, and with his left hand a candle, and then straightway slides down rapidly or slowly, just as he pleases, from the top to the bottom. Five of these inclines took us about 800 feet down; two of them were each of greater height than the Monument on Fish Street-hill, that is over 200 feet; and the galleries which lead to these inclines, and ultimately out of the mountain at the bottom by a tramway and wooden horse, drawn rapidly by a boy, are about 2½ miles in length. The one chamber that we saw, partially filled with water, and lighted to a certain extent with candles, was 180 feet in length and 150 feet wide, without any support to the flat stratum of the mountain forming the roof of it, and of such chambers or "squares," it was said, there are twenty-seven in the mountain. Why they do not tumble in is a mystery. Accidents, it is admitted, do sometimes occur: the marvel is that they are rare. The galleries, little higher than a man, are strutted with timber and boarding throughout their whole extent, the sides inclining to the top. Some of these timbers crush slowly, and in a few years are taken out, and are replaced with others.

The drive up the mountain from Hallein to reach the entrance to the mine is performed in a chaise for two persons only, by horses used to the road, which is remarkably steep, and where, if we may judge from the stations and praying-places on the way, accidents enough have happened in the four or five centuries during which these mines have been worked. In parts the horses have literally to go up stairs, formed of unhewn trunks of trees laid transversely.

Leaving Salzburg, charming Salzburg, we take to the rail for *Innsbruck*, the capital of Tyrol, by way of Rosenheim and Kufstein, with its old fortress on the banks of the river Inn. Nearer to Innsbruck, on this line, stands Schloss Ambras, where was formed the fine collection of armour now in Vienna, mentioned in our last chapter. The latter part of the journey is grand: the grey bald crests of the more distant range of mountains are seen rising high above others in the foreground, and cutting, sharp and clear, against the deep blue sky.

The wide main street of Innsbruck (the bridge over the Inn gives the town its name) is one of those things that once seen cannot easily be forgotten. It is not that the quaint houses and churches forming it have fine verdure-covered mountains for a back-ground, but that the mountains seem positively a part of the town itself, overhanging and dominating it. They are found to be some distance off, if an attempt be made to walk to them; but their height and form are such, aided, perhaps, by some peculiar effect of light, as to produce the striking appearance alluded to.

The great object of attraction in the city, in an artistic point of view, is the monument, though not tomb, of the Emperor Maximilian I. in the principal church there. Every one knows of this unique and very remarkable monument; but it is not every one who has an idea of the grand effect produced by the

twenty-eight bronze figures, about 8 feet high, the cost of which, in the present day, we might put at 1,000*l.* apiece, standing fourteen on each side of the church, guarding, as it were, a marble sarcophagus in the centre, and on which there is the twenty-ninth statue, being an effigy of the Emperor himself. They form an audience to preach to of themselves. These statues, executed in the first half of the sixteenth century, give minute representations of the costume of that period, although the persons figured lived at various times; as, for example, Godfrey of Bouillon; the Kaiser Rudolf, founder of the Habsburg dynasty; Theodoric, king of the Goths; and Arthur, king of England! The dresses of some of the female figures are wonderfully elaborate, and the whole, though not great works of art, have a certain amount of grandeur and power. Less limited admiration must be expressed in speaking of the series of marble bas-reliefs which adorn the sides of the sarcophagus, and are signed, "*Alexr. Colinus Mechliniæ, Sculpt.*, 1566." These reliefs represent events in the life of Maximilian, and are the finest things of their kind to be seen. The representation of a picture in marble, of figures and buildings on different planes, is a misapplication of the art and the material, and, moreover, is usually very unsatisfactory in effect. In the present case, although the objection remains, the difficulties are overcome in a remarkable manner, and works of most rare beauty are the result;—the Marriage with Mary of Burgundy, for example, the Coronation of Maximilian, and the group showing the Alliance of Maximilian, the Pope, the Duke of Milan, and the Doge of Venice. This Colin was an artist of no common merit. A portrait of him, dated 1562, hangs at the back of the monument. In the same church is Hofer's monument, 1809; and in a chapel upstairs are some clever bronze statuettes, and the tomb of the Archduke Ferdinand II., with some more of Colin's work; but we are not attempting to write a guide-book. The interior of the church is of poor architecture, with attenuated Ionic columns, finished about 1560. The lofty marble porch externally is interesting, as showing that we are approaching Italy.

The far-projecting water-spitters, of metal, at the four angles of the tower in the main street, close by, are noticeable; as is the cry of the watchmen here, who, like our "Charleys" of old, call, during the night, "two hours," "three hours," and so forth, as time goes on. And Time does go on,—inexorable Time,—at Innsbruck as everywhere else; quickening his steps, whether they be on roses or in stony places, with each succeeding year of life, until we find ourselves, burdened with the memory of "things incomplete and purposes delayed," where time avails us not.

BRITISH ARCHÆOLOGICAL ASSOCIATION IN YORKSHIRE.

The Leeds congress of the British Archæological Association has passed off most successfully: the week was spent equally agreeably and usefully. Lord Houghton, the president, made an excellent address. In the course of it he said,—Wonderful indeed was the position of man when we came to think of it,—wonderful the position of every man on this globe, standing as he does upon one point of time, with an eternity on either hand of him,—and wonderful—more wonderful still, is it that, limited as are his faculties, finite as are his perceptions, he is nevertheless endowed with the power of investigating the past history of the world which he inhabits, thus showing the conquest of mind over the inferiority of matter. How does he do this? How was it that men had the power to throw themselves back into this infinite distance? It was by archæological remains; it was by the visible fragments which the archæologist puts together, and from which he draws deductions. The earth itself, this planet we inhabit, had its own archæology, and the archæologists of this planet and the geologists, who find in each separate stratum the signs and certain proofs of the great changes which it has undergone during a series of ages, are able, by the fossil remains of former generations of animals, to discover and trace the history of this planet ages and ages before all power of historical recollection. Thus it was that, when an American geologist discovered in Connecticut the impression in the fossil of an enormous bird, that impression, although the bird was far larger than anything ever known or ever heard of as existing on the surface of this globe,—that impression became itself an archæological remain showing the certainty of the existence of a former world in which those animals lived. Then, again, it was only the other day that another fossil bird was found in Bavaria, and brought to the British Museum, on which Professor Owen discovered with the microscope upon it a very feather, actually existing upon it, with which it had floated through the air perhaps a million years ago. Such were the archæological remains of our planet. And then to come to what might be called still nearer times, to the archæology of the antiquity of man. They had all heard of those flint-heads which had been tossed about from time to time, simply considered as curious pieces of stone, and yet which, by modern science, had been discovered to afford clear and certain testimony of the habitancy of this earth centuries and centuries before all historical notice. And thus, also, had been discovered in the lakes of Switzerland and Denmark, and lately in those of Scotland, remains of large villages, and even towns, almost planted, as was Venice in later times, in the midst of the water, and which, therefore, must have existed in times before those lakes submerged those valleys, and thus showing the existence of large populations over the face of Europe long before any recognized historical period. To be real antiquaries, to take any pleasure in antiquities, two or three things were absolutely necessary. First, there must be a reverential respect and regard for the past. Now, it was by no means certain that that respect for the past was in any degree inherent in all portions of human nature. His friend, Captain Burton, had told him, that he knew a tribe of savages in Africa who lived actually in the present,—who had no past whatever. No man ever recorded a thought of anything beyond his own limited memory, or the limited sphere of his own experience. They could not tell him who their grandfathers were, and as for their great grandfathers, they never heard of such things existing. Eastern nations seemed to have been endowed with a special gift of reverence for the invisible, and for all that came within the sphere of human knowledge and without the sphere of human sense. Thus it was in the East they saw great reverence for the dead; vast sepulchres and immense reverence for all sepulchral observances, and the retention from long generations of sepulchral monuments. And thus it was there were now being dug up from Nineveh the records of those wonderful cities, unimportant as they appeared in themselves, in a great degree, but, nevertheless, carrying with them, no doubt, an especial sense of reverence and permanence to the generation which executed these monuments of their history and of themselves. This feeling, they knew, culminated in Egypt, which, as they were aware, was an immense necropolis, while the temples were sculptured with records of the past, and even the mountains were filled with urns containing the remains of the most inferior and unimportant animals, striving to give a sense, as it were, of perpetuity to what was essentially mortal and transitory. Thus it was that these great nations and great empires had in a great degree preserved such a religious, such a devout reverence for the past among mankind. He was sorry to say that the feeling of disregard for the past, and a want of care for the records of that history in which we were not ourselves taking part, had been very prominent in this country down even to a very late period. No country in Europe possessed a more complete and interesting series of public records than existed at the present moment in Great Britain; and yet he remembered, on inquiring in Parliament, he found that the public records were bound together, with very little regard to order, in six different depositaries and tenements, one tenement being more dangerous than another. At that time all the interesting records of the English Chancery, going down to the very earliest periods, were housed in the Tower, contiguous to a steam-engine, which was steaming and bellowing below them, and running the risk every hour of destroying them by an accident. This, however, was being remedied. Collecting itself was a very useful thing. Never stop a child who has a taste for collecting anything. Boys collecting birds' eggs, or girls placing seaweed in a book, are laying the foundation of study in natural history. The collection of even unimportant, trumpery things, showed two things—a love of order and an interest in some external objects. But, besides collection, they must have the spirit of criticism—the power of determining whether things were right or wrong, whether they were true or false; and archæology was only a curious amusement, unless accompanied with the spirit of serious, accurate, and merciless criticism. Archæology was the rectifier of tradition, whether written or spoken. The more they investigated tradition, the more uncertain did they find it as a guide to truth. Tradition was no proof whatever, even of an original truth of any kind. At the present moment, the study of archæology was especially interesting, because it was in full accord and agreement with the development of historical criticism, for which the time in which we live was so remarkable. Besides all these qualifications, the archæologist needed knowledge and taste to understand the different styles of monuments discovered, and to trace the different processes of art, in coins, gems, music, sculpture, and architecture.

In the evening the mayor and corporation entertained the president and members of the Association at a *conversazione* in the Victorial Hall. At nine o'clock the members of the society and others of the invited guests assembled in the Civil Court, where papers were announced to be read. Lord Houghton presided, having on his right the mayor. The first paper was one read by Mr. O'Callaghan, on the mace of the borough of Leeds. This emblem of municipal loyalty was made in 1694, by a goldsmith named Arthur Maingee, who was hanged in 1696 for clipping and counterfeiting the coin of the realm.

Subsequently, Mr. G. R. Wright, F.S.A., read a curious petition, addressed by the inhabitants of Leeds to Oliver Cromwell, praying for a new charter of incorporation for the borough.

On Tuesday morning, two omnibuses, conveying members of the Association, left the Queen's Hotel on a visit to Adel Church and Ilkley. At Adel, Mr. E. Roberts pointed out objects of antiquarian interest. The church belongs to the earliest Norman period, and the first recorded date of it is 1210. The porch, which is a most interesting portion of the building, is in a perfect state of preservation. The nave, he said, was 47 feet 6 inches by 21 feet 6 inches; and the chancel, 25 feet 9 inches by 18 feet, the walls being about 3 feet thick. A most interesting feature in the edifice was the porch, which was in a most perfect state of preservation, and one of the most beautiful with which he was acquainted, from the sculpture and symbolical figures it exhibited. He considered the church was erected in the earliest Norman time: it was possible that it was built upon the site of a Roman temple or of some other Roman remains, but neither a church nor priest at that spot was mentioned in Doomsday-book; which, though not conclusive, was negative evidence against the previous existence of a church. The earliest recorded date that he had yet found was about 1210, when the church was held by Wm. Mustill the younger, whose father gave lands to Kirkstall Abbey. The porch, chancel arch, and corbel table were probably of a slightly later period than the church—probably of the time of Stephen. The Rev. G. Lewthwaite expressed his opinion that the church was older than the twelfth century, and he gave a brief explanation of the symbolic character of the porch.

At Ilkley Mr. Gordon Hills officiated as expositor of the antiquarian objects in the church. The so-called runic crosses, which are interesting objects in the churchyard, are in a state of much dilapidation, but sufficient remains of their inscriptions to prove that they have no claim to Scandinavian origin. Mr. Hills considered them to be of no earlier date than the twelfth century.

At the evening meeting, Mr. Forster, vice-president, in the chair,

Mr. T. Wright read the first paper, giving an account of Anglo-Saxon jewelry and other articles discovered by the late Lord Londesborough at Seamer, near Scarborough. He observed that the discovery of these articles illustrated in a striking manner the remarks of their president in his inaugural address respecting the importance that often attaches to objects that are apparently valueless. The men at work in the lime quarry at Seamer found some small pieces of metal, which they supposed to be brass, and gave them to their children for playthings. The mother of some of the children, thinking the pieces of metal might be worth something, offered them to the station-master for 1s. He refused to purchase, but she succeeded in bartering them with a grocer

for a pound of tea; and they were afterwards offered to the late Lord Londesborough, who purchased them for one guinea. On examination they proved to be gold ornaments of Anglo-Saxon origin, and this led to further research. They have already added a very important circumstance to the history of that interesting neighbourhood. There can be no longer any doubt, not only that there was an Anglo-Saxon settlement near Scarborough, but that it was one of importance, and that it consisted of families of greater wealth and splendour than usual in this part of the country.

Mr. Planché then read a paper "On the Badges of the House of York," being the sequel to a paper read at a former meeting of the Association on the Badges of the House of Lancaster, thus completing the history of the badges of the royal family of England. He prefaced the subject with some remarks on the nature and use of badges generally, which were, he observed, in many instances the first armorial bearings displayed by the assumer; but as heraldic devices became more complicated, it became necessary to select from the family coat of arms some simple and striking mark to distinguish the retainers and servants; and this badge in later times was engraved on metal plates and fastened to their arms, as we see badges now worn by firemen and watermen. To the household badge properly belonged the *cri de guerre*, or motto (*mot*) of the family, now, as Mr. Planché said, absurdly placed under the shield of arms, whereas the object of the badge and motto was publicity. The household badges or cognizances of the House of York, according to a memorandum in the Digby MS., consisted of ten, viz., the falcon and fetterlock, the falcon with a maiden's head, a white rose, a white lion, a black dragon, a blue boar, a white hart, the sun in its splendour, a black bull, and a white hind. Mr. Planché proceeded to trace the origin of these emblems so far as it is known; but in most cases it is involved in great obscurity. After an elaborate examination of various authorities, and considering their respective claims to authenticity, Mr. Planché concluded by enforcing the value of the study of the heraldry in the elucidation of historical facts.

The next paper was by Mr. N. S. Lawson, describing the various Roman remains at Aldborough, the Isurium of the Romans, which has been called the British Pompeii, from the great number of interesting relics that have been discovered there.

On Wednesday the members of this Association went by special train to Boroughbridge, and proceeded from thence to Aldborough. In the evening a meeting was held in the Philosophical Hall. Lord Houghton presided. A letter was read from Mr. Pettigrew, regretting his inability to be present, and announcing, for the information of the society, that the celebrated forger of antiquities at Bridlington had been sent to prison for a month for stealing jet to make his seals. The Rev. C. H. Hartshorne read a paper on "The Honour and Castle of Pontefract," at the close of which the chairman moved a vote of thanks to Mr. Hartshorne. He regretted that the lecturer had not dwelt at greater length on the architecture of the castle, some portions of which existed, and had been the scenes of important events in history. There was, amongst other portions, the chapel in which, in the time of Henry VIII., the Archbishop of York was murdered at the altar. As to the name, he thought it was quite clear that Pontefract was a translation of the popular and original name Pomfret, and meant broken ridge. There being no river or bridge at Pomfret made it difficult for them to see how there could be a broken bridge. The ancient name of the place was Kirby, and the name of Pomfret was given to it by Robert de Lacy. Whether he gave it that name in consequence of having a castle of the same name in Normandy, which he thought was the real reason, or in consequence of a bridge over the Aire, two or three miles off, having been broken down, it was not for him to determine.

On Thursday a large party, led by the president, went to Wakefield, and thence to Pontefract. At the railway station at Wakefield they were met by the mayor and corporation, and the party thus strengthened visited, in the first instance, the Chapel of Edward IV., built on the bridge over the Calder, which at that point spreads out into a wide stream. The chapel was built by Edward IV., on the site of a former one, in memory of his father, Richard, Duke of York, and those of his party who fell in the battle of Wakefield. The fine old parish church was visited, the spire of which has recently been restored. The chancel, erected in the reign of Henry IV. by Sir John Pilkington, particularly attracted attention. The members proceeded from the church to the town-hall, where their official reception by the corporation took place.

Mr. F. R. Wilson read a paper on the ancient chapel on the bridge, and, after the exhibition of some antiquarian relics, the party left Wakefield by the railway train for Pomfret, by which name, under the correction of the President of the Archæological Association, the borough he represented must now be known. They first visited the Old Hall, supposed to have been commenced in the reign of Elizabeth, as a residence for the Harewood family, but it was never completed, and it remains a fine premature ruin, which attracts much observation. After a short visit to the church the party repaired to the castle. The ancient glories of Pomfret Castle are most incorrectly symbolised to the present generation by the representation of its gates, with a dove perched on the top, impressed on that most refined of all preparations of liquorice, "Pomfret cakes." The gates there shown bear no resemblance to any part of the remaining structure, and the bird of peace is a most unfitting emblem of the deeds of murder and bloodshed perpetrated within its walls. Lord Houghton directed attention to those portions of the building which have most historical interest, and the Rev. Mr. Hartshorne pointed out the chief architectural features, though there are now few remains of this once famous fortress. It stands on a high hill, and the most perfect parts that are visible are the walls of the keep, which, being of extraordinary thickness, have best withstood the ravages of the destroyers who have worked its ruin. The whole area occupied by the castle was seven acres, and it is now chiefly used for growing liquorice, for which purpose the great depth of soil renders it peculiarly suitable. The archæological objects of the excursion having been completed, the members proceeded to the Town Hall, where a collation had been provided by the corporation. The Mayor presided, supported by Lord Houghton and Dr. Lee.

At the evening meeting, Mr. Gordon Hills read a paper "On Fountains Abbey," which was illustrated by a large ground-plan of the building, the various parts of which he explained. To give more extended interest to the subject, he exhibited plans, drawn to the same scale, of several other distinguished Cistercian monastic establishments, including several of those in Ireland, which were all of much smaller dimensions than the English monasteries. The paper was followed by a discussion, in which Mr. T. Wright, Mr. Hartshorne, Mr. Planché, Mr. O'Callaghan, and Mr. Roberts took part.

A paper by Mr. Cuming, "On Weapons of Ancient Tribes of Yorkshire," was read in his absence by Mr. George Wright.

On Friday the members went to Ripon. Before reaching the cathedral they called at the small church of St. Mary Magdalen, in the suburbs near the railway station. It was built in 1132, and enlarged in the fifteenth century, though the extent of it now is so limited that it must have been a very small edifice indeed when first called into existence. It was then used as a chapel for the adjoining hospital for lepers, which was founded when leprosy was one of the ills which flesh is heir to, in days since which centuries have intervened. Afterwards it was a chapel used by a lay sisterhood for their devotions; and now it is considered an appurtenance to the women's hospital, close at hand. Divine service is weekly performed in it by one of the minster clergy; and the income is stated to be 1,400*l.* a year. The chapel has in it one of the few high altars of stone which exist in this country. In front of the altar there is a Roman or Anglo-Roman pavement in good condition.

At the cathedral, Mr. C. E. Davies pointed out the peculiarities of the architecture. He thought the principal part of the nave had been built from 1154 to 1187, though some parts of it were earlier; and towards it Roger, archbishop of York, had been a large benefactor, as well as towards the aisles and central tower and transept; and as Roger had been at Canterbury, where considerable improvements had been going on, it might be supposed that he was skilled in the art. Throughout the building the capitals had hollows underneath to produce a square, which was very unusual in Norman columns, and was not met with in the south of England. The transept was of the same date as the nave, but he thought it was designed at a different time. The roof was modern. In 1660 a spire fell and destroyed the original roof. It was said the tower fell, but he did not believe it, and that it was only felt necessary to strengthen the tower, or intended to construct a larger one as was seen at Worcester. At the same date the screen was erected, and it was a beautiful work, worthy of careful examination. He had been led to understand that in restoring the fabric it was intended to raise the height of the eastern gable and pinnacles.

The Dean said the gable and pinnacle were only to be restored to the original height.

Before leaving the cathedral, Mr. Planché said there was a recumbent effigy of a knight and his lady, the knight appearing in a suit of armour of the time of Edward III.; but he thought the effigy itself was as late as the time of Henry IV. But it was remarkable that about the neck was a collar showing park palings with a deer-lodge put into it. This was a very curious thing, and to many eyes it would appear to be a portcullis. Now, this was the special badge of the town of Derby, and he had no doubt that the knight (Sir Thos. Mentville) was a man in the service of Henry IV. This was the only instance he had ever seen of that particular badge on a monumental effigy.

The party were conveyed to Fountains Abbey, where they were received by the Earl and Countess de Grey and Ripon.

Mr. Gordon Hills conducted the visitors over the ruins. He explained their former uses, and suggested many interesting probabilities.

At the usual evening meeting, the first paper read was a long one "On Harewood Castle," by Mr. John Jones.

Mr. O'Callaghan exhibited a selection of historical autographs, and read some letters of celebrated personages of past times.

Mr. T. Wright read a paper by Mr. John James, of Bradford, "On the Little British Kingdom of Elmet." It was stated in the paper that when the Roman legions had been withdrawn, and nearly the whole country lay at the mercy of the Anglo-Saxons, there existed in the heart of the West Riding of Yorkshire a little State called Elmet, which maintained for nearly 200 years its independence. It was probably enclosed on all sides by the kingdom of Deira, which included the whole of the other parts of Yorkshire. This "Regiuncula" of Elmet, as it has been called, probably remained, in regard to inhabitants, religion, and manners, much the same from the time when the Romans quitted this country until the year 616; Leeds being the capital of the little kingdom.

The Rev. W. C. Lukis next read a paper "On Cromlechs," which was illustrated by a number of drawings taken by himself. Mr. Lukis said that archæologists are now agreed that cromlechs are stone chambers made for the purpose of sepulture, and that the notion formerly entertained, that they were places for human sacrifices, has been exploded. There are, however, several points regarding them on which antiquaries differ, the principal of which is whether cromlechs were originally left exposed as they are now often seen, or whether they were covered with earth, forming tumuli. Mr. Lukis is strongly of opinion that all cromlechs were covered originally with earth. An interesting discussion took place on the subject, in the course of which the Rev. Mr. Hartshorne dissented from Mr. Lukis's opinion, which was supported by Mr. T. Wright, who, in reply to a question from Lord Houghton, observed that the circles of stones often seen were not intended for cromlechs, but to enclose consecrated ground.

In the visit to Kirkstall on Saturday morning, Mr. Roberts conducted the party to the abbey, and delivered a short lecture upon it. These ruins are kept in a good state of preservation.

IMPERFECT REPRINTS OF WALPOLE'S "ANECDOTES OF PAINTING, &c."

I wish to call the attention of readers who live more especially in the realms of literature and art, to the *imperfect* reprints that have been made since Walpole's death of Walpole's well-known work, entitled, modestly enough, "Anecdotes of Painting, &c., in England." These reprints (professedly such) were given to the public from the shop of the late Mr. Major, in Fleet-street, as revised and annotated (1826), under the editorial care of the Rev. James Dallaway; and from the shop of Mr. H. G. Bohn, in York-street, as re-revised and re-annotated (1849), under the editorial scrutiny of Mr. Wornum, the present keeper of our National Gallery. The purchasers of these costly reprints (more especially those who have gone to the cost of giving them elaborate covers of Russia or Morocco tooled to a nicety by a Lewis or a Hayday), will be surprised to learn *for the first time* that the text of both reprints, typographically excellent in many respects, is

faulty beyond parallel; that neither reprint represents the text of Walpole; that Dallaway sent a faulty text to Mr. Nicol, the printer, in Pall-mall; and Mr. Wornum a faulty text to Mr. Clay, the printer, of Bread-street-hill: in short, that the two reprints made since Walpole's death of Walpole's great work are shamefully deficient in whole pages of valuable *Walpolean* matter, and that the true text of that storehouse of anecdote, Lord Orford's "Anecdotes of Painting," can only be consulted in its integrity in the quarto edition of Walpole's works—partly printed by Walpole in his lifetime at his private press at Strawberry-hill, and finally given to the world at the close of the last century by Mr. Berry and his two accomplished daughters, known for fifty years in fashionable and literary circles as Old Berry and Elder Berry.

My *rough* collation of the Wornum Bohn and Clay reprint of Walpole's work with Walpole's own text exhibits a charge of thirty-five articles or passages of omission against the defendants, Messrs. W., B., and C.; and it has appeared to me that the pointing out these omissions *seriatim* would not only prove a serviceable introduction to my "New Materials for the Lives of British *Painters*," but that in reprinting together the omitted passages, the *Builder* would enable the possessors of the faulty editions to make good their text in a neater manner, and at less labour and expense, than MS. additions would alone supply, however neat the handwriting in which they were inscribed.

My first charge of omission against Mr. Wornum begins at p. 6 (the pagination throughout his reprint very usefully runs on). The passage left out relates to a subject so interesting as the discovery of oil painting by Van Eyck.

Walpole says:—

"And Governor Pownall, in the ninth volume of the 'Archæologia' pp. 151, 152, and 154, has produced from the Sacristy of Ely some accounts that are as explicit as possible, that oil was used in the mixture of colours. The first says, 'In tres lagenis et dimid. olei pro ymaginibus super columnas depingend.' The next, 'In 31 lagenis et dimid. olei empt . . . . pro color temperand" (for mixing colours which is distinguishing it from varnish). And the third, 'In oleo empt. pro picture faciend. in capellâ.' Could oil-painting be more exactly described at this day?

1. Oil for painting images on columns, 1325.
2. Oil for mixing colours.
3. Oil for making pictures in the chapel.

Note, too, that the first is dated in the reign of Edward the Second—the last in that of Edward the Third."

Now, this passage, not in Wornum's reprint, is in Dallaway's reprint, but with this error (vol. i., p. 11), for Edward the "Third" of Walpole, Dallaway reads Edward the "Fourth."

P. 20 of Wornum wants Walpole's foot-note at p. 27:—"See the Parliamentary History."

P. 62 of Wornum wants the following Walpole matter to note 4:—

"In the north aisle of the church at Fulham is this epitaph: Hic jacet domicilla Margaretta Svanderg, nata Gandavii Flandrie, quæ ex magistro Gerardo Hornebolt Gandaviensi pictore nominatissimo peperit domicellam Susannam uxorem magistri Johannis Parker archarii regis. Quæ obiit anno Domini M°ccccexxix, 26 Novemb. Orate pro anima."

This epitaph is imperfectly printed by Lysons (Environs, ii. 369).

P. 105 of Wornum wants the following Walpole matter:—

"I have also a matchless portrait of the king [Henry VII.], which seems evidently taken from the life, as strongly representative of his pensive policy; yet it is touched with so masterly a knowledge of chiaro-scuro, that I and better judges conjecture that it was recoloured by Rubens himself."

P. 233 of Wornum wants the following Walpole material touching Solomon de Caus:—

"There is another [book] mentioned in a catalogue called Hortus Palatinus à Frederico, rege Bohemiæ, elect. palatin. Heidelbergæ, extructus: Solomone de Caus, architecto Francofurti. Jo. Tæod. de Bry 1620, in folio Catalogue de Crevenne, vol. ii. p. 246."

P. 250 of Wornum, note 4, omits what follows touching a Jacobean architect:—

"Mr. Pegge says his [John Smithson's] name was not John, but Huntingdon Smithson. Biblioth. Topogr. Brit. No. 32, p. 16."

P. 277 of Wornum lacks the following Walpolean addition to note 3:—

"Farther accounts relative to Gerbier's academy will be found in the second volume of the 'Environs of London,' by Mr. Dan. Lysons."

P. 281 of Wornum wants a whole quarto page of Walpolean text! Here is the omitted matter:—

"To Gerbier, of whom, from what has been already said, no random or contradictory and unauthenticated assertions but may be credible, has been ascribed a small tract printed by authority in 1651 (that is, after the execution of the king), and called 'The Nonsuch Charles, his Character.' It is one of the most virulent libels ever published; and, if written by Gerbier, one of the basest, after his obligations to that prince. The style, the folly, and wretched reasonings, are most consonant to Gerbier's other writings; and several passages mark him as the author, or as having furnished materials. But as curious a circumstance as any would be, that, after such gross abuse of the father, Gerbier should have been countenanced by the son after the Restoration. The fact is by no means incredible, considering how many bitter enemies Charles II. did, or was forced to pardon: and when we recollect that his Majesty, from fear, or from total want of principle, countenanced that notorious villain Blood, it would not be surprising that so worthless a man as Gerbier should have been re-admitted to a sphere whence no odious criminal was excluded.

Perhaps not being rewarded by the new government as he expected for his invective against Charles I., Gerbier, two years after, might write *Les Effets pernicieux*, mentioned in the preceding article, as a kind of preparatory palinody, in case the royal family should happen to be restored. To the second piece he has set his name; and, it being printed at the Hague and written in French, when the Stuarts were in exile, it was probably a peace-offering, or meant to disavow the invention; though, from the extreme similarity of the manner of both pieces, I have no doubt of Gerbier being the father of both."

Is not this in "the old Horatian way" all over? Walpole was constantly scribbling in his books. I had once in my possession his own copy of De Grammont and his own copy of "Lord Herbert of Cherbury's Life" annotated with his own hand.

P. 322 of Wornum wants Walpole's additional note to note 1; add, therefore, to "Lady Carlisle bought by Mr. West:"—

"* And at his death by Mr. Barrett, of Lee."

P. 387 of Wornum should have contained the following note to the words "by himself:"—

"This portrait the Duchess [of Portland] at her death, in 1785, bequeathed to her friend, the widow of Dr. Delany and correspondent of Swift; a lady of excellent sense and taste, a paintress in oil, and who, at the age of 75, invented the art of paper-mosaic, with which material coloured, she, in eight years, executed within twenty of a thousand various flowers and flowering shrubs, with a precision and truth unparalleled."

P. 414 (Inigo Jones). Mr. Wornum has overlooked the note that follows:—

"In 'Hasted's History of Kent,' vol. ii. p. 783, it is said that he [Inigo Jones] built the front of Lee's Court and Judde-house, p. 797. As in the concise account of some natural curiosities in the environs of Malham Craven, 1786, appendix, p. 5, Stonyhurst, the seat of Thomas Weld, Esq., is said to have been designed by Inigo for Sir Nicholas Sherborne."

P. 450-1. Mr. Wornum should have inserted the following note to the word "earthquakes" at p. 451:—

"Of similar absurdity was a tract published in 1781 by one Goodridge, an old seaman, called the 'Phœnix, an Essay,' being an attempt to prove from history and astronomical calculations, that the comet, which, by its approximation to our earth, occasioned the change made at the Fall and at the Deluge, is the real Phœnix of the ancients."

P. 471, note 2. This note is a sad jumble. In its integrity it belongs to Walpole; but Mr. Wornum gives it to Dallaway.

P. 473. Mr. Wornum has again overlooked a Walpole note, touching Wright's famous picture at Hampton Court of Lacy, the actor, in *three* characters—the picture painted for Charles II.:—

"In Dodsley's 'Theatric Records,' printed in 1756, instead of Sandy and De Vice, the other two characters are said to be Teague, in the Committee, and Galliard in the Variety (p. 67)."

P. 529, note 2. Mr. Wornum has *omitted* one half of Walpole's note, and the subject,—Cooper's Miniature of Cromwell:—

"The body [of the miniature] is unfinished. Vertue engraved it, as he did another, in profile, in the collection of the Duke of Devonshire."

P. 549, note 1. Mr. Wornum is guilty of a like omission. He follows Dallaway. Add:—

"He [Cibber] also executed some statues for the library of Trinity College, Cambridge. *Vide* 'Life of Colley Cibber,' chap. iii."

P. 632, note 1. Another Walpolean omission. Add:—

"I have a portrait of him [Vander Vaart], by himself, in water colours, about the former age, uncommonly well painted."

P. 638. A long and good note about Sir John Vanbrugh omitted both by Dallaway and Wornum!—

"Two very good judges and men of excellent taste, Sir J. Reynolds and Mr. Gilpin, have declared their admiration of the stupendous piles of Blenheim and Castle Howard; and, no doubt, vastness is very imposing at a distance: but if the design and details are defective, the merit of grandeur remains with the person who is at the expense of the fabric, not with the architect who executes his commands. St. Peter's, St. Paul's, each strikes as a magnificent whole; but they charm, too, when the parts are examined, nor have any superfluous weight. Large edifices might be erected from unnecessary excrescences of stone that load the palaces above mentioned; and, however admirable Vanbrugh's structures may be in their present state of *perfection*, I will venture to guess that their ruins will have far greater effect, not only from their massive fragments, but from the additional piles which conjecture will supply in order to give a meaning to the whole."*

PETER CUNNINGHAM.

ARCHÆOLOGIC ITEMS FROM ROME.

THE Arch of Constantine has been made the subject of investigation by the Chev. de Rossi, with interesting result, in the course of recent works for executing casts of all the fine reliefs, its borrowed ornaments from the Arch of Trajan illustrating that emperor's public and private life. Minute study was carried out by the learned archæologist, from the scaffold raised for this occasion, on the epigraph repeated at both fronts of the attic,—perfect on the eastern, but much impaired on the western side,—and he was thence led to the conclusion that a favourite theory, as to one part of this remarkable inscription, must be rejected, namely, that the words allusive to Constantine's triumph over Maxentius and the restoration of public peace—INSTINCTV DIVINITATIS—of obviously Christian, or at least monotheistic sense, had been substituted for some other phrase, Pagan in import, after the emperor had declared, more distinctly and officially, his adherence to Christian faith. Such was the conjecture of Venuti, Nardini, and Nibby; and Cardinal Mai (*Script. Vet.*, t. v.) supposes the original words may have been *Diis faventibus*, as dictated by a Pagan senate, but *immediately* afterwards altered by the emperor's desire. Professor Henzen, president of the German Archæologic Institute, has made public the report of an experienced epigraphist, who, after examining the marble surface under this inscription, inferred from the traces of the metal pivots for fastening letters, that the original had been, *Nutu Jovis Optimi Maximi*. Date also has been a subject of dispute in regard to this arch, severally placed in the years 315, 316, and 326; by Tillemont and other good authorities in the first of these years, coinciding with the celebration of the emperor's *decennalia* festival. Eusebius's history, and other authentic documents, show that, prior to 313, Constantine's liberality towards the church and earnest interest in her welfare had been most distinctly manifested; and it is made clear by Baronius, that he conceded the Lateran palace to the Roman Pontiff before the October of A.D. 315, when the Council against the Donatists was held there by Pope Melchiades. De Rossi positively refutes the statements of Venuti and Nibby, as to the traces of erasure in the marble surface under the words in question, and the existence of cavities for pivots not corresponding to the form of letters in the actual inscription in one line; *his* inference being that the *Instinctu Divinitatis* was the formula originally dictated by

* To be continued.

the Senate, *not* with intent to recognize the dogmatic teaching of the Church, but in the idea of transaction (so often exemplified in records of that transitionary period) between the new and the ancient religion. Another fact, ascertained by the same investigator, that the marble blocks on which the entire epigraph is chiselled are all fragments from other buildings, curiously evinces the state of deep decline into which Roman art had sunk at the beginning of the fourth century. One of these marbles belongs to a cornice, with rich and varied mouldings, as seen in the chamber of the attic, where its sculptured side is turned inwards: others present the imperfect words of lost inscriptions: the whole arch (observes De Rossi) "is an accumulation of spoils from earlier monuments, not only in its bas-reliefs and statues, but the very stones of which it is constructed."

The restoration, under Pius VII., of the Arch of Titus, almost deprives it of its antique character, and rests merely on architectonic analogies, for no authentic representation of its original elevation was at hand to guide the modern artist. Of its sculptures, the best preserved, though otherwise least important, are the small basreliefs, on the frieze, representing the procession of the imperial triumph, in which we see the image of an old man, to personify the Jordan, carried on a stage. It is to be regretted that restorers did not restore to its attic the longer epigraph (that less full being still in its place) which was found, buried in soil, near this arch's basement; interesting for the sake of an allusion to the fate of Jerusalem that at the same time expresses the Roman idea as to the importance of their conquest in Palestine; after the names and offices of Titus, proceeding as follows:—"*Quod præceptis Patris consiliisque et auspiciis gentem Judæorum domuit, et urbem Hierosolymam, omnibus ante se ducibus, regibus, gentibusque aut frustra petitam aut omnino intentatam, delevit.*"

The excavations in the Palatine ordered by the Papal Government along the Mount's north-western declivities and basement have lately brought to light several *graffiti*, scratched with a sharp instrument on the stuccoed walls of some roofless chambers hitherto supposed a quarter for troops in the imperial service. These inscriptions are mostly proper names, and after some occurs the designation *verna*; after others, the sentence, *exit de pædagogus*; confirmatory, perhaps, of another view as to the appropriation of these chambers; namely, that they were inhabited by pages brought up in the Cæsars' Palace. One of these names has the strange title subjoined, *episcopus*, which could only have been given in derision, and probably to some youth of the imperial household who had just embraced Christianity. In fact, one of the most striking examples, in the whole range of monumental evidence, of the desire among Pagans to overwhelm the new faith with ridicule, is that found, not many years ago, in the same suite of rooms at the Palatine's western slopes—a caricature of the Crucifixion, in which the Divine sufferer is represented with the head of an ass! referred, in a learned essay on the subject by the Jesuit father Garrucci, to the period of Septimius Severus; to about which date, it is assumed by De Rossi, who has noticed these *graffiti* in his "Bulletino," all the curious records in these chambers may be ascribed.

Among archæologic items, though not immediately pertaining to Rome, may be mentioned here the discovery of an Etruscan necropolis, containing eleven tombs, one adorned by paintings of some interest, near Orvieto, a city and province recently severed from the Papal States. Some works of excavation have been in progress during this year, but not with remarkable results, among the Etruscan sepulchres of Tarquinii. The noble statue of Augustus, found at the villa of Livia, now stands, admirably restored by Tenerani, in the Braccio Nuovo gallery at the Vatican; and it has become a favourite subject for photography. The statue of Faustina, as the goddess Concord, has been transferred to its permanent place in the "Hall of the Dying Gladiator," at the Capitol.*

* Italian art has lost one of its most esteemed practitioners by the premature death of Celentano, a Neapolitan, whose studies had been principally carried out in Rome, and who died here, some weeks ago, at an age scarcely beyond youth. His historic pictures had attracted much notice, both by their conception and vivid effects of colouring. For about a year before death he had been engaged on a large and complicated painting, unfortunately left incomplete, of the siege of the Castle of S. Angelo in 1527, and its defence directed by Benvenuto Cellini, for the details of grouping in which he had been to considerable expense, and made journeys expressly for collecting pieces of armour and costume of that epoch. This work was undertaken by Celentano without commission, and promised to prove his masterpiece.

MR. HOPE ON CHURCH ARRANGEMENT.

At the recent Church Congress in Manchester, Mr. Beresford Hope delivered an address in the Free Trade Hall, on "Church Architecture." After some observation on the churches of his youth, Mr. Hope proceeded to say, a great deal of obloquy and suspicion had been cast on men who had been most forward in the movement of church architecture. Some might have deserved it, but he contended that it was as legitimate a development of the latent energy bursting out of the Church of England as the movement of lay co-operation, or parochial extension, or any other movement in the church which startled the people simply because it was new. He took his stand plainly, literally, absolutely, and grammatically upon the Prayer Book. The model church should not fall below the Prayer Book, neither should it attempt to climb above the Prayer Book. As the Prayer Book was partly new and partly old; as it carried on the old traditions, yet throwing off what was superfluous, what was old and superstitious, and everything that put imagination before truth; so should their churches be found in the old ways and carrying on the old traditions, yet retaining nothing that was not amply justified by their common sense and judgment, and which the Reformation had not left behind. What, then, was the teaching of the Prayer Book respecting church architecture? He should not say anything about style. He assumed that the old English style, the Pointed or Gothic style, as it was called, was, by the common sense of all people, recognized as the most appropriate for the place of religious worship. Taking the Prayer Book in his hand, he asked what did it call for? It called for a house of prayer; for a place in which the morning and the evening services of the church might be carried out; for a place in which the two sacraments of the Lord's Supper and Holy Baptism might be administered and sermons should be preached; where the catechising of the children, and all other occasional Christian rites might be performed. The church was not only the house of prayer, it was also the house of the sacraments, and the preaching house; and it must have all things and everything which that Prayer Book which was to be put in use in that house required to be performed. The first thing required was an area in which the congregation might freely assemble. They must have something to assemble in, something to kneel at, and something to sit in. These might either be square pews, such as their ancestors loved to sleep in; or they might be slits or long pews, such as modern system-mongers loved to rent out; or they might be free pews, where the people might enter without money and without price, where they could kneel down or stand up to worship the Almighty. Their cheers had ratified which of those various expedients he would see carried out. Then there was a certain book called the canons, and these, in accordance with primitive usage, laid down that the font should stand at the entrance of the church, as typifying the admission of the infant to the privileges of the Christian Church. In all the new churches the font stood near the entrance. The canons also said that the font should be made of stone. They had formerly, in some instances that he knew, been made of crockery, and in other cases of plaster. Now, he was happy to say, the stringency of the regulation was felt, and there were scarcely any fonts to be found but what were made either of stone or marble. In some new and restored churches the fonts were very beautiful, and they were generally the special gift of some loving soul. He would then take them up the nave towards the eastern end. Of course, in the nave the ordinance of preaching must be carried out; and this required a pulpit. In the modern churches pulpits were generally of great beauty, sometimes of wood, often of stone, and sometimes of marble. Stone and wood depended on ancient precedent, but marble had been introduced in these times, as it was not quite possible before the development of machinery and the increased means of transport. In the nave—the place where the Litany was to be said—they might or they might not find a Litany-stool. The church of old, however, carried out and embodied the most striking text in Joel about the priests and the ministers "weeping between the porch and the altar," and in their old cathedrals there was authority for this litany-stool. Then they came to a place where "the minister and clerks" were to say prayers. By "clerks" in the Prayer Book was not meant the old fellow who said "Amen," but *clerics*, whether clerks in orders or lay clerks, such as they found in their cathedrals. They knew that in the old churches, before the Reformation, there was a certain portion of the church called the chancel. This word chancel was derived from the Latin word *cancelli*, which meant a lattice. In old times the chancel was screened or latticed off from the rest of the building, as in their cathedral and in others. The Prayer Book said that the chancels were "to be as in times past." It did not mean that it was to be fitted up with comfortable pews for Mr. Squire or Mr. Incumbent; for it would be a prodigious waste of money to build a chancel which was only to be a pew; but it meant that towards the upper end of the church there was to be a raised platform, where the minister and the clerks were to perform divine service. This was the common-sense and literal interpretation of the Prayer Book, and there was nothing more popish in this than there was in his standing at that time on that platform to address the meeting instead of in the middle of the hall. But they would say, if the prayers were read high up in chancel they could neither see nor hear the minister. If so it would be a serious objection against the plan, but—he was speaking of new and not of old churches, in which the chancel is sometimes inconvenient, and the Prayer Book accordingly allows a deviation—their quarrel should not be with the Prayer Book, but with the architect who had been such a blunderer that he could not carry out the directions of the Prayer Book. It was the duty of the architect so to arrange the chancel that the ministers should be better seen and heard there than if they were on a level with the rest of the congregation. It was quite clear that the prayers ought to be said in the chancel, but how? As in some of their new churches, with the clergyman standing right point blank face to the congregation? No doubt that position had its advantages, but it was purchased at the expense of many greater disadvantages. This brought him to the consideration of what the Church of England, as a part of the Christian Church, was. It was not merely a preaching machinery, not merely a praying machinery, but a machinery for bringing God and men together. The ordinance of preaching was carried out in the nave: the ordinance of the Lord's Supper was carried out at the end of the church, where was what the Prayer Book called—and therefore he called it—the "Lord's table," and the "holy table." The Church called upon all worshippers not lightly and carelessly to turn their backs on that "holy table." He contended that it was in accordance with the custom of the Reformed Church of England that the prayers should be said in the chancel, so that the minister should be well heard, yet so that he should not turn his back upon the Lord's table. This was more in accordance with the Prayer Book than preaching the prayers from a tub. He did not say, put stalls like those of our cathedrals in all their churches. In many small churches there would be only one "reading pew" for one clergyman, and in these cases he would say, let it be placed in such a position that the clergyman might repeat the prayers reverently, for it was never seemly, right, or expedient that he should be in an apparent position of disrespect to all the arrangements that the east end of the church might teach, merely for the fancied advantage that his voice would be better heard. In larger churches a desk was used. This desk was sometimes formed in the shape of the eagle which St. John told them carried the everlasting gospel; and sometimes in that of the pelican, which was supposed to feed its young with its own blood, and therefore, by the fervour of a pious imagination, was regarded as typical of the Saviour. This desk, called the "lectern," was not a necessary part of church furniture, but it was nearly always very beautiful, very appropriate, and could not raise scandal in the mind of any but the scandal-monger. Now they came up to the Lord's table. He would advise that the chancel should be made large enough for the communicants and the confirmations; and so, by the mere laws of common sense, they would always have a tolerably big chancel. He did not say, make it big for mere bigness' sake, but let them see what were the wants of the parish, and act accordingly. With respect to the Lord's table itself, the question had been settled in the courts of law, and he would tell them how. It was nearly seven years since the last judgment was pronounced upon this question, by the Privy Council under the advice of the late Archbishop of Canterbury and the present Bishop of London, so that they might deal with it as no longer a party question, but the acknowledged law of the Church. The law had laid down that the Lord's table should be of wood, and movable. It had also been pronounced

that the table might be covered with rich cloths, of different colours, according to the different holiness of the several Christian seasons. The law sanctioned a division between the chancel and the nave, which might be in the form of a high screen with a cross above it. He did not think this was always desirable, but he was telling them what the law sanctioned. Most church-builders were satisfied with very much less. He was stating what the law was: it might not be necessary or expedient always to carry it out. Candlesticks, with candles in them, might stand on the Lord's table, but were only to be lighted when lighting was otherwise requisite. It was also laid down that the emblem of their salvation might not be affixed to the table as part of its substance; but it might be painted, or carved, or somehow attached to the east end of the church in a place of as much dignity and prominence as it might please the authorities to give to it, in as rich a material as might be chosen, and in accordance with the spirit of the Church of England. It was also laid down that there might be a side table in addition to the Lord's table, on which the elements should be placed previously to the administration of the holy communion. Other articles of church furniture had been introduced of late years, which were called *sedilia;* that is, side seats for the clergy near the Lord's table. Now this was merely the Latin name for seats. Formerly it was the custom, and still was in many churches, to seat the clergy in what were called altar chairs, where they occupied a prominent position in the sight of the congregation, and which led to the erroneous supposition that they occupied themselves, at the earlier part of the service, in counting those who came in late, and, at the latter end of the service, told off those who dropped asleep. The old side seats which they found in their old churches would be a much more convenient and much more reverent way of placing the clergy. In the Middle Ages, when they talked Latin, all seats were called *sedilia*, and this was just the top and bottom of this word *sedilia*. There were many other points to which he might refer, such as the bells, and the question of the painted or plain windows, about which much might be said, but with regard to which much, if not all, was left to the taste and wealth of those who were building the church. But he had dwelt so long upon other points that he must forbear. He had merely thrown out general principles, which they might apply to the simplest and smallest, as well as to the grandest and most dignified edifice. Mr. Hope, after a few other remarks, concluded by saying that so long as superstition and idolatry were avoided, he claimed for our mother Church of England the possession of all that was grand, all that was rich, all that was glorious in art, which was God's good gift to man for man's gratification, advantage, and instruction, and of which in the face of the world he said—if God gave it to man in the world, ten thousand times more did He give it to man in His Church, wherein it could be used equally for the gratification of man and for the glory of God, the giver of all good things.

WORKING MEN'S HOUSES.

At the late Social Science Congress, in Edinburgh, a meeting of working men was held in John Knox's Church, Canongate, for the purpose of hearing addresses by members of the Social Science Association on the subject of Co-operation, Early Closing, and the Houses of the Working-classes. The Rev. Dr. Begg occupied the chair, and called on Mr. Henry Roberts, London, to address the meeting on the subject of Houses for the Working-classes.

Mr. Roberts thought that something might be done in the matter by the Legislature. Since Lord Shaftesbury had gone to the House of Lords, there was no member of Parliament who systematically brought the subject of sanitary reform as it related to the working-classes before the House of Commons. He thought electors would do well to draw the attention of their representatives to the subject with the view to obtain the interference of the Legislature. With regard to Edinburgh, he had visited some of the lower and worst parts of the town, and he must say he had never felt more pain than in seeing the condition of the back slums of Edinburgh. He had seen more drunkenness about the streets in these parts of the town than he had seen in any other streets through which he had gone, and he attributed that in a great degree to the miserable condition of the houses.

Mr. Torrens, late Registrar-General of South Australia, next addressed the meeting on "The System of Conveyancing in use in South Australia." He referred to the system in use in this country, which he described as acting as a drag on the acquirement of land by poor men, and gave instances in which men purchasing property of the value of about 140*l.* had to pay between 30*l.* and 40*l.* when they wished to sell or transfer their possessions. A man selling a possession went to the man who was going to pay him for it, and gave him a paper in which he said, "I hereby transfer all my lands to So-and-so," and signed his name to it in presence of a notary-public or in the registrar's office, and the whole transfer was completed without the intervention of a lawyer at all. An equally simple system was in use for effecting mortgages.

Mr. Edwin Chadwick thought every British labourer was entitled to live—and most of them might live—the full threescore years and ten. He was convinced that if the working-man was deprived of them it was because of carelessness of one kind or another. He was satisfied, and they had proved it by experiment, that one-third of the working-man's life was cut short by ignorance of sanitary principles in matters of house drainage. By giving the working-men good dwellings they had already reduced the rate of mortality among them by one-third; and by further improvements they would be able to reduce it by one-half. One proposition he had made some time ago was the appointment of an officer of public health, whose duty it would have been to have examined the causes of disease, and to have effected their prevention. That proposal had been defeated in Parliament, but it could, he believed, be adopted by societies of working men. To illustrate the advantage of such an appointment, Mr. Chadwick stated that some time ago the Post-office authorities had been much puzzled to know the reason of the prevalence among the letter-carriers of rheumatism, but on investigation by a medical officer it was found that the cause was the wearing by the men of the Macintosh cape, which caused the absorption of the sweat. Now, a doctor treating an individual case of rheumatism would very likely have traced the disease to some other cause, but when treating a whole class, he was able to find out the true cause of the disease and to point out the remedy. He suggested that each club or association should have a doctor, and when a member died the doctor should examine as to the cause of death, and see whether it was caused by illegal means, or by causes known to be preventible—and should be bound to protect the surviving members of the club from the operation of such causes. He believed if such a system were set on foot it would be found that many houses were dangerous to a degree that was illegal. He did not know what the Scotch law was, but in England a proprietor was responsible for letting a house that was a nuisance. But it was a law that existed in vain, because there were no means used to bring it into proper action. The appointment of an officer of health would, he believed, effect the desired object.

Mr. Rawlinson and others also spoke.

NEW BUILDINGS IN OXFORD.*

Advantage is usually taken of the Long Vacation to effect renovations and improvements in the various University and other public buildings, as well as in the residences and establishments of private citizens. The present year has been characterized by unusual activity in this respect, and the restorations and new erections have been both numerous and extensive.

The new buildings at Christ Church, of which we have given a view, first claim attention. A portion of these were commenced last year on the site occupied by Fell's buildings and great progress has been made, the timber roofs being already fixed, and they will shortly be covered in with green Bangor slates. During the Vacation the old Chaplains' buildings have been taken down, the foundations for the western half of the new buildings have been laid, and the walls are rapidly rising. The work presents a façade of 330 feet. The architect is Mr. Deane, of Dublin; the contractor, Mr. Symm; and the superintendence of the works has been entrusted to Mr. W. C. C. Bramwell, architect, of this city. At the head of the staircase leading to the dining-hall, the archways have been enclosed with doors of oak and ornamental iron and glass, forming a vestibule, around which paintings removed from the hall during the late restorations have found accommodation. The work was executed by Mr. Wyatt, from designs prepared by Mr. Bramwell.

The buildings at Merton College are approaching completion. Sixteen additional sets of rooms will thus be provided. The new buildings form an open quadrangle with the older portions. The works have been designed by Mr. Butterfield, and executed by Mr. J. Fisher.

The restoration of the Gothic tower over the principal entrance of Brasenose College is now nearly completed. The work is a reproduction of the original, except the insertion of three figures, under canopies, executed by Mr. Earp, of London. In the centre, near the summit of the tower, is the Virgin and Child, while lower down on each side are St. Chad and St. Hugh, the patron saints of Lichfield and Lincoln, of which sees Bishop Smyth, the founder of the college, was successively Bishop. The entire work is executed in Milton stone, from Wychwood Forest. Mr. Buckler is the architect, and Mr. Wyatt the builder.

The Chapel of Jesus College is about to undergo considerable improvements. There will be a new chancel arch, span 18 feet, and elevation 25 feet. Black and white marble, alabaster, and castor stone will be employed. There will also be a new north window, decorated; a reredos, two arcades, and a new altar screen, of alabaster and yellow Mansfield stone. The floor will be entirely new, and composed of alabaster, marble, and Minton's encaustic tiles. The works will be executed by Mr. Wyatt.

At Queen's College, the south side of the Hall and Chapel has been renovated with Bath stone, Mr. Bramwell being the architect, and Mr. Wyatt the builder.

At Exeter, and some few other Colleges, minor alterations have been made.

St. Alban Hall is undergoing a complete rebuilding. There is much yet to be done in the way of restoration, new fronts, and the making of additional rooms, before the hall will be what it is intended to be, as regards its architectural appearance and general comfort. The whole of the works are being carried out by Mr. Selby, builder, from the designs and under the superintendence of Mr. John Gibbs, architect, of this city.

Great improvements are in contemplation at the Radcliffe Library. Mr. Wyatt is the contractor, and the work will be under the superintendence of Mr. Bramwell. The designs were prepared by Mr. Sydney Smirke, R.A.

The Ashmolean Museum is being thoroughly renovated and improved, in order to prepare the basement and first-floor for a museum of antiquities, and the upper story for an examination room.

The flourishing condition of "The Union" is plainly shown by the addition of a reading-room, writing-room, and housekeeper's residence. The new buildings, like the rest of the structure, are Gothic. The architect is Mr. Wilkinson. The builder is Mr. Symm. These buildings have been thrown open to public view by taking down the wall in New Inn Hall-street, and substituting an iron railing.

The new buildings at the Radcliffe Infirmary, consisting of an out-patients' ward, dead-house, &c., are so far advanced that it is expected they will be opened early in November. Mr. Bramwell and Mr. Bruton are the architects, and Messrs. Castle & Co. the builders. On the opposite or north side of the quadrangle, the chapel given by Mr. Combe, of the University Press, is making rapid progress. It is in the Decorated Gothic style, and in size is 60 feet by 20 feet. A vestry surmounted by a bell-turret, will project on the south side, and a corridor will connect the building with the infirmary. The floor will be partly laid with Minton's encaustic tiles. Gibraltar stone is being employed for the walls, and the dressings will be of Bath stone. Mr. Blomfield, son of the late Bishop of London, is the architect, and the work has been entrusted to Messrs. Castle & Co., builders.

The extensive and ornamental building in the New-road, intended for the offices of the Oxford District Court of Probate, has just been completed and occupied. Mr. Buckeridge is the architect, and Mr. Gardiner the builder.

The new corn exchange was opened in April last, and the new workhouse, on the Cowley-road, is now nearly ready to have the roof placed on it. The Street Commissioners are covering in the Trill Mill Stream, and the drainage of the low-lying districts of St. Aldate's and St. Ebbe's is being actively carried out.

The present year has also been distinguished by the formation of two hotel companies on the principle of limited liability. One of these purchased the Star Hotel, and, having thoroughly

* Condensed from the *Oxford Journal.*

renovated and improved it, re-opened it as "The Clarendon," in time for the Commemoration. The other company, "The Randolph," has secured a site by the purchase of several shops and residences, at the corner of Beaumont and Magdalen Streets; and the ground will, in a few weeks, be cleared for building operations. Mr. Wilkinson is the architect. The new hotel will contain about 130 rooms. The cost is estimated at 20,000*l*.

The new or improved private residences are legion.

Large additions are being made to the mansion of Sir Benjamin Brodie, bart., near Magdalen Bridge. The work is being executed in white and red bricks, with dressings of stone from the Box, Mansfield, and Hornton quarries. The architect is Mr. Deane, of Dublin; and the superintendence of the work has been confided to Mr. Bramwell. Mr. Wyatt is the contractor.

In the suburbs generally, much building is going on. This is especially the case at the eastern extremity of the city, numbers of additional houses being reared on the Iffley and Cowley Roads, and in St. Clement's, and various new streets intersecting these outlets. These houses, generally speaking, quickly find tenants.

THE MONUMENTS IN ENGLISH CATHEDRALS AND CHURCHES.

On this important subject there is much difference of opinion. Some would clear our venerable ecclesiastical buildings of all monumental matters which do not harmonize with the architectural style of the building; and would, for instance, in a Norman or Early English structure, remove all tombs and tablets which have been erected since the original date of the structure.

There is no doubt much that is unsightly and in very bad taste within the walls of our sacred edifices: in Westminster Abbey, for example, there are tombs both great and small which are not pleasant to the sight; and it must be confessed that Poet's Corner has somewhat the miscellaneous appearance of a statuary's show-room; besides, there are several memorials which have found place in the Abbey that are connected with persons who have been in no way eminent in association with English history, science, literature, or art. Most of the monuments have, however, very great interest;—some in consequence of preserving the memory of worthies; others for their antiquity, artistic merits, or picturesque combination with the architectural features of the interior. Besides, the monumental additions, which have been made here during so many centuries, have value in showing the various changes in our sculptural art. Even the tombs of the kings and queens have their marked peculiarities; and none, we suppose,—although those of Queen Elizabeth and Mary Queen of Scots are not, in their architectural style, in correspondence with Henry VII.'s Chapel,—would like to see their removal. The same may be said of many others. Besides, the passing years mellow these things into harmony with the objects among which they are put, and conceal many deficiencies.

Very few of our great ecclesiastical buildings are entirely in the style of one particular date. In Westminster Abbey, the screen of Islip's Chapel,—and some other points might be mentioned,—does not agree with the sharply pointed arches or the lofty vaulting of the choir, transepts, &c.; but this does not present an unpleasant appearance. The same may be said of the interior of St. Bartholomew's the Great, Smithfield, as regards the monument of the founder, and some additions made by Prior Bolton. Hundreds of similar instances will occur to the reader, wherein it would be the act of a barbarian to make all chronologically accordant.

In the Temple Church, London, we have an example of the effect produced by the removal of all the monuments, with one or two exceptions, to the triforium, where they are but seldom seen; and here there can be no doubt that if these memorials had been retained on some of the pillars, and in their original situations, they would to a considerable extent have served as a gauge by which the visitor (notwithstanding the restoration which has been made) would have been impressed with a better idea of the actual antiquity of the building than is generally felt at present. Now, the place, although so large an amount of money has been spent upon it, has a somewhat bare appearance, and looks, to a certain extent, like a church which has been recently erected in imitation of an old one.

The dean and chapter of Westminster Abbey having given a strong opinion against the admission of the dead into that place, into which, even within the last few years, several leading men of this iron age have been gathered,—it becomes a necessity to discuss the wisdom of this course. Within a very few years we have seen the ashes of Dr. Jenner translated here, and laid at their rest; of Robert Stephenson, Lord Macaulay, Lord Clyde, and others; and no one can say that any of these is unworthy of a grave in this honoured spot. It might, however, be worth thought if, as regards the burials here, or in St. Paul's Cathedral, of those who in their various pursuits have well served their country and the State, they should not be made a matter of Parliamentary vote. The custom of burying in churches is so bad that we would interpose every difficulty.

Too great care cannot be taken in selecting objects for this distinction; but, when once a burial has taken place here, it would certainly be unreasonable and unjust to prevent the raising of a suitable monument. And then comes the question of fitness. On Stephenson's account a stained-glass window has been placed, and an engraved brass let into the stone over the grave. These do not occupy any of the space which the dean is so anxious to preserve. There is a portrait of the great engineer in this window; but, so far as we have seen in connexion with modern, and for that matter ancient, works of this kind, there is a difficulty in rendering, with good effect, the human countenance; and as regards monuments in these days, the face must form an important part of the bust, medallion, or statue of the departed. It is not likely that in many cases these works will be made to assume the peculiarities of Gothic art: they will chiefly be representations of the men, in some costume which they were known to wear, shown in a refined, tasteful, but correct manner, by the sculptor's skill. It would be just as wrong to place an effigy of Robert Stephenson or Lord Macaulay in Westminster Abbey in a Roman toga or a Mediæval robe, as it would be to place in the Temple Church the representation of an eminent lawyer of our time in the cross-legged attitude and the chain mail of the knights of old.

HANDEL WINDOW, REDCLIFF CHURCH.

It having been resolved to put in a window commemorative of Handel, the composer, in the Church of St. Mary Redcliff, Bristol, Messrs. Heaton, Baynes, & Butler, and Messrs. Clayton & Bell were invited, with the co-operation of the architect, to submit designs. Both sent very good drawings; but ultimately the choice fell on that by Messrs. Clayton & Bell, who are to execute the work. The scheme of the chosen window may be described thus:—In place of canopies or ornamental adjuncts, the window will be filled with angelic choirs, each group singing from a musical stave, setting forth passages from Handel's "Messiah." These angelic groups furnish the lighter effects of colouring in the work, and separate the forms of the principal subjects into two tiers. The upper range of these subjects illustrates the following passages:—

1. "Unto us a Child is born."
2. "He shall feed his Flock."
3. "Surely He hath borne our Griefs."
4. "Thou didst not leave His Soul in Hell."

The lower tier has smaller groups, arranged to illustrate the passages,—

1. "Behold, a Virgin shall conceive."
2. "All we like Sheep have gone astray."
3. "Behold, and see if there be any Sorrow like unto His Sorrow."
4. "He was cut off out of the Land of the Living."

CEMETERIES AND GRAVEYARDS.

Since the establishment of large suburban cemeteries a great change is observable in the order and arrangement of these sanctuaries of the dead; and nothing more clearly denotes advanced social refinement than the high artistic character of our tombs and the laying out and plantation around them. Paris had adorned Père la Chaise long before any movement occurred in England: it was visited by all travellers, and especially by those from this country, whose admiration was excited by sculptural and floral embellishments, which in those days were not to be found by them at home.

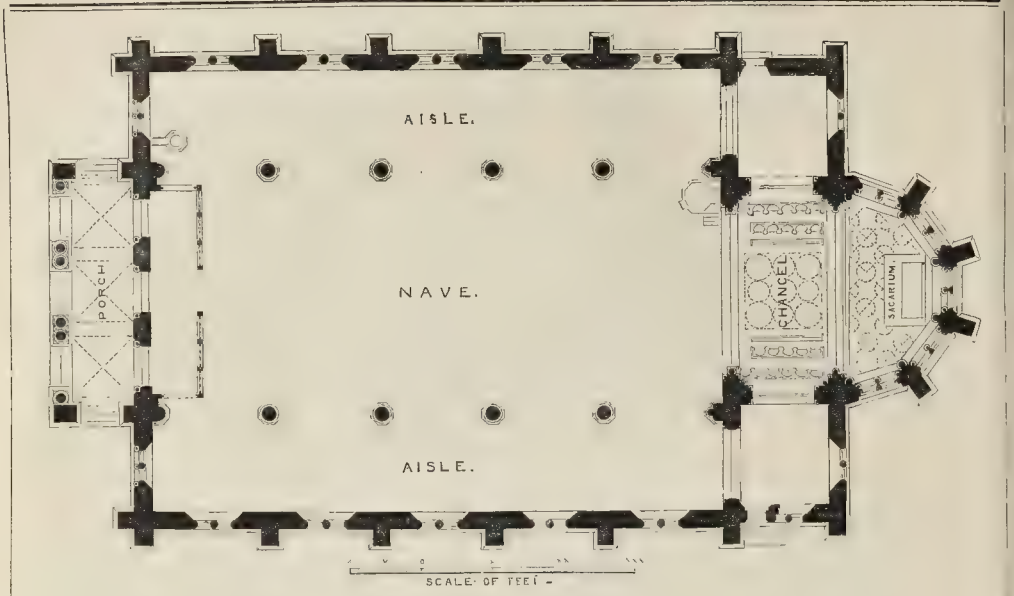
Rude and tasteless as places of sepulture then were, there was nothing like the desecration of the dead described in last week's *Builder* by Mr. Donaldson, in a letter from Ireland; although there, too, new and improved cemeteries have been lately established, the exposure and desecration of mortal remains in ancient burying-grounds would appear to continue, as it always had been a sort of national habitude. The old metropolitan Campo-Santo near Dublin, in which Brian Borhoime's tomb, a tower, stands, in the memory of the writer, exhibited a spectacle so revolting, of mangled remains festering in the sun, not to speak of skulls and dry bones scattered at large, that he shudders at the recollections of the wide charnel field. Here it was, certainly, that the poor were interred; still such a condition of things argues a very low state of civilization, and the utter absence of refined feelings in these particulars.

Sanitary considerations having lately shut up the metropolitan churchyards, the opportunity therefore arises not only for laying out and adapting extensive cemeteries near London, but also for improving, ornamenting, and so utilizing the old and heaped graveyards within our civic boundaries. The cessation of interments now admits of opening out, planting, and otherwise improving these hitherto drear inclosures; in the first place, by the abatement of high walls and the substitution of iron railings, thus affording free air and scope of view; next by raising the bristling flag stones, and laying them in a horizontal position; allowing the marginal and intervening verdure to deck the general superficies; and lastly, by planting shrubs and forest trees (lindens) where suitable. St. John's-wood Cemetery, now discontinued, is so railed round; the Marylebone ground on both sides of Crawford-street is also railed; herein there are flagstones standing on end at every two square yards; very few monuments or sculptured designs; no plantation, save the spontaneous growth of chrysanthemums, which have increased to an underwood thicket. These grounds, at least ten acres in extent, offer a fair field for improvements, by laying the tombstones horizontally, and planting the intervals.

What mode of plantation? is the question; and this seems to be as yet a moot point. In the Brompton Cemetery,—a very extensive range, *walled round and cinctured with a graceful and vigorous ivy vesture*,—the first effort was made at laying out the ground on a tasteful and professionally scientific plan. Here, a system of division in quarters and sections has been judiciously adopted; and *trees* and shrubs have been allowed to arrive at maturity; walks, grass, and borders being also reserved, so as to characterize the design; care being also taken to locate and isolate monuments of a superior character, and to preserve a well-blended effect of plant and shrub; whilst every reasonable latitude is allowed for votive flowers and emblems. The encouragement of this taste has awakened an interest in floral decoration; and the bereaved visitor to the "lap of earth," where repose the mortal part of a lost one, can feel renewed solace in that germinating bloom which so sweetly and naturally betokens resurrection.

As to the sort of plantation best suited to such places, the ancient preference was for yew and arbor vitæ. These are, no doubt, funereal and apposite; but that which lends grace and odour to the field is surely the most appropriate as well as attractive;—here and there a forest tree, a yew, an arbor vitæ—but intersperse them;—the arbutus, lovely in flower and in fruit, and the hundred other shrubs of luxurious flower and foliage. Still, where so many will plant their favourite nuralings, a directing gardener, being also a man of taste and skill, ought to have the arrangement of plantation, leaving the commemorative flowers to the fancy or taste of each votary.

Thick plantation of forest trees is altogether improper for a cemetery where interments are still being made. The lofty growth would be obstructive of free circulation, and must harbour miasmata; whereas the growth of lesser shrubs and vegetation is a process of nature whereby the rich deposits of mortality are absorbed, utilized, and dispersed. In the old grounds where burials have been for ten years discontinued; as, for instance, in St. George's, Hyde Park; Mount-street, Grosvenor-square; and sundry other places, trees flourish exceedingly, and bring a breezy freshness to the adjacent dwellings. Were the tombs laid flat and plantation introduced in large spaces now useless and revolting in appearance, spaces which St. Pancras and all the parishes more or less contain, metropolitan health would be improved, while disgusting blemishes were redressed. The more the metropolis extends the greater the value of central space becomes. There is no great expense in levelling a few tombstones and in planting a few trees and shrubs. If this would not facilitate commercial traffic, it would bestow health, with adornment, upon many confined and stifled quar-



NAPLES CHURCH.—*Plan.*

ters. Expanses now blocked in, dark and noisome, might be converted into pleasant gardens; and free intercourse through these now mystic accelamm would cheer and accommodate thousands of small lodging-room families who have no place for exercise beyond the lane or court of their humble domicile.

NAPLES CHURCH.

In our notes "Going Along," we have had occasion to remark on the aspect of some of the buildings abroad used for the services of the Church of England. In Naples we are glad to find a worthy building is being erected for the purpose. This church, of which we give an interior view and the plan in our present number, has attracted considerable attention, moreover, on account of its being the first Protestant church erected in the South of Italy. It is now being carried up under the superintendence of Messrs. Thomas Smith & Son, of London, whose design was selected by the Naples committee in a limited competition of twelve English architects. The style of the church is that which prevailed at the end of the thirteenth century; and the plan consists of nave, north and south aisles, and chancel with semi-decagonal apse. The aisles are continued to the commencement of the apsidal end, and form a vestry with organ gallery over on the south side, and a chapel for invalids on the north. A handsome arcaded carriage porch, the width of the nave, having three doorways leading into the church, is placed at the east end or principal front next the street. Open seats with inclined backs will be provided to accommodate 600 adults.

The walls are built of different coloured tufos from Sorrento, of red, grey, brown, and stone-colour tints. Care has been taken in selecting the tufos that will stand the external sea air, as those at Naples, having a large proportion of the oxide of iron, crumble away with the least wind. The architects, in selecting the tufos, found that the quality of the material in each quarry is different in proportion to the depth of the excavation. The upper surface is light, friable, and contains more pumice; while the lower stratum, which has undergone much pressure, is compact and of a darker colour: that lower than the sea level is nearly black. The tufo is very cheap and easily worked, being cut with a hatchet: it is set with a very close joint in regular courses. The external dressings of the windows, doorways, &c., are executed in white Malta stone, which is very similar to our Bath stone; but for all the internal dressings and the work intended to be carved, a beautiful fine-grained stone, also from Malta, has been used. This stone is like Caen stone in colour, and is easily and effectively worked. All the carving will be from natural foliage, and the caps of the nave shafts will be varied by the introduction of figures among the foliage. The chancel will be groined, as shown in the engraving, and will be paved with Minton's tiles. All the joiners' work will be sent from England, on account of the inferiority of the Neapolitan joinery. The roof over the nave, as will be seen in the view, is waggon-headed, with moulded horizontal and vertical ribs dividing the cants into square compartments, with moulded arch ribs springing from wall to wall over the nave piers. The ceiling will be formed with plaster between the moulded ribs, and afterwards enriched with suitable decorations in colour. The aisle roofs are similar to the nave roof. The whole of the roofs will be covered with Bangor slates, sent out for the purpose. The windows will be doubly glazed, on account of the great heat, and it is proposed to fill the chancel windows with stained glass. The work is being carried out by native workmen, under the direction of Mr. Pulham, an English foreman, who has been employed under the architects upon works abroad for about fifteen years. Hereafter we shall give a view of the exterior.

POPULATION OF LONDON DISTRICTS.

Mr. Clarke, in his publication, "The Hovel and the Home," directs attention to the increase of the population of districts in which large numbers of the dwellings of the poorer classes have been removed. Mr. Clarke's figures show that in the Clerkenwell district, although the houses have recently decreased from 7,530 to 7,354 (176), the population has increased from 64,778 to 65,681 (903) persons. In St. Saviour's, the houses have decreased from 4,844 to 4,675 (169), and the inhabitants have increased from 35,731 to 36,170 (439) people. In St. Luke's district, the houses have decreased from 6,596 to 6,585 (11), and the population has increased from 54,055 to 57,073 (2,918). In St. Luke's, there is a decrease of eleven houses, and an increase of population to the number of 2,918. Through the reduction of earnings, the working watchmakers of Clerkenwell are obliged to be content with two, and even one room, for the use of their families, instead of three rooms, which they were able to pay for formerly; and in this way more families are sheltered under a single roof. In St. Luke's, Clerkenwell, Bethnal-green, &c., rooms, miserable ones enough, can be had for the use of families at a rent of 2s. or 2s. 6d. a week; and to those places persons who can only afford to pay that amount of rent resort. There can be no doubt that the majority of the dwellings in the Holborn district, St. Sepulchre's, &c., which have been removed, were of a worse description than those now remaining. There is most pressing need for improvement; but we do not see that anything which is yet in progress will meet the evil. We fear that Peabody's Buildings, now in progress, will not do so, although this and other building schemes which are suggested will accommodate a number of the better-conditioned of the London poor; and leave additional space elsewhere for others: but for years to come the main dependence must be placed on careful measures in connexion with the dwellings now in existence.

THE LATE MR. JOHN BOWYER NICHOLS.

Another long-worker well known to many, has gone honourably to his rest. Mr. John Bowyer Nichols, F.S.A., one of the Registrars of the Royal Literary Fund, died on the 19th inst., in his eighty-fifth year. He for many years took a part in the editorship of the *Gentleman's Magazine*; and among his other literary productions were "A Brief Account of Guildhall," 8vo., 1819; "The History of the Royal Hospital and Collegiate Church of St. Katherine, near the Tower of London," 4to., 1824; "Historical Notices of Fonthill Abbey," 4to., 1836; and a republication of Nash's "Illustrations of the Palace of Brighton," in folio, 1838, bringing down the history of that odd structure to the close of its palmy days. Mr. Nichols also added some volumes to the extensive series upon the Literary History of the Eighteenth Century, commenced by his more celebrated father, Mr. John Nichols, the biographer of Bowyer and historian of Leicestershire, of whom he was the only son. In the hands of his own son, Mr. John Gough Nichols, the family reputation is losing none of its lustre.

BRIDGE OVER LUDGATE HILL.

A correspondent, signing "Rough Diamond," says,—"Will you allow me to suggest, through the medium of your columns, that a foot-bridge be built alongside the railway bridge about to be made over Ludgate-hill, which, with a flight of steps communicating with each pavement, would save many accidents from people crossing the road in this crowded thoroughfare." A crossing bridge there would doubtless be useful, but we have no wish to seem to concur in, or to have anything to do with, the intended discreditable disfigurement of the most important thoroughfare in the metropolis, and a building that belongs to the world. We feel sure that the act will entail everlasting shame on its perpetrators, and on those sleeping watchers who connived at it.



NEW PROTESTANT CHURCH, NAPLES.—*Interior, looking North-east.*—Messrs. Thomas Smith & Son, Architects.

NEWS FROM SCOTLAND.

Edinburgh.—Several improvements have been effected on the decoration of the Great Hall of the Parliament House. The full-length portrait of Lord Brougham, by Mr. Macnee, has been hung up on the west wall, to the right of the statue of Lord Melville. Lord Brougham once walked the floor of the Parliament House a briefless barrister, as we would call him, and by no means a favourite with the law lords: he soon shook the dust of this floor from his feet, and came to London, which appreciated him somewhat better than Edinburgh did, at least in law. On the left of Lord Melville's statue has been placed a portrait of Lord President Hope, presented by the Writers to the Signet, who have offered to place at the disposal of the Faculty of Advocates any pictures that they might select, to decorate the hall of the Parliament house. The Dean of Faculty made application for a portrait of the Duke of Argyle from Holyrood House, which had previously hung in the Parliament House, and the Queen graciously granted permission for its restoration to its former position. The picture has, accordingly, been brought from Holyrood, and now forms a conspicuous feature in the decorations of the Parliament House, as it has been hung close to the portrait of Lord Brougham. The Writers to the Signet have also contributed a portrait of Lord President Blair, which has been placed above the entrance. Mr. Maconochie Welwood, of Meadowbank, has been the first out of doors to present to the Faculty a picture to be added to their gallery, his gift consisting of a portrait of Lord Abercromby,—an early Raeburn. Three new busts have also been added to those which were formerly placed at intervals along the side of the hall.——The *Scotsman* says of the new exhibition of Scottish art:—"As a whole, nothing like it has hitherto been seen in Edinburgh. It embraces many of the best works hitherto produced by living Scottish artists. But besides the pictures by livings artists, the exhibition contains a great number of fine works by deceased Scottish masters." The Royal Scottish Academy, it adds, have acted wisely in opening such an exhibition on the occasion of the Social Science Congress in the city.——A memorial window to Miss Agnes Marshall has just been placed in St. Andrew's Episcopal Church. A figure of Faith resting on the Cross is introduced in the centre. Her base is a monogram of the lady's initials in a lozenge shape. The whole is surmounted by Norman bordering. This window has been executed by Messrs. Ballantine & Son, Edinburgh.——The citizens, says the *Scotsman*, have been long indignant, and strangers astonished, at the dilapidated state in which a conspicuous portion of the Castle has been allowed to remain since the operations for its contemplated improvement were suspended. About six years ago the north barrack was dismantled, with a view to its entire removal, and the erection of a garrison church on the site. But at this stage the work was countermanded, and the block was left an unsightly ruin. Towards the close of last year, Mr. Billings, architect, was instructed by the War Department to inspect and report on the remains of the barrack, and plans for its reconstruction having been subsequently prepared by the Department, Mr. Billings has now been intrusted with the elevation and external details. The style of the restored building will be similar to that of the block known as Queen Mary's Rooms. The arrangement and fittings of the interior will be of the simple character common to all barrack-rooms throughout the country. For some time past Mr. Billings has been occupied with the monograms and the carvings for the portholes, which he is executing with his own hands, and this part of the work is now well advanced. A commencement has also been made in pulling down the portion of the south wall that is to be removed, so that the much desired restoration of the castle may be considered to have got a fair start.

Leith.—The new wet docks to be made in Leith by the Local Commissioners of the Harbour and Docks, according to plans prepared by Messrs. Rendel & Robertson, civil engineers, will soon be commenced by Mr. Scott, contractor, Kilmarnock, who has entered into a contract with the commissioners for the execution of the works. The plans embrace extensive works, which will necessitate the enclosure of 62 acres of the East Sands, over which the tide flows, and involve an expenditure of 341,000*l.*, while five years will be required to complete the operations. Sections of two docks—an outer dock and an inner dock, with locks, bridges, and other indispensable constructions, are given, but the outer dock only has been contracted for. The land reclaimed for this dock will amount to 34 acres, with 19 acres of wharfage. The cost, according to the engineers' report, will be 223,000*l.*, and the time required for constructing it three years and a half. The engineers' estimate for the works about to be commenced is thus given:—

Reclamation wall and bank	£43,500
Dock walls	43,000
Basin walls and apron	18,000
Lock-gates, sluices, and machinery	30,000
Excavation	35,000
Sheds, bollards, and cranes	9,000
Wharfs, roads, and approaches	7,000
Sea-parapet and boundary-walls, including gates	8,500
	£194,000
Contingencies, supervision, &c., 15 per cent., or say	29,000
	£223,000

Glasgow.—The plans of a new church, to be erected in the West End for the use of the Congregationalists at present worshipping in the Queen's Rooms, have been prepared by the architect, Mr. John Honeyman, jun. The site is at the corner of Claremont and Berkeley Streets, immediately behind the east end of Sandyford-place. The church will thus be a prominent object from Bath-street, Dumbarton-road, Sauchiehall-street, and a great part of the West End Park. The building will be in the Gothic style of architecture of the Decorated period, with tracery in all the windows. It will consist of a nave and two short side aisles, or rather transepts, opening to the nave with two arches, so that the roof of the nave is not broken into, but has a continuous cornice from end to end. The arches of the side aisles are supported by circular shafts of Carnock stone, coupled with four small shafts of polished serpentine, and the capitals will be richly carved. The extreme length of the interior will be 92 feet, and the width, including side aisles, 80 feet; the width of the nave alone being 43 feet. It will be spanned by a hammer-beam roof open to the collar beam, and having the spandrels filled in with tracery. The spire will be placed at the corner, and on the north, east, and south sides will be detached from the church. Its height above the pavement will be 180 feet. The base of the tower forms the principal entrance porch, and doors for egress are provided at the north end of the church. In the basement of the building there will be a large hall capable of accommodating upwards of 300 persons; also a vestry, class-rooms, and retiring-rooms. The church will accommodate 970 persons.

CHURCH-BUILDING NEWS.

Foxearth (Essex).—The restoration of the church here has been completed by the recent erection of a new tower, of flint, with broach spire, 130 feet high, at the cost of the rector, the Rev. John Foster. The walls of the tower (which is thrown into the church) are at present bare. The panels of the rood-screen, pulpit, altar, and reredos are filled in with paintings. On the left of the rood-screen are female saints and virgins, with different emblems, and on the right several Eastern swarthy bishops and ecclesiastics. Scriptural subjects,—"The Last Supper," &c.,—are delineated on the altar table. St. Ambrose, with his whip, occupies a conspicuous place on the pulpit. All these paintings are executed in the quaint Mediæval style, *à la Chinois*, without any regard to perspective, with head and limbs distorted at right or acute angles. Gold leaf and varnish are extensively introduced. The chancel is divided from the nave by a screen, surmounted by a cross, and closed doors. The altar is of carved oak, with paintings. The last addition to the church has been an organ, built by Mr. Willis, of London. It is placed in the chapel at the end of the aisle in front of the vestry. After the modern economical fashion, it is without any case, except that required for protection to the keys, working apparatus, bellows, &c.

Mapledurham (Oxon).—The parish church of Mapledurham, after having been closed for divine service for several months, has been re-opened. The exterior has been put into a state of complete repair: a new stone porch, with carved oak front, has been built, surmounted by an iron Maltese cross; and a similar cross, but of larger dimensions, ornaments the eastern apex of the nave: a new tiled roof has superseded the old flat leaden one of the chancel. In the interior the gallery has been removed, thus giving the church a larger and lighter appearance. Two new windows have been placed in the north wall, and the arch laid open into the tower, which is thus thrown into, and becomes part of, the church. There is also a trefoil oriel window placed in the tower. The seats in the nave are of deal, stained and varnished. The pulpit is of carved oak, as also are the whole of the fittings of the chancel, and a reredos of Sienna marble, with a cross in alabaster in the centre, has been placed under the eastern window. The interior of the roof of the chancel, of which there are but very few specimens in England, has been preserved: it consists of panels painted blue, and ornamented with gilt stars. The whole of the work has been done under the superintendence of Mr. W. Butterfield, of London, architect, by Messrs. Wheeler, of Reading.

Knockholt (Kent).—Knockholt Church, near Sevenoaks, Kent, recently closed for restoration, has been re-opened. The alterations have been carried out by Messrs. Cox & Son, of London, church furniture manufacturers. The gallery at the west end has been removed, and the church re-seated with stained deal benches of a simple design. New oak pulpit, reading-desk, and altar-table, with wrought-iron altar-rails, which are painted and gilt, and new stained deal doors, with ironwork, have been provided; as also an oak reredos, with zinc panels, illuminated with the commandments, creed, and Lord's Prayer. The restoration of this church has been carried out as a memorial of Miss Thrale, a lady well known for her great liberality, and who has left 150*l.* per annum to various charities connected with this parish. The poor of Knockholt have subscribed among themselves to erect a "poor man's memorial window" to their benefactress. This consists of a lancet window, with a painted medallion, representing Dorcas distributing garments to the poor. The medallion is surrounded with a geometric pattern, and the whole is inclosed in a border. An engraved memorial brass is placed below the window, with an inscription. The above window, with another on the other side of the chancel, was painted by Messrs. Cox & Son.

Hayward's Heath (Sussex).—The chief stone of the new church lately referred to in the *Builder* has been laid. The edifice will consist of a nave, two aisles, a chancel, and a central tower, and will be in the Early Decorated style. The material is sandstone obtained from the neighbourhood, the interior being lined with red brick from St. John's Common; the arches, windows, and dressings being of sandstone. The whole length, from east to west, is to be about 100 feet, and the entrance will be by a porch from the north side, and by a doorway at the west. Sitting accommodation will be provided in it for about 700 persons. The architect is Mr. G. F. Bodley, of London; and the builder, Mr. J. Fabian, of Brighton.

St. David's.—Measures are about to be taken by the Dean and Chapter of St. David's, for the complete restoration of the cathedral. The work will commence, under the superintendence of Mr. Scott, as soon as the necessary funds are provided. A public meeting will be held at Carmarthen, on the 28th inst., under the presidency of the Bishop of St. David's, with the view of inviting the co-operation of the Laity as well as the Clergy of Wales to aid in the work.

Rhydymwyn (near Mold).—A new church has been opened at Rhydymwyn, in the parish of Cilcain, and about three miles from Mold, on the road to Denbigh. The plan of the church consists of a nave 55 feet long and 21 feet 6 inches wide, with a porch towards the west end. The chancel is 28 feet wide, with a vestry attached to it on the south side, and a space provided for the organ. The style is that which prevailed during the latter part of the thirteenth century. The east window has three lights, with jamb shafts and mullion shafts, all of polished red marble, and with moulded arches. The sill is raised above the floor level, and a carved cornice extends across the chancel under it. On the north side of the chancel there is one window with two lights, also having jamb shafts, &c., somewhat like the east window. A lofty shaft with carved capitals in the jambs divides the nave from the chancel. In the side walls of the nave there are five two-light windows, three on the south side and two on the north side. In the west-end wall there is a larger two-light window, extending up into the gable, and enriched in the upper portion. The walls of the chancel inside are built with Bath stone. The walls of the nave are plastered, with occasional bands of stone, taking the lines of the windows. The walls are crowned by carved and moulded stone cornices, surmounted by roofs of high pitch, all the timbers of which are shown on the inside. The roof of the nave is divided by arched and moulded principals into six bays. These are again subdivided, producing a vista of interlacing timbers. The church roof is divided into three bays

of carved timber, and is of a somewhat different construction. A wide arcading, forming part of the roof, surmounts the stone cornice on which the roof rests. Under the east window and over the altar table, which is raised four steps above the nave floor, there is a reredos about 8 feet wide (having Irish green marble shafts at the angles with carved caps), representing the Last Supper in incised work—the ground and all the lines of the figures, draperies, &c., being filled in with a hard red pigment. The floor of the chancel is paved with Minton's tiles, the foot-pace being decorated and considerably enriched. The pulpit is of Caen stone, with marble columns and carving. It stands on the north-east corner of the nave. The sittings and stalls are all made of pitch pine. The total cost of the building up to the present date is 2,385*l.* 5s.

Lower Crumpsall.—The Bishop of Manchester has consecrated the new church of St. Thomas, Lower Crumpsall, the first stone of which was laid by his lordship on the 18th of October, 1862. This is the second church that has been consecrated in the township within the last four years, and completes the scheme for providing increased church accommodation. The site of the new edifice adjoins the main road, and is about a mile distant from St. Luke's Church, Cheetham-hill. The land for the church and parsonage, consisting of 4,500 square yards, was obtained from Mr. Lewis Loyd, of London, for 2,800*l.* The church is in the Decorated Style, 102 feet in length, 76 feet high, and 34 feet wide, the chancel being 26 feet by 18 feet. It consists of nave, chancel, porch, and vestry, with a belfry of carved wood. The material of the body of the church is Yorkshire stone, with Hollington ashlar dressings. The nave consists of six bays, the tracery of each window being varied. There are large traceried windows at the east and west ends, of three and four lights respectively. The roofs are open timbered, with brass pendants. There is sitting accommodation for 450 persons, and half the seats are free. The seats are made of stained deal. The cost of the church has been 2,500*l.*, a large portion of which has been raised by voluntary contributions. One benevolent individual gave 1,000*l.* There is still a debt of 500*l.* Messrs. G. & J. R. Shaw, St. Chad's, Saddleworth, were the architects.

DISSENTING AND ROMAN CATHOLIC CHURCH-BUILDING NEWS.

Epsom.—The foundation-stone of a new Wesleyan chapel has been laid here on a site near the station of the London and South-Western Railway. The land, which is freehold, together with the outlay, will be about 1,000*l.* Some little progress has already been made with the building.

Guildford.—The new Congregational Chapel at Guildford, having been completed, at a cost of 3,350*l.*, has been opened for service. The old chapel having been found too small and altogether unsuitable, it was determined to build a new one; and a committee was formed, subscribing at their first meeting 680*l.*; and the building is now free of debt all but about 300*l.*, the cost of the site being left for gradual liquidation.

West Ashling (*Sussex*).—The foundation-stone of a new Congregational church was laid on the 18th ult. Mention has been made of the fact that the materials used formed a portion of the cathedral at Chichester. The architect is Mr. H. N. Goulty, of Brighton: the contractors are Messrs. Parker & Co.

Bath.—The Roman Catholic Church of St. John the Evangelist, which has been erected near the South Parade, Bath, has been consecrated. The edifice was designed by Mr. C. F. Hansom, of Clifton. The design includes a tower and spire, which, when complete, will be upwards of 200 feet high. At present, however, only 60 feet of this tower is built, sufficient to clear the roof of the nave. Externally, the church is one mass of gables. Taking the north side, we have first the gable of baptistery, next the gable of the porch, then the three gabled bays of the north aisle, and then the large gable of the transept, with its circular window: beyond this are two gables on the side of the lady chapel, and over them the gabled windows of the chancel. The west front has the tower in the centre, with the baptistery and chapel of St. Benedict at the sides. The west entrance has panelled doors enriched with tracery, &c. It is surmounted by a crocketed gable, exhibiting some carvings in the spandrel, prominent among which is the eagle, emblematic of St. John. Over this door is a window of five lights, with tracery. The roof of the chancel is defined externally by a cresting of iron, painted and partly gilt, terminating with a foliated cross at the point of the apse roof. The plan of the church consists of nave, with north and south aisles and transepts, chancel, and side chapels, western tower, baptistery, &c. Entering by the west door, the lower stage of the tower forms a porch, 20 feet by 16 feet, separated from the nave by a stone screen of three arches, over which is the organ gallery. On the right is the chapel of St. Benedict, forming the western termination of the south aisle, and corresponding with it on the left is the baptistery, each 18 feet by 14 feet. The nave and aisles together measure 75 feet by 60 feet: the former is separated from the latter by an arcade of moulded arches, resting on fourteen pillars of polished Devonshire marble, with carved capitals of Ancaster stone, each capital being a study of natural foliage slightly conventionalized; among which are the holly with buds, the primrose and ferns, the vine and wheat, the passion-flower, the fig leaf and fruit, the rose, shamrock, and thistle, the blackberry, &c. In the spandrels between the arches are carved, in *alto relievo*, demifigures of angels in circular panels, playing upon musical instruments. Over these is a clerestory of eight three-light windows of simple tracery. The nave roof is ceiled in the form of a double segment arch, and is divided into panels by wood mouldings, each bay being defined by an arched principal of stained deal, enriched with open tracery. The aisles are each lighted by three windows of varied tracery, with the addition of a triangular traceried window over the door to the presbytery already noticed. Between each window is a wall shaft of stone, with carved capitals, supporting arched principals of stained deal with open traceried panels. The transepts at the east end of each aisle project 7 feet, and are lighted by rose windows, 18 feet in diameter, filled in with tracery. The lower portion of the transepts are occupied by the confessionals, two on the north and one on the south, all of stone, with moulded piers and arches. The chancel is 30 feet long by 28 feet wide, terminated by a semi-octagonal apse. The roof is groined with moulded ribs, having bosses of foliage at their intersections. On each side are two moulded arches, with parclose screens separating it from the chapels, over which are dwarf windows above the chapel roof. The three end windows, of three lights each, are the only ones at present enriched with stained glass, the subjects being respectively the Crucifixion, the Resurrection, and the Ascension, executed by Mr. Hardman, of Birmingham. The high altar and reredos were executed from the designs by Mr. Earp, of London. The altar proper is of polished marble and alabaster, and is an open one: it stands upon six red Devon marble shafts, with carved capitals of alabaster. The reredos at the back of the altar is divided into five compartments, the centre one being occupied by the tabernacle, &c., the door of which is of metal, gilt, and inlaid with precious stones. The other four compartments contain sculptures, representing the life of St. John. Surmounting the whole are twelve angels with outstretched wings. The jambs of the chancel windows have Devonshire marble shafts supporting arches: an arcade with marble shafts runs round the apse behind the altar. The other chapels have also altars and reredos. At the south-east of the church are sacristies, two stories in height from the lower story. A corridor runs along the side of the church, and connects them with the presbytery. The principal front facing west is in continuation of that front of the church, and it is erected in the Domestic style of Gothic architecture. A projecting porch runs up two stories, terminating with traceried embattlements: there are four stepped gables in the upper story, surmounted by animals holding gilt vanes. The masons' work has been done by Messrs. Bladwell & Ambrose, and the carpenters' work by Messrs. Morgan & Lovell. The glass for the church was supplied by Mr. J. Gay, of Bristol. The gas-fittings were supplied by Mr. N. G. Wilcocks. The whole of the carving and sculpture has been executed by Mr. Earp. Mr. Herridge was the clerk of the works.

Ramsey (*Isle of Man*).—About three months ago there was an ugly dilapidated building between the Albert Hotel and Mr. Midwood's Baths, the upper part of which was used by a coach-builder, and the lower story was unoccupied, in a state of mouldy dampness; the whole lighted by a lot of square small openings, placed irregularly, and only partially glazed. The land and building were purchased by Mr. John Lane, and have been presented by that gentleman to the Roman Catholics, to be converted into a chapel. Although the structure is not completed, the outer walls not having been plastered as they are intended to be, the edifice as it now stands shows what can be done in designing alterations. The edifice is nearly 60 feet long, and 20 feet wide, and 150 persons can be comfortably seated therein. The old floor, which formed the two stories, has been taken away, and the whole height has been thrown into one. The fifteen old square windows on the two sides have been made into six two-light windows, with Gothic pointed arches. These and the other windows are glazed with plate glass stamped of a diamond pattern, with the Maux Cross and the Fleur-de-lys alternating; the glass supplied by Messrs. Forrest & Co., of Liverpool. The framework of the roof principals is of simple design, varnished. The entrance is in the gable end next to the Albert Hotel, in the centre, and there is a circular window above, and two pointed windows at the sides. The gable is surmounted by a belfry, bell, and iron cross. There is an organ in the corner to the right hand of the entrance, and the chapel will be heated with hot water. The vestiarium is at one side at the altar end. The expenses of fitting up the chapel will be defrayed by subscriptions.

STAINED GLASS.

Marchwood Church (*Hampshire*).—A stained glass memorial window has just been erected in the south transept of this church, by Mr. and Mrs. Holloway, of Marchwood Park, after a design by Mrs. Holloway. The window is a triplet, of the Early English style, and has been executed by Messrs. Thomas Baillie & Co., of London. In the left-hand compartment (looking at the window), in the upper part, is the pelican. In the centre medallion is shown the child Samuel. In the medallion above, the group represents Samuel anointing David. In the medallion below is the illustration, "The Infant Samuel brought to Eli," with text at bottom, "Their angels do always behold the face of my Father which is in heaven." In the right hand compartment, in the upper part, is the Holy Lamb and Banner: in the centre medallion is shown the Infant St. John the Baptist: in the medallion above is the Baptism of Our Saviour by John: in the medallion below is John the Baptist preaching in the Wilderness: in the centre compartment, in the upper part, is the Dove; in the centre medallion, the Infant Saviour: in the medallion above is shown the Resurrection of Our Saviour; and in the medallion below are the family armorial bearings, with crest and motto, &c.

Albury Church (*Surrey*).—Two stained-glass windows, by Mr. A. Gibbs, of London, have been placed in the nave of this church. One is a memorial of the late rector, the Rev. John Hooper. It is divided into three compartments: the top represents the Saviour enthroned, surrounded by seraphim, while two angels stand with censers on either side, and two more are sounding their trumpets for the doom. Below are the three Maries coming with sweet spices to the Holy Sepulchre, while an angel points to the empty tomb. Below these is the entombment of our Lord, by St. Joseph, of Arimathea, and the disciples. The other window is a gift from the visitors whom the scenery attracts to Albury during the summer months. It has been placed near the font, and is likewise divided into three medallions, depicting Noah coming out of the ark with his family, our Lord's baptism in Jordan, and His blessing little children.

Basford Church (*near Nottingham*).—A memorial window to Mr. Ichabod Wright, of Mapperley Hall, has just been erected in this church. The subject of the Crucifixion occupies the greater portion of the window, and the other portions are filled with rich mosaic ornamentation. The artists are Messrs Ballantine & Son, Edinburgh.

St. Stephen's, Worcester.—A new stained-glass window is about to be erected in Barbourne Church. It will be the west window of the nave, and is to be presented by a private individual. The artist is Mr. F. Preedy, of London. The subject of the window will be the life and death of St. Stephen, in eight compartments, with our Lord in glory in the circular tracery at the top.

Awliscombe Church, near Honiton.—A stained glass window has been set up in this church, by Mrs. Pring, to the memory of her two sons, John Pring, late captain in her Majesty's 27th Regiment, and Daniel Pring, late captain in the Royal Navy. The subjects of the window are—"The Man of Sorrows," "The Centurion," and "The Storm at Sea." The east window, of eight lights, has also been filled with stained glass, by the Rev. M. Jackson, M.A., Rector of Bow Brickhill. It illustrates Christ's sufferings, and was erected in

memory of his late wife, who died at Awliscombe. The work was executed by Messrs. Heaton, Butler, & Bayne, of London.

THE METROPOLITAN WATER SUPPLY.

With reference to the water doled out to the inhabitants of Bethnal-green, it appears 40s. per year is the rate paid even for that scanty supply. In some towns 40s. would buy eighty thousand gallons; but I suspect the people of Bethnal-green have not a tithe of this quantity for their 40s. I find the average cost to the eight London companies to pump one million gallons is 10*l.* 11s, which is a fraction over 2¼d. per thousand. I presume in many cases, if the water could be measured, it would, as charged, amount to 2s. 6d. per thousand. Take the case of a house 28*l.* per year, and the water-rate 50s. I have heard of machines similar to gas meters being used, and the price in that instance is 75*l.* per million.

If there is any improvement suggested to the present water supply to the metropolis, all the eight companies will immediately combine, and, if necessary, spend a million sterling to be able to continue to force their impure water down the throats of the unlucky inhabitants. I am, moreover, informed that the water companies have the votes of sixty-eight members of Parliament in their interest; so, in fact, it just amounts to this:—

"*To the inhabitants of London.*—We will compel you to use our water, of whatever quality and quantity we think proper to supply to you, and also charge any rate we may think fit."

What would the inhabitants say if bread or any article of food were thus monopolised by eight arbitrary companies? And is not water as much a necessary of life as bread? I consider the people of London particularly unfortunate to have their water supply in the hands of powerful trading companies. I assume them to be worse off for water than any other town in England that has a water supply system.

I say that the supply of water to the metropolis ought to be on the constant service system, and in the hands of a Central Metropolitan Board of Health, or under Government. Every dwelling should have it imperatively and every water-closet, and a general rate should be levied to defray the expenditure. Trust to no joint-stock companies in any way. If small towns can supply water at 6d. per thousand, the metropolis could be supplied for half that price.

We can raise millions for any new railway, and why could not money be advanced by Government to turn a river from some distance into London, that there might be a copious supply, not only indoors, but out.

Anti-Monopoly.

OUR INCLOSED "OPEN SPACES."

In your notice of the improvements at Islington Green, you have hit a blot. People are being congratulated on our open spaces being converted into gardens, but for what reason I hardly know. These open spaces are the old playgrounds of the children of the poor; and, one after another, the poor children are being deprived of them in London and its suburbs. It is monstrous, in these days of sanitary reform and medical officers of health, that such things should be permitted. It was only the other day, while I was crossing what was Camberwell-green,—and which is now converted into a tawdry ill-grown garden,—that I was ordered off the green sward by a surly Cerberus, who told me the public were only allowed to walk on the narrow path. If such be the spirit of our modern improvements, the less we have of them the better. The fact is, they are not made in the interest of the public at all, but in the interest of those who have property in the neighbourhood of these open spots. If there be one thing your genuine English churl, male or female, hates, it is to see the less opulent classes enjoying themselves near their doors. Hence respectability will not pay so high rents in front of an open green or common as it will opposite a garden. I believe the inclosing these commons and greens is an invasion of public right, which I hope some one of our senators will have the courage to denounce. What is sauce for the goose is sauce for the gander; and soon the all-improving spirit will extend from the greens and commons of populous London to the less populated districts; and we shall have Hampstead Heath laid out as a garden, and Wimbledon Common as a park, with Crimean heroes to keep the public on the gravelled paths. What we really want in London are temptations to draw our artisans out of the public houses, and their wives and children out of their ill-ventilated rooms into the open air. If they can be made to go to the new gardens, where seats are most sparingly erected, and induced to walk up and down the gravel paths, so much the better; but this is not what the improvers want: their primary object is to drive away the rabble. What I want is, to see the working men and women and their children at home in the parks; and there must be something to draw them there: there must be space to play about. Cricket, croquet, balls, skipping, and all other amusements, should be encouraged where there is space enough. But this is not what is being done.

Medicus.

THE DECORATION OF ST. PAUL'S CATHEDRAL.

Sir,—In an article in the *Builder* of October 10th, instant, it is observed, with reference to the decorations of St. Paul's, "What is done is timidly poor and sadly ineffective, and we fear that what is intended, so far as we can learn, will be equally so. St. Paul's needs colour and fine art." Your kind sympathy in this national work calls for a short explanation on these heads.

No one can feel more strongly than those engaged on the work, that what is done is poor and ineffective, if considered by itself; but this is not necessarily a fault in a work in its commencement. I beg, moreover, to assure you, that the most earnest desire is felt for colour and fine art, but such works need time and funds for their achievement.

F. C. Penrose.

St. Paul's Chapter-house.

NON-DRYING OIL.

Will you allow me, through your medium, to ask whether any of the subscribers of the *Builder* can help me out of a difficulty arising out of the cause heading this note (non-drying linseed oil)?

I have recently completed a painting job, where the seats and backs of the pews have not hardened. The work appeared all right for some days, and then gradually softened, and in the end, after trying an extra coat of hard-drying varnish, as a matter of credit, I have had all scraped off and redone. For the first two coats were used mineral turps, best quality, and oil; for the oak ground and graining colour, American turps and oil.

I suppose the cause to exist in the use of the mineral turps; and in a similar but, unfortunately, larger job (a church), I have, in consequence, used nothing but American turps, with oil in equal proportions, and much extra dryer. The inside of the pews is plain colour. For two or three weeks the work was passably hard, but gradually softened, becoming quite sticky to the touch or pressure of the hand. I have flatted over it with sugar of lead and varnish to help the hardening, but the surface is again soft. I shall be glad if the experience of any of your readers can suggest a remedy other than scraping all off; as, apart from the expense, the building would require closing again. I shall also be glad if you can name the manufacturer of a really genuine linseed oil, as it will not only be a great boon to the trade, but to the public, who equally suffer.

Victim.

*** Readers will remember that the linseed oil question was discussed at great length in our pages some time ago, and the position of the trade exposed. It is to be regretted that improvement has not followed.

GOVERNMENT SCHOOLS OF ART.

In the report of the Stoke School of Art, in the *Builder* of the 10th inst., Mr. Cole makes some remarks on the new minutes of the council with respect to the payments to art masters. As the prosperity of these schools is of great interest to the public, perhaps you will allow me to make a few comments on the subject. In the new minutes, the Committee of Council have entirely carried out the system of payment on results, but these "payments are only in respect of students who are artisans, or who are engaged in some industrial occupation." Mr. Cole is reported to have said—"This will not injure such as the Stoke School, where the pupils are almost entirely composed of artisans; whereas schools like that at Exeter would be the losers, the pupils in the school in that city, and some other places, belonging almost entirely to the middle classes." This sounds very well, and will likewise tell in a Parliamentary report, but it also raises the question as to the object the Department ought to have in view in granting assistance. If I am correct in supposing it should be raising the standard of art in this country at the least possible cost, I question whether this is the right way to do it. As it is a fact that it is no difficulty with the manufacturer to get good designs, or workmen to carry them out, but to find a *demand* for good designs, as showiness and novelty are more saleable, I do not think it wise to injure such schools as that at Exeter, where the middle classes, the great consumers, can receive good art instruction. It is an old saying, that if there were no receivers there would be no thieves; and I think it equally true that if there are no customers there will be no good designers. The principle of paying only on artisans is no doubt good, but is it just to the art master? The Department obliges him to have a class to meet three evenings in the week, two hours each lesson; terms, not more than 6d. per week. This class in some towns is chiefly composed of the middle classes, and how is the art master to prevent it? I have a class in my school at higher terms, but of course most of them prefer the lower; and I think it only right for payments to be made on all who belong to the artisans' class, as an equivalent for the low fees fixed by the Department. If this, or something to compensate for the withdrawal of payments on certificates be not granted, the best masters will resign their appointments: I see, by the *Art Journal*, Mr. Kyd, at Worcester, has already done so. I inclose my card, but for obvious reasons only sign myself,

An Art Master.

PORTLAND CEMENT.

Your correspondent, "Cautious," asks, what is "that something else" into which the ingredients of Portland cement, lime, and clay, are converted by burning? and then, what are the distinguishing peculiarities which should render Portland a permanent substitute for Roman cement?

We reply by saying, that, according to the generally accepted theory, lime and clay pass by the agency of heat into a double silicate of lime and alumina, and that the hardness and durability of the cement depend upon the manner in which the combination is effected.

To render it complete, the ingredients—lime and the silicate of alumina—must exist in such proportions as to be capable of being exactly combined by calcination, which, in its turn, must be carried to the point needed to effect the combination, and no further.

The silica can only take up a definite proportion of lime and alumina. If the lime be in excess, a certain portion will remain uncombined, and left free to slake by the action of water, or even of the atmosphere only, after a certain interval, and then will follow disintegration of the mass and the results mentioned by your correspondent.

An excess of clay (*i.e.*, silica and alumina), on the other hand, leaves an uncombined and inert residue, which acts simply as an adulterating medium, like sand, besides interfering with the proper calcination of the material. Chemical theory and practical experience agree in showing that the proportion of lime to clay in water-resisting cements should be at least as two to one, and that the calcination should be carried to the point of incipient vitrification.

Now, testing the two cements under consideration by these standards, it is found that the stone of which Roman cement is made does not fulfil the needed conditions; for, though composed of lime and the silicate of alumina, the proportion of the latter preponderates to such an extent as to prevent a perfect amalgamation of the ingredients in burning; and the result is, a cement loose in its texture (because containing inert foreign matter), which is retentive of moisture, and consequently attackable by frost and vegetable growth.

But in Portland cement the case is otherwise. The dose of lime to clay is in the ascertained right proportion of two to one, and with this condition comes the power thoroughly to combine the ingredients by burning, and thus to give a density and compactness to the product which, in enabling it to resist water, frost, and other decomposing agencies, are the elements of its durability, and of its superiority to the natural cements.

It is confessed that a composed cement, involving many processes and much care in its fabrication, is more open than the natural cements to the mischances arising from the carelessness of the workman or want of knowledge on the part of his

employer; thus producing, by an improper mixture of the ingredients, or by an imperfect calcination, the disastrous effects before adverted to.

A still more constant cause of grief, however, to Portland cement is its bad manipulation and unfair handling when used as a *stucco*; for as a mortar and as concrete it is seldom known to fail.

Notwithstanding which drawbacks the public verdict has been so unmistakeably pronounced in its favour, that the fabrication of Roman cement has practically fallen to nothing; and it is hardly probable now, after twenty years, during which time its properties have been most searchingly tested by English and foreign architects and engineers, that this verdict will be easily reversed, or issue in a "nine days' wonder."

J. B. White & Brothers.

MUSIC AND THE DRAMA.

Royal English Opera.—Begin to analyze Mr. Wallace's new opera, "The Desert Flower,"—look for local colour, music to tell the story, consistency, a melody that haunts you, or poetry in the book, and the whole thing falls through. It is inferior to his "Amber Witch," "Lurline," or "Love's Triumph." Nevertheless, he has given Mr. Harrison, Mr. Weiss, and Miss Pyne some agreeable solos, that please the public, so that it will doubtless run a fair course. A repetition of some of the airs by each of these singers is compelled each night. There are two vigorous Indian dances; and there is one scene for the second act, an American forest, with a rocky pass at the back, and water across, while an uprooted tree forms a rude bridge, which is as good of its kind as was ever painted and set. A second and very beautiful effect is obtained by the rising of the moon.

Royal Gallery of Illustration.—It is remarkable that in this country, where music is so generally cultivated, no attempt should have hitherto been made to produce an "Opera di Camera,"—namely, a work of simple dramatic form, and requiring for its execution a limited number of vocalists, with the accompaniment of a pianoforte. To meet this want Mr. German Reed announces his intention to afford the public an opportunity of judging of the merits of the "Opera di Camera," by introducing in his next entertainment, on the 2nd of November, a work of that character, entitled "Jessy Lea," the joint production of Mr. John Oxenford, and Mr. G. A. Macfarren. The combination of these distinguished names gives us every reason to expect a successful experiment, and that it will lead to the permanent establishment in England of the "Opera di Camera."

KING INA'S PALACE.

Sir,—I should not have troubled you with a letter on this subject, had I not perused the scurrilous tirade signed "Joseph Chapman, Frome, Somerset," in your last number. It would perhaps stop further correspondence upon the subject, were your professional readers to know that it is not one of their number who has thus mutilated and disfigured an ancient work, or that could pen such a letter. Mr. Joseph Chapman should have appended to his name, "*Marble-mason and Tombstone-maker*, Frome, Somerset," and then the admirable criticism of "F.S.A." would be understood. I enclose my card. Another "F.S.A."

NOT CREDITABLE.

At a time when we see so much advancement amongst working men, when we learn with pleasure the progress of co-operative societies, clubs, and libraries, it is with regret that we note a most painful and disgraceful case—which it is the duty of all respectable workpeople to repudiate—which has been brought before the notice of the public, at the Wandsworth police court. For the most part, particularly of late, people have noticed the good demeanour of workmen when engaged in the repair or building of sacred edifices. When the preparations were being made in St. Paul's Cathedral for the funeral of the great Duke of Wellington, we never saw, during the night or in the day, although many visits were made, a man with his hat upon his head, or heard a single word spoken of a violent or irreverent nature; and the same may be said of other experiences; but at Tooting church, by some means which is not explained, one William Hooker, a carpenter, injured a plane which he had borrowed from one of his fellow workmen, and offered to replace it by another. This very fair offer was declined, and the owner of the plane insisted that Hooker should pay a fine of 2s. 6d. *for beer*. He refused to comply with this, and at dinner time the whole of the men set upon him, tied his legs, and pulled him up by a pulley to a height of between 12 and 15 feet. A cord was passed under his arms and between his legs, and they allowed him to hang, pulling him at intervals up and down until he called out "Beer," although Hooker had offered to buy a new plane. One held him fast round the body, while another tied his hands behind him: the legs were tied together, a rope with a slip knot placed under the body, and a threat was made that if the 2s. 6d. were not paid, the sum would be raised to 5s. Hooker was unable to remain in the position very long, as the cord was tight, and nearly took away his breath, and he was obliged to scream out "Beer." They then cut him down, but the ill-used man would not pay, and Henwood, the proprietor of the plane, took the 2s. 6d. from his hand. The beer was drunk, but Hooker would not touch it, and the next morning all the men made a strike against him, and he lost his job, and had not been able to get another. Very properly the parties concerned in this outrage were brought before the magistrate, and some of them were fined to the extent of 10s.; but in the course of the investigation Foster, one of the workmen, said, that when a man went into a shop he had to obey certain rules, which were time-honoured, and had descended from their forefathers, and were likely to descend to their children. We hope that Mr. Foster is wrong in this opinion, and that all well-conducted carpenters will combine in their exertion to put a stop to such proceedings as these, which are disgraceful, and out of harmony with the spirit of the age.

HOLBORN VALLEY IMPROVEMENT.

Sir,—In the *Builder* of Saturday last there appears a communication from Mr. C. H. Smith, advocating the formation of a new street from Newgate-street to Holborn, at the corner of Fetter-lane.

This proposed street seems, so far as, by Mr. Smith's description and in the absence of any plan, I am able to judge, to be identical with a street which I have proposed, and which forms a leading feature in the design which I have submitted in competition to the Improvement Committee of the Corporation of London.

I am not aware whether the same idea may or may not have occurred to other competitors, but inasmuch as I have been laboriously engaged since the date of the advertisement announcing the competition, in preparing a design on the basis of the street in question, which design was delivered before twelve o'clock on Monday last, it will, I think, be evident that as far as Mr. Smith and myself are concerned, I am entitled to claim the merit, if any there be, of the conception of this scheme. Mr. Smith, whilst recognizing the large and increasing traffic from the Metropolitan Railway Company's station in Victoria-street, which traffic will shortly be swelled by the erection of the markets in Smithfield, and the formation of a new street from thence to Victoria-street, and also, probably, by the establishment in that locality of a station or terminus by the Chatham and Dover Company, makes no provision in his proposal for this traffic, but seems to rely upon its passing up and down the present dangerous line of Holborn-hill and Skinner-street as a compensation to the inhabitants for the loss of traffic to be caused by the formation of the new high-level street. I have designed two short streets, running directly from the Metropolitan Station; one in continuation westward of the intended new street from Smithfield, entering High Holborn at Hatton-garden; the other, south-eastward, entering Skinner-street at the upper end of Snow-hill; thus providing for all the chief traffic, and so dividing it as to prevent confusion. And I consider that so far from the property in Holborn-hill and Skinner-street being depreciated by the formation of these streets, it would, by the general improvement of the district, and its connexion with the adjacent new lines of transit, be greatly raised in value. Frederick Wallen.

Sir,—I have just read in the *Builder* a suggestion by Mr. C. H. Smith for the improvement of the neighbourhood of Holborn valley, by the formation of a new high-level street at the back of the existing thoroughfares, and extending from the junction of Holborn and Fetter-lane to the junction of Skinner-street with Old Bailey.

Mr. Smith will be pleased to find that his project has been anticipated. Among the plans submitted, in competition, to the Improvement Committee of the City of London, is a design, embracing the principal features described in his letter, by N. S. Joseph.

DECISION UNDER METROPOLITAN BUILDING ACT.

At the Mansion-house, Messrs. Myers & Sons, the builders, were summoned to answer a complaint by Mr. John Young, the district surveyor, for that they, being builders engaged in the erection of a warehouse known as the Metropolitan Bonded Warehouse, in New-square, Minories, containing more than 216,000 cubic feet, omitted to divide the same in such a manner that the contents of such division did not exceed 216,000 cubic feet, as required by the Metropolitan Building Act, 1855, and unlawfully neglected to comply with the requisitions of a notice given by the complainant on the 10th of September last, requiring them, within forty-eight hours of the date of the notice, to do that which had been omitted contrary to the same Act.

The case occupied some considerable time. The building in question is situate in New-square in the Minories, and contains altogether 438,440 cubic feet divided into three sections of 199,800, 89,920, and 148,720 cubic feet; and the cause of complaint appeared to be that in these sections, although divided by fire-proof walls, the communications from one to the other were not provided with iron doors.

Mr. Young having signified that if the iron doors were erected he would consider the requirements of the Act complied with, it was promised on the part of the defendants that they should be erected, and the summons was allowed to stand over for six weeks; the works in the meantime to be proceeded with, and if completed to the satisfaction of Mr. Young, the summons to be considered as dismissed.

Books Received.

VARIORUM.

"Famous Ships of the British Navy; or, Stories of Enterprise and Daring" (Hogg & Sons), is the title of a spirit-stirring little volume by W. H. Davenport Adams. It has many illustrations, and closes with some account of Iron-clad Ships, by Mr. Barnaby.——*The Church Builder*. Rivingtons, London. The present number of this threepenny quarterly contains articles on Church Roofs; Seats in Churches, illustrated; the Churches of St. Bartholomew the Great, Smithfield; St. Michael, Gloucester; and Cilrheyden, Pembrokeshire, all illustrated; together with other matter interesting to various classes of readers.——*The Popular Science Review*. Hardwicke, London. This rising review contains, in the October number, papers on Fresh Air, by Dr. Lankester; on the Metropolitan Main Drainage Works, by Mr. S. J. Mackie; and various other interesting papers; besides separate divisions devoted to new inventions, books of the quarter, and a summary of scientific news. The first paper in the number is one on Photographic Printing and Engraving, by Mr. William Crookes, F.R.S., and is illustrated by a curious photolithograph of a complete page of the *Times*, distinctly readable, though on much less than the octavo size of the *Review* page.——Victoria Toto Cœlo; or, Modern Astronomy recast. By James Reddie, F.A.S.L. London: Hardwicke. 1863. This is an able but heterodox paper on the theoretical motions of the earth, sun, moon, and planets, which was submitted to Section A of the British Association for the Advancement of Science, at Newcastle-upon-Tyne, in 1863, but received,—as anything so heterodox, whether true or false, might well expect to be,—with awe-inspiring *silence*, indicative, it might be, of profound wisdom and disapproval, but—perhaps not. That profound thinker, S. T. Coleridge, upon one occasion, found himself seated, *vis-à-vis*, at dinner, with a silent guest, who ever and anon looked hard at him in the midst of some eloquent philosophical discourse, and occasionally shook his head in so dissentient and contemptuous a way, that poor Coleridge's talking conceit was almost taken out of him; till at length his dumb critic, suddenly digging his fork into a potato, jerked it into an upright position, with the evidently heartfelt ejaculation, "Them's the jockeys for me!" We do not mean to insinuate that Mr. Reddie's dumb critics are jockeys of this description:—no one who knows the names that were on the list of Section A referred to could for a moment think of doing so; but the anecdote may at least console the author with the reflection that, just as all is not gold that glitters; so, the deepest silence may not always indicate the utmost profundity of wisdom, nor the acme of enlightened and sarcastic disbelief. The object of Mr. Reddie's paper, and its appendices, is to show that the present astronomical theories have become involved in manifest contradictions; and this he does in a modest, gentlemanly, and forcible way. The Newtonian idol has just received an untoward shake from those who, themselves, work the oracle from within; and, both before, and now, it has been not a little further unsettled on its pedestal. We have great respect for the name of Newton; but his worshippers have sunk into a fatuous state of mere scientific idolatry; and it is full time astronomy were freed from the fetters of so debasing a condition. We therefore welcome every glimpse of manly independence of thought, such as Mr. Reddie's, even irrespective of any very decided belief, either *pro* or *con.*, on certain points in question between him and his opponents. There is one leading idea of his, however, with which we feel much inclined to agree; namely, that something very like, at least, to magnetic or electro-magnetic attraction *and repulsion* are displayed in the cosmical phenomena. Gravitation may very well account for the formation of elliptical orbits, but those of the planets display a tendency to circularity which only a repulsive force in conjunction with an attractive seems to be capable of accounting for. And this was to a certain extent the opinion of a celebrated and otherwise orthodox professor of astronomy, Professor Nichol, of Glasgow; who at least suggested that gravitation did not account for such orbits; and therefore, thus quietly hinted a very significant and serious doubt as to first principles in general, which he dared not more boldly or fully express.——The Electro-Magnetic Phonograph. By J. B. Fenby, Worcester: printed by Holl & Darke, Herald Office, High-street.—In this pamphlet an account is given of an ingenious machine, already noticed by us, for attachment to piano fortes, organs, and other keyed musical instruments, by means of which a professor or amateur who can extemporize may produce a printed copy of his original ideas, both in melody and in harmony. The machine is worked by the power of a small voltaic battery; so that there is no weight or pressure on the keys, the movements of which complete and break the electric circuit, and so work the printing apparatus. The method of electro-magnetic notation has been purposely copied from Morse's telegraphic alphabet. The invention is otherwise patented.

Miscellanea.

Water-pipes.—Wrought-iron water-pipes, ned and coated with hydraulic cement mortar, re in use in San Francisco. These pipes have pigot-joints, can be back-filled as soon as laid, nd capped in the same manner as cast-iron pipes.

The Wellingtonia Gigantica?—A tree, it said, has recently been cut down in California, he circumference of which was 90 feet, and its eight 325 feet. The bark was in some places feet thick. The tree contained 250,000 feet of imber. Its age is estimated to have been not ess than 3,100 years. The wood was sound and olid.

The Irish Exhibition of 1864.—The organiation of this enterprise is making satisfactory rogress. In various parts of the country meetngs have been held in furtherance of the movement, and in every instance the proposal has been avourably received. Messrs. Bagot & Walker epresent the Royal Dublin Society, under whose uspices the exhibition will be held.

Ventilation through Windows.—A patent as been taken out by Mr. Thomas Boyle, lighting nd ventilating engineer, for a plan of ventilation y means of holes inserted at the top and bottom f window-sashes, the upper for the escape of foul nd heated air, and the lower for the ingress of resh and cool air from without. The plan is imple, but not new. An account of it has been ssued in a printed form by Messrs. Comyn, Ching, & Co., of Castle-street, Long-acre, gas engineers o her Majesty.

Colliery Ventilation.—A successful trial, it s said, of a machine for this purpose has been nade at Bonville's Court Colliery, near Tenby. The machine is a large circular fan, improved and constructed by Mr. Waddle, of the Laumore Works, Llanelly, of 18 feet diameter, by 4 feet breast, and is so arranged on the surface over the upcast shaft that it absorbs all the foul air and gas from the colliery without any leakage, and thus, probably, may supersede the large furnace at the bottom of the shaft, which is so often placed in much dangerous proximity to these large reservoirs underground. This fan-wheel is driven by a steam engine of 18 inches cylinder and 20 inches stroke, producing an average of 120 revolutions per minute in the fan.

Pig-Iron.—The computed make of pig-iron in England and Wales last year was 2,863,469 tons, against 2,763,390 tons in 1861, 2,889,752 tons in 1860, and 2,273,243 tons in 1854. The make in Scotland last year was computed at 1,080,000 tons, against 1,040,000 tons in 1861, 1,000,000 in 1860, and 775,000 tons in 1854. The total make for the United Kingdom consequently advanced from 3,048,243 tons in 1854 to 3,943,469 tons in 1862. The number of furnaces in blast last year was 556, against 568 in 1861, 589 in 1860, and 554 in 1854. The average price last year was 35s. per ton, against 49s. 3d. per ton in 1861, 53s. 6d. per ton in 1860, and 79s. 9d. per ton in 1854. Of the 556 furnaces in blast last year, 436 were in England and Wales, and 120 in Scotland.

Drilling Apparatus.—This invention, a communication to Mr. Hughes, of Chancery-lane, relates particularly to the brace used by joiners and other operatives; and the improvements consist in attaching to it a spring by means of a small screw. The spring is slightly hollowed at one of its ends to receive a pin, having a hollowed part to allow the passage of the bit or drill; which pin, by means of the spring, is forced through the socket of the brace, so that it may enter the groove cut in the head of the bit or drill, in order to secure it in the socket and prevent its falling out; and when the bits or drills have to be removed or replaced, the hollow part of the pin is made to correspond with the hole in the socket. The sockets can be made of various forms, and either bored or slotted internally to gauges, so that any kind of bit or drill corresponding with its intended socket may enter it easily.

Nicholas Hilliard.—The name of this eminent miniature painter is familiar to all lovers of English art. A writer in *Notes and Queries* says,—"From the following memorandum, annexed to a particular for lease of the manor of Poyle, in the parish of Stanwell, co. Middlesex, dated 1587 (Augmentation Office Records), it appears that he was the engraver of the Great Seal employed at that period:—

'Memorandum, &c.—The said Lease to be for 21 yeares to the said Hilliard, in consideration of his paines in engraving ye Great Seale of England.

Fr. Walsingham. W. Burleigh.'"

The Architectural Association.—We would point attention to the circumstance that the opening *conversazione* of the Association will be held on Friday evening next, October the 30th. A good list of papers for the fortnightly meetings has been arranged.

Working Men's Dwellings in France.—Count de Madre, in Paris, has built twenty-five great houses for workmen, and let them in flats, consisting of sitting-room, bed-room, and kitchen, at a rent of three shillings a week. All the tenants have the use of a courtyard as playground, and a grand central hall is to be erected for the use of the workmen's wives. The count pledges himself never to increase the rent of a tenant, never to eject one except for non-payment of rent, and never to distrain on furniture. The experiment has now been tried for two years, and the result is a profit of 6½ per cent. The count is about to erect other large buildings on the same plan and for the same object.

Gas.—The prospectus of a limited Nottingham and District Gas Consumers' Company has been issued. The capital will be 100,000*l.*, in 10*l.* shares, deposit 10*s.* a share. The company has been projected by large consumers for the purpose of supplying the town of Nottingham and the surrounding district with gas of a purer and more brilliant character, and better adapted for manufacturing and domestic purposes, than that hitherto supplied; and at as low a charge as is attainable by the adoption of the most recent improvements in its manufacture, and consistent with a fair return for the capital employed. Calculations have been made that, charging for gas at a great reduction on the present scale, a dividend of 8*l.* per cent. will be realized upon the shares; and although the maximum rate allowed by Parliament is 10*l.* per cent., it is proposed to pay all money beyond 8*l.* per cent. in aid of such rates in the town as may be afterwards determined upon.

Schools of Art.—The chief stone of the Nottingham School of Art, now in course of erection in Waverley-street, of that town, was to be laid to-day (Thursday), by the Duke of Newcastle, lord-lieutenant of the county, with Masonic ceremonial.——The annual inspection and examination of the works of students in the Cork School of Art, for this year, has taken place, under the direction of Mr. Eyre Crowe, inspector from the Science and Art Department at South Kensington. While in the Dublin School but fourteen medals were awarded by Mr. Crowe, and but three selected for national competition, and in the Limerick only five medals were awarded, the large number of nineteen medals has been awarded to the Cork School, of which nine have been selected for national competition. On this occasion the competition for local prizes, 10*l.* from the Earl of Cork, and 25*l.* from the mayor of Cork, for the best works, in specified stages, and executed by various classes of the community, was decided. The students, it seems, have worked with diligence, and the result reflects much credit on the master, Mr. Brenan.

The Hotel Movement. — The latest hotel company is the "South Blackpool," with a capital of 50,000*l.* in 5*l.* shares. Blackpool, in Lancashire, is a favourite resort of the people in the North when they recreate at the sea-side. The proposed erection, it is said, will be on a good site. In Ireland, hotel companies have attracted attention, but less than in England. However, some progress has been made. A new hotel "on a splendid scale" is to be erected in Kingstown, upon a site overlooking the harbour, and in connexion with the Royal Hotel. It has also been determined to form a company for the erection of a new hotel at Foxrock, between the Stillorgan and Carrickmines stations on the Dublin and Wicklow Railway, within easy distance of Kingstown and Bray. The Bois de Boulogne Hotel and Land Company advertise as being incorporated under "The Companies' Act, 1862," with limited liability, and under a convention concluded between her Majesty and the Emperor of the French. The objects of the company are to carry out a concession granted by the proper authorities, conferring the right to purchase compulsorily certain properties, comprising an area of about 120 acres of freehold land at St. Cloud, near the Bois de Boulogne and Paris, and to construct there Boulevards on the same; to erect a first-class family hotel; and to sell the remainder of the land; which, after deducting that required for the hotel and boulevards, will consist of about 100 acres, for villa residences. This hotel at St. Cloud is, it is said, to be to Paris what the Star and Garter at Richmond is to London.

New Houses in Durham.—At a meeting of the Board of Health, on Monday last, plans were passed for the erection of about 250 new houses. These houses, which have been designed by Mr. Ebdy, architect, will form seven streets. The houses in Wharton-street, Cross-street, East Cross-street, and Sutton-street, will be let for about 15*l.* a year; and the houses in Flass-street, Cail-street, and Ainsley-street, for about 8*l.* a year.

Large Gas-holder at the City Gas Works. For some time past numerous workmen have been engaged in erecting a vast gas-holder at the premises of the City of London Gas Company, Whitefriars. It is a three-light gas-holder, and has (except the painting) just been completed. The works connected with it have been carried out by Messrs. Westwood & Wright, of Dudley, gas-holder builders. When full it is of the great height of 100 feet (the highest ever built). Messrs. Westwood & Wright are now engaged in constructing extensive new works at Para, in Brazil, which are rapidly progressing.

Safety in Cleaning Windows.—The frequent and fatal accidents from cleaning windows outside have led to various endeavours to obviate such accidents, and among these patents have been taken out for Gurman's sash-pocket and fittings to balance and weight sashes. By these simple means, as stated, "a common-sized window of two sashes may be taken out in one minute and replaced in the same time, without removing the beads, damaging the frames, or disfiguring the painting. A new line may be replaced in a few minutes by any person, where it now takes a skilled carpenter a quarter of a day, besides disfiguring the painting by driving in fresh nails where the room is nicely grained. If a square of glass be broken, it can be put in without a ladder or getting outside on a machine. The windows can be painted without ladders. All old windows can be altered."

Accidents.—A wall in St. John's Churchyard, Chester, has fallen, in consequence, says the local *Chronicle*, of "the late rains loosening the foundation, assisted, no doubt by the shock of the earthquake."——In Hereford, we hear, some chimneys fell upon that occasion, but no serious accident appears to have been occasioned by the earthquake; which, by the way, the writer of this distinctly felt in Holloway, and immediately noted it down as a slight shock of earthquake, or earth-wave rather. Once before, at Glasgow, about twenty years since, he experienced just such a shock.——An inquest has been held at the Sussex County Hospital on the body of a bricklayer's labourer, who died from the effects of injuries received by a fall from a scaffold, whilst at work in a house belonging to Mr. Banks, builder, of Hove Villas, Cliftonville. On a scaffold inside the building over a staircase, some 36 feet from the ground, were several hods of mortar and bricks, which, together with the weight of men and boys, caused the putlog to break, and to pitch deceased on to a joist about 10 feet from the ground. The poor man clung to the joist for a minute, and then fell into the arms of a fellow-workman. He was taken to the County Hospital, where he died. The jury returned a verdict of "Accidental Death."

Building Societies' Demonstration. — A monster meeting of various building societies on the Bowkett system established in London and the suburbs took place on Thursday night in the Agricultural Hall, Islington. There were more than 3,000 persons assembled. Mr. R. B. Starr, the secretary, read a statement to the meeting, detailing the progress of the several societies. From the statistical statement, it would appear that there were twenty-one societies now in operation, five of which were still incomplete. The total number of members in the twenty-one societies was 7,055; the number of shares issued was 17,641; cash paid up, 38,687*l.* 17*s.* 3*d.*; the number of houses purchased by working men was 192; the amount of cash in hand for appropriation was 5,946*l.* 15*s.* 3*d.*, to be advanced during the next three months; the amount of cash repaid on account of appropriations was 11,626*l.* 1*s.* 5*d.*; the amount due on return of appropriations was 30,321*l.* 14*s.* Dr. Bowkett gave an elaborate description of the working of the societies, and drew a comparison between building societies and co-operative stores, contending that as the published results showed that ten per cent. was realised by their building societies, ten times ten could be realised by the working men if they would, as they might, establish co-operative stores, where their profits were continually accruing, and the ten per cent., instead of being upon the year's transactions, was realised every week.

The late Accident at the Wesleyan Chapel, Brixton-hill.—Sir: As the builders carrying out the works in enlarging the size of the above place of worship, we wish to give some explanation as to the real cause of the disaster. The tie-beam which broke was 65 feet in length, 14 inches by 7 inches, and of the best Memel timber, and quite new. The temporary iron "tension rod" gave way, although of good iron, and the beam broke in its weakest part, where mortised, &c., to receive the king-post and binder. At the inquest held upon the deceased, no blame was attached to ourselves. We have seen many reports in the newspapers attributing the cause of the accident to the beam being of old timber, and wrong constructions put on the matter altogether.—Duncanson & Moultrie.

New Rock-Boring Machine.—An improved mechanical drill, which is calculated to materially facilitate progress in mining and quarrying operations, by completely superseding the ordinary slow and laborious process of hand-boring, is being introduced by Mr. W. C. Harrison, of Pimlico. The machine can be driven either by men or by steam-power, according as the one or the other may be at disposal: it stands on a base 7 feet by 2 feet 8 inches, and is 5 feet 6 inches high. The machine is stated to have worked very successfully in boring holes from 1 inch to 2 inches diameter; and that the rate of 10 feet to 16 feet an hour, depending upon the quality of the slate or other material being operated upon, has been maintained. Amongst the advantages claimed for the machine, may be mentioned the circumstance, that without deranging the framework the boring-bar can be set higher or lower, or at any angle that may be required above or below the horizontal line.

The Croydon Surveyorship.—At a recent meeting of the local board of health, in consequence of the surveyor, Mr. Fenton, having resigned, Dr. Carpenter stated, respecting their power to discharge their surveyor without the sanction of the Secretary of State, that under the 8th section of the 21st & 22nd Victoria they had full power, without bringing down an inspector and instituting an inquiry. Mr. W. Drummond said, on the last occasion when they advertised for a surveyor, there was only three weeks' notice given. It was stated in the last advertisement that he should give his whole time to the Board. By that was meant that he should not engage in any other business but that of the Board. He considered that the surveyor should know his hours. Mr. Crowley thought he should know what were to be his duties. The details of the surveyor's duties were then gone into, and it was resolved that a surveyor should be advertised for in the *Times*, *Standard*, *Builder*, *Telegraph*, and the local papers, and that his salary should be 400*l.* a year, the Board allowing a small sum for an assistant.

Railway Matters.—The traffic receipts of railways in the United Kingdom amounted, for the week ending the 3rd of October, on 10,882 miles, to 638,616*l.*, and for the corresponding week of last year, on 10,428 miles, to 615,434*l.*, showing an increase of 454 miles, and of 23,182*l.* in the receipts.——On the Midland railway, at Kegworth, there is a new signal, consisting of a clock, with a face 4 feet in diameter, placed on the top of a column 15 feet high. Only a quarter of the clock is shown, which is formed of ground glass, with red figures 0.5.10.15., and has only one hand. Attached to the clock is a long rod connected with a treadle about 16 feet long, which lies along the inside of one of the rails. On the train passing over the treadle it is depressed slightly by the wheel flange, and the clock hand is set at liberty, and is so adjusted by a counterpoise that it is turned to the figure 0. Immediately the train has passed over, the hand begins again to mark the time up to fifteen minutes, when it is stopped, thus indicating to the next train exactly how long, up to fifteen minutes, the preceding train has passed the signal. The same clock works two faces, one for the up and one for the down line. The signal is illuminated at night. The inventor of this contrivance, according to the *Mechanics' Magazine*, is Mr. John King, lace manufacturer, Heanor.——Recent accounts from Barcelona state that a serious accident had occurred on the railway from Barcelona to Granollers. The bridge thrown over the Hahern having been undermined by the violence of the torrent, increased by heavy rain, had suddenly given way during the passage over it of a railway train coming from France, composed of nine carriages. The locomotive and seven carriages were thrown into the river. Many dead bodies had been recovered, but the corpses of the others had been carried away by the torrent.

Distribution of Prizes at Painters' Hall. A meeting of the Court and Livery of the Worshipful Company of Painters, has been held at the hall, Little Trinity-lane, Cannon-street, when the prizes gained by the successful competitors at the annual exhibition of works of decorative art, held recently at the hall, were distributed. The Master, Mr. D. G. Laing, presided. The following were the recipients of the prizes:—For graining, Mr. A. Tyndall, silver medal; for marbling, Mr. C. Ross, silver medal; for writing, Mr. W. J. Cloake, silver medal; for decoration, Mr. F. Spottiswood, silver medal; a bronze medal each to Mr. S. Burnby, for graining; Mr. C. Hewett, for writing; Mr. H. Goodwin, for marbling; Mr. J. J. Lovegrove, for decoration. To each of the following a certificate of merit:—Mr. J. Graham, Mr. A. Tyndall, Mr. J. Tuffill, and Mr. J. G. Howe—the works for which the awards were given being (according to the order of the names) graining, marbling, writing, and decoration.

TENDERS.

For the erection of two hop warehouses, on Guy's Hospital Estate, Great Maze Pond, Southwark, for Mr. Thomas Thornton. Messrs. Newman & Billing, architects:—

Brass	£8,279 0 0
Thompson	8,260 0 0
Ashby & Sons	8,114 0 0
Axford & Co.	8,100 0 0
Downs	7,996 0 0
Lawrence & Sons	7,993 0 0
Wells	7,890 0 0
Peake	7,775 0 0
Rider	7,460 0 0
J. J. & F. Coleman (accepted)	7,358 0 0

For the erection of the Cliff Hotel, Scarborough. Mr. Cuthbert Brodrick, architect. Quantities supplied by Mr. Austin:—

Simpson & Malone	£77,548 0 0
Kirk & Parry	77,260 0 0
Robinson	75,000 0 0
Shaftoe & Barry	74,132 0 0
Addy	73,488 0 0
Myers & Son	72,850 0 0
Weatherby	66,428 0 0
Climie (accepted)	66,000 0 0
Neild	49,426 0 0

For the erection of a veterinary establishment in St. Giles-street, Norwich, for Mr. D. Sayer. Mr. James S. Benest, architect. Quantities supplied:—

Youngs & Breeze	£1,259 0 0
Balls	1,252 11 0
Downing	1,250 0 0
Murray & Son	1,240 0 0
Brooke & Wiseman	1,225 0 0
Spinks & Wright	1,200 0 0
Browne & Bailey	1,183 0 0

For the church of St. John the Evangelist, at Masborough, near Rotherham. Mr. William White, architect. Quantities supplied by Mr. Samuel Field:—

Woodward	£3,323 17 7
Harper	3,159 0 0
Anclay	2,938 13 11½
Ripley (accepted)	2,850 0 0

For building the new Church of St. John the Evangelist, Middlesborough, Yorkshire. Mr. John Norton, architect:—

	Church.	Tower and Spire.
Hodgson	£3,850 0 0 ..	£1,400 0 0
Laws	3,669 19 6 ..	1,549 0 0
Fidler & Ingram	3,445 0 0 ..	1,560 0 0
France (accepted)	3,646 0 0 ..	1,068 0 0

For the erection of stables and dwelling-houses, in Goswell-street, for Messrs. Copestake & Co. Messrs. Tress & Chambers, architects. Quantities supplied by Mr. Raggett:—

Brown & Robinson	£9,452 0 0
Coleman	9,122 0 0
Sewell & Son	8,776 0 0
Brass	8,558 0 0
Conder	8,498 0 0
King & Sons	8,490 0 0
Lawrence	8,422 0 0
Ashley	8,379 0 0
Macey	8,337 0 0

For alterations at the Tiger public-house, Wells-street, Oxford-street, for Mr. Hartley:—

Hyde	£195 0 0
Martin	187 4 6
Fox	133 0 0

For fencing in the Ipswich and Suffolk Freehold Land Society's Estate, at Ipswich. Mr. James Butterworth, surveyor:—

Graystone	£245 0 0
Goold	232 10 0
Haxell	214 10 0
Garnham	208 13 4
Hobart	208 0 0
Singleton & Morgan	205 0 0
Reeve	205 0 0
Trew	199 15 0
Turner	199 10 0
Card	199 10 0
Shulver	199 0 0
Reeve (accepted)	197 0 0
Ward	195 4 6

For the erection of a dwelling-house, at Ratcliffe-on-Trent, near Nottingham, for Mr. E. Green. Mr. S. Dutton Walker, architect:—

J. & W. Smith	£634 10 6
Wright	600 0 0
Ward, Ansell, & Co.	579 0 0
Lamb & Stevenson	505 5 5
Gilbert & Wood (accepted)	499 10 0

For a residence at Poyle-hill, Surrey, for Messrs. H. & F. Chester. Messrs. Eggar & Stapley, architects:—

G. Goddard	£2,347 0 0
Marsland & Son	2,222 0 0
Goddard & Son	1,973 0 0
Sharpington & Cole	1,877 0 0
Birch	1,869 0 0
Martin	1,790 0 0
Duke	1,754 0 0

For brick and pipe sewers, about 14,000 yards in length, for Ealing Local District Board. Mr. Charles Jones, surveyor:—

Moxon & Co.	£22,453 0 0
Hayes	22,325 0 0
Bird & Co.	22,046 0 0
Edis	15,987 0 0
Messrs. Williams	15,820 0 0
Robinson	15,795 0 0
Pope	15,488 0 0
Hill & Co.	15,315 0 0
Haynes & Co.	15,314 0 0
Dethie	15,097 0 0
Crockett	14,348 0 0
Pearson	14,159 0 0
Mann & Co.	14,049 0 0
Rogers	13,981 0 0
Sharon & Pezzy	13,871 0 0
Coles & Son	12,842 0 0
Porter	11,732 0 0

For alterations and new frontage to No. 2, Broadstreet, Bath. Mr. C. J. Phipps, architect:—

Greenman	£452 0 0
Ridout & Long	432 0 0
Rawlings	412 0 0
Mercer & Son	397 0 0
Bussell	397 0 0
Aust	395 0 0
Higginson & Cavill	383 0 0
Bishop	381 0 0
Backhouse	376 0 0
Francis	365 0 0
Wibley	359 0 0
Mann (accepted)	317 0 0

Accepted for new dining-rooms, &c., exclusive of the decorations, for Messrs. Fortt & Son, Milsom-street, Bath. Mr. C. J. Phipps, architect:—

Carpenter's Work.

Bullin	£188 0 0

Mason's Work.

Bladwell	£85 0 0

Plumber's Work.

Kerslake	£42 10 0

Painter, Glazier, Slater, and Plasterer's Work.

Pryor	£111 0 0

Fittings.

Wadman, Brothers	£105 0 0

Stoves, Furnaces, Steam-Boilers, &c., including fixing.

Williams	£100 0 0

For painting and decorating Laura Chapel, Bath. Mr. C. J. Phipps, architect:—

Bussell	£146 0 0
May & Son (accepted)	105 0 0

Accepted for building five cottages at New Islington, Manchester, for Mr. James Grantham. Mr. Thomas Dale, architect:—

Tims & Son	£548 0 0

Accepted for building boundary-wall, and a cooking and dining room for the work-people, at Millhill Cotton Works, Lowerse, near Blackburn, for Messrs. Hodgkinson, Swain, & Codling. Mr. Thomas Dale, architect:—

Bricklayer and Excavator's Work.

Charnley	£357 0 0

Mason's Work.

M. & J. Leigh	£63 0 0

Carpenter and Slater's Work.

Stones	£103 0 0

Accepted for building two pairs of semi-detached houses, at Higher Crumpsall, for Mr. William Smith. Mr. Thomas Dale, architect:—

Carpenter and Joiner's Work.

Lean	£906 0 0

Bricklayer and Excavator's Work.

Whittaker	£476 0 0

Mason's Work.

Knowles	£276 0 0

Plasterer and Painter's Work.

Connell	£239 0 0

Plumber and Glazier's Work.

Alsop	£273 0 0

Slater's Work.

Barrow	£75 0 0

Ironmonger's Work, &c.

Wilson	£116 0 0

For re-building No. 36, Chancery-lane, for Mr. Snell. Mr. Blythe, architect:—

Fowler	£1,400 0 0
Mathews	1,392 0 0
Burton	1,390 0 0
Piper & Wheeler	1,229 0 0
Ashby & Sons	1,211 0 0
Clemence	1,209 0 0
Howard	1,176 0 0
Macey	1,175 0 0
Fish	1,097 0 0
Cannon	1,030 0 0

For re-building No. 37, Chancery-lane, for Mr. Moulton. Mr. Blythe, architect:—

Fowler	£1,400 0 0
Mathews	1,257 0 0
Burton	1,250 0 0
Ashby & Sons	1,185 0 0
Clemence	1,180 0 0
Macey	1,170 0 0
Howard	1,148 0 0
Fish	1,124 0 0
Piper & Wheeler	1,075 0 0
Cannon	1,000 0 0

For a house at Lesmington. Mr. J. Cundall, architect. Quantities not supplied :—

Smith	£336	12	0
Birmingfield	330	0	0
Woolison	319	15	0
Ballard (accepted)	319	0	0

For re-building No. 38, Chancery-lane, for Messrs. Tivers. Mr. Blythe, architect :—

Fowler	£1,934	0	0
Mathews	1,718	0	0
Burton	1,695	0	0
Piper & Wheeler	1,632	0	0
Ashby & Sons	1,630	0	0
Clemence	1,620	0	0
Macey	1,610	0	0
Howard	1,597	0	0
Fish	1,497	0	0
Cannon	1,399	0	0

TO CORRESPONDENTS.

W. H (a dimension of "brickwork *reduced*," means brickwork reduced to uniform thickness of 1½ brick). J. G.—*Non Nobis* —B.—G. B.—W. W.—W. H.—W. A. G. (apply to Messrs. Ransome).—Mr M.—R. P.—A. R.—J. G. B.—C. G.—G. B.— H. K.—C. J. P.—R. & S.—H H. C.—S. D. D.

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

CHURCH, TURRET, AND STABLE CLOCKS.—Clergymen, architects, committees, &c., can be furnished with estimates and specifications for every description of horological machine, especially cathedral and public clocks, chiming tunes on any number of bells. A short pamphlet on church and turret clocks post free, on receipt of one stamp. J. W. Benson, Maker of the Great Clock for the Exhibition, 1862, 33 and 34, Ludgate-hill, E.C.—[Advt.]

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Newnham, October 15, 1863.

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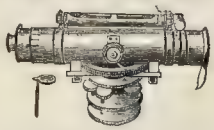
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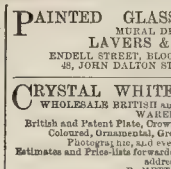
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CITY of LONDON.—FREEHOLD of BUILDING LAND.—The site of two houses at the corner of College hill and Cook-lane (land-tax redeemed), TO BE LET by the Worshipful Company of Cutlers on a BUILDING LEASE for eighty years. Tenders to be sent to Cutlers'-hall, Cloak-lane, on or before MONDAY, the 2nd of NOVEMBER, 1863.—For further particulars apply to Messrs. BEAUMONT & THOMPSON, Solicitors, 19, Lincoln's-inn-Fields, or Messrs. TRESS & CHAMBERS, Architects, 27, Queen street, Cheapside.

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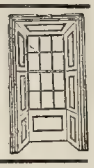
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1 by 7 ,,	15s.	15s. 6d.	16s. 6d. ,,
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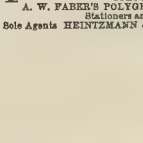
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Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta, Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

ESTABLISHED 1829
PORTLAND CEMENT WORKS,
MORDEN WHARF, EAST GREENWICH.
EDWIN HOLLICK,
Manufacturer of PORTLAND CEMENT of the best quality only, for the English and Foreign Markets.
Vessels loaded alongside.
NOT CONNECTED WITH ANY OTHER HOUSE.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.
PAVING TILES in various colours and designs
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Architects' designs carried out on the shortest notice.
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Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
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Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
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HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.
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PARIAN CEMENT for INSIDE WORK.
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Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
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DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
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The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
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The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks
Agents wanted. No applications attended to without a banker's reference.

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KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise
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ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of their very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

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ESTABLISHED 1844.
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INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

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HENRY DOULTON & CO., LAMBETH.

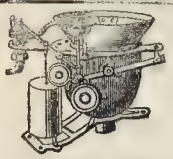
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GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

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Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

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T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

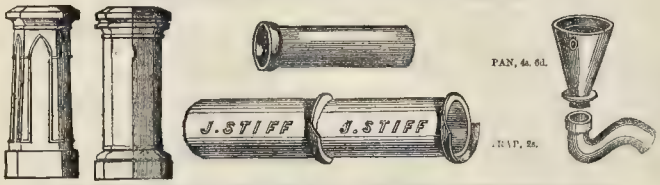
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MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

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STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



PAN, 4s. 6d.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

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DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

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PATENT FLUO-SILICIC INDURATIONS for the PRESERVATION of STONE, CEMENT, and other like materials. The Company apply to the surface of Stone, Cement, &c. a solution of Fluo-Silicic Acid, and Silicate of Potash. These are the only patents which embrace the use of that most valuable agent, Fluo-Silicic Acid. Bath, Caen, and other soft stones, when treated by the Company's solution, become extremely hard. The great expense of high ornament to build ings in hard stone has been an obstruction to Art; but since the Fluo-Silicic process can be applied as readily to soft stone after it is carved, that obstruction exists no longer. The Fluo-Silicic at once permanently arrests the decay of all stone.—For further information apply to the Manager of the Company, Mr. DUDLEY, Architect, as above.

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For Internal Wood Work, Roofs, and Church Work generally. This Varnish renders Wood Uninflammable, and Preserves it from Decay.

1851. 1862.



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BLACKFRIARS ROAD,

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MARK H. BLANCHARD & CO.

Successors to COADES.

Original Works established 1769. Terra-Cotta Manufacturers to her Majesty, the Commissioners of 1851, the Board of Works, the Trinity House, the Admiralty, the Royal Horticultural Society, and the Department of Science and Art, South Kensington, and the Recipient of the



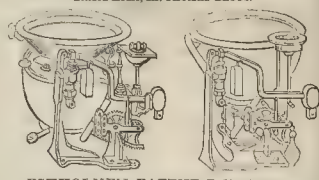
Prize Medal at the 1851 Exhibition for MATERIAL and WORKMANSHIP in TERRA-COTTA, and the only Recipient of Two Prize Medals at the 1862 Exhibition for TERRA-COTTA and POTTERY, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this imperishable and invaluable Material in Sculptural and Architectural Embellishments, suitable to the Palace, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment have stood the test of time.

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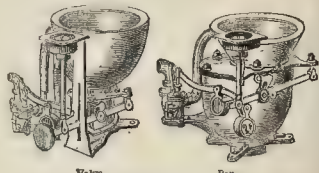


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Suitable for first and second class houses, being most efficient and simple, free from all snarls, and requires no cisterns, service boxes, cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipes. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet, alike dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary direct Service Main Cottage Water Closets.

Chrimes's Patent High pressure Single and Double Loose Valve and Screw Down Cocks; Improved Self-acting and Pull Water-Closet; Patent Almolite Water Waste Preventer; Plumbers' and Gasfitters' Brass Work of every description. Drawings, Descriptions, Prices, and Testimonials will be forwarded per post on application as above.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cistern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

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The ONLY MEDAL "for STONEWARE" has been awarded to

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In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

TERRA COTTA and Fine STONEWARE POTTERY, warranted to stand Frost.

JOHN M BLANSFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and economised the manufacture of TERRA COTTA and Fine STONEWARE for ARCHITECTURAL PURPOSES. He is also prepared to produce it of various new colours, so as to harmonize with Marble, Portland, and other Stones, and equal in hardness to Granite.

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Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

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Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

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Pumps of every description, for Hand, Horse, Water, or Steam Power.



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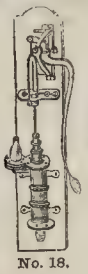


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This is a simple Self-acting Machine for Raising a considerable Supply of Water where a fall can be secured from a Stream, Brook, or Spring. A great many have been fixed in various parts of the country, for raising from 600 to 6,000 or more gallons per day to elevations varying from 30 to 300 feet, and forcing through main pipes from 50 yards to several miles in length. The fullest particulars and estimates will be handed on application.





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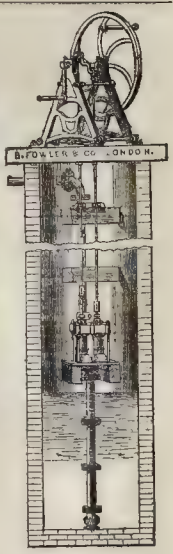
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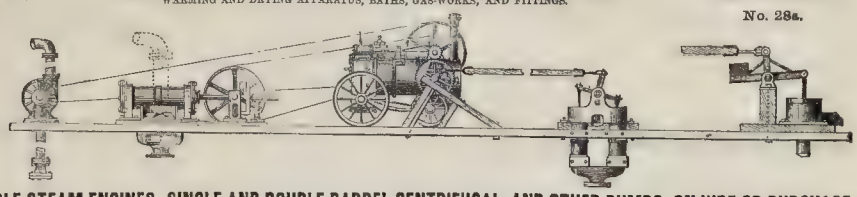
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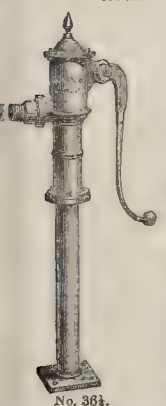


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For Raising Water from Wells not exceeding 25 feet in depth,

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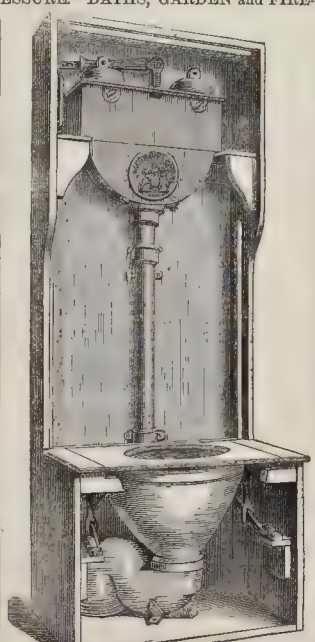
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Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

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Self-acting Closet in Wood Case, complete	£4 10
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Further Description, with Sectional Drawings will be sent on application.

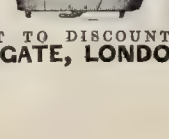


No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0

Sunk Handle, extra	0 2 0
Blue Basin, extra	0 1 0

No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

METROPOLITAN RAILWAY.—Smithfield Loop.—Building Materials of several Factories, Dwelling-houses, and Premises, Sharp's-alley, and Red Lion-alley, Cow Cross street.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on WEDNESDAY, OCTOBER 28, at TWELVE, in lots, the valuable BUILDING MATERIALS of several Factories, Dwelling-houses, Stables, and Premises in Sharp's-alley and Red Lion alley, Cow Cross street, Smithfield, comprising capital stock bricks, oak and fir timber in roofs and floors, pantiles and plain tiles and slates, sashes, doors, weather boarding, flooring boards, folding gates, pebble, clinker, and other paving, lead gutters and pipes, cisterns, stoves, and other useful fixtures. May be viewed the day previous, and Catalogues had of Messrs. BURCHELL, Solicitors, Broad Sanctuary; and of PULLEN, HORNE, & EVERSFIELD, 30, Fore street, E.C. and 40, Parliament-street, S.W.

HIGHGATE.—BUILDING MATERIALS OF A LARGE RESIDENCE.

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on FRIDAY, OCTOBER 30th, at TWELVE, in Lots, all the excellent BUILDING MATERIALS, Fixtures, and Fittings-up of a Large Residence, with Coach-houses, Stabling, &c. known as Rose Court House, Highgate, near the Toll-gate, comprising about 150 of sound stock bricks, 2,000 plain tiles, 30 squares of slates, stout rafters, joists, girders, and other useful timber; 50 modern sashes and casements, 10 doors, marble chimney-pieces and Interior Fittings, 75 squares of sound floor-boards, York and Portland paving, stone window cills and steps, pebble and clinker paving, stable fittings, lead gutters, cisterns and pipes, stoves, and other useful fixtures. Also a quantity of growing timber and shrubs, several thousands of turf, &c.—May be viewed the day previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 30, Fore-street, E.C. and 40, Parliament-street, S.W.

OLD STREET ROAD. Freehold Houses and Ground Rents, including the new Tariff public house and Twelve other Houses and Shops; the whole producing a Rental of about 305l. In 13 Lots.

MR. PHILIP D. TUCKETT is instructed to SELL by AUCTION, at the MART, Bartholomew-lane, London, on TUESDAY, the 27th of OCTOBER, 1863, in eight lots, a very valuable FREEHOLD PROPERTY, including the Dwelling Houses and Shops Nos. 48, 50, 40, 41, and 42, Old Street-road, and Nos 7, 8, and 9, Boot-street, in the Parish of St. Leonard, Shoreditch, let to respectable tenants at very low rent; an amply secured RENT of 125l. per annum, arising out of that well accustomed public house known as The New Tariff, and three adjoining houses, together with the REVERSION of the above valuable property after an unexpired term of forty-nine years: and a GROUND RENT of 14l. per annum, arising out of Nos 3 and 4, Boot-street, producing a rack rental of 91l.—Particulars, with plans and conditions of sale, may be obtained at the Mart; of Messrs. POOLE & GAMLEN, Solicitors, 3, Gray's Inn square; and of Mr. PHILIP D. TUCKETT, Land Agent and Surveyor, 76, Old Broad-street, E.C.

ESSEX — HORNCHURCH BRICKFIELDS, near Romford. — To BRICK, TILE, and DRAIN-PIPE MAKERS, BUILDERS, and OTHERS.

MESSRS. COLLIS & WARREN will SELL by AUCTION, at the WHITE HART INN, Romford, on WEDNESDAY, NOVEMBER 18th, 1863, by direction of the Proprietor, the valuable LEASE, fourteen years unexpired, and GOODWILL of that old-established and well-circumstanced BRICK, TILE, and DRAIN PIPE MANUFACTORY, situate at Hornchurch, and about two miles from the market town of Romford, comprising a commodious brick built residence, with large gardens. There is an almost inexhaustible supply of good earth for making tiles, pipes, and general pottery ware, together with a large kiln, extensive drying sheds, stables, and other necessary buildings, the whole covering a space of five acres. Also the LEASE, fifteen years unexpired, and GOODWILL of a large BRICKFIELD (part under cultivation), comprising twenty two acres of land, with excellent brick earth of great depth. It has been worked for many years, and well known as the "Hornchurch Brickfields," situate near Butt's-green. These properties have been worked conjointly, and a large and very profitable trade has been successfully carried on for the last fifty years, a large number of bricks being made yearly, together with an immense quantity of tiles, drain pipes, chimney pots, &c. On account of the great and continually increasing demand for bricks, &c. in the neighbourhood, and being the only brick field within a radius of seven miles, these properties possess peculiar advantages, and purchasers may rely upon realising the already extensive trades and receiving a large interest for the capital invested.—Particulars and Conditions of Sale may be had of Messrs. BERRIDGE & FRANCIS, Solicitors, South-street, Romford; at the Place of Sale; and of COLLIS & WARREN, Surveyors and Valuers, Romford

VALENCIA SLATE SLAB QUARRIES, COUNTY KERRY, IRELAND.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at the AUCTION MART, London on WEDNESDAY, OCTOBER 28, at TWELVE, in one lot, unless an acceptable offer be previously made by private contract, the extensive QUARRIES and MILLS of the VALENCIA SLATE SLAB COMPANY, situate in the Island of Valencia, County Kerry, Ireland. The works have been carried on by the present company for about fourteen years, and a very large outlay has been made in opening the quarries, and in erecting the mills and the requisite machinery. The quarries are situate on the side of a mountain, about 480 feet above the sea level, and an opening has been made for working about 120 feet wide, running into the mountain to about the same depth, uncovering a succession of platforms of slates of various widths. The slate rock lies most conveniently for working, at an angle of about 35 degrees, and has a regular cleavage. The slabs are severed by wedges instead of by blasting, thus avoiding the large amount of waste occasioned by the latter process. The roof of the quarry is self-sustained, and is perfectly secure. The quality of the slate is now well known and appreciated, and are taken in large quantities by the first London houses in preference to slate from elsewhere. They take a beautiful and permanent polish, are particularly valuable for enamelling, are unaffected ingeniously by furnace heat, and are raised in larger slabs than from any other quarry. The waste from the slab blocks is made into roofing slates, for which there is ample local demand. The present yield is about 2,000 tons of slate slabs annually, but by a comparatively small outlay in an extension of the workings the quantity may be doubled, the machinery at the mills being equal to prepare that quantity, and the demand at the present time being in excess of the possibilities of supply. The mills are situate about 24 miles from the quarries, are connected by a good road of easy descent, which is kept in repair principally at the expense of the company, and it is believed that every facility would be afforded by the Knight of Kerry, who is the freeholder, for laying down a tramway by the side of the present road, which would much lessen the cost of transit. The mills are most advantageously placed, being immediately contiguous to the pier, at which vessels of 300 tons burden can lie alongside, and there are no pier dues nor wharfage payable. The harbour of Valencia is both safe and commodious, and regular to London are about the same as from the North Wales ports. The buildings are well arranged, and substantially erected. They are fitted with sawing and planing machinery of the best description, fitted by Blyth, of Limehouse; and there are overhead cranes, tramrails, and every appliance for saving manual labour. There is a plentiful supply of water for the purposes of the mills, from a large open reservoir. The quarries and works are held on easy terms under an agreement for lease from the Knight of Kerry, for a term of fifty-seven years from 1st January, 1864, determinable at the lessee's option on giving six months' notice. The lease, a draft of which may be seen prior to the sale at the Office of the Vendor's Solicitors, will be granted by the Knight of Kerry direct to the purchaser. The present Company have expended upwards of 10,000l. upon the property. They have succeeded in establishing the reputation of, and a market for, the slate, which thoroughly proved the existence and uniform character of the slate, and the extent to which the workings may be carried; and they have supplied and fitted the most approved modern machinery for the preparation of the slate for market, and it is confidently believed that the Works are now in that state that, with the personal attention of the owner, very profitable results may be anticipated.—The Works may be viewed by Cards only, which, with further particulars, may be had of Messrs. PALMER, NETTLESHIP, & ELAND, Solicitors, 4, Trafalgar-square, W.C.; at the *Mining and Counties Herald* Office, Birmingham; at the Graham Hotel, Sackville-street, Dublin; at the Railway Hotel, Killarney; at the Adelphi Hotel, Liverpool; at the Mart, London; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

FOR SALE, at GARRAWAY'S COFFEE HOUSE, WEDNESDAY, 28th OCTOBER:—
500 Loads Timber, foreign and colonial,
50,000 Pieces Deals and Battens, do. do.
And other Wood Goods.
HENRY FREEMAN & CO. Brokers, 3, Crooked-lane, E.C.

HOLLOWAY.—Important Sale of Plumber's, Decorator's, and Gas-fitter's Stock.

MR. THOMAS KING is instructed by Messrs Cox & Cutler, who are dissolving Partnership, to SELL by AUCTION, on the PREMISES, No. 4, Lorraine-terrace, Holloway-road, on TUESDAY, NOVEMBER 3rd, 1863, and following day, without the least reserve, the valuable and quite modern STOCK in TRADE, comprising plumbers' brasswork of every description, sheet lead, lead pipes, &c.; 2,000 pieces of paperhangings, 4,000 feet of plain, and a quantity of ornamental glass, varnishes, diamonds, brushes and tools, gas-fittings, including 180 chandeliers; brackets and pendants, iron barrel, lacquered and other tubing, 40 fittings; builder's plant and stores, including ladders, scaffold boards, workmen's bench, range, register and other stoves and a large number of useful articles.—On view MONDAY preceding the Sale. Catalogues may be had on the Premises, and of Mr. THOMAS KING, Auctioneer and Surveyor, No. 1, Railway-place, Holloway-road, N.

TO ARCHITECTS, BUILDERS, AND OTHERS.

MR. DELL is instructed by Mr. George Feest to SELL by AUCTION, upon the PREMISES, the Cliftonville Marble and Stone Works, 57, George-street, Hove, Brighton, on MONDAY, OCTOBER 26th, 1863, at TWO o'clock (to preserve the trains), one hundred of the most beautiful and highly-finished MARBLE CHIMNEYPIECES, of various designs and various shapes, in Statuary, Sicily, Italian, Black and Gold, and other Marbles. Burke's idea of the beautiful is in the above works remarkably illustrated, for they possess his four characteristics of Beauty, viz. First, to be perfectly small; secondly, to be smooth; thirdly, to have a variety of parts; but, fourthly, to have those parts not angular, but melted, as it were, into each other. A writer in "The Builder" says: "It is instinctively a delightful chat makes us worship beauty." May be seen at Mr. G. FEIST'S Premises, the Cliftonville Marble and Stone Works, 57, George-street, Hove, of whom catalogues may be had; and of Mr. DELL, Auctioneer and Valuer, No. 45, Middle-street, Brighton.

BARKING-ROAD, near the THAMES IRON WORKS.—Thirty Plots of highly Valuable FREEHOLD BUILDING GROUND, with frontages on the new thoroughfares leading directly from the high road to within 150 yards of the said works.

MR. JOHN WALLEN has received Instructions to SELL by AUCTION, at the VICTORIA TAVERN, opposite the Barking-road Railway Station, on TUESDAY, NOVEMBER 3rd, at ONE o'clock, in thirty lots, the first portion of an ESTATE of nine acres, most eligibly situate in the immediate vicinity of the Thames Iron Works, and the second portion of the five acres adjoining the Barking-road, with a new direct thoroughfare uniting the two with Hallsville, and the above great establishment, with the main road from the metropolis. The demand for houses in this district is now so great that none are to be had, and applications are made for those erecting before completion. The sewers and roads (41 feet wide) are being completed, and will be maintained by the Local Board of Health. The land now to be offered is suitable for Shops, or for the higher classes of skilled artisans, of whom so many employed here are obliged to reside at a distance.—Particulars, with plans (ten days before the Sale), of PETER GELLATLY, Esq. Solicitor, 81, Mincing-lane, Cornhill; of JOHN DINGWALL, Esq. Solicitor, 8, Tokenhouse-yard; the Place of Sale; the Hallsville Tavern, Hallsville, the Pavilion Hotel, North Woolwich; Globe, Blackwall; and of Mr. JOHN WALLEN, 68, Old Broad street, E.C. and Romford.

BROMFLEET, containing valuable beds of Red and White Clay for Bricks.—TO BE SOLD by AUCTION, by

MR. ROBERT BROWN, at BOWMAN'S HOTEL, Howden, on FRIDAY, the 13th day of NOVEMBER, 1863, at THREE o'clock in the Afternoon, subject to such conditions as shall be then produced, all the valuable MANOR of BROMFLEET, containing about 1,200 acres; also all that well-built FARM-HOUSE, with convenient and suitable outbuildings, now in the occupation of Mr. Thomas Bell, and 27 acres 3 roods 8 perches more or less, which will be offered in lots. Part of the Estate adjoins the river Humber and the Market Weighton Canal. The Hull and Selby Railway runs through Broomfleet, and a market town and port. The stabling capacity is within three miles. Bromfleet adjoins Wallingfen, and there are valuable beds of clay in some of the lots, which adjoin the Market Weighton Canal and are between Wallingfen and the outlet into the Humber. Borings have been made in these lots. On boring in one lot to the depth of 26 feet 6 inches, the clay was found to be 27 feet 6 inches thickness, and of a superior quality for red bricks; and 3 feet 6 inches in thickness, and of a superior quality, for white bricks. On boring in another lot to the depth of 28 feet 6 inches clay was found to be 24 feet in thickness, and of a superior quality for red bricks.—Mr. MARMADUKE SCUTT, one of the tenants, will show the Estate; and further particulars may be had on application to SAMUEL VESEY, Esq. Manor House, Halton, near Spilsby; Mr. ROBERT BROWN, of Howden, the Auctioneer; or at the Offices of Messrs. ENGLAND, SAXELBYE, & ROBERTS, Solicitors, Quay-street Chambers, Hull.

JERMYN STREET, ST. JAMES'S.—The capital Leasehold Premises, Show-rooms, Workshops, and private Residence, with the Goodwill of the old-established Business of the late Mr. Pierce, furnishing ironmonger and manufacturer of improved stoves, ranges, and patent machinery for laundries

MESSRS. RUSHWORTH, JARVIS, & ABBOTT are instructed by the Executors to announce for SALE by AUCTION, early in NOVEMBER (unless an acceptable offer be previously made by private treaty) the LEASE, for twenty-one years, at a rent of only 140l. per annum, of those spacious PREMISES, situate No. 5, Jermyn street, between Regent-street and the Haymarket, and near the Circus, Piccadilly, together with the valuable GOODWILL of the Business which has existed for nearly half a century, including among the numerous customers many noblemen and families of rank and influence, architects, and others, whose long-continued patronage attests the superiority of the work for which Mr. Pierce has been so justly celebrated. The shop and show rooms are light, lofty, and spacious, and are fully stocked with excellent modern stoves, fancy-coal-fitting, marble chimney-pieces, ranges, washing and drying machines for laundries, baths, numerous lamps, chandeliers, candelabras, and ornamental items in bronze and ormolu, necessary for carrying on the most well-established trade, all or any part of which may be secured upon moderate terms. The purchaser of the lease and goodwill will only be required to take the plant, fixtures, and stock in trade at a fair valuation. Immediate possession will be given, and every facility afforded for securing the customers. Further particulars, with cards to view the premises, may be obtained of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Saville-row, W. and 19, Grange-alley, Cornhill, E.C.

OXFORD — VALUABLE BUILDING MATERIALS, comprised in the several Houses in Beaumont street and Magdalen-street, the intended Site for the erection of the Randolph Hotel.

MR. JOHN FISHER begs to announce that he is instructed by the Randolph Hotel Company to SELL by AUCTION, in the month of OCTOBER next, the above BUILDING MATERIALS; consisting of roofs, floors, doors, shop-fronts, sashes and frames, partitions, staircases, fittings, &c. which will be found peculiarly valuable in the circumstance that the houses have been built within a few years.—Further particulars will be advertised previous to the sale.

NEW BARNET, HERTS.—Valuable Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on MONDAY, OCTOBER 26th, at TWELVE for ONE, fifty-nine lots of FREEHOLD BUILDING LAND, land-tax redeemed, situate in the Lancaster road, within a few minutes' walk of Barnet station, on the Great Northern Railway. The Metropolitan Railway brings the property within half an hour's ride of the City, and makes it very desirable for persons wishing to reside a short distance from town. Nine tenths of the purchase-money may remain on mortgage or contract, at 5 per cent. to be paid in nine years, by half-yearly instalments; but the whole or any part of the balance may be paid off at any time, without notice.—Particulars, plans, and conditions of sale may be obtained, about ten days before the sale, at the Railway Hotel, and Railway Tavern, New Barnet; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

ACTON, MIDDLESEX.—Eligible Freehold Building Land, close to the Railway Station.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, OCTOBER 26, at TWELVE for ONE, Thirty Lots of eligible FREEHOLD BUILDING LAND, with frontages to Grove-road, near the village of Acton, and close to the Acton Station on the London and North-Western Junction Railway. The corner lot, with frontages to Grove-road and the high-road, is a most eligible site for the erection of a tavern, and the only lot on the estate set apart for that purpose. Nine tenths of the purchase money may remain on mortgage or contract at five per cent. to be paid in nine years by equal half yearly instalments, but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained at the Mart; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

ACTON, Middlesex.—Eligible Freehold Building Land, five miles from the City.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, OCTOBER 26, 1863, at TWELVE for ONE o'clock, 32 Lots of eligible FREEHOLD BUILDING LAND, with frontages to Cabernet-road, Bollo lane, near the village of Acton. Nine-tenths of the purchase money may remain on mortgage or contract at five per cent. to be paid in nine years by equal half yearly instalments, but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained at the lunns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

CLIVE VALE FARM, HASTINGS.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the HAVELOCK HOTEL, Hastings, on TUESDAY, NOVEMBER 10th, at FIVE for SIX o'clock in the evening, in fifty lots, the first portion of this most desirable PROPERTY, free of tithe, and land tax redeemed, situate near to Ore Church, with frontages to road leading from Hastings to Fairlight, and on the new roads called Alfred-road and Canterbury-road. The roads are being formed, and drainage will be provided by the vendors, so as to enable purchasers to commence building operations immediately. The situation is one of the most beautiful in the neighbourhood, within a mile of the town of Hastings, and commanding extensive views of the sea and surrounding country. The corner lot, with frontages to the road from Hastings to Fairlight and the Alfred-road, is most eligible for the erection of a tavern, and is the only lot on this portion of the estate set apart for that purpose. Nine-tenths of the purchase-money may remain on mortgage or contract at 5 per cent to be paid in nine years by half-yearly instalments, but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained ten days before the sale at the principal Hotels at Hastings; of Mr. E. J. BANE, Prospect-place, St. Michael's, Hastings; of Messrs. RUSSELL & DAVIES, 59, Coleman-street; and of the Auctioneer, 14, Moorgate-street, London, E.C.; of the Foreman on the Estate; and at the Place of Sale.

ON MONDAY, NOVEMBER 2nd, at TWELVE for ONE. CAMDEN TOWN, N.W.

MESSRS. LEREW & LEREW will SELL by AUCTION, at the YARD, Camden-terrace, a quantity of useful STOCK; viz. planks, deals and battens, dry cut stuff, prepared flooring, quartering, slating, battens, pantile laths, mahogany, wide pine boards, doors, the square, scaffolding, ladders, old materials, &c.—Auction Offices, Carding-ton-street, Hampstead-road.

SALE by TENDER.—In consequence of the Directors of the Port of Portsmouth Floating Bridge Company having entered into a contract for the construction of a larger and more powerful IRON FLOATING BRIDGE, with her Engines and Machinery, as she now lies at her moorings at Gosport, will be SOLD by TENDER. Tenders to be made in writing, addressed to the Clerk of the Company, from whom further particulars may be had on application), at his Office, 28, Clarence-square, Gosport, and endorsed, "Tender for Purchase of Bridge," on or before the 11th NOVEMBER, 1863. The Directors do not bind themselves to accept the highest or any Tender.—By order of the Directors,

WILLIAM F. BURRELL, Clerk to the Company.

Portsmouth, 15th October, 1863.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY TIMBER, WINE, and SPIRIT WARRANTS. BANKRUPTS' and INSOLVENTS' CASES CONDUCTED. Balance-sheets Prepared, and Meetings of Creditors Convened. Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT, 17, Moorgate-street, Bank, London.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (Incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 20,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.

EDWARD HARPER, Secretary.

TO BE DISPOSED OF, an old-established HORTICULTURAL BUILDER'S BUSINESS and extensive PREMISES, in the best part of King's-road, Chelsea. The Proprietor retiring from business.—Apply to E. DENCH, 132, King's-road, Chelsea.

TO BE DISPOSED OF, the first-class BUSINESS, at the West End of London, of an old-established MANUFACTURER of a celebrated PATENT ARTICLE, together with which Business is carried on that of Engineers, Founders, Safe Manufacturers, &c. Any firm of Mechanical Engineers, or Founders, Smiths, or first-class Ironmongers, would find this an excellent opportunity for making an addition to their business. The concern to be disposed of by the family of the late sole Partner, and is one the reputation of which has been long established throughout England and many parts of the Continent.—Apply by letter, to E. W. CHILDS, Esq. Solicitor, 25, Coleman-street, London, E.C.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE DISPOSED OF, in a good and rising town ten miles north of London, an old-established BUSINESS, and close to a railway station; the Stock and Plant to be taken in the usual way with the Business; the place may be rented or purchased if required.—For full particulars, apply to Mr. THOS. BROWN, 223, Shoreditch.

WOOD PAVING. MESSRS. THORN & CO.

CONTRACT to MANUFACTURE and LAY WOOD PAVING, of a very decorative and durable character, is particularly adapted for RAILWAY STATIONS, ENGINES, SHOPS, IRON BRIDGES, &c.

THORN & CO. STEAM SAW-MILLS, CREMORNE WHARF, CHELSEA, and 6, ROSS VENOR ROAD, PIMLICO.

As Sole Contractors for Railway Arches and Iron Bridges.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, October 24, 1863.

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.—PRIZES FOR WOOD CARVING.—All objects sent in competition must be delivered at the Office-entrance of the South Kensington Museum, free of cost, by MONDAY next, NOVEMBER 2nd.

JOSEPH CLARKE, Hon. Sec.

13, Stratford-place, W.

EVENING LECTURES to WORKING MEN.—ROYAL SCHOOL OF MINES, JERMYN-STREET.—The First Course, consisting of Six Lectures, "On the First Principles of CHEMISTRY," by Dr. HOFMAN, F.R.S. will be commenced on MONDAY, the 9th of NOVEMBER, at EIGHT o'clock. Tickets may be obtained by Working Men only, on MONDAY, the 2nd NOVEMBER, from TEN to FOUR o'clock, upon payment of a fee of 6d. for the whole course. Each applicant is requested to bring his name, address, and occupation written on a piece of paper, for which the ticket will be exchanged. TRENHAM REEKS, Registrar

GEOLOGISTS' ASSOCIATION has REMOVED from 5, Cavendish-square, to the ROOMS of the MEDICAL SOCIETY of LONDON, 32A, George street, Hanover-square. The FIRST MEETING this Session will be held on TUESDAY evening, NOVEMBER 3rd, at SEVEN o'clock, when Mr. CARTER BLAKE, F.G.S. will read a paper on FOSSIL ELEPHANTS, and Mr. EVANS will exhibit a COLLECTION of FOSSILS from the Railway Cuttings near London. Ladies or gentlemen wishing to join the Association can obtain every information from Professor TENNANT, President, 149, Strand; or J. CUMMING, F.G.S. Hon. Secretary, 7, Montague-place, Russell-square. Admission fee, 10s.; annual subscription, 10s.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE will shortly be REMOVED to the NEW PREMISES, 72—74, Bishopsgate street Within, a few doors from the present establishment. These will afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and Mr. BROWN, the consequent more extensive operation, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

91, Bishopsgate street Within, July, 1863.

TO QUARRYMEN.—WANTED, some QUANTITY of WASTE KENTISH RAG or OTHER STONE, suitable for a breakwater and slope for sea defence.—Price, delivered on the Essex coast, near Harwich, to A. E. S, Jewin-crescent, London, E.C.

SOUTH KENSINGTON MUSEUM.—The NEW NATIONAL ART TRAINING SCHOOLS, for Male and Female Classes, will be OPENED for the inspection of the Public, every SATURDAY, from TWO till NINE, p.m. Entrance through the Museum.—By Order of the Lords of Committee of Council on Education.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding PATENTS their cost, and mode of procedure to be adopted—issued gratis by the General Patent Company (Limited), 71, Fleet street, London. ROBERT M. LATHAM, Secretary.

SHAKESPEARE TERCENTENARY CELEBRATION at STRATFORD-UPON-AVON.—Persons desirous of TENDERING for the ERECTION of a TEMPORARY BUILDING, at Stratford upon Avon, capable of holding 5,000 persons, may inspect the plans and specifications at the Offices of Messrs. THOMPSON & COLBOURNE, Architects and Surveyors, Ely place, Stratford upon Avon, on and after MONDAY next, the 26th instant.—Sealed Tenders, endorsed "Tender for the Pavilion," to be forwarded to the Chairman of the Shakespeare Tercentenary Celebration Committee, at the Town Hall, Stratford-upon-Avon, on or before TWELVE o'clock at noon on MONDAY, the 9th day of NOVEMBER next. The Committee do not bind themselves to accept the lowest or any Tender.—By order,

ROBT. E. HUNTER, Secretary.

Office, Town Hall, Stratford-upon-Avon.

CONTRACTS.

WAR DEPARTMENT CONTRACT.
NOTICE to BUILDERS.

TENDERS are required for WORKS to be EXECUTED in TAKING DOWN and RE-BUILDING about 250 feet in length of the GUNWHARF WALL, Portsmouth.

Parties desiring to Tender for these works must leave their names at the Office on or before the 3rd day of NOVEMBER, 1863, and pay the sum of ten shillings and sixpence for the Bills of Quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, 19th October, 1863.

WAR DEPARTMENT CONTRACT.
NOTICE TO BUILDERS.

TENDERS are required for IMPROVING the DRAINAGE of the POWDER MAGAZINE ESTABLISHMENT at Marchwood, in the County of Hants

Parties desiring to Tender for the execution of these works must leave their names at the Royal Engineer Office, Gosport, on or before the 5th NOVEMBER, 1863, and pay the sum of 10s 6d for the bills of quantities, which will be forwarded to each party as soon as prepared.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, 27th October, 1863.

WAR DEPARTMENT CONTRACT.
NOTICE to BUILDERS.

TENDERS are required for the CONSTRUCTION of a SEA WALL, PLATFORM, and BUILDINGS, for a double line of Magazine Railway, at Priddy's Hard, in the County of Hants.

Parties desiring to Tender for the execution of these Works must leave their names at the Royal Engineer Office, Gosport, on or before the 5th NOVEMBER, 1863, and pay the sum of 10s 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, 27th October, 1863.

TO BUILDERS.—TENDERS are required for the whole or any part of the several Works in ERECTING and COMPLETING SIXTY COTTAGES and HOUSES at Hurst, near Ashton-under-Line, for John Whittaker, Esq.—Application for bills of quantities to be made to us, per post, on or before SATURDAY, the 31st inst. after which date all particulars as to Plans and place for inspecting the drawings, &c. will be forwarded.

PAULL & AYLIFFE, Architects, India-buildings,
Dated 21st October, 1863. Cross-street, Manchester.

TO BUILDERS.—Persons desirous of TENDERING for the ENLARGEMENT of ST. PAUL'S CHURCH, Cambridge, may see the drawings and specifications at the Office of the Architect, Mr. R. REYNOLDS ROWE, 10, Emmanuel-street, Cambridge. Sealed Tenders to be delivered to the Rev HENRY HALL, St. Paul's Parsonage, not later than SATURDAY, the 7th day of NOVEMBER, 1863. The Committee do not bind themselves to accept the lowest Tender.

BUILDERS desirous of TENDERING for the ERECTION of a DETACHED VILLA, at Eltham, Kent, can see the plans and specifications at the Office of Mr. THOMAS CHESTER HAWORTH, Surveyor, Eltham, to whom Tenders must be sent, on or before FRIDAY, the 6th day of NOVEMBER, 1863, by FOUR o'clock. The lowest or any Tender not necessarily accepted

TO BUILDERS, CONTRACTORS, PROMOTERS of PUBLIC COMPANIES, and OTHERS.—Messrs. G. A. HAIG & CO. having purchased the Freehold of Argyll House, the residence of the late Earl of Aberdeen, for the purpose of Building Wine Cellars, are prepared to receive TENDERS for the BUILDING LEASES, for nearly the whole upper portion of the Ground, comprising about half an acre, in the immediate neighbourhood of Regent Circus, with frontage to Argyll street, Regent-street, and access at the back to Marlborough Mews and Queen street, Oxford street.—Plans may be seen and full particulars obtained at the Offices of G A. HAIG & CO. Wine Merchants, 134, Fenchurch-street, City; or 83, St. James's-street, S.W.; or from Messrs. HARMOOD & PATTISON, Solicitors, No 10, Clement's-lane, E.C.

TORQUAY HOTEL COMPANY (Limited). To BUILDERS.—The Directors of the Torquay Hotel Company (Limited) are willing to receive TENDERS for an HOTEL to be ERECTED in the Cove, Torquay, from the designs of the Architect, E. N. CLIFTON, 17, St. Helen's-place, Bishopsgate-street, London. Copies of the quantities may be obtained of Messrs WILLIAMS & SCHOFIELD, 12, Montague-street, Russell-square, London, W.C. upon depositing with them the sum of five guineas, which will be returned after the delivery of the Tenders. The Directors do not bind themselves to accept the lowest Tender. The Directors will require the Builder whose Tender is accepted to give the names of two sureties, to be bound jointly with himself in the sum of 3,000l. for the due execution of the works.—By order of the Board,

E. N. CLIFTON, Architect of the Company.

17, St. Helen's-place, Bishopsgate-street, London,
7th October, 1863.

CONTRACTS.

TO BRICK MAKERS, DUST CONTRACTORS, SCAVENGERS, and OTHERS.—Notice is hereby given, that the Board of Works for the Fulham District are prepared to receive TENDERS, and to CONTRACT for the SALE and REMOVAL of the COAL DUST, ASHES, and CINDERS from the houses of the Inhabitants of Fulham, for a period of Twelve Months from the date of Contract. The work to be done according to the specification, which, with the form of Tender, may be had at the Office. No other form of Tender will be received. Tenders to be sent in sealed, and marked "Tender for Dust and Ashes" on the outside, on or before TEN o'clock on WEDNESDAY morning, the 4th day of NOVEMBER, 1863, addressed to "The Chairman of the Board of Works for the Fulham District, Broadway House, Hammersmith." The Contractor will have to enter into a written contract and bond, and to provide two good and sufficient sureties for the due performance of a Contract, and will have to pay on signing the Contract one fourth part of the money offered by him, and the three succeeding payments in advance of each quarter. The Board do not bind themselves to accept of any Tender.—By order,

W. LOVELY, Clerk

TO BUILDERS.—TENDERS (whole or separate) are required for a New CONGREGATIONAL CHAPEL to be erected in Essex street, Bow Bay. Applications for bills of quantities to be made, per post, to us, not later than TUESDAY, the 3rd NOVEMBER, after which date all particulars for inspection of drawings, &c. will be forwarded.

PAULL & AYLIFFE, Architects.
India-buildings, 24, Cross-street, Manchester.
Dated 21st October 28, 1863.

TO SEWERS CONTRACTORS and OTHERS.—The Sewers Committee of the Parish of Saint Mary, Newington, Surrey, will meet at the Vestry room of the Parish Church, on FRIDAY, the 6th of NOVEMBER next, at SEVEN o'clock in the evening, to receive TENDERS for the EXECUTION of JOINING and MEASURED WORKS in connexion with the Drains and Sewers in the parish. Printed schedules and forms of Tender can be obtained at the Office of Mr HENRY JARVIS, the Surveyor of Sewers, 20, Trinity-square, Newington, on payment of 10s. which money will be returned to the parties tendering when the Tenders are opened. No other Tenders will be received. Sureties will be required for the due performance of the contract, and the Committee do not bind themselves to accept the lowest or any other Tender.

H. & F. CHESTER, Joint Clerks to the Vestry,
October, 1863. 1, Church-row, Newington Butts.

WEST HAM LOCAL BOARD of HEALTH.—TO BUILDERS.—Notice is hereby given, that the Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS for the ERECTION of TWO COTTAGES, on their Land at Canning-town, adjoining the Sewerage Outfall Works.—Conditions of Contract, forms of Tender, and any other information, may be obtained at the Office of the Local Surveyor, at Rokeby House, in Stratford. Tenders are to be delivered at my Office, at Rokeby House, not later than MONDAY, the 9th NOVEMBER, and each of them must contain a ten-pound Bank of England note, endorsed by the party Tendering, to be returned in the event either of the Tenders not being accepted, or on the completion of the contract or bond.—By order of the Board,

CHARLES WILSON, Clerk.
Rokeby House, Stratford, E. October 21, 1863.

TO BUILDERS

PERSONS desirous of TENDERING for TWO small SEMI-DETACHED HOUSES at Erith, Kent, S.E. close to the Railway Station, will please send their cards to Mr. H. FORD, 1, Charlotte-row, Mansion House, E.C. Copy of drawing and specification supplied, but no quantities

TO BUILDERS.—TENDERS are required for the ERECTION of large ENGINE HOUSE, at Middleborough, for Messrs. Gilkes, Wilson, Pearse, & Co. according to plans, specifications, and bills of quantities, which can be seen at my Offices, Darlington, from MONDAY, NOVEMBER 2nd, until MONDAY, NOVEMBER 9th. The various Tenders to be delivered to me before TEN o'clock a.m. on TUESDAY, NOVEMBER 10th.

JOHN ROSS, Architect.

TO BUILDERS and CONTRACTORS.—The Birkenhead Improvement Commissioners are prepared to receive TENDERS for the ERECTION of PAY-GATE BUILDINGS and COVERED APPROACHES, including the Passenger Bridge, Woodside Landing stage. Plans, Working and Specification, with conditions, can be seen at the Foreman's Office, on application to the Manager, Tenders marked "Tender for Buildings," and addressed to the Chairman of the Ferry Committee, Woodside, Birkenhead, are to be sent in on or before THURSDAY, the 12th NOVEMBER next. The Commissioners do not bind themselves to the acceptance of the lowest or any of the Tenders.

AMBROSE WALN, Clerk of the Commissioners.

Birkenhead, 24th October, 1863

TO BUILDERS, CONTRACTORS, and OTHERS.—The Trustees of the St. Pancras, Marylebone, and Paddington Freehold Land Society are desirous of receiving TENDERS for CONSTRUCTING PIPE DRAINS, with other works in connexion therewith, &c. Existing and Making Roads and Footpaths on their estate, situate in the Seven Sisters'-road, Islington.—Plans and specifications may be seen at their Committee room, the Rose and Crown Tavern, Tottenham-court road, on Friday, the 30th OCTOBER inst. Sealed Tenders to be delivered on or before EIGHT o'clock in the evening of the 6th day of NOVEMBER next ensuing. The trustees do not bind themselves to accept the lowest or any Tender.—By order,

SAMUEL STONG, Secretary.

GOULD & PORTER (late CARY) are now manufacturing their improved 10-inch DUMPY LEVEL, best quality, complete for 9l. 10s. 0d.; with silver ring compass, 10l. 10s. 0d.; 12-inch ditto, ditto, 11l. 0s. 0d. and 12l. 12s. 0d. Best 5-inch THEODOLITES, £22 0s. 0d. All other MATHEMATICAL INSTRUMENTS at Revised Prices. Optical and Mathematical Instrument Makers to the Admiralty, Royal Geographical Society, Royal Military College, Sandhurst, &c. Established upwards of a century. 181, Strand, London.

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ARCHITECTURAL and MONUMENTAL WORKS, 49, High-street, Camden Town, executes every description of Architectural and Monumental Sculpture, in the best style of workmanship, at moderate charges. Estimates submitted free

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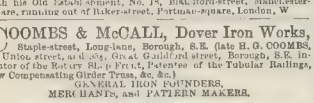
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WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
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No. 24, Davies-street, Three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Established, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W

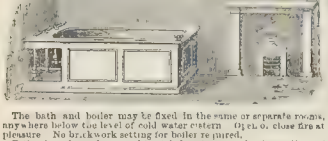
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The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold water cistern. Quick close fire at pleasure. No brickwork setting for boiler required.
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These Valves are all proved on both sides to 300 lbs. on the square inch before leaving the works, and are always kept in stock.
Valves made with outside rack-lever.
Also Screw Water Valves, with gun-metal faces.
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PAINTED and STAINED GLASS WORKS, 43 and 44, Maiden-lane (adjoining Tussaud's), W.C.
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CARVING.—A great reducing effected with the assistance of the Patented Machinery.
GOTHIC METAL WORK, of every description, both in Silver, Brass, and Iron.
PAINTED GLASS.—Designs and Estimates furnished for Subject Windows; also Quarry and Geometric Patterns.
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COX & SON'S New Illustrated Catalogue (May, 1862), with 350 Wood Blocks of Church Furniture, Painted Glass, and Decoration, forwarded for six stamps.—Show rooms, 28 and 29, Southampton-street, Strand.

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DAVID JONES, Bridge Ironworks, and HERBERT'S Park Ironworks, Bilston, Staffordshire, Manufacturer, under license of the Patentee of MALLET'S PATENT BUCKLED IRON PLATES, for flooring, for railway and other bridges, viaducts, wharfs, &c. and for flooring, and other parts of fire-proof buildings, and various important structural uses. These plates form the lightest, strongest, best rigid, and durable flooring known. They were pronounced by the late Mr. Brunel, "the best bridge floorin, extant." They have been adopted at the New bridge, Westminster, on the Indian railways, and in many other first-class structures, by Messrs. Page, Hawkshaw, Read, Stephenson, and other engineers, and for fire proof buildings by Government, the War Office, Metropolitan Board of Works, and other important uses Specimens of the Buckled Plates may be seen at Bell wharf, Upper Thames-street, London. — Applications for lithograph circulars, prices, and other information, as to supply of the plates, to be made to the Manufacturer, as above; or to ROBERT MALLET, Esq. C.E. the Patentee 11, Bridge street, Westminster
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TO ARCHITECTS, BUILDERS, RAILWAY CONTRACTORS, AUCTIONEERS, &c. SPECIFICATIONS, CONTRACTS, ACCOUNTS, and every other description of DOCUMENTS, correctly and expeditiously COPIED, at 1½d. per folio of seventy-two words, by FRY & SON, Law Stationers, Printers, and Lithographers, 13 and 14, South-square, Gray's-inn, W.C. Plans and drawings copied, enlarged, or reduced, on reasonable terms.

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Ladies' or Gentlemen's Gold English Lever Watches		18 ,,
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Do.	Silver do. do.	25 ,,
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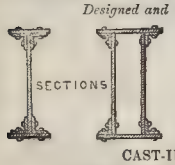
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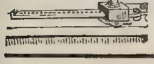


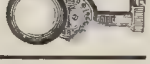
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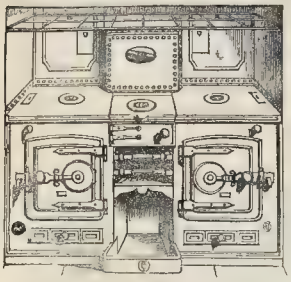
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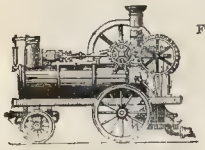
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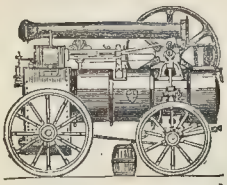
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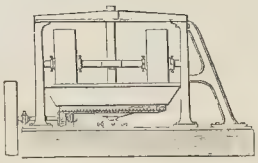


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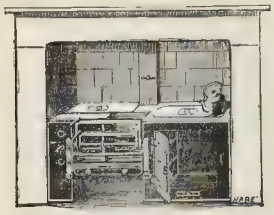
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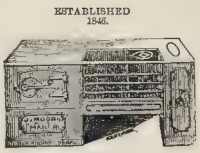
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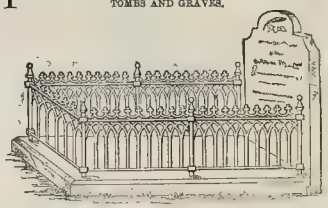
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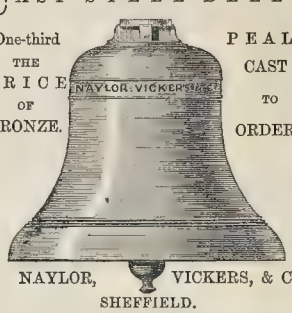
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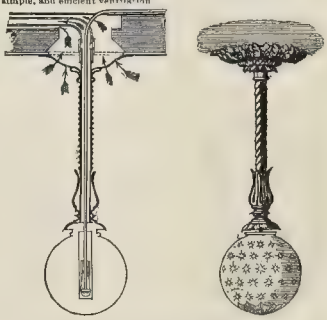
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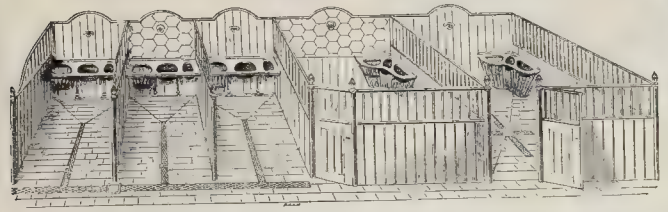
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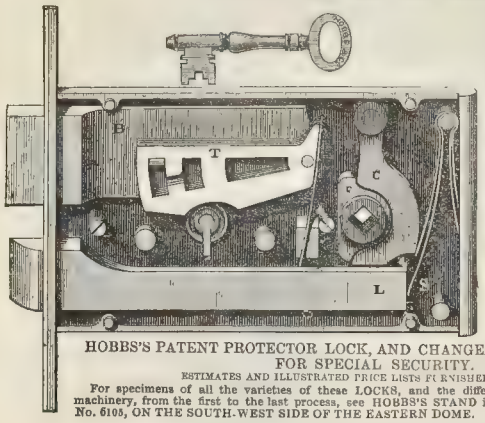
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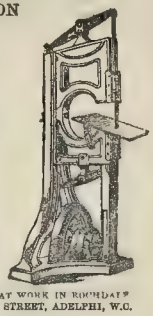
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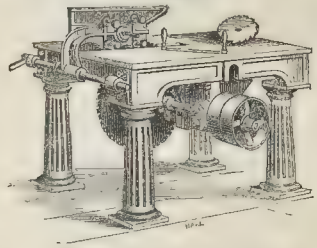
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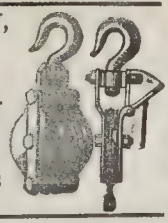
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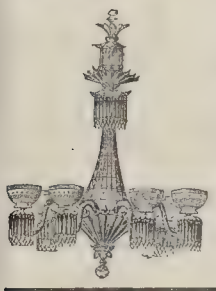
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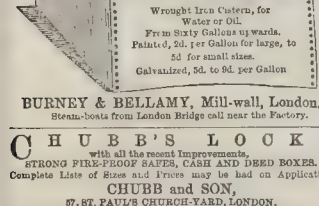
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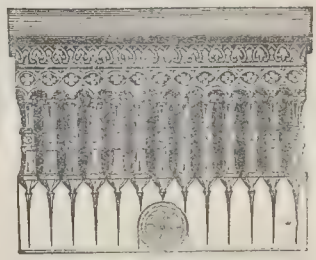
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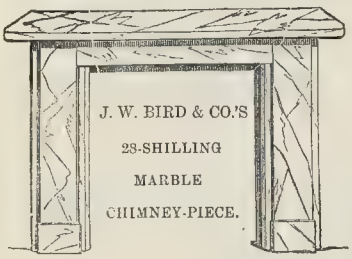
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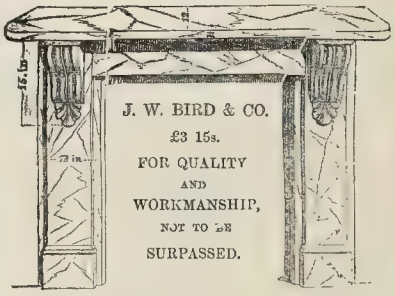
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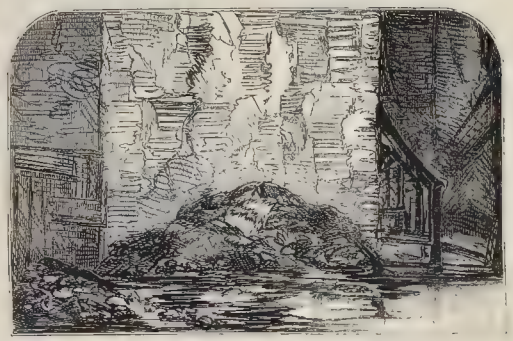
The Builder.

VOL. XXI.—No. 1082.

More Revelations of Bethnal-green.

NOTWITHSTANDING all that has been said on the subject elsewhere as well as in our own pages, the horrible condition in which a vast population are living is not yet understood and realized by the public. Nothing short of a personal examination, indeed, under proper guidance, can convey a complete idea of it. We must endeavour, however, by bringing the pencil to the aid of the pen, to make the facts a little clearer, and to urge on the authorities the absolute necessity for immediate steps with a view to bringing about a better state of things. Some of these steps, moreover, are quite practicable and not difficult. The Bethnal-green Vestry has met, and have endeavoured to cast discredit upon Dr. Moore, one of their medical officers, and to show that the condition of the parish is of the most creditable and satisfactory description. They accuse Dr. Moore of past doings, indignantly denied by him, and which, if justly founded, should have forced them before this to dismiss that gentleman from his office,—an office of vast importance to the poor. They quibble on the meaning of "blood-poisoning," and, in spite of the startling revelations which have been made from time to time for many years past,—for, be it remembered, we have pointed, on several occasions during years, to the miserable condition of houses in this parish,—the Board profess to be blind to the evils with which they are surrounded. Ultimately, they passed a resolution, calling on the Poor Law Commissioners to sanction Dr. Moore's dismissal from his office of medical officer of part of this district. Nine members of the Board voted for the dismissal, three against it, and four declined to vote at all. We do not regret this result, inasmuch as it affords hope of a searching inquiry, which may be the means of obliging the Board of Guardians to do their duty.

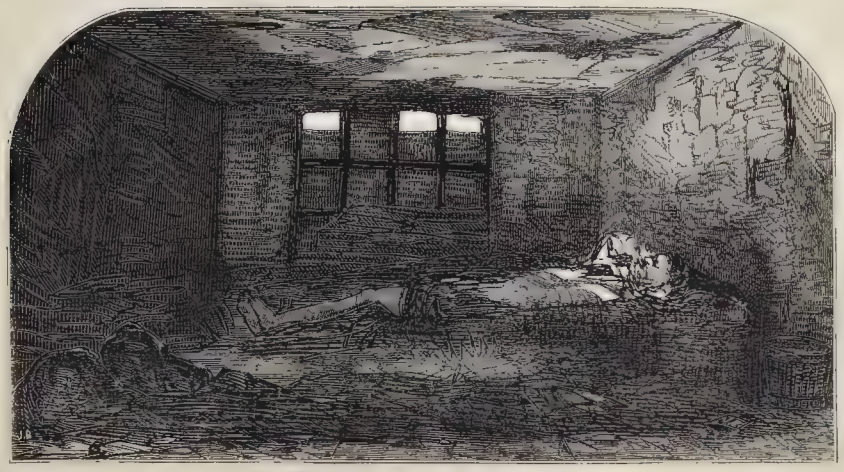
In connexion with this inquiry the Guardians should be prevented from disguising the truth. We should know how many of the majority of nine are interested in the poisonous and dilapidated dwellings in the parish. The Government, through the Privy Council, should order an independent, extensive, and careful investigation to be made by persons whom they may appoint. They should hear from Inspector Price what number of cellars are allowed to be occupied in a condition contrary to the law, and to the great damage of life and health. The Building Act should be brought to bear upon the dangerous and dilapidated dwellings which exist. Blocks of houses should be examined, and a note taken of the population of each room. The extent and nature of the water supply should be learnt; also the nature of the closet accommodation, and the manner in which the dust contractors and street scavengers do, or, rather, do not do, their duty. If this inquiry were rightly carried out, neglect of the worst kind on the part of the parish authorities would, we are satisfied, be shown.



A Back Garden in Nichol Street, Bethnal Green.

As matters are at present, the parish official arrangements for the preservation of the public health are next to none. There is only one sanitary inspector for this large district, which requires three or four active and intelligent men; and each day shows that the solitary inspector is unfit for his work. He has taken, as the public has heard, fees from slaughter-house keepers, and one member of the Board seriously gave it as his opinion, that the inspector had been too anxious to do his duty! and that his excitement had been mistaken for inebriation! How can we wonder at the state of the houses of the poor here under such guardianship? Change must be made in the present arrangements.

We have recently again carefully examined a considerable part of the district, including Grey Eagle-street, and the courts at the back of it, Phœnix-street, Nichol-street and its courts, Old Nichol-street, Half Nichol-street, and others. With few exceptions, each room contains a separate family; some consisting of mother, father, and eight children. The first two adjoining houses that we looked into, of six rooms each, contained forty-eight persons. To supply these with water, a stream runs for ten or twelve minutes each day, except Sunday, from a small tap at the back of one of the houses. The struggle for it is sometimes great: the means of storage are very small. The result is, as in other places mentioned by us again and again, that on Sunday there is seldom a drop of water to be found, and this of itself leads to a whole train of evils. The houses are, of course, ill-ventilated. The front room in the



The Cellar Dwelling of those who enjoy the Garden.

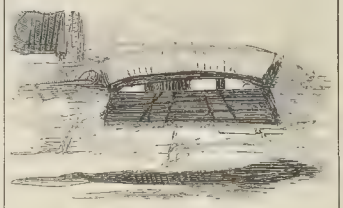
basement, wholly below the ground, dark and damp, is occupied, at a cost of 2s. a-week for rent. We tried our old test on the first two women seen standing at the doors. "How many children have you?" "Four," was the reply of the first of them. "Have you lost any?" "Five, and there is one inside given over by the doctor." The second had two living and had lost three. Many of the houses are in a dangerous state structurally, and some have been condemned under the Building Act. Here is the description the inspector of nuisances gave of these when he went to the magistrate at Worship-street on the subject. He said each room contained a man and his wife and six or seven children. The whole were filthy and dilapidated; the party-wall between Nos. 20 and 21 bulged at the basement to the extent of at least 2 feet, and the whole brickwork throughout was so much fractured that it might fall at any moment. In the basement of No. 20 a great quantity of the dust and house refuse had not been removed for fourteen years, and formed a mound, through which a pathway had been made, by constant treading, which led from and to the entrances at the back and front. The water for drinking purposes was derived from a small tub without a lid in the midst of this heap, but a very scanty supply was furnished, it not being on much more than twenty minutes at a time. There was no efficient drainage to take off the waste water, so that the basements were saturated by it, and pools of stagnant water collected in the yards, which were unpaved, and contained a quantity of putrid vegetables, that had not been removed for a long time!

In George's-street three children have died in one house, and the rest of the family have been made ill, through the badness of the drainage and the want of pure air.

The occupation of the underground rooms here, as well as elsewhere, is illegal, and may at once be prevented. Under the Local Management Act, as our readers may remember, an underground room may not be occupied separately as a dwelling unless certain conditions are complied with, one of which is that there shall be a window of specified size, with an area before it open down to 6 inches below the floor of the room. The terms of the Act, however, have led to the belief that the duty of discovering the occupancy of such rooms rests with the district surveyor appointed under the Building Act, whose duties are entirely structural, who is quite unfit to serve as sanitary policeman, and moreover has not power under the Act to prove his case if he were to try. For the most part, therefore the Act is nugatory,—we had nearly written, with Hood, *Newgatory*,—excepting where, as in Islington and some other parishes, the inspector of nuisances or other qualified person obtains the proof of occupancy, calls on the district surveyor for a report as to the structural deficiency only, and carries the case before a magistrate in accordance with the Act.

This should at once be done in Bethnal-green, and scores of murderous dens would be shut up. It is no answer to say the inhabitants prefer to live, or (more truly) to die, in such rooms rather than meet the difficulty of finding a better room elsewhere. They must not be allowed to do so. Suicide is not permitted; still less suicide that leads to the death of others not desiring to die, and to the pauperising of a still larger number, who must be maintained by the more sensible and provident.

One of the worst examples that we saw of these underground rooms we must endeavour to illustrate. It is in Nichol-street, No. 59, and may be described as entirely below the surface. The window of the apartment is a little over 3 feet in width, and about the same in height; the area is even with the breadth and depth of the window. It extends from the wall about 2 feet, and was closed with an iron grating; but this having become broken, the entire top of the area has been covered with wood, so that the only means of light and ventilation is a chink 3 feet wide by 4½ inches in height. Passing through the passage



Light and Air for the Cellar Dwelling.

to the back, the dilapidated condition of the premises, as may be seen in the sketch, is startling. The plaster has fallen from the walls and ceilings, the narrow staircase is rotten and shaky, the general colour is of a dingy smoky black, with peeps of indifferent brickwork and broken laths. At the back there is a large open space, in a most filthy condition; damp refuse of all kinds is piled up against the wall; there is no supply of water; the people have "to hunt for it:" nor is there any distinct closet accommodation for this house. When looking at the wet and poisonous mound, at the ill-built wall through which the damp and unwholesome matter must weep, and seeing that in all directions similar neglect of proper scavenging is evident, we cannot but insist that it is disgraceful to the parish. But as regards the cellar, in all our experience of London destitution and awful conditions, we have seen nothing so harrowing as what there met the view. Through the narrow space of the window that is left open there came a glimmering light, which fell upon two figures, on a broken truckle, seemingly naked, with the exception of some black rags which passed across the middle of the bodies; but the greater part of the room, small as it is, was in total darkness. In this profound depth our sagacious guide, Mr. Price, thought that there were more figures visible; and on asking if any were there, a female voice replied, "Yes; here are two of us. Mother is out;" and gradually, as the eye became accustomed to the gloom, two other figures were to be seen lying in a corner upon rags. This was between twelve and one o'clock in the day. We were not disposed to look further into their mystery; but it was evident that one of the unfortunates was resting close to the damp and poisonous wall. Neither words nor drawing can convey a complete idea of this den and its dense and polluted atmosphere. Instead of this place being filled with the pure life-giving air which is needful for human existence, it seemed occupied by something tangible which might be moved and weighed. The height of the room, all of which is below the surface, is not quite 6 feet. The window would not open; the ceiling was ready to fall; and the walls, so far as the light showed, were damp and mildewed. The inmates here were a widow and her four children: one a girl twenty years of age, another girl eighteen, a boy of fourteen, and a boy of twelve. What, we ask, is to become of those unhappy creatures, reared in the dark and the dirt, and of the multitude who in this metropolis are "dragged up" under similar circumstances?

For four such rooms as we have attempted to describe, there are paid on the whole 12s. a week; that is, 31*l.* 4s. per year. Another similar cellar, not quite so dark or so damp, we found occupied by a man and his wife and six children, aged respectively fourteen, eleven, nine, six, and four years, and one ten months. We could draw a frightful picture of what met our sight in an upper room of a neighbouring house, but it would not further our present object, which is practical and precise,—to call for a sufficient water supply; the periodical removal, at short intervals, of all refuse; and the enforcement of the law in respect of the occupancy of underground dwellings.

We returned from the inspection saddened and ill. We have written of it coolly, but it was a sight to move indignation.

LONDON WITH THE LONDONERS OUT OF TOWN.

London is still out of town. Casual visitors to the west and south-west suburbs may thread street after street, and not see a blind drawn up, or a shutter unfastened. The broad gravel paths in the parks and Kensington Gardens are but scantily peopled, and that only by persons making short cuts across them: the waterfowl look wistfully afar, and up into the clouds, and down into the depths: acorns, horse-chestnuts, and beech-nuts are lying hid in the grass under the trees: the seats are nearly all unoccupied. You may cross the most frequented drives without a moment's delay, at any crossing. No one is idly leaning over the railing, for there is nobody to stare at. Rotten-row is a desert: the rumble and splash of the water-carts are to be heard long after they have passed. Even soldiers seem scarce, and the park-keepers might be taken for anchorites. The glassless domes of the International Exhibition look like the commencement of a huge web some great spider is thinking of spinning over the neglected building. Cabs are to be had at any hour of the day or night, in rain or sunshine, at any stand: a fallen horse fails to attract more than a handful of bystanders: the crossing-sweepers have either removed or retired upon the competencies gleaned on departed seasons; and it is impossible not to wonder what has become of the thousands who, only a few weeks ago, walked, lounged, drove, and rode in these comparatively silent quarters. Yet, let any one turn his eyes Citywards, at night, from these suburbs, and he will see the old lurid glare over the house-tops, hear the old sullen roar in the air, and feel that London is still London, and exists in all its might and majesty, unaffected by the exodus of a population.

The fact that the metropolis is, however, to a recognisable extent, out of town, and confidently and speedily expected home again, is most apparent in the large number of alterations and redecorations of premises now being effected. A very general impression appears to prevail that roofs should be raised, dormers thrown out, wings added, porches brought forward wherever practicable. The new Rothschild mansion in Piccadilly, towering over Apsley House, has created an uneasy emulation in the more lowly roof-tops edging Park-lane and overlooking the Green Park. Scaffolding may be seen insidiously making its appearance in both places. The house adjoining the Duke of Buccleuch's new mansion at Whitehall is raising a story: a new wing is being built to Carlton Gardens: the club-houses in Pall-mall are in various stages of re-decoration; and one in St. James's-street is renewing itself, and throwing out a prodigious bay window. In Parliament-street the new Foreign Offices are covering acres of ground. Charing-cross, with its new railway bridge and station, is donning a new aspect. In the same locality the theatres have entered into the movement, and have been re-decorated with skill, and, we may add, with speed, having been closed but a few days for the purpose. Further towards Old London, Blackfriars is throwing another bridge over the river, and a cluster of new commercial palaces is growing apace in Fenchurch-street. North of Oxford-street the Portland-place Hotel is building; the German Fair rebuilding, after narrowly escaping the possibility of being converted into a chapel for Unitarians instead, 10,000*l.* having been offered for the site, it is said, by members of that body; and alterations are going on in the corner-house in Cavendish-square, where the old Princess Amelia lived, with whom Horace Walpole delighted to play *whisk*. The low, dingy houses facing the Great Western Hotel are shut up, and are to be straightway razed for improvements connected with the Metropolitan Railway.

Further westwards we may see the character of districts completely changed and changing. Places that were considered rural and retired only ten years ago, have become centres of commercial activity. Westbourne-grove, only recently a double line of semi-detached villas, with gardens before and behind, is now a thoroughfare of good shops. The Queen's-road, in everybody's remembrance quite a lovers' lane, as far as quiet and leafy shades could make it so, is now as business-like as Edgware-road, one side being an uninter-

rupted succession of smart shops, and the gardens in front of the houses on the other side being one by one covered over and converted into shops also. The commercial aspect of Edgware-road now only ceases a short distance from Kilburn-gate, and beyond that obstruction it again takes possession of the highway for a length of road nearly reaching to Willesden-lane. Ten years ago, too, people living on Maida-hill looked out of their windows upon fields that stretched away to Pinner and Harrow: now they look upon a new neighbourhood of streets that has completely walled them in, known as the Warrington Estate. Belsize Park, in which there are still trees of a century's growth, has succumbed to the march of bricks and mortar, and permitted the inroad of labyrinths of streets that will ultimately bear comparison with Belgravia. Leaving new schools, churches, chapels, and a synagogue behind in a new district forming north of the Paddington Canal, and crossing over towards South Kensington, we may see nearly half the mansions in Palace-gardens extending their borders for additional accommodation; and coming to the Museum, we shall pass the new range of brick buildings just finished for the Art-training School, and find decorators at work in the Loan Courts, experimentalising with colours. In fine, London appears at all points to be making ready, not only for the return of its absentees, but for a still larger number of residents.

THE INSTITUTE OF BRITISH ARCHITECTS.

A new session of the Institute of Architects is about to commence, and the opening meeting is announced. We have yet to hear if the unwise regulations passed some time since by a section of the council to prevent publicity,—to exclude reporters from their meetings, and to confine to the narrowest possible circle any information that might be communicated in papers read there,—have been rescinded or not. Every clear-headed well-wisher of the Institute must hope with us that this has been or will be done. To the outer world last session the Institute was as though it were not. The papers, six of them, by the way, contributed by amateurs, instead of being distributed far and wide over the kingdom, reprinted from our pages in America and India; and, translated from the same source, in France, Belgium, and Italy, as was constantly the case before (and so carrying out, as we maintain, one of the great objects of the Institute), are in the hands only of the 400 or 500 members of the Institute. Who is benefited by the injury done? It would puzzle any to say. It should be the aim of every architect and lover of the art to spread abroad a knowledge of it, and to interest the public in it as widely as possible. The present improved position held by the profession is mainly due to the spread of this interest and knowledge, in effecting which we humbly claim to have played a not inconsiderable part. One of a dozen correspondents on the subject who touch this point says,—"There is, indeed, nothing more advantageous to professors of art than the *art* education of the people, which must inevitably advance the position of its professors, pecuniary and otherwise. Is there any better way of ensuring this than by members of the profession first educating each other and then the people? And is the adoption of the resolutions of the council a step in this direction? Surely the members at large will come forward and help to obliterate this blot from the annals of the Institute."

In one or two of the provincial archæological societies the same narrow and unwise feeling has been lately manifested,—in societies actually formed and supported for the express purpose of interesting the public in our ancient buildings with a view to induce their intelligent maintenance. At a meeting of one of these last season Sir Gardner Wilkinson read a paper on a subject that would have interested many of our readers, and would gladly have seen it in these pages. On his application, however, to the reverend honorary secretary of the society, this was forbidden, on the ground, we believe, that it would make the Transactions of the society less valuable! Whether or not it has ever been published in these Transactions we have not heard. In either case, it is locked up and put away.

Statesmen have a different feeling on such matters: they know better. If Lord Brougham deliver a social science address, or a Chancellor of the Exchequer delineate and comment on the life of a Wedgwood, the first thing done is to supply the reporters with copies of the oration, often even before it is delivered, so that the reader may appeal to the largest possible public, and that such advantage or delight as is obtainable from the address may be afforded to the largest number. Any contrary policy is simple stupidity. Even in a commercial point of view, if, for example, it be sought to sacrifice the real object of the Society to the possibility of selling a few copies of the Transactions, it would probably fail in its effect. Which are the novels that sell the most largely, that go through three, four, or five editions? Those that already have been the most extensively circulated in some periodical work. We suppose, however, the council of the Royal Institute of British Architects would scarcely stoop to justify their resolutions on such grounds. "There is that scattereth and yet increaseth; and there is that withholdeth more than is meet, but it tendeth to poverty."

Writing entirely and merely in the interest of the Institute, the art, and its professors, we shall be heartily glad to hear that the suicidal resolutions in question have been rescinded, and that we can again give our aid, as we had given it for long years, to advance the right objects of the Institute.

FOREIGN ARCHITECTURAL AND FINE-ART SERIALS.

The printing presses of central Europe are vying with those of Great Britain in the production of illustrated serials relating to architecture and the sister arts. Many of these have illustrations richly coloured and gilt, some of which have been coloured by hand with exquisite finish. There are others which are simply illustrated with ordinary copper-plate engravings and lithographs; and others tinted by chromo-lithographic processes. They are for the most part folio-sized, and enclosed with loose grey, green, salmon-coloured, blue, or brown paper wrappers, but little indicative of the delicate execution of their contents. France, as we might expect from the specimens of French art with which we are familiar in the works of M. Viollet-le-Duc and M. Cæsar Daly, is especially vigorous in the production of fine-art and architectural serials. The presses of Paris and Lyons are issuing illustrated works on furniture; sculpture; decorative painting; missals; ceramic art; Palissy ware; archives of historical monuments; chateaux of the Renaissance period; monuments of the same; ancient fortified cities, fortresses, and castles; modern French villas, palaces, hotels, houses, and castles; on the Sauvageot collection; and enamels. Berlin is issuing an illustrated work on buildings and monuments; Carlsruhe another on building construction; Hanover a large folio illustrating the architecture of Lower Saxony; Leipsic a folio on Italian Renaissance; Darmstadt and Carlsruhe smaller folios, showing ancient and modern Swiss houses; and Milan is producing a large folio relating to celebrated Italian families, containing portraits of them reproduced by hand from paintings preserved in various convents, galleries, and palaces. It is not too much to say that no one would look upon and study this rich crop of foreign serials without feeling the strength of our foreign *confrères*. The beauty of German lithography and chromo-lithography is, as usual, prominently striking; and the French sustain their prestige for execution of wood-cuts and engraving. Several are published without letter-press, and therefore need no translator; but the greater portion supply copious information concerning the subjects of which they treat. The prices are not incommensurate with the cost of their production; and they certainly must be considered valuable additions to our stores of art-lore. We propose to introduce our readers to the contents of the latest numbers of some of the more important; and at the same time to review these specimens of Continental art and feeling.

Archives de la Commission des Monuments Historiques, publiées par Ordre de Son Excellence, M. Achille Fould, Ministre d'Etat. Livraisons, 82, 83, 84. 1863. Paris: Gide, Editeur, 5, Rue Bonaparte.

Three parts of this superb work, first published by order of M. Fould, the Minister of State of the French Government, in 1856, are in this instance issued collectively. They comprise but six large plates of ancient buildings. Under such auspices we should naturally look for a superlative degree of excellence to be apparent in them; nor would either architect or archæologist demur to the quality of their execution. M. Viollet-le-Duc contributes two plates of minute finish; the one being a longitudinal section of the *Eglise d'Eu*; the other an elevation of the church of St. Saturnia de Toulouse; and M. Félix Duban contributes four plates of equal execution: they illustrate the Château de Blois. One of them shows the external spiral octagonal staircase in the court-yard of the château, with its rich decorations on the balusters, balconies, and statues on the angles of the octagon, built by Francis I.; two others show the apartments of Louis XII.; and the fourth shows one of the façades of the latter after its restoration. This renovation appears to have been carried out with much discrimination; no offensive addition strikes the eye; the only new work apparent after the restoration being portions that were before missing of the old finials, new open parapets to the eaves, new vanes, new ridge tiles, and a little attention to the chimney stacks. This official folio is certainly not unworthy of its origin, and may fairly take a place among the other great works of the French Imperial Government. The eighty preceding numbers present a rich feast, as may be believed from the circumstances out of which the publication has arisen. Every year the French Government sets aside large sums for the conservation and reparation of ancient monuments of Classic and Mediæval art in France. This fact calls into requisition numerous plans and drawings to make known to the Minister of State the condition of the edifices in question, and the nature of the repairs they require. By these means a vast accumulation of accurate information is gathered together in the shape of the measured drawings of the most important ancient buildings by the most eminent French architects. The Minister of State wisely recommended the Emperor not to let this lie and rot in some mouldy record-office, but to publish it for the benefit of the public. The commission to whom the matter was entrusted resolved to make no distinction between the styles or the schools, but to admit illustrations of the works of the Romans as well as of the crude structures of the early Christian ages and those showing the wondrous strides made in the Middle Ages. Accordingly, the purchaser will find a very varied as well as instructive collection, ranging from the aqueducts raised nearly two thousand years ago to the châteaux of a *régime* but lately passed away; and he will be ready to acknowledge in this instance the value of what our neighbours call the "*surveillance spéciale*" they have exercised upon these materials for history. As a further sample of the contents, we may cite the fortified city of Carcassonne, which is shown in several sheets in its present state, and as proposed to be restored by M. Viollet le Duc, with every tower covered with a conical roof, every parapet armed with *houards*, every gateway fortified with outer barriers, and the now slumbering city aroused, alert and bristling with the full panoply of defensive warfare; the *salle synodale* of the Archbishop of Sens; the amphitheatre at Arles; the churches of Notre Dame de Laon, Notre Dame de Beauné, and that at Vezelay, which could all be rebuilt from these drawings, should occasion require, without the wrong-placing of a stone. The price of each *livraison*, or number, containing two plates and four pages of text, is 5 francs and 6 francs, according to the quality of the paper on which it is printed; and the first series will comprise 120 parts. Some of the plates are coloured, and others are of double size: these are counted as two. Among the architects' names affixed to the drawings will be found, besides those we have mentioned, those of MM. Lassus, T. Desjardins, P. Abadie, Alph. Durand, E. Bœsvilvald, J. Merindol, Qœstel, E. Millet, J. A. Laisné, A. Dennelle, &c. The engravers are MM. A. F. Lemaitre, Sauvageot, A. Guillaumot, Penel & Soudain, Gaucherel, J. Huguenet, J. Sulpis, Bury & Sulpis, Loudain Gibert, R. Pfnor, Regamey, &c. MM. F. Chardon, aîné, & A. Delatre are intrusted with the printing of the plates, with the exception of those executed by chromo-lithography, which have been undertaken by M. Lemercier.

Recueil de Faïences Français du XVI. Siècle 300 exemplaires. No. II.

Monographie de l'Œuvre de Bernard Palissy, suivie d'un Choix des Ouvrages de ses Continuateurs ou Imitateurs dessinée et lithographiée par MM. Carle Delange et C. Borneman; avec Texte par M. Sauzay, conservateur adjoint au Louvre, et M. Henri Delange. Paris: Chez l'Editeur, Quai Voltaire, 5; M. Rapilly, Quai Malaquais, 5; et les principaux libraires ou marchands d'estampes. Londres: Chez MM. Barthès et Lowel, 14, Great Marlborough-street. 1862.

The publication of this work will be completed in 1864. It will contain not less than 100 folio-

size plates, each one of which will represent one or more objects, according to their size. The price for the entire work will be 400 francs, which sum must be paid in eight instalments of 50 francs each, at intervals of three months during its publication. The present number contains the life of Bernard Palissy, chemist, physician, geologist, agriculturist, and *céramiste*, whose name is one of the gems with which seventeenth-century French art is studded; and the plates in it portray specimens of his wares preserved in the Louvre. The colouring, the design, and the poetical feeling displayed in Palissy's ware need not be enlarged upon; they are felt and acknowledged by all. The specimens selected for illustration are an oval dish, with a figure of Summer, *L'été*, cutting corn, which, with all due deference to M. Delange, would be more appropriately called Harvest; a figure of Neptune striding a sea-horse, on a short stem formed of dolphins, the foot of which is formed by their heads; a flambeau, several plates, a *bassin d'aiguière*, forty-two centimètres and a half in diameter, on which are depicted figures emblematical of the elements of science; a most graceful figure of La Madeleine in the desert kneeling, with folded hands, upon a bank of ferns and other wild plants; and another large oval dish representing the family of Henry IV. These plates convey an excellent idea of the originals, and are all faithfully coloured.

L'Art Céramique au XIX.e Siècle; ou, Recueil de Dessins, Formes, et Decorations en Grandeur Naturelle, à l'usage des Fabricants, des Sculpteurs, et des Peintre-Décorateurs qui travaillent la Porcelaine, la Faïence, et les Christaux, et des Artistes et Industriels qui s'occupent de la fabrication des Bronzes, de l'Orfèvrerie, des Meubles de Luxe, Objets d'Art, etc. Compositions nouvelles produites par nos meilleurs artistes, ingénieurs pratiques. Felix Desmé, Directeur de la publication, à Sèvres. On s'abonne au bureau de la publication, ou adresser franco un mandat à M. Felix Desmé, Directeur de l'Art Céramique, Rue Bonaparte, 17, Paris.

We might acquit our continental neighbours of the charge we used to bring against them of old, namely, that they had no talent for business, if we had no further proof of their commercial ability than the ingenuity with which so many persons are pointed out as being likely to be benefited by the purchase of the work on porcelain, crockery, and glass, by M. Desmé, of Sèvres. Two editions of it are issued; one *noir* for 21 francs; another *colorié* for 42 francs. All the drawings are new; they are coloured with the greatest care; no expense will be spared to render the publication as useful as possible; and happy is he, continues M. Desmé, to contribute, according to the measure of his strength, to the propagation of a knowledge of the *chefs d'œuvre* of ceramic art and of the progress of an industry which has kept its place among the arts from the most remote antiquity down to the present day, and which addresses itself to so large a number of *industriels* and artists, manufacturers, sculptors, decorative-painters, workers on porcelain, earthenware, crystal, bronze, goldsmiths manufacturers of furniture *de luxe* and *objets d'art*. Vases, a *tasse à café*, *verres de fantaisie* (glasses cut and engraved), decorations for vases, parts of which are coloured with delicate tints as samples, *coupes de fruits* (dishes or stems for fruits), of different forms and varied decorations, are the subjects illustrated in the present number. They fall far short of the richness, warmth, and fulness of colouring of the Palissy ware illustrated by MM. C. Delange and C. Bonneman in the "Recueil de Faiences Français du XVI.e Siècle." The present revival of artistic beauty in ceramic wares, however, is to some extent assisted by every work on the subject.

Archio. fur Nieder-sachsens Kunstges-chichte. Herausgegeben von H. Wilh. H. Mithoff. iii. Abtheilung v., vi., vii. lieferung. Hannover: Helweng'sche hofbuchhandlung.

This unusually long folio, from Hanover, recording the progress of the fine arts in Lower Saxony, temporarily cased in a paper cover, is full of illustrations, in which architects, builders, sculptors, artists, and artist-workmen would alike delight. Exteriors of churches, market-houses, market-places, with their arcaded and gabled and half-timbered surrounding houses and central drinking-fountains, plans, sections, and details of Rathausen, Kappellen, and Gildehauses; interiors rich in carvings and paintings and trophies of flags and weapons; quaint corners and bits of still quainter street architecture, doorways, dormers, window-seats in deep recesses in old houses, charming oriels, captivating little spirelets, odd winding staircases with carved balusters, gateways whose foliaged archways seem ripened in the suns of many centuries, sly windows, artfully ornamented to make them more and more impossible to pass without staying to sketch them, cunningly carved and corbelled external dados, steep roofs pierced with four or five tiers of dormers, with still more startling gables intersecting them, which cover projecting bays and oriels; hooded fireplaces, carved beams and pillars, balustraded galleries, and other curious features in rich burgomasters' houses, carvings, timber-work, stone-work, and glazing of the most picturesque and pleasing kinds. If this number of this work could be extensively circulated, Hanover and Lower Saxony would be stormed next season by travelling students, and the fortunes of the inn-keepers made in a summer. Mechanics' institutions and literary and scientific libraries should place such works as these in the hands of the many; they would serve to extend sympathies and appreciation, and to awaken interests that could not but be productive of happy results.

Les Evangiles des Dimanches et Fêtes de l'Année, suivis de Prières à la Sainte Vierge et Aux Saints. Texte revu par M. l'Abbé Delaunay, curé de Saint-Étienne-du-mont. Désigné par Monseigneur l'Archevêque de Paris. 400 pages de texte, encadré dans les plus riches ornements et cent miniatures. Reproduction des Œuvres de Jehan Foucquet, H. Memling, Albert Durer, Giulio Clovio, Beato Angelico da Fiesole, Atavante, Lorenzo Monaco, etc. etc. Extraites des plus précieux Manuscrits de Paris, Londres, Oxford, Bruxelles, Munich, Turin, Milan, Venise, Bologne, Florence, Sienne, Rome, Naples, Saint-Gall, Rouen, Lyon, Grenoble, etc. etc. 56e livraison, 15 Août, 1863. Paris: L. Curmer, Editeur, 47, Rue Richelieu, au premier. Six francs la livraison.

In this livraison we have the fifty-sixth number of a gorgeously illuminated work, containing the gospels for Sundays and festivals, and prayers to the saints and to the Holy Virgin, printed in gold and colours, with much sumptuousness. To such of our readers who may be practising the very attractive art of illumination, we would especially commend a study of both the colouring and execution of the plates, showing borders that are applicable to many purposes. Miniatures of Samuel, anointed by David, Saint Michael and Saint George, are also excellent examples. Accredited as this work is, we can easily understand that considerable importance is attached to it by our neighbours on the other side of the Channel. It is a most costly undertaking, and should be appreciatingly supported.

Journal-Manuel de Peintures appliquées à la Décoration des Monuments, Appartements, Magazins, etc. etc. Bois, Marbres, Lettres, Attribut, Imitations de Moulures, etc. Dirige par Petit et Bisiaux, peintres-décorateurs. 14e année, No. 7, July, 1863. Paris: A. Morel et Cie, Libraire-éditeurs, 18, Rue Vivienne. (Il parsît chaque mois un numero composé d'une feuille de texte in folio et deux planches.) Prix de l'abonnement annuel, 22 francs.

This is a folio serial in its fourteenth year of publication. As its name implies, it is intended for the use of painters and decorators. It contains two specimens of panelling, in chromo-typography: the one has scroll-work painted in each panel, with marble pilasters between each; the other is simply a green surface, the mouldings and framework of which are picked out with appropriate colours. The letterpress consists likewise of two sheets, or four pages, and contains technical information of considerable value. Among others there is a short essay upon the influence of the essence of turpentine, *terébenthine*, upon the health of painters, and of persons who inhabit an apartment newly painted, by M. Pawlowski. This states that M. Leclaire, of the Academy of Sciences, after experiments made upon animals placed in boxes of fir-wood, of 1 mètre cube, in which the internal sides were painted, the one with white lead paint, and the other with white zinc paint, both mixed with the essence of turpentine, establishes the following facts:—1. The animals did not suffer sensibly as long as there was a current of air in the case. 2. The animals suffered in the first twelve hours, when the current of air had been suppressed; but afterwards they gradually recovered, and neither of them succumbed in the course of the experiments. 3. Not one of the animals suffered in the boxes after the painting was dry. M. Leclaire concludes that the emanations of the oil of turpentine which are exhaled from paint in apartments where there exist currents of air are not dangerous either for the working painters or for persons who inhabit them, and that paint does not present any danger even while there does not exist a current of air when it is dry. But, adds M. Chevreul, "that which appears to me should interest persons who devote themselves to the sciences and to profound hygienic researches, is the happy idea of M. Leclaire to see if the vapours which are exhaled from paint *à l'essence* would be absorbed by distilled water." The part is made up by brief chapters upon "Execution and Palette," "Canvas for decorative Painting," for which a M. A. Binant obtains honourable mention from the Paris and London Exhibitions of 1861-1862; "Varnish and Polish," and "Technical Vocabulary."

Les Emaux de Petitot du Musée impérial du Louvre. Portraits de Personnages historiques et de Femmes célèbres du Siècle de Louis XIV. gravés au burin par M. S. Ceroni. Paris: Blaisot, Marchand d'Estampes, Libraire-éditeur, 178, Rue de Rivoli. 1863. 40 livraisons. Deuxième volume.

The last number of this fine-art publication, intended to illustrate the Petitot enamels preserved in the Louvre, is devoted to a memoir of Madame de Maintenon, written by M. Emile Chasles, and accompanied by an engraving of pearl-like luminousness of her portrait from the collection in question, by Ceroni. She is described as beautiful, virtuous, and unfortunate, when, in 1668, as the widow of a poet and governess of the children of Madame de Montespan, her predecessor in the affections of Louis XIV., she first attracted the attention of that monarch. Her history is familiar to English readers. Born in the prison of Niort, where her father, Constans D'Aubigné, was confined, she was taken, on his release, to Martinico. Thence she was sent to France, and confined to the care of her aunt, Madame Villette, who was a Protestant. She was claimed, however, by another relation, who wished her to enter the Romish church. It is urged that it was to escape from the severities of this relative that she married Scarron, the author of "Virgil Travestied," the "Comic Romance," and other celebrated pieces. Her zeal and discretion, when governess of Madame de Montespan's children, awoke the regard of the king, who increased her pension, and ultimately bestowed upon her a title and estate. She is assumed to have been secretly married to the king in 1685. The nine volumes of her letters that have been published prove her to have been a person possessing more than the average ability of French ladies.

Musée Impérial du Louvre. Collection Sauvageot, dessinée et gravée à l'eau-forte par Édouard Lièvre, accompagnée d'un texte historique et descriptif. Par A. Sauzay, Conservateur-adjoint des Musées Impériaux. Seventh livraison. Paris: Noblet et Baudry, Libraires-éditeurs, 20, Rue Jacob. 1863.

This is another of the works for which the inexhaustible stores in the Louvre have furnished the illustrations. It is written with a due appreciation of the value and poetry of ancient workmanship. The illustrations are etchings of the rare pieces of furniture, jewelry, armoury, &c., collected by M. Sauvageot, and now deposited in the Louvre, skilfully executed. French furniture of the thirteenth and fourteenth centuries was decorated by marqueterie and by paintings. These decorations were succeeded by rich stuffs. The monk Theophilus, in his essay upon the arts, *Diversarium Artium Schedula*, pointed out the mode to be pursued in painting furniture after it was properly prepared:—"With the poinçon, the compass, and the rule, dispose your work; that is to say, the images, animals, birds, leaves, and all that you would draw upon it. That done, if you would ornament your work, you will apply to it, as a foundation, leaves of gold." There are specimens of this and of the succeeding modes of decoration given, as well as of several miscellaneous articles; among them the *monture d'escarcelle*, of early seventeenth century workmanship, supposed to have belonged to Henri II. The words *d'alloyere, d'aumosinère, d'escharcelle*, and subsequently *d'escarcelle*, were terms successively applied to a sort of pouch, or bag of leather, or velvet, or of satin, embroidered with silk and gold threads, which everybody carried hanging from their waists, as introduced by the crusaders and pilgrims. French antiquaries differ as to the exact purpose for which these pouches were used. M. le Comte de Laborde thinks that one form of it, known as an *aumônière*, was destined to carry

the alms the owner meant to distribute; and that another form, the *escarcelle*, was used as a pouch or coffret. By an oversight, the material of which the mounting is wrought is not mentioned. It is ornamented with figures and foliage.

Schweizerische Architectur in Perspektivischen Ansichten, Grundrissen, Schnitten, Façaden und Details. Mit erklärendem text Herausgegeben von J. Hochstetter, Professor der Architectur und Kunstgeschichte an der Grossh, Polytechnischen Schule zu Carlsruhe, Correspondirendes Mitglied des Archäologischen Instituts zu Rom, &c. Erste Abtheisung. Holzbauten des Berner Oberlandes; Aufgenommen von C. Weinbrenner und J. Durm. To Heft. Carlsruhe, Verlagsencenthum von J. Veith. Hinterlegt bei Grossh. Bad. Ministerium des Innern.

This consists of a series of designs and details of modern Swiss houses, in colours, published at Carlsruhe. This style does not depend upon the plan for movement. A quadrangular block plan, when surmounted with a Swiss wohnhaus with overhanging covered galleries and projecting roof, its notched wooden buttresses and corbelled brackets, is as pictorial an object as could be desired. The fronts of the overhanging galleries, or continuous balconies, are of wood perforated with a pattern; and the barge boards with which the spaces between the tops of the windows and balconies are always filled, overlaying each other, are of the most diverse designs. Every barge board has a design of its own. When there are four, they are all cut into different forms of ornament. Neither is the style dependent on the windows for expression: they are for the most part square or oblong, and filled with small square panes, or in a few instances quarrels in a diaper of lead work. The inscriptions in German text upon many of the houses are a very pretty source of ornament. And the rustic palisading round the several houses is another national peculiarity that strikes the attention: these are of every possible form and combination into which stakes and planks could be driven or lashed. We might indicate for especial notice a wohnhaus in Wilderswyl, illustrated in handsome coloured perspective. This is a square timber house of two stories, with an attic in the apex of the roof. It is built upon so high a foundation of stone, that eleven steps are required to reach the entrance, which is placed in one of the sides. Between the first and second stories runs a balcony projecting on corbels all round the house; and over all projects the flat-pitched tiled roof, the wide-spreading eaves of which are supported by corbelled brackets which die into pilasters and descend to the foundation. The exterior of the roof is dotted with large rough stones, placed at intervals upon it. In the space over the second story, and under the two windows which light the attics in the main front, there is an inscription extending across the whole width of the structure: this is placed upon a board ornamented with mouldings which slightly project, and is supported by corbels. There is no letter-press. But none is required: the drawings speak for themselves. People accustomed to our suburban imitation of Swiss cottages would be surprised at the difference between them and the strong weather-defying structures that are building in Switzerland. There is not more difference between the surrounding scenery of a London Swiss cottage and a Zurich one than there is in their construction.

We must carry on our list in another paper.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION IN YORK.

The final excursion of the association at the late anniversary was made to the city of York. They were conducted in a special train on the North Eastern line, *viâ* Harrogate and Knaresborough. As soon as the party, which included a number of ladies, reached York, they crossed the new bridge which spans the river Ouse at the well-known Lendal ferry. Thence they proceeded to view the Multangular Tower just within the grounds of the Yorkshire Philosophical Society, and from that unique memorial of both Roman and Norman times, they passed on into the grounds themselves, in which are innumerable objects of great interest to antiquaries, archæologists, artists, scientific men, and searchers into human knowledge in general. The Rev. J. Kenrick was very courteous in leading the excursionists from object to object, and offering such observations as time and other circumstances would permit. The grounds, as many of our readers know, contain the remains of St. Mary's Abbey, with those of some of the buildings which in days of old belonged to the monastic establishment bearing that name. Mr. E. Roberts pointed out in a portion of the ruins a curious pier, which he described as architecturally, a mass of contradictions. He expressed the opinion that the building of which it formed part had been erected about 1210-20, and that it had been worked up with some elaborately carved stone of fifty years earlier. The Hospitium, in which is displayed a vast collection of fragments of Roman pottery, Saxon remains, and other antiquities, discovered near York, was next visited, and the very fine tesselated pavement, presented by Sir G. Wombwell, Bart., and found at Oulston, was very generally observed. Having concluded a hurried visit to the Museum, the members recrossed the bridge, walked along the city walls, which were examined with interest, through the ancient bar of Micklegate, and thence to Skeldergate ferry. Passing across the Ouse, they entered the Castle-yard, and visited Clifford's Tower, so called after the first governor.

Mr. H. Webster, the deputy-governor of the Castle, gave a sketch of the history of the tower. It was said to have been erected in 1064, by William the Conqueror, and was intended as a fort to protect the city walls. Round the upper portion it was fortified with cannon, which remained until 1654, when the magazine and all its contents were blown up by the soldiery. It was in this tower that, in 1190, no less than 1,500 Jews destroyed themselves, dreading that the persecuting spirit which then animated the public mind against that unhappy people, and which had exhibited itself in most brutal cruelties in the south, would extend towards the northern parts of the kingdom. The Guildhall was the next place visited, and Mr. Roberts, in explanation, stated that it was generally believed the building was of the date of Henry V., but if the windows were to be taken as an original part of it, the hall must have been built at least a reign later, the pillars and roof being still later. The windows had been restored probably about the time of Queen Anne or the early Georges. The west window appeared to belong to the end of the seventeenth century. The party were then conducted to the Mansion House, where the Lord Mayor (Mr. W. F. Clarke) and the Lady Mayoress received them in the state-room. The insignia and the gold and silver plate of the city were exhibited, and examined with interest. Considerable curiosity was felt in the cap of maintenance, presented by King Richard II. to the first Lord Mayor, when he gave to the city its corporate charter. This cap is still worn by the mace-bearer on state occasions. The members of the Association were afterwards entertained by the Lord Mayor, in the Mansion House, at a luncheon, at the conclusion of which Dr. Lee, on behalf of the Society, returned their most respectful and grateful thanks to the Lord Mayor and the Lady Mayoress for the admirable manner in which they had received them. They had done all in their power to show the curiosities of the city, and had provided them also with a most sumptuous and elegant repast. The reception the Society had met with wherever they had gone in Yorkshire had been most satisfactory.

The Lord Mayor, in reply, said it had given his wife and himself great pleasure to receive the Society, his only regret being that the time was so short; and if the Association ever came to York and made that city their head quarters, he was certain the citizens would do all in their power to receive them worthily.

The minster was the last object which the archæologists, as a party, visited. They were courteously received by the Dean (the Hon. and Very Rev. A. Duncombe, D.D.), who had had the crypt specially lighted for the occasion. The Dean himself, some of the vergers, Mr. J. Browne, of York, who is the author of one or two works on the minster, and Mr. Roberts, described the crypt and several of the more interesting objects in the sacred edifice.

CYCLOPIAN REMAINS NEAR ROME.

Among Italian ruins that most strikingly evince how advanced was the civilization crushed and ultimately forgotten under the all-absorbing ascendancy of Rome, the civic fortifications called "Cyclopian" exist in numerous and interesting examples; and railway-travel has now brought within easy reach of the tourist, from that city, several of the finest specimens among those relics of vanished nationalities. Throughout Italy are found at least 300 of such constructions, for the greater part within the Papal, or what (till recent changes) was comprised in the Papal States, namely, in the Sabine, Volscian, Hernician, and Marsian regions; some in the Samnium (now Neapolitan territory), others in Umbria, and some in Sicily, where those of Cefalu are most noted among such remains; but neither in northern Italy nor beyond the Apennines are found any properly belonging to *this* class; for the massive walls of Cortona and Volterra have a different character, and the construction proper to the Etruscan must be distinguished from that understood in the now generally admitted appellation of Cyclopian. This gigantic style of masonry seems to have become domesticated, in ante-historic periods, over a region comprising the mountains of the Sabines, the whole Tiburtine district, and extending north-eastward from Rieti over Umbria; in which last province, however, such walls as are seen at Perugia and Assisi, like those of Fiesole and Cortona, have the character marking the transition period, when the masonry in polygonal blocks gave place to that in regularly hewn and squared stones. In the neighbourhood of Rome the most striking examples of the earlier style are at Alatri, Cora, Segni, Norba, Civitella, Ferentino, Vicovaro, and Palestrina. Those on the mountain-promontory of Circeo (or San Felice), near Terracina, were the first, among such Italian ruins, that received the name "Cyclopian," from their resemblance to the walls of Mycene and Tiryathus in Argolis; and were accidentally discovered, in 1792, by a party engaged in searching for plants to supply the Botanic Gardens at Rome; in consequence of which event, important to archæologic interests, the study and research directed to this range of antiquities received a new impulse in Italy; and in the years ensuing much was accomplished to bring additional light to the subject, by the Archæologic Institute at Rome, by the labours of Dodwell and Gell. The dispute arose whether all these fortifications belonged to the class of monuments referrible to Italy's aborigines, or to those of Rome in her kingly or republican periods; Gerhard and Canina, maintaining the latter theory, were opposed by Raoul Rochette and others. (See the report of this controversy by Cesare Cauter, *Storia Universales*, v. 1, *documenti*) In Gell's "Topography of Rome," and Christian Müller's "Roma Campagna," are described the most curious,—in the former work especially, the features of all such remains within the region contemplated, including those most remote and of difficult access.

A beautifully-varied succession of scenes, the wild and the soft, the mournfully grand and the luxuriantly lovely, the majesty of ruin and richest fertility of nature, are presented to view on the journey between Rome and Ferentino. That city, originally a seat of the Volscians, was given by Roman masters to the Hernicians, and sustained a siege, A.U.C. 457, memorable for the gallant repulse of those ultimately victorious, here as everywhere, 3,000 Roman assailants being left dead under the walls, near a gate still bearing its title, from that day's slaughter, of *Porta Sanguinaria*. Subsequently become a *municipium* and Roman colony, Ferentinum followed the destinies of the conquering metropolis, alike in Republican and Imperial periods, and succumbing to successive irruptions of Goths and Longobards, after the fall of the Empire; finally, in the eighth century, together with other cities of the Roman duchy, submitting by voluntary act to the temporal dominion of the popes. As usual with the provincial towns of these parts, "distance lends enchantment to the view;" and the place that looks imposing on its mountain-ridge above the cultured valley, the "Latium Novum" of antiquity, when seen from below, proves but a gloomy and wild-looking little town as we thread the ways of its steep narrow streets. Its episcopal palace stands on foundations referred by conjecture to the ancient prætorium, or residence of the prefect governing for Rome; and other ruins have been vaguely assumed to be a temple of Mercury, and the Thermæ of Flavia Domitilla. But far more interesting are the extensive fortifications surrounding the greater part of the civic circuit, of considerable height in some places, particularly along the eastern side, but everywhere surmounted by the grey walls of modern houses, that rise at the same perpendicular above. This antique cincture is mostly in regular quadrate blocks, of calcareous stone, fitted together with the utmost exactness, the courses correspondent, though varying in thickness; in some parts the largest stones polygonal, though more frequently squared and disposed with regularity in the successive courses, entirely without cement, as is the case in all such earliest constructions of the Roman

neighbourhoods. The best-preserved portions resemble in style those walls of republican origin at the tabularium on the Capitol; and we were reminded, by this analogy, of the argument sustained by Mommsen to establish that the *greater* number of the mural structures styled Cyclopian, in Latium, Sabina, and Etruria, are not really older than the seventh century of Rome, and to be regarded as restorations effected under her rule. At a short distance from the eastern walls of this town, the road passes an extent of similar building quite isolated, in perfectly regular courses now rising to a height obviously less than was originally presented, for the whole upper part is ruinous; and we might here conjecture the existence of Castra, or some fortified outworks.

We accomplished the journey from Ferentino to Alatri in a fatiguing walk of about three hours, for the most part over rugged mountain paths, but amidst scenery so nobly picturesque that weariness could easily be forgotten; whilst the grand forms of the Volscian and Hernician heights were continually unfolding to view. Amidst this landscape one striking and long-descried object is the conical and sterile mount, rising isolated from the Latian vale, at whose summit is a wild little town with a grove of cypresses, Fumone, celebrated in thirteenth century annals as the scene of the imprisonment and death that closed the strangely-romantic career of the hermit-pope, Celestinus V., confined here, after his abdication of the tiara, by the jealousy of his energetic successor, Boniface VIII.; but, after a few years, canonized by the next occupant of St. Peter's chair, Clement V. We enter Alatri through a narrow modern archway, firmly set into the antique walls extending far on both sides; where at once are recognized the characteristics of the Cyclopian in one of its most perfect and imposing specimens, a spectacle that carries the mind back to those pre-historic days when Palantium and Saturina rose out of primæval forests and deep morasses on the Palatine and Capitol, ages before the city of Romulus had included those mounts within its comparatively modern walls. For almost the entire circuit of Alatri we follow the lines of this extraordinary fortification; and observe with satisfaction that, to all appearances, its majestic ruins have suffered nothing from the demolishing outrage of recent times: surmounted, for the most part, by house-walls or those of convents, built in the same calcareous stone, they stand, in many places, at considerable height, and sometimes free from all superincumbent adjuncts, the measurement of some stone blocks being 6 feet to 7 feet in length by 2 feet to 3 feet in thickness. This stonework is in either regularly-squared or polygonal masses, the latter often dovetailed together with the most careful compactness; and where the interstices are wide, they are filled by small irregular stones, cut apparently only on the outer surface; the strata in some instances correspondent and running in horizontal lines, in others sinking towards the centre, so as to describe a downward curve. At certain points we see cavities, apparently the mouths of secret passages, for purposes of communication or escape; the most conspicuous of these near a gateway, with an orifice narrowing from the summit to the base. But the most important remains are those of the Acropolis, on a spacious platform, high above the level of the town, at whose southern extremity it rises, now occupied only by the cathedral and episcopal palace (insignificant modern buildings); around this elevated ground the steep being supported by buttress walls, in the same stupendous masonry, but more completely preserved than the rest, and on one side advancing in a rampart, detached from the slope, that terminates in an obtuse angle, where 50 and 60 feet of height is obtained by a wall of not more than fifteen stone courses. Near this rampart is a gateway, still entire, under a horizontal arch, the lintel formed by a single stone, perhaps 8 to 9 feet in length; and within the ingress another such horizontal stone forms a roof at somewhat higher level: the jambs, in enormous stone-work, and the passage within, lined by projecting masses, left rough in their unhewn surfaces, as if for incrustation, or in the intent of having this part concealed by other masonry. The grand extent of landscape, the valley of Latium Novum, with its western and eastern mountain limits, commanded from this platform before the cathedral church, might reward for the fatigues of a journey to Alatri, irrespectively of the local antiquities. Nor are these last exclusively of one character, for, strange to say, this remote and little-visited town contains more of the Middle Ages than is discoverable amidst all the grandeurs of Rome. In its narrow streets, through none of which could pass a vehicle, and where are ascents like broken staircases, only to be achieved by a scramble, we now and then see mullioned and transomed windows, of two or three lights, divided by quaint colonnettes, acute-arched doorways, and massive stone facings, that tell a tale of better days, once enjoyed but long lost by these now gloomy abodes. In some churches also remain, amidst paltry modernization, fine examples of the wheel or rose window, and ample arched portal, with clustering pilasters; one in particular, whose exterior seems left untouched, remarkable for the Flamboyant tracery of its rose window over a portal with acute arch, pilasters and mouldings of very rich character—the interior, a poor attempt at Gothic restoration, with a superfluity of tawdry colours, and the worst description of stained glass set in its pointed windows; though original outlines still unaltered, and the peculiar arcades, with cusped arches that divide the nave and aisles, are worthy of notice. As to this church which has also a fine old campanile, with different stories of round-arched and two-lighted windows, divided by graceful colonnettes, we could obtain no history in the town; but, after returning to Rome, could identify it with that briefly noticed in Moroni's "Dictionary of Ecclesiastic Erudition," as the Santo Stefano of Alatri, built in the thirteenth century by one Cardinal Gottifredo, probably the Italian form of a German name.

To inspect another most remarkable monument of Cyclopian construction, we must quit the railway at Velletri, and thence accomplish (by horse or hired vehicle) a journey of some hours across a region, once designated *Volscorum Ager*, where the wide valley is bounded by the Volscian mountains eastward, and though cultivation is not wanting, a character of wild mournfulness distinguishes the scene, habitations being scarcely found, and the sole village passed on this route, San Giuliano, abandoned to gloomy though picturesque decay. Cora is said to owe its name and origin to the Argive Coras, brother of Catillus, thrice mentioned in books vii. and xi. of the "Æneid;" by Cluver is assumed to be one of the cities built by the aborigines and Pelasgi; according to Livy, a Volscian town; but its citizens, the Corani, by Pliny called "Trojans." Historic certainty as to her vicissitudes may be found at least in the account of submission to the Roman power, after having long struggled against it in alliances with the other cities that formed the Latin League, from the year 415 of Rome's era; after which date she continued in peaceful subjection as a *municipium*, mentioned by Strabo among the more considerable towns of Latium. Now a wild, dismal little place, where nothing seems to animate the monotonous gloom of obscure existence, it seemed to us that this town, possessing such treasures of antiquity, surpassed in the degree of squalid and repulsive wretchedness anything we had yet seen (at least among regions so near highways and metropolises), in the experience of not a little Italian travel. Arriving at the foot of the steep height it climbs over and crowns, and quitting the vehicle, which cannot traverse its precipitous, rugged footpaths (rather than streets), we first observed some external walls, and the towers of a gateway in reticulated masonry, antique, though restored in the Middle Ages, and referrible to the later period of Republican Rome. Within this we see, at different levels of the ascent, the remains of the much earlier fortifications, preserved to greater height than are any other similar structures of these Italian cities, and less ruinous than is the condition of most. The first presented to view is the town's lower quarter, an extent of walls in enormous polygonal blocks, here 6 palms in thickness, and stretching 33 palms in length. But, in the higher quarter, are others, assumed, from the still vaster scale and more rudely irregular character of the stonework, here also polygonal, to belong to another cincture of greater antiquity. Gell supposes these fortifications to be undoubtedly Pelasgic; and Müller points out the evidence of different date in the characteristics of their higher and lower portions severally. Here, as at Alatri, the interstices between the enormous masses are, where left wide, filled up by small irregularly shaped stones; and, though far from equalling in extent the Cyclopian walls of the latter city, these of Cora give a still greater idea of power, of the ambition that animated their builders. But the latter place contains ruins of less mysterious antiquity, whose beauty will impress most visitors far more than the stupendous proportions of those aboriginal structures. About half-way up the ascent we find a small church, built in a ruin called popularly "The Palace of Pilate," but in reality a temple of Castor and Pollux, as evident from the names of those deities still distinctly read on frieze and architrave; besides which members of its architecture remain only a Corinthian column and correspondent pilaster, in fluted travertine, belonging (as inferred) to an angle of the pronaos, and even these fragments but imperfectly seen, embedded in modern masonry. At the summit, reached by a fatiguing walk, is that celebrated and exquisite temple of Hercules, deemed a perfect example of the Doric order in its fourth epoch, which was admired by Raffaelle and made the subject of a sketch by him, still extant; by Winckelmann was referred to the period of Tiberius; but by others, who argue, from the archaic character of the inscription over the entrance (see Müller's "Campagna"), placed at date so early as the first Republican period. Of the peristyle still remain eight travertine columns, six (including those at the angles) in front, and two (or four including the latter) at the sides, the upper part, to about two thirds, fluted and clothed with stucco, the lower part of the shafts cut in facets, these supporting a frontispiece, with frieze and architrave still entire, the only ruinous portion in this higher member being the apex of the triangular pediment. The columns have bases (a detail so rarely found in the Early Doric), and this graceful pronaos rests on a high basement of travertine, before which stretches a grassy platform just at the brow of the hill, commanding one of the most extensive and glorious landscapes in Italy,—at least, in Central Italy. Within that peristyle stands the front wall of the cella, and its original doorway with marble jambs, above which runs the inscription. Behind extends a long low church, St. Pietro, on whose walls we see a fragment of the temple cornice, and a beautifully chiselled marble altar serves to support the baptismal font, its four sides adorned with reliefs of rams' heads, festoons of fruit and flowers, and three heads of the sun god encircled by rays,—not identical, but each of finely-characterized features.

THE SHAKSPEARE CELEBRATION.

The central committee are to meet on Monday next, to settle the time for holding a public assembly in London, to inaugurate the movement properly. It is to be hoped that a very early day will be fixed. If the first stone of a monument is to be laid,—as it most certainly should be, on the birthday in April next,—even the nature of which monument is not yet settled, there is not a *moment* to be lost. Artists cannot be appealed to for designs until the probable amount of money available can be mentioned; and a satisfactory design will not be obtained unless plenty of time be given, even if it be then. Unless something really honourable to the art of the country is to be set up, it will be better to do nothing. The committee have the best intentions, but if they lose more time their good intentions will be of no avail.

HOLBORN VALLEY.

Deplorable as is the state of the City thoroughfares, nothing but magniloquent talk of improvements, and invitation of new competitive plans for amendments, has as yet come under public notice; although traffic and intercourse are so blocked and impeded that the passage of heavy vans has been interdicted during business hours, and cabs and omnibuses have been restricted to certain lines on entering the City, and to different routes on their egress. Truly this betokens a desperate struggle, in the last resort, to stem an utter stagnation of trade.

For years has the Corporation been predicating a level causeway over the valley, as they also proposed a continuation of Bridge-street, Blackfriars, to Clerkenwell. The first has come to nothing, and nothing has come of the second, although Mr. Bunning has expended years of his time and all his health in the difficult office of directing surveyor. It would appear that in the variety of interests and multiplicity of counsellors there is no security for progress, and that the commencement of a Holborn viaduct is now as remote as is the completion of Victoria-street.

A plan was proposed some years back in the *Builder*, to give an easement to central traffic by opening out a new route, 60 feet wide, intermediate between Fleet-street and Holborn, commencing at Sir Robert Peel's statue, Cheapside, *slick through* Paternoster-row, Amen-corner, and Stationers' Hall-yard; thence over the space between the Sessions House and the Old Bailey Prison (an interval of 130 feet), across the Old Bailey, and so in continuation by a bridge or viaduct over

Farringdon-street, about the site of the market: from that point the new street was designed to traverse Chancery-lane, the south side of Lincoln's-inn-fields, by Carey-street, &c., &c.

So far as the Old Bailey, that project would well subserve the new scheme of simply bridging over the Holborn difficulty; for in the recently published suggestion by Mr. C. H. Smith, he would commence (as others also had proposed), at the corner of Fetter-lane. Now the enormously increased traffic, as anticipated from the grand junction stations of the Chatham and Dover, *and all the North and South railways*, would be ill provided for, if Newgate-street is to be the issue, as at present, for its continuation: that street, although widened in some parts by 8 feet, would be wholly inadequate to the object, and there is little hope that for years to come the remaining houses will be set back even to that extent.

The line of Holborn from Fetter-lane to Newgate, represents a segment of an arc, the cord whereof would run central between the grand independent route herein recommended and that of Holborn, with its existing vale of obstruction, labour, and woe. Certainly, the short cut, *simply bridging over the valley*, might be effected more speedily, and at less cost; but would it effectuate a permanent and suitable easement for traffic that has increased, is increasing, and that must eventually form a whirlpool of confusion, unless issues be opened sufficient to disgorge the tributes to be poured in from all the united railways?

Projects have been already brought forward of large scope; that exhibited in Guildhall, by Mr. Greenhill, and illustrated in the *Builder*, with others announced, and *in prospectu;* but the first consideration is, whether the change of existing streets, and the demolition of long structural ranges, now in full business and occupation, be at all needed to carry out the required intercommunication, *and to bridge over that difficulty* which has long been the standing disgrace of London and its corporation.

To cut away six houses from the corner of Fetter-lane; to open a space through two or three *culs-de-sac*, such as Thavie's-inn; to abate some impoverished and dilapidated lodging courts in low and sequestered quarters, could not be a very losing speculation; for the wider the scope and the better the allotments set out for rebuilding a grand arterial and central route, the higher would be the ground-rents and returns.

To demolish Holborn alone for 500 yards (on both sides, too) would entail enormous expenses, besides the stagnation and dislocation of trading interests.

Let these alone: a great design may be carried out more simply and effectively in a new direction: the present toilsome thoroughfares may serve whilst the straight and open way is being constructed: science and skill will have fair play, whilst the long located and busy citizens are allowed to stick to their tenures and businesses; and, as it ever happens in improved neighbourhoods, the old-established streets and shops will not only survive the shock, but be benefited by the change.

Were it possible that any plan should be adopted which involves the clearance and reconstruction of entire streets, *such as we have seen*, five years of ruin and stagnation must befal the most vital centre of civic organization. In the animal economy, the loss of an artery is often compensated by enlargement of the venous system: in this wise our lanes and by-ways might relieve congested traffic; but mortification would be sure to follow the too free use of the scalpel.

Eighty-four designs for the improvement of Holborn Hill have been received, and are now hung in the Court of Queen's Bench, Guildhall, for the inspection and consideration of the improvement committee. The committee have commenced work, but nothing is yet determined on.

THE CENSUS OF ENGLAND AND WALES.*

A VERY readable and interesting volume is being prepared by Mr. Coke from the official returns under the care of the Registrar General, Major Graham, to whom, by permission, the volume is dedicated. The part now issued is confined to England proper, and Wales; and in the other two parts, Scotland and Ireland, with the colonies and foreign possessions, will follow.

So recently as the year 1751 the population of all England and Wales was estimated at only about 6½ millions, or not much more than twice the present population of London. In 1801, according to the census of that year, the population of England and Wales was nearly 9 millions; and in another half century it was 18 millions, as shown by the census of 1851. At the census of 1861 it exceeded 20 millions. At this rate, in 1901, it may be expected to be 36 millions, and in still another half-century we—no, not we but our successors—may find it increased to 73 millions, or nearly four times the present number of inhabitants. What sort of provision or means of livelihood there will be for such a multitude in our "tight little island" at that time it is hard to say. On an average 373 persons are at present domiciled on each square mile of surface in England and 150 in Wales; and with the exception of Belgium, with 400 persons to each square mile, England is already one of the most densely peopled countries in the world—China, we should think, specially excepted. Amongst the more western nations, next in density of population are Holland, France, Prussia, Austria, &c. Sweden and Norway are the most thinly peopled countries in Europe; then Russia, Spain, and Turkey. In Middlesex, at the last census, there were 7,852 persons to every square mile of surface; in Lancashire, 1,200; and in Westmoreland only 80. The precise number of the whole population of England and Wales at the date of the census (8th April, 1861) was 20,066,224, of whom 9,776,259 were males, and 10,289,965 females. Thus, there were half a million more females than males, or a female population equal to not very far short of a fourth part of the whole population of London. The proportion to the male population is 105 to 100, or one extra female to every twenty males. That the emigration of more males than females is one cause of this surplusage there can be no doubt; and that the greater exposure to influences injurious to life in the male than in the case of the female also helps is no less evident; but a greater number of males than of females are born,—20 to 19; and that the female is more tenacious of life than the male, at least in infancy, appears from the fact that in the very first year of their lives, when there can be no difference of exposure to injurious influences, 51 boys die for every 49 girls. More women than men, too, live to "a good old age." At 20 the males and females are at about an equality in number, and this is about the pairing time; so that there is a precise equality at about the time when both sexes are marriageable.

Of 684,048 births registered in 1860, 640,355 were born in wedlock, and 43,693 out of wedlock, being about 1 illegitimate for every 15 legitimate births, or 6·4 per cent. In Cumberland the proportion was 12·1 per cent.; in Norfolk it was 10·7; in Westmoreland, 10·6; in Shropshire, 9·6; in Nottinghamshire, 9·1; and in Lancashire, 6·4, the same as the average for England and Wales. The proportion of natural-born children in London for the year 1860, was 4·2 per cent., about 1 in 24, and the same proportion was registered in the extra-Metropolitan parts of Surrey and Middlesex, also in Huntingdonshire and Monmouthshire; in Hampshire, 5·1 per cent.; in Kent, 5·2; in Warwickshire, 5·3; in Durham, Gloucester, and Cornwall, 5·4; in Staffordshire, 6·0, &c. In England, Norway and Sweden, and Belgium, the proportion of illegitimate births is 1 in 15; in France and Prussia, 1 in 14; in Scotland, Denmark, and Hanover, 1 in eleven; and in Austria, 1 in 9. The immense proportion of illegitimate births in Scotland, like its excess in drunkenness, constitutes a very remarkable feature in the statistics of a country with such pretensions to superior religious character: something evidently must be wrong; and its clergy ought to reflect seriously on the probability that it is the very stringency and bigotry of their religious rule itself which yields such unwholesome fruits; for "by their fruits ye shall know them;" and Scotland, the spiritual and moral exemplar to England and the whole empire, as it conceives itself to be, is, *par excellence*, the land of bastardy and drunkenness.

The immensity of London by comparison with other large towns is well shown forth in Mr. Coke's volume by a list of 17 large towns, the population of all of which together falls short of that of London, by 49,121 persons. Nevertheless, this list includes, Liverpool, Manchester, Birmingham, Leeds, Sheffield, Bristol, Wolverhampton, Newcastle-upon-Tyne, Bradford, Salford, Hull, Portsmouth, Brighton, Sunderland, and several others. The population of all these seventeen towns together, in 1861, was 2,754,868, whereas that of London was 2,803,989. The population of Paris, in 1862, was only 1,696,141; that of St. Petersburg, in 1858, was 520,131; that of Berlin, in 1861, was 547,571; that of Vienna, 512,000; and the population of all these three, with that of Brussels, Lisbon, Rome, Turin, and Copenhagen, or eight of the chief continental cities, would not suffice to fill London, their whole population being only 2,559,182.

To supply the people of London with food and drink requires, on an average, 1,206 to support a baker in his business, or 1 baker to 1,206 of the population; 1 butcher in business to 1,553 of the population; 1 fishmonger to 6,801; 1 cheesemonger to 3,291; 1 dairyman to 2,175; 1 greengrocer and fruiterer to 1,541; 1 grocer and teadealer to 1,030; 1 beer and wine retailer to 2,062; and 1 licensed publican to 668 of the population, in proportion 1 publichouse to every 87 inhabited houses.

To supply clothing and dress, it appears from the "London Directory," that 1,064 of the population support a tailor in business, or 1 tailor (not including journeymen) to 1,064 of the population; 1 boot and shoe maker in business to 1,031 of the population; 1 milliner and dressmaker to 2,077; 1 hatter to 6,000; 1 draper to 3,000; 1 hair dresser to 3,738. To alleviate the sufferings and infirmities of human life, we have 1 surgeon or general practitioner to about 1,712 of the population, and 1 physician to 5,552; 1 dentist to 8,247; 1 chemist to 3,505; and for disposing of the dead, 1 undertaker to about 5,043 of the population; and as 24 in 1,000 of the metropolitan population, on an average, die during the year, it will allow 121 to each.

In London there are about 10,000 of the population to 1 pawnbroker; 1 tobacconist to 2,062; 1 watchmaker and jeweller to 3,300; and to support our position, to settle our disputes, to enforce our claims, to adjust our wrongs—our contentions,—and to injure one another as much as the law can do,—we have no less than 1 solicitor to 825 of the population, and 1 barrister to 1,752, or about 1 in 560 of the inhabitants of London belong to the "legal profession," to be found in the "London Directory;" about 1 in 1,120 to the "medical profession," including dentists; and to somewhere about 1 to every 900 of the population there is a "minister of the Gospel."

The greater number of silk-weavers are in Spitalfields, Bethnal-green, and Whitechapel; watchmakers, in Clerkenwell and St. Luke's; Engine and boiler-makers, in Poplar, Stepney, and Lambeth; gunsmiths, in Whitechapel, Stepney, and St. George-in-the-East; sugar-refiners, in Whitechapel and St. George-in-the-East; cabinet and chair makers, in Shoreditch, Bethnal-green, &c.; and tanning, in Bermondsey, &c., &c.

It will be seen from these gleanings, that Mr. Coke's census-book is both curious and interesting: nevertheless, it might have been better arranged.

* "Census of the British Empire, 1861: compiled from the official Returns, in Three Parts. Part I.—England and Wales. By C. A. Coke. Harrison, Pall-mall. 1863."

MURAL ORNAMENTATION OF INTERIORS.

THE example set by the late Lord Herbert, of Lea, in the ornamentation of the church built by him at Wilton, has been followed by another resident in the immediate neighbourhood, Mr. Fane De Salis, of Teffont Manor, having recently embellished Teffont Church, which stands within the precincts of his park, with a work in marble tarsia by the sculptor Baron de Triqueti. Tarsia in marble may be viewed as a new application to mural decoration, of the ancient process of marble *chiar-oscuro:* it recommends itself by its perfect durability and the indestructible character of its colours. The first specimen of this art was sent to this country at the time of the Exhibition of 1862, and was secured for the Kensington Museum: it was, however, limited in size, being composed of single figures: the work in question may therefore be considered as the first example of the resources offered by marble tarsia for the embellishment of churches and public buildings.

The site selected for the tarsia in Teffont Church is the space above the east window in the Manor Chapel, which adjoins the chancel: it consists of marbles of three colours,—statuary marble and grey Sicilian, with a dark-blue marble constituting the background. The figures and drapery represent a choir of angels singing "*Gloria in Excelsis.*" They are grouped around a scroll, on which is engraved, in golden letters, "Hallelujah! Hallelujah!" Our informant says; —"The draperies are simple and well disposed, and the expression of the heads recalls the reverential feeling and devout sentiment which the early Italian masters gave to their works." Designs of the same artist for decorations contemplated in St. Paul's Cathedral have been selected by the committee.



ST. STEPHEN'S, VIENNA: STONE GABLETS ON THE SOUTH SIDE.

ST. STEPHEN'S, VIENNA.

"GOING ALONG."

REFERRING to the Cathedral Church of Vienna, in our notes "Going Along,"* we spoke of the external gablets over the windows of the south side as noticeable specimens of stone tracery. Of these we now give a careful view. Part of the tiling of the roof forms the back-ground. The stonework is remarkably sharp and perfect: to what extent it may have been restored since its original execution, we are not prepared to say.

THE CHANCELLOR OF THE EXCHEQUER ON CROCKERYWARE.

AT the laying of the chief stone of the Wedgwood Institute, in Burslem, which has just taken place, Mr. Gladstone read an elaborate paper on Wedgwood and his ware, with which the chancellor has no little practical acquaintance, although he apologised for his "scanty, theoretic, and remote" knowledge on the subject.

"As an observer," he continued, "according to my limited capacity and means, of fictile manufacture in its various branches, I have formed deliberately so very high an estimate of Wedgwood in relation not merely to his particular business, but to the general laws of industrial production, that I am glad to have an opportunity of stating it fully and fairly in order to bring it to trial by the public judgment; and in the office which I hold as a servant of the Crown, and which places me in incessant contact with the industry of the country in its several branches, I am anxious, from the deep interest which I feel in its welfare, to bear my testimony to the principles of which Wedgwood was, so to speak, an apostle; and moreover to give to that testimony any little weight which such an office, and such a deep interest and near relations established by it, may be likely in the absence of higher qualifications to impart."

First of all, however, the Chancellor expatiated *con amore* on the subject of beauty in art; and in doing so he referred to the question (lately alluded to in the *Builder*) whether cheap things should necessarily be ugly; but it may be another question whether his remarks on this point were quite satisfactory, considering that there are so many beautiful forms in existence, the original designers of which have long since passed away, and for whose merits manufacturers are surely not entitled to receive much extra payment, merely because they refrain from selecting ugly designs, and adopt those of more beautiful forms already in existence. Beauty with novelty, designed by living artists, of course comes under another category altogether, and this it was which Mr. Gladstone had more especially in view.

"In the application of beauty to works of utility," he remarked, "the reward is generally distant. A new element of labour is imported into the process of production; and that element, like others, must be paid for. In the modern publication which the firm of Wedgwood & Bentley put forth under the name of a catalogue, but which really contains much sound and useful information on the principles of industrial art, they speak plainly on this subject. They say—'There is another error common with those who are not over well acquainted with the particular difficulties of a given art. They often say that a beautiful object can be manufactured as cheaply as an ugly one. A moment's reflection would undeceive them.' The beautiful object would be dearer than one perfectly bare and bald, not because utility is compromised for the sake of beauty, but because there may be more manual labour, and there must be more thought, in the original design. Therefore the manufacturer, whose daily thought must and ought to be to cheapen his productions, endeavouring to dispense with all that can be spared, is under much temptation to decline letting beauty stand as an item in the account of the cost of production."

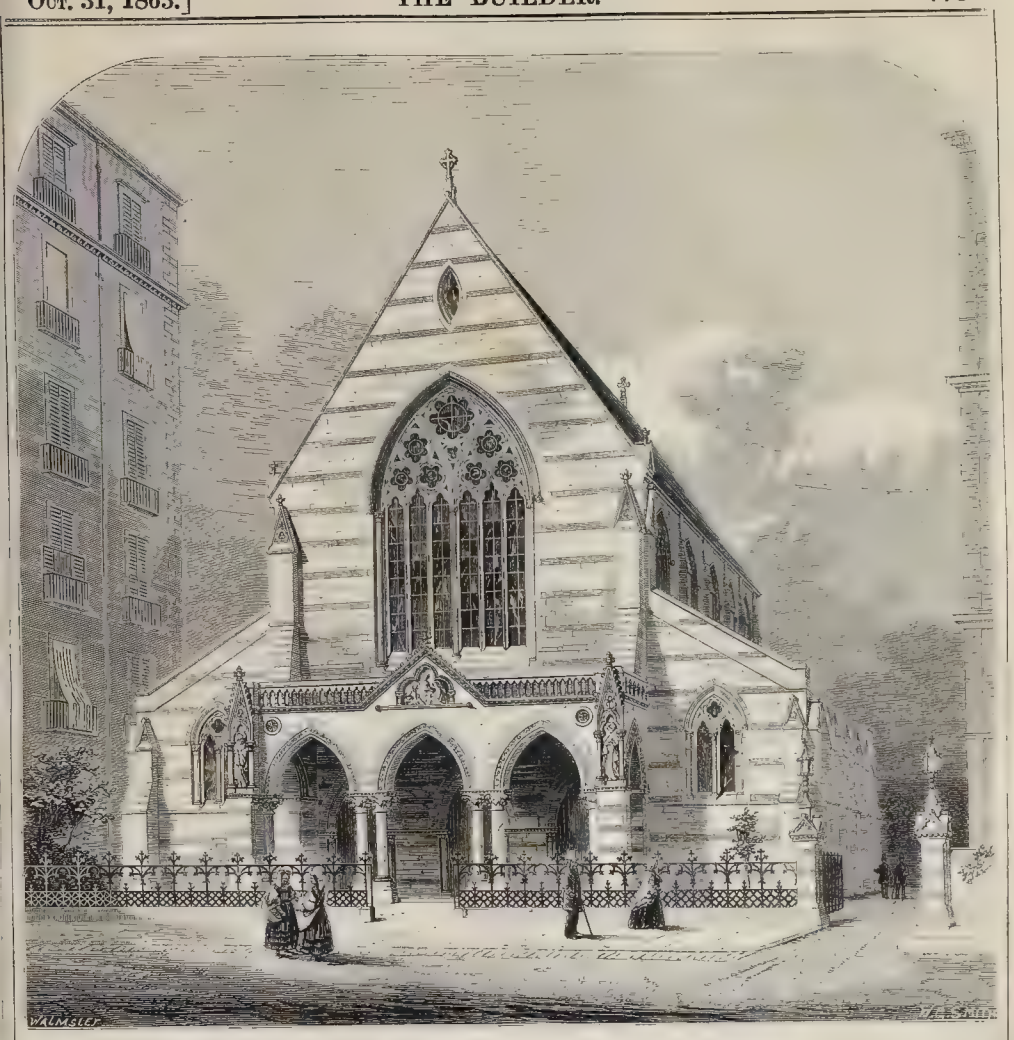
Wedgwood's most signal and characteristic merit, he continued, lay in the fineness and fulness of his perception of the true law of what we term industrial art; or, in other words, of the application of the higher art to industry. That truth of art which he saw so clearly, and which lies at the root of excellence, was one of which England has not usually had a perception at all corresponding with her other rare endowments.

The different kinds of ware manufactured by Wedgwood were then brought under separate and special review,—as the cheapest, the intermediate, and the costliest. While speaking of the cheapest, he remarked that,—

"The lower works of Wedgwood are as much distinguished by the fineness and accuracy of the adaptation to their uses as his higher ones by the successful exhibition of the finest art. Take, for instance, his common plates, of the value of a few pence each. They fit one another closely, as the cards in a pack. At least, I for one have never seen any plates that fit like those of Wedgwood, and become one solid mass. This accuracy of form must, I apprehend, render them much more safe in carriage. Of the excellence of their plates we may take it for a proof that they were largely exported to France, if not elsewhere; that they were then printed or painted with buildings or scenes belonging to that country; and then sent out again as national manufactures. Again, take such a jug as he would have manufactured for the garret washband table. I have seen these made apparently of the commonest material used in the trade; but instead of being built up like many more fashionable jugs of modern manufacture, in such a manner that a crane could not get his neck to bend into them, and that the water cannot be poured out of them without risk of straining the wrist, they are constructed in a simple, capacious form of flowing curves, broad at the top, and so poised that a slight movement of the hand discharges the water. A round cheese-holder or dish generally presents in its upper part a flat space surrounded by a curved rim; but a cheese-holder of Wedgwood's will make itself known by this, that the flat is so dead a flat, and its curve so marked and bold a curve, at once furnishing the eye with a line agreeable and well defined, and affording the utmost available space for the cheese. I feel persuaded that a Wiltshire cheese, if it could speak, would declare itself infinitely more comfortable in a dish of Wedgwood's than in any other dish."

The Chancellor's very able paper was wound up with some general remarks on the qualities of Wedgwood's productions and his business. On the subject of colouring and form he particularly dwelt. The lightness of Wedgwood's ware, which is an element not merely of elegance, but of safety; the hardness and durability of the substances; the extraordinary smoothness and softness to the touch of the surfaces; their powers of resisting heat and acids; the immense breadth of the field he covered with the number and variety of his works in point of form, subject, size, and colour; his last, particularly as to his vases,—his title almost to the

* See p. 718, *ante*.



PROTESTANT CHURCH, NAPLES.—*Exterior View.*—Messrs. Thomas Smith & Son, Architects.

paternity of the art of relief in modern earthenware; all these, he remarked, are characteristics which I am satisfied only to name. There are, however, two other points still on my mind—one the general character of his colours, the other his extraordinary merit as a restorer of form in fictile products. The general character of his colour may perhaps be justly described as a strict sobriety imbibed from and closely following the antique. He did not attempt to cover the entire field of porcelain manufacture. That which is perhaps the noblest and most arduous part of all its work—modelling the human form in the solid—he rarely, if, indeed, he ever attempted; and we must not look to him for the gay diversity of its colouring and subjects, or for the particular splendid effects yielded by its deep blue grounds. In no instance known to me does he indulge in showy colours. He has highly glazed vases in admirable taste, but usually, I think, the ground is some variety of green or grey. He could not, however, have been insensible to the attractions of such colouring as was produced at Sèvres or at Chelsea. Where we find a general characteristic running through the works of a man like Wedgwood we may safely assume that there was a reason for it. Probably or possibly the reason for the restraint or sobriety of the colours of Wedgwood is to be found not in mere imitation, but in the classical severity of his forms.

WATER-COLOUR PAINTERS' LANCASHIRE RELIEF FUND.

The following letter, addressed to the Central Relief Committee, gives information which our readers will like to have:—

"We have the honour to inform you that the Committee of this Fund have brought their labours to a termination by the distribution of the collection, consisting of 323 pictures, amongst the shareholders.

The sum the Committee were enabled to raise very inadequately represented the value of the works so generously placed at their disposal for the purpose, the estimated value of the collection being 4,590 guineas, whereas the subscriptions barely exceeded half that amount.

This, although a great advantage to those who had taken shares, was a sad loss to the Charity, and a serious disappointment to the committee. Had the reasonable expectations of the committee been carried out, and shares sold to the value of the collection, they would have been in a position to pay over a sum more worthy of the donors, and of the cause for which they had given their works.

We have, however, the pleasure, after paying all contingent expenses, to forward you a check on Messrs. Ransom & Co. (who kindly undertook the duty of bankers to the Fund) for the balance, 904*l.* 16*s.*, which, together with the two remittances of 500*l.* each, will make a total of 1,904*l.* 16*s.* contributed from this source.

A. Kinnaird, } Treasurers.
Louis Haghs, }
James Fahey, Hon. Sec."

We may add in noticing this satisfactory result of the exertions of Mr. Fahey and others, that that gentleman would be happy to inform any subscriber of the result of his number, if he inclosed a stamped envelope ready addressed to himself; or one of the lists will be sent so long as there are any left, on receipt of three stamps; but as there are no funds for postage he cannot answer letters without. Inasmuch, however, as every prizeholder has been written to, it would seem to be scarcely necessary to trouble the honorary secretary further.

THE CHURCH OF ENGLAND IN NAPLES.

The site in Naples on which the English Protestant Church is being erected, was decreed by Garibaldi in 1860, in words the purport of which we gladly record:—

"Grateful for the powerful and generous sympathy of the English, the Dictator considers it but a slight return for so many benefits received from them in favour of the noble cause of Italy, to decree—Not only is permission granted to build a church on the territory of this capital to men who worship the same God as the Italians; but they are requested to accept, as a national gift, the small space required for the pious object to which they intend to dedicate it.—G. Garibaldi."

We add to the illustrations of the building given in our last* a view of the exterior. The estimated cost of carrying out the complete design of the architects, which includes a tower not shown in the view, is 5,800*l.* In aid of this subscriptions are still being sought, and ought to be forthcoming.

* See p. 756, *ante*.

CHRIST'S HOSPITAL: TOWN OR COUNTRY.

This school, founded erstwhile for a charitable seminary, has now become signalized as one of the best educational establishments of the kingdom. The curriculum adopted there is rather collegiate than suited to children of the poorer classes; and the pupils sent forth annually from its classical forms compete successfully for university honours and preferments. The income of the foundation has enormously increased, amounting from real estate to 60,000*l.* a year, besides the donations subscribed by the annual succession of governors, who contribute 500*l.* each to the school fund. Of these the total number is about 500; and supposing that twenty-five are elected every year, the increase from this source alone would be 12,500*l.* per annum: but as there are always twenty-four aldermen of the number, who, upon their election, become governors *ex officio*, and without contributing anything to the Hospital fund, the increased income from this source may be estimated at 10,000*l.* per annum. In former years the whole government of the institution was arrogated by the City corporation, until the mismanagement became so flagrant that it was delegated to thirty-six almoners, who now rule and regulate the whole system.

Thus the character of the institution is changed. It was at first without the City walls, or comparatively rural: to-day it is in the most central vortex of commerce; occupying at least five acres, between Giltspur-street and King Edward-street, from west to east, and Newgate-street and Smithfield, from south to north. It has been long surrounded by traffic, tumult, and commerce. The noble foundation of St. Bartholomew's Hospital separated it for a long series of years from the wild confusion of the Smithfield Cattle-market, its herds, drovers, and din. Latterly that nuisance was abated; but the ever-swelling intercourse and enterprise of the metropolis now appropriate the whole of the market area, and much beyond it, for railway-stations, meat and other markets, and all the tumult that such great commercial marts are sure to involve.

In a few particulars the Blue Coat School retains its primitive character; the antiquated and absurd costume is preserved—long coats and yellow petticoats, the same in winter as in summer; woollen stockings, also yellow; and *no covering for the head!* Such a garb is altogether unsuited to our variable climate: no parent in these days of improved tailoring and fabric would choose such material, such fashion, or such obstructive impediments to the free action of children and youths. There are certain evidences in the aspect of the pupils which indicate that the free expansion of intellect is as much perverted as the vigorous growth of body; partly from the vesture imposed upon the children, but chiefly from the thick, smoky, and polluted atmosphere which they are compelled to inspire while "in statu pupillari," from year's end to year's end. The first and best authorities of the school have confessed this; but a careful medical inspection would convince all who are concerned for the health and progress of 800 youths—the complement always retained within this greatest civic school; whilst nearly 300 more are at the preparatory establishment in Hertfordshire.

Some years back the writer pressed forward, through the columns of the *Builder*, the project of transferring this great national institution to some country site, convenient (say within ten or twenty miles) to London. Since then, events have occurred which render such change infinitely more desirable and necessary: the metropolis has become larger, the volume of smoke heavier, and the accumulation of traffic more intense and intolerable; and the hospital is exactly concentric with and adjacent to the evils most to be dreaded by all who desire for their sons an abode calculated for bodily health and mental culture.

But if the position has become worse than formerly for continuous residence, the facilities for transfer to some tranquil and genial country retreat are also more obvious; for the value of the site between Newgate-street, St. Bartholomew's, Smithfield, and the Compter, has increased in a fourfold ratio: these grounds and buildings would now realize with facility 300,000*l.* sterling.

With one-sixth of that sum, 500 acres (not too large an area) might be purchased: with 200,000*l.* schools, halls, colleges, infirmary, and private abodes for the masters might be erected; and with the balance, if any were allowed to remain, another 1,000*l.* might be annually added to the already princely revenue of the establishment; but the school already possesses lands at Abbey-wood, near Woolwich, a healthy and elevated spot, quite near enough to the City for the boys to visit the Corporation, and for the aldermen to look after their *protégés* in the classes. The corporation has a heavy stake in the school—each alderman has one presentation every year, and the Lord Mayor two! while every other governor who has paid his 500*l.* has ordinarily only one presentation every third year; and added to their corporate privilege, every alderman is entitled to introduce a friend as governor, upon payment of 200*l.* only!

The question of removal was mooted about five or six years back, and had a large share of support, more particularly from the masters and those best able to judge of its expediency; but it was lost by a small majority: were it now tried under the more favourable existing circumstances, and under the strong public feeling of its necessity and expediency, there is little doubt but it must be decreed.

It would be idle to suppose that this immense institution, which educates, clothes, boards, and lodges nearly 1,200 boys, is an eleemosynary school: far from it—the value of a presentation is a thing as well known and appreciated as an advowson, commission, or other elective advantage: the tutelage, clothing, and support of a son, and these on the first scale of modern culture, are cheap at 300*l.*, *and that is the assessed value*—not a bad return for 500*l.*, if a presentation be available even every third year.

If these be facts, where is the difficulty in removing the whole to Kent, Surrey, Herts, or even to a high district of Middlesex? Perhaps no more than in the location of the razed hospital of St. Thomas. But there ever will be a conflict where the governors are so numerous, and the interests so opposed. A noble collegiate school, such as does not exist in England, might be the result. There youths, destined for universities and professions, might study in quietude, and enjoy relaxation and health in academic groves; whilst others, destined for the more practical walks of life, would have opportunities in discursive exercise and sports (*within bounds*) to lay the foundations of a robust constitution, with the additional advantage (if thought desirable by the rulers) of agricultural experience and improvements.

Possibly the garb of Edward VI.'s school may have a degree of sanctity attached to its cut and colours: if so, surely the Board of Governors might take into consideration the propriety of permitting the use of the now established *crinoline*, in conjunction with the yellow petticoat, for the freer use of the limbs, and at the same time the adoption of the feminine parasol, to guard the cropped boys from rain or sunstroke. This may be considered "badinage," but these points of objection are universally made by all the beholders of the games, as practised behind the Newgate-street railings. We have long left off bob-wigs, hair-powder, and slashed doublets: it is time that a garb, or uniform, and management, suited to the tastes and habits of the day, be adopted for so important and numerous a body of youths as are thus crowded together in the heart's core of the metropolis.

Quondam.

THE PROPOSED RESTORATION OF ST. BARTHOLOMEW'S-THE-GREAT, SMITHFIELD.

We regret to notice that, notwithstanding the influential meeting which was lately held for the purpose of effecting the restoration of this time-honoured structure, the subscription-list continues to fill up slowly. The last announcement shows a sum under 1,500*l.*, whereas the sum required before the work can be commenced is 4,000*l.* As our readers know, this parish is of very small extent, and not remarkable for its wealth. Notwithstanding, a goodly sum has been raised in the locality: for instance, the rector and one of the churchwardens have each subscribed two hundred guineas; Bartholomew's Hospital contributes liberally; and other persons in the neighbourhood have offered valuable pecuniary aid.

It is clear, however, that this desirable work will not be effected without the assistance of a general subscription; and really, when we consider that this is the most extensive and perfect Norman building (always excepting the chapel in the White Tower) which is left in the metropolis, it seems extraordinary that the sum required was not at once forthcoming. The church is within the City precincts, that place of marvellous and untold wealth; and the building, from its historical and architectural interest, claims to be considered as a kind of property which requires the public support. It is a venerable land-mark, which was completed about seven hundred and forty years ago; and the chief part that remains is coeval with the naves of Durham, Peterborough, and Norwich cathedrals. What changes in London city have taken place since that time; and how little we have remaining of those structures which were standing at the time Prior Rahere completed his building for the Black Canons regular of St. Augustin! Even as regards this church, the nave, which was built in the thirteenth century, and other parts of the once extensive monastery, cloister, &c., erected from time to time, have nearly all perished, and are no longer present to the view. The most ancient part, fortunately, still exists, though greatly disfigured, and in some parts requiring immediate attention. The walls are mouldering with damp in consequence of the want of proper drainage: the original pavement is covered to a considerable depth; and the present appearance of the east end of the choir is perhaps the most extraordinary instance of ugliness which is to be met with in town or country, and that is saying a great deal: but for the sum of 4,000*l.* we could have the floor lowered and completely repaired; the present entrances reconstructed; the church drained, warmed, and re-seated throughout; the vestry and west gallery also reconstructed; the earth, which has been collected during many centuries, removed from the walls; the foundations of the four great piers and the north wall of the aisle made good; the stonework and monuments generally repaired; the clerestory windows filled in with tracery; the complete restoration of the apse, with triforium, clerestory, and roofs thereto: in fact, for 2,500*l.* in addition to the sum already subscribed, the interior of this church could be restored to its original appearance, and made so substantial that it would be in a condition to brave the ravages of time for ages yet to come.

In few second-rate provincial towns would a building of interest be allowed to remain in the state of St. Bartholomew's-the-Great, when it could be put in condition on such easy terms. It is a part of London's history, and makes a claim on all London.

THE SANITARY STATE OF BELFAST.

The local authorities are bestirring themselves towards putting the town in a better sanitary state; but it is evident that there is far too much to do for the present epidemic to be materially affected by the more immediate procedure. The owners of the marsh called the Plains, where the fever prevails, have received notice to drain the ground forthwith. Want of drainage and imperfect drainage in whole districts now covered with houses are serious causes of evil, and the Town Council are blamed for allowing such a state of affairs to exist. The chairman of the Local Union, who is also a town councillor, defends the Council on the other hand, and says they have no power to order the drainage of new streets. Some of these are said to have remained undrained and unpaved for fourteen years, and others are spoken of which disembogue their sewage into an open field. The state of the graveyards in Belfast is very bad, not so much from the way in which they are kept as from their restricted limits and the impossibility of decent burial. The Friars' Bush burying-ground contains two great mounds, or conical heaps, in which the poor are buried by scores; and the gravedigger declares that more than twice the population of all Belfast have been buried in these two mounds. The police authorities are compelling house-owners to abate nuisances in neighbourhoods where fever still rages.

SANITARY MATTERS.

Salford.—A special meeting of the Salford town council has been held to consider the report of their drainage committee. The report suggested a scheme to prevent the drainage of the sewage into the river, including the erection of tanks near Mode Wheel for the deodorization of the sewage for agricultural purposes. The estimated cost of the work was 60,000*l.*, for which 18 miles and 310 yards of sewers would be made. The report of the borough surveyor, Mr. S. C. Trapp, was appended, giving the details of the mode by which the scheme could be carried out. Mr. Chadwick said the making of deep drains in Leicester had reduced the rate of mortality to 23 in the 1,000. Such a result might be expected to follow in Salford, where the rate of mortality was 33 in the 1,000, a higher rate than any other town in the kingdom. If the rate of mortality were only reduced to 25 in the 1,000, there would

e a saving of 700 lives a year, and of an expendi-ure of 14,000*l.* for funerals and medical attend-nce. After some discussion, and rejection of an mendment to the resolution to adopt the report, he resolution was finally carried.

Hanley.—In the town council it was recently roposed, "That a committee be appointed with owers to provide or lay down a plan for the eneral sewerage of the borough, and to report on he best means of carrying it into effect." In upport of the resolution, Councillor Bradford aid it was a lamentable fact that the mortality n Hanley during the last twelve months had in-reased 25 per cent.,—that is to say, from 20 per housand to 28 per thousand. That the sewage of a town did materially affect the general health of the inhabitants was evident from the fact that before the sewerage of Ely the city was one of the unhealthiest places in the country, the mortality being 40 per thousand, but since then the average had fallen to 16 per thousand. There could be no doubt that, sooner or later, accumulations of offensive matter and smells inevitably produced fever; and it would be great folly to put this work off until cholera or malignant fever made its appearance, when it would probably have to be done in a great hurry. An amendment was proposed, but the original motion was adopted by a majority of fifteen to six.

Cumberland.—Under the head of "Health Reform in Cumberland," the *Carlisle Journal* states that a medical inspector from the Privy Council is expected to visit Cumberland next year, to inquire thoroughly into the state of vaccination and of the sanitary condition of various places in the county. The state of Whitehaven, Cockermouth, and Keswick, as was to be expected of the vigilant Privy Council, has of course led to this determination.

THE ARCHITECTURAL ASSOCIATION.

At the opening *conversaziones* to be held this (Friday) evening, the President will deliver an address. The list of papers announced runs as follows:—Nov. 13th, on "Dwellings for the Poor," by Mr. Darbyshire; Nov. 27th, Reports: Discussion on Reports and Architectural Alliance; Dec. 11th, Prize Essay on Vaulting and Groining will be read. 1864, Jan. 7th, on "The Metropolitan Building Act," by Mr. Charles J. Adams; Jan. 22nd, on "Greek Architecture," by Mr. Penrose; Feb. 5th on "French Architecture down to the Renaissance," by Mr. T. Hayter Lewis; Feb. 19th, on "Figure Drawing," by Mr. E. J. Tarver; March 5th, on "Parallelisms between Early-Pointed Architecture in England and France," by Mr. G. G. Scott; March 19th, on "Romanesque," by Mr. G. J. Wigley; April 2nd, on "The Church of St. Mary Maxey, Northamptonshire," by Mr. G. T. Molecey; April 16th, on "Modern Development of Mediæval Art," by Mr. Burges; April 30th, on "English Architecture from the Accession of Henry VIII.," by Mr. Wyatt Papworth; May 28th, on "Metropolitan Improvements," by Mr. J. W. Penfold; June 11th, on "Westminster Abbey," by Mr. Lacy W. Ridge.*

SCHOOLS OF ART.

The Nottingham School and the Duke of Newcastle.—The chief stone of the new building for this school has been laid by the Duke of Newcastle, with masonic ceremonial. Previously to laying the stone, the duke delivered an address to those present, in which he said:—"I believe if the term school of art is to be quite appropriate, we ought to add the arts of invention and of emulation, which are practised and pursued with a view to the enlightenment and the pleasure of the mind through the medium of the eye. And, accepted in this form, perhaps the term school of art is the best and most appropriate term that can be used. In the course of these twenty years, although under different names and managements, their objects have been the same, and in principle they have been the same. These schools, at the time of the Great Exhibition of 1851, were only nineteen in number. At the present moment there are ninety, and the number of pupils who are either directly or indirectly receiving instruction through their instrumentality amounts to upwards of 70,000. If I am asked 'What good have they done?' I will not go to local evidence, not even to English evidence, but I will ask you to read the reports of the most intelligent and able Frenchmen who took an interest in the Great Exhibition of last year, who speak in the highest possible terms of the advantages of these schools. Those learned and enlightened Frenchmen go so far as to say that they tremble for the future pre-eminence of France, so far as regards the art of design; because in these two decades of time—the ten years before the first Exhibition, and the subsequent ten years before the second—the English manufacturer has made enormous progress, and this progress they attribute entirely to the enlightened teaching of these schools. I read the excellent speech recently made by Lord Stanley on schools of art. His lordship commented with great, and in many cases with just, severity on the state of architecture in our towns. Had he visited Nottingham, I think he would have been inclined to modify his censure, so far at least as this town is concerned; for there has been the greatest progress in architecture of all kinds—in mills, and warehouses, and dwelling-houses, and public buildings, which in almost every street are showing a most remarkable improvement in the way of taste. Do I attribute this to these schools? Yes, I do. I know that many of the best architects in the town are of such an age that they cannot have studied in these schools. I do not believe that even the younger men—such as the able architect of this building—have had this opportunity; but I think it tells on the architects of this town, upon the manufacturers, upon the masters. They want enlightening—they want to be taught art just as much as the operatives; and they have, by a desire to instruct the mass, obtained the advantages of a knowledge of the style of art, greatly improved their taste, and are no longer content with those hideous masses of brick and mortar with which the streets were formerly disfigured."

The building is already well up. The site is a favourable one at the junction of Peel-street and Waverley-street, adjoining the Arboretum, and opposite the General Cemetery. The building fronts Waverley-street, and stands back from the line of the street about 50 feet. It consists, looking at its broad features, of a principal building, two stories high, in the front, with buildings in the rear, of one story high. In the front of the principal façade, and forming part of it, is designed a square tower, 120 feet high to the top of the vane. The tower forms a porch on the ground-floor, and an open *loggia* on the first-floor. It has a domed roof with a clock dial in each face. The tower projects 12 feet from the line of the façade. The angles are rusticated, and the openings in the ground and first floor have semi-circular arches springing from polished granite columns with carved capitals. The upper portion of the tower, which rises above the roof of the main building, has pilasters with carved capitals at the angles. The dome which roofs in the tower is to be surmounted with a cupola, which is itself to be surmounted with an ornamental vane. The dome will be covered with Minton's encaustic glazed tiles, of various patterns, in bright colours. The principal façade is pierced with six semicircular-headed windows, three at each side of the tower. The sides are in keeping with the front, all having windows on the ground-floor, and arcading on the upper story. Carving of a conventional character will be freely introduced throughout, and the entrance into the main building will be approached by a flight of solid Yorkshire stone steps. The rear building contains the modelling-room, which is 23 feet 8 inches by 17 feet; the master's room, with store-rooms attached; the female students' room, 40 feet by 29 feet; the elementary students' room, of a similar size; and the advanced pupils' room, or painting-room, 69 feet by 24 feet. On the first floor of the front building, and immediately over the library, entrance-hall, and other rooms, is the exhibition-room. This is 77 feet 6 inches in length, by 30 feet wide. The whole of the buildings, with the exception of the curator's rooms, will be heated with hot water and steam pipes. The offices and one-story building are faced with Diseworth white brick, with stone cornices, balustrading, coping, and finials. The walls of the front building are 3 feet 6 inches thick. It stands on a basement of rock-faced Bulwell stone, finished with a moulded plinth cornice. The building is faced all round with wrought Hollington stone. The fence-wall to Waverley-street will be built of rock-faced Bulwell stone, having a tooled Derbyshire coping, upon which will be fixed ornamental iron standards and ornamental wrought-iron railings. There will be two pairs of ornamental gates, one at the corner of Peel-street and Waverley-street, and the other in Waverley-street near the Arboretum. The building is in all its features of the Venetian school of Italian architecture. The front elevation is 88 feet in width, and 51 feet in height, to the top of the parapet. Mr. F. Bakewell, of Nottingham, is the architect. The cost will be about 5,000*l.*

The Southampton School.—The annual examination of this school, in drawing, held by the Department of Art (open to all candidates, whether students of the school or unconnected with it), has just been held. The examination for prizes is of two grades; but as the rewards in the first or lower grade are, by a recent regulation of the Department of Art, strictly confined to children of "poor" schools, several educational establishments that have hitherto sent candidates for the first grade prizes, were not represented on the present occasion. The number of papers taken was 284, and they were equally divided between the two grades. The examination was conducted by Mr. S. A. Hart, R. A., the professor of painting at the Royal Academy, assisted by Mr. Baker, the head master of the school. After Mr. Hart had disposed of all the candidates for prizes, he proceeded to critically examine the thirty-five works executed by students of the school, in competition for the medals of the Department. Nineteen medals and four "honourable mentions" were awarded. Five of the best works were selected by the examiner for the competition in London, in the spring of 1864, for national medallions.

NEWS FROM SCOTLAND.

Glasgow.—A public meeting of noblemen and gentlemen, including merchants, bankers, and other citizens of Glasgow, has been held in this city to consider the propriety of here erecting a monument to Lord Clyde. Lord Belhaven opened the proceedings, and appropriate resolutions were unanimously passed in favour of the object in view, and a committee appointed to collect subscriptions and decide as to the form and position of the monument, and the artist to be employed.

Stirling.—A correspondent of the *Scotsman* says—"The contractor for the Wallace Monument has renounced his contract, and the original fund has been expended; but there is not a shadow of doubt that the monumental fabric will be completed. The public seem unaware that besides a large guarantee, six or eight opulent gentlemen, members of committee, consented, prior to the laying of the foundation-stone, to see the work fully executed."

Paisley.—It has been resolved at a meeting of Lord Clyde's townsmen of Paisley, in the local Council Chambers, that a memorial bust of his lordship shall be purchased for the town; and a duplicate of a bust by Mr. Ewing, presented to the City of Glasgow by Mr. Dalglish, has been chosen.

Milnathort (Kinross-shire).—A number of years ago a Mr. Brand, a merchant in Milnathort, who had realized a competency in this his native town, expressed his intention to appropriate a part of his fortune towards the erection of a school there; but having died before effecting his purpose, his son has given the sum of 1,000*l.* for the construction of the buildings. These have been erected from the plans of Messrs. Peddie & Kinnear, architects, Edinburgh. They are now completed and opened. The school-room measures about 50 feet long by 20 feet broad, having a class-room adjoining, 18 feet by 15 feet: this class-room is lighted by a two-light window at back. The house, which is attached to the west end of the school, is of two stories. The architecture of the building is of the early Decorated Gothic. The site is a little out of the town, on the west side. The principal elevation faces the south, and has three large two-light windows, with gablets over them. These windows light the school-room. The east gable is also pierced by a traceried window, having a belfry on the gable above. The roof of the school-room is surmounted by a ventilator placed in the centre of the school-room. The ridges of the house and school-room have ornamental ridge cresting. The builder was Mr. B. Symon; the wright, Mr. J. Kinloch; the slater, Mr. A. Brand; the plumbers, Messrs. J. Smeallis & Son; and the plasterer, Mr. J. Littlejohn.

* "Prizes will be given for the best essay on 'Iron as applied in Architecture,' and for the best and second best series of sketches contributed to the Class of Design.

A prize in books, value 5*l.*, will be given by Mr. W. Tite, M.P., for the best design for a 'Metropolitan Police Court,' on ground 100 feet square.

The essays and the drawings for Mr. Tite's prize, to be sent in to the honorary secretary on or before August 31, 1864.

A prize of 25*l.* and the Society's Medal have been offered by the Society of Arts to the members of the Architectural Association for the most approved designs for cottages for the labouring classes.

The drawings are to be sent in to the Society's House, John-street, Adelphi, not later than the 1st of January, 1864."

Dundee.—The new Sheriff Court House has been opened for the transaction of Court business. The acoustic properties of the building, according to the *Warder*, are all that could be desired, both for audience, judge, and jury.

Broughty Ferry (near Dundee).—The promoters of a new Congregational chapel having had submitted to them plans and estimates for the building, and these being satisfactory, and within the sum contemplated by the committee, the lowest offers were accepted, and instructions given to commence the work forthwith. The chapel will occupy a site on the north side of Brook-street, a little westward of the infant school. The building will be about 67 feet long and 40 feet wide. The end facing Brook-street will be of an ornamental character. The edifice will be in the Gothic style, divided into three divisions by buttresses and pinnacles, two of which rise to a height of 45 feet. The chief feature is a large central window, 20 feet in height, filled with tracery work. Beneath this window is the doorway, which projects forward, and is surmounted by a small gable, filled in with open tracery. In the side divisions of the front are slender windows, which will light the stairs to the gallery. The front is crowned by a carved open parapet, and the apex finished by a carved cross, at a height of 50 feet from the ground. Internally the church is to be simply finished. The roof will be partly open. The total cost will be under 1,000*l.* The plans are by Mr. James Maclaren, Dundee; and the contractors are, for mason's work, Mr. W. Gibson; carpenter's work, Messrs. Paton & Fairweather; slater's, Mr. Crabbe; plumber's, Mr. Urquhart; and plasterer's, Mr. J. Adam.

PROVINCIAL NEWS.

Milford Haven.—Extensive docks are about to be undertaken at Milford Haven by an influential company. The London and North-Western Railway Company are expected to further the works, and to assist in the completion of a direct railway between Milford Haven and Manchester.

Liverpool.—It has been agreed to accept the tender of Messrs. T. Haigh & Co. for the joiners' work, &c., at the new municipal offices, at the sum of 9,600*l.* In reference to this subject, Mr. Alderman Stewart said that invitations to tender had been sent out to those master builders,—especially those master carpenters and joiners—upon whom it was known that dependence could be placed; and tenders had been received from five of the six persons to whom these invitations had been sent. There had been but little difference between them; and that of Messrs. Haigh, being the lowest, was recommended to the council for acceptance.

Derby.—The erection of the new market-hall and fish-market has been actively commenced by Mr. C. Humphreys, the contractor for the builder's work. The designs, &c., are being carried out by the borough surveyor (Mr. T. C. Thorburn, C.E.), who prepared them. Mr. James Haywood, jun., of the Phœnix Foundry, is the contractor for the iron work. Mr. G. Thompson has been appointed clerk of the works, and Mr. Green is the builder's foreman. The works are to be completed in twelve months from the commencement.

Gorton.—The first portion of the Roman Catholic monastery of the Franciscan Fathers, at Gorton, near Manchester, was opened for divine service, as a temporary church, on Sunday, the 4th inst. The building will afterwards be divided for permanent use, into the entrance-hall, library, refectory, and chief staircase. This is at present open to the roof, but will afterwards be formed on first and second floors into dormitories. The length of the present building is over 100 feet, and the breadth is about 35 feet; the height to ridge about 50 feet. The front facing the high road presents a lofty gable end, which eventually will become the centre of the front of the monastery, and the chief entrance. Exteriorly the building is of red brick. The stone used is from Lymm Quarries. Owing to want of funds it has been used sparingly, and this only in the front elevation, being almost entirely dispensed with in the side elevation, which will become sides of the quadrangles. The means at the architect's disposal have not allowed for any expensive details: neither would it, if practicable, have been in accordance with the style of houses erected by the Franciscan order. The front entrance in the centre gable is formed by splayed and deeply-recessed jambs in brick, with outer pointed arch of stone, flat segmental door-head, and the tympanum formed by the pointed arch above is of Caen stone, carved with badge of the order. A large cusped circular window occupies the pediment of the gable, on the apex of which is a large cross in wrought-iron. In this front the stone cills are continued as bands, having a course of blue brick under. The staircase window has mullions of brick, as also have the cloister windows: these are filled with green glass in quarries. All the other windows are ordinary sash windows in plate-glass. The jambs are of chamfered brick, with, segmental arches of same, with alternate voussoirs of square brick. The building was commenced in June last: it has been designed and carried out under the superintendence of Mr. E. Welby Pugin. The remainder of the edifice will be gradually erected, as available funds can be obtained. When completed it will comprise all the offices appertaining to a large and important monastic establishment, as well as a large church, for the use of the community and the inhabitants of the parish.

Bridlington Quay (Yorkshire).—The Bridlington Local Board of Health have given notice to the inhabitants of their intention to make application to one of her Majesty's principal Secretaries of State, for making certain improvements and alterations at Bridlington Quay. The Board have already engaged the services of Mr. Ashdown, of London, architect, to prepare plans for carrying out the contemplated improvements. The present scheme is, we are told, to pull down a number of old buildings, which have long disgraced the town, to build a sea wall from the pier, and have a carriage-drive from Garrison-street along the cliff to the sea wall erected by Mr. Makings, and a promenade along the side of it.

CHURCH BUILDING NEWS.

Woolley (Hunts).—The chancel of Woolley Church has for some time past exhibited signs of sinking owing to the defective foundations, or, in point of fact, *want* of foundations; for, though the chancel was rebuilt in 1857, it was found, on examination, that the walls were only a few inches under ground. New foundations to a depth of 3 feet 6 inches have been put in by underpinning the walls. It is stated that the tower and spire are in a very insecure condition, and the whole of the church is much dilapidated. The repairs have been carried out by Mr. Bird, of Huntingdon, builder, under the superintendence of Mr. John Ladds, architect.

Thetford.—The new Union-house Chapel has been opened. It has been erected entirely by voluntary subscription. The foundation stone was laid on the 11th of June last, by the Hon. Lady Walsingham. The chapel is situate on the north side of the Union House. Its style is Early Decorated. The design for the building was given, we believe, by the Hon. and Rev. Augustus Sutton, of Tofts, in this county. The builder was Mr. John Palmer, and the fittings of the interior were done by Mr. Scott, of Tofts. The floor is of a mixed coloured pavement, and at the south end is a stained glass window, representing the four evangelists.

Brighton.—Union-street Chapel has been re-opened for service, after having been closed for repairs and alterations for three months. The chapel is in form something like a theatre. The ground floor rises from the centre, or, rather, falls from the entrances to the centre (for this portion was below the level of the entrances). This has been lessened by raising the pit 1 foot. The galleries, which are very large and heavy, supported by heavy columns, have been raised at the back 3 feet, and the whole of the pewing, both on the ground floor and galleries, cleared away, and open bench seats fixed. Above the galleries, and supported again by heavy columns, is a large dome, having a lantern light at the top. This lantern has been shut out from view by a ceiling of glass; the ribs of the dome being carried across: from this is suspended a large sun-light of sixty-three burners. Some marble veining of columns has been done by Mr. Sendall, jun., of the firm of Messrs. Sendall & Son. The contractors for the alterations were Messrs. Cheesman & Co., and the work has been designed by, and carried out under the superintendence of, Mr. H. N. Goulty, architect, Brighton.

Winchester.—Some time since an offer was made by means of an anonymous letter to the trustees of St. Cross Hospital, of a donation of 500*l.* towards defraying the expense of a complete restoration of the choir and chancel of the church of this charitable foundation. The sum of 500*l.* has been paid by "O. Z." into bank, to the credit of the trustees. "O. Z.'s" intention of having the choir completely restored will be now carried out by the trustees, who, with a view of such work being properly done, has placed it in the hands of Mr. Butterfield, architect.

Wear Gifford (Devon).—The church of this place has been re-opened, after reseating and other works of repair. The curious tie-beam roof of the chancel has been repaired, and newly raftered, and the roof newly covered with slate. The old bench ends that had been laid aside have been repaired and refitted, and the church generally reseated in red deal, the chancel seats, pulpit, and desk being of oak. The sacrarium and chancel are laid with Maw's tiles, and a new rail and standards fitted up. A new vestry has been built, and two ancient effigies placed in recesses. The work has been done by Mr. Bale, of Bideford, builder, under the superintendence of Mr. Ashworth, of Exeter, architect.

St. David's.—We may mention in reference to the proposed restoration of St. David's Cathedral already noticed, that Mr. Scott's report on the state of the fabric, presented last year to the Dean and Chapter, recommends its restoration in keeping with the original design, which he estimates may be done at a cost of from 27,500*l.* to 30,000*l.*, "according to the mode of carrying out certain parts of the work which have been left open to consideration."

Manchester.—The church of SS. Simon and Jude, Granby-row, Manchester, has just been rearranged and refitted. The first thing was to make a better arrangement of the "east end" (speaking as if the church orientated correctly). The first bay of the nave is arranged as a chorus cantorum, with two rows of benches on each side, placed stall-wise; two stalls for the clergy being formed at the "west" end of these seats. As the nave is very broad it admits of "north" and "south" aisles to the quasi-chancel, from which they are divided by a panelled and arcaded screen. One of these chancel aisles is filled with benches for the use of the congregation; and the other contains the organ, and serves as a choir vestry. The chorus cantorum rises one step from the nave, and the sanctuary two steps more; and the altar stands on a foot-pace. The sanctuary has been made deeper, and a straight rail put across, sustained by moulded standards. A credence niche has been formed on the "north" side, and on the "south" are two-seated sedilia of wood. The chancel window, as it is to the *south*, admits the direct rays of the sun to an unpleasant extent. To obviate this disadvantage, Mr. Edmundson is preparing a painted window, which is purposely more cool in tone than usual. The chancel and sanctuary floors are to be laid with Minton's tiles, those within the rails being encaustic. The nave seats, besides being cut down to a suitable height, have been widened. The pitch of the gallery has been lowered, and the seats altered, similarly to those below. The gallery front has been cut down to a moderate height, and the upper part is pierced with quatrefoils, and otherwise relieved. These alterations have been carried out by the builders, Messrs. Shackrah & Peirce, of Stockport, under the direction of Mr. J. M. Taylor, of Manchester, architect.

SCHOOL-BUILDING NEWS.

Cavendish (Suffolk).—New national schools have been opened here. Mr. Stammers, of Cavendish, was the builder; and the architect was Mr. Johnson, of Bury St. Edmund's. The building, which stands on the village green, consists of a school-room, 54 feet by 18 feet, flanked on one side by a class-room, 15 feet by 14 feet, and on the other by the schoolmistress's residence, with two porches and a bell turret. The whole is built of red brick, and slated.

Loughton.—The National Schools just completed from the designs of Mr. T. H. Watson, London, were opened on the 16th ult. Mr. C. W. Wiggs, of Waltham Abbey, was the builder. In the absence of the Bishop of Rochester and Archdeacon Mildmay, the chair was taken by the rector, the Rev. John W. Maitland, who read the service. The exterior is ornamental, and the timber roofing to the several rooms in the interior is open.

Lowestoft.—A congregational school-room has been opened here. The architect was Mr. W. O. Chambers, and the cost, including gas-fittings and benches (which consist of ornamental iron standards in French grey, and imitation oak stained wood rails), about 350*l.*

Wormley (Herts).—The Bishop of Rochester has opened the new parish schools at Wormley. The schools are built to accommodate 120 children, from a design by Mr. Joseph Clarke, diocesan architect; and at a cost of 850*l.*

Kidderminster.—Tenders for the erection of the new lecture and school-rooms, in connexion with

the Old Meeting-house here, have been sent in. The successful tender was that of Messrs. Wilkinson, of Derby, for 1,175*l.* To this has to be added 40*l.*, making a total of 1,215*l.* There was a difference of 500*l.* between the highest and the lowest (the accepted one). The building is to be erected in four months.

Stoke Gifford.—A national school building has been opened at Stoke Gifford by the Duchess of Beaufort. The edifice has been between one and two years in course of erection, and it was constructed from the plans of Mr. Tate, of Badminton, at a cost of between 700*l.* and 800*l.* There are two rooms in the school-house, one of which will be used for the general purposes of instruction, and the other as a class-room.

West Harnham.—The new school, recently erected at the junction of the Netherhampton and West Harnham roads, has been opened. It stands in the centre of a piece of ground, about a quarter of an acre, presented to the parish by the late Earl of Pembroke. The building itself is in the Early Decorated style of architecture, and has been designed and carried out under the superintendence of Mr. Clark, of Salisbury, architect. It is built of Bath stone, and covered with slate. The structure consists of a school-room, about 28 feet by 18 feet, and a residence for a mistress attached. The building has been erected by Mr. Bull, of Southampton, and the carving has been executed by Mr. Kemm, of Salisbury. The cost has been about 380*l.*

Newcastle-under-Line.—The new schools in connexion with the Wesleyan Chapel, Newcastle, have been completed. They are 80 feet long by 44 feet wide, and 15 feet to the eaves, whence the ceiling rises nearly to the ridge. The roof is of one span, and strengthened with a network of rod iron. The building is heated by Redfern's hot-air apparatus, and lighted with gas. The floor is boarded throughout. The building was designed by Mr. Roberts, of Trentham, and has been executed by Mr. T. Lowe and Mr. W. Pratt.

Derby.—The schools of St. Andrew's Church, London-road, Derby, have been opened. The building, which is of a sober ecclesiastical character, occupies a site on the London-road (towards the purchase of which Mr. Barton Borough gives the sum of 1,000*l.*). The building consists of two stories. The lower room will be a boys' school. It is about 60 feet long by 30 feet wide, and 15 feet high. The floor is unbroken by pillars, as the upper room is supported by girders. The upper room, which is at present to be used for church service, and hereafter for a girls' school, differs from the lower room in that the roof is arched: it has stained hammer-beams, and square windows with stone mullions. There are also two class-rooms. The buildings were designed by the Rev. S. Andrew, of Lichfield, and have been carried out under his direction, with aid kindly given by Mr. J. H. Sandars, the architect to the Midland Railway Company, both of whom gave their gratuitous services from interest in the cause. The builder is Mr. J. Wood.

ALBERT MEMORIALS.

Mr. Theed's statue of the Prince Consort, which has been placed in the principal corridor at Balmoral, has been uncovered. The Queen expressed her approval of it. The statue, which is in marble, represents the Prince in the Highland dress, with a rifle in the left hand, the right resting on the head of a favourite dog. Upon the pedestal is the following inscription, selected by her Majesty: — "Albert, Prince Consort, 1861. His life sprang from a deep inner sympathy with God's will; and therefore with all that is true, and beautiful, and right."——At a meeting of the subscribers to the Perth Albert Memorial Fund, the report of the committee, which recommended that a literary institute should be formed under the designation of the Albert Institute, and that a hall for the purpose of the Institute should be erected in George-street, was read. The cost of the proposed erection was estimated at 2,000*l.* Mr. Craigie moved that the report of the committee be approved of. Ex-Provost Imrie moved that a statue of the late Prince, by Brodie, should be procured and erected on a suitable site to be afterwards fixed upon. Mr. Imrie's motion was carried by a majority of twenty-one, and a committee was appointed to give effect to the resolution.——A proposition is afoot to erect a grand pyramid, in memory of the Prince, on Worlebury Hill, Weston-super-Mare. The idea has been laid before the Lord of the Manor, Mr. J. H. Smyth Pigott, who has not only offered a piece of ground, 60 feet square, for the purpose, but promised to give the stone for the erection. The point of the hill upon which it is proposed to build the pyramid is seen from the surrounding country throughout a radius of fifty miles.——The first stone of the Albert Memorial in Abingdon has been laid.

MEMORIAL, IN HOLY TRINITY CHURCH, BROMPTON.

At the east end of the south gallery of this church, a memorial of the late Mr. Stroud Lincoln, who was for several years churchwarden of the parish as well as a very liberal benefactor to the church, has been recently set up by his widow. It includes a circular window filled with stained glass: the reveals, widely splayed, have a small column at each angle, carrying an escoinson arch, and going down to a horizontal cill, between which and the bottom of the window a brass is fixed up, bearing the name of the deceased. The spandrels between the window and the reveals have a simple floral decoration, painted. Mr. E. Hakewill made the design; Messrs. White executed the stonework, and Messrs. Warrington the glass.

Mrs. Lincoln had previously presented five stained glass windows to the church.

A handsome carved stone font, also by Messrs. White, has been presented by Mr. Wollaston to the church on leaving the parish.

THE LATE MR. WILLIAM CUBITT, M.P.

At the moment of going to press, we hear with great regret of the death of Mr. William Cubitt, M.P. for Andover, and late of the firm of Messrs. W. Cubitt & Co., of Gray's-inn-road. The lamented event took place at Mr. Cubitt's country residence, Penton Lodge, on Thursday morning. Mr. Cubitt had been ill for some time, but it was not supposed till within a few days that his end was so near. He was in his seventy-third year.

THE JEWISH MODEL DWELLINGS IN COMMERCIAL STREET.

We have ascertained the following further particulars as to these dwellings. The design was selected by Professor Donaldson, in a competition of eight architects, who had made these buildings a special study. The successful architect was Mr. H. H. Collins. The building (for thirty families) consists of alternate sets of two and three rooms, each having a separate entrance, and being complete in itself. Each dwelling contains a living-room, 12 feet by 14 feet, with water-closet, sinks, pantries, coal cellars, and every domestic requirement, and bedrooms, with closets, &c. Each apartment is specially ventilated by a simple arrangement. The drainage, dust, and other sanitary points have been considered. The rental of the dwellings varies from 5*s.* to 6*s.* 6*d.* weekly per set, and the shops at 12*s.* per week. At these rentals they have nearly all found eager applicants. The total cost (exclusive of the purchase of the freehold) will not exceed 6,000*l.* The building has been recently visited by the trustees of the Peabody Fund. The contractor was Mr. R. Stap, and his work has been carried out under the direction of Mr. C. Jupp, clerk of works. The project has been carried out by a limited liability company, named the Jewish and East London Model Lodging-house Association, with shares of 20*l.* each. Amongst other gentlemen who have taken an active interest in the matter is Mr. A. Mocatta.

GAS.

The Corporation of Stockport have voluntarily expressed their intention to reduce the price of their gas (24 candles), manufactured entirely from Wigan cannel, on the 1st January next, from 5*s.* per 1,000 feet beyond the borough limits, and 4*s.* 6*d.* per 1,000 feet within the borough, to one uniform rate of 4*s.* per 1,000 feet, with a progressive scale of discounts, commencing on a quarterly consumption of 200,000 cubic feet. By this arrangement the largest consumers will be supplied at 3*s.* 6*d.* per 1,000 feet. Their present engineer, Mr. Frederick Leslie, since his appointment, has extensively altered the plant and mains, having laid a 24-inch trunk main, and several miles of mains of all sizes during the past spring and summer seasons. The Corporation propose next year to spend between 15,000*l.* and 20,000*l.* in new works and mains.——The Surrey Consumers' Gas Company have declared a dividend of 7 per cent. for the last half-year, or 14 per cent. per annum, comprising 5 per cent. for the half-year and two per cent. on account of back dividends,—a happy idea which some one has of late suggested for the frustration of the public benefit from reductions of price by limitation of dividends to 10 per cent. per annum.——At a public meeting in Stourbridge it has been resolved to request the local commissioners to erect new gas works for the town. The consumers appear to be willing to compromise the matter with the local gas company if the latter will consent to a uniform maximum price of 3*s.* 9*d.* per 1,000 cubic feet in the township, and 4*s.* 2*d.* out of it.——The Sheffield Gas Company have declared a dividend of 10 per cent. per annum on class A shares, and 8 per cent. on class B.

SANITARY REPORT ON MARYLEBONE.

The seventh annual report on the health of the parish of Marylebone, for 1862, by R. D. Thomson, M.D., F.R.S., medical officer of health for the parish, has been printed by order of the vestry. In this report the medical officer congratulates the vestry on the favourable state of the public health. Nevertheless sanitary labours, he remarks, are on the increase; for "as the knowledge of the condition of the people increases, so the errors of their sanitary arrangements become known, and more tangible methods of reaching the evils which beset them are divulged from day to day." The mortality of the parish during each of the seven years, 1856-62, has been 3,428, 3,738, 3,836, 3,612, 3,647, 3,893, 3,767, giving an average of 3,703. Although, therefore, the deaths of last year were above the mean, they were not so high, with an increasing population, as in 1858 and 1861. Scarlatina numbered among its victims in the seven years, respectively, 96, 91, 230, 216, 113, 104, 165, total 1,015; while the deaths from whooping cough, during the same series, were 131, 131, 139, 93, 104, 175, 115, total 888. "Both of these complaints," says the medical officer, "are undoubtedly endemic, or produced by local causes, and are capable of being communicated from one individual to another." "In former reports," he continues, "I have alluded to a serious danger to which we are more exposed from year to year. Our new buildings are diminishing and our population is increasing. It must therefore become denser; and, as this overcrowding proceeds, a limit must be reached, at which *fever* is the powerful check; but it is an awful one, since *the poison thus produced in the human system, by vitiated air and excretions,* is capable of extending its baneful influence to others, and in a most fatal manner. The poor, unable to help themselves, thus become unwilling destroyers of their lives and of those in better circumstances. Impressed with these facts, I have been chary of recommending the removal of inhabitants from even illegal dwellings until they should be provided with new habitations without the obligation of overcrowding. The necessity for legislation in this direction is continually becoming more urgent. For where are working men and women to live? and, more particularly, what is to become of families? These are social questions which are connected with the basis of health and morality. There is a growing disinclination among owners of property to accommodate working people with families, from the liability to injury to which their property is thus subjected. And this difficulty, in the married state, of procuring lodging, must tend to throw obstacles in the way of marriage, and to add fuel to the flame of the social evil which is at present attracting so much attention in the metropolis."

A remarkable discrepancy has been observed in the rate of dying in different parts of the parish. "In All Souls, 61 children die to 1,000 living; in Cavendish-square district, 42 per 1,000; Rectory, 79 per 1,000; St. Mary, 66 per 1,000; Christ Church, 79 per 1,000; St. John, 54 per 1,000. The mortality among children in Christ Church is excessive. When we compare the mortality of children, under five years of age (417), in that district, with the total mortality (802), we find that considerably over *one-half* of the deaths is due to the loss of these innocents. In the whole of the parish, of 3,771 deaths, 1,552 are of children under five years of age, or in the proportion of 41 per 1,000."

Since the last annual report was issued a new clause in the Metropolis Local Management Act, respecting cow-yards, has come into operation, by which every "place for the keeping of cows," requires to be annually licensed at a special sessions of the justices of the peace, under a penalty of

five pounds. This enables the vestry to carry out, legally, the rules issued some years ago for the regulation of cow-houses.

VENTNOR, ISLE OF WIGHT.

At a special meeting of the Ventnor Improvement Commissioners, Dr. Leeson in the chair, it has been resolved, by a large majority, to adopt the "Local Government Act, 1858," with all its amendments, as a substitute for the "Ventnor Improvement Act, 1844." The town had already been thoroughly drained, and many permanent works had been carried out under the old Act; but it was found necessary, from the rapid growth of the place, which has resulted partly from the very favourable health report of the registrar-general for the years 1851—1860, and partly from the impetus given to it by the construction of the railway and harbour works, to obtain the greater borrowing powers, and also the more compulsory sanitary clauses of the public Act of 1858. A correspondent on the subject adds:—"Ventnor owes much to the *Builder* in sanitary matters, her leading men always quoting it as an authority. The seconder of the resolution adopting the Local Government Act read the letter from your Eastbourne correspondent, which had a marked effect."

NON-DRYING OIL.

Having read in the *Builder* the letter of "Victim," I may state, in the way of reply, that in all works which have passed under my direction, I have ever found that where benches, &c., in a church, or the ordinary joiner's work in a house, were prepared for staining, and linseed-oil was used, the varnish never dried. So thoroughly am I satisfied that the oil is the cause, and that there is no need for oil of any kind, that I now forbid the use of anything beyond good size, which is all that is necessary to ensure, with proper stain and good varnish, most satisfactory and perfect work.

When I write proper stain and good varnish, I mean such as can be obtained from Swinburn, of Bush-lane, and Messrs. Manders, Brothers, of Oxford-street and Wolverhampton.

J. W. Hugall.

PLUNGING-BATHS IN MODEL LODGING HOUSES.

In making a classification of the various diseases that are productive of diseases of the heart, I find amongst the poorer classes the majority are caused by zymotic affections,—measles, scarlatina, whooping-cough, typhus and rheumatic fevers, ague, cholera, and rheumatism! I have not by me statistics of a later date than 1859; but in that year 106,645 deaths were accounted for: of the whole population the deaths of 5 in 1,000 were occasioned by zymotic diseases. In that year 17,133 died of heart disease; and I am convinced that the greatest proportion of these arose from zymotic diseases. Now, therefore, that sanitary measures occupy so much public attention, every proper precaution should be taken, and due regard paid to the subject. How far the inoculation of vaccine matter tends to produce convulsions is a question. Suffice it to say, 25,954 died of that malady!

My object in adducing these statistics is to show what pains and attention are given for the abatement of smallpox, by the introduction of a different disease into the system: this is checking the result without touching the cause—whereas, that cause might, I believe, be greatly modified, if not entirely prevented, by *sanitary measures*. Let those who wish to assist their fellow creatures pay attention to that—treat the cause, not the result.

There is always a heavy and peculiarly faint smell in chambers where death has occurred through fever. If a surveyor, on inspection of a poorhouse or common lodging, should detect the same odour, although no person may be lying sick, he may be sure that zymotic disease is being engendered there. If this smell palpably strike the attention of those who visit such abodes,' surely the duty of inspection and visitation is a paramount necessity, and the erection of suitable model lodging-houses is as much needed for public safety as for the inmates themselves.

But this is not all that is required. Each lodging-house should have a plunging-bath, built after the style of the Roman bath in the Strand, having fresh water constantly passing through. Children at an early age would take naturally to this all sanitary habitude: they would learn to swim, and compete with their associates in the art. But if the poor have to pay for their ablutions, for bathing, and for water, how is the evil to be combated, or the cause prevented?

It is needless to say that the public baths already do a vast deal of good; but they attract those only who have money to spare: thousands there are who congregate in swarms through the courts, lanes, and slums of London for whom there is no bath; not even water for their Sunday ablutions! Diseases are bred by this class, and the industrious suffer accordingly.

Introduce public cold plunging-baths in every model lodging-house, in every populous neighbourhood, and that will do great things. Ask any man who has been accustomed to his tub or plunging bath, if he would leave it off? If not, common sense will tell that the poor man's offspring would soon acquire the same taste.

Eldridge Spratt,
Medical Officer to the Hospital for Diseases of the Heart.

CHURCH ARCHITECTURE.

Sir,—Your paper contains a report of Mr. Hope's paper on "Church Architecture," read at the Manchester Church Conference. That gentleman, while expressing the desire to carry out literally the directions of the Prayer Book and the principles of the Church of England in the arrangements and details of the structures devoted to her use, advocates arrangements and things in direct antagonism to both the guides he professed to follow.

It is true, as Mr. Hope argues, that the Prayer Book states that there was to be "a chancel, and that it was to be as in times past;" but this is precisely what Mr. Hope does not mean; but the thing which, under the same name, arose after the eleventh century, viz., a small temple added to a church, with a screen and rood over, altar at the east end, and credence-table at its side; a place, in short, designed expressly by priests for sacerdotal ceremonies and a material sacrifice.

My attention as an architect was especially called to this subject many years since, and in the course of my studies I made the discovery that no single arrangement or detail in any church erected before the ninth century, that in any way favours the peculiar doctrine of the Church of Rome, exists as part of the original construction, and if now to be found in it, came there as an addition of comparatively late date.

In the Jewish, as in all other temples, the worshippers stood without, and the priests only were admitted within. It was never designed for social worship, and was never so used. The early Christians repudiated the temple model, and selected one in direct opposition to its principle of arrangement,—that of the Roman basilica. This hall was always a simple room for public meetings, having at one end a low platform with "cancelli" or railings, about 3 feet high on its edge.

As the president of the meeting, or the judge, when the hall was used as a court of justice, sat behind this cancelli or railing, he was by a figure of speech called the "chancellor," and the spot on which he sat the "chancel." This term then was of Roman civil origin, and has not the slightest connexion by name or use with the Communion service.*

Every old church up to the ninth century was constructed with a simple chancel platform or bema, its Greek name, for the sole purpose of giving raised seats to the presiding elder or bishop and his associates, and the Lord's table stood in the midst of the people; and when they were reclined or seated around it, the ministers left their seats of honour to wait on them.

The custom which arose, after the last great persecution, of celebrating the Communion on the tombs of martyrs outside the city, and the subsequent erection of churches over them, led to the use of copies of these stone tombs, which in after ages were called altars, though in no way resembling them.

When transubstantiation became the doctrine of Rome, it required for its accommodation the same principle of arrangement as in that of the ancient temple,—that is, a veiled or screened place into which priests only should be admitted. The ancient churches throughout Italy being so totally opposed in plan to the temple model, prevented this doctrine of Rome from ever being properly accommodated at Rome; but in countries of more recent converts, as in France, Germany, and England, where no architectural precedents existed to fetter the imaginations of the architects, they very naturally made the new structures suitable for the prevailing doctrines, and thus the old primitive model was gradually changed to the Mediæval one, and the great cathedrals and churches in the last-named countries became half temples in their plans. A collection of the plans of churches from the eleventh to the fourteenth century, shows, by the gradual lengthening of their chancels, and the setting up of screens in imitation of the veil, the progress made by the new doctrine of transubstantiation.

In our earliest churches, containing screens, they were additions; in the later ones parts of the construction.

The Holy of Holies, in the Jewish temple, was at the west end; there is but one church at Rome that stands east and west, and in that the entrance is at the east end, the chancel at the west. The orientation of churches is thus of Mediæval origin.

In the Constantine churches at Rome, her fully "developed doctrines," as Father Newman terms them, led to the boxing out the old chancels with their simple stone seats, and the construction in front of them of a modern screened affair in imitation of the "Holy of Holies." The walls of these old churches were also cut through in the fifteenth century for the insertion of side chapels to saints.

The author of a little work on our churches—Cardinal Wiseman, I believe—puts into the mouth of the imaginary disputants, a Catholic and a Protestant, a taunt from the former, that the English Church has got buildings which "she cannot use as their designers intended." The charge is unquestionably true; and the Romanists at Rome are in precisely the same predicament: the primitive model is only suitable for Protestants, and the Mediæval one is inimitably adapted for Papists.

From the establishment of Christianity to the present day, the Roman style of architecture, or its modern modifications, was the one adopted for church building, save for the three or four centuries during which the Gothic style prevailed in this country, France, and Germany. If, then, any "style" could claim the title of "Christian," it would be the Roman; but style arose always and everywhere from constructive peculiarities: it is, in fact, simply construction ornamented—the mere tongue of architecture, which speaks alike for all creeds. Creeds originate plans, but never styles.

A consideration of these facts, and I challenge contradiction to them, will, I trust, induce Mr. Hope to modify his views, and prevent him in future from urging Churchmen to adopt a model for their structures which owes all its peculiarities to that doctrine which the Church of England so emphatically condemns as "idolatrous and blasphemous."

John Elliott.

P.S.—It is not the first time I have addressed you on this subject.

* Had it not an allusive connexion with the heathen temple service, however, as its model? Was not the judge, for example, in the *place* of "the god," behind the vail?—Ed.

COMPENSATION TO TENANTS AT WILL.

London, Chatham, and Dover Railway v. *John Pheasant.*—In this case, heard at Guildhall Police Court, Mr. Pheasant, a tailor, in business in Water-lane, claimed 175*l.* compensation. Mr. White appeared for the company, and Mr. Eadey for the claimant.

The claimant stated that his rent was 36*l.* a year, rates and taxes 16*l.*, and repairs about 10*l.*; that when he entered into possession of the premises twelve years ago he paid a premium of 60*l.*, and that he paid two journeymen 1*l.* each per week all the year round. He kept no books, but produced a set which he had made up from invoices and the measure-book for the purposes of this claim. He estimated the wages for 1862 at 104*l.*; stock purchased, 116*l.*; rent and taxes, 52*l.*; and repairs and sundries, 25*l.*; making a total of 297*l.* His gross takings during that year were 442*l.*, including about 33*l.* which he received from lodgers, which, after deducting 297*l.*, left a net profit of 145*l.*, to which was to be added 10*l.* for removal, and 20*l.* as a proportion of the premium paid by the claimant twelve years ago, making up the claim of 175*l.* The claimant said he had succeeded in getting another house in Warwick-lane at the advanced rental of 70*l.*, which, with rates and taxes, would make a serious difference to him, as he was standing at only 18*l.* or 20*l.* a year in Water lane.

Mr. White said the books produced were most unsatisfactory, as they were prepared for the occasion. The claimant had got another house and would take his business with him, so that he would not materially suffer by the removal. A sum of 50*l.* would be ample compensation.

Alderman Hale said he thought the claimant was entitled to compensation for the increased rent he would have to pay, as the neighbourhood he had removed to

was not by any means an improvement. Under all the circumstances he awarded 100*l.* compensation, and 10*l.* for expenses of removal, without law costs, possession to be given in fourteen days.

WALPOLE'S ANECDOTES OF PAINTING.

SIR,—Allow me to say a few words with reference to the very terrible sentence passed by Mr. Peter Cunningham on Dallaway's and my reprints of "Walpole's Anecdotes of Painting, &c.," namely, that "the text of both reprints is faulty beyond parallel; that neither reprint *represents the text of Walpole*; in short, that the two reprints made since Walpole's death of Walpole's great work are *shamefully deficient in whole pages* of valuable Walpolean matter."

The *text* of both reprints is the same: mine is professedly a reprint of Dallaway's, and the text of both is from that of Dodsley, 1782, the third and last edition *published* by Walpole himself, and which Dallaway seems to have preferred to the "Old Berry and Elder Berry" edition so highly appreciated by Mr. Cunningham, but which is a posthumous work.

Now, as the omissions of these "shameful reprints," deplored by Mr. Cunningham, are not to be found in the last edition published by the author himself, I think the literary public will admit some extenuating circumstances.

It was probably wrong not to have incorporated the omitted "Old and Elder Berry" matter, in the reprints of the last author's edition, and I can only say that if any purchaser of my reprint feels his loss, I am very sorry for the omission; but, at the same time, I venture to suggest that the several hundred notes added by Dallaway and myself, may be looked upon as some compensation, however inadequate, of the few omitted paragraphs; and I trust that those who have so far honoured the book, will not grudge the money they have laid out on Russia or Morocco backs. R. N. WORNUM.

GOVERNMENT NEEDED.

SIR,—As a working man, I tender my sincere thanks for your *earnest* and unceasing endeavours in bringing the subject of working men's homes before the public, and, I hope, the Government too. If things remain as they are, the workers of this country will shortly be annihilated by the bad food, bad water, and bad dwellings which fall to them as the conditions of their existence. It is not in London only, or in one town more than another. There is not a town or village in England, *not one*, where these destructive agencies are not in active operation, and receiving daily accessions of strength. All this arises from the neglect of Government in not interfering to check the avarice and extortion of house lords. Government well knows that other conditions are necessary to insure proper health to the working bees, their wives and families: let it do its duty, and prevent the erection of dwellings that do not afford a sufficient number of cubic feet of air for healthy respiration: let it also prohibit such dens as are already erected and do not contain these requisites, from being occupied: and also cause entrances, lanes, or streets to be of sufficient width to contain an ample quantity of atmospheric air for the supply of such dwellings. Unless something of this be done, and speedily too, the agencies already referred to will produce results that no thinking man will be surprised at.

Government can do this: it is its legitimate business. It has taxed the country for means to build royal palaces, while I and millions of others, industrious, and having large families, have not a decent pig-stye to shelter us from the inclemencies of the weather.

Again receive my hearty thanks for your earnest endeavours on our behalf. OBSERVER.

Exeter.

Miscellanea.

THE HAYMARKET THEATRE. — Mr. Charles Mathews has returned from France with fresh vivacity and youthfulness of aspect, and in "Cool as Cucumber," and his original part of the *Chorus* in Planché's classical extravaganza, "The Golden Fleece," exhibits both with good effect. Mrs. Charles Mathews, as *Medea*, acted and sang with remarkable force; and Miss Louise Keeley's great song in the second part was enthusiastically encored, and deserved to be so: it was exquisitely sung.

SAINT MARTIN'S-IN-THE-FIELDS LIBRARY AND READING-ROOMS.—The first lecture of the season was given on Tuesday, the 27th, by the Rev. W. G. Humphry, B.D., vicar, on "Paris in 1863." The reverend gentleman gave a lively picture of the manners and customs of the Parisians, showing the points of variance between the French and ourselves, and recommending a visit to Paris as a means of improvement for all classes.

BAVARIA.—A communication from Kelheim (Bavaria), in the *Augsburg Gazette*, informs us that the Grand Hall of Deliverance, the building which the King has had erected in honour of the warriors who fought for the liberty of the country, has just been inaugurated by King Louis. At the moment of the inauguration King Louis pronounced the following words:—"Welcome, brave warriors of the struggle of deliverance: salutation to all of you. It is the most magnificent epoch in the history of Germany, and we must hold to it firmly. I can only repeat what I have already written for the inscription in the Hall of Deliverance:—'Let Germans never forget what it was that rendered the struggle necessary, and what made it victorious.'"

THE NEW PRESIDENT OF THE SOCIETY OF ARTS.—The Council of the Society have elected the Prince of Wales as their president. His Royal Highness, while consenting to be elected, expressed some diffidence as to his suitability for such a "situation;" but deferred to the wishes of the Council, and of her Majesty, who naturally desired her son to occupy the position so long filled by the Prince Consort.

POST-OFFICE SAVINGS BANKS.—In two years, from 16th September, 1861, to 15th September, 1863, the Post-office banks have received 3,736,885*l.* in 1,208,938 separate deposits, and they have repaid 1,088,544*l.* in 226,215 separate sums. They have opened accounts for 324,355 depositors: on the 15th September, 1863, the accounts of 266,857 of these depositors remained open in the books of the Post-office, and the total sum due to those depositors was on that day 2,618,340*l.* Throughout the whole kingdom the old banks lost 55,000 and the Post-office banks gained 160,000 depositors.

OPENING OF A COTTAGE HOSPITAL AT WALSALL.—The committee of this institution have fitted up buildings in Bridge-street ready for the reception of patients, and voluntary and qualified lady nurses are located on the premises. The houses, however, are not of the humble unpretending character which the word "cottage" would seem to imply, but, on the contrary, are of large size and superior construction, and were the residences of persons moving in the better walks of life. The hospital buildings consist of two of such houses, a communication having been made between them. One of these is, for the present, mainly set apart for the accommodation of the lady attendants, servants, &c., and the other is devoted to hospital purposes.

POISON FROM LEAD PIPES AND CISTERNS.—A London correspondent sends us a communication from a "large contractor in the north," who writes him to the effect that he believes it must be the fact, as stated in the *Builder*, that water is liable to be so poisoned, especially in new houses; because he has "observed a good many deaths and a deal of trouble in newly-formed streets, especially where there are large blocks of tradesmen's houses," and he wishes to obtain more information on a subject so important to all connected with the building trades, as well as to the public. He does not seem to be aware that the *Builder*, which first brought this subject under public and professional notice, has repeatedly treated of it. He will also find information as to it in Professor Christison's treatise on "Poisons," published at Edinburgh, and in other chemical works. Chemists, however, now differ as to the circumstances under which the poison is most apt to be generated.

OPENING OF THE NEW TOWN HALL, GRIMSBY.—This event took place on the 15th of October. The building stands in a good position, on land the property of the corporation, in close proximity to the River Head, and fronting towards the main street. The style is Modern Italian, carried out in stone and white brick. The entire front consists of a centre, with pavilion wings, formed by projections, with Corinthian pilasters upon a rusticated basement. In the centre of the front is an open portico of coupled rusticated Ionic columns, forming a covered entrance. The centre main floor is composed of seven recessed arches, in which are circular-headed windows, surmounted by a modillion cornice and open balustrade. The ground-floor comprises entrance, vestibule, and corridors, with staircases to the public room, or town-hall; offices for town clerk, magistrates' clerk, and surveyor; council-chamber and sessions-house, with requisite retiring and waiting rooms attached; police-offices, and cells for prisoners, with residence for superintendent of police; engine-house, store-room, &c. In the centre of this group of buildings an open court is formed, adapted for the exercise of the police; and round this a covered corridor gives access to the various departments. The large hall is situate on the first-floor, and is 80 feet long by 40 feet wide, and 30 feet high; with retiring-rooms attached, with staircases at each end of the building, over which a gallery and orchestra are formed, making the hall a total length of 112 feet. The sides of the hall are divided by Corinthian pilasters, surmounted by a modillion cornice, over which rises a deep core, with ribs and panels. The architects were Messrs. Bellamy, Hardy, & Giles, of Lincoln; and the contractor, Mr. J. Brown, of Grimsby. The heating and ventilating apparatus were provided by Messrs. Frisby & Son, of Loughborough; and Mr. Maughan, the borough surveyor, acted as clerk of the works.

ART IN THE CHURCH.—The decoration of the vacant spaces above the altar of Christ Church, Marylebone, have been entrusted to Mr. W. Cave Thomas. The large lunette, about 25 feet by 12 feet, is to be filled with a picture of the angels appearing to the shepherds.

THE HOTEL MOVEMENT.—The prospectus of the Constantinople and Alexandria Hotels Company has been issued, inviting subscriptions to a first capital of 100,000*l.* in 5,000 shares of 20*l.* each, for the purpose of supplying efficient hotel accommodation at these two points. The architects are Messrs. T. Smith & Son.

METROPOLITAN BOARD OF WORKS.—At the usual meeting on the 23rd inst., the Board was for some time in committee considering the report of their solicitor as to the sufficiency of the sureties tendered by Messrs. Furness for the performance of the works of the portion of the northern embankment of the Thames between Waterloo and Westminster bridges. The report being entirely satisfactory, the tender of Messrs. Furness (520,000*l.*) was accepted. Mr. R. Taylor called the attention of the Board to the late accident in Larkhall-lane, by the falling out of the fronts of two houses in the course of erection there, by which several persons were injured, and suggested an investigation. The subject was referred to the Building Act Committee.

PORTRAITS OF THE PRINCE AND PRINCESS OF WALES. — Mr. Jensen has completed fine portraits, life size, of the Prince and the Princess of Wales. Being himself a Holsteiner, he has painted his illustrious countrywoman *con amore*, and produced an admirable picture. It represents the Princess in a room in Marlborough House, and is made a sort of record picture, showing, with great skill, the Dagmar necklace, the opal and brilliants bracelet given by the Queen, the Brussels lace dress, which all know, and so on. The Prince is represented in the robes and costly chain of the new order, the Star of India. As a likeness, it is not so striking as that of the Princess, but it is an equally good if not better picture.

PROPOSED LOCAL EXHIBITION BY THE SCHOOL OF ART, HALIFAX.—We are glad to learn that the committee of this School of Art purpose holding a *conversazione* and art exhibition early in November. This is a step in a right direction, as not only will it bring the object and work of the school before those interested in its progress, but will also give its students and the public an opportunity of seeing specimens of the modern British school of painting, as we learn that several gentlemen in the town and neighbourhood have kindly consented to exhibit fine specimens from their collections. It is nearly thirty years since an exhibition of paintings was held in this town. Much of the future fortune of the town depends on the position it will be able to occupy and defend as a vast factory for the production of works in which art and industry shall be happily combined.

WARREN'S "IMPREGNABLE AND UNSINKABLE FLOATING CASEMATE BATTERY," &c.—Mr. William W. Warren, of Milton-next-Gravesend,—at one time a pupil of Messrs. W. Cubitt, of Gray's-inn-road, we believe,—proposes a system of construction for an "impregnable and unsinkable floating casemated battery, submarine gun and armour plating adapted for stationary batteries, and for convoying troop-ships, &c." In an abridged but still a lengthened description, he says:—"I prefer constructing the centre portion of the vessel of rolled wrought-iron double-flanged vertical ribs, from 12 inches to 18 inches wide, and from 2 inches to 4 inches thick, firmly riveted and bolted together, or of angle or T iron,—solidity and stiffness being the great object,—on which are placed the various layers of malleable metals, taking care to stop all chemical or galvanic action, by means of bituminous composition, mixed with hair; and were it not for the cost I would prefer using the finest copper-plating only over the iron, so as to act on the principle of a gradual tenacity of resistance, thereby easing and stopping the momentum, and distributing the shock, and thus prepare the iron-plating to finally resist, without splitting or destroying the plate; or the roof-deck and sides of centre position of battery can be protected with oak, or other wood, compressed in short lengths, and confined, the cross-grain of wood being opposed to the action of fire." Mr. Warren's invention has been presented to the Admiralty, and he has permission to erect a target at Shoeburyness on his compressed wood cross-grain principle; but the cost, which is 5,000*l.*, prevents him.

"Ventilation through Windows."—The paragraph in page 763 of the *Builder* mentions a system of ventilation which Mr. Chantrell, the architect, used some twenty years ago, and which, upon his recommendation, I have since adopted, and believe to be efficacious.—J. W. H.

Baths and Wash-houses, Hertford.—At a meeting held in the Shirehall, Hertford, it was agreed that baths and wash-houses should be established in Hertford. The leading inhabitants of the town were present, and letters were read from those unable to attend, approving of the project. Mr. J. F. Fairbank, of Parliament-street, Westminster, C.E., attended on the part of the promoters, and a committee was formed to further the object.

The new Stepney Meeting-house.—This large building has been opened for public worship. It has been erected, at an expense of 10,000*l.*, for the congregation of the old Stepney Meeting-house, recently demolished. The new structure has been raised on a spot cleared for the purpose, close to and on the eastern side of the old chapel. The new edifice is in the Gothic style, with three towers. Those at the north-east and south angles are about 70 feet in height. The tower and spire at the south-east angle of the building is 150 feet in height, and the metal vane surmounting the whole 20 feet more. The interior is very plain, and fitted up with seats on the ground-floor and in the galleries for 1,300 persons. The architects were Messrs. Searle, Son, & Yelf. The total expenses of the building, the site, fittings, railings, and tower, will exceed 11,000*l.*, of which 9,200*l.* have already been collected. The family of Mr. Scrutton, shipowner, sail-maker, and ship-builder in the East India-road, have contributed 3,000*l.*

Accidents.—Five men have been injured at Eastbourne while employed as workmen on some houses in course of erection on Cornfield Green. Owing, it is supposed, to the negligent way in which the scaffolding-poles were fastened, the cords slipped, and the poles and planks came down with the men who were at work on them. Two of them are not expected to live.——At Moffatt, in Scotland, a well-sinker, from Strathaven, while engaged in constructing a pump-well for the convenience of a house in process of erection in Havelock-terrace, nearly lost his life by the falling in of the stonework built round the mouth of the bore. The well had been sunk 21 feet, and a portion of it had been built round the top with stones. The digging below loosened the masonry, and the whole tumbled in upon the workman. He was got out, however, little the worse for his temporary entombment.——The *Buffalo Courier* of September 28, states that the steam boiler in a large building known as "Swartz Iron Works" had exploded, making nearly one-half of the structure a shapeless mass of ruins, in which at least twenty workmen were buried alive. Two were taken out dead, and four or five others fatally injured.

Liverpool Architectural Society.—At the second meeting of the session, Mr. W. H. Weightman, president, in the chair; Mr. Kilpin expressed his gratification at the steps which are being taken for the preservation of the sculpture in the pediment of St. George's Hall, which, he said, was designed by the late Professor Cockerell, and executed at a cost of upwards of 4,000*l.* So unfavourable to the material of the sculpture (Caen stone) had been the climate of Liverpool, that the whole of the surface was more or less corroded, and in some places the corrosion had sunk fully half an inch deep, rendering the most active and prompt measures necessary to preserve the whole of the sculpture from decay. The borough surveyor had directed that the corroded surface should be carefully removed. This had been done without any very material deterioration of the features or forms of the figures (?), and the new surface was to be carefully coated with silica, according to Mr. Ransome's patent. Most sincerely did he hope, and he was very much inclined to believe, that it would have the desired effect.—Mr. Frank Howard thought it would be a very great blessing for Mr. Cockerell's reputation if the sculpture in question were to rot away altogether.—The society then proceeded to discuss the scale of architects' charges recommended by the Architectural Alliance.—At the previous meeting, the following resolution was unanimously adopted:—"That the society begs to record its thanks for the very great honour which Mr. Huggins has conferred upon the society, and the compliment he has paid in dedicating to it his valuable work, 'The Course and Current of Architecture,' and its accompanying chart."

Builders' Benevolent Institution.—The dinner took place on Thursday evening, as announced, but we must defer particulars till our next.

Railway Returns.—The traffic receipts of railways in the United Kingdom amounted, for the week ending the 17th of October, on 11,028 miles, to 608,620*l.*, and for the corresponding week of last year, on 10,578 miles, to 579,140*l.*, showing an increase of 450 miles, and of 29,480*l.* in the receipts. The total receipts of the week show a decrease of 10,000*l.* as compared with those of the preceding week, ending the 10th inst.

The late Mr. James Murray, Architect.—Mr. James Murray, of Coventry, died there, on the 24th inst., at the early age of thirty-two. He was an architect of much ability; and considering the shortness of his career, had executed a large number of buildings, churches, schools, and town-halls, some in partnership with other architects, but the majority on his own account. Not long ago he published the first part of an intended collection of his works.

Box.—On the 20th inst., the men employed by Messrs. Pictor & Sons at their Bath Stone-works, Box and Corsham, to the number of nearly 200, were invited to a dinner on the occasion of the coming of age of Mr. C. J. Pictor, and his accession to the firm. A large tent was erected on the lawn in front of Mr. Robert Pictor's house at Boxfield-farm, in which the men sat down to dine. Mr. Wm. Lewis, of Bath, took the chair.

Conservative Land Society.—At the forty-fourth quarterly general meeting of the shareholders, held on the 20th inst., Viscount Ranelagh in the chair, the report stated that the receipts for the quarter were 23,496*l.* 8s. 4d.; and for the year ending 30th September, 1863, 75,754*l.* 5s. 5d.: total cash receipts since the formation of the society, 701,146*l.* 18s. 7d. The increase in the year's receipts over those of last year was 11,950*l.* The total sale of land was 330,370*l.* 8s. 5d.

Telegraphic.—The Atlantic Telegraph Company have now provided the means for purchasing a new cable, and the attempt will be made to restore communication with America during the summer of 1864. On the present occasion the board have committed their scientific affairs, and the judgment of the tenders sent in reply to their advertisement, to a scientific committee. The cable will be made up of a conductor having seven wires laid spirally into a strand. The insulator will, we regret to observe, be still of gutta percha. The contractors, as was anticipated, and notwithstanding the directors' protestations on the subject, are Messrs. Glass, Elliot, & Co., who have undertaken the entire work of manufacturing and laying the cable, and are to hand over the communication to the directors in perfect order during the summer or autumn of 1864; their profit of 20 per cent. being payable in twelve monthly instalments (to cease if the cable is imperfect), commencing immediately the cable is in efficient working order.——The telegraph has been completed to Sandringham, the Norfolk residence of the Prince of Wales. The Prince has now direct and private communication with Buckingham Palace, and through that place with Osborne and Balmoral.

Disease in the London Dairies.—A lecture has been delivered at the Marylebone Institute, by Professor Gamgee, of the new Veterinary College, Edinburgh, upon disease in the London dairies and its prevention. The lecturer said that a disease had since 1842 prevailed among the cattle in this country, carrying off a large per-centage per annum—a pulmonary disease, which was as fatal to cattle in the fields as in town dairies. He thought the metropolitan cowhouses could compare favourably with those in the country: in fact, they were models of cleanliness. Still it was a fact that town cows were slaughtered within six months of their entrance on town life; and this was a necessary evil, for the London dairyman must either lose his animals by disease or sell them to the butcher. The disease among the cows led to the sale of diseased milk, and the consumption of such milk caused a similar disease in the human beings consuming it. Every animal showing the least sign of the lung disease ought to be at once taken away and publicly sold. The sale of diseased animals might without much harm be permitted in the early stages, and in association with preventive measures. He had collected a number of facts bearing upon the question of inoculation of animals for this lung disease. From these it appeared that of 384 animals not inoculated, 135 died; of 352 partially inoculated, 39 died; while of 329 inoculated animals only 20 had died.

Fever in Carnarvonshire.—At Festiniog and in the neighbourhood a description of low fever is said to have been so rife amongst the labouring classes as to have necessitated an official inquiry into the cause. The fever is generally supposed to have been produced by the night and day labourers sleeping in the same beds, thus preventing the beds and bedclothes from being exposed to the air. It is questionable, however, whether they would have been exposed to the air under any circumstances.

A Theatre in Windsor Castle.—More than two years ago there was a desire on the part of her Majesty, from the great inconvenience attendant upon dramatic entertainments given at Windsor Castle, to build a small theatre contiguous to that royal residence. There is every probability that this intention will now be carried out, and, with the usual celerity with which these matters are now managed, four months will complete the building. All the drawings of the internal arrangements were completed at the time.—*Court Journal.*

Monumental.—A meeting of the committee on the nature of the Hereford memorial of the late Sir George Cornewall Lewis have decided that the most appropriate testimonial will be a statue in bronze of the right hon. gentleman, within the railing in front of the Shirehall; and that Earl Somers, Col. Clifford, M.P., and other gentlemen named, be requested to act as a committee to make arrangements with Baron Marochetti, who states that he will erect a bronze statue for 1,000*l.*, and visit Hereford shortly to inspect the site and prepare a sketch of the statue.

Statues of Allan Ramsay and Professor Wilson.—Workmen have been excavating for the foundation of the statue of Allan Ramsay, which is to be erected at the north-east corner of West Princes'-street Gardens at Edinburgh. As it is intended that the statue, together with that of Professor Wilson, which is to occupy the north-west corner of the East Gardens, should form a group, with the Royal Institution as a centre, the site has been fixed in a line with that building; but, in consequence of the line falling some distance south of the upper terrace walk of the garden, the statue will have its foundation in the centre of the slope between the first and second walks—an arrangement which necessitates excavation to a considerable depth and masonry of the most substantial kind. The foundation will be laid 44 feet under the level of Princes'-street, and from this depth four walls of great strength will be carried up to the street level, where they will terminate in a platform surrounded by a balustrade of a quaint Scottish character, with corbelled turrets at the angles. On the centre of this platform the pedestal will be placed, leaving a space of about 3 feet wide all round. On the north side the platform will be connected with the garden walk by a light round-arched stone bridge. The pedestal will have light shafts at the angles, and three of its sides will be occupied by bas-reliefs portraits. The pedestal has been designed by Mr. David Bryce, R.S.A., and Mr. John Steell, R.S.A., is now engaged upon the medallions.

Benjamin Banks, the Stringed Musical Instrument Maker.—During the recent restoration and levelling of the now disused churchyard of Saint Thomas's parish, the grave-stone of Benjamin Banks, of Salisbury, the celebrated manufacturer of stringed musical instruments, who lived during the latter half of the last century, came to light. It appears that he died in 1795, but the inscription on the stone was so much worn and defaced, that within the last few days, according to the *Salisbury Journal*, a subscription has been raised (mainly through the exertions of Mr. C. J. Read), and the original inscription restored, with the following addition, "Restored 1863, in memory of the most eminent English Maker of Stringed Musical Instruments." It may be interesting to know that the maker in question was in the habit of marking his instruments, by means of printed tickets, pasted in the interior, which bear, in addition to his name, the words, "*Fecit, Salisbury*," and the year of their completion, the latter being generally supplemented in manuscript, whilst his name is usually stamped in two or more places, on the inner framework, and now and then on the outside also. His instruments have now become scarce and valuable, and are highly prized amongst professional men and amateurs; for, whilst Duke's violins are, it is stated, considered finer than those of "old" Banks, it is generally admitted that in the construction of tenors and violoncellos he has never been surpassed, by either Barac Norman, or Foster, for shape, tone, or appearance.

LANDLORD AND TENANT.—A question was ised at the Sheriff's Court, Red Lion-square, in e case "Sampson *v.* Marsland," respecting the ability of a tenant to repairs. The tenancy was r three years, and after the expiration certain pairs were done by the plaintiff, amounting to 3*l.* 10*s.* 10*d.*, as executor, and before the Court Chancery could allow them Mr. Dillon Webb, is attorney, was instructed to bring the action. he defence was that the house had not been deorated for seventeen years before it was taken, hd that the defendant was only liable for the lass broken, to 2*l.* 10*s.*, which he had paid into ourt. Mr. Metcalfe, the barrister for the plainff, submitted that his client had done the repairs, and that the defendant was liable. Mr. eadsden, for the defendant, insisted that he was nly liable for the damage to the glass. Mr. Inder-Sheriff Burchell held otherwise, and said a enant was liable if his agreement was to decorate ne premises, although there had been no decoration for twenty years. It was important that enants should know their liabilities. The jury, ecting on the dictum of the court, gave a verdict or the full amount, less the sum in court.

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For alterations and additions to the residence of Mr. Edward Budd, The Grange, near East Grinstead, Surrey. Mr. Alfred Smith, architect. Quantities supplied: -

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Hack	927 0 0
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Wardell	399 0 0
Rebbel	369 0 0
Mills	362 11 0
Mesly	360 0 0
Bradv	359 0 0
Vaughan	340 0 0
Williams	319 0 0
Thompson (accepted)	298 10 0

For pulling down and rebuilding wall for the widening of Thomas-street, for the Woolwich Local Board of Health :—

Hiscock	£138 0 0
Wardell	129 0 0
Thompson	110 0 0
Vaughan	110 0 0
Mills	102 0 0
Woodford	98 15 0
Lonergan	95 0 0
Williams (accepted)	90 0 0

For building two houses in Temple Mill-lane, Stratford New Town, for Mr. W. H. Robinson. Mr. John M. Dean, architect :—

Jay	£795 0 0
Andrews	775 0 0
Wilson	770 0 0
Wood & Son	753 0 0
Davey (accepted)	550 0 0

For two small houses at Forest Gate, for Mr. E. Sandham. Messrs. Thos. & Wm. Stone, architects :—

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Dyer	393 0 0
Jay (accepted)	373 0 0

For three houses in Chancery-lane. Mr. John Blyth, architect. Quantities supplied by Mr. H. S. Snell :—

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For County Police Station, at Hungerford, Berks. Mr. Joseph Morris, architect :—

Martin & Hoskings (accepted)	£952 0 0

For villa, at New Barnet, Herts. Mr. R. Plumb, architect :—

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Miller	590 0 0
Page	517 0 0
Bray	510 0 0
Ginger (accepted)	497 15 0

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"Going Along," being notes of a tour in Germany and Italy, will be continued in our next.

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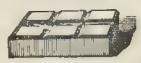
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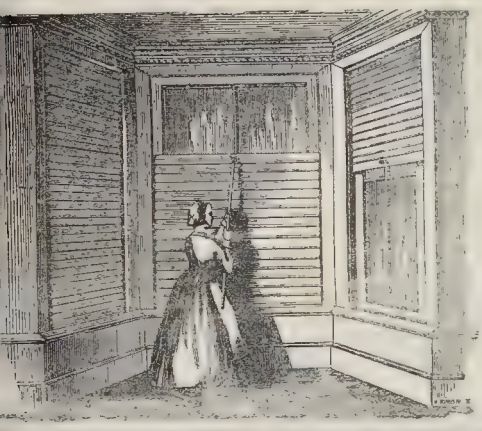
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14½ by 11½	15 by 12	18 by 14	22 by 17
15 by 11	15½ by 12½	22 by 14	24 by 17
15½ by 11½	16 by 12	24 by 14	20 by 18
16 by 11	16½ by 12½	22 by 15	22 by 18
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British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price-lists forwarded free on receipt of business card addressed to

R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

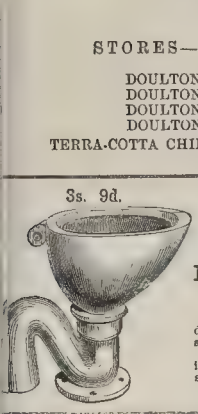
ST. HELEN'S.

STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

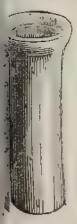
DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



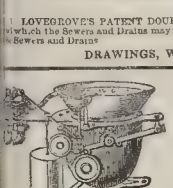
TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground, adapted also for ventilation to Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,







Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO. And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough street, London, W. Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made.

PRIZE MEDAL, 1862.

HAMILTON & CO. No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W. Sole Manufacturers of J. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graniers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

STEPHENS'S STAINS for WOOD. A SUBSTITUTE for PAINT, and at HALF the COST.

Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

TURPENTINE.

GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.

Sample gallons may be obtained at the Manufacturers', price 4s.

GARROD & COMPANY,

Varnish, White Lead and Colour Manufacturers,
56, Upper Thames-street, London, E.C.

STAINING DEAL TO IMITATE ALL KINDS of WOODS. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Tint, 5s. per gallon; Dark Oak, 5s. per gallon; Mahogany, 8s.; Rosewood, 8s.; Walnut, 8s. Varnishes for NAYLOR'S Stains may be had at the Factory, No. 4a, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,

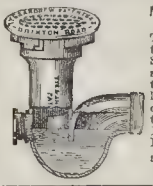
FALCON-SQUARE, LONDON, E.C.

*** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.

T. KENT and CROWDEN & GARROD, are stamped on the Brushes.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 29s. per cwt.
Linseed Oil, 3s. 8d. per Gallon; Boiled Oil, 4s. per Gallon.
Turpentine, 5s. 6d. per Gallon.
Fine Pale Oak Varnish, 8s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses 80, Upper Ebury-street, and 45, Cleland's-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

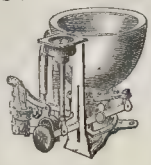
TO PAINTERS and BUILDERS.—
White Lead (warranted genuine), 29s. per cwt.
Linseed Oil, 3s. 6d. per gallon. Turpentine, 6s. 6d. per gallon
Fine Pale Oak Varnish, 8s. per gallon.
For cash at FRANCIS TUCK'S Old Established VARNISH and COLOUR WAREHOUSE, No. 138, EDGWARE-ROAD, PADDINGTON, W. next door to the Wheatsheaf, and within five minutes' walk of the Great Western Railway Terminus.
Agent for Hamelt's celebrated Painting and Graining Brushes.



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No internal valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate-street, London

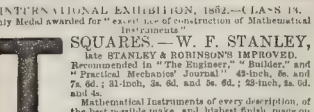
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J. PALLANT, Pupil of THOS. JONES, SURVEYING and MATHEMATICAL INSTRUMENT MAKER to the METROPOLITAN BOARD of WORKS.

J. P. begs respectfully to call attention to his highly-finished Transits, Theodolite Levels, &c. fitted with the latest improvements, and which are now being used in carrying out the GREAT MAIN DRAINAGE of LONDON. Lists of Prices sent post-free.

MANUFACTORY, 44, MUSEUM STREET, NEW OXFORD STREET, LONDON.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,

20, WESTMINSTER BRIDGE ROAD, LAMBETH, Near Astley's Theatre.

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second hand Instruments of all kinds, by the best makers, always in stock.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13.
Only Medal awarded for "excellence of construction of Mathematical Instruments."

T SQUARES.—W. F. STANLEY, late STANLEY & ROBINSON'S IMPROVED. Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 6s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every article for Draughtsmen's Use.

Lists of Prices on application

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d. post free.

STANLEY'S IMPROVED DRAWING PEN

PLASTER ENRICHMENTS

CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS, 242, KUSTON ROAD, ST. PANCRAS.

Best Gelatine, prepared, and ready for moulding 2s. per lb.

SALES BY AUCTION.

LONDON, CHATHAM, and DOVER RAILWAY.—METROPOLITAN EXTENSION.—THIRTY-FOURTH CLEARANCE SALE.—BUILDING MATERIALS.—Ludgate hill and Earl street, Blackfriars.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on FRIDAY, NOVEMBER 6th, and following days, at TWELVE, in lots, all the capital BUILDING MATERIALS, expensive TRADE FIXTURES, and FITTINGS-UP of about TWENTY-FIVE HOUSES, in Earl-street and Water-lane, Blackfriars, and in front of Ludgate-hill; comprising about 1,000,000 capital stock bricks, prime timber in roofs and floors, tiling and slating, sound flooring-boards, expensive plate glass sh p fronts and sashes, marble chimney-pieces, doors, partitions, and interior fittings, lead flats, gutters, and pipes, coach-house gates, stable-fittings, stone paving, capital mahogany counters, drawers and shelving, show cases, iron safes, gasfittings, cisterns, stoves, and a variety of house and trade fixtures and fittings up.—May be viewed the day previous. Catalogues had at Mr. VIGERS'S Office, 3, Frederick's-place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

The New Metropolitan Meat and Poultry Market.—Second Clearance Sale.—Building Materials of various Houses and Premises in and near Smithfield.

PULLEN, HORNE, & EVERSFIELD respectfully announce that they are instructed by the Markets Improvement Committee of the Corporation of the City of London to SELL by AUCTION, on the PREMISES, on TUESDAY, NOVEMBER 10th, and following day, at TWELVE, in lots, all the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS-UP of the RAM INN, and several dwelling-houses, shops, warehouses, and premises, situate on the north side of Smithfield, Smithfield bars, and Charter House-lane; comprising excellent stock bricks, oak and fir timber in roofs and floors, plain and pan tiles and slates, glazed sashes, doors, chimney-pieces, and interior fittings; flooring boards, folding gates, iron fronts, some fine old oak panelling, lead and copper flats, gutters and pipes, stone paving, cisterns, stoves, nests of drawers, counters, shelves, and other useful house and trade fixtures. May be viewed on Saturday and Monday previous. Catalogues had at the Architect's Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, Fore-street, E.C. and 40, Parliament-street, S.W.

WEST TISTED, five miles from Alton, Hants.—To TIMBER MERCHANTS, RAILWAY CONTRACTORS, and OTHERS.—SALE of splendid LARCH and BEECH TIMBER, UNDERWOOD, and BAVINS.

MR. ELFORD has been honoured with instructions from Sir Alfred J. Doughty Tichb rne, Bart to SELL by AUCTION, at the NEW INN, West Tisted, on THURSDAY, the 12th, and FRIDAY, the 13th, of NOVEMBER, 1863, 4,500 fine LARCH TREES, of forty years' growth, in Colemoor Wood; 1,500 BEECH TREES, standing on New Copse, the Hangers, and the Warren; 32 acres of UNDERWOOD, and 20,000 LARCH BAVINS. The Larch will be all felled, and sold in lots of 50 in each lot, on Thursday, the 12th; the second Day's Sale will commence with the fine Beech Trees, standing on New Copse, near Colmore Wood, in lots of 50 each, with all the top and lop, continuing with 400 very fine trees in the Hangers, two and a half miles from Liss station, and 800 Beeches of similar size, in the Warren, adjoining the Hangers; two acres of Underwood in New Coppice, 15 acres in the Hangers, 5 acres in the Warren, and 20,000 Larch Bavins in Colemoore Wood, which, for the convenience of purchasers, will be sold in lots of 500 each. The Auctioneer can with the greatest confidence recommend this Timber, the larch from its great size and length, and the beech, which from the kind growth is well adapted for machinery and work of a superior class. To view, apply by letter to Mr. BURDUS, the Agent, at Selborne Cottage, Alresford, stating time and where to meet, who will send the proper party to show the different lots; or to the Deputy Agent, Mr. TREBLE, at the New Inn, West Tisted. Descriptive catalogues, with full particulars, will be ready a fortnight prior to the Sale, and will be sent by post on application to the Auctioneer, Basingstoke. Lunch will be provided at Twelve, and the Sale will commence each day at ONE punctually.

TO TIMBER MERCHANTS, CONTRACTORS, BUILDERS, CARPENTERS, JOINERS, and OTHERS.—VICTORIA WHARF and SAW MILLS, Victoria-road, on the Surrey Canal, nearly opposite the Victualling-yard, Deptford, and near the Deptford Station on the Greenwich Railway.

MR. PEAKE is favoured with instructions to SELL by AUCTION, on the PREMISES, as above, on TUESDAY, NOVEMBER 10th, 1863, and following day, at TWELVE for ONE o'clock each day precisely, the important STOCK-IN TRADE of some SEASONED GOODS, comprising 3,200 yellow deals, 1,500 white ditto, 2,000 yellow battens, 500 white ditto, 800 dry pine plank, 567 square of 3-inch yellow batten flooring, 300 square 2 inch ditto, 450 square 1½ inch ditto, 180 square of 4-inch white ditto, 80 loads of Swede timber, long lengths, 10 loads Baltic ditto, and 7 loads of American ash ditto. May be viewed the day preceding and morning of Sale. Catalogues obtained at the Wharf; at the Europa Tavern, Rotherhithe; and at Mr. PEAKE'S Office, 44, Tooley-street, Southwark.—Approved bills at four months will be taken for sums of 50*l.* and upwards.

ON MONDAY, NOVEMBER 2nd, at TWELVE for ONE.
CAMDEN TOWN, N.W.

MESSRS. LEREW & LEREW will SELL by AUCTION, at the YARD, Camden-terrace, a quantity of useful STOCK; viz. planks, deals and battens, dry cut stuff, prepared flooring, quartering, slating, battens, 2,500 feet of mahogany, 3,000 feet of wide pitch pine, 1,000 feet of 3-inch yellow deals, tenoning machine, ladders, &c. sundry pieces, ranges, stoves, old materials, &c.—Auction Offices, Cardington-street, Hampstead-road.

AUCTION SALE of CONTRACTORS' HORSES, at Margate, fresh from work on the Kent Coast Railway.—Messrs. Peto & Betts having completed the construction of the line, have instructed

MR. SHRUBSOLE to SELL by PUBLIC AUCTION, at the STABLES, Garlinge, near Margate, on THURSDAY, NOVEMBER 12th, 1863, at ONE o'clock precisely, SEVENTEEN fine young powerful HORSES, with weight at 11 mettle about them, and fit for works of a heavy character. The horses may be seen on the Works any time prior to the day of Sale; and at the Stables nights and mornings and on the Day of Sale. Descriptive catalogues of the horses may be obtained of THOMAS WHITE, Esq., Contractors' Office, Kent Coast Railway, Margate; or of Mr. STEPHEN SHRUBSOLE, Auctioneer and Valuer, Canterbury.

CHARING CROSS RAILWAY, CITY TERMINUS.—To BUILDERS, CONTRACTORS, PAVIORS, and OTHERS.

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor to SELL by AUCTION, in the Premises, on TUESDAY and WEDNESDAY, 10th and 11th NOVEMBER 1863, at ONE o'clock punctually, the Valuable and Useful BUILDING MATERIALS of Eight Houses in Hand court, two Dwelling houses and a Warehouse in Chequer-yard, three Dwelling houses in Dorgate hill, and four lofty Warehouses in Upper Thames-street, the whole of the property lying on the north side thereof), comprising, about 2,000,000 sound stock bricks, 30 tons of lead, in pipes and cisterns, plain pantiles and slates on roofs, excellent flooring boards, stout timber and joists, iron cramps, pile, sashes and frames, a number of loophole and other doors, pebble and other pitching, and a great variety of superior fixtures and fittings up.—May be viewed the day prior and morning of Sale, and Catalogues had at the Contractor's Office, Worcester-street, Southwark; on the Premises; and of Messrs. WILLIS & HARROW, 3, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

HOLLOWAY.—Important Sale of Plumber's, Decorator's, and Gas fitter's Stock.

MR. THOMAS KING is instructed by Messrs. Cox & Cutler, who are dissolving Partnership, to SELL by AUCTION, at the PREMISES, No. 4, Lorraine terrace, Holloway road, THIS DAY (TUESDAY), NOVEMBER 3rd, 1863, and following day, without the least reserve, and the modern STOCK in TRADE, comprising panelled brasswork of every description, sheet lead, lead pipes, &c.; iron pieces of paperhangings, steel feet of plate, and a quantity of ornamental glass, varnishes, diamonds, brushes and tools, gas fittings, including 18 chandeliers; brackets and pendants, iron tanks, galvanized and other tubing, shop fixtures, builder's plant and stores, including ladders, scaffold boards, workmen's bench, range, register and other stoves, and a large number of useful articles. On view MONDAY preceding the Sale. Catalogues may be had on the Premises, and of Mr. THOMAS KING, Auctioneer and Surveyor, No. 1, Railway-place, Holloway road, N.

CLIVE VALE FARM, HASTINGS.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the HAVELOCK HOTEL, Hastings, on TUESDAY, NOVEMBER 10th, at FIVE for SIX o'clock in the evening, in fifty lots, the first portion of this most desirable PROPERTY, free of tithe, and land tax redeemed, situate near to Ore Church, with frontages to road leading from Hastings to Fairlight, and on the new roads called Alfred-road and Canute-road. The roads are for sed, and drainage will be provided by the vendors, so as to enable purchasers to commence building operations immediately. The situation is one of the most beautiful in the neighbourhood, within a mile of the town of Hastings, and commanding extensive views of the sea and surrounding country. The corner lot, with frontages to the road from Hastings to Fairlight and the Alfred road, is most eligible for the erection of a tavern, and is the only lot on this portion of the estate set apart for that purpose. Nine-tenths of the purchase-money may remain on mortgage or contract at 5 per cent to be paid in nine years by half-yearly instalments, but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained ten days before the sale at the principal Hotels at Hastings; of Mr. E. J. BANE, Prospect-place, St. Michael's, Hastings; of Messrs. RUSSELL & DAVIES, 50, Coleman-street; and of the Auctioneer, 24, Moorgate-street, London, E.C.; of the Foreman on the Estate; and at the Place of Sale.

UNREDEEMED SALE.—ROMFORD, ESSEX.—To CARPENTERS, WHEELWRIGHTS, UPHOLSTERERS, and OTHERS.

MR. ALFRED SAVILL is instructed by the Executors of the late Mr. Stephen Collier, to SELL by AUCTION, on the PREMISES, near the Romford Union, on TUESDAY, NOVEMBER 10th, 1863, at TEN for ELEVEN o'clock, a large quantity of TIMBER; comprising oak, elm, and ash; quantity of dry planking, 700 good dry yellow deals and battens, stock of dry inch prepared floor battens, a quantity of seasoned laths, cattle and boards of various thicknesses, ditto capital wide pine ditto, 1,000 good dry spokes, 700 ash felloes, 2,000 feet of dry inch elm boarding, and a quantity of useful sawing, cutting, and other stuff. May be obtained at the Swan, Stratford; and at the Auctioneer's Offices, Chigwell and Romford.

AUCTION ROOMS, 13, HIGH HOLBORN.—TO BUILDERS, IRONMONGERS, &c.

MR. W. HOLLINGSWORTH will SELL by AUCTION, on MONDAY next, NOVEMBER 2nd, at TWELVE for ONE, the STOCK of a BUILDER'S IRONMONGER; expensive marble chimney pieces, useful spring cart, stoves, ranges, brass goods, and various effects. On view and catalogues ready. 13, High Holborn.

TO TIMBER DEALERS, BUILDERS, MASONS, AND OTHERS.—Extensive Sale of New Deals, Builders' Stock, and other Effects, Chelsea, on THURSDAY and FRIDAY, NOVEMBER 5th and 6th, at ONE o'clock each day.

F. HALL & SON will SELL by AUCTION, on the PREMISES, Milner-street, Chelsea, opposite Stanley-street, and near the Australian Tavern (where it is intended to let 5 or 10 periodical sales) as above, about 1,000 prime yellow deals, planks and battens (cut and uncut), 300 squares of flooring, 10,000 feet of quartering, drain pipes, stone in blocks and landings, stone paving, &c., and 6 panel doors, blocks and falls, large quantity of useful old materials removed from various contracts, chimney pieces, stained glass with vine, wrought-iron 15-in Cocker ball, suitable for greenhouse, 4-inch wheel, coal waggon, stoves, fine tallboys, half a ton of white lead, a useful brown mare and harness, old iron, firewood, and other effects.—May be viewed two days previous, and Catalogues had on the Premises; and per post of the Auctioneers, Kennington, S.

BROMFLEET, containing valuable beds of Red and White Clay for Bricks.—TO BE SOLD by AUCTION, by

MR. ROBERT BROWN, at BOWMAN'S HOTEL, Howden, on FRIDAY, the 13th day of NOVEMBER, 1863, at THREE o'clock in the Afternoon, subject to such conditions as shall be then produced, all that Moiety of the MANOR of BROMFLEET, containing about 1,200 acres; also all that well-built FARM-HOUSE, with convenient and suitable out-buildings; also all those several Closes and Parcels of Land, nearly opposite Station 178 miles 2 roods 38 perches, or thereabouts, 141 acres, 0 roods, 32 perches of which are rich pasture and meadow land, and 37 acres 2 roods 6 perches are arable, and which will be sold in lots. Part of the Estate adjoins the river Humber and the Market Weighton Canal. The Hull and Selby Railway runs through Broomfleet, and a market train stops there. The Staddlethorpe station is within three miles. Broomfleet adjoins Wallingfen, and there are valuable beds of clay in some of the lots, which adjoin the Market Weighton Canal and are between Wallingfen and the outlet into the Humber. Plans have been made in these lots. On boring in one lot to the depth of 26 feet 6 inches, the clay was found to be 17 feet 6 inches in thickness, and of a superior quality for red bricks; and 8 feet 6 inches in thickness, and of a superior quality, for white bricks. On boring in another lot to the depth of 28 feet 6 inches, the clay was found to be 24 feet in thickness, and of a superior quality for red bricks.—Mr. MARMADUKE SCUTT, one of the tenants, will show the Estate; and further particulars may be had on applying to SAMUEL VESSEY, Esq., Manor House, Halton, near Spilsby; Mr. ROBERT BROWN, of Howden, the Auctioneer; or at the Offices of Messrs. ENGLAND, SAXELBYE, & ROBERTS, Solicitors, Quay-street Chambers, Hull.

SALE by TENDER.—In consequence of the Directors of the Port of Portsmouth Floating Bridge Company having entered into a contract for the construction of a larger bridge, the original IRON FLOATING BRIDGE, with her Engines and Machinery, as she now lies at her moorings at Gosport, will be SOLD by TENDER. Tenders to be made in writing, addressed to the Clerk of the Company (of whom further particulars may be had on application), at his office, 26, Clarence-square, Gosport, and endorsed, "Tender for Purchase of Bridge," on or before the 11th NOVEMBER, 1863. The Directors do not bind themselves to accept the highest or any Tender.—By order of the Directors,
WILLIAM F. BURRELL, Clerk to the Company.

Portsmouth, 15th October, 1863.

FARNBOROUGH and ALDERSHOTT FREEHOLD and GROUND-RENT SOCIETY (Limited).—To BUILDERS and OTHERS.—Land on this Society's Estate at Farnborough, TO BE LET on building leases, or TO BE SOLD, upon advantageous terms.—Particulars may be had of the Architect, Mr. H. CURREY, 4, Lancaster-place, Strand, W.C.; or at the Offices of the Society, 18, New Bridge-street, Blackfriars.
EDWARD CHATFIELD, Managing Director.

KEYNSHAM BLUE LIAS LIME and CEMENT WORKS, SOMERSET.—TO BE SOLD by PRIVATE CONTRACT, by order of the Liquidator, the newly-formed FREEHOLD WORKS, occupying a site of 7a. 2r. 26p. or thereabouts. The existing kilns and ovens are capable of producing 70 to 80 tons of lime and 150 tons of cement weekly, both products having been approved by large contractors and eminent architects, the cement being used in many of the Government fortifications now in progress. The buildings are very substantial and the machinery of the best description, driven principally by water power, but with steam power as auxiliary. Coals are supplied to the works at a very low price, and the Great Western Railway Station is within a short distance.—For further particulars apply to Messrs. N. LINDO & SONS, Solicitors, 47a, Moorgate-street; of F. MAYNARD, Esq. Liquidator, 19, Bread street, Cheapside; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London.

FREEHOLD MILLS, with good water power, Keynsham, Somerset, well adapted for corn mills, oil mills, or paper mills, TO BE SOLD. Apply to Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

ELIGIBLE FREEHOLD BUILDING LAND, in KENT, within one mile of two stations on the North Kent Railway, and thirty minutes' ride thence to London Bridge and Charing-cross.—TO BE LET or SOLD, in large or small plots, from TEN to TWENTY ACRES of MEADOW LAND, on the high London road to Erith, admirably adapted for gentlemen's residences and villas, delightfully situated, with fine views of the country and River Thames, near a church, gravelly soil, good water and gas laid down. Ground rent moderate.—Apply to Mr. DAVENPORT, Land and Estate Agent, 35, Bucklersbury, City, E.C.

BATTERSEA.—Between Clapham and Battersea Park.—To BUILDERS and OTHERS.—LONG HEDGE FARM ESTATE TO BE LET on BUILDING LEASES direct from the Freeholders, at moderate ground rents. This property lies on either side of the Queen's-road extension, Battersea to Clapham, and immediately adjoining the Works of the London, Dover, and Chatham Railway Company, and the Wandsworth road and Station, where houses are in great demand. Roads and Sewers now forming. The Low-level Sewer in course of construction will effectually drain the whole of this district.—For plans and further particulars apply to Messrs. COVERDALE, LEE, COLLYER-BRISTOW, & WEIGHELL, Solicitors, 4, Bedford-row, W.C.; to Mr. CHARLES LEE, 20, Golden-square; or to Mr. R. J. WITHERS, 51, Doughty-street, W.C.

GROUND in BASINGHALL-STREET, now occupied by Houses and Warehouses, known as Nos. 20 and 21, Basinghall-street, TO BE LET by TENDER, for Building purposes. A plan of the ground and form of Tender may be obtained at the Offices of EDWARD DAWSON, Esq., No. 74, Lawrence Pountney-hill, Cannon-street; or of Messrs. HOLLINGSWORTH, TYERMAN, & GREEN, No. 24, Gresham-street, London; where Tenders, under seal, are to be delivered on or before the 1st DECEMBER next. The Owner does not bind himself to accept the highest or any Tender.

BUILDING LAND, Ealing.—TO BE LET, in plots, direct from the freeholder, for Villas.—This estate is within 100 yards of a station, at which more than fifty trains stop daily, and abutting on the high road. Its most important feature is, that on the completion of the Finsbury Extension of the Metropolitan Railway, this site will be actually within half an hour of the Bank of England. The subsoil is gravel, and the roads and sewers are made.—Particulars of Messrs. GRAY & BERRY, 108, Edgware-road; or Mr. JONES, Architect, Ealing, W.

ON the High Road between Staines and Feltham.—TO BE LET, with immediate possession, a first-class BRICKFIELD, which for the last five years has been most successfully worked by Mrs. Burchett & Son. The field contains a great quantity of unexhausted brick earth of first quality. Bricks are in great request in the neighbourhood, and it offers a first-rate opportunity to a man of business. The field abuts to the Staines and Wokingham Railway, to which there is no doubt a siding could be obtained. For further particulars, apply to Messrs. S. HEDGE & CO. Timber Merchants, Staines.

TO BE LET, by the Fishmongers' Company of London, on a Building Lease for Eighty Years, valuable BUILDING LAND, Newington, Surrey, within three minutes' walk of the Elephant and Castle. About Three-quarters of an Acre of Ground, situate on the east side of the Walworth road, having a frontage of 105 feet in Crown-row, and a frontage of 193 feet 6 inches in Prospect-row, with Eighteen Cottages in the rear of Williams-place. This property is well adapted for shops and business purposes, requiring space and ready access to the principal thoroughfares of the metropolis. TO BE LET by TENDER, in one or more lots, to suit the views of different parties wanting the ground. Apply to Mr. W. B. TOWSE, the Company's Clerk, Fishmongers' Hall, London Bridge; or to Mr. RICHARD SUTER, the Company's Surveyor, 28, Finsbury-place, E.C. where plans and particulars may be seen. The Tenders are to be sent in by TUESDAY, NOVEMBER 24th next, at NOON precisely.
Fishmongers' Hall, October 20, 1863.

TO BE LET, a GOOD DWELLING HOUSE, with Yard and large extensive Premises, suitable for a Timber-yard, Builders, Manufacturer, or others with workshops.—Inquire at the Duke of Clarence, Vauxhall-street, Upper Kennington-lane, Lambeth.

WATFORD, HERTS.—TO BE LET, on BUILDING LEASES, several PLOTS of FREEHOLD LAND, in the neighbourhood of the above town, in close proximity to the Station, and at the new road recently made.—For plans and particulars apply to Mr EDWARD H. BURNELL, Surveyor, 32, Bedford-row, London, W.C.

EXTENSIVE MANUFACTURING PREMISES, with STEAM POWER.—TO BE LET, one of the finest BUSINESS PREMISES in the City; containing large yard, with drying shed, piling stage, extensive Workshops, fitted up with useful saws, planing machines and tenoning machines for making doors, &c.; three vertical saw frames for cutting deal planks, &c. 26 inches deep; two powerful steam engines, with hot water tank; a well of good water, and joiners' benches, together with every convenience for a large trade: public and private offices, fitted with fire-proof safes, &c. For further particulars apply at the City Timber Yard, 20, Long-lane, City.

WANTED, FREEHOLD BUILDING LAND, within five miles of London or Westminster Bridge, in plots of from 1 to 30 acres.—Address, with particulars, to W. E. K. Office of "The Builder."

TO ENGINEERS, HOT-WATER APPARATUS MANUFACTURERS, IRONMONGERS, &c.—TO BE DISPOSED OF, by PRIVATE CONTRACT, in consequence of the death of the proprietor, the LEASE and GOODWILL, together with the STOCK, PLANT, &c. of a business established upwards of forty years, having a connexion with Government and several public establishments. As the capital required is small, it presents an eligible opportunity to any one desirous of entering into this branch of trade. Apply to Mr. A. S. EDMUNDS, Solicitor, 11, St. Bride's-avenue, Fleet-street.

NEAR PORTMAN SQUARE.—To Builders, House Decorators, and Others.—TO BE DISPOSED OF, an old established BUSINESS, together with the Lease of very eligible Premises, held at a low rent, and well situated in one of the best streets of the above locality.—For further particulars apply to Mr. ALDERTON, House Agent, 47, Park street, Grosvenor square, W.

TO STONE and MARBLE MASONS.—TO BE DISPOSED OF (in consequence of the death of the late proprietor), the old-established BUSINESS of a STONE and MARBLE MASON, carried on in Carr-street, Ipswich. Beside the yard, workshop, and machinery, there is a commodious dwelling-house, with convenient counting-house, and two extensive chapel residences, all in good repair. The premises may be held on lease, with immediate possession, at a moderate rent, or advantageously purchased. For particulars, apply to Mr. FARROW, Builder, Bury St. Edmond's; or to Mr. GEO. FARROW, Builder, Cement Works, Ipswich.

TO BUILDERS and OTHERS.—TO BE SOLD, a lucrative and respectable BUILDING BUSINESS, situate in a most thriving town in the county of Somerset. The above business has extensive connexions. The sole reason of the proprietor relinquishing it is the fact of his numerous other engagements preventing his personal superintendence of the branch. The stock and plant, which is light, to be taken off at a valuation in the usual way. With the business may be rented or purchased, if required, a capital and commodious dwelling house, with every convenience, workshops, storerooms, yards, offices, &c necessary for carrying on a first-class business. For further particulars apply to Mr. WM. CRUSE, House and Estate Agent, Glastonbury, Somerset.

TO SEWER-BUILDERS, BARROW-MAKERS, PACKING-CASE MAKERS, &c. &c.—30,000 to 40,000 feet super. 1-inch and 1½-inch ELM BOARD, suitable for the above trades, TO BE SOLD cheap.—Can be seen at GEO. WOOD'S Timber Yard, Farnham, Surrey, about 41 miles from Esher Station, in the South Western Railway.

London: Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, October 31, 1863.

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place; or by Mr. ALFRED HILL, 28, Tonbridge street, Euston road, W.C.

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NOTICE.

BROWN & GREEN'S KITCHEN RANGE

WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. There may be seen commodious fixtures for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

72–74, Bishopsgate street Within, November, 1863.

BILLING'S PATENTS.—

CHIMNEY TERMINALS, THROAT VALVES.

NOTICE TO ARCHITECTS The Proprietors of the late Mr Billing's Patents have secured the services of Mr. H. H. COLLINS, M.I.B.A., of No. 10, Pounds, E.C. as the Consulting Architect, to whom they refer for information as to their scientific application of the same—Estimates and the reduced prices may be obtained from the Manager, Mr. TYLER, 12, Abingdon street, Westminster, S.W.

CONTRACTS.

BOSHAM MUDLAND, SUSSEX.—RECLAMATION of MUDLAND.—ERECTION of SEA WALL To CONTRACTORS and Others.—Notice is hereby given, that it is intended to RECLAIM from the SEA all that tract of MUDLAND, known as BOSHAM CREEK, situate at Bosham, Sussex, and also to restore the Sea Wall or Embankment there situate The Works are to be performed in accordance with certain drawings and specifications which may be seen at my Office in and after the 10th NOVEMBER next, and under the direction of JAMES BRUNLEES, Esq of 5 Victoria street, Westminster, Civil Engineer Tenders to be sent to me on or before the 10th day of DECEMBER next.

R. G. RAPER, Chichester, Steward of the Manor and Hundred of Bosham, Sussex.

TO BUILDERS. — Persons desirous of CONTRACTING for the REPAIR and RE-FITTING of the PARISH CHURCH of TENTERDEN, in the County of Kent, are informed that the plans and specification may be seen on and after NOVEMBER 9th, by application to the Vicar at Tenterden, or the Architect, in London. Tenders to be delivered at the Office of the Architect, EWAN CHRISTIAN, 8a, Whitehall-place, London, S.W. on or before DECEMBER 8th, 1863. The Committee do not bind themselves to accept the lowest Tender, and good and sufficient security will be required for the due performance of the works.

CONTRACTS.

WAR DEPARTMENT CONTRACT.
NOTICE TO BUILDERS.

TENDERS are required for IMPROVING the DRAINAGE of the POWDER MAGAZINE ESTABLISHMENT at Marchwood, in the County of Hants.

Parties desiring to Tender for the execution of these works must leave their names at the Royal Engineer Office, Gosport, on or before the 9th NOVEMBER, 1863, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, 27th October, 1863.

WAR DEPARTMENT CONTRACT.
NOTICE to BUILDERS.

TENDERS are required for the CONSTRUCTION of a SEA WALL, PLATFORM, and BUILDINGS, for a double line of Magazine Railway, at Paddy's Hard, in the County of Hants.

Parties desiring to Tender for the execution of these Works must leave their names at the Royal Engineer Office, Gosport, on or before the 9th NOVEMBER, 1863, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, 27th October, 1863.

WEST HAM LOCAL BOARD of HEALTH.—To BUILDERS.—Notice is hereby given, that the Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS for the ERECTION of TWO COTTAGES, on their land at Canning Town, joining the new Sewage Outfall Works.—Conditions of Contract, forms of Tender, and any other information, may be obtained at the Office of the Local Surveyor, at Rokeby House, in Stratford. Tenders are to be delivered at the said Office, at Rokeby House, not later than MONDAY, the 9th NOVEMBER, and each of them must contain a ten pound Bank of England note, endorsed by the party Tendering, to be returned in the event either of the Tenders not being accepted, or on the completion of the contract or bond. By order of the Board,

CHARLES WILSON, Clerk.

Rokeby House, Stratford, E. October 21, 1863.

METROPOLITAN BOARD of WORKS.
THAMES EMBANKMENT, MIDDLESEX SIDE.—To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works, hereby give notice that they will meet at the Office of the Board, spring-gardens, S.W. on FRIDAY, the 27th day of NOVEMBER next, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION, COMPLETING, and MAINTAINING in REPAIR for Twelve calendar months, the following WORKS, that is to say:—A certain intended Embankment Wall, 1,370 feet in length, or thereabouts, with certain Landing-places, Steps about pier, sewers, subway, Storm outlets, and other works in connexion therewith, situate in and adjacent to the foreshore of the River Thames, on the Middlesex side, between Waterloo Bridge and the Eastern end of the Temple-gardens. Parties desiring to submit Tenders may, on and after WEDNESDAY, the 14th inst. upon payment of 10l. 10s. obtain plans, sections, specifications, form of Tender, and other particulars on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring gardens, between the hours of NINE a.m. and FOUR p.m. or on Saturdays between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 26th day of NOVEMBER next. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office before FOUR o'clock on the last-mentioned day, and no Tender will be received after that hour. The parties Tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two or more approved sureties for the due and satisfactory performance of the works

JOHN POLLARD, Clerk of the Board.

Spring-gardens, S.W. October 3, 1863.

SURVEY and VALUATION of the PARISH of RICKMANSWORTH, HERTS, for the purpose of PAROCHIAL ASSESSMENTS. The Board of Guardians of the Watford Union are desirous to receive TENDERS for a SURVEY and VALUATION (without making a Plan) of the HOUSES, MESSUAGES, LANDS, and other HEREDITAMENTS, liable to Poor Rates, in the said Parish of Rickmansworth, to be carefully and accurately made and fairly written in a paper book, with the several values and particulars of the several houses, buildings, and appurtenances, and each field, close, and parcel of land, and of such other hereditaments as aforesaid, distinguished and set forth therein, according to and as indicated in the form of a schedule to be had of me, such survey and valuation to be completed, and such book to be perfected and finally and securely bound and delivered, with proper indexes, to me on or before the 2nd of FEBRUARY, 1864, at the rate of Ten Pounds per Hundred "Rateable Value" (or Survey and Valuation of Rateable Value) "worth Parish," to be sent to me on or before TUESDAY, the 24th day of NOVEMBER next. The Tenders will be opened at a Board Meeting, to be held at the Watford Union Workhouse, on WEDNESDAY, the 25th day of NOVEMBER next, when parties tendering will be expected to attend the Board at ONE o'clock precisely. The Guardians will not pay any travelling or other expenses that any Tenderer may incur in attending to accept the lowest or any other Tender. References and testimonials may be transmitted with the Tenders.—Conditions for information to be addressed to me,

RICHARD PUGH, Solicitor, Watford,
Watford, Oct 28th, 1863. Clerk to the Board.

TO BUILDERS and CONTRACTORS.—TENDERS are required for ERECTING three HOUSES at Kingsland, N.E. Plans and particulars to be seen daily at the Office of the Architect, Mr. WILLIAM PAICE, 11, Great James-street, Bedford row.

CONTRACTS.

WEAR NAVIGATION and SUNDERLAND DOCK ACT, 1859.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a WEIR DOCK and INCLINES, and other Works connected therewith, at the South Docks, Sunderland, in conformity with drawings, specifications, and conditions, which may be seen, and further particulars obtained, upon application to THOMAS MEIK, Esq., C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after the 9th of NOVEMBER, 1863. Tenders, on printed forms, attached to specifications, will only be received, and enclosed under sealed covers, addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 18, Fawcett-street, Sunderland, not later than NOON on the 14th of DECEMBER, 1863. Copies of the specifications and conditions, with form of Tender, and of a bill of quantities, prepared for the convenience of contractors, can be had by parties tendering upon payment of 2l. 2s. The Commissioners do not bind themselves to accept the lowest or any Tender. By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, October 24, 1863.

WEAR NAVIGATION and SUNDERLAND DOCK ACT, 1859.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a GRAVING DOCK and other Works connected therewith, at the South Docks, Sunderland, in conformity with drawings, specification, and conditions, which may be seen, and further particulars obtained, upon application to THOMAS MEIK, Esq., C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after 9th NOVEMBER, 1863. Tenders, on printed forms, attached to specification, which only will be received, and enclosed under sealed covers, addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 18, Fawcett-street, Sunderland, not later than NOON, on the 14th DECEMBER, 1863. Copies of the Specification and Conditions, with form of Tender, and of a bill of quantities, prepared for the convenience of contractors, can be had by parties tendering, upon payment of 2l. 2s. The Commissioners do not bind themselves to accept the lowest or any Tender. By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, October 28, 1863.

WEAR NAVIGATION and SUNDERLAND DOCK ACT, 1859.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a WROUGHT-IRON CAISSON, for the Entrance of the intended Graving Dock, at the South Docks, Sunderland, in conformity with drawings, specification, and conditions, which may be seen, and further particulars obtained, upon application to THOMAS MEIK, Esq., C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after 9th NOVEMBER, 1863. Tenders, on printed forms, attached to specification, which only will be received, and enclosed under sealed covers, addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 18, Fawcett-street, Sunderland, not later than NOON, on the 14th DECEMBER, 1863. Copies of the Specification and Conditions, with Form of Tender, can be had by parties tendering, on payment of 2l. 2s. The Commissioners do not bind themselves to accept the lowest or any Tender. By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, October 28, 1863.

WEAR NAVIGATION and SUNDERLAND DOCK ACT, 1859.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a SEA WALL, or PIER, and other Works in connexion with the North-East Pier at the South Outlet of the South Docks, Sand Hills, in conformity with drawings, specification, and conditions, which may be seen further particulars obtained, upon application to THOMAS MEIK, Esq., C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after 9th NOVEMBER, 1863. Tenders, on printed forms, attached to specification, which only will be received, and inclosed under printed covers, addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 18, Fawcett-street, Sunderland, not later than NOON on the 14th DECEMBER, 1863. Copies of the specification and conditions, with form of Tender, and of a bill of quantities, prepared for the convenience of contractors, can be had by parties tendering upon payment of 2l. 2s. The Commissioners do not bind themselves to accept the lowest or any Tender. By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, October 28, 1863.

BUILDERS and CONTRACTORS desirous of TENDERING for the ERECTION of a STATION, &c. at the Suttton Junction of the Banstead and Epsom Downs Railways, may see the plans and specifications at the Offices of Mr CHARLES J. SE, St. George-street, Westminster. Tenders to be sent in before TWELVE o'clock on the 16th inst.

TO ROOF CONTRACTORS.—HAILEYBURY COLLEGE.—TENDERS are required for GALVANIZED IRON ROOFS to SIX TANKS COURTS, also for TIMBER ROOFS, ENGINE HOUSE, at Haileybury College. Hertford. Parties willing to Tender may see the plans, sections, and specification, and obtain forms of Tenders, at the Office of JOSIAH JOSEPH FAIRBANK, C.E. 2, Parliament-street, Westminster, S.W. on and after the 2nd of NOVEMBER until 10th NOVEMBER, from TWELVE to FOUR o'clock Tenders, endorsed "Tender for Roofs," addressed to the Rev. Henry Hatchett, Haileybury College, Hertford, to be sent in on the 12th NOVEMBER. The lowest or any Tender will not necessarily be accepted.

2, Parliament street, Westminster, November 1, 1863

TO TUCK POINTERS.—Immediate TENDERS are invited for the EXECUTION of a very large quantity of TUCK POINTING in the county of Suffolk. Tenders to be sent, stating the price per yard, including joints raked, clean, colour, flat point, red or white, and white tuck-point brickwork.—Address to Mr KENNALL, Builder, Bury St. Edmunds, with reference where similar works have been executed. N.B.—Ladders and scaffolding will be supplied.

[For remainder of Contracts see next Page.

CONTRACTS.

TORQUAY HOTEL COMPANY (Limited).
To BUILDERS.—The Directors of the Torquay Hotel Company (Limited) are willing to receive TENDERS for an HOTEL to be ERECTED at The Cape, Torquay, from the designs of the Architect, E. N. CLIFTON, 17, St. Helen's-place, Bishopsgate-street, London. Copies of the specification may be obtained of Messrs WILLIAMS & SCHOFIELD, 12, Montague street, Russell square, London, W.C. upon depositing with them the sum of five guineas, which will be returned after the delivery of the Tenders. The Directors do not bind themselves to accept the lowest Tender. The Directors will require the Builder whose Tender is accepted to give the names of two sureties, to be bound jointly with himself in the sum of 3,000l. for the due execution of the works.—By order of the Board.
E. N. CLIFTON, Architect of the Company.
17, St. Helen's-place, Bishopsgate-street, London,
7th October, 1863.

TO BUILDERS.—TENDERS are required for the ERECTION of a SCHOOL-ROOM and RESIDENCE at Amersham, Bucks. Plans and specification may be seen on application to G. ISAACSON, Esq. Solicitor, Amersham. The Committee do not pledge themselves to accept the lowest or any Tender.

TO CONTRACTORS.—TENDERS are required on the 13th instant, at FOUR o'clock, for the formation of a ROAD at Clapton, N.E. according to plans and specification to be seen in the interim at the Tyssen Amhurst Estate Offices, Church-street, Hackney, N.E. between the hours of TEN and FOUR daily.
5th November, 1863. CHESTER CHESTON, Jun. Surveyor.

CLIFTON HOTEL COMPANY (Limited).
To BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of the above Building can see the drawings at the Offices of Messrs. POPE & RINDON, Architects, Guildhall Chambers, Bristol. The Tenders to be delivered on or before FOUR o'clock p.m. on SATURDAY, NOVEMBER 14th, 1863. The lowest Tender not necessarily accepted.

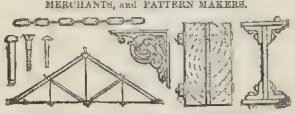
LONDON and NORTH WESTERN RAILWAY.—To CONTRACTORS and BUILDERS.—The Directors are desirous of receiving TENDERS for the ERECTION of STATION BUILDINGS on the Euston and Wigan Branch Railway at Worsley, Tyldesley, and Bedford.—Parties desirous of tendering may see the drawings and obtain statements of the quantities, upon application to Mr. WILLIAM BAKER, Boarding-house, Euston Station, on and after THURSDAY, the 12th inst. between the hours of TEN and FOUR o'clock. Tenders, addressed to the Secretary at this Office, to be sent in on or before WEDNESDAY, the 18th inst. at FOUR p.m. The Directors do not bind themselves to accept the Lowest Tender.—By order,
Euston Station, Nov. 4th, 1863. C. E. STEWART, Secretary.

TO BUILDERS.—Persons desirous of TENDERING for FINISHING the CARCASES of two COTTAGES near Norfolk Court, King Edward-road, South Hackney, will please send their card to Messrs. KELLY & DIXON, Auctioneers and Surveyors, 4, Hanway-street, Oxford street, W. where specifications can be had.

TO EXCAVATORS.—Persons desirous of tendering for EXCAVATIONS and CONCRETE in Milk-street, may obtain particulars of Messrs. H. & J. D. MATHEWS, Architects, 10, Cloak-lane, City. Tenders will be required on TUESDAY next.

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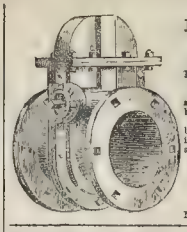


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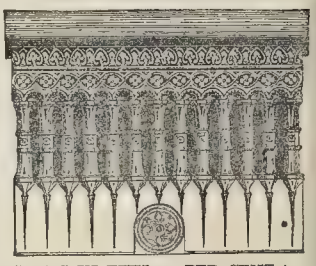
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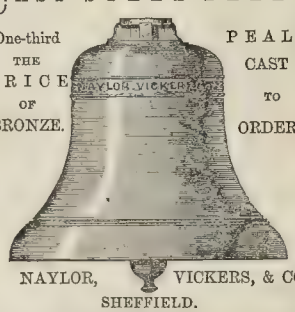
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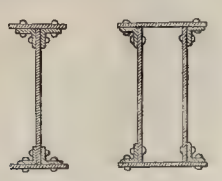
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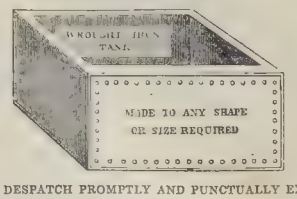
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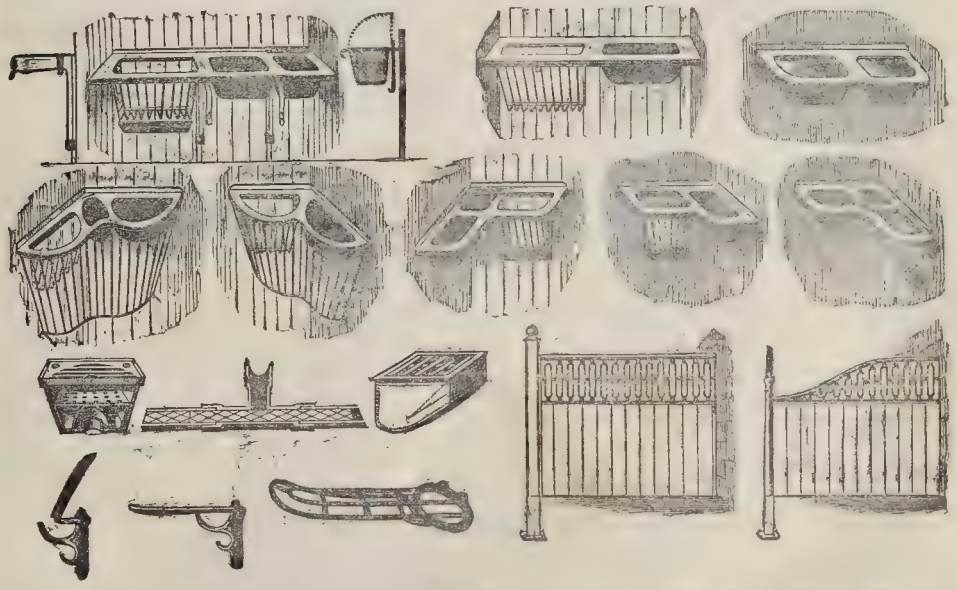
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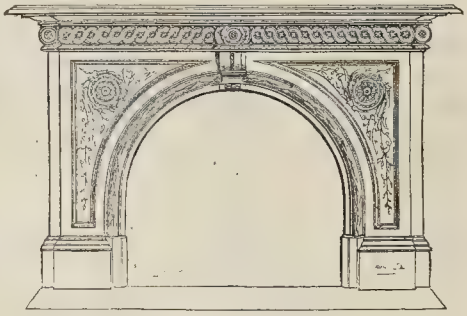
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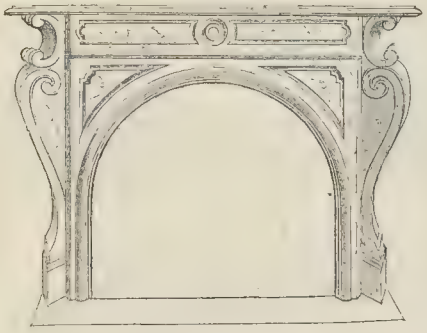
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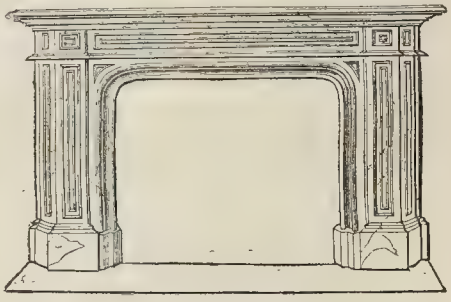
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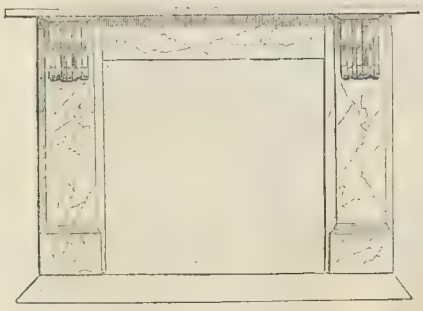
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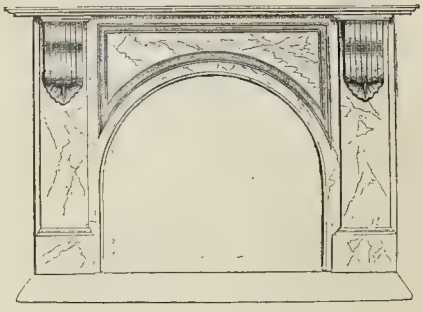












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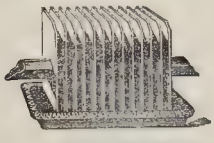


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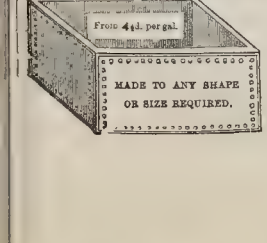


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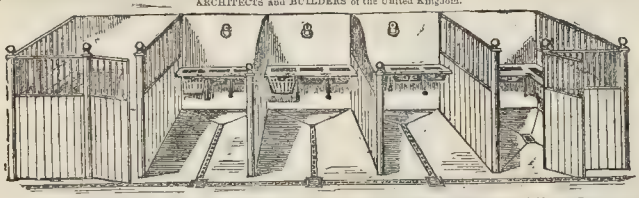
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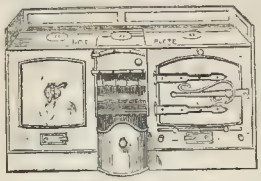
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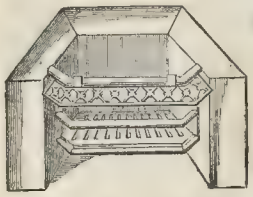
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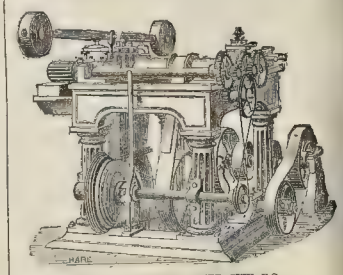
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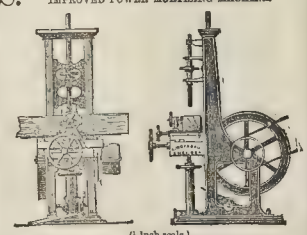


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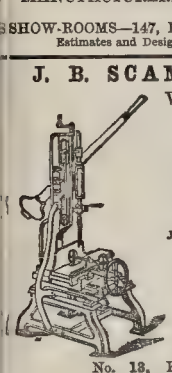
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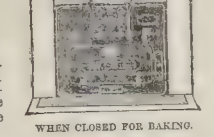
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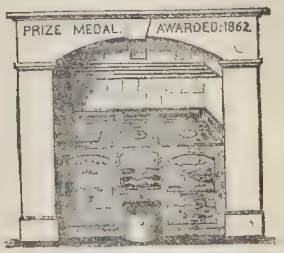
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Bricks, Sand, Drainpipes, Tiles, Slates, Fire Goods, Hair, Laths, Plain and Ornamental Paving, Chalk, Quarries (red, blue, and buff Terra-cotta Pots, Garden Edgings, &c. &c. Goods landed, wharfed, and carted. All kinds of the best description only.
W. C. H. respectfully requests a trial of the Plaster and Keene's Cement.

FREEN AND COMPANY,
MANUFACTURERS OF PATENT PORTLAND CEMENT, ROMAN CEMENT, AND PLASTER OF PARIS; CHALK LIME BURNERS, AND GREYSTONE LIME MERCHANTS.
MANUFACTORIES AND WHARFS:—
3, CANAL ROAD, KINGSLAND ROAD, and FRINDSBURY, on the MEDWAY, KENT.
FREEN'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequall'd Quality, Strength, and Colour, supplied to Shipowners at the Trade.
F. & CO.'S IMPROVED ROMAN CEMENT and PLASTER of PARIS
(coarse and fine), made at their Kingsland Works, and so universally known and approved of during the last half century, may be had (fresh ground daily) by Shipowners & the Trade.
F. & CO.'S CHALK LIME, made at their Kingsland Works, of excellent quality and well burnt, may be had fresh from the Kilns as drawn daily.
GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.
GREYSTONE LIME.
PLASTERERS' HAIR. LATHS.
PLAIN PAN RIDGE and FOOT TILES.
CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.
KEENE'S and MARTIN'S CEMENTS.
SAND, POTTERY WARE, &c. &c.
Orders and Letters addressed to 3, Canal-road, Kingsland; or to City Office, 79, King William-street, City, will receive immediate attention.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brick work, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND CEMENT WORKS,
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ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which it is applicable.—Orders received at Great Scotland-yard, Whitehall, and at the Works.

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CEMENT MANUFACTURERS,
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BRICK MAKERS,
SLATE, TILE, DRAIN PIPE, HAIR, LATH, and FIRE GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
ROMAN CEMENT made at the above works may be had fresh from the kilns daily, a great advantage to dealers and sewer contractors, especially in wet weather.
PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. This cement will carry more sand than any of the cements or stretch of which is now brought into the market and land at Portland.
PLASTER OF PARIS, both coarse and fine, of very superior quality all over.
LIME.—Grey Stone, Chalk, and Blue Lias Lime, well burnt, by the barge or by rail, and may be had fresh ground daily, by steam power, for delivery.
BRICKS from our fields in Kent, by the barge, stonegate, in the river or canals, or by cart from the above wharf, of good quality and well burnt.
A large Assortment of Glazed Stoneware Drain-pipes, Yorkshire Plain, Pedestal Paving Tiles, Hair, Laths, Chimney pots, &c. always kept in stock.
BRICK FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

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STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
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Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
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MINTON & CO.
Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

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PORTLAND CEMENT.—JAMES NESBIT is prepared to supply Portland Cement of superior quality and strength, at such a price as will enable Builders to use it for purposes from which the high price usually charged has hitherto prevented its being used. Terms on application.—Berney Arms, Portland Cement Works, Burgh Castle, Great Yarmouth.

HALKIN HYDRAULIC LIME, manufactured by LLOYD JONES & CO, Halkin Works, Holywell, N.W. the same as used in the construction of the Liverpool Docks, &c. and so long celebrated for its strong cementitious and consolidating powers for subaqueous masonry, can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground and in bags and barrels. The Limestone can be had in full cargoes; also L. J. & Co.'s Roman Cement, in barrels, which is of a very superior quality, and warranted pure. Orders to be accompanied by a banker's reference.—Apply to the Works; or to E. & W. AARON, Agents, 66, South John-street, Liverpool

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LIMEKILN-HILL, LIMEHOUSE, E.
Where it can be obtained, of the best quality:—
GREY STONE, CHALK, FLINT, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF, also GARDEN EDGINGS.
TERRA-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
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EDWIN HOLLICK,
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STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
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Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
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CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
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Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta, Chimney Pots, Trusses, Copings, &c.; Stoneware Drain pipes, &c.
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FOOT OF BATTERSEA BRIDGE, CHELSEA.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

ESTABLISHED1844.

JOHN BOARD & Co.'s CEMENT and LIAS LIME WORKS, Dunball (near Bridgwater); Office, Queen-street, Bridgwater. JOHN BOARD & Co. beg to inform Builders, Contractors, and Merchants that they continue to manufacture CEMENTS and BLUE LIAS LIME, at Dunball, near Bridgwater, and from increased appliances to their works, are enabled to execute orders for the same to almost any extent.

FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised. White Battens, 9d. 10s. per 120, 12 feet; Yellow ditto, 10d. ditto ditto. ½ Match Boarding, 1s. per square; ½ ditto, 16s. ditto. Venetian Blind Laths, 8s. 6d. per 100 feet super.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK, 30,500 feet in Plank and Board, sawn three years. E. BUTTERWORTH, ALUM STREET TIMBER YARD, MANCHESTER.

JOSEPH & ALFRED ROSLING beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Rankside, S.E.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the River Thames.—For further particulars apply to Messrs. J. & E. ENIGHTS, Lathwood Merchants, Importers, &c. Baltic Wharf, Pimlico, London, S.W. five minutes' walk from the Victoria Station.

TO SEWER-BUILDERS, BARROW-MAKERS, PACKING-CASE MAKERS, &c. &c.—30,000 to 40,000 feet super. 2-inch and 1-inch ELM BOARD, suitable for the above trades, TO BE SOLD Cheap.—Can be seen at GEO. WOOD'S Timber-yard, Fairmile, Cobham, Surrey, about 3½ miles from Esher Station, in the South Western Railway.

DRY WAINSCOT, At 6d. 7d. and 8d. per foot, at JOHN COUMBE'S, LADY LAKE'S GROVE, MILE-END GATE.

PRIZE MEDAL AWARDED AT THE INTERNATIONAL EXHIBITION, 1862.

THE ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAND MOSAIC TILES; also superior TESSELATED TILES, 3 inches and 4 inches square, hexagonal and octagonal, &c.; white, red, buff, black, blue, grey, &c. for churches, entrance-halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs; plinths, friezes, string courses, pilasters, &c.; also, white glazed tiles for baths, dairies, &c. They also beg to call attention to their NEW MANUFACTURE OF METALLINE TILES, 6 inches by 1 inch thick, from 63s. per 1,000, delivered to Nine Elms. Also, malt-kiln, ridge, gutter, and hip tiles, buff, glazed, and fire-bricks. Specimens may be seen, and every information obtained, at the Offices, No. 36, Parliament-street, S.W.; also at the Architectural Exhibition, 9, Conduit-street, Regent-street; Kensington Museum; the Fine Arts' Academy; and the Crystal Palace, Sydenham.—Address, The Architectural Pottery Company, 36, Parliament-street, S.W.; or Poole, Dorset.

TERRA COTTA and Fine STONEWARE POTTERY, warranted to stand Frost. JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and economised the manufacture of TERRA COTTA and Fine STONEWARE for ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to harmonize with Marble, Portland, and other Stones, and equal in hardness to Granite

A Medal at the International Exhibition was awarded, in Class 10, Section C, Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra Cotta."

Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusters, Capitals, Cresses, Terminals, Vases, Statues, Brackets, Consoles, Garden Edging, Guttering, six, nine, and twelve inch Paving Tiles, &c. &c.

Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

London Office, 377, Oxford-street, W.

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IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern book, designed by M. Dr. by Wyatt, es., together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby given, that the LONDON DEPOT for the WARE is REMOVED to No. 21, Wharf, Macclesfield street North, City road, Basin, N. Study, that the trade may, "TERRO-METALLIC," is the exclusive right of the Proprietor; and Srdly, that the "Reports of the Juries," page 261, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION. MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, Two First-class Medals at the Paris Exhibition, and Two Prize Medals at the International Exhibition of 1862.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. A New Illustrated Catalogue of which can be had at the Pimlico Slate Works 39 and 40, Upper Belgrave-place, Pimlico, S.W.

ACCIDENTS By ROAD, RIVER, or RAILWAY; Accidents in the Field, the Streets, or at Home, May be PROVIDED AGAINST by taking a POLICY of the RAILWAY PASSENGERS' ASSURANCE COMPANY, 64, CORNHILL, LONDON.

£140,000 have been already PAID as COMPENSATION for Accidents of all kinds.

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WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot houses, and Conservatories, on the most improved principles.

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A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

FLOORING, DEALS, MAHOGANY, &c.

½-inch White Flooring, good quality	11s. 6d. per square.
½-inch White Matched Lining	12s. 0d. ,,
½-inch ,, ,,	14s. 0d. ,,
2½-inch Yellow Battens	10l. 0s. per 120 of 12 feet.
2½-inch White Battens	9l. 0s. ,,
3 by 9 Yellow Deals	16l. 10s. ,,
Honduras Mahogany	0s. 6d. per foot super.

PRICE LISTS AND MOULDING PATTERNS, POST FREE.

J. TERRY & SON, 109, BOROUGH ROAD, S.E.

FLOORING! DEALS! MAHOGANY!

100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
5,000 Yellow Battens ..... from £10 10s. per 120
2,000 Spruce ditto ..... from £9 per 120

SPRUCE DEALS, 2s. 6d. each.
FIR TIMBER 55s. PER LOAD.
Scaffold Poles ..... 1½d. per foot

YELLOW DEALS, £16 PER 120.

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Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared)	11s. 6d. per square.	Laths, 28s. per Load.
Yellow Deals, sound and good	£18 0 0	per 120, or 3d. per foot.
Spruce Deals	15 0 0	,, 2½ ,,
Yellow Battens, excellent quality	10 10 0	,, 1½ ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

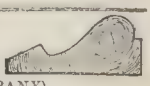
CARTER & WEBB, OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

DEAL AND TIMBER TRADE. CHARLES SLEE, (of the late Firm of SYKES, SONS, & SLEE), has in STOCK at his Premises, 10, HIGH STREET, WHITECHAPEL, A General Assortment of WOOD GOODS, comprising DRY YELLOW, SEASONED PINE, &c., with the usual thickness of prepared Floor Boards, and Matched Linings.

COUNTRY AND OTHER ORDERS PROMPTLY ATTENDED TO. PRICES TO SUIT ALL BUYERS.



MOULDING WORKS. SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY), BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES (LATE WATERLOW, DRAPER, & WEBB), MANUFACTURING JOINERS, 121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

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Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER, At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

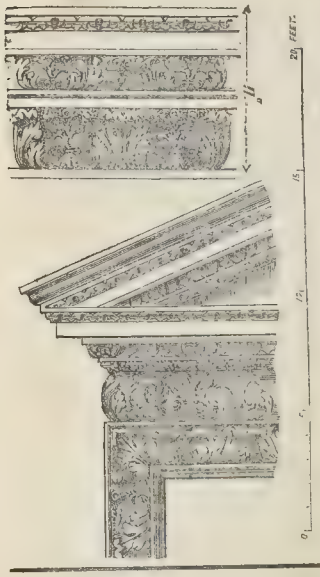
	Spruce.	White.	Yellow.
½ by 7 Flooring, from	12s.	12s. 6d.	14s. 6d. per square.
½ by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	16s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE, STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.





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FOR IMMEDIATE SALE,

WITHOUT RESERVE.

An opportunity rarely to be met with is given to any Gentleman desirous of possessing

GENUINE CARVINGS OF THE PERIOD OF INIGO JONES.

At the time of taking down

THE OLD MANSION, BOWYER HOUSE, CAMBERWELL,

The whole of the PANELLING, CARVING, &c. were purchased, together with TWO STAIRCASES, by the present Possessor, being aware of their value as GENUINE WORKS.

There are Twelve Rooms in various wood; viz.—Two in Oak, One in Cedar, One Cedar and Mahogany, and Seven in Deal, painted and grained. The Chief Staircase to First Floor and another upper Staircase with Panelled Dado Mouldings, Turned and Twisted Balusters, Moulded Nosings, &c.

In *Notes and Queries* for October, 1861, page 293, it is stated that a

FULL ACCOUNT of the

OLD MANSION OF THE BOWYER FAMILY AT CAMBERWELL,

With a Woodcut of the Building, before the death and removal of the old Cedar Tree in the fore-garden, traditionally known as "Queen Elizabeth's Tree," will be found in a work entitled, "Collections illustrative of the History, &c. of Camberwell," &c.

The Carved Portion of the Work is most elaborate, and boldly carried out; and as an illustration of this, the subjoined Woodcuts of Doorhead and Mouldings will convey the best idea.

As many Gentlemen might require one or two rooms without being obliged to purchase the whole, the Proprietor will dispose of separate rooms should any offer be made to that effect, although as an entire collection it is much more valuable.

Various Portions are fixed up for View at the

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And can be seen on application to the Executors of

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THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge.

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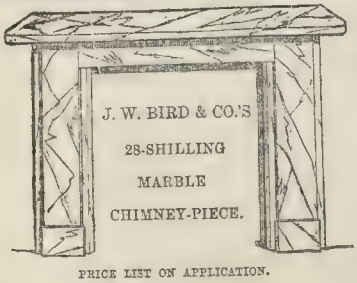
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The Builder.

VOL. XXI.—No. 1083.

'Going Along." The Brenner Pass. Botzen to Verona.



So now we are off to cross the stony barrier that shuts in Italy. The rail no longer serves, or, as we ought rather to say, does not *yet* serve, for at this end of the mountain range, as well as more westerly, where the boring of Mont Cenis is going on steadily, the locomotive will before long find a road. However, this is not the case at present, so horses must do the work. The luggage is securely packed behind, a bag or two kept out for the night to be spent in the pass, Courier Guelder takes the box, and away we go. There is a good statue over some water in the road leaving Innsbruck, the more noticeable as most of the art seen in Tyrol is abominable. The interior of the churches is decorated in the most tawdry manner, and the coloured decorations externally of buildings on the road are sufficiently atrocious to keep the taste of the people where it now is, at zero. We take the Brenner pass, not because it is the most beautiful, or that is not the case, but for the sake of expedition. Nevertheless, it is much finer and more interesting than might be supposed from printed descriptions; and as to the condition of the road, the statement in guide-books that this is bad certainly does not apply now. The road is finely made, with built-up faces, where needed, to the ledge on which it runs, and good bridges over the streams. It is well kept, too, and protected with upright stones at the side. The landscape at first comprises fir-clad hills, and occasional towers of old castles, with wild bare crags behind, high up in the sky. The clouds are hanging about the summits, reposing as they pass: there is snow in the crevices, and to these features must be added, as the accidents of the day, a lovely blue sky and powerful sun. Here and there are seen small mineral workings, the mouth covered, and *débris* around. After reaching Brenner, about 5,000 feet above the sea, the road begins to descend. The village of Gossensass, close to the remains of a robber castle, called, with "skinflint" suggestiveness, *Easpen Stein*, has a glacier at the back, with

——"Its rugged breakers, which put on
The aspect of a tumbling tempest's foam,
Frozen in a moment."

Sterzing, a small town built by the miners, is a conglomeration of ugly houses, having a pathway beneath some of them, as in Chester. And after passing Sterzing, the Sterzinger flat brings us to *Mittewald*, literally the middle of the wood, and thirty miles from Innsbruck, where, in a large, rambling, old-fashioned inn, "The Post," affording much better accommodation than its aspect on first entering promises, the night is passed. The situation of the Inn is beautiful. The Eisack tumbles headlong past the house, over boulders, singing day and night in a voice almost too loud for light sleepers:—

"For man may come, and man may go,
But I flow on for ever, for ever."

The mountains are piled up around, and at the foot of some of them, on the other side of the stream, stands picturesquely the village church.

Six o'clock in the morning sees us again on the road,—and a charming road, for the most part, it is. Not far on comes into sight the fortress built by the Emperor of Austria, and called Franzensveste, commanding the several passes. It is an ugly heap and a disfigurement of nature: a little skill could have made it an adornment. At Brixen, the vines, heretofore like raspberry bushes, short and upright, are trained over trellis: and the buildings themselves begin to show a change. Very likely our reader recollects all this; still he will not object to be reminded of the pleasant feelings which on his first visit southward these indications raised. If it happened some years ago, he found changes, too, in the costume; but these now-a-days are scarcely to be observed. Railways have ironed down the differences: a flower or a feather in the hat of the Tyrolese is the chief now observable. All the dresses seen between Hyde Park and the Prater might have come from the Minories for anything their appearance said to the contrary.

While we have been gossiping we have reached a part of the road, just before arriving at Klausen, which is impassable. A storm a few nights before had brought down immense quantities of stone, no unusual occurrence in these districts, obstructing the road and desolating the fields and vineyards around. A gang of men, however, had been at work for some time, and soon a way was opened: not so soon will fertility be restored to the land on which the stones lie broad-cast.

Between Klausen and Azwang the porphyritic mountains are magnificent in colour and form: masses fall into the river at their feet, increasing the picturesqueness of the scene, and the Castle of Confidence (Trostburg), is one of several large buildings crowning the heights. The valley of the Adige soon opens upon us; the view is more beautiful than ever, and then the carriage rattles into Botzen, a part of Tyrol, but the door of Italy.

The bells were ringing when we went into Botzen: the bells were ringing when we went out of it, and they rang for the most part all the time we were there. Oh! those bells! The most ardent of campanologists, even our reverend friend of Clyst St. George, could say nothing for them. No one could sing there:—

——"Most musical and solemn, bringing back the olden times,
With their strange, unearthly changes, rang the melancholy chimes."

It was simply bang, bang, bang; clang, clang, clang; from earliest light to latest night; and during storms, when people are nervous and frightened, they continue on from night *to* light, to increase the nervousness and murder sleep. A Nuisances Removal Act for Botzen would be incomplete if it did not include the bells; and there are many other towns abroad to which such an Act should be made to apply. On the night we arrived a storm that had threatened all day burst in unmitigated fury over the Pass, through which we had travelled dry and safe. The effect was wonderfully fine,—at a distance.

The church has a stone spire of open work, and vari-coloured tiles on the roof. The porches are of Italian-Gothic,—the columns of one of them rest on sculptured lions. Within, the aisles which are wide, are of the same height as the nave. The body of the church belongs apparently to the fourteenth century. There is a curiously carved pulpit, with groups in the panels: and the stones of the church, both internally and externally, exhibit many masons' marks, some of them peculiar: of these, however, in another place.

The railway from Botzen (or as the Italians call it, Bolzano) to Verona runs in the valley of the Adige, the river accompanying it all the way. Soon we get the limestone mountains, on each side, somewhat close together, increasing strikingly the effect of their height. At Lavis station is seen a monstrously long bridge, where the rollicking Avisio runs into the now quieter Adige. Trent is the first great place reached, where long sat a notable council. The Cathedral, parts dating from the eleventh century, churches, campanili, houses, and mulberry-trees, form a good view, the latter reminding the traveller of the extent of the silk trade hereabout. The mountains have lost their trees, but are partly covered with low shrubs and grass. Farther on, Roveredo and one or two remarkable defiles through the rocks might be spoken of; but we have been dallying, delighted, so long in the country, noting a castle now and then, and an occasional waterfall laughing out of the hill-side; here arid rocks, and there wild flowers, not very different from those at home,—

"Stars of the ground, gay daughters of the air,
That God hath given to make our rude world fair;"

that we must put on the steam, and get at once to *Verona* and works of man.

The approach to this city now is remarkably striking, the exigencies of a fortified town forcing the railroad to wind round it to find a spot where the entrance of the passengers may be permitted. Its very ancient walls, its modern forts, the noble amphitheatre, the numerous churches, San Zenone foremost amongst them, come into sight, and promise, what all who have been there will admit to be the case, that Verona, in which Shakspeare has given English men and women a vested interest, is full of all sorts of interest, whether to the soldier, the politician, the philanthropist, the architect, the antiquary, the poet; in short,—the human being. Never mind if you do go by mistake to the "*Colombe d'Or*," and it turn out dirty, or are even attacked unawares by insidious, insinuating mosquitoes, and find your hands and face powdered with itching spots. These will soon be things to be laughed at; but the memories brought away from Verona will last for ever, haunting the mind and lending grace to the after life. It leaves painful memories too, but even these are wholesome and may stir to good. Here more forcibly, perhaps, than elsewhere does a foreigner get to understand what is meant by Italy under Austrian domination. Fortifications of all kinds abound: on every hill around are detached forts; there are forty-two of them, many quite new; the population is called 60,000, and the Austrian soldiers in the neighbourhood number 40,000! Oh! Italy, cradle of art and song, poor chastened one, thou art indeed—

"The land of beauty and of bondage too;
The land of untold glory and of shame;
The land whence poets inspiration drew,
And dower'd with all their never-dying fame.
The land of deathless memories which inflame
The living with the hope of nobler days,
When Liberty again his home shall claim,
And win once more earth's benison and praise,
Once more be crown'd with green as well as faded bays."

Soon may this good time come! But we are getting beyond our tether. Let us glance at something of what Verona has of the past. The Amphitheatre is kept in very good condition, and remains more complete internally than the Coliseum in Rome. It was probably built shortly before Trajan reigned; say, broadly, 100 years after the birth of Christ, and has a diameter of 511 feet one way and 404 feet the other. The Coliseum is 615 feet one way and 510 feet the other. The central arena at Verona is 262 feet by 146 feet. *Arena*, it will be remembered, means sand; so that we see how the name came. There are forty-five ranges of seats, *gradini*; seventy-two doors, two larger entrances, and sixty-four *vomitoria*. The *gradini* are in parts, 2 feet 3 inches wide and 1 foot 3 inches in height; higher up, 1 foot 4 inches in height. The openings below show immense stones piled one upon another. One lintel is 12 feet long, 2 feet 6 inches wide, and 2 feet in height. The seats and greater part of the structure are of marble; the arched passage-ways, of brick and rubble-work. Much of the masonry would seem to have been rusticated originally.

At a certain height up, one of the steps is narrower than the others. Mr. Woods, in his "Letters of an Architect," points to this, and

says, "as it could not be used as a seat, the back of the seat immediately below would become a means of communication; it is uncertain, however, whether this is anything more than a bungling restoration." And in "Murray," where this observation is quoted, a note is added, signed P. C. H.—initials we ought to know—saying, "There can be little doubt that this narrow step is an imperfect restoration, as it is carried only half way round the amphitheatre." In air that melted and under a sun that baked, we paced the round of the amphitheatre at this level, and can say that, however it may have been when these gentlemen wrote, the narrow step continues all round, and has all the aspect of intention.

In the arena some of the underground arrangements have been cleared out, consisting of an open conduit, so to to speak, 9 feet 6 inches wide, and at this time about 8 feet deep, leading to a large square reservoir occupying about the centre of the area. The top coping of the conduit on each side has square notches cut in it at short regular distances, perhaps to receive movable joists and flooring to cover it when not needed. The use made of these underground arrangements is not clearly understood. They were perhaps connected with water sports,—being a small *naumachia*, in short. Externally, the amphitheatre was in three well-proportioned stories of pilasters, and arches between them, but four compartments only of the outer enclosure remain three stories in height.

In 1822, when the Emperor and other illustrious persons were present, 60,000 persons, it is stated, were in the amphitheatre; but, in this case, they must have stood. The sitting room is for about 22,000. On the occasion of our visit the travelling performers of a circus occupied a small part of the arena, while 1,000 or 1,500 soldiers and country people looked on at an equestrian drama, with "Cobourg" combats to music from Astley's, a few fireworks closing the business. The "poor" performers and their audience filled but a small portion of the vast area. Seated far off and high up, under the broad blue canopy of heaven alive with stars, so far that while the movements below could be seen, no noise could be heard, the scene was strangely exciting. Hadrian had looked on here; perhaps Trajan before him: and the place was even more a ruin than it is now when San Micheli and Paul Veronese, both born in the town, ran as boys about its precincts.

The Porta dei Borsari, built not later than A.D. 265, in the time of the Emperor Gallienus (if Gallienus did not find it there, and incorporate it in his work), is a good piece of construction though a poor work of art. It is of that character which culminated at Spalatro. Talking of construction, some will recall the bridge of the Old Castle, over the Adige here, which has an arch about 130 feet in span, and nearly 40 feet in height! The parapet has the forked brick battlements which are common in Verona. This bridge is attributed (doubtfully perhaps), to the year 1358, when the castle was completed by one of the Scaligers. The arches, three in number, are not pointed.

We must pause, however, awhile; and before attacking a few of the forty churches, get some ice in the Piazza des Signori, where once those Scaligers lived, dominant in Verona. Here, seated amidst the old-world vestiges still presented, we may recall how,—

> "Two households, both alike in dignity,
> In fair Verona, where we lay our scene,
> From ancient grudge break to new mutiny,
> Where civil blood makes civil hands unclean;"

and see in five minutes, amongst other things, how adroitly Shakspeare, who had never visited the place, but had a "mind's eye," like Hamlet, hits one of its characteristics when he makes the nurse exclaim with emphasis, "Peter, my fan;" for in Verona, when the weather is hot, as it was on the day to which we are referring, man, woman, and child, use the fluttering appliance. Each would gladly say, "Peter, take my fan, and go before."

THE LATE MR. J. B. BUNNING, ARCHITECT.

The profession is suffering a succession of severe losses. We deeply regret to have to announce that Mr. Bunning is now added to the list. He died about noon on Monday last, at his house, No. 6, Gloucester-terrace, in the Regent's Park. His state of health had been several times referred to in our pages, and mention made of the compelled cessation of his professional avocations. He never recovered after the first effects of his exertions in preparing for the reception of the future Princess of Wales, in March last: before the reception took place, he was laid prostrate; and he was never afterwards able to return to Guildhall. For some two or three years previously, his friends and assistants had noticed that his multifarious and arduous duties had produced an effect upon him in the commencement of a wasting or *atrophy* of his frame. On the occasion of the preparations referred to, when the weather was cold and wet, he exposed himself much. Fatigue was increased by the difficulty of forcing a passage through the crowds that for several days covered the footways and roadway of the bridge, and streamed to the centre of attraction through the thoroughfares from all parts of London. At last, on one occasion, although he had been conducted by the police, who were in attendance upon him, he was so knocked about in getting through the crowd, that he was exhausted; and he sank down, and had to be taken from the Mansion House to his home. It may be truly said that he has been a victim to the bad organization of the City offices in the surveying and architectural department, as well as to that defective arrangement for traffic, of the streets of the City, which he had made so many efforts to get improved. His health, it was thought, would be restored by a sojourn on the Continent: he therefore procured leave of absence; and he was taken to Italy, and thence to Switzerland. But circumstances of climate or available residence, rendered change in each of these cases necessary; and at length he had to be brought again homewards, resting awhile in Paris. Hemorrhage of the lungs, however, came on; and he was placed on a bed, and carried to London in September, but to die. He lingered, however, till Monday; and, in the interval, he sent in his resignation to the Common Council in the terms mentioned by us at the time. In place of granting him, after the form of his request, such a pension, in just and kind consideration of his services, as the Council might deem right, and for so long as it might please God to spare his life, the Court passed a resolution requesting him to continue to hold his appointment until arrangements could be made for the due execution of the duties, the object being apparently to preserve to him his emoluments as long as possible. That his professional value, as well as his private worth, were appreciated by those who knew him best, it is needless to assert. Relief from labour, or sympathy, however, were alike too late; and we have now to afford the tribute to his memory, of some record of his life and works. His intellect indeed remained till the last.

James Bunstone Bunning was born on the 6th of October, 1802; consequently at the time of his death, he had just entered upon the sixty-second year of his age. His place of birth is believed to have been London, where his father was a surveyor. Of his early education we can learn no more than that he left school at the age of thirteen or fourteen. There are somewhat opposite statements as to the manner of his professional education: but the sum of what he gained by the help of others was small; and he certainly lacked many advantages as to the training for the formation of that artist-architect that many of his efforts, and his tastes and predilections in recent years, have shown he would have become. He went to his father's office, but he seems also to have been articled to Mr. George Smith. To the latter, however, he was indebted only for some of that love of accuracy which he became possessed with. His father died in 1819, which would be when James Bunstone Bunning was seventeen years of age or thereabouts. He may have been with Mr. Smith after that; but he could not have remained many years; for, he began practice very early. He married in 1826, or when he was twenty-four years of age, and on the anniversary of his birth, Miss Basan, a lady born in the West Indies, of Italian parents. Her good qualities and admirable management contributed to his success. This lady survives, in sorrow. From that time, he worked at his profession with ardour and with increasing results, obtaining many public appointments, which he retained till compelled to abandon them on being elected, twenty years ago, to his latest office in the City of London, one which is thought to have been less productive, immediately, of emoluments, than the offices which he gave up.

About the period of his marriage, he succeeded by great exertions, in obtaining the district surveyorship of Bethnal-green. He had some good friends; and through one of these he got the surveyorship to the Foundling Hospital estates. We are unable to follow the course of his avocations for ten years; but somewhere about 1835 or 1836, his design for the City of London School was selected in a competition; and the building was erected under his superintendence, the school being opened on the 2nd of February, 1837. This was six years and a half previous to his appointment as City officer. The building is Gothic in style. He sent a design and model in the competition for the Houses of Parliament; and somewhat later, in the case of the Royal Exchange competition, he contributed a design. He had taken great interest in the Royal Humane Society, whose Receiving House in Hyde Park was erected from his drawings. In 1839, he was appointed Surveyor to the London Cemetery Company. He made considerable alterations in the Highgate Cemetery, and subsequently laid out the Nunhead Cemetery, Peckham Rye, with all the roads and approaches. About this time also, he was Surveyor to the Haberdashers' Company, and built the Five Bells Hotel, together with the Railway Tavern, Hatcham-terrace, Albert-terrace, and many streets of houses at New Cross, all on the Company's Estate. About 1840 to 1841, he was appointed surveyor to the London and County Bank. He erected and converted buildings for the branches of this bank, in many towns, Canterbury, Chatham, Brighton, and Leighton Buzzard being of the number. About the same time, he built the Bethnal-green Union Workhouse, which cost about 25,000*l*. Other appointments previously to his City office, were those of surveyor to the Thames Tunnel, and surveyor to the Victoria Life Office. Also he was architect to the Chelsea Waterworks. Amongst his latest works in his private capacity, were the towers, now cut down, and some part of the approaches, of the Hungerford Suspension Bridge, the work of the younger Brunel. He also built a mansion at Lellingstone Dayrell, in Buckinghamshire, and altered one in the Regent's Park for the late Baron Vaughan.

On the 23rd of September, 1843, Mr. Bunning was elected to the office of "Clerk of the City's Works," Mr. Tite having been also a candidate. He was the twenty-first holder of the office, to which the first appointment was that of Edward Stone on the 21st of April, 1477. In 1847, the designation of the head of the office was changed to that of Architect. During the twenty years that Mr. Bunning held the appointment, he was called upon to design and carry into effect several most important buildings, involving an aggregate expenditure of more than three-quarters of a million, and to design numerous street improvements costing a million; and for which he made all the surveys and valuations, besides performing for the Corporation numerous other important duties, such as the attendance upon committees, and the management of the surveying and valuation business of the City lands, the Bridge-House Estates, the Coal and Corn Exchange, and the Markets, as well as the supervision of the police stations. His completed buildings and street-improvements represent but a small part of the labour that he was called upon to furnish for the annual sum that the Corporation allowed their officer in lieu of per-centage.

In 1845, Mr. Bunning designed a street which was to pass from the west end of Cheapside to Carey-street. In 1846 he planned and surveyed the line of New Cannon-street. This street was completed and opened for traffic, after about eight years, that is in 1854. In connexion with the design was that of a new street from Earl-street to the Mansion House. That improvement was only commenced; but it may be said to be now about to be completed, slightly altered, in the design of the Metropolitan Board of Works. Victoria-street, Clerkenwell, which, if we remember rightly, had been commenced by a Government commission, was continued to Coppice-row, and opened in 1855. Mr. Bunning also carried into effect many minor but important street improvements. Such were the widening of Threadneedle-street in 1816, and the continuation of Tudor-street to Whitefriars Dock, in 1849.

In 1848, he made a design for raising the Holborn Valley. This project he again brought forward, in 1860, in connexion with central rail-

way-stations, which he proposed should occupy the sites around the valley, and also be in connexion with two new streets from the meat-market hereinafter mentioned, to Holborn. Last year, he made designs for considerable improvements in the streets about the Coal Exchange, involving a new street thence to the Monument, and he proposed to widen Thames-street from Billingsgate to St. Magnus' Church.

Giving the list of his buildings as nearly as we can, in their order:—The Coal Exchange was completed in 1849; and it was opened on the 30th of October. There is great merit in the internal planning, if not also decorative design, of the rotunda. This feature of the plan has an iron and glass dome, and is 60 feet in diameter. The idea of the painted decorations illustrative of coal and the trade, was excellent: the execution only, by Sang, was not up to the idea. Of the external details, Italian in character, and indeed of some of the internal, where the roll-mouldings take the form of ropes, the less now said the better. The City Prison, Holloway, of "Castellated Gothic" character, was completed at the beginning of October, 1852. It contains 436 cells for male and female prisoners. In 1853, Billingsgate Market in Lower Thames-street was completed; and it was opened on October the 9th. Much praise was given to it at the time. The front next the river, in Italian style, of red brick and stone, and with a central campanile, is hardly fitted to the site. In the following year, on the 28th of March, was opened the building of the Freemasons' Orphans' Schools, at Brixton. It is also Italian, and red brick and stone, and is one of Bunning's best works. His most important completed work, however, was the Metropolitan Cattle Market in Copenhagen Fields, which was opened by the late Prince Consort on the 15th of June, 1855. This work was the result of much study in all the details, as those of water-supply, paving, rails, and whatever else. The buildings are Italian. A clock-tower in the centre, rises from a duodecagonal building, and is in height 100 feet. Mr. Bunning had previously made a design for remodelling the market on the Smithfield site, or bordering it, at the time when the Corporation were desirous that the central position should be retained. This design was publicly exhibited in a model. Two courts of law in Guildhall were erected in 1856. About the year 1858, was commenced the entire reconstruction of the interior of Newgate gaol; the exterior, designed by George Dance in 1788, but since somewhat altered, being left untouched. The male side was first undertaken; and the work was continued on the female side in 1861. In 1858 were erected Rogers's Almshouses in Brixton, in "the Domestic Gothic style." In the same style is the Pauper Lunatic Asylum for the City, now in course of erection at Stone, in Kent.

Last year, Mr. Bunning made a design for an open timbered roof for Guildhall. The contract has been taken; but owing to the festivities of this year, it has not yet been carried into execution: the works are, however, in progress.

The Corporation have not during the period of Mr. Bunning's tenure of office, more than previously, effected the street improvements that would have been worthy of the City of London, and in which the special skill of their architect might have immensely assisted them. But they have had some "good intentions;" and in designs that were not carried into execution, Mr. Bunning had plenty of work upon him. In September, 1855, he made a design, often referred to, for lodging-houses for the poor, to be erected on a portion of the vacant land in Victoria-street, Farringdon-street. Then, in 1857, in May, followed a design for converting the west wing of Farringdon Market into baths and wash-houses; and, in October, one for converting it into a police station. In 1858, in November, there was a design for increasing the width of London Bridge by a projecting footway on each side, to be supported by iron cantilevers, so carrying the width of the bridge from 54 feet to 70 feet 6 inches. In February, 1860, there was a design for improving the library and front of Guildhall. Lastly, there was the design for the meat-market, Smithfield, in 1861, to be in connexion with the Metropolitan Railway.

In addition to his other labours, however, Mr. Bunning was each year required to design and superintend the fittings and decorations for the Lord Mayor's banquet in Guildhall, and for other entertainments, excepting only the recent one when the Prince and Princess of Wales visited the City, and when Mr. Crace was allowed to do more than had been permitted to his predecessor. Mr. Bunning's decorations, contradistinguished from these last, were essentially temporary, and merely an artistic mode of concealment of unsightly and dirty walls, in a building which it was expected would soon require more complete and permanent reparation and beautification. So considered, they rightly received the praise of the newspapers; and the praise was unfairly withdrawn by the misplaced contrasting tone to which the journals veered round when the present, rather permanent, decorations were shown to them. An artist who has once done his best, of course cannot change every year *ad infinitum*, even producing merely novelty; but independently of the fact that Mr. Bunning's decorations were correctly treated as temporary, they were made productive of some charming pieces of effect. Sculpture was often exceedingly well displayed, whether or not as it would have been by sculptors. Indeed, Mr. Bunning's aim at the introduction of sculpture as a feature in architecture, was one of the points to be noted in the estimation of him as an architect; and could he have been accorded more power of influence over art-work in the City generally, we ourselves know well, that he would have striven to place the City in the arrangement of open spaces, and the erection of fountains, in rivalry with new Paris. He always returned from the French capital with some results; and the writer of these lines has repeatedly come upon his traces in those establishments of practical decorators, and of dealers in art-manufactures, with which Paris abounds. Besides the decorations of the Lord Mayor's banquets, this class of his works included those of the entertainment at which her Majesty was present on the 9th of July, 1851, that to the Emperor and Empress of the French on the 19th of April, 1855, and one to the King of Sardinia on the 4th of December of the same year, and of the International Exhibition Ball on the 17th of July, 1862. The arrangement of Temple Bar on the occasion of the Wellington Funeral, which was very remarkable, should also be added. Fresh in every one's recollection, are the decorations of London Bridge, the Mansion House, and Temple Bar, and the seats along the south side of St. Paul's, works which have been already alluded to as leading to his untimely end. It is sufficient here to say that the effect of the decoration of London Bridge, has not, we believe, been surpassed on any recent occasion in any capital of Europe.

Referring to his taste for sculpture, it should be added that he effected something towards the object, long urged upon the Corporation and the City companies, of the expenditure of some of their resources on permanent works of high art, applied to the decoration of the halls. In 1851, he suggested that the sixteen niches in the Egyptian Hall of the Mansion House, should be filled with marble figures representing persons or events remarkable in our national history or poetry. He met with some opposition even at the hands of sculptors; and the average sum allotted, 700*l.* for each figure, was not deemed adequate. The suggestion has, however, to the credit of the Corporation and all parties, been carried out.

When Mr. Bunning was first elected to the office for the City, he received a salary of 1,500*l.* a year; but after paying out of that, expenses, the returns to him did not exceed 1,100*l.* The remuneration was raised, however, as his labours and expenses increased. The salary became in 1847, 2,000*l.*, giving him 1,400*l* net. In 1848 it was 2,500*l.*; and so it remained till 1851, when it was made 3,500*l.*; the expenses, however, having so much increased that the net return to him was only about 2,500*l.* He may have received an occasional sum of 100*l.* or so, on extraordinary occasions; but his total net receipts were lately estimated by him as having been 32,000*l.*, for which he had had to perform surveying and valuation work (above referred to as very heavy), and to design buildings costing a sum, the 5 per-centage upon which would alone have been 38,000*l.* at the least.

He had no children; and, though owing to the simplicity of his habits mainly, he has left a fair property after a most arduous and praiseworthy career. The great features of his character were his strict integrity, against which there has never been a suspicion of the reproach sometimes whispered, and unjustly often, against men in similar positions. He made himself independent by his labour; but his principles and rectitude would have kept him so: whilst he had the courtesy of manner which could be fostered by such circumstances and conditions.

As an artist, he was self-taught; and perhaps he may be said to have been lacking those special art acquirements, and that vigour as well as cultivation, which are never to be gained so well as in youth. But he was one who continued in these matters, always educating himself. Some of his works have details that should not be approved of; but those productions, in the art architectural, produced under an accumulation of far different work, are not due monuments of his real ability.

Mr. Bunning was a fellow of the Institute of British Architects, and of the Society of Antiquaries. As an antiquary, credit is due to him for the efforts he made successfully to preserve, below the Coal Exchange, the remains of a Roman building found there during the excavations. Mr. D. A. Cobbett, of Fenchurch-street,—to whom, as well as to Mr. Bunning's principal assistant of late, Mr. Allen, and to his old and influential friend Mr. William Hawes, we are indebted for some particulars,—was his pupil from the year 1836, and continued with him until the City appointment, and adds testimony to the fact of high qualifications from which he, the pupil, had the good fortune to be placed in the way of benefiting.

IMPERFECT REPRINTS OF WALPOLE'S "ANECDOTES OF PAINTING, &c."*

A VERY happy judgment was passed at my father's supper-table (the place at home where he most unbended to those he liked), and in my hearing, on Walpole and his well-known "Anecdotes." The talk, at the time to which I refer, touched on the state of "early art in England, and the light which the rolls and records of the kingdom throw on its condition." The late Thomas Hudson Turner (whose work on "Early Domestic Architecture in England," and on "The Queen Eleanor and other Early English Household Expenses," will preserve his name) was present: "Walpole" (said Turner) "though a pensioner of the Exchequer, had no acquaintance with the dusty records in the Tower; he drew his information entirely from Vertue's notes, which he dressed up admirably, I admit, and *white kid-glove handed*, before a bastard Gothic window looking on a lovely lawn, and the silver Thames, or on a table placed near a blazing fire, in a perfumed room; with, in short, all the advantages which literature requires, and wealth could at once supply."

This judgment I believe to be a true one. Never was the dry-as-dust industry of one man enriched and enlightened so happily, and turned by admirable art to so successful an end, as Walpole's purchase of Vertue's memoranda of Vertue's widow, was turned by the great letter-writer of Arlington-street and Strawberry-hill. Would that the MS. collections of Vertue's friend, William Oldys, made for the History of Dramatic Literature in England, had fallen into hands equally careful and equally competent. Would that Walpole could have been annotated by a Vertue!

I now resume my notes on the *two* editions of "Walpole's Anecdotes," published since Walpole's death, by Mr. Dallaway and Mr. Wornum.

Wornum, p. 18 (Lady Lucan). Mr. Wornum should have given us Walpole's own note (Works, iii., 400):—

"Margaret Smith, wife of Sir Charles Bingham, Baron Lucan, in Ireland."

Wornum, p. 19 (Lady Diana Beauclerc). Mr. Wornum should have given us Walpole's own note (Works, iii. 400):—

"Eldest daughter of Charles Spencer second Duke of Marlborough; married, first, to Frederic St. John Viscount Bolingbroke, and afterwards to Topham Beauclerc, only son of Lord Sidney Beauclerc."

Wornum, p. 19 (Mrs. Damer). Mr. Wornum should have given us Walpole's own note (Works, iii., 400):—

"Only child of General Henry Seymour, Commander-in-Chief in 1782 and 1783, by Lady Caroline Campbell, Countess Dowager of Ailesbury. Mrs. Damer was widow of John Damer, eldest son of Joseph, Lord Milton."

Wornum, p. 700. Mr. Wornum has left out the following very important note by Walpole to the italicized words in his author's text, "*The Art of creating Landscape*" (Works, iii., 438):—

"I have not been able to please myself with a single term that will express ground laid out on principles of natural picturesque beauty, in contradistinction to symmetrical gardens; but I am very clear that the designer of modern improvements in *landscape gardens* (as I will call them, for want of a happier appellation) ought by no means to be con-

* See p. 751, *ante*.

founded with the domestic called a *gardener*; especially as a word presents itself which will distinguish the different provinces of designing a garden, and of superintending it when laid out. The latter will remain *the* gardener, the projector I should propose to denominate a gardenist."

What do Sir Joseph Paxton and Dr. Lindley say to the suggestion in Walpole's *recovered* note?

Wornum, p. 704 (Nollekens). Mr. Wornum has overlooked the following note of his author (Works, iii., 441):—

"There is an account of the eldest son Joseph, the statuary, in the *European Magazine* of June, 1788, p. 387."

Wornum, p. 709 (Samuel Scott). Add to the words "London Bridge" and "Custom House," in the text, the following note, omitted by Mr. Wornum (Works, iii., 445):—

"In the collection of Sir Edward Walpole, who had several of the best works of Scott, Lambert, Oram, and Wootton."

Wornum, p. 745 (Hogarth). Add to Mr. Wornum's Walpole's Catalogue of Hogarth's Works the following ten articles printed by Walpole (Works, iii., 471), but omitted by Walpole's editor:—

75. Rich's Glory.
76. Beggar's Opera: doubtful.
77. Scene in an opera.
78. Orator Henley's Chapel: doubtful.
79. Æneas in a Storm: ditto.
80. Wolfe's Monument: very doubtful.
81. Heads from the Cartoons: ditto.
82. The Frolick; a small copy of "The Search-Night," No. 35.
83. Moses brought to Pharaoh's Daughter: by Hogarth and Luke Sullivan.
84. Boys drawing from Nature. Subscription-ticket to the above and "Paul before Felix;" a variation of No. 20.

Wornum, p. 746 ("Views taken by Mr. Scott"). Add the following, omitted both by Dallaway and Wornum. I follow Walpole's Works (iii. pp. 472-3):—

Additions since the former Edition.

Small arms of Gamble: etched by Mr. Ireland.
Ditto to "Biographical Anecdotes:" ditto.
Hogarth's Cot: ditto.
Hogarth's crest: by Livesay.
Copy of "The Rape of the Lock:" by Mr. Ireland.
Arms for the Foundling Hospital: Livesay.
Coat of arms with four terms; an impression from plate; different from No. 21, Class 1.
Subscription ticket intended for Sigismunda: doubtful.
Hogarth's portrait.
Thomas Pellet, M.D.: by Hall.
Bullock, the comedian: ditto.
Sir James Thornhill: by Mr. Ireland.
Hogarth: ditto.
Black Girl in Bed: copied by ditto.
Variation of Orator Henley christening a Child: ditto.
Shepherd Boy: ditto.
The Politician: by Sherwin.
A landscape: by Mr. Ireland.
Jack in an Office: ditto.
Characters who frequented Button's Coffee-house; four plates: ditto.
Woman's head, as Diana: ditto.
Head of a black girl: ditto.

Wornum, p. 749 (Zincke). To the passage in Walpole's text relating to the fine specimens of *Zincke* in the collection of the Princess Amelia, add the following note from Walpole's own text (Works, iii. 475):—

"There are ten,—two of the late king, as many of his queen; the Duke of Cumberland when a boy, and the five princesses his sisters. Princess Amelia had them newly set in two fine gilt frames and glasses, and gave them, in 1763, to the Prince of Wales."

To which I will add this query,—Where are they now? Zincke is so inimitable a master in little, that the whereabouts of his works deserves to be fully and accurately known.

Wornum, p. 875 (Cecill the engraver), note 4. For *one* of Cecil's works, read *none*.

Wornum, p. 876. For Robert *Walpole*, read Robert *Walker*. Dallaway (v. 73) has the same error.

Wornum, p. 877. A list of "Additional Portraits" is given as Walpole's, which it certainly is not.

Wornum, p. 879. Similar error twice over.

Wornum, p. 880. For "these volumes" in Mr. Wornum's text read "this work."

Ibid., note 3. Here is an evident correction of Walpole's text:—"He" [Peacham], says Walpole, "wrote a little tract with some honour:" humour is the reading in Mr. Wornum's, and no doubt correctly so.

Wornum, p. 884 to p. 895 ("Life of Hollar"). Mr. Dallaway's "Life of Hollar" is printed as Walpole's—and very unlike it is to Walpole's manner.

Wornum, p. 895. In "my first volume," says Wornum for Walpole; in "my second volume," says Dallaway for Walpole; in "the preceding volume," says Walpole for himself.

Wornum, p. 896. Text a mass of confusion—part Walpole, part Mr. William Smith, of Lisle-street and Southwick-crescent.

Wornum, p. 898 ("Reign of Charles the Second." There is no such division in Walpole.

Wornum, p. 901. "Additional portraits" is assigned to Walpole and is not in Walpole.

Wornum, pp. 916 and 917. More confusion and more omission.

Wornum, p. 930. A motto from Quintilian is prefixed ostentatiously to the memoir of Evelyn It is not in Walpole. This interference with an author's text is unpardonable.

Wornum, p. 930. Five top lines of text inserted.

Wornum, p. 941. More matter inserted improperly as text.

Wornum, pp. 942-3. Same observation.

Wornum, p. 953. Same observation.

Wornum, p. 962. Add to note 7, Walpole's own words (Works, iv., 100), "They have since been sold separately."

Wornum, p. 963. A valuable piece of information communicated by Mr. W. Smith, late of Lisle-street, stuck into text.

Wornum, p. 965 (Sir Nicholas Dorigny). Add to text "born in France" Walpole's additional words, "at Paris in 1657."

I will not quit (nor did I intend quitting) my *connected* notes on Walpole's "Anecdotes," more especially after what Mr. Wornum says by way of apology and defence of himself in the *Builder* of last week, without a few words in favour of the *good* service he has done his author. Some of Mr. Wornum's notes are both new and useful. He chose, however, to forget, when he penned his note, p. 552, about Grinling Gibbons's birthplace, that he was indebted for his information to the columns of the *Illustrated London News*, and the courtesy of the writer in the *News*, viz., myself.

PETER CUNNINGHAM.

FOREIGN ARCHITECTURAL AND FINE ART SERIALS.

Der Schweizer Holzstyl in seinin Cantonalen und Constructiven verschiedenheiten vergleichend dargestellt mit Holzbauten Deutschlands von Ernst Gladbach, Professor am Polytechnicum in Zürich. Lieferung II. Darmstadt: Carl Koehler's verlag. (Inhalt der Zweiten lieferung.) 1. Das Haase Hoefli bei Steinen, CII. 2. Heuschoppen und Stallung in Fluelen, DII. (obgleich dieses Blatt ein Farbendruck ist, so erhalten die verehrlichen subscribenten dasselbe doch nur als e infaches Blatt angerechnet.) 3. Das hohe Haus zu Wolfenschiessen, EII. 4. Dasselbe, EI 2. 5. Hauzthüre zu Hochsteig FII. ☞ Das Werk erschient in etwa 10—12 Lieferung zu 5 Tafeln mit Text und Holzschnitten.—1. Farbendruck zählt für 2 schwarze Tafeln. Preis jeder lieferung: Rthl. 2, oder fl. 3, 30 kr. rhl. ☞ Alljährlich sollen 3 bis 4 Lieferungen erscheinen. Die Subscribenten verpflichten sich zur Abrahme des Ganzen.

From Darmstadt, in this publication we have shown, with a master's hand, specimens of Mediæval Swiss design and construction. Unlike the work, by Professor Hochstetter, mentioned in our last, this is accompanied by descriptive letter-press, interspersed with details in woodcuts. Two numbers only have been published. The first contains four plates, besides the ornamental frontispiece; the second five plates.

As in our own country, the Swiss of the Middle Ages appear to have lavished the greatest care and labour and wealth upon the construction of their dwellings. The first plate gives a view of the Manneberger Muhle, near Effretikon, in the canton of Zurich. A bracketed strut in this house is inscribed "Ulric Bruzer, 1675." The plan of this edifice may be called a quadrangular oblong, with two entrances into it—the principal one of which is on the west side, the inferior on the north. There are two entrances into the basement, one of which is large enough to admit a vehicle; the second one is through the external flight of steps that leads to the landing in front of the main entrance. There are no overhanging galleries here; but the rich and picturesque appearance it possesses is produced by the half-timbered work of which it is built. The rooms forming, as it were, the dwelling-place of the inhabitants, are distinguished on the exterior from those used as offices by richly-carved panelling. On the lower stories eight windows are only divided from one another by pilasters; immediately above these are eight panels corresponding in size to the windows; and above these, with intermediate carved mouldings and panellings, five more windows, which, in their turn, are also surmounted by a tier of panelling. A vane rises from the apex of the roof. The half-timber work of the whole house is painted red, the shutters of offices green, the panelling just mentioned green picked out with white; the mouldings and elaborately perforated boards, boarding the outer jambs of the windows of the main part of the house, are coloured yellow. The details of the ornamentation are of an approximation to our Tudor style. This highly ornate fabric is surrounded by that invaluable adjunct to rural architecture—picturesque scenery. We cannot but admire how the requisite conditions entailed by this mountain scenery and its attendant storms and avalanches were secured by the old inhabitants. First a solid and high basement of stone placed them high and dry above the frequent snows and occasional floods, and the wide-spreading roof kept their houses sheltered from torrents from above. The peculiar construction that was inevitable from these requirements, instead of being hidden, was ornamented, as by our own Mediæval builders.

The beauty to be obtained by ornamented construction in this style is particularly evident in two plates, showing a view, plan, and sections of an ancient house near Fischenthal, known as Rossweisli. This is an oblong house, about twice the width of its length. The entrance divides it into two portions; that on the right hand, on entering, containing the superior apartments, that on the left the offices. An intersecting gable over the principal chambers breaks the otherwise long low-pitched roof. This gable has four crosses hanging from its double barge-boards, formed by horizontal and vertical pendants dovetailed together, and notched upon as many wall-plates, the extremities of which are supported from below by braces having their front edges waved. There are three tiers of windows, marking as many stories, beneath this gable. The lowest contains seven lights, grouped under two lintels. The lower half of each light is furnished with a wooden panel, with a lozenge-shaped moulding upon it, and the jambs are fringed with wavy and perforated boards. The lights of the second story consist of two window-openings, with two lights under each lintel. These are also furnished with the lozenge ornamented panelling and wavy boards fringing the jambs. The third story has four lights grouped under one lintel. These slightly project upon a corbel and blocks, and also possess the fringed and lozenged ornamentation uniform with those of the lower tiers. The basement here is exceptionally furnished with a double tier of window-panes placed close to the ground; but the ill effects likely to accrue from this arrangement are somewhat modified by the presence of strong flap shutters furnished with stout hooks, rings, and *fleur-de-lys* hinges. The glazing of the three upper tiers consists of small circles of glass in leadwork, having much the effect produced by the patterns made by the bottoms of bottles arranged in rows. The landing to the entrance to the house has wooden steps to it, and an ornamental wooden balcony paling.

"Das Hohe Haus zu Wolfenschiessen," 1586, the subject of a plate in the second number of this work, is another admirable specimen of ancient Swiss architecture. This is a two-storied house, having two extra stories in a high-pitched roof, the apex of which is hipped and surmounted with a spirelet. There are no galleries or balconies here; but the windows of every story are sheltered by louvre or penthouse roofing supported on corbelled open brackets. And besides the fringed window-jambs, further ornament is obtained over the lintels of the lower story by floriated pediments in low relief. The front of the parapet round the landing of the entrance has a dial upon it, and vines are trailed up this side of the house. Beneath one of the windows on the lower story are two shelves, with wavy-faced brackets, on which ten bee-hives and their busy tenants are basking. There are openings into the stone basement here; but they are small and deeply recessed: between two of them on the prin-

cipal front is a small niche with a figure in it, and a second sundial. A plate of a house near Steinen, on which vines are trailing and festooning, shows us the more modest abode of the peasant. This consists of but one story, with an attic in the apex of the roof. The roof in this is, like some of the examples mentioned, dotted with large, heavy boulder-stones, which are placed at regular intervals upon it, and kept from falling off by resting upon stout pins fixed through the tiles to the rafters.

Systematische Darstellung der Bau-Constructionen, fur den Unterricht an der Koniglischen Bau-Akademie zu Berlin. Bearbeitet von A. F. Fleischinger, königl. Geh. Ober-Baurath, und W. A. Becker, königl. Land-Baumeister. Die Mauerwerks- oder Stein-constructionen. Lieferung 13. Berlin: verlag von Ernst & Korn (Gropius'sche Buch- und Kunsthandlung), 1863.

In this work on building construction the publishers have arrived at their thirteenth number. This is devoted principally to wall construction in brickwork, plain and ornamental, and shows the modes of forming arched doorway and window entrances through the same. These are of all forms,—flat, low-crowned, segmental, semicircular, pointed, &c. The specimens of ornamental brick bridges would be of special use to railway engineers. There are numerous modes of ornamentation shown,—projecting key-stones and labels, perforations, rims, the introduction in courses of coloured bricks, stones, and marbles. This part is unaccompanied by descriptive letter-press; but all who have eyes can read its skilful delineations. There are caps of columns and springers shown in the Renaissance style, as well as an illustration of brick arcading. Some perforated parapets are worthy of reference.

Famiglie Celebri Italiane. Dispensa 147. Della Rovere di Savona, Duchi d'Urbino. Parte I. Tre tavole di testo con due stemmi colorati nella prima, quattro tavole d' incisioni con ritratti colorati e monumenti. Prezzo senz' obbligo d'associazione Italiane 18 lire. Fronti per la stampa Farnesi di Parma, parte III. Della Rovere parte II. ed ultima. Condulmero di Venezia,—Camposampiero della Marca di Trevigi. Guidi di Romagna. Milano, tipografia delle Famiglie celebri Italiane, 1863. Si vende in Milano presso l' Editore nella contrada del Cappuccio, No. 16, e dai principali librai d' Italia, ed in Londra presso C. Federico Molini, No. 17, King William-street, e presso Bernard Quaritch, No. 15, Piccadilly.

We have, in this first number of this large folio-sized serial, the first six of a series of portraits of celebrated Italian families. They are executed with all the miniature-painter's art. The outlines are first printed as a copper engraving, and then the figure is painted by hand, leaving the backgrounds as plain copper-plates. The subjects chosen for reproduction are Giovanni della Rovere e Giovanna da Montefeltro his wife. These figures are beautifully coloured: they stand in one picture with their arms folded across their breasts, on either side of an uncoloured representation of the Virgin and Child. The faces are highly finished. The first Duke and Duchess d'Urbino, Francesco Maria and Eleonora Gonzaga, are represented as painted by Tiziano Vecellio da Candore. The originals of these pictures are preserved in the statue gallery in Florence. In this case the figures occupy the centre of their respective canvas, standing out from the pale line backgrounds with much vigour and brilliancy. The same statue gallery yields another subject, Francesco Maria II., Ducad'Urbino. This was painted by Federico Barrocci d'Urbino. He is clad in armour, and has an orange-coloured scarf tied over his breast. A sixth notability, Guidubaldo II., another Duke d'Urbino, forms a sombre contrast to the bright hues of this gallant-looking personage. He is attired in a short brown cloak, pierced with armholes, through which are inserted blue sleeves. The faces and hands of every figure are most painstakingly painted. Not the less important part of the work, however, consists of the letter-press, which furnishes the genealogies and heraldry of these prominent figures in Mediæval Italian history. There are, also, copperplate engravings of the bronze sepulchral monument of Sisto IV., preserved in the Vatican; and of the statue of Francesco Maria della Rovere, Duca d'Urbino, existing in the courtyard of the ducal palace in Venice. The heraldic devices are given in their colours proper. The whole will comprise the pedigrees, portraits, monuments, heraldry, &c., of extinct and living Italian families of distiction,—*famiglie celebri Italiane.* A table is appended of ninety-six of those thus destined to figure in modern European illustrated literature. It is, perhaps, needless to say that in it will be found the names of many already familiar to the art-loving and reading portion of the English public,—Sforza, Castiglioni, Visconti, Pico, Medici, Piccolomini, Foscari, Cesarini, Rossi, Gonzaga, Boncompagni, Colonna, Aldobrandini, Strozzi, Orsini, Massimo, Manfredi, Farnese, Ariosto, Torelli, Savoja, Acquaviva, Pallavicino, Adorno, Buonarotti, &c. &c. Each family will be given separately. The prices will vary according to the importance of the family, ranging from 6 lire Italiane for the family of Rossi, to 95 lire for the Medici, in seven parts, the whole amounting to 1,837 lire.

Châteaux de la Renaissance. Monographie du Palais de Fontainebleau. Dessinée et gravée par Rodolphe Pfnor; accompagnée d'un Texte Historique et Descriptif, par M. Champollion-Figeac, Bibliothécaire au Palais Impérial de Fontainebleau, Chevalier de la Légion d'Honneur, etc. Livraisons 68, 69, 70, 71. Paris: A. Morel et Cie., Libraires-éditeurs, 18, Rue Vivienne. 1863.

This is a grand work, in tone and tint, like to the ponderous tan-coloured volumes of the beginning of the last century, when price was not taken into consideration. The monograph of the Palace of Fontainebleau will be completed in seventy-five numbers, but should this quantity be exceeded, the extra parts will be furnished gratuitously to subscribers. The work as a whole forms a set of monographs relating to the most celebrated habitations of kings and nobles, in the fourteenth, fifteenth, and sixteenth centuries. One volume has already been issued: this relates to German Renaissance. The *livraison* before us contains five large plates, showing the Court of the White Horse (*le Cour du Cheval Blanc*), with its pavilions, clock towers, *escaliers*, and Trinity chapel; a longitudinal section of the last-mentioned chapel; a specimen of the mosaic pavement from the nave; a carved panel from the gallery of Francis I.; and the third picture on the left on entering the same gallery, representing *L'Embrasement de Catane.* They conjure up all the romance of the French court under the *ancien régime*; and the shade of the first Napoleon, who passed many of his eventful days at Fontainebleau. Produced as much for archæologists and artists as for the general public, a superior excellence pervades the work, an excellence we are happy to acknowledge and point out. The plates are all drawn by several, MM. Lecocq & J. Penel, Bury & Massard, J. de Garron, Oberlies, Obermayer, &c. We would especially commend the execution of the chromo-lithographic plate of the Mosaic *dallage* in the nave of the chapel of the Trinity: the result is marble-like.

Palais Châteaux, Hôtels, et Maisons de France, de Quinzième au Dix-huitième Siècle. Par Claude Sauvageot, Dessinateur et Graveur. Paris, A. Morel et Cie., Éditeurs, 13, Rue Bonaparte, en face de l'École des Beaux Arts. Livraisons 34, 35.

The palaces, castles, hotels, and houses of France from the fifteenth to the eighteenth century, are prolific subjects to illustrate: they are undertaken by M. Claude Sauvageot, draughtsman and engraver. The 34th and 35th parts present us with six plates engraved in the most careful, neatest, and most tasteful French style. Like as a lady's drawing-room dress appears when fresh with the "bloom" upon it from the court milliner, Claude Sauvageot's engravings are spotlessly crisp and sparkling. A charming elevation of the "Façade méridionale sur la cour" of the Château du Pailly (Département de la Haute Marne), forms the first plate in the current part of his work, and the remaining five subjects comprise the chimney-piece, sculptured as the chimney-pieces of the period are, usually, up to the rafters of the ceiling, of the guard's hall in the Hôtel de Vogüé (at Dijon); arcade forming the principal part of the Château Tanlay (Département de l'Yonne); plans of a manor-house, and of the principal entrance to a castle; and plans and elevation of a large brick chimney-stack from the Château of François I. (at St. Germain-en-Laye).

La Guienne Militaire: Histoire et Description des Villes Fortifiées, Forteresses, et Châteaux, construits dans le Pays qui constitue actuellement le Département de la Gironde pendant la Domination Anglaise. Par Léo Drouyn, Membre de l'Académie Impériale des Sciences, Belles Lettres et Arts de Bordeaux; de la Société Impériale des Antiquaires de France, de l'Institut des Provinces, Inspecteur de la Société Française d'Archæologie, Professeur de Dessin au Lycée Impérial de Bordeaux. On s'abonne à Bordeaux chez l'Auteur, Rue Sainte-Sophie, 30, au Coin de la Rue de Gasc; et chez les principaux Libraires. À Paris, chez Didron; Rue Saint-Dominique-Saint-Germain; Derache, Rue du Bouloy, 7. Livraison 39. 1863.

This quarto is to consist of 50 *livraisons*, at three francs a number: about half the work is already published. The present number relates to the Châteaux de Semignan, Roque nègre, Naugent, Landiras, Castera, and Castelnau-de-Cernés. The three plates, Castelnau-de-Cernés, Agassac, and Le Castera, are more artistically pretty than practically useful for architectural purposes; but the text is interspersed with plans and a few details. Seeing that this part of France was long subject to England, we need not be surprised at the English air of some of the crumbling ruins. Le Castera, in particular, might be the remains of an Edwardian pile in the heart of England. As in our own country, many of these interesting remains are used as farm-houses. It is an attractive subject; and it is all the more pleasant to know that the day has come when a Frenchman can generously own and devote an entire work to buildings anciently under the *domination Anglaise.*

Villas, Maisons de Ville et de Campagne, composées sur les Motifs des Habitations de Paris Moderne, dans les Styles des XVIe, XVIIe, XVIIIe, et XIXe Siècles, et sur un Choix des Maisons les plus remarquables de l'Etranger. Par M. Léon Isabey, Architecte, Inspecteur des Palais Impériaux; et M. Leblan, Architecte-dessinateur. Chromo-lithgraphiées par MM. Allard, Aubrun, Bachelier, Chenneveau, Walter, etc. Cinquante-quatre Planches, Chromo-lithographiées, petit in-folio, formant 18 Livraisons de 3 Planches, suivies d'un Texte explicatif. Prix 70 francs. Paris: Libraire d'Architecture et des Beaux-Arts, A. Lévy, 29, Rue de Seine. Liv. 12. 1863.

Each number of this folio contains, as indicated on its title-page, three plates, representing plans, elevations, and sections of small French villas, such as are now gradually surrounding Paris. They are rather more fanciful than those that are hemming in old London. The spouting terminates in dolphins' heads, whose lithe length is twisted round each pipe for some 4 or 5 feet. There are two doors in the principal fronts,—one entered from the ground in the exact centre of the building; the other, which is exactly over it, entered from an outer landing, which is gained by a double flight of steps rising from both extremities of the house. The material for one structure out of the three is brick, in bands; the second, brick, in bands of colour, surmounted by a timber story and a Chinese tower; the third, banded bricks for the lower story, and timber and plaster for the upper. The chimney-stacks look dangerously high and fragile. The external window-shutter so common in Paris is abandoned, and a perforated plank or panel fixed to the lower half of the windows of the ground-floor of one design, and an ornamental ironwork placed before the lower half of the ground-floor windows of another. The third is unprotected by any device beyond a fringed window-cill, of a theatrical appearance. Villa architecture for small families is yet undeveloped in Paris. The demand for small private houses will, however, be sure to cause this branch to be better explored. The designs are thoroughly fantastic and thoroughly French, much as though intended to form the scenic background of a masquerade.

Norddeutschlands Backstein-Bau im Mittel alter. Von A. Essenwein, Architect. Hinterlegt bei Grossh. Badischem Ministerium des Innern. Eigenthum des Verfallers in commission bei J. Verth in Carlsruhe.

This is another costly work, printing in the German language. It contains views, sections, and details, both in plates and woodcuts, of ancient brick buildings in the northern lands. The number before us contains eighteen plates. Among the most noticeable of these are Romanische Kirchen, the Cathedral of Schwerin, the Marien Kirche in Prenzlau, Dobberan church, a sheet of spires, the gorgeously enriched gable of Nicolai Kirche in Wismar; all in out-of-the-way places not visited by ordinary tourists. The portals of perforated lattice-work to the church of St. Stephen in Tangermünde, and of the Gerichtshause in Brandenbourg, are wonders of delicate workmanship. The letter-press treats of doors, portals, pillars, arches, friezes, cornices, buttresses, piers, chimney-stacks with peculiar tops to prevent nuisances from smoke, gables, towers, and

spires. In this, as in most of the serials under notice, there are many details that would be suggestive to English architects. This work, as well as that entitled a *Systematical Representation of Building Construction* (*Systematische Darstellung der Bau-Constructionem*), published at Berlin, would be, perhaps, most serviceable to London architects and builders, amongst whom ornamental brickwork is now gaining favour. To architects in such of our provinces where bricks are the principal building materials, the information here shown, both in the form of ancient examples and modern designs, would also be well worth its price. The designs for perforated brickwork introduced in the spandrels and pediments of doorways, as in the examples entitled *Portal am nord lichen Querschiff der Stefans Kirche zu Tangerminde & Portal am Gerichtshause zu Brandenburg*, should be studied, too, by our manufacturers of terra cotta.

Décorations Intérieures et Meubles des Epoques Louis XIII. et Louis XIV., reproduits d'après les Compositions de Crispin de Passe, Paul Vredeman de Vries, Sebastien Serlius, Berain, Jean Marot, De Bross, etc. etc., et relevés sur des Monuments de ces Deux Epoques. 100 Planches, gravées à l'eau forte, par Adams. Livraisons 17, 18. Paris: A. Morel et Cie., Libraires-éditeurs, 18, Rue Vivienne. 1862.

The reproductions of the works of the sixteenth and seventeenth century masters depicted are not very choice. They are but heavy examples of a heavy style. It is not every one who cares for a table too ponderous to be moved except by half-a-dozen men at a time; nor for eccentric chimney-pieces, altar-pieces, mural tablets, looking-glass frames, &c., that have no particular merit beyond their eccentricity, if indeed that should be allowed to be any. In France, there are many finer illustrations of the style that might show it off to more advantage. The specimens selected might be paired off with any of our very late debased Jacobean furniture and fittings. There is no descriptive letterpress. It is therefore puzzling to assign a purpose for some of them. It would be difficult, for instance, to assign a name to an object designed by Crispin de Passe, which might be either a bookcase, the front of a confessional, or the high dado of a hall, or neither.

Meubles, Religieux et Civils, conservés dans les Principaux Monuments et Musées de l'Europe, au Choix de Reproductions des plus remarquables Spécimens exécutés pendant le Cours du Moyen Age, de la Renaissance, et des Règnes de Louis XIII., Louis XIV., Louis XV., et Louis XVI.; précédé d'un Texte explicatif des Planches, et suivi d'une Table de Classement. Paris: à la Libraire d'Architecture de A. Lévy, Fils, Rue de Seine, 29; et chez tous les Libraires et Marchands d'Estampes de Paris, des Départements, et de l'Étranger. Livraisons 33, 34. Aout, 1863.

How many times, we would ask, is a justifiable limit to the extent to which readers may be dosed with the same illustration in different works? Here we have once more before us the well-known and often quoted *bahut en bois sculpté* from the Musée d'Epinal. With the exception of this chest, and a stone altar-piece from the church of St. Zenon Avérone, the chairs, tables, beds, credences, given in this number, are in the Renaissance style, designed by De Vriesse. There is no descriptive text.

Sculptures Décoratives: Motifs d'Ornementation, recueillis en France, Allemagne, Italie, et Espagne, dans les plus beaux Monuments élevés du XIIe. au XVIe. Siècle. Avec un Texte par Daniel Ramée, Architecte. Mode et Conditions de la Publication:—Cet Ouvrage sera composée de 150 Planches Lithographiées, de format grand in —4to., tirées sur papier de Chine, et divisées en 50 Livraisons de 3 Planches chacune, du prix de 1 fr. 75 cent. Paris: À la Libraire d'Architecture de A. Levy, Rue de Seine, No. 29; et chez tous les Libraires et Marchands d'Estampes de Paris, des Départements, et de l'Étranger. Livraisons 3, 4. Juin, 1863.

This is a neatly got up work, intended to illustrate the decorative sculptures as motives of ornamentation, chosen from the finest monuments from the twelfth to the sixteenth century, in France, Germany, Italy, and Spain. To all ordinary appearances, the six plates of subjects which form the third and fourth parts of this new serial are prepared originally from the subjects themselves for this work; but we do not hesitate to assert that M. Daniel Ramée, architecte, has largely composed his illustrations from photographs. M. Chapuy, the draughtsman, and M. Benoist, lithographer, have performed their parts with the usual French neatness; but they appear to have simply reduced or copied photographic views and details, without transferring the minute constructive features of a building as faithfully rendered by a photograph, and without acknowledging their obligation to the art. This is particularly noticeable in the views of the Porte della Carta, Palais Ducal à Venise, the Portique de St. Zenon à Verone, and the Porte Septentiale de St. Michel de Pavie, where there are unmistakeable evidences that neither draughtsman, lithographer, nor architect-director, can have personally inspected the subjects they profess to delineate.

Alterthumer und Kunstdenkmale des Erlauchten Hauses Hohenzollern. Herausgegeben von Rudolf Graf Stillfried Alcantara. Band II., Heft 3 (des ganzen Werkes heft 9). Berlin: 1863. Verlag von Ernst & Korn, Gropius'sche Buch a Kunsthandlung.

To ordinary English readers the plates of this work would be sufficient for its price. The portrait of Sophia von Polen, spouse of Friedrichs des Altern, Markgrafen von Brandenburg and her eight daughters, clad in scarlet with black and gold borders to their robes, is a fine specimen of the perfection to which the art of chromo-lithography has been brought. The Lady Sophia is arrayed in a robe of tissue of gold, diapered with a pattern in black and edged with ermine, and is depicted in a kneeling attitude, praying from a book resting upon a *priedieu*. The brilliancy of the colouring and exquisite finish of the faces are admirable. Nor can we speak with less praise of the execution of a plate showing the monumental memorial of Hermanns Grafen zu Henneberg-Römbild, and his spouse, Elizabeth Markgräfinn von Brandenburg. A monument to the memory of the Markgrafen Casimir and Georg von Brandenburg, is of curious design. The two nobles, encased in armour, with their plumed helmets placed on the ground before them, are kneeling on two stones on either side of the foot of a large crucifix. A skull and thigh bone are lying at the base of the cross between them. Around, above, and below this memorial are placed the arms the dead were entitled to quarter, and, in ornamental panels, below all, somewhat lengthy inscriptions. The last plate of the number before us is as fine as the first. It is a portrait of Jost Nicklaus I., Graf du Hohenzollern. His well-marked lineaments, his well-combed beard, broad-brimmed sombrero, furred coat, the chain thrown over it, and the ringed hand holding a breviary, are skilfully rendered, not more by the original artist than by the engraver. The letter-press relates to the different personages thus represented.*

SCIENTIFIC SPECTRES.

We are not such Quixotic apostles of the Society for the Diffusion of Useful Knowledge as to demand a system by which the ordinary mortals that come to be amused should be forced to remain to study; nor do we wish that pleasure-seekers, delighting in eating and drinking to the sound of a banjo, should be constrained into discussing scientific problems; at the same time we cannot notice without a mild feeling of satisfaction the recent successful appearance of science on the boards of our metropolitan places of amusement. Without expecting a scientific Millennium, we are inclined to look upon these amusing establishments as being, just now—in a small way—so many popular British Associations for the Advancement of Science. The striking and vivid scenic effects produced by very simple but scientific means, will not merely direct the attention of the masses to the latent resources and the yet untried applications of science; the more far-seeing among the caterers for popular amusement will soon perceive what an extensive field lies yet unexplored in the adaptations of modern science to the stage. It is true that the electric light has already made a public appearance in the famous rising-sun effect in Meyerbeer's *Prophète*; but many other phenomena of natural philosophy and chemistry only wait for an enterprising manager to produce a sensation equal to the (so-called) "Ghost" of Professor Pepper.

A paper read by Mr. Dircks to the British Association more than five years ago, and copied at the time into one or two of our contemporaries, gave a complete account of the *modus operandi* adopted at so many places for producing the optical illusions now attracting such crowds. Our readers are probably aware that they can very fully carry out the experiment at any shop furnished with a plate-glass window. A spectator, in front of a plate of glass receiving the light from both sides, sees no reflection of himself, as the amount of light reflected in front of the glass is less than the quantity that lights up the back part of the plate of glass. If a quicksilver composition—or (as with artists' mirrors) a layer of black paint—or little or no light happens to be behind the glass, the image of the spectator is reflected from the plate. The effect is witnessed by simply diminishing the light at the back of a transparent plate, and by increasing the light on the object to be reflected. In the simple fact that these two operations are fully carried out, and in a hidden manner, consists the secret of the Polytechnic spectres.

Any one of our readers gifted with a good eyesight, and turning a deaf ear to the ingenious, though not ingenuous, explanations of Mr. Pepper, may unravel the whole mystery for himself—a mild mystery, favoured by the Chancellor's late permission for a delay in the publishing of Mr. Pepper's patent. He will notice on the stage several large plate-glasses fixed into a frame, the whole being inclined at an angle of 45 deg. (perhaps less) to the plane of the stage. An opening is made in front of the stage near the orchestra. In this opening—hidden from the spectators—are placed the actors, whose images reflected by the plate-glass frames produce the "ghosts."

By means of a common lenticular arrangement the oxy-hydrogen light is concentrated on the hidden actor or actors. As most of our readers are aware, the oxy-hydrogen light is but simply a burning jet of one volume of oxygen and two volumes of hydrogen playing on a lump of quicklime. The spectral image appears to and disappears from the spectators accordingly as the light is shut on or off, by means of a slide to the apparatus. To the spectators at the upper galleries of a theatre, the spectres seem to rise off and at some distance from the level of the stage.

A correspondent writes:—"It is a pity for Mr. Dircks, himself a patent agent, that he did not at once patent his plan himself five years ago. He would have saved himself much trouble, and have kept the cynically-inclined from pointing to a patent agent as another instance of the proverbially ill-shod shoemaker's wife. What Mr. Pepper has a right to patent I really cannot see. It surely cannot be the application of the oxy-hydrogen light to Mr. Dircks's apparatus? If so, I would advise the rebellious seceders from licences to use the electric light. However, by the time the patent is published, and we really know what is patented, the plentiful harvest of shillings will be gathered in, and the fickle multitude will require new illusions."

A curious extract, lately copied into a popular periodical, from the "Natural Magic of Baptista de Porta," would seem to prove that the principle of these spectral images was known in Italy during the Middle Ages. However, there is nothing like a patent for infusing new blood into old ideas; and the piece of witchcraft of three centuries ago is now an optical experiment, that can be seen for sixpence a head. The Mediæval inventor's pursuit of knowledge probably ended in the slight difficulty of his being burnt as a wizard. The nineteenth century renovator is rewarded by a plentiful stock of the sovereign good, and we are very glad of it.

THE ARCHITECTURAL ASSOCIATION.

OPENING CONVERSAZIONE.

On the 30th inst., the Architectural Association opened the session with a *conversazione* at the Gallery, in Conduit-street. The president, Mr. T. Roger Smith, having taken the chair,

The prize for an essay on "Vaulting and Groining" was presented to Mr. Richard R. Bayne, who also obtained the first prize for sketches in the class of design. The second prize was presented to Mr. John Johnson.

Letters were read from various leading architects, expressing regret that they were unable to attend.

The President then delivered his inaugural address, in the course of which he said:—

Let me, then, commence by reminding you that we have this day to congratulate ourselves on our society's having attained its majority. It has completed its twenty-first year; and in celebrating this night that auspicious event, I think

* We shall carry our list farther. Meanwhile let us add, what many of our readers may be glad to hear, that all the publications we have mentioned may be found in the Art Library of the South Kensington Museum. The entrance-fee or subscription to the Museum includes the privilege of reading in the Library. This is not generally known.

we may very profitably cast a glance back from what we this day are to the early days, nay, to the commencement of our existence as an organized body. I do not profess to have any personal knowledge of the early days of this society; but several of its founders are still members, and therefore a very direct tradition connects us with its birth and early years. It would have been very interesting to trace out our early history from the minute-books of our meetings, but unfortunately the earliest records are now missing, and I may say incidentally that it will be fortunate if this mention of the loss may lead to our receiving any information as to their whereabouts. Happily, we have from the date of the reconstitution of the society, though not from its original establishment, memoranda placed on record in the shape of pretty frequent notices of its proceedings in the pages of the *Builder*, a journal to which, as well as to its more recent contemporary, I conceive this Association is on many accounts much indebted; and which is in a sense coeval with the Association, for, singularly enough, the first number of the *Builder* bears date the last day of 1842, the very year in which an association of students for architectural objects was first formed in London.

Up to the year 1842, then, no society existed in London of a nature to draw together such architectural students as were to be found among the pupils and assistants of the architects then in practice. I need hardly remind you that the amount of building done in the metropolis, and, as a consequence, the number of architects and of young men composing their staffs, stood greatly below what we are familiar with to-day. Still there were a considerable number of men so engaged throughout London, as was proved so soon as a suitable nucleus of a public character became available. Of these, some half a dozen were in the habit of meeting from time to time at a coffee-house in Castle-street, Holborn. Here, one evening, one of the number (Mr. Wylson, I believe, who is a member to the present day) let fall an exclamation which has been more than once quoted to me as having been the origin of the whole enterprise.

"What a pity it is," said Mr. Wylson, "what a pity it is that architectural draughtsmen do not know one another."

The hearers agreed, and means of bringing architectural draughtsmen to know one another were thought over, and so there was formed, for this object, and by a very small circle of friends, the Association of Architectural Draughtsmen. A complete list of the early members would be interesting, and could perhaps still be obtained, and would include, besides Mr. Wylson, Messrs. Colling, Sayer, Drayton Wyatt, and others well known at the present day.

The society remained under this form and name for four years. Its meetings were held in an upper room in Southampton-street, Strand, and were a source of pleasure, to those who belonged to it; but, I suppose it must have been rather too little public in its character, or too little known, for any great body of students to make use of it, for the number of members was never large. Some modification was needed,—a title that would embrace all classes of students, and arrangements that would attract them; and, above all, a certain degree of publicity. Fortunately, there was a powerful mind at work, equal to comprehending exactly the nature of the situation, and to devising appropriate arrangements to suit it.

Accordingly, in the early part of the year 1847, the scheme of an extensive reorganization of their society was laid before the members of the Association of Architectural Draughtsmen by Mr. (now Professor) Robert Kerr.

This very able paper was divided into two portions, the one showing what was required and what were the defects and crying evils of the existing state of things, and the other part proposing the remedy in the form of our association. The steps recommended by Mr. Kerr were taken, and the association was recast into the form in which we now carry it on; the name of it was fixed as the Architectural Association, and the laws were arranged substantially as they still are. I think no small amount of praise and thanks is due to those who thus organized our society on a basis so practical and so simple that it has endured from that time to this, usefully, and, on the whole, prosperously, notwithstanding fluctuations and changes; and has proved itself equal to meeting such emergencies or embracing such opportunities as in the course of events have arisen, without its being necessary to attempt any radical alteration in its constitution or government.

It appears, from Mr. Norton's address to us on occasion of our occupying these rooms for the first time, that there were thirteen draughtsmen members of the Association at the time when the alteration took place; and that a nearly equal number of new members were introduced, so that the new start was made by about five-and-twenty men, who continued for a short time to meet in the room in Southampton-street. Well, into these rooms the Association migrated in the autumn of 1847. The first *conversazione* (I presume also the first meeting there), was held on the 9th October of that year. An opening address on commencing the session 1847-48, was then delivered by the president for the year, which office was filled by Professor Kerr; and in the report of the proceedings contained in the *Builder*, I observe it stated that the number of members amounted to eighty, a rapid increase from the twenty-five of the previous February.

In the session (from 1848-49), which succeeded the one just referred to, Mr. Creeke was president, and I find that the opening meeting of that session was held under the presidency of Professor Donaldson, who introduced Mr. Creeke to the meeting. In this session an important step was taken for which I think the Society deserves great credit. The expediency of an annual Architectural Exhibition was canvassed, and the Association decided that it was right one should be held, *and that they would take the responsibility of it upon themselves.* Accordingly the *Builder* of the 9th December, 1848, contains an advertisement, signed by the well-known names of R. C. Dudley and W. W. Deane, who were our secretaries at that time, in which the intention of holding this exhibition next March is announced. The exhibition was so held, in the rooms of the Society of Water-Colour Painters, and the report presented at the opening of the following session states that it was highly successful, having been visited by an average of 500 persons daily. This exhibition was open free.

At the opening of the session 1849-50, we find Mr. Wigley's name as one of the secretaries, and Mr. Creeke as again delivering the presidential address. The numbers had now gone up from 97 to 140.

After the close of this session, again an Architectural Exhibition was held: it was opened free on the 12th of August, 1850, but a charge was made for admission on Saturdays. Nearly 10,000 persons visited it, and the fees for admissions on the Saturdays alone almost paid the expenses. In reporting this at the commencement of the session of 1850, the committee of our Association state that they are not desirous of keeping the direction and responsibility of this Exhibition in their own hands; and then, or about then, the body of subscribers and committee still connected with the Exhibition was formed. I find that at a late period of the year 1851 a meeting was held to account for no exhibition having been held in that year; and it seems not to have been till 1852 that the annual exhibitions were resumed. Here we leave one of the valuable offshoots of our good Society, and one cannot do so without some tinge of melancholy when we contrast the daily crowds recorded as present in those two first years, and the expenses paid by a charge on the Saturdays only, with the meagre attendance here. I believe a powerful means of instructing the public in an art of which, above all other fine arts, they need to learn the rudiments, is greatly crippled because we do not now, as then, exhibit in Pall-mall, and open our doors free. And let me add, were there any chance of 10,000 visitors to the Architectural Exhibition next session, there would be no such difficulty in finding exhibitors as one sometimes hears complained of.

But to return to the Association. The session of 1850-51, the next in order, was opened under the presidency of Mr. J. D. Wyatt. I find that Mr. Seddon was secretary, and at the opening meeting, in addition to the usual proceedings, Mr. Young read a report embodying the conclusions come to by the Association, after a careful study of the subject of competitions. This paper you will find, *in extenso*, in the *Builder*, for October, 1850, and those who take the trouble to examine it will, I think, find much to praise in the treatment of one of the most difficult yet important aspects of architectural business and life with which we have to deal. Good, however, as this document is, I can I fear point to no such practical result of the deliberations of this body on competition, as flowed from its deliberations on Exhibitions of Architectural Designs.

The session 1851-52 opened about the time of the closing of the first Great Exhibition; and both in that and the succeeding session, 1852-53, I find the name of Mr. J. D. Wyatt as again president. In the *Builder* for 1852 you will find a complete list of the office-bearers for this latter session. Among the names are those of Mr. James Edmeston as vice-president, Mr. C. Gray as treasurer, and Messrs. Alfred Bailey and Arthur Cates as secretaries; and at the opening of the 1852-53 session the inaugural address was delivered by Mr. Edmeston.

In 1853-54 Mr. Edmeston was president; and in the list of office-bearers I notice, for the first time, the name of Mr. Rickman, now president of our Voluntary Examination Class. In 1854-55 Mr. Rickman was president of the Association, Mr. Truefitt vice-president, and the secretaries were Messrs. Arthur Cates and T. W. Goodman. Under the presidency of Mr. Rickman we first find any active steps taken by this Association in an all-important matter in which we are deeply interested to-day.

In that year the Architectural Association decided to petition the Royal Institute of British Architects to establish architectural examinations; a subject which had already, I believe, been repeatedly mooted in this society.

At that time, however, and, indeed, up to a very recent period, the examination was supposed and believed to be inseparable from a diploma. It was hardly expected that men would come forward voluntarily to be examined, as they have actually done, without an exact and well-defined rank and an honorary title being earned by their success. This has been the greatest obstacle to the establishment of examinations, and it has only been the recent disentanglement of the two questions thus confused with one another that has rendered the establishment of them now possible.

A diploma could not now, perhaps not soon, possibly not ever, be advantageously established; but I feel sure that the undefined, yet not on that account unreal, honour obtained by those who have passed and will pass the Institute examination is not on that account the less real or the less recognized.

But, to return to our narrative; we find that at this time the idea was taking shape, and during the session I have referred to (that of 1854-55) Mr.—now Professor—Chamberlain read an able paper (reported in the *Builder*) advocating a diploma and compulsory examinations; and after this it was decided to take action.

The next session, the session of 1855-56, commenced, under the presidency of Mr. Alfred Bailey; and at the opening meeting it was announced that the Architectural Association was about to memorialize the Royal Institute of British Architects, asking them to establish "a public architectural examination and an honorary diploma." This memorial, which was duly presented shortly after, will be found in the Transactions of the Institute. It was, at least in all that related to students, thoroughly to the point, though brief; and at the present moment it possesses so much interest for us.

The President then went on to complete the review of the society's operations up to the current year, all recorded in our pages; speaking of the desire they had to increase their *lending* library, the offered premium to the Association of 25*l.* by the Society of Arts for the best design of a labourer's cottage, and of their anxiety to increase the number of members.

In conclusion the President said,—In contemplating some time ago this address, I had thought that I would not close it without a reference to the two high aims which every student of architecture ought to keep in view; aims of which he is sometimes in danger of losing sight while labouring to master the innumerable technicalities of common construction, office practice, and ordinary ornamental detail. I refer to Scientific knowledge of construction, and to Artistic excellence of the highest kind. Since then the finger of Death seems to have pointed to these two things with a solemnity that has given them double weight; and if I only can direct your attention to the characters of two great men whose recent loss we have to deplore, these characters, rightly understood, will teach the lessons we ought to learn more pointedly than any words.

I refer, of course, to Professor Cockerell and Mr. Joseph Gwilt, both of whom have lately passed away in a good old age.

Probably there is no one to whose labour students are more indebted than the late Mr. Gwilt. His "Dictionary of Architecture" ought to be on the shelves, and often in the hands, of every young architect; and the extent, the variety, the accuracy, and the orderly arrangement of the matter in that work, testify to the extensive information and high culture of its author, and furnish an example to us of how we ought to study.

In regarding Mr. Gwilt's attainments as a scientific architect, we ought specially to note, however, that since 1842, the date of the first publication of his "Dictionary," scientific construction has made a most wonderful stride, and that in judging of Mr. Gwilt's eminence we must compare him and his work with the then general standard of skill and knowledge; while in gauging the extent of the scientific skill now fairly within the scope of an architect, we must take a far wider range and higher pitch. Civil engineering, it may be said, is not our province; but I reply, that while it is not to be expected that every architect, or even the majority, will master the whole system of engineering, every one ought thoroughly to understand something more than ordinary construction; and those most fitted for the study ought to pursue it to its furthest limits. Engineers have too much ignored the artistic element in their structures, especially in great cities; and after public taste has been outraged by such exhibitions as the wire bridge at Lambeth or the girder bridge at the Brighton terminus, there is every reason to expect that a reaction will set in. What I urge then is, that if the public insist, as they will, on having the terminal stations, the viaducts, and the other features of great public works in cities executed by architects—that is, by men who study building as a fine as well as a useful art—some of us at least should be ready to respond to the call.

The highest part, however, of architecture is its art; and never has there been a man who has studied that art with more diligence, illustrated it with more refinement, and taught it with more enthusiasm, than the late lamented and revered Professor Cockerell. To students, his course of study may serve pre-eminently as a model, both from its extensive scope and the length of time which he devoted to it. For a period of about twelve or thirteen years, of which seven years were devoted to researches on the Continent, chiefly in Greece, Mr. Cockerell was engaged in fitting himself for the practice of his profession, and in this course of preparation he included the earnest study of the sister arts of painting and sculpture.

To those who have heard his lectures, and seen his drawings, the refinement of his taste, the wonderful depth and extent of his learning, and his astonishing skill with his pencil are well known. His executed works may be quoted as models of originality, elegance, and beauty.

More than anything else, however, he was conspicuous for his unquenchable ardour in the pursuit of his art *as an art;* and this it is in which I wish we could, each one of us, catch some portion of his spirit. Few of us may have the means and the opportunity of passing so long a period in study; and few, if any of us, are likely to be gifted with his rare natural qualities. Nor are his works and studies an exact model for us, whose lot has been thrown in a day when the study and practice of Greek art has given place to that of the Pointed styles,—an accident to which many of us owe predilections and prejudices which we are apt to fancy are the result of deliberate choice.

All of us can, however, in those studies which are before us, and with those means which are at our command, follow to some degree the example of this illustrious man. Let us in our youth strive to show at least a portion of that enthusiasm which lighted up his whole being after seventy summers had passed over his head; and let us in our pursuit of our profession remember that it is not merely a means of getting a living, and its practice a simple piece of business. Let us regard it, as Professor Cockerell ever did, as an art, the whole extent of which we can never hope even to know, and the greater part of which we shall never be able to master; and in that portion of the field in which it is our lot to labour, let us see to it that our works are the works of artists, not merely of handicraftsmen; and let us esteem no pains too much, and no study too severe, if the result be something not unworthy of the name of Architecture.

Professor Donaldson having been called upon, said that the address just delivered, treated upon so many subjects, and displayed so wide a field of usefulness, that one felt embarrassed to fix upon any particular point on which at a moment's notice to offer any observations. He was surprised and pleased to see how largely extended the views of the Association had been, and the measure of success that had attended their operations. They had embraced various topics floating upon the public mind, and engaging the attention of the profession, particularly that of examinations, which had been established under the auspices of the Institute of British Architects. He was happy to hear that so many young men were preparing to avail themselves of this mode of improvement and distinction. It was a matter highly creditable and honourable to them that they were preparing thus for the great contest which they would have to engage in, in after life, and that instead of idling away their time they were laying up for themselves stores of information on which to draw for future success. As a member of the Institute, he had always been anxious to promote the interests of architectural students, and had taken every opportunity that presented itself of seconding their wishes. He could also assure them that in the council the anxiety had also been to follow out that which was the desire of the younger members of the profession. The address had alluded to the steps taken by the Institute with respect to the Exhibition building, and other matters which they had had to bring before the public and before Parliament. They had stood in the very front of the battle; they felt called upon to act as vigilant soldiers, and as far as possible to direct the public taste, and to advance the public interest in matters of art, and to do so with courage and confidence. He should add that, with respect to the Exhibition building, to the exertions of Professor Kerr they were mainly indebted for the success which had attended their efforts. He had only to add in conclusion that he wished every success to the Architectural Association, and he hoped that it would go on flourishing as it had theretofore done.

Mr. Godwin being also called on by the president, said he had simply to express what he had often before evinced, his earnest desire for the prosperity of the Association. He had had the privilege of attending a great many of its meetings from its original establishment, and had always felt a pleasure in doing so. He thought it would be a public loss if by any chance—and once or twice the chance seemed likely to arise—the Association were to stop in its good work. He considered that the step they had taken in circulating a pamphlet giving an account of the laws and objects of the Association was calculated to have the good effect of greatly increasing the number of its members. At present the number, 170 or 180, was simply ridiculous. Considering the wide extension of the profession, and the large number of young men engaged in the various offices in London, 500 was about the number which they ought to work for and to insist on obtaining. The list of lectures they had been enabled to announce for the present session was gratifying in two points of view, namely, the amount of information promised, and which was sure to be obtained from them; and the good feeling which was evinced on the part of the elder members of the profession whose names appeared in the list. With respect to the prize which had been offered by the Society of Arts for the best plan for labourers' dwellings, the gentlemen who competed for it should make up their minds that it would be of no use to touch the outside of the matter. Generalities had been dealt with, so far as related to cottage building, quite enough already. They must look accurately into the best possible means of affording, for a certain sum of money, the proper cubical space for a family, and see by what arrangement or plan, by the use of what particular materials, and by what inventions as to sanitary arrangements and so forth, they could give to the agricultural labourer a healthful cottage which proprietors would be disposed to adopt for this reason, that they could obtain four or five per cent. on the cost of its erection. It was an exceedingly difficult problem, and required that those who undertook the solution of it should go thoroughly into the entire subject in all its bearings. As to the necessity for some step being taken in the matter, all who had looked into it would admit that such necessity existed. The opinion was prevalent that if people were in the country they were pretty sure of good health, whereas the truth was, that a state of things existed amongst the class alluded to which is more inimical to good feeling, to good health, to good conduct and morality than in towns. He had seen cottages in the country, in the upper room of which three entire families were sleeping—surreptitiously, it was true—and where health or decency was impossible. With respect to the drawings sent in, and for which premiums had been awarded by the Association, he had no hesitation in saying to Mr. Bayne and to Mr. Johnson, that if they did not obtain a good place in their profession it would be their own fault. He would take the liberty of expressing his opinion that in endeavouring to master the kingdom of architecture, they should not confine their attack to one section of it.

Professor Kerr was then requested to address the meeting. He said, he had been much gratified to hear the observations made by the gentlemen who had just addressed them, and who had for so long a time identified themselves with all that related to the interests of the younger members of the profession and the Association. He had also listened with much pleasure to the account given by the president as to the rise and progress of the Association. It had not, however, yet attained its twenty-first year, because the Draughtsmen's association which originally existed consisted solely of settled architectural clerks, who clubbed together to assist each other when out of employment. The object in view when starting the association was very different, and its constitution had worn well all this time. It was a matter of congratulation that the gentlemen who had addressed them that evening, Professor Donaldson and Mr. Godwin, had proved themselves the steadfast friends of the Association. It was not the first occasion that they had come to give them a "lift." They had supported it, if not through evil report, through something very like it, and through good report most unquestionably. With respect to the designs that had been sent in, they did great credit to the principle the Association had in view, and in all respects were extremely encouraging. In reference to the papers which were to be read during the session, he might be permitted to say that it was all very well to have Mr. Gilbert Scott, and other eminent members of the profession, reading papers; but they ought not to lose sight of this, that members of the Association were to hear each other read papers, and that they ought to come often, at a sacrifice of convenience, and to sit, even at a sacrifice of patience, to hear papers read by each other. If they wanted to hear Mr. Scott, they might walk upstairs, for he believed that any member of the Society would have admittance there; but they ought not to forget the principle of mutual instruction. With respect to the Exhibition building, he did not want it to be understood that he had more to do with its rejection than he ought to have had: he merely did his duty. Being present in the House of Commons during the entire of its discussion, he could bear testimony to the respect with which the Institute of British Architects was received whenever mentioned. There had been an impression that the opposition was a mere matter of personal pique, and that it would be overruled by the common-sense of Parliament, which rejects everything like pique; but the straightforward way in which the matter was brought forward at once satisfied the commonsense of the House that the policy of the Institute of British Architects was to be accepted as a policy really founded upon the very best motives. The Institute suffered nothing from that move, and he hoped that on future occasions it would be induced to take a similar lead in public architectural questions. The Association and the Institute were now affiliated in the very best manner. The principle of examination had been recognized, and they had only now to see whether the Association could by any means get into the library upstairs.

The President said,—In reference to Professor Kerr's observations on the papers to be read, they had departed somewhat from their ordinary course, and endeavoured to obtain papers from higher sources, but the step had been taken somewhat under pressure, and it was not likely to become a pattern for future sessions. He quite admitted that they ought to furnish the greatest amount of material from their own resources. They ought, however, to remember that a paper read by Mr. Scott upstairs would not be the paper read by him, even on the same subject, before the Association. In either case it would be prepared with a special regard to the audience before whom it was to be delivered.

BETHNAL GREEN: HOUSES OF THE POOR.

In connexion with the fatal cases of disease which are so common in overcrowded dwellings,—the numerous forms of death produced by impure air,—we have made some inquiries respecting the effects produced by the overcrowding and polluted air on the inhabitants of these places; and it may not be without useful results to mention some of the statements which have been made by the people themselves.

In many of those small interiors where seven, eight, nine, ten, and even more sleep, we hear complaints of a heavy drowsiness, which renders old and young stupid and weak in the morning. Children lie like dead things until they are roused

up by the opening of doors and windows. There is a general complaint that, during the night, particularly towards the morning, the bodies of the inmates are covered with a clammy, unwholesome perspiration. Some said that, in the morning, the sweat ran in streams from their faces. First, this was hot; but, on getting into the air, it changed into large cold drops, which gradually declined in quantity until the skin became intensely cold and dry. This even occurred in tolerably mild weather. The nature of the water supply prevents regular washing of the face and hands; and in these situations, in nine cases out of ten, nothing more is thought of it. We may readily judge how seriously these conditions must affect health. During some early visits recently made to East London, we found the state of some of the rooms to be shocking. The dirty bedclothes were reeking with fumes; and, although it goes sorely against our inclination to make the comparison, it is the truth to say that, in some of these places, the human tenants suggested only the idea of decomposing vegetation. In one room six children had been washed in a dish, in which there was about a quart of water; and this, by the renewed operations, instead of being a liquid, had become a semi-solid body.

In some rooms the ragged, black-looking bedcoverings had not been washed for months: one woman said that she had lived in a room for two years and had found no opportunity for washing or drying her quilt or blanket. How can we wonder, then,—when we consider these arrangements, the density of the population of the houses, and their neglected or unsanitary state,—that fevers rage and multitudes of children die?

When visiting some of these places, we feel an almost irrepressible inclination to poke a walking-stick through the dirty windows. Every endeavour is naturally made to keep warmth, and so they preserve in all its strength the poisonous atmosphere. If a square of glass have been broken the aperture is filled in with paper or in some other way; and up to eleven o'clock in the morning, although the weather, as we have said, was mild, there was scarcely a window of any of the rooms open. The pursuits of some of these poor people are curious; but we have not space just now to notice them except in one instance that struck us: this was that of an old woman of demure appearance, more respectable than those who lived about her: this lady is a "bolter hunter;" that is, she earns a livelihood by searching out the addresses of persons who, being indebted to the "tally-man," have moved away without indicating their whereabouts. For each discovery she receives about 1s.

Going to another neighbourhood for an instant, for the purpose of showing what a large percentage of profit from the rent of houses which are let to the poorer classes goes into the pocket of the middleman; we give the following particulars of a house in Clerkenwell, one of several which are managed on very nearly the same terms:—Rent paid to the landlord, taxes, and every other expense, 32*l.* per year. Received from tenants: for two kitchens, partly below the surface, 5s. per week; two parlours, 5s. per week; two rooms on first floor, 5s. 3d. per week; two garrets, 3s. per week; 18s. 3d. per week;—in all 47*l.* 9s. per annum, leaving a yearly profit to the agent of 15*l.* 9s. per annum on this single house. In connexion with these houses, we learn that it is by the rarest chance the rooms remain unlet for a few days, and the loss of rent is next to nothing. In case a week's rent is unpaid, the agent gives the parties notice to leave; and, if they cannot pay, retains some piece of property—on the rule "If you cannot pay one week's rent, you must pay two." This sounds rather sharp practice; but, we are told that it is found to work well amongst people who have a stated small income, and prevents them from falling into such arrears as might cause them to lose their furniture altogether. Our object in giving these figures is to afford another instance of the amount of rent which is actually paid for very imperfect accommodation by large numbers in the metropolis.

THE STRIKE OF THE DURHAM PITMEN.

The distressing scenes which have been recently enacted at Messrs. Straker & Love's collieries, on Lord Boyne's estate, have directed, in a very painful way, the attention of the public to the conditions of the coal-miners in the north of England—a most useful body of workmen, who, in the deep darkness, and amidst the dangers, of the pit, toil, so that our hearths may be bright, and our mills, locomotives, steam-ships, and other sources of prosperity be kept at work.

Notwithstanding the changes which have taken place in the manners of the pitmen of Northumberland and Durham during the last twenty or thirty years, they are still marked by peculiarities which cause surprise to strangers. Half a century or so ago these men were more peculiar, for then the plainest education was almost unknown amongst the thousands who were employed in the work. Their peculiarity has been in a measure caused by the intermarriages amongst the same class—very often cousin with cousin,—and associating but little with persons engaged in other pursuits. This has kept the pitmen of the North rather in the rear of the general progress. Nevertheless, these people have sterling qualities, which can be rightly appreciated only by those who are well acquainted with them. Their unflagging industry and patience in carrying out work which is most difficult of execution,—their bravery in incurring any amount of risk in endeavouring to save the lives of their fellows in the case of accident,—their kind-heartedness and honesty,—are qualities which have been somewhat overlooked by persons who have taken but a cursory glance at parts of this large community.

In order to form a correct notion of the causes which have led to these wholesale evictions of workmen and their families,—acts which are opposed to humane ideas,—it must be known how the coal-miners are generally engaged and paid. For some centuries past it has been the custom for colliery owners to engage the number of men and boys needed, for a particular term. This is sometimes one year, or more or less. The quantity of coal wrought is placed in tubs of a certain measure, and for so many of these as each man can fill, he is paid at a stated price.* In connexion with this part of the business, there are certain fines enforced; for instance, if, with the pure coal of the seam, any of the slaty substance in which it is imbedded get mixed, this is a matter for a fine in proportion to the extent; and if the measure of the tub or truck be not found complete when it is drawn to the bank, that amount of labour is confiscated in some collieries altogether. At the Messrs. Straker & Love's collieries the strictest rule seems to have been kept, and not only were the men without the means of knowing the justice of these confiscations, but overseers have been appointed by the masters to inspect the tubs when they arrived at the bank, who are paid an additional sum in proportion to the number condemned. The coalowners do not consider the difficulty of working in the narrow seam, in a height of a little over 3 feet; that in the dim light it is difficult to prevent pieces of the shale from getting amongst the coal; and not easy so to fill the tubs or trucks, that, by the shaking during its conveyance from the place of working for a long distance to the bottom of the shaft, the coal gets below the proper gauge. The pitmen say, as we think rightly, that they should have an overseer at the pit-bank, to see that they are fairly dealt with, and that, instead of by measure, the quantity of coal worked by each man should be paid for by weight.

In connexion with this strike, the men have so far conducted themselves in a manner which is to their credit, having, under the most distressing circumstances, calmly obeyed the law: they have also offered to submit the dispute to arbitration, by three miners on their part belonging to one of Mr. Pearse's pits, and three viewers selected by the owners. This fair offer has, so far, been declined by the masters.

A short time since we directed attention in these pages to the dwellings of the North country miners, and remarked that the grant of a free house was one of the conditions of the binding. The late evictions show how great a power this gives to the employer. It also proves how entirely dependent the men are upon their employers for their homes: they have no choice. Surely, under these circumstances, it is a duty of the masters to provide dwellings which are fit for human habitation: those at Oakenshaw and Sunny-brow are of the worst description. We remember of other pitmen's strikes. In one which took place more than thirty years ago, thousands of people were turned out of their homes. Then great disturbances took place; attempts were made to destroy life and property; a strong military force was required to preserve order; and in the old Norman Keep the pensioners and local volunteers were kept for long on duty. The contrast between the manner in which that strike was conducted and the present is great, and shows how much progress has been made since the above time in the intelligence of the pitmen. Education has to a certain extent progressed, but there is yet much to be done. Better schools and schoolmasters are wanted, and arrangements made so that the boys might have the opportunity of attendance when they are relieved from their work. Very young boys are useful in the pits as trappers, drivers, &c; and it would be well if the age at which boys are allowed to work in the coal-mines were fixed at such a period as would allow the lads to get a fair amount of elementary education.

We trust that this unfortunate dispute will be soon settled. If the strike should extend to other neighbourhoods, it is most desirable that attempts should be made to settle the affair by arbitration before the stern step of eviction is resorted to. In connexion with this affair, too much praise cannot be given to the rector and curate of Oakenshaw, who, when the women and children were turned with their furniture upon the bleak moorland, without a shelter, opened the doors of the church, had the fire lighted, and admitted the people with their bedding within the walls of the sacred edifice, where they were protected from the howling wind and storm.

* Formerly "Corves" strong baskets of wickerwork were used for this purpose.

THE CAMBRIDGE NEW MUSEUMS AND LECTURE ROOMS.

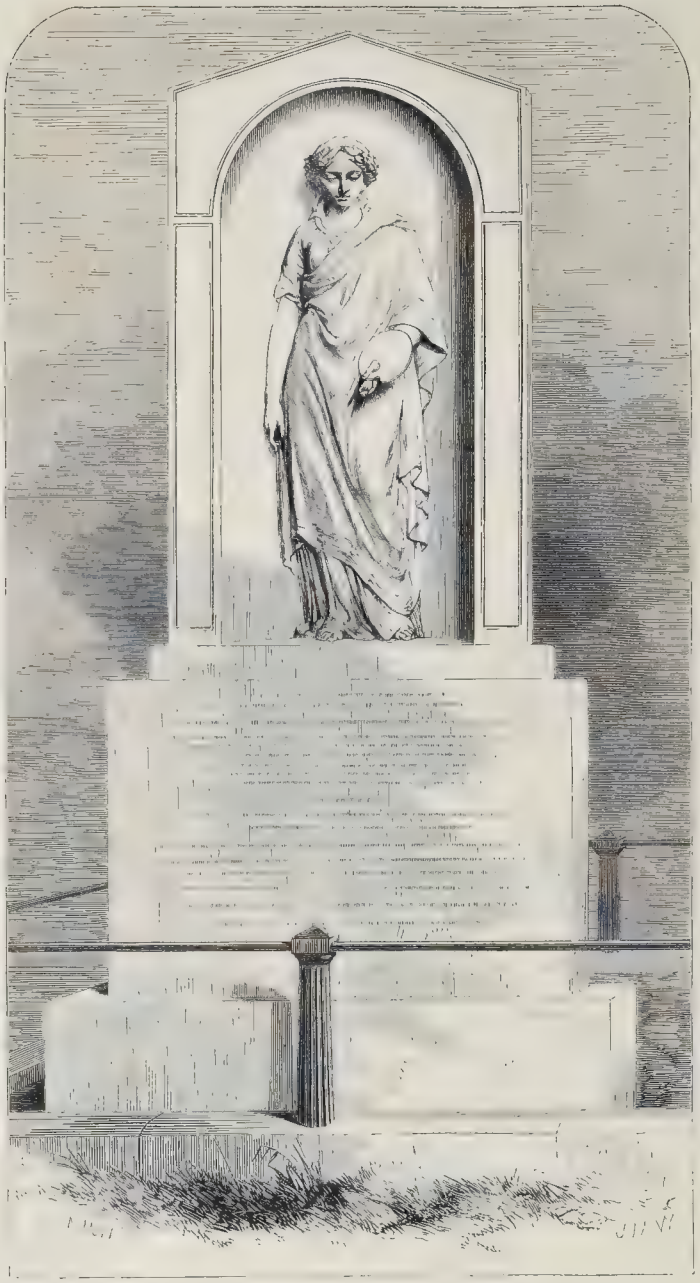
The building intended for a dissecting-room, &c., for the department of Comparative Anatomy, which is an appendage to the eastern wing of the main block of buildings, was designed to abut on the wall of the Old Botanic Garden. It is found that this part of the design cannot be executed without inconvenience; and the Syndicate, after consulting with the architect and the Professor of Anatomy, think that the servants' room in the design might be omitted, and a detached building erected instead behind. A road-way would thus be obtained to the back of the buildings; and this would be a great advantage. Mr. Salvin has prepared a sketch of a plan by which such alteration might be effected. The contractors state that this alteration may be effected at an extra cost of 94*l.* beyond the amount of the existing contract. The Syndicate therefore recommend this plan for adoption by the Senate. Dr. Clark, the Professor of Anatomy, offers to lend to the University the sum of 2,364*l.* 14s. 3d. necessary for the completion of the Anatomical Museum, at 1½ per cent. interest, to be repaid by them in ten years. The Syndicate are of opinion that this offer should be accepted, and that steps should be taken for erecting the museum without delay. They therefore recommend that the necessary contract be prepared for the approval of the Senate.

THE TOMB OF THE LATE MR. JAMES WARD, R.A.

KENSAL GREEN CEMETERY.

Recently, a monumental head-stone has been erected to the memory of the late Mr. James Ward, R.A. It is placed in Kensal Green Cemetery, on the right-hand side of the principal approach to the chapel, just before reaching the large circle. In the course of a short time, we fear it will be hidden from the eye of the casual observer by the rapid increase of tombs around. We have called it a head-stone, but in reality it is placed at the side of an inclosed plot of ground, destined to receive three distinct families, or branches of one family. Be this as it may, it arrests the attention by its purity and simplicity. The outward form of the slab is unfortunately of a common type, devoid of any architectural feature. Upon this is rendered a slightly-coved recess: within stands, in a pensive and thoughtful attitude, the Muse of Painting, with her palette and brushes in her left hand: her head has a circlet of laurel nearly meeting in the centre over the forehead. The face is of great beauty, and the drapery is treated with much grace. The sculptor is Mr. J. H. Foley, R.A., who has done his part with his usual ability. We could have wished the masonry of the base had been more important than it is. The inscription thus sets forth the merits of the deceased artist:—

In Memory of
JAMES WARD, R.A.
Distinguished as an Engraver,
And afterwards as an Animal Painter.
His Works in the National Gallery and British Museum
Prove his great and varied Powers in each pursuit.
Died the 16th of November, 1859,
In the 92nd year of his age.
Also of
MARY,
The beloved Wife of his Son, George Raphael Ward,
Who died the 28th of February, 1860.
To the high degree of excellence in the Arts of
Painting, Music, and Poetry
She added all the Graces of an Amiable and Virtuous Life.



THE TOMB OF THE LATE MR. JAS. WARD, R.A.

MR. FOLEY, R.A. SCULPTOR.



INTERIOR OF HALIFAX TOWN HALL.

THE LATE SIR CHARLES BARRY, R.A., AND MR. E. M. BARRY, A.R.A., ARCHITECTS.

INTERIOR OF HALIFAX TOWN HALL.

In another volume we gave a view of the exterior of Halifax Town-hall, then about to be built; plan of the principal floor; and some descriptive particulars.* We now add a view of the interior of the hall, proper, a fine apartment in the Italian style. The building, it will be remembered, was designed by the late Sir C. Barry, R.A., but has been completed, under the superintendence of his son, Mr. E. M. Barry. As will be seen in the engraving, the ceiling is divided into compartments by broad moulded bands, having the laurel or oak leaf rendered upon them. In the centre of each of these compartments is a small dome for lighting the ceiling. In the spandrels, around each opening, is an enriched raised ornament, upon a coloured ground. The body of the hall is lighted by the coved portion, being all of glass, divided into bays corresponding with the bands in the ceiling. In the cornice, at each division, is a small group of figures, very well modelled. Between the pilasters below are semi-circular arches, enriched with the initials of the sovereign, and the letter H. for Halifax. The caps to the pilasters are also well moulded. The gallery, which goes round the hall, and which is fitted with seats, has a balustrade, in carton pierre, from the designs of Messrs. James Mabey & Sons, of Westminster, who executed all the bas reliefs and caps, under the immediate supervision of the architect. Under the gallery are lunettes, containing the arms of different towns, supported by figures, of Commerce, Industry, &c., in bold relief. At the foot of the pilasters, beneath the gallery, are pedestals for the reception of statues. The room is 50 feet long, 40 feet wide, and about 40 feet in height. The floor is of Minton's encaustic tiles, in a simple pattern. We should have mentioned that the balustrade to the gallery is gilded.

The accounts of the building have just been presented to the committee, and show that the cost of the building as certified by the architect, is 32,000*l.*

THE LATE THOMAS VIGNOLES CROUDACE, C.E.

Railways abroad, on which English science and skill have been employed, have cost us many valuable lives, the last the young engineer whose name unhappily heads this notice. He will be remembered by some of our readers in connexion with the fine model of the Tudela and Bilbao Railway exhibited in 1862 by his grandfather, Mr. C. Vignoles, F.R.S., the engineer in chief. Thomas Croudace was assistant engineer, and, having returned to Bilbao, was carried off a few days ago by typhus. In Spain, benighted land, a Protestant minister is not even allowed a residence or chapel; but it happened that Dr. Bayley, of the "New Church," was in Bilbao, paying a visit, and therefore willingly accepted the office of reading the burial service over his remains. All the foreign consuls, the English and French residents, and numbers of Spaniards, even, joined in the procession, and in the only Protestant cemetery in Spain (which he himself had planned, drained, and put in order), his earthly remains were placed amidst the heartfelt mourning of even strangers in a foreign land, who all loved and respected him.

As one amongst a dozen writes of him to his relatives,—"He was a true gentleman in feeling; so considerate that, while delicate and spotless in his own conduct, he yet would never point at or speak of the faults of others, or even of their indiscretions."

This is the second son lost under precisely similar circumstances, for whom Mrs. Croudace, herself not unknown in the arts, has to grieve.

ARCHITECTURAL CURIOSITIES IN SOUTH BUCKINGHAMSHIRE.

The district of South Bucks, if undistinguished by many-towered minsters or crumbling castles, has attractive features for the architectural student. Centrally in it stands the old borough of Wycombe, dating from the time of Constantine as to its Roman remains, and as to its known internal history from the time of the birth of Egbert, king of the West Saxons, containing buildings well worth careful examination, and easily accessible, being within an hour and a half of the metropolis.

The collegiate church of All Hallows, of the thirteenth century, is the largest and finest structure in the county, originally cruciform in plan, with a central tower. We shall see here the curious manner in which the Perpendicular builders went to work to adapt the building to their tastes. The fashion in parochial churches of the fifteenth century appears to have comprised the most complete avoidance of the cruciform plan, going even so far as to omit transverse internal walls altogether, as at Collumpton, in Devonshire, and Battlefield, in Salop. As Wycombe Church stood at the end of the fourteenth century, with its broad choir and north (Vicar's) aisle, central lantern, short transepts, and external inclosing walls to nave and aisles, it certainly disagreed most distantly from the type which the builders of the fifteenth century appear to have taken for their model. Had the traders of the fourteenth century been as rich as their successors, we might have had a finer building than now remains to us. But the fifteenth century was the golden age of trading, "wevyng, ffullyng, and dyyng," in Wycombe, and brought forth rich traders, who devoted to the work of the sanctuary the goods they had thus honourably gained.

The nave was first completed, with a two-light clerestory and roof. This part of the work differs from most Perpendicular work, in being unusually solid and grave, so much so as to deceive many at the first glance as to its date. The roof was well coloured, the mouldings having alternating spiral ribands. The spandrels of the bracea are filled with trefoil panelling. The nave I believe to have been completed before any of the undermentioned alterations, and the aisles roofed in. The corbels terminating the drip-moulding of the easternmost arches face diagonally, proving those arches to have originally abutted against the western wall of the tower.

The next work appears to have been the rebuilding of the choir, with the addition of the Bower chapel on the south side. The choir, as I have recently discovered by careful measurement, is deflected northwards in the well-known manner, supposed to denote the drooping of the head on the cross. The position of the arch opening from the Vicar's aisle into the north transept not being central, induces me to think that aisle has been widened, to the narrowing of the choir; and this is confirmed by the abutments of the choir arches on the chancel wall falling within the abutments of the transept arches. Further, the last pre-Reformational inventory of church goods, dated 1518, shows that there were then six altars in the church; namely, the high altar, St. Clement's altar, St. Nicholas's altar, Name of Jesus altar, the Bowre altar, and the Resurrection altar. Now the high altar and the Bower altar had their assigned places in the choir and Bower aisle; but the others, which had all been introduced into the church within the previous fifty years, must have been placed in some appropriate spot, and the vicar's aisle may have been widened for their accommodation. This alteration of the choir shows how wonderfully the old builders adapted their work to its uses,—the aisle widened for a useful purpose, and the choir rendered not a whit less stately; for the impression of height is thus rather increased, and the building itself made more convenient for the performance of choral service.

Next came the alteration of the crossing. The central tower, with its supporting piers and arches, as well as the western arches of the transepts, were all removed, and the nave and transepts assimilated to the type of the non-cruciform church. This seems to have been the crotchet of the new architect, who thought this type better suited than the old for parochial purposes. Judging from what remains of the work of the thirteenth century, the tower would not have been taken down from necessity, for the older masonry, generally, is as good as the day it was first bedded. Still it seems unlikely so large a tower would have been removed out of caprice. Be this as it may, a new tower was built at the west end, and completed with much rejoicing,—"ryngyng of bellys and pypyng of organs,"—in 1522. The work of the new crossing, including the piers and arches of the transepts and choir, the north, east, and south clerestory windows, and the roof, is inferior, and both poor and clumsy in detail. The scantlings of the timbers are scanty compared with the nave roof; the panelling is poorly imitative of the other; and the tracery in the pedimental part totally wanting. The details of the windows differ materially; the corbels are rude and uncarved; and, finally, two ominous cracks, the result of the settlement of the new work, point out clearly its junction with, or rather disjunction from, the old.

Now let us see how the non-cruciform idea was carried out. The transept arches, both as to their apex and springing, are kept as low as was consistent with constructive safety; but, after all, the idea of the old mason of the thirteenth century predominated, and the arches would not be kept low enough to make continuous roofs over the aisles and transepts; so the roofs of the latter were of necessity made transeptal to cover the apices of the arches. The entrance to the original roodloft, on the west side of the tower, is still observable, disguised as a window, and must have been entered from a staircase in the south-west angle of the transept.

The removal of the western transept walls brings us to the curious features in the north aisle, lately discovered. They consist of an ordinary monumental drop-arch recess, where formerly lay a stone coffin. The coffin was broken up, and the arch bricked up by the church bricklayer in 1822. Thanks to that worthy, however, the mouldings were carefully filled in with mortar, whose removal disclosed them in their pristine sharpness. The back of the recess was plastered, and retained fragments of colouring. Thus far all is intelligible and satisfactory.

But, in cutting away the plaster from the jamb, a large piece came off, and disclosed more moulding eastwards. On clearing this out, we found part of another recess, also plastered at the back; but the arch had been cut, and the rest filled in with solid masonry, apparently for the accommodation of a third feature, whose jamb, which we at first imagined to be a fragment built in at random, and arch were next uncovered. This was soon traced out, and proved to be only a semi-arch, the apex having a *vertical* joint, and abutting against a mass of ashlar chalk, with which the angle had evidently been rebuilt on the removal of the pier which carried the western arch of the transept, a necessary consequence of taking down the western arch of the crossing. The foundation of this pier we discovered by digging below the pew floor. The last-mentioned semi-niche is, like the others, plastered at the back, but extends no further eastward: what would be the remainder of the niche being the ordinary rubble core of the pier, thus proving the niche to have been originally only a semi-arch. Moreover, the western faces of the two stones retain black distemper design on a yellow ground, showing the masonry in the fifteenth century to have presented pretty much the same appearance as we now behold. This little bit of evidence was nearly lost to us, the builder proposing to cut the projecting blocks flush, so as to show the niche the better.

Now, the most singular fact is, that the mouldings of the three arches are identical in section, so that the alterations must have gone on one after the other, very little time intervening. The string course even, bounding the window sills, intrudes strangely on the jamb of the semi-niche.

The piers of the new crossing are exceedingly slim, being scarcely more bulky than those of the nave. The masonry above shows sundry cracks, vertical and diagonal, external and internal, which are readily accounted for by the facts, firstly, that the thrust of the great arches is not received by the choir arches, which abut within them, on account of the narrowness of the choir; and secondly, that in the vicar's aisle, a hot-air apparatus having been contrived, the actual stability of the transverse wall was so little regarded, that a chimney was excavated out of the solid wall not far from where the transept arch abuts on it.

The Bower aisle follows the deflection of the choir; for in the western bracing of the roof, the springing of the north brace is half imbedded in the west wall, while that of the south brace is an inch or two distant from it. The octagonal oak standards, two of which stand at the entrance of the Bower aisle, and two at the entrance of the choir, are unique in this part of the county. They retain traces of their original painting and gilding, as did the rood-screen now removed. Of the seven bays of oak screen work, which until 1858 occupied their original position in the choir and transepts, one only is standing, and this, alas! is condemned. The old choir stalls, with their return ends and carved finials, were also removed, and are about to be replaced by modern pewing. These, as well as the screens, are, equally with the rest of the church, the legacy of our forefathers, and their removal is the removal of an integral part of the design of the building.

The last of the old screens separates the Bower aisle from the south transept, and has this inscrip-

* Vol. xviii. p. 39.

tion in oaken letters:—Pray ye for the soulys of Rychard Redehode, Agnes hys wyfe, ther son Willm & Johan hys wyfe, the whyche *Willm bilded thys* pelos wythe *tymbre the* yere of our Lord God mcccclxiii, *for* our soulis god.

The italics show what seems to me the most probable restoration of the lost parts.

Now let us see what the present generation may learn from these facts. May we not perceive that with the advance of architectural civilization and of congregational worship, people found that the cruciform type, how grand soever and how suitable soever to the monk-built minster, was but ill-adapted for a body of simple folk to hear, see, and understand? and that the better form of the parochial church is that of Battlefield and Collumpton?

We have not remarked all the curiosities of the church. Two portions of altar slabs were turned up out of the pavement for the meeting of the society. One retains a cross incised; the other has been intentionally defaced.* The fine arcaded and groined south porch has a parvise above, which has lately been opened, having been bricked up these thirty years. It has evidently been systematically converted by some ornithological vicar into a dovecote, the internal walls, especially the northern, being regularly pierced with square recesses, the cills being much claw-worn. What is singular is that it never seems to have been entered otherwise than by a ladder from the church, through a doorway in the north wall. There are scribblings and masons' marks on the jamb of this doorway: in particular "Rychard Upton," in finely-drawn letters of the fifteenth century. Of these scribblings and marks a better account must be given at a future time.

We must not forget the doorways in the north wall, leading to the old revestry, with sextry over. Their hinge-hooks and boltholes remain, shutting inside the apartments; and a square-topped squint, with deep internal splay, to which the hooks of the original shutter-hinges remain. This squint afforded a view of the church to the sacristan. The lower doorway shows how the level of the church was altered in Perpendicular times.

The tall arch of the old west window, despoiled of mullions, shows well over the obtuse tower arch. The settlements in the tower show the defective character of fine jointed masonry. The tower is built of bad Headington stone. The mullions of the new western window show the effect of the depressing of the arch by the great superincumbent weight.

The church is decorated in distemper throughout, at least wherever the whitewash has been partially removed. The decorations in the chancel are principally of the time of Edward VI., showing texts of Scripture in the old black letter, with red capitals. The Bower Chapel, in particular, has texts from Ecclesiasticus, surmounted by a canopy on pillars of Renaissance design, drawn in thin black lines on a white ground, on each side of the five-light east window, and a band of lettering (much mutilated) runs under the south windows. The west wall has a long inscription, but without the canopy. The vicar's aisle has similar decorations, as well as some unintelligible painting in real fresco. In this aisle even the beautiful masonry of the windows is covered with old plaster, finished with a coat of red; certainly of great antiquity, if not of the original date of the building.

The earlier decorations in the choir and chapels have been obliterated, and those above mentioned substituted; but the nave retains traces in the two eastern bays of the clerestory, in the north transept and aisle, on the east wall of the south transept, and in the south aisle, of what appears to have been the original decorations, much mutilated, and finally whitewashed.

Returning to the Redehode screen, we may remark that the Redehode family are intimately connected with the history of Wycombe in the latter end of the fifteenth century. William was a rich salter of London, having his country seat in Paul's row, "ayenst the west ende of the chirche of Wycombe." He was also a great benefactor to the fraternity of St. Mary, and masses were agreed to be sung in the chapel of St. Mary for him and his friends. He repaired, at a cost of 14*l.*, a house left by Henry Coleshill to the borough authorities, and fitted it up as two chambers (*duas cameras cum gardinis*), with gardens attached, for the residence of "*Oure Lady Preist and le boure Preist*," in 1475. The deed of covenants for masses, dated 1475, contains a proviso for the delivery at his decease, to the "*keperis of oure lady auter*" "*a chalys part gylt with this scripture on the fote*, Orate p. aiabus Rici Redehode Agn uxis ejus Willj Redehode & Johe uxis ejus, *weying X unces and more of troye wyght*," wherewith the priest was to sing on the "werke dayes." This chalice occurs in two inventories of the goods of the fraternity shortly after this date, so that he did not live long after the date of the deed.*

The inventories of the goods of the fraternity of St. Mary, of whose chapel (in St. Mary-street) not a vestige remains, exhibit many remarkable features: besides vestments, banners, altarcloths, curtains, and candelsticks (II. *latyn candilstyks apon the awter for priketts*, besides two *grete* ones, in the choir), "*a crowne of silver apon our ladyes hede and gylde; a brode gyrdyll whyte corse the pendant and the bokull dobyll gylde wt.* vi. *stodis*;" another with eight studs; beads, rings, "ameled" (enamelled) and otherwise, stones, "*gaudes*," "*An owche of silver and gylte bokulsyse*," &c. But these, with the church inventories, must form subject matter for a second paper.

EDWARD J. PAYNE.

* An encaustic tile in the nave displays a fool's head in a cap, in a circle surrounded by the legend, ME FECIT RICARDUS. A similar tile was shown to me by the Rev. W. H. Kelke, as having been taken from Drayton Beauchamp Church, Bucks; and another is or was to be seen at Little Marlow Priory. Are any more of this type known to exist?

* In perusing the accounts of Thame Church, Oxon, I found the following entries:—

1449. Halso we res. of Wylyam Redhod of Wykombe as for ys fadyrys bequyst, 3s. 4d.

1495. Item: rec: ex legac: Willi: Redewod de Wycombe, 1s. 8d.

THE PRINCE CONSORT MEMORIAL FUND.

On the 30th ult. a meeting of the general committee appointed at the public meeting held in January, 1862, to erect a national memorial of his late Royal Highness the Prince Consort, was held at the Mansion House, with a view to the disposal of the fund, so far as they were concerned, in accordance with the commands of her Majesty, communicated by Sir C. Phipps. The Lord Mayor acted as chairman, and there were also present Sir C. W. Dilke, Mr. Tite, M.P., Mr. Gregson, M.P., Alderman Wilson, Mr. Bodkin, Assistant-Judge, Mr. Henry Spicer, Mr. Charles Hill, Mr. Winckworth, Mr. Godwin, Mr. R. N. Fowler, Mr. H. Ghinn, Deputy Obbard, Mr. S. P. Low, Mr. Hartridge, Mr. A. Croll, Mr. Goodman, the Rev. Michael Gibbs, Vicar of Christ Church, Newgate-street, and Mr. Samuel Brown.

The letter from Sir C. Phipps said:—

"Her Majesty has appointed an Executive Committee, through whom it is her Majesty's intention to communicate her own personal directions for the carrying out and execution of the national memorial to her beloved husband, the Prince Consort; and the Queen has also named trustees (Viscount Torrington, Sir Alexander Spearman, with yourself and myself) into whose hands it is her Majesty's desire that all sums collected, either by public subscription or vote of Parliament, should be paid; and who will hold the funds, subject to the orders of her Majesty, conveyed through the Executive Committee.

I am therefore directed to request that you will move the trustees of the Mansion-house Subscription for the National Memorial to cause the sums at present standing, or invested in their names, to be transferred at the Bank of England to the account of the trustees appointed by her Majesty, to whose account the sum voted by Parliament has already been placed by the Government.

C. B. PHIPPS."

A report from the working committee having been read, it was resolved that "her Majesty the Queen having intimated her pleasure that the amount now invested in the funds be transferred to the trustees appointed by her Majesty, and to whom the money voted by Parliament had already been paid, the trustees of the fund be authorized to transfer the sum so invested, in accordance with the Queen's commands."

The committee continues in existence.

PROPOSED EXHIBITION OF STAINED GLASS AT THE SOUTH KENSINGTON MUSEUM.

The executive committee have issued a notice to artists in glass painting, wherein they say that, following the practice of the managing committees of other exhibitions, they—

"Start with the assumption that the exhibition is designed rather to raise the standard of the art of glass-painting in this country, than for the lower object of being a mere advertisement for commercial purposes; that, while a fair allowance must be made for the latter object, the former should prevail as the more honourable and efficient means of perfecting this branch of art, and of educating public taste.

Acting on these principles under the restrictions imposed by limited space to be divided among many exhibitors, your committee consider that, in the collection and arrangement of works sent for exhibition, it is your desire that they should be guided by the precedents of other art exhibitions. In the exercise of their difficult and delicate duty it will be one great object of your committee to provide that every contributor may, if possible, be provided with some space in the exhibition; but artistic merit must evidently decide the amount of space and the position to be allotted to the works sent in. Such appears to be the universal rule of other exhibitions.

The committee and the authorities of the South Kensington Museum desire to urge on all artists in glass the importance of the opportunity thus offered to them, and the necessity of exertion in the production of works of high character, pre-eminently for these three purposes, viz.:—1st. To vindicate the excellence of this branch of English art in comparison with that of foreign countries; 2nd, To raise the public appreciation of art in glass, from the commercial association too commonly entertained of works produced at so much per foot, to the higher ideal of an independent art, producing works to be valued by their individual merits; and, 3rd, to show the applicability of painted glass in cases not commonly considered, whether for ornamentation combined with economy, or for large and more important objects."

The committee suggest that, as works of coloured glass for inlaying floors and walls, or mosaics, will not interfere with the window spaces for transparent glass, the introduction of works of that character would add to the interest and use of the exhibition, and should, therefore, be admitted; and that the exhibition of pot metals, or materials for mosaics, might also be considered.

DINNER FOR THE BUILDERS' BENEVOLENT INSTITUTION.

The Sixteenth Anniversary Festival of this Institution was celebrated on the 29th ult., at the London Tavern, Bishopsgate-street. There was a numerous attendance of subscribers and friends to the charity, and Mr. Alderman James C. Lawrence (President of the Institution) occupied the chair.

Among the gentlemen present we observed,—Messrs. Edwin Lawrence, W. Lee, M.P., H. Lee, G. Lee, C. Lucas, T. Lucas, J. Myers, G. Spencer Smith, H. Spencer Smith, G. Godwin, Freeman, W. Higgs, G. Corderoy, H. Jarvis, W. Hudson, J. Bird, T. Cozens, W. Hutchons, G. Head, J. R. Head, S. H. Head, S. L. Mann, M. Hall, W. Stirling, F. Stirling, A. A. Robinson, P. Anley, R. Thomas, J. Hibberd, John Thorn, D. Nicholson, J. Morris, W. Nicholson, Branson & Murray, of Birmingham, Hardwick, from same place, &c.

The Chairman, in proposing the first toast, "The Health of the Queen," said he felt he was expressing the opinion of every one present in saying that, now the time of mourning has passed, it is the earnest desire that her Majesty will appear publicly in the same manner as she had hitherto been accustomed to do.

The Chairman next proposed "The Health of H.R.H. Albert Edward Prince of Wales, Princess of Wales, and the rest of the Royal Family," and in doing so alluded to the gratification which his Royal Highness must have felt at the hearty reception of his Princess by the people of this country, who were prepared at once to welcome her to their home and hearts.

To the toast of "The Army and Navy, and the Volunteers," Major Saunders responded with vigour on behalf of the Volunteers. He said, as the Army and Navy had always done their duty, so would the Volunteers, in protecting England, their country. Their determination was to work hard and well, and to give back that which they had received from the country of their birth, and leave it as they had found it—the first among the nations.

The Chairman said, he had now to propose that which was properly the toast of the evening. They were met that night to promote the interests of an Institution which called for their deepest sympathy; and there were many then in that room who well knew the vicissitudes to which the building trade was subjected, and for the purpose of relief of those vicissitudes they were then assembled to aid those who had fallen from a high position, which they had once occupied. He was informed at a previous meeting, that there was one pensioner on the books who was in as high a position as any in that room; who had executed work to the extent of hundreds of thousands of pounds; but unhappily, during a short period of time,—little more than fifteen years,—a change had come over his fortune and circumstances; and he was then receiving the benefits of this Institution. This was enough to excite the sympathy of every member of the trade; and if examination were made into other cases, it would show that the building trade was subject to such vicissitudes, and, therefore, the support of the Institution was highly necessary. Since the formation of the Society there had been no less than seventy pensioners on its funds. Thirty-seven, however, had since died. It was a source of satis-

faction to all those who have taken part with this useful Society to be able to say that they had relieved and soothed the declining years of the aged. There were now thirty-three pensioners on the books of this Institution, and others waiting for election. How necessary was it, then, that they should do all they could to increase the resources. He felt that the Institution and the good which it effected were not sufficiently known; for, if it were better known, the annual subscriptions, which were of great value, would be increased, and there would be many who would give a small subscription rather than none at all; and, further, many members would be able to bring friends with them to the annual festival, when a large increase of funds would be the result. He, however, could but congratulate the friends of the Institution upon its slow but steady progress. He had just been informed that five friends from Birmingham were present that evening, one of whom was president of the Birmingham trade. That showed that the Institution was becoming known to the residents out of the metropolis, which had a hopeful signification. He concluded by giving "Prosperity to the Builders' Benevolent Institution."

Mr. Henry Lee proposed the next toast, "The Chairman and President," and passed a high eulogium on the kind and charitable disposition of Alderman James C. Lawrence in connexion with institutions similar to the Builders' Benevolent Institution and those of the City of London.

The Chairman, in giving the toast, "The Patrons of the Institution," alluded to their late friend Mr. Wm. Cubitt, M.P., who was a warm supporter of the Institution. As a builder in this metropolis his connexions were well known; and beyond his adherence to the Institution, he had given that which was of more value, the benefit of his long experience. With the toast he would associate the name of Mr. Joseph Bird.

Mr. Joseph Bird said he had much pleasure in having the opportunity of referring to their late much esteemed friend Mr. Wm. Cubitt, who had exerted himself in no small degree in placing their Institution in its then position. His demise would be regretted by many charitable institutions with which he was connected; but his name would never be forgotten. There was also another gentlemen, now present, to whom some praise was due, and of whose exertions they might not then have met together. He referred to Mr. Thomas Cozens, the founder of the Institution.

Mr. Cozens acknowledged the compliment, and stated that his feeble efforts to found the much required desideratum would have been useless had he not been ably assisted. He referred to the absence of Mr. Geo. Pluckett (their treasurer), whose attendance was prevented by the so recent death of the lamented Mr. Cubitt. The treasurer's health was proposed, and unanimously responded to.

"The Brighton Branch of the Institution, the Chairman, Directors, and Honorary Secretary," was next given and duly responded to.

"The Architects and Surveyors" was the toast next given, and was responded to on their behalf by Mr. Henry Jarvis.

"The Directors and Stewards" having also been given,

The Chairman again referred to the presence of the gentlemen from Birmingham, and trusted that in future years they might have the pleasure of again meeting them on an occasion similar to the present.

In response, it was stated that they were not instructed to make any statement; but the meeting might be assured that the Builders' Benevolent Institution would always receive their kindest sympathy and support.

Mr. A. G. Harris, the secretary, having announced the amount of the evening's subscription to be nearly 450*l.*, the evening was soon afterwards brought successfully to a close.

The subscription list included the following:—

The Chairman, 21*l.*; Mr. E. Lawrence, 5*l.* 5*s.*; Mr. H. Lee, 21*l.*: Messrs. Lee, Son, & Smith, 10*l.* 10*l.*; Mr. R. Thomas, 50*l.*; Mr. G. Myers, 5*l.* 5*s.*; Mr. M. W. Higgs, 5*l.* 10*s.*; Messrs. W. Cubitt & Co., 10*l.* 10*s.*; Mr. Henry Jarvis, 5*l.* 5*s.*; Mr. W. J. Freeman, 10*l.* 10*l.*; Messrs. J. & W. White, Bros., 10*l.* 10*s.*; Mr. G. Jennings, 10*l.* 10*l.*; Mr. W. Hudson, 5*l.* 5*s.*. Mr. H. Spencer Smith, 5*l.* 5*s.*; Mr. Thos. Allason, 5*l.* 5*s.*; Mr. R. K. Burstall, 5*l.* 5*s.*; Mr. J. R. Roberts, 5*l.* 5*s.*; Mrs. Joseph Bird, 5*l.* 5*s.*; Mr. R. L. Curtis, sen., 5*l.* 5*s.*; Mr. W. H. Cullingford, ann., 5*l.* 5*l.*; Mr. E. F. Auley, 5*l.* 5*s.*; Messrs. Thorn, Bros., 5*l.* 5*s.*; Mr. John Harvey, 5*l.* 5*s.*; Major Saunders, 5*l.* 5*s.*; Messrs. Grove, Bros., 5*l.* 5*s.*; Mr. J. S. Lee, 5*l.* 5*s.*; Mr. Charles Mack, 5*l.* 5*s.*; Messrs. Branson & Murray, of Birmingham, ann., 10*l.* 10*s.*; Mr. S. Trickett, 5*l.* 5*s.*; Mr. John Buttley, 5*l.* 5*s.*; Mr. Thos. Ferguson, 10*l.* 10*s.*

NEWS FROM SCOTLAND.

Edinburgh.—The new offices for the Scottish Provident Institution are now near completion. The site is not far from the present offices, in St. Andrew's-square. Messrs. Peddie & Kinnear are the architects. The new building is complete externally. The interior is also well advanced, the plaster work being nearly finished, and the wood fittings all in a state of readiness. The building consists of three stories, rising to the height of 54 feet, and will have a frontage of 76 feet. The style belongs to the Italian, and is somewhat after the type of the Farnese Palace at Rome. There are four flats, one of which is a bank floor for the house officer and stores, and the other three are above the level. The street floor, and the floor above are appropriated to the public business of the office, and are lofty and well-lighted flats. The upper flat is formed into a large dwelling-house, entering from a stair in the adjoining tenement, also belonging to the Institution. The door leads into a corridor which conducts the passenger directly through the front of the building, as seen from the street, into the public office of the Institution, the greater part of which forms an outside building on the area behind. The corridor is 11 feet wide by 40 feet in length. The pavement of the corridor is to be of black and white marble, which, according to our authority, the *Scotsman*, is not half so costly as good granite. The public room is an apartment of about 50 feet by 30 feet, and about 30 feet in height. It is divided by two ranges of double porphyry columns, of the Corinthian order, into three portions, the one at the entrance and the one at the opposite end being each 17 feet in height, and the centre portion about 29 feet square, rising by a bold cove from the entablature of the columns to the height of 30 feet. This spacious centre compartment is for the clerks, who are to transact the business of the office across a table, as in the telling-rooms of banks. This part of the interior is lighted by a glass dome, but has also ornamental windows of obscured glass on three sides. These windows are divided into three,—the central light being circular-headed, the others narrower and shorter, being supported from the central one by fluted Ionic columns. The flooring of this apartment will be of oak and ebony, or other dark-coloured wood. The cost of the whole building, including the alterations on the tenement to the west, will come to between 10,000*l.* and 11,000*l.* The contractors are Mr. David Rae, mason; Mr. J. R. Swan, wright; Mr. J. Steele (Glasgow), plasterer; Mr. T. Graham, slater, and Mr. R. Kemp, plumber. The clerk of works is Mr. Stalker.

Laurieston.—The Reformed Presbyterian Church at Laurieston has been opened for public worship. The church is built in the southern division of the village. It presents no architectural features in design. It is seated for about 500, and contains a small vestry. The plans were prepared by Mr. Binnie, Glasgow, and the building in its entirety was executed by a Glasgow firm.

Aberdeen.—The new grammar school at Aberdeen, erected in Skene-street West, has been formally opened. The edifice has been built by public subscription, on a scheme set on foot some years ago by Sir Alexander Anderson. Its cost will be about 12,000*l.*, while the cost of the site is 3,000*l.*,—15,000*l.* in all. It is in the Scottish Baronial style of architecture. It consists of a centre and side wings, and the height is two stories. The length in front across the main part is 146 feet; and, taking in the back wings, the extreme length is 231 feet. The extreme breadth from front to back is 111 feet. The public school occupies the centre of the building. The chief entrance is by a circular projection in the centre, corbelled out to the square near the top, and finished by a crowstepped gable and ornamental finial. A small round tower is carried up in the angle, and in it is the stair leading to the organ-gallery, if we may so call it, in the public school. At the junction of the wings at either end the entrances for the scholars are formed into towers. That at the west side turns into a circular tower, terminated with an ornamental cornice and balustrade. The top of this tower is flat, and to be used for astronomical observations. It is reached from the mathematical class-room by a circular stair, in a small corbelled turret, carried above the main tower, and finished with an ogee roof and finial. The observatory is 60 feet in height. The principal tower, at the east end, is intended for a clock. It is continued square to the top, having a corbelled cornice and embattled parapet, and finished with a lofty circular turret. The height from the base to the top of the finial of the principal tower is 110 feet. The contractors for the building were,—Mason's work, Mr. A. Mitchell; carpenter's work, Mr. Garvie; plasterer's work, Mr. Mearns; plumbers' and gasfitters' work, Messrs. H. Gordon & Co.; slater's work, Mr. G. Davidson. At the entrance to the grounds, which are not yet laid out, a neat porter's lodge has been erected. The entire cost for the buildings, including everything, will be about 12,000*l.*, and for the ground, 3,000*l.*; total, about 15,000*l.*

Aviemore.—The new bridge across the Spey is to be commenced early next spring. The materials will be all prepared before that time, so that once it is commenced it will soon be put up. The new inn, which is to be built here, is also to be commenced on an early day.

Hawick.—The contractor for the building of the exchange (Mr. Laidlaw) has commenced operations, by laying the foundations for supporting the arch over the river. For a good way up the east side of the building is ready for the centres. At the Towerdyke side, where the new dam has to be cut for Mr. Elliott's mill, the contractor, Mr. Turnbull, is also proceeding with his contract. The operations here have brought to light an old roadway 3 feet below the present surface of the road, and paved from one end of the Towerdyke side to the other. The workmen have also come upon the foundation of a wall 5 feet thick, of remarkably solid masonry, and supposed to have been the outer work of the tower, the wall defending which extended a good way further to the west than the one at present.——The British Linen Banking Company, of Edinburgh, are about to erect a new branch establishment here from a design by Mr. Cousin, the city architect of Edinburgh. The building is to be erected on a new site in High-street. It will include a dwelling-house for the agent. It will partake of the character of Roman architecture. The street floor has two ornamental doors, one at each side, adorned with panelled pilasters, surmounted by semicircular arches, with an architrave above. The panels of the pilasters are filled in with scroll work; and in the angles, between the semicircular arches and the square architraves, there is also scroll-work. Three windows, forming an ornamental arcade, occupy the space between the two doors; and between the windows are piers, adorned by columns of the Composite order. These windows are semicircular at top, with heavy archivolts and carved consoles. Above the windows there is a cornice, and over the ground floor, and on the same level as the first floor, is a heavy ornamental stone balustrade, the front of which is filled with a stone railing. There are five windows, in the second floor, all square-headed, with architraves and half-pilasters. Over all the windows will be a cornice, broken over the windows and returned on an ornamental belt. In the upper or third floor there are also five windows. The building is to be finished with a complete Corinthian entablature, with rolls leading up to an ornamental cope. The telling-room will be 27 feet long by 22 feet wide: it will be furnished with an ornamental coved ceiling above, and round the sides, will be lined with wainscot panelling. Three windows in front will supply light. The cost of the building is expected to be between 4,000*l.* and 5,000*l.* Messrs. Marshall & Ballantyne, Hawick, are to be the masons: W. Raffin, Edinburgh, has the joiner work; Mr. James Steel, Glasgow, the plaster work; and Mr. Murray, Hawick, the plumber work.

Selkirk.—A similar building is to be erected here for the British Linen Bank. The cost will be somewhere between 2,000*l.* and 2,500*l.* The contractors are,—Mr. Geo. Inglis, Selkirk, for the mason's work; Mr. W. Deans, Selkirk, for the wright's work; Mr. Jas. Steel, Glasgow, for the plasterer's work; and Mr. Kemp, Edinburgh, for the plumber's work.

North Berwick.—The three apse windows of St. Baldric's Episcopal church, which is of recent erection and Norman in style, have been filled up with stained glass, the details of which are in accordance with the style of the building. These contain representations of the Virgin and Child, Christ on the Cross, and the Ascension of Christ. The subjects are surmounted and supported with straight bands, on which appropriate texts are inscribed: while the monograms and emblems of the three persons in the Trinity are introduced in circles over and under the inscription. The whole of the ornamental portions consist of Norman foliage and borderings. These windows are the gift of the Right Hon. R. C. Hamilton Nesbit, and have been executed by Messrs. Ballantine & Son, of Edinburgh.

CHURCH-BUILDING NEWS.

Bethnal Green.—The foundation-stone of St. Paul's Church, to be built in one of the poorest districts of Bethnal Green, has been laid. The church occupies a corner site bounded on the north by Virginia-row, and on the east by Princes-place. It will consist of nave, with north and south aisle, chancel, with aisles for organ-chamber and singers, and a tower and slated spire at the north-east corner, in which will be the vestry. The style of the church is Gothic, of the flowing Middle Pointed period; and it will be built of brick with Hollington stone dressings. Externally, the bricks will be malms, with red brick plinth, finished with a blue brick band and splayed course, in cement; and above the plinth with red and blue brick and malms, arranged in bands, &c.; a double triangle

in a circle being worked on the north face of the tower in the second stage. Internally the building will be faced with white Suffolk bricks, relieved with blue and red, in bands and ornamental devices, the arches being in similar bricks. The whole of the roofs will be covered with blue and red Bangor counter slates, in bands. The ridges are finished with ornamental cress tiles, in cement; and the apex of tower and gables will be surmounted with stone and iron crosses. The principal entrance will be at the west end of north aisle, through a porch having shafts, carved capitals, and archivolt; and a secondary entrance will be at the east, between the tower and the north aisle. A third entrance will be provided in the south aisle for the children communicating with the school-yard. The total length of the church is 83 feet, and the width 61 feet 6 inches. The committee have purchased other land at the west end for future extension, when the length will be 118 feet. The aisles will be lighted by three-light windows, with traceried heads; and the east and west windows will be of four lights, with elaborate tracery. Three small single-light windows are provided for the west end, under the principal window and beneath the small west gallery, which will be a temporary erection (until the extension) for the children. The windows to singers' gallery will be of two lights each. The roof will be open timbered, with curved braces and struts, and boarded to show the rafters. The height to ridge is upwards of 50 feet. The whole of the benches will be open, low, and with cut and moulded bench-ends. Ventilators are provided in the roof, over arcade walls, and are so designed as to make an ornamental feature. The works are being executed by Mr. Thos. Ennor, of Commercial-road East, under the superintendence of Mr. W. Wigginton, architect. The total cost will be 3,298*l.*, and the number of sittings nearly 900.

Yedingham (*Yorkshire*).—The new church which has just been completed in the parish of Yedingham has been opened for divine service. The old structure having become dilapidated and insecure, a movement was begun to rebuild the nave by subscription. The chancel, being the property of the lady of the manor, Lady Downe, was not interfered with: the entire rebuilding of this part of the edifice has, however, been undertaken by her ladyship, and the demolition of the present chancel commences forthwith. The restoration, unlike the nave, will be in the Early English style, and the chancel will be lengthened 8 feet, the plans being prepared by Mr. W. Butterfield, of London. The portion of the church restored and reopened for service is the nave. As before, the early Norman style has been adhered to by the architect, Mr. W. Tuke, of Bradford. The west end, bell turret, and chancel arch of the old structure remain: all else is new, and placed upon the old foundation. The exterior shows a buttressed west end, surmounted by a bell turret, with a Latin cross as finial. The old bells dated from the twelfth century: one has been re-hung, and the other it was found necessary to re-cast, which has been done by Mr. Mears, of London. The roof is open woodwork, the two centres in keeping with the architecture of the nave, being round, and springing from corbels in north and south walls. The whole of the woodwork is stained to correspond. The chancel arch is Norman. The whole of the work has been done by Mr. J. C. Teale, builder, of Malton, who also undertakes the rebuilding of the chancel.

Edlington (*Doncaster*).—By the liberality of the Rev. J. F. W. Woodyeare, of Crookhill Hall, near Doncaster, an improvement has been made in the chancel of Edlington Church; and the work has been carried out under the superintendence of Mr. Teale, architect, Doncaster, by whom the plans were drawn. The chancel has been wholly restored, with new ashlar work throughout. New altar-rails have been erected, and oak seats and benches. The floor has been laid with Minton's encaustic tiles. A stained glass window, to the memory of two sons of Mr. Woodyeare, is inserted in the north side. The artists were Messrs. Hughes & Ward, of London.

Stonton Wyville (*Market Harborough*).—The church of St. Denis here, an ancient structure, had been allowed to get into a rather dilapidated state. The rector, the Rev. T. Burnaby, has restored the chancel according to the original design, as far as could be ascertained. The window on the south side has been filled with stained glass by Mr. Wailes. It is a memorial window placed by Mrs. Burnaby, in memory of a son. The subject is Christ walking on the sea. The roof of the chancel is a new one, an open timber king-post roof. The chancel floor has been raised, and down the centre from the church to the altar is laid in tiles by Whetstone, of Coalville. Within the altar rails is also laid with the same kind of encaustic tiles.

Shireoaks (*Worksop*). — St. Luke's Church, here, erected at the cost of the Duke of Newcastle, has been consecrated. The church was commenced on the 18th of October, 1861, from designs sent in by Messrs. Hine & Evans, of Nottingham, architects. The foundation-stone was laid by the Prince of Wales, in the presence of a large number of the neighbouring gentry. Mr. R. Young was the contractor, and Mr. A. Appleton acted as clerk of the works throughout the erection. The interior arrangements and fittings are on a scale commensurate with the general design. The church is of English Gothic of the fourteenth century, and consists of a clerestoried nave, north and south aisles, an apsidal chancel, and a tower surmounted by a broached spire. The tower occupies a central position between the nave and chancel, and is flanked by an organ-recess on the north side, and by a vestry on the south. It is supported on piers and pointed arches of considerable height, the latter being moulded and springing from clustered marble shafts on carved corbels. The extreme length of the church is 108 feet, and the breadth 46 feet. The windows throughout are of geometric pattern, with traceried heads, and in each case are surmounted by a hood mould, terminating in carved bosses. The roofs are open timbered, the flat spaces between the spars being filled with ornamental stencilling: painted decoration is also applied to the walls in the form of inscriptions. The church is fitted with open benches; those in the chancel, together with the communion-table and lectern, being of oak. The walls throughout are built, externally and internally, of Steetly stone. The organ was supplied by Messrs. Lloyd & Dudgeon, of Nottingham. A peal of five bells has been placed in the tower. They have been furnished by Messrs. Taylor, of Loughborough.

DISSENTING CHURCH-BUILDING NEWS.

Portsmouth.—A new Baptist Church, in the Lombardic style, has been recently erected at Mile-end, a thriving part of this borough. Its dimensions are—length, 86 feet; width, in the main body 46 feet, in the front elevation 56 feet; height, to springing 31 feet, to the centre of curved ceiling 35½ feet. The front, which is done in stucco and cement, has pilasters and cornices, and a large centre window. The pewing is 2 feet 7½ inches wide, with 20 inches for each person. The curved ceiling is relieved by three ring mouldings round the ventilators, and by mitres springing from the angles. The preacher's platform is constructed with circular front and two stair-flights, and painted in lilac, white, and gilt, flattened. The lighting is secured by three pendants, the centre one having twenty-four globes, and the other two twelve each. The cost will be about 2,000*l.* The architect was Mr. E. J. Smith. The contractors were,—For the brickwork, slating, and plastering, Mr. H. W. Duffett; carpenter's and joiner's work, Mr. J. H. Allen; painting and glazing, Mr. S. Wells; iron-work and gas-fittings, Mr. W. Bendall, the three pendants being supplied by the Albion Gas-light Company.

Astwood Bank (*Redditch*).—The new Wesleyan Chapel at Astwood Bank has been opened. The length of the building is 37 feet, width 27 feet. The amount of the contract was 260*l.* The chapel is situate in one of the principal streets of the village. The edifice is in the Italian style of architecture, and is built with red and other coloured bricks. The roof is an open one. The architect was Mr. A. Smallwood, and the builder Mr. S. Scriven, both of Redditch.

Wolverhampton.—It is intended to erect a new building for the congregationalists of the Queen-street Chapel. Mr. Bidlake is the architect. The new building will occupy the site of the present chapel, as well as that of the adjoining house and garden, in Queen-street, and has been planned so as to be in communication with the large and comparatively new school-buildings in Castle-street and Market-street, and to form one complete structure with them. It will comprise, besides the church proper, which provides accommodation for about 1,300 persons, a large substructure, containing a lecture room, capable of seating upwards of 400 persons, and ministers' and deacons' vestries. The style of architecture is Italian, of an ornamental character, and the whole of the fronts towards Queen-street and Market-street will be faced with stone, the main building with ashlar, and the basement with coursed-work, hammer-dressed on the face. The principal front towards Queen-street consists of a centre and two side wings. The centre contains a large circular-headed Venetian window, and a double-entrance door on the ground-story, and is surmounted with an ornamental balustrade and pediment. The side wings contain the gallery-staircases, the entrance-doors to which front towards Queen-street, and are of corresponding design to the central doorway. A tower, with spire, rising to a height of about 120 feet, is placed at the angle of the building next Market-street. The whole cost will be about 8,000*l.*, including 1000*l.* for new freehold. Of this sum 6,000*l.* have been subscribed.

Welchpool.—The foundation stone of a new chapel for the Wesleyans, about to be erected in Welchpool, has been laid. The cost of site and chapel is estimated at 2,300*l.* The site is one of the best in the town, and stands to the west side of High-street, its front being parallel with the street. The style is to be Geometric, and the material brick, the principal front being faced with the local limestone in coursed rubble work. The buttresses, weatherings, window tracing, and dressings generally, will be of Box-pound stone. The principal feature of the main front will be a centre gable, with a tower and spire on the north side, and on the south side a square parapet and pinnacle. The spire will be 70 feet high; and the lower portion will be used for the staircase. In the centre gable will be double grouped and deeply recessed doorways, and over a three-light traceried-headed window. The interior arrangements are simple. The area of the chapel is 75 feet by 38 feet, affording accommodation on the ground-floor and in the gallery for 600 persons. The communion will be elevated two steps, and enclosed with rail and ornamental standards. The pews will be divided into a double row on each side. They will be 2 feet 8 inches wide, with inclined backs. The aisles will be 3 feet 6 inches wide. At the further end of the chapel from the tower will be a vestry and schoolroom, the latter 30 feet by 21 feet. The building is contracted for at the sum of 1,800*l.* by Mr. Potter, of Welchpool, builder, and will be carried out from the designs and under the superintendence of Mr. G. Bidlake, of Wolverhampton, architect.

Lowestoft. — The foundation-stone of the Sailors' Bethel and Reading-room has been laid here. The building will be in the Early English style of architecture, and will consist of a nave and chancel, the latter having the two-fold advantage of affording additional accommodation for the regular services, and by the aid of a screen across the chancel-arch, of forming a separate building for a reading and class-room for sailors during the week. The building is planned to accommodate 400 sailors. Mr. W. U. Chambers is the architect, and Mr. J. Newson, Jun., and Mr. Tuck are the contractors.

Bradford (*Yorkshire*).—The new chapel for the Independents, in Horton-lane, has been opened for divine service. The edifice is in the Elizabethan style of architecture, and is combined with schools and a connecting arcade. The chapel itself is flanked by a square tower at each angle, rising to a height of 90 feet, and composed of three stages of rusticated columns and pilasters, and surmounted by domes with gilded terminals. Between the towers are the three principal entrances, approached by a flight of steps 45 feet in width. The windows over the entrances and on each side of the building are decorated with Elizabethan ornaments, and the whole mass of the building is surmounted by an entablature and a parapet elaborately pierced. The principal façade towards Little Horton-lane, comprising the front of the chapel, the schools and arcade between, extends to a length of 185 feet. The entrance vestibule approached by the three doorways, is 44 feet in length and 10 feet in width, and is connected at each end with a staircase to the galleries in the angle towers. From the vestibule these doorways give access to the interior of the chapel, which is 108 feet in length, 64 feet in width, and 47 feet in height. The galleries on each side and at one end of the building are supported on bronzed columns of the Doric order, and upon these rest a second line of Corinthian columns of similar material, supporting the entablature and roof. The ceiling is vaulted, panelled, and decorated with Elizabethan ornaments and fretwork. The fronts of the galleries have panels filled in with fretwork executed in bronzed metal, and relieved with simple colour. The pulpit, executed in Caen stone, was presented to the chapel by Mr. G. Salt. Behind it, within a deep recess, is the organ, which stood in the old chapel, now enlarged and renovated by Messrs. Ratcliffe & Sagar,

Leeds. The building is warmed by hot water. The architects were Messrs. Lockwood & Mawson, of this town; and the chief contractors were Messrs. J. Moulson & Son, mason's work; Mr. B. Illingworth, joiner's work; Mr. J. Keighley, plumber's and glazier's work; Mr. Dixon, plasterer's work; Messrs. Briggs & Mensforth, painter's work; Mr. Pease, gas fittings; Messrs. J. & J. Cliff, and Messrs. Onions & Wheelhouse, iron work; and Messrs. Clapham, warming apparatus. The cost of the chapel and schools was rather more than 11,000*l.*

Keswick.—A new Wesleyan chapel has been opened in Keswick. The building occupies a site in Southey-street, Penrith-road. It is after a design by Mr. Ross, of Darlington, and was built by Messrs. Hodgson, of Keswick. It contains about 300 sittings, whereof one-third are free.

St. Ives (*Hunts*).—The foundation stone of a new church, designed for the use of the Independents and Baptists, at St. Ives, has been laid. The sum of 3,000*l.* was given by Mr. P. Brown towards its erection; also 5,000*l.* by Mr. B. Brown, and 5,000*l.* more by Mr. T. Coote. Another 1,000*l.* is required, which it is hoped will be subscribed before the building is completed.

Melbourne (*Victoria*).—The foundation stone of a new church, in connexion with the Wesleyan denomination, on Emerald Hill, has been laid by his Excellency Sir Henry Barkley, the Governor. A large number of persons assembled to witness the ceremony. The church will be in the Gothic style, the chief feature being a window and entrance in front, with turrets at the angles, and buttresses along the sides of the building. The edifice will be 72 feet long by 40 feet wide; the side walls 24 feet high, and the extreme height will reach 56 feet. The amount of the contract is 1,964*l.*, and Mr. Pigdon undertakes to finish it by the beginning of December. Messrs. Crouch & Wilson, of Melbourne, are the architects.

Canterbury (*New Zealand*).—Of seventeen competitive designs sent in for a new Wesleyan church at Christchurch, Canterbury, Messrs. Crouch & Wilson's design was selected for the first prize (50*l.*), and they have been authorized to carry out the work. The second prize (25*l.*) was awarded to Mr. S. C. Fair, a local architect.

STAINED GLASS.

Watford Church.—A new west window in commemoration of the marriage of the Prince of Wales is about to be placed in this church. The design of Messrs. Heaton, Butler, & Bayne has been accepted. It consists of three main divisions. The base is occupied by four Scriptural subjects bearing on marriage, in the following order:—1, Adam and Eve in the Garden; 2, Isaac and Rebecca meeting at Eventide in the Field; 3, Ruth and Boaz at the Gate of the City; 4, the Marriage of the Virgin Mary and Joseph. In the second or grand division is represented the "Marriage Feast of Cana, in Galilee." The table is carried across the four lights, which gives unity to the design. The third, and upper division, consists of the coats of arms of the Prince and Princess of Wales, and other heraldic devices, with the royal pair, and the date of their marriage—"March 10th, A.D. 1863." The stonework has been entrusted to Mr. Coney. The total cost of the window will be 163*l.*, of which 133*l.* has already been subscribed.

Carfax Church (*Oxford*).—The subscription-list for a proposed Morrell Memorial Window in Carfax Church has been commenced under good auspices; but it being understood that, in consequence of the great dimensions of the east window, and the intention to have it executed in the best style of the art (considering that it is in the City Church and in the centre of Oxford), its cost will probably amount to 500*l.*, so that liberal subscriptions are necessary.

Woodchester Church.—We are requested to state that the window placed in this church to the memory of Dr. Williams, as well as that given by the architect, was from the studio of Messrs. Lavers & Barraud. The Williams window was designed by Mr. Westlake.

St. Mary's, Nottingham.—The window designed as a memorial of Prince Albert for this church is now in its place in the east end of the church. The style of the stonework is Gothic, of the latter part of the fifteenth century. It is a nine-light window divided into thirty-six lights, besides the head, which is divided into twenty-six lights. At the top of the window the tracery is filled with the arms of England quartered with those of Saxe-Gotha, and directly below are Prince Albert's own arms. On the left, in the upper compartment, are the Nottingham arms, and on the right, in the corresponding position, the arms of the diocese of Lincoln. Each heraldic emblazonry is at the apex of its respective division. Below the coats of arms mentioned are four angels bearing scrolls, representing Prudence, Justice, Fortitude, and Temperance. In the central compartment, which consists of a series of single lights, are figures of the four Evangelists, with their distinctive emblems. The principal divisions at either side are filled with eight pictures of Scripture subjects—each picture being carried through four lights or openings. First, on the top, to the left of the spectator from the chancel, is the "Shepherd seeking his lost sheep." In another part of the picture the shepherd is shown returning with the lost sheep upon his shoulders. In the second compartment at the same side is a representation of the widows lamenting Dorcas. The third compartment is devoted to the miracle of our Saviour healing the blind and the dumb. The fourth, or lower compartment, represents the miracle of healing the lame, the blind, and the deaf. First, on the right side, at the top, is the story of the Good Samaritan. The fourth compartment contains a representation of the miracle of Feeding the Multitude. Each picture is surmounted with roses and crowns. The artists were Messrs. Hardman & Co., of London and Birmingham.

Banwell Church, Somerset.—This church, which already contains several memorial windows, has lately had added to it another to the late Mr. A. Ricketts, who possessed property in the parish. The window is on the north side of the church, and like the church itself, is Perpendicular in architecture. It consists of three main compartments, surmounted with tracery. The principal openings are composed of tabernacle work in which occur panels containing the representation of the Crucifixion of Our Lord, the tracery being filled with angels bearing the emblems of His Passion: these are supported by columns, interspersed with angels in the attitude of praying and praise. Beneath all this occur three large subjects. The centre one represents Christ bearing the Cross, with a female figure kneeling before him: in the left panel Christ appears as the good shepherd, and on the right, *Noli me tangere.* The three texts are inscribed on the pedestals, and are, "I know my sheep and am known of mine;" "He hath borne our griefs and carried our sorrows;" "Whosoever liveth and believeth in me shall never die." Messrs. Warrington & Sons, of London, are the artists who have supplied this and other windows in the church.

SCHOOL-BUILDING NEWS.

Leicester.—A new school has just been erected by Mr. J. Harris, at his sole cost, to supply the wants of the increasing population of the Westcoats neighbourhood. The architects were Messrs. Goddard & Son, and the school is designed partially for holding religious services in this part of the town. It is situate at the corner of Ruding-street, and has a high pitched roof and spiral bell turret. There is a porch, and a class-room on the south side of the main building. The opened timbered roof and Gothic windows give an ecclesiastical appearance to the interior. The school-room is 60 feet long, and 10 feet wide, and will accommodate 135 children, with 188 cubic feet to each child. There are, besides, a small class-room, made so as to serve as a vestry, when the school is open for divine service; two hat and cloak-rooms, and a porch. Mr. Clifton was the bricklayer and carpenter; Mr. Firn, the stone mason; Mr. Fozzard, the plumber and glazier; Mr. Barfield executed the carving; and Messrs. Hunt & Pickering the wrought-iron palisading and iron founder's work. The whole was done under the superintendence of Messrs. Goddard & Son, the architects.

Derby.—New school-rooms have been erected for the congregationalists by the side of the Rev. H. Ollard's Chapel, on the London-road. The building is of white brick and Hollington stone, and an ornamental iron ridge cresting on the roof gives a finish to the whole. The school-rooms are each 50 feet by 30 feet, and 15 feet high. The rooms will accommodate 50 children. The designs were prepared by, and the work executed under the superintendence of, the architect, Mr. George Thompson, of Derby. The builder was Mr. John Wood, of Derby. The cost was 1,230*l.*

Rushholme (*Lancashire*).—A new school has just been commenced, on a site adjoining the lately completed chapel in Dickenson-road. The building comprises a "mixed" schoolroom, with class-rooms and porch, and the usual offices. Accommodation is provided for about 250 children. The material is red brick, moulded in the cornices and strings; and the style is the simplest Pointed. The windows have wooden monials; and the porch a simple lean-to, and bracketed roof. The contract has been taken by Messrs. Barnes & Howe, of Ardwick, under the direction of the architect, Mr. J. Medland Taylor, of Manchester.

York.—The restoration and re-opening of the Centenary School-rooms, York, have just taken place. During a fire which broke out on the premises of Messrs. Butterfield, Clarke, & Co., the school-rooms in question were very seriously damaged. The trustees, however, immediately took steps for repairing the injury; and, as the property was unfortunately uninsured, they at once subscribed amongst themselves about 600*l.*, and this sum has since been increased to an amount sufficient to cover the expense of restoration, viz., between 900*l.* and 1,000*l.* The work which has now been completed has been superintended by Mr. E. Taylor, architect, while the following were the contractors:—Mr. Mennell, bricklayer and mason; Messrs. Shaw & Young, joiners; Mr. Rawling, plasterer; Mr. T. Franklin, smith; Messrs. Cattley & Sons, slaters; Mr. W. Hartley, plumber and glazier; and Mr. F. Masser, painter.

SCHOOLS OF ART.

The Cambridge School.—The annual report of this school, presented at a general meeting of the committee, states, that the continued progress of the school during the past year is satisfactory. The amount of fees received for instruction in the classes of the central school, since Michaelmas, 1862, was 260*l.* 18s. 9d., a considerable increase on the 209*l.* 17s. of the previous year. The number of pupils' fees for attendance was 1,105 and 718 in the two years respectively. In the opinion of the committee, the new regulations are likely to have a very mischievous effect on the teaching of art schools throughout the country, as they will tend to disparage the serious study of art in all except the artisan classes, and reintroduce the shallow dilettantism which hitherto they have with much success endeavoured to combat: they will also unsettle the minds of the masters of the schools." The committee say, they would be "glad to join other schools of art in an earnest united remonstrance against the faithless, unwise, arbitrary policy of the Revised Code."

The Cirencester School.—The distribution of prize-medals and other awards gained by the successful students of this school at the art-inspector's visit, in April last, has been made, in the Corn Hall. The room was almost filled with the gentry, tradespeople, and the working classes. The walls were covered with the works of students. In reference to this school, the Secretary of the Department at South Kensington has reported, "Cirencester, considered with regard to its population, produces greater results than any school of art in the kingdom:" the report, however, states that the average attendance at the classes has unhappily been diminishing—being for the three years, 92, 76, and 62 respectively, the falling off being in some measure the artisans' class, for the benefit of which section of the community the schools of art are specially designed. A 10-guinea line engraving of "St. John the Evangelist" was on this occasion presented to the art-master, Mr. Miller.

The Bristol School.—The report of the committee of this school to the annual meeting, held on the 24th August last, with the financial statement and resolutions as already noticed, has been issued in a printed form.

METROPOLITAN BOARD OF WORKS: DISPOSAL OF THE SEWAGE.

At the last weekly meeting of the Board a letter was received from Viscount Torrington, Sir Charles Fox, and Mr. Thornton Hunt, proposing to erect, at seven or more stations, "steam-pumping engines of (say) a total of 3,500 horse-power, capable of being doubled if required; to receive the ordinary sewage from the main sewers at these stations, and to pump it thence through seven cast-iron besins, of 3 feet in diameter each, laid along the banks of the river, as shown on the plan, with provisions for interchange between the basins in case of accident; thence to convey the sewage along the roads and railways to lands situate in the counties of Essex, Kent, Surrey, and Berks, to which lands,

amounting to some 250,000 acres, it is proposed to apply the sewage, partly from detached reservoirs, but chiefly by jets. Finally, to construct as filters 500 to 1,000 acres of osier beds, through which to pass the sewage after it has left the other lands, in order fully to deprive it of all deleterious and injurious matters." They ask for "a concession of the whole of the sewage for a period of sixty years from the completion of the works, the lease to be renewable at the expiration of that period upon five years' prior notice, and upon terms to be agreed upon." If they deodorize the sewage, the Board will be required to pay one half of the cost of such deodorization. The Board referred the proposal to the Main Drainage Committee.

THE LATE ACCIDENT AT THE NEW CROSS RAILWAY STATION.

THE gale which blew on the 30th ult. took off the iron roof of a shed for the repair of engines at New Cross Wall, and threw down the walls, whereby Henry Woodrow, an engine-fitter, was unfortunately killed. At the inquest, held on Monday, Mr. Joseph Craven, assistant locomotive superintendent to the company, said,—Pieces of timber and slate, former portions of the roof, had been carried as much as sixty yards from the shed, consequently the force of the wind must have been very great. The deceased was jammed between the sand-box of the engine and the rail. The length of the building was 145 feet, and the width 42 feet; the spring of the roof being 19 feet. The wall was 14 inches thick, with additional piers at an interval of 21 feet. The piers were 23 inches thick.

The materials used in the construction of the building were good stock bricks, and the rest of the materials were also very good. The height of the centre of the roof from the side wall was 9 feet. The roof was composed of T-iron girders and wooden rafters. Iron girders were let into the wall, and secured to iron plates built into it. The two walls seemed to have given way at the same time, and the roof to have been lifted bodily, the wall being lifted up with the roof from the bottom.

The Coroner having summed up the evidence, the jury, after a short consultation, returned a verdict of "Accidental Death."

THE STAGE.

The Lyceum Theatre.—Much that we have long desired in the way of completeness of scenery, the avoidance of raggedness in "looking off," has been effected by Mr. Fechter, in the mounting of his new venture, "Bel Demonio," which displays a larger number of elaborate set scenes than any piece that has been produced for some time past. The first scene, the Studio in the Abbey ruins, occupies no less than four planes, for example. The mountain-torrent, in the second act, and the Chapel of de Castro, in the third, are excellent. The stage is a new one, and has been greatly improved. The footlights are sunk beneath the level, apparently on the plan given in our pages some time ago, and managed more satisfactorily than in the new Paris theatres, as the reflector rises so slightly above the level of the stage as to offer no obstruction to the sight. We may find another opportunity to speak more of the arrangements here and of the piece. Suffice it at present to say, that the latter is interesting, and is remarkably well played by Mr. Fechter, Miss Kate Terry, Mr. Emery, and Mr. John Brougham, the adapter.

Gallery of Illustration.—"*Opera di Camera.*" The experiment on Monday night was very successful, and "Jessy Lea" will doubtless have a good succession of well-pleased visitors. Mr. German Reed introduces the opera genially, and the music is sung by the always safe Miss Poole, Miss Edith Wynne (remarkably well), Mr. Whitfin, and Mr. Wilkinson. A pretty scene, the front of a cottage by the seaside, with view of the sea, has been painted for it, and the whole thing runs very pleasantly off. Some of the music is in Mr. Macfarren's best manner, and will be popular in the drawing-rooms.

Man and the Drama.—There is a run just now on the genus *homo* in the playbills,—playbills, too, of a size that has seldom before been seen. Thus at the Olympic we have "The Ticket of Leave *Man*;" at the Royalty Theatre, "The *Man* at the Wheel;" at Drury-lane there is "*Man*-fred;" and the only conjurer just now in view is Herr-*man*.

THE CHANCEL.

SIR,—In that passage in my letter in your last week's paper referring the origin of the chancel to the platform in the meeting halls of ancient Pagan Rome, with "cancelli," or low railings, at its edge, behind which the judge or president of the meeting sat, you have appended an editorial note asking whether "there was not some allusive reference to the god behind a screen?"

I say no to this most emphatically; and for the following reasons:—The basilica was in use when Rome was a republic, and at a time when any pretensions to godship on the part of one of her civil judges would infallibly have brought down on his neck the lictor's axe. The basilicas were all arranged alike as to their chancel, or railed platforms, whether used as courts of justice or simply for ordinary public meetings. The veil in a temple was used for concealment; the "cancelli," simply to keep the president of the meeting from falling off his platform when standing upon it to address the people.

The significance of the temple arrangements and details, and the veneration accorded to them, is a proof that no mockery of a sacred symbol would be introduced in a civil structure.

The primitive Christians never by any chance placed their "table" on the chancel platforms; and thus gave their unanimous judgment against the idea that the chancel was in any way to be considered as a sacred place.

JOHN ELLIOTT.

*** Mr. Elliott's emphatical negative has little force against the questions in our brief note; because these questions did not necessarily imply either "pretensions to Godship" or "mockery of a sacred symbol" on the part of the civil judges at all. By "allusive connexion" we simply meant to hint that the basilican arrangement might be a traditional *vestigium*, as it were, of still more ancient temple arrangements, not only unintended, it might be, but even unrecognized by, and unknown to, the civil judges themselves. And although "the vail in a temple was used for concealment," this was not always so; nor is it now; for example, in Buddhist temples, the simple arrangements of which in this respect still very much resemble those of the Roman basilica; and, although Greek and Roman temples were certainly not Buddhist ones, there is a unity of ideas prevalent throughout all ancient mythologies, as has been sufficiently shown of late in the *Builder*. Even in the temple of Ceres at Eleusis the vail did not always *conceal* the supposed deity or oracle behind it, as we find in the initiation of Lucius, who, "arrayed like the sun," or *robed* as the solar God himself, and placed like a statue behind the vail, was exhibited to the people as a God by the complete withdrawal of the vail for the time. In such Buddhist temples as those more especially referred to, there is no vail, but only a railing, or screen, separating the Buddha from the people; and in Thibet it is even now customary for a Lama to seat himself on *an altar*, in the *place* of the Buddha; and, after certain solemnities, he is not only consulted as an oracle, but as a judge and adviser, in all sorts of mundane affairs. Such practices may give us some slight idea of what was meant by the mythological assertion that the last God, or Goddess, who left the earth, was Astrea, the Goddess of Justice. There are, we believe, obscure allusive connexions, or traditional *vestigia*, if we may so call them, even in modern western civilization, which bear upon this subject. "Beds of Justice," in French law, may fairly be classed with these, as also the Russian "Vaults of Justice." In Ireland, ancient heathen *altars* are called "Bedds;" and the word really seems to have an etymological connexion with what *we* mean by beds. Thus the oracle in the Temple of Belus at Babylon, according to Herodotus, lay upon "an elegant bed" in the place of an altar (besides, and near to, which there was a golden *table*); and there the God "visited," or descended upon, the "chosen priestess." The Egyptian God invoked upon "the beautiful couch," has a significant allusion to the same thing. We are persuaded, too, notwithstanding the more matter of fact explanation of the origin of the Lord *Chancellor's* woolsack, in the House of Lords, that *it* was originally a "bed of justice," where the God, or Lord, was seated, or lay, like a Buddha, or other oracle, on a "bedd" or altar. We have already extended this note beyond ordinary limits, and can only add that, notwithstanding all we have said, we do not mean to express *any* opinion, adverse or otherwise, as to Mr. Elliott's views, as regards the adoption of the basilica by the ancient Christians. We may admit, however, that if the civil judges who sat as Chancellors behind the cancelli were ignorant of the allusive significance of the place they occupied, no doubt the Christians who adopted the basilican arrangements might be equally ignorant.

PORTLAND CEMENT.

SIR,—I am much obliged to your respectable correspondents for an exposition of the generally-accepted theory of the conversion of the components of Portland cement into a double silicate of lime and alumina; showing how this is effected by amalgamation and due calcination. An apparently good cement is to be produced in the manner they describe. This, however, does not, nor does anything they say, satisfy my conviction as to its durability.

As manufacturers who know so well how to make it, they will, perhaps, be surprised when I state they are amongst those to whom I alluded in my last letter, having supplied an article that every one admired, some *four years ago*, but which is *now* failing as a stucco. It is prominent at the West end of the town, and I need not further refer to it, unless it be required of me. *E pluribus unum.* Another manufacturer, confident, but, I believe, ignorant of the properties of the article,—confident of the perfection of his combination,—exposes a large specimen with his name upon it, and invites attention to its merits, and especially to its durability. It is full of open cracks, and looks like a stone map, with the main roads very distinctly laid down. Yet this was rewarded by a medal from the Scientific Commissioners of the 1851 Exhibition! I do not quote these instances as exceptions. Look further at the rows and streets in Belgravia, and see why Portland cement, introduced chiefly because it was of a pleasant colour, is nearly all of it painted with oil paint; and, where not so painted, look closely at the surfaces. Perhaps it is every body's cement!

The reason of these failures of practised manufacturers, with first-rate workmanship, is the gist of my inquiry. And I will ask your correspondents, who seem to speak disparagingly of Roman cement, to point out a similar failure of bulging and peeling in that article, where similar workmanship has been employed.

Their last paragraph only proves how extensively the risk has been encountered by builders and architects, and who, I fear, have only to extend their patience,—say, until the next medal be awarded,—to see what catastrophes ensue. If, as they say, the use of Roman cement has "practically fallen to nothing," I say, *resurget*. I do not believe the composite cement to be of equal durability with the natural cements.

Perhaps you will permit me to say a few words upon the workmanship of Portland. I have witnessed a great deal. I have seen many surfaces peel off, and not until they had been left, perhaps three months, and the scaffolding been taken away. Why will not plasterers use thicker screeds, and finish their work in one coat with the screed rule, instead of working all the water used in gauging to the surface with the hand-float and the trowel, absolutely spoiling the thinner coat whilst they lay it on? CAUTIOUS.

JAPANESE DECORATION *VERSUS* "THE FLAT GEOMETRIC."

THE object of this letter is not exactly to uphold Japanese decoration against all other styles, but rather to show that the principles of Japanese work are right, and that our present popular "flat treatment" principles are opposed to pure art. All will admit that a fresco painting is good decoration when done by a great artist: now this same work, if done with less finish, is also good; and if the same were done even in two colours by a master-hand, it would be equally good decoration: it would be infinitely more interesting than if the work were executed with flat figures, geometrical plants and hues, &c. And I maintain on this score, that the willow-pattern plate, which is a landscape with a very considerable homely poetical feeling, is much better decoration than a series of leaves treated flatly and geometrically: it contains much more of the poetry of nature. If Japanese work has at any time an appearance of flatness, I assert most positively it is never sought after for its own sake, but arises from the simplicity of treatment. Anything done with a few lines, or in one colour, will have, more or less, an appearance of flatness; but the artist did not set out with the idea of designing "in flat treatment." It is as natural as the simple means used

will permit. We all know the celebrated sporting handkerchief in Mr. Ruskin's "Two Paths:" that is geometrical treatment, but not art; and no geometrical treatment can compare with nature, because it is wanting in the poetry of nature, that which alone appeals to the mental faculties of man. This is a metaphysical truth too apparent to require any defence. A great artist, when designing a diaper, does not start with the idea of designing anything flat: he designs something as natural as circumstances will permit, something with as much of the poetry of nature as the simple means at his disposal will allow of. Take as an instance a well-known master-piece of design, the title-page of "Goblin Market," published by Macmillan.

The two diapers at the top are drawn without any geometrical exactness, and are, consequently, very picturesque and interesting. Then there are four sprigs of lovely tenderness, by no means stiff or geometrical, but, drawn as naturally as possible with such simple materials, they have all the poetry of nature. But they are somewhat flat, which arises not from any desire on the part of the artist to make a flat design, but from the simplicity of the drawing; for it is evident his desire was to give as much of nature as he could. Hence I maintain the flatness observed in designs by great masters does not arise from any predetermined theory, but from the nature of the work; and, moreover, no great artist ever distorted nature by "treating" it geometrically. A great artist is incapable of such barbarism: he could not be so destitute of all noble feeling for the poetry of nature. Geometrical patterns are hard, coarse, and spring from the same want of tenderness, pensiveness, and poetic feeling that we observe in the coarse vulgar mouldings common in modern architecture. The flight of birds, the bird on the tree, or the wild animal under the bush of Japanese design, shows a real love of the poetry of nature which is totally absent from the bands, zigzags, and circles of "geometrical design."

QUAM DILECTA.

OPEN SPACES AND SQUARES.

THE waste condition of many of our public spaces and the want of horticulture in the better squares, now that the recent Act empowers parochial authorities to take them in charge, ought to receive the attention of the districts in which they are situate, the season being now opportune for improvements, such as planting, trenching, turfing, and cutting away all decayed trees or superfluous growth of scrub.

On a review of the better squares, it may be remarked that the external borders are generally screened off by a hedge, close within the iron fence, just shutting out all view of what ought to offer a pleasing aspect to the opposite houses as well as to passers by; whereas the outer margin should be always bordered in turf, so as to form an agreeable and refreshing outline, whatever the style of plantation adopted may be.

The condition of trees in the oldest and most central squares, and of the shrubs, plants, and turf, where any care is manifested in the culture, proves how easily a reform might be carried out which would increase the value of all neighbouring property and diffuse general satisfaction in these respects amongst all Londoners and visitors; and as to the style of planting out and embellishing, a very fair example has already been set in the new borders of Hyde and Regent's Parks and Kensington walks.

First, as to the forest trees. In some inclosures, such as the miniature Golden-square, two of the worst grown out of three ought to be removed; and this thinning process is equally needed in the groves of Kensington; where also dead and decaying trees much disfigure the otherwise pleasing effect of the survivors. The most unaccountable neglect, in this particular, is to be seen in a space of an acre, railed round, in a really good neighbourhood, formerly called Paddington Green (now more properly *Brown*). A footway crosses this inclosure, which on two sides has ranges of good houses and forecourts; on the west, a fine church with satisfactory precincts; and on the south the main Harrow-road. Herein are twenty trees of mature growth, five of which are dead, decaying, and stripped of bark. This open is of the greatest value to residents and children; but utter neglect has converted the whole area to a bowling and tilt yard. The rational and healthful amusement of children need be in no degree obstructed by reclaiming and planting (say one-half of the plot), turfing round its outer border, planting and defending the beds with a strained wire cord, and by placing fixed seats or forms at suitable intervals. By such management, not only the trees but flowers could be provided, while this now repulsive inclosure might be rendered an ornament to the neighbourhood, and a solace to the residents.

By extending the same sort of management to the more important squares, such as Lincoln's-Inn-fields, there is no reason to suppose that these gardens, as yet locked against the whole community, should not be as secure from damage or wanton mischief as the park borders, or the more central Temple Gardens, which have always been so liberally and gratuitously thrown open for the enjoyment of all classes. Formerly, when comparatively rural suburbs were within walking range of the central metropolis, the embargo imposed upon locked-up spaces was as unimportant as the screening off the view by close bordering hedges; now, however, all squares, all trees, and every patch of verdure, have attained a value just in proportion to the denseness of the crowds compacted within the bills of mortality.

To cite all the gardens and railed inclosures which need renovation and care, would fill many columns; but allusion to the waste condition of Oxford and Cambridge terraces, in the greater portion of those ranges, may for the present suffice.

Should the advice be acted on with respect to closed churchyards, by railing in and planting, as recommended in last week's *Builder*, then, with the improvement of our squares, London might stand well in comparison with other cities.

J. NEWTON, F.R.H.S.

HOW PREVENT AN ECHO?

SIR,—Will any of your readers inform me what means should be adopted to endeavour to destroy a loud and exceedingly unpleasant echo in a country school-room. The room is lofty, with gable ends and spar to the roof, which is framed with trusses and plastered between the rafters, the size about 50 feet by 24 feet, and the roof at an angle of as nearly as possible 45 degrees. Woollen cloths have been hung upon the trusses, which have produced a slight improvement, but it is desired to adopt some simple, inexpensive, and effectual means to remedy a defect which materially interferes with the operations of the school. Would the introduction of a louvre and openings in each gable, or an open ridge the whole length of school-room, effect the object? A suggestion from any of your readers experienced in these matters would be gratefully received by the rector and myself.

E. C. O.

NEWNHAM (GLOUCESTERSHIRE) LOCAL BOARD.

SIR,—We often hear of the jobbery of public bodies, but I never met with a more unblushing case, or one betraying more *stupidity*, than the "election" of surveyor to the Board for the districts of Aure, Newnham, and Westbury-on-Severn. This sagacious and immaculate body advertised for candidates to send in applications, &c., by the 28 h October, and that they would "on Friday, the 30th day of October instant, at a *quarter* past twelve a.m. [observe the precision], at the town-hall, Newnham, proceed to the election of a surveyor and inspector of nuisances for the above-named district."

I unwittingly wasted my time and money in replying to this specious announcement. My application was duly posted on the 27th, and doubtless arrived in due time, and on Friday morning, the 30th inst., at a *quarter past eight*, just four hours before the time announced for the meeting, I received by post, at the distance of one hundred miles from Newnham, my testimonials, inclosed in an envelope bearing the Newnham post-mark of the 29th, but without the slightest intimation or any letter stating the respit of the aforesaid "election."

Comment on the above is unnecessary; but the public have a right to know by what authority a decision could be arrived at before the legally advertised meeting had taken place.

C. E.

PATENTS CONNECTED WITH BUILDING.*

OVENS OR KILNS FOR FIRING, BURNING, OR BAKING POTTERY, BRICKS, TILES, &c.—*C. Malpas.* Dated 21st February, 1863.—The patentee claims, first, the construction and employment of annular ovens or kilns with revolving beds for baking, burning, or firing pottery ware and earthen or ceramic articles, having one or more external furnaces; and diametrically opposite these, or at some distance from the same, one or more openings for filling in and removing the goods to be fired, and in which ovens or kilns the draught from the furnace or furnaces passes directly underneath the objects to be fired, and thence vertically up among the same into one or more flues formed over or near the roof of the oven or kiln. Also in combination with the above the arrangement of flues lining a certain portion of the walls of the oven or kiln for gradually raising the temperature of the articles to be fired before they reach the furnaces, substantially as set forth. Secondly, the construction and employment of a chamber serving as a mustering, drying, and placing room, formed on the top of annular ovens, or kilns with rotating beds, so as to utilise the spare heat therefrom. Thirdly, the patentee claims in combination the arrangement of the several parts of annular ovens or kilns with rotating beds, as described.

HEATING AND WARMING.—*G. Blake.* Dated 29th January, 1863.—This invention relates to the construction of stoves of corrugated or waved or zig-zag iron (or other suitable metal) or fire-clay. A fire placed inside the improved stove is the usual source of heat, but steam, hot water, or a gas flame is applicable. In the first place, the patentee prefers to use plain sheets of iron to form the case, to which the corrugated iron or material is fastened by means of rivets, bolts, or otherwise, such corrugated iron or material deriving its heat through the case of the stove partly by radiation and partly by conduction; but these stoves may be constructed without such cases of plain sheets of iron when the corrugated iron or material forms the case, deriving its heat directly from the fire or furnace. In this form the corrugated stove may be constructed of fire-clay (burnt in the usual way), or of cast-iron or wrought-iron.

APPARATUS FOR COPYING AND REPRODUCING SCULPTURE AND OTHER OBJECTS OF ART. W. Clark. A communication. Dated 28th January, 1863.—This invention relates to an improved process termed photo-sculpture, which is based on the employment of photography in connexion with the pantograph. By this improved process the patentee can produce sculpture exactly similar to the model, whether living or otherwise, with much greater rapidity, at a less cost, and by the aid of persons having no previous knowledge of the art. He can further lessen the time necessary for the sitting, and produce sculpture of larger or smaller dimensions than the original, or in any other proportions desired. This invention cannot be described without reference to the drawings.

PRESERVING TIMBER.—*H. P. Barlow.* A communication. Dated 28th January, 1863.—This invention consists in placing the timber in a closed vessel, from which the air is exhausted by suitable air-pump machinery, then subjecting it to the action of a metallic salt, and then to the action of tar, or other bituminous substance.

METALLIC BOXES.—*W. Rollason.* Dated 27th January, 1863.—This invention has for its object improvements in metal boxes, cases, or holders for containing lucifer matches and other lights, and for other purposes; and consists in so shaping and forming the plates of which the said boxes are made that the joints at the angles formed by the junction of the sides and ends are self-attaching, or self-securing, when fitted and pressed together, forming a box or case without requiring the angles to be soldered or otherwise fastened by any additional matter.

HORTICULTURAL BUILDINGS AND OTHER GLAZED EXTREMITIES.—*J. Miller.* Dated 5th March, 1861.—For the purposes of this invention the heads and sills of the side and end frames are connected together by metal bands or angle iron, and the uprights or mullions are tenoned to these frames; and when either the side or end frames are of considerable length, the patentee sometimes forms them in separate parts or sections by dividing them vertically through some of the vertical portions or mullions, and then connecting such divided parts by screws, so that they may be readily separated and reconnected when required. To give strength and stability to such structures, he supplies cross stays of iron or wood from the mullions of one side to those of the other, connected by wood screws. The side or end sashes, in place of being hung, are formed in two sets to slide one over or to pass one in front of the other on metal ridges which are perforated to admit of water collecting between them freely passing away. The overlapping portions, when the sashes are closed, lie behind the uprights or mullions. He also forms the roof in similar parts or sections by division of the main beams, which are in this case attached to the glazed frames. He also, for a span roof, employs two ridge pieces with a space between them for the free passage of air, and he connects these together at intervals. Over these connexions, and between the ridge pieces, he applies a stationary plate or board with perforations at intervals, and over this he applies another plate or board, also perforated, and capable of being slidden, so that either the perforated or the plain portions of this sliding plate or board may come over the perforations of the stationary plate or board. The sliding plate or board is moved by a lever or other suitable means; and, if desired, there may be two or more of them. Over such perforated plates or boards, and the ridge pieces between which they are placed, and somewhat above

* Selected from the lists in the *Engineer*.

them, supported at intervals so as to admit of ventilation, he applies a narrow span roof.

Apparatus for Manufacturing Bricks, Tiles, Pipes, &c.—*J. Cowley.* Dated 9th March, 1863.—This invention relates to a peculiar arrangement, construction, and combination of machinery or apparatus for moulded bricks, brick mouldings, perforated bricks, tiles, and drain-pipes, whereby less power is required to actuate the machine, and a smaller proportion of water employed than in the ordinary methods of brick-making. According to this invention a hopper and pug-mill, with a receiving box and piston, are employed in combination with a mould box, which is also provided with a piston of its own. The clay, which may be taken direct from the bank, is placed in the hopper, and prepared and well worked by the knives of the pug mill, which also force it down from the receiving box, from whence it is forced by a piston or plunger into the mould. If a perforated, or partially perforated, or recessed brick is required, this mould-box is provided with cores of greater or less length to produce the perforations or indentations intended to be produced. From this mould the brick thus moulded and pressed is expelled by a piston working therein, and is received on to an endless travelling web, which carries it clear of the machine. In making tiles and pipes the brick mould is removed and replaced by the required mould or die to suit the articles to be manufactured.

Books Received.

The Quarterly Review. October, 1863. Murray.

The leading article in the new number of the *Quarterly* is a somewhat comprehensive one on the "Progress of Engineering Science," by a writer whose course of thought may readily be recognized. The article concludes with a parallel and contrast between engineering and architecture, which we may here quote at length:—

"Besides the admiration which the works of our great engineers excite from the grandeur of their conception or the mechanical skill displayed in their execution, they have still another merit as worthy of the attention of the philosophical inquirer as either of these. They are the best and most complete examples that exist in modern times of an art carried out on scientific principles, and according to those processes by which alone success has hitherto been, or, so far as we can see, ever will be, achieved in any art. From the days of old Sir Hugh Myddelton to the present time, the only question with an engineer, after mastering the conditions of the problem put before him, was how he could most efficiently carry out the work with the most suitable materials and within the limits of the means at his command. In doing this the engineers have eagerly appropriated every scientific discovery, and availed themselves of every new invention. They have always used the materials best adapted for their purposes, and in the mode in which most work could be got out of them. They have never looked backwards to the exploded form of ancient days, but always acknowledged the age in which they lived, trying to outstep even its rate of progress.

In this respect the engineers contrast singularly with the architects, who form the other branch of one and the same profession. The latter, instead of following out principles, are content to copy forms, rarely thinking of what is really best under the circumstances. It is sufficient for them to know that a thing was done by some other people in some bygone day, and without thinking how social circumstances may have changed or the arts progressed since that time. If it has been done before, it ought, according to their creed, to be done again. They aim at restoring an artistic heptarchy in the midst of the progress of the nineteenth century.

The principles which the engineers are following out are identical with those which taught the Egyptians how to erect the wondrous temples which still adorn the banks of the Nile, by the use of which the Greeks perfected their architecture, and which enabled the masons in the Middle Ages to erect those cathedrals and castles which we still admire so much. In all other ages but this the principles of architecture were as well understood and as fixed as those of engineering. They were, in fact, identical; and it was just as easy to ascertain then what was the best design for a cathedral or a mansion, as it is now to know what is the best form of a ship or the best mode of building a bridge.

The consequence of this divergence of principle is, that the architects are quarrelling over Greek mouldings and Gothic pinnacles, and dreaming of reproducing the elegance of Classical times, or the blundering enthusiasm of the Middle Ages, while the engineers are spanning our rivers with structures such as the world never saw before,—bridging our valleys with viaducts, arching under our mountains, and roofing acres for stations. They are, in fact, executing a series of works that throw everything hitherto done into the shade: but all this, unfortunately, without that touch of higher art which is alone wanted for perfection; and this simply because the building profession is divided against itself. Because its two branches are conducted on different principles they cannot work together. The engineers cannot forego theirs, because they are the only principles which men of common sense can follow: so, unless the architects will consent to forego some of their archæological fancies, and work harmoniously with the engineers, we may be condemned to live in the midst of ugliness for ever. It is only this re-union that is wanted to perfect the works described above, and it ought to be easy of accomplishment. The architects themselves would delight in the change. It is the public, who are their employers, who do not see the necessity for it, and cannot understand its bearing. When once the fact is appreciated we shall surpass all preceding ages in architecture, as we have done in engineering; and if the engineers can only force this fact on public attention, they will have done a greater service than in bridging the Menai Straits, or in tunnelling through the Alps. To call architecture back within the domain of logic and of common sense is what is most wanted on the part of the engineers to complete the services which they have rendered and are rendering to mankind."

In speaking of the great works done by the modern engineers, the reviewer remarks that,—

"Twenty years ago we looked with wonder at the great halls of Padua and Westminster, though the former is only 84 feet span, and the latter 68, and were astonished at the boldness of their construction. But now we regard with indifference two such halls as those which compose the station of the Great Northern Railway at King's Cross, 105 feet wide, 800 long, and 91 high; and even such a roof as that of the Lime-street Station at Liverpool, 152 feet wide, does not excite astonishment. Even now it is only the engineer who knows how difficult the task is—or rather was—that sees anything to be surprised at in the great roof of the station at Birmingham, 654 feet long, and at one end 212 feet wide, without any internal supports. Yet this roof, which is perfectly stable, was erected at a cost of 1*l.* 8*s.* 6*d.* per square yard, and promises to answer for many a long day all the purposes for which it was intended. As a general rule these works have been carried out in too great haste to allow of careful artistic elaboration, and with too much of a feeling that even the largest were only suited to present wants, and would require extension hereafter. They are thus open to adverse criticism: but it is an immense gain to have conquered space; to know that there is no practical limit to the extent of our roofs, and consequently that a largeness of parts may be introduced into our buildings, which cannot fail to have a beneficial effect on the art of design."

As no very clear account has been given of the uses of hydraulic power on Sir William Armstrong's principle, the reviewer's summary may be useful:—

"Recently a new application of water-power has been effected by the inventive genius of Sir W. Armstrong. He first applied it at Newcastle, where the general level of the town is very much above that of the wharfs of the harbour, and the waterworks in consequence provided a very tall column of water at the lower levels. Of this he availed himself by applying the pressure so obtained to force a piston along a watertight cylinder, and with a simple multiplying gear the cranes on the quays were made, by the mere turning of a cock, to raise any weight their construction could support. By applying the water-power alternately on both sides of the piston, and acting on a cranked axle—as done in the steam-engine—a water-engine was next invented, capable of exerting any amount of power that could be obtained from the height of the column of water and the amount of supply. When a sufficient head of water is available, or where the work is intermittent, this is certainly one of the most successful applications of water-power yet invented. At Great Grimsby Dock and at Birkenhead pipes are laid under the pavement from a reservoir at the top of a tall tower, to every part of the dock premises. At the foot of every crane, under the piston of every hoist, at every dock-gate, unseen and noiseless the power lies dormant; but a woman's hand applied to a small handle will set in motion a force sufficient to raise a mass weighing fifty or one hundred tons, and either to place it in the hold of a ship, or deposit it in any spot within reach of the arms of the crane. With equal ease the gates of locks 100 feet in width are opened or shut, and the smallest as well as the heaviest works of the dockyard done without a stranger being able to perceive what it is that sets everything in motion."

In speaking of the atmospheric railway, and air as an accumulater and transmitter of power, the reviewer omits to speak of what is now being done in the way of "pneumatic despatch."

Miscellanea.

The New Hotel near the Crystal Palace. The arrangements for the erection of the Prince of Wales Hotel, about to be established, at a cost of nearly 100,000*l.*, by the public company of which Lord Ranelagh is chairman, have advanced so far as the completion of the builder's contract. Mr. J. T. Robinson, of Hull, has been the successful competitor for the contract.

Photographic Waste.—At a recent meeting of the Glasgow Photographic Association, Mr. J. Ewing exhibited some ingots of silver, amounting in value, it is said, to 120*l.*, which he stated had been collected by W. M'Nab in about twelve months from old collodion, printing baths, filter papers, blotting papers, and other refuse. Can it be possible that this was done in one photographic establishment?

Condition of Neath Abbey.—Mr. John Prichard, of Llandaff, draws urgent attention, in the *Cardiff Guardian*, to the wretched state of the ruins of Neath Abbey, and suggests that something should be done, before the winter sets in, to protect them from further decay, by such means as asphalt or grout, and masonry, clearing of roof, and drainage of surface-water from the precincts. He also advises a subsequent restoration of levels and removal of *débris*, with search for wall-foundations, and the preparation of careful plans and elevations of the existing buildings. Of course subscriptions are wanted for both purposes.

Working Men's Clubs: Progress in Leeds. At the working men's club in Leeds, established in June, 1861, with about fifty members, there are now usually each evening 200 chess and draught players, 300 or 400 readers, and from 800 to 1,200 in the lecture-hall.

The Chatham Memorial to Prince Albert. A costly drinking fountain, erected on a site given by the Government in the Military-road, Chatham, and built from funds raised by public subscription among the inhabitants of that town, has been formally opened. The foundation is constructed of dark marble and Caen stone, relieved by Kentish rag. On a shield in front are the arms of the Prince Consort. A procession of the various public bodies of Chatham, the inhabitants of the town, and the members of the several benefit societies, accompanied by the Royal Marine Light Infantry, the dockyard police, and other bands, walked in procession to the fountain, which was uncovered by Lieutenant-General Sir J. M. F. Smith, K.H., the member for the borough, in the presence of a vast crowd of spectators. The following is the inscription on the fountain, which is erected from the designs of Mr. G. E. Street:—"This fountain was erected to the memory of Albert, Prince Consort, at the expense of James Budden, Esq., and other inhabitants of the parish of Chatham, A.D. 1863."

Town Drainage of Aberystwith.—A report by the committee appointed by the local Board of Commissioners for the purpose of carrying out the general drainage of the town, as recommended by the late Mr. George Bush, and the widening and improving of the Marine-terrace, has been submitted to the board. The report advises that the works recommended by the committee be, as far as possible, executed by contract, under proper superintendence, and commenced and carried on with the least possible delay, so as to ensure their being completed before next summer. The committee having made another recommendation that a skilled engineer should be employed by the commissioners in carrying on these works, and having promised a supplementary report on the comparative advantages of using glazed earthenware pipes in preference to bricks, conclude by recommending Mr. Theodore Paul, C.E., to the board, as a competent gentleman to undertake the engineering portion of the work.

Turbines on a small Scale for Domestic and Trade Use.—In a house at Manchester, a water-wheel 4 feet in diameter, consuming fifteen gallons of high-pressure water per minute, formerly employed to work the bellows of an organ in the drawing-room over the cellar wherein the water-power was produced, has been replaced, says the local *Guardian*, by Mr. Schiele, with a turbine only 1¼ inch in diameter, with a 3-inch case 1¼ inch wide, supplied by a ⅜-inch pipe, and consuming less than a gallon of water per minute. By a simple regulator the organist can supply his instrument with the required wind by simply giving a turn to a handle near the organ. By availing themselves of the ample supply of high-pressure water in Manchester and other towns (except as in our antiquated capital) "all persons using machines requiring a small amount of power," adds our authority, "now appear to have supplied to them by this invention the means of working their machines with no trouble and at a trifling cost; while at the same time this kind of turbine appears to be equally well adapted for turning large mills and works, even when they require several hundreds of horses' power."

Roads and Civilization.—From the Roman times, and much farther than that back, the roadmaker has been the great agent of civilization, and the means of national prosperity. As with the old roads so it is with the iron rails, and a remarkable instance of this is shown in the fifteenth report of the Scinde Railway Company, which has been recently published. It says that four or five years ago not more than 2,000 camels came down yearly from the border counties of Central Asia, bringing to Kurrachee dried fruits, dyes, and other products of the hills. During the year ending 30th June, 1862, 4,000 camels brought, besides dried fruits and other smaller articles, a considerable quantity of wool; and during nine months of the year ending 30th June, 1863, 7,000 camels have come down, bringing only about 4,000 packages of smaller articles, but 10,000 bales of wool. This wool was sold for 135,000*l.*, of which about 90,000*l.* was taken back in English piece goods, and the remainder in cash. This is the first year the hill-men have taken back money, and they are now fully aware of the value of their produce. It is expected that next year 10,000 camels will arrive with wool.

A PROPOSED FORESTERS' HALL IN PORTSMOUTH.—It is proposed by the Foresters of the Portsmouth district to build for their accommodation a hall capable of seating about 3,000 persons, also rooms in which the Foresters and other friendly societies in the locality might hold their meetings, with schoolrooms attached. There is reason, it seems, to believe that the required capital will be soon obtained.

WORKINGTON.—Nearly all the intelligent inhabitants of the town, it is expected, are in favour of the adoption of the Local Government or Health of Towns Act, and it is hoped that the trustees, who are unanimous in its favour, will be empowered by a proper requisition to take the necessary steps for its adoption in its integrity. The introduction of water has proved the greatest blessing ever conferred upon the town, and as a pecuniary investment its results have been not less satisfactory to the shareholders than to the public at large in a sanitary point of view.

MINERAL WEALTH OF THE COUNTRY.—The "Mineral Statistics of the United Kingdom of Great Britain and Ireland for 1862, by Robert Hunt, F.R.S., Keeper of Mining Records," has just been issued in a printed form at the Stationery Office. From this it appears that the total results are as follows for the year 1862:—

Metals Produced from British Minerals and Coals.

Gold	5,269 oz.		£20,396 value.
Tin	8,479 tons		983,216 ,,
Copper	14,843 ,,		1,493,241 ,,
Lead	69,031 ,,		1,436,345 ,,
Silver	686,123 oz.		189,041 ,,
Zinc	2,151 tons		50,548 ,,
Iron, pig	3,943,469 ,,		9,358,672 ,,
Other metals, estimated			250,000 ,,
Total value of British metals			£14,281,453
Coals	81,638,338 tons		20,409,584 value
			£34,691,037

Earthy minerals, such as barytes and lime, salt, and the more valuable clays, are estimated at 1,750,000*l.*, and we find, by a return compiled by Mr. Hunt in 1859, that the value of building stones, slates, &c., amounted to 7,954,075*l.* The actual wealth added to the national store, therefore, as obtained from our native rocks, amounts to nearly 45,000,000*l.* sterling.

RAILWAY TRAFFIC.—Some important and interesting railway statistics have been published. It appears, according to our authority, the *Gloucester Chronicle*, that in 1862 the goods traffic reached to 30,256,913 tons, which was a decrease, as compared with 1861, of 381,980 tons; caused, doubtless, by the state of the cotton districts. But while the traffic was less the receipts were more: in 1861 they were 9,423,305*l.*; and in 1862, 9,636,546*l.* Thus while the traffic decreased 1¼ per cent. the receipts rose 2½ per cent. This is attributed to the character of the goods conveyed to the International Exhibition. The whole coal supply of the metropolis in 1860 was five millions of tons, of which 3,500,000 tons were sea-borne, and 1,500,000 tons were brought by railway. The minerals carried by the railways of the United Kingdom in the same year exceeded sixty millions of tons. The great bulk of this enormous traffic must have been coal. The mineral trade now conducted by railway companies has exceeded in the present year 63,000,000 tons, representing a value, speaking in round numbers, of 31,500,000*l.* The gross receipts for this traffic were 4,957,406*l.*, the average cost being 1s. 6¼d. per ton.

THE PROPOSED NEW GAOL FOR SALFORD.—The committee appointed at the Salford Sessions in April, 1862, to take on lease three plots of land adjoining the Assize Courts, as the site for the new gaol, reported that they had difficulty in obtaining one of the plots, and had submitted to the Secretary of State another plan, so re-arranged as to admit of the gaol being built on the smaller area, giving the same amount of present accommodation as the original design, though not capable of quite so large a future extension. The Secretary of State having approved of the plan, the committee recommended that the gaol be constructed in accordance therewith. Tenders had been advertised for, and the committee recommended that the following be accepted:—Samuel Bramall, Hulme, general contract, 86,519*l.* 19s. 4d.; G. N. Haden & Son, Trowbridge, ventilating and warming, 6,030*l.* 6s.; J. Jeffrey, Manchester, for gas service, 1,400*l.*, and for water service, 2,873*l.* 10s.; J. Heywood, jun., Derby, ironwork for galleries and other internal fittings, 3,863*l.* 0s. 6d.; Chas. Smith, Birmingham, bells, 629*l.* 12s.; Hadfield & Atkins, Cheetham, for various descriptions of bricks, 800*l.* The report has been adopted at the recent Sessions.

THE COST OF TAKING THE CENSUS.—A parliamentary return shows that the expense incurred at the central office, by taking the census for England and Wales in 1861, was 95,720*l.* In 1851 it was 93,132*l.* and in 1841 was 86,727*l.* But the cost per 1,000 of the population was, in 1861, 4*l.* 15s. 5d.; in 1851, 5*l.* 4s.; and in 1841, 5*l.* 0s. 9d. The grant made by Parliament for the census of 1861 was 105,000*l.*, of which 9,280*l.* remain a balance in hand.

AUCTIONEERS' COMMISSION.—A mortgagee cannot, when he advances his money, stipulate for an advantage not naturally arising out of his mortgage. Therefore, where auctioneers, at the time of advancing their money upon mortgage, stipulated for an authority to conduct the sale of the estate, and for a commission of 5*l.* per cent. upon the amount of the purchase-money, over and above the repayment of principal and interest, it was held by the Master of the Rolls that the charge for commission was not covered by the security. This was the case of *Broad* v. *Self's*, in which his Honour said it was not competent for a person under colour of a mortgage to stipulate for a distinct collateral advantage.

THE MIDDLE-LEVEL MAIN SEWER.—On the 27th of October, the vestrymen and other officials of the parish of Clerkenwell were afforded an opportunity of inspecting the Middle-Level Main Sewer, connected with the main drainage of the metropolis. The visitors having assembled in St. John's-square, descended into the sewer, which is there 30 feet below the surface, and 9 feet in diameter. They then went eastward as far as the City-road, the sewer being lighted up for the occasion by candles stuck in the side walls. On the route were seen the ventilating shafts and the inlets placed for the reception of the sewage of the district. On the return of the party a *déjeûner* was provided in the sewer at the cost of the contractors.

THE EXCAVATIONS OF ROMAN REMAINS AT WYCOMBE.—The committee who have been engaged in excavations of the Roman site, at Wycombe, near Andoversford, invite the attention of antiquaries, and especially of those of the county of Gloucester, to this subject. They state that the field in question forms an area of more than 32 acres, three-fourths of which, in all probability, are covered with Roman remains. Some of the walls and foundations are of the best cut stone work: others are less carefully built: some are 2 feet 4 inches thick, others 18 to 20 inches: some of the pavements are of hewn stone, the greater number of them planking, or gravel concrete. No tessellated pavements have yet been discovered, but hypocaust tiles have been found. Various interesting relics have been discovered in the prosecution of the works. It is considered evident that Wycombe and the adjacent land have been the site of a large Roman military station, with a town or village attached to it, and situate at the convergence, near Andoversford, of an ancient road from Cirencester to Cleeve Hill, with others leading to Campden, Stow, and Gloucester. The wish of the proprietor of the land is, that whatever of value is found shall be placed in a museum in the county. Subscriptions will be received, in furtherance of the work, at the several branches of the County of Gloucester Bank.

THE LEEDS NEW INFIRMARY.—Before beginning the works new arrangements as to means have been made. The circumstances were thus detailed, at a recent meeting of the trustees, by Mr. Kitson: He said that the contracts already entered into amounted to 64,750*l.*; the preliminary expenses had been 682*l.*; the amount paid for the original site 18,000*l.*; and for additional land, a considerable portion of which would be resold, 14,000*l.*;—together, 32,516*l.* From this they deducted 10,500*l.* for the resale of land, leaving the cost of the site 22,000*l.* The contract for the building was 64,750*l.*; the estimated cost of enclosing and of alterations, 2,500*l*; of washhouses and out-offices, 3,000*l.*; of warming, furnishing, &c., 5,000*l.*; and architect's commission and the clerk of works, 4,000*l.*; making a total of 101,948*l.* They therefore now asked for authority to expend more than double the sum originally contemplated. As to the "ways and means," the subscriptions, including the amount specially for endowment, were 62,752*l*, and from the sale of the present Infirmary they expected to realise 30,000*l.*, which would leave a deficiency of 9,000*l.* This it was confidently believed would be timeously provided for by farther subscriptions. It was proposed to mortgage the new building for 15,000*l.*; but it was resolved rather to borrow money on the land not required for the Infirmary.

DRINKING-FOUNTAIN MOVEMENT.—Dr. Westall, of Croydon, has presented to that town a polished grey granite drinking-fountain, which is placed in front of the Public Hall.

NEW CHURCH AT PADDINGTON.—A new church is to be erected in the north part of the parish of Holy Trinity, Paddington; and an eligible site has been secured at the east end of Woodchester-street, and near the west end of Delamere-terrace and the Paddington Canal.

MONUMENTAL.—It was some time ago resolved to erect at Halifax an equestrian statue of the late Prince Consort. The commission to execute the work has been given to Mr. Thorneycroft, of London, the cost to be 1,300 guineas. Several members of the Royal family have, it is stated, seen and expressed their approval of the model. ——A committee has been formed at Luino, in Lombardy, for the purpose of erecting a grand monument to Garibaldi. It is to consist of a colossal statue.

THE LINSEED OIL NUISANCE.—Many persons fancy from not hearing the loud complaints of some time back, that the tricks of trade have ceased. It is a delusion. The evil is unchecked. If this state of things is to continue long, we shall be obliged to petition Parliament when it re-opens. It is simply ridiculous to think that we are to be fooled for ever by dishonest manufacturers. If we get nothing by petitioning Parliament, which is very likely, the best plan, in my opinion, is to set up a "Linseed Oil Company." We should thus be supplied in time with a genuine article, of course by paying extra for it; but the English public would rather pay a little more and have less to do with the unpleasant sticking now so common.—A FRIEND.

JACKSON, FELL, & JOPLING *v.* THE ROMAN RAILWAY COMPANY.—The Tribunal of Commerce of the Seine has just given judgment in an action brought by Messrs. Jackson, Fell, & Jopling, English engineers, against the Roman Railway Company, to recover damages for breach of contract, which were laid at 600,000fr. In 1837 the plaintiffs were competing with the Caza Valdez Company (afterwards absorbed in the Roman Railway Company) for the concession of the line from Bologna to Ancona, but withdrew from the competition when promised the contract for executing the works of the line; and as this promise was not realised, they obtained as an indemnity 500,000fr. in cash, and the promise of the works of the line from Ravenna to Porto-Corsini, which the company hoped to obtain from the Pontifical Government, then still in possession of Romagna. After that arrangement, these provinces fell under the sovereignty of the King of Italy, and his Government granted the line from Ravenna to Porto-Corsini to the Roman Company, in exchange for the Ferrara line, which the Government had transferred to the Lombard Company. In consequence of these changes, the Roman Company refused to fulfil their promise to the plaintiffs, and confided the execution of the Ravenna line to their general contractor, M. Briot, and hence the present proceedings. The Tribunal, after hearing counsel, decided that the plaintiffs had clearly established the breach of contract, and were entitled to damages, which it estimated at 80,000fr., and accordingly condemned the defendants to pay that sum to the plaintiffs, with all costs of suit.

TENDERS.

For a house at Tufnell Park, Holloway, for Mr. George Mee. Mr. George Truefitt, architect:—

Warne (accepted)	£1,652 0 0

For erection of temporary buildings for Birmingham Dog Show. Materials the property of, and to be removed by, the contractor. Mr. Edward Holmes, architect:—

Webb & Son	£449 0 0
Barnsley & Son	430 0 0
Wilson	420 0 0
Smith, Brothers	400 0 0
Cresswell	390 0 0
Branson & Murray	370 0 0
Matthews	330 0 0
Horsley, Brothers (accepted)	277 0 0

For alterations and additions to the City Music Hall, exclusive of repairs, painting, &c. Mr. William Paice, architect. Quantities supplied by Messrs. Oliver & Paice —

Hack & Son	£377 0 0
Richards	374 0 0
Percey	370 0 0
Child & Son	260 0 0
Ring	248 0 0
Ramsey	233 12 0

For Surrey County Schools, Cranley:—

Norris	£9,600 0 0
Sharpington & Cole	9,553 0 0
Lawrence	8,997 0 0
Futcher	8,000 0 0

For paving works in Lansdowne-road, Lee, for Plumstead District Board of Works. Mr. Francis F. Thorne, surveyor :—

Greaves	£111 5 0
Rutty	107 10 0
Hobbs	106 0 0
Holliss	99 15 5

For new board-room building and offices, at Old Charlton, for the Plumstead District Board of Works :—

Drake	£3,400 0 0
Thompson	3,326 0 0
Simms	3,300 0 0
Mills	3,018 0 0
Marsland & Son	2,889 0 0
Tongue	2,860 0 0
Myers & Son	2,782 0 0
Stevenson	2,749 0 0
Wardle	2,700 0 0
Kirk	2,647 0 0

For new brick sewer, 39 inches by 30 inches, and 2,856 feet in length, in Eltham-road, for the Plumstead District Board of Works :—

Kirk	£2,246 0 0
Sharon & Co.	2,099 0 0
Hill, Keddell, & Robinson	1,959 0 0
Hartland & Bloomfield	1,863 0 0
Kent	1,850 0 0
Mann	1,789 0 0
Haynes	1,726 0 0
Hubbard	1,561 0 0

For repairs, alterations, and fittings for Metropolitan and Provincial Bank Company, 86, Oxford-street. Quantities supplied :—

Jackson & Graham	£1,206 0 0
Goodwin	1,067 5 6
Patman & Fotheringham	1,056 0 0
Simms	1,050 0 0
George	872 15 0

For the enlargement of Lincolnshire County Asylum :—

Tims & Son	£14,360 0 0
Wallis & Son	14,328 0 0
Craven, Brothers	13,900 0 0
Pattinson, Brothers	13,535 0 0
Huddleston	12,463 0 0
Ward	12,038 0 0
Warburton, Bros. (accepted)	11,750 0 0

For New Church of Immanuel, Broad-street, Birmingham. Mr. Edward Holmes, architect. Quantities supplied by Messrs. Cox & Mansell :—

Smith, Brothers	£2,850 0 0
Briggs & Son	2,596 0 0
Partridge	2,490 0 0
Matthews	2,353 0 0
Wilson (accepted)	2,300 0 0

For new national schools at Oldbury. Mr. Edward Holmes, architect. Quantities supplied by Messrs. Cox & Mansell :—

Butler & Marsh	£2,078 0 0
Jones	2,050 0 0
Hardwick	1,989 0 0
Edwards	1,972 0 0
Partridge	1,900 0 0
Matthews	1,899 0 0
Field	1,897 17 0
Round & Bagnall	1,898 0 0
Jeffrey & Pritchett	1,890 0 0
Showell	1,880 0 0
Trow & Son	1,825 0 0
Stockton & Field	1,817 0 0
Addenbrook	1,812 0 0
Burkitt	1,784 0 0
Ramsey	1,748 0 0
Harley (accepted)	1,740 0 0

TO CORRESPONDENTS.

G. W.—R. H.—G. T.—F. F. T.—C. L. (if the designs did not reach *the committee* on the day named in the list on which designs would be received, they would be properly considered too late) L. R (the distribution in question was not viewed as a lottery)—R. D C—E. W. F.—E. J. (should take proper advice from one who can look to all the circumstances).—F. G.—H. M.—H. B S.—J. P. (would take us into theology).—R. T. S.—F. W.—J. E.—R. F. C.—A. B. C.—*Quam Dilecta*—E. W.—W. F. P.—E. H.—B. H. (a "quantity surveyor" is accountable for incorrectness).—T. B. N. G.—N. M.—J. A. D.—J. A. (in type).

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender, not necessarily for publication

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

CHURCH, TURRET, AND STABLE CLOCKS.—Clergymen, architects, committees, &c., can be furnished with estimates and specifications for every description of horological machine, especially cathedral and public clocks, chiming tunes on any number of bells. A short pamphlet on church and turret clocks post free, on receipt of one stamp. J. W. Benson, Maker of the Great Clock for the Exhibition, 1862, 33 and 34, Ludgate-hill, E.C.—[Advt.]

ALBEMARLE-STREET,
NOVEMBER, 1863.

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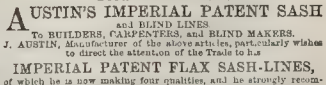
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The advantages of this plan are two-fold.
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Apply to RICHARD LANGLEY,
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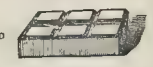
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For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of pores preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
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Manufacturers of
PATENT ASPHALTE ROOFING,
BOILER, RAILWAY, SHEATHING, and INDORous FELT,
For Damp Walls, and Lining Iron Houses.
DOWGATE HILL, London; and 2, GOREE PIAZZA, Liverpool.

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A LARGE ASSORTMENT of STATUARY and COLOURED MARBLE, also ENAMELLED SLATE and STONE CHIMNEYPIECES, at Prices to command their Orders.
CARVED TRUSS STATUARY MARBLE CHIMNEYPIECE, 14-in. PIERS, FOR £6.

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ON IMPROVED PRINCIPLES.
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Estimates furnished for every description of Zinc Roofing and Guttering, inclusive or exclusive of Timber or Iron Framing, in all parts of England
Having for several years been actively employed in laying DEVAUX'S THICK ROOFING ZINC (the purest extant) upon the new principles introduced by Mr. Edmeston, Mr. TYLER can refer with confidence to work done as his best recommendation.
Good Zinc badly laid will still be a failure, for there is much more importance in the mode of laying than is yet generally known; and parties who will intrust their work to Mr. TYLER will find that this important point is thoroughly attended to, and at no extra cost.
This Zinc thus laid is quite as lasting as lead, if the woodwork is arranged according to Mr. TYLER'S directions.

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GREAT EXHIBITION,
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GEORGE JACKSON & SONS,
HAVING BECOME THE PROPRIETORS OF THE PATENT RIGHTS IN
DESACHY'S FIBROUS PLASTER,
Beg to call the attention of Architects to its Capabilities.
It is adapted for the speedy and economical production of any coffered or circular work, waggon-headed ceilings (all bracketing being avoided, as it is fixed to the joists direct), fluted and plain columns, panelled dados, all kinds of diaper, &c., for the linings of walls and ceilings, and for all purposes of ornamental plaster.
The advantages are great. It is of great Lightness and of excellent quality; it is not inflammable, and is ready to be painted immediately after it is made. It has been used (under the direction of Owen Jones, esq.) for the ceiling of St. James's Hall; at Messrs. Osler's, Oxford-street; Mr. Hancock's, New Bond street; the Crystal Palace Bazaar; the Home for the Aged, South Lambeth; and at various other Works.
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1862.

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The Agricultural Hall, Islington, containing an Acre of Glass, was supplied by me. Mr. Rivers, and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured me with orders for home use and for exportation.
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PATENT INDURATING SOLUTIONS,
For the Preservation of Stone, Cement, &c.;
PATENT SILICEOUS PAINT, FOR COATING BRICKS, CEMENT, &c.
FIRE-PROOF VARNISH,
For Internal Wood Work, Roofs, and Church Work generally. This Varnish renders Wood Uninflammable, and Preserves it from Decay.

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PATENT FLUO-SILICIC INDURATIONS for the PRESERVATION of STONE, CEMENT, and other like materials. The Company apply to the surface of Stone, Cement, &c a solution of Fluo-Silicic Acid, and Silicate of Potash. These are the only patents which embrace the use of that most valuable agent, Fluo Silicic Acid. Bath, Caen, and other soft stones, when treated by the Company's solution, become extremely hard. The great expense of high ornament to buildings in hard stone has been an obstruction to Art; but since the Fluo-Silicic process can be applied as readily to soft stone after it is carved, that obstruction exists no longer. The Fluo-Silicic at once permanently arrests the decay of all stone.—For further information apply to the Manager of the Company, Mr DUDLEY, Architect, as above.

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By their process, which is patented, pure Zinc Paint is cheaper than White Lead. It does not change colour with the Sulphuretted Hydrogen of the atmosphere.
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CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
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WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.



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GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
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THROUGH THE EXTERNAL WALL.
These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street Borough London.

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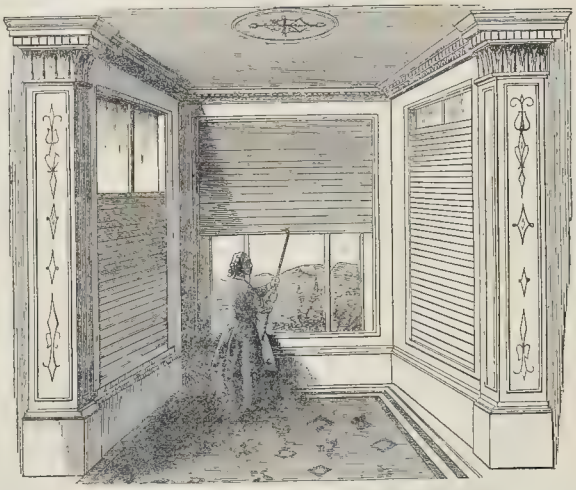


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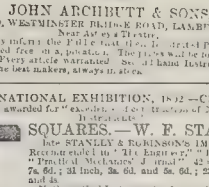
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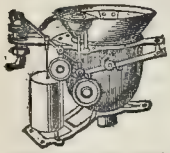
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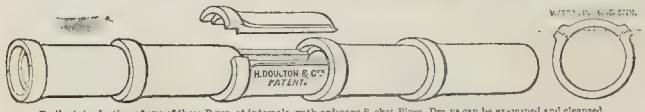


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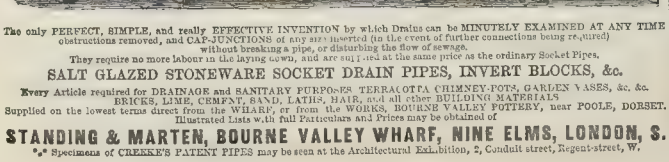
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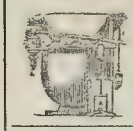
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STANDING & MARTEN, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

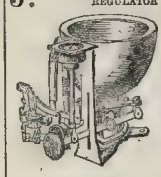
*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit street, Regent-street, W.



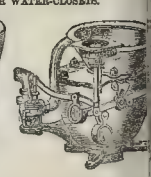


UNDERHAY'S PAT
REGULATOR CLOSETS
stant or Intermitting supply, dis
with Claret's Service Boxes, Valves
Cranks, &c. &c. Much time is s
fixing, and a better flush of water o
is use.
Pan, Valve, Self-acting, and S
Closets on this principle, may be
the Works. They are very cheap
efficiency is guaranteed, 50,000 o
have been sold, and no instance o
has occurred.
TO ARCHITECTS, BUILDER
PLUMBERS, &c.
In consequence of the BANKR
of the late firm of C. BOTTEN & SO
F. G. UNDERHA
now manufactures on HIS OWN AC
his Patent Regulator Water-Closets,
Gas Meters, &c. on the same premis
CRAWFORD PASSAGE, CLERK
WELL, LONDON, E.C.

J. TYLOR & SONS' PAT
REGULATOR WATER-CLOSETS.



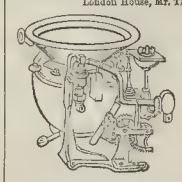
Valve.

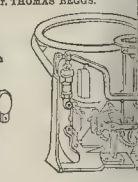


Pan.

The Regulator Valve gives perfect control over the supply o
to each closet, so that, however small the fall of water, perfec
ing is insured. Any number can be worked by one supply pi
cistern-valves, cranks, or wires required. The Closets can be
action at the Manufactory, and Illustrated Catalogues had o
cation to the Manufacturers, J. TYLOR & SONS, Warwic
New-gate-street, London

GUEST & CHRIMES, FOUNDRY
GENERAL BRASS WOR S, Rotherham; and 37, Sout
ton-street, Strand, London, W.C.
London House, Mr. THOMAS BEGGS.





ESKHOLME'S PATENT PNEUMATI
REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficie
simple, free from all smell, and requires no cisterns, service
cranks, wires, or levers, but is complete in itself ready for
ment to any ordinary house service pipes. It is supplied in
qualities, all equally efficient, differing only as to the
fitting up. A second class quality is also manufactured. The
tors are usefully applied to the ordinary Pan Closet, alike dis
with all cisterns, service boxes, levers, cranks, wires, &c. The
lator is supplied separately, as well as connected to ordinary
Servants' Bath Cottage Water Closets.
Chrimes's Patent High-pressure Single and Double Loose Val
Screw Down Cocks; Improved Self-acting and Full Water
Patent Absolute Water Waste Preventer; Plumbers' and
Fitters' Brass Work of every description. Drawings, Descr
Price, and Testimonials will be forwarded per post on app
as above.

INTERNATIONAL EXHIBITION,
CLASS 35, NO. 4849.

3s. 9d.



The ONLY MEDA
STONEWARE
has been awarde
DOULTON & W
LAMBETH POTT
LONDON.
In expectation
greatly increased
& W have determ
introduce the anne
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LED STONEW
CLOSET-PANS,
price of the com
description of
ware.
Experience has
that this shape is t
simple and efficie
that in strength,
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cannot be surpasse
most expensive clo

FIGURE "D" STONEWARE CLOSET PAN AND TRA
3s. 9d. COMPLETE.

PENCILS, BLACK LEAD,
COLOURED CHALKS.
A. W. FABER'S POLYGRADE LEAD PENCILS, sold by
Stationers and Artists' Colourmen.
Sole Agents, HEINTZMANN & ROCHUSSEN, 9, Friday-stre



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JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 "	2 15
4 "	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth, From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c., is recommended for the simplicity of its construction, and the ease with which it works.

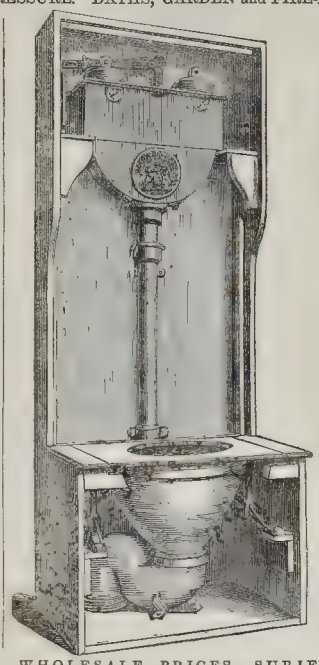
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 "	5 5 0	
3½ "	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 "	4 0 0



IMPORTANT TO WATER COMPANIES

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	2 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.

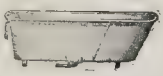


No. 143½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0

Sunk Handle, extra	0 2 0
Blue Basin, extra	0 1 0

No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

CLINTON & OWENS,

Late FOWLER & CO.

WHITEFRIARS STREET, FLEET STREET, LONDON.

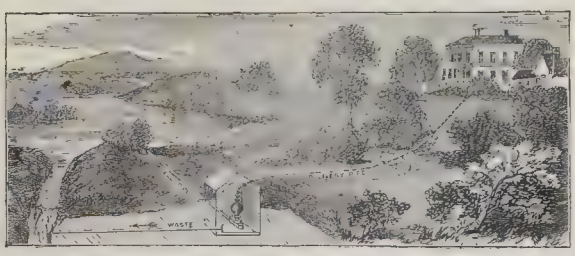
Pumps of every description, for Hand, Horse, Water, or Steam Power.



No. 38.



No. 4.



THE LANDSCAPE SKETCH ABOVE SHOWS THE IMPROVED HYDRAULIC RAM.

This is a simple Self-acting Machine for Raising a considerable Supply of Water where a fall can be secured from a Stream, Brook, or Springs. A great many have been fixed in various parts of the country, for raising from 600 to 6,000 or more gallons per day to elevations varying from 20 to 300 feet, and forcing through main pipes from 50 yards to several miles in length. The fullest particulars and estimates will be handed on application.

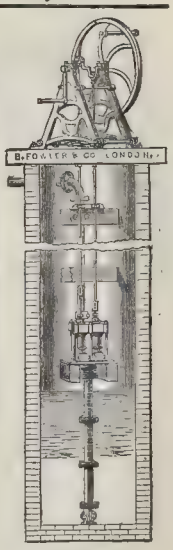
No. 28a.—Double-barrel Force Pumps, for Raising Water from Deep Wells for the Supply of Tanks in Mansions and Public Buildings. Messrs. CLINTON & OWENS also Manufacture and Erect every other Form of Pump for Deep or Shallow Wells for Hand or other Power.

No. 38.—Portable Pumps, with Flexible Suction Pipes. No. 4.—Yard, Farm, Cottage, and other Pumps.

No. 18.—Brass Lift and Force Pumps, on Planks.



No. 18.



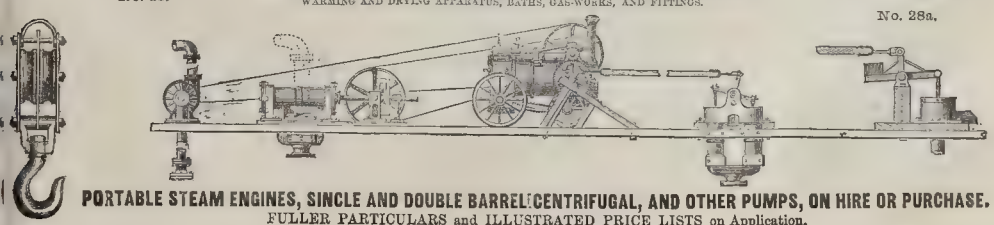
No. 28a.

CLINTON & OWENS

MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

PUMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE; STEAM ENGINES, WATER WHEELS, TURBINES, HOISTS, WARMING AND DRYING APPARATUS, BATHS, GAS-WORKS, AND FITTINGS.



PORTABLE STEAM ENGINES, SINGLE AND DOUBLE BARREL CENTRIFUGAL, AND OTHER PUMPS, ON HIRE OR PURCHASE.

FULLER PARTICULARS and ILLUSTRATED PRICE LISTS on Application.

SALES BY AUCTION.

The New Metropolitan Meat and Poultry Market.—Second Clearance Sale.—Building Materials of various Houses and Premises in and near Smithfield.

PULLEN, HORNE, & EVERSFIELD are respectfully announced that they are instructed by the Markets Improvement Committee of the Corporation of the City of London to SELL by AUCTION, on the PREMISES on TUESDAY, NOVEMBER 10th, and following day, at TWELVE, in lots, all the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS-UP of the RAM INN, and several dwelling-houses, shops, warehouses, and premises, situate on the north side of Smithfield, Smithfield-bars, and Charter House-lane; comprising excellent stock bricks, oak and fir timber in rough scantlings, plain and gas tiles and slates, glazed sashes, doors, chimney-pieces, and interior fittings; flooring boards, folding gates, shop fronts, some fine old oak panelling, lead and copper flats, gutters and pipes, stone paving, cisterns, stoves, range of drawers, counters, shelves, and other useful brewing and trade matters.—May be viewed. Catalogues had at the Architect's Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, Fore-street, E.C. and 40, Parliament-street, S.W.

BUILDING MATERIALS, GOLDEN LANE

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION on the PREMISES, on FRIDAY, NOVEMBER 13th, at TWELVE (if not previously disposed of), the MATERIALS and FITTINGS UP of TWENTY HOUSES in Hanbury-court, and Two Brewer-court, Golden-lane, Barbican, comprising sound brickwork, timber in roofs and floors, doors, sashes, and other fittings; lead, tiles, stores, &c.—May be viewed one day previous, and catalogues had at the Office of H. J. HAMMON, Esq., Surveyor, 7, Finsbury-square; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

SMITHFIELD BARS. Chemical Plant and Fixtures of a Laboratory.

PULLEN, HORNE, & EVERSFIELD are directed to include in their SALE at SMITHFIELD, on TUESDAY, NOVEMBER 10 in lots, CHEMICAL PLANT, UTENSILS, and FIXTURES, comprising a 100-gallon copper still and a 40 gallon ditto with pewter worm, large iron still with pewter head, lead and pewter pipes, brass cocks, large worm-tub, tincture press, drying stove, brick and iron work, &c.—May be viewed the day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, the 18th day of NOVEMBER, 1863, at ONE o'clock precisely. (Luncheon at Half past Twelve o'clock.) For account of Importers.

35,000 Spruce Deals, Battens, and Ends
7,000 Quebec Pine Deals
3,000 St. Petersburg Red and White Wood Deals
8,000 Onega Red Deals and Boards
3,000 Archangel Redwood Deals, and Battens
1,000 4½ Thick fresh Redwood Memel Deals
10,000 Selected Redwood Deals, Battens, and Ends
2,000 Fresh Christiana Battens
300 Loads Quebec Board Yellow Pine
200 Loads Quebec Red Pine
600 Loads Quebec Pine
200 Loads Birch
50 Waimscot Oak Logs
20 Loads Quebec Ash
150 Loads Fresh Memel Timber
200 Loads Dantzic Redwood Timber
300 Loads Swedish Timber (fresh timber)
1,000 Norway 4 to 8 inch Scants
20 Fathoms Hemlock and Dantzic Fresh Lathwood
20,000 Palings
Flooring.

With other Goods
Catalogues will be issued in the Week of Sale.
Canons' Marsh, Bristol, November 2nd, 1863.

TO BUILDERS, DECORATORS, and OTHERS.—SALE of PAPER-HANGINGS, Chimney-pieces, Water-closets, and other Fittings, deserving the attention of all who are interested in House Property.

MR. EDWIN WHITE will SELL by AUCTION, at his ROOMS, 12, Holborn-bars, and 1, Castle-street, Holborn, on TUESDAY next at ONE, nearly 10,000 rolls English and French PAPER-HANGINGS, in great variety, about 200 white and coloured marble chimney-pieces, of every kind; 30 excellent water-closets, &c.—View and catalogues day prior and morning of sale.

UPPER CLAPTON, Middlesex.—Eligible Freehold Building Land.

MR. WHITINGHAM is instructed to SELL by AUCTION, at the MART, London, on MONDAY, 30th NOVEMBER, 1863, at TWELVE for ONE o'clock, fifty seven Lots of eligible FREEHOLD BUILDING LAND, free of tithe and land tax, situate in the new roads leading from Upper Clapton to Hackney-road, Stoke Newington, close to the Hackney Downs, and within half an hour's ride of the City. Nine tenths of the purchase-money may remain on mortgage or contract at 5 per cent, to be paid in nine years by half-yearly instalments, but the whole or any part of the balance may be paid off at any time with a rebate. Plots, plans, and conditions of sale may be obtained (ten days before the sale) at the Old King's Head, Upper Clapton; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; of the Foreman on the estate; and at the Place of Sale.

WEST TISTED, five miles from Alton, Hants.—To TIMBER MERCHANTS, RAILWAY CONTRACTORS, and OTHERS.—SALE of splendid LARCH and BEECH TIMBER, UNDERWOOD, and RAVINS

MR. ELFORD has been honoured with Instructions from Sir Alfred J. Doughty Tichbourne, Bart. to SELL by AUCTION at the NEW INN, West Tisted, on THURSDAY, the 12th, and FRIDAY, the 13th of NOVEMBER, 1863, 4,500 fine LARCH TREES, standing in New Copse, the Hangers, and the Warren; 22 acres of UNDERWOOD, and 20,000 LARCH RAVINS. The Lunch will be all ready, and sold in lots of 20 in each lot, on Thursday, the 12th. The Second Day's Sale will commence with 240 fine Beech Trees, standing in New Coppice, near Colmore Wood, in lots of 20 each, with all the top and lop, containing with 300 very fine trees in the Hangers, two and a half miles from Liss station, and 800 Beeches of smaller size, in the Warren, adjoining the Hangers; two acres of Underwood in New Copse, 12 acres in the Hangers, 5 acres in the Warren, and 2½ of Larch Ravins in Colemore Wood, which, for the convenience of purchasers, will be sold in lots of one each. The Auctioneer can with the greatest confidence recommend this Timber, the larch from its great size and length, and the beech, which from its kind growth is well adapted for machinery and work of a superior class. To apply by letter to Mr. BURRELL, the Agent, at Ecchborne Cottage, Alresford, stating time and where to meet, who will send the proper party to show the different lots; or to the Deputy Agent, Mr. HEBBARD, at the New Inn, West Tisted. Descriptive catalogues, with full particulars, will be ready a fortnight prior to the Sale, and will be sent by post on application to the Auctioneer, Basingstoke. Lunch will be provided at Twelve, and the Sale will commence each day at ONE punctually.

TO TIMBER MERCHANTS, CONTRACTORS, BUILDERS, CARPENTERS, JOINERS, and OTHERS.—VICTORIA WHARF and SAW MILLS, Victoria-road, on the Surrey Canal, nearly opposite the Victualling-yard, Deptford, and near the Deptford Station on the Greenwich Railway.

MR. PEAKE is favoured with instructions to SELL by AUCTION, on the PREMISES, as above, on TUESDAY, NOVEMBER 10th, 1863, and following day, at TWELVE for ONE o'clock each day precisely, the important STOCK-IN-TRADE of prime SEASONED GOODS, comprising 3,200 yellow deals, 1,900 white ditto, 2,000 yellow battens, 500 white ditto, 300 dry 1½ plank, 687 square of 3-inch yellow batten flooring, 300 square 2 inch ditto, 45 square 1½ inch ditto, 150 square of 1 inch white ditto, 50 loads of Swede timber, long lengths, 10 loads Baltic ditto, and 7 loads of American ash ditto.—May be viewed the day prece ding and morning of Sale. Cata ogues obtained at the Wharf, at the Europa Tavern, Rotherhithe; and at Mr. PEAKE'S Office, 44, Tooley-street, Southwark.—Approved bills at four months will be taken for sums of £20 and upwards.

AUCTION SALE of CONTRACTORS' HORSES, at Margate, fresh from work on the Kent Coast Railway. Messrs. Pete & Betts having completed the construction of the line, have instructed

MR. SHRUBSOLE to SELL by PUBLIC AUCTION, at the STABLES, Garlogue, near Margate, on THURSDAY, NOVEMBER 12th, 1863, at ONE o'clock precisely, SEVENTEEN fine young useful HORSES, with weight and mettle about them, and fit for works of a heavy character. The horses may be seen on the Works any time prior to the day of Sale; and on the Stables nights and mornings and on the Day of Sale.—Descriptive catalogues of the horses may be obtained of THOMAS WHITE, Engineer's Office, Kent Coast Railway, Margate; or of Mr STEPHEN SHRUBSOLE, Auctioneer and Valuer, Canterbury

CHARING CROSS RAILWAY, CITY TERMINUS.—To BUILDERS, CONTRACTORS, PAVIORS, and OTHERS

MESSRS. WILLIS & HARROW are favoured with Instructions from the Contractor to SELL by AUCTION, on the PREMISES, on TUESDAY, 17th NOVEMBER, 1863, and following day, at ONE o'clock punctually, the Valuable and Useful BUILDING MATERIALS of Eight Houses in Hunsdon-court, two Dwelling-houses and a Warehouse in Chequer-yard, three Dwelling-houses in Dowgate Hill, and a Range of Workmen's Dwellings in Upper Thames-street (the whole of the property lying on the north side thereof), comprising about 200,000 sound stock bricks, 40 loads of lead, 25 tons of iron, 4 tons of cast iron pillars and girders, excellent flooring-boards, stout timber and joists, iron cranes, jibs, sashes and frames, a number of loopholes and other doors, pebble and other pitching, and a great variety of superior fixtures and fittings up.—May be viewed the day prior and morning of Sale, and Catalogues had at the Contractor's Office, Worcester-street, Southwark; on the Premises; and of Messrs. WILLIS & HARROW, 3, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

BROMFLEET, containing valuable Beds of Red and White Clay for Bricks.—TO BE SOLD by AUCTION, by

MR. ROBERT BROWN, at BOWMAN'S HOTEL, Howden, on FRIDAY, the 13th day of NOVEMBER, 1863, at THREE o'clock in the Afternoon, subject to such conditions as shall be then produced, all that MOIETY of the MANOR of BROMFLEET, containing about 1,200 acres; also all that well-built FARM-HOUSE, with convenient and suitable out-buildings; also all those several Closes and Farm Lands, containing together 178 acres 2 roods 38 perches, or thereabouts, 141 acres, 0 roods, 32 perches of which are rich pasture and meadow land, and 37 acres 2 roods 6 perches are arable, and which will be offered in lots. Part of the Estate adjoins the river Humber and the Market Weighton Canal. The Hull and Selby Railway runs through Bromfleet, and a market train stops there. The Staddlethorpe station is within three miles. Bromfleet adjoins Walkington, and there are valuable beds of clay in some of the lots, which adjoin the Market Weighton Canal and are between Walkington and the cattle mile to Hessle. Borings have been made at these lots. On boring in one of the lots to the depth of 9 feet 6 inches, the clay was found to be 17 feet 6 inches in thickness, and of a superior quality for red bricks; and 3 feet 6 inches in thickness, and of a superior quality, for white bricks. On boring in another lot to the depth of 13 feet 6 inches, the clay was found to be 24 feet in thickness, and of a superior quality for red bricks.—Mr. MARMADUKE SCUTT, one of the tenants, will show the Estate; and further particulars may be had on apply ng to SAMUEL NEWBY, Esq., Manor House, Halton, near Spilsby; Mr. ROBERT BROWN, of Howden, the Auctioneer; or at the Offices of Messrs. ENGLAND, SAXELBYE, & ROBERTS, Solicitors, Quay-street Chambers, Hull.

TO BUILDERS, PLUMBERS, GLAZIERS, CHURCH DECORATORS, BELL HANGERS, GAS FITTERS, IRONMONGERS, BROKERS, and OTHERS.—Extensive and important Sale.—Nottingham-road, Derby.—TO BE SOLD by AUCTION by

MESSRS. NEWBOLD & OLIVER, on the Premises, called "The Convent" (the inmates having removed to premises near the Cathedral Church), on MONDAY, NOV. 16th, and Three following Days, at 11 o'clock precisely, the BUILDING MATERIALS, FIXTURES, SURPLUS FURNITURE, and EFFECTS, comprising the interior of the Convent-house, Chapel, Schools, and numerous Cottages; together with the window-frames, doors and sashes of various descriptions, beautiful stained glass and other windows, church seats and fittings, convent bells, school fittings, the wood-work, ornamental cisterns, iron hot-water stoves, ovens and boilers, hot and cold water pipes, marble and stone chimney pieces, New-castle quarry paving, slate brick paving, and several tons of good sound building stone; lots and pieces of old sheet lead, iron downright and eaves spouting, York and Hopton stones, Mount Sorrel granite, hearth-stones, and other flags. The Sale to commence each day PUNCTUALLY at ELEVEN o'clock to the minute. The whole of the lots are nearly new, and will be on view two days previously to, and on the morning of sale. The Buildings will be pulled down in the spring, and Sold in Lots, if not Sold before will be given.—For Catalogues or further information, apply to the Auctioneers, Derby; Mr. SAMUEL SMITH, Iron-merchant, Devonshire-street, Derby; Mr. CHARLES COCKAYNE, St. Mary's-gate, Derby; and S. R. BARDOLEAU, Esq., Solicitor, 4, Jeffrey's-square, St. Mary Axe, London, E.C.

CASTLE STREET, OXFORD-STREET.—Two HOUSES and a large BUILDING, used for a Chapel, and for Meetings of the Friendly Musical Instrumental Musical Society.

MR. T. TIMS is directed to SELL, at GARROWAY'S, on THURSDAY, NOVEMBER 24, at TWELVE, two capital eight-roomed HOUSES, Nos. 2 and 3, Castle-street, (all in the rear), the LECTURE HALL or CHAPEL, a well-planned Building, suitable for many purposes requiring space in a central and respectable position. Held under a lease direct from the Duke of Portland, at the low rent of £70 per annum.—Maybe viewed by permission of the tenants.—May be viewed on application to Mr. Coghlan, 30, Castle-street; or Mr. T. TIMS, 5, Charlotte-street, Fitzroy-square, W.

SALE by TENDER.—In consequence of the Directors of the Port of Portsmouth Floating Bridge Company having entered into a new street for the construction of a larger bridge, the original IRON FLOATING BRIDGE, with her Engines and Machinery as she now lies at her moorings at Gosport, will be SOLD by TENDER. Tenders to be made in writing, addressed to the Clerk of the Company (of whom further particulars may be had on application), at his Office, 20, Clarence-square, Gosport, and endorsed, "Tender for Purchase of Bridge," on or before the 11th NOVEMBER, 1863. The Directors do not bind themselves to accept the highest or any Tender.—By order of the Directors,

WILLIAM F. BURRELL, Clerk to the Company.

Portsmouth, 13th October, 1863.

TO BRASS and COCK FOUNDERS.—TO BE SOLD, the GOODWILL and STOCK-IN-TRADE of a Brass and Cock Founder, and Pump and Water-closet Manufacturer. Established for the last thirty years, and from 500 to 600 per Annum. About £400 to be required.—For further particulars, apply to Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

TO BE DISPOSED OF, the old-established HORTICULTURAL WORKS, 152, King's-road, Chelsea, very extensive commanding premises, having sufficient room for any other business. Twelve years of the lease unexpired. Parties wishing to take it over, only to be required to take the valuable glass and machines, with a small amount of the stock, and shops, by valuation or otherwise, as agreed on, S. D retiring from business.

PLASTER ENRICHMENTS, CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ALMS, CAPITALS, And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS, 245, EUSTON ROAD, ST. PANCRAS.

Best Gelatine, prepared, and ready for moulding 2s. per lb.

ECCLESIASTICAL EMBROIDERY and TAPESTRY for Church Decoration, and VESTMENTS designed and prepared for ladies' own working, by

RODOLPHE HELBRONNER,

263, REGENT STREET, near the Polytechnic

Gold and silver fabrics, fringes, thread and lace, velvets, silks, cloth, linen, and every other requirement for CHURCH NEEDLEWORK.

PRIZE WAGGONS and CARTS.—HAYES & SON,

Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,

Coach and Cart Wheelwrights, Spring Van and Waggon Builders, Timber Merchants, Contractors, &c.

Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation.

Contractors' and Builders' Dobbin and other Carts, Barrows; Navvy, Excavators', Crowding, and Off-bearing ditto, on the shortest notice and of the best materials; &c.

HAYES & SON,

SCOTGATE WORKS STAMFORD.

BRYCESON'S ORGAN FACTORY, BROOK-STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, re-arranged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

TO ARCHITECTS, BUILDERS, RAILWAY CONTRACTORS, AUCTIONEERS, &c.—SPECIFICATIONS, CONTRACTS, ACCOUNTS and every other description of DOCUMENTS, correctly and expeditiously COPIED, at 1½d. per folio (seventy-two words), at FEW & SON, Law Stationers, Printers, and Lithographers, 14 and 14, South-square, Gray's-inn, W.C. Plans and drawings copied, enlarged, or reduced, on reasonable terms.

ARCHITECTURAL DRAWING, MATHEMATICS, and PERSPECTIVE.—Evening Instruction in the above, by Mr. C. W. WALTON, at the Architects', Builders, Civil Engineers', and Machinists' Drawing Establishment, 74, Oldstreet, E.C. Prospectuses on application at the Offices, as above.

THE NEW PATENT OLEOCHARTA, or WASHABLE HOUSE PAPER.

FOR FLOORS, WALLS, CEILINGS, OR OTHERWISE. Warranted superior to paint, and to maintain its colour and appearance to the last. Sole Manufacturers, ROST & PILZ, No. 20, Tranquillity-terrace, Chancellor road, Hammersmith.

TO BUILDERS AND OTHERS.

CAMBRIDGE & CO. LATH-RENDERS, near the Joiners' Arms, Westminster road, begs to announce to the Trade that they can supply them with first quality LATHS, made from Petersburg wood, and warranted to cover 4 yards, at the undermentioned cash prices:—Single, per load, 11. 10s.; Lath and half, ditto, 2l. 5s.; Double, ditto, 3l.

DEVONSHIRE MARBLE WORKS, 24, Strand Dawlish, Devon.—A. W. BLACKLER begs to inform architects, builders, &c. that he supplies all kinds of DEVONSHIRE MARBLE WORK, Columns and Shafts of any dimensions and colour, Chimney-pieces, Tabling, and every description of marble work, from all the various quarries in Devonshire. Marbles, in block or scantling, supplied to the trade, consigned in railway trucks direct from the Quarries.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation.

LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS,

and every description of Contractors', Builders', and Decorators' Trade Requisites.

Vans, Waggons, Dobbin and other Carts, specially adapted for exportation. Pig-sails, Jack-rolls, Trolleys, and Portable Railways. Scaffolding, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire. Price Lists on application.

GEORGE ELL & CO.

EUSTON WORKS, 306 and 308, EUSTON ROAD, LONDON, N.W.

T. KENT'S PAINTING-BRUSH MANUFACTORY

Is continued by his Successors,

CROWDEN & GARROD,

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Where the TRADE is supplied with the same superior quality made the Saint-relish.

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Also Manufacturers of the Patent Indiarubber Knife-boards, Cocoa Nut Matting, Mats, &c. See Catalogue.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W.

Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made.

PRIZE MEDAL, 1862.

HAMILTON & CO No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W. Sole Manufacturers of C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graniers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

TURPENTINE GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive colour.

Sample gallon may be obtained at the Manufacturers', price 4s.

GARROD & COMPANY,

Varnish, White Lead and Colour Manufacturers, 56, Upper Thames street, London E.C.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 23s. per cwt.

Linseed Oil, 3s. 8d. per Gallon; Boiled Oil, 4s. per Gallon.

Turpentine, 6s. 6d. per Gallon.

Fine Pale Gum Varnish, 9s. per Gallon.

For cash, at EDWARD PRICE'S Oil and Varnish Warehouses, 30, Upper Ebury-street, and 45, Colesill-street, Pimlico, S.W. Every article for the Trade at the lowest prices.

TO PAINTERS and BUILDERS.—White Lead (warranted genuine), 23s. per cwt.

Linseed Oil, 3s. 6d. per gallon. Turpentine, 6s. 6d. per gallon

Fine Pale Gum Varnish, 9s. per gallon.

For cash, at EDWARD FRANCIS TUCK'S Old-established VARNISH and COLOUR WAREHOUSE, No. 148, EDGWARE ROAD, PADDINGTON, W. next door to the Wheatsheaf, or with the country work of the great Western Railway, Telegraph Agent for Hamilton's celebrated Painting and Graining Brushes.

London: Printed by CHARLES WYMAN, Printer, at the Printing office of C. & S. Wyman, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published at the said Printing Office, on the Office of "The Builder," No. 4, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, November 7, 1863.

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

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BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1864, be open to PUBLIC COMPETITION.

A Competitive Examination will accordingly be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which Candidates will be admitted to the Examination may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 10th July, 1863.

NOTICE.—LONDON and WESTMINSTER BANK, LAMBETH BRANCH, 34, Mount-Street.—GEORGE TOZER, Local Manager.—The London and Westminster Bank having received notice from the Vestry of the Parish of Lambeth, that the Metropolitan Board of Works have directed that Mount-street, Lambeth, should hereafter be called Westminster-road, and numbered accordingly, hereby give notice, that from and after this date the business of the Lambeth Branch will be carried on at the same premises, but bearing the altered number and name of 91, WESTMINSTER ROAD, S. and all communications connected with that Branch are requested to be so addressed.—By order of the Board,

November 11th, 1863. WM. EWINS, General Manager.

ROYAL INSTITUTE of BRITISH ARCHITECTS, 9, Conduit-street, Hanover-square, W.—VOLUNTARY ARCHITECTURAL EXAMINATION.—The NEXT EXAMINATION will be held on MONDAY, JANUARY 25th, 1864, and the following days of the week. Candidates are requested to deliver their applications and recommendations on or before SATURDAY, DECEMBER 12, 1863. The fees will be as follow:—Class of Proficiency, Two Guineas; Class of Distinction, an extra fee of One Guinea. These Examinations are intended to be held annually, and are open to all British subjects, under certain regulations, copies of which, together with course of examination, list of books recommended, copy of questions used in the last examination, &c. may be obtained, price 1s. each, at the Institute, 9, Conduit-street, Hanover-square, W. The necessary forms to be filled up can be obtained of the Hon. Secretaries.

(Signed) JOHN P. SEDDON, CHARLES FORSTER HAYWARD, } Hon. Secs.

MINING and MINERALOGY.—ROYAL SCHOOL of MINES, Jermyn-street.—Mr. WARRINGTON W. SMYTH, M.A. F.R.S. will commence courses of FORTY LECTURES on MINERALOGY at ONE o'clock, and SIXTY LECTURES on MINING, at HALF PAST THREE o'clock, on THURSDAY, the 19th of NOVEMBER, to be continued on each succeeding Friday, Monday, Tuesday, and Thursday, at the same hours. Fee for each course, £6. TRENHAM REKES, Registrar.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr. TYLER, 12, Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS, 9, Conduit-street, Regent-street.—A DISCUSSION will take place as above on "Professor Donaldson's Lecture," at the next ordinary meeting of members, on WEDNESDAY EVENING, NOVEMBER 18th, when members and friends are earnestly requested to attend. The discussion will be opened by Mr. WHITE.

R. WEBSTER, Librarian.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 73—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

73—74, Bishopsgate-street Within, November, 1863.

COMPETITIONS.

DESIGNS for RAISING HOLBORN VALLEY.—The Improvement Committee of the Corporation of London hereby give notice that the DESIGNS for RAISING HOLBORN VALLEY, and making such alterations and improvements in and adjacent to Holborn-hill and Skinner-street as would conduce to the convenience of the public and to the accommodation of the metropolitan traffic, sent in pursuance to public advertisement, and duly complying with the conditions thereof, will be open for PUBLIC INSPECTION, at the GUILDHALL, from the 12th to the 18th of NOVEMBER instant, both days inclusive.

WOODTHORPE.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.

TENDERS are required for the following Sewage at Chatham Garrison; viz.—

ERECTING QUARTERS for MARRIED SOLDIERS, with OUT-BUILDINGS, &c.

Parties desiring to Tender for the erection of these Works must leave their names at the Office, on or before TUESDAY, the 24th day of NOVEMBER, 1863, and pay the sum of half a guinea for the Bills of Quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Chatham, 10th November, 1863.

BOSHAM MUDLAND, SUSSEX.—RECLAMATION of MUDLAND.—ERECTION of SEA WALL.—To CONTRACTORS and Others.—Notice is hereby given, that it is intended to RECLAIM from the SEA all that tract of MUDLAND, known as BOSHAM CREEK, situate at Bosham, Sussex, and also to restore the Sea Wall or Embankment there situate. The Works are to be performed in accordance with certain Drawings and specifications which may be seen at my Office in and after the 15th NOVEMBER next, and under the direction of JAMES BRUNLEES, Esq. of 5, Victoria-street, Westminster, Civil Engineer. Tenders to be sent to me on or before the 10th day of DECEMBER next.

R. G. RAPER, Chichester, Steward of the Manor and Hundred of Bosham, Sussex.

TO BUILDERS and CONTRACTORS.—Messrs. BURGESS & CO. of Mendip Paper Mills, Wells, Somerset, are desirous of receiving TENDERS for the ERECTION of a new BLEACH HOUSE and other Works. Plans and specification to be seen at the above Works, and Tenders to be forwarded to the Office of the Company not later than MONDAY, NOVEMBER 23rd. The Company do not bind themselves to accept the lowest Tender. By order of the Company, JOHN SULLIVAN, Manager.

CAST-IRON WATER-TANK.—Notice is hereby given, that the Sheerness Local Board of Health are ready to receive TENDERS from persons desirous of contracting with them, for SUPPLYING and FIXING a CAST-IRON WATER-TANK, capable of containing 140,000 gallons, and for PURCHASING about 40 tons of WROUGHT IRON PLATES, now in the possession of the Board. Plans, sections, and specification may be seen at the Office of the Surveyor. Sealed Tenders, indorsed "Tender for Water-Tank," must be delivered at the Office of the Board, before SIX o'clock on the evening of THURSDAY, the 26th day of NOVEMBER, 1863. The Board do not bind themselves to accept the lowest or any Tender. By order of the Sheerness Local Board of Health,

EDWARD FELKIN, Clerk.

Office of the Local Board of Health, Sheerness, November 10th, 1863.

BUILDERS willing to TENDER for the ERECTION of TEN SMALL HOUSES, on the Vauxhall Garden's Estate, can inspect the plans and specification, and obtain full particulars, at the Office of Mr. W. MUMFORD, Architect, &c. 21, Lincoln's-inn-fields.—No pledge is given to accept the lowest or any other Tender.

November 11, 1863.

TENDERS are required for the FORMATION of a NEW ROAD leading out of Hornsey-lane, Islington. Plans and specification at the Office of Mr. J. W. REED, Architect and Surveyor, Lake House, Hornsey-rise, between the hours of TEN and FOUR. Tenders for execution FRIDAY, the 20th instant. The lowest or any Tender not necessarily accepted.

TO SAWYERS and OTHERS.—TENDERS wanted for SAWING about 200 loads of YELLOW PINE, in London. Sizes, 14 inches by 7 inches, and 7 inches by 5 inches, sawn all four sides, ends squared, and lengths as logs will cut. Separate prices for each size per load of resulting cut.—Address, J. S. 4d, Spring-street, Paddington.

CONTRACTS.

WEAR NAVIGATION and SUNDERLAND DOCK ACT, 1859.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a GRAVING DOCK and other Works connected therewith, at the South Docks, Sunderland, in conformity with drawings, specifications, and conditions, which may be seen, and further particulars obtained, upon application to THOMAS MEIK, Esq. C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after 9th NOVEMBER, 1863. Tenders, on printed forms, attached to specification, which only will be received, and enclosed under printed covers, addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 19, Fawcett-street, Sunderland, not later than NOON on the 14th of DECEMBER, 1863. Copies of the specifications and conditions, with form of Tender, and of a bill of quantities, prepared for the convenience of Contractors, can be had by parties tendering upon payment of 2l. 2s. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, October 28, 1863.

WEAR NAVIGATION and SUNDERLAND DOCK ACT, 1859.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a GRAVING DOCK and other Works connected therewith, at the South Docks, Sunderland, in conformity with drawings, specifications, and conditions, which may be seen, and further particulars obtained, upon application to THOMAS MEIK, Esq. C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after 9th NOVEMBER, 1863. Tenders, on printed forms, attached to specification, which only will be received, and enclosed under printed covers, addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 19, Fawcett-street, Sunderland, not later than NOON on the 14th of DECEMBER, 1863. Copies of the specifications and conditions, with form of Tender, and of a bill of quantities, prepared for the convenience of contractors, can be had by parties tendering upon payment of 2l. 2s. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, October 28, 1863.

WEAR NAVIGATION and SUNDERLAND DOCK ACT, 1859.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a WROUGHT-IRON CAISSON, for the Entrance of the inner end Graving Dock, at the South Docks, Sunderland, in conformity with drawings, specifications, and conditions, which may be seen, and further particulars obtained, upon application to THOMAS MEIK, Esq. C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after 10th NOVEMBER, 1863. Tenders, on printed forms attached to specification, which only will be received, and enclosed under printed covers, addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 19, Fawcett-street, Sunderland, not later than NOON, on the 14th DECEMBER, 1863. Copies of the Specification and Conditions, with Form of Tender, can be had by parties tendering, on payment of 2l. 2s. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, October 28, 1863.

WEAR NAVIGATION and SUNDERLAND DOCK ACT, 1859.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a SEA WALL or PIER, and other WORKS in connexion with the North-East Pier at the South Outlet of the South Docks, Sunderland, in conformity with drawings, specification, and conditions, which may be seen, and further particulars obtained, upon application to THOMAS MEIK, Esq. C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after 10th NOVEMBER, 1863. Tenders, on printed forms, attached to specification, which only will be received, and enclosed under printed covers, addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 19, Fawcett-street, Sunderland, not later than NOON on the 14th DECEMBER, 1863. Copies of the specification and conditions, with form of Tender, and of a bill of quantities, prepared for the convenience of contractors, can be had by parties tendering upon payment of 2l. 2s. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, October 28, 1863.

LONDON and NORTH WESTERN RAILWAY.—To CONTRACTORS and BUILDERS.—The Directors are desirous of receiving TENDERS for the ERECTION of STATION BUILDINGS on the Eccles and Wigan Branch Railway at Worsley, Tyldesley, and Bedford.—Parties desirous of tendering may see the drawings and obtain statements of the quantities, upon application to Mr. WILLIAM BAKER, Engineer, Euston Station, on and after THURSDAY, the 12th inst. between the hours of TEN and FOUR o'clock. Tenders, addressed to the Secretary at the Office, to be sent in on or before WEDNESDAY, the 18th inst. at FOUR p.m. The Directors do not bind themselves to accept the lowest Tender.—By order,

Euston Station, Nov. 4th, 1863. C. E. STEWART, Secretary.

TO BUILDERS.—TENDERS are required for ALTERATIONS and ADDITIONS to PREMISES in the Edgware road, being Nos. 113 to 117, inclusive.—Plans, specification, and drawings may be seen at the Offices of Messrs. LEWIS & ALLBUD, No. 72, Bryanston-place, W., on and after WEDNESDAY next, the 18th inst.—The lowest or any Tender will not necessarily be accepted.

TO WORKING CARPENTERS.

TENDERS wanted for EXECUTING the whole of the CARPENTER and JOINER WORK of a BLOCK of BUILDINGS, at present erecting in Hatherley court, Sydney-buildings, consisting of 84 cot, single, and twenty-four rooms. Tenders to be for labour only. Plans and specifications to be seen at the Temporary Office of Mr. WM. BURNS, C.E. No. 1, Golden-lane, Barbican, E.C.

[*For remainder of Contracts see next Page.*

CONTRACTS.

METROPOLITAN BOARD of WORKS.—THAMES EMBANKMENT, MIDDLESEX SIDE.—To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works, hereby give notice that they will meet at the Office of the Board, Spring gardens, S.W. on FRIDAY, the 27th day of NOVEMBER next, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION, COMPLETING, and MAINTAINING in REPAIR for Twelve calendar months, the following WORKS, that is to say:—A certain intended Embankment Wall, 1,950 feet in length, or thereabouts, with certain Landing places, Steamboat Piers, Sewers, Storm outlets, and other works in connection therewith, situate in and adjacent to the foreshore of the River Thames, on the Middlesex side, between Waterloo Bridge and the eastern end of the Temple gardens. Parties desiring to submit Tenders may, on and after WEDNESDAY, the 11th inst. upon payment of 10s. 6d. obtain plans, sections, specifications, form of Tender, and other particulars on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring gardens, between the hours of NINE a.m. and FOUR p.m. or on Saturdays between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 26th day of NOVEMBER next. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at the Office before FOUR o'clock on the last mentioned day, and no Tender will be received after that hour. The parties Tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two or more approved sureties for the due and satisfactory performance of the works.

JOHN POLLARD, Clerk of the Board.

Spring gardens, S.W. October 3, 1863.

TO CONTRACTORS and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the CONSTRUCTION of about 982 feet of HALF-BRICK BARREL SEWER, at Roehampton, in the parish of Putney. The specification and plan may be seen, and all further information obtained, on application to Mr. BURLEY, Surveyor, at his Office, Biggs's-row, Putney, between the hours of NINE and FIVE. Tenders are to be sent in, under seal, addressed to the Board, at their Offices, Battersea-rise, by TWELVE o'clock at noon, on WEDNESDAY, the 18th inst. Security will be required for the due execution of the contract. The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District,

ARTHUR ALEX. CORSELLIS, Clerk to the Board.

Battersea-rise, Wandsworth, S.W. November 6, 1863.

TO MASONS and PAVIORS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the SUPPLY and LAYING, complete, of 9-inch YORK PAVING, 4 feet wide, from the boundary of the parish of Streatham, at Mill lane, Brixton-hill, to the Streatham Railway Station, in the Streatham turnpike road. The specification can be seen and all further information obtained on application to Mr. BARBER, Surveyor, at his Office, No. 3, Balham-place, Balham (close to the Balham Railway Station), between the hours of NINE a.m. and ONE p.m. Tenders are to be sent in, under seal, addressed to the Board, at their Offices, Battersea-rise, by TWELVE o'clock at noon on WEDNESDAY, the 18th instant. Security will be required for the due execution of the contract. The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District,

ARTHUR ALEX. CORSELLIS, Clerk to the Board.

Battersea-rise, Wandsworth, S.W. November 6, 1863.

TO PRINTERS and STATIONERS.—The Board of Works for the Wandsworth district are desirous of receiving TENDERS for PRINTING, and the SUPPLY of STATIONERY for ONE YEAR, from Christmas next. Schedules of the articles likely to be required may be seen, and any further information obtained, at the Offices of the Board as below, between the hours of TEN and FOUR.—Tenders are to be sent in under seal to the Board, on or before TUESDAY, the 1st DECEMBER next, endorsed "Tender for ——." The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District,

ARTHUR ALEX. CORSELLIS, Clerk to the Board.

Battersea rise, Wandsworth, S.W. November 7, 1863.

TO STONE MERCHANTS, DRAIN-PIPE MAKERS, MASONS and PAVIORS, CONTRACTORS, and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the SUPPLY of BROKEN GUERNSEY GRANITE, and other Stone and Materials, and for the supply of Drain-pipes, in the whole of the District; also for the Execution of Masons' and Paviors' Works, and of the various Jobbing Works, in repairing and making good, to Sewers and Gullies, and for Laying Drain-pipes; also for the Supply of Horses on hire, and for Barge Work, in the Parishes of Battersea, Putney, and Wandsworth; and also for Dusting in the Parishes of Battersea and Putney, and for Dusting and Scavenging in the Parish of Clapham. The Contracts are to be for one year from 31st December next. Separate Tenders are to be sent in for each parish, excepting those for granite and drain-pipes, for each of which one Tender for the whole District must be sent in. The specifications may be seen, and forms of Tender may be obtained, at the Offices of the Board, Battersea Rise, between the hours of TEN and FOUR. Tenders are to be sent in, under seal, to the Board, endorsed "Tender for ——, Parish of ——," on or before TUESDAY, the 1st DECEMBER next. Security will be required for the due performance of the respective Contracts. The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District,

ARTHUR ALEX. CORSELLIS, Clerk to the Board.

Battersea Rise, Wandsworth, S.W. November 7th, 1863.

TO BUILDERS.—The Burial Board for the Parish of St. Margaret, Rochester, are desirous of receiving TENDERS for the ERECTION of TWO CHAPELS, with Bell-tower, Lodge, Entrance gates, Fence walls, &c. Persons desirous of Tendering may see the plans and specifications, and obtain forms of Tender, at the Office of Mr. MARTIN BULMER, Architect, Maidstone, on and after THURSDAY, the 12th day of NOVEMBER. Tenders to be delivered at the Office of the Clerk to the Burial Board, Orange-terrace, Star-hill, Rochester, on or before SIX o'clock p.m. on FRIDAY, the 11th day of DECEMBER next, endorsed "Tender for Cemetery Buildings, &c." The Burial Board do not bind themselves to accept either the lowest or any other Tender; and they will require satisfactory security for the proper performance of the Contract.

THOMAS S. WARNE, Clerk to the Burial Board.

Rochester, November 9, 1863.

TO BUILDERS and OTHERS.—Persons desirous of TENDERING for the ERECTION and COMPLETION of a Proposed New Gaol, at St. Alban's, Herts, with Residence, Boundary Walls, &c. according to Plans, specifications, and conditions prepared by Mr. WILLIAM MARTIN, of Birmingham, Architect, are invited to send their names and residence to me, on or before the 27th day of NOVEMBER instant, for selection, with a view to a restricted competition.

T. H. BOSWORTH, Clerk of the Peace.

Clerk of the Peace's Office, St. Alban's, November 7, 1863.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of New PREMISES for the London and County Bank, in the Rich-street, Winchester, can inspect the plans and specifications at the London and County Bank, Winchester; or at the Offices of the Architect, Mr. FRED. CHANCELLOR, Pastors' Hall, Old Broad-street, London, after the 16th NOVEMBER. The Tenders to be delivered at the Offices of the Architect, before TWELVE o'clock on the 30th of NOVEMBER. The lowest or any Tender will not necessarily be accepted.

Pastors' Hall, Old Broad-street, November 9, 1863.

TO BUILDERS, &c.—Persons desirous of CONTRACTING for the ERECTION of TWO ADDITIONAL WINGS to the North Wales Counties Lunatic Asylum at Denbigh, for 100 patients, can inspect the plans and specification on application to Mr. ROBINSON, Clerk to the Committee of Visitors, at the Office of the Asylum, where they are now ready for inspection. Sealed Tenders to be sent in, addressed to the Chairman of the Committee, by the 14th of DECEMBER next. The contractor will be required to give proper security for the due performance of the work, and the committee do not bind themselves to accept the lowest or any Tender.—By order,

JOHN ROBINSON, Clerk to the Committee of Visitors.

November 11th, 1863.

TO STONE MERCHANTS.—TENDERS wanted for the SUPPLY of YORK STONE STEPS, WINDOW CILLS, LANDINGS &c.—Schedules of quantities will be forwarded, on application to WM. BURNS, C.E. at his Temporary Offices, Golden-lane, Barbican, E.C.

GRAND BANQUETING HALL.—FOR SALE, by PRIVATE TENDER, a GRAND HALL, in the Tudor style of architecture, 50 feet by 40 feet by 35 feet high, with open roof, hammer-beams, &c.; decorated in the most ornate and tasteful manner, and with handsome brass Gothic Chandeliers suspended from hammer-beams; solid parquet floor, of bold design, with deal floor under, supported by trellis iron girders; heating stove, with pipes; brass bit-and-miss ventilating gratings, and all fittings connected therewith, as well as all gas-pipes attached to the Hall. The Hall was erected by the late Marquis of Breadalbane, for the purpose of giving a ball and entertainment to her Majesty the Queen.—For particulars and cards to view, apply between the hours of TEN and FIVE (up to and inclusive of SATURDAY, the 21st day of NOVEMBER instant), at the Offices of Messrs. WIMPERIS & FREEMAN, Architects and Surveyors, 25, Sackville-street, Piccadilly, W.

EDGWARE HIGHWAY BOARD.—The Board of Way Wardens are desirous of receiving TENDERS for RAISING and WIDENING that portion of Aldbarn-lane extending from the Coal-wharf entrance to the Sir Isaac Newton public house, according to a plan and specification prepared, and now deposited for inspection at the Sir Isaac Newton aforesaid. The Tenders to be sent to me, prepaid, on or before the 24th instant, and will be opened by the Board, at the Court House, on the following day, where parties may attend. The Board do not bind themselves to accept the lowest or any Tender.

W. A. TOOTELL, Clerk.

Edgware, N.W. November 11th, 1863.

TO BUILDERS.—TENDERS are required for BUILDING a DWELLING HOUSE, SHOPS, WAREHOUSE, and PREMISES in the Corn Market, Oxford, for Messrs. Grimsby, Hughes, & Dewe, wholesale and retail grocers and provision merchants. Copies of the quantities may be obtained on and after the 20th day of NOVEMBER, by applying to Mr. WILKINSON, Architect, Oxford, and depositing 1l. 1s. which will be returned on receipt of Tender. Tenders to be sent to Mr. WILKINSON, endorsed "Tender for Works in the Corn Market, Oxford," on or before the 3rd day of DECEMBER, 1863. The lowest Tender will not necessarily be accepted.

November 11th, 1863.

TENDERS.—Notice is hereby given that the Hastings Local Board of Health are ready to receive TENDERS from persons desirous of CONTRACTING with them for LAYING WATER MAINS, about 5,000 yards.—The specification may be seen, and further particulars had on application at the Town Clerk's Office, High-street, Hastings, where Tenders, duly signed must be delivered before TEN o'clock on the morning of FRIDAY, the 27th day of NOVEMBER inst. The Local Board do not bind themselves to accept the lowest or any Tender.

ROBERT GROWSE, Town Clerk.

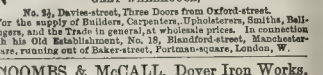
Hastings, November 11, 1863.

ROOFING METAL (WETTERSTEDT'S PATENT or MARINE), in sheets 9ft. and 3ft. per square foot, 9 feet long by 3 feet wide. The most durable and economical metal for roofing. Does not rust or decay under the action of the atmosphere or acids. For price, particulars, &c. apply to the Manufacturers,

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NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE, No. 24, Davies-street, Three Doors from Oxford-street. For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

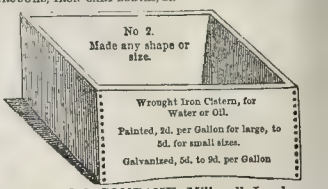
COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 355, Great Guildford-street, Borough, S.E. inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.)
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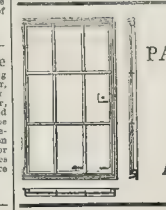


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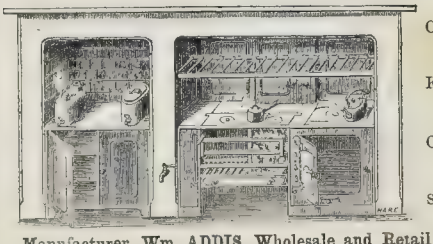


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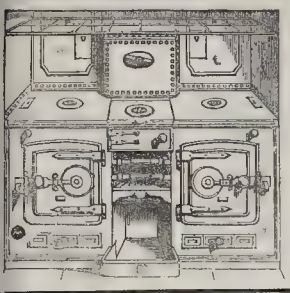


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They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces, from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth-plates.

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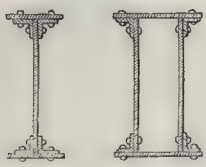


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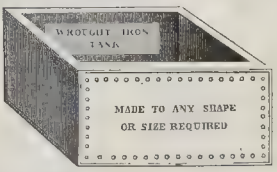
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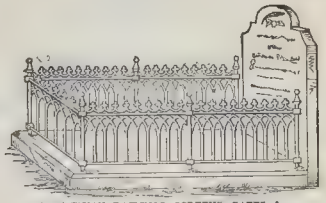
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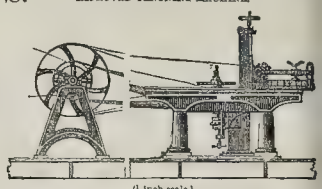
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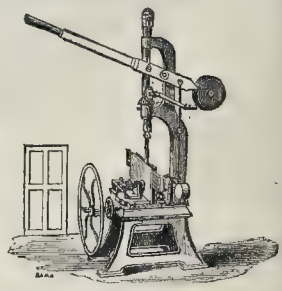
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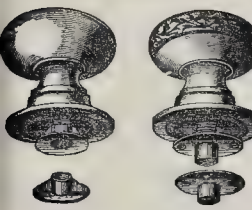
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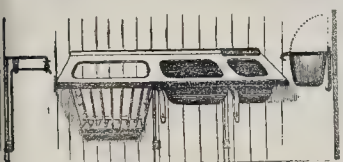
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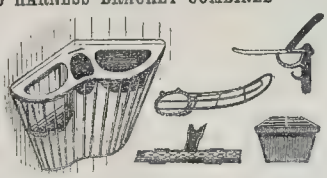


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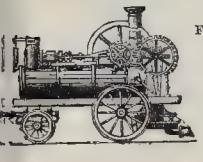
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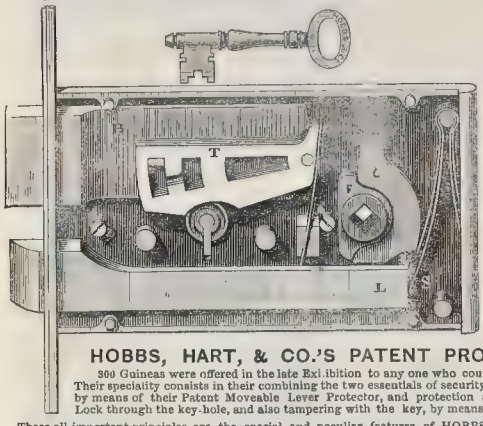
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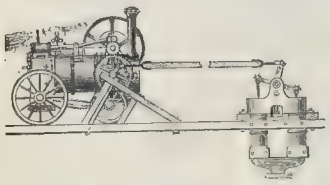
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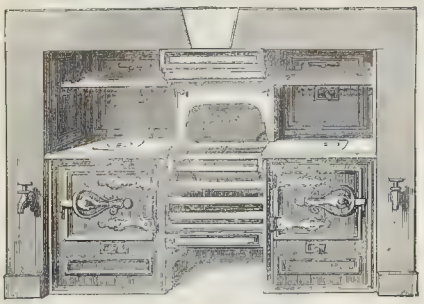
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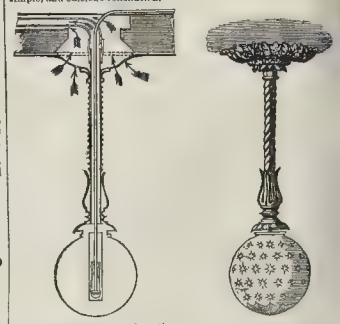
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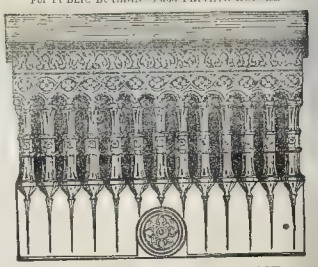
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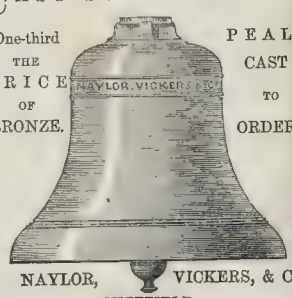
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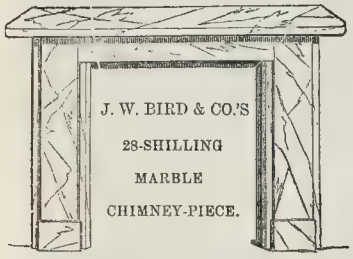
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SEVERAL DESKS IN STOCK.

The Builder.

VOL. XXI.—No. 1084.

"Going Along." Verona "la Degna."



T will not do to quit the Piazza dei Signori, where we left our readers, without a word or two about the Council Hall, attributed to Fra Giocondo, architect and scholar, and the grand campanile on the opposite side of the Piazza. The Council Hall is Early Cinque-cento, so to speak, in style, remarkable for a large amount of elegant sculpture; statues of men belonging to Verona, such as Cornelius Nepos (hated of school-boys), and the poet Catullus; an Annunciation in bronze by Giovanni Campagna, and delicately designed arabasques. The whole is in a very bad state of repair.

Fra Giocondo was a native of the city, but his skill was known out of it. He was called to Paris by Louis XII., where he built the Bridge of Notre Dame. At Treviso he erected
tifications: and in Venice was one who gave a
sign for the Rialto. In Rome he acted with
ffaelle and San Gallo as architect of St. Peter's:
d in that city died.

We called the campanile grand, and though it
ittle more than a square stack of brickwork
nning up to a height called nearly 300 feet,
luding a belfry story, this is the right word for

It strengthens one's soul to look at it.
merous putlog holes left unstopped give variety
the surfaces.

Close by is the most strikingly picturesque spot
Verona,—one of the most striking in all the
rth of Italy,—the Piazza delle Erbe; in other
rds, the vegetable market. This is the open
ace with which, in imitation of the Forum in
me, Verona, like many other cities in Italy,
ovided herself during the Middle Ages for public
remonies and assemblages of the people. The
ildings surrounding it are of different periods:
ne of them were originally decorated in fresco,
ich has at last failed. Near the market cross, the
rm of the Westminster Crimean Monument and
some others, is a small open tribune, on the
, says Gally Knight, of an older building to
ich in republican days the newly-elected Capi-
o del Popolo was led, and there he addressed
people. There is a fountain, too, and a
nolithic pillar of a single block of Verona
rble, put up by one lion (Michael Leo), 1524,
bear another lion, that of St. Mark; Verona
ng then subject to Venice. When we first
sed through the Piazza it was filled with
strian soldiers moving about amongst piles of
tons and other edibles, and making their pur-
ses; none of the inhabitants being at the time
rvable.

One of the buildings at the side was erected as
Exchange, in 1301, by Albert Scaliger; and
er members of the family built the campanile on the same side of the Piazza, a little lower down.

The tombs of these Scaligers, or Della Scalas, known to all who know anything of art or history, will be found at a very short distance off, a wonderful group, but grimy and poorly cared for. They are of marble, but give little indication of so rich a material. Minute description is unnecessary, and would fail to convey a clear idea without sketches. The chief are three in number, and are in memory of Can Francis della Scala, Can Grande (or, as the inscription calls him, *Dux Canis Maximus de la Scala*), who died 1329; Mastino II., who died 1351; and Can Signorio, a brilliant bad man, who died 1375, and was the last prince of the dynasty that had ruled in Verona for 114 years. An altar-tomb, supported on pillars, and surmounted by a canopy, with an equestrian statue on the top, and other sculptured decorations, would serve as a general description of each; but they vary considerably in detail and the extent of the appliances. That of Mastino II., which may have inspired the design for the National Memorial of our Albert the Good, about to be erected in Hyde Park, is the most satisfactory, and the tomb of Can Signorio with statues and tabernacles on carved piers around it, is the most elaborate. The inscription on this last gives the name of the artist as thus,—"*Hoc opus fecit et sculpsit Boninus de Campilione Mediolanensis Diocesis.*" The ironwork enclosure consists of small open quatrefoils, with the *scala* or ladder in the centre of each, an armorial bearing seen in various other parts of the monuments. The quatrefoils are tied together at each foil by an ornamental ring, loose, so that every panel, secured to pillars at the sides, is rather a suspended metal net than a rigid *grille*. These most remarkable monuments, invaluable dated examples of the condition of the arts in Italy in the fourteenth century, have been described as a mixture in style of the Pointed and the Romanesque. They might be more properly spoken of, especially that of Can Signorio, as a mixture of the Pointed style with that of the then coming Renaissance. Strangely huddled together close to the "Ancient Church of Our Lady," they are much neglected, and call for the reverential care of the municipal authorities. These should consider themselves trustees for the whole world of art, and ought to perform their duty rigorously. Even in a pounds, shillings, and pence point of view, the Veronese will find their account in preserving the attractions of their wonderful city.

In order to get some idea of all these attractions at once and decide where to run to next, visit the Giusti Gardens, from the highest part of which, ascended to by a staircase and inclined planes, a splendid view of the city, with its churches, Roman theatre,—little of it remaining,—Palazzi by San Micheli, the winding river enclosing the greater part of the city, its barracks, forts, and walls, is obtainable. The gardens themselves, full of flowers and pleasant memories, have an ancient aspect, and are especially noticeable for cypresses, one of which is nearly 130 feet in height. The campanile of San Zenone comes beautifully into view, and thither, though quite at the opposite side of the city, we repair. This is a very noble twelfth-century church, without transepts, on the site of an earlier work, and is full of interesting morsels;—one of the earliest wheel-of-fortune windows, executed by one Briolotus; a remarkable sculptured portal, the pillars resting as usual on the back of animals; very early metal doors, curious carvings, frescoed walls, and a few other pictures, especially one at the extreme east end by Mantegna, which is a superior work to his "Triumph of Julius Cæsar," at Hampton Court. Mantegna, it may be remembered, was the brother-in-law of Giovanni Bellini, and one of the first painters who practised the art of engraving. He died in 1506, in his seventy-sixth year, and was buried in Mantua. Ariosto, in a commemorative stanza, quoted by Mrs. Jameson, places the name of Andrea Mantegna between those of Leonardo da Vinci and Giovanni Bellini, and not without reason.

San Zenone is descended into by eleven steps; and there is a rise of thirteen steps up to the choir (rebuilt in the fifteenth century), and three steps more to the high altar. There is a very large crypt below the choir of an earlier character; piers to support the upper church are built in it irregularly. An eleventh-century tomb is seen here serving as an altar.

The walls of the church show alternate courses of brick and stone. The remarkable Tazza at the western entrance on the north side, formed out of one block of red porphyry, supported on another, is about 9 feet in diameter (not 13 feet 4 inches, Oh, my Murray!), and 1 foot 9 inches in thickness.

The font, proper, is a Corinthian capital reversed. We could fill a page with details, but will content ourselves with saying that there are some wretched brackets for lamps, and that the interior is in other respects horridly disfigured by modern messing. The roof is painted, not adorned, with the Austrian colours. The building is ill cared for.

The campanile near the church is of the twelfth century. The cloister has brick arches on coupled columns of Verona marble, one set in front of the other, and is very elegant. Mr. Street has given some sketches from it in his book on "Brick and Marble in the Middle Ages." Let us add, as cognate, that many old houses in Verona, the back parts of some and others altogether in out-of-the-way places, give interesting examples of the artistic use of brick, often mixed with stone, and have had some share in leading to the use of coloured materials of the kind amongst us. Vari-coloured materials alone, however, externally, must not be trusted to in London. The smoke of the atmosphere soon brings all to one colour, and then if the *forms* be bad, or there be none, the result is necessarily unsatisfactory.

Attached to the church of San Bernardino is the Pellegrini Chapel, to which the admirers of San Micheli point proudly as one of the remarkable works of that architect.

San Micheli was born in Verona, in 1484, and lived until 1549. He quitted his native place when sixteen years of age to study art amongst the ruins of Rome. Military construction had much of his time, and to him is due a new system of fortification. Several Italian towns, including Verona, show his works of this kind as well as of civil architecture. One of his earliest buildings in his own town was this Pellegrini Chapel, the lower part of which is remarkably elegant. The fact that it was not finished under his own direction may account for the circumstance that the balustrade over the first Order is ugly, and the whole of the upper story less satisfactory than the lower. Friends had more than once heard him grieve that he was not rich enough to buy this chapel to prevent the owner from marring his design. It is circular on plan, with a Corinthian Order. Pediments in the interspaces follow the circular face. The mouldings and details of the pilasters exhibit great refinement. The material is of that fine, hard stone which has been called *Bronzino*, because in being worked it emits sounds like bronze. A capital material it is.

To give San Micheli proper credit for his palatial residences, of which there are several in Verona, the date at which they were erected must be remembered. He was a precursor. The details in parts are delicate and admirable, but are coarse in others. The balustrades are over large and badly profiled, so that, after all, he may have designed the one in the Pellegrini Chapel. The Palazza Bevilaqua, one of the best of his designs here, is in a miserable condition. So too are other of the palaces. Venice owes to him, amongst other works, the Cornaro Palace and the Grimani Palace. He must have been well helped, as indeed we know he was, to get through the amount of work

that bears his name. Vasari shows him to have been a generous, simple, loveable character,—a man with a heart as well as a head.

However, we must be going along. The Cathedral deserves a more complete investigation than it has had. Without doubt, much of the building belongs to the first half of the twelfth century, but portions of it are earlier.

The western porch in two stories, the columns of the lower resting on sculptured animals, displays a large amount of carving, and includes rude statues of the Paladins Roland and Oliver, introduced perhaps, as Gally Knight suggests, with reference to the traditionary connexion of Charlemagne with the church previously on the site. The arms and costume of these figures, we may suppose, from quotations by Maffei and others, may have been sculptured from the description given by Livy of the Samnite warriors. Roland, or Orlando, is the better known of these celebrated warriors and gentlemen, the friends of Charlemagne. Every musical young lady knows of "Ro-land the brave" and the fight at Roncesvalle; every lover of old literature has read the "Chanson of Roland," and every ordinary reader the "Orlando Furioso" of Ariosto. Roland's celebrated sword, seen on the statue to which we are referring, is still preserved (or one that represents it) at Rocamadour, in France. He perished in the year 778, and we still talk of giving "a Roland for an Oliver."

The exterior of the cathedral and other buildings, exhibiting materials of varied colour, stone and marbles, on which time and the weather have acted differently, presents a somewhat patchy appearance.

There are two or three noticeable pictures in the cathedral, especially an Assumption, by Titian; the Madonna very fine. This painting is unfortunately dirty and spoilt. It would have been better cared for if it had been retained in Paris, where it once went under the inspiration of Napoleon.

In the Chapel of St. Agatha, part of the cathedral, there is some good *Cinque-cento* work, in the shape of sculptured pilasters. In the pattern of the marble pavement of the cathedral, a crescent constantly occurs, but no one on the spot could give any reason for its introduction. Moving through the world the rareness with which they of whom a question is asked can give the right reply, has led before now to the hasty assertion, that "no one knows anything." Yet after all, "no one knows nothing," is a safer belief. The field of knowledge,—the field of life,—is so wide, the roads are so numerous, that many may be on them, yet unable to give other travellers the precise information required. It is scarcely too much to assert that every one knows something the inquirer does not, and is in some particular his superior. Let us approach every human being, therefore, with a certain amount of respect.

In the Church of St. Athanasia, as in the Cathedral, there is some good work of the *Cinque-cento* period, especially a fine altar-piece, on the north aisle of the nave, with a sculptured figure, between columns. The church itself belongs mainly to the thirteenth century, and is the best specimen of Gothic art in the city,—a noble interior indeed. The aisles are very narrow, the nave very wide. The walls have been painted throughout, and there are many independent pictures besides. The painting of the ceiling is somewhat coarse. The font, carved in 1591, is borne by the figure of a patched beggar. The main columns and capitals of the church are handsome; but the whole has been messed in modern times. The Pellegrini Chapel here is adorned with a number of terra-cotta bas-reliefs, which, as seen through the grille, seem to want simplicity. In another chapel — Chapel of the Rosary—by San Micheli, there is a portrait of that Mastino II. della Scala, whose monument we have mentioned. The pavement of the church is beautiful. The west front, with the exception of the marble porch, remains in brickwork only, waiting its casing of marble—and it will have to wait long.

There is a charming canopied monument in the piazza near the church, on corbels, over a doorway, as the manner was, in memory of one William of Castel Baldo, who was a friend of the Scaligers, and aided in the building of the Church.

San Fermo Maggiore is full of interest and story, with some good monuments, and an elegant Gothic canopy over the pulpit. The roof lined with wood, and having visible tie-rods and kingbolts, presents an odd pyramidising outline of small curves and squares, in style Chinese rather than anything else. The crypt may be of the eleventh century.

The choir of the Church of Santa Maria in Organo (the façade by San Micheli) contains much inlaid wood-work by Fra Giovanni, of Verona, executed at the close of the fifteenth century. The Italians excelled in this application of marquetry (*Tarsiatura*) to the decoration of furniture. Fra Giovanni, of Verona, and Fra Raffaelle, of Brescia, are amongst the most noted workers in it. Giuliano da Maiano flourished a little earlier than these. From "fair Verona," however, we must haste away. We could with pleasure write about it through another chapter, but must content ourselves with a dozen lines. Many of the churches, we should have said, are filled with soldiers; in several of the palaces live the officers, self-invited. In fact, in Verona there are soldiers everywhere. No wonder, then, that in leaving this city the last thing we saw was the last of a soldier. The procession issued from the Porta Nuova, through which we had just before passed on the road to the railway for Venice. The black pall that covered the coffin had a large yellow cross upon it; the soldiers following the bier wore each a sprig of, probably, the "mournful cypress" in his cap. There were muffled drums; but no other music as with us; and, when the procession had advanced a hundred yards from the gate, it halted. The soldiers marched back again, and the bier, nearly unattended, was carried slowly away into the distant landscape!

And so, Farewell Verona.

PROFESSOR DONALDSON ON THE POSITION OF ARCHITECTURE.*

To maintain the high standard of English art and science at a time when all the other branches of practical knowledge are cultivated with a zeal rich in fruits of the past, rich in hopes for the future, is now the great aim of the profession. But that which strikes the mind, as one contemplates the present condition of architecture, is the remarkable phenomenon of the number of intelligent and gifted architects who now stand as men of mark before the world, and the fine edifices which British genius has produced all over the United Kingdom, contrasted with the low and apparently neglected state of architectural education up to the present time. And when I say architectural education, I mean the absence of any recognized and adopted system. Here the student is left to his own sympathies, his own inspirations, the suggestions of his own zeal more or less active, and to his unguided experience casually gained in the office of his master, where he can become familiar only with the taste and science of the works there carried out. We do not possess the professional recognized *ateliers* of the professor, as in France, where gratuitous courses of lectures, also periodical prizes and grand competitions in the schools, and the stimulating intercourse with well-known associates, and the pride of the school, keep up the spiritual earnestness of the student to a high-wrought pitch of excitement, and nerve him to energetic efforts for eminence and success. On the other hand, we have to congratulate ourselves that we have no Governmental rigid routine scheme, as in Germany, binding down the taste and study of the youth to one formal line and process of artistic thought. Still I say, though many of these sources of encouragement and instruction are not available for our young aspirants, yet our profession has produced men of the highest merit, who have entered upon the arena of European competition with the greatest honour, and carried off the noblest prizes even on foreign ground.

It must be allowed, therefore, that the student has had hitherto to labour under great disadvantages, which at length became intolerable, and after many strivings the wants of the younger followers of our art forced themselves upon our attention. The Institute consequently matured a broad scheme of competitive examinations, which points out the branches of knowledge to be studied and the extent to which they must be acquired, in order to gain distinction. And thus the contest of life is carried on, and the benefits are not merely resulting to the individual, but are diffused throughout the whole mass. The success of one fires the ambition, stimulates the ardour, and excites the hopes of his fellows. He struggles on and studies, and perfects also his mastery of drawing. He loses no opportunity of improvement; observes, records, and thus strengthens his mind with materials for the future life of action. The sluggard becomes ashamed, and is aroused from his torpor: the indolent throws off his indifference; even the weaker in intellectual power feels that his capabilities will be improved strength given to the mind, facility afforded to his manipulations; that there is a field open to him, and that painstaking and laborious pertinacity, honest industrious hard work, may find its reward, though not so high, perhaps, as that of lofty genius, but still a useful, honourable, remunerative position. The high prizes in all callings are only for the few. We see that in the church, in law, and in medicine. But there are, nevertheless, notable rewards for those who fill up the intermediate grades of necessary usefulness in the great scheme of social life. These examinations are also useful as affording the young man a true index of his powers and of his weakness. If he fail, he knows in what department he must work on to acquire the knowledge in which he is deficient. It is better that he should ascertain where his weakness lies thus early, than that he should be taught it by a disastrous failure in professional practice.

Thus the pupil with a purposeless and vague scheme of study in his mind has been taught a useful lesson, and learns that positive well-grounded methodical knowledge is superior to dreamy idealities of an unstable mind;—that the sooner he puts off his indolent habit of thought the better, and the earlier he begins to methodize his mode of study, and seek a higher standard of attainment, the sooner will he gather the fruit, and the *riper* that fruit will be. He will find that it is of no use to defer setting to work: the result of this preliminary contest with his fellows will but foreshadow the results of after-life competition. If in the one he fails and amends not, in the other he will be sure to be as far behind, with consequences still more serious. Even in my own class at University College, I can at once distinguish the hopeful student of future years. The earnest attention he bestows on the subject, the eagerness with which he takes into his mind every atom of useful information, and notes them down in his memoranda, the accuracy and care with which he keeps his note-book, and the fulness and variety with which he enriches and illustrates the report of the lectures, which I occasionally require of my class during the session: all these indications prove to me that such-and-such will carry off the prizes and higher certificates of the academic year, and I feel assured that they will afterwards gain the great prizes of professional life.

And thus must it be in these competitive examinations established by this Institute. It is a generous emulation in which each seeks to rise higher than his fellows, not by striking down his rival, but, by more practised and skilled attainment, to reach an excelsior height.

The examination papers show the progressive steps, from the earliest elements of knowledge to the higher ranges of creative thought. In the execution of buildings the artisan possesses, as the basis of his knowledge, the plumb-line to ascertain the perpendicular or vertical, and the use of water to decide the level line, and with which elementary data it would be hardly possible for the practical man to move one step. But it is upon these simple tools, resulting from the general law of gravitation, that is built up the theory of construction, which renders the Pyramids in their vast extent true to that great law of the universe, and which gives to the Parthenon its stability and to the magic productions of the Middle Ag

* At the request of members of the governing body of the Royal Institute of British Architects, we publish the greater part of the president's opening address, on Monday, the 2nd instant.

bat equilibration of vaulting which suspends asses in mid-air with the slightest aid of solid ipport. Science and laborious study can alone ach this, for the results are not fortuitous, but roceed from the deepest theories and the largest xperience. The student, far from being dis-uraged, should be encouraged by the fact; for e step leads easily to another, and the energy hich can rise up the first round, can as easily rmount the other rounds of the ladder of fame, d each succeeding one will be the easier con-ered, and the greater pleasure experienced in e pursuit as success confirms hope and practice creases strength.

We trust, therefore, in January next, to see r young friends come forward to these examina-ons with as much zeal as at the last, and in un-minished numbers. Then will the profession se each year its standard of proficiency, and hieve new triumphs in the monuments which ll be erected; until in taste and skill they will t only equal but excel the works of Greece and me and of the Middle Ages, which have hitherto rne the palm of unrivalled excellence.

I have to notice another point connected with e education of the young architect;—which is the rt time in which parents and guardians ima-e that a youth may be qualified to start on his ofessional career. I have been asked by some three years would be too much; and I know es where a four years' apprenticeship was con-ered a species of interminable bondage. There mot be a doubt that to revive the term of for-r times, of seven years' clerkship in the office, ld be a sacrifice of much precious time; but en we look at the papers of our competitive minations, the term that may be usefully ed in the builder's workshop and with the ctical measurer, and the thorough routine of ctice to be acquired in an architect's office, we not doubt that six-or even seven years may be fully and agreeably spent by the youth who ires to be an earnest, thorough, well-grounded ctitioner, and to enter upon the real battle of armed at all points, and capable of under-ing any responsibility.

n speaking of the professional career I must ture to urge the importance of young men ac-ring the business qualifications of practical as being essential to their satisfactorily rea-g all the fruits of the more intellectual artments of their pursuit. And I do not mean say that the most qualified are always and essarily the most successful, or even when suc-ful, carry off the crown without a thorn to re-d them of the instability of all human enjoy-ats. There is so much of business mixed up the artistic portion of our profession, that n does patronage or chance, and even the very mpetency of committees or patrons, or cun-t, win the premium from the more deserving. very tendency, as in the other professions, to w everything, good or bad, great or little into hands of a very few who may stand at the top of the tree, prevents that fair distribution of loyment which would foster rising talent and ard other meritorious members. Again, the t of a distribution of patronage by the Govern-t in the many works they have to execute, pre-s that fair encouragement to those who, after y years of wearisome toil, may have carried off highest prizes of our schools, and spent a little me in foreign travel, and then starting into tice find all their fair claims to notice dis-rded and themselves unheeded, as though r had no claims to distinction and deserved not slightest token in recognition of their studies, r sacrifices, and their merits. In fact, the rnment very properly expect to employ men e very highest talent, and yet make no effort, ribute nothing, to place the means of instruc-, improvement, and subsequent encouragement ain the reach of the earnest aspirant. But e is the like realization of bitterness even to e who have carried out the noblest works, and d the objects of envy and admiration to the inking. Of such three striking instances r to my own mind. The committee for the iding of the International Exhibition of 1851 sisted, as you know, of six members—three neers and three architects: of the six "*quorum ma pars fui*" I am the only survivor. To e of these, my colleagues, I allude,—Isambard el, Robert Stephenson, and Sir Charles Barry; all will allow that they were fit representatives ried mental qualities in their several pur-

runel—brilliant, quick, full of resources, im-ned;—Stephenson—solid, thoughtful, calm, deliberative;—Barry—profoundly acquainted his art, master of various styles, a sound thinker, and rich in imagination;—all of them at the top of their profession, and having had to execute critical works of the highest class.

When the first section of the Great Western Railway was opened to Slough, the success of the continuous bearing system of sleepers seemed a triumph of Brunel's sagacity. He had accomplished a great reform and established a new theory; and one might have imagined that the moment when he received the congratulations of a numerous assembly of scientific men would have been the happiest, proudest of his life. But I recall well the words as they fell from his lips, when with somewhat of a depressed tone he acknowledged the compliment paid him, and said, "However fair all might seem, and however prosperous the experiment that day had proved, there still remained much of care and anxiety and responsibility and doubt, ere he could realize to himself that he had indeed succeeded."

When the last tube of the Menai Bridge was to be raised, Stephenson invited his colleagues down to witness the operation. Barry and myself alone could avail ourselves of the opportunity, and we saw the marvellous combination of simple expedients, by which the huge mass was floated down to its position between the piers, and the rapidity with which the enormous weight was raised some tens of feet, and without the slightest pause, or irregularity, or disorder, lodged in its permanent resting-place. On this occasion we heard him declare in reply to the felicitations of a large company, that not all the triumph which attended this great work, and the new solution of the difficult problem of a rigid roadway at such a height, and carried across such a stream so as to allow the largest vessel to pass with all its sails set beneath it, could repay the anxieties he had gone through, the friendships compromised, and the unworthy motives attributed. And were another work of like magnitude offered to him with such consequences, he would not for worlds undertake it!

We all know how our sympathies were excited by the ordeal of twenty years through which Sir Charles Barry had to pass for the completion of the Houses of Parliament. At the first an unworthy attack from certain competitors, committees of the Commons, committees of the Lords, a succession of Chief Commissioners not always favourable, an extravagant system of warming and ventilating thrust upon him at a cost of 80,000*l.* to the nation, and even the creation of his own prolific genius attributed to another eminent in the art, but who was too generous to allow such a misstatement without the directest denial; and then again the parsimony of the Treasury abstracting from the man of genius his fair professional reward;—all these harassed and embittered the life of our friend, and deprived him of the unclouded joy he ought to have felt in having executed the most important building of modern times, and in having endowed the metropolis with one of its noblest features.

Such may be lessons to every one, and I recall them not to depress, but to strengthen all under the greatest difficulties; and to show that, whatever the struggles they may encounter, whatever unjust aspersion they may have to endure, it is but the common fate of genius and success; and that after all the only best reward is the consciousness of having done one's duty, and not the smiles or favours of a fickle admiration. So true is the wise observation of Guizot at the conclusion of his "Life of Washington," "That success even does not efface the sad impressions to which the combat of active life gives rise; and the fatigue contracted in this arena is prolonged even in the calm retirement of repose."

Passing to the subject of the nature and quality of our professional publications, I think it must be acknowledged, that the architectural illustrated works of late years, with the exception of Mr. Cockerell's last volume, and some other works, have not maintained the high standard which was generally prevalent some years ago. Where it is the intention of the author to publish transcripts of his own sketches, and not seriously and elaborately worked out drawings, lithography is undoubtedly the best imitation of the crisp, sparkling, and off-hand pencilling of the artist. But wherever the graver is used, it should be with the delicacy, refinement, and finish which distinguish Stuart's "Athens," the volumes of the Dilettanti Society, or the works of Britton, Pugin, Blore, and such standard authorities. The loose, scratchy, and guesswork execution of some productions does not worthily represent the art. The French, on the contrary, and the Germans, execute their engravings more elaborately and carefully, and with a higher finish. At this time there are two works publishing by Mons. Daly, at Paris; and there is one in London, professing to give practical examples of constructive architecture, and they allow of a comparison on this subject. The English work is a compilation of examples without selection. Details are given of cornices, mouldings, and other details, possessing no special beauty or grace, and taken apparently from the ordinary volume of Gibbs, of the last century. They are drawn to an enormous scale, as though the editor did not care to take the trouble to reduce them to a manageable size, and many of them repulsive from their vulgarity. There may be an excess in point of scale, and parts drawn to the size of execution often unnecessarily encumber such a work, and render it ponderous. In fact, the reader had better be referred at once to the original work from which they have been copied. Great discrimination is required in works of this class: certain elements of selection should be observed, a degree of merit in point of taste and of talent as to the construction. There is no doubt that, in mere matters of execution, there may be many instances of most ingenious skill by practical mechanics, engineers, and others, who lay no claim to taste, and whose previous education may not have qualified them to invent combinations of form and detail, so as to invest construction with the nobility of artistic grace. In instances such as these, an editor of such a work would be wise to confine himself to the mere portions embodying the true value of the example, the scientific disposition and combination of the parts. But to give what is *intended* for mere ornament, but which is in truth mere disfigurement and caricature, is to be unjust to the designer and lay bare his weak point. Although the price of such a publication to be generally purchaseable should be placed at the lowest remunerative figure, yet the execution ought never to be coarse and negligent; nor should there be neglect either in the selection or arrangement of the details. Nor ought it to be a reproach, that many of the finest and most interesting and instructive works of recent time are absent, as though mediocre practitioners, anxious to make their names known, may have been but too happy to volunteer illustrations, and the editor no less ready to accept the costless sheets, which might swell his work at little expense.

Mons. Daly's publications offer a striking contrast to the preceding, though they have somewhat of a like object. The illustrations of the "Revue d'Architecture" are drawn and engraved with the utmost refinement and finish, and show an earnest loving treatment of the subjects. And I must notice with emphasis the graceful and elegant manner in which he has got up the "Architecture Privée, or Domestic Architecture of the Nineteenth Century, under Napoleon III.," being new houses of Paris and the suburbs, consisting of plans, elevations, and sections, and details of doors, windows, staircases, painted decorations, chimneys, gardens, &c., the plates all executed on steel. The selection is made with peculiar care, and I feel that those who are refined in taste will always require, in such illustrations, the chaste rendering of such a work as this, which can alone worthily illustrate whatever there may be of graceful design in the original, and which a coarse execution will only debase and disfigure. We might wish less repetition in the examples of the same sentiment, taste, and distribution, and which becomes to a degree irksome, and we may desire more practical details as to the structural combinations; but, in point of execution, these volumes are fine instances of care and finish, and offer a standard to which it would be desirable for us not to be inferior. We were the first in our "Stuart's Athens" to give the highest tone of illustration for architectural works, which the French have been eager to equal and surpass.

You will recollect with what careful deliberation the Institute drew up a scale of charges for professional services. It was anticipated that this would prove a useful guide, producing uniformity of practice on this delicate and important point; and, at the same time that it justified the architect in his fair claims, it should prevent an exaggerated charge for remuneration discreditable to the general body of the profession. And happily many cases have occurred in which such questions have been settled to the satisfaction of parties by mere reference to this scale, and legal intervention and misunderstandings avoided. But I am sorry to say that instances have arisen, in my own experience, with regard to some practitioners, not members of our body, and imperfectly acquainted with its scope and tendency, in which the scale of the Institute has been quoted to support un-

reasonable demands; and, although worded with every care to avoid misinterpretation, it has been adduced to justify claims greater than intended or justifiable. It is to be remembered by us, that this scale was meant not merely for the protection of the employed, but also for the protection of the employer; and that any attempt to contravene that great principle, and to render it a pretext for an excessive recompense, will be contrary to the spirit of integrity and high honour which should distinguish such a body as ours. Wherever called upon to give an opinion as to its intent and bearing, any doubt which may arise should be interpreted in the most liberal manner for the employer, since it was our body which drew up the scheme. Upon no other ground will this scale of charges be entitled to be considered as fair and impartial, or referred to as equitable, authoritative, and conclusive upon such questions.

It is subject for satisfaction to notice, that the Metropolitan Board have, with most creditable despatch, recently accepted a tender to the amount of more than half a million, for the execution of the portion of the Thames Embankment on the north side from Westminster to Waterloo Bridge, and that particulars are preparing for the section from the Temple to Blackfriars. It is to be assumed that the like movement may take place in regard to the south side, and that thus our noble river may have its banks faced with a continuous line of quays, which will at the same time sweep away the mud deposits that poison the water and the air, and will give it that aspect of majesty suited to the metropolis of a great empire. It is gratifying to observe that the leading features of these quays will display a certain artistic treatment, and will not be like the railway bridges which span the Thames in the same locality, hideous masses of utilitarian skill. We congratulate, also, the public in London and Dublin upon their being roused to the consideration of the frightful erections contemplated by railway companies, and of some which even now deform certain of our principal thoroughfares and threaten others. There has been too much indifference hitherto to the important influence of architectural taste on the convenience and enjoyment of the public. If proposed works embodied a useful purpose, the consideration of their forming decorative objects was regarded as non-essential; and we have thus certainly allowed many disgraceful disfigurements in the metropolis. In France it is the reverse. As in Athens, the rude speaker, however eloquent, who sinned in his grammar or his quantities, was hooted down; so in Paris public improvements are not tolerated unless treated as public embellishments. The consequence is, that Paris, under the spirited and enlightened renovations of Napoleon III., seconded by the æsthetic tendencies of the public mind, has become the queen of European capitals. She leaves all others at an immeasurable distance by the noble disposition of the new thoroughfares, the amplitude of the streets and public areas, the nobility of the public edifices, and the tasteful decoration of the private dwellings. It has become the fitting and enjoyable residence of a highly-refined intelligent people, whose life is not wholly absorbed in the cares of business or the mere mania of amassing wealth.

Much of this conduct of ours arises in part from the unwillingness of the Government authorities to incur responsibility; still more from the niggardly parsimony of Parliament to afford the requisite funds. Only the other day the Chief Commissioner was precluded from entertaining the proposal to make the newly-proposed and leading street from Blackfriars to the Mansion House, 80 feet wide, instead of 70 feet, because he felt assured that Parliament would refuse the extra amount (some 100,000*l.*);—and this in the face of the increasing traffic in the City, and the inadequate width of any of its largest thoroughfares. My feeling is, that it would be wise in Parliament, as being of the highest benefit to the empire, if public subventions, as in France, were given, in order to promote a spirit of reformation in our towns. There are many which, by the tide of manufactures and commerce, have from insignificant villages become emporiums of trade; and, however extended in all directions, have retained the original narrow high street, and the ways and alleys opening thereunto, so as to maintain and paralyse additions in the like stinted dimensions. They thus still present cramped tortuous lines of communication, without one grand avenue from north to south or from east to west, to open up the way for the teeming tides of living beings who swarm the streets, hustling and impeding each other; or for the carriages, waggons, carts, and animals huddled into one mass of dead lock. If such contributions were once freely accorded in a certain proportion to any municipality, who would undertake the task and provide the main funds, we should soon find the spirit of improvement arise, petty local jealousies put to flight, higher aims entertained, and hopelessness of improvement superseded by energetic efforts to ameliorate and correct, and to accomplish grand and useful projects. Oh! for a ten years of the liberal and tasteful spirit for improvement which now pervades the whole of France, and England would accomplish great things.

There is also required some immediate interference by Parliament for the purpose of securing to the labouring classes more fitting dwellings than those swept away to make room for the metropolitan railways. There is wanting a greater consciousness of parental care in the authorities, whether the Parliament or the Government, to grapple with this difficult question. It is hedged in with difficulties: it is no one's special business: it carries with it no profit, and would have only the thankless reward which usually attends philanthropy. But it is a duty: the health, the happiness or misery of tens of thousands is involved in it; and it is a crime that, as a principle of action no longer to be deferred, the proper housing of the working classes lies in abeyance, and Parliament is heedless of the sufferings of the poor, and of their duty to undertake the remedy.

Mr. Hansard informs me that the artificial stone Committee, appointed in March last, have held eight meetings and investigated several processes, and tested by crushing at different dates after their manufacture each series of samples. These proofs necessarily take considerable time at each meeting, and extend over many weeks: this has prevented the committee from being ready with their report at this the commencement of the session. They think it likewise advisable, before arriving at any conclusion, to submit several of the samples to the exposure of the weather during the winter season, and to note the effect, if any, of frost after wet, or sudden change of temperature upon them. During their investigation the Committee have taken the opportunity to test the strength of other materials, viz.;—bricks, cements, slate, stones, marble, and woods, the comparative results of which they hope, when finished, will prove interesting to the Institute. Some startling questions present themselves on this topic:—How is it that all at once we find out that none of our natural stones in common use are fit for construction, but liable to rapid decay? How is it that it should be assumed to be more economical to go through the process of manufacture, and to transport the object to the work at a less cost than the natural stone itself? Why is it that the best beds of Bath, the most enduring of Portland, such as Sir Christopher Wren used at St. Paul's, cannot be extracted from the quarry and conveyed to London at less expense than the artificial product? Are we prepared to put up with the dingy, opaque, and unartistic effect of the artificial stone, when the varied tints and the transparent tones give so great a charm to the natural material in buildings? Are we sure of their permanence?

You are aware, gentlemen, that a considerable body of admirers of the late Mr. A. Welby Pugin, anxious to mark their respect for his memory, and for the eminent services he had rendered in the revival and just appreciation of Mediæval art, entered into a subscription and raised a sum amounting to about 1,000*l.* After much deliberation and the due consideration of a variety of proposals, as to the best manner of carrying out this intention, it has been at length decided to realise a wish, expressed many years ago by Mr. Pugin, to found an endowment out of the annual dividends or proceeds arising from this principal sum, and to apply them yearly to assist a well-qualified student to travel for not less than eight weeks in the United Kingdom of England and Ireland, for the purpose of studying Mediæval architecture in Great Britain, whether in ancient or modern buildings;—no person, who has once held the studentship being eligible for re-election. In the first year the election is proposed to be made by four certain members of the committee of subscribers and five Fellows of the Institute. In subsequent years it will be by a committee of nine Fellows of the Institute to be named by the council. A declaration of trust is proposed to be made, placing the control of the said fund under certain regulations in the council of the Institute for ever. A draft declaration of trust has been prepared by the committee of subscribers and submitted to the council, and will soon be brought before the members for their consideration and adoption. * * *

In conclusion, gentlemen, I would observe, tha all art is a magic power. It is beyond the ken o human cunning. It is an instinct—an innat principle of fervid imagination: be its working slow, laborious, like those of a Rousseau or Byron, or glowing and ready like those of Michelangelo or a Vanbrugh, still it is the sam divine gift: with some it is on the very surface with others deeper seated, and only to be realize by immense toil. However powerful poetry music, painting, or sculpture may be, as arrestin the attention, fascinating one's faculties of thoughi or reason, speaking with a thrill to every emotion pleasing, teaching, ennobling; yet architecture, b other means and by instruments the most rude, i at once more necessary to man, and still more ab sorbs his feelings and his admiration. Out of thi crudest materials and mis-shapen masses sh creates pile upon pile—gives them a grace no their own—combines them with a skill at whic the most scientific are lost in wonder. Her monu ments, under the accumulations of centuries c overgrown with creepers and lichens, employ th learned to explore their origin and destination. I them they discover unthought of secrets of pas times—graces in their proportions, beauty in thei ornaments, and hidden art in their painting They may reveal a nation *long since forgotten o before known only by name.* Architecture en riches the desert, as at Palmyra, with vistas c continuous colonnades and splendid palaces, an offers a halting-place of safety to the weary tr veller, security to the wealth of commerce. O the bare rock she raises piles of vast magnificenc and fanes of matchless beauty, in whose ver fractured stones successive races seek for a hidde law of beauty, an inspiration to enable them t revive the truest aim of art—nature's most exqui site transcript. Who is there that wanders amon the stately ruins of the Athenian Acropolis or th sublime memorials of the Roman Forum, and doe not envy the glory of those past ages of classi art? Who can contemplate those traditions an mysterious sublimities of the creation of th Middle Ages, and does not feel his heart throb wit powerful emotion? Who does not dwell wit delight upon the works of that race of merchan princes who, upon the shifting sands of the wate covered lagunes, could rear up those stately pile which bear the names of the Grimani, Balbi, Ver dramini, Foscari, and bid wood, stone, brick, an marble speak with stirring effect to those wh have eyes to see and taste to appreciate: men wh with fierce republican pride might have challenge cardinals, princes, popes, and kings and emperor to produce nobler realities out of fiction? Th architect it is, who, with his pencil and compas with a mind full of deep things, under God's pr vidence and with his brave heart, creates all th and toils on unheeded, often misunderstood, fr quently blamed, rarely encouraged except by h own bright star of hope and faith. Let us, the work on with the consciousness of somethin within us, which may, sooner or later, before when in the grave, be at length understoo admired, honoured by our fellow man.

ARCHITECTURE AND THE ROYAL ACADEMY.

THE "Report of the Commissioners appoint to Inquire into the Present Position of the Roy Academy in relation to the Fine Arts, togeth with the Minutes of Evidence," is now comp mented by the publication of thirty appendi and a copious index; and the public may be in position to judge of the capabilities of the prese institution, for the development of art in gener and of art in architecture. The Report has be noticed in many of the reviews and newspape but previously to the completion of the publicati of the evidence, and therefore not adequately always correctly.

The Commissioners were Earl Stanhope (cha man), Lord Hardinge, Lord Elcho, Sir Edmu W. Head, bart., and Messrs. W. Stirling, Danby Seymour, and Henry Reeve. Mr. R. Sketchley was secretary. Forty-six witnes were examined. Amongst them were Mr. Ha wick and Mr. Scott, architects and Royal Aca micians; Mr. Tite, then president of the Institu Mr. Fergusson, Mr. Layard, and Mr. Rusk Mr. Tite, Mr. Scott, and Mr. Fergusson, none whom joined the Institute till a comparativ recent date, were specially examined as to poi concerning the Institute, on which older memb might have been expected to possess the best formation. Mr. Donaldson was not examined. Charles Eastlake's examination occupied betw four and five of the sittings.

The questions raised during the proceedings, and which would interest our readers, were very numerous. The question whether the Academy is mainly a private corporation, only become entitled to be housed at the public cost, and receiving the direct countenance of the Sovereign; or whether it is a public institution with responsibilities in the application of its funds to objects external, or of the general promotion of art: the question of the Trafalgar-square site, whether required for the National Gallery, that is in the event of increased space at the back being obtainable; and the question of the constitution of the Academy, of the branches of art which it should comprise,—whether Painting only, or the three arts as now nominally, or all including the "minor" decorative and ornamental arts,—of the total number of Academicians, and that of Associates, and whether the subordinate class should be retained and largely recruited, or abolished; of the infusion of a non-professional element into the Academy, more largely than at present, and entrusting to the non-artists real duties, as in the decision of questions of art; of the desirableness of having some foreign members; and of the relative proportions of the several arts and classes in an Academy supposed constituted on a wide basis; these form only a small portion of the subject which has received elucidation. Less satisfactory than are the results of the labours of the Commission in these questions, are the results of the inquiry into the points which concern the exhibition, the schools and teaching, and the possibility of utilizing the Academy as a permanent council of advice in all matters of the art-element in public works. The main accrued results are, first, evidence that the several short-comings of the Academy are not confined to architecture and sculpture, and the "minor" arts, but extend to painting also, that is in the system of the schools, and in the noticeable deficiency of works of the highest class, and of those decorative of public buildings, as well as of space for the pictures in the exhibition; and, second, the testimony, never before so unanimous, and the confession never before so complete and authoritative, that the "general" "complaint during many years, of the bad taste and utter want of system which have been displayed in the construction of our public buildings" has been, in the words of the Report, "well founded." Then there is the question between the English system of academic teaching, supposing it improved, and the French *atelier* system as combined with the École des Beaux Arts, and as including the assistance of the pupil in the production of the master's works. Also there is the question of foreign travel, and of the desirableness of a long sojourn in Rome. Conclusions on the points raised in these two latter painters', or painters' and sculptors', questions, would be most important in suggestion for the education of architects. But still, there is a large category of questions left, concerning the whole position of architecture in the Academy. On these, the Commission received some evidence of importance. The question of the education of architects was by no means forgotten in the proceedings of the examination of witnesses. Yet the Commission, whilst referring to the "well-founded complaint" above named, have contrived to conclude their Report without any mention of this, the most important, object of their appointment.

Neither the duty in general, of the development of art, nor that in one of the particulars, the development of art in architecture, has, the evidence plainly shows, been sufficiently fulfilled. The Academy is mainly an association of painters; and as an educational institution, it has never corrected shortcomings of its original foundation, even as regards the special art of painting. Not only is the architectural aspect of London, to which public works contribute, a national disgrace; not only is sculpture, in the statues which we raise, positively degenerating; but certain arts are dissociated from the others, to the loss of each; and to repeat, restricting the view to the painters' art, there is neither public demand for mural decoration, nor the class of men able to execute the works which would create the taste. Those who know what the Academy has effected through its exhibitions, and that men have been educated in it who have done much honour to British art, may deem these assertions strong; but such persons should read the evidence itself, which is now before us. After all, so far as architecture is concerned, it tells little that we were not acquainted with; whilst as to monumental sculpture it repeats much that we have been long advancing.

All, that is members of the Academy inclusive, are agreed as to the existence of the defects in our national art which we have alluded to, and are sensible of the contrast that is presented between the system of education and the results in public works, in this country and on the Continent. It is equally important to note the evidence that art in some respects has degenerated in certain of its branches, notwithstanding the growth of numerous institutions, the Department of Art inclusive, to do the work which might be properly within the scope of the Academy, if indeed not considered so originally. Mr. J. C. Robinson, "Art Referee in the Department of Science and Art at the Kensington Museum," after noting (in his observations first addressed to Mr. Seymour), the general agreement that water-colour painters had "quite as good a claim to the honours of the Academy as the oil painters," asked "why should not also decorative artists of high eminence, gold and silver smiths, professed ornamentists, and designers for industrial purposes be also included?" He well observed that high art could be represented in what might be termed "*industrial vehicles*" as truly as on "mere gilt-framed canvasses, or in cold white marble." Vechte was referred to by several witnesses, and Pistrucci, and John Thomas by some, as exemplifying a class of artists for whom room should be found in the highest grade of the Academy; whilst Mr. Beresford Hope brought forward the claims of the sculptors in stone, and others including the class of artworkmen, as to be recognized in a third order,—a recommendation which the Report of the Commission adopts. Mr. Robinson opportunely said,—

"Originally the Academy *did* admit industrial artists. Moser, the gold chaser, for instance, one of the original members, was one of those talented artists to whom we owe the snuff boxes, *étuis*, and watch-cases of the last century, enriched with their beautiful enamels and spirited chasings, so much more excellent than anything of the kind now produced; whilst Stothard and Flaxman, both last-century members of the Academy, were at least pre-eminent in industrial design; but they have had no successors in the Academy in our own age. Now, indeed, young aspirants will not condescend to study the arts these men delighted in. In fact, the so-called minor arts call loudly for higher recognition and the countenance of the Academy. Our manufactures are bad in design, and so also is our national architecture, mainly because the notion still prevails that the kind of art wanted for them is of a low order."

The Department of Art may have been teaching correct principles,—those concerning the use, structure, and chosen material of a work of industrial art,—and individuals connected with the Department have spoken of improvement realized in our manufactures, which moreover has been admitted by the French; but here is a confession from one of the chief officers of the Department (against which, however, there is no accusation), that the element of *art* or taste, which is as important as the adherence to principles, is still deficient, and is even becoming more so. Mr. Robinson, in expressing concurrence, as might be expected, with the view (suggested in Question 4629), that we should never have "a general diffusion of art till art is introduced into all our manufactures into which art is capable of entering," said:—

"In our industrial art we are now worse off than we were seventy or eighty years ago. Towards the end of the last century we had Flaxman modelling for Wedgwood, and Stothard designing for art-manufactures. No doubt the influence of Flaxman and Stothard was very great on the arts of this country. I think that decorative art, in gold and silver plate, jewellery, furniture, and other branches, was in a healthier and higher position seventy or eighty years ago than it is at this moment."

Many of the designs here referred to, were very deficient in those requisites to which attention would be directed by the study of that which is chief of the structural and useful whilst fine arts, namely, architecture. But there is ground for the question whether, if something has been gained, much has not been lost. We often look in vain for the taste that was shown in some of the furniture designs of Chippendale or Lock, or even in those of the Adams. The Academy has fostered a single branch of art by the exhibitions, which are its source of income; paintings realize prices that some of the witnesses, as Mr. Ruskin, believe to be injurious in their effects upon the art of painting; and the alliance between the arts becomes less and less intimate, and less influential for the good of each. The evidence generally, whilst admitting that there has been progress in architecture, accuses the Academy of caring too little for any art, or of helping towards the social consideration due to the professors of any branch of art, but the one, painting in oil. The prosecution of art in architecture receives no help from painters or sculptors, in the advocacy of the cause: and neither class of artists, most blindly, and fatally as regards the sculptors, has realized the value of a connexion of their arts respectively, with the other art which is concerned with building. We apprehend, the mass have not got a step beyond the prejudice, unknown in any other age, against decorative painting and sculpture as inferior arts. Seldom it is that a painter will understand the art of architecture at all; though to be ignorant of it is almost to be deemed as being deficient in art entirely.

The schools of the Royal Academy were originally (following Mr. Dyce's "Draft of a Proposed Introduction to the Report of a Committee on the Schools," &c., Appendix No. 24, referred to in his evidence,) "'intended to provide the means of studying the human form with respect both to anatomical knowledge and taste in design.'" Further, adopting Mr. Dyce's words,—"No other purpose whatever is recognised; and the only means proposed for this end are, first, a school 'for the study of the best remains of ancient sculpture;' and secondly, a school 'for the study of living models.' This limitation of the schools of the Royal Academy to a single purpose, which by itself is not even sufficient for the education of painters and sculptors, and has no immediate bearing whatever on the study of architecture, in an institution professing to cultivate each of the three arts," Mr. Dyce suggested the Commission should report, that they could not "for a moment undertake to justify;" and they have in effect done so without using his words. The same Academician remarks that "it does not appear that *painting* from the life was originally numbered among the recognised exercises of the students." Principles of design in painting, sculpture, and architecture; the history of those arts; perspective, and anatomy, were to be taught by lectures, and those, few in number: practical knowledge of a particular art was to be acquired by the pupil's own exertions. For the students in architecture, the lectures and the library, with the offer of some premiums for drawings and designs, sufficed. The general scheme as it stood, has however been departed from in some particulars, and in ways that tend to show the necessity of a much more extended circle of study than was contemplated in the original schools. In the school of painting, there has been introduced the study of drapery, to which "there had not been the most remote reference in the printed laws." Mr. Dyce (continuing the "Draft") remarks, whilst if it be necessary to have "a department for the study of drapery and the living draped model," such study is not less necessary to sculptors than to painters, and drawing from the draped model is not less necessary than painting from it, that "sculptors are excluded from the study of the draped model, and painters are not allowed to draw in the so-called school of painting." A sculptor must *paint* from the draped model: otherwise his modelling and drawing are restricted to the nude. A painter may draw, paint, or model from the nude; but he may not draw or model from the draped figure. He sees no more reason for excluding the use of the brush from the antique school, than the use of the crayon from the painting school, and no ground for permitting modelling in the antique school and the life academy, and excluding it from the so-called school of painting: for "modelling is the sculptor's means of imitation, and applies to all his exercises from first to last." The schools, he says, cannot with propriety be classified into drawing, painting, and modelling schools: mere processes of art should be common to all the schools. The names given to the schools tend to continuance of error in the principle of the Academy and in its instruction in the separate arts. The instruction, he shows, should be ranged, not as just noticed, but under the three heads of "School of Sculpture," "School of Painting," and "School of Architecture," the present schools being made classes of those, if necessary. Each school would have something peculiar to itself in the higher studies, and something in common with the other two in the more elementary. He evidently contemplates a greater importance given to architecture, the science, in the studies, in the Academy, than is thought of by the chief witnesses from the profession itself, though not more than we find was sketched out in the "Report on Architectural Education," of the 11th of March, 1856 (Appendix No. 20), by Mr. Cockerell and Sir Charles Barry, a sub-committee of the Academy. The classes for architectural ornament, by his proposal, would respectively form sections of the proposed schools of painting and sculpture. He alludes, however, to the possibility of establishing relations between the Government schools and those of the Academy, so that pupils might go from one to the other, and *vice versâ*,

after a system in use in Prussia, Saxony, Bavaria, and Austria, "the academies being understood to occupy the same position relatively to elementary drawing-schools and technical schools, as the universities do to the grammar and other classical and scientific schools." According to Mr. Dyce's idea of an academy, the architectural studies of painters and sculptors would be undergone in the "School of Architecture;" whilst students of architecture, having to draw and paint or model the human figure, ornaments or flowers, would go for that purpose into the proper sections of the schools of painting and sculpture.

Most of the witnesses give credit to the Academy for the disposition to correct the position, which we have noticed, of affairs, in all points. But, in the present location of the institution, in a half of the National Gallery building, cut through on the ground-floor, by a public way,—besides being badly planned in the exhibition-rooms for the circulation of crowds,—and utterly inadequate in space for whichsoever of the requirements of the Academy, there is no chance of effecting improvement.

Moreover, the length of time that this inquiry has been threatened, and a disposition, now somewhat abated, to allow no credit for the fact that the art of painting has been kept alive without assistance other than the favour of the Sovereign and the free use of apartments, whilst the art has reflected honour upon the nation, have tended to impede the reforms that the Academy might have been ready to initiate. The predominance of painting, and that perhaps not of the highest class, to the exclusion almost of the other arts, if not injury of some of them, results from the fact that the institution is not, like the École des Beaux Arts and the exhibition which takes place in the Palais de l'Industrie, provided for by the Government, but derives its funds solely from the entrance-money to its exhibitions. The class of works are exhibited which will draw the crowds and the shillings, and will also sell; and such works are not sculpture to a great extent; and still less are they architectural drawings. Adequate quarters however would be provided for each class of art, were there building and ground space. This at least is a statement of the position as it is given by the witnesses the most favourable to the Academy. We have only to say in diminution of it, that the sculpture-room after alteration is still very unsatisfactory; that the position of architecture in the exhibition has been made of late years worse and worse; that "minor arts" that were formerly represented, though most inadequately, seem to have been cast out; and that the Academy, as now shown, needlessly omitted to volunteer the information just given completely through its president, and thus alone has failed in part of its duty.

As to the question of adequate space for an exhibition including every walk of art, and for remedying the deficiencies of the instruction for sculptors, if not architects, besides allowing the schools to be kept open throughout the year, we have no doubt that one of the alternatives left by the Report, that of giving to the Academy possession of the entire building in Trafalgar-square, would not quite meet the circumstances of the case. If we understand the position at all it is, that all contributors to the other exhibitions, as the exhibitions of paintings in water-colours and those which comprise most of the landscapes, as well as the producers of works of building decoration and industrial art,—besides the sculptors more adequately provided for,—should be at least invited to contribute to the one exhibition, wherein "unless in special cases no picture of ordinary size should be exhibited with its base less than 2 feet, or more than 8 feet from the ground," wherein if possible pictures should have some vacant space between them, and wherein "rooms should be set apart for the exclusive exhibition" of the water-colours, the engravings, and the architecture respectively. To ensure these recommendations of the Report, and the others,—such as provision of rooms for societies, as the Arundel Society, not to mention *soirées*,—will demand some addition to the present area of the building in Trafalgar-square. With this necessity, provided the question of the site for the National Gallery were settled, we would rather leave the Academy where it is, and erect a front for the building worthy of "the finest site in Europe," than place it in Piccadilly (which locality is not preferred by the Academy) and perchance spoil a site by allotting it to many not quite accordant uses of art and science. Notwithstanding Mr. Tite's adoption, in his evidence, of the late Mr. Alderman Cubitt's words as expressing "the general feeling" of the House of Commons, we are disposed to think that the decision of the House was intended merely as against the South Kensington neighbourhood, if indeed the National Gallery question was not influenced by the opposition to South Kensington, only as the location for other institutions. We wish the question could be again fairly discussed, how far the works of the old masters can be interesting or useful to the great mass of the public—whatever may be the case as to the modern works which, strange to say, have been the very works selected for this supposed less accessible site,—and how far those priceless and irreplaceable works are not suffering from the dust and vapour of the crowds of mere idlers who to a considerable extent interfere with the uses of the Gallery for purposes of study. This view of disadvantages of the Trafalgar-square site for the National Gallery, was placed before the Commission; and whilst it was contended that that site might be of vital importance to the Academy, it was urged that the Burlington House site for the National Gallery, might be better in several respects for the duration of the pictures and other uses of the Gallery. The Commission have not come to any conclusion on the subject, but feel that the acquisition of the ground occupied by the barracks, the baths, and the workhouse, in the rear of the present building, would involve considerable difficulties besides great expense; therefore they seem to favour the alternative "that in such a case the whole of the present building in Trafalgar-square should be handed over to the Royal Academy for their use, subject to such conditions and arrangements as the Government of the day might determine."

But, saying that due regard is not paid in Trafalgar-square, to many walks of art that are not comprised in painting or in the branch of that art which is composed of easel pictures, and including in this category, our own art, we must not shrink from the question whether architecture can be taught in the Academy. Now, all are agreed that nothing can be provided by the Academy, which will render less necessary the pupilage in an architect's office. This must be the case even be there restriction of the view to architecture as the art.

It will not surprise architects, that the evidence of members of the profession, whether belonging to the Academy or not, points to the Institute of Architects as the body that should be mainly charged with architectural education. But before settling that the education by a body unconnected with the Academy could be all-sufficient, or that a severance of the present connexion would be desirable in the view of the future of any one of the arts, it is necessary that there should be as clear an apprehension as possible, first, of what architecture is, and secondly, of the possibility of the production of a class of professional men, architects, capable of realizing in practice the previous definition.

We keep the questions distinct: for they are so; and arguments of expediency, or of the demands of modern times dictating division of labour, or even of human strength and capacity, cannot make them otherwise. As in the order of the material world, it is impossible to point to the ending anywhere, of the domain of one science and the beginning of another,—so that theoretically, the knowledge of one must require and include the knowledge of all,—in the same manner *architecture* is not what it is possible to master under present conditions, or those however improved, but something of which our conception of its component parts, must be formed from no narrow views. Practical difficulty, whether of bringing the architectural education within the domain of the Academy, or of teaching to architects the drawing and modelling of the figure out of the Academy, or of harmonising educational classes held at different places, cannot alter facts of the nature of architecture, or of the disadvantages to painting and sculpture in their higher walks, from the withdrawal of the companionship of architects with painters and sculptors, and of the association of architectural education, or some of it, with painters' and sculptors' education.

Architecture, by one manner of viewing it, may be said to hold a middle position between the pure scientific construction, on the one hand, which the popular view ascribes to civil engineers, and takes to be represented by their "Institution," and on the other, the pure art which may be held to be represented by the Royal Academy. But its roots stretching one way to the utmost realizable conception of utilitarian construction, as in the case of the simplest placing of posts and planks, that ever served for passage of a river, extend the other way, to the most complete,—ay, and *phonetic*, — exhibition of sentiment through form of art, that ever required the service of masonry or bricklaying. Of the last case, what are tombs and commemorative monuments but examples? Are thousands of them which exist, and were *built*, and that could not dispense with mouldings and other architectural details, to be ever regarded as out of the field of architecture, however prominent or predominant be one of the other arts. Whatever faults have been committed by painters and sculptors, sculpture is still "the voice of architecture;" therefore the art which is the business of the architect is capable of being regarded as a phonetic art. So much by way of allusion to the evidence of Mr. Fergusson, in accordance with his well-known views; and which may be important enough to require again to be referred to.

We should admit, that rather differently to the other view of "architecture," it might be held that there is at once a science of building and a fine art of building, each marked by design, and each the refinement of simple construction, whilst each co-equal as co-present with the other in every example of the middle class between the engineering, or rather building, and the pure art.

An engineer, as we see, can build viaducts intersecting the streets of London, and a bridge across the Thames, without bringing into the works a particle of art; but the architect could not build bridges that would be architectural, that is art-works, without the use of engineering. In short, no scheme of architects' education being complete unless it include building-construction, not to say engineering; the question is, whether all that would be necessary for the education of the "engineer," and forming the scientific and practical part of the architect, could be provided for in an institution and building which is required also for service of the education of those artists who are not required to be men of science. Mr. Hardwick, asked by Lord Elcho (Question 1620), whether it might be desirable, instead of having the separate Institute for architects, to increase the number of Academicians, and bring within the folds of the Academy a sufficient number of architects, so that the necessity for the other institution should exist no longer, replied:—

"For the promotion of architecture, and for the tuition of students in architecture, I should say it would be much better to let them form their own institute, and instruct students as they are trying to do now, than to have a larger Academy."

And afterwards, replying to the question (1622) whether, supposing a school of architecture were established, four architects Royal Academicians, (that being generally the number) would be sufficient, and to the question following (1623),—how many would suffice,—he thought the four would not be enough, but said the number would depend upon the number of students; whilst he added:—

"My own feeling would be to let the architects alone altogether now, leaving them to the Institute of British Architects. That society is very flourishing; they have got their charter, and have now begun an examination of students, and it is very much better for them to teach their own profession than to be dependent on the painters, sculptors, and architects jointly."

What Mr. Hardwick meant afterwards (1640), questioned whether means might be found to form a connexion with the Academy, in saying,—"The Institute of British Architects have always access to the Academy; they have full access to the library; and upon all occasions they can attend the lectures," is not quite clear.

Mr. Scott being asked (2158) whether in his opinion the Academy should include as at present, sculptors and architects, and should not be an Academy of painters only, thinks "it is a great advantage" that the three branches of the fine arts "should be combined," and wishes they were so "more thoroughly" than they are. As to this more thorough fusion, Mr. Scott said (2159) he referred not so much to that of members practising the three arts, although that would be desirable, as to a treatment in the education of students of these arts, on more equal terms: he would desire (2162) an architectural school in the Academy: he would (2177) have the architectural students taught to a certain point, drawing and modelling, and (2178) allowed to acquire feeling for painting and sculpture prior to their devoting themselves specially to architecture. He said:—

"I think that the Royal Academy could promote the studies of students in architecture to a very great extent by educating them in those parts of the sister arts which border closely upon architecture. For instance, we none of us as a general rule are taught figure-drawing systematically; if we know anything of it, it is by accident. Now, figure-drawing is essential to the highest branches of architectural decoration; no one can really design architectural decoration in its highest form without being able to draw figures and animals. I think that the Royal

Academy could supply that want—that they could have a class of architectural students who should be systematically instructed in figure and animal drawing as applicable to architecture."

The nearly equal stress laid on modelling, with figure-drawing, deserves to be remarked.

To the question (2180) "Do you think that the want of that [the instruction generally, as requisite for painters and sculptors] has a good deal to do with those deficiencies in the decorative character of our modern buildings which have been observed in this country?" he replied,—"I do strongly think so." And again,—

"2181. You think that those deficiencies would have a better chance of being supplied if architectural students were educated in the way you have suggested?—I think so most strongly."

Lord Hardinge having received answer to a question relating to the proportion of students of the Royal Academy, who have the intention of becoming architects, put the following question and received answer:—

"2183. I take it that you would be in favour of having, as a branch school in the Royal Academy, a special school for teaching architecture generally, which would include instruction in figure drawing and animal drawing?—Yes; I should not care so very much about architecture itself; I think they would learn architecture in the abstract pretty well elsewhere; but those parts of the sister arts which border closely upon architecture (including, besides figure drawing and modelling, also decorative colouring,) I think could be easily taught them by the Academy, and with the greatest possible advantage to architecture altogether."

Mr. Tite was the principal witness, however, as to the position of the Institute, and its means of managing the education of architects and influencing public taste, and as to many other points noted at the commencement of this article. For some of these, we may have to look again to his evidence. He was favourable to maintaining a representation of architecture in the Academy, educationally, as otherwise.

A central representative body and institution for architecture and its subsidiary arts, should exist and be distinct from the Academy of architecture, sculpture and painting, but should maintain intimate relations with that Academy on the one hand, as on the other with an institution of engineers. How this object may be thoroughly worked out, will deserve careful and matured consideration. Our space does not suffice for this; and the Commission, as we have said, gave the most important question of their appointment, no attention in their Report.

THE HOME OFFICE AND THE BETHNAL-GREEN PARISH AUTHORITIES.

By direction of the Home Secretary of State, Mr. Inspector Price has prepared a report on the state of parts of Bethnal-green, which will convince all, with the exception of the Board of that neglected parish, of the necessity for change. In connexion with this matter, Mr. H. Bruce was instructed by Sir George Grey to write to the vestry clerk, inclosing the inspector's report, and requesting the consideration of it by the Board. He has also brought under their notice the large powers (which in this instance have been shamefully neglected) given to local authorities by the Metropolis Local Management Act, 18th and 19th Vict., c. 120, and the Nuisances Removal Acts, 18th and 19th Vict., c. 121, and 23rd and 24th Vict., c. 77, to deal with the various nuisances and defects which it is alleged are to be met with in some of the parishes and districts of Bethnal-green.

By the authorities at the Home Office, Mr. Price was asked these questions:—The first was if any extraordinary mortality had occurred amongst the children in the common lodging-houses or rooms occupied by families in the neighbourhood of St. Mathew's, Bethnal-green, at the present time. On this the inspector reports:—

"I beg to state that in the parish of St. Matthew, Bethnal-green, there are only eight registered common lodging-houses, which accommodate 204 persons, single men, no women or children being therein. In this parish it is the general practice to let rooms to families. The parish is very large, and densely populated. The poorer classes, namely, the costermongers, labourers, weavers, and persons who obtain their living by precarious means elsewhere, reside here. I cannot of my own knowledge state that extraordinary mortality exists at the present time amongst children in rooms occupied by families in this parish."

As regards the death-rate of both children and adults, it is always largely in excess of most other metropolitan districts.

The second question was, "If so, from what cause does it proceed?" On this point Mr. Price refers to the statement made by Dr. Moore respecting the "blood-poisoning" in Hollybush-place; and in continuation says:—"I beg respectfully to state that the dwellings of the poorer classes in this parish are greatly neglected by the owners, *several of whom are members of the vestry.* I have known information of a great nuisance given to the inspector of nuisances, which I have reason to believe was made known by him to the vestry.

The basement of houses, or underground rooms, are let and occupied by families, although not fit for human habitation; and deficient of light and air, and regardless of the numbers that are in them.

The walls and ceilings are filthy, dilapidated, damp, and unwholesome; the yards unpaved, saturated with stagnant water, and heaps of putrefied garbage; water-closets and privies deficient, and kept in a filthy state; water supply scanty, and unprovided with vessels, tanks, or butts to hold it."

Question 3. What remedy can be suggested as regards this? The inspector says that what is needed is,—"An independent supervision; visitation of the houses; powers to compel owners, lessees, &c., to thoroughly cleanse, repair, and supply sufficient well-constructed water-closets, with good and sufficient water supply; and covered dust-bins, and provisions similar to those of the Common Lodging House Act, should be enforced."

Such is the statement of Mr. Price, than whom few have had better opportunity of forming a correct opinion. For years past this officer has moved with much intelligence amongst those classes in the east of London whose condition we have so often found it to be a very painful duty to describe; and it is satisfactory to notice *that the report agrees entirely with our statement, and that the suggestions are exactly in correspondence with those we have long since made.*

Besides the above, a report from the medical officer of health of the district was forwarded from the Home Office to the vestry clerk. This gentleman suggests that the dust-bins be covered with doors and the gutters relaid; that every house be thoroughly cleansed, limewashed, and repainted; the cesspools abolished, the drains trapped and proper closets made, and water supplied to every house. He recommends that the house No. 10, Hollybush-place, in which the Ward family resided, should be thoroughly limewashed and cleansed, and that all the other houses should have a separate water supply. With regard to the cow-house of Mr. Crestell, the window facing the square in Hollybush-place ought to be bricked up, and some ventilating shafts constructed to carry off the emanations above the houses around. Reference is also made to some pigs and a pony and donkey, which had been kept in the back room of a house. Mr. Pierce, the medical officer, further reported to the vestry the state of Parliament-place,—which is bad enough,—and then a letter from Sir Richard Mayne to the vestry clerk was read, inclosing a report of Inspector Price as to the state of some houses in Nichol-street, Bethnal-green. The report stated that the back walls were damp and unwholesome, the ceilings rotten and dilapidated, the stairs and passages filthy, and the yards unpaved: no water supply or vessel to hold water; and in one instance (house No. 55) the water-closet had neither seat nor riser. At No. 55 there were four families, or sixteen inhabitants, paying 12s. 6d. a week rent. No. 59 [recently illustrated in our pages] was not fit for human habitation, paying a rental of 12s. a week.

The vestry seem to be at last becoming sensible of the disgraceful condition in which, partly through interested motives and partly carelessness, they have allowed parts of this parish to fall; and, with one hint at a slight inaccuracy said to have been made by a contemporary, seem to have borne quietly with these rebukes from the authorities of the Home Office, and adjourned the consideration of the question to a committee of the whole vestry, which we earnestly trust will not much longer continue to act contrary to right and in opposition to the general and loudly expressed voice of public opinion.

The accounts from this sadly-neglected locality continue to be of the most distressing kind. Death after death is daily taking place in consequence of hunger and poisoned air. Something must, however, be done speedily to stop the evil, which, as we have often striven to show, is far greater than is generally understood.

One of the most recent inquests was on the body of a woman, the mother of nine children, who, notwithstanding that an application was made, backed by two surgical certificates, was actually allowed to perish from want. The neighbours are all of opinion that she was starved. Dr. R. W. Wallace said that although there were indications of consumption, the stomach was distended with gas, and presented no trace of food whatever. There was a mark of congestion of the stomach from gastric juice, showing the absence of food. The jury expressed an opinion that great blame was attributable to the relieving-officer. Neglect of this kind, which is connected with the sacrifice of human life, should be attended with some greater punishment than terms of but slight reproof.

In No. 8, George-street, in this parish, a girl, aged twelve years, had died, it is alleged, from malaria. The deceased was the third child which had died in that house within a fortnight, and another one is ill. Another child who had been attacked by illness immediately recovered on being removed elsewhere. The father, a carpenter, had also been attacked with sore throat and fever—they were all affected in the same way; they were first sick, and then fever and sore throat set in. There was a very bad smell from a drain in the back parlour. In the night-time the effluvium was particularly bad; and although the landlord had done something for this, when the jury visited the house the smell was found to be most disgusting.

We might fill pages with similar accounts, in both Bethnal-green and St. Luke's.

A reform in the parish board is needed. It is unfortunately the case, that the best men for this very important office do not take the trouble of contested elections, which are not always managed in the best manner; but, after what has taken place in Bethnal-green, it is to be hoped that on the next occasion there will be persons elected on the board who will have more care for the sanitary and other conditions of the poor. The system of out-door relief should, under the circumstances, be greatly extended; whereas, the present plan seems to be to limit this as much as possible. Thousands here would be better cared for in the parish house; but the feeling against this is as strong in the distressed districts of the metropolis as it is throughout Lancashire: poor people will suffer anything rather than break up their families, and part with even the most miserable articles of furniture. To a multitude of these people out-door relief, judiciously given, would be the means of preventing continued pauperism.

Some time since, after examining with care Bethnal-green and Spitalfields, it became evident that besides the parish relief there is great need of institutions for helping those who are worthy; or instance, the Ragged schools might be usefully extended; and in connexion with these and the National schools, an extensive system of district visiting, especially by ladies, who should have means provided of furnishing tickets for bread, soup, coals, &c., should be organized. Industrial schools for girls would be of great value; and in these the use of the sewing-machine, both in the various branches of male and female costume, and inboot making. Many decent boys and girls who have fallen into the dark shadows of poverty, would find situations if they could be provided with an outfit of clothing. If a depôt for the reception of cast-off articles were opened, under good management, quantities of materials would find their way there, which might be altered and made for use, as was done in Lancashire.

The way to effect permanent good is to save as many as possible from falling into a chronic state of pauperism, and providing those whose labour has been rendered unprofitable with new means of employment. Besides the labour of promoting these matters, considerable sums of money would be required; but surely these will not be wanting for the purpose of mitigating evils which are disgraceful to the richest capital in the world.

THE LATE MR. MURRAY, ARCHITECT.

To the brief mention already made in our pages of the death of Mr. James Murray, we add a few particulars. He was born at Armagh, on the 9th of December, 1831, and was in 1845 articled to Mr. W. Scott, architect, of Liverpool. When he left the office of that gentleman, he commenced practising his profession in the same town, in partnership with Mr. Barry. When that partnership was dissolved, Mr. Murray took the share of the business lying in the neighbourhood of Coventry and settled there. Having removed to London, he, in connexion with Mr. E. Welby Pugin, executed several works both here and on the Continent. Dissolving the partnership,



STREET ARCHITECTURE, NOTTINGHAM.—*Details, Houses in Terrace Royal.*

MESSRS. WILSON, AND S. DUTTON WALKER, ARCHITECTS.

Mr. Murray returned to Coventry, where, at the early age of thirty-two years, he died.

Amongst his works we may name a mansion now erecting for Alderman Gabriel; a Gothic warehouse for Messrs. Bennock, in Bread-street, City; the new Justice-rooms and Corn-exchange of Coventry, Banbury, and of St. Alban's. These, with the churches of Warwick, Boulton, Sunderland, Newcastle, Stratford, Emscote, Birmingham, and Stortford, are but part of the buildings he individually accomplished, in addition to undertakings he carried out with his partners. Mr. Murray was interred in the Coventry cemetery, according to the rites of the Roman Catholic Church.

STREET ARCHITECTURE, NOTTINGHAM.

The accompanying engraving illustrates more at large the new houses in Nottingham of which we lately gave a general view.* The materials used are brick and Anston stone. The carving was executed by Mr. Smith, of Nottingham.

OPENING OF SWANSEA WATER-WORKS.

The new water-works at Gellygron, near Swansea, have been opened. The site is the top of a precipitous mountain. They have been constructed at an expense which is a little over 100,000*l.*, and are calculated to supply Swansea and its neighbourhood at the rate of two million gallons per day. The force is so great that water can be thrown from a hose in High-street over the highest church steeple in Swansea, without the aid of fire-engines. The reservoir, which is in a naturally formed valley, covers an extent of fifty acres. The embankment is 200 yards wide, or rather long, and the width of the base is 600 feet, and the reservoir will hold 300 million gallons of water. The conduit, which is more than 7½ miles long, has a fall of 5 feet per mile. There will be a depth of upwards of 50 feet. The water is free from mineral substance, and is said to be the clearest water in the kingdom. Mr. Rawlinson is the engineer; and Mr. Williams the contractor. The works are not yet finished.

At a luncheon partaken of at the opening, in the temporary office of the clerk of the works, the mayor proposed the health of the engineer; and Mr. Rawlinson, in his response to this toast, alluded to the sanitary aspect of the water supply of towns. It was requisite, he remarked, to view it not only as a money question, but as an absolute necessity to secure the health of every inhabitant. As a rule, the men who paid the largest rates, and who had to bear the burdens of the rates, were the men who advocated sanitary measures; whilst the men who opposed them were clap-trap speakers, who did not know what they were talking about. If what had been done that day would reduce the rate of mortality one per thousand, that would save fifty lives per annum. When the works are completed, he believed the reduction in the mortality of Swansea would be 10 in the thousand, or at the rate of 500 per annum. He could illustrate that position by reference to other towns. Take, for instance, Worthing, where the mortality was 23 per cent. in the thousand: since the sanitary arrangements had been adopted, it had been reduced to 14 per cent. in the thousand. Brighton, with its wealth and grandeur, but still neglectful of sanitary arrangements, had a mortality of 25 in the thousand. The mortality of London itself was only 23 in the thousand. The mortality of Manchester and Liverpool was at the rate of 32 in the thousand; but in Liverpool, before the sanitary arrangements were carried out, it was 44 in the thousand. Sanitary questions were now the great absorbing questions of the day. They influence society like stones thrown into the water, and the circle of their influence widens day by day.

* See p. 707, *ante*.

STOCKPORT.

The town council have, at a meeting, held on Wednesday, the 4th inst., by a majority of 20 to 1, decided to carry out a complete and comprehensive system of sewerage and other works of public utility, at an estimated cost of 85,000*l.*, which amount is proposed to be borrowed, under the provisions of the Public Works Act, 1863. The plans, estimates, and other particulars have been prepared by Mr. Brierley, of Blackburn, who has been retained by the corporation as their engineer for these works.

The amount named includes the estimated cost, 20,000*l.*, of a new town-hall and public offices.

THE NEW MAIRIE AND TOWER NEXT THE CHURCH OF ST. GERMAIN L'AUXERROIS, PARIS.

"GOING ALONG."

The mention made in our first article "Going Along" of the new tower erected at the east end of the Louvre, between the Mairie and the ancient church of St. Germain l'Auxerrois, stirred the curiosity of some of our readers.* The view we now give will enable them to understand better what has been done. The Mairie, while made to match in outline and mass with the old church, has its details in the style of the Renaissance.

* See p. 665, *ante*.



PARIS: THE NEW MAIRIE AND TOWER, NEXT THE CHURCH OF ST. GERMAIN L'AUXERROIS.

THE WINTER EXHIBITION.

The eleventh annual winter exhibition of cabinet pictures by British artists, now open in Pall-mall, contains a number of very good and pleasing works. Mr. E. M. Ward, R.A., sends a small edition of his "Charlotte Corday contemplating her Portrait prior to her Execution;" Mr. Linnell, sen., a large picture of "Christ and the Woman of Samaria;" Mr. Dobson a characteristic specimen, "The First Bite;" and Messrs. Desanges, A. Gilbert, G. D. Leslie, A. W. Hunt, E. Gill, Miss Osborne, Mrs. Ward, Mr. T. Carrick, and others, excellent specimens of what they can do. "The Country Auction," by Mr. J. Morgan, displays much character and humour; and Mr. Calderon's picture,—

"Drink to me only with thine eyes,"

will have plenty of admirers.

CONDITION OF LIVERPOOL.

The borough engineer, Mr. Newland, C.E., who is local surveyor under the Sanitary Act, has prepared a report to the Health Committee of the borough, on the sewerage, paving, cleansing, and other works under the Sanitary Act, from 1856 to 1862 inclusive. This report has been printed by order of the local Health Committee. It appears from it that in the six years 58 miles 796½ yards of sewers have been constructed, at a cost of 127,153*l.*; besides 30 miles 1,195 yards of court and passage drains, of 12 and 9 inches diameter, at a cost of 26,453*l.* The total length of sewer made since 1847 is 115 miles 774 yards. The number of new gullies constructed in streets during the six years is 1,558; in courts and passages, 205; gullies trapped, 2,527. In cleansing the sewers only 6,353 loads of rubbish have been removed, and 2,576 loads from the gullies. The number of street houses drained during the six years is 23,599; of court houses, 4,684; and of courts, 997. The number of streets built during the six years is 218; length, 16 miles 334 yards.

Special attention is drawn in the report to the peculiarities and the condition of the courts for which Liverpool is so notorious. Of the majority of these nests of disease, Mr. Newland says:—

"The houses are generally built back to back: one end of the court as a rule is closed either by houses, or, which is worse, by the privies and ashpits; or, a worse state of things still, the privies and ashpits are placed at the entrance of the court, and the only air supplied to the inhabitants must pass over their foul contents. But even this miserable state of things can be outdone. There are courts, which, by a perverted ingenuity, have been formed in the following manner:—An ordinary street house has had its lobby converted into a common passage leading to the back-yard. The passage is of course roofed over, and is, in fact, a tunnel from which the back room of the original house, now converted into a separate dwelling, has its entrance. The back-yard has been filled with other houses in such a manner as to have only the continuation of the tunnel for access, and from this little area of 3 feet wide the houses receive their supply of light and air. The passage is generally terminated by the privy and ashpit common to all the wretched dwellings, with its liquid filth oozing through their walls, and its pestiferous gases flowing into the windows of the two last houses. The structural evils of these miserable abodes are aggravated by the filthy habits of the occupants. 'What is everybody's business is nobody's business,' and so the duty of keeping the court and its conveniences clean is neglected. Even when the middens have been filled so as to overflow the court, no one cared to take the trouble to apprise the officers of the nuisance department of the fact in order to their being emptied.

For this state of matters the owners of the property could not provide a remedy. They had no power to enforce cleanliness. Under the Sanitary Act, however, the council possessed this power, and resolved to exert it. A special subcommittee was formed: bye-laws were framed: notices were printed and posted in every court and alley throughout the borough; and two inspectors were appointed to carry out the wishes of the committee. The inspectors began by arranging among the inhabitants of each court their turns of duty in cleansing it, and on failure or neglect they summoned the whole of the parties before the magistrate. They had some little difficulty at the outset in identifying the people and the houses they occupied. The courts were not properly numbered: the houses in the courts were not numbered at all. This was promptly remedied.

A short experience proved that a great amount of good was done by this new staff at an inconsiderable cost, and the committee resolved to increase it by giving each of the inspectors an assistant.

To those not conversant with the subject, it may appear that the evils of this court and alley life are exaggerated in the foregoing statement, and that the means taken for their mitigation are excessive. But let any one glance at the analysis which follows, and then take into consideration the facts as there set forth, that in the borough there are 3,173 courts containing 18,610 houses; that the average number of houses in a court is 5·86, and the average number of inhabitants to a house is a fraction more than six; and it will be found that upwards of a fifth part of the population of Liverpool is condemned to live in these morally and physically unwholesome dwellings."

NOTES ON THE VENTILATION OF INTERIORS.

It has struck the writer—particularly lately—that a great deal yet remains to be done respecting the ventilation of interiors in which large numbers assemble for several purposes. He was particularly impressed with this after visiting several national and ragged schools, in which there were, in some instances, windows at each side, and the space was considerable. The windows were open at the top, but, notwithstanding, there was the taint of that heavy gas which is suggestive of typhus fever. Even in the new Courts of the Clerkenwell Session-house, which have been only recently constructed, this fault is to be found. In churches, some of them not of old date, especially on Monday mornings after the congregations have occupied the places on the Sundays, this poisonous ingredient may be found in dangerous excess; and it seems to be caused to a great extent by the attention which is shown to the passing of currents of fresh air through the upper parts, and neglecting the lower: by this means the heavy gas is allowed to lodge in quantities near the floor. The same fault will be often found in concert and ball rooms, and in theatres, in some of which the "gods" are better ventilated than the grave and substantial visitors to the pit.

In many private and other houses there is often neglect of ventilation below, especially in bedrooms.

THE RAISING OF HOLBORN VALLEY.

A special Court of Common Council was held on the 6th inst., at the Mansion House, for the purpose of receiving a report from the improvement committee upon this subject, and also to consider as to steps for a bill in the ensuing session of Parliament, for effecting the improvement.

The Lord Mayor presided, and there was a very full attendance of members of the court.

The report of the improvement committee stated that eighty-four gentlemen had sent in 105 designs, illustrated by 206 drawings and 13 models. The committee felt it desirable to secure the assistance of a professional gentleman, competent to place before them the varied points of detail necessarily involved; and believing that Mr. William Haywood, the engineer and surveyor to the commission of sewers, was peculiarly qualified for this duty, they invited him to undertake the same, and he thereupon withdrew a design which he had sent in, and at once acquiesced in the wishes of the committee. A careful and personal examination of every design sent in was made, and it was resolved to set aside a certain number of them which, in the opinion of the committee, did not comply with the several conditions, as set forth in the advertisement. The designs remaining for consideration were thus classified in Mr. Haywood's report:—Class No. 1. For constructing complete viaducts of high-level roadways upon the line of Holborn-hill and Skinner-street, involving the entire removal of the present surface and the property on both sides. Class No. 7. For high-level streets or viaducts passing south of Holborn-hill and Skinner-street, which thoroughfares are to remain as at present, or with but very trifling modifications. Class No. 8. For high-level streets or viaducts passing north of Holborn-hill and Skinner-street, which thoroughfares are to remain as at present, or with but very trifling modification. Class No. 9. For improving the present gradients, by partly filling up the valley and forming the approaches in Farringdon-street and Farringdon-road by inclinations. The committee, after serious deliberation, resolved to submit to the court the following designs, which represent the principles embodied in each of the four classes:—Class No. 1. Three designs—No. 4, by Mr. Frederick Marrable. No. 32, by Mr. Thomas Charles Sorby. No. 68, by Mr. Richard Bell. Class No. 7. Three designs—No. 3, by Mr. Lewis H. Isaacs. No. 33, by Mr. Frederick Wallen. No. 61, by Mr. J. Wormald. Class No. 8. Two designs—No. 3, by Mr. Lewis H. Isaacs. No. 74, by Mr. William Parkes. Class No. 9. Two designs—No. 35, by Mr. J. T. Atkinson and Messrs. Brandon & Freshwater. No. 35a, by ditto, ditto.

Returns embodied in Mr. Haywood's report show that upon an average upwards of 4,200 vehicles per day go up and down the hills from the low levels.

The committee submitted the following unanimous recommendations for adoption by the court, viz.—"1stly. That the plan to be carried out in effecting the contemplated improvements be upon the principle adopted in the designs in Class No. 1, viz.:—'For constructing complete viaducts or high-level roadways upon the line of Holborn-hill and Skinner-street, involving the entire removal of the present surface, and the property on both sides.' 2ndly. That it be referred back to your committee to prepare and submit to Parliament a plan upon the principle adopted by the court, but with such modifications as may be found necessary. 3rdly. That we should be empowered forthwith to give the necessary notices, and generally to take such steps as may be expedient for prosecuting, in the ensuing session of Parliament, a Bill for effecting the contemplated improvements. And 4thly. That we should be authorized by the court to consider to which authors the premiums of 250*l.* and 150*l.* respectively should be awarded, and to report our opinion thereon."

Deputy Fry, in bringing up this report, explained that the committee had reduced the number of plans to 38: this number they divided into nine classes; and they afterwards reduced this number to four. By the plan recommended by the committee, he said, Skinner-street and Holborn-hill would be entirely removed, and a fine new street erected from Newgate-street to Hatton-garden, or higher up, if necessary, upon the high-level road. He concluded by moving that the report of the committee should be agreed to.

The Town Clerk put the motion to the court, which was at once unanimously agreed to.

NEW CO-OPERATIVE STORE.

The foundation stone of another co-operative store for Manchester was laid in Downing-street, London-road, on Saturday, by the Mayor (Mr. A. Heywood). It will form the central store of the many valuable buildings belonging to the Manchester and Salford Co-operative Society, who will build it at an expense of 2,800*l.* A new feature will be the addition of a working men's institute. The building will have a frontage in Downing-street of 70 feet, by 60 feet deep. The style of architecture will be Lombardo-Italian. The basement story will be occupied as a bakehouse, with vaulted ceiling, and the fore part as a storeroom for heavy goods. On the ground floor there will be three large shops, with a warehouse, and the manager's office at the rear. The front entrance from Downing-street will lead to the rooms above. The floor will be paved with Minton tiles. On the first floor there will be another warehouse, and a library and reading-room for the use of the members. The upper room will be used as a meeting room, capable of holding upwards of a thousand persons. Out of this entrance will be gained to several small ante-rooms. The front is of red stock bricks, with black bricks in bands and voussoirs of arches, the cornices and pediment of buff moulded brick and stone. The shop fronts are carried by cast-iron panelled box lintels and standards, the roof timbers of the large room are stained and varnished. The building is expected to be completed by March next. The architects are Messrs. Pennington & Bridgen, Manchester, and the builder, Mr. Johnson, of Ancoats. The ceremony on Saturday commenced shortly after three o'clock. The mayor said this was the first institution of the kind ever erected by a co-operative society in Manchester. He had for a number of years been connected with the exertions and labours of working men, and he hoped this last labour of his municipal office would far transcend any act which might have been connected with the history of the working classes. Co-operation he believed to be yet in its infancy. It had not yet been properly understood by the working and

middle classes; but he felt persuaded that when it was comprehended and clearly understood, the objections which were now entertained by them would gradually and visibly disappear. Mr. J. C. Edwards stated that the society had been in existence four years and a quarter; and that the net profit out of the business during the whole of that time would pay for two such buildings as the one which was to be erected on that spot.

GRAND CENTRAL TERMINUS IN GLASGOW.

THE project for forming a grand central terminus in Glasgow, by which the five railways entering the city will be brought into communication, is now taking shape; and shortly, we hear, the whole details of the undertaking will be authoritatively announced. The Caledonian and the South-Western already touch each other at Shields Bridge, on the south side of the river, and the Sighthill Branch of the Edinburgh and Glasgow and the main line of the Caledonian are within a very short space of each other in the north-east quarter of the city. These two points, therefore, form the limits of the "City of Glasgow Union Railway," which is now projected, and which will traverse a total length of about six miles. The Central Terminus will be formed in the dreary wilderness of wynds, closes, and tumbledown tenements,—nests, for the most part, of disease, crime, and wretchedness, which lie betwixt Stockwell-street and King-street; and the line will debouch by a spacious approach on the Trongate, near the foot of Glassford-street. The new railway, without crossing Trongate or marring in any way that great thoroughfare, will pass over the Saltmarket near the Cross, and the mouth of the Gallowgate, and traverse another overcrowded and dilapidated quarter of the city betwixt that point and the south-eastern corner of College Gardens, to Wellpark, where another great station will be formed for goods and cattle traffic. There will be no tunnelling, says the local *Morning Journal*, in announcing the project; no overturning of valuable properties, no superseding of existing seats of business, no disfigurement of splendid streets or interruption of beautiful vistas, and no quarrels with the Admiralty. It is to be hoped the merits of the new project will not be merely negative, however; and that amongst these negatives "no architecture" will *not* figure. Mr. Walter Macfarlane, of the Saracen Foundry, of whose meritorious efforts, by example at his business premises, to improve the city architecture, our readers are already aware, has written to the paper just named, expressing a hope that the Union Railway Company will combine with their engineer an architect of eminence, and not, from a narrow and ill-judged economy, centre in one individual the onerous duties of both architect and engineer.

THE LYTTELTON TUNNEL, CANTERBURY, NEW ZEALAND.

IN May, 1861, the Provincial Government accepted a tender from Messrs. George Holmes & Co., of Melbourne, to complete the line of railway from Lyttelton to Christchurch, except the stations, in five years, ending June 1, 1866, for 240,500*l.*; the cost of the tunnel, 2,838 yards long, being fixed at 195,000*l.* The tunnel is nearly a mile and three-quarters in length, and is being bored through the crater wall of one of the extinct volcanoes of Banks' Peninsula. The town and harbour of Lyttelton will thus be connected with the Canterbury Plains. The volcanic formation often presents basaltic rocks of the hardest description, against which the machinery employed at Mont Cenis would be powerless. The engineer has adopted a uniform gradient of 1 in 283, the upper end of the tunnel being kept free from water by constant pumping. The work employs 180 men, and the engineering staff consists of the Government engineer and a single inspector. The tunnel is contracted for at somewhat less than 70*l.* per lineal yard. The contractors, in the two years ending July 1, 1863, have advanced 1,086 yards, which is at the average rate of twenty-two yards per month at each end. The tunnel is 15 feet wide, and 18 feet high above rail level. The works have been, from their commencement, under the superintendence of the provincial engineer, Mr. Edward Dobson, who has recently resigned the management of the public works, in order to be able to give his undivided attention to the tunnel. The Provincial Government of Canterbury obtained an Act in 1860, enabling them to raise a loan of 300,000*l.*, for the construction of the railway; but, up to the present time, the whole cost of this railway, as well as of other public works executed since the establishment of provincial government in 1853, amounting in round numbers to nearly 400,000*l.*, has been defrayed out of the current revenue of the province.

MANCHESTER ARCHITECTURAL ASSOCIATION.

THE opening meeting of the session was held at the Rooms, 15, Dickinson-street, on Wednesday evening last, the 4th inst. The president delivered the opening address, and in the course of it alluded briefly to the many points of interest which would probably arise during the ensuing season, and congratulated the members on the hopeful prospect of renewed vigour and activity indicated by the list of papers in preparation for the winter.

The hon. secretary, Mr. Walker Aitkin, then explained the means adopted by the committee, and their success in obtaining papers of more than ordinary interest, and of such scope as to meet the requirements of all the members. Among the list may be noticed the following:—

"On the Creation of a New Style;" "Detail in its Inherent and Relative Proportions;" "Symbolism;" "Church Architecture of the Present Day: its Position and Requirements;" "Competitions, with a Proposed Plan for obviating the Evils at present resulting therefrom;" "Colour in relation to Architectural Decoration;" "A Proposed Plan for Equalizing the various Systems of Measurement now in use;" "On the Transfer of Land and the Law of Contracts;" "Stained Glass;" "Concrete," &c. &c.

After discussion on the various subjects brought forward in the address, the meeting closed.

CHURCH-BUILDING NEWS.

St. Pancras.—St. Jude's Church, Gray's-inn-road, has been consecrated. The edifice is situate in a very populous locality on the east side of Gray's-inn-road, near the Colonial Training School. It has a nave, and north and south aisles, each 85 feet long and 56 feet high. The chancel is 35 feet long and 22 feet wide. The style, from the design of Mr. J. Peacock, of Bloomsbury-square, the architect, is of the Early Decorated period, and the church is lighted chiefly from a clerestory of twenty-four windows and a large western window. The tower stands at the east end of the north aisle, and is 100 feet in height, with an arcade lantern, terminating in gabled roofs, with an iron finial in the centre. The edifice is plain. The walls are built with stock brick; the internal walls faced with white brick, with bands of red and black. The columns of the nave are of red Mansfield stone, resembling polished granite. The arches are of Bath stone, and all the columns of the chancel are of marble. The east windows are filled with stained glass, and represent the Birth, Crucifixion, Resurrection, and Ascension of our Lord. The entire details have been carried out by Messrs. Carter & Sons, of Holloway, the builders. The church is entered from the west by a cloister. The seats, which are open timber benches, will accommodate 900. The entire cost is about 5,000*l.*, exclusive of the purchase of the ground, about 3,000*l.*

Woolwich.—The new Garrison Church on Woolwich Common has been consecrated. The edifice, which is named St. George's, is in the Byzantine style, from the design of Messrs. Wyatt. The officers of the garrison have subscribed nearly 1,000*l.*, for its interior decorations, and an organ, &c. It contains a stone pulpit, coloured glass windows embodying the most marked events in the life of our Saviour, and the ceilings and galleries are decorated.

Oswestry (Salop).—The chapel erected at the Grammar School for the use of the boys has just been completed. The plan resembles that of a college chapel. Externally, the rapid fall in the ground from west to east has added to the general effect of the building. The interior is fitted with three rows of oak stalls, returned at the west end, and affording accommodation for about 130 boys. The roof is open-timbered and tiled. Eastward of the stalls is a pavement of Minton's tiles, which are used, with marble, in the reredos. There is also some incised work in the apse, the centre window of which is intended to be filled with Hardman's glass, by Mr. John Donne. The lectern, of oak, inlaid with coloured woods and Derbyshire spars, is the gift of the boys. The walls are built of Cefn stone, with dressings and bands, &c., of Shelvoke, the interior being lined with Shelvoke stone. The style is Early Geometrical. Messrs. Treasure were the contractors; and the architect was Mr. E. Haycock, jun., of Shrewsbury. The chapel is provided with a warm-air apparatus, by Mr. Dodwell, of Shrewsbury. The greater portion of the expense has been borne by the head master, but funds are still needed.

Wichenford (Worcestershire).—After extensive restoration, Wichenford church has been re-opened. The edifice had been originally built in 1262, and dedicated to St. Lawrence. It consists of a chancel, nave, porch, tower, and spire. About sixty years ago the spire becoming unsafe, it was pulled down, and an unsightly brick substitute was built by the village mason. This has now been removed, and a spire of about 100 feet in height, of red sandstone, erected in its place. A new porch and vestry have been added, four new windows inserted, including a stained-glass window at the east end, by Messrs. Chance, of Birmingham. An open timber roof, in lieu of the low plastered ceiling, a new stone pulpit, lectern, stalls, altar, reredos, &c. have been supplied. The old gallery at the western end has also been taken down, and increased accommodation secured by open seats in place of the old pews. The exterior sandstone has been cleaned, and various other restorations effected. The contractor for the restoration was Mr. Hicken, of Wichenford. Mr. James Hurn, of Worcester, was the builder; and Mr. Shepherd, of Martley, the carpenter. Mr. Perkins, of Worcester, was the architect employed.

Sevenhampton, near Highworth.—A new church, erected in this village at the sole cost of Mr. Joseph Sewell, of Cirencester, as a memorial to the late Lady Wetherell Warneford, has been consecrated by the Bishop of Gloucester. The new edifice was planned by Mr. W. Pedley, of Highworth, architect; and the works were carried out by Messrs. Pedley & Son. Mr. Sewell defrayed the entire cost, between 3,000*l.* and 4,000*l.* The Early English style has been adopted. The pulpit and font are of Caen stone, and have been carved by Mr. Geflowski; and the church is paved with Minton's encaustic tiles. There is a tower at the west end, containing a peal of six bells, including a new one from the foundry of Messrs. Mears, of London.

Carno.—From a report in the *Shrewsbury Chronicle*, it appears that a committee has been appointed at a public meeting, to carry out the restoration of the parish church of Carno; Mr. J. W. Poundley, of Kerry, being requested to inspect the church and prepare plans and estimate for another meeting.

Coventry.—The parish church at the village of Allesley, near this city, has been reopened. The church has undergone alteration and enlargement. The north and south aisles have been widened and lengthened; a new chancel built; two new east windows put in; the north and south galleries taken down, and the church reseated. The Gothic pillars of the old edifice, and also the stone walls, have been scraped; the organ re-built; and indeed the entire edifice has undergone a process of renovation. The alterations were planned by the late Mr. Murray, architect, and carried out by Mr. Mault, of Coventry, builder, at a cost of about 2,000*l.*, of which sum the parishioners of Allesley have contributed nearly one-half.

Ringstead (Northants).—The parish church here has been restored and reopened. The state of the church before the works now completed were taken in hand, was wretched and dangerous, the chancel arch and part of the south wall being ready to fall. The roofs also were in a bad state, the tower arch was blocked up, and the entire area was filled with ill-arranged and unsightly pews: the soil against the walls, too, had accumulated so as to render them very damp. The tower and spire were sunken and fissured. The structural works were first taken in hand; viz., the rebuilding the chancel arch and portion of the south wall and buttress of chancel, and north wall of aisles, and the tracery of the east and part of the south windows were taken out, reset and restored. The roofs throughout the church were also renewed in deal, following the type of the old Third Pointed Flat roofs, and covered with lead. The clerestory windows were opened and portions of the wall restored and the parapets reset. A drain was also formed round the walls. The church was thus put in a state of repair, but a great deal remained to be done before it assumed its present state. For this a second contract was taken. The spire was taken down to the level of the sills of the upper lights, and rebuilt, with a new vane executed by Mr. Potter, of Northampton; the tower walls were made good and underpinned, and new floors of deal inserted. The walls of

chancel and chantry, the internal stonework, &c., were cleaned and restored, and the walls replastered. The whole of the old pews and gallery were cleared away, and the church has been reseated with simple seats of deal. In the course of the restoration some paintings were discovered in the south wall of the nave, but they were so mutilated it was impossible to preserve them. The contracts for the whole of these works, including pulpit and chancel seats (the carving of which was done by Mr. S. Poole, of London) were taken by Mr. Parker, of Thrapston; and the whole of the restorations have been carried out by him from the designs and under the superintendence of the architect, Mr. William Slater, of London.

Warter (near Pocklington).—The new church of St. James, Warter, has been consecrated by the Archbishop of York. The edifice was founded at the expense of the late Lord Muncaster. The cost of the edifice was estimated to be from 3,500*l.* to 4,000*l.* It was commenced two years ago, and occupies the site of the old building, but extends beyond it both southward and [eastward. The parish church of Warter formed a part of the ancient priory, and the undulations of the surrounding ground indicated the existence of sundry foundation walls. Nothing of especial interest, however, was discovered in excavating for the new church except a few capitals, shafts, and bases, with rough stones bearing marks of age, and some almost illegible carving. The new church consists of a tower and spire, 120 feet high; nave, 60 feet by 33 feet 6 inches; and apsidal chancel ascending over steps from the nave. The lower part of the tower forms a baptistery, and the font, pulpit, &c., are enriched with carving. The paving throughout the church is plain encaustic, and enriched on the chancel. This was executed by Mr. Colla, of London. The west window is filled with stained glass, the subjects being the baptism and ascension of Christ. Mr. C. Gibbs, of London, was the artist, who has received orders to fill all the chancel windows with stained glass. Each window in the nave has cathedral glass with a painted ball-flower border—yellow on dark blue. There is throughout the church a prevalence of the ball-flower enrichment, which was a favourite with the late Lord Muncaster. The style of the church is Geometrical. The roof is open to the ridge, all the timbers being stained and varnished. The joiner's work is pitch pine, and varnished only. The pews are open. The work of erection has been carried out by Mr. R. Weatherley, of York, builder, under the direction of Mr. Waterhouse, clerk of the works. The architects were Messrs. W. G. Habershon & Pite, of London, under whom extensive alterations are in progress at Warter Priory, adjacent, the residence of Lord Muncaster, the brother of the late lord. Exclusive of the builder, the other tradesmen who have been engaged at the church were Mr. Rawlings, of York, the plasterer; Mr. R. Pearson, of York, the painter; and Mr. Hodgson, of York, the plumber. The carving was entrusted to Mr. Earp, of London; and the apparatus for warming the church was supplied by Mr. Walker, of Bedale.

STAINED GLASS.

St. Helen's Church.—The new decorated eastern window of this church has just been completed, and the stained glass in the head tracery, to the memory of the late Rev. J. H. Wilding, has been inserted. The principal subject is the "Ascension," from a design by Mr. Preedy, architect.

St. Andrew's Church, West Tarring, Worthing (Sussex).—A memorial stained-glass window has just been erected in the tower of this ancient church, at the sole cost of the vicar, the Rev. John Wood Warter, B.D., and executed by Messrs. Thomas Baillie & Co., of London. The subject selected is the "Resurrection of our Saviour." The window contains three principal openings, with a tracery, and is of the Perpendicular style, although the principal part of the church is Early English in character: in the centre opening is the figure of Our Lord rising from the Sepulchre: on the right of Our Lord are the women bringing spices, &c. On the opposite side the Angel, having rolled back the stone from the door, is seated upon it. In the foreground are represented the Roman soldiers: in the tracery lights are shields containing emblems of the Crucifixion, and across the bottom of the window are the inscriptions, with the names, &c., of the various relatives of the vicar, to whom this window is intended as a memorial.

St. Michael's Church, Coventry.—Two memorial windows have just been placed in the north aisle of this church. In the first window the subjects illustrated in the tracery are from the creation, viz., "God creating Man," "Adam naming the Cattle," "The Creation of Eve," "The Serpent's Temptation," and "Adam and Eve hiding themselves from the Presence of the Lord." The fourteen openings beneath continue the Scripture narrative, the subjects being, "Adam and Eve driven from the Garden of Eden," "The Curse of Man," "The Death of Abel," "Noah building the Ark," "Noah's Sacrifice after the Flood," and "Noah cursing Ham." In the tracery of the second window is illustrated the subject of "The Confusion of Tongues;" and in the openings beneath are, "The Parting of Lot and Abram," "Melchizedeck giving Bread and Wine to Abram and to the Men who were with him," "God's Promise to Abram," "Abraham offering up his Son Isaac," "Jacob obtaining by Fraud his Father's Blessing," and "Jacob's Dream." A third window in this aisle was erected some time since, to the memory of his late Royal Highness the Prince Consort, and illustrates the history of Moses. Two other windows in this aisle remain to be filled, and it is proposed to continue the subjects. The window at the east end contains the subject of the Ascension, and is a memorial to the late Colonel Hood, who fell at Sebastopol. All these windows have been executed by Messrs. Heaton, Butler, & Bayne, of London.

St. Margaret's Church, Leicester.—Two large stained-glass windows, the gift of the late Mr. Edward Highton, civil engineer, are about to be placed in this church, one each at the west end of the north and south aisles. For the new stone work, from a design by Mr. Scott, three masons of the town were selected by the Church Restoration Committee, and invited to tender, viz.—Messrs. Osborne, Mr. J. H. Johnson, and Mr. J. Yates, the tender of Mr. Yates having been accepted. These windows will displace two deformities of the Batty Langley style and date of architecture, long a just cause of complaint to the archæologist as disfiguring the edifice.

Yardley Wood Church, near Birmingham.—A memorial window, executed by Mr. Holland, Warwick, has been erected in this church. It contains figures under canopies, representing Faith and Hope, with diapered backgrounds.

PROVINCIAL NEWS.

Brighton.—The Albion out-fall is completed so far as it can be proceeded with at this season of the year. The chambers have been arched over, and the bricklayers discharged. The further extension of the out-fall to its complete length of 1,700 feet must await a more favourable season.

Earith.—The Rev. J. Linton, at the Hunts Sessions, presented the report of Mr. Barlow, the engineer employed to examine Earith Bridge. That gentleman recommended that a new bridge should be erected at an estimated cost of 1,000*l.* or 1,200*l.* It appeared Mr. Rowe, the Isle of Ely surveyor, agreed to this recommendation; and the Sessions agreed that it should be carried out, care being taken that the girders be of wrought iron, instead of cast iron.

Cheltenham.—Since the manor was purchased by Mr. R. S. Lingwood, a corn exchange has been erected, at considerable cost, in the Market-place. The room is larger than any other in the town, and will probably be also used for public amusements, as well as for business of the manor and of the borough.

Cirencester.—The completion of the Corn-hall, and the renovation of the King's Head Hotel, have improved the Market-place. The Corn-hall has been erected from the design of Messrs. Medland & Maberly, by Messrs. Jones & Sons, builders. The carving was done by Mr. William Forsyth, of Worcester. The hall, which is in the Italian style, is to be used for various purposes, including the School of Art, the Cirencester Permanent Library and Reading Room, the Mechanics' Institute, &c. The renovation of the King's Head Hotel has been carried out by Mr. Thomas Bridges, of Cirencester.

Bristol.—Tenders have been received for the erection of the Colston's hall, St. Augustine's-parade. The tender of Messrs. J. & J. Foster, amounting to 17,000*l.*, has been accepted. The building will be forthwith commenced, and it has been decided to erect two of the largest warerooms in Bristol underneath the great hall, there being 18,000 square feet available for the purpose. ——The first rail of a tramway from Temple Meads to the Quays, in connexion with the railways, has been laid.——The foundation-stone of a new factory, about to be erected in Quay-street, for Messrs. Walsh & Co., adjoining the present warehouse, has been laid. On excavating for the foundation of the new building, at a depth of 11 feet from the surface, there were discovered evident remains of the old city wall. The architect of the new building is Mr. H. Masters; contractor, Mr. R. M. Bryant; and master mason, Mr. T. P. Wilcox. By the liberality of Mr. Walsh, the workmen engaged upon the building were regaled with a substantial repast, at the Greyhound, Broadmead.

COMPETITIONS.

Ringwood Congregational Church.—In answer to advertisements in our columns, forty designs were sent in, although no premium was offered, and the amount to be expended was limited to 900*l.* Among the designs were several from well-known firms in the North of England and Ireland. Three were selected for final decision, respectively by Mr. T. C. Sorby; Messrs. Pritchett, of Darlington; and Mr. Rumble, of Newbury; and eventually, at the general meeting, the design by Mr. T. C. Sorby was selected, and is to be carried into execution forthwith.

Bridge at Hull Competition.—Sir: Can any of your readers throw light on the subject of the proposed new North Bridge at Hull? More than four months ago the corporation received thirteen sets of plans in answer to advertisement, and I cannot learn whether they have taken a single step in the matter.—A Competitor.

WHO BUILT OUR CATHEDRALS?

The writer of the article which appeared lately, p. 694, in your journal, with this heading (it should have been "Who designed our cathedrals?"), has opened a question that has occupied my attention for some time, and of which in two papers I have endeavoured to form a solution derived from the voluminous notes collected during the course of several years' study. A few weeks earlier, p. 564, you gave Mr. J. H. Parker's paper "On the Buildings of Bishop Gundulph," and it is upon it that I now more particularly desire to offer a few comments. Mr. Parker prefaces his observations by stating that the bishop "has been long known to have been one of the chief architects of his day, and to have been employed by the king to build the White Tower in London." Had this notice of him been worded, he "has been long known as one of the chief architects of his day," I should not perhaps have troubled you, but taken it as a fact, however little authority there may be as to his having been an architect at all. I am not aware of any ancient statement that Gundulph was an *architect* or *designer*. He *built*, certainly, and, in common parlance, might even nowadays be termed a *builder*, in that sense.

Was Gundulph "employed by the king (William I.), to build the White Tower?" I believe the only proof that he had any connexion with that work, is the line in a grant from a citizen, whilst Gundulph "*ex præcepto regis Willelmi magni præesset operi magnæ turris Londoniæ.*" Is this sufficient evidence from which to draw the above conclusion? Stow, to my mind, more properly put the case when he quoted those words, and wrote that "William—built the Tower of London—about 1078—appointing Gundulph—principal surveyor and overseer of that work." Supervisor and overseer being synonymous for director, and not as representing artistic talent. The term "commissioner" would be still better.

The study given by me to this point of a very interesting subject, has caused me sometimes to explain my meaning to my friends in the shape of the following romance, the general tenor being as applicable to Wykeham and others as to Gundulph:—The king (I take Rufus, it does not much matter which) says to himself one morning, "Confound that obstinate dog Odo, why can't he be quiet and leave me at peace to study the peaceful arts of commerce, and create an International Exhibition? If I must take up arms to put him down, I'll give him a settler, and kindly ask my dear friend Hubert [Odo's mortal enemy, of course] to take care of him in my castle of ——. Ah! but where? I want a Keep sufficiently strong to keep him. What can be done? I must set to work directly: let's think: my master masons are very busy at my palace here; can't disturb them, or I shall not have a roof over my own head next. [He might then have called for his 'clerk of the works,' but that was a later institution.] I'll speak to Lanfranc; he was my father's best friend. Yes! oh, I know the man! He spoke of Gundulphus the other day as one deserving of notice for his '*prudentissima sæcularium rerum administratio*;' and I know his '*sanctissima*

religio;' he can look after my interests, he has looked so very well after his own! and I'll tell my master ingeniator to assist him with better sizes and strength of walls—that last little Keep I built would not stand a month's siege;—and, as I lately ordered my dining-hall to be 15 poles long and 4 poles wide, inside however, I shan't have a castle of less noble dimensions. I'll make him Commissioner of Works for the purpose: it will please him to see his name in the *Gazette*: and we'll find him a room in Whitehall-place, and he may write up 'Commissioner for Building Keeps' on the door-posts, and get his name into the Civil Service list. All right." So off Rufus sends a bit of parchment to Rochester, and up comes Gundulph by the next boat to Rufus, who greets him with, "I say, dear fellow, I hear you are '*in opere cæmentarii plurimum sciens et efficax*' [which, freely translated, means "up to all the dodges of a mason's contract,"] will you kindly take this little matter in hand for me? It will not detain you long from your monastery. Here is your authority to get the workmen and materials where and how you can. I will send you the money as often as possible—[no, he does *not* say that, only thinks it; but adds]—You will be paymaster, and look sharp after the building operations, that I am not cheated. It is quite impossible for me to speak to those villein workmen, so when you want any orders you must come yourself. I'll look in occasionally. But be quick, for I am off to catch the villain to put into the Keep, and I will give you one of his best advowsons for your trouble." That is the position I conceive Gundulph held with the monarch; and it was the same with Wykeham. What would Mr. Scott say at being called the clerk of the works at the Foreign Office, but the Hon. Mr. Cowper the architect? As regards Gundulph's position with the designing of his ecclesiastical buildings, it is now well known that every large monastery had a staff of workmen, headed by the master mason and the master carpenter; while the assertion that they made the designs for their portion of the works can, I think, be supported. It is to be doubted whether the chief man made *all* the designs; the glass-painter, for instance, submitted to no other person's control.

Mr. Parker goes on to say that "the history of his [Gundulph's] life clearly shows that he had every opportunity of acquiring the best information, and we may fairly conclude that he possessed all the knowledge and skill that any one possessed in his time." I have carefully read the accounts concerning Gundulph, but have failed to find any authority for all this. Naturally, "we may conclude" anything from many of the vague statements of the old historians. Gundulph was born, if I remember the accounts correctly, at Rouen, where he studied grammar (take this in its fullest meaning), became acquainted with Archdeacon William, was introduced to Maurilius, accompanied William to the Holy Land, became a monk at Bec, went with Lanfranc to Duke William's monastery at Caen, came over to England with Lanfranc, and obtained the bishopric. Can much more be said about him, *as facts*, up to that period? Of course "we may conclude" a great deal from some of this. How in the Holy Land he first became acquainted with, and was initiated into, the deep and mysterious arcana of Freemasonry! How at Bec he worked his way, from early dawn to past midnight, as a fellowcraft; becoming a master mason when he arrived at Caen, fully qualified to import into England all the knowledge of the craft of Normandy, and to establish an opposition grand lodge at Rochester, in spite of the native Saxon or Anglo-Norman masons then at work!

I refrain from commenting on the remainder of the really interesting and valuable contribution, because all my remarks must depend on the view taken in the first instance; and I throw out these observations for such criticism as Mr. Parker may think they deserve, hoping that we may yet obtain, by further research, some more satisfactory evidence of the employment, or otherwise, of churchmen as *designers* than we at present possess.

Will your antiquarian friends give me, or tell me where to find, some reliable information on the question of value of ancient money in the present day? I know it is a very difficult subject, but it is one that ought to have been set at rest before now. Mr. Parker takes the 60 *lbs.* as worth about twenty-five times more. But is it *£s.* or *lbs.*? And if *lbs.*, what is it *lbs.* of? I believe Mr. Arthur Ashpitel has been the earliest to inquire into this point, when commenting on the tower at Rochester at a meeting of the Kent Archæological Society, a few years since; but I know not with what result, except that of suggesting "*lbs.* of silver." *Libras* is the word used, and in the present case, "60 libras."

WYATT PAPWORTH.

TIDAL FOUNTAINS FOR THE THAMES EMBANKMENT.

At a time when so many important improvements are contemplated in the metropolis, and so great a work as the Thames Embankment is about to be executed, allow me to suggest, through the medium of your columns, a way in which tidal fountains may be erected, in connexion with the latter, at a very small cost.

Shallow tanks of the requisite size, constructed immediately under the roadway of the embankment, with inlet openings above them leading from the river, and outlet-pipes below leading to the fountains, include the whole of the necessary mechanical arrangements.

The fountains might be designed to represent mermaids pouring water from pitchers, dolphins spouting water, or in any suitable form, placed, for instance, on the intermediate or on the lower pedestals of the landing-stairs.

The tide would flush the tanks full at high-water, and on its ebbing the fountains would gradually appear above the surface, in action by gravitation, and would remain so until the water rising again hid them from view, and again filled the tanks.

In this way fountains might be constructed rivalling in grandeur the new one of St. Michael, in Paris, while the tidal water supply would cost nothing.

W. LEWIS BAKER.

MODERN CLASSICISM.

SIR,—Much as they differ upon many other points, both Fergusson and Huggins agree in recommending that we should fashion our future style upon the one which is now practised, not only here, but at the present day throughout Europe, whenever aught like artistic design is aimed at. A most futile and flimsy objection it surely is to say that as style is derived from Italy: it can be ill adapted to any other than an Italian climate, when actual experience of it ought to convince us that it is independent of climate. The same mode of building which serves to exclude heat, serves also to exclude cold. Some of the ultra Gothicists make it an ultra merit of their favourite style, that it allows the front of a house to be nearly all window, consequently one entire side of a room to be similarly privileged, thereby substituting the idea of chilliness, (I hope Typ. will not turn it into silliness) instead of snugness, in dismal weather.

As far as it goes, Fergusson's common-sense principle is excellent enough; but, unfortunately, it does not go quite far enough; for, in art at least, there is surely a wide difference between not going contrary to common sense, and not going an inch further, which is the essence of Quakerism. Huggins, on the contrary, I am glad to find, is much less strait-laced. Not only has he bravely vindicated Roman architecture as a system of construction, but has made evident that its short-comings in other respects have, instead of closing it, thrown the door wide open to us for further advance. Of late, it has been the practice with some to dwell too invidiously upon the defects of Roman architecture; not so much, it would seem, for the purpose of warning against them as of pointing to them as essentially inherent in and inseparable from the style itself. At any rate, Huggins does not unfurl the black flag, and exclaim in horrid and even infernal Dantesque voice, "*Voi chi entrate*," &c. Instead of preaching the doctrine of lackadaisical despair, he rather felicitates us of the present day, for that so much has been left to us to work out further for and by ourselves. Museums are crowded with architectural fragments, which, if only hints, ought, were they but properly made use of as studies, to inspire those who contemplate them with artist's eye, and enable them to infuse into their own productions or doings that sterling quality which is denominated originality. The reproach of mere copyism brought against modern classicism by those who would fain exterminate it altogether, is hardly to be denied. But now that the mistake has been detected, to correct it ought to be no very difficult matter. Surely we can go on in the same track without treading painfully in the very footprints of those who have gone before us—nay, even outstrip them. Tolerably certain it is, that what for distinction's sake goes by the name of "Italian," accommodates itself far more freely and readily to our actual nineteenth-century requirements than does any other style, as worthily witness the Anglo-Italian palazzi of Pall-mall. It would be easier for me to add much more, than it is to desist from doing so. I therefore conclude rather abruptly, by asking, Why is "Wightwick" silent? Why does not he come forward, as he is well able to do, as the champion of Modernism in opposition to Nineteenth-century Mediævalism?

ART-LOVER.

HOW TO PREVENT AN ECHO.

YOUR correspondent "E. C. O." (whose letter appears in your number for 7th November), fails to give as full particulars of his school-room as those whose advice he asks might perhaps like to have. But supposing the room, in addition to being as he describes it, to have its walls bare and flat, the height to wall-plate some 14 to 18 feet, and the ends of the room flat gable walls, circumstances almost implied in the description "country school-room," I am afraid the room presents unfavourable conditions for which the expedients suggested in his letter would be no cure.

Masking some of the reflecting surfaces, or, in other words, hanging a liberal quantity of heavy woollen curtains at one or both ends; and, if possible, partly along the sides; and laying carpeting or matting over the unoccupied parts of the floor, are measures likely to check the echo to some extent.

Probably a more effective remedy would be a horizontal ceiling, introduced at the top of the walls, if they are very lofty; or, if not, at any convenient part of the roof, so as to cut off at least its apex, if not the whole of the space.

It is, however, strongly to be urged, that these or any similar remedies, as they are only tentative and experimental, and by no means warranted "a perfect cure," had better be tried first in a temporary way. It is even possible that an inexpensive canvas or calico ceiling, or one formed of boards laid from collar to collar of the trusses (if they have collars) might permanently answer the end required.

May I, in conclusion, request, that if your correspondent meets with a really effectual remedy he will communicate the nature of it, coupled with a full description of the room, to your columns?

T. R. S.

IN reply to your querist, "E. C. O.," as to the means of curing an unpleasant echo in a school-room, I beg to observe, that I consider he states the cause of the echo in his letter, viz., that the roof rises at an angle of 45 degrees. By the known laws of reflection of light and sound (which are the same) this angle will reflect back to the body of the room. Had it been either a flat ceiling or a higher angle—say 51 degrees—there would have been no echo. Perhaps an internal lining of thick felt might cure it.

Salvador House. JAMES EDMESTON.

FOREIGN GOTHIC IN ENGLAND.

WILL you kindly allow the following to appear intact, in order to let the question be fairly argued. It is a question of *nationality* in Gothic and Renaissance. It is the question of the *Poetry of Nationality*. We are always talking about nationality in other things, but forget it in architecture.

At the present moment, the question amongst Gothic architects must be, how far they are justified in introducing foreign forms into this country? Gothic architecture grew up in each country individually; everywhere under totally distinct influences: in each land it was formed in accordance with the feelings, manners, habits, and climate of the same. In France, the difference between north and south is apparent to the most untrained eye. The architecture suited to the climate of the south of France is wholly out of place in England. The Cathedral of Sienna would not do in the place of Wells. Nothing can be more painful to look at, than the polychromatic architecture of the last few years: it is now all one dirty smear. What will the deep undercut French carving be in ten years? The action of London smoke will eat it clean away. On rational grounds, we must have English work for England. But on the other side of the question,—that which appeals to the feelings,—on the score of poetry of architecture;—the brilliant colour of the cathedral tower of Florence, the marvellous richness of the font of Sienna, are thoroughly in accordance with the spirit of Italian poetry, and with the character

of Italian scenery; things that cannot be translated into the cold, damp, but green England. The churches and buildings at Arles, St. Gilles, Nismes, were quite in the spirit of troubadour poetry, wholly separated as it was from the minstrelsy of the north. Even modern French and Italian poetry is untranslateable. What is more absurd than an English translation of Giusti or Beranger? Hence double is the absurdity of trying to introduce the works of earlier ages. I may say it shows a want of appreciation both of southern poetry and of English. If a man really appreciate his own home (all is in this word) he will not seek to introduce foreign forms; but rather, if he wish to revel in the *far niente*, he will live in Florence as long as it pleases him. The universalism of Gothic architecture consists in its suiting itself to every land. Modern architects seem to have different notions of this law, and "crib" from every land. It is contrary to all poetic feeling for home, for English scenery, to introduce foreign architecture. English to the backbone, down to county tradition, is the true feeling of an Englishman. Herein lies the poetry of home, the love of English scenery. The peculiar pensive melancholy of English scenery is destroyed by the introduction of foreign forms. As to the *Renaissance* of Classic work, it only expresses the epicurean filth of the "Hermaphrodite" of Beccatelli. True noble modern work should be like the Mediæval, without style, but suited to the wants and habits of its place; thoroughly practical, but should express the whole poetry of national English tradition as it has been handed down to us. What can be more lovely than the Sussex homesteads? Are they not all English? Is not the poetry of home expressed in them?

QUAM DILECTA.

CAMBRIDGE ARCHITECTURAL SOCIETY.

THE first meeting of the Society for the Michaelmas Term was held on Thursday, 29th October, in the Philosophical Society's Rooms; Mr. C. H. Cooper, F.S.A., in the chair. After the report of the committee for the past year had been read and approved, Mr. Fawcett, of Jesus College, gave an account of some of the churches he had seen in a short excursion through the Touraine, &c., in the summer. His account was illustrated with various sketches and photographs.

SIR,—Enclosed herewith I send you a copy of the report just presented to the Cambridge Architectural Society, as printed in the local newspaper of the 7th inst. Is it customary for the secretary of a society to laud himself and ignore all others but his own friends? or was the society founded for the especial glorification of the secretary? Surely many other architects must have been doing work in the county during the year, and deserving of notice. In fact, I know that Mr. G. E. Street, Mr. R. Rowe, and Mr. Digby Wyatt, have all been busy; and from the omission of their names and works I can only draw the conclusion that they are considered by the Cambridge Society as nobodies.

The architect's name appears to be carefully omitted in the paragraph attacking the new Lecture Rooms. Whatever may be the opinion of the secretary or of the committee, some, at least of Mr. Salvin's friends consider the statement as unfair and untrue, and aver that the building is coming out well. Nor did it appear necessary to the concoctor of the report to insert the name of Mr. T. Jeckyll, of Norwich, as having carried out the "extensive restoration"—he might have added, "creditably done."—at Feversham, although it may be presumed he was informed of it; whilst the same omission occurs as to the works at Pembroke College. Surely there are "several improvements effected." It would have been at least civil to have added the name of Mr. Cory, of Carlisle, even if he be not of the Society, and used "red rud" to the brickwork. No wonder the report laments the lack of increase of members! As one interested in that Architectural Society, I should have desired the proposed elementary lectures to have embraced Italian and the later styles, for the benefit of those who may "wish to acquaint themselves with the principles of architecture."

FAIRPLAY.

BAD LINSEED OIL.

IN the spring I painted a large dining-room four coats, the last being a flat: I used what is called American turps only, with the linseed oil, that it might harden properly. The appearance of the work, when finished, was all I could desire. I saw the room in question a few days since; it had been hung with pictures, every one of which had stuck: upon removing them the paint came off close to the plastering: thus the walls are spoiled. The general appearance is as though the turps had evaporated, leaving a gloss, or that fermentation had been going on during the hardening. These being the facts of the case, I wish to make a few remarks. If manufacturers will not supply genuine linseed oil and turps (for the turps is as bad as the oil), the painting trade will fall into disrepute. Gentlemen tell me they are in no way induced to have work done, either for beautifying or preservation, while such bad materials are supplied. In this town (Exeter), it is difficult, if not impossible, to obtain genuine white lead: this added to the former evils, good work becomes impossible.

Adulteration is not a thing of sudden growth: it has been going on for years. I have observed a general deterioration of painters' material: even our brushes are yearly becoming worse. Superadded to all this, is the increased price of everything, thus rendering the evils complained of doubly oppressive. Amid this general delinquency, is there not to be found one honest manufacturer in this island? It is only to make himself known, and honour and fortune await him. Native honesty failing, then I recommend leading firms in all large towns to convene public meetings on this question, and make arrangements to obtain supplies of genuine material from some part of the Continent, where I am sure men will be found ready to supply first quality goods for cash, and thus rid ourselves and the public of the present source of annoyance—dishonest manufacturers. NATHANIEL BERLEY.

CASES UNDER BUILDING ACT.

"PORTABLE BUILDINGS."

AT the Clerkenwell Police Court, Mr. Gashion, of No. 1, Lower-road, Islington, was summoned by Mr. Godwin, the district surveyor for South Islington, for having erected a wooden building in the back garden, roof covered with felt, and having door and windows. On a subsequent visit by the surveyor, defendant had placed four small wheels under it, and called it a portable house; and he told the magistrate that he made and sold such portable houses. There was no proof of this being the case, and no means of wheeling the building out of the yard. The magistrate considered it an evasion of the Act, fined defendant 20*s.* for neglecting to give notice, ordered him to amend within ten days, and to pay 21*s.* costs.

ARCHITECTS' ACTIONS.

Price v. *Rust*.—In the Lord Mayor's Court (before the Common Serjeant and Jury).—This was an action to recover 12*l.* 15*s.* for preparing certain plans, making estimates, and taking out quantities for builders' tenders. Mr. Philmore, in opening the case for plaintiff said, "My client is an architect and surveyor of Bedford-row, and defendant is a publican of Newgate-street. In the month of September last my client was introduced to defendant by a Mr. Matthews, who is a builder. Defendant stated that he required some alterations in his house (the Grapes), and plaintiff agreed to make a sketch. When it was finished, defendant expressed his approval, and plaintiff then made plans, which were sent in. The quantities were taken out, and finally plaintiff obtained tenders from various builders. At the eleventh hour, however, defendant drew in, and urged that he could not go on. He has refused to pay plaintiff a very reasonable demand, and I shall ask you, gentlemen, to protect professional men against the system which appears now to prevail in regard to architects and surveyors."

Mr. Price deposed to having done all the work charged for. It was suggested at first to advertise for tenders, but as the amount was only 150*l.* witness pointed out the expense. When plaintiff had obtained tenders, defendant wrote that "unforeseen circumstances prevented his going on." He refused to pay plaintiff's bill, and finally wanted to give only 5*l.*—Cross-examined. I did not agree to do the work for 5*l.*, nor was it understood that I was only to be paid in the event of the plans being approved of. Defendant actually sent my plans to the attorney for the owner of the house. Other evidence having been given,

Mr. Charles Smith, who represented defendant, urged that plaintiff was not entitled to recover because the plans were not approved. Plaintiff agreed to do all the work for 5*l.* Defendant said that the bargain was 5*l.* if the plans were approved, if not, nothing. The plans were not approved.—Cross-examined. "I wrote the letter about 'unforeseen circumstances.'"—His Lordship. "What were they?"—Defendant. "I had not the money to carry out the work. If I had possessed the money, I did not approve of the plan."—His Lordship. "Why, you just said that you had sent it to the attorney."—Defendant. "I was obliged to, in order that the owner of the house might be satisfied."—His Lordship having summed up, the jury almost immediately found a verdict for the plaintiff.

LIGHT AND AIR.

Cocks v. *Romaine*.—This case, before the Lords Justices of Appeal, was an appeal motion to dissolve an injunction granted by the Master of the Rolls, restraining the defendant from proceeding further with the rebuilding of certain premises which have been pulled down, situate 67, Chancery-lane, adjoining the house of the plaintiff, who carries on the business of a chemist and druggist. It appears that Mr. Cocks holds the premises, 68, Chancery-lane, on lease, from Mr. Nathaniel Powell, of Whitefriars Glass Works, City, for a term of twenty-one years from the 24th of June, 1860. Mr. Romaine has lately pulled down the house which stood next to Mr. Cocks's premises; and according to the present respondent (Mr. Cocks) was, until stayed by legal process, proceeding to erect other buildings on the ground, and in the course of such operations was seriously infringing on his rights. The matter involved points of notice to be given under the Building Act, and also in reference to a party-wall being erected which did not previously exist in the old building, and which, it was stated, with the other operations, would encroach on the respondent's premises. Mr. Cocks desired that the appellant should be restrained from building and raising any wall or walls or other buildings, nearer to the boundary line of his premises, or to a greater height in any part thereof, than the elevation at the same point of the old buildings as they lately stood, so as to darken, obscure, or impede the light and air previously enjoyed by him.

The Court decided that the injunction should be dissolved, without any prejudice to the question of costs; the defendant to undertake to pull down any building which the Court should consider ought to be pulled down; the defendant also to consent to any order which the Master of the Rolls might make to advance the cause; and the costs of the application to remain till the further hearing of the Master of the Rolls, and to be costs in the cause.

Miscellanea.

NOTTINGHAM ARCHITECTURAL ASSOCIATION.—On the 21st instant, the members of this association made their second excursion of the season. The localities chosen were Bottesford and Sedgebrook, both of which places proved to be of considerable interest, taken in an antiquarian point of view.

LIVERPOOL ARCHITECTURAL SOCIETY. — The meeting last week was presided over by Mr. W. H. Weightman. A discussion took place upon the nature and value of the material with which it is proposed by Mr. Ransome, of Ipswich, to coat St. George's Hall sculpture. The scale of architects' charges, proposed at the annual meeting of the Architectural Alliance, was then re-considered, and subsequently a paper on "Fresco Painting and its Substitutes" was read by Mr. Frank Howard.

NORTHERN ARCHITECTURAL ASSOCIATION.—The adjourned quarterly meeting of this association was held on Tuesday, the 10th inst., in the Old Castle, Newcastle-on-Tyne, Mr. T. Austin in the chair. The following gentlemen were elected officers for the ensuing year:—President, Mr. Dobson; vice-president, Mr. Pritchett; honorary treasurer, Mr. Dunn; honorary secretary, Mr. Oliver; honorary solicitor, Mr. G. W. Hodge; committee, Mr. Lamb, Mr. Green, Mr. Howison, Mr. Austin, and Mr. R. J. Johnson. On the motion of Mr. Dunn, seconded by Mr. Oliver, it was resolved "That this association having considered the scale of charges proposed by the Architectural Alliance, are of opinion that such scale of charges is satisfactory, but beg to suggest that the form, if possible, be condensed." On the motion of Mr. Peachey, seconded by Mr. Dunn, a special committee was appointed to consider the question of charges for valuations, and report at next meeting.

THE RUINS OF SWEETHEART ABBEY.—A meeting of the committee of the subscribers for repairing and preserving the ruins of Sweetheart Abbey, was held at Dumfries, on the 21st October. The sum of 337*l.* 15*s.* 7*d.* had been expended on the ruins. A report was read from Mr. James Foulds, who superintended the works, in which the various repairs and restorations effected were detailed. The work was executed by Mr. J. Robson, builder, Drumburn; and various suggestions made during the progress of the work by Mr. Witham, Kirkconnell, and Mr. Crombie, architect, Dumfries, were adopted.

THE HOTEL MOVEMENT.—A Guernsey hotel company, with a capital of 50,000*l.*, is being formed on joint-stock principles in London. The promoter, Mr. W. Southwood, of London, C.E., has contracted for the purchase of Castle Carey, the present residence of the Lieutenant Governor of the island, in order to form the nucleus of the hotel, which is to be completed by large additions to the present building. A bathing place for ladies is to be a feature in the project. Mr. Garling, architect, is to design the necessary works.

THE DRINKING FOUNTAIN MOVEMENT.—At Watford, a drinking fountain has just been inaugurated. The local Board of Health have placed it on the site, opposite the Corn Exchange, where the old town-pump stood. The fountain is of polished granite with a stone base, and is reached by a flight of stone steps. It is surmounted by a bronze cupola, from which the water flows in a horizontal direction. On the granite is engraved the simple inscription, in gilt letters, "Erected by Subscription, 1863."

THE GINGELL MEMORIAL CLOCK, EAST-HAM.—The new church at East-Ham, Essex, from the designs of Mr. Blomfield, architect, and consecrated a short time since, has just had a clock presented and fixed in the tower, from a sum of money left for that purpose by the late Mr. Gingell, Jun., salesman, Whitechapel. The clock bears the designation of the "Gingell Memorial Clock," with an appropriate tablet to the memory of the donor. Mr. Joseph Fairn, turret-clock maker to her Majesty, made the clock to order, from the same design as a clock with four dials, for Scone Palace, the seat of the Earl of Mansfield.

AN ENORMOUS PAIR OF SHEARS.—Messrs. Tangye, Brothers, and Price, of the Cromwell Works, Parade, Birmingham, have just completed, for the Russian Government, an immense pair of shears, weighing 24 tons, having a power of pressure equal to 1,000 tons, and able to snip to pieces a cold bar of iron half a foot square. The contrivance is technically described as a "horizontal hydraulic shearing machine, with open mouth;" and it is said to be, if not the largest, at least the most powerful article of the kind ever made.

Baptist Chapel, Rhyl: Gold Watch to the Architect.—Early this year the opening of this little chapel took place. The committee have just presented the architect, Mr. F. D. Johnson, of Birmingham, with a gold watch as a testimonial of their approval of his designs of the edifice.

Another Conflagration at Aldershoit.—No less than seventy-six horses out of eighty-eight have been destroyed in a stable near the barrack department, and belonging to the military train. The fire originated with one of the lamps hung up in the stable. It broke out about half-past five in the morning, and in fifteen minutes the whole was in a blaze. The stable, like the rest of the camp buildings, was of course a wooden one. The estimated amount of damage is between 4,000*l.* and 5,000*l.* How much would have been saved at Aldershott if our warning at first had been attended to!

Memorial to Rev. Dr. Duff.—The Calcutta correspondent of the *Times*, in his letter of the 23rd ult., communicates the following intelligence:—"A movement is now being set afoot all over India to raise a memorial to Dr. Duff, the great missionary; who, after a career of a third of a century, has been ordered to Scotland by the doctors. Sir C. Trevelyan, his coadjutor thirty years ago in the work of Hindoo enlightenment, and the Bishop of Calcutta, are at its head. It is proposed to build a memorial hall bearing his name, in the *place* of educational buildings about to be erected by Government in Calcutta. The hall is to be a reproduction, in marble from Carrara, of the Maison Carrée of Nimes, and will be devoted to meetings of a Christian and cognate character. The Bengalese have held an enthusiastic meeting, under the presidency of the native judge, the Hon. Semlonath Pundit. A sum of 15,000*l.* will meet the expense.

Communication between Railway Passengers and Guards.—This ever-recurring question is referred to by a correspondent, "J. E.," who suggests the simple expedient of loud bells outside the carriages, with bellpulls within; but one great obstacle to this and many other modes of communication already and often suggested being adopted by railway directors is the perpetual risk of idle and mischievous persons or children stopping trains in transit unnecessarily, and thus not only wasting the time both of passengers and officials, but incurring the peril of real dangers from delay, &c. We are persuaded, as we have long been, that the *only* remedy for the admitted evils and dangers arising from want of communication between guards and passengers (between passengers and drivers is quite out of the question), would be to give the guards power to pass along the train, either through the carriages, as in America, or outside. There are difficulties here also, but they are mere money obstacles, and do not affect the propriety or safety of the proposal. As it is, to call the man perched and imprisoned in a cage by the re-assuring name of a guard is absurd and ridiculous. Our correspondent also ventilates another old proposal, to have railway carriages lightly but strongly made of wrought iron instead of splintery wood.

Cheap Railways in the North of Scotland.—Sir J. D. Elphinstone sends to the *Times* an account of the great length of railways made in the north of Scotland at a cheap rate. He says:—"For the last fifteen years I have been engaged in carrying out a system of railways to supply the wants of the counties of Aberdeen and Banff, which is now almost completed. The whole will extend, in main line and branches, to above 190 miles, of which 180 miles are open and in full operation, completely exhausting the wants of these counties." Among them is "the main line from Aberdeen to Keith, forming part of the through line from that city to Inverness, 53½ miles: it is double for seven miles; from there, land taken and over bridges constructed for a double line, two long viaducts over the rivers Don and Deveron, heavy rock cuttings, expensive town property in the vicinity of Aberdeen, and 85,000*l.* preliminary (Parliamentary) expenses, cost 14,000*l.* per mile." There is also the "Strathspey Railway, 32½ miles,—two expensive crossings of the River Spey, one of the largest, and certainly the wildest, river in Scotland; two of the Fiddoch, also a very unruly stream; a short tunnel, heavy rock cuttings, and other works,—7,500*l.* per mile. This railway, considering the works, is probably the cheapest line that has ever been executed." The other lines range from 6,500*l.* to 9,000*l.* a mile. "The majority of the works on these lines [it is added] are of granite, most solid and substantial."

Paris Schools of Design.—The Science and Art Department has directed Mr. Raimbach, master of the Birmingham School of Art, to visit and report upon the works of the students of French Schools of Design, now exhibiting in one of the galleries of the Palais de l'Industrie, in the Champs Elysées, in connexion with the Exposition of Art applied to manufactures.

Railway Returns.—The traffic receipts of railways in the United Kingdom amounted for the week ending the 31st of October, on 11,028 miles, to 586,880*l.*, and for the corresponding week of last year on 10,578 miles, to 564,200*l.*, showing an increase of 450 miles and of 22,680*l.* in the receipts. The total receipts of the week show a decrease of 12,704*l.*, as compared with those of the preceding week.

Bow Bells.—These bells were rung for the first time on the birthday of George III., June 4, 1762. The following account of their weight is given in the *Gentleman's Magazine* of that year:—

	cwt.	qrs.	lb.
1st bell	8	3	7
2nd ,,	9	0	2
3rd ,,	10	1	4
4th ,,	12	0	7
5th ,,	13	0	24
6th ,,	17	0	11
7th ,,	20	2	26
8th ,,	24	2	5
9th ,,	34	2	6
10th ,,	53	2	22

The total weight is about 20 tons, 14 cwt. 4lb.,—a heavy amount of metal to be put in motion at the great height at which the bells are placed in the tower of the church.

Sales.—At the Mart, by Messrs. Tebb, Brothers: Freehold ground-rent of 1*l.* 10*s.* per annum, secured on No. 5, Prince's-street, Tottenham, 25*l.*; freehold ground-rent of 5*l.* per annum, secured on Nos. 19 and 20, Queen-street, Tottenham, 95*l.*; freehold ground-rent of 18*l.* 18*s.* per annum, secured on Nos. 9 to 12, The Terrace, White Hart-lane, Tottenham, 535*l.*; freehold ground-rent of 66*l.* per annum, secured on the Compasses public-house, Queen-street, also two houses, Nos. 1 and 2, Queen-street, and two houses in Prospect-place, White Hart-lane, 900*l.*; freehold ground-rent of 4*l.* 10*s.* per annum, secured on a beer-shop situate at the corner of Prospect-place, 115*l.*; freehold ground-rent of 5*l.* 5*s.* per annum, secured on Nos. 3, 4, and 5, Queen-street, 145*l.*; freehold ground-rent of 21*l.* per annum, secured on Nos. 8 to 13, Queen-street, 380*l.*; freehold ground-rent of 6*l.* per annum, secured on Nos. 14 and 15, Queen-street, 135*l.*—By Mr. Marsh: Leasehold, the ground lease of a mansion, being No. 5, Upper Belgrave-street, held for an unexpired term of 60½ years from Christmas, 1863, at a ground-rent of 15*l.* per annum, and subject, in addition, to a charge of 190*l.* per annum until Christmas, 1883, let at 400*l.* per annum, 3,820*l.*

Apparatus for Extinguishing Fires, &c.—New patents are now turning up which confuse the mind with ideas of old inventions. We had thought the plan of fitting up water-pipes in buildings, with the view of extinguishing fires in them, was not new; but perhaps the right plan of doing so has only now been hit upon. Letters patent have been granted to Mr. Henry Burridge, builder, for the invention of "improvements in apparatus for extinguishing fires, applicable also for ventilating and fumigating, and for supplying, delivering, and distributing fluids." The provisional specification says, "My apparatus consists in the employment of a service-pipe or pipes, connected to and communicating with one or more perforated pipes, tubes, troughs, jets, gratings, or plates arranged in the form of a framework or otherwise; the said service-pipe or pipes being also connected to and communicating with a hose or hoses, which may be attached as desired to a supply of water. In applying my apparatus to houses and other land structures, the service-pipe, combined with taps, plugs, or other controlling agents, may be conducted up the inside or outside walls (or both), or between the walls and through the walls into the rooms or interior; or it may be conducted through the decks in ships or other vessels; and connected to the perforated pipes, troughs, gratings, or other perforated appliances, which being in the interior of the rooms or other parts of the structure, at the ceiling, wall, or elsewhere, water, steam, or other agent may be at once projected in case of fire from the ceiling, walls, or other convenient parts on to the flames in the interior. . . . . The apparatus may be applied for ventilating, fumigating, and supplying, delivering, or distributing fluids."

Proposed New Town near the Banks of the Thames.—We understand that the plans and specifications for the erection of about 110 villas, on the "Flowers Farm" Estate, at Pangbourne, on leases of 999 years, are now completed, and are exhibited at many of the stations on the Great Western Railway. This freehold property belongs to Mrs. Breedon, of Ryde, Isle of Wight, Mr. W. Radcliffe the solicitor, and Mr. Newman the architect, both of Ryde, are engaged in the undertaking.

Ancient Pyramid in California.—Another of those numerous evidences of a civilized antiquity in the "New World," has just turned up, it seems, in the shape of a great stone pyramid, composed of courses from 18 inches to nearly 3 feet in thickness, and 5 to 8 feet in length. It has a level top of more than 50 feet square, though it is said to be evident from the remains that it was once completed. This pyramid differs, in some respects, from the Egyptian pyramids, being more slender or pointed, and the outer surface of the blocks being cut to an angle, that gave the structure, when new and complete, a smooth or regular surface from top to bottom.

Proposed Tunnel under the Mersey.—A plan has been suggested by Mr. T. J. Edwards, Tranmere, to make a tunnel under the river. It would commence, according to the *Albion*, on the Cheshire side in the low land at the corner of Camden and Conway streets, which is only about 26 feet above the level of the Old Dock sill, proceeding thence to the north of the Woodside Landing-stage under the river, and emerging on the Liverpool side at the corner of Whitechapel and Preston-street. The length of the tunnel would be 3,400 yards, with descending gradients from the termini to the centre of the tunnel under the river of one in forty. It is also part of the plan to construct a branch tunnel for connecting the goods line with the London and North-western railway, passing under Byrom-street at one end, and a connexion with the Birkenhead Railway for the goods traffic and a through passenger traffic from Whitechapel to Chester at the other end. Mr. Edwards estimates that the works may be executed for 400,000*l.*

Sanitary Effects of good Drainage and Water.—It appears that for the quarter just ended the rate of mortality in Salisbury has been extraordinarily low, the deaths out of a population of over 9,000 having been only 20, while the average number of deaths in the corresponding quarter for many years previous to the introduction of a proper system of drainage and waterworks was 50; and since these works, for the last eight years, the average has been 37. The average annual number of deaths for the eight years preceding the completion of the drainage (excluding the cholera year) was 243, or 27 in 1,000, and for the same period since, 193, or 21 in 1,000, an actual reduction of almost one-fourth of the whole number. With just 50 deaths per annum less than usual during the last eight years, Salisbury is now looked upon as one of the very healthiest cities in the kingdom. If an equally low rate of mortality had prevailed in London during the last quarter, only about 450 persons would have died each week, instead of the numbers actually recorded,—about 1,250.

The "Boke of St. Alban's."—In *Notes and Queries* are some curious particulars of the more modern history of this very ancient book. About fifty years since it belonged to the library of the Hickmans, of Thonock Hall, Gainsborough, and was cast aside, with other "rubbish," because it had not a handsome binding, and, indeed, was without boards at all. A gardener named Naylor, who dabbled in books, got leave to appropriate some of the rubbish, and the Boke of St. Alban's, which was amongst it, long lay on a kitchen shelf, till the housewife got tired of perpetually dusting it, and the book was sold for 9*d.*, being 9 lb. weight, at a penny per lb. It afterwards got into hands a little less unappreciative of its great rarity and value, and sold for 3*s.* Again it changed hands for two guineas; and again, for seven guineas, to a knowing bookseller named Stark, who was doubtless considered a fool for doing so, but who took it to London, and sold it to the Right Hon. T. Grenville for between seventy and eighty guineas. It is now in Showcase VIII., in the King's Library of the British Museum, and bears the following label:—"The book of St. Alban's. The bokys of Haukying and Huntyng, and also of Coot armuris. Written by Dame Juliana Barnes, or Berners, Prioress of Sopwell Nunnery. Printed at St. Alban's in 1486. Bequeathed by the Rt. Hon. Thomas Grenville."

THE LORD MAYOR'S WORKMEN.—We are glad to be able to mention that the Lord Mayor, on the 9th instant, gave a holiday to all his workmen, and in the evening provided for them an excellent dinner at the Whittington Club.

THE MERSEY DOCK BOARD. — LOAN OF 875,000*l.*—After a long and animated discussion at their meeting on Thursday, the Board decided to adopt the recommendations presented by a special committee appointed to consider the new plans for dock works, and to apply to Parliament in the next session for power to borrow a sum of 850,000*l.*, to be applied in the making of the purchases, and in the construction of the new dock works on the Liverpool side of the river, included in the plans agreed to by the committee. It was afterwards resolved to increase the amount to 875,000*l.*, in order to include the purchase of some additional lands.

TELEGRAPHIC. — An important operation in connexion with the telegraphic system in Ireland —one by which it is alleged the American news will be received in the metropolis six hours earlier than at present—has just been completed. This is the laying of the wire completing direct communication between Cape Clear and London.—— The American Minister, Clay, writes from St. Petersburg to Washington, "They have granted me a telegraph-line charter, the line to run from the mouth of the Amoor River to America. It will unite all the continents, and be the great work of the age. It will illustrate my mission to this country."

THETFORD STEEPLES.—One dark night not many years ago the steeple of St. Cuthbert's Church, Thetford, quietly fell down, so that no one knew of its downfall till daylight revealed the state of matters on the following morning. The church was speedily restored. A like fate seems now to threaten the older and greater steeple of St. Peter's Church. A portion of its masonry has suddenly given way and fallen to the ground. It was found that both the buttresses forming the north and south angles of the western side had some rather threatening flaws, and a meeting of the churchwardens was held, and they ordered the necessary repairs to be immediately done. Strong iron bolts will therefore be inserted through the steeple.

THE EMPTY HOTELS AT THE NEW SMITHFIELD CATTLE-MARKET.—For the most part these huge and expensive buildings seem to have been a losing speculation. For years they have been unoccupied. Outside the limits of the market there are certain houses which have been made for taverns, that are also of considerable proportions, but which have had but a limited amount of trade. These we believe have been matters of private speculation. One of them has been altered in its interior arrangements, and let in rooms for the families of working people. The whole of the apartments were readily taken, and many more of the same kind were in request. We have before suggested that the market taverns belonging to the corporation should be adapted to a similar purpose. Better make these places into wholesome dwellings for a large number, at a considerable profit, than to leave them standing idle.

GAS.—The Rotherham Gas Company have declared a dividend after the rate of 10 per cent. on A stock, 8 per cent. on B stock and on D shares (so far as the latter are paid up), for the past half-year; and that half a year's arrear of dividend, at the rate of 2 per cent. (unpaid in former years), on A stock be also paid free from income-tax. — The Brecon Gas Company have resolved to reduce the price of their gas from 6s. to 5s. per 1,000 feet.—The extensive alterations and additions that have been going on for some time at the Reading Gas Works are nearly completed. About 10,000*l.* have been expended. At King's-road, the works have been almost entirely remodelled, and the most modern improvements have been introduced. A new retort-house has been erected, capable of producing something like half a million cubic feet of gas per diem. An immense chimney has been raised, and condensers upon a new principle have been added. The retort-house is covered with an iron roof, the work being executed by Mr. Williams, and the retorts have been set by Mr. Lloyd, of Wandsworth. Various other improvements have been effected. The plans and specifications for the various works were prepared by Mr. R. P. Spice, of London, gas engineer; and were carried out under the superintendence of Mr. Strachan, the general manager.

SMITHFIELD.—Preparations are being made for the commencement of the works for the construction of the Dead Meat and Poultry Market, Smithfield, London. The houses and buildings extending from the corner of Smithfield-bars to West-street, including the Ram Inn and several houses in Smithfield-bars are being hoarded in. The materials will be sold, and the houses razed to the ground. The remains of the sheep and pig pens will also be removed, and the site cleared for the above purpose.

RATING.—A Scotch case in the House of Lords, which has been only recently reported in the law journals, adds another authority to the many that have accumulated on the application of the principle of rating to the peculiar cases of waterworks, gasworks, railways, and such like, where the value in each parish is difficult to be ascertained, because it is difficult to determine at what part of the entire works the profits arise. In this case a Waterworks Company was empowered to make reservoirs and let sites for mills on the banks of the waterfalls, at rents to be paid by the mill-owners in respect of the water power of which they had the use. These rents were held to be rightly included as part of the annual rateable value of the waterworks. This was the case of Shaw's Waterworks Company *v.* Greenock Police Trustees.

ACCIDENTS. — At the Staffordshire County Lunatic Asylum, now in course of erection at Burntwood, two men, with a labourer who assisted them, were removing the centres from a cellar arch, when they also removed the centres from an adjoining arch, which was not necessary; and thus they caused the first to fall. The arch buried two of them, but they were soon extricated. One had his thigh and one of his ribs broken: the other was somewhat bruised; whilst the third escaped unhurt. The arch which fell has been replaced.——A carriage shed has been blown down at the Brighton Station. The shed was made a complete wreck. At the time it was damaged it contained about ten or twelve carriages.——One of the chimney stalks of the Midton Bleachworks, Lochwinnoch, a structure 200 feet high, says a Glasgow paper, and not long erected, was thrown down lately by the fury of the wind. Fortunately it fell clear of the works, and did not hurt any one.

LIVERPOOL SCHOOL OF ART.—The annual presentation of prizes awarded by Government has been made. The meeting was held in the sculpture gallery at the Liverpool Institute, in Mount-street. The attendance was very numerous. Mr. C. S. Samuell, the chairman of the art committee, took the chair. The chairman, in opening the proceedings, said that, taking eighteen of the largest schools in the country, the average number of national medallions that had been taken was two, whereas their school had taken three such medallions—a largely increased per centage—besides considerably above the average number of local medals. He concluded by reading a letter from Mr. Ruskin, who had been invited to preside, but was at present in Zurich. Professor Elliot was invited to say a few words on the connexion of science and art. He always considered that the two ought to be inseparably united. In his own department, viz., mathematics, he could see great evil arising from their separation. Arithmetical instruction suffered much from the absence of theory; geometrical from the absence of practice. Schools of art were necessarily confined to the practical, colleges to the theoretical, but an ordinary school education ought to blend the two together. He then spoke of the pre-Raffaellite school of painting, and the disputes to which it had given rise, while no one could tell us precisely what the word meant. He thought science might throw some light upon that, and afford a criterion by which to judge of the comparative merits of that and the common system. It was in vain, he said, to adduce in its favour the views taken by photography. The peculiar character of these depended wholly on the kind of lens employed. With a full-sized lens the effect is precisely that of the post-Raffaellite school: when a stop is placed over the lens, with a narrow opening, the scene is changed at once into pre-Raffaellite. An eye with a very small pupil, on looking through a small hole in a card, will see a pre-Raffaellite view.

TENDERS.

For building house on the Drake estate, New Cross. Mr. John Jenkins, architect:—

Laws	£948 10 0
Smith	948 0 0
Hawke	945 0 0
Todd	845 0 0

For new warehouse in Rutland-street, Leicester, for Mr. Robert Walker. Mr. Francis Drake, architect. Quantities supplied:—

Fox, Brothers	£3,000 0 0
Neale	2,999 10 0
Smith	2,921 0 0
Swaine & Orton	2,920 0 0
Cox	2,905 0 0
Tills	2,870 0 0
Middleton	2,870 0 0
Chambers	2,860 0 0
Glover	2,841 0 0
Porter	2,785 0 0
Osborne, Brothers (accepted)	2,723 0 0

For ten houses, offices, and boundary walls, for Mr. John Foxon, Leicester. Mr. Francis Drake, architect. Quantities supplied:—

Middleton (accepted)	£1,220 0 0

For Carmelite Convent and Church, Hales-place, Canterbury, for Miss Hales. Mr. E. Welby Pugin, architect. Quantities supplied by Mr. S. Marples:—

Smith	£32,697 0 0
Wilson	28,174 0 0
J'Anson	27,395 0 0
Gascoigne	26,811 0 0
Bird	25,997 0 0
Cowland	22,941 0 0
Smith & Son	22,879 0 0
Greengate	22,500 0 0
Spooner	22,166 0 0
Henderson	22,100 0 0

For farm buildings, boundary wall, and cottages. Mr. E. welby Pugin, architect:—

J'Anson	£6,874 0 0
Bird	6,200 0 0
Wilson	6,180 0 0
Smith & Son	5,668 0 0
Cowland	5,000 0 0
Henderson	4,900 0 0

For alterations and additions to two houses in Spring-street, Paddington, for Mr. G. Browning. Mr. Arthur Evers, architect:—

Burdett	£925 0 0
Darby	870 0 0
Langridge	855 0 0
King	768 0 0

For erecting four houses, with shops and warehouse, New Kent-road, for Messrs. Bowes. Mr. Henry Jarvis, architect:—

Lloyd	£5,630 0 0
Robinson	4,965 0 0
Turrant	4,580 0 0
Henshaw	4,234 0 0
Thompson	4,170 0 0
Marsland & Son	4,098 0 0

For the erection of a pair of villa residences at South Norwood. Mr. G. S. Temple, architect. Quantities supplied:—

Shearburn	£1,664 0 0
King, Burton, & Co.	1,590 0 0
Nicholson & Son	1,480 0 0
Hill & Son	1,460 0 0
Sharpington & Cole (accepted)	1,397 0 0

For new shop front and repairs to a house in North-street, Guildford, for Mr. G. P. Shepherd. Mr. H. Peak, architect:—

Swayne	£330 0 0
T. & J. Loe	288 0 0
Mason	270 0 0
Pollard	266 0 0

For additions and alterations at No. 30, High-street, Guildford, for Mr. J. Leggatt. Mr. H. Peak, architect:—

Garnett	£673 0 0
Mason	672 10 0
Moon & Son	666 0 0
Nye	649 0 0
Pollard	595 0 0
T. & J. Loe	555 0 0

For works in formation of new show-room and other alterations at No. 3, Berners-street, for Messrs. Faraday & Son. Mr. R. H. Burden, architect:—

Sale	£635 0 0
Child & Son	634 0 0
Woodward	580 0 0
Carter & Son (accepted)	552 0 0

For erecting a new wool warehouse, New-street, Bishopsgate, for Mr. J. Cooper. Mr. Herbert Williams, architect. Quantities furnished by Mr. Gordon Stanham and Mr. James Dudley:—

Oxford & Co.	£22,500 0 0
Piper & Wheeler	21,992 0 0
Adamson & Sons	21,357 0 0
J. & C. J'Anson	20,980 0 0
Downs	19,960 0 0
Browne & Robinson	19,850 0 0
Trollope & Co.	19,834 0 0
Newman & Mann	19,685 0 0
Coleman	19,595 0 0
Ashby & Sons	19,284 0 0
Brass	18,593 0 0
Hill & Sons	17,880 0 0

For a pair of small semi-detached houses, Erith, Kent, S.E., for Mr. H. W. Swayne. Mr. Herbert Ford, architect. Quantities not supplied:—

Thomas	£1,738 0 0
Rawlins	1,586 0 0
Francis & Son	1,540 0 0
Glenn, Brothers	1,488 0 0
Say & Son	1,453 0 0
Marshall	1,394 0 0
Clarke	1,365 0 0
Dover	1,320 0 0
Willis	1,310 0 0
Drake	1,300 0 0
Cushing	1,260 0 0
Smith	1,200 0 0
Everest	1,079 10 0
Humphries & Co.	975 0 0
Blofield	950 0 0

For the erection of a pair of houses, Croydon. Mr. G. S. Temple, architect:—

Cooper	£850	0	0
Smith	713	0	0

TO CORRESPONDENTS.

"*King Inat's Palace*" Mr. E. E. Gale, who resides in this building, has sent us a note in reply to Mr. Massey's of a month ago; but as it does not touch the question in which alone the public are concerned (the mutilation of the building), we do not think it necessary to insert it.

W. D.—C. L.—R. Y.—F. D.—Z. P. (the black oxide of manganese is simply mixed with the mortar).—H. W. R. (the Companies want no support in the creation of eyesores).—Alderman W.—P. & B.—J. E. E.—Inquirer (the mean height of roof included)—G. S. T.—Mr. P.—J. O.—T. O.—P. & A.—T. M.—T. M.—Mr. J.—C. M.—J. R.—Miss Y. (we are forced to decline).—C. N. S.—T. R.—J. R.—R. H.—R. J. L. (various circumstances regulate giving leave to sketch).—R. A. (go to a solicitor)—E. F. J.—F. D.—A. N.

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

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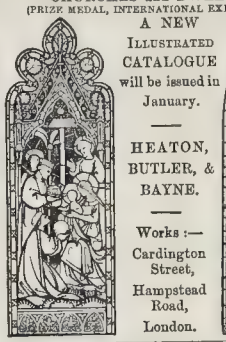
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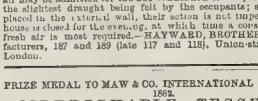
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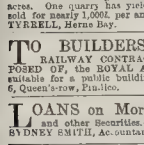
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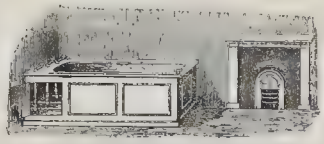
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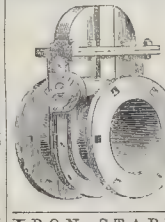


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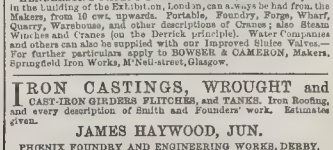
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PORTLAND CEMENT.—JAMES NESBIT is prepared to supply Portland Cement of superior quality and strength, at such a price as will enable Builders to use it for purposes from which the high price usually charged has hitherto prevented its being used. Terms on application.—Berney Arms, Portland Cement Works, Burgh Castle, Great Yarmouth.

ESTABLISHED 1802.
PORTLAND CEMENT WORKS,
EAST GREENWICH.
EDWIN HOLLICK,
Manufacturer of PORTLAND CEMENT of the best quality only, for the English and Foreign Markets.
Vessels loaded alongside.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Brosseley colour
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
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JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

STOURBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

STRINGFIELD & BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

STRINGFIELD & BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME,
No. 16, SOUTH WHARF, PADDINGTON BASIN, W.
ORDERS ADDRESSED TO MESSRS. S. & R. BANGOR WHARF, CAMDEN TOWN, N.W
will receive prompt attention.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta, Chimney Pots, Trusses, Copings, &c ; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED STREET, PADDINGTON.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

GEORGE ALLEN (late W. & T. N.
GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

ESTABLISHED 1844.
JOHN BOARD & Co.'s CEMENT and LIAS LIME WORKS, Dunball (near Bridgwater); Office, Queen-street, Bridgwater. JOHN BOARD & Co. beg to inform Builders, Contractors, and Merchants that they continue to manufacture CEMENTS and BLUE LIAS LIME, at Dunball, near Bridgwater, and from increased appliances to their works, are enabled to execute orders for the same to almost any extent.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, 55s. per 1,000.
" Floor Bricks, 40s. per 1,000.
White Kiln ditto, 40s. per 1,000.
Ridge Tiles, at 75s per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. Quantities may be delivered by Vessel at any of the Thames Wharfs.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS.
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS By Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT-COLOURED STOCKS, from the Fields at South Shoebury, and Little Wakering, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; by Messrs. J. Butcher & Son, of Otterham Quay and Lower Rainham; and also by Messrs. J. & G. Parker, of Wickham, near Strood, Kent.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The BALLINGDON DEEP BLACK RUBBING and BUILDING BRICKS, and the CHALFONT and BALLINGDON DARK and BRIGHT RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, } SOLE CONSIGNEES.
WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge,
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH. The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

TO BRICKMAKERS.—All Parties who BURN BRICKS in CLAMPS are invited to inspect the NEW MODE of SETTING, patented by Mr. ROBERT WHITE, and which may be seen in operation at the Brickfields of
J. B. WHITE & BROTHERS, Erith, Kent.
The advantages of this plan are two-fold.
1st. Nearly all the bricks are burnt into stocks, and the yield of inferior bricks is reduced from 25 to about 10 per cent of the total make, which in itself represents a large pecuniary saving.
2nd. The bricks are so much improved in colour and soundness as to give them a considerable additional value in the market over common stocks.
Licenses for use of the Patent granted to Brickmakers, on application to the Patentees, 17, Millbank street, Westminster.

BRICKS.
FINE WHITE FACING BRICKS.
WHITE ORNAMENTAL BRICKS.
RED AND WHITE CUTTERS.
RIDGE TILES AND ROOFING TILES,
IN GREAT VARIETY.
Apply to RICHARD LANGLEY,
EAST COWES PARK, ISLE OF WIGHT.

SPRING GROVE BRICKFIELDS,
HOUNSLOW, W. MIDDLESEX.—Mrs. ANN ELIZABETH BURCHETT begs to thank her numerous friends for the patronage received during the last twenty-five years, and having DISSOLVED PARTNERSHIP with her son, Mr. JAMES BURCHETT, has again OPENED the above BRICKFIELDS on her own account, where by strict attention to all orders she trusts to receive the same encouragement hitherto so liberally bestowed upon her. Office—Caswell Cottage, Hounslow-road, Hounslow, W.

VICTORIA BRICK and LIME WHARF
and
DRAW-DOCK, NINE ELMS, S.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES AND RED GOODS,
TERRA COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS,
RED AND WHITE FACINGS,
STAFFORDSHIRE AND FIRE GOODS,
MALM CUTTERS, PICKINGS,
AND BUILDING GOODS GENERALLY.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.
JOHN DOWNEY, Victoria Wharf, Nine Elms, S.
Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

HOLLOW BRICK FIRE-PROOF FLOORS.
BUNNETT'S PATENT.
THIS PATENT FOR SALE, OR LICENSES GRANTED
Apply to Mr. J. BUNNETT, ENGINEER, DEPTFORD.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the
MUTUAL LOAN FUND ASSOCIATION
(Incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.
EDWARD HARPER, Secretary.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
No. 28, GRAY'S INN ROAD, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

J. MILLS,
110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET
(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

FLOORING, DEALS, MAHOGANY, &c.

¾-inch White Flooring, good quality	11s. 6d. per square.
¾-inch White Matched Lining	12s. 0d. „
¾-inch „ „	14s. 0d. „
2½-inch Yellow Battens	10l. 0s. per 120 of 12 feet.
2½-inch White Battens	9l. 0s. „
3 by 9 Yellow Deals	16l. 10s. „
Honduras Mahogany	0s. 6d. per foot super.

PRICE LISTS AND MOULDING PATTERNS, POST FREE.

J. TERRY & SON, 109, BOROUGH ROAD, S.E.

FLOORING! DEALS! MAHOGANY!

100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
5,000 Yellow Battens ..... from £10 10s. per 120
2,000 Spruce ditto ..... from £9 per 120

SPRUCE DEALS, 2s. 6d. each.
FIR TIMBER 55s. PER LOAD.
Scaffold Poles ..... 1½d. per foot

YELLOW DEALS, £16 PER 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.				Laths, 29s. per Load.	
Yellow Deals, sound and good	£18	0	0	per 120, or 3d. per foot.	
Spruce Deals	15	0	0	„	2½ „
Yellow Battens, excellent quality	10	10	0	„	1½ „

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

DEAL AND TIMBER TRADE.
CHARLES SLEE,
(of the late Firm of SYKES, SONS, & SLEE), has in STOCK at his Premises,
10, HIGH STREET, WHITECHAPEL,
A General Assortment of WOOD GOODS, comprising DRY YELLOW, SEASONED PINE, &c., with the usual thickness of prepared Floor Boards, and Matched Linings.

COUNTRY AND OTHER ORDERS PROMPTLY ATTENDED TO.
PRICES TO SUIT ALL BUYERS.

MOULDING WORKS.
SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

TIMBER! DEALS!! FLOORING!!
THOS. W. ELLSTON
begs to offer to the Trade and public generally the undermentioned Goods, at the following low prices, in quantities of not less than 30, at the Public Docks, viz:—

Good 2½ M.il sawn White Battens ..... from £8	0 per 120 of 12 feet
Good 2½ Mill-sawn Yellow ditto	8 15 „
Good 3 by 9 Mill-sawn Yellow Deals	16 0 „
Good 3 by 9 Yellow Deals	15 10 „
Good 3 by 8 Mill-sawn Yellow Deals	15 10 „
Good 3 by 9 White Deals	15 0 „
Yellow Fir Timber (good length and size)	45s. per load
Good and well-prepared ¾ Flooring Boards ... from	11s. 6d. per square
„ ¾ „	12s. 6d. „
„ 1 inch „	14s. 6d. „

Also a large Stock of Matched Linings, Mouldings, &c. at equally low prices. Goods or Dock Orders promptly forwarded upon receipt of cash or P.O. orders. All sawn goods delivered free to London railway stations

109, SNOW'S FIELDS, KING STREET, BOROUGH,
Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side).
ESTABLISHED UPWARDS OF SIXTY YEARS.

TO SEWER-BUILDERS, BARROW-MAKERS, PACKING-CASE MAKERS, &c. &c.
—20,000 to 40,000 feet super. 1 inch and 1-inch ELM BOARD, suitable for the above trades, TO BE SOLD Cheap.—Can be seen at GEO. WOOD's Timber-yard, Fairmile, Cobham, Surrey, about 3½ miles from Esher Station, in the South Western Railway.

FLOORING, MATCH BOARDS, DEALS,
&c as low as advertised. White Battens, 9l 10s. per 120, 12 feet; Yellow ditto, 10l. ditto ditto. ¾ Match Boarding, 14s. per square; ¾ ditto, 16s. ditto. Venetian Blind Laths, 3s. 6d. per 100 feet super. — CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK,
20,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER YARD, MANCHESTER.

JOSEPH & ALFRED ROSLING
beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark bridge Wharf, Bankside, S.E.

DRY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
JOHN COUMBE'S,
LADY LAKE'S GROVE, MILE-END GATE.

THE QUEENSFERRY ALKALI
COMPANY (Limited).
Capital 50,000l. in 2,500 shares of 20l. each.
It is not intended to call up more than 20l. per share.
Deposit on application, 10l. per share; payment on allotment, 15l. per share; six months after allotment, 25l. per share.

CHAIRMAN.
Lord Algernon Chichester, Army and Navy Club, S.W.

DIRECTORS.
E. J. Bridell, esq. 24, Beaumont-street, Portland-place, W.
Frank Hunter, esq. Rookhill Hall, Pontefract.
Ralph Williamson, esq. 17, Robert-terrace, Brompton, W. manufacturing chemist.
Charles Kitto, esq. East India avenue, Leadenhall-street, E.C. East India merchant.

SOLICITOR.
R. W. Stackpoole, esq. Pinner's Hall, E.C.

BANKERS.
Alliance Bank of London and Liverpool, London.

SECRETARY.
Edward Perris, esq.
Offices: 33, New Broad-street, E.C.

ABRIDGED PROSPECTUS.

The object of this company is to manufacture alkali, bleaching powder, caustic and crystals soda, vitriol, and other chemicals, in which an extensive business can be done and large profits realised from the application of the most improved machinery and apparatus with adequate capital.

The Directors have secured, upon advantageous terms, a lease for ninety-nine years of premises eligibly situated near Queensferry, Flintshire, bounded on one side by the Chester and Holyhead Railway (from which a siding has been arranged for at a small expense), on another side by a road, and on another by the River Dee, navigable for vessels of 200 tons burthen. Nearly all the raw materials are obtainable on the spot on favourable terms, and the freight of the manufactured goods to Liverpool only 2s. 6d. per ton. There is sufficient land to allow of any extension of the works which may be desirable, and to afford space for storing the refuse produced in the manufacture. Many existing alkali works are put to great expense in consequence of not having sufficient space for these purposes.

The Directors have secured a thoroughly practical manager, who has been engaged for many years in the business, and who will bring a large and valuable connexion to the company. The Directors purpose developing the local culture of cruciferæ, so far as practicable, this being the most profitable crop for the land, as it is intended to commence with the manufacture of about 200 tons a week of finished goods, upon which an average profit of at least 25 per ton will be realised, after making full allowance for management, working expenses, and repairs, as will be seen by the statement of cost, to be obtained at the company's offices. This will yield over 30 per cent profit per annum, which is sufficient to pay dividends of 20 per cent on the entire capital of the company.

The Directors can, through the connexion introduced by their Manager, readily sell this quantity for cash; and as the demand for alkali has within the last seven years increased from 40,000 tons to over 400,000 tons per week, and is still increasing, it is evident that there is ample room for the extension of the Company's business.

The Directors have effected contracts on favourable terms for the greater portion of the plant necessary for their works; and as most of the plant is now in an advanced state, they expect to commence manufacturing without much delay.

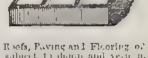
The Directors refer to the large fortune realized in this business by those engaged in it, as a guarantee for the success of this Company, and call attention to the peculiarly favourable circumstances—compared with most of the existing works—under which this Company commences business.

Through the operation of a Bill passed last Session many of the existing alkali works will be put to great expense in remodelling their works and apparatus, while this Company will commence under very favourable circumstances, as its works and apparatus will conform to the Act, and be on the most modern and improved system.

The Articles of Association are open for inspection at the Offices of the Company, where prospectuses, statements of cost, and forms of application for shares can be had on application either personally or by letter.

If no allotment of these shares be made, the deposit will be returned in full.

POLONCEAU and SEYSSEL ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN FILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

THOMAS MILLINGTON,

GLASS MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

Reduced Tariff for Sheet Glass.

The Agricultural Hall, Islington, containing an Acre of Glass, was supplied by me. Mr. Rivers, and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have avoured me with orders for home use and for exportation.

SHEET GLASS.

In Cases for cutting up, in Sizes as Manufactured.

	300 feet.	200 feet.		
	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	33s. 6d.	33s. 6d.	39s. 6d.	45s. 6d.
Thirds do.	42s. 0d.	42s. 0d.	49s. 0d.	56s. 0d.
Seconds do.	62s. 0d.	64s. 0d.	74s. 6d.	85s. 0d.
Best do.	88s. 6d.	88s. 6d.	103s. 6d.	118s. 6d.

CRYSTAL SHEET GLASS.

For Pictures and best glazing purposes.

Averaging 16 oz. to the foot.

Best quality, in cases of 200 feet ..... 100s.
Second quality, in cases of 100 feet ..... 82s.

Averaging 30 oz. to the foot.

Best quality, in cases of 100 feet ..... 100s.
Second quality, in cases of 100 feet ..... 82s.

SQUARES, IN 100 AND 200 FEET BOXES.

Small Squares not exceeding 9½ inches by 7½ inches.

Ins. Ins.	Ins. Ins.	Ins. Ins.	Ins. Ins.	Per 100 feet.			
6 by 4	7 by 5	8 by 6	9 by 7	4ths.	3rds.	2nds	Best.
6½ by 4½	7½ by 5½	8½ by 6½	9½ by 7½	9s. 9d.	11s. 3d.	13s. 9d.	16s. 9d.

Squares not exceeding 14 inches by 11 inches.

10 by 8	12 by 9	12½ by 10½	14½ by 10½	Per 100 feet.			
10½ by 8½	12½ by 9½	13 by 10	15 by 10	4ths.	3ds.	2nds.	Best.
11 by 9	13 by 9	13½ by 10½	13 by 11	10s. 9d.	12s. 3d.	15s.	18s.
11½ by 9½	12 by 10	14 by 10	14 by 11				

Squares not exceeding 20 inches by 18 inches.

15½ by 10½	14 by 15	17 by 13	24 by 16				
16 by 10	14½ by 12½	18 by 13	20 by 17				
14½ by 11½	15 by 12	18 by 14	22 by 17	Per 100 feet.			
15 by 11	15½ by 12½	22 by 14	24 by 17	4ths.	3rds.	2nds.	Best.
15½ by 11½	16 by 12	24 by 14	20 by 18	11s. 6d.	13s. 6d.	16s. 6d.	20s.
16 by 11	16½ by 12½	22 by 15	22 by 18				
13 by 12	17 by 12	24 by 15	24 by 18				
13½ by 12½	18 by 12	22 by 16					

Orchard-house Sizes, as recommended by Mr. Rivers.

Ins. Ins.	15 oz.	21 oz.			
20 by 12	4ths..... 11s. 6d.	4ths..... 15s. 0d.	Per 100 feet.		
20 by 13	3rds..... 13s. 6d.	3rds..... 19s. 0d.			
20 by 14	2nds..... 16s. 6d.	2nds..... 25s. 0d.			
20 by 15	Best..... 20s. 0d.	Best..... 30s. 0d.			
20 by 16					

Squares Cut to Sizes not on List.

	15 oz.				21 oz.			
	4ths	3rds	2nds	1st	4ths	3rds	2nds	1st
Under 1 foot super.	1½	1¾	2	2½	2½	2¾	3¼	4½
Under 2 feet super.	1¾	2	2½	3	3	3½	4	5½
Under 3 feet super.	1	2½	2¾	3½	3	3½	4½	6
Under 3 feet super.	2½	2½	■	4	3½	3¾	4½	6

Glass Tiles, in Sheet and Rough Plate. Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

COLOURED GLASS AND ROSETTES, FLUTED, GROUND, AND EMBOSSED GLASS, OF EVERY DESCRIPTION.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead ..... 30s.
Anti-corrosion Paint ..... 28s. to 34s. } per cwt.
Linseed Oil Putty ..... 9s.

Fine Oak Varnish ..... 10s. to 12s.
Carriage ..... 12s. to 14s. } per gallon.
Patent Dryers ..... 28s. to 42s. per cwt.

Linseed Oil .....
Boiled Oil .....
Turpentine ..... } Subject to fluctuation of the market.

Milled Lead in Sheet and Pipe of all sizes. Old Lead bought or taken in exchange. Lift Pumps, Water Closets, and Plumbers' Brass Work of all kinds, subject to the fluctuations of the Markets.

NET CASH.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person. 5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small. 6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.

CROGGON and CO'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

SERPENTINE,
large size and great variety,
EQUAL TO GRANITE IN DURABILITY;
adapted for TOMBS, COLUMNS, CHIMNEY PIECES, and all purposes for which MARBLE and GRANITE are used.
Manufactured by
THE LIZARD SERPENTINE COMPANY (Limited),
Office, 34, St. James's-street, London, S.W.; Works, Carleon Cove, Lizard, Cornwall
Agent for Manchester and Liverpool, T. OAKDEN, 94, King-street.

TAKE NOTICE.
CONTRACTORS, BUILDERS, and MASONS,
All Estimates made at a considerably reduced cost for Marble Work.
Good Vein Box Chimneypieces, the reduced price of 30s. to 50s.
Statuary Chimneypieces, from new designs, carved
10l. to 40l. each.
A great variety of Coloured Marbles always ready to select from.
The Trade will find a Liberal Discount at this Establishment.
WESTMINSTER MARBLE WORKS,
EARL STREET, HORSEFERRY ROAD, S.W.

G. MITCHELL,
MARBLE, STONE, and GRANITE WORKS,
SHOWROOMS:—
No. 168, BROMPTON ROAD, LONDON, S.W.; where Architects, Builders, and Merchants will find the largest and best Stock of CHIMNEYPIECES and MONUMENTS in London; of which Books, Catalogues, and Sheets of Monuments will be forwarded on application.
Estimates will meet with prompt attention.
MANUFACTORY at WALTON STREET.

TURNED MARBLE and STONE
COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Cases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

PURE STATUARY MARBLE!
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M. W. JOHNSON'S MARBLE WORKS,
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Prices moderate.
M. W. J. has also an immense Stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, &c. always on view. Architects intrusting their orders to this Establishment will find their Designs carried out with great care and exactness. Established 1821.

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MARBLE and STONE MERCHANTS. Marble, in blocks and sawn slabs; Yorkshire stone of every kind in ditto; paving, landings, steps, sills, slabs, &c.; Bath, Caen, Portland, Aubigny, and Granite. Cargoes direct from the quarries. Wrought work executed at moderate prices. Agent JOSEPH CHADWICK.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building Purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

RED MANSFIELD STONE,
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YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
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ROCHE ABBEY QUARRIES.—STONE from the above Quarries, in blocks of all sizes, consigned in trucks from Bawtry, Doncaster, Worksop, or Maseborough Railway Stations, or worked at the Quarries, and delivered at either of the above Stations without injury.—Full particulars as to price, &c. may be had on application to Mr. TIPPET, Sandbeck Office, Tickhill, Rotherham.—Samples sent if required.

LITTLE CASTERTON FREESTONE.
Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 29, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works free with a boxen saw, and is wrought at a cheaper rate than any stone in the kingdom.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
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ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.
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SLATES.—JONES & CO. have a STOCK of SLATES of different sorts, from the best quarries in Wales. SLABS and CISTERNS delivered at any station in quantities of not less than five tons, from their depôts, Bangor, Garston, Saltney, Chester, and Gloucester.
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GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
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Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

W. HOLLAND, Pavior, Mason, and Road Contractor.
Aberdeen, Guernsey, Mount Sorrel, and Haytor Granite Depôt.
Paving Works done in town or country.
Gravel Wharfs, 67, Augusta-street, Regent's Park Basin.

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The WARDOUR (CHILMARK) and TISBURY STONE COMPANY, Limited,
Are prepared to execute orders to any extent for their TISBURY STONE.—This is a close, fine-grained Stone, of a beautiful colour, possessing all the qualities of the best Portland, in which range it is placed geologically.
It will supply the long-wanted desideratum of the Architect, Builder, and Sculptor, as the Stone is a first-class Weather Stone, easily worked, and carries a fine arris; and is eminently adapted for carved mouldings, high class architecture, and works of art, requiring only to be known to become the
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Specimens, Price, &c. may be obtained of
SAMUEL TRICKETT,
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HY. GEORGE & COMPANY,
CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
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Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Stock. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

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Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
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3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



PAN, 4s. 6d.

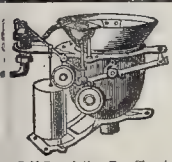
TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,



Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

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DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.;

PATENT SILICEOUS PAINT, FOR COATING BRICKS, CEMENT, &c.

FIRE-PROOF VARNISH,

For Internal Wood Work, Roofs, and Church Work generally. This Varnish renders Wood Uninflammable, and Preserves it from Decay.

THE FLUO-SILICIC STONE-PRESERVING COMPANY, LIMITED.

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PATENT FLUO-SILICIC INDURATIONS for the PRESERVATION of STONE, CEMENT, and other like materials. The Company apply to the surface of Stone, Cement, &c. a solution of Fluo-Silicic Acid, and Silicate of Potash. These are the only patents which embrace the use of that most valuable agent, Fluo-Silicic Acid. Bath, Caen, and other soft stones, when treated by the Company's solution, become extremely hard. The great expense of high ornament to buildings in hard stone has been an obstruction to Art; but since the Fluo-Silicic process can be applied as readily to soft stone after it is carved, that obstruction exists no longer. The Fluo-Silicic at once permanently arrests the decay of all stone.—For further information apply to the Manager of the Company, Mr. DUDLEY, Architect, as above.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

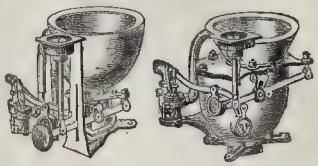
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

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WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

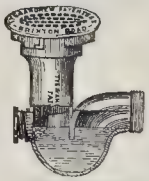
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REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cistern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

STEPHENS'S STAINS for WOOD. A SUBSTITUTE for PAINT, and at HALF the COST.

Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 16, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,

FALCON-SQUARE, LONDON, E.C.

*** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.

T. KENT and CROWDEN & GARROD, are stamped on the Brushes

STAINING DEAL TO IMITATE ALL KINDS of WOODS. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Tint, 5s. per gallon; Dark Oak, 6s. per gallon; Mahogany, 8s.; Rosewood, 8s.; Walnut, 8s. Varnishes for NAYLOR'S Stains may be had at the Factory, No. 4a, James street, Oxford street; also Manufacturer of Improved Knotting and Decorative Varnishes.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W. Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty six years, and may always be depended upon as the best that can be made.

PRIZE MEDAL, 1862.

HAMILTON & CO.

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

Sole Manufacturers of

C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graining Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

TURPENTINE.

GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.

Sample gallons may be obtained at the Manufacturers', price 4s.

GARROD & COMPANY,

Varnish, White Lead and Colour Manufacturers,

56, Upper Thames-street, London, E.C.

IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 23s. per cwt.

Linseed Oil, 3s. 6d. per Gallon; Boiled Oil, 4s. per Gallon.

Turpentine, 6s 0d. per Gallon.

Fine Pale Oak Varnish, 8s per Gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouses 30, Upper Ebury-street, and 45, Colebalt-street, Pimlico, S.W.

Every article for the Trade at the lowest prices.

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White Lead (warranted genuine), 22s. per cwt.

Linseed Oil, 3s. 6d per gallon. Turpentine, 6s. 6d per gallon

Fine Pale Oak Varnish, 8s. per gallon.

For cash at FRANCIS PUCK'S Old Established VARNISH and COLOUR WAREHOUSE, No. 133, EDWARE-ROAD, PADDINGTON, W next door to the Wheatsheaf, and within five minutes' walk of the Great Western Railway Terminus.

Agent for Hamilton's celebrated Painting and Graining Brushes.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving the following letter FROM SIR RAYMOND JARVIS, Bart, VENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 10th, 1856. In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed it is likely to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

SALES BY AUCTION.

TO BUILDERS AND OTHERS.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, South London Marble Works, Buckingham place, Old Kent road (near the Bricklayers' Arms Station), on TUESDAY, DECEMBER 8, at TWELVE, about 200 MARBLE CHIMNEY PIECES, in every variety of design, consisting of statuary, black and gold, black, vein, and various coloured marbles, some of which are richly sculptured, and suitable for first-class houses. Also, an assortment of plain Sicilian and stone chimney-pieces.—May be viewed one day previous, and catalogues had at the Place of Sale; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

UPPER CLAPTON, Middlesex. Eligible Freehold Building Land

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on MONDAY, 30th NOVEMBER, 1863, at TWELVE for ONE o'clock, fifty-seven Lots of eligible FREEHOLD BUILDING LAND, free of tithe and land-tax, situate on the new roads leading from Upper Clapton to Rectory road, Stamford-hill, close to the Rectory Downs, and within half an hour's ride of the City. Nine-tenths of the purchase-money may remain on mortgage or contract at 5 per cent, to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained (ten days before the sale) at the Old King's Head, Upper Clapton; of Messrs RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C; of the Foreman on the estate; and at the Place of Sale.

CAMDEN TOWN.—To BUILDERS and OTHERS.—Important SALE of a Large Quantity of BUILDING MATERIALS, comprising floorboards skirting ditto, doors, sashes and frames, panelled lath, mouldings, scantling, &c. The above will be Sold in Lots to suit purchasers, by

MR. GREEN, on THURSDAY, the 19th NOVEMBER, 1863, at TWELVE o'clock, on the PREMISES, Hartlett's Wharf, Albert street, Devonshire-terrace, Camden-road, Camden-town.

TO CONTRACTORS, BUILDERS, DRAIN-PIPE MAKERS, AND OTHERS.

MR. WM. JONES, Sen. will SELL by AUCTION, on MONDAY next, the 16th instant, at TWELVE o'clock (unless sooner settled), on the PREMISES, Norway Wharf, Commercial road, Limehouse, the STOCK-IN TRADE of a DRAIN-PIPE MAKER, under distraint for rent.—Catalogues at the Premises, Norway Wharf, Commercial-road, Limehouse; and at the Auctioneer's Office, next Stepney Railway Station, E.

NORTH LONDON RAILWAY.—CITY EXTENSION.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, on the PREMISES, near the Spread Eagle, Kingsland road, on WEDNESDAY and THURSDAY, NOVEMBER 25th and 26th, 1863, at TWELVE for ONE o'clock each day, the Valuable MATERIALS of several Taverns, Factories, Shops, Houses, &c. being the first portion of the buildings to be removed between the Kingsland-road and Worship-street, E.C.; a large quantity of good sound bricks, paving, tiles, slates, oak and other timbers, lead gutters and cisterns, stoves, ranges, coppers, &c.; the very capital and expensive plate-glass fronts, bar fittings, and other internal fixtures and fittings, with other useful and valuable items.—May be viewed the day previous to sale; and catalogues had at the Auctioneers' Offices, Camden-town, and Kingsland gate.

TO BUILDERS AND OTHERS.—Extensive Sale of the whole of the Timber, Fittings, Iron, and other Materials of the Portman-street Barracks, Portman-street, Oxford-street, taken down and lotted on the premises.

F. HALL & SON will SELL by AUCTION, on MONDAY and TUESDAY, NOVEMBER 16 and 17, at TWELVE o'clock each day, the Excellent MATERIALS as above, comprising 100 loads of Mixed Timber, in joists of 21 feet long, rafters and tie-beams, 200 squares of floor tg, large bressummers 300 doors, sashes, and frames, 5,000 cypress slates, 2 st feet run of geared workshop sashes, 500 squares of paving, coping, and sills, 10 tons of useful iron in ties, bars, bolts, &c.; 3 large deal racks, 6,000 feet of quartering and battens, 60 large stacks of firewood, and other effects. At the same time will be sold 20 capital GRINDSTONES, from 14 in. to 20 in. May be viewed two days previous to and on the morning of sale, and Catalogues had on the premises and per post, or otherwise, of the Auctioneers, Kennington, and Thurloe-terrace, Wandsworth-road.

SALE of the very Excellent Timbers and Fittings of some modern well-built Houses, taken down for the London, Chatham, and Dover Railway, and part of Spanking Stock of a Timber Merchant, and removed to Chester-street, Kennington, adjoining the King's Arms and the Sir Sidney Smith, lotted into suitable lots, and will be SOLD by AUCTION by

F. HALL & SON, on FRIDAY, the 20th NOVEMBER, at TWELVE o'clock (on account of the number of lots) The MATERIALS comprise very excellent long joists, rafters, and plates, 100 squares of thoroughly dry 1¼ in. to 1 in. pressed yellow and white floor battens (first quality), a large quantity of cut boards and planks, 5,000 feet of scantling and quartering, 20 squares of 1 in. nearly new yellow lining boards, and the stout nearly new uprights to 10 ft. 5 in. squares of excellent flooring boards and battens 70 very ex cellent 14 in 4 panel doors and partitions, 8 pairs of 12 light sash es and frames, several pairs of nearly new yard gates, stone paving tiles, stones, and other effects.—May be viewed, and Catalogues had, of the Auctioneers, Kennington, S.—N.B. the above Timbers are of first-rate quality, and the fittings in an excellent and clean condition.

AT GARRAWAY'S COFFEE HOUSE, CORNHILL, WEDNESDAY, 25th NOVEMBER, at TWO o'clock,

TIMBER..... 500 Loads, foreign and colonial.
DEALS and BATTENS 100,000 pieces " "
And other Wo. l Goods.
HENRY FREEMAN & CO. Brokers,
3, Crooked Lane, Cannon Street, E.C.

GRAYS, ESSEX.—1,500,000 Stock and other BRICKS, Brick Carts, Horse and Spring Cart.

MR. GRIST will SELL by AUCTION (by order of the Mortgagee) in DAVIS'S BRICK FIELD, Little Thurrock, on THURSDAY, 26th NOVEMBER, at ONE o'clock, 1,500,000 BRIGHT STOCK, Burning Bricks, hard burnt New Stock Bricks of good colour, Gravells, Barrs, & Brick Carts, Spring Cart and Horse.—To be viewed till sale.—Catalogues at the Field, also at the neighbouring Inns, and of Mr. GRIST (successor to the late Mr. T. J. BARNES), Auctioneer and Surveyor, 78, King William-street, Mansion-house, E.C.

TO BUILDERS, CABINETMAKERS, AND OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden terrace, Camden-town, on MONDAY, NOVEMBER 23, at TWELVE o'clock, 60 feet of mahogany in planks and boards, 32 feet of oak, 1 mahogany desk, deals and battens, 2,000 feet of dressed pine, 3,000 feet of wide pine boards, flooring, quartering, cut stuff, doors, 3 chimney-pieces, scaffold boards, ladders, narrows, &c.; also a grey horse, and cart.—Auction Offices, 2, Cardington street, Hampstead road.

VAUXHALL GARDENS ESTATE.—Several very valuable SITES on the above Freehold Estate TO BE LET, for building purposes.—Apply to Messrs. DRIVER, Surveyors, Land Agents, and Auctioneers, 4, Whitehall, S.W.

THE CLIFF POTTERIES, Kent.—TO BE LET, or the LEASE to be SOLD, of the above POTTERIES, which are situate about three miles from the Higham Station, eight miles from Gravesend, and five miles from Strood; also near the river, with a capital wharfage frontage. The property comprises extensive business premises, with ground, first and second stories, and are fitted with six large kilns, one 10-horse steam engine and boiler, two pairs of runners, two pug-mills, with shafting, &c.—For terms, &c. apply to Mr. MURRELL, Surveyor and Auctioneer, 1, Walbrook, Mansion House.

FARNBOROUGH and ALDERSHOTT FREEHOLD and GROUND-RENT SOCIETY (Limited).—To BUILDERS and OTHERS.—Land on this Society's Estate at Farnborough, TO BE LET on building leases, or TO BE SOLD, upon advantageous terms.—Particulars may be had of the Architect, Mr. H. CURREY, 4, Lancaster-place, Strand, W.C.; or at the Offices of the Society, 18, New Bridge street, Blackfriars.
EDWARD CHATFIELD, Managing Director.

KEYNSHAM BLUE LIAS LIME and CEMENT WORKS, SOMERSET.—TO BE SOLD by PRIVATE CONTRACT, by order of the Liquidator, the newly-formed FREEHOLD WORKS, occupying a site of 7a. 3r. 39p. or thereabouts. The existing kilns and ovens are capable of producing 700 to 800 tons of lime and 120 tons of cement weekly, both products being approved of by large contractors and engineers at Bristol, the cement being used in many of the Government fortifications now in progress. The buildings are very substantial and the machinery is of the best description, driven principally by water power, but with steam power as auxiliary. Coals are supplied to the works at a very low price, and the Great Western Railway Station is within a short distance.—For further particulars apply to Messrs. N. LINDO & SONS, Solicitors, 47A, Moorgate-street; of F. MAYNARD, Esq. Liquidator, 19, Bread street, Cheapside; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London.

FREEHOLD MILLS, with good water power, Keynsham, Somerset, well adapted for corn mills, oil mills, or paper mills, TO BE SOLD.—Apply to Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

TO BE LET, by the Fishmongers' Company of London, on a Building Lease for Eighty Years, valuable BUILDING LAND, Newington, Surrey, within three minutes' walk of the Elephant and Castle. The site is in lots, the whole of an Acre of Ground, situate on the east side of the Walworth-road, having a frontage of 106 feet in Crown-row, and a frontage of 196 feet 6 inches to Prospect-row, with Eighteen Workshops in the rear of William's place. This property is well adapted for shops and business purposes, requiring space and ready access to the principal thoroughfares of the metropolis. TO BE LET by TENDER, in one or more lots, to suit the views of different parties wanting the ground.—Apply to Mr. W. B. TOWSE, the Company's Clerk, Fishmongers' Hall, London Bridge; or to Mr. RICHARD SUTER, the Company's Surveyor, 28, Fetchurch-street, E.C. where plans and particulars may be seen. The Tenders are to be sent in by TUESDAY, NOVEMBER 24th next, at NOON precisely.
Fishmongers' Hall, October 20, 1863.

WATFORD, HERTS.—TO BE LET, on BUILDING LEASES, several PLOTS of FREEHOLD LAND, in the neighbourhood of the above town, in close proximity to the Station, and on the new road recently made. For plans and particulars apply to Mr EDWARD H. BURNELL, Surveyor, 32, Bedford-row, London, W.C.

EXTENSIVE MANUFACTURING PREMISES, with STEAM POWER.—TO BE LET, one of the finest BUSINESS PREMISES in the City; containing large yard, with ongoing wharf, pipe-clay, and Engine Workshops, fitted up with circular saws, mortise and tenoning machines for making doors, &c.; three vertical saw frames for cutting deal planks, &c. 26 inches deep; two powerful steam engines, with hot water tank; a well of good water, self acting benches, together with every convenience for a large trade: public and private offices, fitted with fire-proof safes, &c. For further particulars apply at the City Timber Yard, 20, Long lane, City.

MID-KENT LINE.—Eligible Freehold BUILDING LAND TO BE LET, on LEASE for 60 years, direct from freeholders. It is well situated on the side of a hill, commanding beautiful scenery, about ten minutes' walk from the Gatford Bridge Station, Mid-Kent Railway. Railway journey, 30 minutes. Land may be seen, and particulars obtained, by applying on the spot to FREDERICK SELBY, Ravensbourne Park, Lewisham, S.E.

SYDENHAM HILL.—LAND TO BE LET for BUILDING: 430 feet frontage, average 560 feet deep. Beautiful site, with extensive prospects, and fronting a high road; close to three railway-stations, and within ten minutes' walk of the Crystal Palace. May be had in one, two, or three plots, for detached residences.—For particulars, apply personally to Mr HENRY DAWSON, Architect, 16, Finsbury-place South, E.C.

KENTISH TOWN.—TO BE SOLD, FOUR CARCASES, in Mansfield-road, Oak Village, Kentish Town. Term upwards of eighty years. Ground rent, 6l per Lease and Particulars may be had of Messrs. SAUNDERS, Surveyors, 8, Furnival's-inn, Holborn; or Mr. FURNELL, Builder, on the Premises.

TO OWNERS of HOUSE PROPERTY, BUILDERS, &c.—WANTED to PURCHASE, a SEVEN or EIGHT-ROOMED HOUSE, well built, and in a good situation, and for which the owner would be willing to take (from a cabinet-maker and upholsterer of many years' standing) first-class furniture in lieu of cash.—Send particulars to B. care of Mr. Gushlow, Decorative Artist, 34, Newman-street, Oxford-street.

TO CEMENT MANUFACTURERS and OTHERS.—TO BE LET, the Premises known as the ELMLY CEMENT WORKS, situated on the River Swale, Sittingbourne, Kent, lately in the occupation of Messrs. Francis & Co. as Cement Manufactory. They consist of sixteen acres of ground, on which are large and numerous kilns and other buildings and appliances requisite for the Manufacture of the finest Cement; also Eighteen Labourers' Cottages, &c. There is excellent dock accommodation, and water carriage to London direct. The premises are also adapted for many other purposes.—For terms and particulars apply to Messrs. R. & C. H. HODGSON, Solicitors, 19, Salisbury-street, Strand.

BRICKEARTH, at Southall, near the Grand Junction Canal, and the Great Western Railway. TO BE LET, from Twenty to Thirty Acres of excellent BRICKEARTH of good depth.—For plans and particulars apply to Mr. RICHARD TRUMPER, 23, Lincoln's-inn-fields, W.C.

TO BE SOLD OR LET, ON BUILDING LEASE, WATERSIDE PREMISES, FREEHOLD, West of London Bridge, about one quarter of an acre.—For particulars apply to T. K. GREEN, 23, College hill, Cannon-street.

HOUSE WANTED, to HIRE, with immediate possession, for two or three years, within about a mile and a half of Holborn, with accommodation for from 20,000 to 25,000 vols and of sufficient strength to bear same.—Apply, stating terms and full particulars, to THOS. CHATFIELD CLARKE, Architect and Surveyor, 137, Leadenhall-street.

SITE REQUIRED for the ERECTION of a LARGE PUBLIC BUILDING. Must be in a good position, either E.C or W.C.—Particulars to be addressed to J. G. KNIGHT, Esq. Architect, 27A, Bucklersbury, E.C.

BUILDING GROUND TO LET.—GREAT TOWER STREET, in the City of London.—The Commissioners of Sewers of the City of London will meet in Guildhall of the said City, on TUESDAY, the 9th day of FEBRUARY next, at HALF-PAST TWELVE o'clock precisely, to receive proposals for taking on BUILDING LEASES for a term of eighty years (the first year at a peppercorn rent), certain PLOTS of FREEHOLD LAND, situate in Great Tower street, in the City of London, on the east of the Corn and Colonial Markets. Further particulars, with conditions and printed forms of proposal, may be had on application at this Office, where plans of the ground may also be seen. The Commissioners do not bind themselves to accept any proposal unless deemed advantageous. Persons making proposals must attend personally, or by a duly authorized agent, on the above-mentioned day, at HALF-PAST TWELVE o'clock precisely, and the parties whose offers are accepted will be required to execute an agreement and a bond at the same time.
JOSEPH DAW, Principal Clerk.
Sewers Office, Guildhall, November 6, 1863.

A FREEHOLD SITE of GROUND WANTED, to PURCHASE, suitable for a Literary Institution for a strongly built House capable of adaptation, having an area of about 5,000 feet, either in the City, or within a mile and a half beyond the boundaries. Early possession required. Old buildings would not be objected to. Address, stating full terms and particulars, to THOS. CHATFIELD CLARKE, Architect and Surveyor, 137, Leadenhall-street.

BUILDING LAND at STAINES.—Mr. PHILIP D. TUCKETT is instructed TO LET, on building leases, in lots, suitable for the erection of small villa residences, about EIGHT ACRES of very eligible FREEHOLD BUILDING LAND, close to the Staines Station, on the South-Western Railway, and only thirty-eight minutes from London. The soil is a gravel, and there is an excellent supply of good water at a moderate depth. The great demand for moderate-sized houses in this locality has led to a good deal of land being taken for building during the last year or two, and as the above is nearer to the station, and in every way better situated than any other available site, it can be confidently recommended to speculators.—For particulars apply to Mr PHILIP D. TUCKETT, Land Agent, Surveyor, and Auctioneer, 76, Old Broad-street, E.C.

TO BE LET, THREE large, light, and dry WORKSHOPS, and a GROUND-FLOOR, suitable for manufacturing or warehousing goods.—Apply to Y. 40, Marshall street, Golden square, W.

NORTH STREET, MILE END.—TO BE LET, on building leases, for eighty years, a valuable FREEHOLD BUILDING SITE, with extensive frontage to North street, containing an area of nearly three quarters of an acre, and suitable for the erection of factories, model-lodging-houses, shops, or dwelling-houses. For plan and particulars, apply to Mr. N. S. JOSEPH, Architect, 27A, Bucklersbury, Cheapside.

TO BUILDERS.—There is no town in the United Kingdom making more rapid progress in its trade, manufactures, and population than Dundee, on the Estuary of the Tay, north-east coast of Scotland. The manufacture of jute as a substitute for cotton has taken firm root in Dundee, and is advancing at a rapid rate, and wealth is being rapidly accumulated. The Farms of Balgay and Logie, now used for agricultural purposes, are to a large extent within the municipal boundaries. Logie lies between the ancient town of Dundee and Lochee, a great manufacturing place which has arisen within a mile and a half of the High-street, and is now part of the town. All the Logie Farm must be let upon for the working classes, and for manufacturers, as the trade advances. Balgay is being disposed of for villas. There are not at present any speculative builders in Dundee; each man builds his own house for himself. The Proprietors of Balgay and Logie are desirous to deal with men of capital and enterprise, for GIVING OFF in perpetuity LARGE BLOCKS for ANNUAL RENTS, along a proposed leading street to pass from Dundee to Lochee.—Applications may be made to Mr. SCOTT, Architect, 4, Reform-street, Dundee; or to Mr. C. KERR, Castle-street, Dundee.

TO BRASS and COCK FOUNDERS.—TO BE SOLD, the GOODWILL and STOCK-IN-TRADE of a Brass and Cock Founder, and Pump and Water Closet Manufacturer. Established for the last sixty years. Net profits from 500l. to 600l. a-year. About 700l. required. For further particulars, apply to Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

TO BE DISPOSED OF, the old-established HORTICULTURAL WORKS, 165, King's-road, Chelsea, very extensive Nursery premises, having sufficient room for another business. Twelve years of the lease unexpired. Parties wishing to take it would only be required to take the necessary stock and machines, with a small amount of the stock, and shops, by valuation or otherwise, as agreed on, E. D. retiring from business.

PLASTER ENRICHMENTS, CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
249, EUSTON ROAD, ST. PANCRAS.
Best Gelatine, prepared, and ready for moulding 2s. per lb.

PRIZE WAGGONS and CARTS.—HAYES & SON,
Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,
Coach and Cart Wheelwrights, Spring Van and Waggon Builders, Timber Merchants, Contractors, &c.
Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation
Contractors' and Builders' Dobbin and other Carts, Barrows; Navvy, Excavators', Crowding, and Off-bearing ditto, on the shortest notice and of the best materials; &c.
HAYES & SON,
SCOTGATE WORKS STAMFORD.

TO ARCHITECTS, BUILDERS, RAILWAY CONTRACTORS, AUCTIONEERS, &c.—SPECIFICATIONS, CONTRACTS, ACCOUNTS, and every other description of DOCUMENTS, correctly and expeditiously COPIED, at 1½d per folio of seventy-two words, by FRY & SON, Law Stationers, Printers, and Lithographers, 11 and 14, Southampton-buildings, Chancery-lane, W.C. Plans and drawings copied, enlarged, or reduced, on reasonable terms.

THE NEW PATENT OLEOCHARTA, or WASHABLE HOUSE PAPER,
FOR FLOORS, WALLS, CEILINGS, OR OTHERWISE.
Warranted superior to paint, and to maintain its colour and appearance for at least. Sole Manufacturers, ROSE & PILTZ, No. 20, Tranquiller-terrace, Chancellor road, Hammersmith.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation.
LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS,
and every description of Contractors', Builders', and Decorators' Trade Requisites.
Vans, Waggons, Dobbin and other Carts, specially adapted for exportation. Pug-mills, Jack-rolls, Trolleys, and Portable Railways. Scaffolding, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire. Price Lists on application.
GEORGE ELL & CO.
EUSTON WORKS, 365 and 368, EUSTON ROAD, LONDON, N.W.

POLYTECHNIC.—Patron: H.R.H. the PRINCE of WALES.—Professor Pepper's adaptation of the original and most amusing Ghost Illusions of H. Dircks, esq. C.E. in 3 scenes. First Scene—Reading from Dickens's "Haunted Man," and appearance of the Ghost and Spectre of the sister. Second Scene—The Artist's Studio—the ghostly visitor in the form of a rival artist—the Ghost drinking a glass of water! (this illusion must be seen to be believed)—the living young lovers pierced by the spectre. Third Scene—the reading of the letter, and mysterious arrival of the little postman "Cupid." Engagement of Mdlle. Cavalho, for her new Vocal, Organophonic, and Ventriloquial Entertainment. Herr Susman's celebrated marionettes of birds and animals. In consequence of numerous inquiries the opera of "Der Freischutz" is reproduced. Open Twelve to Five and Seven to Ten o'clock.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the OFFICE of "THE BUILDER," No 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, November 14, 1863.

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

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BUILDERS' BENEVOLENT INSTITUTION.—THURSDAY NEXT.—AN ELECTION of Three PENSIONERS, two Males and one Female, will take place on THURSDAY, the 26th inst. at the LONDON TAVERN. Mr. Alderman JAMES C. LAWRENCE, President of the Institution, in the Chair. Polling commences at TWELVE and closes at THREE o'clock precisely.

A. G. HARRIS, Sec.

November 20, 1863.

ROYAL INSTITUTE of BRITISH ARCHITECTS.—A SELECTION from the DRAWINGS and DESIGNS of the late Professor COCKERELL, R.A., and late President of the Royal Institute of British Architects, is now EXHIBITED at the Rooms, 9, Conduit street.—Members of the Institute should give their cards of admission to their friends; but ladies and gentlemen leaving their private cards at the door will be admitted between the hours of ELEVEN and FOUR each day till SATURDAY, 28th NOVEMBER inst.

ARCHITECTURAL UNION COMPANY (LIMITED).—Notice is hereby given, that the SIXTH ANNUAL ORDINARY GENERAL MEETING of this COMPANY will be held on WEDNESDAY, the 2nd of DECEMBER next, at THREE o'clock p.m. at the Premises of the Company, No. 2 Conduit-street, Regent street, to receive the directors' report and audited balance-sheet, to declare a dividend, and to transact the business required to be transacted at the ordinary general meetings of this Company.

JAMES EDMESTON, Hon. Sec.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

72—74, Bishopsgate-street Within, November, 1863.

EDWARD MATHEWS, Deceased.—Pursuant to an Act of Parliament made and passed in the 22nd and 23rd years of the reign of her present Majesty Queen Victoria, cap. 35, intituled "An Act to further amend the Law of Property and to relieve Trustees." Notice is hereby given, that all Creditors and other Persons having any CLAIM or DEMAND upon or against the ESTATE of EDWARD MATHEWS, late of Hawley-road West, Camden-town, in the county of Middlesex, Builder, deceased (who died on the 14th day of October, 1863, and whose will was proved in the principal Registry of her Majesty's Court of Probate, on the 9th day of November, 1863, by Simon Caddeclugh, of the Prince of Wales-road, Haverstock hill, in the county of Middlesex, Doctor of Medicine, and Thomas Dunckley, of 22, Gower-place, Euston square, in the said county of Middlesex, Builder, the Executors named in the said will), are hereby required to send in the particulars of their claims and demands, in writing, to the undersigned, GEORGE WRIGHT GREENWOOD, the Solicitor to the said Executors, at his Office, situate at No. 89, Chancery-lane, in the county of Middlesex, on or before the 30th day of DECEMBER next, at the expiration of which time the said Executors will proceed to distribute the estate of the said deceased among the parties entitled thereto, having regard only to the debts, claims, and demands of which they shall then have received notice; and the said Executors will not be liable for the assets so distributed, or any part or parts thereof, to any person or persons of whose debts, claims, and demands they shall then not have had notice.—Dated this 9th day of November, 1863.

G. W. GREENWOOD, Solicitor for the said Executors.

89, Chancery-lane, Middlesex.

SOUTH KENSINGTON MUSEUM.—The ART DIVISION in the North and South Courts will be CLOSED from 23rd NOVEMBER to the 2nd DECEMBER, for re-arrangement. The Sheepshanks Pictures and the other Divisions will continue to be exhibited.

By order of the Committee of Council on Education.

NOTICE.—LONDON and WESTMINSTER BANK, LAMBETH BRANCH, 34, Mount-Street.—GEORGE TOZER, Local Manager.—The London and Westminster Bank having received notice from the Vestry of the Parish of Lambeth, that the Metropolitan Board of Works have directed that Mount-street, Lambeth, should hereafter be called Westminster Bridge-road, and numbered accordingly, hereby give notice, that from and after this date the business of the Lambeth Branch will be carried on at the same premises, but bearing the altered number and name of 91, WESTMINSTER BRIDGE ROAD, S. and all communications connected with that Branch are requested to be so addressed.—By order of the Board,

WM. EWINGS, General Manager.

November 11th, 1863.

ECCLESIASTICAL EMBROIDERY and TAPESTRY for Church Decoration, and VESTMENTS designed and prepared for ladies' own working, by

RODOLPHE HELBRONER,

265, REGENT STREET, near the Polytechnic.

Gold and silver fabrics, fringes, thread and laces, velvets, silks, cloth, linen, and every other requirement for CHURCH NEEDLEWORK.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have consequently reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr. TYLER, 12, Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

COMPETITIONS.

BOROUGH of CONGLETON, in the County of Chester.—NEW TOWN HALL.—The Corporation of Congleton are desirous of receiving PLANS for the ERECTION of a NEW TOWN HALL, to contain an Assembly Room, Court Room, with suitable Ante-rooms, and a Residence for hallkeeper.—Full particulars, and plans of the proposed site, and all other information, may be obtained on application to Mr. MOGHOUSE, the Town Clerk.—All the plans and designs must be sent to the Town Clerk, on or before the 1st JANUARY, 1864. A Premium of £25. will be given for the Plans and Designs which the Corporation shall ultimately select.

CONTRACTS.

BOSHAM MUDLAND, SUSSEX.—RECLAMATION of MUDLAND.—ERECTION of SEA WALL.—To CONTRACTORS and Others.—Notice is hereby given, that it is intended to RECLAIM from the SEA all that tract of MUDLAND, known as BOSHAM CREEK, situate at Bosham, Sussex, and also to restore the Sea Wall or Embankment there situate. The Works are to be performed in accordance with certain drawings and specifications which may be seen at my Office on and after the 10th NOVEMBER next, and under the direction of JAMES BRUNLEES, Esq. of 5, Victoria-street, Westminster, Civil Engineer. Tenders to be sent to me on or before the 10th day of DECEMBER next.

R. G. RAPER, Chichester, Steward of the Manor and Hundred of Bosham, Sussex.

CAST-IRON WATER-TANK.—Notice is hereby given, that the Sheerness Local Board of Health are ready to receive TENDERS from persons desirous of contracting with them, for SUPPLYING and FIXING a CAST-IRON WATER-TANK, capable of containing 145,000 gallons, and for PURCHASING about 40 tons of WROUGHT IRON PLATES, now in the possession of the Board. Plans, sections, and specification may be seen at the Office of the Surveyor. Sealed Tenders, indorsed "Tender for Water-Tank," must be delivered at the Office of the Board, on the SIX o'clock, on the evening of THURSDAY, the 26th day of NOVEMBER, 1863. The Board do not bind themselves to accept the lowest or any Tender.

By order of the Sheerness Local Board of Health,

EDWARD FELKIN, Clerk.

Office of the Local Board of Health, Sheerness,
November 10th, 1863.

CITY of LONDON FREEHOLD LAND TO BE SOLD, by TENDER.—To PUBLIC COMPANIES, BANKERS, HOTEL BUILDERS, CAPITALISTS, and OTHERS.—TO BE SOLD by TENDER, a FREEHOLD PLOT of LAND, with the Buildings thereon, containing about 4,300 square feet, situate in Leader hall street, directly opposite the new and handsome building now erecting on the site of the late East-India House. On part of the Premises the business of a Tavern is being carried on, and the purchaser will be required to take the fixtures and licence in the usual way.—Printed forms of Tender, which alone will be received, may be had of Messrs. BRUCE & SONS, 10, Bucklersbury, City, and are to be delivered at their Office as aforesaid, by TWO o'clock in the afternoon of the 9th day of DECEMBER, 1863.

TENDERS.—Notice is hereby given that the Hastings Local Board of Health are ready to receive TENDERS from persons desirous of CONTRACTING with them for LAYING WATER MAINS, about 3,000 yards.—The specification may be seen, and further particulars had on application at the Town Clerk's Office, High-street, Hastings, where Tenders, duly signed must be delivered before TEN o'clock on the morning of FRIDAY, the 27th day of NOVEMBER inst. The Local Board do not bind themselves to accept the lowest or any Tender.

ROBERT GROWSE, Town Clerk.

Hastings, November 11, 1863.

CONTRACTS.

WEAR NAVIGATION and SUNDERLAND DOCK ACT, 1859.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a WET DOCK and ENTRANCES, and other Works connected therewith, at the South Docks, Sunderland, in conformity with drawings, specifications, and conditions, which may be seen, and further particulars obtained, upon application to THOMAS MEIK, Esq. C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after the 9th of NOVEMBER, 1863. Tenders, on printed forms, attached to specifications, which only will be received, and inclosed under printed covers, addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 19, Fawcett-street, Sunderland, not later than NOON on the 14th of DECEMBER, 1863. Copies of the specifications and conditions, with form of Tender, and of a bill of quantities, prepared for the convenience of Contractors, can be had by parties Tendering upon payment of 5l. 5s. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, October 28, 1863.

WEAR NAVIGATION and SUNDERLAND DOCK ACT, 1859.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a GRAVING DOCK and other Works connected therewith, at the South Docks, Sunderland, in conformity with drawings, specification, and conditions, which may be seen, and further particulars obtained, upon application to THOMAS MEIK, Esq. C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after 9th NOVEMBER, 1863. Tenders, on printed forms, attached to specification, which only will be received, and enclosed under printed covers, addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 19, Fawcett-street, Sunderland, not later than NOON, on the 14th DECEMBER, 1863. Copies of the specification and conditions, with form of Tender, and of a bill of quantities, prepared for the convenience of contractors, can be had by parties tendering, upon payment of 5l. 5s. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, October 28, 1863.

WEAR NAVIGATION and SUNDERLAND DOCK ACT, 1859.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a WROUGHT-IRON CAISSON, for the Entrance of the intended Graving Dock, at the South Docks, Sunderland, in conformity with drawings, specification, and conditions, which may be seen, and further particulars obtained, upon application to THOMAS MEIK, Esq. C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after 30th NOVEMBER, 1863. Tenders, on printed forms attached to specification, which only will be received, and enclosed under printed covers, addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 19, Fawcett-street, Sunderland, not later than NOON, on the 14th DECEMBER, 1863. Copies of the Specification and Conditions, with Form of Tender, can be had by parties tendering, on payment of 2l. 2s. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, October 28, 1863.

WEAR NAVIGATION and SUNDERLAND DOCK ACT, 1859.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a SEA WALL or PIER, and other WORKS in connexion with the North East Pier at the South Outlet of the South Docks, Sunderland, in conformity with drawings, specification, and conditions, which may be seen, and further particulars obtained, upon application to THOMAS MEIK, Esq. C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after 30th NOVEMBER, 1863. Tenders, on printed forms, attached to specification, which only will be received, and inclosed under printed covers, addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 19, Fawcett-street, Sunderland, not later than NOON on the 14th DECEMBER, 1863. Copies of the specification and conditions, with form of Tender, and of a bill of quantities, prepared for the convenience of contractors, can be had by parties tendering upon payment of 2l. 2s. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, October 28, 1863.

TO PRINTERS and STATIONERS.—The Board of Works for the Wandsworth district are desirous of receiving TENDERS for PRINTING, and the SUPPLY of STATIONERY for ONE YEAR, from Christmas next. Schedules of the articles likely to be required may be seen, and any further information obtained, at the Office of the Board as below, between the hours of TEN and FOUR.—Tenders are to be sent in under seal to the Board, on or before TUESDAY, the 1st DECEMBER next, endorsed "Tender for ——." The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District,

ARTHUR ARNOLD, Clerk to the Board.

Battersea-rise, Wandsworth, S.W. November 7, 1863.

TO DRAINAGE PIPE MANUFACTURERS.—BOROUGH of STOCKPORT.—The Local Board of Stockport is desirous to receive TENDERS for the SUPPLY of the following PIPES and BRICKS to be delivered in Stockport within the next three months as required:—

1,000 yards of 18-inch Glazed & Socketed Pipes.			
1,000	,,	15	,, ,,
1,000	,,	12	,, ,,
1,000	,,	9	,, ,,
1,000	,,	6	,, ,,
Glazed Culvert Bricks per 1,000.			

The Board will not be bound to accept the lowest or any Tender.—Tenders to be sent in to my Office not later than the 23rd day of NOVEMBER instant.—By order,

EDWIN OLDHAM,
Town Clerk and Clerk to the Local Board.

Stockport, Nov. 12th, 1863.

[*For remainder of Contracts see next Page.*

CONTRACTS.

SAINT MARYLEBONE, November 12th, 1863. To CONTRACTORS for HOT-WATER WARMING APPARATUS.—Notice is hereby given, that the Vestry of the parish of St. Marylebone, in the county of Middlesex, will meet in the Board Room of the Court House of the said parish, on THURSDAY, the 26th day of NOVEMBER, 1863, at ELEVEN o'clock in the Forenoon, to receive TENDERS for the WARMING of TRINITY CHURCH, in the said parish, by Hot-water Pipes and Apparatus.—Further particulars may be known on application to the Vestry's Surveyor, Mr. ROBERT PEACE, at his daily attendance at the Court House, from TWELVE till ONE o'clock. Tenders, with plans, to be sent in sealed, and addressed to the Vestry's Surveyor, and indorsed "Tender for Hot-water Apparatus," before ELEVEN o'clock in the Forenoon of the said 26th day of NOVEMBER, 1863. The Vestry do not pledge themselves to accept the lowest or any of the Tenders. The Vestry will expect the Tenders to be given personally or by their duly authorized agent, to be in attendance at the time of opening the Tenders. By order,
W. E. GREENWELL, Vestry Clerk.

SURVEY and VALUATION of the PARISH of RICKMANSWORTH, HERTS, for the purpose of PAROCHIAL ASSESSMENTS.—The Board of Guardians of the Watford Union are desirous to receive TENDERS for a SURVEY and VALUATION (without making a Plan) of the HOUSES, MESSUAGES, LANDS, and other HEREDITAMENTS, liable to Poor Rates, in the said Parish of Rickmansworth, to be carefully and accurately made and fairly written in a proper book, with the several values and particulars of the several houses, buildings, and appurtenances, and of each field, close, and parcel of land, and of and other hereditaments as aforesaid, distinguished and set forth therein, according to and as indicated in the form of a schedule to be had of me, such survey and valuation to be complete and such book to be perfect and substantially and securely bound and delivered, with proper indices, to me not later than the end of FEBRUARY, 1864, and as much earlier as possible, the same to be paid for at per acre, which is to include and cover the survey and valuation of all Houses, Buildings, and Erections on the land, and all costs and expenses of and relating to such survey and valuation, the book, indices, and all other expenses whatever. The area of the parish is supposed to be about 9,947 acres, and the population according to the Census in 1861 was 4,412. The Tithe Map may be resorted to by the Surveyor and Valuer. Sealed Tenders addressed to "The Clerk to the Guardians, Watford, Herts," and to be endorsed "Tenders for Survey and Valuation of Rickmansworth Parish," to be sent to me on or before TUESDAY, the 24th day of NOVEMBER next. The Tenders will be opened at a Board Meeting, to be held at the Watford Union Workhouse, on WEDNESDAY, the 25th day of NOVEMBER next when parties tendering will be expected to attend the Board at ONE o'clock precisely. The Guardians will not pay any travelling or other expenses, and will not bind themselves to accept the lowest or any other Tender. References and testimonials may be transmitted with the Tenders.—Communications for information to be addressed to me,
RICHARD PUGH, Solicitor, Watford,
Watford, Oct. 29th, 1863. Clerk to the Board.

TO IRON SHIP and BARGE BUILDERS. The Iron Steam-Boat Company and the City Steam-Boat Company, Limited, are ready to receive TENDERS for an IRON DUMMY, specifications for which may be seen at the Offices of the Companies, 53, Mark-lane, E.C. and 7, Chatham-place, Blackfriars, E.C. Tenders, which are to be sealed, will not be received after MONDAY, the 30th instant.—The Companies do not undertake to accept the lowest Tender.

OXFORD PAVING ACTS.—CONTRACT for PAVING.—Persons desirous of TENDERING for PROVIDING and LAYING YORK CURB, and PAVING FOOTWAYS, and GRANITE PAVING for ROADWAYS, and other Works, for the Oxford Paving Commissioners, for the term of One Year, Two, and Three Years, from the 1st of JANUARY, 1864, may see the specifications, and obtain particulars of the forms of Tender at the Commissioners' Office, No. 7, St. Aldate's-street, daily, from NINE till FOUR, or by letter, addressed to Mr. JOHN GALPIN, the Surveyor. Sealed Tenders are to be delivered at his Office, in St. Giles, on or before MONDAY, the 30th instant, endorsed "Tender for Paving"—By order of the Commissioners FREDERICK J. BURRELL, Clerk.
St. Giles, Oxford, November 17th, 1863.

TO BUILDERS. TENDERS are required for BUILDING a DWELLING-HOUSE, SHOPS, WAREHOUSE, and PREMISES in the Corn Market, Oxford, for Messrs. Grimsby, Hughes, & Dewe, wholesale and retail grocers and provision merchants. Copies of the quantities may be obtained on and after the 29th day of NOVEMBER, by applying to Mr. WILKINSON, Architect, Oxford, at whose Office all the plans may be seen on receipt of Tender.—Tenders to be sent to Mr. WILKINSON at Lincoln "Tender for Works in the Corn Market, Oxford," on or before the 23rd day of DECEMBER, 1863. The lowest Tender will not necessarily be accepted.
November 11th, 1863.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of New PREMISES for the London and County Bank, in the High-street, Winchester, can inspect the plans and specifications at the London and County Bank, Winchester; or at the Offices of the Architect, Mr. FRED. CHANCELLOR, Painters' Hall, Old Broad street, London, after the 16th NOVEMBER. The Tenders to be delivered at the Offices of the Architect, before TWELVE o'clock on the 30th of NOVEMBER. The lowest or any Tender will not necessarily be accepted.
Painters' Hall, Old Broad street, November 9, 1863.

TO BUILDERS, &c.—Persons desirous of CONTRACTING for the ERECTION of TWO ADDITIONAL WINGS to the North Wales Counties Lunatic Asylum at Denbigh, for the reception of 170 Patients, may see the plans and specifications on application to Mr ROBINSON, Clerk to the Committee of Visitors, at his office in the Asylum, where they are now ready for inspection. Sealed Tenders to be sent in, addressed to the Chairman of the Committee, by the 14th of DECEMBER next. The contractor will be required to give proper security for the due performance of the work, and the committee do not bind themselves to accept the lowest or any Tender. By order,
JOHN ROBINSON, Clerk to the Committee of Visitors.
November 11th, 1863.

TO STONE MERCHANTS, DRAIN-PIPE MAKERS, MASONS and PAVIORS, CONTRACTORS, and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the SUPPLY of BROKEN GUERNSEY GRANITE, and other Stone and Materials, and for the Supply of Drain-pipes, in the whole of the District, also for the Execution of Masons' and Paviors' Work, and of the various Jobbing Works, in repairing and making good, to Sewers and Gullies, and for Laying Drain-pipes; also for the Supply of Horses on hire, and for Large Work, at the Parker and Batterses Quarries, in Wandsworth; and also for Dusting in the Parishes of Battersea and Putney, and for Dusting and Scavenging in the Parish of Clapham. The Contracts are to be for one year, from 31st December next. Separate Tenders are to be sent in for each parish, excepting those for granite and drain-pipes, for each of which a Tender for the whole district must be sent in. The specifications and forms of Tender may be obtained, at the Offices of the Board, Battersea Rise, between the hours of TEN and FOUR. Tenders are to be sent in, under seal, to the Board, endorsed "Tender for Supply of ——," on or before TUESDAY, the 1st DECEMBER next; security will be required for the due performance of the respective Contracts, the Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District,
ARTHUR ALEX. CORBELLIS, Clerk to the Board.
Battersea Rise, Wandsworth, S.W. November 7th, 1863.

TO BUILDERS.—The Burial Board for the Parish of St. Margaret, Rochester, are desirous of receiving TENDERS for the ERECTION of TWO CHAPELS, with Bell-tower, Lodge, Entrance-gates, Fence walls, &c. Persons desirous of Tendering may see the plans and specifications, and obtain forms of Tender, at the Office of Mr. MARTIN BULMER, Architect, Maidstone, on and after THURSDAY, the 12th day of NOVEMBER. Tenders to be delivered at the Office of the Clerk to the Burial Board, Orange-terrace, Star hill, Rochester, on or before SIX o'clock p.m. on FRIDAY, the 11th day of DECEMBER next, endorsed "Tender for Cemetery Buildings, &c." The Burial Board do not bind themselves to accept either the lowest or any other Tender; and they will require satisfactory security for the proper performance of the Contract.
THOMAS S. WARNE, Clerk to the Burial Board.
Rochester, November 9, 1863.

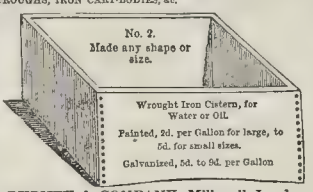
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BURNEY & COMPANY, Mill-wall, London.
Steam-boats from London Bridge call near the Factory.

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J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of GOODS of the BEST MANUFACTURE, at the LOWEST PRICE.
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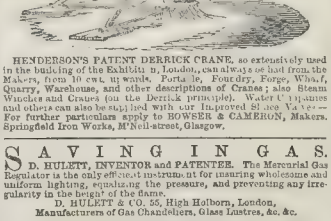
CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRING; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING for FRENCH WINDOWS;
The above are most respectfully required to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads, with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead, in Mahogany, Polished Oak, Ash, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

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THE SMALLEST WILL WARM A ROOM 20 feet square, with Welsh Stone Coal, at a cost not exceeding 2d. for twelve hours. Free from dust, smoke, or smell. Suitable in the larger size for halls, churches, and concert-rooms. Can be seen in operation at
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Builders Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.
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THOMAS TURTON & SONS, MANUFACTURERS OF CAST STEEL for Punches, Taps, and Dies, Turning Tools, Chisels, &c. CAST STEEL Piston Rods, Crank Pins, Connecting Rods, Straight and Crank Axles, Shafts, and Forgings of every description.
FILES marked T. TURTON. Superior to any other make. See results of trial in the Times, July 25th, 1851.
EDGE TOOLS marked WM. GRAVES & SONS. Electro Boracic Steel, warranted to wear out three Tools made of Cast Steel.
DOUBLE SHEAR STEEL, | SPRING STEEL,
BLISTER STEEL, | GERMAN STEEL,
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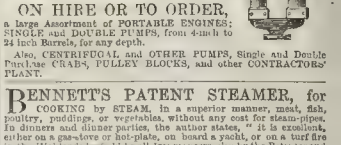
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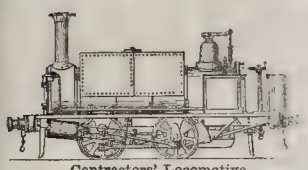


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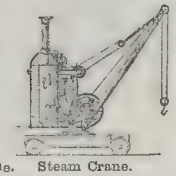
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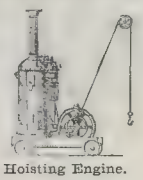
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2	„ „	4½ „	×	9	„	...	...	65	7 „ „	8½ „	× 14 „ 150
3	„ „	5½ „	×	11	„	...	...	85	9 „ „	9½ „	× 16 „ 180
4	„ „	6½ „	×	13	„	...	...	105	11 „ „	10¾ „	× 18 „ 210

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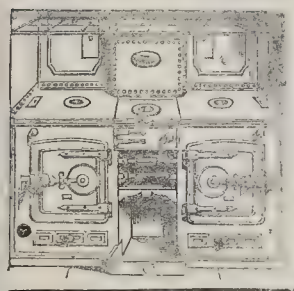
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Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

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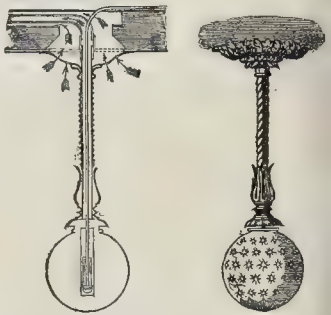
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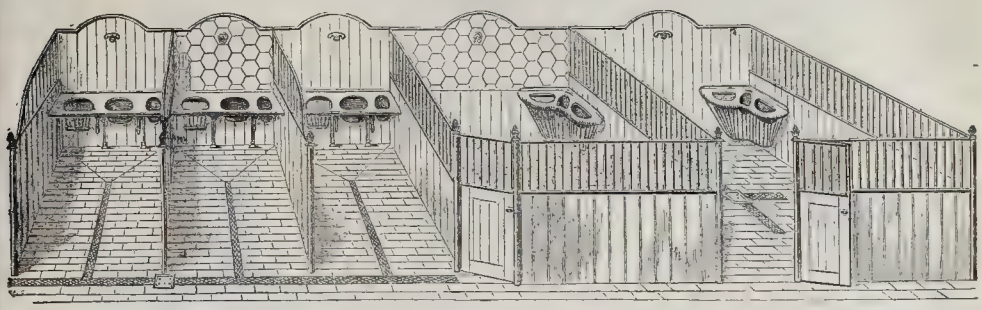
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PATENTEES AND ORIGINAL INVENTORS OF

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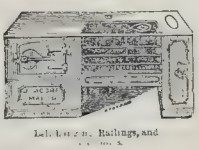
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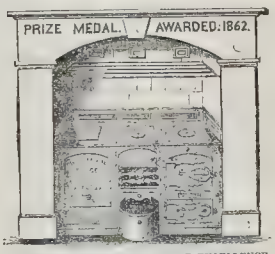
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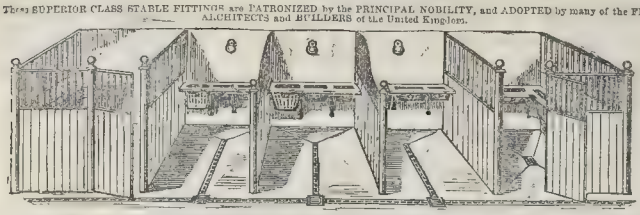
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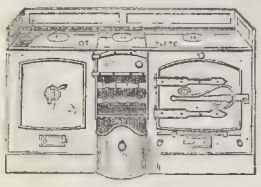
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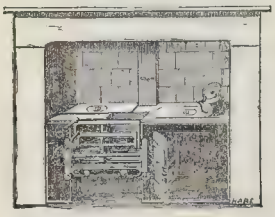
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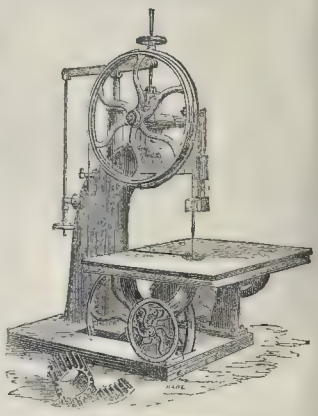
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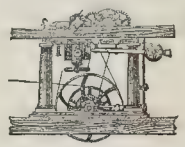
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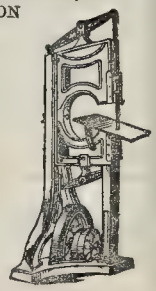
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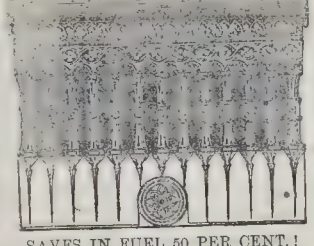
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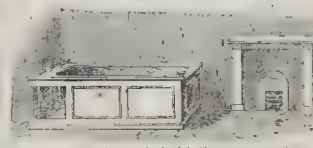


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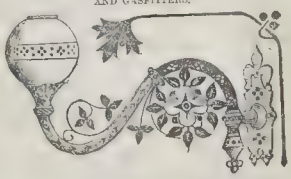
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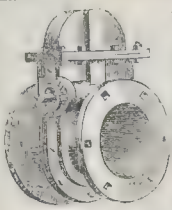
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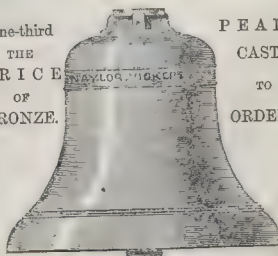
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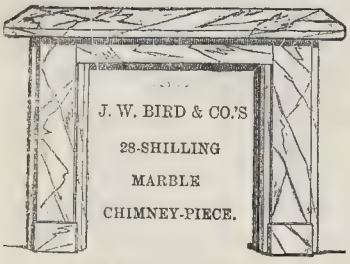
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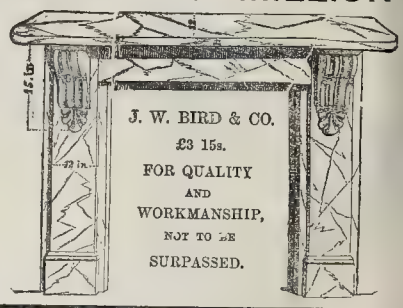
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EDWARD HARPER, Secretary.

The Builder.

VOL. XXI.—No. 1085.

The Holborn Valley Competition.



CTING, as it would seem, without full knowledge of their position, the Corporation rushed into the offer of premiums for plans for raising Holborn Valley, and making such improvements adjacent as would conduce to the convenience of the public, and have thus given a large number of architects and engineers, as well as themselves, a great deal of unnecessary and fruitless trouble. The loss, by death, of their late solicitor and of their esteemed architect, who had the whole matter at their fingers' ends, as well as of two other officers, may to some extent account for this. Had these gentlemen been in their places the Corporation would doubtless have been reminded that the terms of the existing Act of Parliament, granting the reversion of the 4d. coal-duty for the purposes of the improvement, seem to enforce the *destruction altogether of the present hills.* Certain it is that the realization of this fact, or at any rate of this belief, at once led to the throwing out of 96 of the 105 designs sent in, leaving only nine for the real consideration of the committee, and some of these were so manifestly crude that they were at once put on one side. The authors of the other ninety-six designs, some of which are most thoughtful and artist-like projects, had no standing whatever, and might have saved their pains and money had they been properly instructed: many of them, indeed, might have done so by a careful reading of the advertisement offering the premiums; for this distinctly asks for "designs with descriptions, plans, sections, and estimates, for '*raising Holborn Valley,*' and making such alterations," &c. &c.

The field for selection for the premiums became, therefore, very small; and we may as well say, although a little out of the order of relation, that the committee recommend the plan by Mr. R. Bell for the first premium, 250*l.*; and that of Mr. T. C. Sorby for the second, 150*l.*; a plan by Mr. Marrable standing third. It is to be hoped that some additional premiums will be awarded to the most meritorious designs in other classes.

Let us now retrograde a little, and give some few particulars of the proceedings and of some of the designs sent in. As we mentioned in our last, the committee called to their assistance Mr. W. Haywood, who withdrew a design he had himself submitted, and they set aside those said not to comply with the several conditions stated in the advertisement, leaving thirty-eight for future consideration. These were sorted into nine classes, and for six days have been open for the examination of the public in the Guildhall. They were under the following heads, and were chiefly illustrated by the competitors whose names we attach.

Class 1.—Nine designs for constructing complete viaducts, or high-level roadways, upon the line of Holborn-hill and Skinner-street, involving the entire removal of the present surface and the property on both sides. T. C. Sorby, R. Bell, F. Marrable, L. H. Isaacs, R. Kerr, J. W. Papworth, E. Blatchley, F. G. Mullholland, and J. Scott Tucker.

Class 2.—Four designs for viaducts to be constructed upon the north side only, the carriage-ways and the property upon the south side of Holborn-hill and Skinner-street being untouched. F. Marrable.

Class 3.—Four designs for viaducts upon the south side only, the roadway and property upon the north side being untouched. J. Turner, S. Heming, "Utilitas" (model).

Class 4.—Three designs for central viaducts, upon the lines of Holborn and Skinner-street, some leaving parts of existing footways and roadways. James Thomson. (Cleverly set forth, but a mistake.)

Class 5.—One design for viaducts on both sides of the present streets, leaving the centre of the roads as at present, to communicate with the lower level. "Utilitas."

Class 6.—One design for viaduct occupying the whole of Skinner-street and south side of Holborn only.

Class 7.—Eight designs for high-level streets or viaducts passing south of Holborn-hill and Skinner-street, which thoroughfares are to remain as at present, or with but very trifling modifications. F. Wallen (admirably set forth), R. Kerr, L. H. Isaacs, H. B. Garling, N. S. Joseph.

Class 8.—Three designs for high-level streets or viaducts passing north of Holborn-hill and Skinner-street, which thoroughfares are to remain as at present, or with but very trifling modification. L. H. Isaacs, W. Parkes.

Class 9.—Five designs for improving the present gradients by partly filling up the valley, and forming the approaches in Farringdon-street and Farringdon-road by inclinations. J. T. Atkinson and Messrs. Brandon & Freshwater, Messrs. Papworth.

The designs representing four of these classes,—viz, 1, 7, 8, and 9,—submitted by the committee to the Court of Common Council as representing the principles embodied in each of them, we pointed out in our last.

The ultimate recommendation of the committee we have already referred to. In looking to the plans selected as No. 1 (Bell) and No. 2 (Sorby), some striking discrepancies present themselves; and we fail to detect on what grounds No. 1 has its place above No. 2, though we say this with great reserve, knowing on what minute points alone the difference must rest. No. 1 proposes to make the road 80 feet wide; his viaduct is 1,200 feet long, and he puts the cost of the scheme at 143,000*l.*,—a ridiculously erroneous estimate, as we think. No. 2 has his roadway from 60 to 70 feet in width, 1,180 feet in length, and calls the cost 530,800*l.* The latter gives a headway under his iron bridge across Farringdon-street of 27 feet 6 inches in centre, while No. 1, raising Farringdon-street at that point 1 foot 3 inches, calls the headway of his bridge 17 feet 6 inches; yet both viaducts are level. One of the new streets proposed by No. 1 leaves land only 50 feet wide for a double frontage!

Sufficient time was not given to competitors to master the small details on which the goodness or badness of the plan must depend, and it is more than likely that neither of the premiated designs will be carried out. In fact, we have reason to believe, that the plans and notices which are now being prepared, in order to go to Parliament this coming session, are being founded on the design withdrawn by Mr. Haywood from the competition, the result of a long official acquaintance with the roads. One feature peculiar to this plan is the gradual raising of the road in Farringdon-street to a height of 10 feet in the valley, with a view to lessen the gradients of the side streets leading to the new high level of Holborn and Skinner-street. Observations show that, of a traffic of 9,950 vehicles passing through Holborn-hill, 1,013, or about one-tenth, go up and down from the low levels; and of 10,723 passing through Skinner-street and Snow-hill, 3,219, or about three-tenths, go up and down from the low levels. So that a complete and perfect plan can only be that which substitutes improved roads between the high and low levels, as well as forms a good road for the east and west traffic.

Looking to the particulars which accompanied Mr. Haywood's design, when it was sent in anonymously, we find that the property upon both sides of the streets between Hatton-garden and the western end of St. Sepulchre's Church would be taken down, and a high level roadway upon arches made between those points, 70 feet in width, and nearly level.

"It is to be formed," said the author, "more upon the southern than upon the northern side of the existing roadways, inasmuch as the curve will be less, the vista longer, and the architectural effect better.

Farringdon-street is to be crossed by a bridge, with a minimum central headway of 21 feet; this is higher than Temple Bar, which has a central headway of 17 feet 9 inches, and will be higher than the bridge to be built over Ludgate-hill, which is to have an 18 feet headway.

Shoe-lane is to be crossed by a bridge, leaving a clear headway of 16 feet; the gradient of the lane will be improved, and the street will be continued northwards 30 feet in width.

Portions of Farringdon-street and Victoria-street are to be altered in level; Farringdon-street is to begin to rise from Newcastle-street, with a gradient of 1 in 45, and continue at that slope to West-street'; thence it is to fall northwards with a gradient of 1 in 535 (or practically level) as far as to Charles-street.

Two levels for the traffic will be therefore obtained; the traffic north and south will pass beneath the bridge, that going east and west will go over the bridge: thus the two lines of traffic can never clash, as they now do, at the junction of Fleet-street, New Bridge-street, and Ludgate-hill.

Victoria-street is to be widened as far as to West-street to the present width of Farringdon-street.

Flights of steps formed at the angles of the bridge are to afford to pedestrians communication with the upper and lower levels.

Two streets, with easy gradients, are to be formed, to afford communication for vehicles, between the upper and lower levels; they are both to start from Victoria-street.

The western street to start opposite to that now in course of formation by the Corporation, and join the upper level at Hatton-garden; the gradient to be 1 in 45.

The eastern street is to start a little north of the bridge over Farringdon-street, and join the upper level by St. Sepulchre's Church; the gradient to be 1 in 45."*

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* Notice of intended application to Parliament in the next Session has been given, to authorise the Corporation of London to make a viaduct for the purpose of a high-level street commencing on Holborn-hill, near Ely-court, passing Hatton-garden, Ely-rents, Ely-place, and terminating in Skinner-street, near the Old Bailey. The following improvements are specified in connexion with the scheme:—A new street, commencing near the junction of Hatton-garden with Holborn-hill, and terminating in Farringdon-road, near West-street; a new street, commencing near St. Sepulchre's Church, Skinner-street, and terminating in Farringdon-road, about fifty yards to the north of Snow-hill; a new street, commencing by a junction with Shoe-lane, near St. Andrew's Church, passing under the viaduct, and terminating in the intended new street, at a point about forty-five yards west of its intended junction with Farringdon-road; a widening on the western side of Farringdon-road between Holborn-hill and the junction of the intended street, nearly opposite West-street; an alteration of the levels of Farringdon-street and Farringdon-road, commencing near Newcastle-street, and terminating about 239 feet north of New Charles-street; power to alter and improve the levels of the western approach to the Metropolitan Meat and Poultry Market in Smithfield; to widen the western end and northern

The cost was estimated at 226,988*l.* To carry out the improvement thoroughly, probably another 100,000*l.* must be added to this amount. Whether, after all, however, this design will be carried out, or by whom, cannot yet be said.

Touching this very important proposed improvement, the question of gradients is one of the greatest consequence. The following statement of the gradients of the main streets adjacent, prepared by Mr. Haywood for the committee, will be found valuable:—

	Gradients.
Farringdon-road—from New Charles-street to Farringdon-street	1 in 88
Fleet-street—from Ludgate-hill to Shoe-lane	1 in 49
„ Shoe-lane to Whitefriars	1 in 46
„ Whitefriars to Fetter-lane	1 in 56
New Bridge-street—from foot of Bridge to Earl-street	1 in 32
„ Earl street to Union-street	1 in 125
„ Crescent-place to Ludgate-hill	1 in 63
Farl-street	1 in 94
Aldersgate-street	1 in 160
Moorgate-street	1 in 440
Wormwood-street	1 in 60
Bartholomew-lane	1 in 35
Fish-street-hill	1 in 21
Regent-street—from Pall-mall to Circus	1 in 33
„ north end of Waterloo-place to Circus	1 in 30
Ludgate-hill—from bottom of hill to Ludgate-place	1 in 53
„ Ludgate-place to Belle Sauvage-yard	1 in 35
„ Belle Sauvage-yard to Boy-court	1 in 26
Ludgate-street—from Old Bailey to Pilgrim-street	1 in 25
„ Pilgrim-street to party-wall, between Nos. 38 and 39	1 in 37
„ party-wall to Stationers'-court	1 in 38
„ Stationers'-court to Ave Maria-lane	1 in 49
„ Ave Maria-lane to top of Ludgate-street	1 in 66
St. Paul's Churchyard from top of Ludgate-street	1 in 84
„ 57 feet from Ludgate-street to Dean's-court	1 in 118
„ Dean's-ct. to steps to St. Paul's	1 in 80
„ Facing steps to St. Paul's	1 in 110
„ steps to St. Paul's to Paul's-chain	1 in 421
Gilt-spur-street—from Smithfield to Ball-court	1 in 119
„ Ball-court to Green Dragon-yard	1 in 62
„ Green Dragon-yard to Newgate-street	1 in 52
Old Bailey—from Newgate-street to Fleet-lane has a mean gradient of	1 in 42
„ Fleet lane to Ludgate-hill has a mean gradient of	1 in 78
King-street—from St. John's-court to Snow-hill ditto	1 in 31
The Haymarket	1 in 32
Queen-street-place—from Thames-street to the Toll-bar of the Bridge	1 in 22

Holborn-hill, from the bottom of the hill to near Field-lane, has comparatively unobjectionable gradients, but from Field-lane to Hatton-garden it has gradients of from 1 in 15 to 1 in 27, and a mean gradient of 1 in 19 only. Skinner-street from Farringdon-street, to near the Saracen's Head-yard, has gradients of 1 in 20 to 1 in 24, the mean gradient being 1 in 22. These gradients are admitted to be unfit for any vehicular or equestrian traffic.

OUR RIVERS AND WATER SUPPLY.

The wet weather during this autumn and the damaging river floods indicate that official inquiry as to the condition of many districts may be made with advantage. Land drainage must go on; as, also, town sewerage and house drainage. The one involves increased productiveness and healthiness of the soil; the other increased value of human life and the healthiness of towns. Rivers, in England, have never received proper legislative attention from the State; and, as a consequence, we find rivers neglected, tampered with, and injured in every way possible. There are thousands of acres of unwholesome swampy land which might be made good, but which land is permanently waterlogged by mill-dams; and there are hundreds of houses standing on subsoil swamped by similar causes. There are many square miles of land in almost every river valley in England now and then laid under water by excessive river floods, as during this autumn. If the money value of the damage caused to land, to crops, to stock, to other property, and to human health, is rightly estimated, it will be found to represent the interest of a very large capital—probably more than would be required to remove objectionable mill-dams, to deepen and improve the outfall of rivers, to make new and more direct cuts for flood waters, and to embank flat districts now covered by flood waters, when there is a rise of only a few feet vertical in the brook, stream, or river waters.

A report on the river areas of England would necessarily fill one or more volumes. Take the area of the valley of the Thames, for instance. This, the first of English rivers, is simply in a condition disgraceful to us as a nation. Look at the condition of the low lands, especially at and near Oxford. There are miles square of country most injuriously laid under water almost every year. Then let the state of the water-supply to the metropolis be considered. The sewage of more than one million of people, besides vast areas of highly-manured lands, drain direct into the water of the river and tributary streams above the point at which water is taken by the several companies for the supply of London. The undiluted sewage of Oxford, Reading, Eaton, and Windsor, with many other places, pours out in a continuous stream, to mix with the water of the Thames above Teddington Lock.

There are remedies, and such that will pay for execution. Remove all objectionable mill-dams and obstructions; embank flat valley-lands; deepen the bed of the river, and otherwise improve it, where necessary; and establish conservators, whose duty it shall be to see to the execution and maintenance of all proper works and regulations on rivers. At present every man or proprietor does that which seemeth good (or bad) with the portion of river flowing past or through his estate.

London must have an abundant supply of water. It is now taken direct from the main stream below the points at which the water is made impure by sewage and surface washings. The Romans would have taken the tributary springs and tributary streams at their fountain-heads, and, by conduits and aqueducts, have conveyed the waters for use in a comparatively pure state. That which the Romans did with difficulty, with vast labour, and with vast cost, we could do with ease and with comparative economy. Modern potters can make earthenware pipes by machinery far larger and better than any used in ancient times, and at so small a cost as to be a wonder to potters, even in this age of cheap goods. These pipes could be laid along contour lines from the numerous upper springs which feed the Thames, so as to be collected in cast-iron pipes and be conveyed, under pressure direct to London, or to the existing pumping stations, to be lifted, as at present. When the health and comfort of 3,000,000 people are considered of more consequence than the vested interests of water companies, or when water companies see that, to secure their monopoly and to give fixed value to their property, the works must be the best for the people which all the circumstances will admit of, there may be a chance of such a work being undertaken. The proudest boast of a Cæsar was that he had given Rome an additional aqueduct, and a fuller and better supply of water.

The rivers of Lancashire and Yorkshire are neglected to the uttermost: they are abused in every way that rivers can be abused. Ashes and rubbish of all sorts are thrown in until the beds are filled up several feet deep. Any man who owns a frontage to a river may use the water and may abuse the river bed; any town may discharge in it its sewage; any print-works or dye-works may pour in the refuse dye or other fluid. Iron-works, gas-works, chemical works, all abuse the streams on which they are situate. One group of streams alone has a protecting power from Parliament—the Irwell and Mersey, above Manchester. This power has not, as yet, been exercised to any practical extent.

During the last century the nation has increased (almost doubled) in population, and more than doubled in wealth; vast progress has been made in agriculture and in trade. It may be said that land drainage, the steam engine, railways, steam navigation, and sanitary works, have been "created;" but our rivers are in a worse condition than when the Scotch rebels passed through the land in 1745. All forms of increase and of improvement in our river valleys and on our river banks have only tended to pollution and injury of the waters. Should this state of things continue?

The natural tendency of rivers flowing sluggishly through alluvial valleys is to silt up their beds and to flood the low and level lands on either side. There are several such districts now traversed by railways, where, occasionally, the locomotive fires are put out by the floods, and the lives of passengers are consequently endangered. These valleys and districts cannot be drained and improved by any single proprietor, nor even by the wealth and energy of a railway company. There are "proprietary rights" and "vested interests" which individuals dare not meddle with, and which even powerful companies shrink from touching. Can a Government, such as ours, reach the evil and provide a remedy? Parliament can, in many things, act despotically. Our rivers require some form of despotic power to work out necessary, beneficial, and economical improvements. We recommend the subject to the notice of our imperial Parliament for its immediate consideration.

side of Newgate-street, commencing at the corner of Gilt-spur-street, and terminating at and including No. 105, Newgate-street; and to widen King-street, commencing near its junction with Smithfield, and terminating at its junction with Snow-hill. Powers are also sought to charge the expenses of the works to be authorized upon the duty referred to in the 2nd section of the London Coal and Wine Duties Continuance Act, 1863, to authorize the Corporation to raise money on mortgage or annuity, and to apply for the above purposes any moneys under their control.

THE LATE MR. WILLIAM CUBITT, M.P.

Accident, not want of regard, has led us to delay recording in our pages some particulars of the life of the late Mr. William Cubitt, M.P. for Andover, and President of St. Bartholomew's Hospital. His lamented death took place, as we have already mentioned, on the 28th ult., at his residence, Penton Lodge, Andover.

Mr. W. Cubitt was the second son of Mr. Jonathan Cubitt, and was born at Buxton, near Norwich, in the month of April, 1791, and was consequently in his seventy-third year. Early in life, like his brother, Mr. Thomas Cubitt, he went to sea, but returning, joined the latter as a builder, and together they carried on a large business in the Gray's-inn-road. About the year 1825 this business was relinquished to the subject of our notice, who carried it on till the year 1844, when he took into partnership Mr. W. Dunnage and Mr. R. Alchin, and under the title Messrs. W. Cubitt & Co. executed many large works. In 1850, Mr. George Plucknett and Mr. Rogers joined the firm; and in 1858, Mr. Alchin having retired, Mr. Robinson became a partner. Mr. Cubitt had withdrawn from it in 1851, leaving only his name. The principal buildings erected by him before the formation of the firm, were Hanwell Lunatic Asylum, Covent Garden Market, about ten miles of the London and North Western Railway at Berkhampstead, and the extension line from Camden Town to Euston-square; various buildings for the company at Euston, Camden, and other stations on the line; new warehouses at the London Docks, and repairs to foundations and piers of old Westminster Bridge.

In conjunction with his partners, he built the new graving dock at Southampton; the terminus station, and other buildings at Euston-square; enlarged the Government Offices, Whitehall; and repaired Blackfriars Bridge.

To make the list more complete, we may add, as executed by the firm after Mr. Cubitt's retirement, the new dock and entrance at Shadwell, for the London Dock Company, and several new warehouses; alterations to the Royal Chapel, Buckingham Palace; enlargement of the National Gallery; the enlargement of the Stock Exchange; the new temperate house, Kew Gardens; and various works at the Bank of England, St. Paul's Cathedral, Royal Exchange, and so forth.

Mr. Cubitt, although he had retired from the firm, felt an attachment for his old place that never quitted him to the day of his death. When he left, the remaining partners had his portrait painted by Grant, and the leading foremen and others in the establishment subscribed together and caused it to be engraved by Mr. Atkinson, at a cost to them of 250*l.*

In 1847, Mr. Cubitt was elected Sheriff of London, his colleague being Mr. Charles Hill, F.S.A. During their year of office occurred the memorable 10th of April, when foreign statesmen gravely anticipated that England was about to undergo a revolution. The writer well remembers, and it was a circumstance to be noted, that both the sheriffs were dining, in the evening of that day, in the gayest of spirits, with the "Britton Club," of which they were members, with several others holding authority, John Britton himself at the head of the table. Whatever may have been thought of the matter abroad, there was no fear at home.

In 1851, Mr. Cubitt was elected alderman for the ward of Langbourne, on the death of Sir John Key. In 1860 he became Lord Mayor of London, in succession to Alderman Carter. The recorder,

on that occasion, told the Chief Baron truly that Mr. Cubitt had "conducted his business with singular intelligence and success; and, by his great consideration and kindness, had won from the thousands he employed their affection and esteem." At the banquet Lord Palmerston eulogized Mr. Cubitt as a "Hampshire neighbour," and Mr. Gladstone warmly praised him for his "character and capacity." For his liberality during his mayoralty of 1860-61, Mr. Cubitt was proposed as lord mayor for 1861-62. His re-election was contested, but was carried by 1,488 votes against Sir H. Muggeridge's 548. The two years of Mr. Cubitt's mayoralty are noteworthy for his liberality in general, and for the hospitality he showed to the foreign exhibitors and the members of the royal commissions who visited this country in 1862. He opened the subscriptions for the sufferers by the Hartley Colliery explosion and for the Lancashire operatives. He took a memorable part in originating the national memorial of the Prince Consort; and afterwards, with Lord Derby, Lord Clarendon, and Sir Charles Eastlake, had the honour to serve upon the committee nominated by the Queen to assist her in deciding on the form the monument should assume. Nearly the last words he spoke had reference to this memorial.

Mr. Cubitt was elected, as an alderman, governor of St. Bartholomew's Hospital. When he resigned his aldermanic gown he thought proper to resign his presidentship. A contest then arose between the "donation governors" and the "foundation governors," the latter being the aldermen, and the election ended in the return of Mr. Cubitt.

His connexion with Andover commenced in 1847, when he contested the borough with the late Mr. H. B. Coles, in opposition to Messrs. J. N. Fellowes & T. E. Smith, and was elected. In 1852 he was again returned, and this time headed the poll, but there could scarcely be said to be a contest, as the following figures will show:—W. Cubitt, 140; H. B. Coles, 121; J. Curling, 20. In 1857 he was again returned, but his colleague, Mr. Coles, was defeated by the Hon. D. F. Fortescue. In 1859 the poll showed W. Cubitt, 153; Hon. D. F. Fortescue, 120; W. J. Johnson, 114. In July, 1861, he resigned his seat for Andover, and allowed himself to be put in nomination for the City of London, being persuaded by his friends that there was a good prospect of carrying the election in the Conservative interest. In this he was unsuccessful, and his former seat was filled by his late colleague, Mr. H. B. Coles. In November, 1862, on the death of that gentleman, a requisition from his constituents induced Mr. Cubitt to allow himself to be again nominated for Andover, and he was returned without opposition, holding the seat up to the time of his death. In politics he was Conservative, but was favourable to free trade; and he voted for the abolition of church rates.

For some years Mr. Cubitt acted as chairman of the much-abused-by-the-foolish West London Railway Company, and aided in bringing the shareholders into smooth water. Besides the appointments we have mentioned, he was a magistrate for the counties of Middlesex, Surrey, and Hampshire, and in 1848 was appointed a deputy-lieutenant of the last-named county. He was also Prime Warden of the Fishmongers' Company, and in that capacity presided on several remarkable occasions.

In the mention that has been publicly made of his undertakings the embankment of the river Thames at the Isle of Dogs, measuring a mile and a quarter in extent, has not been sufficiently dwelt upon. The ground has been raised 10 feet, new roads have been formed, and a large town has been established, where important industries are being carried on. Here, too, he built a church. Mr. Cubitt, we may add, was chairman of the Royal Commission for the Thames Embankment, and did his utmost to have the embankment carried out.

He leaves four daughters: one of whom, Lady Olliffe, is the wife of the physician to the English Embassy in Paris, and two others are married to sons of the late Mr. Alderman Humphery. He had an only son of great promise, who died in early manhood while at the University of Cambridge. Mr. W. Humphery, we may add, was elected on the 19th inst. to supply the vacancy in the representation of Andover; Mr. Hawkshaw, the engineer, contesting it with him. The numbers were—Humphery, 130; Hawkshaw, 83.

Many of Mr. Cubitt's friends will hear with gratification that the Queen, through Sir Charles Phipps, has sent a very feeling letter of condolence, expressing her Majesty's regard for Mr. Cubitt's sterling character. A passage from the local *Advertiser* will serve to show the estimation in which he was held in the borough.

"His name," says the writer, "will descend to posterity in connexion with the enormous sums by which starvation was kept from the door of the hungry cotton-spinners, as well as in respect of the memorial to the late Prince Consort, in both of which movements Mr. Cubitt took a prominent part. What he was as a man and a Christian gentleman, no words of ours can adequately tell; but if any man living can say one word against him, let him stand forward: we know of none such. What he was as a friend and neighbour, let many, once friendless, but now prosperous and thriving through his means and personal influence, declare. What he was as a parent, relative, and adviser, those only know who are now mingling their tears for his loss with their thanks that it hath pleased Almighty God of His great mercy to take unto himself the soul of their dear brother departed. Of his intercourse with the world at large, it is enough to say, that in all things his conduct was that of William Cubitt, the country gentleman. Whether he had to do with the blue blood of the country, or with the ploughman who worked upon his farm, his demeanour was marked by that courtesy and urbanity which never for one moment left him. One of nature's gentlemen, although without a pedigree, he maintained throughout his long and chequered life all the attributes of those whose families date from the Conquest."

This estimation of him is not confined to Andover. Numerous resolutions from various parishes in Lancashire and Cheshire expressive of profound regret have been forwarded to the Mansion House Committee: and the Rev. F. H. Williams, of Ashton-under-Lyne, describes the manner in which the working men of Ashton testified their respect for his memory. He says:—"Without a suggestion from any one but themselves, they assembled in committees and resolved to ask a funeral sermon to be preached in Christ Church on Sunday, the 8th, to his memory; and, for themselves, that they should go to the church in a body, on the occasion, in funeral procession as mourners. Accordingly a deputation from their body—moved principally, I believe, by the overlookers of the town—asked me to preach the sermon. Their proposal, which, I confess, equally surprised and interested me, I of course instantly promised to comply with. It so happened that the sermon had to be fixed for the evening service; and so the men, having formed their procession at half-past five o'clock, walked up in long train, two abreast, of mourners dressed in as decent black as they could procure, and many of them carrying lighted torches, which gave a very novel and funereal effect to their ranks as they moved through the drizzling wet of a dark and boisterous evening. Nothing certainly could exceed the solemnity and propriety of the men's demeanour as they took their part heartily in the long service in an inconveniently crammed church, where many had to stand the whole time. Many who witnessed the deep feeling of the assemblage will not soon forget it."

A correspondent, writing from Manchester, says:—"I have been much interested in reading the encomiums which have been written on the good Lord Mayor,—especially in one letter, from Bradford,—showing a most grateful sense of his exertions for the Lancashire Fund. . . . . There have been several peals of muffled bells rung for him in Manchester, Bradford, and other places,—a touching tribute to his unselfish benevolence. May he hear, as the highest of all rewards, 'Well done, good and faithful servant,' from the lips of his Master in Heaven."

Amen, say we humbly.

AUCTIONS OF PICTURES IN ENGLAND.

Too little attention has been paid to the history of prices that pictures of reputation have brought, by appraisement at a fixed sum, by private sale, or by public auction. Still less attention has been given to the peerage, or genealogy, or Heralds' College descent of pictures of repute. As far as England is concerned (no narrow Bourse, or Mart, or Exchange in such matters), I purpose contributing from time to time, fixed data to supply a want long seriously felt among the many distinguished collectors and amateurs of art among us.

There were three great picture sales in England in the seventeenth century, between 1603, the accession of King James I., and 1688, the abdication of King James II. The three sales to which I refer were those of Villiers Duke of Buckingham, King Charles I., and Sir Peter Lely. Where Steenie's pictures were sold, and when, I shall tell some day in the columns of the *Builder*. The King's sale was conducted by appraisement and advances thereon. Lely's passed under the inevitable hammer of the Christie & Manson of that day.

The sale of the collection of Sir Peter Lely took place in 1681 (the year after his death), and lasted *forty* days. The "conditions of sale" specified "that immediately upon the sale of each picture the buyer should seal a contract for payment according to the custom in great sales." What the custom then was I am not aware; but two years later in London, in the same king's reign (Charles II.), and at the sale "by lottery" at Whitehall (October, 1683) of Prince Rupert's jewels, the king himself was present "to see all fair." The wording of the advertisement in the *London Gazette* is equally curious and suggestive:—

Advertisement.

"Prince Rupert's jewels are to be disposed of by Lottery at £3 apiece, the biggest prize to be a great pearl necklace, valued at £8,000*l.*, and none less than £100. To be drawn in His Majesty's presence; Who is pleased to declare that He Himself will see all the Prizes put in among the blanks, and that the whole shall be managed with all equity and fairness, nothing being intended but the sale of the jewels at a moderate value."

Remie, or Remigius, Van Limput, the painter, lived in Bedford-street, Covent Garden, and, dying in 1675, was buried (9th November) in the Church of St. Paul, Covent Garden. His collection of pictures was advertised for sale in the *London Gazette* of the year 1677. The advertisement is characteristic:—

Advertisement.

"If any person be desirous to see the Excellent Collection of Italian Pictures of the late deceased *Mr. Remy Van Lemput*, picture drawer, which the Heirs will expose to sale by the way of *Publick Outcry*, on the 14th of May next [1677], at three o'clock in the afternoon, it will be open to view on the tenth; and Mr. Berry, the Porter of Somerset House, will direct them to the place and persons concerned in the sale."

Sir Peter Lely's sale lasted forty days, and brought twenty-six thousand pounds of King Charles II.'s coin, or some fifty thousand pounds of the money of Queen Victoria. Betterton, the great actor, was a purchaser. He bought a Titian, a Giorgione, and a Sir Antonio More,—three different lots for fifty-seven pounds. Betterton's sale is advertised in No. 213 of the first edition of the *Tatler* for 1710; but a copy of Betterton's catalogue is unknown. One picture, and it is a good one, and a specimen of Betterton's good taste in art, is now at Northumberland House,—the fine triple portraits, on one canvas, by Dobson, of "Sir Charles Cotterell, Sir Balthazar Gerbier, and Dobson himself." The Betterton sale price was 44*l.*:—it would fetch 500 guineas now. Great English actors, I may be pardoned for observing, have been collectors. Cartwright, Betterton, Jack Banister, and Charles Mathews collected pictures; Garrick, John Henderson, and John Kemble collected books. William Cartwright, one of the original famous Two Kings of Brentford in "The Rehearsal," left his pictures and books to Alleyn's College, at Dulwich, where a few of them only (sad to say) are still to be seen.

The earliest catalogue in my collection (and it is a very extensive one, having been formed over many years and from many sales, &c.) is a quarto of four pages, thus entitled:—

"A

CATALOGUE

Of a small, but Choice

Collection of very Capital, Original *Italian* and *Flemish*

PICTURES, &c.

By sundry of the most Celebrated Masters of the first *Form*, both Ancient and Modern, Painted at *Rome, Florence, Venice, Bologna, Parma, Naples, Genoua, Antwerp, &c.*

Together with

Two Pieces of Rich *Chinese* Tapestry, and Four Lots of other very great and uncommon Curiosities.

Which will be Sold by *Auction*, on *Wednesday*, the 5th of *March*, 1729-9, at Mr. Hickford's great Rome in *Panton-street*, near the *Hay-market*.

Where the Pictures, &c. May be viewed on *Saturday*, the 1st of *March*, *Monday* the 3rd, *Tuesday* the 4th, and *Wednesday* the 5th, until the Hour of Sale, which will begin at Eleven a Clock in the Forenoon precisely.

Catalogues to be had at the Place of SALE, at Mr. *Monger's* the lower end of *Milk street*, *Cheap-side*, and at St. *James's Coffee House*.

In Nummo aurem, mensuræ, non numero accepit. Plin. de Pictur. Apell.

Printed by A. Campbell, in *King-street*, near St. *Margaret's* Church, *Westminster*."

*** Observe the *origin* of Latin mottos to Trafalgar-square catalogues.

And here (in parenthesis), and as only casually illustrative of my subject, I will mention that *Dr. Seaman's* sale in 1676 was the first book-

auction in London; and that *Samuel Patterson*, who flourished in the first half of the last century, was the first auctioneer who sold books singly in lots, the first bidding for which was *sixpence*.

The conditions of the sale of 1728 9 well merit reprinting. Here they are:—

"*Conditions of this* SALE.

I. He that bids *most*, is the *Buyer*: But if any Difference arise, that the Company cannot Decide, the Picture, or the Lot in Question, to be put up again.

II. All the *Pictures* are warranted *Originals*: The Battle Piece of *Borgognone*, and the Head of *Rosalba*, only excepted; because by some they have been thought Doubtful.

III. That all *Buyers* do give in their Names and Places of Abode, and five Shillings in the Pound in Part of what they Buy, *if Demanded*.

IV. And lastly, That all the Pictures, and other Lots or Numbers, be taken away and Paid for at the Place of Sale, on or before *Saturday* the 8th of *March* Instant.

N.B. *Any Person who cannot attend the* SALE, *may have his or her Commission faithfully Executed, by directing a Letter, or sending a Message by a known Hand to*

Their Humble Servant,

HENRY MONGER."

The conditions thus settled, then follows the catalogue of the lots, *forty-eight* in number,—and by no means a bad bill of fare,—one to send the Trustees of the National Gallery, headed by Sir Charles Eastlake; the Trustees of the British Museum, headed by Mr. Franks; and the whole body of the Society of Antiquaries, to "Mr. Hickford's Great Room at Panton-street, near the Haymarket."

Now, I look on this as a very interesting catalogue of a very interesting sale. Mr. E. M. Ward might make (with Mr. Fairholt's costume aid) a very pretty picture from it. Here, some few feet from the pulpit of Mr. Monger, are many of the Maids of Honour looking at the Pontormo, "Venus stealing a Dart out of Cupid's Quiver," knocked down at 450*l*., and to whom?—to the Mother of the Maids? No; to Queen Caroline herself!—all the "Maids" giggling and "tittering" at the purchase and purchaser, then turning over and admiring the tapestry "for a counterpane for a bed of state." There, on your left, is the great collector, Edward Harley, Earl of Oxford, with his friend, George Vertue, and the future Duchess of Portland (of Vase memory) close to him and looking on. There, too, on the right, and sitting in her chair, catalogue in hand, is the celebrated Lady Betty Germaine, a great collector and a liberal one, a woman who foresaw the Strawberry-hill Collection, and gave more than one historical memorial to the boy Horace, who in his old age, and as Earl of Orford, always spoke warmly of "dear Lady Betty."

This, then, was a sale of consequence—one that the elder Christie or George Robins would have liked to have sold, and one that the famous King-street auctioneers of 1863 would not decline. Here is a lot to create a fluttering of fans. Lot 42, "Venus stealing a Dart out of Cupid's Quiver," is now No. 458 of Queen "Caroline's bed-room, at Hampton Court." Neither Mrs. Jameson nor Mr. Jesse tells us this; and Felix Summerley (Mr. Henry Cole) is alike silent. This lot (No. 42) put up, as my MS. annotator says, at 450*l*., was *kept* (bought in) for Queen Caroline, in the name of the King (Augustus, or George II.) for 1,000*l*. The conception and drawing of the goddess are amazingly fine; but the face is unlovely, and the figure Amazonian.

One word more about this Pontormo "Venus," not to be found in Handbookers' pages or editorial notes. This was "the very pretty altarpiece" so unmistakably referred to by the Chaplain, who was unwilling, with Church preferment before him, to read the service of the Church before the first Queen Caroline and such a picture.

Touching lot 43 of Hickford's auction, the bassorelievos by Valerio Belli, called Valerio Vicentino, consult Walpole, in his "Anecdotes."* The lot (in every way remarkable) has equally escaped the noble author and his two editors. In what choice cabinet is this Vicentino now? Is it with one ignorant of its worth? Perhaps Mr. Albert Way (all accomplished in many arts) may have made a "note" of its "fashionable movements."

PETER CUNNINGHAM.

* Walpole's Works, iii. 138.

"ACOUSTIC POTTERY."

L'ABBÉ COCHET re-excites the attention of the English public, in the *Gentleman's Magazine* for this month, as to a curious subject, which will be found referred to in a leading article on "The Mystic Chaldea," in the *Builder* of 22nd August, 1857; and which same subject, in another and less ancient form, as some of our readers may recollect, was discussed in the *Builder* on another occasion, when some "acoustic pottery" was found at Fountains Abbey by Earl de Grey.

The chief purpose of L'Abbé Cochet is to bring under notice what he calls "an interesting archæological question [which] has lately been raised by M. Didron in his *Annales Archéologiques*. It relates [continues the Abbé] to the acoustic means employed in the Middle Ages, to repeat words or sounds in our religious edifices." This question has been introduced to France by a Swedish architect, M. Mandelgren, and by two Russian architects, Messrs. Stassoff & Gonestaeff, who are at present in Paris, engaged in the study of French architecture. These gentlemen state that in Sweden, Denmark, and Russia, there are "cornets and pots of baked earth placed either in the interior walls or in the vaults" of churches; and as Christianity was introduced into Scandinavia chiefly from France, they thought it probable that such pots or vases might be found in French churches also; perhaps, however, brought to the west with the Byzantine style of architecture itself. What we have to add to the information of M. Didron and L'Abbé Cochet, will tend to show the great probability of this last suggestion, and carry us still farther back, indeed, than Byzantine and Greek times altogether.

M. Didron, in the *Annales*, of which he is the editor, cites two facts to show the existence in France of acoustic pottery. Cornets of baked earth have been found in the walls of the church of St. Blaise of Arles, believed to have been built in 1280; and in the Chronicle of the Celestines of Metz, the Chronicler Messin, under date 1432, says;—

"In the month of August in this year, on the vigil of the Assumption, after Brother Odo Leroy had returned from the before-mentioned general chapter, it was ordered that pots should be made for the choir of the church of Ceans, he stating that he had seen such in another church, and thinking that they made the chanting resound more strongly. They were all put up in one day, as many workmen having been employed as were necessary."

Thus "the custom of acoustic pottery," as L'Abbé Cochet calls it, seems to have been adopted at two extreme points in France; and the Abbé adds a few more facts collected in the cradle of Christianity for Norway, namely, Normandy, during a thirty years' study of churches there, and especially in Upper Normandy, where he five or six times noticed the particularity in question. Thus in 1862 the workmen engaged in pulling down the old church of St. Laurent en Caux (canton of Doudeville) were surprised to meet with a large earthen vase, of which the form was as remarkable as the position. This vase, placed in one of the angles of the choir, was entirely enveloped in mortar, and its form was that of a cone closed at each end. It had no other opening but a beak, which appeared in the form of a cornet at the surface of the wall. The exterior of the vase was furrowed with horizontal grooves. The form of the vase, and the earth of which it was composed, led him to ascribe it to the thirteenth century. He had remarked the same peculiarities of fabrication on vases of this epoch found at Leure, in the tomb of Pierre Berenguer, in 1856. The second acoustic vase that he mentions came from the Abbey of Montivilliers, and is now preserved in the Library of that city. It was taken from the vault of the choir under the tower of that royal monastery, and he conceives it was placed there at the rebuilding of the house in 1648 by the ladies of L'Hospital, abbesses of that establishment. L'Abbé also noticed a dozen acoustic holes in the four angles of the clock-tower, of which the vault was ruined in the seventeenth century. A third vase which he has found is one of the sixteenth century, discovered in the choir of the church of Fry (canton of Argueil). During the reparations there in 1858, four of these vases were found, two of which were in the sacristy. They appear to be culinary vases. In 1852 he remarked, in the now destroyed church of Alvimare (canton of Fauville), circular holes in the prisms which surround the pillars of the choir and the clock-tower. These holes, he says, were nothing but the openings of earthen vases placed in the walls as agents of repercussion. In the church of Mont aux Maladæ, near Rouen, these vases fill the windows of the nave and the choir. They were found in 1842, when the Romanesque pilasters of the twelfth century were restored, but the acoustic operation, he thinks, belongs to the seventeenth. He had also observed these acoustic vases in the church of Contremoulins, near Fécamp, and in the ruins of the choir of Perruel, near Péciers sur Audelle (arrondissement of Andelys).

Germany, England, and France, L'Abbé has no doubt, will add to this gleaning from Normandy. "We would almost say," he adds, "that the theatres of antiquity have known these resources, and that Vitruvius himself has spoken of acoustic vases."

Now such vases as those described by L'Abbé Cochet, M. Didron, and the Swedish and Russian architects, have not only been found built into the walls of Greek rooms where choruses were sung; but, strange to say, among the ruins of sepulchral buildings in the cities of the dead discovered on the site of ancient Chaldea the very same peculiarity, of open vases, implanted, by thousands, in a wall, mouth outwards, but in this case on the outside of the wall, was found some years ago by Mr. W. K. Loftus;* and the subject is one of so remarkable a kind that we shall quote Mr. Loftus's account of his discovery in full:—

"Warka is a complete mine for extraordinary and unheard-of modes of decoration in architecture. Within a stone's throw of the south-west façade at Wuswas, is another mound crowned with a curious building, which has some points of resemblance to the cone-brick structure last described. It rises abruptly from the base of the artificial mound on which the Wuswas ruin stands, and appears to have been a tower of unbaked brick. My attention was particularly directed to it by the enormous quantity of broken pottery and conical ends of jars which lay around. On excavating midway up its north side, I came upon a kind of basement, or perhaps terrace, of mud-brick abutting against a mass of compact earth. Upon the latter was raised a wall composed entirely of unbaked bricks and a peculiar species of conical vase, the fragments of which lay strewed on the surface. This wall was traced about 100 feet, but was extremely irregular in plan, at one point projecting forward 4 feet, then rounding off and receding 8 feet. It afterwards resumed its original direction for 43 feet, then made an obtuse angle, and finally bore away as before, when I ceased to follow it further. Above the foundation were a few layers of mud-bricks, superimposed on which were three rows of these vases, arranged horizontally, mouths outwards, and immediately above each other. This order of brick and pot-work was repeated thrice, and was succeeded upwards by a mass of unbaked bricks. The vases vary in size from 10 inches to 15 inches in length, with a general diameter at the mouth of 4 inches. The cup or interior is only 6 inches deep, consequently the conical end is solid. The cup was formed by a regular turning apparatus. These vases, from their great thickness throughout, are capable of bearing very considerable pressure, although the greatest proportion of them was broken by the superincumbent mass of earth. With their circular mouths outwards they produced a very strange effect, more striking even than that of the painted cone edifice already described.

It is difficult to conceive the purpose for which these vases were designed. We know, however, that large inflated vases were sometimes built into the walls of the Greek rooms, for the purpose of making the choruses resound during their revels; but in this case the vases were within, not outside, a chamber, and had spacious instead of extremely narrow and shallow cups. The vases at Warka could not, therefore, have been applied to the same use. Excepting as another application of the cone for an ornamental design, it is difficult to conceive their utility; but it is not improbable that the same system of architectural embellishment may be traced in the tasteful designs of vases and pipe-tiles, which form such elegant open-work patterns in the terrace walls of Mosul and other Eastern towns on the tops of the houses, where the natives sleep during the hot nights of summer."

The solid cones, like the conical vases, were laid horizontally in the midst of cement of mud mixed with chopped straw, and with their circular bases facing outwards and their points inwards, just as the hollow cones or conical vases were. Mr. Loftus saw a wall at Warka, 30 feet long, entirely composed of these cones, and similar cones are found in many other ruins of undoubted Babylonian age, which, unlike Warka, have escaped being built upon by succeeding races. Mr. Taylor discovered them plentifully, both at Múgeyer and Abú Shehreyn, at which latter place they occurred 10 inches in length, composed of limestone and marble, and sometimes with a rim round the edge filled with copper. They were, undoubtedly, much used as an architectural decoration in Lower Chaldæa, and always in connexion with sepulchral remains. "Cones, or rather horns [cornets?] of baked clay," according to Mr. Loftus, "frequently occur on the same ruins, inscribed round the thick part of the circumference in early and complicated cuneiform characters. They, however, appear to have been attached to some other object, and are usually bent at the summit of the cone. One of these, obtained by me at Warka, bears on it the name of Bel or Belus. It is engraved in Mr. Layard's 'Nineveh and Babylon,' p. 564, and is now in the British Museum."

These cones remind one not only of the cones in the hands of Egyptian and Assyrian priests, but of those used by the Buddhists, apparently as a sort of fetish objects on which to fix the eye in that "contemplation" which forms so distinguished a religious duty in Thibet, China, and India. Built in thousands into a wall, however, one cannot imagine them to have had any such purpose; and neither could the hollow cones outside the wall have had

* Travels and Researches in Chaldæa and Susiana. London: Nisbet: p. 190.

anything like an acoustical object in view, although in the less ancient use of such hollow cones or vases in churches, and even in Greek rooms, such a purpose may have been intended. Can it be that the Chaldæan cones, solid and hollow, were fetishes, such as we have indicated, and were built into the walls of the sepulchral temples of the cities of the dead at the deaths of the possessors? If so, this might account for the irregularities of the wall; and as for subsequent practices of a like order, may they not have merely been traditional and without special purpose, at least till the idea was appropriated to acoustical uses, real or imaginary? At all events, the original practice in Chaldæa could not, one would think, have had anything to do with acoustics.

ON THE CONSTRUCTION OF DWELLINGS FOR THE POOR.*

ALTHOUGH the subject of the few remarks which I have the honour to submit to you this evening is full of interest to all who are either directly or indirectly engaged in the improvement of the domestic condition of the poor, and might still in skilful hands be treated with novelty, I fear that it has been so frequently discussed at *séances, conversazioni*, and public meetings of all kinds, and has received so much attention from the editor of the *Builder*, whose valuable journal is in everybody's hands, as to render the hope of obtaining much additional information or entertainment from the little which I have to say exceedingly small. If you will allow me the quarter of an hour allotted by the patron to his vicar for the duration of his Sunday morning's sermon, I think it will be sufficient; and I shall try to tell the little I have to tell within that time. I cannot but feel that some apology is necessary for venturing to dignify by the name of "paper" the following brief record of my experience; but I have done so with the hope that, under this title, it will incite a discussion which will elicit suggestions of more real value than it can offer itself.

I believe that it is usual, in entering upon a description of any style or peculiarity of building, to date from the time of the Israelitish captivity, and to give a history of the first brick.

May I beg that one exception to this established precedent be made in my favour; and, as I really know nothing of this great ancestor of a most numerous progeny, how he was made or what became of him, may I be allowed to tell the little I have got to tell without further allusion to him or to any of his relations not intimately connected with our present subject?

There are two distinct classes of dwellings for the poor which deserve our consideration, viz.—urban or town dwellings, and suburban dwellings or cottages.

Although the leading features of construction and detailed arrangement are the same in both, perhaps it may be well to describe first those which I consider are peculiarly applicable to town dwellings intended for working men, whose wages range from 12s. to 24s. per week. Hitherto workmen of this class have been strangers not only to the comforts and conveniences which render home attractive, but to the barest accommodation necessary to render social life tolerably decent; and, although it may appear a strange assertion to make, it is nevertheless true, that the nearer an improved dwelling approaches its miserable predecessor in general aspect and character, the more popular it will be.

The difficulty, therefore, in designing new homes for the poor consists in the introduction of improvements which shall lead to the gradual abandonment of injurious habits, and give no sudden offence to jealously cherished prejudices. To do this effectively it is desirable to ascertain, as accurately as possible, the leading requirements and peculiarities of the inhabitants of the district in which it is proposed to build.

If a labouring man be taken from one low small room in which he has been accustomed to live with his wife and four or five small children, and be placed in a dwelling which he cannot afford to furnish or keep clean, and where he is not comfortable and at ease, he will consider himself badly treated, and wish that he had been left alone.

No symmetrical or beautiful building will ever compensate him for the loss of a cabin which was convenient to him, and where he felt himself at home.

I consider that a poor man's town dwelling should consist of a living-room and bed-room, with provision for additional bed-rooms when required;—that it should possess a plentiful and accessible supply of water both for ablution and cooking; a W.C., sink, and lavatory distinct, but not far removed from his tenement; a washhouse, with the means of drying clothes in any weather without artificial heat; and, lastly, when practicable, a play-ground for his children.

In my opinion the living-room should be 12 feet by 10 feet in the clear, *i.e.*, that this area of 120 square feet should not be obstructed by fireplaces, cupboards, or other similar projections; that its walls should be square, by which I mean that there should not be more than four angles or corners on its ground-plan.

Rooms of a regular shape are more easily kept clean, are less expensive to furnish, especially when carpet or other covering is required for the floor; and, what is of no little importance, much more capable of being made comfortable, than rooms with a varied outline.

The entrance-door should open into a porch or vestibule, and be placed at one end of the wall, opposite to the window; so that when both are open, the air in the dwelling may be effectively changed.

The window should be situate in the centre of its own wall, and sufficiently large to light every part of the room. It should be a sash window, to insure top and bottom ventilation; and its cill should not be more than 2 feet 9 inches from the floor, otherwise high furniture may be placed beneath, and the difficulty of reaching it will cause it to be seldom opened. If it be glazed with tolerably large panes of glass, the probability is that there will be fewer breakages than if the panes were small.

The fire-place should also be, if possible, in the centre of its own wall, and be furnished with a range containing boiler, with a cock of the best description fixed 2 inches above the bottom; an oven, and cooking-place at least 10 inches wide from side to side, with sliding bars, flap, and catch, all of which ought to be of wrought iron.

The living-room should be further provided with a good serviceable closet, containing shelves for cooking utensils and crockery, clothes-pins, and a large covered box for coal. It should be the entire height of the room, having its front flush with the chimney-breast; and it should be lighted by a small casement window hung upon centres, and easily opened. The bedrooms should be 12 feet by 8 feet, and like the living-rooms, at least 8 feet high. They should communicate with the latter by a door in the wall opposite to the fireplace at the end nearest to the window, so that sufficient wall-space may be secured for the bed. As the bedrooms are supplied with warmth from the living-room, fireplaces are not much required; and although they are valuable additions, I do not consider their introduction necessary where space is limited or where expense is of much importance.

It is very desirable that the walls of the dwelling should have neither plaster nor paper. If they are well built with sound stock bricks, and coloured with two coats of well-sized distemper-colour of a warm and cheerful tint, they present a good and comfortable-looking surface; they offer no harbour for vermin; they are uninjured when picture-nails are driven into them; and their freshness and colour are easily renewed at a trifling expense. These cannot be regarded as unimportant advantages by those who recollect that it is almost impossible for the working man to avoid bringing creepers into his home; that he will surround himself with pictures whenever he has an opportunity; and that he very much objects to taking a dwelling whose walls are covered with the half-dirty paper of a previous occupant. If vermin succeed in hiding themselves in plaster they increase and multiply so quickly that their banishment becomes almost impossible. If nails are driven into papered walls and afterwards carelessly removed, they tear the paper and leave holes which, besides being unsightly, offer the most convenient nests to the creeping things we have alluded to. The workman's pictures are not often satisfied with one nail,—they require half a dozen at least to keep them straight. I consider the average number of nails for a picture to be ten, and the average number of pictures (large and small) to be ten: a little calculation will soon show how many holes may be left in paper plaster when these ten pictures are removed to adorn another habitation.

The working man is a nomad, as much so as the Arab of the desert. The nature of his employment compels him to wander from place to place like an unquiet spirit. He cannot, therefore, be regarded, under any circumstances, as a permanent tenant; and, as the improvement of his habits and tastes is one of the objects most desired by those who undertake to improve his home, it is of importance that, when he first takes possession of it, he should find it clean, and fit for immediate use. Now, if dirty walls are to be re-papered every time a new tenant objects to their appearance, it is evident that much time and money must be most profitlessly consumed; whereas, if the walls are merely coloured, a couple of hours and a pailful of colour suffice to restore them to their original freshness.

I have dwelt, perhaps, tediously upon the surface covering of the walls, because, without having seen them, persons suppose that what they term "bare walls" must present a prisonlike and comfortless aspect. A visit to some of the dwellings in London would, I think, remove this impression, for it would prove that a look of cheeriness and comfort could be obtained, even in those tenements where the walls were uncovered by engravings and coloured prints.

After having entered into so strong a protest against plaster, perhaps it may appear inconsistent to recommend it as the most suitable material for the ceiling. I do this, however, for two reasons: first, because it has a finished and clean appearance, and, being almost out of reach, its liabilities to injury are few; and, secondly, because it is a preventive against the spread of fire. The construction of fireproof ceilings is often unsightly, without being effective, and requires a concealment, which increases its expense.

I forget who has called man a "destructive animal," but I think there can be no doubt that children are destructive little animals. A hatchet or a hammer is a valuable instrument for evil in their hands, and their contentment is perfect when anything to be hacked or hammered is placed within their reach. All that I have hitherto specified as desirable additions to a workman's dwelling have been of a tolerably solid description, but I have said nothing of the floor. Wood is certainly not very hard: it is inviting for nails; is apt to get dirty, and tolerably difficult to clean; and yet, in my opinion, a wood floor is the best that can be constructed for our purpose. If it be not very hard, it is not very rigid, and its elasticity enables it to bear heavy and sudden blows without injury. If firewood or coal are broken upon any other floor than a wooden one, the concussion is much more injurious. If nails are driven into the joints, or the boards themselves, they are easily extracted, and leave no marks behind them; and if an extra amount of scrubbing be necessary to keep them clean, no one will deny that visible cleanliness is better than hidden dirt. Tile and asphalte floors have often been recommended as the best; but, though the former have a clean appearance, they are cold to the feet when uncovered by a carpet; they are more liable to injury than floor-boards; and they are more troublesome to repair and replace when defective. Asphalte and cement floors have, I consider, in addition to these disadvantages, another which ought not to be overlooked. Their efficiency, in great measure, depends upon a rigid foundation, consisting either of brick arches, or concrete supported by iron joists. I have already said that this kind of construction is expensive. The insurance offices object to it on other grounds. They consider that it is not fireproof. In case of fire, after the iron becomes heated and exposed to the action of water, fracture ensues, and ruin speedily follows; whereas, a substantial wood floor, with plaster ceiling, will, in small tenements like those I am describing, resist the spread of fire for a considerable time. Having attempted thus far to describe what I believe every working man would acknowledge to be contributive to his comfort and convenience, I will say one word upon an item affecting his domestic economy, in favour of which his approbation is much less certain. I allude to ventilation.

If there is anything in the world that a poor man hates, or a poor man's children are educated to hate, with cordial, sincere, and unquenchable hatred, it is fresh air. No preaching, reasoning, expostulation, or cajolement will induce him to breathe freely among his own penates, if he can help it. So successful is he in excluding every breath of air from his dwelling, that his very fire remonstrates, and smokes vigorously. If its cloudy signs be disregarded, which they invariably are, of course, after a time, it collapses and expires. Its death, however, offers no warning: windows and doors remain closed, and to be stifled without a fire is preferable to easy respiration with one. No one will deny that dwellings must be ventilated, but few will be able to say how it is to

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* By Mr. H. A. Darbishire. Read at meeting of the Architectural Association, on the 13th inst. Report of the discussion which followed will be given in our next.

be done. Beyond supplying doors that do not fit too close, windows that will open at the top and bottom, and fireplaces with air-channels underneath the floor, it is extremely difficult to know how to proceed further without detection. A ventilator, once discovered, instantly becomes useless. It is pasted over, if small; and if large, is made the receptacle of every cast-off garment, from a bonnet to an old shoe. The most successful ventilators that I have tried are some perforated bricks, so adapted that they will admit the external air without causing a draught. I have introduced them throughout the length of the wall in which the windows are placed, and in that opposite to it; and the air is so diffused by its passage through the narrow channels with which the bricks are provided, that the paste-brush is seldom considered necessary to oppose its entrance. I think that you will admit this to be a point of no little consequence in their favour. Still I am obliged, in a great degree, to trust to doors, windows, and fireplaces, and endeavour, by their arrangement, and accessibility to fresh-air currents, to tempt the boon which the workman despises.

I cannot leave the subject of ventilation without adverting to one intimately connected with it. I mean drainage. I consider that, after the foundations, no portion of a building deserves more careful attention than its drains.

In dwellings provided for persons who are not remarkable for the care they bestow upon the property of others, it is especially desirable that the drain-pipes should be of the best description, and that their diameters should be larger than those employed under ordinary circumstances, because their liabilities to obstruction are very much greater. Boots, brushes, bones, pieces of furniture, and even old clothes, are not unfrequently found in the drains of poor neighbourhoods. That these and similarly unwelcome intruders may be easily removed, it is desirable that the main drains should be external to the building; that they should be supplied with examination holes at certain intervals for the purposes of repair and cleansing; and that they should possess the means of being regularly flushed with water. None but the inferior drains should be laid within the building, and these should take the shortest possible course to the main drains. In all situations where the site of the building is spongy or soft, or consists of made ground, the drains, both large and small, should be laid upon beds of concrete, in order that their proper falls may be preserved; for upon this the efficient drainage of a building mainly depends. Soil and other pipes connected with the drains should be ventilated, as far as practicable, by being taken above the roof, and no precaution whatever should be omitted to ensure the healthfulness and purity of the building.

In addition to the living-room and bed-room and their requirements, which have taken up so much time in this description, I consider that to every poor man's town dwelling a lavatory should be attached: this should contain a W.C., fitted with Lambert's strong galvanized iron valves; a lead trough, supplied with one of Chrimes's high-pressure loose valve cocks, and furnished with an enamelled iron basin for ablution; and a smaller lead trough or waste for the discharge of dirty water, with an inch service cock above it for the supply of pails and kettles. The walls of the lavatory should be finished and coloured as those of the dwelling; but to the height of 18 inches above each trough they should be painted with four good coats of oil colour, that they may be frequently and easily washed. The floor should be tiled with thick 9 inch square tiles, which bear a good deal of wear and tear, and slopping in one spot without injury. The lavatory should be lighted by two windows at least, one in the external wall of the W.C., and one at the furthest end of the wall, at right angles to it. The door should be at one end of the wall, opposite to that which contains the closet window, so that there may be no possibility of stagnant air remaining in the place.

Botanists tell us that roses and other beautiful flowers are partial to soap-suds; but I know of no class of naturalists that has alluded to their powers of attraction for the workman's wife. It is not probable that if there be no tub and water her sighs after the suds will be either frequent or deep; but give her these, and a small copper in addition, and her latent love and powers to scrub rise up like Astarte's ghost. Every bit of rag she can find must be washed;—not half washed, but washed in every stage of washing—soaped, rinsed, and boiled over and over again, until there is more wash left than rag. To attach a laundry, then, to the dwellings of those born with this affection is a positive duty; and it is well to consider how it may be gratified in the most efficient and practical manner.

In my opinion, it is important that the accommodation should be as simple as possible; that the supply of water should be near at hand; and that all artificial means of drying, excepting, of course, clothes-wringers, should be avoided. The furniture should consist of a washing-tub and rinsing-tub, about 3 feet 3 inches long by 1 foot 9 inches wide, with washer, plug, and chain, and a separate cold-water service to each. The top of the tubs should be 3 feet 6 inches above the floor if foot-boards are provided, and 3 inches less if there be no foot-boards. There should be a 10-gallon copper provided, with a cold-water service and a tin ladle. Especial care should be observed in the construction and arrangement of the flue, to insure the heat being well distributed over the sides and bottom of the copper, and to afford facilities for regulating the heat and cleaning. Child's American wringers should be provided when hydrometers are not used. They are easily attached to the tubs, are effective and simple in their action, and can be procured at a moderate price.

It is desirable that the cistern or source from which the water-supply is obtained should be as close to the laundry as possible, in order that the piping may be short, require few joints and bends, and be free from the risks which attend a variety of levels. Perhaps I ought to observe that in all matters relating to water-supply, more attention should be paid to the dimensions of the iron piping and the nature and position of the services than they usually receive. For instance, means should be provided for filling, emptying, and cleaning the cistern, tank, or whatever the main supply may be, at any moment; also for regulating the supply in such a manner that when any portion of the piping is under repair, the water may be partially or entirely excluded from it. Every rising main should be furnished with at least two cocks; and, where the building is peculiarly liable to fire, there should be an additional cock 2 feet above each floor-level, for the supply of buckets, and for the connexion of hose. The first cock should be fixed in the junction between the rising main and the company's street main, so as to regulate the entire supply of the building. The second should be fixed at the bottom of the rising main, so as to release the water which remains in the pipe after the cistern is full, otherwise the main will be liable to injury from frost, especially in exposed situations.

The artificial means of drying clothes, which are adopted with advantage in the public wash-houses, are to be avoided in small laundries, because they require fuel, machinery, and supervision, which cannot be supplied and maintained without considerable expense, and which do not secure advantages at all commensurate with the attendant risk and cost. As far as my experience teaches, I find that clothes are easily and effectively dried, if they are protected from rain, and suspended in strong cross currents of air, and that wherever spaces suitable for this purpose can be obtained, other expedients are not required.

The last item on my list of contributions to the comfort of a workman's town dwelling, is a playground for his children. A few square yards are of inestimable value where house-room is limited: their value, however, increases their scarcity; and in London, the miserable little space which the Act requires to be in the rear of each dwelling, is all that the landlord can afford to allow to his overcharged and over-crowded tenants.

I consider that a great portion of the success which has attended the erection of large blocks of dwellings for the poor in towns, and especially in London, is attributable to the playgrounds which are placed at the disposal of the inmates. One large playground to one large building is of much greater use than many small yards to as many cottages.

The consideration of this subject has brought me to a point where my description of details may terminate with advantage in favour of one relating to buildings designed to contain several dwellings; and of these I shall say a few words before I conclude.

The site for a block of associated dwellings should be as open and in a situation as public as possible, not only to receive the advantages of light and ventilation, but because it is desirable that it should be easily accessible and easily found, and that the residents may have frequent opportunity of contact with neighbours whose habits and appearance are superior to their own. The ends of the site should face north and south, so that its east and west sides may have the morning and evening sun. It should offer every facility for good drainage, and it should not be near an exhausted gravel-pit, which has been filled up with dead or decaying animal and vegetable refuse. If the site has been long unoccupied by buildings, the nature of its subsoil should be well ascertained, as it not unfrequently happens in neighbourhoods where new dwellings are most required, and where scavengers and sanitary commissioners are rarely seen, that vacant plots of ground are regarded by the inhabitants as special provisions for their convenience, and are appropriated accordingly as economical dustholes, that require no cleaning. Owing to the increasing value of land in towns, large building sites are not to be obtained, except at considerable cost: it is necessary, therefore, to ascertain what area and shapes are most desirable, and to distribute every foot of space to the best advantage.

The most economical dimensions for a site, within the jurisdiction of the Metropolitan Board of Works, are 108 feet by 60 feet, as they will accommodate a building 108 feet long by 34 feet wide, and admit of a play-ground 26 feet deep in its rear. The multiple of 108 by 34 (3,600 in round numbers) is the area allowed by the arbitrary Act by which we are governed to a building containing several distinct tenements, and possessing only one entrance and staircase. It is, therefore, of consequence, that its distribution into tenements, lavatories, laundries, bath-rooms, staircases, and passages, should be such as to secure the greatest convenience and comfort with the least possible loss. To do this effectually, it is requisite that the building should be of a certain height, which, I consider, should not exceed 46 feet from the ground-line to the eaves of the roof. This dimension admits as many stories of dwellings as can be occupied with comfort to the tenants, and it requires no unnecessary thickness of walls. If it be expedient, as I have already suggested, to consult the wishes of one resident living alone, it certainly becomes much more so to comply, as far as possible, with those of several residents when congregated under the same roof. And very high buildings offer obstacles to the accomplishment of this very desirable end, too serious to be disregarded. To avoid all envyings and grumblings, the plan should be arranged so as to distribute the advantages of residence in tolerably equal proportions to all; and, therefore, the subdivision of the allotted superficies of 3,600 feet, and the prescribed height of 46 feet, which I propose, is as follows: whether it be the best, will, I hope, be decided by and by.

Dwellings whose floor level is below the general ground-line are objectionable as residences; and, as they are certainly not popular, I provide no accommodation in the basement, but a small cellar, to which reference will be made hereafter.

The ground, first, second, and third floor plans are divided, throughout their entire length, into two equal portions by a corridor, 4 feet 2 inches wide, each side of which is occupied by dwellings of the dimensions and possessing the accommodation already described. In the centre of one side of the corridor, on the ground-plan, is the principal entrance, and immediately opposite to it on the other side is the staircase. By giving these a central position, equal facilities of access are afforded to every part of the building. The entrance is 5 feet 6 inches wide, and is furnished with external and internal folding doors, under the immediate supervision of the porter, whose office it adjoins.

The staircase is 8 feet wide, with solid square stone steps, having a 10-inch tread, and an average rise of 7 inches. It is partially inclosed, *i.e.*, the side furthest from the corridor contains an arch 7 feet wide, and extending from the ground line to within a few feet of the eaves of the roof. It is separated from the corridor by two arches, whose centre pier contains a dust-shaft, traversing the entire height of the building. It is 14 inches span within, open above the roof for ventilation, is furnished with a hopper at each floor level, and communicates with a dust cellar in the basement, to which reference has already been made, and which is approached by a small external staircase underneath the first landing of the principal staircase, but distinct from it, so that the dust may be removed without causing annoyance to the tenants.

In all the plans I have mentioned the lavatories adjoin the staircase: those for men's use are on one side, those for the women on the other. This position is central, and will be found to possess other advantages of importance.

The arrangement of the fourth or topmost floor differs from those below it, inasmuch as it contains no dwellings, and is a source of no pecuniary profit. It has the following accommodation,

viz.—A laundry *circ.* 22 feet long by 12 feet wide, open to the roof, furnished with No. 8 sets of wash-tubs, separated by slate partitions; No. 8 10-gallon coppers; No. 8 Child's clothes-wringers, or one of Alliott's patent hydrometers; trellis-framed standing boards; stools for clothes-baskets, soap-boxes, and ladles. Of this furniture there is nothing to remark except that the slate partitions are supplied to ensure a privacy to the washer, which is very desirable; the ragged condition of the clothes, which some of the poor women bring to be washed, being such as would excite remark and ridicule were they not concealed from general observation. Low stools are supplied for the clothes-baskets in preference to tables, because they are more convenient, as being easily removed by the washers themselves.

In addition to the laundry, this floor contains a man's and a woman's bath-room, situate on each side of the staircase and immediately above the lavatories. Each is furnished with one of Rufford & Finch's baths, and a service of cold water. As they are near the laundry, hot water can be supplied without difficulty or delay, when it is required.

A cistern adjoins each bath-room, lined with lead, and supplying the range of lavatories below it. This position secures a direct fall to the several services, and avoids the necessity for frequent bends and joints, which are liable to get out of order.

The remaining portion of this story is unobstructed except by chimneys, and the standards which help to support the tie-beams of the roof, and which serve as clothes-posts for the washers. It is lighted by a range of small casements, capable of admitting air sufficient to remove any vapours or unpleasantness that might arise from the laundry, and to thoroughly dry all the clothes in the building.

The drainage is simple, and barely deserves notice. The main drains are external to the building, and are 12 inches or 9 inches in diameter. The smaller drains are as short as possible, and are 6 inches or 4 inches in diameter, according to their requirements.

The ventilation, afforded by the plan I have described, is in my opinion one of its principal recommendations. It is secured by the wide corridor, which divides the building, and which serves as a reservoir for the supply of air to the dwellings, whenever the entrance doors are opened. A window at each end of it, and the open staircase in its centre, do not fail to establish ever-changing currents, which forbid stagnation and remove impurities; and, notwithstanding all the tenant's opposition, his old hats, boots, paste and brown paper united, cannot entirely exclude the benefits which lie for admittance at his door. To forestall the inquiry as to the number of families which can be accommodated in a building covering 3,600 superficial feet, and five stories high, I may mention that the number of dwellings will be from forty to forty-five; the number of latrines, sixteen, or rather less than one-half to each dwelling; eight lavatories, or about a fifth to each dwelling; and the same number and proportion of washtubs and coppers. The baths may appear few, but their number is found to be sufficient.

I have now told the little I had to tell of my experiences relating to town dwellings. With a few words about cottages, I shall conclude what I fear you will consider a talk about trifles.

The internal accommodation which I have found to be most suitable for small cottages in the country, consists of living-room about 12 feet square, with a small scullery and closet attached, and a washhouse, about 10 feet by 9 feet, on the ground-floor, and three bedrooms and a closet on the floor above. Outside the cottage a yard should be provided to contain the ashpit and privy, and a place for coals.

Although land in the country is less valuable than in towns, the plan of the cottage should not be straggling, or render a variety of roof lines necessary; and although its arrangement should be compact, it should not be cramped. Ingenuity may be shown in fitting one portion into another, but it should not be carried too far, as sometimes happens. I have seen instances where the spaces have been so intermixed and of such extraordinary shapes, that the ground-plan resembled a Chinese puzzle more than anything else. Shapeless nooks and corners do not become convenient cupboards and closets because they are inclosed and possess a door, but rather most inconvenient hiding-places for mice and dirt, which render the place unwholesome and a nuisance.

The temptation to build picturesquely, and to try experiments with new materials and methods of construction, is much greater in the country than in town. Projections and angles look better on plan than plain straight lines, coloured bricks, bands of ornamental tiles, glazed patera, and other similar attractions, may give variety to elevations, but they must be adopted with considerable caution in small buildings. Too many projections make a small building look smaller by depriving it of breadth; and too great a diversity of colour give it a gingerbread and vulgar appearance, and frequently destroy the effect of really good proportions. New inventions and pseudo-economical devices prove too often miserable and expensive delusions.

The details of construction, &c., which I have given while speaking of town dwellings, are equally applicable to those in the country, and I hope that I may be excused from reverting to them, and be allowed to close by quoting for the benefit of all who are about to build cottages for the poor, some words of advice addressed to me in earlier days by the late excellent Professor Cockerell, whose memory will be ever dear to those who had the privilege of knowing him:—"Do not allow novelty to tempt you into experiment, but defer its adoption until it has received the approval of the more experienced."

THE CONSTRUCTION AND ARRANGEMENT OF MILLS.*

Few men—and those few are fast dying off—have enjoyed such varied opportunities for achievement in engineering matters as Dr. Fairbairn. For more than half a century at the head of a well-known firm in Manchester, the metropolis of mechanical engineering, — an engineer with a career almost coeval with the rise of engineering itself,—one of the most noted experimenters of the day,—a manufacturer from whose workshops the most varied descriptions of engineering work have been turned out,—a man honoured with the highest scientific dignities of Europe;—it is with great expectations that one opens a book by such an author. We are sorry to say that a practical engineer, after carefully reading this work, will find his expectations scarcely fulfilled. We have closed the book, not with the regret that its perusal is no longer a pleasure to come, but rather that Dr. Fairbairn should have put his name to a work that only incompletely answers to its voluminous title; to a work of an extremely superficial, and, in many respects, of a somewhat useless character. By what class of readers does Dr. Fairbairn intend this book to be read? Not deep enough for the practised engineer, its matter is insufficient for the engineering student. The work is, in fact, a book of all trades and a treatise on none.

Let us take, for instance, "The Architecture of Mills," *titularly* one of the most prominent subjects of the book. Now, the building of mills and factories, both from a utilitarian and æsthetic point of view, is one of the most interesting, and one of the as yet unexhausted subjects of the day. There is no doubt, that for almost every special manufacture a distinct arrangement of building ought to be adopted; that the building itself ought to be looked upon as a huge machine of brick and stone, intended to work in harmony with the other machines and their attendants, while sheltering them from the sun and rain. One of the main principles in factory construction is that whereby the materials to be manufactured never require to move backwards. The work should not be carried twice over the same space, but should move forward from its entry as a raw material at one end of the premises, to its exit as manufacturers' produce at the other. Another important principle consists in a careful arrangement for extending the works without any difficulty or patching. Almost all manufactories in this country, whether starting on a small or a large capital, may look forward, if well managed, to being extended. We have seen a fortune wasted in building expenses from no previous provision being made for extension. Then comes the principle of central observation, the importance of which was so fully enlarged upon by the late Sir Samuel Bentham.

It requires but a slight acquaintance with workmen to understand that easy means of supervision are always required. If the operative works by "piecework," the work itself has to be looked after; if by "day-work," the men themselves and the apprentices require the eye of the master. The easy conveyance of the materials and operatives,—the same in a factory as the circulation of the blood in an animal,—is another important point, of more or less importance according to the weight of the work itself, and of the number of operations the raw materials have to undergo before they assume their ultimate shape. The lighting of the building, its ventilation, and the means for making it fireproof, are evidently additional things of varying importance to be taken into consideration, as with other buildings. For many manufactures the lighting has to be of a special character. The locality of the factory with respect to water-power, fuel, labour, as also railway and canal communications, would be other matters to be taken into consideration. Land is now so expensive, even in provincial manufacturing towns,—a well-known firm in the north is said to be paying 2s. 6d. per annum per square yard,—that probably no manufactory can be so well established as in the outskirts of a town, and close to a line of railway. Will it be believed that Mr. Fairbairn only meagrely notices one or two of these principles in his "Treatise on Ancient and Modern Mills?" In a large establishment, a princely income may be won or lost accordingly as these points are considered or not in the laying out of the buildings. A well-planned factory represents an annual income to the manufacturers. Most of these requirements will be attained with greater facility if everything be placed upon the ground-floor. Merely with regard to the loss of muscular power in men by ascending and descending a staircase, the "shed" or ground-floor system is of great advantage. According to Sir George Cayley, a man when running up stairs for a few seconds exerts a power of two horses — twelve times the power he can exert with permanent effect. Many manufacturers in the north use "hoists," or platforms rising from floor to floor, with the men and materials. This plan, however, only partially obviates one objection to a factory built with several stories. Into the æsthetic point of view of factory building Mr. Fairbairn does not enter. He merely states that, twenty-five years ago, he formed the corners of a factory-building into pilasters, and made a "slight cornice round the building." We would venture to say that, in these days of specialities, an architect who would devote himself to factory buildings as a speciality, might meet with a lucrative practice. It is from a disregard of these principles that so many factories—absurdly constructed from a utilitarian, and hideous from an æsthetic point of view—are an annual loss of income to the proprietors, and an eternal eye-sore to the looker-on. We have examined many buildings of this kind, both in England and on the Continent, but the best example, in every way, of an engineering factory we have yet met with is that of Messrs. Beyer, Peacock, & Co., near Manchester. A branch from the Manchester, Sheffield, and Lincolnshire railway runs right into the yard of the works: there is a perfect communication between all the workshops by means of tram-lines: all the shops are on the ground-floor, and are lighted from the roof: the foremen can see from their offices the whole extent of their respective departments; and Mr. Beyer has adopted such a perfect arrangement for extension, that his works have been actually more than trebled in extent without pulling down a brick. With the exception of a few tall chimneys, of a somewhat questionable outline, there is nothing in the whole range of these magnificent buildings but what would please a fastidious architect. Of what use to an engineer or mill architect are the popular descriptions of cotton, flax, silk, and other mills, forming the principal part of this book? The irrepressible, but intelligent penny-a-liner has long ago furnished the daily papers with descriptions of this kind. Again, a man of such experience as Dr. Fairbairn should not have to quote so continually from a familiar authority like Dr. Ure. Several pages, printed, by the way, in the same type as the body of the book, are quoted from the late venerable doctor, and two chapters, at least, begin with "Dr. Ure says." In the account of cotton mills, Dr. Fairbairn quite ignores Mr. Richard Roberts, that universally known veteran engineer, who, when scheming the spinning-mill, had to be escorted to his works by a troop of cavalry, in order to protect him from the vengeance of the infuriated hand-spinners.

Even the mechanical engineering portion, properly so called, of the book, is in many respects

* "Treatise on Mills and Millwork." Part II. On Machinery of Transmission, and the Arrangement of Mills. Comprising Treatises on Wheels, Shafts, and Couplings; Engaging and Disengaging Gear; and Mill Architecture; and on Corn, Cotton, Flax, Silk, and Woollen Mills: to which is added a Description of Oil, Paper, and Powder Mills; including a short account of the Manufacture of Iron. By William Fairbairn, Esq., C.E., LL.D., F.R.S., F.G.S.; Corresponding Member of the National Institute of France, and of the Royal Academy of Turin; Chevalier of the Legion of Honour, &c. Longmans. 1863.

deficient. In his account of friction, Mr. Fairbairn might well have alluded to the recent remarkable experiments in France, that seem to almost entirely reverse our received ideas of friction. It has also been lately shown that—given two pillars of the same diameter—a belt can in no case communicate the exact speed of the driving to the down pulley. There is no mention of V-wheels,—a form of gearing coming into use for many purposes. The chapters on shafting form the best portion of the book, and must be very valuable and useful to any engineer or millwright in want of such information. The engravings are also very good, but they greatly lack dimensions. To the millwright this book will be of some value; but it is a failure with respect to mill-architecture.

We repeat—while fully acknowledging the useful character of some parts of this work—that the work scarcely answers to our expectations. However, engineers of the standing of Dr. Fairbairn, in England, write so seldom that we must be grateful for what we can get. There are, indeed, few men that so greatly deserve the gratitude of the country and of the profession as Dr. Fairbairn. His experiments in iron, steam, and other questions—conducted at his own expense—have been landmarks for the engineering profession during the last quarter of a century. The Association for the Prevention of Steam Boiler Explosions, founded by Dr. Fairbairn, has already saved more lives than were ever saved by the Royal Humane Society; and no public recognition has yet been made of his services. We must nevertheless speak of the present book as we find it.

PROJECTED RAILWAY AND OTHER WORKS.

This is the long-advertisement season which issues in the ensuing session of Parliament; and, as usual, it yields a plentiful crop of new railway and other projects. The chief feature in the metropolitan railway advertisements is, that each comprises a number of distinct projects, or separate railways, to be cast like network over the several districts. Thus, there is a Hammersmith and City railway extensions project, with six different railway extensions, loop-lines, junctions, &c., intended to accommodate such places as Mortlake, Chiswick, Kew, Richmond, Hammersmith, Kensington, Ealing, Stroud-on-the-Green, Turnham Green, and other localities; but the details are far too intricate and lengthy for further notice here. Then there is a Hammersmith and Wimbledon project, with five distinct railways, as from the Hammersmith and City line to the Wimbledon and Croydon line of the London, Brighton, and South Coast, and to Kensington, with junctions connected with the London and South-Western. The Great Eastern are applying for power "to acquire station land adjoining Wormwood-street, and make railways [eleven distinct lines] therefrom to various parts of their system and the North London and Tottenham, and Hampstead railways." This network will catch up traffic in a multiplicity of places in the east of London, as well as at Hackney, Tottenham, Hampstead, Walthamstow, &c. Another East London project contemplates the "construction of railways to connect certain railways on the Surrey side of the Thames with certain railways on the Middlesex side thereof; acquisition of Thames Tunnel; working, and traffic, and other arrangements with divers railway companies, and with reference to the Haydon-square branch railway; arrangements with Grand Surrey Docks and Canal Company." There are no less than thirteen distinct railways connected with this project, the meshes of whose network are cast over Bethnal-green, Deptford, Whitechapel, St. George's-in-the-East, Cripplegate, Bishopsgate, Shoreditch, Mile-end Old Town, Aldgate, Minories, Rotherhithe, Wapping, and a multiplicity of other places. A company is to be incorporated "for making railways between Hendon and Chelsea, Chelsea and Bricklayers' Arms Station, Chelsea and Victoria Station, Victoria Station and Westminster, Westminster and the Metropolitan Extension of the London, Chatham, and Dover Railway; with branches to the Mansion House and elsewhere; powers of deviation; powers of interference with streets, roads, &c.; levying of tolls; compulsory purchase of land; junction with and use of stations of, and running powers over, and facilities for traffic over, the railways of other companies." That there is, in short, to be a general running into one another both of lines and trains seems but too obvious. The mere perusal of such advertisements confuses the brain; and what would be the upshot were one-tenth of the projects carried out, it is impossible to conceive.

In the provinces, also, many schemes are afloat; but we can only notice a few of these. A new central station at Leeds is projected. The site is principally on the north side of and fronting Wellington-street, and extending back to and including the Infirmary, or some part thereof, and extending in length from the present Central Railway Station in Leeds, on the south side of Wellington-street, to Albion-street.

The East Gloucestershire railway scheme has been revived, with the object of giving Cheltenham direct communication with London and Gloucester by a broad gauge line to Farringdon. The new line will proceed from Cheltenham through Lechlade and Burford to Farringdon as before, thereby shortening the London journey by twenty-three miles, and opening up the hill district of Gloucestershire; while at Lechlade a branch will be made to the Witney Railway, thereby opening up a direct communication with Oxford and the eastern counties. This branch will shorten the railway distance between Cheltenham and Oxford thirty-two miles; will give a third route to London *vid* Oxford twelve miles shorter than the present route; and will give direct communication by the London and North-Western line with Cambridge and all parts of the eastern counties.

A second scheme to shorten the communication between Cheltenham and London, and to connect this district with the eastern counties, has been proposed: this is "the London and Oxford District Railway;" and it is a modification of a narrow-gauge line laid out by Mr. Stephenson and improved by Sir Charles Fox. The line will follow the old coach-road over the hills, and, passing through Northleach and Burford, join the narrow-gauge system at Witney. This line also provides a central station at Cheltenham, and by a loop-line would be connected with all the other railways which touch the town.

Another line is "the Wilts and Gloucestershire Railway," to connect Chippenham and Stroud, *vid* Malmesbury, Tetbury, and Nailsworth.

Besides the railway projects, there are a sprinkling of others, such as "the Tower subway," for making a subway under the Thames, from Iron-gate-stairs, near the Tower of London, to Horsely-down Old-stairs.

A bill is to be brought into Parliament for making a new bridge over the Ramsdale valley at Scarborough.

HIGHAM FERRERS CHURCH.

The formerly collegiate Church of St. Mary is one of the largest churches in the county, and, both from its fine proportions and its historical associations, is one of the most interesting. The church stands on the north side of its large churchyard, and forms the chief object of a most picturesque group of buildings,—the bede-house and chapel being on the south side, and the schoolhouse on the west side, memorials of its great benefactor, Archbishop Chichele. This great man was a native of Higham Ferrers, and was discovered and raised to eminence by William of Wykeham. He held the chancellorship of Sarum, the bishopric of St. David's, and finally the Archbishopric of Canterbury, from the year 1414 to his death, 1443. Chichele founded here a college for eight chaplains, four clerks, and six choristers. The remains of the collegiate buildings still exist, though almost in ruins, in the principal street of the town. For the use of the college he placed stalls in the chancel of the church. The tomb of the great archbishop is in the north transept of Canterbury Cathedral. It consists of an altar tomb, supporting an effigy, at the extremities of which are two polygonal towers, surrounded with rows of niches, with statues, and surmounted by a richly carved canopy, the whole being most richly painted and gilt. It has recently been restored by the Fellows of All Souls' College, Oxford, who have also taken in hand the restoration of the stalls in the chancel of the church in memory of their founder.

A brief description of the church will be necessary to understand the account of the portions restored. It consists of a nave, large north aisle, or, as it might be called, a north nave, chancel, and lady-chapel, at the east end of the north nave, of the same dimensions as the chancel itself, north and south aisles, south porch, and western tower. The earliest portions of the church date from the thirteenth century: it then cousisted of a nave, north and south aisles, chancel, and west tower. The water-table of the old high-pitch roof still remains on the tower. The south arcade, south door of chancel, and part of the chancel walls are of this date. The tower, which had at that time no spire, fell in 1631, but was rebuilt similar to the old one, with the exception of the buttresses on the south side. The west door ranks among the finest works of art in the kingdom: it consists of a shallow porch, the outer arch of which is elaborately moulded and supported on shafts with elaborately carved capitals. Between this and the inner door the space is decorated with two small bays, by bold groining ribs, supported on corbels, below which are cusped pointed arches. The inner doorway is double, divided by a small shaft: the heads of the openings are segmental, and ornamented, as well as the sides, with foliage and small figures. The central shaft supports the pedestal, on which stood a figure of Our Lord or the Virgin. The remainder of the tympanum is filled with circles containing sculptured subjects, illustrating events of Our Lord's life.

In 1290 the original north arcade and north aisle were taken down, and the present north nave and lady-chapel built. The west window and a window in the lady-chapel are of this date. About 1340 the church was again altered, the north aisle was built, the original high-pitch roofs of the two naves taken down, and flat roofs, with a clerestory, substituted, and new windows placed, with one or two exceptions, throughout the church, the original windows of the old north aisle being altered as at present existing. The spire was also built at this time. The only alterations effected in Chichele's time were the battlements of the nave and chancel, two windows, viz, one at the east end of south aisle, and the other at the west end of north aisle. The screens and stalls of the church are also of this date. There are several very fine brasses in the church, among which is one in memory of Thomas and Agnes Chichele, the parents of the archbishop: there is also a very fine tomb, with a brass (a later addition) between the chancel and lady-chapel.

The state of the church from the lapse of ages and neglect was deplorable in the extreme, and the roofs and walls were in such a state of decay and ruin as to be absolutely dangerous. In fact, unless something had been done, and that at once, the magnificent church of Higham Ferrers would have become a complete ruin. The interior was filled with old and inconvenient pews, while a huge west gallery blocked up the tower arch, and part of the windows in the clerestory were cut away, and filled in with modern sash windows.

The contract, which was taken for the first part of the restoration by Messrs. Ruddle & Thompson, of Peterborough, included the substantial works; viz., the re-building of the whole of the walls of the naves and aisles and porch, with the exception of the arcade between the north and south naves, with new roofs of oak to the entire church, including the chancel and lady-chapel. The old window jambs, heads, and tracery; the doorways, caps, bases, and mouldings of arcades; in short, every piece of old work that it was possible to reuse, was re-built in precisely its old position. The roofs were constructed as the old examples. One truss of the old roof remains at the west end of the nave. The chancel roof, which was comparatively modern and of a low pitch, cutting off the top of the east window, has been renewed, following the pitch and detail of that of the nave. Against the north-east angle of the tower a new staircase turret was built, terminating below the belfry stage, and surmounted by a figure of Chichele. In the course of the restoration a low door and a flight of steps were discovered, leading to a crypt under the east end of the south aisle. Owing to want of funds, the remaining works were delayed some time, but were again resumed by Mr. J. Howes, whose contract included the floors and the blocks of seats, and the relaying of all the passages of nave aisles and chancel with red, green, and buff tiles, in patterns. The tiles were made by Messrs. Maw, from the pattern of the old tiles which were found in the course of the works. The church was also fitted with a warming apparatus, by Messrs. Remmington. After a short interval the contract for the reseating was taken by Mr. Conquest, of Kempstone. The whole area has now been filled with open seats of English oak, the old bench ends and fronts, of which a few old examples remained, being taken as the pattern by which the new ones have been made, the tracery and carving in all of them being varied. The new pulpit, reading-desk, and lectern are also of oak, and elaborately carved from the architect's designs, and executed by Mr. Conquest. The old Early English font has been refixed on a new step, and placed in the south aisle. In addition to their former subscriptions, the Fellows of All Souls' College have re-

stored the stalls in the chancel, which were in a most dilapidated and dirty state, the oak used in the fronts and piecings being taken from the old oak of roofs. The screens of the chancel, lady-chapel, and aisles are also being restored by Mr. Conquest, under the architect's superintendence. The church is now lighted with gas: the gas standards, which are of iron and polished brass, are the gift of Mr. G. Bower, of St. Neots.

The ground outside the church, which had risen up high against the walls, has now been cleared away, and the paths laid with gravel round the church. The only portions of the restoration at present from want of funds left incomplete, are the altar and rail, and tiling of chancel within the rails and reredos.

The clerk of the works for the former portion of the works was Mr. Joseph Butler, and the whole of the restorations have been carried out from the designs and under the superintendence of Mr. William Slater, architect.

SHERIFF BELL ON ARCHITECTURE.

GLASGOW ARCHITECTURAL SOCIETY.

At the *conversazione* of this society various gentlemen addressed the meeting; amongst them Sheriff Bell, who said,—The more one reflected on the importance of architecture in modern times, the more one was convinced of the absolute necessity of seeing minds of intelligence and education applied to the subject. There was no art which so entirely combined the useful with the beautiful as architecture. When they found the comforts and elegancies of social life raised out of stone, and when, in addition to that, they found poetical effects given to that stone, so that when they looked on it the combinations were such that they excited noble and elevated emotions, they must all feel that architecture, which produces such results, was a great and most important art-science. He thought that all men who lived in cities were very much at the mercy of architects. It was in vain to lay out beautiful cities, fair streets and squares, and public places, if no more is to be done with those cities than to put up in them as houses certain bare walls with windows in them. No man who had any regard for the place of his own birth, or the progress of his own nation, but must wish to see its cities adorned in a far different way from that; and when they reflected on what were the great features of any city, they at once saw it was not a combination of stone and lime, but what made the city was its great architectural features. Even London itself,—when they thought of it, they thought of the great works of such men as Inigo Jones and Christopher Wren. Without St. Paul's, the noble Palace of Westminster, London itself would not be a capital worthy of this great nation; and let an architect in any city erect a grand and beautiful building, that city became consecrated and ennobled by that building. Cologne was a romantic city on the banks of the Rhine; but what would Cologne be if it were not for its sublime cathedral? Milan was one of the fairest towns of Lombardy; but were it not for that great cathedral dome, Milan would not hold the place it does in the estimation of mankind. The same might be said of St. Peter's, St. Paul's, and of every other great building. It was these great monuments of architecture that gave character and value to cities; and it was not those great buildings alone, but it was beauty of individual details in streets and other places of the city that made it a valuable and delightful city to dwell in. Then, again, when they looked at those scenes in valleys or by the hill-sides, where, after the bustle and fatigue of their daily life in cities the tired mind sought for repose, how unfortunate it was if they did not find that the most beautiful site was not adorned suitably, as it ought to be, with what were often called villas; but how, on the contrary, if they saw an appropriate building put down on a suitable site, they felt that architecture combined with nature, the whole forming one harmonious picture to gratify the human mind. Now, it was no mean task that the architect had before him. It was a very great and a very important one, and therefore required to have brought to bear upon it refined and educated minds. He had heard with pleasure that it had suggested itself to at least some of the members of the Society, and he thought it was a subject worthy of their consideration, that it would be right in Glasgow, looking at the progress of architecture amongst them, and looking at the many eminent architects who were starting up amongst them—it might be right to consider whether there should not be a chartered body of architects in this city who would admit to the membership of their body only after a stringent examination, and which would exact a due knowledge of the subject from parties who had the intention of becoming members of that incorporation. They had now in Glasgow some highly eminent incorporations, each of which, he had no doubt, had done great good. The Faculty of Procurators, for instance, had done much good in advancing legal knowledge. There were also the chartered accountants, who formed a most important body in a great commercial city, and he thought it might be equally satisfactory to see established a chartered body of architects. He by no means applauded giving such a body exclusive privileges. There might be men who would not seek to join them—men even of established reputation,—but membership in such a body would always be a test or security for the possession of ability in the profession. He was very glad to know that in this Society, although called the Architectural Society, other arts were conjoined, many of the members of the Society not being architects, but gentlemen belonging to cognate professions; and he was also delighted to see, from the many beautiful works of art exhibited in the hall, that the Society specially admired and cherished the noble art of sculpture. There was no more beautiful auxiliary to architecture than sculpture, more particularly ideal sculpture, which was perhaps the highest of all art. In the report which had been read that night allusion had been made to the decease of a very eminent architect, whose death was a great loss to Glasgow; and they might also allow him to allude to the death of another and younger man, who was not an architect, but a rising sculptor, in the presence of many eminent sculptors established among them. He thought the story of Mr. George Mossman's life was one full of the deepest pathos and interest. He was a young man of great natural genius, animated by fondness for his art. He went to London to prosecute his studies, studied there under Foley, and another great sculptor, carried off in the school of the Royal Academy a first prize, and returned with these honours to his native city, hoping to win further fame and honour here. He was not long here, however, before ill-health overtook him; and for several years he struggled on under his affliction, till at last, in the fair flush of early manhood, he sank into the grave. But he had left behind him those who were weeping for his loss, a widow and children, besides other friends. He had also left behind him works of ideal sculpture, which, he thought, displayed at once great genius and the promise of great power. The learned Sheriff then referred to several of the works of the late Mr. Mossman which were present in the hall, which the artist had not had time to execute in marble, eulogising these as exhibiting great power, and adding that it would be a graceful and good act for some of the merchant princes of Glasgow to throw a little sunshine into the sculptor's house of mourning by ordering some of these works to be put into marble. Sometimes but little attention was paid to rising merit, whether it be dead or living; and he besought those who were collecting works of art not at all times to seek works merely of the great artists who had achieved a European reputation, but rather to look for works of merit from young artists; and he assured them that, in purchasing these works and aiding these artists, they would find in many cases in the future that they had been "entertaining angels unawares."

CONGRESS OF GERMAN ARTISANS AT FRANKFORT.

The Congress of German Artisans was opened on the 24th of September. About 200 members from Central and Northern Germany responded to the invitations to take part in the discussions of this the second meeting of the kind that has ever been held in Germany. The members, however, represented masters of various arts and trades, rather than common workmen. The former constituted certainly the majority.

According to the *Social Science Review*, the subject first discussed had reference to a project for the formation of a general law that should be sanctioned by the State, for the trades of Germany. This project was adopted unanimously, the speakers seeming one and all to be of opinion that political economists, as a body, do not in any way understand the position and wants of workmen and of their masters. The next question discussed had relation to the most suitable methods for ameliorating the lot and position, in other words, the well-being of the workmen. The speakers were in favour of the continuance and preservation of the system of trades-freedoms, and held that a workman ought not to become a master until he had undergone an examination showing proficiency in his department.

On the following day, September 26th, the Congress discussed a project elaborated by the central committee of Hamburg, for securing a general organisation of every trade in Germany. The discussion on this project, which was very warm, was continued throughout the day, and was not concluded. On the 27th, the Congress came to a resolution in which it adopted the following essential point, included in the project that had been submitted:—"That masters ought to be protected in every way from any competition that may arise from their own workmen or from combined capital."

SOCIETY OF ARTS.

On Wednesday evening last, the 110th session of the Society was opened at the Society's house, in John-street, Adelphi; Mr. W. Hawes, the chairman of the council, presiding. The chairman delivered an address, in which he reviewed the past policy and explained the future intentions of the Society. He afterwards distributed the Prince Consort's prize awarded at the last examination, and the prizes awarded to the artist workmen who were successful competitors at the wood-carving exhibition held in June last.

The first-mentioned prize, which was 25*l.*, was awarded to Mr. Wm. Vaughan, aged 22, City of London College, clerk, who had obtained the first-class certificates in arithmetic, geometry, book-keeping, mensuration, algebra, trigonometry, and in conic sections. The names of the others we have already given.

The meeting-room has been decorated by Mr. Crace. We must see it again before giving any opinion upon it.

BELFAST.

A floating and a graving dock, of extensive size, are about to be constructed here, the successful contractors for the graving dock being Messrs. Thomas Monk & Co., of Birkenhead; and for the floating dock, Messrs. Smith, Kent, J. H. and T. L. Browne, of Belfast. The plans and other particulars have been prepared by Mr. Wm. H. Lizars, the resident engineer (under whose immediate supervision the works will be carried on), and approved of by Mr. George Smith, C.E., and conservator of the port and harbour. When these improvements are completed, Belfast will be enabled to give accommodation to a much larger class of vessels than at present, a circumstance that will aid to a great extent the marine interests and general commercial prosperity of this enterprising port.

THE WALLRAFF-RICHARTZ MUSEUM, COLOGNE.

The edifice illustrated was erected at the cost of Herr Richartz, a private citizen of Cologne, Germany, to receive the works of art given to that city by Professor Wallraff. It stands in an open plot of ornamental ground adjoining the Minoriten Kirche, and so can be well seen. It may be taken as a specimen of the kind of Gothic heretofore designed by the modern architects of Germany.

The scale attached to the plans is in Rhineland feet. The Rhineland foot is to the English foot as 1·0298 to 1. The collection consists mainly of early specimens of the Cologne School of Painting, having considerable interest. In the basement are Roman antiquities found in and near the city,—the *Colonia Agrippina* of the Romans.

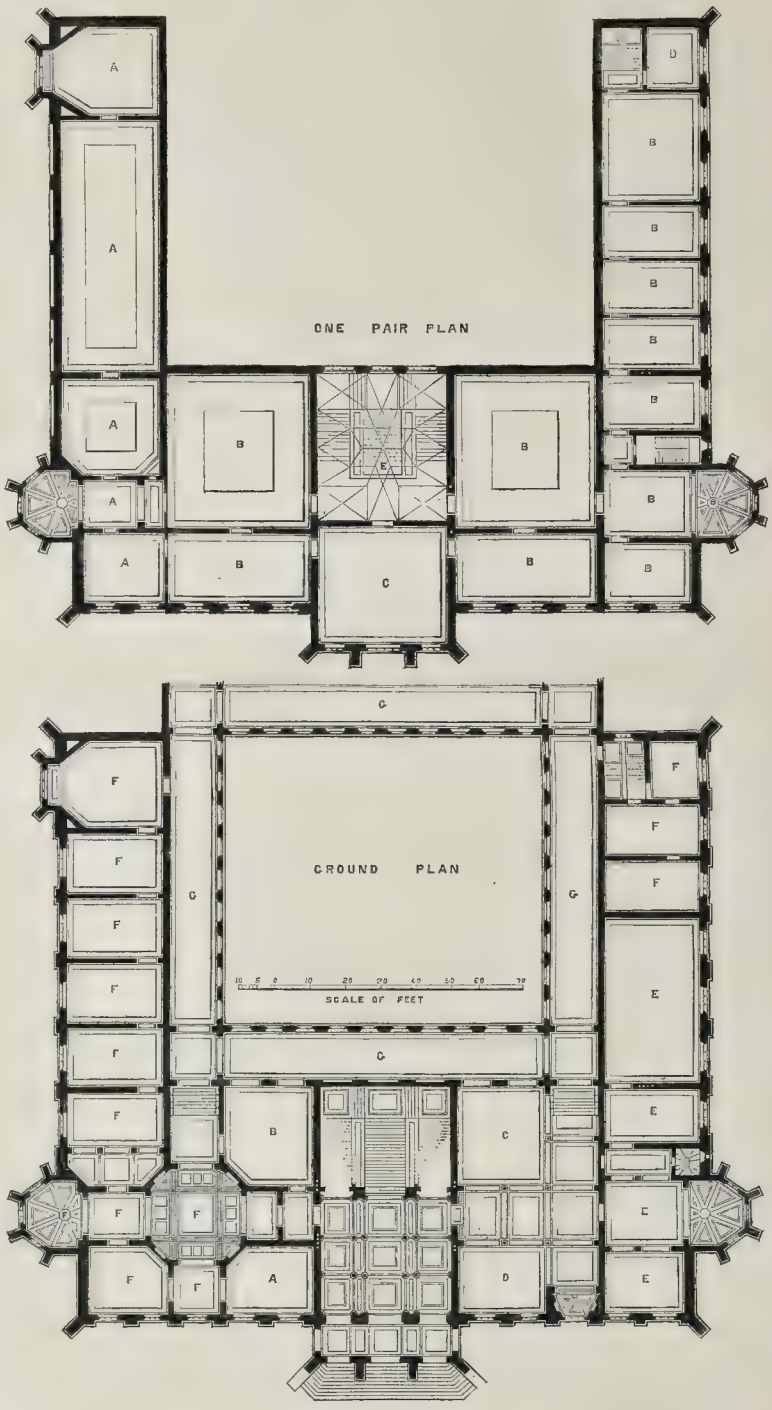
REFERENCES.

Ground Plan.

A. Concierge.
B. Ancient Armour and Arms.
C. For Mosaics.
D. Ancient Sculpture.
E. Permanent Exhibition.
F. For Curator.
F (Left hand). Modern Paintings.
G. Ancient Furniture and Earthenware.
G'. Stained Glass.

One-Pair Plan.

A. Paintings of the old Cologne School.
B. Modern Paintings.
C. Room for Royal Pictures.
D. Curator.
E. Staircase with Frescoes, by Edward Steinle.



THE WALLRAFF-RICHARTZ MUSEUM.



THE WALLRAFF-RICHARTZ MUSEUM, COLOGNE.

AGRICULTURAL HOTEL AND FARMERS' CLUB.

Messrs. Trollope's tender of 23,340*l.* has been accepted for the above building. The work of clearing the ground is to be commenced forthwith, and the structure is to be handed over to the directors by the end of September in next year.

The building occupies one entire side of Salisbury-square, Fleet-street, which site was selected mainly on account of its central position, and the quiet, for which, although in the very heart of London, the neighbourhood is noted.

There are upwards of 100 rooms in the hotel, and the whole of the arrangements and the character of the exterior are convenient and substantial, but inexpensive. There are the usual public rooms for the hotel, and a large room for public dinners, upwards of 70 feet long by 30 feet wide. There are also club, coffee, dining, and reading rooms (the Club alone bringing to the hotel the custom of 600 members). The remainder are chiefly bed, dressing, and bath rooms, common to both hotel and club.

The architect is Mr. John Giles, of London. It may be mentioned that no part of the contract sum is taken in shares.

NEW YORK NATIONAL ACADEMY OF DESIGN.

At the end of last month the corner-stone of the new building for the National Academy of Design was laid with ceremonials befitting the occasion. The building is to be erected on the north-west corner of Fourth Avenue and Twenty-third-street, in the midst of a tract which was occupied by farm-yards, meadows, and orchards when the National Academy was founded. The New York *Independent* gives the following particulars:—

"The design of the new Academy is a novelty, and the architect, Mr. P. B. Wight, a graduate of our Free Academy, has availed himself of the abundance of varicoloured building material which we are blessed with to introduce effects which will be startling to eyes accustomed to the brown monotone of our street façades. As we understand it, the basement is to be composed of alternate bands of greywacke and the grey marble of Westchester, *while the front is to be of white marble. Our National Academy will be able now to boast of a domicile of its own, which is more than the Royal Academy of London, its senior by nearly a century, has ever been able to do, with all the patronage and the prestige of royalty attached to it.* Our National Academy has led a sort of vagabond existence hitherto, moving about from one loft to another all over the city, until at last, by the energetic efforts of its members, and the munificence of some of our art-loving people, it will be able to boast of a local habitation of its own. The institution had accumulated some 60,000 dollars, and this sum was increased nearly threefold during the past two years—the years of our great consuming war, be it remembered,—by creating fellowship members."

Our authority adds:—

"The Academy, we are happy to know, will be built, and we trust it will be so managed as to lead to the more liberal cultivation of art among us; for, unless it shall do that, it will be of no more importance to us than any other building with a showy front. That it will be so conducted, however, we have great hope. The little town of Dusseldorff, in Germany, has a school of art. They talk, too, of the Brussels' school, the French school, and so on; but who has heard of the New York School of Art, or the American school? Yet why not? What is Dusseldorff compared with New York; or Belgium compared with our America?"

WATERWORKS.

Application is to be made to Parliament next session for the supply of the town and neighbourhood of Whitby with water by a limited company. The water is to be gathered into reservoirs from several local streams called the Hill Slack, the Lythe Beck, the Grand Beck, &c., and conducted by conduits.

A similar application is to be made by the North Cheshire Waterworks Company, under a new name, for the supply of the parishes of Bowden and Ashton-upon-Mersey, Northen, Warburton, and Lymm, all in Cheshire, with water by a conduit or line of pipes, commencing in the township of Stretford, in the parish of Manchester, and county palatine of Lancaster, by a junction with the main of the Manchester corporation.

A public meeting has been held in Huntingdon, at which it has been resolved to have a system of water-works for the town. The estimated cost is about 4,000*l.* Plans were presented by Mr. Hutchinson. A provisional committee was appointed to inquire as to the objects of the meeting.

The Halsted Water-works are now in operation. The general works have been carried out by Mr. Tanner; but all those immediately connected with the well were executed by Messrs. George Wood & Son, of Chelmsford. Considerable difficulty was experienced in sinking the shaft of the well to the specified depth, the lower 10 feet the well to the specified depth, the lower 10 feet dipping into a very strong spring, so that relays of men were employed day and night pumping to keep the water down. This well is 140 feet deep, 5 feet in the clear, and bricked 9-inch work in cement from top to bottom. There is also an adit horizontally 110 feet down 15 feet long by 6 feet diameter in the clear, also bricked with 9-inch work in cement. The boring is continued down from the bottom of the well through the elastic clays to 310 feet into the chalk, and the water is found in a bed of soft chalk, separated from the hard stone chalk by a thin hard vein nearly resembling china. The supply is said to be abundant. The pumps are worked by a 10-horse engine, plied by Messrs. Whitmore & Sons, of Wickham Market; and the water is pumped into a cistern 12 feet high, placed upon a tower 20 feet high, and the base of the tower is 102 feet above the level of the water at the Mill Head: there is, therefore, a pressure at the bridge of 134 feet when the tank is full: the tank holds 24,000 gallons.

THE LAND REGISTRY SYSTEM.

The *Times* announces that the new Land Registry system has *not* proved a failure, as had been generally supposed. Of course, during the first year it has been up-hill work in introducing a system entirely new; but good progress has been made. There have been forty-two applications for registering property worth a million sterling, nearly all of which have been entertained: a few did not come under the provisions of the new law. No serious "difficulties" have been encountered in working the law: no very heavy expense has fallen upon those who have taken advantage of it. We have not yet looked into the results of its working for ourselves, but may do so presently. What the uses of the system are this extract will show:—

"The operation of the new system is shown by what has actually been done. For instance, an estate of the value of 30,000*l.* was registered, and was then sold by the registered owner. The only title required was the production of the certificate of title, the conveyance was in a few lines,—which was carried to the office and entered on the register in a few minutes. The new purchaser mortgaged the property, and the same simple process effectuated the charge. The whole affair is thus one of hours instead of months, and the cost is, of course, regulated by the simplicity of the transaction. According to the old system, in such a transaction as this the seller and the buyer would each have had his solicitor and conveyancing counsel, long abstracts of title would have been prepared and delivered; requisitions would have been made; and, after months of delay and at a commensurate cost, that part of the affair would have been finished. But then the mortgage affair would begin; and again there would be the two solicitors and counsel, more abstracts, more requisitions, more delay, and more expense. It is gratifying to find, by actual experience, that the new system which introduces such a beneficial change in one of the great departments of the law is capable of practical operation."

DRINKING-FOUNTAIN MOVEMENT.

Durham.—Within a short time three public drinking-fountains have been opened in the city of Durham. The first is situate at the foot of Elvet Bridge; the second in the Market Place; the third on the North-road. This last has just been formally dedicated to public use. The fountain is built upon a portion of ground situate between Atherton-street and the pier of the North-Eastern Railway viaduct. It is built of Dunn House stone, and stands about 12 feet high by 8 feet wide, the centre portion standing prominently forward from a recessed retaining wall, rising from a moulded base forming a gable over a Gothic arch, supported by two polished red granite columns with carved capitals. This gable is enriched with raking mouldings and mitres into an ornamental hipped roof, supported by enriched corbels, and finishes with a finial composed of water-lilies, carved on the face of a pointed embrasure apex: moulded embrasures, with sunk circles and trefoils, recede on each side in the form of an obtuse pyramid, terminating with semi-buttresses, giving a finish to the whole. In the Gothic arch, between the granite columns, is an Aberdeen gray granite panel. In the tympanum is carved an ornamental quatrefoil, with the city arms in the centre. Below is a conventional grotesque gargoyle, designed out of foliage, and carved in a circle in the centre of the panel. Out of the mouth of this gargoyle the water flows into a polished marble stoup, and is conveyed to another gargoyle in the dog-trough below. The dog-trough is formed out of the base of the fountain. The water has been conveyed in pipes from a spring known as Flass Well, at the base of the Red Hills. The type of the design is Early French. The whole has been designed and carried out under the superintendence of Mr. T. C. Ebdy, of this city, architect. The carving has been executed by Mr. W. Gainford. The contractor was Mr. G. Charlton.

Northampton.—The Isaac fountain and lamp have been inaugurated. They are in the sixteenth century Italian style, of iron, but with enrichments of bronze. The plan at base of the structure is square, but with ornamental trusses at the canted corners. On the north and south sides are drinking-fountains, and on the east and west sides are shields, with the inscription. Over the fountains and plates is an entablature, with emblematic masks, and surmounting this, on shields, are the coat of arms of the borough and the crest of the donor, Captain Isaac, with scroll for mottoes, interlaced with ornaments. On the top of the entablature, and over the trusses, stand the four fountain basins, with tazzas. The water springing from these will fall into the basins, and from thence through the masks, into the basins of the drinking-fountains. The gilt bracketed globe lantern is 4 feet in diameter, surmounted with a Maltese cross; and the stand of it rests upon the capital of the ornamental column. All the ironwork is bronzed, and is raised upon four steps of grey granite. The total height of the structure is 45 feet, and it is 19 feet across the base.

Leamington.—The public fountains here have also been opened for public use. These public fountains supply the saline Spa or Leamington waters.

SCHOOLS OF ART.

The Coventry School.—The new school building just completed, and an account of which was given in the *Builder* of 31st of October, has been formally opened with a *conversazione*, at which Lord Leigh, the lord-lieutenant of the county of Warwick, presided. The Right Hon. C. B. Adderley, M.P., delivered a long address. He complimented the people of Coventry on the spirit they had shown at a time of depression of trade, in looking out for new modes of employment, and in founding such an institution as that just opened. The elements of success in every art, he said, was a knowledge of the first principles of design. He looked on the School of Art as a nursery for that skill which would insure mercantile success in art. Mr. Gladstone in his magnificent oration at Burslem had dwelt upon the relations of utility and beauty; but even he, in speaking on that subject, fell short of the fulness of the truth. He fell short of the full conception of beauty, which, after all, depended more on adaptation, fitness, and propriety, than on lines, colour, or ornament; the last being a mere addition, dependent for its own beauty on its appropriateness to the main design. All the works of art in Coventry had beauty as a primary ingredient in their value; and there could be no doubt of the advantages it might reap from a good school of art. He had heard the complaint that the Department of Art at Kensington engrossed too much of the money, granted for the purpose of encouraging art, to themselves. If this were the case, let the provincial schools of art, if they felt aggrieved, cry out in time. At the same time they should not forget that their objects were identical; that the Central Metropolitan Association must naturally engross the largest part of the grant; that it must have a museum for the use of the whole country; and still more a training institution, on a large scale, and of so high a standard as to be able to furnish all the provincial schools with masters. Moreover, the aid the Treasury might give, after all, should be nothing more than a subsidy, for the strength and life of these institutions is in their local support. He had heard many complain of the new minute on the subject of schools of art. He thought the fear and alarm which it had created would be found scarcely justified in experience. Of this he was firmly convinced, that it was in the right direction; inasmuch as it shook off a too great con-

nexion between Government and local institutions. The meeting was afterwards addressed by Sir Joseph Paxton, M.P., and others.

The Bath School.—The annual distribution of prizes to the successful pupils of this institution has just taken place in the Guildhall. The Mayor, who presided, in opening the proceedings, said that he was sorry to learn that this valuable institution was not sufficiently supported, and that the funds were at a very low ebb. He trusted that some steps might be taken to keep it, as it should be, in a state sufficiently active to afford the instruction which, if lost, would be very much regretted by his fellow-citizens. The Rev. E. D. Rhodes, the president of the institution, then addressed the meeting. This year, he said, they were going to have the British Association for the Advancement of Science here, and they not only expected a right hearty welcome, but they expected to see that there was much of intellectual and artistic talent amongst the population; and therefore it would be, as he had said, a disgrace to Bath to have to inform such an association that during the year the School of Art had become bankrupt. At present the liabilities of the society were 127*l.* 7s. 9½d.; and the total amount of the assets, 68*l.* 15s. 6d., leaving a deficiency of 58*l.* 12s. 3½d.; so that the debt of the society in 1863 was about the same as it was in 1861. It might be said that their discouragements were no greater than before; but he could not think so, for, independently of the falling off in the subscriptions, there was, which was more serious, a considerable diminution in the number of their pupils, and of that class, too, which, in a pecuniary sense, assisted the society the most, and whose attendance in other respects was most desirable—he alluded to the lady pupils. They did not feel that this falling off was to be ascribed to any defect in the working agency of the society; for he believed that it was owing to another institution having been opened, which had ventured to take upon itself the title of the "Bath School of Art,"—an instance of unjust assumption, the party knowing that there was a Bath School of Art existing at the time, under the direct sanction and approval of the Government. Such an institution having been opened in a part of the town more come-atable and in a more favourable locality than that occupied by the rooms of their institution, it was nothing extraordinary that it should have taken the wind out of their sails, and reduced the number of their better-paying pupils. Still, they had at the present time no less than 1,000 pupils in connexion with the institution. That the institution should conduct the artistic education of a thousand pupils at so small a rate that it was not able to meet its expenses, must be an appeal utterly unanswerable to all right-feeling, generous-hearted persons in the city of Bath. The payment from pupils met the expenses of the institution within from 15*l.* to 20*l.*; but besides that there was the debt of 58*l.* If the debt were not liquidated, and they could not see their way to equalize the income and expenditure of the society, then by the 25th of next March its doors would be closed. Mr. C. E. Davis, hon. secretary, observed that if the class of lady pupils were increased to thirty, they would be able to pay the expenses and to carry on the school.

SANITARY IMPROVEMENT OF TOWNS.

Sunderland.—An inquiry having been ordered by Government, some time ago now, as to the expediency of purchasing land to extend the People's Park of the borough, a paper was read by Alderman Williams, chairman of the Sanitary Committee of the Corporation, before Mr. Rawlinson, the Government commissioner; and the result of the inquiry was that Mr. Rawlinson reported in favour of the proposed purchase; and Sir George Grey has confirmed the report, by which 10½ acres will be added to the present park. The substance of the paper alluded to has been printed, together with a special report of the Sanitary Committee on the health of the town, with reference to the increased disease and death attributed to the sanitary works, as we have already stated, but which was clearly shown in this report to have prevailed precisely where the sanitary works had not yet been carried out.

Liverpool.—The corporation have given notice by advertisement of their intention to apply to Parliament in the ensuing session for power to purchase, alter, demolish, or otherwise dispose of courts and alleys of unhealthful character within the limits of the borough, as already announced from the proceedings of the town council.

Keswick.—At a recent meeting of the Keswick Board of Health, the clerk read a letter from Mr. Simon, of the Medical Department of the Privy Council Office, expressing the opinion of the Lords of her Majesty's Council, that, notwithstanding the existence of a Board of Health in Keswick since 1848, no sanitary arrangements, with one important exception, had been carried out. They directed attention to a copy of the report of their medical inspector in respect to Keswick, and wished to know what measures the board intended to adopt to remove the present grounds of complaint. The report of the Keswick Sewerage Committee was then read, from which it appeared that the clerk had written to Mr. John Lawson, C.E., to inform him of the movements of the board, to ask him what necessary surveys and plans would be required, and on what terms the necessary amount of money could be borrowed from the Government, and for any other needful information. In his reply Mr. Lawson stated that the Public Works Commissioners lent money to local boards at 5 per cent., the principal being repaid by twenty yearly instalments. The committee recommended the engagement of Mr. Lawson as engineer, and that he be requested immediately to prepare the necessary plans and estimates. The report of the Sewerage Committee for carrying out the drainage of the town was unanimously adopted.

Hexham.—Mr. John Lawson, C.E., is at present engaged in laying down water and drainage works for Hexham, which has fought almost as long for the carrying out of the Health Act as Keswick has done.

Houghton.—A meeting has been held in Houghton, to consider the sanitary condition of the village, as reported upon by Dr. Wheatley to the local board of guardians; to devise means for the removal of the nuisances pointed out therein; and to take such steps as will ultimately place the village in a cleaner and a more healthy state than it is at present. A committee was appointed to arrange a plan for carrying out a proposal to bring a covered drain up from the Beck to a certain point, and then to allow house-owners to drain into it.

Shrewsbury.—At a recent meeting of the town-council a report of the Improvement Committee was read, which stated that "in pursuance of the order at the last council meeting, a specification was prepared by Mr. Curley for executing the main sewer between the English-bridge and Preston-boats, and tenders were duly advertised for, and the following were received and considered by your committee, viz.:—

Moore	£10,334 12 6
H. & W. Carter	10,970 0 0
Field	12,668 3 0
Moxon & Co.	13,804 6 8
Dixon & Sleight	19,750 0 0
Thomas	30,890 16 0

These several amounts included compensation for land. The estimate of Mr. Curley amounted to 10,408*l.* 17s.; and for land and wayleave, 222*l.* 14s.: total, 10,631*l.* 11s. The committee do not feel justified in recommending such an outlay to be incurred. They had reason to hope from the report of Mr. Curley, of December, 1861, that 7,800*l.* would have been sufficient to have constructed the main sewer in question, and also effectually to drain the Coleham and Abbey-foregate districts. It will, however, be in the recollection of the council that an alteration was made by Mr. Bazalgette in the size of a portion of the tunnel suggested by Mr. Curley, of from 4 to 5 feet in diameter, which, of course, would add to the expense then contemplated by the latter gentleman. It will now be for the council to decide as to what course shall be adopted with reference to those portions of the borough which are without sewerage and require immediate attention, and also as to utilizing as far as possible the present sewerage."

HARBOURS AND BREAKWATERS.

Downs Harbour and Docks.—At a special meeting of the promoters of this project, held in Deal, Mr. Alfred Giles, C.E., attended and exhibited his plans. They consist of a basin of 30 acres, to be constructed on the waste ground near Sandown Castle, to be connected with Sandwich by a cut, 100 feet wide, through which the waters of the Stour can be diverted, when necessary, to flush out the entrance of the basin. The cost is estimated at about 200,000*l.* The engineer explained that the outer basin would be always open, and have 10 feet of water at the lowest spring tides, and the entrance to the sea protected by two arms or piers. The drainage of the marshes would not be interfered with; and the waters of the Stour would be so seldom required for flushing, that the river above and below Sandwich would not be injuriously affected. It was resolved to adopt the plans and estimates of the engineer, and apply to Parliament for powers to construct the necessary works.

The Tees South Gare Breakwater.—The foundation-stone of a breakwater has been laid at the mouth of the Tees. The breakwater is intended to extend seawards upwards of two miles, and when completed will form a harbour of refuge during the prevalence of easterly gales. The materials of which it is composed are the refuse of the numerous furnaces for smelting iron, which have sprung up with such marvellous rapidity in this neighbourhood during the last few years. The breakwater now stretches from the limit of high water to a distance of a mile and a half, and it is intended to carry it upwards of a mile farther. The contractor is enabled to execute 10 yards in length per week, tipping about 600 tons of material per day. At the end of the South Gare it is intended to build 100 yards of ashlar stone, and upon this portion an iron lighthouse will be constructed, showing light 60 feet high from the top of the breakwater. The breakwater will be 5 feet above high water of spring tides, and it is expected it will run down at a slope of 6 to 1 to the sea-side. Training walls will also be constructed so as to direct the current on the bar. When the North Gare is constructed there will be a channel about 700 yards between them, and the scouring effect will be such as to fix as well as deepen the bar, which is at present of a very shifty character. The cost of the South Gare breakwater, had it been constructed of stone, would have been about 600,000*l.*; but, owing to the facilities already described, its actual cost is estimated at little more than 100,000*l.* The sum will be advanced on loan by the Exchequer Loan Commissioners, on the security of the tolls on shipping levied by the Conservancy Commissioners. Mr. John Fowler is the engineer of the Tees Conservancy Commission; and Mr. John Anderson, contractor of the works.

Harbours and Docks in South Wales.—Efforts are being made at present to increase the harbour and dock accommodation at the different ports of South Wales, and more especially at Llanelly, Swansea, and Milford Haven. The trade of Swansea has shown such remarkable activity and increase within the last few years, that it has been found desirable to take measures with the view of deepening the entrance channel, the extension of the western pier, the alteration of the east pier, and the erection of the requisite lights. Mr. Abernethy, the Harbour Trust engineer, estimates the cost at 30,000*l.* The Harbour Trust of Llanelly have also seen the importance of increasing the floating accommodation at that rapidly rising port. The Llanelly Railway and Dock Company have agreed to carry out the desired extensions and improvements, provided the Trust will give certain guarantees in return. These the Trust have consented to give. An Act was obtained last session for the construction of docks at Milford Haven, and it is rumoured that the London and North-Western Company are not unwilling to lend their aid to the project.

FIRST WIRE SUSPENSION BRIDGE IN BRITISH COLUMBIA.

TRUTCH'S Wire Suspension Bridge over the Fraser, near the Indian village of Spuzzem, by last despatches was just about to be thrown open to traffic. The bridge crosses Fraser River at a point three-fourths of a mile below Chapman's Bar.

It is situate at a contraction of the river, where the bed-rock rises almost perpendicular on both sides, the towers springing up almost immediately over the water, and the bridge having a clear span of 268 feet. At low-water the roadway of the bridge will be 90 feet above the stream, and the highest rise of this year's water was 26 feet below the lowest point of the bridge.

The timber for this work was cut in the forests near the spot, and all the sawing was done by hand. The tower timbers are each 20 inches square. Supporting the cables are sixteen of these sticks, each 26 feet 6 inches long, four sticks being framed together by means of fourteen girth timbers and seventeen 1¼-inch wrought-iron bolts, spread at bottom, resting on heavy sills, and coming together at the top, forming a pyramid of massive timber. On the summit is fitted a heavy cast-iron saddle, covering the whole of the timbers, and keeping the cable which rests on it in position: this arrangement forms one of the towers, there being in all four of them, two at each end of the bridge. These towers are erected on granite

piers, 32 feet long by 12 feet wide on top. The stone was quarried out at the spot, and the lime employed was obtained six miles from the bridge, where a very good quality of limestone had been discovered in grading the road.

The cables, of which there are two, are each 4½ inches in diameter, 528 feet long, and are composed of 1,264 wires, laid up in linseed oil, and protected externally by a coating of tar, pitch, and oil, boiled together, and payed on while hot: each of these cables weighs twelve tons. The current at this point when the river is high is extremely rapid and dangerous. A small line ½-inch thick was first taken across by means of a canoe going a long distance up the river and dropping down as it crossed; then a stronger line was taken across by means of the small one; and finally a wire cable, 1¾-inch in diameter, was placed in position and firmly anchored on both sides of the river: by means of this small cable the larger cables to which the entire bridge is attached were taken over and put in position.

The designer and constructor of the bridge was Mr. A. S. Hallidie, of San Francisco. The entire cost of this bridge was 30,000 dollars. It is to be called the Alexandra Bridge. With a load of 4½ tons passing over it, it deflected only one-eighth of an inch, according to the measurement of Lieut. Palmer, R.E.

CHURCH-BUILDING NEWS.

Lowestoft.—The spire of the parish church is much out of the perpendicular. Mr. J. L. Clemence, architect, was consulted upon the subject, and under his supervision the spire has been raised 8 inches at the base, on the south-east corner.

Brandeston (*Suffolk*).—The mortuary chapel and burial-ground of Brandeston Church have just been consecrated. The church has lately been restored, at a cost of between 1,000*l.* and 2,000*l.*, defrayed by Mr. Austin. The mortuary chapel is built of red brick and black mortar, with small black bricks inserted at regular distances in diagonal lines, and there is a buttress at each corner. The chapel stands east and west, and its length is 33 feet, and width 18 feet, fitted with a reading-desk and movable benches, and will afford accommodation for about eighty people. The architect is Mr. Phipson, and the work here, as well as at the church, was done by Brandeston tradesmen, Bedwell & Emeny.

Holbrook.—After undergoing considerable improvement and additions, the parish church of Holbrook has been reopened. The chief addition to the building consists of a new north aisle, corresponding in extent with the older one on the south side: it is constructed with rubble walls, with a slated roof, which is within a foot or two of the top of the wall of the nave, so that it looks as if a lean-to of a more substantial and artistic character had been stuck on to the old building. The church is now benched throughout: the benches are of pine, and instead of being stained or varnished they are hand-polished. The new aisle is lighted by three windows in the northern wall, and one at the western end, where there is also a new door. The style is the transition from the Early English to the Decorated, and in this respect the architect abstained from making it correspond with the old south aisle, which is a poor specimen of the Perpendicular style. In the place of the window which formerly disfigured the chancel is an east window, with three lights, in the same style as the north aisle, presented by the pupils of the rector of the parish, the Rev. F. C. Childe. In the southern wall of the chancel a stained glass window is to be placed, by Mrs. Burton, of Holbrook, in memory of her son. A large new vestry has been added, the doorway to which was formerly a recess in which stood an altar-tomb, but which was made into a doorway in 1824. Beside the door is a niche, apparently a piscina, and while the builders were at work this was opened, and a broken pot or urn was found, in which were remains, proved by analysis to be those of a human heart. The architect intends to submit these remains to the Society of Antiquaries, after which they will be replaced. Mr. R. M. Phipson, of Ipswich and Norwich, was the architect, and the contractor was Mr. Ringham, of Ipswich. The total cost of the alteration will be about 900*l.*

Colchester.—The new district church of St. John the Evangelist, Ipswich-road, Colchester, erected for portions of the six parishes of All Saints', St. Botolph, Greenstead, Milend, Ardleigh, and Langham, has been consecrated. The church is situate about two miles from Colchester, on a plot of ground given by the Countess Cowper, with a burial-ground and site for the parsonage. It is built in the Decorated style, in its earlier period. Brick being the material of the district, it was thought better to adopt it if possible in preference to stone from a distance. The prevailing colour of the exterior brickwork is red, with bands of yellow stocks, the arches of the windows being of red and black, and the windows of Ancaster stone. The principal front of the church, which faces the Ipswich-road, is surmounted by an octagonal bell turret. The entrances for the congregation are at this end, through the baptistery, which communicates with the nave by an arch. The columns to this arch and likewise the windows to the baptistery are of slate with stone caps and bands. The walls of the nave as far as the window-sills are of red brick; the upper portions principally of yellow stocks with bands of red. The seats in the nave are calculated to hold 148, and are entirely open. On the south chancel wall is placed a memorial brass with this inscription, "This chancel was built and decorated, and a portion of the nave also built by a fund raised to the memory of the Rev. James Thomas Round, A.D. 1863." The two painted windows on each side of the brass illustrate various offices of the ministry as set forth in the life of our Lord. In the lower medallion on the left hand of the brass is the Baptism of Jesus; in the upper, the Sermon on the Mount: on the right side of the brass the lower medallion represents the institution of the Holy Communion; and the upper one the charge to Peter, "Feed my sheep." In the heads of these two windows are angels bearing scrolls. The side windows of the sacrarium represent the four Evangelists, and the large east window the Ascension. Above all are three angels bearing scrolls. These windows are from the manufactory of Messrs. Heaton, Butler, & Bayne, of London. In the chancel arch and the arch for the east window are introduced small columns of English marble, red and green. The architect is Mr. Arthur Blomfield, of London. All the woodwork of the church has been executed by Mr. J. Seex, builder; and the brickwork by Mr. G. Crow, builder. The total cost is about 2,000*l.*

Renhold (*Beds*).—The parish church here has been re-opened. Amongst the improvements may be enumerated the removal of pent-up pews; the restoration of the north door, which was plastered up level inside, and the outer recess used as a receptacle for fuel; the removal of the font to its proper situation; and the removal of the pulpit from the nave window to its place by the chancel arch. The nave and aisle have been fitted up with open unstained deal seats, and the floor laid with red and blue Staffordshire tiles. The prayer-desk has been constructed of old open oak tracery found in the church. Three windows in the nave have had new mullions and tracery. The old pulpit has been re-erected, but upon a new base of oak. The east end of the nave has been entirely rebuilt, as the chancel arch was in a dilapidated condition, and the arch has been raised 1 foot 9 inches above the former height. The low 1 foot 9 inches above the former height. The low old plastered ceiling of the chancel has been removed, and a new open roof of corresponding pitch with that of the nave has been substituted. The floor is laid with Minton's encaustic tiles, and the kerb to the priest's step is of black marble. The windows of the chancel are new, and filled with crystal glass, with cathedral tinted borders. The exterior of the church has been freshly pointed throughout.

Woodstock.—The new Union Chapel and the cemetery for Woodstock have been consecrated. The workhouse chapel has been built by Mr. Franklin, of Deddington, for 495*l.*, which includes the necessary fittings. The stone was mainly supplied from the quarry of the Duke of Marlborough, and the plans were gratuitously furnished by the diocesan architect, Mr. G. E. Street, on one condition, that the building, if possible, should be consecrated.

Newbury.—The chancel of Newbury Church has been re-opened. The groundwork of the reredos is gold, with emblematical devices of the Four Evangelists and the Lamb, surrounded with a crowned monogram, "I. H. S." Carved on the south side of the chancel there are sedilia, with three panels; and on the north side a credence-table, with a carved canopy and finial. The panelling is of Bath stone, with alabaster, over which are ribbons with different texts. An archway has been thrown from the north vestry into the chancel, for the use of the choir. The steps are black marble, with encaustic tiles of various patterns, from Messrs. Maw, of Broseley. The roof is of oak, the pendants to the bonds being in carved work. On the exterior of the chancel, the walls and the gable end are enriched by a battlement of stone cornice, and a cross at the east end. The drawings for the above work were by Mr. H. Woodyer, of Grafham. The contractors for the whole works were Messrs. Adey & Son, builders, Newbury; Messrs. Wheeler & Sons, of Reading, for the stone work; and Mr. Biddis, of Newbury, the plumbing and decorating; Mr. Nicholls, of London, for the carving. Mr. J. Walker was clerk of the works. The cost of the restoration will amount to about 1,500*l.* The new window at the east end of the chancel has been constructed at a cost of about 200 guineas. The tracery of the window being in two compartments, the subject, of necessity, has been two-fold also; and the scenes selected have been the Crucifixion, and the Ascension of our Saviour. The whole has been executed in a slightly Conventional style. The window was designed and carried out by Messrs. Hardman, of Birmingham. The organ has been improved at a cost of about 220*l.*

Reading. — The first stone of All Saints' Church, Reading, has been laid on Downshire-square Estate, Bath-road, by the Bishop of Oxford, amid a large concourse of people. The edifice will be in the Decorated style. The plan consists of nave and aisles, north and south transepts, chancel, with aisles, tower, and spire, vestry, with heating chamber under. It is to be built of Pennant stone, with Bath stone dressings exteriorly, and the interior will be brick. The whole cost will be about 9,000*l.*, but only part is proposed at present to be carried out; viz., the chancel and aisles, transepts, and one bay of the nave, at the cost of 3,888*l.* The architect is Mr. J. P. St. Anbyn, of London; and Messrs. Wheeler & Sons, of Reading, are the contractors. The site in Downshire-square is the gift of the Conservative Land Society.

Windsor.—The Royal Chapel in Windsor Great Park has been consecrated. With a view to the convenience of the various servants of the Crown resident throughout the Park, Her Majesty has remodelled and enlarged this chapel, and has placed in the chancel a stained glass window as a memorial of her mother, the Duchess of Kent.

Hound (*Hampshire*).—A church is to be built at Sholing, in the parish of Hound. Houses are springing up in all directions, consequent upon the building of Netley Hospital, and of the Southampton and Netley Railway being about to run through the parish. Mr. Chamberlayne, the lord of the manor, has given a site of 2½ acres in extent, situate about a quarter of a mile eastward of Miller's Pond. It is proposed to erect the church in the Norman style of architecture, and capable of containing 500 persons. It will be so built as to be enlarged at any future period, if requisite. The required sum is 1,250*l.*

Tunstall.—The spire of Christ Church, Tunstall, has just been restored. In May last 18 feet of this spire were struck off by lightning. The spire has been rebuilt, and is 4 feet higher than it originally was; and, instead of the large iron sheath and cross which formed the terminal, a copper ball and vane have been substituted. Two scaffold poles were fixed for the raising of the stones, and a small stage screwed to the spire for standing upon to set the stones. This was all the scaffolding used, although very large stones were raised to a height of 115 feet. The four pinnacles which were damaged by a severe gale, and taken down several years ago, have been replaced. The contractor for restoring the tower and spire was Mr. George Frith, builder, Coventry; and Mr. Ralph Dain, of Burslem, was the architect.

Pontlottyn.—The new church of Pontlottyn has been consecrated by the bishop of the diocese. The church is in the Early English style of Gothic architecture, and contains a nave, north and south aisles, an apsidal chancel, a south chancel aisle, and a vestry, with a room for the heating apparatus underneath, also a bell-turret over the chancel arch. It is built of native stone, with windows and bands of red brick. The nave arcades have each three wide arches of red brick and Bath stone alternately. The pillars are of stone from the Bridgend quarries, the colour of which contrasts with the Bath stone. All the seats are open low benches. The pulpit is of Bath stone, circular, and having an open arcade with Bridgend stone shafts. Beside the font there is a baptistery provided for the immersion of adults. It is approached by steps and lined with Godwin's tiles. A large white cross of tiles is laid on the floor of the baptistery, going the whole length and width of it. The altar is of considerable size, and vested with a green frontal and a red superfrontal. The chancel is provided with choir seats, sedilia and credence table, and altar rails. The roofs are of open timber of stained and varnished deal. There are 349 sittings. The building was designed

by Mr. C. Buckeridge, of Oxford. The builders were Messrs. James & Price, of Cardiff. The cost was about 2,500*l.*

Blackpool.—Arrangements are in progress for replacing the temporary iron edifice for Christ Church with a permanent and more ecclesiastical structure. The new building is to occupy a site at the corner of Parker-street and Queen-street, near the existing parsonage. The accommodation will be for about 1,000 persons. The architect who has been appointed to carry out the work is Mr. J. M. Taylor, of Manchester.

Kendal. — The restoration of Kendal Parish Church is progressing. The whole of the roof over the inner south aisle, including that over the Strickland Chapel, has been restored, and is now quite finished. It is formed of Memel timber, and divided into equal compartments by nineteen principal rafters moulded and placed transversely, which are crossed longitudinally in the centre by a moulded purlin or rib. Every alternate rafter is supported at each end by a curved bracket (resting on freestone corbels), the lower ones terminating with turned columns, having octagonal caps and bases. Four common rafters occupy the space of each compartment: these are covered with plain boarding, which is itself finally covered with lead. The roof is stained of a brown oak colour and varnished. The buttresses on the south side, with one exception, and one on the east end of the church, have been, or are, in process of being renewed. It is now intended to proceed at once with putting in the masonry of the six south windows, and the one to the east looking into the Parr Chapel. The architect employed is Mr. J. S. Crowther (Manchester): the carpenters are Messrs. Fisher & Compton; the mason, Mr. John Stewart; the plumbers, Messrs. Winder & Gibson; and the stainers, Messrs. Jackson & Lyon, all of Kendal.

Hereford.—The small parish church has been restored. The whole of the work has been carried out by Mr. W. Ward, builder, Kington, at a cost of about 2,000*l.* Mr. Ward, according to our authority, the *Hereford Times*, had no architect to superintend the work. The old wood pulpit has been replaced by one of Bath stone, the gift of Mrs. R. W. Banks, Ridgebourne. It was designed by Mr. Drew, architect, London. The organ-loft at present is in a most unsightly position, entirely hiding from view the west window. Mr. A. H. Wall, of Burghill House, has offered to expend 200*l.* in filling this window with stained glass.

STAINED GLASS.

Thrapston Church (*Northants*).—The stained-glass window, which a large number of the friends and neighbours of the late Mr. John Yorke resolved to erect to his memory in Thrapston Church, has been completed. The larger decorated east window, of five lights, was selected for the purpose by the committee, and the glass has been executed by Messrs. Wailes, of Newcastle-on-Tyne, after a design furnished by themselves. The several lights of the window contain large groups of figures, representing different scenes connected with our Lord's passion, with lesser groups beneath, exhibiting subjects from the Old Testament, typical of those above them. The first light, commencing on the north side, sets forth our Lord's agony in the garden, with the comforting angel, typified beneath by Jacob's agony at seeing the torn and bloody coat of his son Joseph. The second light represents our Lord bearing His cross in the midst of the Roman soldiers, shadowed forth beneath by Isaac's bearing the wood for his own sacrifice. The central group is that of the Crucifixion, the three Marys standing at the foot of the cross, the type of which we have in the offering of Isaac. In the fourth is shown the Resurrection, and beneath is the drawing up of Joseph out of the pit. The Ascension occupies the upper portion of the fifth light, having underneath the taking up of Elijah into heaven. The tracery of the window is reticulated, and each portion of it is filled with the figure of an angel, those immediately above the principal lights bearing the instruments of the Passion, and, over these, others, carrying scrolls.

Bradford Parish Church. — A stained-glass window for the parish church of Bradford, Yorkshire, has been completed by Messrs. Morris, Marshall, Faulkner, & Co., of London. It is a seven-light perpendicular window, with the usual tracery, and divided by a transom. In the centre light above the transom is a "Majesty"—the Saviour in glory, with attendant angels. Below the transom comes a large figure of St. Peter. The other six lights are arranged in four rows, making a total of twenty-four single figures, in the following order, beginning from the upper left-hand corner:—First row: St. Elizabeth, with her son, the youthful Baptist; Anna the Prophetess; the Virgin Mary; Mary Magdalene; Martha; Mary, the sister of Lazarus. Second row:—St. John the Baptist; the Four Evangelists; St. Paul. Third row: Abraham preparing to sacrifice his son; Isaac; Jacob; David; Solomon; Joseph, the husband of the Virgin Mary. Fourth row: Moses; the Four Major Prophets; Elijah. We have thus—to reverse the order—firstly, the Jewish lawgiver, and other prophets of the Old Dispensation; secondly, an abstract of the lineage of Jesus; thirdly the forerunner and the great Apostles of Christianity; and lastly, the female saints most immediately connected with the Saviour. These surround the "Majesty" and the figure of Peter, the saint to whom the church is dedicated. The tracery, moreover, represents, in its larger openings, the four Archangels, Angels, Cherubim and Seraphim.

Holy Cross, or St. Crux Church, Pavement, York.—A stained glass window has been painted for the east window of the north aisle, by Mr. J. W. Knowles, of York, and has been erected in its place. The window is of three lights, with tracery above, and the subject is "The Ascension." It has been designed so as to fill the whole of the lights, thus forming a complete picture, without the accessories of canopies, &c. In the tracery pieces are conventional designs of various plants, coloured so as to give effect to the subject underneath.

Butlers Marston Church (*Warwickshire*).—Alterations have been made on the east window of this church: the old stonework has been taken out and replaced by an entire new window, which has been filled with stained glass, in ornamental patterns, with a figure of our Saviour in the centre, and emblems of the four Evangelists in the side lights. the tracery consists of angels, I.H.S., dove, &c., upon vine backgrounds. The whole was executed by Mr. Holland, of Warwick.

Gainsborough Church.—A stained glass window has been placed in this church in memory of the late Rev. C. S. Bird. The subject is "Christ teaching." The artists were Messrs. Clayton & Bell, of London. There are about a dozen figures represented. The group occupies a central position in the window; the space above and below, which is considerable, being filled up with designs.

Bitchfield Church, Corby (*Lincolnshire*). —A two-light stained glass memorial window has just been erected on the north side of the chancel of this church, by Lady Clarges, of London, and was executed by Messrs. Thomas Baillie & Co., of London. It contains the figure of Our Lord as the Good Shepherd, in one opening; and in the other, Our Lord the Bread of Life: each is surmounted by a canopy.

Trinity Church, Richmond (*Yorkshire*).—A subscription has been set on foot amongst the former pupils of the late Rev. James Tate, for the purpose of inserting a window in memory of him in this church.

Patterdale Church.—A memorial window of two lights, with cinque-foil above, has been placed in the south side of the chancel in Patterdale Church, Westmoreland, to the memory of the late Mrs. Rooke, by her brother, Mr. E. A. Bromehead, of Woodlands, near Keswick. The first light contains "Mary at the Feet of Jesus;" the second, an angel on the empty tomb, proclaiming, "He is risen." The cinque-foil is filled with the triple Tau, in dark ruby on a purple field. The glass was executed by Messrs. Ward & Hughes, of London.

British Church (*Pietre Maictzbury, Natal*).—A memorial window to Charles Frederick Mackenzie, M.A., first bishop of Central Africa, has been placed in this church. The figure of Bishop Mackenzie in his robes is introduced,—his right hand extended as if invoking a blessing, his left holding a crozier. The whole is surmounted by a canopy with lily crocketing, terminating in a cross, with gold rays on a blue ground. The inscription is in Latin, and occupies a cruciform shape in base. The work was done by Messrs. Ballantine & Son, Edinburgh.

PROVINCIAL NEWS.

Wymondham (*Norfolk*).—The market cross is undergoing a complete restoration. The thick coating of plaster which has long disfigured it has been removed, and thereby the original doorway, windows, and studwork have been brought to light. The upper part of the building has been restored to the perpendicular, from which it had declined. The octagonal room over the cross is intended, as we are informed, to be fitted up for a public reading-room.

Presteign.—The foundation-stone of the new Market Hall and Public Room, at Presteign, has been laid by Lady Brydges. The buildings in course of erection comprise, on the ground-floor, a poultry and general market, arcaded on the two sides fronting the principal streets, a retiring room for gentlemen, a vestibule, corridor and staircase leading to the assembly-room. The upper floor contains an assembly-room, with an orchestra receding therefrom, and retiring-rooms for ladies and for performers. Over the vestibule there will be a clock-tower, surmounted by a bell-cupola, the whole reaching to the height of 60 feet. In style the buildings are Venetian Gothic, ornamented with decorative string courses and an intermixture of polychrome brickwork. They have been designed by, and are being carried out under the supervision of, Mr. T. Nicholson, of Hereford, architect.

Ruthin (*Denbighshire*).—The foundation stone of the Ruthin new Market-hall and Corn Exchange has been laid. The new buildings, which will occupy a prominent position on entering the town, are to be erected upon a site in Railway-street, having a frontage thereto of 126 feet, and extending the full depth of the site. The basement floor will contain extensive cellarage, a portion of which is to be converted into an armoury for the Ruthin Rifle Volunteers, with a residence for the hall porter. The ground floor will comprise the Corn Exchange, News-room, Council Chamber, Town Clerk's Office, with lavatory and entrance porch. The market, covering an area of about 50 square yards, will contain all requisite shops, stalls, and standings for the various trades frequenting a mixed market. The roof, in one span, open to the ridge, will be 36 feet in height. On the front floor there will be an assembly-room, 64 feet by 32 feet, and 30 feet high, capable of accommodating 600 persons, with retiring-rooms, and two staircases. The assembly-room will be lighted by three large windows in front, and six on side elevation. The roof, which will have a light appearance, is to be polygonal in outline, broken into panels by moulded ribs, the whole resting on a carved cornice and wall level. The exterior will be a free adaptation of Continental Gothic. The ground story is to be composed of arches, within which will be the windows to the Corn Exchange, and the main entrance porch, and above the latter will rise the clock-tower, 75 feet high, having a pyramidal roof and ornamental cresting. Symbolic sculpture will be used in the tympanum of the window arches, &c. The general facing of the walls will be composed of coursed pitch-faced masonry, the material being a purple-grey stone obtained in the locality. Minera stone will be employed for the arched stone-work, with the native blue stone and limestone for the centre bands, &c., and polished granite shafts for the doors and windows. The contractors for the entire works are Messrs. Holland & Roberts, of Ruthin, from the plans and under the superintendence of Messrs. Poundley & Walker, architects, of Kerry, in Montgomeryshire, and Liverpool.

Stirling.—It is now nearly two years since the Royal Bank purchased two old tenements in King-street, for the purpose of erecting new offices on their site. The edifice has been built according to plans supplied by their architects, Messrs. Peddie & Kinnear, Edinburgh. The building is four stories in height. The ground-floor consists of the bank office, extending from the centre, and occupying the upper portion, while the lower portion is a shop, and immediately behind which, and on the floor, is a saloon, extending back a distance of 60 feet, and 20 feet wide, having a curvilinear roof, formed into equal panels and roof-lights. The façade is of a Grecian character. The bank-door is placed in the centre of the elevation on the ground-floor, and is surrounded with architraves, having carved trusses supporting a cornice, with frieze enrichment between the trusses, all having a suitable projection from the line of the wall. The windows of the bank-office and entrance-door to staircase are treated together, being slightly recessed from the line of the wall, and separated by pilasters, with bases and moulded caps. The whole work has been under the superintendence of Mr. T. B. McFadzean.

Dublin.—The plot of ground lying south of the Hardwicke Fever Hospital, and adjacent to North Brunswick-street, recently purchased by the proprietors of the Carmichael School of Medicine from the governors of the House of Industry Hos-

pitals, for the erection of new buildings in connexion with the school, has been formally handed over by the Commissioners of Public Works, in whom the premises were vested, to the proprietors of the school and the board of governors of the hospitals. The late Surgeon Carmichael had by his will provided a fund to enable the proprietors of the school which bears his name to erect this building.

PORTLAND AND ROMAN CEMENT.

If we knew the building to which "Cautious" refers, we might be able to offer explanations that would be satisfactory to him; but it is not necessary. We prefer rather to take the statement as we find it, and to assume that in the course of four years we have made and issued some cements which either from inherent defects or from misuse have failed of their intended end.

So far from this being surprising or not likely to recur, we think it highly probable that in view of the thousands of tons of Portland cement now annually made and used, accidents of a like nature may often happen.

If they are of too frequent recurrence the cement will lose its reputation and be discarded; but it would be as unjust to pronounce this condemnation on account of occasional failures as it would be to proscribe evermore the use of the freestones because Buckingham Palace, the Borough-road Training School, and part of the Catholic cathedral of St. George's, built with Caen stone; or Henry VII.'s Chapel, built with Bath stone; or the Palace of Westminster, built with Anston stone; have become so disintegrated as to require in some cases to be painted, and in others to be covered with chemical washes to arrest further decay.

The map-like cracks referred to by your correspondent, known by workmen as "fire cracks," and which are all but inseparable from every lime cement, proceed from a very slight contraction in drying, generally under the influence of a hot sun. Unsightly they are; but not dangerous to the stability of the work, since they are only skin deep.

In Portland cement, which is generally left without colouring, they are more perceptible than in Roman cement, though they exist in that material under the washes and paints which are needed to hide its uncomely natural colour, as may be seen in Belgravia, whose "rows and streets," it may gratify "Cautious" to know, were stuccoed a generation ago with Roman cement or mastic years before Portland cement was "born or thought of."

If the builders of that day are still living, they can tell us whether Roman cement was uniformly a success, or whether between the months of October and April King Frost did not play havoc with their work, and cause it to bulge and peel in very unprofitable fashion.

As makers of cement it is not our wish to malign those who work it; but we suspect "Cautious" has hit the cause of most of the failures when he tells us that plasterers generally finish with a skimming coat as thick as half-a-crown, which is killed by excess of trowelling, and then peels off under the first hot sun or shower of rain. For this evil he suggests the proper remedy.

In conclusion, we presume not to dictate to the public which cement it should prefer, or to assert dogmatically the superiority of one sort to another. We have a strong conviction based upon theory and supported by evidence, that Portland cement is the most enduring, and, therefore, the most economical material of its kind ever invented; but if that opinion be not shared by "Cautious" and by the building profession generally, independent appeal may profitably be made to the engineers of the Board of Works, or to some of the eminent builders of the metropolis, who largely use, and can intelligently appreciate the difference between the two cements. They can afford to be quite impartial in the matter, and it may well be left to their experience to say whether the artificial cement called Portland does or does not present in its composition and uses the aspect of durability, or whether after ten years of progressive entombment the natural or Roman cement should really "rise again" and take its place.

J. B. White & Brothers.

British Archæological Association.—At the first meeting, Wednesday November 25th, at half-past eight p.m., papers, will be read "On Unpublished MSS. relating to Meaux Abbey," by Mr. E. Levien; and "On the Roman Roads mentioned in Antonine's Itinerary, as leading to and from Colchester," by Mr. H. Jenkins.

VENTILATION BY THE SASH.

In 1849 or 1850, I sent a small model for the top rail of a sash, showing my system of ventilation, and a description thereof, to the Society for the Encouragement of Arts and Sciences. On the description I call it "The Permanent Ventilator for the Palace or the Cottage," and it may be seen at the Society's house, John-street, Adelphi, in their museum. As it was so simple, I did not think it worth a patent, or even registering. Where there are not two windows in a room, a mere block to support the top lath, which fixes the wire gauzes, gives a perfect action to one sash; and the imperfect fitting of the middle rail or the door to its case, produces in most cases a sufficient supply of air to give an imperceptible current without causing a draught. In case of more air being required, it should be admitted not lower than the architrave over the door. Any lower apertures are objectionable on sanitary grounds. This mode of ventilating I proposed some twenty-five years ago.

R. Dennis Chantrell.

ROOM FOR AN ARCHITECT.

Sir,—I desire to call the attention of young architects, through the medium of your paper, to the fact, that we are, in this town, Stockton-on-Tees, and neighbourhood, without a resident architect. As we have a population (including South Stockton) of some 20,000 inhabitants, I consider this a state of things requiring a remedy. To show you there is a probability of occupation, I must state that the town is growing remarkably fast, which statement is confirmed by the fact that, at a meeting held last week, our retiring mayor publicly stated that, during his mayoralty the Board of Health had sanctioned plans for fourteen new streets, and 276 new houses: these were in Stockton alone; and more were passed at the last Board of Health meeting, on Friday last. In South Stockton, which is only separated by the River Tees, and where a Board of Health has just been formed, things are equally prosperous, and new houses springing up in all directions: the same may be also said of the north side of the town.

A Stocktonian.

LIGHT AND AIR.

Lee v. Strand Music Hall Company.—The plaintiffs, Mr. W. Lee, Mr. J. Jerdein, and Mr. J. Jerdein, jun., who carry on the business of coal merchants under the style of the Guinea Coal Company, complained by this bill that the defendants, whilst proceeding with the erection of their hall, had demolished the roof of the house No. 17, Wellington-street, in which the plaintiffs have an office; that they had put in jeopardy the lives of those who had to work in the office; and that they had put up scaffolding which impeded the approach to the office. The plaintiffs, therefore, asked for an injunction to restrain the defendants from damaging or removing any part of the house No. 17, Wellington-street, and from continuing any erection whereby the access to the plaintiffs' office was impeded. They also asked the Court to award damages for the injuries they had sustained.

Mr. Malins and Mr. Osborne Morgan were counsel for the plaintiffs.

Mr. Greene and Mr. George Murray, the counsel for the defendants, offered to pay to the plaintiffs 50*l.* in satisfaction of their claim, without prejudice.

This offer having been refused,

The Vice-Chancellor (Stuart) ordered that inquiries should take place in his chambers to ascertain what damage or injury had been done to the plaintiffs by the defendants' acts.

Miscellanea.

Fall of a Bridge.—A wire bridge over the Hawick Railway at Hassendean Burn fell across the rails, just before a train came up. To clear a passage the engine was detached from the train and attached to the broken bridge. By this means the obstruction was quickly drawn out of the way and the train allowed to proceed.

New Bridge at Peebles.—An iron suspension-bridge of one arch, the length of which is about 120 feet, has recently been erected near the Tweed at Crownhead, Stobo, opposite the grounds at New Dalwick, the property of Sir John Naysmith, of Posso. The expense of its erection is to be borne partly by the Broughton and Peebles Railway Company, who are to have a station near it, and partly by the landed proprietors of the district. Formerly at this point there was only a ford, with a wooden bridge for foot passengers, the approach to which floods often rendered impassable during winter.

Strange Accident.—At Langley-mill, near Eastwood, the wife of a farmer went out to close the shutters. To get to the window she had to pass down the garden, where, underneath the pathway, there was a cistern arched over with bricks. As his wife did not return in a few minutes, the farmer went out to close the shutters himself, and in going down the path he stumbled and fell into the cistern, but scrambled out, and, obtaining assistance, his wife was found at the bottom of the cistern, which was 9 feet deep of water, quite dead. It is supposed that the arch had fallen in shortly before the deceased went down the garden; and it being quite dark, there was no doubt she fell in as her husband did. The coroner's jury returned a verdict of "Accidental Death."

The New Mayor of Rochester.—Mr. Alderman Naylar, well known in that locality as a builder and contractor,—a man who has built up his own fortune and reputation with little extraneous scaffolding to aid, and who, moreover, is not ashamed that this fact should be known,—has been elected mayor for the ensuing year. The *Chatham News* gives an account of the election and dinner.

Gerish's Mortising and Drilling Machine. Messrs. Gerish & Weston have recently patented an improved machine for drilling and mortising wood, principally intended for manual labour, although it can be driven by power if required. When worked by a man, the motion is given by a treadle, where the whole weight of the body can be applied without any inconvenience, and the hands left at liberty. The chisel is a contrivance for bringing the stuff out when cut: it will bring out two-thirds of the cut, it is said, at each stroke, and the remainder will fall out, requiring no core-driver, and consequently effecting a very great saving of time and expense.

The Dwellings of the Poor.—At a meeting of the clergy and lay consultees of the rural deanery of Amesbury, in the diocese of Salisbury, the following points were considered in reference to the dwelling-houses of the labouring poor; namely, 1. The great need of improvement generally in the accommodation provided in the houses rented by labourers; 2. That this matter was not to be regarded as a question of profitable investment, but as a question of morality, affecting the well-being of the nation; 3. That while the home of the labourer continues to be what so many of their houses now are, it is very doubtful what good can be done by the most careful teaching in church or school; and it was resolved to communicate with the bishop with the view of obtaining a better consideration of the subject throughout his lordship's diocese.

The New County Hospital at Winchester. The plans for the new hospital at Winchester are now in the custody of the secretary at the hospital. The general form of the design is that of a central building with wings. The position which the architect has assigned to the chapel on the second floor of the east wing is said to be such as to enable him not only to produce a more effective and conspicuous memorial of the late warden of Winchester College than could have been accomplished by the limited amount of the subscriptions for that purpose (about 700*l.*), if it had been expended on a separate and necessarily insignificant building, but also to make this memorial improve the general appearance of the hospital. The building will contain 110 beds, or 112 if need be, and there will be 1,560 cubic feet allowed to each patient in the large wards, and a still larger proportion to those occupying the small wards. The building committee have decided that the best interests of the hospital required not an attempt at planning improved day-rooms, but their total abolition. In their report they had given their reasons, and the authority on which they have proceeded. Miss Nightingale is said to have remarked that the building committee were to be congratulated on having received from Mr. Butterfield a plan for a model hospital.

Mummies at Thebes.—The late Mr. Henry Rhind, as we noticed while reviewing his book on Thebes, opened a tomb there, in which, with two bodies, were papyri, or narratives written on the papyrus leaf. Fac-similes of these have just been published, and the *Reader*, in noticing them, says,—"The text gives some curious details of the process of embalmment. It seems that Sebauf, the occupant of the granite sarcophagus, was, amongst other things, 'boiled in 206 jars of salt,' a treatment more calculated to insure his remains against the depredations of moths and worms than the possession of the Hermetic book and the numerous amulets which were rolled up amongst the wrappages, and which were supposed to have this virtue. Bitumen and frankincense from Arabia are also mentioned as being extensively used. The complete time of embalmment occupied seventy days in the period to which these mummies belong. The lady Taani did not, however, live to complete all the ceremonials of mourning for her husband. She lamented him forty-eight days, and then herself followed him to the tomb. These papyri do not add much to our previous knowledge of the ideas of the Egyptians as to the state of departed spirits; but they illustrate some remarkable points. First, they prove that the religious system of Egypt at this late period was substantially identical with that which is known to have existed in the earliest times of which we have record."

PROPOSED NEW HALL FOR ODD FELLOWS AND FORESTERS.—At a crowded meeting of the members of these societies held at the Council Chambers, Ipswich, on Friday evening, it was unanimously resolved to erect a hall for the use of the two societies, by means of a company of shareholders representing a capital of 3,000*l.* under the Limited Liability Act.

TERCENTENARY OF SHAKSPEARE.—The design for the temporary Pavilion, at Stratford-upon-Avon, for the Shakspeare Tercentenary Festival Committee, has been made by Messrs. Thompson & Colbourne, architects. The following tenders for its erection, exclusive of decorations, have been received:—

Eassie & Co. Gloucester	£2,449
G. Clarke & Son, Wootton Wawen	1,799
Jas. Cox, Son, & Holton, Stratford-on-Avon	1,475
Branson & Murray, Birmingham (accepted)	1,300

FOUL AIR IN CISTERNS FROM WATER-CLOSETS. About two years ago correspondents of ours called attention to the evil arising from the custom of water-closets being connected and served with water from the general cistern. A double or separate cistern was proposed; but probably not many, except perhaps in first-class dwellings, followed that advice. A correspondent, "R. F. C.," therefore proposes the following plan:—The pipe serving the water-closet with water, instead of having its upper end inserted in the cistern, should be continued and carried up outside the same for about 2 feet higher than the top of the cistern, the upper 2 feet being slightly bent and the end of the pipe left open; the connexion between this pipe and the cistern to be by means of a short piece of pipe, one end connected to the bottom of the cistern and the other jointed into the one from the closet by a joint at a point about 9 inches or 12 inches above its entrance into the cistern.

WHO IS LIABLE TO PAY FOR OXFORD-STREET? At the last weekly meeting of the Marylebone vestry, the vestry clerk read a report from the parish solicitor, announcing that after nearly five years' litigation the Court of Queen's Bench had given a final judgment against the authorities of St. Ann's, Soho, as to their liability to contribute to the maintenance and repairs of Oxford-street. The maintenance of Oxford-street costs 4,000*l.* per year, of which it was contended the parishes on the south side, St. James's, St. George's, and St. Ann's, were liable to pay one-half. St. Ann's refused to do so on the plea that their parish only extended to the frontage of the houses. Upon this point, in a trial at law, they were defeated, a map of their own being produced, which showed their boundary came to the middle of Oxford-street. A new trial was, however, obtained upon special points of law; and the judgment being on all points against St. Ann's, the authorities of that parish have now to pay over to the vestry of St. Marylebone about 1,500*l.*, and the costs, which amount to several hundreds more. The report was ordered to be received and entered upon the minutes.

EXPERIMENTS WITH A NEW SUSPENSION BRIDGE.—Some trials of an interesting character took place on the Royal Engineers' field-works, Chatham, on Tuesday last, in the presence of a large number of officers, for the purpose of testing a new description of suspension-bridge, for military purposes, the invention of Sergeant-major J. Jones, Royal Engineers. The bridge on which the experiments were made was formed of the galvanised iron bands with which the new description of iron gabions now in use in the service are formed. These bands, which are about 3 inches in width, and the thirtieth part of an inch in thickness, were joined together at the end, by means of a button and eye; and, notwithstanding the apparent slenderness of the material, bore an enormous weight. Eight widths of the iron bands, each four bands thick, formed the "chains" of the suspension-bridge, and on these were laid the chesses, used in pontooning, which served as the floor of the bridge, the whole being steadied by means of guy ropes, fastened to stakes, answering to anchors in a river. With these materials a bridge having the enormous span of 130 feet was formed by thirty Sappers and Miners in six hours. A battery of mounted field artillery was marched across with the greatest ease, the bridge having only a very slight oscillation. A body of about thirty Royal Engineers were next marched across, in step, and this was the greatest strain to which the structure could be put. Notwithstanding this, however, the only perceptible defect was the great oscillation of the bridge, which ultimately loosened one of the guide ropes.

THE MIDDLE LEVEL.—It appears from the accounts for the financial year ending April 6, 1863, that the sum of 86,651*l.* was disbursed during that period,—57,744*l.* in reference to works consequent on the failure of the out-fall sluice. A leakage and some disturbances at the syphon dam and works have lately occurred, and Mr. T. E. Harrison, C.E., came down for the purpose of making an examination with Mr. Lunn, the resident engineer. Mr. Lunn has given directions to have some puddle prepared, and the men employed will open out as far as they can the course of the water, and will then fill the excavated space in with puddle. It appears from the accounts that in the commissioners' last financial year the amount taken up on loan was 71,000*l.*, the bonded debt of the commission being thus increased to 461,000*l.* The amount paid for interest was 16,693*l.*, and the sum received in taxes was 24,691*l.*, while the other ordinary accessory receipts of the year were 820*l.* A temporary loan of 20,000*l.*, contracted in 1862-3, has been paid off.

MANCHESTER UNITY OF ODD FELLOWS.—The nineteenth anniversary of the Loyal Cambridge Lodge has been celebrated at the Clanricarde Hotel, Paddington. Mr. Pitt occupied the chair. P.P.G.M. Harris stated that, in January, 1862, there were 335,145 members; but, owing to the distress last year in the manufacturing districts, the increase had not been equal to previous years; nevertheless, 24,276 were admitted during that year; and at the present time, from the returns made, there are 370,000 members in connexion with the Society. From the returns made by the three largest districts,—namely, North London, South London, and Norwich,—these comprised 20,859 members, with a capital of 164,429*l.* 15s. 4½d., averaging nearly 8*l.* per member, or at the rate for the whole Society of two millions and a half of saved capital. The secretary, Mr. Stevens, stated that the expenditure for the past year had been 120*l.* 7s. 6d.: the receipts had amounted to 239*l.* 14s. 9½d., leaving a profit of 119*l.* 7s. 3½d., and making the present value of invested capital 1,958*l.* 1s. 4½d. In alluding to the *Times* article as to the insolvency and abuses in Friendly Societies, he said that the Manchester Unity had for years paid graduated rates of contribution, compiled by an eminent actuary from the experience of one million years of life. The assets and liabilities of this Lodge were periodically valued by an actuary, and they were found perfectly solvent.

MONUMENTAL.—The Guards' Crimean Memorial, in Trinity Church, Windsor, is nearly completed. A gallery runs round three sides of the edifice, the front panels of which have been covered with the names of soldiers,—officers and men, side by side, many of whom had attended the church where their deeds are now recorded. The names are painted in coloured letters on a gold ground. Some of the officers' tablets are ornamented with the coats of arms of the deceased, while the names of the various battles recur. Beneath these panels, full of names, the texts which, we are informed, her Majesty has herself selected, have, with the exception of a small portion, been inscribed in highly ornamented letters, commencing at the chancel end of the south gallery, and extending right round the church. These texts consist of the 7th and 8th verses of the 4th chapter of the 2nd Epistle of Paul to Timothy, the 12th verse of the 6th chapter of the 1st Epistle to Timothy, and the 1st and 2nd verses of the 12th chapter of the Epistle of Paul to the Hebrews. There will be a scroll border beneath the Queen's texts, decorated with gold oak and laurel leaves, on a blue and brown ground. The roof of the chancel is also being decorated with blue and gold work.——The monument to the Duke of Richmond, at Huntley, is now completed. His grace is represented as colonel of the Sussex militia. The figure (in Redhall freestone) is erect, and 9 feet high, and the pedestal is 12 feet high. The sculptor was Mr. Alexander Brodie, of Aberdeen.——The *Times* Dublin correspondent reports the uncovering of the statue of the late Lord Plunket in the hall of the Four Courts, Dublin. The statue, which is of white marble, represents the statesman not robed as Lord Chancellor, but as a speaker in the act of addressing the House of Commons, with a dress-coat cut after the modern fashion. This, with the closely-fitting knee-breeches, gives the statue a bare appearance.——The new statue of the Emperor Napoleon I. has been raised to the top of the columns in the Place Vendome.——The *Reader* says that a fund is in course of being raised for the erection of a memorial in honour of the late Edward Bache, the composer.

THE PORTSMOUTH SURVEYORSHIP.—Mr. Lewis Angell, C.E., surveyor under the Board of Works for the Wandsworth District, has been elected to the surveyorship of the borough of Portsmouth.

PETROLEUM GAS.—A correspondent of the *American Gas Light Journal* says:—The laws governing the destructive distillation of petroleum and its distillates are the opposite of those so successfully applied to the manufacture of coal-gas. They are as follows:—1st. Graduation in the application of the heat, in order to vaporize the oil only as fast as the means provided to convert the vapour formed into gas, can so act upon it. Otherwise there must be great waste of material. 2nd. As on the one hand to convert vapour into gas requires its actual contact with red-hot iron, and on the other such contact, if continued, again decomposes the gas (the cause of the carbonaceous deposits so often found in gas retorts, and which come from the destruction of gas, not vapour or tar, as many may suppose), the apparatus must be so arranged as to compel the vapour in its passage out of the retort to come into actual contact with its red-hot surface, and while in such contact to travel so rapidly as to leave little or no time for the decomposition of the gas. When treated according to these laws, petroleum will yield to the gallon 125 feet of gas of surpassing richness, and there will be no clogging in the pipes or deposit in the retorts. But, to make the manufacture profitable for gas companies, a third condition is required, to wit,—Dilution of the gas to secure its combustion without smoke, and enable it to be sold at the prices charged for coal-gas. This condition is fulfilled by distilling the oil in connexion with wood. The results obtained when it is so treated are these:—There are from each gallon of petroleum, or of petroleum tar (for experience shows that when treated with wood, the tar, although so much cheaper, answers as well as the oil), and 155 feet of hard wood, 300 feet of gas of equal illuminating power with coal-gas, and 1¼ bushel of good clean charcoal, with the cost of the wood, and therefore leaving the entire yield of gas, so far as cost is concerned, from the tar or oil used. Of course, when so much of the gas comes from the wood, less heat is required than is used for coal, and there cannot possibly be any clogging of the pipes.

GAS.—A further reduction in the previously low price of gas in Walsall has been determined on by the local gas committee, the gasworks in Walsall being the property of the town, and managed by the Improvement Commissioners. A report of the committee, read at a special meeting of the Commissioners, stated that "during the year which ended on the 30th September last, the profits made, after deducting the annual instalment in reduction of the debt, have been such as to provide for necessary and considerable outlay, for extensions and increased accommodation, without borrowing; and also to pay off, without re-mortgaging, a mortgage debt of 1,150*l.*, which fell due in the month of September last. This result has been obtained in a year during which the price of gas has been lower than ever before known in Walsall, and considerably lower than in many neighbouring towns, and lower than in any other town in the midland district of England." After pointing out the interest the inhabitants had in supporting their own gasworks, the report proceeded,—"Your committee have to recommend that as from the 1st of October inst. the price of gas be reduced to the following scale:—viz., 2s. 10d. per 1,000 cubic feet, to consumers of less than 25,000 cubic feet per quarter; 2s. 8d. per 1,000 cubic feet to consumers of 25,000 and less than 100,000 cubic feet per quarter; 2s. 6d. per 1,000 feet to consumers of 100,000 cubic feet per quarter and upwards." The committee will also supply gas for the lamps at the rate of 2s. 4d. per 1,000 cubic feet, or 2*l.* 14s. 6d. per lamp per year. The report added, that if the present reduction should be followed by an increased consumption, the price of gas may undoubtedly be further reduced in October next!——Gasworks have been opened at Brightlingsea. The expenditure actually incurred has been about 2,000*l.* for works somewhat larger than were originally contemplated, in order to meet an increase of consumption in future years without the heavy expense of additional buildings. The works are situate at the bottom of Sidney-street,—a new thoroughfare leading to the Hardway. The iron gas-holder will contain 9,000 feet. The works were designed by, and carried out under the direction of, Mr. Church, the engineer. The contractors for the buildings were Messrs. Gull & Lake, of Brightlingsea; and the apparatus, machinery, and mains, were supplied by Mr. Cliffe, of Huddersfield.

York City Walls.—The town council has determined that in future the rents received from the moats and ramparts (260*l.* per annum) shall be applied towards the gradual repair of the walls. The local *Herald* proposes to raise a sum of money at once on these rents, and thoroughly and at once put the walls into a state of repair. The restoration of the walls on the Micklegate side of the river has been already effected at a cost of from 2,000*l.* to 3,000*l.*; and, as the distance between Bootham Bar and Layerthorpe Bridge is considerably less than the Micklegate walls, it is assumed that a much less sum of money would suffice.

The Great Bell of Westminster Palace. "Big Ben," though as cracked as before, is once more on duty, telling the hours nearly as well as ever he did. His sound, though *not* quite sound, and rather more gongy than it was, is so far even improved, inasmuch as heretofore his excessive vibration, after two or three strokes, interfered with the stroke which followed in such a way as partially to smother, as it were, every third or fourth toll; whereas now, on the contrary, there is no such interference, and every stroke takes due effect, so that his tones are all alike distinct. The crack, it is said, has been found to be not so serious as was supposed; not passing quite through the metal. Though a little eccentric, therefore, crazy "Ben" may long send his long tongue booming over the metropolis.

Proposed Victoria Cross Gallery.—We are glad to see a suggestion in print for the purchase of the pictures painted by Mr. Desanges, to illustrate the varied deeds of the Victoria Cross heroes, pictures that have the value of truth irrespective of their artistic merits, as being composed according to minute descriptions detailed by the actors themselves, including also their portraits. "The noble deeds of the Victoria Cross heroes, when once recorded in the *Gazette*, run a great chance of being forgotten and crumpled up along with the paper itself, being too long for insertion elsewhere. But this small collection of pictures affords us an easy opportunity of publicly prolonging their deeds." The purchase of them, fifty in number, though it might be formidable to an individual, would be an unfelt trifle when effected by the combination of many. The sum expected by the artist is really small for a great public purpose of lasting utility. A very small contribution from all now in the services would suffice. Civilians also, being included in the order, might gracefully contribute their mite. The suggestor invites communications and aid, addressed to R. T., Junior United Service Club.

Lecture on German Art, at Bristol.—Mr. J. B. Atkinson recently gave a lecture at the Philosophical Institution, Park-street, Bristol, on "The Revival of Art in Germany: the Schools of Munich and Dusseldorf." The audience was large and appreciative. In introducing the subject, Mr. Atkinson said he had chosen the Revival of Art in Germany for two reasons—primarily, because in modern times, few, if any, movements could show fruits more ripe and abundant; and, in the second place, because this attempted national regeneration would afford them the opportunity of reviewing those essential laws and principles which, belonging to all time, circumscribed by the limits of no one country, were inherent to the life and the growth of every true art. The topic was so far-reaching, that at the outset boundaries must be prescribed. Let it be understood, that of all the arts painting was the only one which the time allotted to a single lecture would enable them to discuss. For the present their landmarks must be these: they would, as a starting point, take a survey of those forces, destructive or creative, which went to form the new birth: they would then enumerate some of the leading masters and characteristic works of the school; and lastly, such time as might remain should be devoted to a critical estimate of the merits and failings which had marked this ambitious attempt to raise in Germany the standard of high art. The lecturer's remarks to the effect, that the modern German school is the joint product of the early Italian and early German, were illustrated by three engravings from the works of the respective schools. The first was the well-known head of Raffaelle, painted by himself, at the age of eighteen, when he might be said to belong to the pre-Raffaellites; the second, the head of Albert Durer, strong and grotesque, and so characteristic of his own style of art; and the third, the head of Overbeck, combining much of Raffaelle's spirituality with something of Durer's power.

How to Prevent an Echo.—Sir: Believing with your correspondent, Mr. J. Edmeston, that the cause of the echo, in the cited instance, is the roof rising at an angle of 45 degrees, I would make a suggestion. Let a cloth, no matter how thin, be hung from or rather nailed closely to the apex of the roof completely along the room, closely fastened to each end wall, and to hang as low as the springing of the roof.—W. J. D.

Swansea Water Works. — Mr. Rawlinson writes that he was misunderstood as to what he said at the opening of these works,—"I did not mean to imply that an abundant supply of pure water alone would necessarily reduce the Swansea death-rate. I knew that Swansea was being sewered and drained, and intended to say that all the sanitary works in connexion would tend to a reduced death-rate, as in Salisbury, in Ely, in Worthing, and in other places." Instead of "23 in the thousand," the report has erroneously "23 *per cent.* in the thousand." The correct meaning, however, is obvious.

The Forms of Ships.—It has generally been considered that great progress has of late years been made in improving the forms of ships; but, if Captain J. E. Cole, of New York (not Captain Cowper Coles, of the Cupola ships) be right, the old broad flat-bottomed vessels, only a little more rounded perhaps, like the side (not the belly) of a salmon, is the best shape after all. In a pamphlet titled "A Criticism on the Form of Ships" (Blight, printer, Fenchurch-street), he maintains that, while a ship is making way, the displaced water passes under her bottom, not along her side; or she rides over it rather than cuts through it; and he gives various seamen's reasons for this opinion, which seem to have some force in them. This, however, is not a subject into which we can enter, although we think it of sufficient importance to make a note of it. Are we about to come back to something like the Chinese junk as our model in naval architecture? Of course, Captain Cole has stability as well as speed in view; but surely the broad round bottom is not the beau ideal for speed? Yet what are our swift racing skiffs but round-bottomed canoes, on the very old Indian model?

Arsenic in Paper.—This poison is principally employed in trade to produce a peculiarly vivid and showy shade of green. It is not a natural green, and neither represents the green of trees, of plants, nor of grass. On account of its brilliancy and attractiveness, it has superseded the less decided tints of nature. The form in which it is generally employed in this country is that of a green powder, which is commonly known as "emerald green." It is known to chemists and writers on science as "Scheele's green," after its discoverer. Another kind is also called "Sweinfurth green," from a town in Franconia, where it was extensively manufactured on its early introduction. The chemical composition of Scheele's green is arsenious acid, six parts; oxide of copper, two; and acetic acid, one. The number of articles in the market in which this dangerous material forms an ingredient, is beyond conception. You send your child for some toys or sweetmeats, and in both it is used as colouring matter. The box of dried fruit you get home is lined with a most seductive emerald green. You get it as a wrapper for your morning chocolate. You get it around your packet of confectionary, and you lay it next your stomach with that blanc-mange, apple-tart and cake which your cook produces as her best production. Your book from Mudie has it for a side lining, and the report of the managers of the Industrial Institute which you receive is covered in the same alluring shade of green. Nor does it stop here. Go into the pastry-cook and confectioner's, and you find the walls and shelves painted with the same destroying colour. Your library is painted or papered with this same colour; and the flowers you so much admire on your wife's head-dress are, alas! emerald green; and the sweet Emily charms you with the wreath and tarlatan of the same fascinating colour. The fact is, this colour pervades us like an atmosphere. The prevalence of it in our shops, our homes, our churches, our concert-rooms, and our tea-gardens, make it the most constant poison we have.—*Macniven & Cameron's Paper Trade Review.*

TENDERS.

For pulling down and rebuilding house, 3, York-street, Middlesex Hospital, for Mr. Richard Holland. Mr. J. B. Benwell, architect:—

Hyde (accepted)	£680 0 0

For house, North Woolwich-road, Plaistow. Mr. John T. Fisher, surveyor. Quantities not supplied:—

Hughes (accepted)	£331 5 0
Cordery	327 0 0

For a house, at Wimbledon, for Mr. James Gibbons. Mr. George Truefitt, architect:—

Patrick	£1,447 0 0
Warne	1,420 0 0
Stimpson (accepted)	1,295 0 0

For additions, alterations, repairs, and decorations to No. 4, Great Cumberland-street, Hyde Park, for Mr. J. C. Durnford. Mr. Alfred Wright, architect:—

Nixon	£1,217 0 0
Smith	1,130 10 2
Longmire & Burge	1,088 0 0
Fish	1,040 0 0

For warehouse, stables, and shop-front, East India-road, Limehouse, for Mr. Samuel Bradney. Mr. Wigginton, architect:—

	Warehouse.	Shop-front.	Total.
Munday	£856	£630	1,486
Kelby	549	549	1,278
Hack & Son	537	537	1,237
Ennor	398	398	1,160
Warskitt (accepted)	391	391	1,141

For alterations to house, as above, for Mr. Bradney. Mr. Wigginton, architect:—

Kelby	£152 0 0
Warskitt (accepted)	138 10 0

For erecting National Schools, at Langford, Beds. Mr. John Norton, architect:—

	For Two-story Building.	For One-story Building.
Gray	£1,065 15 0	£662 0 0
Twelvetrees	1,009 0 0	539 0 0
Durham & Wilkins	940 0 0	495 0 0
Conquest*	905 0 0	427 0 0
King	825 0 0	485 0 0
Wildman	810 0 0	532 0 0

* Accepted, subject to alterations.

TO CORRESPONDENTS.

"Going Along" will be continued in our next.

We can not interfere, editorially, in disputes between architects and their clients.

Newsham Stewardship.—Other correspondents complain with C E of similar treatment, and ask to know the result of the election.

J. A.—T M. (any foreign bookseller).—M. C. W. H.—H. H. V.—B. R.—C. J. R.—Candidate.—Competitor.—Disappointed.—A Lily of "the Valley." Y. Z (the information has not reached).—Holborn Valley (nine competitors write to complain that their designs have not been exhibited. The reason given by the committee is stated in our leading article).—H. H. R.—S. J. R.—P. H.—M. C.—C. F. H. (thanks).—W. L. B. (we have not room for "circular" letters).—P. S.—W. J. D.—W. P.—J. M. (plan not exhibited).—A. W. B.—E. P.—S. B.—Linseed Oil (one or two manufacturers and a co-operative society who state they sell pure oil, must take the usual means to make this known).—J. W.—T. C. T.—R. E. G.—B. E. H.—R. D.—T. W.—H. de M.—W. C. W.—K. J. T.—J. C.—An Art-lover (next week).—J. E. (ditto).

Erratum.—The weight of Bow Bells (p. 815) was erroneously cast. It will be seen it should be 10 tons, 4 cwts., and 21lb.

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than FIVE o'clock, p.m., *on Thursday.*

Note.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

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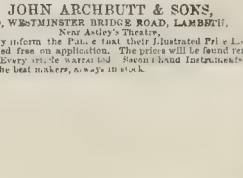
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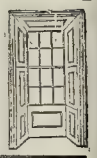
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List of Prices forwarded on receipt of postage stamp.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot-houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
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JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
No. 28, GRAY'S INN ROAD, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

FLOORING, DEALS, MAHOGANY, &c.

¾-inch White Flooring, good quality	11s. 6d. per square.
¾-inch White Matched Lining	12s. 0d. ,,
½-inch ,, ,, ,,	14s. 0d. ,,
2½-inch Yellow Battens	10l. 0s. per 120 of 12 feet.
2½-inch White Battens	9l. 0s. ,,
3 by 9 Yellow Deals	16l. 10s. ,,
Honduras Mahogany	0s. 6d. per foot super.

PRICE LISTS AND MOULDING PATTERNS, POST FREE.
J. TERRY & SON, 109, BOROUGH ROAD, S.E.

FLOORING! DEALS! MAHOGANY!
100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
5,000 Yellow Battens ..... from £10 10s. per 120
2,000 Spruce ditto ..... from £9 per 120
SPRUCE DEALS, 2s. 6d. each.
FIR TIMBER 55s. PER LOAD.
Scaffold Poles ..... 1½d. per foot
YELLOW DEALS, £16 PER 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.	Laths, 29s. per Load.	
Yellow Deals, sound and good	£18 0 0	per 120, or 3d. per foot.
Spruce Deals	15 0 0	,, 2½ ,,
Yellow Battens, excellent quality	10 10 0	,, 1s ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

DEAL AND TIMBER TRADE.
CHARLES SLEE,
(of the late Firm of SYKES, SONS, & SLEE), has in STOCK at his Premises,
10, HIGH STREET, WHITECHAPEL,
A General Assortment of WOOD GOODS, comprising DRY YELLOW, SEASONED PINE, &c., with the usual thickness of prepared Floor Boards, and Matched Linings.
COUNTRY AND OTHER ORDERS PROMPTLY ATTENDED TO.
PRICES TO SUIT ALL BUYERS.



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SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

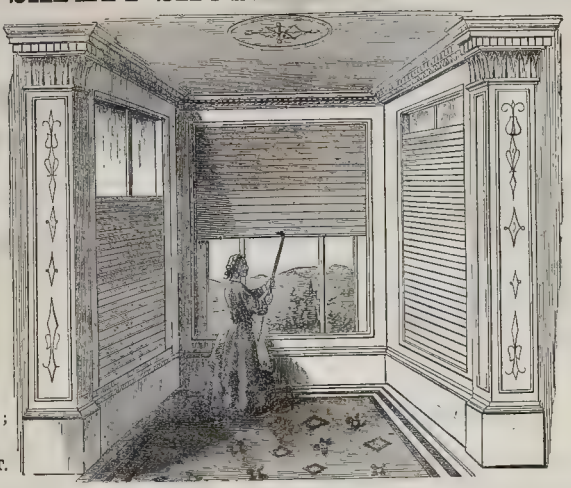
FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
⅞ by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.
WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

REVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL.

CLARK'S PATENT,
FOR
SHOP FRONTS,
2s. 2s. 6d. 3s. and 3s. 6d.
Per Foot Super.
THE MOST SIMPLE AND SECURE SHUTTER EXTANT.
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Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—
Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS, IN IRON OR WOOD,

From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.
96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.

THOMAS MILLINGTON,
GLASS MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

Reduced Tariff for Sheet Glass.
The Agricultural Hall, Islington, containing an Acre of Glass, was supplied by me. Mr. Rivers, and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured me with orders for home use and for exportation.
FOR PRICES, SEE LAST WEEK'S ADVERTISEMENT.

HUBBUCK'S PATENT WHITE ZINC PAINT.

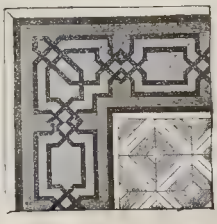
By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862.
By Her Majesty's Royal Letters Patent.
F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,
Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronized by
HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSIONERS OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland, at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House in Hanover square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its use and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have exclusively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully requested to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and in lengths best suited to the roofs. The original works where the above roofing is made are F. McNEILL & CO.'S Manufactories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER, upwards of Three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, of nearly One Million Feet. A Liberal Discount allowed to the Trade.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shop referred to in every public street in London.
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Palace Wharf, Stangate, Lambeth, S.



SOLID PARQUET FLOORS.
ARROWSMITH'S PATENTED,
From 1s. per foot, in various woods, inch thick, grooved, ongued, and keyed together, not veneered
For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.
SHOW ROOMS, 80, New Bond-street W.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

JAMES STIFF & SONS,

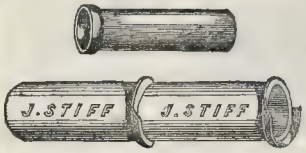
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







PAN, 4s. 6d.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,



Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

1851. 1862.



TERRA-COTTA WORKS,

BLACKFRIARS ROAD,

LONDON, S.

MARK H. BLANCHARD&CO.

Successors to COADES.



Original Works established 1769. Terra-Cotta Manufacturers to her Majesty, the Commissioners of 1851, the Board of Works, the Trinity House, the Admiralty, the Royal Horticultural Society, and the Department of Science and Art, South Kensington, and the Recipient of the Prize Medal at the 1851 Exhibition for MATERIAL and WORKMANSHIP in TERRA-COTTA, and the only Recipient of Two Prize Medals at the 1862 Exhibition for TERRA-COTTA and POTTERY, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this imperishable and invaluable Material in Sculptural and Architectural Embellishments, suitable to the Palace, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment have stood the test of time.

A beautiful variety of Statues, Statuettes, Vases, Tazze, Fountains, Flower Pots, Balustrade Terminals, and other adornments, suitable for the Conservatory, Flower Garden, and Grounds, at prices unprecedented. Estimates furnished.

An illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

ARMANI AND CO.

IMPORTERS DIRECT FROM THE MINES OF

PRIZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perrotte (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL,

LONDON, **SEYSSEL ASPHALTE,** PARIS,

AND BY H.M.'S ROYAL LETTERS PATENT,

MANUFACTURERS OF

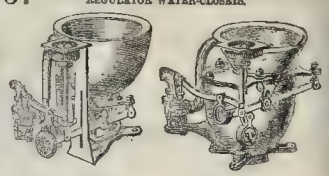
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FOR PRICE AND PARTICULARS APPLY AT THE OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.

MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

J. TYLOR & SONS' PATENT

REGULATOR WATER-CLOSETS.

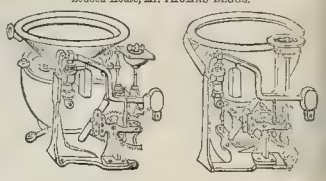


Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each Closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply Pipe. No cistern, valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick Lane, Newgate-street, London.

GUEST & CHRIMES, FOUNDRY and GENERAL BRASS WORKS, Rotherham; and 37, Southampton-street, Strand, London, W.C.

Loudon House, Mr. THOMAS BEGGS.



ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient and simple, free from all smell, and requires no cisterns, service boxes, cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipes. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet, alike dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary direct Service Main Cottage Water Closets.

Chrimes's Patent High pressure Single and Double Loose Valve and Screw Down Cocks; Improved Self-acting and Pull Water-Closet; Patent Absolute Water Waste Preventer; Plumbers' and Gas-Fitters' Brass Work of every description. Drawings, Descriptions, Prices, and Testimonials will be forwarded per post on application as above.

INTERNATIONAL EXHIBITION, 1862.

CLASS 36, NO. 5849.

3s. 9d.



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In expectation of greatly increased sales, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



Several SECOND HAND TURRET CLOCKS FOR SALE, removed from Churches and put in perfect repair, to be Sold cheap, and a twelvemonth's warranty given.

Apply to

JOSEPH FAIRER,

Turret Clockmaker to Her Majesty's War Department,

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DENT, CHRONOMETER, WATCH, and CLOCK MAKER by special appointment to Her Majesty the QUEEN and H.R.H. the PRINCE of WALES, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,

Invites attention to the large and well-assorted Stock of Watches of his own manufacture, and to his new Silent Keyless Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	16 "
Strong Silver Lever Watches	5 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do.	25 "
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Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation.

LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS,

and every description of Contractors', Builders', and Decorators' Trade Requisites.

Vans, Waggons, Dobbin and other Carts, specially adapted for exportation. Pug-mills, Jack-rolls, Trolleys, and Portable Railways. Scaffolding, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire. Price Lists on application.

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WHITEFRIARS STREET, FLEET STREET, LONDON

Pumps of every description, for Hand, Horse, Water, or Steam Power.



No. 38.



No. 4.



THE LANDSCAPE SKETCH ABOVE SHOWS THE IMPROVED HYDRAULIC RAM.

This is a simple Self acting Machine for Raising a considerable Supply of Water where a fall can be secured from a Stream, Brook, or Springs. A great many have been fixed in various parts of the country, for raising from 600 to 6,000 or more gallons per day to elevations varying from 30 to 300 feet, and forcing through main pipes from 50 yards to several miles in length. The fullest particulars and estimates will be handed on application.

No. 28A.—Double Barrel Force Pumps, for Raising Water from Deep Wells for the Supply of Tanks in Mansions and Public Buildings. Messrs. CLINTON & OWENS also Manufacture and Erect every other Form of Pump for Deep or Shallow Wells for Hand or other Power.

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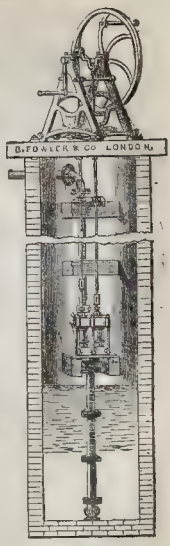
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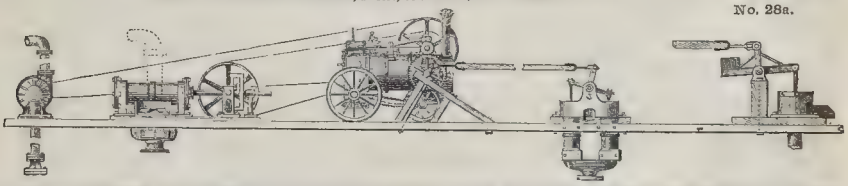


No. 18.





No. 28a.



CLINTON & OWENS

MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

PUMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE, STEAM-ENGINES, WATER-WHEELS, TURBINES, HOISTS, WARMING AND DRYING APPARATUS, BATHS, GAS-WORKS, AND FITTINGS.

PORTABLE STEAM ENGINES, CENTRIFUGAL, SINGLE AND DOUBLE BARREL AND OTHER PUMPS, ON HIRE OR PURCHASE.

FULLER PARTICULARS and ILLUSTRATED PRICE LISTS on Application.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 „	2 15
4 „	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 10s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

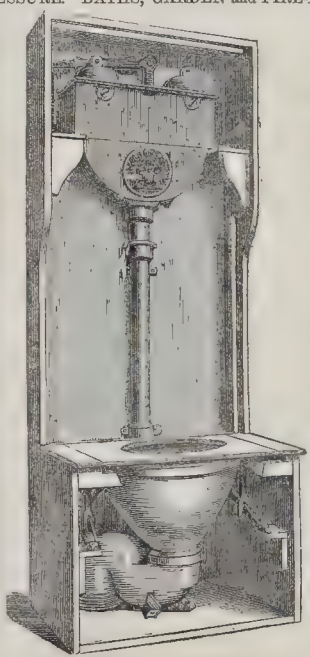
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 „	5 5 0	
3½ „	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch.....	£3 10 0
3 „	4 0 0



IMPORTANT TO WATER COMPANIES

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet-Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	2 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.



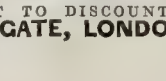
No. 145½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin..... £2 0 0

Sunk Handle, extra 0 2 0

Blue Basin, extra 0 1 0

No. 145A.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

UPPER CLAPTON, Middlesex.—Eligible Freehold Building Land

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on MONDAY, 30th NOVEMBER, in lots, at TWELVE for ONE o'clock, fifty seven Lots of eligible FREEHOLD BUILDING LAND, free of tithe and land tax, situate on the new roads leading from Upper Clapton to Rectory-road, Stoke Newington, close to the Hackney Downs, and within half an hour's ride of the City. Nine tenths of the purchase-money may remain on mortgage or contract at 5 per cent, to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained (ten days before the sale) at the Old King's Head, Upper Clapton; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; of the Auctioneer, 13, Moorgate-street, London, E.C.; of the Foreman on the estate; and at the Place of Sale.

NORTH LONDON RAILWAY.—CITY EXTENSION.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, on the PREMISES, near the Spread Eagle, Kingsland-road, on WEDNESDAY and THURSDAY, NOVEMBER 25th and 26th, 1863, at TWELVE for ONE o'clock each day, the Valuable MATERIALS of several Taverns, Factories, Shops, Houses, &c. being the first portion of the buildings to be removed between the Kingsland-road and Worship-street, E.C.; a large quantity of good sound bricks, paving, tiles, slates, oak and other timbers, lead gutters and cisterns, stoves, ranges, coppers, &c.; the very capital and expensive plate-glass fronts, bar fittings, and other internal fixtures and fittings, with other useful and valuable items.—May be viewed the day previous to sale; and catalogues had at the Auctioneers' Offices, Camden-town, and Kingsland-gate.

AT GARRAWAY'S COFFEE HOUSE, CORNHILL, WEDNESDAY, 25th NOVEMBER, at TWO o'clock.

TIMBER..... 500 Loads, foreign and colonial.
DEALS and BATTENS 100,000 Pieces " "
And other Wood Goods. "
HENRY FREEMAN & CO. Brokers,
3, Crooked Lane, Cannon Street, E.C.

BEAUTIFUL PROPERTY on the RIVER TWEED for SALE.—THE HOUSE and PROPERTY of ROSEBANK, upon the River Tweed, about half a mile below the town of Kelso, N.B. left by his uncle to the great Poet and Novelist Sir Walter Scott, Bart who passed some of the happiest days of his youth on this beautiful spot, and the tree in which he used to sit may still be seen overhanging the river. The Land, which is of excellent quality, and measures upwards of twenty-two acres or thereby, has a frontage of a quarter of a mile along the noble River Tweed, which is here seen in its greatest beauty. The bank is exquisitely wooded with fine old timber, and pleasure walks extend all along the margin of the river. Few places in Scotland possess more picturesque beauty. The purchaser will have the right to the fine Trout Fishing in that portion of the side of the Tweed which bounds the property, and Salmon Fishing can be procured in the immediate vicinity. The property is situate in a sporting country, where Shooting can be obtained, and it is within an easy distance of most of the meets of the Duke of Buccleuch's and Earl of Wemyss' Hounds.

The house is in good repair, and contains dining-room, drawing-room, library, housekeeper's room, four bedrooms, two dressing-rooms, two attic-rooms, water-closet, kitchen, and other conveniences. The offices consist of stable, coach house, washing-house, cow-house, barn, &c. The garden is well stocked with fruit and standard fruit trees, and is early and productive. Attached to the property is an exclusive right of pasturage, and other rights and privileges. The immediate vicinity of this property to the close grounds of S. chal, including Abbotsford, Melrose Abbey, Dryburgh Abbey, Jedburgh Abbey, Kelso Abbey, &c. together with its great natural beauty, its sporting facilities, and its proximity to the town of Kelso, which makes it such an eligible site for villas, not to mention the number of noblemen's and gentlemen's seats with which the neighbourhood is studded, combine advantages rarely to be met with. The property will be EXPOSED to SALE, by PUBLIC AUCTION (if not previously disposed of by Private Sale), at the SALE ROOMS of Messrs. CAY & BLACK, 62, George-street, EDINBURGH, on TUESDAY, 1st DECEMBER, 1863, at ONE o'clock afternoon, at the extremely low upset price of 5,500*l*. For further particulars apply to JAMES TAIT, W.S., Kelso, who will show the title deeds and articles of roup; or to Messrs. SCOTT, MONCRIEFF, & DALGETTY, W.S., 17, Duke-street, Edinburgh.

TO BUILDERS, CARPENTERS, AND OTHERS.

MESSRS. J. J. CLEMMANS & SON will SELL by AUCTION, at No. 3, Bateman's-row, Shoreditch, on TUESDAY next, at HALF-PAST TEN for ELEVEN (the premises being taken by the North London Railway), the STOCK of a TIMBER MERCHANT: comprising a large quantity of Spanish mahogany, Italian walnut, birch wainscot, 5,000 first and second pine deals, &c. Approved bills over 20*l*. will be taken.—On view day prior. Catalogues of the Auctioneers, 1, Spital-square, and 21, Holywell-row, Finsbury.

UNRESERVED SALE OF PAPERHANGINGS.

MR. EDWIN WHITE is directed to SELL, without the slightest reserve, at his ROOMS, 12, Holborn Bars, and 3 Castle-street, Holborn Hill, on THURSDAY next, NOVEMBER 26th, at ONE for TWO precisely, 7,500 pieces of modern English and French PAPER HANGINGS, consisting of Flocks, Gelds, Satins, Grounds, Drys, Marbles, &c., in great variety.—Catalogues and view, Wednesday and morning of Sale.

BUILDING MATERIALS.—MARLBOROUGH-PLACE, near the Nelson, Old Kent-road.

MR. C. F. SMYRK will SELL by AUCTION, as above, on MONDAY, NOVEMBER 23, at TWELVE for ONE, 18 Lots of sound, useful MATERIALS and FIXTURES, taken down for public improvements, assorted and lotted to suit builders and others, including long timber in joists, rafters, brestsummers, plates, and bond timbers, flooring and lining boards, glazed and panelled partitioning, mantle and stone chimney pieces, doors, sashes, shop fronts, closet fronts, 1,000 feet of stone paving, coping and sills, twenty stacks of firewood, stoves and ranges, old iron, &c. &c.—Catalogues on the Premises; and of Mr. SMYRK, 10, Newington place, S.

GRAYS, ESSEX.—1,100,000 Stock and other Bricks, an Entire Horse-Light Chaise ditto, and a Colt, 2 Brick Carts, Dog Cart, and Cart Harness.

MR. GRIST will SELL by AUCTION (by order of the mortgagee), in DAVIS'S BRICK FIELD, Little Thurrock, on THURSDAY, 26th NOVEMBER, at ONE o'clock precisely, 1,100,000 NEW BRICKS, comprising Land burnt and good coloured Light stocks, grey stocks, paviors, grizels, place, latts, burrs, &c.; 2 cart-horses, a colt, 2 brick-carts, dog-cart and harness.—The Jewel Sale.—Catalogues at the Field; also at the neighbouring Inns; and of Mr. GRIST (successor to the late Mr. T. J. Barnes), Auctioneer and Surveyor, No. 78, King William-street, Mansion House, E.C.

TO BUILDERS AND OTHERS.

MR. W. HOLLINGSWORTH is instructed to SELL by AUCTION, without the least reserve, on MONDAY next, NOVEMBER 23rd, at ONE o'clock precisely, the SALE of ROOMS, 12, High Holborn, the STOCK IN-TRADE of a PAPERHANGER, leaving the business; comprising 1,000 pieces of paper, of excellent quality and design, suitable for dining and drawing rooms, parlours, bed rooms, and staircases. Also, BUILDERS' IRONMONGERY, of every description; 25 capital Mortise Cupboard doors, sashes, and other Building Materials, all for absolute sale.—Catalogues sent on application at the Auction Offices, 13, High Holborn.

TO BUILDERS, CABINETMAKERS, AND OTHERS

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden-town, on MONDAY, NOVEMBER 23, at TWELVE o'clock, 6,000 feet of mahogany in planks and boards, 3,000 feet of birch, 3,000 planks, deals, and battens, 2,000 feet of oak, 3,000 feet of wide pine boards, flooring, quartering, cut stuff, doors, 3 chimney-pieces, scaffold bearers, ladders, barrows, &c.; also a grey horse, and cart.—Auction Offices, 2, Cardington-street, Hampstead-road.

FARNBOROUGH and ALDERSHOTT FREEHOLD and GROUND-RENT SOCIETY (Limited).—To BUILDERS and OTHERS.—Land on this Society's Estate at Farnborough, TO BE LET on building leases, or TO BE SOLD, upon advantageous terms.—Particulars may be had of the Architect, Mr. H. CURREY, 4, Lancaster-place, Strand, W.C.; or at the Offices of the Society, 18, New Bridge-street, Blackfriars.
EDWARD CHATFIELD, Managing Director.

TO BE LET, by the Fishmongers' Company of London, on a Building Lease for Eighty Years, valuable BUILDING LAND, Newington, Surrey, within three minutes' walk of the Elephant and Castle. About two-thirds of an Acre of Ground, situate on the east side of the Walworth-road, having a frontage of 106 feet in Crown-row, and a frontage of 196 feet 8 inches in Prospect-row, with Eighteen Cottages in the rear of William's-place. This property is well adapted for shops and business purposes, requiring space and ready access to the principal thoroughfares of the metropolis. TO BE LET by TENDER, in one or more lots, to suit the views of different parties wanting the ground.—Apply to Mr. W. B. TOWSE, the Company's Clerk, Fishmongers' Hall, London Bridge; or to Mr. RICHARD BUTLER, the Company's Surveyor, 28, Frederick-street, E.C. where plans and particulars may be seen. The Tenders are to be sent in by TUESDAY, NOVEMBER 24th next, at NOON precisely.
Fishmongers' Hall, October 20, 1863.

WATFORD, HERTS.—TO BE LET, on BUILDING LEASES, several PLOTS of FREEHOLD LAND, in the neighbourhood of the above town, in close proximity to the Station, and on the new road recently made.—For plans and particulars apply to Mr. EDWARD H. BURNELL, Surveyor, 32, Bedford-row, London, W.C.

EXTENSIVE MANUFACTURING PREMISES, with STEAM POWER.—TO BE LET, one of the finest BUSINESS PREMISES in the City; containing large yard, with drying shed, piling stage, extensive Workshops, fitted up with circular saws, mortise and tenoning machines for making doors, &c.; three vertical saw frames for cutting deal planks, &c. 26 inches deep; two powerful steam engines, with hot water tank; a well of good water, self-acting benches, together with every convenience for a large trade: public and private offices, fitted with fire-proof safes, &c. For further particulars apply at the City Timber Yard, 20, Long lane, City.

MID-KENT LINE. — Eligible Freehold BUILDING LAND TO BE LET, on LEASE for 99 years, direct from freeholders. It is well situated on the side of a hill, commanding beautiful scenery, about ten minutes' walk from the Catford Bridge Station, Mid-Kent Railway. Railway journey, 20 minutes. Land may be seen, and particulars obtained, by applying on the spot to FREDERICK SELBY, Ravensbourne Park, Lewisham, S.E.

SYDENHAM HILL.—LAND TO BE LET for BUILDING, 450 feet frontage, average 500 feet deep. Beautiful site, with extensive prospects, and fronting a high road; close to three railway-stations, and within ten minutes' walk of the Crystal Palace. May be had in one, two, or three plots, for detached Residences.—For particulars, apply personally to Mr. HENRY DAWSON, Architect, 16, Finsbury-place South, E.C.

BRICKEARTH, at Southall, near the Grand Junction Canal, and the Great Western Railway.—TO BE LET, from Twenty to Thirty Acres of excellent BRICKEARTH, of good depth.—For plans and particulars apply to Mr. RICHARD TRUMPER, 23, Lincoln's-inn fields, W.C.

BUILDING GROUND TO LET.—GREAT TOWER STREET, in the City of London.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 8th day of FEBRUARY next, at HALF-PAST TWELVE o'clock precisely, to receive proposals for taking on BUILDING LEASES, for a term of eighty years (the first year at a peppercorn rent), certain PLOTS of FREEHOLD LAND, situate in Great Tower-street, in the City of London, in the centre of the Corn and Colonial Markets. Further particulars, with conditions and printed forms of proposal, may be had on application at the Office, where plans of the ground may also be seen. The Commissioners do not bind themselves to accept any proposal unless deemed advantageous. Persons making proposals must attend personally, or by a duly authorised agent, on the above-mentioned day, at HALF-PAST TWELVE o'clock precisely, and the parties whose offers are accepted will be required to execute an agreement and a bond at the same time.
Sewers Office, Guildhall, November 6, 1863.

BUILDING LAND at STAINES.—Mr. PHILIP D. TUCKETT is instructed TO LET, on building leases, in lots, available for building in the spring of next year, or so, as the above is nearer to the station, and in every way better situated than any other available site, it can be confidently recommended to builders.—For particulars apply to Mr. PHILIP D. TUCKETT, Land Agent, Surveyor, and Auctioneer, 76, Old Broad-street, E.C.

NORTH STREET, MILE END.—TO BE LET, on building leases, for eighty years, a valuable FREEHOLD BUILDING SITE, with extensive frontage to North-street, occupying an area of nearly three quarters of an acre, and suitable for the erection of factories, model-lodging-houses, shops, or dwelling-houses.—For plan and particulars, apply to Mr. N. S. JOSEPH, Architect, 27 A, Bucklersbury, Cheapside.

WANTED to RENT, PREMISES, containing an area consisting of about 30,000 feet. The building must be of substantial character, fitted for steam power. A good light indispensable, especially in the upper stairs. A space within the circle of about a mile from St. Bride's Church, Fleet street, would be preferred.—Address, with full particulars, to Messrs. JENNINGS & SON, Solicitors, 18, Bennet's-hill, Doctors' Commons, E.C.

GROUND WANTED.—A Plot of Ground, not less than 100 feet square, within a half mile radius of the Elephant and Castle.—Inquire of S. WALTON, No. 1, Russell-terrace, Oakley square.

LAND.—WANTED, for a PUBLIC BUILDING, a PIECE of FREEHOLD or LEASEHOLD PROPERTY, containing an area of about 6,000 feet superficial. It is desirable that it should be situate in a good public thoroughfare, in or about the locality of Broadstairs, Brompton-road, or Knightsbridge.—Apply, by letter, stating size of the property, &c. to S. T. Mr. Lindsey's, 19, Catherine-street, Strand, W.C.

GROUND in BASINGHALL-STREET, now occupied by Houses and Warehouses, known as Nos. 20 and 21, Basinghall-street, TO BE LET by TENDER, for Building purposes. A plan of the ground and form of Tender may be obtained at the Office of EDWARD FANSHAW, Esq. No. 74 Lawrence Pountney-hill, Cannon-street; or of Messrs. HOLLINGSWORTH, TYERMAN, & GREEN, No. 24, Gresham-street, London; where TENDERS, under seal, are to be delivered on or before the 1st DECEMBER next. The Owner does not bind himself to accept the highest or any Tender.

MANUFACTURING PREMISES, OR LAND on which such may be built, WANTED, within five miles of the Post-office, or near full railway communication. Short leasehold objected to; a freehold plot of one to five acres preferred.—Particulars to be addressed, C. F. M. Messrs. Dawson & Sons, 74, Cannon-street, E.C.

FREEHOLD LAND TO BE SOLD, or LET on BUILDING LEASES About Two Acres at Forest-hill, near the Station; One Acre at Norwood Junction Station; Two Acres at Glengall-grove, Old Kent-road. Also a WHARF TO LET, at Kent-road Bridge.—Apply to Mr. MAY, Acorn Timber-wharf, Old Kent-road.

TO BUILDERS and OTHERS.—Notice is hereby given that the Trustees of the Rev. Dr. Spurlow's Charity Estate at Hackney have several PLOTS of LAND TO LET to build on, eligible for villas and other respectable private dwellings. The land will be direct from the freeholder, and free of land tax and tithe commutation rent-charge. The above estate offers an excellent opportunity to persons desirous of building houses to reside in themselves.—For further particulars inquire of Mr. GILDLON, Surveyor, No. 2, Old Church-yard, Hackney; or of Mr. C. H. FULLEY, of Upper Homerton, and 28, Great Winchester-street, Old Broad-street, City, Solicitor.

THE INDIAN TEA COMPANY of DARJEELING (LIMITED).

Incorporated under the Joint Stock Companies' Act, 1862, by which the liability of Shareholders is limited to the amount of their shares.

Capital, 60,000*l* in 6,000 shares, of 10*l*. each.
(with power to increase),
Of which it is calculated, that for the present not more than 5*l*. per share will be required.
1*l*. per share to be paid on application, and 1*l*. 10*s*. on allotment.
Calls will not be made at less intervals than three months.
Seven per cent. guaranteed by the vendor of the property, during the first three years.

DIRECTORS.

Henry Smith, Esq. Ellingham Hall, Norfolk, and Inner Temple, Chairman.
Daniel R. Evans, Esq. 5, Elm-court, Temple (Chairman Bombay Gas Company)
Lieut. Col. Jameson, 30, Kensington Park Gardens, late of H.E.I.C.S.
Colin Campbell, Esq. 91, Inverness-terrace, Bayswater (late of Bombay).
Alexander Stewart, Esq. 2, Talbot-terrace, Westbourne park, late Deputy Commissioner of Customs, Bombay.

BANKERS.

The Alliance Bank of London and Liverpool, Limited, Lothbury, London, E.C.

SOLICITOR.

James Bell, Esq. 21, Abchurch-lane.

SECRETARY (pro tem).

Mr. William Edgar.

OFFICE OF THE COMPANY.

216, Great Jan House, Old Broad-street.

This Company is formed for the purpose of purchasing and working valuable Tea Plantations in the south of Darjeeling, and for extending its operations hereafter by the purchase of other estates.

The property already agreed to be purchased is freehold, and consists of 1,000 acres, of which 673 are in a ring fence (the area being ascertained by Government survey); 200 acres are planted with tea, more than one half of which is occupied by plants of three years' growth. From the produce of this garden, both in tea and tea-seed, it is expected large profits will shortly be realized. About 450 acres have been cleared of timber, and it is calculated that an outlay of 3,000*l*. during the first year will (if sufficient seed can be procured) place this portion of the property under tea-cultivation, making some 650 acres in plant, and that a gross sum of 15,000*l*. will be sufficient to bring them into full bearing.

The Directors have arranged with the Vendor for the purchase of the property, with the Manager's House, Factory, Agricultural Implements, &c. complete for a sum of 13,800*l*. in cash, to be paid by instalments, and 7,200*l*. to be paid in shares, but these shares are not to be allotted to the Vendor until the property shows nett profits exceeding 7 per cent.

Mr. E. T. Fitzgerald, the Vendor of the property, has consented to superintend the Plantation, without salary, for a term of three years, and he has agreed to deposit with the Directors a sum of money sufficient to secure to the Shareholders a minimum dividend of 7 per cent. for three years, when it is anticipated that the property will show profits far exceeding that amount. This guarantee is made on the understanding that the sum, if any, required to be advanced by Mr. Fitzgerald, is to be repaid to him when the profits exceed 7 per cent.

Labour is abundant in the district. A road runs through the midst of the Plantation, and there is direct communication with Calcutta.

The profits have been calculated on an average produce of 230*lb*. of tea per acre, on tea-plants of five years' growth. The average value of the tea on this estate, as estimated by Messrs. W. J. & Hy. Thompson, of Mincing-lane, from samples furnished by the Vendor, is upwards of 2*s*. per pound. The cost of cultivation and manufacture is estimated at less than 9*d*. per pound, thus leaving a nett profit of more than 1*s*. per pound. From the sale of the tea alone, exclusive of tea seed, the average value of which is 12*l* per maund (of 80 lb).

The capital will not be increased without the assent of the Shareholders at a special meeting.

No promotion-money has or will be paid by the Directors.

In the event of no allotment being made, the money will be returned to the Subscribers.

Prospectuses and Forms of Application for Shares may be obtained at the Bankers and Offices of the Company; but no application will be considered unless a deposit of 1*l*. for each share applied for shall have been previously paid to the Bankers of the Company. Shares will be allotted subject to the provisions of the Memorandum and Articles of Association, which may be seen at the Offices of the Company.

THE QUEENSFERRY ALKALI COMPANY, Limited.—The Directors hereby give notice that no further APPLICATIONS for SHARES in the Company can be received after TUESDAY next, NOVEMBER 24th, from the London District, or after WEDNESDAY, the 25th, from the country.
(Signed) E. F. FERRIS, Secretary.
23, New Broad-street, E.C.

ACCIDENTS
By ROAD, RIVER, or RAILWAY;
Accidents in the Field, the Streets, or at Home,
May be PROVIDED AGAINST by taking a POLICY of the RAILWAY PASSENGERS' ASSURANCE COMPANY,
64, CORNHILL, LONDON.
£140,000 have been already PAID as COMPENSATION for Accidents of all kinds.
In Seventy-five Fatal Cases, and 6,880 Cases of Personal Injury.
Rates and further Particulars may be obtained at the Railway Stations, of the Local Agents, or of the
HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
WILLIAM J. VIAN, Secretary.
Railway Passengers' Assurance Company, empowered by Special Act of Parliament, 1849.

IRONWORKS.—TO BE LET or SOLD, the DERWENT IRONWORKS, at Workington, Cumberland, well situated at the Harbour and near the Railway Station, and in complete working order. They comprise two puddling furnaces, a steam hammer, and all the requisite machinery for manufacturing bar iron, of which 1,200 tons per week might be produced at once, with a capability of considerable increase. Coal is obtainable at very moderate rates in the immediate neighbourhood, and the well-known Hematite pig iron is produced on the spot. These works are well placed for the production of puddle steel; there is also a demand for bar iron in the district. They will be let ready for starting, or disposed of on moderate terms.—For further particulars apply to JAMES SPENCE, Esq. Liverpool; PETER CAMERON, Esq. Whitehaven; or to Messrs. DODD & SON, Workington, the latter of whom will show the premises.
N.B. The above property is freehold.
Whitehaven, November 14th, 1863.

TO ARCHITECTS, BUILDERS, RAILWAY CONTRACTORS, AUCTIONEERS, &c.—SPECIFICATIONS, CONTRACTS, ACCOUNTS, and every other description of DOCUMENTS, correctly and expeditiously COPIED, at 1*d*. per folio of seventy-two words, by FRY & SON, Law Stationers, Printers, and Lithographers, 13 and 14, South-square, Gray's-inn, W.C. Plans and drawings copied, enlarged, or reduced, on reasonable terms.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER." No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, November 21, 1863.

The Builder.

ILLUSTRATED WEEKLY PAPER FOR THE Architect, Engineer, Operative & Artist.

Vol. XXI.—No. 1086. NOVEMBER 28, 1863. Price Fourpence. By Post, 5d.

ILLUSTRATIONS.

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NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate Street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive exemption, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

72 74, Bishopsgate street Within, November, 1863.

NOTICE. — LONDON and WESTMINSTER BANK, LAMBETH BRANCH, 34, Mount Street — GEORGE TOZER, Local Manager. "The London and Westminster Bank having received notice from the Vestry of the Parish of Lambeth, that the Metropolitan Board of Works have directed that Mount-street, Lambeth, should hereafter be called Westminster Bridge Road, and numbered accordingly, hereby give notice, that from and after this date the business of the Lambeth Branch will be carried on at the same premises, but bearing the altered number and name of 31, WESTMINSTER BRIDGE ROAD, S. and all communications connected with that Branch are requested to be so addressed.—By order of the Board, WM. EWINGS, General Manager.

1, November 11th, 1863

SOCIETY of ARTS.—CANTOR LECTURES.—The following COURSES of LECTURES will be delivered during the Session. . .

"On the Operation of the existing Laws of Maritime Warfare on International Commerce," by G. W. Hastings, esq.; "On Flax as applied to Industry," by W. Burges, esq.; "Chemistry applied to the Arts," by Dr. F. Crace Calvert, F.R.S. Mr. Hastings's course, consisting of four lectures, will commence before Christmas; the Mr. "On the Law of Blockade," will be delivered on MONDAY evening, the 7th of DECEMBER, at EIGHT o'clock.

These Lectures are free to Members of the Society of Arts, each of whom has also the privilege of admitting two friends to each Lecture. The Wednesday Evening Meetings will be held as usual.—By order of the Council, P. LE NEVE FOSTER, Secretary.

2 November 25th, 1863.

BILLING'S PATENTS. CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have consequently reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr. TEYLER, 12, Abingdon-street, Westminster, who will also afford any information, he having been for many years associated with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

COMPETITIONS.

COMPETITIONS.—NEW CHURCH of ST. JOHN the EVANGELIST, London-road, Carlisle.—The Building Committee are prepared to receive PLANS for this CHURCH, which is to accommodate 1,000 persons, and to cost £6,000. Full information will be given on application made before DECEMBER 10 to the Secretaries, St. John's Church Committee, No. 6, Lowther-street, Carlisle.—All Plans must be sent in before JANUARY 15, 1864. Premiums of £50 and £30 respectively will be given for the Plans which the Committee consider the best and second best after the one they may ultimately select.

2 November 23, 1863.

CONTRACTS.

WEAR NAVIGATION and SUNDERLAND DOCK ACT, 1859.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a WET DOCK and ENTRANCES, and other Works connected therewith, the Soil in Dr. Kay's Orchard, in conformity with drawings, specifications, and conditions, which may be seen, and further particulars obtained upon application to THOMAS MEIK, Esq., C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after the 9th of NOVEMBER, 1863. Tenders, on printed forms, attached to specifications, which only will be received, and indorsed "Tender for Docks," addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 19, Fawcett-street, Sunderland, not later than NOON on the 14th of DECEMBER, 1863. Copies of the specifications and conditions, with form of Tender, and of a bill of quantities, prepared for the convenience of Contractors, can be had by parties Tendering upon payment of £1 2s. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, October 28, 1863.

WEAR NAVIGATION and SUNDERLAND DOCK ACT, 1859.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a GRAVING DOCK and other Works connected therewith, at the South Docks, Sunderland, in conformity with drawings, specification, and conditions, which may be seen, and further particulars obtained, upon application to THOMAS MEIK, Esq., C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after 30th NOVEMBER, 1863. Tenders, on printed forms attached to specification, which only will be received, and indorsed "Tender for Graving Dock," addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 19, Fawcett street, Sunderland, not later than NOON, on the 14th DECEMBER, 1863. Copies of the specification and conditions, with form of Tender, and of a bill of quantities, prepared for the convenience of contractors, can be had by parties tendering, upon payment of £1 2s. The Commissioners do not bind themselves to accept the lowest or any Tender—By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, October 23, 1863

WEAR NAVIGATION and SUNDERLAND DOCK ACT, 1859.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a WROUGHT-IRON CAISSON, for the Entrance of the intended Graving Dock, at the South Docks, Sunderland, in conformity with drawings, specification, and conditions, which may be seen, and further particulars obtained, upon application to THOMAS MEIK, Esq. C.E. Engineer's Office, Harbour and Dock Works, Sunderland on and after 30th NOVEMBER, 1863. Tenders, on printed forms attached to specification, which only will be received, and indorsed "Tender for Caisson," addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 19, Fawcett street, Sunderland, not later than NOON, on the 14th DECEMBER, 1863. Copies of the Specification and Conditions, with form of Tender, can be had by parties tendering, on payment of £1 2s. The Commissioners do not bind themselves to accept the lowest or any Tender—By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, October 28, 1863.

WEAR NAVIGATION and SUNDERLAND DOCK ACT, 1859.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a SEA WALL or PIER, and other WORKS in connection with the North East Pier, to be erected to the East of the South Docks, Sunderland, in conformity with drawings, specification, and conditions, which may be seen, and further particulars obtained, upon application to THOMAS MEIK, Esq. C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after 9th NOVEMBER, 1863. Tenders, on printed forms, attached to specification, which only will be received, and indorsed "Tender for Sea Wall," addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 19, Fawcett street, Sunderland, not later than NOON on the 14th DECEMBER, 1863. Copies of the specification and conditions, with form of Tender, and of a bill of quantities, prepared for the convenience of contractors, can be had by parties tendering upon payment of £1 2s. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, October 28, 1863.

METROPOLITAN BOARD of WORKS. THAMES EMBANKMENT, MIDDLESEX SIDE.—To BUILDERS, CONTRACTORS, and OTHERS.—EXTENSION of TIME for RECEIVING TENDERS.—The Metropolitan Board of Works, hereby give notice, that they have EXTENDED the PERIOD for receiving TENDERS for the above Works from THURSDAY, the 26th day of NOVEMBER instant, until THURSDAY, the 17th day of DECEMBER next. The WORKS to be CONTRACTED for are the CONSTRUCTION, COMPLETING, and MAINTAINING in REPAIR for Twelve calendar months, the following WORKS, that is to say:—An Embankment Wall, 1,970 feet in length, of the solid or with certain Landing places, steamboat pier, Sewers, Subway, Storm outfalls, and other works in connexion therewith, situate in and adjacent to the foreshore of the River Thames, on the Middlesex side, between Waterloo Bridge and the Eastern end of the Temple-gardens. Parties desiring to submit Tenders must do so on or before SATURDAY, the 26th NOVEMBER instant, upon payment of £1 1s. each, of Plans, sections, specifications, forms of Tender, and other particulars on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE a.m. and FOUR p.m. of on Saturdays between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 26th day of DECEMBER next. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office before FOUR o'clock on the last mentioned day, and no Tender will be received after that hour. The Tenders will be opened at a meeting of the Board, to be held on FRIDAY, the 18th DECEMBER at the parties Tendering must be in attendance at the Board at TWELVE o'clock on that day, the Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two or more approved sureties for the due and satisfactory performance of the works.

JOHN POLLARD, Clerk of the Board.

Spring-gardens, S.W. November 1863.

CONTRACTS.

CITY of LONDON FREEHOLD LAND TO BE SOLD, by TENDER, to PUBLIC COMPANIES, BANKERS, HOTEL BUILDERS, CAPITALISTS, and OTHERS — TO BE SOLD by TENDER a FREEHOLD PLOT of LAND with the Buildings thereon, containing 1,400 square feet, situate in Leadenhall-street, directly opposite the newly-erected warehouse forming part of the site of the late East India House. On part of the Premises the business of a Tavern is being carried on, until the purchaser will be required to take the fixtures and fittings in the usual way.—Printed forms of Tender, which alone will be received, may be had of Messrs. DRUCE & SONS, 10 Billiter-square, City, and are to be delivered at their Office as aforesaid, by TWO o'clock in the afternoon of the 9th day of DECEMBER, 1863.

TO BUILDERS, &c. Persons desirous of CONTRACTING for the ERECTION of TWO ADDITIONAL WINGS to the North Wales County Lunatic Asylum at Denbigh, for the reception of 150 Patients, may see the plans and specifications on application to Mr. ROBINSON, Clerk to the Committee of Visitors, at his Office in the Asylum, where they are now ready for inspection. Sealed Tenders to be sent in, addressed to the Chairman of the Committee, by the 14th of DECEMBER next. The contractor will be required to give proper security for the due performance of the work, and the committee do not bind themselves to accept the lowest or any Tender. By order,

JOHN ROBINSON, Clerk to the Committee of Visitors.

November 11th, 1863

ST. MARYLEBONE WORKHOUSE.—TENDERS for the ERECTION of a NEW KITCHEN.—The Directors and Guardians of the Poor of the said Parish have caused plans of the North and South Infirmaries, Marylebone, to WEDNESDAY, the 2nd of DECEMBER next, at TWELVE o'clock at Noon, to receive TENDERS for the ERECTION of a NEW KITCHEN in the Workhouse. The specifications and plans, prepared by the Surveyor, may be inspected on application to Mr. G. E. DOUGLAS, the Master of the Workhouse, by whom forms of Tender and Notice to Contractors may be obtained. Tenders to be sent in sealed and endorsed "Tender for Building Kitchen," and addressed to the Secretary, on or before FOUR o'clock on FRIDAY, the 4th day of DECEMBER. The Board do not bind themselves to accept the lowest or any of the Tenders. By order,

JOSEPH BEDFORD, Secretary.

Secretary's Office, Nov. 20, 1863

TO BUILDERS.—PERSONS desirous of TENDERING for the several WORKS required to be done in the ERECTION of a WESLEYAN CHAPEL at Aston Villa, Birmingham, may, on and after Monday, the 23rd instant, see the Plans at the Office of the Architect, Mr. T. G. BLAND, of Temple street, Birmingham, of whom full particulars may be obtained.

WEST HAM LOCAL BOARD of HEALTH.—Notice is hereby given, that the Board of Health for the district of West Ham, in the county of Essex, are prepared to receive TENDERS for the MAKING, LEVELLING, CHANNELLING, and CURBING FRANCIS STREET, MARYLAND POINT, STRATFORD, and adjoining streets.—Conditions of contract, forms of Tender, and other information, may be obtained at the Office of the Local Surveyor, at Rokeby House, in Stratford. Tenders are to be delivered at my Office, at Rokeby House, Stratford, not later than MONDAY the 14th DECEMBER next, and endorsed "Tender for Making Roads," and addressed to the party tendering, to be returned in the event either of the Tender not being accepted, or on the completion of the contract and bond.—By order of the Board

Rokeby House, Stratford, E. 25th November, 1863

THOS. WILSON Clerk.

WEST HAM LOCAL BOARD of HEALTH.—Notice is hereby given, that the Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS for the CONSTRUCTION of certain ALTERATIONS to the ROAD, at the Corner of Stratford Town, near the Railway Passage, Canning-town, and other information, may be obtained at the Office of the Local Surveyor, at Rokeby House, Stratford, not later than MONDAY the 7th of DECEMBER, and each of them must contain a 10l. Bank of England note, endorsed by the party tendering, to be returned in the event either of the Tender not being accepted, or on the completion of the contract and bond. By order of the Board

Rokeby House, Stratford E. November 21, 1863.

THOS WILSON, Clerk.

WANTED, TENDERS for COVERING a ROOF, of about 50 squares, with zinc or iron.—For particulars, apply to Mr. WM. BURNS, C.E., 18, Golden-sq., E.C.

CONSERVATIVE LAND SOCIETY.—HENWICK ROAD ESTATE WORK ENTER TENDERS are invited for the CONSTRUCTION of ROADS and of GULLY CESSPOOLS therein, on the Society's Estate in Hollow Path, Worcester. The following quantities are stated in order to indicate approximately the extent of the proposed works, and their accuracy is not guaranteed:—

New Roads (Forest wide, including footpaths ..... 1,385 feet run.
Footpath, 8 feet wide, next existing road ..... 700 "
Gully cesspools, and heads: Grid rights to Local Board, 11 in number
The earthworks will not involve cutting and are unlikely to disturb the level of roads, pits for cesspools, and levelling sundry hollows in the allotments. The plans, works, and specification will be seen on and after WEDNESDAY, DECEMBER 2nd, at the Office of the Society's Surveyor, Mr. JAMES WILSON, 49, Norfolk-street, Strand, London, W.C.; also, at the Offices of Mr. HENRY WEBB, Land Agent, 14, Foregate-street, Worcester. Tenders, sealed, and endorsed, Tender for Works at Worcester, to be sent in to the surveyor on or before FRIDAY, DECEMBER 18th. The Committee do not bind themselves to accept the lowest or any Tender submitted.

33, Norfolk-street, Strand, London, W.C. Nov. 20th, 1863.

NOTICE.—To BUILDERS and CONTRACTORS.—Messrs. BURGESS & CO. Mendip Paper Mills, Wells, Somerset, beg to inform the trade that any deposits of TENDERING for their WORK, that the LAST DAY for RECEIVING TENDERS, is POSTPONED from MONDAY, the 23rd instant, to MONDAY, the 30th.—By order of the Company

JOHN SULLIVAN, Manager.

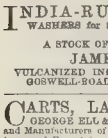
TO BUILDERS AND OTHERS.

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WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND
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GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation.
LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS,
and every description of Contractors', Builders', and Decorators' Trade Requisites.
Vans, Waggons, Dobbin and other Carts, specially adapted for exportation Pug-mills, Jack-rolls, Trollies, and Portable Railways. Scaffolding, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire. Price Lists on application.
GEORGE ELL & CO.
EUSTON WORKS, 366 and 368, EUSTON ROAD, LONDON, N.W.



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HIGH STREET, ST JOHN'S WOOD,
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OUTSIDE SUN-SHADE,
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SPRING ROLLER MAKER
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Patent Self-adjusting Venetian Blinds, requiring no Fastenings for the Cords. Illustrated List of Prices on receipt of One Postage Stamp.

ASPHALT.—The TRINIDAD ASPHALT is recommended to Engineers FOR IRON BRIDGES, INSIDE OF IRON SHIPS, BRICK VIADUCTS, and general Railway Work; also for FLAT ROOFS, FOOTWAYS, and BASEMENTS OF HOUSES
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GROSVENOR ROAD, PIMLICO, WOOD PAVING MANUFACTURERS.

GUTTA-PERCHA MILL-BANDS. The Gutta-Percha Company beg to state that the increasing demand for the Gutta-Percha Strapping for Driving bands, Lathestraps, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent equal pliability and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water, and the facility with which the ends may be repaired, can be made in lengths of from 200 to 300 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta Percha Articles, such as Tubing, Soles, Pumping-kets, Fire Buckets, Bosses, Union joints, Ferules, Bottles, Bowls, Toilet trays, Curtain-rings, Galvanic Batteries, Tubbotype Trays, &c. &c. manufactured by the Gutta Percha Company, and sold by their Wholesale Dealers in town and country.
THE GUTTA-PERCHA COMPANY, PATENTEES,
18, WHARF ROAD, CITY ROAD, LONDON.

STAINED-GLASS WINDOWS, for CHURCHES and DWELLINGS.
(PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.)



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BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, farm cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

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Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental Rough, Rolled, and Patent Plate. Plate Glazed for the Trade. Special prices given for Contracts and large quantities. Plate Glass Warehouse, at
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SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
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Adjoining the Polytechnic Institution.

LEAD GLAZING for CHURCHES and other BUILDINGS, Plain Quarries, Geometrical Patterns, or Fret Work. Builders and the Trade are supplied with every description of Lead Lights and Window Lead, on the shortest notice and lowest terms, by F. OZELL, Plain and Ornamental Lead Glazier to the Trade, 8, Bath street, City-road, E.C.; and 12, Grafton-mews, Fitzroy square, W. Estimates forwarded on receipt of particulars.

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GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

STAINED GLASS WINDOWS
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MURAL DECORATION, MONUMENTAL BRASSES, and ILLUMINATED COMMANDMENTS,
BY A NEW PROCESS ON PLATE GLASS.
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British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Flashed, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
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Descriptive price-lists, drawings, and estimates sent on application.

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A SUBSTITUTE for PAINT, and at HALF the COST.
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These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

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GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.
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IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 29s. per cwt.
Linseed Oil, 3s. 6d. per Gallon; Boiled Oil, 4s. per Gallon.
Turpentine, 6s. 0d. per Gallon.
Fine Pale Copal Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses 30, Upper Ebury-street, and 25, Chesham-street, Pimlico, S.W.
Every article of Trade at the lowest prices.

TO PAINTERS and BUILDERS.—
White Lead (warranted genuine), 29s. per cwt.
Linseed Oil, 3s. 8d. per gallon. Turpentine, 6s. 6d. per gallon
Fine Pale Oak Varnish, 9s. per gallon.
For cash at FRANCIS TUCK'S Old-Established VARNISH and COLOUR WAREHOUSE, No. 138, EDGWARE-ROAD, PADDINGTON, W. next door to the Wheatsheaf, and within five minutes' walk of the Great Western Railway Terminus.
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COMBINED MACHINE, capable of sawing, cross-cutting any length, mitering, tenoning, rabbetting, grooving, &c. by 9s. This machine may also be used for moulding, beading, tongueing, and trenching, for an additional sum of 4l. 4s.—For further particulars apply to ARTHUR & JAMES HIGG, Engineers, George-street, Chester.

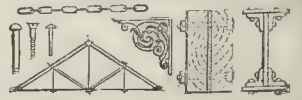
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For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

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HOT WATER PIPES,
RAIN WATER PIPES AND GUTTERS,
RANGES — CLOSE AND OPEN FIRE,
REGISTER AND ELLIPTIC STOVES,
RAILING BARS, GATES, AND PANELS,
SASH WEIGHTS, &c.
ANDREW McLAREN & CO.
are the cheapest Ironfounders and the best makers of these and General Castings, and keep a large Stock at
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COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 95½, Great Guildford-street, Borough, S.E. inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Gutter Irons, &c. &c.)
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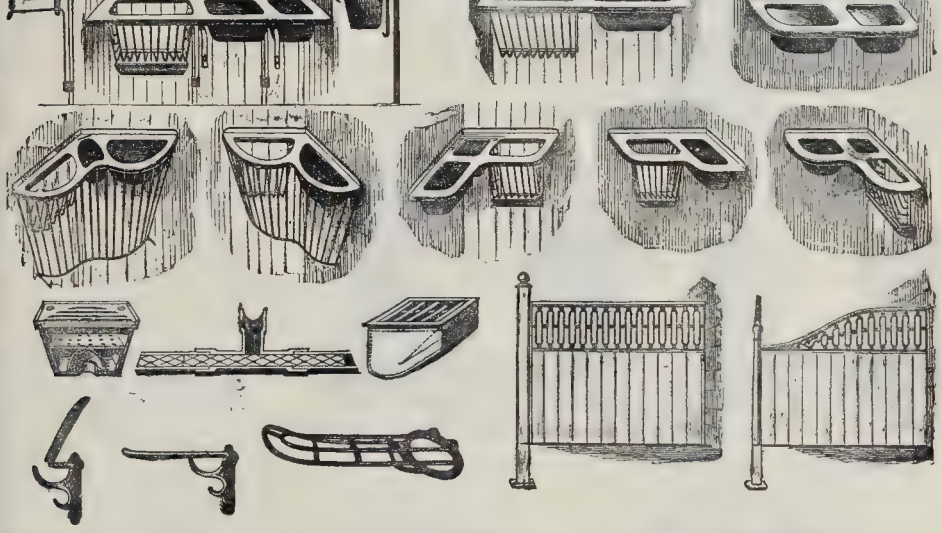
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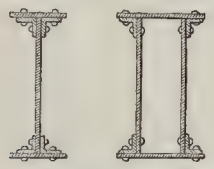
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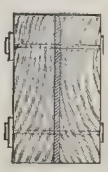
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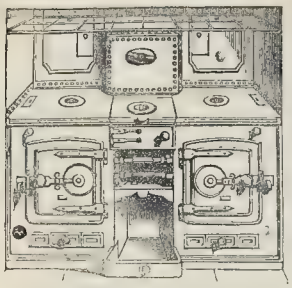






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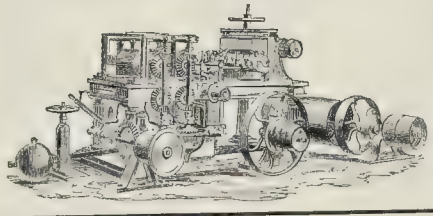
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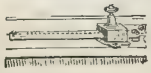
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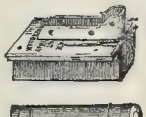






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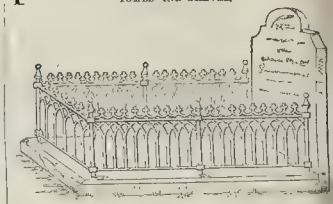
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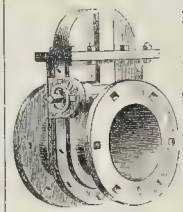
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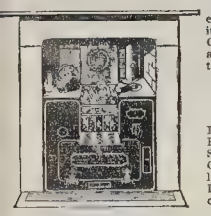
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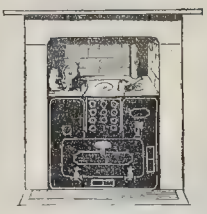
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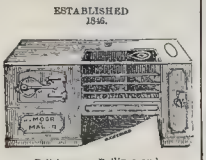
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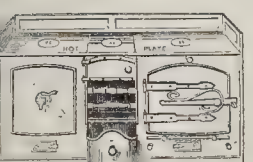
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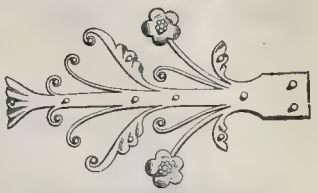
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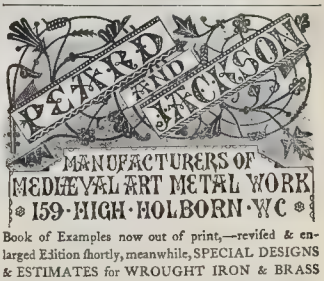
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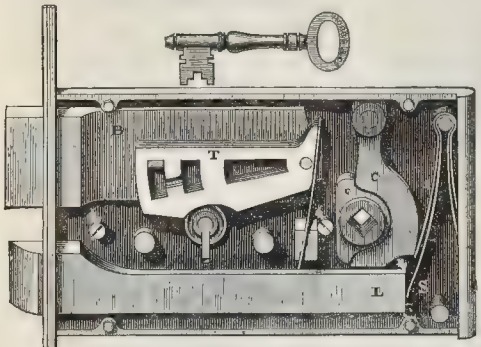
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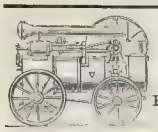
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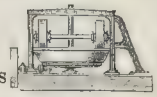
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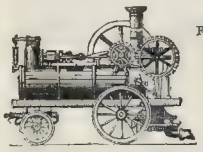


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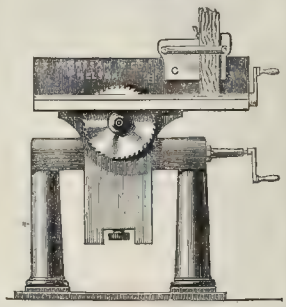
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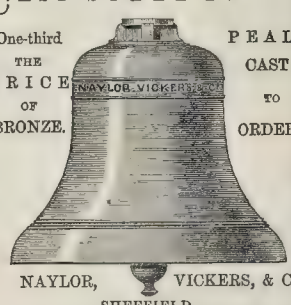
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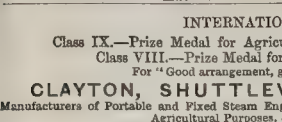
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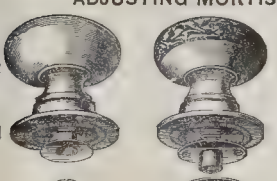


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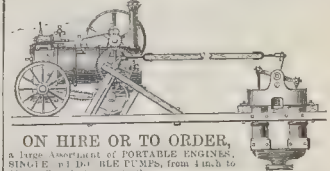
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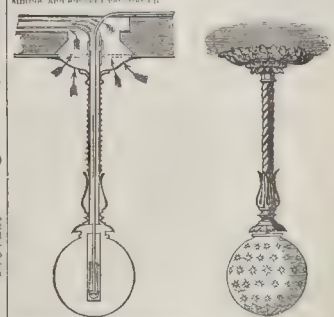
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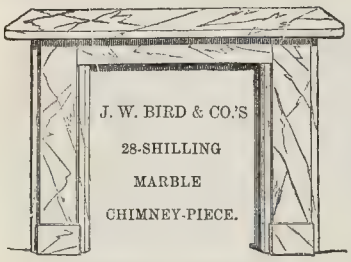
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The Builder.

VOL. XXI.—No. 1086.

"Going Along." Venice.



ROM Verona the railway leads west and east, touching many of the principal towns in Northern Italy; on the one side, for example, Brescia, Bergamo, Milan, Vercelli, and so to Turin; and on the other, east, Vicenza, Padua, and Venice. What a world of wealth in art and story the mere names bring into the mind! A short line running south takes to Mantua, and others to Pavia, Piacenza, or Parma. Our faces, however, are turned east, and, passing Vicenza,—to be returned to hereafter,—we reach Venice by starlight, and get a glorious effect. The moon is on the water; the piazzetta is blazing with light; five hundred gondolas are waiting for their tenants; and the city again looks, as once it was,—

> "The pleasant place of all festivity,
> The revel of the earth, the masque of Italy."

Mind, we say *looks*; it only looks so: there is not much real festivity now amongst the Venetians in Venice. Yet to be there is to a stranger of itself a festivity, a feast of soul. It is the most romantic and poetical of cities: one of the most unhappy too; a storehouse of art; an example and a warning. Few persons go there once without resolving to see it again; and all know something about it whether they have been there or not. They remember, at any rate, what Canaletto, Turner, E. W. Cooke, and David Roberts have painted; what Shakspeare, Byron, Rogers, and Mr. Ruskin have written. They recollect of the secret ten and of the "Lion's mouth;" and who it was that "oft" was "rated" upon the Rialto: they murmur:—

> "The sea is in the broad, the narrow streets,
> Ebbing and flowing; and the salt sea-weed
> Clings to the marble of her palaces."

They have grieved with Otway over the woes of raving Belvidera; or, at the very least, remember a certain bridge which, according to the poet has, but in reality certainly has not,

> "A palace and a prison on *each* hand."

Venice is in truth "a fairy city of the heart," never to be forgotten by those who have seen it, and always longed for by those who have not. Who can forget, for example, to take one picture out of a dozen, a summer evening passed in the Piazza of St. Mark, sipping coffee at Florian's,—*Florian's*, of course; for, having strong feelings about "Independent Italy," we would no more ask a visitor to go to the *café* frequented by the Austrians, than would the Italians themselves,—or, loitering over an ice, while listening to the music of the military band in the centre of the Piazza,—perhaps the exquisite "Miserere," from the *Trovatore*, followed by the touching, "Ah! che la Morte," which for the moment might make one long for the calm and rest of death, and grieve indeed that it is so "tardy in its coming." There stands the Duomo, its variety of colours harmoniously blended in the dimming twilight; while the mighty Campanile lifts its pointed head into the blue sky, as if striving to reach the one large bright star immediately above its apex. Later comes a pleasant glide in a gondola, till long after dark, far out, where the hum of the city is lost, and the long line of lights at the water's edge alone points out where beautiful Venice sits: still a queen, though now widowed and mourning.

If in "going along" through other towns, we found it difficult to determine what to touch and what to leave alone, how shall we decide in Venice? A connected account of it is out of the question, and would be impertinent. Yet on every side rise themes for comment. We must confine ourselves, then, to notes of such matters as made the strongest impression, seem the least known, or perhaps afford the opportunity for giving an item of relevant information.

One of the most striking pictures that remain with us of our last visit was afforded by the interior of St. Mark's during a *fête* of the Virgin. Every portion of the immense edifice was crowded with worshippers sitting, standing, and lying, on every ledge, in every nook: a dignitary of the church, attended by several others, all richly garbed, was preaching to as many as could hear him; streams of those who could not pushed their way to the various chapels they preferred, and rays of light admitted by the small windows that alone illuminate it, touched here and there into brilliancy the golden ground of the enduring mosaics with which vaults, walls, and floor are covered. Not an inch of surface is there in that marvellous interior that does not display handwork and mind-work of one kind or another. The vaultings faced with archaic figures, columns of precious marbles with exquisitely sculptured capitals, bronze doors belonging to the year 1300, and some earlier; marble pavements, the rich screen of the high altar, and the goldsmith's work of the much-prized *pala*, are some of the wonderful features that come gradually into view. The solemn light, the multiplicity of remnants of various ages observable, the antiquity of the structure, its large proportions, richness, and resulting grandeur, fill the mind almost to oppression. As to dates and facts, every one knows them; suffice it that the building belongs to the tenth and eleventh centuries, must be regarded as Byzantine in style, notwithstanding demurrers, and that the mosaics range from the eleventh century to the eighteenth. Parts of the mosaics in the sacristy, especially some of the large figures in the lunettes and the heads in circles in the vaulting, are amongst the best in the building. The mosaics in the centre of the vaulting are not so good as those at the two ends. Mr. Clayton, with Signor Salviati, was carefully examining these when we last stood there; and we may hope that the Wolsey Chapel at Windsor, which is intended to be a permanent memorial of the royal children's love for England's Good Prince, their father, will be the better for that examination.

Sansovino's bronze door to the sacristy, and the bronze cover to the basin in the baptistery by two of his pupils, call for study, with much other sculpture and bronze work. In the door, Sansovino has introduced portrait busts of Titian, the profligate wit Pietro Aretino (who called himself "the friend of Titian and scourge of princes"),* of himself, and some others.

Full of enthusiasm and life, the genial Sansovino, who was a sculptor before he was an architect, lived in the enjoyment of his friendships and the pursuit of art till the 27th of November, 1570, when his years numbered ninety-one. He built, it will be remembered, the Library of St. Mark (we have something like the front of it in Pall-mall), the Loggia at the foot of the Campanile, the Cornaro Palace, and many other notable structures. He put an iron band round the great cupola of the duomo, which the workmen still call "Sansovino's girdle," to distinguish it from similar iron ties on the other cupolas. How Venice honoured artists is shown by the circumstance that when in a time of trouble it became necessary to impose an extraordinary tax on all classes alike, the senate exempted none from it but Titian and Sansovino; and when Sansovino died, Venice mourned.

Titian was buried in the church of Santa Maria dei Frari, where, ten years ago, an enormous and costly marble monument to his memory was completed. There is a view of it in one of our volumes. It includes a massive basement, a Corinthian colonnade or frontispiece above, a sitting statue of the painter, bas-reliefs of his works, and various allegorical statues at the sides; the whole wanting in sentiment and the devotional element, perhaps vainglorious, but still a clever work from a sculptor's point of view. The life of Titian, wonderful old man, ranged from 1477 to 1576,—like Sansovino's, a long one. It was an outbreak of the plague that carried him off. A law had been passed that during this visitation no person should be buried in the churches; but an exception was made in Titian's favour, and his body was borne in honour to the church of which we are speaking, where his burial-place was marked only by a plain marble slab, inscribed TIZIANO VECELLIO, until the erection of the modern monument, of which Zandomeneghi was the principal sculptor.

There is a very fine picture by Titian in the church, the Virgin seated with the Child, several figures of saints and others around, and an architectural back-ground. Again, the statue of St. Jerome, over one of the altars, executed by Alessandro Vittoria, gives in marble Titian's fine head.

The monument to Canova set up here is a repetition, with a difference, of the monument to the Archduchess Maria Christina, of Teschen, executed by him, and erected in St. Augustine's Church, in Vienna. As we said, however, when speaking of the original, this is a very inferior affair: Genius is sleeping, not grieving. Canova pure has no great force or sentiment, whatever there may be of beauty; but "Canova and water" is a weak thing indeed. There are some remarkable monuments of the fourteenth and fifteenth centuries in the church; a fine suspended terra-cotta monument, with groups in panels, and a pointed arch above, with angels playing, comes into the memory as a beautiful work. The design of the church itself is attributed to Nicolo Pisano, in the middle of the thirteenth century; and there is some sculpture at the west end, on the south side (a set of fine marble figures), attributed to the school of the Pisani, and which, if of that period, is very remarkable. We must pass Vivarini's pictures, a St. John ascribed to the delicate-handed Donatello, and other noteworthy features.

As the Frari has thus become Titian's mausoleum, so is the Church of St. Sebastian that of Paulo Veronese,—Cagliari the Splendid. This church is full of his works, and here his remains lie buried. It was his pictures in this church, illustrating the Book of Esther, that first brought him into notice in Venice; after which he was always immensely employed. One of his paintings here, "St. Sebastian exhorting Marcellius and Marcellianus to go bravely to Death for the Faith," has parts of rare beauty, and includes portraits of himself and members of his family. Sebastian in armour, and with a red flag in his hand, irresistibly calls to mind "Excelsior." The female figure, close to his left arm, looking up at him with tenderness and love in her sweet face, yet not stirring a hand to retain him from the path of duty, anxious to keep, yet fearing to check, suggests a story, and is "a joy for ever."

In another picture of his, the head of the Magdalen, looking up to the Cross in faith and love, is magnificent. In Paulo Veronese's works we have to overlook countless offences against chronology, fact, and propriety; but shall still find enough to admire in his power of invention, abounding life, and magnificent colouring.

* There is a splendid portrait of Aretino, by Titian, in the Munich Gallery.

England fortunately has some good specimens of his art in Trafalgar-square. We shall meet with many yet in Venice.

Paulo died on the 14th of May, 1588, when he was fifty-eight years old. A bust of him is set up in the church, and a tablet under it is thus inscribed: *Paulo Caliario Veronen pictori naturæ æmulo artis miraculo superstite fatis fama victuro.*

There is a fine monument here, of its class, by Sansovino, to whom also the façade of the church is attributed.

That we may bring together three of the great Venetian masters let us look for a temple to Tintoretto, Jacopo Robusti as he was christened, and which term, Robusti, certainly suggests his style of work much better than "Tintoretto," the designation that grew to him in youth because his father was a dyer. We shall find this temple not far from the Frari, namely, the Scuola di San Rocco, built by a fraternity of merchants between the years 1517 and 1550, a fraternity still in existence. They seem to have taken up Tintoretto specially, and the decoration of their great halls exhibits some of the best of this very unequal but still great painter's work. The walls and ceilings are covered with paintings. The "Crucifixion," by the same painter, in an adjoining apartment, includes portraits of Titian, Bonifazio of Verona, and himself. When Agostino Caracci showed Tintoretto his engraving of this picture the painter embraced him and insisted on being godfather to Agostino's son then born. In some cases he is equal to Titian or Michelangelo himself; in others he is, as Titian, a little jealous, called him, a mere dauber. Vasari says, "Of all the extraordinary geniuses that have practised the art of painting, for wild, capricious, extravagant, and fantastical inventions,—for furious impetuosity and boldness in the execution of his work,—there is none like Tintoret." Some of his contemporaries used to call him *Il Furioso*.

In this most interesting institution, the Scuola of St. Rock, there are also pictures by Titian, Pordenone, and others. When will "a company," a guild, or a charitable institution in our country give a commission to Maclise to cover the walls and ceilings of their meeting-place? It is to be regretted that the fraternity have not funds to put the pictures into a good state: some of them are much injured, and require immediate care. The building has a fine staircase, which would be finer if it were open, and could be seen in its entirety from above and below, instead of being walled up as it is on each side of the noble flight of steps.

Other fine specimens of the power of Tintoretto are seen in the Great Council Hall of the Doge's Palace. The Paradise, an enormous picture, called 84½ feet long and 34 feet in height, has become black and spotty. The ceiling of the hall is formed of pictures in enormous frames, coarse and magnificent. Amongst them is the grand and gorgeous Apotheosis of Venice, by Paulo Veronese. Around the walls is the frieze of Doges, with the black veil in lieu of Marino Falliero, of which every one knows. Jacopo Palma, Il Vicentina, Zucchero, and others, have pictures here, all illustrative of the Republic. Why are not the ancient Corporation of London able to point to some such glowing records of passages in their eventful history as are to be found in this noble apartment?

The Hall of Election,—the Sala dello Scrutinio,—contains, amongst other pictures, the Last Judgment, by Palma the younger (1544 to 1628), wherein the custodian points out, *con gusto*, a portrait of the artist's wife in Heaven, another of her in purgatory, and a third amongst the condemned, as showing the changes which occurred in the painter's opinion of her during the progress of the work! If he had reversed the order, we should have been better disposed to belief. The picture, though one of the best of this Palma's works, and Guido is reported to have said of him, "What a pity such a painter should ever be dead!" gave us no great pleasure. Palma the elder was a better man.

A large proportion of the churches in Venice are disappointing, noticeable rather for costliness than beauty. The Church of the Jesuits, for example, is the most remarkable exhibition of marble work that can be found. The walls and columns are of white marble, inlaid with verd-antique, to represent a sort of tapestry,—a sad misapplication of money and skill. There is marble drapery to the pulpit, and on the steps of the high altar is an imitation carpet! "Marble-ous!" was the exclamation. The Church of Gli Scalzi is another example of this "marble-ous" style, wonderful for its richness. Columns, statues, inlaid work, and costly pavements abound,—the contributions of various families. The chapel of Sebastian Venere is one of the finest in it. Every inch is covered with marble; even the doors are faced with mosaic work, and bronze decorations and gilding are lavishly employed.

We must break off, however, for the present: exertion here in the autumn is not easy. The sun is darting his "perpendicular rays;" the water positively trembles under them, and the improper lines about "the fishes beginning to sweat" come into memory. No wonder that men and boys, in the scantiest of bathing apparel are jumping off every bridge or ledge, and failing these off one another's backs, into the canals, and come up panting and screaming with enjoyment just under your gondola; or that one of our companions shouts out imploringly, every twenty minutes, "*acqua fresca*." Trying (we had almost written *frying*) as all this is, it nevertheless may be borne, supported by the belief that a country with a hot character ought to be seen in hot weather. What is more difficult to endure is the life in the bedroom. In Venice there are no horses, dogs, dust, or,—sleep after five in the morning at any season, because of the abounding bells; but in weather such as that to which we are referring it is hard to sleep at all; the necessity of closing tightly every window and door at night to keep out mosquitoes, and the want of a single hole for a change of air, even in the best rooms of the best houses, such, for example, as the Albergo dell' Europa, where the attentive Marchi presides, makes healthful breathing impossible. With even this, however, we will put up for thy sake, O Queen of the Adriatic! Correctly wrote Philippe de Commynes 368 years ago, when he said of Venice,—"*C'est la plus triumphante cité que j'aye jamais veue.*"

CRITICAL STATE OF STAMFORD.

About eighty-six miles north-west of London stands the goodly market-town, on the river Welland, known as Stamford. It is built upon a rock slightly cropping up above the surrounding landscape, upon the boundary line between the counties of Lincoln and Northampton. Approaching it from any direction the streets of stone houses, with large bay windows and dormers, out of the windings of which arise the towering steeples of the old parish churches, form a picture that long lingers in the memory of strangers. Those who passed through Stamford in the old coaching days retain distinct impressions of its grey, cleanly-looking, irregular, block-paved streets,—through which the coach bowled so cheerily,—that never get confused with remembrances of other towns passed on the same route. As it is a town of stone built upon a rock, so it endures in memory and reality alike: an up-hill and down-dale place full of nooks and corners, quaint old almshouses, pear-gardens, bee-gardens, ancient charities, with halls and chapels attached, which have traceried windows full of glittering diamond-shaped panes; with trees overhanging garden-walls into some of the narrow quiet ways; with six parish churches in it; with the river flowing so slowly through the sedges as though it was unwilling to water less pleasant places or was waiting to hear the chimes once more swung out over the house-tops; yet not without bustling business-streets, with good shops, and enough traffic in them. Adjoining Stamford is the richly-wooded park in which Queen Elizabeth's wise counsellor built Burleigh House; and in one of the parish churches the tomb of the great Cecil may be seen,—two shrines few tourists leave unvisited.

One of the judges visiting Stamford recently remarked that charity appeared to walk the town open-handed; and a love of the "good old times" is almost as apparent to the stranger. The old custom of Borough English or Borow English (a descent of lands or tenements to the youngest son, or, if the owner have no issue, to the youngest brother) is still retained here; and the old practice of bull-running has not long been discontinued. On the recurrence of every 13th of November down to that in 1839, it was the custom, time immemorial, after due notice by bell, for the very young and very old to keep out of the way, to turn a bull into the streets, and there to goad and teaze him till he took refuge in a furious flight. This run was so directed by his tormentors that the enraged animal was fain to take to the bridge over the Welland, where the *bullards* (the patrons of the sport) surrounded him, and by main force pushed him over the parapet into the river. When the bull, swimming, reached the shore, his tormentors were waiting for him, and continued the chase over adjacent meadows till their utter fatigue brought the pastime to a conclusion. He was then killed, and his flesh sold and roasted. 1840 saw the 13th of November pass unmarked by this ceremonial, nor is it likely to be revived in these days of extended consideration for the sufferings of animals; but the song of the bullards, with which the town rang, will never be forgotten.

In architectural matters, there is a spirit of appreciation to be seen that is very pleasant. In a chemist's shop in one of the main streets there is a stone moulded archway just within one of the large glass windows: this is the doorway of a Mediæval and probably monastic building that once occupied the site. This clever bit of conservation is only one among many curiosities in Stamford.

Although it is a market town, there is no regular market-place. There are, however, several places where the houses are set back, and leave wide open spaces in which some of the market business is carried on. In one of these, Red Lion-square, there is set back among the houses a covered market-house for butter and eggs, wisely located there in recent times in preference to placing it in the centre of the square, where it would have blocked up the approach to All Saints' Church. In another, also in a line with the houses, there is a new corn-exchange, that may be called remarkable among its compeers for its cheap and tasteful internal decorations in distemper. In a third, on St. Peter's-hill, is a new Mechanics' Institution and Museum. The churches are kept in repair; new calaises are building; and, generally speaking, there is as much modern vitality, intelligence, and energy in the town as there is picturesque antiquity. Except in one very important matter.

We have said Stamford is built upon a rock. This foundation is riddled with cesspools. These cesspools are sunk to a depth which is only determined by the distance downwards at which a fissure is found. Through these fissures it is supposed that the liquid portions of the sewage will escape. It will scarcely be credited that, at the present day, not only is this mode of disposing of the sewage countenanced by the authorities, but the conveyance of it into the public sewers is absolutely forbidden. They contend that the sewers are intended only for surface-waters. And there are not wanting staid persons who affirm that they have had opportunities of viewing the condition of old cesspools that had probably not been touched since they were first formed, perhaps, two centuries ago; and that these, when uncovered, were *empty*, the contents having made their own way through the fissures. *Where!*

On the 23rd ultimo, reports the *Lincolnshire Express*, Mr. Laxton applied to the local Improvement Committee, on behalf of the trustees of the new Roman Catholic Church, with residences now in course of erection, for permission to run two sewers from the building in question into the public sewer, as there were no other means of getting rid of the usual offensive matter. The chairman replied that, only a fortnight ago, they refused to allow a person to drain his cesspool into the public sewer. Mr. Tebbutt said his opinion about drainage was, that the public sewers were made to accommodate the public. Mr. J. Simpson said,—"Nothing of the sort. The public sewers were only intended for the surface water." Mr. Tebbutt said *it was impossible now to sink wells in some parts of the town without the water*

becoming immediately polluted by the contents of an adjoining cesspool flowing into them; and if they compelled all parties to sink cesspools on their own premises, which they would do by refusing to grant permission to run the offensive matter from their dwellings into the public sewer, they would pollute the water in every well in Stamford. Mr. Laxton pressed his application by declaring that, if permission were granted, the work should be done under the superintendence of the surveyor, and to the satisfaction of the commissioners; but after further discussion he was unable to carry his point. Not even when Mr. Michelson came to the rescue and said he was *quite satisfied that the present system of cesspools had poisoned half the wells in the town, and had been productive of disease*, was the determination of the majority of the committee shaken. The Roman Catholic establishment must be provided with a cesspool like every other building, the public sewers not being intended for sewage.

Now, Stamford must either be, geologically speaking, one of the wonders of the world, or the town is in an unsanitary condition that the progress of time will render perilous. Where does the sewage that escapes through the fissures in the cesspools go to, if not into the neighbouring wells and slowly-flowing river?

As it is acknowledged to be but of little use to put a new lock upon a stable-door after the steed has been stolen, it would be well if those placed in authority would inquire into these startling conditions while there is yet time to prevent a visitation of the zymotic ills flesh is heir to under given circumstances. Does Stamford possess the low mortality rate that the unusual advantages of its site and contiguity to abundance of good building materials should insure it? Is it, in a word, as it ought to be, one of the healthiest spots in England? Pleasant are the streets of Stamford, with bay and dormer windows here and there breaking into the perspectives, with the grey church towers overlooking all; and pleasant are the surroundings of Stamford, with their fine village churches, recessed in clusters of leafage, each within a couple of miles of the town; and pleasant, too, are the scented pear-gardens, and the bee-gardens, and the lozenge-paned houses of charity, and the slowly flowing river, lapping among the sedges; but of what avail are these if all the wells are gradually becoming polluted with the percolations from cesspools; and the inhabitants thus run the risk of drinking poisoned water?

PRACTICAL REMARKS ON SCAGLIOLA.

A MATERIAL which has long been confined to the mansion, but, through inventive genius and enterprise, becomes more available, so that the builder can adopt it in second or even third-rate houses, must have certain recommendations in itself. Such an article may be found in Scagliola. Its manufacture has generally been under the restraint of rules, and even prejudices, and has been confined to the most rigid methods, locked up in secrecy, and assuming a mystery. It possesses great beauty, and is capable of affording the richest embellishments in architecture. The advantages of its use are very obvious. It may be adapted to so many forms in the interior decoration of houses, that it might take the place of the most durable material now in use; and where halls and staircases have been painted, grained, and varnished, upon well-plastered walls, scagliola if used would retain its beauty, with an occasional cleaning, as long as the house could stand. Good scagliola has, as yet, been found too expensive for any but first-rate houses; while a bad and worthless article under the same name has filled the auction-rooms and brokers'-shops at a rate quite disproportioned to the well-manufactured ornament of the palace and club-house. This is no argument in favour of the practicability of its more general use; in fact, it speaks against it; as, when we pay less than the standard price and get worthless rubbish in place of a useful and decorative commodity, the inference would be, that the good quality cannot be produced at a lower rate, and that the expense of producing it cannot be lessened; or that the want of competition sustains the price. These two propositions are offered to the contemplative genius of the practical reader. The adduced fact of the sale of the inferior article at so low a price will dispel the probability of the latter proposition, and strengthen the truth of the former; while the attendant condition will suggest itself, namely, that the first proposition mainly depends upon the supposition that the manufacture of scagliola has hitherto been in the hands of those who were guided by the same principles of working, and therefore subject to the same heavy expenses. And there is some reason in this conclusion; but yet it has not been so at all times. Attempts at a reduction have been made; but only in particular cases, and not in scagliola generally. There are parts in the process of manufacture which a practical man, acquainted with the application of machinery, and the chemical properties of the old material, with the introduction of new colours and dyes for producing the blended tints of the marble by frescoing on the surface, could make opportunities for the experimentalist in this part and in the method of obtaining a hard fine surface susceptible of a polish.

Now that these remarks may be profitably accounted as hints and helps to the inventive practitioner, it will be hardly necessary to show the advantages of a good and cheap scagliola. Quoting the expression uttered by a member of a public office, when seeing scagliola columns being erected in the principal room of the building,—"I would," said he, "have preferred the walls and architraves being of the same kind, leaving the ceiling only for the painters to bombard us out with their scaffolding, making the delay but a few days instead of weeks." And referring again to a gentleman who had his staircase walls plastered with mastic to be ready for immediate painting and graining, might not he be justified in regretting that at a trifling increase of expense he might have adopted scagliola, and that the thought had not occurred to him previously to the commencement? The opinion of these two persons was founded upon the fact of scagliola requiring but a small amount of time and expense for renovation and repair compared with repainting and varnishing. But there is no better recommendation for its use than to enumerate the great variety of its applications. Scagliola in skilful hands can be produced in every variety of shade and colour; in every imaginable pattern and diversity of arrangement; and in an almost unlimited manifold change of form and size, from a lady's brooch to the superficial area of a large flank of a wall.

It is made with plaster of Paris, or any fine uncoloured cement which is free from grit. When wetted to a consistency that may easily be worked with a trowel on a slab of stone or slate, the colours are introduced, dividing the white mass into portions for each shade, and kneading, with the addition of dry composition, colours into some and water into others: these parts are worked up separately, to produce either apparent blocks or veins in the pattern; then, by a judicious combination of block and vein, so arranged that the mass may be cut into slices and present a veined pattern: these slices may be either used to face a mould or laid on a prepared ground.

The best scagliola has hitherto been made of plaster of Paris, as already stated,—the coarse making the groundwork, and the superfine the veneer. To keep the plaster from setting too quickly, it may have the following mixture well sifted among it. As much ox-gall worked up with slaked lime as will allow it to be worked with a trowel, allowed to dry, and then powdered: this in proportion of 1 to 10 in plaster will keep it soft for two hours. This, with a slight colouring, and mixed with sand, would make a good cement for imitating stone in walls, piers, and mouldings, and would be well adapted for the interior of churches. The colour should be ground fine while wet, and mixed in with the gall and lime before being put to dry. Burnt Turkey umber, or terra de Siena, with a little blue black, would answer the purpose well. A sample was very effectually made on the wall of a workshop in London. The most simple method of retaining the plaster from setting for scagliola is to dissolve ¼lb. of the best glue in one gallon of water, and use the liquid for wetting with. A level surface is wrought when the veneer is left from the trowel, and set with planes having a toothed iron set at an angle of 70° with the surface, so that it acts more as a scraping than a cutting instrument. The surface is brought finer by the friction of soft grit stones, well sluiced all the time with water—snake stone coming in for the finish of this part of the process. The face, though fine, is now very porous, and requires some thin mixture of coloured plaster brushed and well trowelled on; when this mixture is set, a new face is produced by snaking down, and the process repeated until friction will produce a polish; allowing time for drying between each application to obtain a hardened as well as a fine surface. This is the outline of routine pursued in the best scagliola work.

In venturing upon a description of the mode adopted in the execution of scagliola, it is necessary to recount the circumstances which give rise to the diversity in the operation. In walls where little room is allowed for thickness, the ground or pricking up (which should never be less than ¾ inch in substance), is trowelled on to the brickwork, having a good key to hold the plaster on account of its tendency to warp and expand: where room is allowed, batten and lath are preferable to receive the pricking up, unless slabs have been made ready for screwing to plugs or timber fixed for the purpose. Columns are sometimes required to contain an iron core to support a weight above: these cores are mostly put up with the building, and the scagliola worked upon a wooden skeleton surrounding the iron core. The ground is floated to two moulds fixed for the time, one at top and the other at bottom of the shaft: the veneer is planed up and down to the curve, and the mouldings cast in a mould, and fixed on with coloured plaster before polishing commences. Or, the column may be worked in a lathe in the shop by constructing the skeleton in such a way as to admit the column to be cut either in two equal parts, or one quarter out, the parts of the skeleton being pegged together instead of nailed, and with the centre easily removed, allowing space for the iron core. When the column is polished and about to be fixed, the parts are separated with a saw, and when again placed together, brass cramps should cross the joint at intervals of about 3 feet apart. Some labour, skill, and patience are required to make good the joint and polish it. Where floors are laid at the sides of halls, or in parts for ornament more than use, plaster alone will make a scagliola hard enough for the purpose; but when a more durable floor is wanted, subject to some hard usage, it will be necessary to introduce into the scagliola pieces of marble, alabaster, or broken stoneware, which may be so judiciously arranged as to add to the beauty of the design. It is always best to have the hardening material broken into pieces small enough to work in while the greater medium is in a soft consistency, the whole will thus form a mechanical combination, having from the absorbent qualities of the harder substances some affinity for the wet portion. For tables, pedestals, vases, or any work which may come near the eye when completed, a finer face should be sought in polishing. Good Turkey stones or Dutch rushes will assist to do this, by using them in facing instead of snake stone; and in imitations of marble of a dark colour, the plaster should be sifted two or three times to remove the coarser grains, which would appear as small specks of white in the midst of the dark colours when the polishing is completed. Handsome tables in scagliola, suitable for the hall or drawing-room, and counters for shops, may be made in pieces, and fixed together with iron rods passing through the centres of the supports, the iron rods having screw threads cut at the ends to receive a nut to hold the whole together. Scagliola slabs on cabinets or gilded standards have been successfully made for many years. Circular pedestals are made upon an iron spindle, with a flange with holes for screws. Suppose the pedestal to be 4 feet high on a square plinth, 2½ inches thick, and a Corinthian base of the same colour as the shaft. The diameter of the shaft to be 1 foot. Let five pieces of 1-inch deal board be cut 10 inches diameter, with a hole in the centre of each exactly to fit the spindle; then arrange these pieces on the spindle at equal distances apart, to be 3 feet 8½ inches from one extremity to the other, and fasten one for the bottom to the flange on the spindle. Nail some ½-inch laths pretty close to each other on to the circular pieces of board, and some across the top one to form a key. The spindle running on bearers will give a rotary motion to the skeleton, and a mould fixed ¼ inch from the laths would float the ground with the base moulding; then give a roughness to the ground for a key for the veneer, and cast the square plinth in a mould, which may be polished apart, and when the whole is ready can be fixed to the pedestal with screws into the board at the bottom. Vases are turned upon a similar spindle with a core of plaster screwed to the flange in the form of a parabola, to give the shape of the hollow or inside. On this core a covering of veneer is laid and allowed to set matching the outside veneer of the vase. This first veneer is roughed to form a key for a thickness of coarse plaster, which is floated to a mould screwed to the rest of the lathe: this, too, is roughed, and then veneered. Like the circular pedestal it is turned with steel tools to the shape required. A great number of ornamental scagliola vases were manufactured about thirty years since, and sold readily, but not at a great profit.

The most profitable part of the manufacture, then, as it always will be, was the execution of work in large masses; and in pursuing the subject it appears better to refer to jobs of some extent and which have been finished many years. Scagliola, then, is not a new introduction into buildings. It is coeval with the manufacture of plaster of Paris. The more modern productions only will be noticed here. The first specimen referred to was executed forty-five years since in the house of the Duke of Northumberland, Charing-cross, London. The walls of the staircase are in imitation of Giallo antique, relieved with Corinthian pilasters in verd-antique and bronzed capitals. A music gallery is formed in the wall opposite to the central flight of steps in porphyry. The whole is magnificent; yet there is one to excel it not far distant, executed by the same workmen and in nearly the same manner. At the mansion built for the Duke of York, now held by the Duke of Sutherland, in St. James's Park, London, there is a most beautiful sample, comprising walls of staircase in Giallo antique, architraves of doorways, and fluted columns supporting the roof, in granite, and balustrades richly moulded in Brocatello. Some idea may be formed of the splendour of this apartment by conceiving a room 50 feet square, with the walls, galleries, and columns rising with a highly polished surface from the floor to the ceiling. The walls of the staircase in what was Crockford's Clubhouse, St. James's-street, London, were done about the same time, but upon slabs of slate half an inch thick, of uniform superficies, sawn on the surface with cuts about one-eighth of an inch deep, to form a key for the ground of the scagliola; and when the slabs were covered and fit for polishing they were screwed on to battens fixed to the wall. The scagliola walls on the grand staircase in Buckingham Palace were done upon lath work, and were of a very pale granite pattern. From some cause, a stain, as of rust, showed itself upon the surface after the polishing, supposed to arise from a saline deposit, not in the scagliola originally, but lodged in that spot through the carelessness of the workpeople employed above: this took up strongly with the oxide of iron thrown off from the nails and clamps, and impregnated the material throughout. This wall is now painted a flat stone colour.

The walls of a hall and staircase of a house at Hill Head, near Glasgow, were covered with scagliola slabs equal in size to represent courses. These slabs were cast in a frame upon a level bench, the veneer being laid in first and then backed with coarse plaster bedding in thin pieces of slate, to strengthen and keep from warping: these slabs were cast to have a groove round the edges, to form a groove for fixing: this fixing was done by inserting painted iron clamps into the upper edge of the slabs, and screwing into horizontal battens, bedding with coloured plaster edge to edge as the work proceeded. The planing, gritting, and polishing were done after the fixing. The walls of the staircase at the Reform Clubhouse are worked on the bricks: they are beautifully panelled, moulded, and inlaid. The groundwork being prepared, straight laths were nailed on to give the boundary of the various coloured bands, so that the veneer in each case was allowed to set before the lath was removed. Among the most beautiful specimens of scagliola colouring may be mentioned eight in imitation of jasper which were done above half a century since in the house now occupied by Lord Dover, Whitehall, London. Twenty-seven varied tints may be counted in a square foot on the surface. In the throne-room and drawing-room in Buckingham Palace are ranges of columns of a bright scarlet colour, having a mixture of soft ore in its medium, and some rich blue pillars in imitation of lapis lazuli. The introduction of metallic ore was not a new principle, for it has been used in the imitations before as well as in that of granite. Nearly all the large clubhouses in London contain columns worked upon a wooden skeleton of ribs and laths, with a central timber at each end so constructed as to hold firmly a long iron chuck for turning. The square pillars and pilasters are formed similarly, a strong frame of timberwork being covered with ¼-inch sawn laths, and covered with ⅝-inch of coarse plaster and ⅛-inch veneer. Octagon and round columns in porphyry were formed upon stone supports at Raeby Castle, and the fluted columns supporting the gallery and roof of the saloon in the Reform Clubhouse, London, are all upon stone. The fluted three-quarter columns in the drawing-room and coffee-room were cast in three lengths, each backed with tiles bedded in coarse plaster: the tiles made for the purpose were flat, and roughed for key, 9 inches by 3 inches: stays of wood were placed across near the opening at the back to prevent warping. It must be admitted that the pattern, which was fine and indefinite, much favoured this method, which was a decidedly cheap one. There are some handsome edifices in the city of London which are richly adorned with scagliola. Among these may be named Salters' Hall, Goldsmiths' Hall, Fishmongers' Hall, and Royal Exchange. Some few shops are worthy of notice, such as Everington's, on Ludgate-hill, which has been done thirty years; and, at a trifling cost per year, looks now as good as new; Hitchcock's, St. Paul's-churchyard; Moses's, Aldgate; and Brown's, Fenchurch-street. It may be remarked that scagliola has entered but little into church architecture. A few instances can be cited. In St. Philip's, Waterloo-place, London, are columns standing round the front of the gallery to support the roof. These were made with strong timber cores to take a weight. Over the altar in St. Pancras new church are some verd-antique columns. St. Mary's, Islington, has some yellow antique pilasters on the wall at the east end. The church at Wilton, Wilts, has some black and gold columns in Keene's cement worked upon stone, and two twisted columns in plaster in the chancel. In a church at Grinstead are some inlaid facings to chancel and altar steps corresponding with the tile paving: they bear inscriptions in Early English letters. Among scagliola floors are reckoned one at Sion House, Isleworth, where, in 1830, a floor which had been down seventy years was taken up to be replaced with a new one richly inlaid, and composed entirely of plaster. The Athenæum Club House, London, is paved in the hall with scagliola. Crewe Hall Cheshire, has a spacious area of scagliola flooring. At the seat of the late Mr. T. Hope, Dorking, Surrey, is a floor with panels of ancient mosaic inserted in the design; and at this gentleman's house in London is a very old floor. There are also in this last-named mansion four fluted Doric columns in a plain stone colour, bearing a slight polish. Miscellaneous decorations in scagliola may be found in the Reform and Conservative Club houses, London; in the house of Mr. Jackson, Birkenhead; in Preston Hall, Aylesford, Kent; and in the Fitzwilliam Museum, Cambridge. The instances above enumerated are characterized as being executions of a first-rate order, and will, therefore, offer an opportunity for the critic or the copyer to exercise his faculties, or will afford suggestions to the manufacturers or the amateur. It may be also added that the colours most used are, for yellow, terra Siena, deep yellow, and orange chrome and king's yellow; for blue, indigo, prussiate blue, and ultra marine; for reds, vermillion, Venetian red, Indian and washed red, and purple brown; brown, burnt umber and burnt Siena: green is made from indigo and king's yellow; black from the best vegetable or lamp-black.

J. A.

RAILWAY PRACTICE IN THE EAST.*

We are always favourably impressed by a technical work well furnished with illustrations. The real language of engineering is graphic delineation,—no description in words, however excellent, however clear, can equal in efficiency a combination of lines. The drawing-pen of an engineer is the true interpreter of his ideas; and, according as his drawings are clear and accurate, the answers of the operative in the shape of work will respond to the demands of the engineer himself, and of his clients. The language of graphic delineation is a universal tongue, intelligible alike to the man of science and to the meanest labourer; no translation is required to expound it,—a good print or drawing can be understood in all countries. The character of the volumes before us will thus be very fairly defined by an examination of the ninety-one well-executed plates forming the main portion of the works. Indeed, the letter-press of 201 pages, although good of itself, is only of a secondary importance.

We have thus some twenty-four plates of road bridges, bridges of masonry, timber, and iron plate, embodying most of the constructions required in ordinary practice, all of which have been practically carried out. Culverts of different sizes, ranging from 6 feet to 12 feet, are illustrated in about eight plates. Six plates fully describe different descriptions of stations of brick and stone, or of timber merely. Docks, dock walls, locks, and entrance chambers; sluices, and landing-piers, and the varied rolling stock and mechanical fixed plant of a railway, such as gates, level crossings, cattle-pens, cranes, permanent way, are all fully illustrated. The plates are well lithographed, their light and shade lines being almost as clean as those formed by the drawing-pen of a practical draughtsman. We should like to see more centre lines, which, when well done, add considerably to the usefulness and intelligibility of a drawing or of its lithographed copy. The titles of the plates are given both in French and in English. We believe that a French translation of the work has lately been published in Paris. The dimensions, however, are given in the English foot measure alone, but scales in both the measures are furnished to each lithograph. It would have been convenient for most readers if complete tables of the reciprocative values of the French mètre and English foot had been given at the end of the book. We wonder if the time will come when such tables will be no longer required, and the very convenient mètre and its divisions be universally used by engineers. The plates devoted to mechanical engineering are not so good as the others, as they are neither so completely finished, nor so fully dimensioned. An engineering drawing can never have too many dimensions, and every figure gives an additional and higher practical value to a plate. We are sorry to say that these excellent lithographs are only very meagrely referred to by the author in the text, which, in fact, seems to have been written with scarcely any regard being had to the illustrations.

Although the work is nominally a second portion of Mr. Haskoll's previous book on "Railway Construction," it is in reality mainly devoted to the railway practice in the East, and more especially in the Levant. The author's practice does not appear to have led him into the East Indies, and he scarcely alludes to that already vast and daily-extending field for the practice of railway engineering. Mr. Haskoll is evidently an experienced and able civil engineer; and thus, even at second-hand, some allusion to East Indian practice would have been very welcome to almost all the readers of his work. The three first chapters are devoted to what may be termed, in the words of George Stephenson, "the engineering of men" in the East—everywhere, according to the same authority, the most difficult of all branches of engineering. The various arrangements required to meet the inferior labour of Eastern countries,—the importance of acquiring local information before determining on the character of the works,—the necessity for speedily commencing the works in the interim,—the various arrangements to be adopted to meet the exigencies of the climate, and of the other local conditions, are very carefully and, indeed, ably treated on. The two following chapters are severally copies of the general "*Cahier des Charges*, or Specification of Conditions relative to the Construction and Concession of Railways in Turkey," and of the "Articles of Agreement for the Concession of the Railway from Smyrna to Aïdin, in Asia Minor." Both documents, although like all papers of this official description, very dull to read, will be of great value to many readers.

We have next a complete working specification and form of contract for a line of railway undertaken abroad. The last seven chapters treat on the engineering properly so called—the engineering of matter—of the East. The nature of the works required to meet the peculiarly heavy rainfall of the East,—the cuttings and permanent way,—temporary and fixed stations,—roads and tramways, — plate, lattice, and trellis girder bridges,—docks and jetties,—are thoroughly examined from the point of view of their adaptations to the peculiar requirements of all high thermometric repairs. The style of the author, although upon the whole of a very fair kind, in many instances wants polish and clearness; and it assumes a somewhat sententious tone from the different chapters being cut up into a number of exceedingly short paragraphs. He also sometimes repeats himself, as when he thrice informs the reader (pp. 9, 115, and 117) that he noticed during his stay in Asia Minor, a rainfall of 10 inches in one night.

At first sight it did not appear that the transplanting of European railway engineering into a hot Eastern country would involve much change in ordinary European practice. This superficial view, however, has led to much disappointment and loss of money. Merely the heat of the climate is of itself a source of special difficulties,

* Railway Construction. Second Series. Also Railways in Europe, the East, and all High Thermometrical Regions: a Practical Treatise on their Establishment, the Direction of the Works, Material and Labour, Earthworks, Works of Art, and Secondary Works. By W. Davis Haskoll, late one of the Resident Engineers on the Smyrna and Aidin Railway, and of the Great Western and Brentford Railway and Dock, &c. In two vols. London Atchley & Co. 1863.

as it induces a demoralization of imported European labour, and even the inferior native labourers are much affected by the fever peculiar to most Eastern countries, and often caused merely by the malaria arising from the fresh earthworks. Mr. Haskoll urgently points to the necessity for the establishment of comfortable camps and labour stations, to be erected on rising grounds, and in the vicinity of water. The heavy rainfall of Eastern climates also requires special provisions in the construction of the bridges and culverts. "Thus, a 10-inch fall for twelve hours per mile square, would give 530 cubic yards to carry off per minute;" and this quantity of water, running with great velocity, the walls and foundations of the bridge or culvert will require more attention than any other portions.

For the same reasons, the side drains of the cuttings must be of extra capacity, and the embankments of an extra width; while the surfaces of the slopes should be trenched in a direction parallel to the line. All the wood used in the form of sleepers and of piling must be carefully creosoted, the necessity for which is much greater in the East than with us.

Even by disregarding the climacteric conditions, and by carrying ourselves back to the time when no railways were in existence, the comparison between European and Eastern railway practice will be scarcely brought nearer. Material of all kinds, workshops already established, easy means of communication, and plenty of house-room for the workmen, were all within reach of the pioneers of railways in Europe. "If we now take a map of France or England, and draw a line from any town on the coast to some hundred miles or so inland, consider all constructed railways and canals as effaced, as well as nine-tenths of the towns and roads for some thirty or forty miles on each side of the proposed line of railway, we shall be able to form some idea of many of the conditions under which railways have to be established in the East." The labour is also necessarily very inferior, whether common or skilled; and even the rude masons and carpenters are very scarce. All fitters must come from Europe. Most of the men are very inferior in vigour to Europeans, and all require to be taught. Mr. Haskoll very sensibly advises a reduction in the size and weight of the tools, particularly of the wheel-barrows. He also recommends that the men should "undergo a month's careful and patient training on the works, under the superintendence of good European workmen, and allowed to do nothing but good work."

Time should be given to the Eastern workman to learn before requiring much work from him. The book contains many excellent suggestions like these,—such suggestions that could only proceed from an engineer practically acquainted with the novel conditions of Eastern railway practice.

FOREIGN ARCHITECTURAL AND FINE ART SERIALS.

Recherches sur l'Architecture du Moyen Age et de la Renaissance à Lyon et dans les Départements Limitrophes. Par P. Martin, Architecte, Membre de la Société Française pour la Conservation des Monuments Historiques, de la Société Linnéenne, de la Société Littéraire, et de la Société Académique d'Architecture de Lyon. Numéro 7 et 8. Lyon: Imprimerie de Louis Perrin. 1863.

THE Mediæval Renaissance architecture of Lyons is elucidated by a description of the church and priory *de Salles*, in the present number of this quarto, on local antiquities. The date of the foundation of this religious house is not certain; but it is known that the Sire de Beaujeu instituted an asylum for the daughters of nobles, who were afterwards transferred to the *Prieuré de Salles*. This was at the close of the eleventh century, when the country suffered much from the expenditure of treasure and loss of life caused by the Crusades. Many daughters of nobles found themselves without a home; and this essential was generously provided for them by the Sire de Beaujeu, in the Isle of Grelouge. They adopted the rules of the Benedictine order, and took the title of *Chanoinesses*. It was in the fifteenth century that frequent inundations caused their representatives to retreat to the priory in question, of which they were dependants. Intercalated with the text are the plans of the church, the façade, one of the figures painted in the Chapter-house, and the armorial bearings of one of the *Chanoinesses comtesses*. The six plates show the details of a portal, an elevation and plan of the Hôtel Rue de la Charité, a façade in the Rue Juiverie, showing a well-staircase open to the court, a chimney-piece in the Rue Tramassac, a *porte d'allée* in the same street, a massive doorway, fragments of tiling, an ornamented lock, &c.

Die Renaissance in Italien. Architektonisches Skizzenbuck von Carl Timler, nebst erläuterndem Text. 111 Lieferung. Leipzig: T. O. Weigel.

The architectural sketch-book of Herr Carl Timler, of Leipsic, furnishes the subjects for an elegant folio serial. Though so-called sketches, the illustrations are carefully engraved outlines or views of specimens of the Italian Renaissance. The parts under review contain plates of a doorway from a church in Venice; a font from the Cathedral of Sienna; a fountain in Rome; the cloisters of the Certosa, in Pavia; the cloisters of S. Maria della Pace, in Rome; and candelabra from the Uffizii Gallery of Florence. They are nearly all drawn to scale, and are so far practically useful for reference. Herr Timler takes a wide range for his subjects when he can give in one part of his work illustrations from Venice, Rome, Sienna, Pavia, and Florence; and to Leipsig are we indebted for the collection of the whole.

L'Art Architectural en France depuis François I. jusqu'à Louis XIV.: Motifs de Décoration Intérieure et Extérieure dessinés d'après des Modèles, exécutés et inédits des principales Epoques de la Renaissance, comprenant Lambris, Plafonds, Voutes, Cheminées, Portes, Fenêtres, Escaliers, Grilles, Stalles, Autels, Chaires à Prêcher, Confessionnaux, Tombeaux, Vases, Candélabres, etc., etc. Par Eugène Rouyer, Architecte, Ancien Inspecteur aux Travaux du Louvre. Texte par Alfred Darcel, Attaché à la Conservation des Musées Impériaux, Correspondant du Comité des Monuments Historiques. Livraisons 51, 52, 53. Paris: Noblet & Baudry, Libraires-éditeurs, 15, Rue des Saints-Pères; Liéges: Même Maison, Place Saint-Paul, 6. 1863.

Here we have again three numbers condensed into one of a work on French architecture. After looking at that issued by the Government, this appears to much disadvantage; while, on the other hand, it possesses the advantage of being but a third of the price. It is a fashion among French serialists to reserve their text to the last few numbers; consequently, the great bulk of their works is published as mere sheets of drawings. The Palace of Versailles, the Hôtel des Postes, Paris, and the Pavillon des Arquebusiers à Soissons, are selected to furnish the details shown in the present number. An elevation of part of the Salon de la Guerre, at Versailles, showing a doorway, the fireplace, with huge oval-framed painting over it, and a portion of the skiff-shaped ceiling, vividly illustrates the luxurious profusion of ornament in the Louis Quatorze period,—figures, foliage, gilding, painting, carving, marbles, cyphers, devices, everywhere without a plain resting-place for the sole of a fly's foot.

La Renaissance Monumentale en France: Spécimens de Composition et d'Ornementation Architectoniques empruntés aux Edifices construits depuis le Règne de Charles VIII. jusqu'à celui de Louis XIV. Par Adolphe Berty. Livraisons 44, 45. 1862. Paris. Gide, Libraire-éditeur, 5, Rue Bonaparte.

Owing to the prevailing mode of issuing the plates of an illustrated work without letter-press description and the text in the last few numbers, the text and illustrations continue irrespective of each other to the end. In the numbers of M. Berty's specimens of French architectural ornament we have descriptions of the bell-tower of the cathedral, the tomb of the sons of Charles VIII., and the fountain at Beaune-Semblançay, at Tours, of the *Hôtel à Assezat*, and house in the street called Saint-Rome, at Toulouse, of the Château de Chenonceaux, side by side with illustrations of details from the Château de Bournazel, the church at Tillsloy, and the little gallery of the Louvre. There is also a perspective view of part of the Louvre taken from an engraving by D'Israël Sylvestre, which shows us old Paris as plainly as we shall ever see it more. As the Renaissance style is still the vehicle for much French feeling, this work will doubtless find a sphere in France.

Histoire de la Bibliophilie. Reliures recherches sur les Bibliothèques des plus célèbres Amateurs armorial des Bibliophiles. Publiée par J. Techener, père, et Léon Techener, fils, avec le Concours d'une Société de Bibliophiles, et accompagnée de Planches, dessinées et gravées à l'eau-forte. Par M. Jules Jacquemart. Huitième Livraison. Paris: Libraire de J. Techener, 52, Rue de l'Arbre-sec, près la Colonnade du Louvre. Dec., 1862.

This is another of the works of the day that might be mistaken as the handicraft of men who closed their eyes a century or two ago. In tint, tone, manner, and subject it is a quaint, scholarly production. The current number contains specimens of book-binding illustrated by the full-sized cover of a clasped volume, printed at Venice in 1535, bearing the monograms of Henri II. and of Diana of Poitiers; the cover of a volume printed at Bâle in 1540; the cover of a third volume, printed at Florence in 1553; a diptych of the eleventh century, representing the Crucifixion, with the thieves and several winged figures arranged upon a back-ground of gems, which formed the cover of an *Evangéliaire*; and the armorial bearings on book-stamps of the most celebrated French bibliophists of the last and preceding centuries.* The subject is not a very popular one; but those whom it does interest will receive with much satisfaction this contribution to it by M. Jacquemart.

Parallèle des Maisons de Paris, Nouvelle Période de 1850 à 1860. Publié sous le direction de M. Victor Calliat, Architecte, Auteur de l'Ouvrage, Hotel de Ville de Paris. Paris: Bance, Éditeur, 13, Rue Bonaparte, en face de l'École des Beaux-Arts. Livraisons 9, 10, 11. 1862.

This collection of views and details of new French houses is to be composed of twenty parts, each of which is to contain six sheets of engravings. Rather more than half the work has been issued. Thoroughly French in conception and execution are the mansions designed by MM. Mortier, Dusillion, Viollet-le-Duc, Lesueur, and Cusin, illustrated in the three numbers last published: thoroughly French from the *rez-de-chaussée* to the *chemin-du-rond*, from the basements to the parapets. A shop, or two shops, are in some instances surmounted by mansions six stories high. A handsome portal, side by side with the shop, admits the denizens of the upper portions of the house to their quarters. A mansion in the Rue Louis-le-Grand, by M. Lesueur, cousists, on the ground-floor, of a large central shop, having on one side of it a smaller shop of the same height, and on the other a ponderous ten-panelled door and doorway, giving admission to the staircase leading to the upper flats. Above the shop floor is an entresol having a projecting cornice above it: upon this rises the chief floor of the house, furnished with balconies; then follows another projecting cornice with a story precisely similar to the last, with the exception of a slight decrease in height upon it; then a parapet stretches the whole width of the edifice, behind which rises another story; then follow another parapet and another story, somewhat recessed; and these are crowned by seven dormers thrown out from the roof. A house in the Rue de Marignan, of similar proportions, designed by M. Dusillion, has a different disposition. The massive portal to the superstructure is placed in the centre of two shops of equal size, the doors of which are in the exact centre of each. Light iron balconies supply the place of the stone parapets in M. Lesueur's design; and the roof is broken into five dormers. In a word, M. V. Calliat is courting for moderately-sized private houses the interest and appreciation M. César Daly has secured for the more important French habitations built in the reign of Napoleon III., entitled "L'Architecture Privée au Dix-neuvième Siècle," of which we have already spoken and shall speak again.

L'Art pour Tous: Encyclopédie de l'Art, Industriel et Décoratif. Émile Reiber, Directeur-fondateur. Troisième Année, Nos. 82, 83, 84. Paris: Bureau Libraire, A. Morel et Cie, 18, Rue Vivienne. 1863.

The loud-sounding title "Art for All," is the name given to an encyclopædia of the industrial and decorative arts, now in its third year of existence. It is printed on one side of a large sheet of paper, which is folded in four. When thus folded every alternate page is a blank. A meagre description is placed either at the sides or at the base of each illustration, printed in bad English, French, and German. The woodcuts are but coarsely executed, although the subjects of them are in most instances well chosen. They are, for the most part, representations of ancient furniture, fittings, and decorations. The editor mentions, in a short account of a figure, in a very

* The Cardinals Richelieu, Bouillon, and Rohan; Marshal de Bassompierre; Duc de Mortemart; Gabriel de Sartines; Amelot de Chaillou, Ministre d'Etat; Franç Voisin, Garde des Sceaux; Merard de Saint-Just; Moreau de Beaumont, Intendant des Finances, 1715 1785; Samuel Bernard, Beringhen; Machault d'Arnouville; Rochechouart; and Jules Hardouin Mansart.

breezy attitude, standing on one leg and leaning on a pedestal, with folded arms and unkempt hair, attributed to Maître Roux, that, to suit all tastes, he has provided for those of his readers who do not admit of fierceness in decorative designing, a milder composition of the same school, the subject of which is Diana and Actæon. This is a group of nude female figures standing knee-deep in a pond, upon which Actæon, with his stag's head, is gazing with outstretched fingers. The dog and a half introduced into the medallion are not the least natural piece of the performance. A fountain, from the works of Charles Eisen, a Flemish painter, is almost too incoherent for comprehension; but still, the fact that an organ for the decorative arts has a circulation is significant.

These are not the only works relating to art and architecture that are now current on the Continent; we have but gleaned here and there. The French have taken up, like ourselves, the question of healthy homes for workmen and agricultural labourers; and this has found expression in the shape of illustrated volumes. The construction of metallic bridges, of theatres, of houses and *châlets* in Germany, has met with exponents. Twenty volumes of archæological annals have been issued; fifteen volumes on decorative ornament; and as many as eighteen volumes of M. César Daly's "*Revue Générale de l'Architecture.*" A work on Egypt and Nubia, by Feynard, is publishing at a price but a few francs short of 50*l.*; a history of painting on glass, for 135 francs; another on historical costumes, for 250 francs. There are monographs upon the Palace of Fontainebleau, the Castle of Heidelberg, the Cathedral of Bayeux, the Sainte Chapelle at Paris, Sainte Marie d'Anch, Notre Dame at Paris, the Sacred Treasures in Cologne, the Cathedral of Cologne; and works upon the châteaux of the valley of the Loire, of France, of Switzerland, the pavilions of the Louvre, choice public edifices, the architecture of the Bois de Boulogne, the palaces of Rome, buildings on railways; on construction in wood, brick, and marble; on perspective, on tiles, on the cemeteries of Paris, to some of which we may hereafter refer. In short, there is on the Continent a widely-spread perception of the beautiful, and appreciation of the works of those who have peopled it in former ages; and there is no doubt but this is to a great extent intensified by the marked and competitive progress the English nation has made in the same paths.

PROJECTED METROPOLITAN RAILWAY LINES.

We must endeavour very briefly to post up a few more of those astounding projects by which the metropolis is to be cut up into small pieces. The Midland company, who have already got leave to form an extension into Camden-town, want a branch thence to the Euston-road. The Blackwall want junctions with the Midland at Kentish-town, and with the Great Northern and the Edgeware, Highgate, and London, at Seven Sisters-road. A new company under the head of Crystal Palace New Railways, wants a number of junctions with the London, Chatham, and Dover, and other works for behoof of such places as Lambeth, Camberwell, Brixton, Battersea, Beckenham, &c.,—seven distinct railways in all. The London, Brighton, and South Coast are in want of new junction lines at Herne-hill and Peckham, Brixton, Tooting, Croydon, Lewes, Ford; more space at Bricklayers' Arms Station; and for "stopping up part of Slough-lane, Camberwell, and Occupation-road in Croydon—arrangements with London, Chatham, and Dover, and Crystal Palace and South London Junction Railway companies—acquisition of the Horsham and Guildford Direct; the Horsham, Dorking, and Leatherhead; the Banstead and Epsom Downs; the Bognor; the Brighton, Uckfield, and Tunbridge Wells, and the East Grinstead, Groombridge, and Tunbridge Wells railways," &c. A Charing-cross northern railway project contemplates "the construction of railways from the Charing-cross Railway near Charing-cross to the Great Northern and Midland Railways near King's-cross and to the London and North-Western Railway near the Euston Station;" and in doing so "to stop up, remove, alter, or divert, temporarily or permanently, all turnpike and other roads and streets, thoroughfares, courts, passages, and highways, railways, tramways, tubes, bridges, rivers(!), and other waters and water-courses of every description, natural or artificial, sewers, pipes, buildings, and works within or near to any of the several parishes, townships, or places aforesaid which it may be necessary or convenient to stop up, remove, alter, or divert for any of the purposes of the intended Act," &c. There is a Paddington and Charing-cross scheme, with three railways, one from Paddington to Lambeth, where it will join the Charing-cross Railway; another from Willesden and the London and North-Western Line at the Kilburn or Kensal Green tunnel, and passing through parts of Chelsea, St. George Hanover-square, St. Mary Abbot Kensington, and Paddington; and the third, both beginning and ending at home in Paddington, after taking a little trip into Chelsea and Kensington. The North and South London Railways Junction Railway comprises seven railways for the accommodation of Fulham, Kensington, Nottinghill, Hammersmith, Paddington, Chelsea, St. Marylebone, Hampstead, and other places. A company proposes to make a railway, to be called the "Thames Viaduct Railway," from Westminster Bridge to London Bridge. The Metropolitan Grand Union Railway Company want to make seventeen railways in and about London, and involving a list of places the mere naming of which would fill at least a column of our space: we therefore leave it to the imagination of our readers, certain that they cannot go far out of the way of this grand union line of lines; which, however, is fairly outdone by the Metropolitan District Railways Company, who desire to be allowed to make thirty-four railways, to form an outer and an inner circle of railway lines round all the metropolis,—an excellent and useful purpose could each form a single line in itself, without perpetual junctions and junctions with this that and the other line, already in existence, and with others not yet in existence. We must halt, and take breath till another week.

HOLBORN VALLEY.

We have received several letters from competitors, complaining, not without reason, that their designs were not publicly exhibited with the selected few; and other letters, from gentlemen advising modifications of the present evil rather than the construction of a perfectly good thoroughfare. With these we do not agree: mere cobbling will be of no avail: the improvement should be made in the best possible manner. Their idea, of course, is mainly the cutting down of the hill on either side, and the partial filling up of the valley. The advantage would not be equal to the cost of a half-and-half measure; and they forget, moreover, the desirability of obtaining the means for free traffic north and south, without jostling with the east and west traffic, and which would be afforded by the viaduct scheme.

Mr. C. J. Richardson, who was a competitor, has memorialized the Court of Common Council, complaining that his design was put aside improperly, and praying that the several plans may "be submitted to the further examination of two eminent civil engineers totally unconnected with the practical carrying out of the work."

SANITARY STATE OF BETHNAL GREEN.

The investigation into the circumstances of the mortality in Hollybush-gardens, from foul air and bad drainage, has been resumed before Mr. John Humphreys, Middlesex coroner. The inquiry was opened upon the body of one of four children that had been attacked with illness at No. 4, Hollybush-gardens. Two of them died, and two are dying.

Dr. Moore deposed that he had attended the deceased, and that she had died apparently from debility, after an attack of scarlet fever. In his medical relief book, in the column of "observations," he reported that the condition of Hollybush-gardens was injurious to health, and that it was badly drained, &c. That was about a month back. He believed that he made a similar report some months back. He was not aware that any steps had been taken in consequence.

Mrs. Caroline Ball, 274, Bethnal-green-road, said that since the jury had viewed her premises on Tuesday last she had lost another child. That was the third child she had lost in three weeks.

Mr. John Gay, senior surgeon of the Great Northern Hospital, said he had made a *post-mortem* examination of the body, and had come to the conclusion that the immediate cause of death was *imperfect aëration of the blood* and its accumulation in the lungs, together with exhaustion from severe illness. The children that died had survived the acute stage of the disorder, and consequently died during the ordinary stage of convalescence. They were originally healthy. All the houses, five in number, had a fairly clear frontage, but were crowded in the rear. They were out of repair and very dirty. The back rooms were the worst, from their proximity to the cesspools, which had either no means of drainage, or such as was most inadequate. The soil in all directions seemed saturated, and the air literally stank. Children attacked by zymotic diseases springing from such a source would have hardly a chance of struggling against their effects in an atmosphere so foul. The requirements in regard to the premises were, doubtless, 1st, privies with traps and abundance of water; 2nd, drainage; 3rd, deodorisation of the soil into which the contents of the cesspools had infiltrated.

Dr. Samuel Pearce, medical officer of health in Bethnal-green, was examined. He deposed that it was the duty of the inspector of nuisances to inspect and detect nuisances. Witness had received no report from the inspector as to Hollybush-gardens. He had seen the observations of Dr. Moore in his report book. Witness detailed the result of an examination he had made of the place.

The jury returned the following verdict:—

"That the deceased died from the mortal effects of the impure state of the atmosphere and the filthy condition of Hollybush-gardens, and the jury say that great blame is due to the parish authorities, inasmuch as they ought to have remedied such a state of things long ago; and the jurors also say that the property ought to be condemned as not fit for human habitation, and that the inhabitants ought to quit until the said Hollybush-gardens be deodorised and rendered fit for human habitation."

The Coroner said that now that the verdict was returned, he wished to state that the parish authorities had complained that he put the county to expense by holding inquests which they said were unnecessary. He was afraid that if the condition of the district were not improved, the number of the inquests would increase; but the authorities in question would be alone to blame. As for himself, he was resolved not to be intimidated in the performance of a public duty by boards of guardians or vestries. He was appointed by the people, and he would do his duty to the people, without flinching under any intimidation whatever.

The remarks of the coroner were received with great applause by a crowded court.

At a recent meeting of the vestry of Bethnal-green, the clerk read a report from Dr. Pearce, the medical officer of health, giving a minute description of the state of Hollybush-gardens, which was said to be totally unfit for human habitation, and the ground perfectly saturated with liquid filth. The houses were dangerous to health and life. Mr. Webb denounced the conduct of Dr. Moore in *not* reporting *before* the frightful state of Hollybush-gardens. Mr. Wright moved that this vestry is of opinion that Dr. Moore has been *calling unnecessary inquests*, and that the vestry-clerk be directed to write to the board of guardians and inquire whether Dr. E. Moore has the right to call inquests in any and every case. The resolution was carried after much discussion.

A lecture was recently given at the Peel Grove Institute, Bethnal-green, by Dr. Moore, the medical officer of health for Bethnal-green, on "Blood Poisoning, and the Unhealthy State of the Dwellings of the Labouring Poor," to a crowded assembly. The chair was taken by the Marquis Townshend, who expressed the great gratification it gave him to preside at so crowded a meeting. He was glad to see so many working men present, as this was a question in which they were specially interested. He further stated that Dr. Moore had not come there to indulge in personalities, or to defend himself from any aspersions, but to look at the sanitary and other defects of the dwellings of the poor in that crowded neighbourhood, and to see what remedial measures could be adopted.

Dr. Moore, who was loudly cheered, then proceeded to comment upon the state of the houses of the poor, and described the different sorts of blood-poisoning. Smallpox, scurvy, cholera, &c., were only different varieties of blood-poisoning. Cleanliness and drainage were the two great essentials in preserving health. The lecturer commented on the water supply, which he said was insufficient, and the cow-houses, which he said ought not to be tolerated in any close or dense neighbourhood. He concluded by remarking that he was not to be intimidated by the obloquy which had been cast upon him: he only asked a fair field and no favour, to answer them, and "God defend the right." He announced that a wealthy distiller had promised him to give 1,000*l.* towards improving the houses of the poor, and added that he would give 100 guineas himself.

An Inspector of the Poor-law Board, Mr. Lambert, has held an inquiry into the charge of alleged inhumanity preferred against Mr. Christey, senior

relieving officer of Bethnal-green, in the case of Caroline James, who expired after being refused admission into the workhouse under circumstances which were strongly condemned by the verdict of a coroner's jury. After the inquiry the Inspector said that he should draw up his report and transmit it to the Poor-law Board.

CONSTRUCTION OF WORKMEN'S HOUSES.

THE ARCHITECTURAL ASSOCIATION.

At the ordinary meeting of the Association held on Friday evening (the 13th inst.), at the House in Conduit-street, Mr. T. Roger Smith, president, in the chair,

Mr. H. A. Darbishire read a paper on "Dwellings for the Poor," which appeared in our journal last week. At the conclusion,

Mr. Webber called attention to the description of brick ventilator mentioned by Mr. Darbishire, and observed that he himself generally placed them over the chimney-breast, using one for the admission of fresh air and another for the escape of foul. He found by experience that the insertion of perforated zinc had a similar effect in breaking the current of air to the brick.

In reply to a question,

Mr. Darbishire said that iron girders, on Fox & Barrett's principle, for floors, discoloured the ceilings so much, that the people who used model lodging-houses, objected to them under an impression that the rooms were damp.

Mr. Blashill, in calling attention to the dwellings for the poor, recently erected in Bethnal-green, observed that in his opinion it would be far better to build them in blocks consisting of several stories than in single tenements. With regard to the cost, he considered it most essential that the buildings should be erected so as to pay such a rate of interest as would induce capitalists to invest money in this description of property. Of course, in the case of the Peabody gift, benevolence was the inspiring motive; but for his own part he saw no reason why a fair return might not be had on such buildings as simple commercial speculations. He agreed with the paper in the propriety of discarding plaster walls, as the great considerations to keep in view in such dwellings were cleanliness and comfort. The wives of working men were, as a rule, anxious to keep their homes clean and tidy; and it was a great mistake to suppose that they did not prize a clean and comfortable home. If the commercial element could be infused into the building of these dwellings to a greater extent than at present, a far larger amount of good could be effected.

Mr. R. O. Harris brought under notice the circular issued by the Society of Arts, offering special prizes for the most approved designs for labourers' cottages. The required cottages were in fact five-roomed houses to be built for 100*l.*, exclusive of the cost of the ground. In his opinion it would be impossible to build them for the money.

Mr. Darbishire agreed in this. A cousin of his own, who lived in the country and was fond of building, had erected a number of cottages on his estate; and he had assured him that he had not been able to build a single cottage under 180*l.*, or a pair under 250*l.*, although he had the bricks on his estate and employed his own carpenter. In answer to further questions, he said that, in his opinion, no house ought to be built without 14-inch walls. The Building Act certainly allowed 9-inch walls, but in certain exposed situations he had known rain to be driven right through them. There were some 9-inch walled cottages on Miss Burdett Coutts's property in Bethnal-green, and she had expended a great deal of money in making them habitable. With regard to the returns upon the investment, Miss Coutts's buildings in Columbia-square paid about 2½ per cent. The laundries and baths and drying-grounds were in the attics, and were given to the tenants without extra charge. No plaster was used except in the ceilings, and the partition-walls were of brick, 4½ inches thick. The rents were 3*s.* 6*d.* per week for two rooms, and 4*s.* for three rooms; but he thought 4*s.* 3*d.* might be obtained for the two rooms, and 4*s.* 9*d.* for the three. If, however, these rents were charged, working men with about 12*s.* a week would underlet them,—a practice which it was not desirable to encourage. He had inspected the buildings erected by Mr. Alderman Waterlow, and had visited one of the inmates, whose room he found extremely neat and comfortable. On asking her what rent she paid, she replied 6*s.* 6*d.* per week. To this he replied,—"Then your husband must be a man earning about 130*l.* a year?" "Oh, no," she rejoined, "I have no husband, but I have two sons, and I could not pay so much rent but that I take in a lodger." He, however, saw no accommodation for a lodger, as there were but two rooms; but, on further inquiry, it appeared that the sons occupied one of the rooms, and that the lodger was a young woman who slept with the tenant. A merchant in the City (Mr. Gibbs) had asked him to design a building which would pay 5 per cent. This building (erected in Westminster) was now approaching completion. The lavatories, &c., were within the building, but the steam from them was found to be so objectionable that they were removed, and a separate building erected in the yard. This building would, he believed, pay nearly 5 per cent.; but the manner in which all such dwelling-places were rated was extremely unjust. The rating was in fact exorbitant, and the principle most inequitable. He had seen Mr. Villiers, the President of the Poor-Law Board, and other influential persons, on the subject, and he hoped that a measure would be introduced into Parliament to remedy the grievance of which he complained; for until the present law was altered it would be impossible to expect that any great impetus could be given to the movement for improving the dwellings of the poor. If the rates were reduced, he saw no reason why such buildings should not return a fair interest on the capital invested. The Peabody trustees had only erected one block of buildings, but he believed that sites had been obtained for others. In reply to inquiry, he said his experience of zinc was not satisfactory. Cats had a great affection for roofs, but the presence of the feline element was fatal to the metal.

Mr. Collins said he had frequently used zinc with the best possible results, and that he had used it in roofs populous with cats, without any detriment to the metal.

Mr. New asked what description of cistern had been used by Mr. Darbishire at Bethnal-green.

Mr. Darbishire replied that he had used lead cisterns with the usual casing of wood. These he found in practice to be better than slate, which, unless very well bound together, were liable to leak. The service-pipes were, however, of iron.

Mr. New and Mr. Collins spoke of the utility and cleanliness of slate and iron cisterns.

Mr. C. J. Adams called attention to the dwellings of the poor in portions of Chelsea, which he described as being of the most squalid and objectionable description. He expressed a hope that the trustees of Mr. Peabody would not overlook this district.

Mr. Darbishire said he believed the trustees were now in treaty for the purchase of some of the property to which Mr. Adams referred. In reply to further questions, he said that the original objection of the poor to occupy model dwellings, arising from an apprehension that their freedom of action might be interfered with, was rapidly disappearing, and that nothing could exceed the anxiety of poor persons to obtain accommodation in the new buildings. At Miss Coutts's houses, for instance, there were at this moment fifty applications for the first set of rooms that might become vacant; and he believed that when the houses erected by Mr. Gibbs in Westminster were completed, they would be at once filled. The people now found that they were perfectly free in their dwellings, and that, so long as they paid their rents and were quiet tenants, no one was disposed to interfere with them.

The Chairman said that it would be impossible that evening to protract the discussion upon Mr. Darbishire's admirable paper; and that, under these circumstances, it might be well to adjourn the discussion until the next night of meeting, the 27th instant. This was accordingly done, and a vote of thanks was unanimously accorded to the reader of the paper.

GAS.

THE directors of the Hythe and Sandgate Gas Company intend reducing the price of gas from 8*s.* to 7*s.* per 1,000 cubic feet.——The people of Sandwich, at a public meeting, have unanimously resolved, "That the gas now consumed [at Sandwich] is injurious to health, and destructive to the goods of many of the consumers." It was also unanimously resolved, "That the price of gas is considerably above the price charged in the neighbouring towns, and the consumers are dissatisfied therewith." A committee was appointed to confer with the gas company on the subject.——The Cheltenham gas company have decided upon reducing the price of gas to private consumers from 4*s.* 9*d.* to 4*s.* 6*d.* per thousand feet from the 1st of January.——The directors of the Birmingham and Staffordshire Gaslight Company announce that they have decided on making a further reduction in the price of gas: to all parties whose consumption is under 25,000 cubic feet per quarter, the price will be 3*s.* 4*d.* per 1,000; 25,000 and under 100,000 cubic feet, 3*s.* per 1,000; 100,000 cubic feet and upwards, 2*s.* 8*d.* per 1,000. This scale will be subject to a discount of 5 per cent. for cash.——New gas works have been erected at Kineton. The contractors were Messrs. Porter & Co., Lincoln. The gross estimated outlay on the works is about 1,200*l.* The plans were prepared by Mr. Lait, architect to Lady Willoughby de Broke, the design corresponding with that of the new library and school-house. The material is blue brick, with white facings, pointed with black mortar. The gasometer is capable of containing 4,000 cubic feet of gas. The price of the gas will be about 8*s.* or 8*s.* 4*d.* per 1,000 feet.

METROPOLITAN BOARD OF WORKS.

At the usual meeting of this Board, last week, it was resolved that the Board should have a sitting in order to agree to an arbitration clause, to be inserted in the contract for the second portion of the Thames Embankment, making all matters of dispute a subject of reference to an independent authority. This has since been negatived. After some discussion it was resolved, in the face of two amendments, "That Mr. F. W. Goddard, at present temporarily employed in the superintending architect's department, at the weekly wages of three guineas, be appointed, during the pleasure of the Board, at an annual salary of 300*l.*" A short conversation afterwards arose in regard to certain charges against the engineer of the Board, by Mr. Newton saying that, now the matter had been mooted in the papers, it would be well for the Main Drainage Committee to sit as soon as possible.

The Committee has since been occupied with the consideration of these charges, which involve the alleged existence of a connexion between Mr. Bazalgette and Mr. Furness, the contractor for part of the Embankment. We must not omit here to add, however, that a communication from Mr. Bazalgette respecting these charges was laid before the Committee at one of the meetings referred to.

In respect to the charges alluded to, we should have much preferred a continued silence till the engineer had had an opportunity of defending himself before the public; but it would be affectation in us to pretend to withhold information which the public already possesses. The gravamen of the charges may be quoted in the words of Mr. Filmer at the Marylebone Vestry the other day. Mr. Filmer said that, according to a letter in the *Clerkenwell News*, signed "A Ratepayer," it appeared that a large contract, amounting to 520,000*l.*, had been given to one contractor, named Mr. Furness, while another, Mr. Ridley, had tendered to do the same work for 25,000*l.* less; namely, at 495,000*l.* An extraordinary statement made was, that there were two other contractors between Mr. Ridley and Mr. Furness, namely, the Messrs. Baker, who tendered to do the work for 600*l.* more than Mr. Ridley, and 24,400*l.* less than Mr. Furness; and Messrs. Moxon, who offered to do the work for 510,076*l.*,—nearly 10,000*l.* less than Mr. Furness. There was another contract mentioned in the same paper for the Northern Outfall Works; and it was stated that a highly respectable firm had tendered to do the work of that contract for 133,000*l.*, but that tender was thrown aside for one made by Mr. Furness, at a no less sum than 164,000*l.*,—31,000*l.* higher; so that the lucky contractor for the Thames Embankment tendered for a much higher sum in both these instances, and in both got the contract.

Mr. Freth, at the same meeting, said that the subject was a very proper one for the vestry's consideration, and moved "That the representatives of this Vestry on the Metropolitan Board of Works be requested to watch the proceedings of that Board with regard to the recent contracts for the Thames Embankment, and to communicate to this Vestry from time to time."

The motion was unanimously agreed to.

The Committee of which we have spoken consisted of the whole Board of Works. After sitting on three successive days, they decided, by a majority of eleven to nine, that, although the terms of the chief engineer's agreement with the Board were that his whole time and attention should be devoted to their service, he had, in the committee's opinion, unadvisedly entered into certain arrangements with one of the contractors, whereby he was to receive certain large sums of money in the shape of com-



NEW CONGREGATIONAL CHAPEL, LYTHAM.

MR. W. F. POULTON, ARCHITECT.



Interior.

CONGREGATIONAL CHAPEL, LYTHAM, LANCASHIRE.

This building was completed in 1862. It is constructed of Longridge stone in courses, but with rough face. All the dressings are also of Longridge stone, worked fair. The tower and spire at the angle are 87 feet high. The staircase to the small gallery at the end of the chapel is contained in the tower. An entrance is also obtained in the tower to the chapel, but the principal entrance is in a porch at the side. At the back of the chapel, in the rear of the apse, is the vestry for the use of the minister; also the heating-chamber, &c.; and above these is a room sufficiently spacious for a school-room for the present.

The interior has a plastered ceiling with arched timber ribs and purlins. The whole of the internal fittings are of deal, stained and varnished.

The accommodation is for about 500 persons. The cost of the chapel, including the iron fencing and gates, was 2,093*l.* 10*s.* Heating, lighting, ventilation, and laying out the ground, have together cost 189*l.* 10*s.*

Mr. W. F. Poulton, of Reading, was the architect; and Messrs. Cooper & Tullis, of Preston, were the contractors.

INDIAN SCULPTURE AT WINDSOR CASTLE.

A number of large wooden cases, containing a quantity of Indian sculpture, as presents to her Majesty, have arrived at Windsor Castle. The sculpture and carvings, which are of white statuary marble, slightly tinted here and there with brownish veins, comprise a small temple of Oriental construction, with delicately-perforated panels, pilasters, and cornices, ornamented with leaves and cupola dome, all finely chiselled by Eastern artists; and two elephants, furnished with housings, bells round their necks, tassels depending from their ears, and mounted on low, flat pedestals, carved in the same material as the temple. The elephants are each about 4 feet high and 4 feet in length.

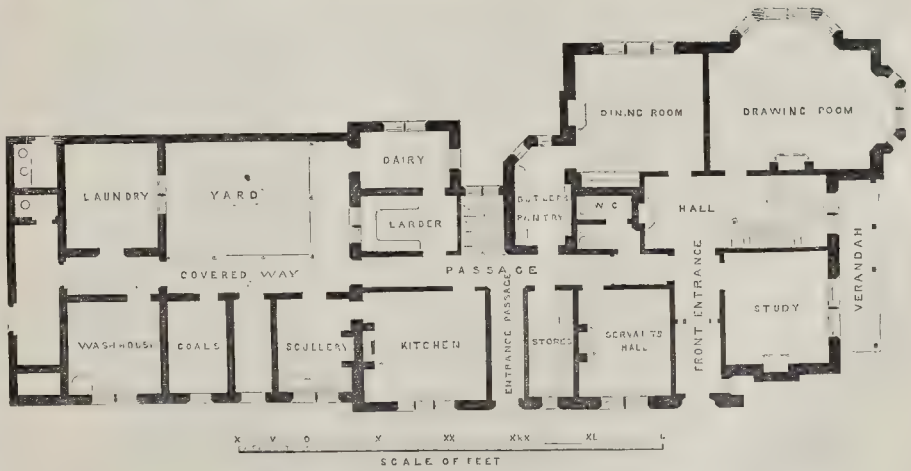
PARSONAGE HOUSE, AT CHADLINGTON, OXFORDSHIRE.

This house, which has just been completed, has been built by the late Mr. J. H. Langston, M.P. for the city of Oxford, of Sarsden House, near Chipping Norton. The village is a hamlet of Charlbury, of which Mr. Langston was the principal landowner; and the house has been built by him, to provide for a resident clergyman in the village, it having been his wish to carry out an arrangement with the patrons of the living of Charlbury, by which he would have made a gift of the house and certain lands, in consideration of the patrons giving up a portion of the living, which is worth as much as 800*l.* per annum. This arrangement, however, for the present at all events, is interrupted by Mr. Langston's death, which has taken place since this view has been in preparation. The varied outline of the building renders it somewhat ornamental and picturesque, although plainness of detail has been observed throughout. The roof is covered with an extremely durable local stone slate, and most of the materials used, including the walling and freestone, the bricks, and oak timber, have been obtained from the estate. Nearly the whole of the work has been executed in a most creditable manner by his own workmen, acting under the direction of Mr. H. Andrews, his agent. Every care has been taken to render the building satisfactory in all respects; and the architect has been fortunate in having his details carefully observed. The cost has not yet been ascertained. Mr. Wilkinson, of Oxford, is the architect.

The church and schools at Milton, the church at Churchill, and the schools at Lyneham, besides many other buildings of a useful character in the neighbourhood, are also works due to the liberality of the late Mr. Langston.

mission, which the committee condemn; but, from the evidence, distinctly showing it was his wish that the contract should be given to Messrs. Baker, felt that no collusion existed between Mr. Bazalgette and Mr. Furness with respect to that contract. They recommended the Board to call the engineer's attention to the terms of his agreement, and that in future the whole of his time and energies be devoted to the Board, and that he at once unhesitatingly give up all claims under the agreement, which it was felt he had improperly entered into. Mr. Bazalgette voluntarily handed in a guarantee in writing to carry out the suggestions made in the last paragraph.





PARSONAGE HOUSE, AT CHADLINGTON, OXFORDSHIRE. —Mr. Wilkinson, Architect.

WOOD CARVING COMPETITION: ARCHITECTURAL MUSEUM.

THE Council of the Architectural Museum, it will be remembered, offered two prizes, 20*l.* and 5*l.*, for the first and second best carved "Miserere," introducing two figures, or one figure and an animal, illustrative of a trade or occupation. In response nine have been sent in, and are now open to public inspection on screens in the Educational Department on the ground-floor of the South Kensington Museum. The carvings would be better seen if placed in a case below the eye. The strong shadow now on them prevents inspection. The carvings, each under a motto, are as follows:—"A red seal:" a carpenter at work on a Gothic rib, exhibits considerable vigour. "Where the Shoe pinches:" a shoemaker, on Mediæval stall, trying shoe on a little boy. Some humour in it: the *pose* of the shoemaker clever. "Progress:" a farrier shoeing a horse. A. J. A., an artist, the figure very indifferent: vine leaves and fuchsia blossoms, the latter well cut, but being easily broken off, not suitable for purpose. "Penny a Bunch:" flower-girls. "And they shall turn their swords," &c.: two smiths, with considerable amount of leafage; the figures very weak. "Star in a circle:" sheep-shearing, a single male figure, and sheep partly sheared, the knee of the man placed somewhat dangerously on the throat of the animal: simple and expressive, almost Flaxmanish in design: this is an able work, and deserves notice. "*Tandem sit circulus arbor:*" gardening; a good hearty paterfamilias, with coat off, watering his garden; two small flower-pots hung up in boughs at the sides to frame the group: a clever piece of carving, but unsuitable in charactar. "Gleaning," motto unnoticed: a girl and child, the girl carrying the corn on her head. A good composition, possessing much grace and beauty, and, as a whole, better entitled to the first prize than any one of the others.

ON CHURCH ARCHITECTURE.

MY attention has only just been directed to a letter on "Church Architecture," which appeared in the *Builder* of October 31st, signed "John Elliott." The object of the writer seems to be, to show (1), that the practices of regarding as more sacred than the rest that part of the church in which the Lord's table stands; of separating it from the part occupied by the congregation by a rood screen or other partition; of appropriating it to the use of the clergy and choir alone; of calling the Communion-table an "altar;" of using a credence-table, &c., have no warrantry in the custom of the early Christian Church. (2.) That they are practices of purely Mediæval origin, springing wholly out of the "blasphemous and idolatrous" doctrine of transubstantiation. (3.) That there is no better authority for the orientation of churches; many of the old basilicas and ancient churches at Rome lying north and south. This, as far as I understand, is the sum and substance of Mr. Elliott's dogmatic letter. He says it is not the first time he has addressed you on the subject, and challenges any of your readers to controvert his statements. As you have, on a previous occasion, been good enough to insert a letter of mine also on "Church Architecture," perhaps you will kindly allow me space for a few remarks in answer to this challenge.

Mr. E. reminds us, that in the Roman basilicas used as churches by the early Christians, and in the churches built by them on the basilican model, the nave was terminated by a *bema* or apse, having seats arranged round it for the clergy, with a higher one for the *president* (as the officiating priest, or bishop, if present, was called); that the said *bema* was separated from the nave by *cancelli* or lattices; and that the Lord's table stood without the cancelli, "in the midst of the people." Here Mr. E. is perfectly correct in all his facts, except the last, which is the only one to the point, and in which he is utterly wrong. The altar always stood, not in the midst of the nave, but in the midst of the *bema*, within, and not without, the cancelli. I am much mistaken if Mr. E. can bring forward a single instance to the contrary from the writings of any author of the first six centuries, or from authentic remains of any church of greater antiquity than the commencement of the Mediæval era. If so, it must be some isolated and purely exceptional case. The earliest detailed description we have of a Christian temple is given by Eusebius in Book X., chap. 4, of his "Ecclesiastical History," written A.D. 325; in which he gives an account of the new church at Tyre, consecrated A.D. 306. After speaking of the atrium, with its cloisters, the baptistery, porticoes, vestibule, and nave, he comes to the bema. This, he says, "he" (the founder) "adorned with lofty thrones in honour of those who preside; and also seats, decently arranged throughout" (*i.e.* all round) "the whole, and at last placed *the holy altar* in the middle. And *that this again might be inaccessible to the multitude, he enclosed it with frame lattice-work, accurately wrought with ingenious sculpture*, presenting an admirable sight to the beholders." Here we have express mention of the seats for the clergy, "decently arranged" round the whole apse, the more "lofty thrones" for the presiding bishop or bishops, and the "holy altar" standing "in the middle" of the apse, shut out, and made "inaccessible" from the nave, by the "cancelli," or "frame lattice-work," the "*iconostasis*" of the Greek Church. If we examine, moreover, the remains of the Greek and Byzantine churches from the earliest date downwards, we find them built on one unvarying plan,—a *sanctuary* or chancel, separated from the nave by just such a screen as Eusebius speaks of, called the *iconostasis*, from the figures or images carved on it, and having a smaller chancel to the north, called the *prothesis*, where all things were placed ready for the celebration of the Eucharist, to be carried by the priest with great pomp into the *sanctuary*, at that part of the service known as the "Great Entrance." This arrangement of the service, and, therefore, probably of the building, has undoubtedly been adhered to in the Eastern church since the second or third century of our era. There was usually a third or southern chancel, but all three were divided from the nave by the *iconostasis*.

That the Lord's table was commonly spoken of as *the altar* even in Eusebius's day, appears from the passage I have already quoted. Still earlier writers speak of the Holy Eucharist as the "commemorative" or "unbloody sacrifice." Athenagoras, if I mistake not (A.D. 177), is the first who uses the last expression, repeated again and again by nearly all the old divines of our Reformed English Church.

Mr. E. thinks the use of chancels, rood-screens, credence-tables, &c., springs solely from the "blasphemous and idolatrous" doctrine of transubstantiation. Undoubtedly, it springs from the doctrine of the Real Presence. But this is of no mere Mediæval origin. As held by the Anglo-Catholics of the present day, it has been held by every branch of the one holy Catholic Apostolic Church, whether Greek, Roman, or Anglican; and is as plainly set forth as the doctrine of the Resurrection, or any other Christian doctrine, in all the old Greek liturgies, some of which (as even Calvinists and Presbyterians confess) cannot be of later date than the second or third century; and were, in all probability, compiled (as Dr. Neale has conclusively shown, in his Lectures on Liturgiology and elsewhere) as early as the days of the apostles themselves. The doctrine of *transubstantiation*, like the Lutheran theory of *consubstantiation*, or the Greek dogma of *transelementation*, was a mere profane and carnal attempt to define the *manner* of that Mystery which, as freed from all such modern fables, gives all its life and meaning to the whole system of eucharistic worship, and to that archetypal arrangement of the Christian temple which, by common consent, the Church has adopted from the earliest times.

Mr. Elliott offers an insult to the common sense of your readers when he intimates that, in the rubric at the commencement of the prayer-book, the order that all "*chancels shall remain as they have done in times past*," means "as they were in the days of the primitive church," and not, as any sensible and unbiassed person would read it, "as they have been hitherto." The rest of the rubric shows plainly enough that this last is the true meaning; and, moreover, there is no reason to suppose that the compilers were less ignorant of the arrangement of the primitive churches than Mr. Elliott appears to be.

The custom of the orientation of churches simply arose from the intention that the celebrant and the congregation should look to the sun-rising in token of the hope of the church militant, the looking for the rising again upon the earth of the Sun of Righteousness at the dawning of the Resurrection. The practice being comparatively an unimportant one, was of course waived whenever Christians found a basilica convenient facing north and south, or a site which, though otherwise desirable, compelled such an arrangement.

I ought, perhaps, to apologise for touching on doctrinal matters; but, in attempting to vindicate church architecture as a true though symbolical exponent of Christian doctrine, it is impossible to avoid doing so. I trust I have said enough to prove that our best modern architects are right, as far as ancient example and Christian symbolism are concerned, in adhering to that model which Mr. Elliott would fain prove they ought to abandon.

WILLIAM PURTON.*

MODERN CHURCH SYMBOLISM.

SIR,—In the debate at the Manchester Church Conference following the reading of Mr. Hope's paper on the right ecclesiastical model, the Rev. Alexander Watson proceeded to argue that the church should tell out by its very shape the whole mystery of redemption, with its threefold nave and aisles shadowing forth the doctrine of the Trinity, and with its chancel standing as the sacred *Solium Christi*.

The motives which induced the Great Architect of the Universe to veil His purpose in type and symbol, and to make the temple one of the chief mediums of illustration, can easily be found by those who will take the light of Revelation to guide them in their search.

The fact that the temple, in its arrangements, not its style—for no reference is ever made to that—was in all its details the embodiment of the shadows which were to be succeeded by the substance,—the stony framework holding the darkened glass through which the chosen few were permitted to look and watch for the coming sun,—is an admitted truth.

So thoroughly was this understood and felt by the Israelites;—so deep was their knowledge of the meaning of every part of the sacred structure, that when God was moved to reprove them publicly, His command to Ezekiel was, "Show them the House;" and the prophet proceeds at once to enumerate the arrangements of the temple, with all its well-known details and accessories; trusting, by the bare recital of these things, to recall the lessons they were designed to teach.

Here there was symbolism of the highest order,—divine in its origin, grand in its simplicity, marvellous in its consistency.

When men were permitted to see "face to face" the spiritual realities that succeeded their material shadows; when "the veil was rent in twain," and the decree gone forth that not one stone should remain upon another of that gorgeous structure, whose work was done, its mission ended; the command was issued that these things of the past, glorious as they were in earthly beauty, should be henceforth considered as "filthy rags," the cast-off garments to be spurned by those clothed in the "robe of salvation."

To fulfil a type is to abrogate it, and to continue the symbol is to disbelieve in the fulfilment of its ideal.

The Apostles never quoted the symbols and types of the old dispensation, save to explain them as fulfilled in the spiritual things of the new: they brought forward the darkness to illustrate the light; and adduced the bondage and degradation, even of the "chosen people," under "priests," as the most powerful of all contrasts with the state of those whom the "truth" had made "free;" their bodies, therefore, living temples, with the "Holy of Holies" in their hearts; and every man his own "king and priest," to offer up "spiritual sacrifices acceptable to God." The command, never again to be "entangled in the yoke of bondage," meant, when it was issued,—no more temples and priests; no more material sacrifices and altars.

How the primitive Christians for centuries practically obeyed this injunction is shown in my former letter; wherein it was also demonstrated that the Mediæval model of churches, with its long screened chancel, was in direct opposition to the principle of arrangements in all churches up to the tenth century; and an attempt, in fact, to substitute a "temple" for a church.

No scholar would entertain the notion that any people, surrounded as the Christians were for so many centuries with reminiscences, if not actual examples, of Pagan and Jewish worship, could think of a "priest" in a material or sacerdotal sense, without simultaneously connecting him with a material sacrifice: if the one was right, so was the other necessary, and a temple and an altar the necessary complement of both.

The pretension to stand between the people and their God involved sooner or later the whole sacerdotal system, with all its inevitable accompaniments. The first minister whose ambition led him thus to view his official position commenced the

* A dozen other letters have been received on this subject, but are inadmissible, as tending to drag us into theological discussion, or as asking questions for replies to which we could not give space.—ED.

s of those priestly aspirations which Rome nally condensed into a system, put into a form at the Lateran Council, and affixed her to at the Council of Trent.

he bud of modern systems and types was ted on the stem, and blossomed side by side that full-blown Papal "flower" which Father man boasts is the true development of the "Christian bud."

me allowance must be made to the "priest y" for the extremely clumsy way in which have employed symbolism, on account of the ral difficulties of the situation.

here was but one Jewish temple, and its sym-, therefore, ran no danger of being applied to other building not so correctly arranged.

he Christian churches being intended for l worship, and extending their areas in pro-ion to their congregations, left no chance of g on them any permanently correct symbol.

n all ages and countries, and in all styles of itecture, whether in religious or civil struc-s, it was customary, simply from constructive ons, to divide the space to be roofed in into e or more divisions. Some of the basilicas five, and two of our cathedrals are thus nged; while numbers of Gothic churches have ve and one aisle only. To fix on a church h nave and two aisles, as symbolising the nest mystery of our faith, is to cast a slur on the others, whether in excess or subtraction n the mystic number. It is only in the ieval chancel or "transubstantiator" (the *lesiologist* gives me credit for the significance the name) that Mr. Watson and his friends ld confer the dignity of being "solium isti:" they would be horrified at applying h a symbol to the little chancel platforms, the y ones known in the first ten centuries of istianity. The confusion arising from the ble set of words in Christian nomenclature is readful difficulty in the way of modern sym-ism. "Priests" came into the Christian tem as invaders, and stayed long enough as querors to leave their language as a legacy to descendants of their victims.

The lordly castles which once frowned on our d, though reared with Saxon means and by xon hands, bore witness, in the Norman names every detail, for whose use and for what pur-e these structures were erected. Before the nquest, villein meant a respectable villager: the haughty conqueror, it became the synonym scoundrel; while all the virtues were embodied a Norman on horseback, a "chivalrous man." hile the poor Saxons fed and tended their mestic animals, the domestic names for them re retained: but, dead, they were for the con-erors' table, and swine became *porc*; ox, *bœuf*; eep, *mouton*.

It thus happens that Englishmen are doomed all time to be reminded, whenever they call for eir mutton, that their ancestors were once serfs. The significant terms of freedom and serfdom e, in like manner, perpetually jostling and ossing each other in the Christian world.

It was very wrong and foolish to introduce, to people previously wholly unaccustomed to them, ch words as "table" instead of "altar," "con-entus" or "meeting-hall" in lieu of "temple," d "minister" in place of "priest:" or, the ilt and the folly must rest with those who, nturies after the original language had become ttled, reintroduced the old language of bondage, d thus left us two sets of words with such tally opposite meanings. The Italian priests ho came over to this country introduced two ords of their own coining in connexion with eir system, viz., credence-table, from *credenza*, butler's buffet; and *piscina*, or *water*-hole, to ceive the spare wine in its *blood* state.

A little consideration of these premises will con-nce the most incredulous that every thing like nsistent symbolism, applicable even to any one ériod of the church, was quite out of the ques-on. It was totally impossible that any one ideal ould be made to adjust itself to a church with ne, two, three, or four divisions; to a chancel tatform and a "holy of holies;" with a table, or mb, or altar, having a butler's buffet and water-old as accompaniments. When the font was rst placed at the entrance of a church and the ord's table stood in its centre, the arrangement as suggestive of the fact that those washed from eir sins, and then sitting as honoured guests at eir Lord's table, were sons with him by adop-on, and brothers of the son of God. The simile clearly reversed when the font only retains its d position, and the table, become a tomb or altar," is hidden from the people behind a reen or veil. Under such a state of things, Durandus, a Mediæval bishop, tells us that the chancel, that is the "transubstantiator," represents "the priests or the church triumphant, while the pavement symbolises the people, made to be trodden under foot." The Rev. Braud Morris, a curate of Dr. Pusey's, playfully reproduces the same idea with a very ingenious variation:—

> "The ox was present at his master's crib
> To show that priests should at his altar live:
> The ass was also there,—
> Fit emblem of the patient laity,
> Who humbly bear the burthens on them laid."

As a pope once summed up the aspirations of all his "caste" by stating that "the proper position for priests was with their feet on the necks of kings," it is but natural that all symbols drawn by "priests" have the tendency to exalt them and degrade the people.

A lion and a man, once upon a time, walked through the world together; and the biped so frequently drew the attention of his four-footed companion to the fact that all sculptured history represented the man as conqueror, that at last the humble lion, an American beast, was tempted in answer to say, "That's all very well, Mr. Human, but if we lions had done the chiselling you'd have read a different story."

All history proves that the symbolism which is natural and true is the unaffected result of preconceived ideas, seeking expression in some outward and visible sign.

False symbolism, on the other hand, is that which is fastened on to existing objects, and both strained and distorted to fit each other.

The one is employed for honest purposes, the other never.

JOHN ELLIOTT.

A LITERARY SQUABBLE.

"IN RE" LORD HOUGHTON.*

THE Alphabet rejoiced to hear
That Monckton Milnes was made a Peer;
For in this present world of letters
But few, if any, are his betters.
So an address by acclamation
They voted of congratulation,
And H O U G T and N
Were chosen the address to pen,
Possessing each an interest vital
In the new Peer's baronial title.
'Twas done in language terse and telling,
Perfect in grammar and in spelling:
But when 'twas read aloud—O mercy!—
There sprang up such a controversy
About the true pronunciation
Of said baronial appellation.
The vowels O and U averred
They were entitled to be heard.
The consonants denied the claim,
Insisting that they mute became.
Johnson and Walker were applied to,
Sheridan, Bailey, Webster tried too;
But all in vain, for each picked out
A word that left the case in doubt.
O, looking round upon them all,
Cried, "If it be correct to call
T H R O U G H 'thr*oo*,'
H O U G H must be *Hoo*;
Therefore there can be no dispute on
The question. We should say 'Lord *Hooton*.'"
U "brought" "bought," "sought," and "fought"
to show
He should be doubled, and not O;
For, sure if "ought" was *awt*, then "nought" on
Earth could the title be but *Hawton*.
H, on the other hand, said he
In "cough" and "trough" stood next to G,
And like an F was then looked oft on,
Which made him think it should be *Hof*ton.
But G corrected H, and drew
Attention other cases to:
"Tough," "rough," and "chough," more than
"enough"
To prove O U G H spelt *uff*.
And growled out, in a sort of gruff tone,
They must pronounce the title *Huff*con.
N said emphatically "No!
There is D O U G H, *Doh!*
And *though* (look there, again!) that stuff
At sea for fun they nick-named 'duff,'
He should propose they took a vote on
The question, should it not be *Hoton*?
Besides, in French 'twould have such force,
A lord was of *haut ton*, of course."
Higher and higher contention rose,
From words they almost came to blows:
Till T, as yet who hadn't spoke,
And dearly loved a little joke,
Put in his word, and said—"Look there!
'*Plough*' in this *row* must have its *share*."
At this atrocious pun each page
Of Johnson whiter turned with rage;
Bailey looked desperately cut up,
And Sheridan completely shut up;
Webster, who is no idle talker,
Made a sign indicating "Walker!"
While Walker, who had been used badly,
Just shook his dirty dog's ears sadly.
But as we find in prose or rhyme,
A joke made happily in time,
However poor, will often tend
The hottest argument to end,
And smother anger in a laugh:
So T succeeded with his chaff
(Containing as it did some wheat)
In calming this fierce verbal heat.
Authorities were all conflicting,
And T there was no contradicting.
P L O U G H was *Plow*,
Even "enough" was called "enow;"
And no one who preferred "enough"
Would dream of saying "Speed the pluff!"
So they considered it more wise
With T to make a compromise;
And leave no loop to hang a doubt on,
By giving three cheers for Lord { Hough / *How* } ton!

J. R. PLANCHÉ.

* At the recent Leeds Congress of the British Archæological Association, Lord Houghton presided; and these lines originated in the various pronunciations of the new title by strangers. They were written for private circulation only: we print them as a suggestive and telling commentary on some of the difficulties in the pronunciation of the English language.—ED.

RAILWAY MATTERS.

THE work of demolishing houses on each side of the way on Ludgate-hill has commenced, preparatory to the construction of the offensive railway-bridge which is to connect the London, Chatham, and Dover line with this Metropolitan Railway; and Londoners are looking forward with curiosity and apprehension to the unsightly erection which is likely to prove so great an architectural eyesore.——Some months ago the London and North-Western and the Lancashire and Yorkshire Railways came to an arrangement, by which the latter took the eastern and the former the western end of the Victoria station at Manchester. From that time the London and North-Western Company, finding their portion of the station inadequate for their traffic, have been carrying on very extensive alterations. They have added a new wing to their portion of the station. The Ducie-street bridge has been widened about 20 yards on the Hunt's Bank side. This widening of the bridge has enabled an extension of the central platform to be carried out for about 130 yards in length, and 7 yards in width, and the platform on the side of the station to be continued 6 yards in width to the Salford end of the bridge. The whole of this extension is being covered by a glass roof; and, to give a sufficient altitude for the roof over the bridge, a framework of glass will be raised about 14 feet above the parapet. Other additions are contemplated. The ironwork for the widening of the bridge has been constructed by Messrs. Fairbairn, of Manchester; the extended platforms and glass roofing have been carried out by Messrs. Neill, Strangeways; and the iron framework for the glass roof by Mr. Mayburn, of Ardwick. —— The Great Eastern Railway Company have opened to the public their new station at Cambridge, just completed at a cost of several thousand pounds. The whole of the arriving and departing trains are now reached from one platform, 400 feet in length. There is an entire suite of new offices. Hot-water apparatus is in course of construction to supply foot-warmers to the first-class passengers during winter.——The traffic receipts of railways in the United Kingdom amounted, for the week ending the 14th of November, on 11,028 miles, to 564,040*l.*, and for the corresponding

week of last year, on 10,578 miles, to 525,360*l.* showing an increase of 450 miles, and of 38,680*l.* in the receipts. The total receipts of the week show a decrease of 8,060*l.* as compared with those of the preceding week, ending the 7th inst.

THE HOTEL MOVEMENT.

An Ilfracome Hotel Company (limited), has been incorporated, with a capital of 20,000*l.*, in 2,000 shares of 10*l.* each, for the purpose of erecting a large hotel at Ilfracombe. Mr. M. C. W. Horne, of London and Plymouth, is the architect employed. Ilfracombe, in Devon, is a fashionable watering-place on the south shore of the Bristol Channel, and rapidly rising in popularity. "Many of the most eminent writers of the day (*vide* Kingsley, Trollope, Lewes, and Goss, also *Punch* of October 3rd, 1863), concur," says the prospectus, "in representing it to be 'the loveliest of all English watering-places;'" and it is certainly celebrated for its scenery and its healthfulness. The building is to contain all the usual hotel conveniences for visitors. The site fixed upon is centrally situate, close to the chief promenade of the inhabitants and visitors and to the baths and beaches. The railway is now within a few miles of Ilfracombe.——The Bristol College Green Hotel Company have purchased the entire site of the proposed hotel, nearly half an acre in extent, and at present covered by seven houses, for considerably less than 6,000*l.*——The directors of the Bridlington Quay Alexandra Hotel Company, limited, have decided to proceed immediately with the erection of this large hotel on the North Cliffe, at Bridlington Quay, the site of which commands a view of the German Ocean and the cliffs at Flamborough.——A Tunbridge Wells Hotel Company is about to be formed for the purchase of the Royal Sussex Hotel. Mr. Murray, of London, architect, is preparing plans for a first-class hotel, capable of making up a hundred beds, and which will cost between 50,000*l.* and 60,000*l.*; to make room for which the present building will be removed. The new hotel will be an adjunct to the railway terminus, to be built in close proximity to it, in connexion with the railways now being constructed in this district.——For many years there has been but too well-grounded complaint of the rapacity of English hotel-keepers. It is to be hoped this new hotel movement indicates the prospect of some amendment in that respect.

CHURCH-BUILDING NEWS.

Hedenham (*Norfolk*).—The parish church has been re-opened after undergoing a nearly complete restoration. It consists of a chancel, nave, western tower, and south porch, and is well situate on a slight hill, its south side facing the end of the village road. The chancel contains three Early Decorated two-light windows, a three-light east window with net tracery, a series of three sedilia and piscina, with ogee arches and marble columns, and several monuments of the Bedingfield family. This portion of the church was restored last year, at the expense of the rector, the Rev. Robert M. Marshall, and an oak pulpit on a stone base given by Mr. J. L. Bedingfield: the contract was taken by Mr. Spaul, of Norwich. The carving, of which a good deal occurs in the pulpit, stall-ends, and reredos, represents foliage, slightly conventionalized. The nave is spanned by a high-pitched open timber roof of the fifteenth century, the principals being stiffened by cornice-braces only. The chancel arch, which was very unsightly, and made up of brick and rubble-work plastered over, has this year been replaced by one of Ancaster stone, with foliage carved on the capitals and round the outer arch-moulding on each side: at the same time the nave has been re-seated with open oak benches, the gangways and porch paved with Maw's tiles, an iron and brass lectern placed near the pulpit, the tower arch revealed by the removal of a western gallery, and a large coat of the royal arms, an oak screen (9 feet high) placed across it, a ringers' floor introduced, and the porch and nave roofs repaired, the latter being covered with new lead. The contract for the seats and porch was taken by Messrs. Morriss & Sons, of Ditchingham; and that for the rest, with the exception of the tiles, by Mr. Spaul. The architect was Mr. Edward J. Tarver, of London. The expenses were defrayed by private subscription, including 70*l.* from the feoffees of the parish.

Langham.—The parish church of Langham has been re-opened, after being entirely restored. The tower, which was in a dangerous state, has been made good, with new stone windows in place of brick, stone quoins, rubble facing, &c. The roof of the nave has been thrown open and retiled, and a new open roof, covered with lead, has been put on the south aisle, a new roof fixed in chancel, divided into panels with mouldings and carved oak bosses. All the stone windows have been restored and reglazed, the whole church reseated, over ninety additional sittings being obtained. The seating of the chancel has been formed out of the old oak seating, with carved poppy-heads. The floor is paved with terro-metallic tiles, and heated on Mitchell's principle. There are also two new porches. The works (which were under the direction of Mr. H. W. Hayward, of Colchester, the architect employed by the committee) have been done by Mr. Hawkins, of Monks Eleigh, Suffolk, and Mr. Bremer, of Colchester, mason, who also did the glazing.

Kingsthorpe (*North Hants*).—The parish church of Kingsthorpe has been re-opened for Divine service, after a restoration, which commenced in March last. During the progress of the work a large number of interesting features have been discovered, from which it is said to be quite evident that the present church is not the original one, evidence remaining of the existence of a Saxon church. Before the present restoration, the interior of the church was much disfigured by its modern fittings and high-backed pews: the tower arch and west arch of nave on each side were blocked up with a gallery; the arcades and clerestory walls out of perpendicular; the west arch on north side depressed and sunk; a respond and pier capital crushed and broken, no doubt occasioned by settlement of the tower soon after it was built; the internal mason's work covered with plaster and whitewash; and the heads of the two three-light windows in the south chapel destroyed and oak lintels substituted. The whole of the internal fittings and roofs, except in the chancel, have been removed, and the south aisle walls, porch, clerestory, chancel arch and east gable rebuilt, and a new west window fixed in the north aisle. The west arch and part of adjoining arch in north arcade, part of west arch in south arcade and the four Norman columns renewed, and the cap of west respond and column in north arcade restored. The two old two-light windows have been re-fixed east of the porch, and two new windows west of the same. Part of the south doorway has been renewed, and a new head put on the east window in north chapel. The old parapets have been made good and fixed, and the strings, plinths, and external mason's work repaired and pointed. The old square-head window has been refixed at the east end of the south side of the clerestory, and the new windows made to assimilate with it. Three small windows of the original church (found over the arcades) have not been altered. The whole of the roofs, except in the chancel, are of new Baltic fir, wrought, moulded, varnished, and covered with lead. The floors are of deal, and the passages paved with rubbed Kingsthorpe limestone. The adults' seats are wholly formed of wainscot, with moulded ends and rails, but without doors. The children's seats are of stained deal. The chancel arch has been rebuilt in its original position, between the east piers of nave. The six small shafts sustaining the inner order or arch are of red Mansfield stone, and the voussoirs of the outer order of Ketton stone and red Broughton alternately. The carving was done by Mr. S. Poole, of Westminster. The new organ, built by Bevington & Son, of London, forms the enclosure of the vestry on part of its south and west sides. Throughout the restoration the old architectural features have been brought out, but no attempt has been made to re-design or alter anything. Additional sittings will be obtained, and the cost of the restoration will be about 2,100*l.* The restoration is mainly due to the liberality of the Thornton family. Mr. Slater, of London, was the architect, and Mr. Thompson, clerk of the works. Mr. R. Cosford, of Northampton, was the builder employed.

Ellington (*Hunts*).—The church here has been re-opened after undergoing repair. The chancel has been rebuilt, in the Early Decorated style, from the design of Mr. Scott, architect to the impropriators, the Master and Fellows of St. Peter's College. The nave has been partially re-seated, the pulpit lowered, and improved, by Mr. John Ladds, of London, architect, who designed the altar cloth, corona, and other church furniture. The churchyard has been enlarged, and enclosed by a new open arcaded brick wall, also designed by Mr. J. Ladds. The whole of the building and joiner's works have been carried out by Mr. John Bird, of Huntingdon, builder. The wood-carving to stalls and altar-table is by Mr. Blackman; the altar cloth by Messrs. Jones & Willis; the corona and lights by Messrs. Johnston Brothers; and the tiles in nave by Messrs. Maw & Co.; those in chancel by Mr. Godwin.

Stoke Mandeville (*Bucks*).—St. Mary's church is about to be rebuilt upon a new site. The existing building is so far from the people, and the approach, through swampy meadows, is often so bad, that in winter it is difficult to induce the parishioners to attend church. Under sanction of the bishop a new site has been obtained for the new church. The old chancel is to remain to serve as a chapel for burials in the old churchyard. The main features of the ancient church and as much of its material as possible are to be preserved in the new edifice. The designs have been approved by the Bishop of Oxford; and the work is to proceed under the direction of the architect, Mr. J. M. Taylor, of Manchester.

Barnwell.—The church of Barnwell as been re-opened. The edifice has been restored, relics of the past being preserved. The seats are composed of open benches in varnished pine, and placed by Mr. Eaton, of Titchmarch. A new window has been put up in the chancel: the subjects forming the same are "The Seven Acts of Mercy," "The Crucifixion," "The Resurrection," and "The Good Samaritan." A chancel organ on the Scudamore principle has been erected by Mr. H. Willis, of London. The total cost of the restoration was 400*l.*

Reading.—Greyfriars' church has been restored, and will be consecrated on the 2nd of December, by the Bishop of Oxford. Mr. Woodman was the architect employed.

Lee.—The ceremony of consecrating the new church of Holy Trinity, erected at Lee by Mr. Lewis Glenton, of Blackheath, at a cost of 10,000*l.*, has been performed by the Bishop of London. The church is built of Kentish rag stone, in the Gothic style of architecture, from a design by Mr. S. Barber, of London. It contains a stone pulpit, coloured glass windows emblematical of the most marked events in the life of our Saviour, and is internally decorated.

Swanbourne (*Bucks*).—The restoration and re-opening of the parish church here have taken place. In the same diocese forty-seven parish churches have been restored, eleven re-built, and seven new ones built, within the last ten years, in Archdeacon Bickersteth's archdeaconry alone which comprises 200 parishes. The Church of Swanbourne must have been in a ruinous condition. Sir Thomas Fremantle, the lord of the manor, undertook the greater part of the responsibility of the cost of restoration. As impropriator of the soil, he promised to defray the entire expense of building a new chancel, and contributed largely towards the repairs of the body of the church. Plans were prepared by Mr. Wilkinson, of Oxford, architect; and the building was entrusted to Mr. Groves, of Milton, under whom the work has been brought to completion. It was originally intended only to repair the chancel; but, on examination, it was found to be out of the upright, and in such a dilapidated condition that the only course left to be pursued was to pull it down, and build a new one as near as possible to the model of the original. It was considered to be of a much earlier date than the body of the church. The cost of the new chancel was 446*l.* The cost of the nave and aisle has been about 1,100*l.*, of which nearly 500*l.* have been raised by voluntary subscription; 360*l.* from the parish rate; and 75*l.* from the Diocesan Church Building Society. The porch and other portions of the church still remain in an unfinished state. The edifice as it now stands consists of a nave, with clerestory windows; a north aisle, chancel, south porch, and a west tower. The tower now opens into the nave by a pointed arch. The aisle is divided from the nave by three pointed arches resting on octagonal pillars. A small vestry is partitioned off from the aisle. The roof is of open timber, boarded between the rafters, and is supported on plain stone corbels: it is entirely new. The seats in the body of the church are of deal, varnished; in the chancel, of pitched pine; and the pulpit, which rests on a stone base, is of oak. The walls are tempered a warm colour, and a Gurney's patent stove stands in the centre of the church. The nave, aisle, and chancel are paved with common Staffordshire tile, and the sacrarium with Minton's. The mullioned stone framework of the windows in the body of the church has been preserved; but the framework of the west window, which was of wood, has been replaced by stone. A new pointed arch opens into the chancel. Here everything is new, but the old form has been adhered to. It is lighted by a three-light east window, with slender circular shafts, and three or

other two-light ones. In the south wall of hancel is a double piscina, and in the north an ambrey. A painting was discovered on pper end of the wall of the north aisle. The er portion of it, however, has been covered by the plasterer. It originally represented ortures of the souls in purgatory, with its s rising high around them. On the piece remains uncovered is to be seen, though ly disfigured, a woman trying to escape from re: her hands are held out imploringly to- s an angel, who feels inclined to release her; t at her back an evil spirit endeavours to her. Latin sentences are placed at the foot h figure, expressing the words supposed to ed by them. Over all is the figure of Christ, ed coat, with a lamb beside him. He appa- looks down in pity upon the poor souls in tory, and seems anxious and willing to assist

ngton.—The consecration of All Saints' h, at Langton, has taken place. Langton is llet in the parish of Speldhurst, and some- remote both from the parish church and the ls of ease in the district. The architect of urch was Mr. Scott, who has adopted the English style of architecture. The material dstone, from a quarry in the neighbourhood. esent the church consists only of a nave and l, and affords accommodation for 165 per- the intention being, we believe, when an ement is rendered necessary, to add aisles north and south sides; so that when the of the architect has been completed the will be cruciform. The interior also is as finished, the benches being absent. The and font, which are special gifts, are of the desk and lectern of oak. The work en executed by Mr. H. Constable, of Pens-

enhampton (Wilts).—We are requested by eflowski to state that all the carving in the hurch erected in this village was done by cept the font and pulpit, which were given Earp long before Mr. Geflowski was com- ed to execute all the other carving.

SENTING AND ROMAN CATHOLIC CHURCH-BUILDING NEWS.

lford.—The Baptist chapel in Hallfield- as been opened. The new buildings com- chapel, with side and end galleries, contain- ated accommodation for 1,000 persons; a room, 60 feet by 30 feet; a lecture-room, by 25 feet; minister's vestry, deacons' and ladies' vestry, class-room for eighty two class-rooms for adults, a library-room, tea-room, and sundry other apartments nveniences. The front of the chapel is Manningham-lane, and is set back 10 om the street boundary. The schools are in the rear of the chapel, having an end e next Hallfield-street; and distinct street es are provided to the lecture-room and boys and girls to the large upper school- The design has been based upon Mediæval es, and the details are all of Gothic form. of the buildings and furnishings is about To this has to be added excepted items, the architects' commission, the clerk of salary, and the purchase of the land, in all about 7,000*l.* The architects were Paull & Ayliffe, of Manchester; the con- or the masons' and carpenters' works, Mr. worth; for the plumbers', glaziers', and works, Mr. J. Keighley; for the slaters' r. J. Tattersall; and for the plasterers' r. T. Hargreaves, all of Bradford.

.—The new Augustinian church for the Catholics, when completed, will be one of est in the city. The style selected is rench. The chief peculiarities are the ight of the aisles, and their continuation e chancel, thereby leaving space for chapels, as in the Continental churches. hal dimensions are, length, 200 feet; exclusive of transept, 86 feet; interior 5 feet. It is intended to erect a monas- onnexion with the church. The cost of will be over 30,000*l.* About 9,000*l.* n already expended on the purchase of n the building. The works are being by a clerk of works, under the direction . Pugin & Ashlin, architects.——At rn, city Dublin, a new Roman Catholic about to be erected. The building will Early Geometric style, and will accom- out 1,500 persons. A tower and spire at the south aisle, and will rise to the height of 160 feet, forming a prominent feature of the building seen from the sea. The west gable will be pierced by a circular wheel window, under which will be two canopied doorways. There will be a colossal figure of the patron saint, St. Patrick, supported on an Aberdeen granite column rising from between these doorways. At the extremity of the aisle will stand the baptistery, forming a western transept. In the interior, a new feature has been introduced in the clerestory, which will be formed by an arcade of detached shafts and arches. The chancel will be separated from the nave by an arch supported on marble columns, and will be lighted by seven lofty two-light windows, in which will be represented, in stained glass, the figures of our Lord and the twelve Apostles. The cost, including spire, will be about 7,000*l.* The designs are by Messrs. Pugin & Ashlin, of Dublin.

STAINED GLASS.

Stoke Church (Devonport).—A memorial window has been placed at the east end of the north aisle of this church, by Miss St. Aubyn, to the memory of her father, the late Lord of the Manor of Stoke Damerel. The subjects illustrated in the tracery or upper portion of the window are the *Agnus Dei*, the Crucifixion, and the Ascension, of our Lord. In the three lower compartments or large openings, are illustrations of the following subjects, viz., Moses viewing the promised land; the children of Israel bearing the Ark over Jordan; the Archangel St. Michael disputing with Satan as to the body of Moses. The general back-ground surrounding the subjects is Mosaic, with canopies over the subjects. There is a memorial inscription at the bottom. The window has been designed and executed by Messrs. Lavers & Barraud, of London, under the supervision of Mr. J. P. St. Aubyn, of London, architect.

Dunmow Church.—A meeting of the subscribers to the window intended to be erected in this church in memory of the Rev. H. L. Majendie, twenty-eight years vicar of Great Dunmow, was recently held; Sir Brydges P. Henniker, Bart., in the chair; when it was announced that 35*l.* had been already received. The Rev. E. L. Horne was appointed treasurer, and a committee was chosen for the purpose of collecting further subscriptions, and carrying out the proposed object.

British Church (Riga).—The large east window of this church, consisting of five upright compartments with elaborate tracery, has just been filled with stained glass, by the same artists, in memory of Nicolas Hill, of Riga. The Crucifixion of our Lord occupies the chief portions of the upright compartments. A great variety of figures are introduced. Each division is kept entire in itself by the necessary architectural detail. In the tracery are angels bearing scrolls, with texts; and in the base are the monograms and emblems of Christ. Underneath these emblems are ornamental and emblematical devices consisting of the vine and wheat, in allusion to the communion altar, behind and above which the window is placed.

SCHOOL-BUILDING NEWS.

Soulbury (Bucks).—The new endowed schoolrooms here have been opened. The building has been erected in the Early English style, from designs provided by Mr. R. Durley, of Aylesbury. It is principally of red brick, pointed in blue mortar, relieved by black bricks in simple patterns, and coloured bricks in the arches and bands; with windows, doorways, buttresses, strings, cornice, &c., of Bath stone. The roofs are covered with blue and brown ornamental Stafford tiles and ridge crest, and finished with carved barge-boards and finials. The square tower erected over the entrance lobby is surmounted by an octagonal bell-turret of wood, covered with Welsh green slates, the ornamental terminal of which rises to the height of 40 feet. The plan consists of school-room, 40 feet by 18 feet; class-room, 18 feet by 18 feet; cloak-room and lobby. The school-room is lighted by two two-light windows with trefoil heads at each end; the class-room by one three-light window. The roofs are open-timbered, stained and varnished. A moulded string-course passes round the rooms at the height of 4 feet from the floor, below which the walls are rendered in cement and painted; the remainder of the walls being of coloured bricks in patterns. Ventilating fire-lump stoves and moulded chimneypieces occupy the fireplaces. Covered playgrounds and offices are attached. The cost of the building was about 700*l.*

Theddingworth (Northamptonshire).—A new school and teacher's residence have just been completed in this village, in connexion with the Congregational Church. The materials used are pressed bricks for the facing, white stone for the dressings, and the arch quoins and panellings of blue bricks. The chimneys are formed of bricks, and capped with the oversailing courses customary in the neighbourhood. These buildings have been erected at the expense of Mr. Harris, of Theddingworth, and from the designs of Mr. H. H. Vale, of Liverpool.

Oldbury.—The chief stone of the new buildings for the Oldbury National Schools has been laid by Lord Lyttelton. The edifice (of which Mr. Holmes is the architect) will comprise a school-room, 72 feet long by 32 feet wide, for boys, with a class-room, 18 feet by 16 feet; a school-room, 50 feet long by 18 feet wide, for girls, with a class-room, 18 feet by 14 feet; and an infants' school, 42 feet long by 22 feet wide, with a class-room, 21 feet 9 inches by 16 feet. The style will be an adaptation of Early English Gothic. The ends of the boys' school and infants' school facing John-street, are to be carried up as gables, and a large wheel window and two three-light windows inserted in the former, and a lofty lancet-pointed three-light window in the latter. The flank of the boys' school is also to be broken up by a gable, with a rose window and two three-light windows. The side of the girls' school will have two smaller gables, with a three-light window in each. The entrance to the boys' school will be surmounted by a lofty bell turret. The walls will be built of red bricks, with blue brick facings for the plinths, and blue bricks worked in in strings, arches, and labels. The wheel windows, and the heads and mullions of the other principal windows, will be worked in Bath stone. The roofs will be high-pitched, covered with red and blue tiles in patterns, surmounted by an ornamental ridge and crest; and the main timbers, visible from the inside, will be wrought, stained, and varnished.

Manningham (Yorkshire).—The foundation-stone of new schools, in connexion with the Wesleyan Chapel at Manningham, has been laid. The buildings will consist of a mixed school, 50 feet by 45 feet, and 21 feet high to the square (with open-timbered roof, stained and varnished), having separate entrances for the boys and girls, and a direct internal communication with the chapel. There will be seven additional new class-rooms, and a large band-room. The schools are in the Elizabethan style of architecture, of ornate character. The chapel, erected in 1858, is already too limited in its capacity for the neighbourhood, and the present school-rooms, &c., are about to be merged into, so as to form a part of, the chapel, which is to be remodelled and beautified, and have the addition of two winged staircases. The architects are Messrs. Milnes & France, of this town. The cost of the schools will be about 1,800*l.*, exclusive of the land; and the alteration of the chapel, &c., will be about 1,700*l.*, making a total of 3,500*l.* The contractors for the works are,—Masons and bricklayers, R. Crabtree & Co.; joiner, T. Taylor; slaters, W. Hill & Son; plasterer, S. Laycock; plumber and glazier, J. Scholefield.

NEWS FROM SCOTLAND AND IRELAND.

Edinburgh.—The new church which has been built at Newington, for the United Presbyterians, has been opened for public worship. The church is situate at the junction of the Grange-road with Causewayside, and has an entrance from each of these thoroughfares. The front is towards Causewayside, and consists of a high pointed gable with a buttressed tower at the south angle. In the centre of the gable is a slightly projecting portico, which forms the principal of the two entrances to the church; and above this is a large circular-traceried window filled with stained glass. The tower, which rises to the height of 100 feet, contains a moulded arched doorway on its south side, and two large triplet windows on the south and east sides respectively, the lights of which are separated by shafts with carved bases and capitals, the upper portions being filled with tracery. A mansard roof, surmounted by an enriched iron railing and vane, terminates the tower. The west gable, from motives of economy, is not to be completed in the meantime; but, when finished according to the designs of the architect, it will be surmounted by an ornamented octagonal turret 30 feet in height. In the north and south sides of the church are two tiers of doublet windows, ornamented with shafts and tracery, and in the west gable is a large triplet window filled with stained glass. The church is entered from the

front through a vestibule of unusual dimensions, on either side of which the gallery staircases are situate. Galleries are placed round three sides of the building, and these are supported on bronzed iron pillars, which are carried up and develop into arches, on which the principal roof rests. These pillars have foliated capitals wrought in carton pierre, and bronzed. The ceiling of the central portion of the church, which is 42 feet above the floor, is flat, but is broken up by a series of flat arches, which are supported by ornamental corbels. The roofs of the side gallery are considerably lower, and contain a number of bright metal ventilators. The pulpit, which is of an ornate character, is situate in the west end of the church, and is flanked by a Gothic screen. The entire carpenter work of the interior has been executed in yellow pine, stained and varnished. Sitting accommodation has been provided for a thousand persons; and at the north side of the building a hall, seated for 250 persons, and intended to be used for congregational purposes, has been erected, together with a vestry and library-room. The church is lighted from the ceiling by two sunlights, each having sixty-three burners, and round the sides by twenty brackets, each having three jets, which form a trefoil leaf. The lobby is lighted by a large Gothic lantern, having stained-glass panes bearing appropriate texts of Scripture. The lighting of the church has been executed by Messrs. Robertson & Cairns. The architect was Mr. R. Paterson, and the mason and carpenter work were executed by Mr. R. Hutcheson and Mr. A. Forbes respectively. The entire cost of the building will be about 6,000*l.*

The new church for the congregation raised by the Rev. James Gall—one of the missionaries of the Free Church—which has been erected in South Back of Canongate, has been formally opened for public worship. The building is situate in an obscure quarter of the city, and is the first completed specimen, says the *Scotsman*, of innovations which are being introduced by the architect, Mr. Pilkington. The interior is of a triapsal form, with an abrupt nave, so that the outline much resembles an equal-limbed cross, measuring 77 feet each way. The southern apse contains the platform pulpit, which is brought well forward; and from its front the pews are arranged in arcs of circles, which sweep from one side of the church to the other, the inner angles of the east and west apses being reduced to suit this arrangement. In the side apses and nave galleries are placed, those in the former being supported at the ends nearest the pulpit on spirally-foliated pillars of stone, and corbels of the same character. The roof is an open stained-wood one, with hammer-beams at the intersections of the cross. The walls are lined with wood, which is broken up into irregular-sized panels by dented straps of the same material. From the arrangement of the numerous and many shaped windows, the place is lighted in every part. Externally the appearance of the church is much more peculiar than the interior, though its somewhat redundant roof and squat walls are rather prejudicial to it. The front is composed of a centre gable, the windows in the lower portion of which are divided by buttressed piers, while that in the upper portion has its lights separated by shafts with carved capitals. On either side, filling the angles formed by the limbs of the cross, are the entrances to the building, which are formed of trefoil arches with buttressed sides and carved imposts, terminating in gablets. From either entrance a staircase leading to the galleries takes its rise, and is carried up under a separate roof; that at the north-west corner forming a junction with a tower which is placed at a short distance from the front. This tower terminates rather abruptly in a belfry composed of bold tracery, but it is intended ultimately to surmount it by a spire. To balance this tower the roof of the staircase on the opposite side is carried up and terminates in a square roof. The walls are composed of rough stone. The archivolts and tympanums of nearly all the windows are decorated with carved foliated designs, which have a tendency to relieve the massiveness of the walls. The church can accommodate about 1,100 sitters; and the cost will be about 3,000*l.*

Dumfries.—The promoters of the Scottish Free Church Territorial Mission in Dumfries some time ago resolved to erect a church in connexion therewith, and for that purpose purchased a site at Shakspeare-street. Plans have been prepared by Mr. Barbour, architect, estimates advertised for, and the building will be commenced immediately. The building will consist of a front of 63 feet in length to Shakspeare-street, formed of two twin gables in the Gothic style, with three buttresses, terminating with pinnacles. Above the entrance-door is a wheel window, 13 feet in diameter, divided into twelve compartments. A belfry rises from the gable on four trefoil pillars, and is surmounted by a spire terminating in a vane. The height of the belfry above the gable is 30 feet, the total height from the ground to the top of the spire being 75 feet. The other gable will form the north end of the church. In this gable there is a window in the Early English style, 22 feet in height and 13 feet wide. The front will be built of coursed and ganged work, the material being red freestone, and the dressing of polished freestone. The dimensions of the church internally are 58 feet by 38 feet. It will be seated for 450. Beneath the south end of the church there will be a school-room, 37 feet 8 inches by 29 feet 6 inches. The expense of the building when finished may be about 1,200*l.*

Glasgow.—Another stained-glass window has just been fitted in the south-west angle of the nave of the cathedral, thus completing the filling of the windows on that side of the nave. It is the gift of Sir Michael Shaw Stewart, bart., M.P. for Renfrewshire, and was manufactured at the royal manufactory, Munich, from designs by Mr. George Fortner, designer of the windows of Cologne Cathedral, and well known as a painter of Scriptural and religious subjects. The subjects of the window have been taken from the Book of Daniel. That in the left light represents Daniel interpreting the dream of Nebuchadnezzar, and bears the motto—"There is a God in Heaven that revealeth secrets." The centre shows Daniel expounding the writing on the wall to Belshazzar. The king is horror-struck, and the queen is seen standing behind him, looking at the prophet with an expression of awe on her countenance. The third compartment of the window represents Daniel, who has just been taken out of the den of lions, standing by the side of King Darius. An improvement has been made in the tracery at the top of this window, by introducing purple with the blue, which, combined with the yellow golden hues, has a better effect than the traceries of the other windows. There has just arrived a window for the crypt, by Messrs. Clayton & Bell. Six of the clerestory windows have been commissioned, and are now being manufactured according to designs.

Paisley.—The foundation stone of the new Grammar School, which is in course of erection in Oakshaw-street, has been laid. Mr. Brown, while filling the office of provost in 1859, being impressed with the importance of having the three town schools united in one academy, had a plan prepared by Mr. J. J. Lamb, architect, for the erection of an addition to the old Grammar School, in Churchhill, concentrating the different departments. The estimated amount necessary to accomplish the alterations was about 1,000*l.* Mr. Brown headed the subscription, and his appeal was so promptly responded to, that in a few days about 2,000*l.* were subscribed. Subsequently the original intention was changed to a proposal for the erection of an entirely new edifice for the three schools, the result being the purchase of ground on the south side of Oakshaw-street, extending from the old Grammar School and the commencement of the building now in progress of erection for the new academy, from plans designed by Mr. Lamb. The entire expense for the undertaking is expected to reach about 3,000*l.*, of which only about 600*l.* remain to be furnished. The building is now in such a forward state that the general arrangements can be understood, and its architectural character comprehended. The main entrance is in the centre of the northern or Oakshaw-street elevation, and after passing the vestibule up a flight of steps a central hall is reached, opening to the right into the room for classical education, 45 feet long by 21 feet wide, and on the left into the room for the junior English branches, of a similar size. In direct communication with this last room is a class-room for the senior English branches; and immediately to the south is the commercial-room, 33 feet long and 22 feet wide. There is also a good-sized room for teaching the modern languages, ladies' classes, &c., with a ladies' retiring-room attached. The several rooms have lofty ceilings, namely, 17 feet. The building is one story in height, and the style of architecture is Gothic, bold and massive in character. Effect is given to the front by the broken lines of the building, gables being projected out with corbelled oriel windows overhanging the line of wall, and the roof will be broken up in its long lines by dormer windows thrown up into the slopes. The following are the tradesmen with whom contracts have been gone into:—Mr. Wm. Bowes, mason; Messrs. J. Bryce & Son, joiners; Mr. C. Wallace, jun., slater; Mr. [illegible] Jeffrey, plumber; Mr. A. Mitchell, plasterer; Mr. T. Reid, smith. The resident inspector of works is Mr. M. Macfarlane.

Inverness.—The new Free Mission Chapel has been opened. The edifice stands on the west side of the river, and forms a prominent object from the Chain Bridge. It is in the Early English style. The entrance is in the centre of the gable fronting the street, with a lobby inside, and there is also a side entrance for the minister. The church is chiefly lighted from the roof. In the gable to the street, which is of dressed freestone, there is a three-light lancet window over the door, and a single-light one on each side, the whole being terminated by a bell-turret. In the west gable there is a wheel window, with cusped tracery filled with stained glass in the centre, and a single lancet on each side. The length of the interior is 60 feet, the breadth 40 feet, and the height 30 feet; and the building will contain about 400 sittings on the ground floor. There are no galleries. A platform is substituted in place of the pulpit. The walls are tinted, and all the woodwork varnished. The seats are moveable, and in the form of open benches. The church is lighted at night by three gaseliers suspended from the ceiling, and a few lights on the walls. The architect was Mr. James Matthews; and the contractors for mason's work, Messrs. Cumming & Ellis; for carpenter's work, the late Mr. A. Nobbs; slater's work, Mr. J. Russell; plasterer's work, Mr. A. M'Intosh; plumber and gasfitter's work, Mr. W. Mackay. The cost of the building, exclusive of the site, will be about 950*l.*

Manorhamilton (Connaught, co. Leitrim, Ireland).—The Right Hon. John Wynne is about to erect a glebe house at Ballaghamechan, near Manorhamilton. The works are to commence early in the spring, from plans made by the diocesan architect, Mr. J. F. Fuller.

ALL SAINTS' CHURCH, WINDSOR.

The twenty-third birth-day of the Prin[cess] Royal, on Saturday last, was celebrated at W[indsor], at her Majesty's desire, by the laying of [the] foundation stone of a new church, which [is] intended to afford accommodation to about [1,000] persons, and in which the whole of the seats [are] to be free and unappropriated. The Prin[cess] herself laid the stone. The total cost of the [church] will be about 4,000*l.* It will form a chapel[-of-]ease to the parish church, and will be dedicated to All Saints. It is situate in Frances-road, [on] the Lammas lands, and will be constructed in [the] Gothic style, of red and black bricks and dress[ings] of Bath stone. The nave will be about 82 feet [in] length, the chancel about 35 feet, and the [whole] will be 23 feet 6 inches. The total height will be 55 feet. Mr. Blomfield is the architect, [and] whom the works will be carried out by Mr. [Piper] of Windsor.

Some progress has been made with the erection of the outer walls have already risen to the height of about 5 feet. On the occasion, the whole of the area of the church was covered with a temporary awning; and, for the special accommodation of the Crown Princess of Prussia and other members of the Royal Family, the committee erected at the chancel end of the church a platform, covered, but open at the sides, for the erection, together with a private entrance for the accommodation of the royal visitors, was decorated with flowers, armorial devices, and other ornaments. The Castle and Etonian lodges of freemasons, with members of other lodges in the county, to the number of about 200, wearing the insignia of their several ranks and degrees of the mystic fraternity, took part in the ceremony.

HOUSES FOR THE POOR IN THE CITY.

COURT OF COMMON COUNCIL.

At a recent meeting, the first in the mayoralty, Deputy Fry, chairman of the Improvement Committee, called attention to a report of them on the reference to them relative to the Bridgebury Estate Surplus Fund, and the erection of improved lodging-houses for the labouring poor, and recommending the appropriation for the purpose of a portion of the ground in Victoria-road, and also the erection of dwellings thereon, the estimated cost of 20,000*l.* Alderman Wilson and Alderman Besley spoke strongly in favour of the adoption of the report on the ground of the necessity towards the poor, as did also Mr. [illegible]. On the other hand, Mr. Scamell expressed

ars that it was the better class of mechanics who ere now sought to be benefited rather than the bouring poor, who stood much more in need of mpathy with regard to domestic accommodaon. The report was agreed to.

AMBRIDGE ARCHITECTURAL SOCIETY.

We have received a letter from the secretary of his society in answer to "Fair Play;" but as it iterates the mention of his own works, and mits the omission of those of others (for the ason they were not thought of or not known), nd so leaves the matter just where it was, we nnot give space for more than the conclusion it:—

"I speak in the name of the committee; for though of urse I, as secretary, wrote the first draught of the re-rt, it was twice revised by the committee, and once by e president (the Rev. Dr. Corrie, Master of Jesus Col-ge), so that I must decline being held solely responsible r it.

The coolness with which your correspondent says he ould have '*desired*' the proposed course of lectures be on Classical architecture," is somewhat amusing. A cturer is generally allowed the privilege of choosing his wn subject; and in this case Gothic was chosen not only cause the first rule of the society says that the object all be to promote *ecclesiastical architecture*, but also cause, in spite of this, not long ago a course was given Classic work, which I fear 'Fair Play' did not at-nd."

WEDGWOOD MEMORIAL INSTITUTE COMPETITION.

The following is the award of the judges ap-inted to report upon the competition designs for the treatment and decoration of the façade the Wedgwood Institute, Burslem, in all or any nd of ceramic ware, coloured bricks, mosaics, d terra cotta, as structural features of an archi-ctural composition, with a view of creating a stematic interest in ceramic architecture, both nong artists and manufacturers."†

To the Committee of the Wedgwood Memorial Institute, Burslem.

ntlemen,—By your permission, and in order to save e, we have proceeded to examine the designs for the amic façade of the Wedgwood Memorial, in the inevi-le, but much-regretted absence from England on blic duties, of our colleague, Mr. Robinson. We serve, that although numerous copies of the particulars re applied for, only seventeen competitors have ulti-tely appeared. We are, however, by no means dis-raged at this fact. The form of architectural art, for ich the prizes were offered, in many respects presents f as a novel one to our generation; and it is more to interest of its successful cultivation hereafter that it uld at the outset be recognized as one which possesses le-ities which can only be mastered by mature study s satisfactory, that out of the designs sent in, there uld be contributions well deserving of the prizes which as our duty to allot.

ve assign the first prize to the design inscribed—

'What's done we partly may confute,
But know not what's resisted.'

e author of this design, more than any of the other petitors, appears to us to have comprehended that it was asked for was not simply a façade in some ognized form of architecture with ceramic ornamenta-superadded, but a study of architecture, which, while forming to acknowledged principles, should make the ous forms of pottery the basis, not only of its decora-, but of its constructive features.

his design presents a graceful and evenly-balanced tation, in a rather eclectic style, viz., quasi-Venetian, some Gothic elements added. The material is red k, which admits of terra-cotta capitals to the pilas-; and the accessories exhibit a good acquaintance h the various resources of ceramic art, as evinced by ckey elevation, and by the two sheets of large sized one of full-sized details which accompany the eleva-. These display some very graceful forms, well cal-ted for pottery.

e venture to suggest that the elevation would be im-ded if the windows of the ground-story were com-t into an arcaded treatment by the introduction on side of a blank panel which might be filled with a mic picture, where the circumstances will prohibits the pierc-n of any openings for light. In the design as sent in, space appears as part of the ordinary wall.

e assign the second prize to the composition bearing motto 'Sub Spe,' which is a masculine design, show-well-laid-out constructional treatment, though not isfactory a grasp of ceramic art as the one to which have assigned the first prize. The style of this eleva-, is also eclectic, but approaches more nearly to Italian ic than the first one. The author deserves credit for ay in which he has broken the uniformity of the e by projecting two quasi-wings, with a very good ght window in the ground floor of each, and two tiful single windows above: the cornice and attic are good. The portion of the design which is least suc-fully treated is the arcading for mosaic paintings in pper story of the centre. In particular, the figure edgwood, in the middle panel, as drawn, stands out dark spot from the whole composition.

assign the third prize to the author of the design ded 'Self Help,' which is also masculine in charac-nd in a style resembling 'Sub Spe,' though a little decidedly Gothic. It lacks the well-balanced treat-of centre and quasi-wings which the design marked Spe' gives, and its ornamentation is more spotty roken up. The introduction of subjects in the win-spandrels, incised in stone and filled up with lead or composition, however commendable in itself, is rather out of place in a competition intended to show the various resources of ceramic art; and the way in which the panels are cut off by a horizontal line just below the apex of the arch is very unartistic.

In assigning the fourth prize, we had a difficulty, as the author of the design, which was otherwise clearly entitled to it, had not complied with the condition which prescribed 3-8ths of an inch to a foot as the scale of the elevation generally. But as it stood out in marked superiority above the remaining designs, and as details to a large scale were copiously supplied, we judged it most equitable not to deprive the author of a reward which we might otherwise have declined to allot at all. It bears the motto 'Art est celare artem, non sine labore.' It is designed in a style founded on early French Gothic, and evinces considerable industry and careful study of Gothic detail; but it is hardly successful in its application of the principles of Gothic to ceramic material. It altogether wants repose, although its author has evidently taken great pains to make it really an example of ceramic architecture. More study has indeed been expended upon its elaboration than has been bestowed by the authors of either 'Sub Spe' or 'Self Help' in working out their views.

We avail ourselves of the permission to make additional honourable mentions, by giving credit to 'Heartsease" for a general idea of symmetry and consequent repose, which produces a not unpleasant effect, although his design is deficient in specially ceramic treatment, while the combination of cornice and window in the upper floor is decidedly inconvenient; and to 'In hope I bide,' for the industry with which the author deals with coloured materials, although his *ensemble* fails in general elegance and proportion. Some of his mosaics are prettily designed, but the ornament is generally rather facile than excellent. The cornice, plinth, and string-course of 'Monitor' are also prettily conceived: the remainder of the design is not so worthy of commendation.

A. J. B. BERESFORD HOPE.
M. DIGBY WYATT.

London, November 17th, 1863."

THE FIRST EXHIBITION OF PICTURES BY BRITISH ARTISTS.

In the opening address at the Society of Arts, already mentioned, Mr. Hawes said,—

You are no doubt aware that the first exhibition of pictures by British artists took place in the Society's house in 1760, and that from the assistance the Society afforded to artists at that time, sprung the annual exhibitions by the Royal Academy, which commenced in 1768.

I have before me three letters from Frank Hayman, Chairman of the Committee of English Artists, and subsequently a Royal Academician, to the then secretary of the Society, which I will read:—

"February 26th, 1760.

SIR,—The artists of this city, having resolved to raise a sum for purposes of charity by the annual exhibition of their works, entreat the Society to allow them the use of their room from the 21st of April to the 3rd of May. This favour they consider as very important. The publick concurrence of the Society will give to a new practice that countenance which novelty must always need, and the Arts will gain a dignity from the protection of those whom the world has already learned to respect.—I am, sir, your most humble servant,

F. HAYMAN, Chairman of the Committee.

To the Secretary of the Society for the Encouragement of Arts, &c."

"St. Martin's lane, 13th May, 1760.

SIR,—You are requested by the artists whose works appeared in the late exhibition, to return their sincerest thanks to the Society for the use of their room and the honour of their patronage.

Whatever improvement the arts of elegance shall receive from the honourable emulation which publick notice may excite, will be justly ascribed to those by whose example the publick has been influenced.—I am, sir, your very humble servant,

F. HAYMAN, Chairman of the Committee.

To Dr. Templeman, Secretary to the Society for Promoting Arts, &c."

"St. Martin's-lane, 9th December, 1760.

SIR,—The favour conferred last year on the artists by the Society has encouraged them to solicit the use of their room for a second exhibition.

This request may be now granted with less inconvenience to the Society, as the exhibition will be deferred to the beginning of June, a month in which the meetings of the Society are more rare than in the winter, the artists being desirous that the pictures drawn for the prize should be removed, lest any man should a second time suffer the disgrace of having lost that which he never sought.

The exhibition of last year was crowded and incommoded by the intrusion of great numbers, whose stations and education made them no proper judges of statuary or painting, and who were made idle and tumultuous by the opportunity of a show. It is now, therefore, intended that the catalogues shall be sold for a shilling each, and none allowed to enter without a catalogue, which may serve as a ticket of admission.

These regulations, which have been very deliberately formed, will be doubtless thought expedient and useful, and the artists flatter themselves that the improvement of national taste which will be promoted by comparing the works of the different performers, is not unworthy the care of the Society.—I am, sir, your most humble servant,

F. HAYMAN, Chairman of the Committee.

To Dr. Templeman, Secretary to the Society for the Encouragement of Arts, Manufactures, &c."

In the Society's house, also, was held the first exhibition of new inventions, about a century ago, and the models exhibited were illustrated by lectures and by *viva voce* explanations.

THE BUILDERS' BENEVOLENT INSTITUTION.

A GENERAL meeting of the friends and subscribers to the above institution was held at the London Tavern, Bishopsgate-street, on the 26th instant, for the purpose of electing three pensioners, two males and one female, from a list of nine candidates, as recipients of the above charity. Mr. Alderman Jas. C. Lawrence occupied the chair. The male's pension is 24*l.*, and the female's 20*l.* per annum.

The Chairman, in opening the proceedings, said that they were then met in the sixteenth anniversary of the institution, and the twenty-second election for the purpose of placing three pensioners on the funds. He was sure, in expressing his regret that they were only enabled to elect so few out of so many candidates, that he was also expressing the regret of the friends and subscribers by whom he was surrounded. They, however, earnestly hoped that, as the principles and beneficial results of the institution became known, they would obtain a great accession to the number of subscribers, so that they might ultimately have sufficient funds at their disposal to meet the exigencies of so many candidates, the most of whom, if not all, were deserving of the benefits of the institution.

The poll was then declared open, and, at its close, William Standfast (builder and carpenter), and William Goodwin (plumber and glazier), both of whom had been in business many years, but became reduced through losses and frequent illness, were announced as the successful candidates. The highest female on the list was the widow of a bricklayer.

FALL OF A HOUSE IN ISLINGTON.

ON Thursday morning last, a few minutes before twelve o'clock, the Three Wheatsheaves public-house, in process of erection by Mr. Chapman, builder, under the direction of the brewer's architect, Mr. Williams, fell in with a terrible crash, burying a number of men in the ruins, and killing, we regret to say, two, if not more.

The building adjoins the entrance to the Agricultural Hall, Upper-street, Islington, and was being hurried on, in order that a portion might be ready by December 7th, the opening day of the Smithfield Cattle Show. It was partly roofed in; for the works were continued during the night, as well as the day, and, probably in consequence of the wet weather, the lower part had not sufficiently set to support the weight above.

ARCHITECTURAL ILLUSTRATION.

NOT a little have I been gratified by Professor Donaldson's able and interesting, and, I may add, instructive opening address; but, when speaking of illustrated publications, he omitted to make mention of what has been done of late years by wood-engraving applied to architectural delineation, and which has certainly helped in no small degree, if not exactly to popularize, the study of architecture, to lead to and facilitate the acquisition of a taste for it. No more than proper is it that there should be costly elephantine folios provided for those who can afford not only to purchase them, but find house-room or shelf-room for them afterwards. But when a single volume is brought out in the lump at the advertised price of forty guineas, as was Murphy's "Arabian Antiquities," it is unnecessary to remark that such price operates as a prohibition to all but the wealthy, among whom architectural students are not to be reckoned. Even such price is quite modest and moderate in comparison with the almost fabulous cost of some works. In one of Quaritch's catalogues I have met with a French work which was stated to have been originally published at the price of 1,400*l.* sterling!—a price not for the million most assuredly, but altogether exclusively for millionaires. However, what I have just been saying is to be regarded as a digression and *hors-d'œuvre*. Returning from my divergent *excursus*, I give it at the risk of being contradicted, as my opinion that if not only a taste for, but some intelligence of, architecture is to be diffused—as surely very desirable—among the general public, it must be by providing for the many a moderate-sized and moderate-priced class of publications,—books that may be housed on the shelves of a parlour bookcase; and, what is not least of all to be considered, can be held in the hand without fatigue; therefore, may so far be called *manuals*. A beginning has at last been made in that direc-

nis is not what "Fair Play" says.
e are indebted to the editor of the *Staffordshire iser* for an early copy.

tion. Parker's "Glossary," and Fergusson's "Handbook," have shown what can be accomplished on, so to say, a miniature scale; and they have both done much to initiate the profane, the outsiders, into the Eleusinian mysteries of architectural study. Yet what has been done by them might be improved upon, for the "Glossary" gives only details and separate features, and the "Handbook" only general views, more pictorial than architectural,—certainly quite insufficient for more than very partial, inadequate, and therefore rather tantalizing information.

Views of buildings are decidedly more popular than elevations, and have at least this advantage that they convey an idea of their locality and immediate surroundings, which, though a matter of no small importance, is completely kept out of sight when nothing more than an insulated elevation, quite apart from any other objects, is shown. Without having what the Germans call a "situations plan," a very erroneous idea may be formed of the actual position and locality of an edifice from its own ground-plan and elevations alone. Take, for instance, our cathedrals: some of them are quite hedged in and almost choked up by adjoining buildings; and however unfavourable that circumstance may be, it is what ought to be fairly shown.

Of one species of illustration there is more frequently than not a sad dearth, namely, of *letter-press* description. Sometimes there is not even a single line of explanatory text, however requisite it may be. It is little less than nonsense to say that the designs speak for themselves: without an interpreter they do not speak perfectly intelligibly to every one. From drawings, even architects can understand only just as much as they happen to know, which may perhaps be comparatively almost nothing; for it is only piecemeal that a building, or design for one, can be explained. A picture is whole; is, so to say, a self-contained subject: quite different is it with a production of art architectural, which, supposing it to be worthy of being so fully exposed for admiration, must be exhibited in a series of separate drawings, from which the total has to be spelt.

AN ART LOVER.

WORNUM'S WALPOLE'S ANECDOTES.

SIR,—I am sorry to have to trouble you again about such a mere trifle. I have only just seen your number of the 7th instant, in which Mr. Cunningham claims to have furnished me with the substance of my note on the birth of Grinling Gibbons, and complains that I did not acknowledge the obligation. He is quite mistaken in what he says. I never saw anything about Grinling Gibbons in the *Illustrated London News*, a paper I very seldom see; and I have forgotten nothing.

The facts are these: Many years ago—almost twenty—I read in the *Daily News* a paragraph stating that the sculptor in question was a Dutchman. I immediately wrote to the editor of that paper, and asked him to oblige me with the *authority* for the statement. I received in reply a short *anonymous* note, giving me the information I required, and I believe I thanked the editor for his courtesy. If he had signed the note, I should certainly have referred to him. The insinuation, therefore, with which Mr. Cunningham closes this Walpole "old Elderberry" matter is altogether without justification.

National Gallery. R. N. WORNUM.

THE EXHIBITION BUILDING.

SIR,—It will be in recollection that on the debate last session as to the purchase of this building for the nation, the Chancellor of the Exchequer suggested as a reason for the purchase, that an indefinite time might be taken by the contractors for its removal; whereupon the contractors wrote a letter to the *Times*, stating that they should proceed to take down the building on the then next Monday morning. Every one admired the fairness and public spirit of the contractors.

Having been away from Town from that time to the present, I feel considerably surprised and disappointed to find that nothing in the way of removing the building has yet been effected beyond taking the glass out of the domes.

I do not suppose that men of the respectability and position of the contractors would do otherwise than as they held out to the public: nevertheless, there the building stands.

I would beg to remind them that the removal of so large a structure will necessarily be attended with inconvenience to the immediate neighbourhood; but that inconvenience will be very much aggravated if it be deferred till the London season, when everybody will be flocking to the Horticultural Gardens and to the South Kensington Museum. Besides, it is of great importance that the site should be cleared by next session, in order that we may decide how to utilize it.

I trust that this notice of the matter in your columns may elicit a satisfactory explanation from the contractors.

S. K.

ARCHITECTS' ACTIONS.

Gosling v. *Steers and Others.*—This was an action in the Court of Exchequer, before Mr. Baron Martin, brought by an architect against four maiden ladies carrying on business as ironmongers in Oxford-street, to recover the sum of 49*l.* as commission for preparing plans for building a house. The defendants pleaded never indebted.

Mr. Huddlestone and Mr. Griffiths appeared for the plaintiff, and Mr. H. T. Cole for the defendants.

It appeared that the ladies were desirous of building a house at Red-hill, and called upon the plaintiff to consult him upon the subject. He accordingly drew up plans and specifications, which were approved by the defendants. The usual notice having been given, several tenders from builders were sent in for erecting the building, the lowest being 997*l.* Upon being informed of the amount of the lowest tender, the defendants had refused to have anything more to do with the matter.

The defence was, that the ladies had distinctly and repeatedly impressed upon the plaintiff that, if the execution of the plans amounted to more than 600*l.*, the latter would be perfectly useless to them; and he had replied that if the tenders exceeded that sum he should not charge them anything, as the plans were only drawn out upon approval.

Witnesses having been called on both sides,

The jury retired, and on returning were discharged without agreeing to a verdict. The evidence leads us to think that the architect has not been well treated.

"RATEABLE VALUE."

IN the Court of Queen's Bench, Westminster, on November 11, the case of the London and North-Western Railway Company *v.* The Parish of Cannock, Staffordshire, raised one of the numerous questions arising as to the rating of railways, and a question of constant recurrence and of some importance. The Cannock line is worked at a local loss, it is alleged, and only with reference to the general interests of the company and the traffic on their main line. As they cannot no net profits in the parish, they contended that they were only rateable at the *minimum* rate of 40*s.* an acre as arable land; whereas the parish officers insisted on rating them at the amount of 325*l.* a year, as the net annual rateable value of the part of the line in the parish. The question was whether this rate was good and valid.

The Lord Chief Justice was of opinion that in every case, every part of a line was in fact "a feeder" to all the rest of the line, as it brought traffic on it to every other part.

Mr. Justice Blackburn remarked that if the Cannock line were really worked at a loss, it would not be worked at all.

Mr. Justice Wightman put the case of a man taking a piece of land from year to year, not at all for the purpose of profit, but because it was convenient to his occupation of contiguous land. Would he not be rateable for it? and, if so, would not the rent be paid for it be the rateable value?

The Lord Chief Justice said there might be a beneficial occupation irrespective of profit, and not to be ascertained either by profit or by the rent; but that only showed that those modes could not be resorted to of estimating the annual value, and that other modes must be resorted to. All that the Court could say was, that they thought that the Cannock line must be of some annual value to the company, and that must be ascertained in the best way it could be; but they could not decide that there was no rateable annual value.

Judgment for the parish.

Miscellanea.

CROYDON SURVEYORSHIP.—Mr. B. Latham, C.E., of Ely, has been appointed engineer and surveyor to the Croydon Local Board of Health.

INSTITUTION OF CIVIL ENGINEERS.—On the 10th instant, Mr. Hawkshaw, president, in the chair, the paper read was "Description of Lighthouses lately erected in the Red Sea," by Mr. W. Parkes. On the 17th inst., Mr. J. R. McClean, vice-president, in the chair, the paper read was on the "Duty of the Cornish Pumping Engines," by Mr. W. Morshead, junior.

THE ENGLISH CHURCH AT BADEN-BADEN.—An effort is being made to place the English church at this much-frequented Continental town on a better footing. Services have been held in the summer in the Hospital Church, which is also used by the Roman Catholics and German Protestants. In the winter, the dining-room of the Hôtel d'Angleterre is the only available place. It is proposed, says *Galignani*, to build a suitable church, at a cost of 2,000*l.* The site is granted by the town. Nearly 1,000*l.* have been subscribed, and a loan of 500*l.* is offered by the Society for the Propagation of the Gospel. The movement has received the sanction and encouragement of the Bishop of London.

NEW WATER-WORKS.—It is intended to apply to Parliament, in the next Session, for a bill to authorise the incorporation of a company for the construction of Water-works from Marham, in Norfolk, to the town of Wisbech, for sanitary and other purposes in the borough.——A Parliamentary notice has been issued by the Yarm Water Company, who wish to take powers to supply with water Haughton, Haughton-le-Skerne, Dinsdale, Morton Palms, Sadberge, Middleton-St.-George, Long Newton, Elton, Egglescliffe, Preston, East Hartburn, Coopen Bewley, and Billingham, in the county of Durham; and Stainton, Acklam, Linthorpe, Marton, Ormesby, Normanby, Eston, Lackenby, Lazenby, Wilton, Coatham, West Coatham, East Coatham, and Kirkleatham, all in the North Riding of Yorkshire. The proposed extension of powers is likely, it is said, to encounter opposition, both from the towns and local railway and other companies.——A new reservoir is to be constructed at Tonbridge.

THE IRISH MEMORIAL TO THE LATE PRINCE CONSORT.—A meeting of the Prince Albert Memorial Committee was recently held, at which it was announced that Mr. Foley, R.A., had undertaken, at the request of that body, the design and execution of the memorial in Dublin.

GLASGOW ARCHITECTURAL SOCIETY.—The first meeting in the new rooms of this society, 188, Bath-street, was held on the 16th instant, Mr. Wm. Clarke, president, in the chair; when a paper was read by Mr. Thomas McGuffie, on "Inspectors: their Qualifications, Duties, and Responsibilities;" which was followed by a discussion.

SOCIAL SCIENCE ASSOCIATION.—At a meeting of this Association, held on Thursday, the Hon. W. Cowper, M.P., in the chair, it was resolved, on the motion of Mr. G. W. Hastings, seconded by Mr. Godwin, F.R.S., that the next congress of the Association should be held in the city of York. Mr. Cowan, Mr. Gregson, M.P., Mr. Tite, M.P., the Rev. R. Burgess, and others, took part in the discussion. A deputation from York had previously represented the views of the city.

NAVAL ARCHITECTURE. — Everything is becoming unsettled in this science, it appears. We lately noticed a proposed return to something like the Indian canoe shape for ships, and now we observe a tendency to adopt the enormous Malay or other Eastern outriggers, as a great deal of scientific speculation is going on about the possible speed which may be attained by ships with immensely long iron cross spars, allowing a vast spread of canvas, which can be folded in a trice from the deck with a very small steam-engine working the necessary apparatus. It is hoped to get a consecutive twenty miles an hour out of sailing vessels this way, and commence a new era in nautical matters.

WHAT IS A PAVED ROAD?—Farringdon-road and the side streets near the Metropolitan Railway Terminus, which form part of the Clerkenwell improvements, are much complained of, the roads in wet weather being almost impassable from the quantity of mud and the number of holes; and this state of things arises from the differences as to what constitutes a "paved" road. The corporation of the city of London, who are the improvement commissioners, have several times called upon the Vestry of Clerkenwell and the Holborn Board of Works to take to the roads in question, but this they refuse to do until, in the words of the Act, they are well and sufficiently "paved," contending that a "macadamized" road not a "paved" road.—*City Press.*

THE HAYMARKET THEATRE. — Mrs. Charles Mathews astonished many who had known her only in violent farce, by the power she exhibited as Medea, in "The Golden Fleece;" and this astonishment has been increased by this lady's performance of the Countess of Windermere, in the new comedy, "Silken Fetters," altered from "Scribe." This may truly be called her first real season in London, and she will be better appreciated henceforth. The initial difficulty in the plot for an English audience has been got over well as it could be, and the piece interests. Mr. Mathews has an amusing part, Caleb Codicil, a well-intentioned Marplot, and plays it *more* to perfection. Mr. W. Farren, in a difficult portion, has the opportunity to exhibit more feeling and power of pathos than is usually afforded him, and takes very good advantage of it.

PRESENTATION FROM WORKMEN.—Last week the inhabitants of Chaddesley Corbet gave a dinner to the men employed by Mr. Lovatt, the contractor, on the restoration of the parish church, and the men made it an opportunity to testify their respect to one of the churchwardens, Mr. James Bate, a gentleman who has been very instrumental in the work. Unknown to him they had set themselves to work, and manufactured a stone flower-vase, and chose this occasion for its presentation to Mr. Bate, at his own house, together with an address, of which the following is a copy:—"Dear Sir,—We, the undersigned masons of Chaddesley Corbet, for the courteous manner in which you have acted towards us as our employer, also for the favours you have granted to him and us when in your power, and for the high respect we have for you, beg to present you with the accompanying vase, and sincerely wish that you may long live to see a flourish within it." The stone was taken out of the quarry at the "Farm-fold," and the vase designed by H. Charlton, foreman, and executed by the undersigned—Joseph Gay, W. Harris, W. Baldwin, Frank Hayes, H. Chalton, and J. Broad.

BOLTON IMPROVEMENTS.—Application is to be made to Parliament in the forthcoming session, for power to extend the waterworks, and acquire additional sources of supply, make reservoirs and aqueducts, &c.; and also to form a public park, and to erect a townhall, with approaches, &c.

THE MAHOGANY TRADE.—Mahogany is down in England as well as in the United States, so that it will not pay to cut it. Our cuttings in this colony for the next year will not be more than one-third of the usual quantity, and the same may be said in regard to logwood; so the chances for trade for the year 1864 in this colony are very slim.—*Honduras Paper.*

NEW ZEALAND INDUSTRIAL EXHIBITION.—It is stated that the proposed Industrial Exhibition for New Zealand, to be held in 1865, is receiving the general support of the colony, and there is a probability of it being a great success. It is intended to be held in Dunedin, in January, 1865, and the Government of the province have come forward liberally towards the cost of the building. Great inducements will be held out to English machinists and manufacturers to contribute.

THE COTTAGES AT SANDRINGHAM.—An outcry is properly being made at the present time with reference to the awful state of the cottage houses in Norfolk. The cottages on the newly-acquired estate of the Prince of Wales, at Sandringham, are in a very bad condition, and utterly inadequate to the wants of the families. It is gratifying to be able to state, that his Royal Highness has evinced a disposition to remedy this state of things. Orders have been given for immediate repairs to be made, and it is expected that this will speedily inaugurate a better state of things for his cottagers.

NEW LIGHTHOUSE AT ARRANMORE, IN IRELAND. During many years past, the north-west coast of Donegal has been the scene of lamentable losses both of life and property. This has been caused, to a great extent, by the lighthouse on the Island of Arranmore being abandoned. A new lighthouse has just been completed there, at an expense of close upon 10,000*l.* The structure is of granite. Messrs. W. Crowe & Sons, of Dublin, were the contractors. The lamp about to be erected is the first that has been constructed by an Irish establishment, Messrs. Edmonson & Co., of Dublin. The new light is to be a flash-revolving one of the first class.

MUSEUM OF OLD CLOTHES IN THE HARTLEY INSTITUTE, SOUTHAMPTON.—One room in the Hartley Institute, at Southampton, is set apart for the preservation of the wardrobe and furniture of the mother of Mr. Hartley, the founder of the Institute, in accordance with the eccentric will of that gentleman. In this room may be seen bonnets, dresses, shoes, tapestry, fans, drawers, china, chairs, &c., of a wealthy merchant's wife of the last century. The bonnets are of the Sarey Gamp style, the shoes of satin, with small wooden heels, and displaying the neatness and elaborate workmanship which were lavished by the sons of St. Crispin on such feet coverings. The fans are large and clumsy, and one has the Lord's Prayer printed on it.

THE PROPOSED CAVALRY BARRACKS IN CHELSEA.—A deputation from the Chelsea vestry has waited upon Earl de Grey & Ripon, the Secretary of State for War, to express their opposition to the proposal on the part of the Government to erect cavalry barracks at Quail's Field, on the west side of Sloane-street, south of the Brompton-road. Among the deputation were Viscount Chelsea and Mr. Tite, M.P. The deputation urged that the parish of Chelsea had already an undue proportion of this class of buildings, and that the result would be that the whole character of the neighbourhood must greatly suffer. They stated that "the vestry think a more desirable locality for the proposed barracks would be found on the Surrey side of the Chelsea Suspension Bridge. This site would combine in a remarkable degree all the desiderata of such a building, viz., close proximity to the Queen's Palace, to a railway communicating with all parts of the kingdom, and to a fine park and unfrequented roads for horse exercise." Earl de Grey in his reply said that, on the whole, the site in question was the best that could be found. He would, however, give the objections raised his best consideration. In reply to a suggestion from the Rev. R. Burgess that a suitable barrack might be erected on the opposite side of the river, his lordship said the fact that the barrack would in that case be separated from the Royal Palaces, the Houses of Parliament, and other public buildings, was a fatal military objection to any scheme of that kind.

THE PORTSMOUTH SURVEYORSHIP. — The borough council, as the local Board, under the newly adopted local Government Act, have elected Mr. Angell as their surveyor.

THE VOTIVE CHURCH, VIENNA.—We hear that the Vice-King of Egypt has made the Votiv-Kirche in Vienna a present of twenty-three blocks of Oriental alabaster, taken from the alabaster quarries in Upper Egypt, towards the erection of an altar. The Sheikh of Eden, Joseph Karam, has contributed twenty-two cedars for the same purpose.

A PROMENADE PIER FOR EASTBOURNE.—Application is to be made to the Board of Trade by the promoters of the Eastbourne Pier Company (limited), to make a provisional order for powers to construct a promenade pier and landing-place, approaches, &c. The pier will commence at a point on the Esplanade opposite Devonshire-place, and extend seaward in a south-easterly direction 1,000 feet or thereabouts.

A NEW BRIDGE OVER THE THAMES.—Notices have been issued, that it is intended in the next session of Parliament to apply for an Act for a new bridge to cross the Thames between the Chelsea Railway Bridge and Fulham. It will be constructed for the transit of carriages, as well as foot-passengers, and will form a communication between Wandsworth and Fulham, from the York-road, on the Surrey side, to Britannia-road, in the Fulham-road, on the Middlesex side. It is intended to form several new roads in conjunction with the bridge.

METROPOLITAN ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.—At a meeting of the members of this society, held on Saturday evening, Dr. Thompson in the chair, discussions were raised upon the subject of Dr. Sylvester's method of restoring the apparently drowned, the prevalence of typhus fever in the metropolis, the new American system of gymnastics, and the effect of artificial respiration. Reports were brought up recommending increased hospital accommodation, and a better supply of water in certain localities; and a resolution was passed expressing an opinion that the existing Nuisance Removal Act was defective.

THE ACADEMY OF THE FINE ARTS, PARIS.—The Académie des Beaux Arts, on Saturday last, proceeded to the election of a foreign corresponding member, in the room of the late Mr. Cockerell. The candidates presented by the committee were Mr. Donaldson, architect, of London; M. Geefs, statuary, of Brussels; Mr. John Pye, engraver, of London; M. Verdi, composer, of Busetto; and M. Stuler, architect, of Berlin. The Academy added the names of M. Gallait, painter, of Brussels; M. Navez, another painter, of the same city; and Baron Marochetti, sculptor, of London. Mr. Donaldson received 18 out of 35 votes, and thus obtained the absolute majority. M. Verdi and M. Navez had 5 votes each; M. Gallait, 4; and Messrs. Geefs, Pye, and Marochetti, 1 each.

TENDERS.

For the erection of villa, for Mr. J. C. Abbott, at Moseley. Mr. F. D. Johnson, architect, Birmingham. Quantities supplied by Mr. John DAVIS:—

Branson & Murray	£1,070 0 0
Bennett	1,321 0 0
Partridge	1,020 0 0
Jones	1,017 0 0
Nadin & Son	936 0 0
Horsley, Brothers	909 0 0
W. & B. N. Smith (accepted)	890 0 0

For the erection of British schools at Rhyl, North Wales. Mr. F. D. Johnson, architect. No quantities:—

Clark & Son	£1,120 0 0
Cherler & Co.	1,075 0 0
Debney & Co.	925 0 0
Wilhams	880 0 0
Morris	815 0 0
Jones	743 0 0
Ramsay	740 0 0

For alterations and additions at 7, Chapel-street, Tottenham court-road, for Mr. G. Nodes. Mr. Burden, architect

Simmonds	£450 0 0
Baugh & Bryant	348 0 0
Scrivener & White	329 0 0
Collins (accepted)	338 0 0

For the erection of a house and shop in the Bank-street, Aldershott, for Mr. S. Rubinstein. Messrs. Eggar Stapley, architects:—

Goddard & Son	£960 0 0
Martin	848 0 0
Birch	839 0 0
Duke	822 0 0

For works in repairs and alterations at No. 38, Upper Grosvenor-street, Grosvenor-square. Messrs. Wimperis & Freeman, architects:—

Duncanson & Moultrie	£1,784 0 0
Pritchard	1,481 0 0
Fish (accepted)	1,202 0 0

For rebuilding Crown Office-row, for the Hon. Society of the Inner Temple. Mr. Sydney Smirke, architect:—

Lee & Son	£18,000 0 0
Arding	17,323 0 0
Conder	17,296 0 0
Lucas, Brothers	16,649 0 0
Smith, Son, & Taylor	16,590 0 0
Cubitt & Co.	16,550 0 0
Foster	16,427 0 0

For a new house at Wivelsfield, Sussex, for Mr. Sturt Gosling. Bricks, tiles, and glass supplied:—

Fuller	£997 0 0
Norman	892 0 0
Anscombe (accepted)	887 10 0

For three houses at King-land, for Mr. T. Clarke. Mr. W. Paice, architect. Quantities supplied by Messrs. Oliver & Paice:—

Walters & Santey	£2,000 0 0
Jones, Brothers	1,930 0 0
Dudley	1,900 0 0
Kirk	1,867 0 0
Sharpington & Cole	1,833 0 0
Roland	1,825 0 0
Holmes	1,750 0 0
Ring	1,700 0 0
Glenn, Brothers	1,628 0 6
Seaby	1,584 12 6

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An Old Subscriber.—It is beyond our province to pre-examine builders' bills for them. Our time is too fully occupied.—A. F. J. K. Cautions.—A. M.—F. G. A.—E. B. (thanks).—P. R. M.—W. S.—Mr. G—W. N.—P. E. M. (shall appear).—W. P. (ditto).—"Wanted, an Architect" (three architects profess themselves willing to settle in Stockton, and ask for their letters to be forwarded to our correspondent. We cannot, however, interfere further).—C. L. M. (if the charcoal be pure, and the brazier be lighted some little time before plastering; it runs into the room, no harm will be done).—T. W. C.—Rat-proof.—J. R.—H. N. H.—F. W. (no design was mentioned by us but those that were exhibited).—We did not see our correspondent's design in time.—H. L. E. J. M. W. A. S.—P. S. P. T.—Mr. B. J. G. B. A. B. (next week).—B. E. W. (tenants at will have recovered damages).

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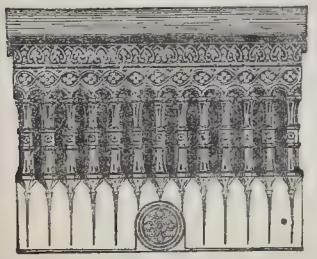
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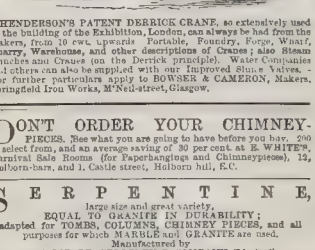
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WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.
OFFICES,—1, VICTORIA STREET, NEAR WESTMINSTER PALACE, LONDON, S.W.

HONDURAS WHARF AND FALCON WHARF,
74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.
JOHN NEWTON & CO.
STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

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material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by
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NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.
ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

NEW LIME, CEMENT, AND PLASTER WHARF AT ISLINGTON.
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BELMONT LIME WHARF,
YORK ROAD (ON THE CANAL BRIDGE), KING'S CROSS, N.
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Bricks, Sand, Drainpipe Tiles, Slates, Fire Goods, Hair, Laths, Plain and Ornamental Ridging, 6-in. Quarries (red, blue, and buff Terra cotta Pots, Garden Edgings, &c. &c. &c. Goods landed, wharfed, and carted.
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W. C. H. respectfully requests a trial of the Plaster and Keene's Cement.

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DEVONSHIRE WHARF, CAMDEN TOWN, N.W.
PATENT INDURATING SOLUTIONS,
For the Preservation of Stone, Cement, &c.;
PATENT SILICEOUS PAINT, FOR COATING BRICKS, CEMENT, &c.
FIRE-PROOF VARNISH,
For Internal Wood Work, Roofs, and Church Work generally. This Varnish renders Wood Uninflammable, and Preserves it from Decay.

THE FLUO-SILICIC STONE-PRESERVING COMPANY, LIMITED.
39, CHARING CROSS, S.W. & 12, COPTHALL COURT, THROGMORTON STREET, E.C.
PATENT FLUO-SILICIC INDURATIONS for the PRESERVATION of STONE, CEMENT, and other like materials. The Company apply to the surface of Stone, Cement, &c. a solution of Fluo-Silicic Acid, and Silicate of Potash. These are the only patents which embrace the use of that most valuable agent, Fluo-Silicic Acid. Bath, Caen, and other soft stones, when treated by the Company's solution, become extremely hard. The great expense of high ornament to buildings in hard stone has been an obstruction to Art; but since the Fluo-Silicic process can be applied as readily to soft stone after it is carved that obstruction exists no longer. The Fluo-Silicic stone permanently arrests the decay of all stone.—For further information apply to the Manager of the Company, Mr DUDLEY, Architect, as above.

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By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.
ADULTERATIONS.—Some Paint Grinders have been using Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whilst we hold to the use of "Hubbuck's Pure Zinc Paint," of the number Two or Three qualities, a workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS. Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT"
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EDWIN HOLLICK,
Manufacturer of PORTLAND CEMENT of the best quality only, for the English and Foreign Markets.
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Every Article manufactured at their own Works and Mines, Brierley Hill.
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CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
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PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard sculptural imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

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SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
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2½-inch Yellow Battens	10l. 8s. per 120 of 12 feet.
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3 by 9 Yellow Deals	16l. 10s. ,,
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100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
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Three-quarter inch Flooring (well prepared) 11s. 6d. per square.			Laths, 29s. per Load.	
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Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

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A General Assortment of WOOD GOODS, comprising DRY YELLOW, SEASONED PINE, &c., with the usual thickness of prepared Floor Boards, and Matched Linings.

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PRICES TO SUIT ALL BUYERS



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At Prices as Low as any House in the Trade.
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Good 2½ Mid-sawn White Battens . . . . from £8	0 per 120 of 12 feet	
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Good 3 by 8 Mid-sawn Yellow Deals	13 0	,,
Good 3 by 9 Yellow Deals	15 10	,,
Good 3 by 8 Mid-sawn Yellow Deals	13 10	,,
Good 3 by 9 White Deals	15 0	,,
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30,500 feet in Plank and Board, sawn three years.
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Manufacturers to Her Majesty's Board of Ordnance, and a the principal Railways in the Kingdom,
Coach and Cart Wheels, Waggons, Spring Vans and Waggon Builders' Ironmongers, Contractors, &c.
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From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
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Branch Establishments:—
PARIS, 42, RUE NOTRE DAME DES VICTOIRES;
BRUSSELS, RUE DE L'ECUYER
AMSTERDAM, BINNEN AMSTEL;
SYDNEY, 51, HUNTER STREET.

HEAD OFFICE, CATE STREET, LINCOLN'S INN FIELDS, LONDON.
WORKS, GEORGE YARD, QUEEN STREET.

THOMAS MILLINGTON,
GLASS MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.
Reduced Tariff for Sheet Glass.

The Agricultural Hall, Islington, containing an Acre of Glass, was supplied by me. Mr. Rivers, and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured me with orders for home use and for exportation.

SHEET GLASS.
In Cases for cutting up, in Sizes as Manufactured.

	300 feet. 15 oz.	200 feet. 21 oz.	26 oz.	32 oz.
Fourths quality	33s. 6d.	33s. 6d.	39s. 6d.	45s. 6d.
Thirds do.	42s. 0d.	42s. 6d.	49s. 0d.	55s. 0d.
Seconds do.	62s. 0d.	64s. 0d.	74s. 6d.	85s. 6d.
Best do.	88s. 6d.	88s. 6d.	103s. 6d.	118s. 6d.

CRYSTAL SHEET GLASS.
For Pictures and best glazing purposes.
Averaging 16 oz. to the foot.

Best quality, in cases of 200 feet	100s.
Second quality, in cases of 100 feet	82s.
Averaging 30 oz. to the foot.	
Best quality, in cases of 100 feet	100s.
Second quality, in cases of 100 feet	82s.

SQUARES, IN 100 AND 200 FEET BOXES.

Small Squares not exceeding 9½ inches by 7½ inches.

Ins. Ins.	Ins. Ins.	Ins. Ins.	Ins. Ins.	Per 100 feet. 4ths.	3rds.	2nds	Best.
6 by 4	7 by 5	8 by 6	9 by 7	9s. 9d.	11s. 3d.	13s. 9d.	16s. 9d.
6½ by 4½	7½ by 5½	8½ by 6½	9½ by 7½				

Squares not exceeding 14 inches by 11 inches.

				Per 100 feet. 4ths.	3ds.	2nds.	Best.
10 by 8	12 by 9	12½ by 10½	14½ by 10½	10s. 9d.	12s. 3d.	15s.	18s.
10½ by 8½	12½ by 9½	13 by 10	15 by 10				
11 by 9	13 by 9	13½ by 10½	13 by 11				
11½ by 9½	12 by 10	14 by 10	14 by 11				

Squares not exceeding 20 inches by 18 inches.

				Per 100 feet. 4ths.	3rds.	2nds.	Best.
15½ by 10½	14 by 12	17 by 13	21 by 16	11s. 6d.	13s. 6d.	16s. 6d.	20s.
16 by 10	14½ by 12½	18 by 13	20 by 17				
14½ by 11½	15 by 12	18 by 14	22 by 17				
16 by 11	15½ by 13½	22 by 14	24 by 17				
15½ by 11½	16 by 12	24 by 14	20 by 18				
16 by 11	16½ by 12½	22 by 15	22 by 18				
13 by 12	17 by 12	24 by 15	24 by 18				
13½ by 12½	18 by 12	22 by 16					

Orchard-house Sizes, as recommended by Mr. Rivers.

Ins. Ins.	15 oz.		21 oz.	
20 by 12	4ths	11s. 6d.	4ths	15s. 0d.
20 by 13	3rds	13s. 6d.	3rds	19s. 0d.
20 by 14	2nds	16s. 6d.	2nds	28s. 0d.
20 by 15	Best	20s. 0d.	Best	30s. 0d.
20 by 16				

Per 100 feet.

Squares Cut to Sizes not on List.

	15 oz. 4ths	3rds	2nds	1st	21 oz. 4ths	3rds	2nds	1st
Under 1 foot super	1½	1½	2	2½	2½	2¾	3¼	4½
Under 2 feet super	1¾	2	2½	3	2¾	3	4	5½
Under 3 feet super	1	2½	2¾	3¼	3	3½	4½	6
Under 3 feet super	2¼	2½	3	4	3½	3¾	4¾	6

Glass Tiles, in Sheet and Rough Plate. Plate Glass. Patent Plate, and Hartley's Improved Rough Plate.
COLOURED GLASS AND ROSETTES, FLUTED, GROUND, AND EMBOSSED GLASS, OF EVERY DESCRIPTION.

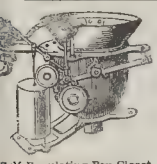
PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead	30s.	Fine Oak Varnish	10s. to 12s.	Linseed Oil	Subject to fluctuation of the market.
Anti-corrosion Paint	28s. to 34s. per cwt.	,, Carriage	12s. to 14s. per gallon.	Boiled Oil	
Linseed Oil Putty	9s.	Patent Dryers	28s. to 42s. per cwt.	Turpentine	

Milled Lead in Sheet and Pipe of all sizes. Old Lead bought or taken in exchange. Lift Pumps, Water Closets, and Plumbers' Brass Work of all kinds, subject to the fluctuations of the Markets.
NET CASH.

JOHN DREW,
SHOP FRONT BUILDER,
4, CHRISTOPHER STREET, HATTON GARDEN,
MANUFACTURER of every description of **FITTINGS** for **BANKS, INSURANCE OFFICES, &c.**
Of well-seasoned Mahogany and superior Workmanship.
DRAWINGS, ESTIMATES, AND REFERENCES TO WORK DONE.
SEVERAL DESKS IN STOCK.

THOMAS LAMBERT & SON,





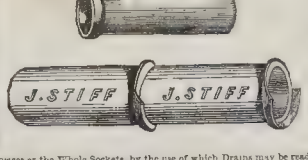

Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.
T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.
The only MEDAL for "STONEWARE PIPES" has been awarded to
HENRY DOULTON & CO., LAMBETH.
Extract from Jurors' Report:—
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

JAMES STIFF & SONS,
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.

PAN, 4s. 6d.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connexions.
Manufacturers also of
LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adopted also for ventilation of Sewers and Drains.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

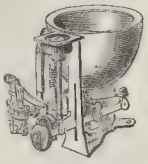
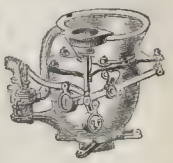
3s. 9d.



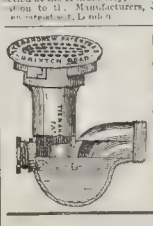
INTERNATIONAL EXHIBITION, 1862.
CLASS 35, NO. 6849.
The only Medal "for Stone Ware" has been awarded to
DOULTON & WATTS, LAMBETH POTTERY,
LONDON.
In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.
FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

JOHN DOULTON, BROTHERS, & CO.
LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO STREET, LIVERPOOL,
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

J. TYLOR & SONS' PATENT
REGULATOR WATER-CLOSETS.


Valve.

Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the ball of water, perfect flushing is insured. Any number can be worked by one supply pipe. No intern valves, cranks, or wires required. The Closets can be fixed in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate-street, London.



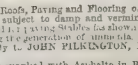
TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.
SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS

MINTON, HOLLINS, & CO. Stoke-upon-Trent, beg to inform architects, the gentry, and others, that, in consequence of the increasing demand for their Encaustic and Mosaic Pavements, and with the view of facilitating the execution of orders, they have opened an additional show-room, at their Establishment, No. 39, Great Ormond-street, London, where experienced draughtsmen will be constantly in attendance, to afford all information required.
DRAWINGS and ESTIMATES, on the receipt of plans, will also be promptly furnished, on application at the Manufactory, Stoke-upon-Trent.
MINTON & CO. take the present opportunity of stating that they have always in stock a large and varied assortment of tiles, suitable for flower boxes, stoves, and other ornamental purposes

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION.
MAGNUS'S ENAMELLED SLATE
obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851. Two First-class Medals at the Paris Exhibition, and Two Prize Medals at the International Exhibition of 1862
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pumice Slate Works 39 and 40, Upper Belgrave-place, Pimlico, S.W.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.
IMPERISHABLE TESSELATED
PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern Book, designed by M. Digby Wyatt, esq., together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, vestibule, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES,
PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for the WARE is REMOVED to No. 21, Wharf, Micklefield-street North, City-road Basin, N. Sndly, that the trade term, "TERRO METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Jurors," page 281, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

POLONCEAU and SEYSSEL ASPHALTE.
ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used in paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For estimates and Plans, &c. &c., apply to JOHN PILKINGTON, 15, Bush street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

PLASTER ENRICHMENTS,
CENTRE FLOWERS, SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
249, EUSTON ROAD, ST. PANCRAS.
Best Gelatine, prepared, and ready for moulding 2s. per lb.

CANNON STREET WEST.—Building Materials of Two Houses

PULLEN, HORNE, & EVERSFIELD

are instructed by the Worshipful Company of Cutlers to SELL by AUCTION on the PREMISES on MONDAY, DECEMBER 7, at TWELVE, in 2 lots, all the valuable BUILDING MATERIALS and FIXTURES of TWO HOUSES and PREMISES, situate at the corner of Cloak-lane and Cottage-hill, comprising sound brickwork, stout rafters, joists and other useful timber, 1,000 red and pan tiles, sashes doors, part iron water closet, linings, chimney pieces and interior fittings, shop-fronts, sound floor boards, lead gutters, casters, and pipes, stoves, and various useful fittings-up.—May be viewed on Saturday previous. Catalogues had of Messrs. TREES & CHAMBERS, Architects, 27, Queen-street, Cheapside; and of PULLEN, HORNE & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

BUILDING MATERIALS—ST SWITHIN'S LANE.

PULLEN, HORNE, & EVERSFIELD

are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, DECEMBER 7, at ONE, the BUILDING MATERIALS of a HOUSE and PREMISES, No. 32, St. Swithin's-lane, City, of the usual description.—May be viewed the morning of Sale, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

TO BUILDERS AND OTHERS

PULLEN, HORNE, & EVERSFIELD

will SELL by AUCTION, on the PREMISES, South London Marble Works, Buckingham-place, Old Kent Road (near the Brickla yers' Arms station), on TUESDAY, DECEMBER 8, at TWELVE, about 200 MARBLE CHIMNEY-PIECES, in very choice variety of design, consisting of statuary, black and gold, black, veined, and various coloured marbles, some of which are richly sculptured, and suitable for first class houses. Also, an assortment of plain Italian and stone chimney-pieces.—May be viewed one day previous, and catalogues had at the Place of Sale; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

GROSVENOR ROAD, PIMLICO.—To BUILDERS and OTHERS

PULLEN, HORNE, & EVERSFIELD

are instructed by the Commissioners of Her Majesty's Works and Public Buildings, to SELL by AUCTION, at the Government Workshops, Grosvenor-road, Pimlico, on FRIDAY, DECEMBER 11th, at TWELVE, for ONE, in Lots, a quantity of dry seasoned PANELLING, CARVED GOTHIC BRACKETS and PENDANTS, and several hundred feet run of Richly Carved SCROLL WORK, &c.—May be viewed one day previous, and catalogues had at the Office of H.M. Works, 12, Whitehall-place; and of PULLEN, HORNE & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

UPPER CLAPTON, Middlesex. Eligible Freehold Building Land

MR. WHITTINGHAM is instructed to SELL by AUCTION at the MART, London, on MONDAY, 30th NOVEMBER, 1863, at TWELVE for ONE o'clock, fifty seven Lots of eligible FREEHOLD BUILDING LAND, free of tithe and land tax, situate on the new roads leading from Upper Clapton to Rectory-road, Stoke Newington, close to the Hackney Downs, and within half an hour's ride of the City. Nine tenths of the purchase money may remain on mortgage or contract at 5 per cent, to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained (ten days before the sale) at the Old King's Head, Upper Clapton; of Messrs. RUSSELL & DAVIES, 58, Coleman-street, London, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; of the Foreman on the estate; and at the Place of Sale.

WANDSWORTH COMMON, SURREY.—Eligible Freehold Building Land

MR. WHITTINGHAM is instructed to SELL by AUCTION at the MART, London, on MONDAY, NOVEMBER 30th, 1863, at TWELVE for ONE o'clock, thirty-one lots of eligible FREEHOLD BUILDING LAND, free of tithe and land tax, situate on the roads leading from Wandsworth, Tooting, & Clapham, close to Wandsworth-common, and within a short distance of the Wandsworth, Clapham Junction, and Balham Stations of the South-Western, Victoria, Crystal Palace, and Kensington Railways. The corner plot, with frontages to the high road from Clapham to Tooting, is most eligible for the erection of a tavern. Nine-tenths of the purchase money may remain on mortgage or contract at five per cent. to be paid in nine years by half-yearly instalments but the whole or any part of the balance may be paid off at any time without notice. Part may be left on mortgage if desired. Possession in ten days before the sale, at the general inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 58, Coleman-street, London, E.C.; of the Foreman on the Estate; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

TO VENEER MERCHANTS, CABINET AND PIANOFORTE MAKERS AND OTHERS.—5,000 Superb SPANISH WALNUT LOG VENEERS and many thousands of Mahogany

MESSRS. J. J. CLEMMANS & SON

are directed by the Consignee to SELL the above, at their AUCTION ROOMS, 1, Spital-square, Bishopsgate, on WEDNESDAY, DECEMBER 2, at ELEVEN for TWELVE, well matched logs and boards of Spanish Walnut. Also a large quantity of MAHOGANY, ROSEWOOD, and other Veneers.—On view day prior to and morning of Sale. Catalogues at the Rooms, and at 2, Holywell-row, Finsbury.

TO TIMBER MERCHANTS, CABINET MAKERS, BUILDERS, AND OTHERS.—Without reserve, the second portion of the STOCK of Mr. Smith and another Merchant.

MESSRS. J. J. CLEMMANS & SON

will SELL by AUCTION, at 26, WORSHIP STREET, Shoreditch, on TUESDAY, DECEMBER 1, at TEN for ELEVEN, the above: comprising 2,000 feet superficial mahogany, 2 tons 5,000 feet hardwood, 50,000 feet in deals, and logs of rosewood, ebony, and other veneers; 1,000 pine planks and deals, circular and other saws, and utensils.—On view day prior. Catalogues on the Premises and of the Auctioneers, 1, Spital-square, and 22, Holywell-row, Finsbury.

NORTH LONDON RAILWAY.—CITY EXTENSION.

MESSRS. KENNEDY & BONNY

will SELL, by order of the Directors of the North London Railway, on TUESDAY, the 8th of DECEMBER, at TWELVE for ONE o'clock, on the PREMISES, the Second Portion of the VALUABLE BUILDING MATERIALS of Houses and Premises to be cleared from the Railway road to Worship-street, Bishopsgate-street, comprising stock bricks, oak and fir timber, slates, tiles, York paving stone, valuable cast and wrought iron, stable fittings, sash and other doors, gutters and pipes, &c.—May be viewed the day previous to sale; and catalogues had at the Auctioneers' Offices, Caledonian-road, and Kingsland-gate.

Valuable Foreign Marble Chimney pieces, with Stoves, Grates, Fire-irons and Fenders, in corresponding style, numerous Chandeliers, Lamps, Gaseliers, Lustres and Ornaments, also a large quantity of finely carved Panelling and other fittings in oak and cedar removed from a nobleman's mansion.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT

are directed by the Executors to SELL by AUCTION, at their great ROOM, Saville-row, on WEDNESDAY, DECEMBER 2, the valuable and well selected STOCK of CHIMNEY-PIECES, finely sculptured, in every variety of white and coloured marble, with stoves, grates, fire-dogs, fenders and fire irons *en suite*, quite worthy of the attention of gentlemen who are fitting up their mansions in the ancient or modern style; the chandeliers, gaseliers, and lamps are of the most recherché taste, in bronze, ormolu, and ecclesiastical, many of each design, and others of the more florid period of Louis XIV. among which is a truly magnificent chandelier for 120 lights, of Parisian workmanship, in or-moulu; also the fittings of a mansion, in oak and cedar, a noble staircase, and a variety of painted panelling, with carved mouldings, the decorations of an ancient room.—To be viewed as mentioned in the catalogues, which may be had at the Offices of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Saville row, Regent-street, W. and No. 19, Change-alley, Cornhill, E.C.

TUESDAY.—Stock in Trade of a Paperhanger, Ironmonger, &c.

MESSRS. HERRICK & SON will SELL by AUCTION, on the PREMISES, 43, High street, Wandsworth, on TUESDAY next, ONE, without reserve, 1,000 Pieces of Paper for Paperhanging, Whitelead, Driers, Glass, and Builders' Ironmongery, of the usual description. Viewing morning of Sale, and Catalogues at the Auctioneers' Office, Cherrick, and Eden street, Kingston, Surrey.

PERIODICAL SALE, MILNER STREET, CHELSEA.—To CARPENTERS, BUILDERS, AND OTHERS

F. HALL & SON will SELL by AUCTION, on THURSDAY, DECEMBER 3, at ELEVEN for TWELVE at the COMMISSION YARD, opposite Stables street, and near the Australian Tavern, Milner-street, Chelsea, 250 lots of new and old BUILDING MATERIALS, consisting of 1,000 well-seasoned yellow deals and battens, cut and sawn, 30,000 feet of new narrowing, two cases of white and yellow floor batters, birch battens and quarter sq. sixty loads of small timber, in posts rafters, and plates 6,000 feet cut quartering, 30 feet girders; modern fittings, comprising 4 and 8 panel street and other doors, arches and frames two shop front sashes with shutters and still boards, show cases and shop fittings, mahogany plate glass doors, flooring and other boards, 1,000 feet of York paving, York landings, steps, sinks, &c. chimney-pieces, iron balustrades, wrought-iron cooke, boiler, stoves and ranges; useful wrought and cast iron, half ton of 11 white lead 5 cwt patches, forged 1, nearly new Standard ladder, 4 to 6 wheel cart wrought and other effects. May be viewed and Catalogues had on the Premises; at the Australian, Milner-street; Moore Arms, Halsey-terrace; Admiral Keppel, Fulham-road; and at the Auctioneers' Offices, Chester-street, Kennington.

FARNBOROUGH and ALDERSHOTT

FREEHOLD and GROUND-RENT SOCIETY (Limited).—To BUILDERS and OTHERS.—Land on this Society's Estate at Farnborough, TO BE LET on building leases, or TO BE SOLD, upon advantageous terms.—Particulars may be had of the Architect, Mr. H. CURREY, 4, Lancaster-place, Strand, W.C.; or at the Offices of the Society, 18, New Bridge-street, Blackfriars.

EDWARD CHATFIELD, Managing Director.

EXTENSIVE MANUFACTURING

PREMISES, with STEAM POWER.—TO BE LET, one of the finest BUSINESS PREMISES in the City; containing large yard, with drying shed, joinering shop, extensive Workshops, fitted up with circular saws, mortise and tenoning machines for making doors, &c.; three vertical saw frames for cutting deal planks, &c. 26 inches deep; two powerful steam engines, with hot water tank; a well of good water, self acting benches, together with every convenience for a large trade: public and private offices, fitted with fire-proof safes, &c. For further particulars apply at the City Timber Yard, 20, Long-lane, City.

MID-KENT LINE. — Eligible Freehold

BUILDING LAND TO BE LET, on LEASE for 99 years, direct from Freeholders, in a well-situated and healthy part of Kent, commanding beautiful scenery, about ten minutes' walk from the Oxford Bridge Station, Mid-Kent Railway. Railway journey, 2 minutes. Land may be seen, and particulars obtained, by applying on the spot to FREDERICK SELBY, Ravensbourne Park, Lewisham, S.E.

BRICKEARTH, at Southall, near the Grand Junction Canal, and the Great Western Railway. TO BE LET, from Twenty to Fifty Acres of excellent BRICKEARTH, of good depth.—For plans and particulars apply to Mr. RICHARD TRUMPER, 23, Lincoln's-inn-fields, W.C.

WANTED to RENT, PREMISES, containing an area consisting of about 30,000 feet. The building must be of substantial character, fitted for steam power. A good light indispensable, especially in the upper stairs. A space within the circle of about a mile from St. Bride's Church, Fleet street, would be preferred.—Address, with full particulars, to Messrs. JENNINGS & SON, Solicitors, 18, Bennet-court, Doctors' Commons, E.C.

TO ARCHITECTS, BUILDERS, RAILWAY CONTRACTORS, AUCTIONEERS, &c.—SPECIFICATIONS, CONTRACTS, ACCOUNTS, and every other description of DOCUMENTS, correctly and expeditiously COPIED, at 1d per folio of seventy two words, by FRY & SON, Law Stationers, Printers, and Lithographers, 13 & 14, South-square, Gray's-inn, W.C. Plans and drawings copied, enlarged, or reduced, on reasonable terms.

GROUND in BASINGHALL-STREET, now occupied by Houses and Warehouses, known as Nos 20 and 21, Basinghall-street, TO BE LET by TENDER, for Building purposes. A plan of the ground and form of Tender may be obtained at the Office of Messrs. SAWARD & SON, Law Stationers, Frederick's-hill, Cannon-street; or of Messrs. HOLLINGSWORTH, TYERMAN, & GREEN, No 34, Gresham-street, London; where TENDERS, under seal, are to be delivered on or before the 1st DECEMBER next. The Owner does not bind himself to accept the highest or any Tender.

A FREEHOLD MANSION TO BE SOLD or LET for the Hunting Season. The furniture, new and elegant, may be had at a valuation. There are four reception-rooms, two being 50 feet in length, 11 best bed-rooms, stabling for eight horses and four carriages, suitable servants' offices, extensive ornamental grounds, with pinery and greenhouses, in all 28 acres, gravelly soil, near to the Sunningdale Station on the South Western Railway, within half a mile of Windsor Great Park, and 2 miles from the Waterloo station. Apply to J. MAY, Esq., Solicitor, 67, Russell-square, Brighton.

TO BUILDERS & OTHERS.—WANTED, within a mile of Charing Cross, PREMISES or a CARCASE, about 70 feet by 15 feet, and not less than 35 feet high from basement.—Address, by letter, JOHN GEDGE & SON, Patent Office, Wellington-street, Strand.

VAUXHALL GARDENS ESTATE.

Several very Valuable SITES on the above Freehold Estate TO BE LET for Building purposes.—Apply to Messrs. DRIVER & CO Surveyors, Land Agents, and Auctioneers, 4, Whitehall, S.W.

KEYNSHAM BLUE LIAS LIME and CEMENT WORKS, Somerset.—TO BE SOLD, by PRIVATE CONTRACT by order of the Liquidator, the newly erected FREEHOLD WORKS, occupying a site of 7 acres, 2 roods, and 26 perches, or thereabouts. The existing kilns and works are capable of producing 7 to 8 tons of lime, and 120 tons of cement weekly, both products being approved of by large contractors and eminent architects, the cement being used in many of the Government fortifications now in progress. The premises are very substantial and the machinery is of the best description, which can be applied to water power, but with steam-power as auxiliary. Coals are supplied to the works at a very low price, and the Great Western Railway Station is within a short distance.—For further particulars, apply to Messrs. NICHOLLS & SONS, Solicitors, 47A, Moorgate-street; to F. MAYNARD, Esq. Liquidator, 19, Bread-street, Cheapside; and to Messrs. FULLER & HORSEY, 13, Billiter-street, London.

FREEHOLD MILLS, with good Water-power, Keynsham, Somerset, well adapted for Corn Mills, Oil Mills, or Paper Mills, TO BE SOLD.—Apply to Messrs. FULLER & HORSEY, Billiter street, London, E.C.

TO BRICKMAKERS.—All Parties who BURN BRICKS in CLAMPS are invited to inspect the NEW MODE of SETTING, patented by Mr ROBERT WHITE, and which may be seen in operation at the Brick fields of

J. B. WHITE & BROTHERS, Erith, Kent.

The advantages of this plan are two-fold.

1st. Nearly all the bricks are burnt into stocks, and the yield of inferior bricks is reduced from 35 to about 14 per cent of the total make, which in itself more than compensates the cost.

2nd The bricks are so much improved in colour and consistence as to give them a considerable additional value in the market over common stocks.

Licenses for use of the Patent granted to Brickmakers, on application to the Patentees, 17, Millbank-street, Westminster.

HOLLOW BRICK FIRE-PROOF FLOORS.

BUNNETT'S PATENT.

THIS PATENT FOR SALE, OR LICENSES GRANTED.

Apply to Mr. J. BUNNETT, ENGINEER, DEPTFORD.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

SPRING GROVE BRICKFIELDS,

HOUNSLOW, W. MIDDLESEX.—Mrs. ANN ELIZABETH BURCHETT begs to thank her numerous friends for their patronage received during the last twenty six years, and having DISSOLVED PARTNERSHIP with her son, Mr JAMES BURCHETT, begs again OPENED the above BRICKFIELDS in her own name, where by strict attention to all orders she trusts to receive the same encouragement it hitherto so liberally bestowed upon her. Office—Caswell Cottage, Hounslow-road, Hounslow, W.

B R I C K S.

FINE WHITE FACING BRICKS.
WHITE ORNAMENTAL BRICKS.
RED AND WHITE CUTTERS.
RIDGE TILES AND ROOFING TILES,
IN GREAT VARIETY.
Apply to RICHARD LANGLEY,
EAST COWES PARK, ISLE OF WIGHT.

VICTORIA BRICK and LIME WHARF and DRAW-DOCK, NINE ELMS, S.

BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES AND RED GOODS,
TERRA COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS,
RED AND WHITE PAVINGS,
STAFFORDSHIRE AND FIRE GOODS,
MALM CUTTERS, PICKINGS,
AND BUILDING GOODS GENERALLY.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

JOHN DOWNEY, Victoria Wharf, Nine Elms, S.

Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, offers

Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, 55s. per 1,000.
Floor Bricks, 40s. per 1,000.
White Kiln ditto, 40s per 1,000.
Ridge Tiles, at 75s per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. Quantities may be delivered by Vessel at any of the Thames Wharfs.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS.

By Messrs. Allen & Co. Sallingdon, near Sudbury.

The YELLOW and PALE MALM CUTLERS and FACING BRICKS By Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS from the Fields at South Shoebury, and Little Wakering, Essex.

The entire MAKE of BRICKS by Mr William Leaster, of the Upper and Lower Halstow Fields; by Messrs J. Butcher & Son, of Otterham quay and Lower Rainham; and also by Messrs. J. & G. Parker, of Wickham, near Stroud, Kent.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr W. Gilbert, of Tipton, and Thomas C. and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The BALLINGDON DEEP BLACK RUBBING and BUILDING BRICKS, and the CHALFONT and BALLINGDON DARK and BRIGHT RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, } SOLE
WELLINGTON WHARF, Belvedere-road, } CONSIGNEES.
Lambeth, and Kent-road Bridge. }

The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

ONE MILLION nearly new STOCK BRICKS FOR SALE—Apply on the Premises, now pulling down, Nos. 3, 4, 5, and 42, 43, 44, 45, and 46, Ludgate-hill; or of Mr C. F. SMYRK, 18, Newington place, S.

TO BRICK MAKERS.—WANTED, ONE MILLION of good STOCK BRICKS. To be delivered in Golden-lane, E.C.—Tenders to be sent to Mr C. K. STRONG, 11, Jewin-street, City.

BRICK BURNING, saving Two thirds of the Fuel.—HOFFMAN'S PATENT ANNULAR OVENS, for the continuous burning of Bricks, Tiles, Pottery, &c. can be seen in full action, every information obtained on all points to Mr H. CHAMBERLAIN, 3, St. John's, Wakefield, Yorkshire.

POLYTECHNIC.—Patron: H.R.H. the PRINCE of WALES.—Professor Pepper's adaptation of the original and first existing Ghost Illusions of H. Dircks, esq. C.E. in 3 scenes. First Scene—Reading from Dickens's "Haunted Man," and appearance of the ghost and Spectre of the sister. Second Scene—The Artist's Studio—the ghostly vision in the form of a rival artist—the Ghost drinking a glass of water: this illusion must be seen to be believed: the living being developed twice, &c. Third Scene—The reading of the love-letter, and mysterious arrival of the little poet man "Pupo!" Engagement of Nelli Catalani, for her new Vocal Accomplishments, and Variable Entertainment. Herr Steinmüller's remarkable imitations of birds and animals. In consequence of numerous encores the opera of "Der Freischütz" is to be produced. Open Twelve to Five and Seven to Ten o'clock.

JOHN UNDERWOOD,

ARCHITECTURAL and MONUMENTAL WORKS, 42, High-street, Camden Town, executes every description of Architectural and Monumental Sculpture in the best style of workmanship, at moderate charges. Estimates submitted free.

CHRISTMAS PARTIES.

JOHN EDGINGTON & CO.'S WATERPROOF TEMPORARY ROOMS, comfortably warmed, floored lighted, and elegantly decorated. Easy access by road or rail, or even any distance. Observe the address, JOHN EDGINGTON & CO. 48, Long-lane, Smithfield, E.C. and 18, Piccadilly, W. Manufactory, 248, Old Kent-road, S.E.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos 74 to 76, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER." No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, November 28, 1863

The Builder.

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Architect, Engineer, Operatives & Artist.

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ARCHITECTS' BENEVOLENT SOCIETY.

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's place; or by Mr ALFRED HILL, 28, Tonbridge-street, Euston road, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

BUILDERS' BENEVOLENT INSTITUTION.

—An ELECTION of Three PENSIONERS, Two Male and One Female, was held on the 26th ult. at the London Tavern. Mr. Alderman Jas. C. Lawrence, President of the Institution, in the chair.

SUCCESSFUL CANDIDATES.

W. Standfast	2,462
W. Goodwin	2,202
Mrs. Deacon	2,833

The others were:

R. Langstaff	1,849	W. H. Walsham	1,490
J. Oliver	696	Mrs. Pfford	824
J. Jenkins	824	Mrs. Clements	1,150

December 4th, 1863. A. G. HARRIS, Sec.

BY ORDER of the SECRETARY of STATE for INDIA in COUNCIL.

Notice is hereby given, that TWENTY-FIVE APPOINTMENTS in the UPPER CLASS of the ELECTRIC TELEGRAPH DEPARTMENT in India will, in the year 1864, be open to PUBLIC COMPETITION. A Competitive Examination will, accordingly, be held in this office in the month of MAY next. Full printed particulars of the conditions on which candidates will be admitted to the Examination, and also respecting the nature of the Appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

1 November 20th, 1863.

ARCHITECTURAL UNION COMPANY (LIMITED).

—In consequence of a sufficient number of Shareholders not being present at the meeting of this Company, advertised to be held on Wednesday, the 2nd instant, notice is hereby given, in conformity with the 39th Section of the Articles of Association, that the said MEETING stands ADJOURNED till WEDNESDAY, the 9th day of DECEMBER at THREE o'clock, p.m. at the premises of the Company, 9, Conduit-street, Hanover-street, when the attendance of the Shareholders is most particularly required, to receive the Directors' Report and Audited Balance-sheet, and to transact the business required to be transacted at the ordinary General Meetings of the Company.

JAMES EDMESTON, Hon Sec

NOTICE.—LONDON and WESTMINSTER BANK, LAMBETH BRANCH, 34, Mount Street—GEORGE TOZER, Local Manager.—The Lords and Westminster Bank having received notice from the Vestry of the Parish of Lambeth, that the Metropolitan Board of Works have directed that Mount Street, Lambeth, should hereafter be called Westminster Bridge Road, and numbered accordingly, hereby give notice, that from and after this date the business of the Lambeth Branch will be carried on at the same premises, but bearing the altered number and name of 91, WESTMINSTER BRIDGE ROAD, S. and all communications connected with that Branch are requested to be so addressed.—By Order of the Board,

WM. EWINGS, General Manager.

1 November 11th, 1863.

MODELLING.—A NEW MODELLING CLASS will be FORMED at the LONDON MECHANICS' INSTITUTION, 29, SOUTHAMPTON BUILDINGS, CHANCERY LANE, under the direction of Mr H HALE, on TUESDAYS and SATURDAYS, at EIGHT p.m. commencing 12th DECEMBER, 1863. Terms per quarter, members of the Institution, 5s. Non members, 8s. Entrance fee to non members, 1s.

TO BUILDERS.—There is no Town in the United Kingdom making more rapid progress in its Trade, Manufactures, and Population than Dundee, on the Estuary of the Tay, north-east coast of Scotland. The manufacture of Jute as a substitute for Cotton has taken fast root in Dundee, and is advancing at a rapid rate, and wealth is being rapidly accumulated. The Farms of Balgay and Logie, now used for Agricultural purposes, are to a large extent within the Municipal Boundaries. Logie lies between the ancient town of Dundee and Lochee, a great manufacturing place, which has arisen within a mile and a half of the High Street, and is now part of the town. All the logie Farm must be Built upon for the Working Classes, and for Manufactories as the trade advances. Building ys to be disposed of for Villas. There are not at present any speculative Builders in Dundee: each man builds his own house for himself. The Proprietors of Balgay and Logie are about to DEAL with Men of Capital and Enterprise, for GIVING OFF in perpetuity large BLOCKS for Annual Rents, along a proposed leading street to pass from Dundee to Lochee.—Application may be made to Mr. SCOTT, Architect, 4, Reform-street, Dundee; or to Mr. C. KERR, Castle-street, Dundee.

SWINEY LECTURES on GEOLOGY, IN CONNEXION WITH THE BRITISH MUSEUM.—A Course of Twelve Lectures on CHEMICAL GEOLOGY will be delivered by Dr PERCY, F.R.S. at the Royal School of Mines, Museum of Practical Geology, Jermyn street, on THURSDAY and SATURDAY in each week, commencing on the 10th instant, at TWELVE o'clock.—Admission gratis.

TRENHAM REEKS, Registrar.

SOCIETY of ARTS.—CANTOR LECTURES.—The following COURSES of LECTURES will be delivered during the session:—

"On the Operation of the existing Laws of Maritime Warfare on International Commerce," by G. W. Hastings, esq.; "On Fine Art applied to Industry," by W. Burges, esq.; "Chemistry applied to the Arts," by Dr. F. Crace Calvert, F.R.S. Mr. Hastings's course, consisting of four lectures, will commence before Christmas, the first, "On the Law of Blockade," will be delivered on MONDAY evening next, the 7th of DECEMBER, at EIGHT o'clock.

These Lectures are free to Members of the Society of Arts, each of whom has also the privilege of admitting two friends to every course. The Wednesday Evening Meetings will be held as usual.—By order of the Council,

P. LE NEVE FOSTER, Secretary.

December 3rd, 1863.

NOTICE to CREDITORS.—In the matter of the Trust Deed or Assignment for the benefit of creditors, executed by GEORGE WHEELER, of West Cowes, in the Isle of Wight, and of Hayes, near Portsmouth, builder and contractor:—Notice is hereby given, that all persons who have any claims or demands against the estate of the above-named GEORGE WHEELER, and have not as yet sent in particulars of their claims or demands, and adjusted and proved the same, are hereby peremptorily required on or before the 21st day of DECEMBER 1863, to send to Mr GEORGE F. MURDOCH, of No 7, Grist street, Portsmouth, Accountant, a full and correct statement of such claims or demands in order that the same may be examined and adjusted, and when so examined and adjusted, to verify and prove the same. And notice is also given, that all persons who have sent in claims, but have not adjusted and proved the same are hereby peremptorily required, on or before the said 21st day of DECEMBER, 1863, to adjust and prove the same, and to send such proof to Mr. GEORGE F. MURDOCH, as above. And notice is further given, that as soon after the said 21st day of DECEMBER, 1863, as the arrangements necessary for the purpose will admit, the trustee will proceed to a third and final dividend, and distribute the assets remaining in their hands amongst the creditors and persons entitled thereto, having regard to the claims and rights of which on the said 21 t day of DECEMBER, 1863, shall have been proved, and that the said trustees will not be liable for the assets so distributed, or any part thereof, to any person whose debt or claim shall not be proved and sent in on or before that day.—Dated the 24th day of November, 1863.

MARSHALL & SON, Hanover-street, Portsea, Solicitors to the Trustees.

ECCLESIASTICAL EMBROIDERY and TAPESTRY for Church Decoration, and VESTMENTS designed and prepared for Ladies' own working, by

RODOLPHIE HELBRONER,

265, REGENT STREET, near the Polytechnic

Gold and silver fabrics, fringes, thread and silk velvets, silks, cloth, linen, and every other requirement for CHURCH NEEDLEWORK.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 79—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for the still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the unexpired term extensive ware-rooms, in the rear of the premises themselves, of all descriptions of hot water, bath, lavatory, and fancy work.

72 74, Bishopsgate street Within, November, 1863.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing they may be introduced more generally in all new Buildings.—For Prices, apply to the Manager, Mr. TYLER, 12, Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

COMPETITIONS.

TO ARCHITECTS.—The Committee for the Erection of a Memorial, in Radnorshire, to the late Sir George Cornewal Lewis, Baronet, have decided that the best form of Memorial will be an Eleanor Cross; but, in the absence of information as to the probable cost, they have determined to invite Architects to send in ARCHITECTURAL DRAWINGS from which the work may be executed with an ESTIMATE of the ELEANOR CROSS, to be erected on the Castle Hill, near Radnor, or on Penglodick, to be erected either on the point of Radnor Forest called Whitnble, Old Radnor Hill, or the Castle Hill; the total cost of erection not to exceed £1000. A space must be appropriated for an Inscription. Perspective drawings will not be submitted for competition. The Drawings and estimate may be sent, or brought to the 20th JANUARY, 1864, to the Honorary Secretary, Mr. R. W. BANKS, Ridgebourne, Kington, Herefordshire who will give any information on, as may be required as to the material for building obtainable in the locality. The drawings of unsuccessful competitors will be returned

BOROUGH of CONGLETON, in the County of Chester.—NEW TOWN HALL.—EXTENSION of TIME.—Notice is hereby given, that the TIME for receiving the plans and designs for the New Town Hall of the Borough, is EXTENDED from the 1st of JANUARY to the 18th of JANUARY, 1864.—By order,

CHRIS MOORHOUSE, Town Clerk.

Town Clerk's Office, Congleton, December 1, 1863.

CONTRACTS.

LONDON DISTRICT.—To BUILDERS and OTHERS.—WAR DEPARTMENT TRIENNIAL CONTRACTS FOR WORKS AND REPAIRS.—The Commissioners Royal Engineer Depot, Lucy's ground, Chatham, hereby give notice that sealed TENDERS will be received at the Wyndham, Pall Mall, Lot box, S.W. on or before 17th DECEMBER, 1863, for WORKS and REPAIRS at the undermentioned Stations from 1st January, 1864, to 31st March, 1867, viz:—

Windsor Cavalry and Infantry Barracks, and Builders' Fort.

Schedules and Printed Forms of Tender, prescribed by Act, and all necessary information may be obtained on application at the Royal Engineer Office, 11, James street, Buckingham Gate, London, S.W. from 9th to 15th December, 1863, inclusive, from 11 A.M. to 3 P.M.

The Secretary of State reserves to himself the right of accepting the whole or any of the Tenders

Royal Engineer Office, London District, 11, James-street, Buckingham Gate, S.W. 27th November, 1863.

METROPOLITAN BOARD of WORKS.

THAMES EMBANKMENT, MIDDLESEX SIDE.—To BUILDERS, CONTRACTORS, and OTHERS.—EXTENSION of TIME for RECEIVING TENDERS.—The Metropolitan Board of Works, hereby give notice, that they have EXTENDED the PERIOD for receiving TENDERS for the above Works from THURSDAY, the 26th day of NOVEMBER instant, until THURSDAY, the 17th day of DECEMBER next. The WORKS to be CONTRACTED for are the CONSTRUCTION, COMPLETING, and MAINTAINING in REPAIR for Twelve calendar months, the following WORKS, that is to say, the Embankment Wall, 1,200 feet in length, or thereabouts, with certain Landing-places, Steamboat-pier, Sewers, Subway, Storm outfalls, and other works in connexion therewith, situate in and adjacent to the foreshore of the River Thames, on the Middlesex side, between Waterloo Bridge and the eastern end of the Temple gardens. Parties desiring to submit Tenders may, on and after SATURDAY, the 28th NOVEMBER instant, upon payment of 10s. 10s. obtain plans, sections, specifications, forms of Tender, and other particulars on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE a.m. and FOUR p.m. or on Saturdays between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 17th day of DECEMBER next. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office before one o'clock on the last mentioned day, and no Tender will be received after that hour. No Tenders will be opened in the meeting of the Board, to be held on FRIDAY, the 18th DECEMBER and the parties Tendering must be in attendance at the Board at TWELVE o'clock on that day. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two or more approved sureties for the due and satisfactory performance of the works.

JOHN POLLARD, Clerk of the Board.

Spring gardens, S.W. November 24, 1863.

CITY of LONDON FREEHOLD LAND TO BE SOLD by TENDER to PUBLIC COMPANIES, BANKERS, HOTEL BUILDERS, CAPITALISTS, and OTHERS.—TO BE SOLD by TENDER, a FREEHOLD PLOT of LAND, with the Buildings thereon, containing about 4 360 square feet, situate in Leadenhall street, directly opposite the new and handsome range now erecting on the site of the late East-India House. On part of the Premises the business of a Tavern is being carried on, and the purchaser will be required to take the Business and License in the usual way.—Printed forms of Tender, which are to be delivered at the Office of Messrs DRIVER & SONS, 20, Bedford-square, City, and are to be delivered at their Office as aforesaid, by TWO o'clock in the afternoon of the 8th day of DECEMBER, 1863.

TORQUAY HOTEL COMPANY (Limited).

TO BUILDERS.—The Directors of the Torquay Hotel Company (Limited) are willing to receive TENDERS for an HOTEL to be erected at "The Cove," Torquay, from the Designs of Mr. ALFRED N. CLIFTON, 17, St. Helen's place, Bishopsgate street, London. Copies of the quantities may be obtained of Messrs WILLIAMS & SHEFFIELD, 12, Bishopsgate-street, Without, London, W.C. upon depositing with them the sum of five guineas, which will be returned after the delivery of the Tenders. The Directors do not bind themselves to accept the lowest tender. The Tenders will require the latter whose tender is accepted to give the names of two sureties, to be bound jointly with the latter, in the sum of three thousand pounds, for the due execution of the works.—By order of the Board,

A. N. CLIFTON, Architect of the Company.

17, St. Helen's place, Bishopsgate street, London,

7th October, 1863.

For remainder of Contracts see next Page.

CONTRACTS.

TO SEWER CONTRACTORS.—The Vestry of the Parish of Bethnal Green will meet at the Town Hall, Church-row, Bethnal-green road, on WEDNESDAY, the 3rd day of DECEMBER next, at ELEVEN o'clock in the forenoon precisely, to receive TENDERS and CONTRACT for the CONSTRUCTION of a certain BRICK SEWER, and LAYING DOWN IRON and GLAZED STONEWARE PIPE SEWERS, with the work thereout connected, according to plans and specification, which may be seen at the Office of the Surveyor, Town Hall, aforesaid, where further particulars may be obtained. Tenders on the Vestry's printed forms, sealed, and endorsed "Sewers," must be delivered to the Surveyor by or before TWELVE o'clock on WEDNESDAY, the 9th of DECEMBER next. The Vestry reserve to themselves the right to accept any or no tender to be taken.

ROBERT VOSS, Vestry Clerk.

Vestry Offices, the Town Hall, Church-row, Bethnal-green road, November 25, 1863.

EXCAVATORS and RUBBISH CARTERS are invited to TENDER for the REMOVAL of Spoil and RUBBISH, from Golden-lane, St. Luke's. — Address Tenders, to BUILDER 82, Wood-street, Cheapside

ST. BARTHOLOMEW'S CHURCH. SCAMMONDEN BRIDGE-ROAD.—Plans and Specifications for REBUILDING the above CHURCH may be inspected at my Office, in Queen street, Huddersfield, on and after the 9th inst.

E. WYNDHAM TARN, Architect

10, Guildford street, Russell square, W.C. Nov. 3.

PETERBOROUGH UNION. To ARCHITECTS and BUILDERS.—The Guardians of the Peterborough Union hereby give Notice, that they intend to build a PAUPER and SICK HOUSE, with Kitchen, and other requisite Buildings, to accommodate 250 persons. Plans, Elevations, and Specifications, of the proposed Building, with the estimated cost, must be sent (free of expense) on or before FRIDAY, the 1st of JANUARY next, addressed to me, the undersigned, and endorsed, "Pauper-house Plans," after which no Plan will be received. The Guardians do not pledge themselves to accept any of the designs given, or pay the expenses of their preparation, and those not accepted will be returned.—By the Board,

S. C. W. BUCKLE, Clerk to the Guardians.

Peterborough, 23rd November, 1863.

MIDLAND RAILWAY.—The Directors are prepared to receive TENDERS for the ERECTION of STABLES for FIFTY HORSES (LOOSE BOXES), at the Lawley street Station, in Birmingham. Plans and Specifications of the same may be inspected, and Forms of Tender obtained, at the Company's Engineer's Office, Victoria Station, Pimlico, S.W. Tenders must be delivered on or before the 14th instant.

(Signed) W. E. J. BINSON, Secretary.

TO CONTRACTORS and IRON-FOUNDERS.—The Directors of the Ludlow Race Course (Limited) are prepared to receive TENDERS for the CONSTRUCTION of an IRON LANDING and PROMENADE PIER at Ludlow, in the County of Salop. Plans and Specifications for the same may be seen at the Office of the Company, 2, Parliament-street, Westminster, S.W., on the 8th day of DECEMBER next, and two following days, and at the Office of the Company in Ludlow on the 2nd and 3rd days of December next, at which Offices Tenders must be delivered on or before WEDNESDAY, the 9th of DECEMBER next, addressed to the Chairman of Directors, Ludlow Race Course Limited, Ludlow, and endorsed "Tender for Pier and Landing Stage." The Directors do not bind themselves to accept the lowest or any Tender.

Ludlow, November 20, 1863. C. N. BROWN, Secretary.

LONDON, CHATHAM, and DOVER RAILWAY.—The Directors of the London, Chatham, and Dover Railway are prepared to receive TENDERS for the ERECTION of a BRICK and CAST-IRON GIRDER BRIDGE over the Railway in the parish of River, near Dover. A copy of the drawing, specification, and Form of Tender may be seen, and Specification obtained, at the Office of the Company's Engineer, Victoria Station, Pimlico, S.W. Tenders must be delivered on or before the 14th instant.

(Signed) W. E. J. BINSON, Secretary.

TO CONTRACTORS and IRON-FOUNDERS.—The Directors of the Ludlow Race Course (Limited) are prepared to receive TENDERS for the CONSTRUCTION of an IRON LANDING and PROMENADE PIER at Ludlow, in the County of Salop. Plans and Specifications for the same may be seen at the Office of the Company, 2, Parliament-street, Westminster, S.W., on the 8th day of DECEMBER next, and two following days, and at the Office of the Company in Ludlow on the 2nd and 3rd days of December next, at which Offices Tenders must be delivered on or before WEDNESDAY, the 9th of DECEMBER next, addressed to the Chairman of Directors, Ludlow Race Course Limited, Ludlow, and endorsed "Tender for Pier and Landing Stage." The Directors do not undertake the responsibility of furnishing the particulars of the work about to be taken, the Directors not binding themselves to accept the lowest or any tender.

Ludlow, November 20, 1863.

CITY of GLOUCESTER.—GLOUCESTER WATER WORKS.—ROBINS WOOD HILL RESERVOIRS.—The Gloucester Board of Health are prepared to receive TENDERS for the REPAIRATION of the RESERVOIRS at ROBINS WOOD HILL, about two miles from Gloucester, including the Hearth-stone and Puddling of a portion of the Banks, and the construction of certain Manholes and Culverts, and the execution of other works connected with such Reservoirs.—Plans, Specifications, and Quantities may be seen at the Office of Mr. MANSERGH, C.E., Engineer to the Local Board, Corn Exchange, Gloucester, for the purpose of giving estimates as to the probable Tenders, and at the Reservoirs, at Robins Wood Hill, on MONDAY, DECEMBER 7th, at ELEVEN o'clock a.m. Forms of Tender, and a schedule of prices may be had on application to the Engineer as aforesaid (to whom all the Estimates are required to be sent in proper form). Tenders, with the names of two sureties, to be sent to Mr. K. H. FRYER, Clerk to the Local Board, Gloucester, under cover, endorsed "Tender for Works at Robin's Wood Hill," on or before the 10th of DECEMBER. The Board do not pledge themselves to accept the lowest or any tender.

November 27th, 1863.

TO ENGINEERS.—The Docks and Camber Committee of the Town Council of the Borough of Portsmouth are prepared to receive TENDERS for providing and fixing a SIX-HORSE AUXILIARY ENGINE for pumping out the leakage of the Dock. Plans and Specifications may be seen at my Office, Guildhall Chambers, Portsmouth, at which place Tenders are to be delivered on or before the 14th DECEMBER next.

JOHN HOWARD, Town Clerk.

Portsmouth, November 20, 1863.

RAIN WATER PIPES, GUTTERS, &c.

Rain Water Pipes.....	2½ in.	10d.	3 in.	1s. per yard.
Eaves Gutter.....	3½-in.	6½d.	4-in.	6½d. „
O G Gutter.....	4-in.	11d.	4½ in.	1s. „

Small Weight, heavy..... 5d. per yard.
Ditto light ..... 3.6d. „

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, AND YORK ROAD, KING'S CROSS

COMBINED MACHINE, capable of sawing, or cutting any angle, tapering, tenoning, rabbetting, grooving, tongueing, and beading. This machine may also be used for moulding, combining tongueing, and beading. It can cut and saw of 42 in.—For further particulars apply to ARTHUR & JAMES HIGG, Engineers, George-street, Chester.

GAS.—SAVING OF 40 PER CENT. NORDHOFF & CO.'S PATENT GAS CARBURETTING APPARATUS will fit the following light to patients. Advantages to Consumers of Gas:—

1. Great Economy, a saving of at least FORTY per Cent.
2. Perfect safety of the Consumer from Explosion.
3. Absolute Increase of the Intensity of Light.
4. Simplicity and Safety of the Apparatus.
5. Certainty of Supply.
6. No Alteration in Gas fittings required.

Sole Agent for the United Kingdom,

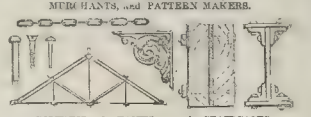
Mr. MAX SABEL,

No. 2, Coleman-street Buildings, Moorgate-street, City, London.

*** RESPECTABLE AGENTS WANTED.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Great Guildford street, Borough, S.E.), late Foreman and Manager to the Patentee and Proprietor of the Tubular Railway Compounding Girder Truss &c. &c.

GENERAL IRON FOUNDERS, MERCHANTS, and PATTERN MAKERS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,

And every description of Iron work, wrought or cast, for Builders or other purposes, made to order from approved Designs furnished

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PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.

TIPTON, STAFFORDSHIRE, and 55, Haymarket, London.

THE CHRONO-THERMAL, OR ECONOMIC STOVE.

THE SMALLEST WILL WARM A ROOM of four square with Welsh Stone Coal, at a cost not exceeding 2 or twelve hours. Free from dust, smoke, or smell. Suitable to the largest sizes for halls, churches, and desert rooms. Can be seen in operation at

LUCK, KENT, & CUMMINGS', Carpet Manufacturers, 4, Regent street, Waterloo place, London

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING for FRENCH WINDOWS:

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London; and SUCH ONLY are WARRANTED

IMPROVED ENDLESS BAND SAW, 30-inch Pulleys, with Compensation Motion to prevent breakage of Saws, and Movable Table for angular or circular cutting. Can be seen at work Potts' small Steel Steam Engines, Morta Mills, Saw Benches, Cranes, Drills, Wrights' Machines, &c.

CLARK & CHARNLEY Engineers Preston

RICKETT'S & HAMMOND'S VENTILATING GLOBE LIGHT, combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these.—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR,
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
No. 5, CHANDOS STREET, CHARING CROSS, LONDON, W.C.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Founders, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists 12s.—Nos. 55 and 56 High Holborn.

J. TYLOR & SONS' PATENT BATH APPARATUS.



The bath and boiler may be fixed in the same or separate rooms as may be most convenient. Hot and cold water can be delivered at the bath at the same moment, or separately as required. Ironmongery fitting for either required. Estimates given from architects' drawings, or by inspection of the locality.

Circulars, containing Nine Illustrations of different methods of fixing the baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London.

ROBERT MACLAREN & CO. EGLINTON FOUNDRY, GLASGOW.

Manufacturers of all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS

DAY and GAS-LIGHT REFLECTOR MANUFACTURER. THOMAS FOX, 80, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public. All kinds of Bent Glass Silvered.

N.B.—The usual discount to builders and the trade.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads, with Brass Mountings, and elegantly japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Polished Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent Free by Post. HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham court-road, W.

THE INTERNATIONAL EXHIBITION PRIZE MEDAL, AWARDED 1862

ESTABLISHED 1744.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PAINTED LINES made from Jute, which are both weak and rotten. The STRENGTH and DURABILITY of Flax, consequently cannot give so much trouble and annoyance to the consumer.

They can be had of most of all Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

NAILS and IRONMONGERY from BIRMINGHAM direct,

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES,

A complete List of which will be forwarded upon application to

FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham street, London, E.C.

SAVING IN GAS.

D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.

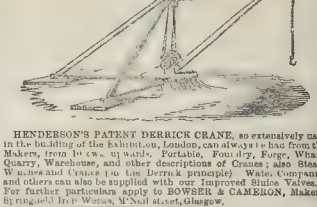
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers Glass Lustres, &c. &c.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOODBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions; Glass, and Wood Furniture, of all kinds, with Patent Shutter Spindles; Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOODBYER (late STURCH & BOODBYER), established nearly 200 years, for the supply of GOODS of the BEST MANUFACTURE, at the LOWEST PRICE.

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HENDERSON'S PATENT DERRICK CRANE.—Prize Medal for Practical Utility and Moderate Cost.



HENDERSON'S PATENT DERRICK CRANE, so extensively used in the building of the Exhibition, London, can always be had from the Makers, from 10 cwt. upwards. Portable, Foundry, Forge, Wharf, Quarry, Warehouse, and other descriptions of Cranes; also Steam Winches and Cranes (on the Derrick principle). Water Companies and others can also be supplied with our Improved Sluice Valves.—For further particulars apply to BOWER & CAMERON, Makers, Stringfield Iron Works, M'Neil street, Glasgow.

WANTED, CONTRACTORS' RAILS.—About Thirty Tons required: 36 lb. to the yard preferred.—A Price, stating proposed Locations, to PICTOR & SONS, Stone Merchants and Quarry-men, Box, near Chippenham.

SMOKY CHIMNEYS.



S. DEACON

Respectfully invites the attention of Architects, Builders, &c. to his

PATENT LOUVRE CHIMNEY CAP,

which has been in use some time with perfect success in most vexing chimneys where other caps have been tried in vain.

The advantages attending this Cap are—it can be adjusted by a child by the machine when the chimney is heated, the smoke being able to pass through the Cap without the liability of inflammable soot, and ceases up current, and the impediment to draught is taken away.

Prospectus forwarded on receipt of Postage stamp, by

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MANUFACTORY:
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TO IRONMONGERS, BUILDERS, and EXPORTERS.—TO BE SOLD, about 100 pairs of Redmund's RISING DOOR HINGES, the entire stock of a retiring tradesman. Any further will be complete to obtain an immediate sale. Received for view by Patent Company's Office, 52, Edgware-road Hyde Park.

WANTED, an IRON CHURCH. Address, stating size and price, condition, &c. to K. S. L. 14, Trinity-terrace, Trinity square, Borough.

IRON CHURCH FOR SALE.—A first-class GALVANIZED IRON CHURCH, with fittings and furniture, FOR SALE; holds 500.—Apply, Rev. J. KNOWLES HARRISON, The Parsonage, Arthur-square, London, N

FOR SALE, a FIVE-HORSE PORTABLE ENGINE, in good condition, with hopper, tubes, &c. complete. Also connected with the same, a Wood and Stone Sawing Apparatus. Apply to Mr. J. IRESON, 30, Bath-street, Northampton.

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W. YOUNG'S PATENT APPARATUS
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At 23 and 24, QUEEN STREET, CANNON STREET,
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TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boilers and Gasholder's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
As various Sections of
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SHEETS, BARS, L and T IRON.
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Orders requiring Despatch and Punctuality can be executed in a few days.

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IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

NO CHIMNEY WANTED
FOR RICKETS & HAMMOND'S PATENT CALORIFERE GAS STOVES,
in Churches, Halls, or Shops; and for Conservatories, or any close apartment, a Pipe can be attached to carry away the burnt air.



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LIBERAL DISCOUNT TO THE TRADE.

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CRABS,
CRANES,
BLOCKS,
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&c. &c.



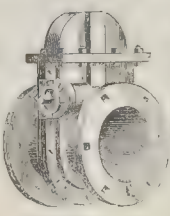
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PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
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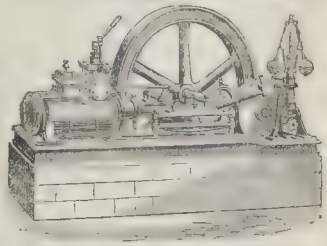
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OF VARIOUS SIZES, FOR STRONG ROOMS,
AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
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THE ALPHA TUBE & FITTING WORKS,
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New Illustrated GASELIER CATALOGUE, Complete, price 1s. to the Trade (post-free).



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& CO.'S
IMPROVED GAS VALVES,
With Wrought Iron Plates,
From 2 in. to 12 in. diameter.
List of Prices and Sizes, Sketches, &c. to be had on application at the Works, Chandos Street, Bermondsey, and at the Offices, Victoria Chambers, Victoria Street, Westminster.
Also a Pamphlet with Cuts and Prices of BRYAN DONKIN & CO.
Near Grahame Street Bridge, Battersea.

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Awarded for a Collection of FIRST-CLASS MACHINERY for WORKING WOOD, being the "HIGHEST COMMENDATION" attached to any medal in this class.



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WITH PATENT ARRANGEMENT FOR PREVENTION OF BREAKAGE TO SAWS.
OFFICE, 20, WATLINGSTREET, CITY, E.C.
where letters and applications for Machinery are to be addressed

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FRENCH BAND SAW
BLADES.



SAMUEL WORSSAM & CO.
[illegible] AND SAW BLADES [illegible] to meet in teeth.
[illegible]
S. W. & CO. keep a large stock of all sizes up to [illegible] ready for delivery to any part of the kingdom within twenty four hours' notice.
For Price Lists, apply to
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SAW MILL ENGINEERS,
304, KING'S ROAD, CHELSEA, S.W.

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Makers of Sawing, Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l*.



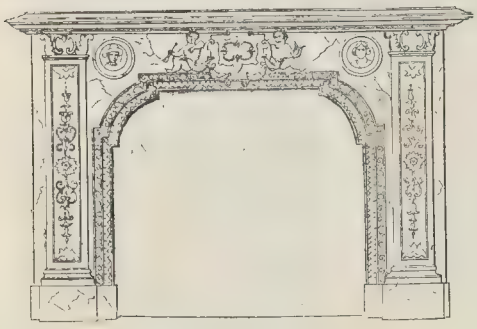
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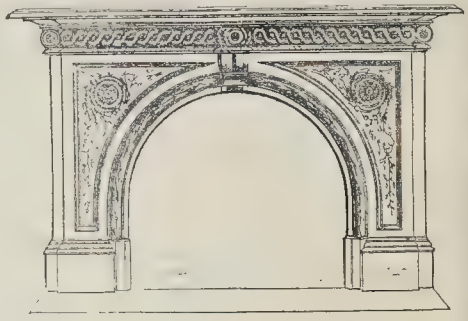
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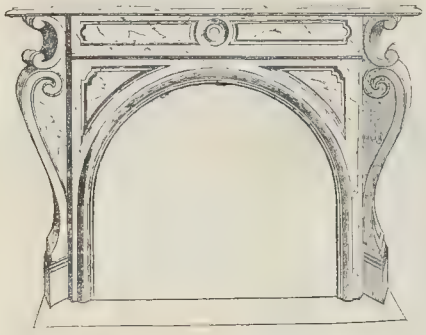
IS AT

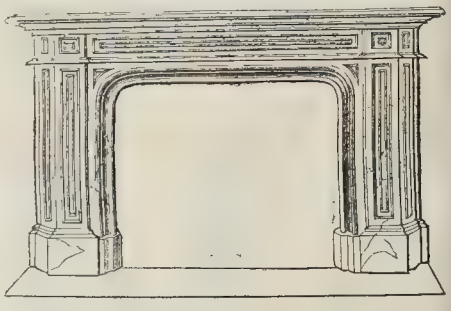
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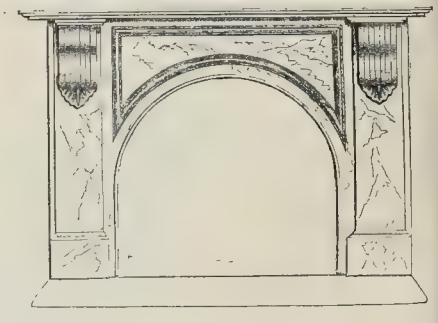












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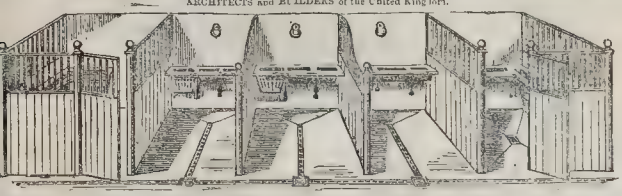
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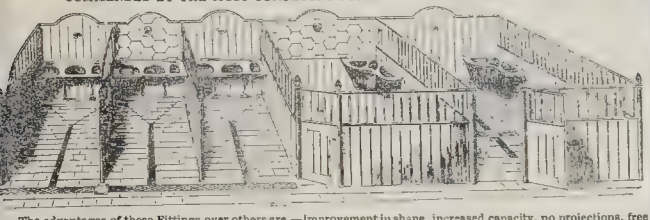
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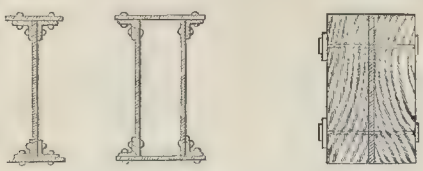
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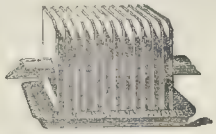
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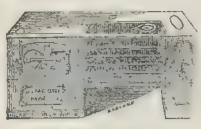
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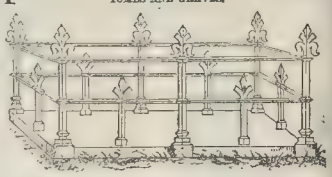
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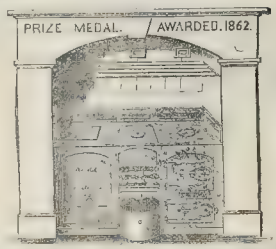
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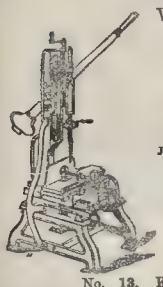
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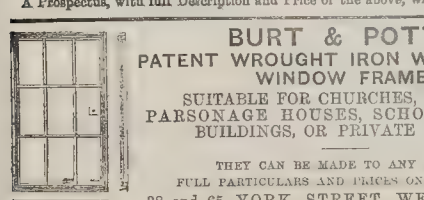
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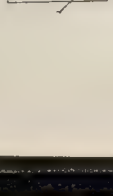
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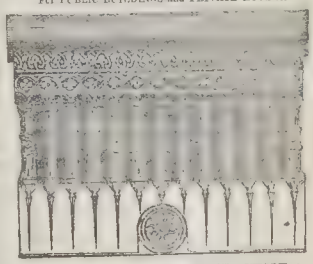
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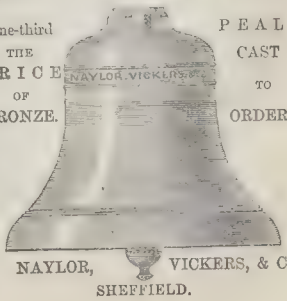
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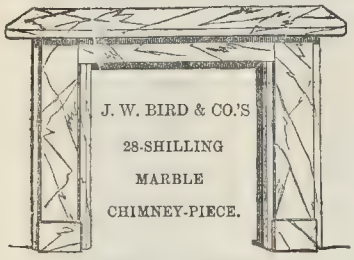
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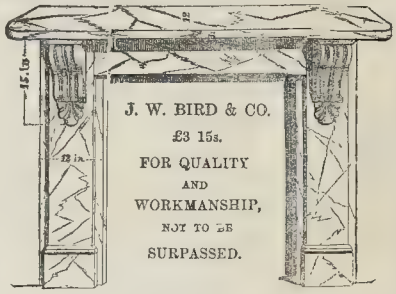
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The Builder.

VOL. XXI.—No. 1087.

"Going Along." More of Venice.



ORE? Ay, much more if we had but our own will to consult. Venice is a place to talk of for ever, and would be a place to live in, too, if Italy had but its own again, and the Venetians, relieved from thraldom and made easy in their minds, would set themselves to cleanse the canals and pass such laws as would prevent the autumnal foulness and consequent evil smells and sickness. Art and science are under a dead weight here. Take that off and they will spring up rejuvenescent to emulate their own achievements in earlier times. Glorious sons had Venice in those days; equally glorious descendants may she have again, if fair play be given her. Her best children, ill developed, now run away from her as fast as opportunities occur, and settle where they may use their abilities with something like freedom, and obtain a proper reward for their labours.

The exhibition of modern works open at the *Accademia di Belle Arti* afforded an illustration of this. The works of the students showed good academic drilling, considerable power,—so far: but the after-results of such drilling were wanting in the rooms below, where were collected the works sent by the elder men for exhibition. These, for the most part, were weak and feeble; and for such as had merit it was complained there were no buyers. The works for sale were 139 in number, including a few busts, vases, models, and copies. Two or three landscapes by Luigi Querena, Giuseppe Holzer, and Professor F. Moja, and half a dozen *genre* pictures by Guglielmo Stella, Cesare dell' Acqua, and Giulio Carlini, were all that called for praise. Some remarkably fine copies by Prodocomi of the illuminations in the Grimani breviary, however, placed in another part of the structure, should not pass unnoticed.

Seen in connexion with the fine works, especially of the Venetian school, to be found in the building and open to the public every day, these modern efforts seemed puny indeed. The Venetians claim to have had an academy as far back as 1670; but the academy on its present footing, and the present collections there, do not date farther back than 1807. In connexion with the original building, we get the name of Palladio, and with the later arrangement that of Cicognara, whose large work on Venice all our readers ought to know. The collections are several in number; the Pinacoteca dell' Accademia, the Pinacoteca Contarini, and the Pinacoteca Renier; and these being kept distinct, order and sequence in the arrangement of the pictures are sacrificed. The chief glory of the collections is the Assumption, signed *Ticianus*, a grand and wonderful work. Speaking of this picture, Mrs. Jameson once said to us the effect of it on her was "like music;" but this was not full praise. Never can music give the precise expression and evoke the same amount of feeling this picture is capable of doing. Browning sings:—

> "There is a vision in the heart of each,
> Of justice, mercy, wisdom, tenderness
> To wrong and pain, and knowledge of their cure;
> And these embodied in a woman's form,
> That best transmits them pure as first received
> From God above her to mankind below"

This picture gives expression to the dream of many.

Of the same great master there are the earliest work, the Visitation of Elizabeth, and his last when he was an old, old man, the Deposition of Christ, finished by the elder Palma. These are very interesting as matters of history, but as it seems to us, only in that point of view. Lovers of Tintoretto may revel here: and amongst many fine canvasses by Paulo Veronese is his large work, the Supper in the House of Levi, more than 40 feet long and about 20 feet in height, one of the grand series of Scriptural banqueting scenes painted by him, and now scattered over Europe. There are several large pictures by Vittore Carpaccio, full of small figures, illustrating the life of St. Ursula, that deserve notice. In one, a prince of England (?) who has asked her in marriage of her father, il re Mauro, is kneeling, dressed in red damask; his face and hands are admirably painted. Some exquisite Madonnas by Gian Bellini; a picture by Antonello da Messina, who learned from Van Eyck the secret of the use of oil colours, and *from* whom, according to a story we do *not* believe, Gian Bellini stole it; two curious costume pictures by Gentile Bellini and works by Martin da Udine, Paolo di Credi, Giorgione, Bonifacio, Vicentino, and others, are amongst the riches and curiosities of the collection. In one room is preserved the good right-hand of Canova, his chisel being suspended from the wall above it, and in every apartment there is something that will detain the real lover of art.

On the same side of the canal with the Academy, stands the church of Santa Maria della Salute, built as if to form a picture, with the Dogana and its gilded globe, borne by Atlas, and the church of S. Giorgio Maggiore, for Venice to look at, and all artists to paint. The church of Santa Maria, a bold octagon, designed by B. Longhena, was built by direction of the Senate, in thankfulness that the plague had ceased;—"*Unde Origo, unde Salus*, 1631." It stands like the rest of Venice, on thousands of piles, driven in to form a bottom for it. A marble group at the high altar represents Venice praying to be relieved from the pest, which an angel is chasing away; St. Mark and St. Lorenzo take part. The octagon nave, round which an aisle continues, has a marble pavement; and there are some fine paintings in the church by Titian and other masters. Here lie the remains of the architect Sansovino. The exterior of S. Giorgio Maggiore, nearly opposite to the Ducal Palace, one of Palladio's most celebrated churches, cannot be called handsome. The interior, though the upper part is bare and poor, is much finer. The proportions are admirable, and the manner in which the ancient forms are adapted to modern wants, is skilful in the highest degree. Pictures by Tintoretto and others, and bronzes by Girolomo Campagna, call for admiration. The wood-carvings behind the high altar, by Alberto de Brule, 1598, though much praised, are simply good upholstery work.

The finest Gothic church in Venice, excepting the Frari, is that dedicated to SS. Giovanni e Paolo, ascribed to one of the Pisani, and which is now being restored under the architect, Signor Biondetti, with marble and terra cotta. There are some very bad settlements in the north transept, and the columns are driven over at the top. The chapels at the east end also need and are having attention. There are some curious bronze reliefs by Moza, of Bologna, fixed against the wall of a chapel at the east end. These illustrate the life of St. Dominic. The monument of the Doge Andrea Vendramini, 1478, is a remarkably beautiful specimen of *quattro-cento* enrichment. The figures are not so fine, though some of them are good. The church contains a wonderful assemblage of monuments of both the Pointed and the Renaissance period, including numerous statues. And as to the pictures there, we need only mention St. Peter Martyr, by Titian, and a fine Madonna and Saints, by Gian Bellini, to show that it is a shrine for all art-loving pilgrims. The Chapel of the Rosary has some wood-carving, coarse, but in parts powerful, by Brustolo. Everywhere in Italy, by the way, the artist's name is prominent on his work. In this chapel, too, there is a series of groups in relief illustrating the life of the Virgin, signed Aloysius Fagliapietra, or by his son Charles (with the exception of three), and of great beauty. The exceptions are much less good, and of these only we were sorry to find an artist making careful drawings for one of our compatriots,—a man of Manchester. What could have regulated the selection?

The Civil Hospital, near this church, is part of a richly adorned fifteenth century building, by Martino Lombardo, a member of a family of architects belonging to Venice. One of them, Sante Lombardo, designed the Scuola di San Rocco, with its fine staircase, of which we have already talked. He also built the beautiful Vendramini Palace, and others. The façade of the hospital has a spotty effect, from the variety of material used, coloured marbles and so forth being differently affected by time. The upper part shows considerable invention. Below, there is a curious imitation in marble of piers and arches in perspective, with lions and figures under them,—a horribly poor conceit.

Venice is a wonderful place for the study of domestic architecture. Some other cities have each a dozen or a couple of dozen of good specimens; but here the whole of the watery road is lined with them,—Byzantine, Gothic, and of the Renaissance,—mostly in a neglected state, many of them miserably out of repair, but all sufficiently perfect to show their peculiarities and their beauties. One noticeable and disappointing fact is the constant repetition made in the earlier Venetian buildings of a morsel of the well-known arcade of the Doge's palace. This occurs over and over again, a little varied in one or two instances, but for the most part simple repetition. Our own "Venetian Gothic" men, we must observe, find it very difficult to put together a façade without it. The balconies, the angle windows, little bits here and there in every direction, offer themselves for admiration, but are all now so well known as to need no introduction. Touching the Ducal Palace, by the way, we would relieve some of our general readers from a prevalent belief that they are bound to admire every stone of it. The top story has little about it to call for admiration; it must surely have been the work of a later hand, and as to the Strawberry Hill parapet that crowns it, visitors may be held excused if they say it is a very trumpery affair, quite unworthy of the greater part of the two lower stories of the building, the beauty and nobleness of which will be evident to all who have learnt to see.

And now, first taking another long look at the glorious *ensemble* here, turn the gondola up one of the narrow cuts that open out on the other side of the city, and pay a visit to the island of Murano.

At a very early date, the manufacture of glass it will be remembered, was specially cultivated by the Government of Venice. It was an art it

regarded as the apple of its eye ("*qual pupilla degli occhi suoi*"); and the products were purchased in all parts of the world, and brought in large revenues. In the thirteenth century the number of glass houses in Venice was so great that the city was constantly exposed to the danger of fires; and in 1291 a decree was passed ordering their demolition. Murano was chosen for their new site: in a short time the island was covered with glass-houses, and here the manufacture was carried on for long years. The glass-makers were invested with great privileges, and to some extent ennobled. Their glass jewelry, coloured beads, enamelled vases, and filagree ornaments, were sought for by all Europe for some hundreds of years. In the eighteenth century, however, the trade took a new course, the glass of other countries came into fashion, and when the Venetian Republic fell, Murano lost its place, and has not regained it. Sadly desolate is it now, and its churches strikingly exhibit the decay. The cathedral, or Church of San Donato,—a well-known and very interesting building, dating probably from the eleventh century,—is in a miserable state; so bad, indeed, that the interior has been filled with scaffolding, and men have been set to work to repair it. Originally it must have been richly ornamented within and without. The eastern apse, arcaded externally, has lost its facing of stone and marble. The bare brickwork remains exposed, with small pieces of early carved stonework, birds and grapes, and interlacings here and there. The apse within is covered with mosaics, presenting on a gold ground a long figure of the Virgin, of Byzantine type, with blue dress, all cut into and spoilt. Behind the altar there is a carved representation of the patron, with the inscription, "*Corpus Sancti Donati Epi. Muriani protectoris.*" The mosaic pavements in the church are most interesting. The patterns include the conventional two peacocks, eating out of a vase, and it is dated 1140. This work is second only to that in St. Mark's, and, in some respects, is perhaps superior to it. It has been miserably damaged; but time has not paled it so much as it has some of our modern mosaic pavements not twenty years old.

The church of S. Pietro, not far from the cathedral, is the picture of desolation. There are some clever wood-carvings in the sacristy, by Pietro Murano, in a very bad condition, and evidently little cared for, as a nail is driven into one of the figures to hang a towel on!

The Island of Torcello is farther off: the journey to it from Venice occupies the gondoliers nearly two hours. Passing up a little inlet of the island, through gardens of vines and shining pomegranates, the parent Basilica of Venice is soon found, a building more time-bleached, solitary, and deserted than that of Murano, or than any we can elsewhere remember. Pause awhile to view its singularly beautiful arcade at the west end, then enter the building again to experience a strange and absorbing sense of solitude. There is plenty to admire, nevertheless. Anything more exquisite than the series of capitals to the internal arcade of this building, it is almost impossible to conceive. But all other feelings at Torcello sink into one of melancholy at the sight of its noble mosaic at the west end. This invaluable example of early work, a "Last Judgment," is now literally bulging and crumbling from its wall—not from any inherent decay, but from the criminal apathy of the Austrian Government. It appears, that some four years since a mosaicist was commanded to restore the work—a process which he understood, as restorers are wont, to be best accomplished by ripping off the old mosaic by wholesale, and substituting his modern antique in its place. The result was, as may be guessed, impending ruin of perhaps the whole. But the Government, discovering that the process was taking a felonious form, since the ancient work, sound as well as time-worn, was being purloined, stopped the business, and, we believe, incarcerated the artist. From that day to this the mosaic has remained untouched. There stands the mosaicist's scaffold, and some of his tools, just as he left them. Unfortunately, too, the mosaic itself is as he left it—that is, bulging, tattered, falling, and threatening destruction. The absence of further care in the matter by those in authority is ascribed to the absorption of the Government money in gigantic military expenses. Thus the Government takes care that Venice shall be overrun with what the Venetians call the real mosquitoes of the place, and declines to spend a few pounds for the conservation of one of its most interesting monuments.

Poor Venice! Beautiful Venice!!

ARCHITECTURE AND THE ROYAL ACADEMY.*

The questions belonging to architecture, raised during the proceedings of the Commission on the Royal Academy, but some of them so strangely left unnoticed in the Report, concern too nearly the interests of the public, as well as tastes of the profession, to be dismissed by us in a single article. The Commission attribute that "bad taste and utter want of system" in public buildings, of which, as we have said, they recognize that there has been "*well-founded* complaint," to the dependance "too much on the rapid succession of the several politicians who have filled the office of First Commissioner of Public Works, and on the conflicting votes, which according to their recommendations, have been passed by the House of Commons." And they think that the Royal Academy, constituted as they propose,—namely, of fifty professional and ten non-professional Academicians, and fifty Associates, members jointly with the Academicians of the general assembly, the whole presided over by the best man of the Academicians, *professional*, it would appear, and of whichsoever branch of art,—would form "a valuable permanent council of advice and reference in all matters relating to the fine arts, public monuments and buildings," whilst that the successive advisers of the crown, instead of feeling jealousy, would welcome the advice with pleasure as relieving them from embarrassment. We may infer that the new constitution would admit of about eight architect-academicians. There are now three: but there is an architect associate; and at the date of the list which is given as "Appendix No. 4," the late Mr. Cockerell additionally was an "honorary retired Academician."

But though, on the actual management of public works, the Commission express an opinion which has our complete adhesion, we are not satisfied with their utter neglect, in their Report, of the question of the recruitment of the talent upon the existence of which, in the profession, the growth and future maintenance of an art-element in the works would depend, no less than upon the happy selection of a small number of the body of judges, qualified in their special pursuit, and competent to explain their views to the painters, sculptors, and amateurs who would form the majority. Taking the general *status* of education and talent in the profession as not likely to fall below the present standard, it must not be forgotten, that many of the defects of the *system*, or "want of system," before mentioned, are observable in ill-digested plans, and in the extravagance resulting from changes of intention, and pulling down and rebuilding, rather than immediately, in matters of art of which painters and sculptors could be cognizant. The errors are the means of wasting large sums that might otherwise be spent on art; and, under a proper system, not a street should be formed, or bridge built, or building erected, without the recognition of art as a requisite in the work. But we are inclined to think that our own profession,—could the public be suffused with a sense of the importance of the art-element in all buildings, and could the profession when so favoured, acquire the appreciation and capability for sculpture, or sculpture and painting,—would offer, or representatives of it, advice that would tend more to the amelioration of the art which is displayed in buildings, than would the advice to be furnished by a body in which much of what is architecture would be assumed to have no place, and in which the art-architectural, however viewed, would be in a position extremely contrasting with its actual importance. This is not saying that the profession should lose *prestige* that it has through connexion with the Academy, or not gladly see itself represented more largely there, and instruction in the drawing and modelling of the figure communicated to architectural students.

It may be interesting here to collect from the different lists, the statistics of the representation of architecture in the Academy since the foundation in 1768. Since that time, or to some period in the first half of this year, there have been in all, 156 Academicians, or painters, sculptors, architects, and engravers. We find by a simple calculation, that there were 74 associates who did not reach the honours of the higher grade. Out of the 156 Academicians, the names of seventeen are those of professional architects. The names, with the dates of election, are Thomas Sandby, William Chambers, John Gwynn, William Tyler, and George Dance, who were of the original nomination by George III.; James Wyatt (associate 1770), 1785; John Yenn (associate 1774), 1791; John Soane (associate 1795), 1802; Sir Robert Smirke (associate 1808), 1811; Jeffrey Wyatville (associate 1822, as Jeffrey Wyatt), 1824; William Wilkins (associate 1823), 1826; Charles Robert Cockerell (associate 1829), 1836; John Peter Deering (associate, as J. P. Gandy, 1826), 1838; Philip Hardwick (associate 1839), 1841; Charles Barry (associate 1840), 1842; Sydney Smirke (associate 1847), 1859; and George Gilbert Scott (associate 1855), 1860. The names of architects amongst the seventy-four associates are Edward Stevens, elected associate, 1770; J. Bonomi, 1789; Joshua Gandy, 1803; and Edward M. Barry, 1861. Chambers, Soane, Wyatville, and Charles Barry, who were knighted, seem to have received the dignity each at some date subsequent to their election as Academicians. An architect has not filled the presidency except once, and then only exceptionally for a single year. In 1805, James Wyatt was elected to the office in place of Benjamin West; but West was re-elected in 1806. The five names of presidents, excluding Wyatt, since the foundation, all are those of painters; and the four secretaries' names belong to the same branch of art. The keeper, as well as the librarian, has always been either a painter, or an artist in some walk of sculpture. The treasurer, however, having the care of the apartments or building, has always been an architect. The names are Sir William Chambers, 1769; John Yenn, 1796; Sir Robert Smirke, 1820; Philip Hardwick, 1850; and Sydney Smirke, 1861. The professors of architecture have been Thomas Sandby, 1768; George Dance, 1798; Sir John Soane, 1806; William Wilkins, 1837; C. R. Cockerell, 1839; and Sydney Smirke, 1860: but others may have lectured; at least Mr. Scott has. The professorship of perspective has never been filled by an architect; which is perhaps the reason that painters exhibit so much inability in that requisite of their art. It is, however, right to say that the number of lectures or lessons in the perspective course, has always greatly exceeded the number six, as in each of the other courses, painting, sculpture, architecture, and anatomy. The course of the present teacher of perspective is forty lessons. That is thirty-nine more than many architects have received, who have become accomplished draughtsmen; the reason of the great success of the architects, with less apparent study, being probably to be discovered in the fact that with them, the drawing of objects as they appear, is acquired and practised along with and by the aid of geometrical drawing, or the method of representing objects as they are.

The recommendations of the Commission would go to effect a considerable improvement upon this position of architecture in the Academy. An architect might be elected president, as in the case of most of the foreign academies. Certainly we can have no hope for the beneficial influence of the Academy over public works, or for the progress of sculpture and the correction of the present defects of our "public statues," or for the production of works of the first class in painting, till architecture is understood and appreciated by painters and sculptors, and placed on no inferior rank to their arts.

The machinery for the education of architects, is comprised in the lectures,—which are six on architecture annually, though subject to interruption on changes of the professor,—the opportunity presented of using the library on one day and three evenings in the week, and that of making one or two drawings from measurements of buildings, and other drawings "exemplifying the principles of scinography," and designs to prescribed subjects, in competition for medals. With

* See page 804, *ante*.

this however is included the opportunity of gaining the "travelling studentship," or occasionally a scholarship to the amount of 25*l.* for one year, but renewable by the council for a second year. The Appendix (No. 13), giving "Extracts from the Laws relating to the Schools, &c.," is not clear without Sir Charles Eastlake's evidence: but the gold medals are offered once in two years; whilst silver medals are offered every year. The gold medal to architects, with the Discourses of Reynolds, and other books, is offered "for the best-finished design in architecture" to a determined subject, shown in plans, an elevation, a section, and a perspective view. The scholarship may be offered added to the offer of the medal; but is not tenable together with the travelling studentship. The travelling student is eligible in each class, painting, sculpture, and architecture in rotation, from among those who have obtained gold medals. The allowance is 100*l.* annually during two years, and 60*l.* for the journey and return. But according to the same Section, 5, relating to "Travelling Studentships," of the Laws, "a travelling studentship for one year, with an allowance of 100*l.*," further, is to "be annually offered to all students in architecture, except during the term allotted to the gold medal student in architecture," candidates being "allowed a limited time to produce, in the Academy, an original design" to a prescribed subject. This annual travelling studentship for architects,—additional to the other for two years, which is taken in turn between the three classes,—comes into effect this year; and it is a concession to the claims of our art, for which we would award the Academy great praise. The silver medals to architects are offered for the best accurately-figured drawings from given subjects, the measurements being made by the students, for the best perspective drawing in outline, and for the best drawing exemplifying the principles of sciography.

There is considerable difference of opinion amongst the painters, on numerous points of the question of the utility of foreign travel. Several of them express reasonable doubt whether lengthy sojourn in Rome is desirable as a feature in the training for their branch of art. But they would speak unhesitatingly as to the advantage to architects, of such a residence as the five years in Rome, of the students who have gained the prize of the French Academy; and they appear to be backed by the sculptors. The list of nations maintaining pensioned students in Rome, given in a letter by Mr. Gibson, referred to by Sir Charles Eastlake, as quoted by Earl Stanhope, in 1860, in the House of Lords, was originally put forward as inducement to the English Government,—spending, in the words of the writer of the letter, "large sums to erect public monuments,"—to follow example, and contribute something "towards the training of their students," so as "in the course of time to have public monuments that would be an honour to the nation." But there is error in the following otherwise very noteworthy passage in the examination of Sir Charles Eastlake. The chairman is questioner.

"518. I have spoken hitherto of sculpture and of painting, but Mr Gibson has also intimated his opinion that the same system of studentships at Rome would be highly advantageous as regards architecture, and that study at Rome would tend to elevate and refine the style and taste to be exhibited in public buildings: are you of the same opinion?—I have not a doubt of it. I think that the system adopted by the French Government with regard to architects sent to Rome is most judicious. They are always required to restore some antique building, the practice has been going on so long that French students in architecture who now go to Rome are almost at a loss to find a building which has not been restored. The collections of drawings, which must by this time be accumulated in Paris, of that description, must be extremely valuable."

The system referred to by Sir Charles, as he would on consideration see, is, or was, not quite so judicious as he has represented it. We say "*was*;" for, we shall have an opportunity of stating that the system has already received some modification. Notification to the effect has appeared in the *Moniteur*, since the publication of our last article.

The value of the drawings in Paris may be great, as we know is that of many of them that have been published; and Rome may demand more of the architect-student's attention, than any other place. But to give it exclusive attention during such a number of years as five, seems to be to prepare the architect to be narrow-minded and the reverse of artist. Mr. Tite scarcely thinks that great value is attached by architectural students to the travelling studentship,—that is the mere money,—though the gold metal is "very anxiously sought after." He speaks of Northern Italy as affording "infinitely more objects for study" than Rome, and of the desirableness of visiting Greece and Asia Minor. Mr. Scott of course referred to the importance of France for Gothic architecture. Mr. Ruskin being asked as to the system of the French Academy, or one allowing of visits to Venice or Lombardy, said of the two systems, "I should prefer the latter; if a man goes to travel, he ought to travel, and not be plagued with schools." If we might revert to the question of the painter's education, it would be interesting to quote the words of Mr. Herbert, who thinks that generally, much harm accrues to a student from going to Italy, and who would abolish the travelling studentships altogether, unless the students went to Egypt or Algeria, or to countries where art is not found, and where the mind would be directed to nature. Several of our best artists have derived little or nothing from residence in Italy. Mr. Maclise has never resided there for any lengthened period. Sir Edwin Landseer has never been in Italy, though he considers there is advantage, to a student in painting, to be derived from a sojourn in Rome.

We are certainly not inclined to set a low value on travel, as contributing to the education of the architect, or upon a residence of some duration in a foreign capital where many fine works may be seen. On the contrary, we have ere now said, that there is no substitute, not even photographic representation, for seeing examples themselves. Moreover, if the mind keep from being narrowed, there is even value in knowing one thing or class of works thoroughly. But, the error is very great into which some of our architectural students now fall, of studying only what is within easy reach, or attending to the models of only one style, as in the French or the Italian Gothic; and thence, reasoning and acting as though such models comprised the whole capitalized wealth of architecture. The error would be the same, of keeping for five years to the exclusive study of even such works and relics as there are in Rome; and it is not surprising that the French system has not produced results that might have been expected from some of the most promising students sent there. If any place at all deserve from the English student a lengthened residence, that place would be Paris, where work is actually going on. It is necessary to see models themselves, that have contributed to the development of new art in the modern works; but the student must be kept thinking, comparing, and reasoning, as well as drawing and measuring buildings. He will never be an architect without the drawing; and he will never draw or design works of *art*, unless he attain the skill and possess the faculty in youth: but he will be only a draughtsman, not an architect, unless he seek early to understand the different working of many artist-minds. The architects who have done most for the embellishment of Paris, are men who have derived their qualifications from the emulation amongst students, kept up by the system, defective though it may have been, of the École des Beaux Arts, and from the practice of the *ateliers*, added to the effects of the atmosphere of art, as we may call it, which the French capital presents in buildings and decorations, in general tone of society, and in books and publications which are far more numerous, more prominently exposed, and more cheaply attainable than with us. In contrast with the atmosphere figuratively referred to, we in London have the depression of art-energy and art-appreciation, the combined effect from the actual atmosphere that we pollute. Those French students who have been to Rome, have always retained the *prestige* from having gained the "*grand prix*:" many of them have been after their return, chosen as members of the Conseil Général des Bâtiments Civils, or to conduct researches in various countries; or they have published illustrated works of value, results of their investigations; but they have not contributed very much to the art-work which there really is in new Paris. Such work, or most of it, has been produced by men whose names have hardly got to this side the Channel.

Whilst, on this matter, the evidence of some of the witnesses tended to erroneous conclusions, it is to be regretted that more stress was not laid upon the French *atelier* system, as it is called, or that which is developed into the practice of the co-operation of the pupil in the production of his master's works. The most important evidence received by the Commission, referred to the operation of the system in painting of the class suited to the decoration of public buildings. But, beyond the interest which such evidence must have for us from the connexion with architecture of a branch of painting which may be even called a branch of architecture, the evidence, with that on the other side, or stating the difficulties in the introduction of the system in this country, is highly suggestive in the question of the education and early career of our architects. Mr. Edward Armitage gave to the Commission, in his evidence, and in a letter to Lord Elcho (which appears in Appendix, No. 27), a particular account of the manner of his assistance and that of three other pupils of Delaroche, in the production of the great picture in the Hemicycle of the École des Beaux Arts; and the general subject was treated in the evidence of several others. Mr. Armitage indeed said that there was "not a sufficient demand for historical art in England" to create such schools as those of the great French artists, "that the public eye is not yet sufficiently educated to detect" the "weakness in drawing," of portrait-painters and landscape-painters; that, for the assistance in high class work, as mural decoration, to be serviceable," the pupils ""must have been educated by the man who employs them," &c.; and that the "present pupils could not do it." And he subsequently said that in England "nobody knows what drawing is," two hours a day being considered sufficient for learning it; whilst the students in France attend four to five hours a day in the *ateliers* of their masters, and two hours in the École des Beaux Arts. He thinks, however, in his letter, that the experiment of assistants in great mural works would be "worth trying;" though he says the assistance should be given gratuitously, as in his own case. It is discouraging to read that portion of Mr. Dyce's evidence which refers to this subject. When M. Dyce undertook his frescoes in the Houses of Parliament he "expected to have been able to make use of pupils;" but," he says,—

"after a trial I was obliged to give it up. I tried three or four young men, but I found that they could give me no assistance

417*a*. Were they Academy students?—I did not take them from the Academy. I do not know whether they had been Academy students; but I found that I could not avail myself of the services."

He seems to come to the reason in answering the following question, thus:—

"4180. Still it was by that very system of employing pupils under a master, that most of the great works in Italy were completed?—Yes; but there were no exhibitions then. A young man, as soon as he is able to put anything before the public, rushes to the exhibition with it, and it seems the notion of his assisting anybody else is quite hopeless."

Mr. Maclise had previously expressed approval of "that system by which an artist organises a school," but said "it is difficult to obtain" assistance such as would be required for production of a "fresco" like that "in the House of Lords." Mr. Maclise continued, answering question 1480,—

"Young men now-a-days achieve a little success by painting a picture, and they will not do such work. I have often had my eye upon young men of the Academy and elsewhere, with a view to such employment, but I never could get effectual assistance."

He "would employ young" men if he could: his labours would be greatly lightened.

Mr. Watts having made the valuable suggestion that the walls of public schools, as Eton, should be decorated by Academy students, — it might be after Flaxman's designs, — gives his opinion of the advantage of working in the manner described by Mr. Armitage; though he, Mr. Watts, had "never studied in any school." As to sending students to Italy, Mr. Watts considered it was not absolutely necessary, considering the works of art that there are in England; though it was obvious that "the mind must be enlarged" by travel; but he said the present system of sending a student for three years, and leaving him to do much as he pleases, was "productive of no great result," &c.; and a branch academy at Rome would be an improvement. He said:—

"As far as I know, no travelling student has ever turned out to be a distinguished artist, except in the case of Mr. Hook, who only remained in Italy a small portion of his time."

Mr. Watts forgets Mr. Kennedy, who should long ago have been an Academician.

Obstacles to the introduction of the *atelier* system are referred to in the examination of Sir Coutts Lindsay, Bart., who, after allusion to one of the rare instances in England,—mentioning that Sir Charles Eastlake was a pupil of Haydon,—specifies the employment of artists on easel pictures, and the fact that fresco-painting has been misunderstood by artists, and so has not extended the taste for it which he recognizes as capable of development amongst the public. This witness, Mr. Layard, and Mr. Watts, express much the same views as to the existence, in this country, of a taste for mural decoration and historical painting, wanting only that some action should be taken by the Royal Academy, which, Mr. Layard says,

"the fact is," "ought to be an *atelier* on a very large scale; it should be an *atelier* undertaken by a body of men instead of one man." Mr. Layard thinks the church in Margaret-street defective, from the appearance of different minds having been at work. Mr. Watts looks upon "architecture as one of the most important branches of art," and he adds,—

"I lament that the three branches should be called three branches; they were not considered as three branches formerly, but were combined in one, and were practised by one and the same man."

This, of course, may be opposed to the views of Mr. Fergusson, to whose evidence we have alluded, and shall revert. But we quote the next question and answer in the examination of Mr. Watts:—

3163. "The architect builds, while the painter decorates the work of the architect in many cases; in fact, the most monumental painting is that painting which decorates the work raised by architects?—Yes, and the noblest. It would be highly desirable to stimulate as much as possible the taste for that in England, and I think that if a number of buildings were decorated a taste would grow up. *What we have not known we do not care about, but we should care about it if we had it set before us.* It seems to me that it would be highly important, whether it were done by the Royal Academy, or by any other public institution, to decorate the public buildings of England as much as possible. *It is the only way of making the fine arts general.*"

And afterwards:—

"3180. (*Lord Elcho*) Do you think that the taste for those mural decorations is increasing in this country?—Not so much as would be desirable, but that is mainly because they are not enough seen. They are only executed where the public at large do not see them, and I think also they are much too expensive. I should at first employ students upon them, and scatter them abroad as much as possible."

We are not yet through the evidence.

BRITISH PAINTERS.—NEW MATERIALS FOR THEIR LIVES.

Richard Wilson, R.A. (1713-1782).

There is a quarto "Life," so called, of Richard Wilson, the father of our English school of landscape painting. The author, a Mr. Wright, was "a dead hand" at a Life, entirely ignorant of the wants of biography, and incapable of saying clearly and succinctly the little he had to say. Allan Cunningham has told in twenty pages concisely and clearly all that was readily at hand, or the traditions of studios had preserved, to illustrate and relieve a bare narrative of facts. To what Wright and Cunningham have told us, I shall now add a few scattered memoranda respecting Wilson, and a catalogue (*the first of the kind*, and sadly needed) of Wilson's works, with the little information of any moment that is known about them.

Barry, *the great Adelphi* painter, has given us a portrait of Wilson in words, a portrait overlooked by Wilson's biographers. How fine is the reference to Snowdon:—

"I remember meeting Mr. Wilson, one day, looking over a collection of pictures at Prestage's Auction Rooms: on his pointing out with much enthusiasm some excellence in the middle distance of a picture, to which he wished to direct my attention, 'Yes, yes—very true; I heartily agree with you,' said I. 'Surely there is no man now living who is able to paint a landscape of so much excellence!' Though this was said almost laughingly, yet I saw his countenance lower, like a tempest gathering on his own Snowdon; and, seizing him by the elbow, 'My dear Wilson,' said I, 'don't be angry. I only wanted to show you the use, or, rather, the abuse to which your remark might be converted, after you had left the room, by such men as *Blackwood*, or the *Doctors Chauncy* or *Bragge*, had anything in their possession been the subject of your remark.'"[a]

The Mr. Prestage alluded to was an auctioneer of note—a kind of Christie in his day. His "Great Room" was at "the end of Savile-row, next Conduit-street, Hanover-square." I have several of his sale catalogues. Three before me while I write are those of Dr. Bragge and Mr. De Pesters, of Hanover-square. Chauncy was a skilled collector.

At p. 200 of Cunningham's "Life of Wilson" (second edition), is the following note relating to Wilson's famous picture of Ceyx and Alcyone, said to have been painted *for* a pot of beer and the remains of a Stilton cheese.

"From an eminent member of the Royal Academy I have received the following version of this story, to which I could add three others. I have retained in the text the most popular one:—

'In the anecdote of Wilson's painting the Ceyx and Alcyone, there is a slight mistake. The castle and rock of the picture were painted *from* and not *for* a pot of porter and a Stilton cheese. From what I have repeatedly heard Farington say, it was not so much the low prices which Wilson got for his pictures, as the general want of employment which he had to complain of. For such pictures as those of his which Farington had, and Constable has, he used to receive from ten to fifteen guineas, which, according to the value of money then, is quite equal to the prices received by almost any of us now. I won't name the exceptions—I can only say that I am not one.'"

The "eminent member" of the Royal Academy was Sir Augustus Callcott, the landscape painter and R.A. The new version of the story is contained in a letter to Sir Francis Chantrey.

Beechey, we are told (Cunningham's Lives, i. 209), was the steady friend of Wilson: listen, then, to an overlooked account of Wilson, given by Holcroft, the dramatist, direct from the lips of Beechey:—

"Wilson," Beechey says, "was indolent, and, in his latter time, used to make several attempts at each touch, before his hand reached the precise place. In this manner a picture would remain several days on the easel with but little apparent progress. If B[eechey] be accurate, the colours on Wilson's palette did not exceed four, and his common menstruum was linseed oil, instead of other oils eight or ten times as dear. He had much comic humour, would turn from his easel to the window, make whimsical remarks on the passengers, pause to recollect himself, and begin painting again. He was addicted to liquor, by which his nose became enlarged, and so irritable, that the handkerchief was frequently applied to it, and kept in his bosom for that purpose. Glad of every opportunity to escape from labour to his favourite indulgence, he would say to any acquaintance who happened to call, 'Come, let us go and take a drop of something. I have painted enough for one day.' *Farington* and *Hodges* were his pupils; and, many of the pictures that pass for *Wilson's* were painted by them, but retouched by himself. Thus the same picture became multiplied. He would even buy copies made from his pictures, work upon them, and sell them as his own. To a certain degree they were such, but the practice was dishonest; for an unskilful eye could not detect the inferior parts. Acts like these are the ruin of honest and well-earned fame. *Wilson*, however, was a man of uncommon genius, of which he has left sufficient and undoubted proofs. He and *Sir Joshua* had conceived some ill-founded prejudices against each other. Under their influence, *Sir Joshua* once said, at the Academy, *Gainsborough* was the best English landscape painter. *Wilson*, happening to be unperceived at his elbow, replied, 'You mean the best English portrait painter.' If it was not *Opie*, I forget who gave me this anecdote."—*Holcroft's Memoirs* vol. iii., p. 23.

The Gainsborough story is told in Northcote's "Life of Reynolds," ii. 237, second edition.

No. 41 of the Art Treasures Exhibition at Manchester in 1857 (British School) was a most exquisite little landscape, by Wilson, full of Cuyp-like sunshine and perfect in point of condition. The to be envied proprietor of the picture, Mr. Entwisle, the banker, Manchester, has the following memorandum respecting it, in the handwriting of Mr. Winstanley, the well-known auctioneer:—

"The St. Marino view by Wilson was painted for John Hunter, the celebrated anatomist, in whose study it hung for many years. Wilson received twelve guineas for it, and often visited it in his later years.

"At Mr. John Hunter's sale, Mr. Speirs bought it for forty-seven guineas and a half; and he kept it until within these three years, when he sold it to George Townley, Esq., of Bristol, for three hundred and fifty guineas, from whom it was purchased by Mr. Peter Norton, of London, for the same sum. I gave Mr. Norton four hundred guineas for it. The rest you know.

(Signed) "Tho. Winstanley.

"*Manchester, Oct.* 16, 1813."

From John Hunter's twelve guineas to Mr. Entwisle's (I believe) five hundred guineas, is a pretty smart leap in any history of "prices."

Paul Sandby, the well-known landscape painter (whose skill and industry have preserved many buildings now no more), was an admirer of Wilson and a collector of his works. Sandby's sale took place at Christie's, 2nd, 3rd, and 4th of May, 1811, the Catalogue recording "An Invaluable Assemblage of near 70 original Drawings by Wilson." A few tempting lots, real Richard Wilson's, will repay perusal:—

106 (First day). A singular study of rocks: fine effect of sunshine.
97 (Second day). Two original drawings,—View on the Banks of the Dee, in Cheshire; ditto in the Garden at Lerici.
106. A pair. Views of the Brick Kiln in Windsor Park; and View on the River Wye; painted in body colour on panel.
107. A Sutler's Tent near the Serpentine River, Hyde Park, during the Encampment, 1780.
108. A View near Bethgellert.
109. A View of Langolin, Denbighshire.
110. A View of Snowdon from Llanberris Lake.
80 (Third day). A drawing,—The Effect of a Storm. It was from this sketch Mr. Wilson took the idea of painting his celebrated picture of the "Niobe."
81. A ditto,—A Fragment of a Rock. This study appears to have been greatly admired by Mr. Wilson, who introduced it into several of his pictures.

Genuine and fine drawings by Richard Wilson are of rare occurrence, and command high prices.

The last London residences of Richard Wilson were No. 85, Great Titchfield-street, Marylebone; and No. (unknown), Tottenham-street, Rathbone-place. Great Titchfield-street is memorable in the history of English art; for here, only five years after Wilson's death, was born, 18th September, 1787, William Collins, whose sea-shore scenes with shrimpers, "Rustic Civility," and "Happy as a King," have given him an honourable and high position in the British school of art.

A dated list of Wilson's exhibited works will be of use:—

Wilson's Exhibited Works.

1760. A large Landscape with the Story of Niobe.
" A small Landscape, Monument of the Horatii on the Appian Way.
" A small Landscape, the Banks of the River Dee.
1761. The Bridge of Rimini, with the Republic of San Marino.
*** In 18— (?) in the possession of W. Leader, esq.
" Temple of Clitumnus, its companion.
" The Lake of Nemi.
" Its companion.
" Large Landscape with Historical Figures.
" View near Chester.
1762. A View of a Ruin in her Royal Highness the Princess Dowager of Wales's Garden at Kew.
" Its companion.
" A Landscape with Hermits.
" A View of the Thames near Richmond.
" A Ruin at Tivoli.
" A View of Holt Bridge on the River Dee.
1763. A large Landscape with Phaëton's Petition to Apollo.
" A View from Tivoli towards Rome.
1764. A small Landscape with a Ruin.
" Ditto, its companion.
" The Convent on the Island called L'Anconetta, near Venice.
" A Landscape and Figures.
1765. A View from the Villa Madama, three miles from Rome.
*** In 1824 in the possession of the Earl of Egremont.
Edwards says (Anecdotes, 4to., 1808, p. 79) that "The Villa Madama" "was purchased by the late Marquis of Tavistock."
Engraved, 1765, by William Byrn.
" A Summer Storm, with the Story of the Two Lovers (Celadon and Amelia), from Thomson.
*** In 1814 in the possession of William Smith, esq.
" A Landscape and Figures.
1766. North-west View of Snowdon and its Environs.
" Carnarvon Castle.
" Banks of the Tiber.
" A Landscape and Figures.
1767. View from Moor Park towards Cashiobury, Watford, and St. Alban's.
*** Two Views from Moor Park were (1814) in the possession of Lord Dundas.
" Landscape and Figures.
1768. A Storm at Day-break, with the Story of Ceyx and Alcyone.—Ovid Metam.
" A View of the Lake of Nemi from Gensano.
1769. (*The First Royal Academy Exhibition*)
" A Landscape.
" Its companion.

[a] Barry.—Letter to the Dilettanti Society, 4to., 1799, p. 52.

1769. A Landscape.
1770. A Landscape, with Historical Figures.
„ Cicero and his two Friends, Atticus and Quintus, at his Villa at Arpinum. *Vide* Cic. de Leg., lib. 2, p. 74.
*** In 1814, in the possession of William Fitzhugh, esq.
Do. (in 1814) in possession of John Hawkins, esq.
Do. (in 1814) in possession of Sir W. W. Wynn, bart.
Engraved, 1778, by Woollett.
„ A View, three miles from Rome.
„ A ditto, on Hounslow Heath.
1771. A View near Winstay, the Seat of Sir Watkin Williams Wynn, bart.
" A View of Crow Castle, near Llangollen, in Denbighshire.
" A View of Houghton, the Seat of the late Marquis of Tavistock, in Bedfordshire.
1772. A large Landscape and Figures.
„ A small ditto.
1773. A Landscape.
1774. A View from Castello Gondolfo, towards Rome, including the Alban Lake, Monte Cavo, the Campania di Roma, ending with Monte Soracte, and the Sabine Hills.
„ The Cataract of Niagara.
*** Engraved, 1774, by William Byrn.
„ A View of Caderidris Mountains, in North Wales.
„ Oakhampton Castle, in Devonshire, built by Baldwin de Bryone, before the Conquest.
*** In 18— (?) in possession of the Hon. Richard Howard.
1775. The Passage of the Alps at Mount Cenis.
„ A View from Muswell Hill, including Minchenden House, the seat of the Duke of Chandos.
*** Sold to Lord Leigh [? when] for 204*l.* 15s.
„ The Lake of Nemi, or Speculum Dianæ, twelve miles from Rome.
„ A Hermitage at Marino.
1776. A view of Sion House, from Richmond Gardens.
*** In 1814, in the possession of William Leader, esq.
In 1824, in the possession of William Daniell, esq., R.A.
1777. A Landscape, with historical figures.
„ A View from Tivoli towards Rome.
„ A View of the Lake of Nemi, the ancient Speculum Dianæ.
1778. View in Windsor Great Park.
1779. Apollo and the Seasons.
„ A Landscape, with Gipsies.
„ A View in St. James's Park.
„ A Review on Wimbledon Common.
1780. View of Tabley, Cheshire, the seat of Sir John Leicester.
*** Lot 42 of the famous Lord de Tabley sale, by Christie, 7th July, 1827.

I will now give a catalogue, as full as I can make it, of—

WILSON'S PRINCIPAL WORKS.

1. A large Landscape, with the story of Niobe and her Children.—Four pictures exist: 1. That exhibited in 1760, in the first exhibition in the Great Room, Spring Gardens; bought by William Duke of Cumberland (died 1765); since, the Duke of Gloucester's; now (1856), Mr. Wynn Ellis. The burst of light in Mr. Ellis's picture infinitely fine. 2. That presented to the National Gallery by Sir George Beaumont, who bought it of Wilton, the sculptor. 3. Bridgewater Gallery. 4. Collection of H. A. J. Munro, esq., London. Dr. Waagen mentions an example of the "Niobe" at Thirlestain House, "of particular beauty, and various changes in the figures" (iii. 211). Fine engraving by Woollett, 1761. Nollekens Smith assures us (Nollekens, ii. 143) that Wilson received for his "Niobe" 100 guineas.

2. Phaeton.—1. Blundell Weld, esq., Ince, near Liverpool. 2. Earl Cowper, Panshanger. Engraved by Woollett.

3. View of Rome.—Earl of Dartmouth.

4. Mæcenas's Villa at Tivoli.—Six pictures exist:—1. That painted for the Earl of Thanet, purchased by Sir Geo. Beaumont, and presented to the National Gallery. 2. That painted for Mr. Benjamin Booth, of the Adelphi, lately in the possession of the representative of Richard Ford, esq., author of "A Handbook for Spain," and the maternal grandson of Mr. Booth. Sir John Leicester offered 500*l.* for this picture. 3, 4, 5. W. Leader, esq. (1814), J. N[ewington] Hughes, J. Farington, esq. 6. Dulwich Gallery.

5. Lake of Nemi.—Four pictures exist:—1. Sir R. C. Hoare. 2. Richard Ford, esq.

6. Cicero at his Villa.—1. John Hawkins, esq. (1824). 2. Sir W. W. Wynn, bart. (1813). 3. Rev. W. A. Fitz Hugh (1842).

7. View of Anconetta.—J. Heywood Hawkins, esq. (1844).

8. Tomb of the Horatii and Curatii.—In 1824 in the possession of T. Wright, esq., the biographer of Wilson; afterwards in Mr. Bicknell's collection. It is nearly 5 feet in length, and is signed "R. W. Roma, 1754." In 1760 Wilson exhibited "A small Landscape, the Monument of the Horatii on the Appian Way."

9. Temple of Clitumnus, near Rome.—J. Heywood Hawkins, esq.

10. Villa Adriana.—Viscount Palmerston (1813), Robert Vernon, esq. (1841).

11. View in Italy.—Exhibited at the British Institution in 1843 by William Wells, esq., of Redleaf. Most beautiful, though small.

12. Strada Nomentana.—Robert Vernon, esq. (1841).

13. View on the Tiber, with Rome in the distance.—H. A. J. Munro, esq. Grand.

14. Celadon and Amelia.—William Smith, esq. (1813); John Allnutt, esq. (1843). Engraved by Woollett.

15. Landscape, with Meleager and Atalanta.—Sir Thomas Baring, bart.; Samuel Rogers, esq. Engraved by Earlom.*

16. Ceyx and Alcyone.—Engraved by Woollett.

17. Solitude . . . .—In 1814 in possession of J. Todhunter, esq. Engraved, 1778, by Woollett & Ellis.

18. View on the River Dee.—1. Grosvenor Gallery. 2. Sir Thomas Baring, Bart. In 1760, Wilson exhibited "A small Landscape, the Banks of the River Dee."

19. View in Wales, large and good felling timber in the foreground.—Sir W. W. Wynn, Bart.

20. Tabley House, Cheshire.—Was in the Leicester Gallery. Constable speaks of it as "a large solemn, bright, warm, fresh landscape, which still swims in my brain like a delicious dream."

21. Pembroke Castle, South Wales.—In 1849, Sir R. W. Vaughan, Bart. (fine).

22. Snowdon, North Wales.—In 1849, ditto.

23. Landscape (evening effect).—Samuel Rogers esq.

24. Sion House, from Kew Gardens.—W. Leader, esq. (1813); then to W. Daniell, R.A.; next to H. A. J. Munro, esq.

To this enumeration I have to add:—Four small pictures in the Vernon Gallery; one in the Bridgewater Gallery; five at H. A. J. Munro's, esq.; three belonging to the late Richard Ford, esq., author of the "Handbook for Spain." They were painted for Mr. Booth, of the Adelphi. One at Miss Rogers's (the poet's sister); one at W. Fuller Maitland's, esq., Stanstead House; two at Petworth; one at Panshanger; one at the Royal Institution, Edinburgh; one at Keddleston Hall, Derbyshire (Lord Scarsdale's); one at Narford, in Norfolk (Mr. Fountaine's); and one at Wilton House.

Eighty-one pictures of this distinguished painter (many contributed by Farington, his pupil) were exhibited at the British Institution in 1814. A revised and enlarged Wilson Exhibition in 1864 would render a real service to English landscape painting. We are losing breadth of effect and "selection" in mere manipulation of photographic and botanic detail. Hobbema and Peter Nasmyth are masters in mere imitative art—adepts in exquisite minute touches; but Richard Wilson does much more—he (I use another Wilson's† words) places Nature before your eyes and before your imagination. PETER CUNNINGHAM.

* Six small pictures by Wilson were sold at Mr. Rogers's sale at Christie's in 1856: the prices ranged from 130 to 135 guineas.

† Professor Wilson, the poet.

SCIENCE IN SHOPS.

HALF a century ago our forefathers recognized but few of the advantages of division of labour: a tradesman engaged in half a dozen different businesses; but a tendency to elaborate the workings of this department of social science, to divide and sub-divide the occupations by which men obtain livelihoods, is quietly gaining ground. Fifty years ago a country chemist was, generally, also a bookseller, printer, book-binder, owner of a circulating library and fancy repository, a vendor of musical instruments, and, in all probability, a dealer in brushes and perfumes: in other cases, one counter in his shop was devoted to the sale of haberdashery or grocery, or both; the other to that of drugs. Drapers furnished funerals, sold boots, shoes, hats, and were tailors too. Going further back we know that the term grocer, now applied only to dealers in tea, coffee, and spices, was originally synonymous with that of merchant, one who engrossed every kind of merchandise. To this day, in small north-country towns, ironmongers are smiths, plumbers, and glaziers, and sell haberdashery, such as thimbles, needles, and pins; dealers in glass and china are coopers, basket-makers, brush and mat dealers, and vendors of toys and mock jewelry; grocers are wine and spirit merchants, or tobacco manufacturers; cabinet makers are auctioneers, undertakers, paperhangers, and upholsterers; and in villages, there are still more complicated combinations in the traders; but in larger spheres the advantages to be derived from a concentration of attention to one branch of the arts or one department of commerce are becoming generally understood. The building trades scarcely follow this rule, except as to individual labour: in large communities, one contractor undertakes to furnish every kind of material and handicraft required: in small communities the master-man of each craft takes a separate contract, to which his liability is limited.

It is, however, more especially to the application of sanitary science to shop-keeping that we now refer. Every trade may, more or less, be benefited by it,—not, of course, in the amount of business transacted, but in the cost of life and health with which it is attended; and the manner in which it is so affected is, to a great extent, attendant upon the mode in which shops and shop-fittings are planned and constructed. On entering a chemist's shop, it is seldom but that our olfactory nerves are saluted with a combination of strong smells that convincingly account for the pallid countenances of the persons that are employed in it. If fitted up, however, on what might be called scientific principles, there would be no more smell than there is in a duchess's drawing-room. It will be conceded that the aroma of a drug is part of its value: deprive it of its scent and you rob it of much of its taste: it is, therefore, true economy to provide such conditions in its place of deposit that none of its smell shall escape. Place every drug in a receptacle whence none of its properties can escape, and there is no smell left in the chemist's shop. Again, if a range of fixtures were to be devoted exclusively to oils, another to essences, another to poisons, and so on, instead of these various matters being disposed promiscuously, the only regard being paid to the size of the bottles required to hold them, we should hear still less frequently of mistakes in the making up of prescriptions, with their consequent train of miseries. These are plans proposed by those who have given the subject attention, and adopted with the realization of every expectation formed concerning them, in some instances of newly-fitted chemists' shops. The contents of the shops of chemists and druggists have another and still more weighty, because extensive, bearing upon the public health. Chemists can tell of many wonders of the earth and the air and the deep, but nothing more wonderful than the mystical manner in which people are able to persuade themselves that everything that comes out of a physic-bottle does them good. Old ladies with all the tremble of aspen-leaves in their withered hands, women in the heyday of fashionable life, as well as the wigged and brass-buttoned beaux of the last generation and fast men upon town, frequent the chemist's shop for draughts that will steady the shaking hand, re-kindle the faded eye, re-vivify the stiffening gait, or remove the splitting headache. A draught of *eau-de-vie* rendered still more subtle in its effects and pungent in its taste by a combination with sal volatile and the yolk of an egg, if poured out of a physic-bottle instead of a decanter, is assumed to have completely altered its character. The most concentrated stimulant, if taken in the form of a pill, is deemed innocuous. Musk pills, for instance, are swallowed in confident and complacent anticipation of their rejuvenescent properties by patterns of propriety who would shrink from the odium of taking a recognized stimulus. So largely are wines and spirits used in the making up of stimulating draughts, that a chemist takes out a licence as a matter of course. The inquirers into the ramifications of sanitary science have not yet taken into consideration these outside facts.

The adulteration of food as sold in shops, the disastrous effects of what is called the "long hours system," in which fourteen or sixteen, and occasionally eighteen, hours out of the twenty-four are spent in close confinement to business, whether in a sitting or standing posture, have chapters of their own. The importance of a

judicious ventilation of shops enjoys no such prominence on the pages of science: in the planning of shop-fittings this necessity is but too frequently overlooked. In the summer months, it will be argued, every shopkeeper keeps his door open, and thus sufficient ventilation is insured; and in the winter there is enough cold air wafted in every time it is opened to supply the necessary change. But the thousands of shop-assistants will tell a different tale. When they first enter their respective shops in the morning, they are nipped with cold: as the fires or stoves draw up, the temperature becomes more equable; but as the evening wanes, and dozens or scores of gas-burners are lighted, the air is as oppressively heated as it was inclemently cold: they endure, in other words, every day throughout the winter all the alternations of climate they would experience in a diurnal transformation from the Hebrides to Hindostan. The proper heating and ventilation of shops is as imperative as that of work-rooms, and there is no chance of effecting these unless they are constructed on scientific principles. We have been called a nation of shopkeepers, as a term of reproach. Calling art and science to our aid, let us make our shops as handsome as palaces and as healthy as the hills.

QUARTERLY WRITERS ON ENGINEERING.*

Of all the departments of knowledge supposed in this age to be accessible to that mysterious being the general reader, engineering science visibly plays the most prominent part. The daily realizations of Arabian Night dreams by engineering means, and the intimate interweaving of mechanical science with almost all the phases of modern life, naturally create a curiosity in the popular mind as to the causes of these remarkable effects. There is thus a demand for capable popular writing on these subjects,—a demand which appears to exceed the supply. The most audaciously insufficient trash is the result. Just as each ignorant pretender, lacking everything but impudence, now-a-days dubs himself a "C.E.;" just as every boy so unlucky as to scrawl a sketch with the mistiest resemblance to a steam-engine is at once styled "a mechanical genius" by his fond mamma; so does every smatterer, scarcely able to distinguish a pump-bolt from a cow's tail, think himself capable of writing on engineering matters:—

> "As he that makes his mark is understood
> To write his name, and 'tis in law as good;
> So he that cannot write one word of sense,
> Believes he has as legal a pretence
> To scribble what he does not understand,
> As idiots have a title to their land."

It is impossible to take up any of the morning papers without noticing some of the engineering forms of this disease; but the exigencies of daily publications are some excuse: when, however, we see the *Quarterly Review* stoop to blunders, it seems necessary that some notice should be taken of it.

Under the title of "Progress of Engineering," the present number of the *Quarterly*, as we have already mentioned, has favoured the public with a supposed "bird's-eye" view of ancient and modern engineering. The paper claims to be a compound boiled down from all the "Proceedings of the Institute of Civil Engineers;" supplemented by Mr. Smiles's "Lives of the Engineers," and by the late speech of Sir William Armstrong at Newcastle. The editor of the *Review* has placed it at the post of honour, the beginning of the number.

The belief of some editors of popular periodicals that experts cannot take a bird's-eye view of their several professions, may be well founded; and it may be true that the productions of amateurs are often more readable than those of experts; just

> "As little sparkles shine more bright,
> Than glowing coals that give them light."

The *Review*, however, has a quarter of a year's time to compile its lucubrations.

One of the most astounding bits of information vouchsafed to us by the *Quarterly Review* is the following:—"When we first made railroads we allowed a quarter of an inch free space between each bar, and took every precaution for freedom of expansion and contraction, till one man, bolder than the rest, proposed *to butt them one against the other, and join them with fish-plates.* This has now been done, so that the rail from London to Aberdeen is one continuous unbroken bar; *it neither expands nor contracts (!), but submits.*" We should be sorry to see the reviewer travel on a pair of "continuous unbroken bars." If he insisted on the trip, we should recommend him to previously make his will. For the "continuous unbroken bar" in January would be a wriggling serpentine bar in June, diversified in some places by a series of picturesque long-bows of iron. Some occult and mysterious force is here supposed to belong to "fish-plates," by which they acquire the power of temporarily suspending the law of nature of the expansion and contraction of metals by heat, in the same way as it is in human power (p. 310) "to eliminate friction and other resistances which are not inherent" (to bodies). We find (p. 294) that "air is, perhaps, too elastic to be ever practically used as an accumulator." The "perhaps" in this sentence would make the assertion excusable if the reviewer had never,—which we can scarcely think,—seen a common air-gun. We are further informed that Cornish boilers are so economical principally because "the fire-bar area is so great;" that some steam-engines make 1,000 strokes in a minute; that locomotives consume "coals with reckless wastefulness;" and that the "vital heat" of a locomotive "is launched into the air with the waste products of combustion." Such statements are below criticism. When the reviewer writes that "it is no hyperbole to say that already, within the last hundred years, the engineers have doubled the mechanical power, and have thus doubled the productive resources of mankind," engineers would be very much flattered, did they not remember that engineering has done much more. A rolling-mill employing 100 men, will turn out 10,000 tons of iron per annum. The manufacturing power of each man is thus 100 tons of iron per annum. A rolling-mill is thus estimated by M. Michel Chevalier to have multiplied the manufacturing power of one man by thirty. One man can now spin 400 times more thread than in 1769, when Arkwright took out his first patent. Compared with what one man could do at the ancient wind-mill, a modern miller can grind about 150 times as much corn. The new mechanical appliances now used in California for extracting gold have multiplied the productive power of a single gold-digger by 2,500. By means of modern machinery one woman can now make 100 times as much lace as by hand-work. An iron-plated ship, of say 1,400 horse-power, nominal, has, in reality, the power of 42,000 horses of flesh and blood,—a number of horses probably never seen together, or, at least, only once or twice in the world's history.

The reviewer points to Sir William Armstrong as the first inventor of water-power engines. Engines on this principle are described in that venerable work, "Belidor's Architecture Hydraulique;" and it is stated therein, that those engines were built in 1731. The reviewer appears to be unaware, that piston and cylinder engines driven by gunpowder have been used with some success, although the plan failed to dethrone King Steam. We are quietly informed that "the invention of a practical (steam) engine is hardly more than eighty years old," although Watt took his famous condenser patent in 1769, and although Newcomen's engine was in use for seventy years previously to that date. So far from Newcomen's engine being quite "unpractical," there are actually some old specimens yet extant and at work in out-of-the-way parts of the country where fuel is cheap.

The canvas, as a whole, might form an interesting picture, although the separate figures were marred by incorrect drawing. But this picture is not merely badly arranged, but many important figures are entirely left out. We thus find no mention of the application of steam to the farm. Steam ploughing is now effecting the most important changes not merely in the productive power of the farm labourer, but in the productive power of the farm itself. No mention is made of the Bessemer process of making steel, which is said by a good judge, M. Michel Chevalier, to be "*Pour la puissance du genre humain et pour son bien-être d'une autre portée que la découverte des mines d'or de la Californie et de l'Australie.*" We see no mention of the late application of engineering,—the sluice system,—to the working of Californian gold; no mention of the pneumatic despatch, although the plan will be, very likely, applied to underground railways; no mention of the application of engineering to warfare, in the shape of the Whitworth, Armstrong, and other rifled guns; of the new rifles; and of the use and influences of railroads on warfare.

What are the philosophical reflections of the reviewer on the extraordinary steps in material progress that he could not fail to notice? He begins his paper with a definition of man "as a road-making animal;" a definition which, he carefully informs us, "has *not* yet found its way into the books." He might just as well define man as a "shoe-making animal,"—in fact, the latter would appear to be the best "definition." Is it not well known, by the bye, that the only roads in America before its colonization by the white man were the tracks formed by the buffalo herds on their way to the "salt licks?" His paper is really but a piece of patch-work, formed out of his common-place book.

And yet, what a splendid subject for a pen worthy of the theme!—to show that the principal steps in civilization were effected by successive subjugations of mechanical power to labour; from the use of beasts of burden to the employment of slaves by a dominant race; until, at last, slaves are completely, and animals partially, superseded by the powers of nature;—to trace the influence of invention on modern civilization; to point to gunpowder beating down the castle walls, and the costly armour of their lords; the printing-press destroying the monkish thraldom of the Middle Ages; the magnetic needle discovering a new world; the immense extension in the powers of production and locomotion by means of the steam-engine.

Last year's Exhibition, though so faultily arranged, might have been one immense study for a mind really desiring to trace the "Progress of Engineering;" but its teachings have been neglected in the article to which we have thought it necessary to point attention.

* This article was in type before the issue of our last number.

ART WORKMANSHIP AT THE SOCIETY OF ARTS.

In reply to the offer of premiums made by the Society of Arts some time ago seventy works have been submitted, many of them very good, and are now under adjudication. The number of works sent in is thus divided:—

1. *Modelling in Terra Cotta, Plaster, or Wax.*—(*a*) The human figure in bas relief, after Raffaelle's design of the "Three Graces."—23.

(*b*) Ornament in bas relief, after arabesques by Lucas van Leyden, 1528.—8.

2. *Repoussé Work in any Metal.*—(*a*) The human figure as a bas-relief, after Raffaelle's "Three Graces."—3.

(*b*). Ornament, after a Flemish salver in the South Kensington Museum, date about 1670, No. 1153.—1.

3. *Hammered Work, in Iron, Brass, or Copper.*—Ornament, after an iron German arabesque, about 1520, in the South Kensington Museum, No. 2450.—2.

4. *Carving in Ivory.*—The human figure in bas relief, after a terra cotta ascribed to Luca della Robbia, about 1420, in the South Kensington Museum, No. 7610.—4.

5. *Chasing in Metal.*—(*a*) The human figure, after a reduced copy of Gibson's "Psyche."—6.

(*b*) Ornament, after a bronze plaque in the South Kensington Museum, No. 1217.—11.

6. *Enamel Painting on Metal, Copper, or Gold.*—(*b*) Ornament in Grisaille, after a German arabesque, 16th century.—1.

7. *Painting on Porcelain.*—(*a*) The human figure, after Raffaelle's "Boy bearing Doves," in the cartoon of the "Beautiful Gate."—5.

(*b*) Ornament, after arabesques by Lucas Van Leyden, 1528, and coloured according to the taste of the painter.—3.

8. *Inlays in Wood (Marquetry, or Buhl), Ivory, or Metal.*—(*b*) Ornament, after a majolica plate in the South Kensington Museum, 1490, No. 1671.—2.

9. *Engraving on Glass.*—None.

10. *Embroidery.*—Ornament, after a German example in the Green Vaults at Dresden.—1.

At present the works are undistinguished by mottoes or names, so that reference to any of them in words cannot be made. These, however, will be supplied, and a catalogue is in preparation.

A committee has been appointed by the council to arrange the terms of a fresh competition. It held its first meeting on Tuesday last; Mr. W. Hawes (in the chair), Mr. H. Cole, Mr. Redgrave, Mr. M. Nelson, Mr. Godwin, Mr. Crace, Mr. Stevens, Mr. John Webbe, Mr. Le Neve Foster, and others being present, when various preliminaries were agreed on.

The Graphic Society.—The first *conversazione* of the new session, which is the 31st, will be held on Wednesday, the 9th, at University College, as usual.

QUALITIES OF STONE IN THE ISLAND OF PORTLAND.

UNDER the direction of the Inspector-General of Fortifications, Mr. F. A. Abel, F.R.S., some time ago made an examination into the comparative qualities and fitness for building purposes, of samples of stone from different quarries in the Island of Portland. We are glad to be able to lay the results before our readers:—

A collection of twenty-eight specimens, representing the stone obtained from different quarries and beds on the Island of Portland has been submitted—

1. To a careful comparative inspection.
2. To experiments having for their object the attainment of comparative data, regarding
   a. The chemical composition of the stones.
   b. Their strength and power of resisting wear from mechanical causes.
   c. Their porosity, or absorbent power, and consequent susceptibility to the destructive effects, mechanical and chemical, of atmospheric agents.

As regards chemical composition, the differences, indicated by the analysis of the specimens of stone from different quarries, are only of a trifling description, and not calculated to influence in any definite manner the comparative durability of the different varieties of stone.

The properties which it is considered should, apart from the questions of chemical composition and facility of working in the mason's hands, be combined in a building stone, capable of resisting effectually the fullest exposure to atmospheric influences, are—

1. Compactness of structure, or a low degree of porosity.
2. Strength and hardness (to the greatest extent compatible with the working of the stone).
3. Uniformity of structure.

The results of my experiments show that all the superior descriptions of "*Whit-bed*" stone combine strength and compactness in a considerably higher degree than the varieties of "*Base-bed*" stone. Some kinds of the "*Whit-bed*" stone, however (*i.e.* those from the New Maggot and Inmosthay quarries), though ranking with the best as regards strength, exhibit a greater degree of porosity. Again, other "*Whit-bed*" stones (from Old Maggot, Waycroft, and Independent quarries), exhibit but little superiority, in point either of strength or compactness, over the generality of the "*Base-bed*" stones; and are, indeed, inferior to the best "*Base-bed*" variety.

The "*Base-bed*" stones are, undoubtedly, more generally uniform in structure than those of the "*Whit-bed*;" this being mainly due to the comparative freedom of the former from distinct petrifactions. Though such petrifactions were shown, by the results of experiments, to impart, in many instances, great additional strength to the stone, they frequently give rise, by their existence, to cavities, sometimes of considerable size, which not only serve to weaken those particular portions of the stone, but may also, if they exist in proximity to exposed surfaces of a block of stone, promote its partial disintegration by the action of frost.

Greater care is, therefore, unquestionably required in the selection of "*Whit-bed*" stone than need be employed in the case of all the better varieties of "*Base-bed*" stone.

I append to this memorandum, in a tabular form, a statement of the comparative strength and compactness of the different varieties of stone, as represented by the specimens experimented upon, together with a description of the peculiarities noted, on examination of the specimens, many of which have an important bearing upon the results obtained in the experiments instituted with the blocks.*

The results of my experiments lead me to the following conclusions, regarding the comparative merits of the various descriptions of Portland stone in question, for building purposes.

The *Roach* stone from "*War Department*" *Quarry* is an invaluable stone for *external* work, in localities where very considerable strength, and power of resisting mechanical wear are required (*e.g.*, in connexion with those portions of work which may become exposed to the continual abrasive action of water).

The *rough* "*Whit-bed*" stone from *Admiralty Quarry* (as represented by specimens 1 and 2, see table), is also a highly valuable stone for external work, of a similar kind, where great strength is required, and particularly where the numerous irregularities in the above *Roach stone* may be objectionable.

The following varieties are all well calculated for *external* work, and I consider that the order of their relative value is as follows:—

1. Stone from *War Department Quarry, Vern Hill.*
   "*Whit-bed*" stone, *Admiralty Quarry.*
2. "*Whit-bed*" stone, *New Maggot Quarry.*
   "*Base bed*" stone, *Admiralty Quarry.*
   (This may be considered quite equal in quality to Whit-bed stone.)
   "*Whit-bed*" stone, *Inmosthay Quarry.*
   (Particularly adapted from its texture and uniformity for ornamental work.)
3. Whit-bed stone, *Old Maggot Quarry.*
   (*a*) Marked L I.
   (*b*) Marked I T and I E.

For *internal* work, the following rank highest, on account of uniformity and comparative strength:—

"*Base bed* stone, *Old Maggot I T.*
"*Whit-bed*" stone, *Independent Quarry.*
"*Base-bed*" stone, *Waycroft Quarry.*
"*Base-bed*" stone, *New Maggot Quarry.*

The following are inferior to those just named, in texture and uniformity:—

"*Whit-bed*" stone, *Waycroft Quarry.*
"*Base-bed*" stone, *Old Maggot Quarry I E.*
"*Base-bed*" stone, *Inmosthay Quarry.*

The "*Base-bed*" stone from *Old Maggot Quarry* marked L I, and that from *Independent Quarry*, are of low quality, as compared with the remainder; and no reliance can be placed on the durability of the *Roach stone* from *Independent Quarry*, judging from the specimen received.

I may observe, that no definite conclusion can be drawn, from the comparative properties of the specimens of stone from one and the same locality (quarried at different periods of time), regarding the influence exerted by exposure, after quarrying, upon the quality of the stone.

In the instance of the example of *rough* "*Whit-bed*" stones from *Admiralty Quarry*, the specimen quarried last autumn was decidedly the strongest (that quarried three years ago differed altogether in character from the other specimens). The specimens of "*Whit-bed*" stone from the *Admiralty Quarry* were very much alike in strength, there being a slight difference in favour of that quarried three years ago. In the "*Base-bed*" specimens, from the same quarry, the strength was also found to increase somewhat with the age of the stone; but of the specimens from the *War Department Quarry*, the one most recently quarried was considerably stronger than the others. Here again, however, the difference must be ascribed to a difference in structure: the other two specimens (quarried last autumn and three years ago) were in all respects alike.

On the whole, the evidence may be considered as a little in favour of the opinion, that an improvement in the strength of the stone is effected, to some extent, by seasoning.

F. A. ABEL.

Woolwich.

* These experiments consisted, chiefly, of careful determinations:—

1. Of the comparative absorbent power exhibited, under precisely similar conditions, by cubes of the different stones; and

2. Of the weight sustained, up to the point of fracture (*i.e.* the crushing weights), by accurately cut cubes of the stones. These cubes of each variety of stone were crushed, and the conclusions, as to the comparative strength of the stones, were drawn from the mean results thus arrived at. These crushing experiments were carried out with the well-known American mechanical testing machine.—F. A. A.

TABLE

Showing the comparative Orders of Strength and Compactness of Samples of Stone from different Quarries in the Island of Portland.

Description of Stone.	Order of Compactness.	Order of Strength.	Peculiar Features of each Stone.
ROACH.			
War Department, Vern Hill Quarry	One (The compactness of these is about as high again as those next in order.)	One	Light coloured, very hard, and compact, one of the heaviest stones of the series; its weight being very much greater than that of the *Roach* from Independent Quarry. Its strength is not uniform, as it contains numerous shells and cavities.
ROUGH WHIT-BED. *Admiralty Quarry.*			
Quarried recently	Two	Two	Rough, but compact; contains numerous small shells.
Ditto last autumn	Two	One	Containing only few cavities.
Ditto three years ago	Between Six and Seven.	Between Four and Five	Very rough and irregular, containing large shells; differing, therefore, greatly from the other samples from Admiralty Quarry.
War Department Quarry, Vern Hill. (Bed not specified, evidently WHIT-BED.)			
Quarried recently	Three	One	Hard, and very compact; containing, however, some large cavities.
Ditto last autumn	Four	Three	A very hard light coloured stone, containing numerous pin-hole cavities.
Ditto three years ago	Four	Three	Similar to No. 1 from this quarry, though somewhat less compact, apparently free from cavities.
WHIT-BED. *Admiralty Quarry.*			
Quarried recently	Four	Three	All these samples very similar. Light-coloured compact stones, containing a few small shells. Apparently free from cavities.
Ditto last autumn	Four	Three	
Ditto three years ago	Four	Two	
Inmosthay Quarry	Six	One	Fine grain, moderately compact, almost destitute of shells; one of the most uniform of the Whit-bed series.
New Maggot Quarry	Five	Two	Light-coloured, compact, and very uniform.
BASE-BED. *Admiralty Quarry.*			
Quarried recently	Four	Three	Nos. 1 and 3 are similar; light-coloured, compact, and very uniform. No. 2 is somewhat darker, and exhibits patches of closer texture. They exhibit more indications of shells than any other Base-bed stones; and are, in appearance and properties, very similar indeed to Whit-bed stone.
Ditto last autumn		Two	
Ditto three years ago		Two	
WHIT-BED. *Old Maggot Quarry.* marked I T	Between Six and Seven	Four	Nos. 1 and 3 are much rougher in texture than No. 2, which is a little superior to them in compactness, but is somewhat less uniform.
,, L I	Six	Three	
,, I E	Between Six and Seven	Four	
Waycroft Quarry	Seven	Four	Rough in texture and porous.
Independent Quarry	Between Seven and Eight	Four	Fine grained, but porous.
BASE-BED. *Old Maggot Quarry.* marked I T	Seven	Three	I T is uniform, but I E exhibits faint bands of stratification. L I is about the lowest quality of Base-bed stone examined. It is very soft and porous.
,, I E	Seven	Five	
,, L I	Ten	Six	
Waycroft Quarry	Eight	Four	Light-coloured and uniform.
Inmosthay Quarry	Eight	Four	Exhibits considerable want of uniformity.
New Maggot Quarry	Nine	Three	Very uniform; similar to I T Old Maggot Quarry, though more porous.
Independent Quarry	Nine	Six	A rough very porous stone, exhibiting considerable difference of strength in different portions; to be ascribed to the fossil markings observed here and there.
ROACH.			
Independent Quarry	....	....	A very inferior description of stone. Full of large loose petrifactions and cavities of considerable size. The strength of the most compact portion was only about half that of the weakest of the above stones.

Through the kindness of Professor Abel, we are enabled to add the following statement of the weights actually sustained by 2-inch cubes up to crushing:—

War Department Quarry, Vern Hill ..	14795·8	lb.
Inmost-hay Quarry, Whit-bed	14591·8	,,
Admiralty Quarry, Rough Whit bed ..	14387·7	,,
,, ,, Whit bed.....	13979·5	,,
,, ,, Base-bed.....	13775·9	,,
New Maggot Quarry, Whit-bed	12857·1	,,
Old Maggot Quarry, L I Whit-bed	12244·8	,,
Independent Quarry, Whit-bed	11632·6	,,
Old Maggot Quarry, I T Base-bed	12857·1	,,
,, ,, L I Base-bed	8163·2	,,
Waycroft Quarry, Base bed	11836·7	,,

The cubes were crushed between perfectly smooth lead surfaces.

SUBJECTS FOR PREMIUMS, SOCIETY OF ARTS, 1863-64.

STOCK PRIZE.

Under the will of John Stock, funds are bequeathed for the offer of a medal for the encouragement of drawing, sculpture, and architecture.

Shell Cameo.—On the present occasion the Society's medal is offered to female artists, for the best cameo designed and executed on any of the shells ordinarily used for that purpose.

DENTON PRIZES.

Cottages for the Labouring Classes.—Two prizes, of 25*l.* each, are placed in the hands of the council by Mr. J. Bailey Denton, to which are added the Society's medals, to be offered for the most approved designs for cottages, to be built singly or in pairs, at a cost not exceeding 100*l.* each. One prize is to be competed for by members of the Architectural Association, and the other is open to general competition.

Detailed particulars have been issued, and may be had on application to the Secretary.

The plans, drawings, and specifications, must be sent to the Society's house, not later than the 1st January, 1864.

ART WORKMANSHIP AND WOOD CARVING EXHIBITION AND PRIZES.

Prizes are offered by the Society in these subjects, and an exhibition will take place in 1864.

Special lists relative to this competition will be issued.

GENERAL LIST.

The Society's medals will be awarded for communications or discoveries in relation to the following amongst other subjects:—

Goldsmiths' Work.—For the best essay on ancient goldsmiths' work.

Bronzes.—For the best essay on the manufacture and casting of bronzes, and on bronze washes.

Moulds for Metal Casting.—For the production of a material to be used in the formation of moulds for casting bronzes and other molten metals, so as to enable the casts to be produced without seams.

Pigments.—For an account of the various pigments used in the fine arts, with suggestions for the introduction of new and improved substances.

Substitute for Wood Blocks.—For the discovery of a substitute for the blocks used by wood-engravers, so as to supersede the necessity of uniting several pieces of wood.

Photographs on Enamel.—For the best portrait obtained photographically and burnt in in enamel.

Photographs on China.—For the production of a dessert or other service, in china or earthenware, ornamented by means of photography and burnt in from an impression obtained, either directly from the negative, or from a transfer from a metal plate obtained directly from the photograph.

Reproducing Designs for Printing.—For a rapid means of reproducing artistic designs or sketches, for surface printing by machinery, such process to provide for lowering portions of the work to fit it for steam printing.

Green without Arsenic.—For the manufacture of a brilliant green colour, not containing arsenic, copper, or other poisonous materials.

Artificial Stone and Terra Cotta.—For an account of the various artificial stones and terra cottas introduced and employed for purposes of construction, stating their properties, advantages, and imperfections, and their relative cost.

Protecting Iron.—For the invention of an efficient method of protecting iron from the action of air and water, applicable to the various forms in which iron is used as a building material generally, and also to iron ships and armour-plated vessels.

Elastic Tubing.—For an elastic material for tubing suited to the conveyance of gas, and not liable to be affected by alterations in temperature, or to be acted upon by the gas itself.

Colour for Slate.—For the preparation of light colours to be used in enamelling or japanning slate, which will stand the action of the heat from the fire without blistering or discoloration, and be sufficiently hard to resist scratches.

Coating Walls.—For the production of a cheap white enamel-like composition for the interior walls, &c., of houses, applicable to all ordinary surfaces, easily cleansed, and not liable to crumble or chip, and capable of being tinted.

Substitute for Turpentine.—For a new and efficient substitute for turpentine applicable to the manufacture of varnishes, and to purposes for which turpentine is now ordinarily applied.

Rollers for Printing Paper-hangings.—For a composition for feeding rollers for printing paper-hangings by cylinder machinery, similar in consistency and texture to the gelatine rollers used in letter-press printing, but adapted for working in water-colours.

Paperhangings coloured in the Pulp.—For the manufacture of papers from the coloured pulp, bearing upon them designs, either coloured or white, discharged after the manner of calico-printing.

Emigrants' Dwellings.—For the best essay (for the information of emigrants proceeding to new settlements) descriptive of the means of treating existing natural products in any locality, such as earth, shells, chalks and limestones, woods, barks, grasses, &c., and applying them in the construction of dwellings. Diagrams and illustrations of the methods of applying materials should be given.

THE PROJECTED RAILWAY AND OTHER WORKS.

Among the Parliamentary notices is one for the construction of a railway bridge across the Frith of Forth, to facilitate the communication between the Eastern Lowlands of Scotland and the north. The point thought of to construct a bridge at first was Queensferry, where an island divides the strait into two, but the Admiralty object to any structure which would prevent their ships passing to the anchorage above, while the depth of the water is also another reason why the only bridge permissible there should be a suspension-bridge. The span of such a bridge, however, would exceed anything hitherto known. The point fixed upon is four miles above Queensferry, and at which the Edinburgh and Glasgow Railway on the south side, and the Dunfermline railways on the north side of the Frith, run nearest to the respective shores. Locally the point is known, on the south side, as Pardovan, and on the north side as Charleston. This new bridge is proposed to be constructed by an independent company, who will afford running powers and facilities to all the railway companies choosing to make use of it. The bridge, which will be built on about fifty piers, will necessarily be of great length—nearly as long, it is said, as the Victoria Bridge across the St. Lawrence. The cost, however, is not estimated to exceed half a million; whilst the Victoria Bridge, which had to be exported, cost nearly a million and a half. It is anticipated that the work will be completed in less than three years from its commencement.

The total number of notices for all kinds of new undertakings amounts this session to 450, being an increase of 100 on all preceding sessions; and of this number nearly 300 are for new railways, branches, amalgamations, and extensions. Among the railway works is a Victoria Station and Thames Embankment underground railway, running by Westminster Bridge to Blackfriars Bridge. There is also a London Low-level Railway project, with six distinct lines running underground from Victoria-street to Dowgate-hill *viâ* the Thames Embankment; from Westminster to Charing-cross *viâ* Great Scotland-yard; from Great Scotland-yard to the Charing-cross Railway Bridge; from the first-mentioned to the Metropolitan Underground at Farringdon-street; from the one joining the Metropolitan, and running under Ludgate-hill, Printing-house-square, and New Bridge-street, Blackfriars, to St. Bride's and St. Ann's, Blackfriars; lastly, from the first-named line to Cripplegate and the Finsbury extension line of the Metropolitan, *viâ* King William-street, London Bridge, and Fenchurch-street. Moreover, there is a Blackfriars Roadway and Railway project, with an embankment from the Inner Temple, at the termination of the authorized embankment, to Blackfriars Bridge, with roadway above and railway under the roadway, &c. Another project is the Tower subway, under the Thames from Irongate-stairs to Horseydown Old-stairs. The Metropolitan Board of Works are applying for additional powers in reference to the Southern Embankment of the Thames at Stangate, in Lambeth, for the altering, widening, and improvement of the approaches to Palace New-road, and of Stangate, and for other purposes. The City corporation have also advertised their intention of applying to Parliament for an Act to carry out the Holborn Valley improvements.

OPENING OF NEW WING OF RADCLIFFE INFIRMARY, OXFORD.

At a special court of the governors of the Radcliffe Infirmary, the building committee has formally handed over possession of the south wing, which has been erected at a cost of 6,000*l.*

The out-patients will enter the grounds of the infirmary by the ordinary lodge, as now, under the observation of the porter. The outer door leads into a lobby, which will be provided with a drinking fountain. Opening from the lobby are retiring-places for each sex, and a bath-room with a lavatory. The out-patients' hall, at the north-eastern end of the new wing, is 71 feet in length, 25 feet in width, and about 20 feet average height. There are six plate-glass windows to the south, hung on sashes, opening above and below, and reaching to nearly the top of the wall. To the east, west, and north are circular lights, made to open. In the ceiling are fourteen trap-doors, opening and shutting by a simple arrangement. The roof is pierced by ventilators on the north and south sides, and at both ends. The hall is warmed by a large open fire-place, and by hot-water pipes on the low-pressure system. On the north and west sides of the hall are six rooms placed in pairs for the medical staff, and for three physicians and three surgeons.

The clinical professor's room opens into the shop corridor as well as into the hall. It has twice the cubical contents of the other medical rooms.

The accident ward, at the south-western end of the new wing, represents a ward unit on the pavilion principle; to which is added, for convenience, a casualty-room for the first reception of accidents, and for minor surgical casualties. The ward unit comprises the ward itself, with closets, bath-room, nurses' room, scullery, nurses' closet, and other lesser appliances. The ward is 78 feet in length, by 26 feet 6 inches in width, and 18 feet in height. Twenty bed-places are fitted up, giving to each bed 1,860 cubic feet of air. There are six windows on the south, with a similar and opposite set on the north, excepting only the second from the entrance, which is replaced by a fire-place. The sashes are of oak, with plate-glass ¼ inch thick, opening both at the top and bottom. To prevent draughts either through the window-frames or from the cold outer glass, glass frames have been provided resting on the window-sill, 2 feet 4 inches in height, and of the same width as the window, which will in effect make the lower part of the windows double; and, if required, these frames can be raised to any height hereafter. Ventilation does not wholly depend on the windows. In the ceiling, between each truss of the roof, is a hinged trap-door, readily opened and shut: all together affording 72 superficial square feet of air-passage into the roof space.

The roof is pierced north and south, and east and west, by eight opposed open ventilators for the exit of foul and introduction of fresh air. Besides, in the centre of the floor, between the feet of the beds, are six apertures, which can be opened or closed, communicating with a chamber in a cellar east of the ward. This chamber is supplied with fresh air by an aperture, 3 feet by 2 feet, and may be heated by the furnace which heats the out-patients' hall and the shop corridor. The air flue can be disconnected at will. In addition to these sources of air and means for promoting its due circulation, there are in the piers between the windows, air flues with regulating valves, which open through the wall into the outer air. There are two open fireplaces, one on the north side replacing a north window, one at the west between the west windows. In the mantelpiece there is an aperture leading to the ventilating shaft which surrounds the flue. This shaft is constructed of Jennings's patent flue-pipes. The ward is built over an excavated cellar, 9 feet deep. The joists are plastered on the under surface, with pugging between them. The flooring is of 1-inch deal, with ⅜-inch wainscot-oak laid upon it; the latter dowelled and side-nailed. A slight current of air passes between the plastering and the pugging, and also between the pugging and the double floor.

The spaces on the floor under each bed are covered with white glazed Minton's tiles, with a glazed red border. These tiles are bedded in Portland cement, which rests on a bed of concrete laid in between the joists. Any moisture therefore spilt under the bed will lie upon the tiles, and may easily be wiped off the polished surface. Between the bed-places the floor is, as elsewhere, of wainscot, the tiles not projecting beyond the edge of an ordinary bed, that they may not be stepped on by patients leaving their beds.

Two bed-spaces are placed between each window, and every patient is separated from his neighbour by 3 feet on one side, and by 4 feet 2 inches on the other, and has a window at the head of his bed. From foot to foot of the beds on opposite sides are 13 feet 6 inches, allowing 6 feet 6 inches for the length of a bed.

The walls and ceiling are of cement, polished so as to prevent any noisome exhalations from lodging there. The tie-beams are of varnished deal. There are no ornaments or mouldings on which dust can rest.

Besides the north and south windows there are two west windows, one on either side of the fireplace. Every patient in the ward can look, if he will, down the garden in summer, and in winter upon the open fire.

At the south-west angle is a bath-room and a lavatory, also lined with polished cement. At the north-west there is a double closet, separated by a passage, and a urinal, all thoroughly ventilated. The bath-room and the closets are separated from the ward by swing doors, and outside these is a warm-air flue from the hot-air apparatus. There are provisions for water supply on the self-acting process. The nurse's room to the east of the ward looks down the ward, but does not open into it. Beyond the nurse's room is a scullery, with a small room for occasional cooking.

The drains from the new wing are, of course, external to the building; that is, in the case of every closet they are detached from the main walls, and also leave the building at the nearest convenient point. They are made of 4-inch glazed pipes, jointed with Portland cement, and bedded in clay. They unite with a 9-inch drain, similarly laid, and this passes into the city system to the west of the infirmary. Man-holes are provided at two points of the main drain; and at the same points charcoal ventilating shafts will be added, according to a plan recommended by Mr. Rawlinson, engineer to the Health Department of the Privy Council.

A separate morgue, an inspection-room, and a small waiting-room for the friends have been fitted up in a convenient spot near the entrance.

The cost of the works up to the present time is calculated at about 5,350*l.*; to which must be added 720*l.* disbursed by the former committee. The total sum spent, therefore, is about 6,070*l.*, against 6,994*l.* total receipts.

The design for the new buildings was obtained in competition, in the autumn of 1861; Mr. E. G. Bruton being the successful competitor. Mr. W. C. C. Bramwell was subsequently associated with Mr. Bruton in the direction and superintendence of the work, which was done by Mr. Joseph Castle, the contractor.

BETHNAL GREEN.

OUT of evil good often comes; and we hope that this may be the case at Bethnal-green, and that the mischief which has been exposed will be of advantage not only to the poor of this parish, but to those resident in other districts. The shame which has fallen on Bethnal-green in consequence of the bad sanitary conditions which have been allowed to exist there, has moved the authorities of other districts to increased exertion, — at any rate, for the present.

After repudiating the need of sanitary improvement, and treating with doubt and insult those who brought cases of wilful poisoning before the coroner's inquest, the vestry of Bethnal-green saw their mistake, and have begun to consider the best means of removing the nuisances which exist in that parish. After what has passed, we looked doubtfully at the ability of the vestry to deliberate on sanitary matters in a useful way. However it has been resolved that a chief inspector of nuisances should be appointed, at a salary of 80*l.* a year. If a chief inspector be paid only a trifle over 30*s.* a week,—a sum less than the wages of a journeyman stonemason or bricklayer,—the income of the other inspector must be much less than that of the chief; and it becomes a question well worth consideration if it can be expected that men of the right kind can be found to fill, in an effective and independent manner, the duties of this responsible office. In fact, it is no question at all.

In Bethnal-green district there are 760 statute acres: the number of inhabited houses is 14,812; and the population 104,924, consisting for the most part of very poor people, many of whom live in dilapidated, undrained houses, which require the greatest care. It is, therefore, perfectly ridiculous to suppose that even two men of the most able and energetic character could, when so much is to be done, effect any considerable amount of real good. In order to do real good, houses should be inspected time after time. When an order has been made for improvement, watch should be kept that it is thoroughly carried out; and, as regards dilapidation and dirt, care should be taken, after a place has been put in good condition, that it is not allowed to lapse into its original state. But we feel certain that no effectual benefit will be derived from the inspection of parish officers. In connexion with the city of London, which contains many parishes, the sanitary inspection of the whole is under a central authority, who acts in a more independent manner than do the authorities of particular districts. But in the City limits, where places of business, such as banks, warehouses, the houses of tradesmen, &c., do not contain so large an extent of poor population requiring sanitary attention as does Bethnal-green, Dr. Letheby has found it necessary to have the assistance of five general inspectors,—one common lodging inspector; two inspectors of cow-houses and markets; one whose duties seem to have been varied; and another whose duty it is to see that all orders are carried out. By means of this staff, under the general supervision of Dr. Letheby, during the last year, within the City 9,000 inspections of houses were made. Nearly 170 houses were inspected every week. Notwithstanding, there still remains a great deal to be done in the City.

At Bethnal-green, it has also been agreed, that the Public Nuisance Removal Committee be called the Sanitary Committee, and be composed of the whole vestry; that for the purposes of general inspection, the committee shall be divided into sections, and that each ward be under the members representing it. This arrangement, if properly carried out, would be of much advantage. We have seen so many instances, however, of the failure of amateur sanitary inspection, that we have but little faith in it: for a short time there is activity and zeal, which generally soon lapses into indifference. It is, however, very satisfactory to hear, that a loan of 7,000*l.* for drainage purposes, has been negotiated with an insurance company, and that the surveyors are to be instructed to compel owners of property to drain their premises into the main sewer, if no drainage exist into any other sewer. These last-named resolutions are steps in the right direction.

In consequence of the death of another child in Hollybush-gardens, an inquest has been held, and it is most desirable that this plan should be continued in connexion with all deaths which are suspected to result from sanitary neglect. Several residents of Hollybush-place and gardens complained of the foul condition of the air, and especially of the stench which came from Mr. Costello's cow-house. Mr. Brotherton, the surgeon who had attended the deceased and two others of the children who had died from fever, notices that they had recovered from that, and then got a mild dropsy, which, in these instances, terminated in death. In the case especially under notice, the boy, six years of age, had recovered from the scarlet fever, and it was advised by the medical attendant that he should be removed. This was done; but the boy was brought home the next day, and he was soon after stricken with typhoid fever, and died in the course of twenty-four hours. Typhus had been fatal in that house some years before.

When we reported a month or two ago on the state of Hollybush-place, we expressed a strong opinion that, bad as the drainage was, the evil was largely increased by the cow-shed, and this opinion is confirmed by the evidence which was given by Dr. Letheby at the inquest. This gentleman said that, "the house in which the deaths took place was small and rather dirty. There was a strong ammoniacal smell in the various rooms from the adjoining cow-house. He was informed that odour was at times almost unendurable, and that it varied in character. Sometimes it seemed to arise from rancid grains, and sometimes from rotten dung. The rooms were very close and ill ventilated. They could only be ventilated over the shed. The latter was immediately behind the house, and was only separated from it by a shed, a few feet wide. The closet was very clean, and the water abundant, though liable to receive the effluvium from the cow-house, from which it was evident the foul smells had come principally." Dr. Letheby inspected the cow-house, and found that it was cleansed down three times a day, and that the cows were healthy. He then described the deep and uncovered grain and manure pits, from which exhalations escaped. In the houses adjoining the sheds there were the most emphatic complaints at this nuisance, and at times the odours were absolutely insupportable. "Besides which the annoyance from the flies and other insects (telltales), which swarmed, was most distressing. Such a cow-shed, with every care, could hardly fail to be a nuisance to a neighbour, and would require inspection by a proper officer at least once a fortnight. He would add that, as the habits of the animals, as well as the food made use of, were most unnatural, the milk they yielded was most unnatural."

The jury in this case returned the following verdict:—"That the deceased died from typhoid fever, accelerated by bad air and bad drainage; and the jury recommend that the grain-bins and manure-tanks, and water-butts should be covered over; that there should be a numerous staff of sanitary inspectors employed by the parish authorities; and the authorities be requested to communicate with local authorities, and the Secretary of State."

THE WEDGWOOD INSTITUTE COMPETITION.

WE gave the judges' report on the designs sent in our last. The names of the successful competitors have since been declared, and are as follows:—

1st premium, Robert Edgar and John Kipling; 2nd premium, Mr. De Ville; 3rd premium, John Ladds; 4th premium, Edward Power. The following obtained honourable mention:—Samuel Cuthbert Rogers, James Lessels, and Harry Green. Mr. R. Edgar is an architect, late of Stoke; and Mr. J. Kipling is a modeller at Messrs. Pinder, Bourne, & Hope's manufactory, Burslem.

The committee met in the Town Hall last week, and made arrangements for the exhibition of the designs, and for seeking subscriptions, so as to ensure their proceeding with the work with as little delay as possible.

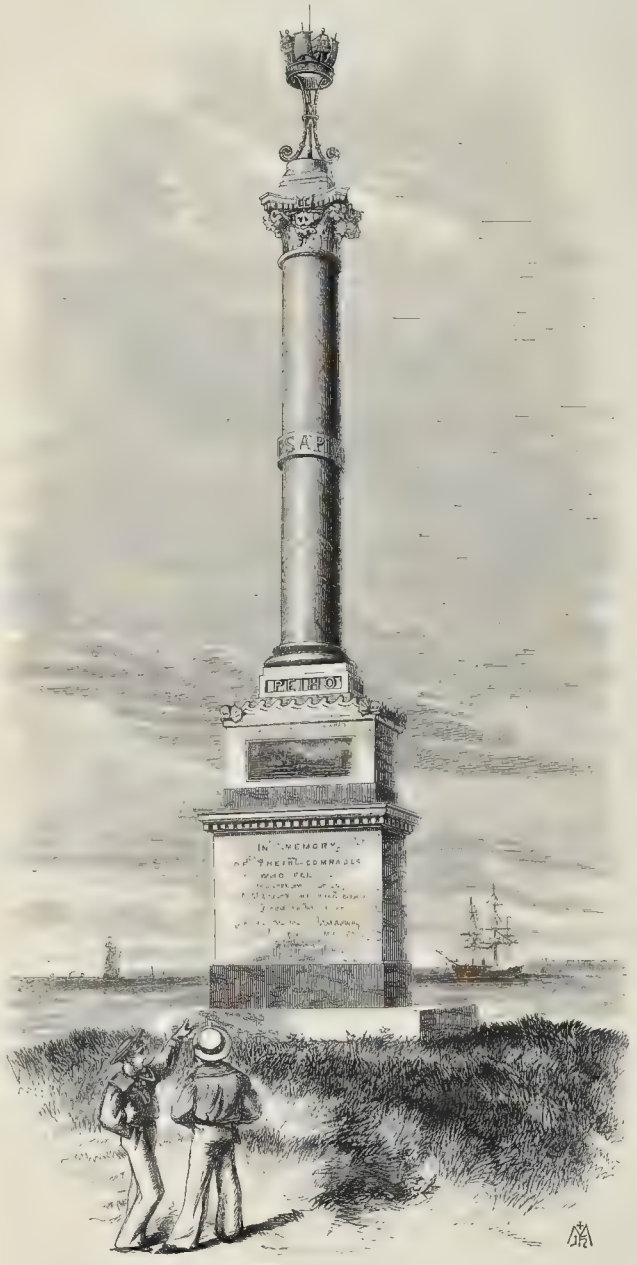
SIR,—Will you allow me, in refereuce to that portion of the judges' report which says, concerning my design, "the combination of cornice and window in the upper floor is decidedly inconvenient,"—to state that the upper floor has no windows; but in the inter-brackets of the cornice there are *panels of blue bricks*, and they must have been taken for *windows*. I would not thus trouble you did I not feel that, had windows occupied the position of the panels, the combination (considering the internal levels) would have been *atrocious*.

THE AUTHOR OF DESIGN MARKED WITH THE HEARTSEASE.

WHY SHOULD THE NEW PALACE OF JUSTICE BE DELAYED?

IT is so far satisfactory to notice that the Lord Chancellor has, on the earnest appeal of several members of the bar, given instruction for the alteration of some parts of the Bankruptcy Court, in Basinghall-street, during the remodelling of that inconvenient, and, for its purpose, most unfit building. We fear, however, that after all, both counsel, clients, judges, and every one concerned, will have but a sorry time of it; and that when a large sum has been expended upon the general alterations, it will be found that the premises are still insufficient for the proper and decorous management of the extensive business of this court. As regards the great building for the new courts of justice, the money for the purpose is ready, there is no difficulty respecting the site, and the design has been determined upon. Sooner or later this work must be carried out. Why, then, when all the circumstances are favourable, delay, and continue, year after year, to spend money on alterations which will for the most part be wasted? When looking into some of the apartments of the Bankruptcy Court not long since, we were disagreeably conscious that in their densely crowded and disorderly condition, the air, particularly on a damp day, is not much purer or better than that to be met with in the hovels of Bethnal-green.

ST. PATRICK'S CATHEDRAL, DUBLIN. — Up to the present time, Mr. L. B. Guinness, the brewer, has expended 110,000*l.* in restoring this cathedral. The total cost of the restoration, which will be wholly defrayed by Mr. Guinness, will probably amount to 150,000*l.*



THE CHESAPEAKE MEMORIAL, CLARENCE ESPLANADE, PORTSMOUTH.

MESSRS. WILLSON & NICHOLL, ARCHITECTS.

THE "CHESAPEAKE" MEMORIAL, PORTSMOUTH.

We have engraved a view of the Memorial column which has been erected on the Clarence Esplanade by Vice-Admiral Sir J. Hope, K.C.B., and the officers and ship's company of the *Chesapeake*. The memorial consists of a column, of a free Romanesque treatment, with plinth and sub-plinth resting on a pedestal, the summit being ornamented with a naval crown of gilt bronze, elevated on a tripod, also of bronze. The height of the monument, from the top of the raised mound to the summit of the crown, is 25 feet. The sculptured capital, the base and band of the column, the sub-plinth, and the die of the pedestal and the step, are of Portland stone. The base of the tripod and the cornice and plinth to the pedestal are of the grey Forest of Dean stone. The shaft of the column is in red Aberdeen granite, polished, and the plinth is of grey granite, also polished. The plinth has on it a representation in bronze of the attack on the Taku forts. The sculptor who executed this portion of the work was Mr. T. Phyffers. The north face of the pedestal bears the following inscription:—

IN MEMORY
OF THEIR COMRADES,
WHO FELL IN BATTLE,
OR DIED FROM DISEASE AND ACCIDENT,
DURING AN EVENTFUL COMMISSION OF FOUR YEARS,
THIS COLUMN WAS RAISED
BY
VICE-ADMIRAL SIR JAMES HOPE, K.C.B.,
THE CAPTAIN, OFFICERS, AND
SHIP'S COMPANY,
OF
H.M.S. "CHESAPEAKE."
1862.

The central band on the column is of Portland stone, with the word "Chesapeake," in ornamental letters, carved thereon; and on the moulded base of Portland stone standing on the plinth, are the words Peiho, Calcutta, Jeddah, and Pekin, raised on each face. The stonework was executed by Mr. G. P. White, of London, from the design and under the superintendence of Messrs. Willson & Nicholl, architects.

THE CLARENCE HOTEL, DOVER.

This edifice, of which we give an illustration, has been undertaken by the directors of the Clarence Hotel Company, in Dover, to accommodate the increased demand which has arisen in that favourite watering-place.

The site purchased by the company is freehold, in the centre of the most fashionable part of the town; and it is anticipated that this establishment will be frequented by the resident visitors, in contradistinction to those who simply pass down on their way to the Continent, to whom the Lord Warden Hotel would give accommodation.

The new station of the London, Chatham, and Dover Railway, in close proximity to the hotel, renders its position still more eligible than it would formerly have been.

The property purchased exceeds one acre in extent, and the grounds have the advantage of possessing well-grown trees, which will be carefully preserved; and it is considered that the association of trees and ornamental grounds with a marine hotel will be an attractive feature in the scheme.

The hotel itself is a fair example of the large structures having similar objects which are now rising up on all hands, and which appear to have taken a firm hold of the sympathies of the investing public in this country, and promise to afford ere long the same comfort in travelling which heretofore has only been found on the Continent and in America.

The Clarence Hotel has been designed with a view to comfort and convenience rather than to grandeur or show. The structure is to be thoroughly substantial, and so arranged that suites of rooms can be converted at pleasure into a private house, and, when not so required, available in the ordinary way as distinct rooms. All the modern necessities of joint-stock hotels are provided in the shape of hydraulic lifts for food, luggage, and passengers, the newest appliances of bells, speaking-tubes, and apparatus for cooking, heating, washing, &c. The corridors and staircases are built of incombustible material. The building will contain about 160 rooms in all, including a coffee-room, 55 feet by 30 feet; a ladies' coffee-room, 45 feet by 22 feet, with a conservatory for it leading to the garden; billiard-room; fourteen private saloons or dining-rooms, and ample domestic offices.

The hydraulic machinery will be worked without cost by an ingenious arrangement in using the head of water supplying the various cisterns from the great tower in which the main cistern is placed.

The corridors and apartments will be warmed by circulating hot-water pipes; and the ventilation of each room is provided for and finally disposed of by means of distinct flues, which are excited by contiguity with the hot flues from the stokery, kitchen apparatus, laundry, &c., so that an effective and constant supply of pure air is always in motion.

The cost of the building, including the cooking and warming apparatus, will be about 50,000*l*. The design is by Mr. Whichcord, architect, under whose supervision it is to be carried out. The first stone is to be laid on the 29th instant.



THE CLARENCE HOTEL, DOVER.—MR. WITHERDEN, ARCHITECT.

WATER FOR LONDON.

Finding the question of the water-supply to e Metropolis again occupying attention, I hand n some details that may interest your readers. Although the supply was calculated at 10,140,500 bic feet per day, or at the rate of 30 gallons per ad per day of the population, yet it was notorious at there were in London 70,000 houses, occupied more than half a million persons, that had no pply whatever.

The 30 gallons per day to each individual were us shown to be practically a fallacy. Yet, were true, certain essentials would still be lacking.

The metropolis wants water, but good water, eet and wholesome, not diluted mud and sewer ffuse; as it is notorious that on all the tributaries the Thames the cottage privies stand over the reams; the hog-styes and dunghills drain into em; the Thames itself, in its course of 160 miles, ceives the refuse outpourings of 223 cities, wns, and villages; to say nothing of the various per-mills, iron-works, gas-works, and other jectionable places that discharge their refuse to the Thames and its tributaries. I also con-der the manner of distributing the water-supply London objectionable. I believe the water com-nies insist upon *leaden* pipes being used, which nst seriously contaminate the water in passing rough them; indeed, in the system of an inter-ittent supply, in some cases the water must and for days in the leaden pipes.

Then there are the cisterns, an indispensable rangement to an intermittent supply. Any rt are highly objectionable, as their situation revents their being frequently examined or eaned, and they are generally receptacles for bbish and filth; and if out of doors, in summer me, you have your water lukewarm out of em, and sometimes a rapid aquatic vegetation curs.

Analyses of water engaged the attention of the eat chemist, Berzelius, during some of the tter years of his life. He found it impossible divest water, once contaminated by human ecreta, of its noxious principles.

The mischief of all impure water is what is in olution: the impurities in suspension can be echanically arrested, and that is all the filtering-eds of the water companies can effect; but they o not do all that can be done by them even in at matter.

The inhabitants of London require a soft, as ell as a pure water; for it was calculated twelve ears ago that 12,000 tons of soap per year were sed, which, at 50*l.* per ton, amounted to 600,000*l.*; hereas, had the water been soft, 3,800 tons ould have sufficed, which, at the rate of 50*l.* er ton, would have only amounted to 190,000*l.*; r, in other words, 100 gallons of London water equired 30 lb. of soap, to make a sufficient ather, and the same result was obtained with 100 allons of softer water with 9½ lb., which is about 00 per cent. in excess.

Since the reports of the Health of Towns Commissions a few years back, many schemes have een put forward with a view to a pure and effi-ient water-supply to the metropolis. Artesian rells, distant lakes, and streams were spoken of s available sources; but of course the water com-panies' influence raised objections against every plan as unfeasable.

Forcible objections must be urged against in-reasing the already too numerous associations of rresponsible companies. One great controlling dministrative authority appears to be the essen-ial principle of true sanitary reform.

In some towns, where the waterworks belong o the Local Board of Health, they wash down he footways, streets, courts, alleys, and even he fronts of the houses where requested to do so. What a boon such an arrangement would be to he narrow alleys and close courts of the metro-polis. I find it is calculated to require one gallon of water to wash one superficial yard of a paved court, alley, footway, or street.

In dry hot weather, it is the practice of some ocal boards of health to flush their street-gullies and sewers, which is a very excellent plan; but it is almost out of the question in the metropolitan district, although very necessary, as a district surveyor informs me 10*s.* per hour is the price charged by the water companies for drawing a fire-plug to let the water run for that purpose.

I am of opinion that the present water-supply of the metropolis is as deficient in quantity (to the sanitary requirements) as in quality. And, with all our advances in engineering and sanitary science, it must be admitted that the water-supply to the metropolis is miserably deficient: in fact, it is a disgrace not only to London, but to England. Why not, by some means, raise the two millions and a half of capital that the eight companies are supposed to represent, and take the monopoly out of their hands.

I consider most of the cities in England, many in Europe and North America, far better supplied than London is with water; and the water companies being irresponsible, their servants consider they have a right to act as they think fit: they tear up roads and footways at most inconvenient times and positions, and they lay in their water-pipes so shallow that a sharp frost stops the supply even in the main pipes, which is a serious oversight, and plainly shows they do not pay sufficient attention to the practical part of their business. I will not assume them to be so penurious as to assert that it is done to save expense to the company, to the serious inconvenience of the consumers at such times, as many can recollect that during the last severe frost no water ran through the pipes for several weeks.

I hand you a few memoranda of the different water-supplies in England, Europe, and North America.

London Water Companies in 1850.

	Supplied in million gallons. per year.	Gallons. per house pr.day	At a cost to company per million gallons. £ s. d.	Degree of impurities per gall. in 1863.
New River	5,373	174	9 17 4	17·75
East London	2,256	143	6 7 7½	21·08
Southwark* ...	1,820	143	5 9 4	18·80
West Middlesex*	1,109	124	16 9 7	14·24
Lambeth*	913	107	15 0 6¾	18·36
Chelsea*.....	1,304	170	19 10 4¾	16·44
Grand Junction*	1,127	220	9 14 6¾	17·48
Kent.....	323	98	17 2 10¾	25·88
Hampstead.....	145	89	22 5 7¾	

The total supply by all the nine companies for street watering, flushing sewers, and fires, was estimated at 16,748 millions of gallons per year at this date, 1850.

There are many other cities and towns in England that are well supplied with water, of which I have no memoranda; but I am convinced that London is very far behind them in the water-supply.

The Roman water-works were splendid, and ought to shame modern Europe:—

Aqueducts.	Length.	Galls. in 24 hours.
Appian, 312 B.C....	10 miles	27,724,181
Old Anio, 273 B.C...	36½ ,, ...	66,813,887
Maician, 146 B.C. ..	57 ,, ...	74,249,917
Pepulan, 127 B.C. ...	14½ ,, ...	6,756,385
Julian, 35 B.C.		18,321,407
Virgin, 22 B.C.	14 ,, ...	38,040,467
Alsietina, 14 A.D. ..	20 ,, ...	5,625,016
Claudia, 49 A.D....	42 ,, ...	95,958,991
New Anio, 90 A.D...	54 ,, ...	71,979,127
Total		376,834,379

Some auxiliary feeders made the total length of aqueduct at the period to exceed 255 miles in length. The Pont du Gard aqueduct, 30 miles in length, was in use four centuries; and, after the lapse of fourteen centuries, so excellent was the construction that it could be restored without considerable outlay.

The Versailles aqueduct is 98 miles, and out of it there are 13 miles of tunnel; the Versailles and Marli aqueduct, is 4,400 feet long and 200 feet high.

Iron pipes are much inferior to masonry for the conveyance of large quantities of water, to say nothing of the danger and inconvenience in case of bursting.

The Croton aqueduct and water supply to New York are a grand piece of engineering, 40½ miles in length; the cross section, 53.34 feet in area, capable of conveying thirty million gallons per day. There are also above 180 miles of pipes, varying from 36 inches to 4 inches in diameter, laid through the city, to distribute the water supply: the receiving reservoir is about 35 acres, and usually holds about 150 million gallons. The distributing reservoir is about 4 acres, and holds about twenty million gallons. Cost of the water-works, 8,575 thousand dollars; cost of the distributing pipes, 1,800 thousand dollars.

The Fairmount waterworks supply the city of Philadelphia through 97 miles of iron pipes. The daily consumption, in 1848, was 4,275,352 gallons: 2,418,016 gallons was the supply to London (see table). Boston has also an aqueduct supply, but of those works I have no information, although my relatives resided there for many years.

There is plenty of water which could be stored to supply London by gravitation. I am decidedly opposed to pumping by steam-power. The ancients supplied Rome by gravitation, and that is the proper way to supply London. Any of your readers that may be interested in this matter will find some valuable information in several Government blue books.

Anti-Monopoly.

* River Thames companies.

SANITARY STATE OF ST. GILES'S.

The annual report for 1862, on the "Sanitary Statistics in St. Giles's District," by Dr. George Buchanan, medical officer of health for the district, has been printed. It states that the mortality of London and of the central districts being high during the year, the death rate of St. Giles's was of course also in excess. In 1862, the large number of 1,563 deaths occurred amongst residents in St. Giles's district. This number represents a rate of 28·9 per 1,000 inhabitants, being a considerable increase above the death rate of any recent year. There was, as usual, a large excess of deaths among males, 814 of them having died to 749 of the other sex. Fifty-four of 80 hospital deaths were among males. The average age at death was 27 years and 10 months. Four hundred and seventy-six infants died before they were two years old, and 191 others between the age of two and five. Forty-three out of every hundred deaths, therefore, were those of children under five years old. The high mortality of St. Giles's in 1862, resulted firstly, from a small excess (5·5 per cent., and less than the average excess of former years) in the class of miasmatic or contagious disease, of which typhus fever was the only member contributing an exceptional mortality above other districts. Secondly, from a large excess (47·8 per cent.) in the important class of consumptive disorders. Thirdly, from a great excess (54·3 per cent.) in the equally important group of lung diseases, acute and chronic; and, fourthly, from a great excess (65·8 per cent.) in such children's diseases as are not comprised in the foregoing classes. The causes of the diseases thus in excess are to some extent such as public sanitary measures can deal with, but are to a greater degree dependent on conditions of exposure, destitution, and ignorance, that cannot be dealt with directly by the officer of health. The continually deteriorating state of the courts about Little Coram-street is believed to have had the main share in the increase of mortality, and it is to be feared that this increase will continue until some thorough sanitary improvements are here made. The Coram-street neighbourhood has already attained the evil distinction of being bracketed with Southern Drury-lane in its mortality.

THE ARCHITECTURAL ASSOCIATION.

The ordinary meeting of members was held on Friday, the 27th ult., at the House in Conduit-street. The chair was occupied by the president, Mr. T. Roger Smith.

The following gentlemen were, on ballot, elected members of the Association:—Mr. R. Almond, 11, Kingston Russell-place, Oakley-square; Mr. William Duke, ditto; Mr. James Hunt, Kentish-town; Mr. Frederick Morley, 33, Asker-street, Brompton; Mr. H. T. Keates, 20, Acton-street, Gray's-inn-road; Mr. John Henry Ion, 4, Albion-street, Hyde Park; Mr. John Codd, 105, East-street, Manchester-square; Mr. Edwin Penn, 14, Wilmot-street, Camden-town; Mr. Henry Blackwell, 35, Argyll-street, Argyll-square; Mr. Henry Barr, 126, Marylebone-road; Mr. A. G. Thompson, 4, Upper Gower-street; Mr. C. R. Hancock, 2, Dorchester-place, Blandford-square; Mr. A. C. Cuming, 10, Albert-street, Camden-town; Mr. Henry Burt Russell, 8, Adelphi-street, Strand; Mr. Thomas Dickson, 3, Paynter-street, Poplar; Mr. H. Kreisq, 7, Stratford-place, South Pimlico; Mr. John McLeod, 1, Featherston-buildings, Holborn; Mr. Thomas Farrer, 25, Hamilton-street, Camden-town; Mr. J. H. Leonard, Torrington-square; Mr. G. Buxton, 4, Warwick-court, Holborn; Mr. Charles Brooks, 8, Parliament-street; and Mr. T. E. Munday, 40, Ellington-street.

Letters of resignation were read from Mr. Walter Paris and Mr. Moleccy, members of the committee, on the ground that they had accepted appointments abroad. Mr. Florence and Mr. Arthur Smith were recommended as their successors on the committee, subject to election at the next meeting.

Mr. Florence and Mr. J. Johnson were also nominated to be secretaries to the class of design.

Mr. C. J. Adams, hon. sec., read a report of the operations of the Association for the year 1862-3, and also the cash account.

After some discussion in reference to the latter,

in which Mr. Paraire, Mr. Rickman, Mr. Ridge, and other gentlemen took part, the report and abstract of receipts and expenditure were received and adopted.

Mr. J. Tarver brought up the report on the class of design, which stated that 167 drawings had been contributed by twenty-nine members and that the average attendance of students each evening was fourteen.

Mr. Lewes read the report of the Library Committee, and Mr. J. Johnson brought up that on the modelling class. The latter contained an expression of regret that so limited a number of members had availed themselves of its advantages. It also stated that, as a consequence, the class had been closed.

The Chairman observed that the class of design and the voluntary architectural examination class had, no doubt, absorbed a good deal of time and attention, but that he hoped the modelling class would be revived at a more opportune moment.

The report on the voluntary examination class was brought up by Mr. Ridge.

Mr. Rickman read the report of the delegates appointed to attend the annual meeting of the Architectural Alliance, held in London on the 1st of July last.

The report was ordered to be referred to the committee.

After some other routine business,

The Chairman announced that the next subject for the class of design would be an open timber roof; and that on the 11th instant the prize essay on vaulting and groining would be read. If time permitted, the meeting would then resume the adjourned discussion on Mr. Darbishire's paper on the construction of workmen's houses.

CHURCH-BUILDING NEWS.

Notting-hill.—On Friday in last week, the Bishop of London consecrated another of several new churches which have been erected within the last few years in the daily-extending parish of Notting-hill, and which, we understand, is but the forerunner of two or three others to be built in the new districts assigned for them, within a short period. The edifice is situate in the new district called St. John's, within a short distance of the Metropolitan Rifle Ranges, Wormwood Scrubbs. It is dedicated to St. Mark. Mr. E. Bassett Keeling is the architect.

Islington.—On the 25th ult., the foundation-stone of St. Michael's, Islington, was laid by the widow of the late Mr. John Randell, who had left a piece of ground, 160 feet long by about 90 feet in width, for its site, near the Great Northern Railway, and had endowed it with an income of 200*l.* per annum, arising out of the freehold ground-rents of thirty houses in that neighbourhood. A large portion of the funds for the building have been collected by subscription, to which the Randell family have very largely contributed. The church is designed by Mr. R. L. Roumieu, architect; and the builders are Messrs. Dove, Brothers. The church will contain 750 sittings, with capabilities for future enlargement.

Lee (*Kent*).—The new church of Holy Trinity, erected at Lee by Mr. Lewis Glenton, of Blackheath, at a cost of 10,000*l.*, has been consecrated by the Bishop of London. The church is built of Kentish rag stone, in the Gothic style, from a design by Mr. S. Barber, of London. It contains a stone pulpit, coloured glass windows emblematical of the most marked events in the life of our Saviour, and is internally decorated.

East Lavant (*Sussex*).—The church of the village of Lavant has been restored, added to, and improved, under the directions of Mr. G. M. Hills, of London, architect. The building was very incommodious and in a very dilapidated state. The works have been executed by Mr. Blaker, builder, Littlehampton. The west door is preserved in the restoration. To the arcade on the north side of the nave has been added another arch at the west end, thereby opening up to the church a part of the aisle previously shut off by a dead wall. An entire new chancel arch has been made in the original east wall of the early church. The arch opening into the tower on the south of the nave has also been reconstructed in stone, instead of the rude brickwork which was found there. The flat ceiling of the nave has been taken out, and a ceiling of the waggon-head form introduced; and, instead of the dormer windows which existed in the roof, stone windows have been inserted on both sides of the church. The only ancient window of the nave that appeared until the plaster was removed from the walls is still preserved above the west door, being an insertion of the fifteenth century. On the removal of the plaster a little window was discovered on the south side of the nave. The new aisle windows were designed after a small one which was found there: they are of the lancet period. In the chancel the old roof, with its flat ceiling, has been removed, and a roof, with arched timber braces and open timber work, constructed. A wooden window at the east end has been replaced by one of stone—a traceried window of three lights. In refitting the chancel six ancient oak stalls have been preserved, and are placed against the north wall, with their tabernacle work of oak above them. The new seating generally is executed in deal stained and varnished, all being low open seats.

Priors Marston (*Warwickshire*).—Priors Marston church has been reopened. The restoration has comprised an almost entire rebuilding of the nave and aisle with new roof, stone pulpit, and stalling throughout. A memorial font has also been presented, consisting of Bath stone, surrounded by alabaster columns, and having an incised inscription round the edge. The whole work has been completed by voluntary subscription and the sale of old materials, its cost falling little short of 1,000*l.* The architect was Mr. Joyce, of Stafford; builders, Messrs. Lilley & Elliott.

Pershore (*Worcestershire*).—The restoration of Pershore Abbey Church is going on, and the church is now being reseated. The pinnacles have been completed. They counteract the lateral thrust of the vaulting of the choir. The exterior of the choir, side aisles, N.E. and S.E. transepts and chapels, have been repointed, and the defective mouldings and ashlar restored. A damp-proof course of concrete has been placed round the building, with a Forest of Dean kerb, to take the surface-water into drains (constructed of glazed stoneware pipes). Gas-pipes have also been laid down. The vestry is to be formed by a screen towards the south end of the south transept. The font will be placed under the first bay in the south transept. The old organ is to be reconstructed and adapted for its new site, in the N.E. chapel. The amount of liabilities to the present time, to be provided for by the committee, is 5,051*l.* 16*s.* 6*d.* This includes Messrs. Collins & Co.'s contract, 3,630*l.*; architect and clerk of the works' charge, 410*l.*; Messrs. Haden & Co.'s tender for warming, 160*l.*; removing and refixing organ, 50*l.*; besides new seatings, stalls, gas-pipes, encaustic tiles, iron palisading, and many other incidentals. To meet the total present liabilities, the sum of 4,714*l.* 1*s.* 5*d.* has been raised, and the interest of money deposited at the bank has accumulated to nearly 100*l.*, leaving a deficiency of but 343*l.* 15*s.* 1*d.* A few items remain to be provided for which had not been taken into the account, such as pointing the south transept, providing moveable seats for the middle aisle, pulpit, gas-standards, and re-opening the lantern-tower. No estimate of the cost of this item has yet been handed in by Mr. Scott; but it is probable that, including the deficiency above named, a total amount of some 800*l.* or 900*l.* will have to be raised beyond the present amount of subscriptions. The former curates of the Rev. Dr. Williamson have consulted Mr. Scott, the architect, as to a testimonial of their respect for the Rev. Dr.; and he suggests that they should provide a fresco, to fill the blank bay above the chancel arch, and which was evidently so occupied in former times. They have made preliminary inquiries of Messrs. Clayton & Bell, whose reply being satisfactory, Dr. Williamson has been informed of the intention, and has approved of the design.

Charlton Horethorne (*Somerset*).—St. Peter's Church has been re-opened after restoration and repair. The church consists in plan of a nave with north and south aisles, south porch, chancel, and western tower. The restorations were begun by placing a new roof on the chancel, re-seating the entire area of the church. The roof is constructed in the same manner as the nave, *i.e.*, boarded to a circle, and divided into panels by ribs with carved bosses. The seats are all open, and are of oak, the panels of bench ends being of pitch pine. A new reredos, of Bath stone, has been placed in the chancel. In the course of the restoration it was found necessary to entirely rebuild the whole of the south arcade, south aisle, and porch. The type of the north arcade was followed, but the details varied. The carved heads under the corbels represent the Prince and Princess of Wales. The old door and windows were reinserted; and the old roof, together with those of the north aisle and nave, repaired. The earth which had accumulated against the walls is removed, and a drain formed round the church. One of the windows in the chancel has been filled with stained glass, the gift of the vicar, the Rev. J. F. S. Phabayne; and the east window of the north aisle has been also filled with stained glass, by the Rev. W. M. Church, and represents the heraldic bearings of the Hussey family. Both these windows are by Messrs. Clayton & Bell. The contract for the whole of the works was taken by Mr. Clarke, of Bruton. The carving of the reredos, pulpit, and seats was executed by Mr. Forsyth. Mr. William Slater was the contractor.

Doncaster.—It has always been said, remarks the local *Gazette*, that a mistake occurred in the building of the bell-turret and spire of St. James's Church, and that it was not done according to the intention of Mr. E. B. Denison, who gave the general design. However that may be, the former spire was a decided failure, both in shape and proportion, and had a mean appearance, quite at variance with the general character and size of the building. At last Mr. Denison determined to pull it down and build a larger one at his own expense, and from his own design. The walls below fortunately afforded a proper basis for it. The new spire being 13 feet wide instead of 10 feet, and 120 feet high instead of 95 feet, is of more than double the bulk of the old one. It is also of more decorated construction, having eight deeply recessed belfry windows, with numerous shafts and carved capitals, and the ball-flower ornament round the cornice, and eight gargoyles at the rise of the spire from the octagon, which is ornamented with diaper bands like that of Salisbury. Mr. Denison has also thrown an arch, 32 feet high, over the vestry at the west end of the church, and thereby got rid of the long straight edge of the tower which ran from the floor to the roof. The work is now completed. The cost is about 860*l.* altogether. Mr. Teale, of Doncaster, has been the architect; and Mr. Athron, the contractor. The stone is from Ancaster, the same as the church is built of.

Aberdeen.—St. Mary's Church, Carden-place, is now approaching completion. It is built principally in the Middle Pointed style of Gothic architecture, with some of the details partaking of Italian and Scottish character. The building consists of nave, quasi-transepts, and chancel, the latter being flanked on the north and south sides by small circular-sided buildings projecting therefrom, the one on the north side forming a vestry, and that on the south side to contain the organ. Underneath the chancel is a crypt, the ceiling of which is supported on pillars, and groined, on which again is formed the floor of the chancel. The nave is divided into five bays by the clerestory windows, which are alternately circular and coupled lancets—three circular and two pairs of lancets on each side. All the windows in the church are in the clerestory of the side walls, and the circular windows in gables considerably higher up; the light entering the church being kept as high up as possible. The circle being the predominant figure throughout, the circular windows are filled in with plate tracery, each window having a large circular opening in the centre, and seven smaller ones round the large circle, and small apertures of circles or trefoils on the outer circumference give variety. The west gable is stepped to the line of the roof, and shows the largest circular window, 14 feet in diameter: on either side of this is a small circular window below, in line with clerestory windows. This gable is divided into three divisions, by flat piers running high up into the gable, the centre division containing the large west window, and the principal doorway underneath. The transepts externally present each a large circular window, 12 feet in diameter, with four lancets underneath. The chancel has four lancets on each side of clerestory, and in each of the three faces of the hexagonal apse at the east end is a circular window, surmounted by a small stepped gablet, carrying crosses. At the junction of the ridges of the roof over the centre of the transept, a large ornamental spirelet is formed, octagonal in plan, the lower part of varnished wainscot. The chief features of the outside are brought out by the use of different coloured materials, the architecture being kept up in general of a more than usually severe character. In the masonry, which is rubble-granite, the parts are marked by the use of bands of red and white freestone and black granite. These stones are also alternated in the formation of the circular and other windows and principal details throughout. The whole length of the church inside is 123 feet. The nave, including transept, is 90 feet long, 36 feet 4 inches wide; 30 feet high from floor to top of side walls, and 60 feet high from floor to apex of roof. The chancel is 22 feet wide, and 33 feet 6 inches long; side walls, same height as

ave, and from floor to apex of roof, 53 feet. The oint of the cross on the spirelet stands 112 feet bove the ground. The glazing in the nave nd transepts is of tinted glass, in geometrical atterns; that in the chancel of geometrical esigns in painted glass, and the east window of igure subjects. The church will accommodate etween 700 and 800 persons. A painting of the rucifixion will be placed above the altar; and here is a great amount of incised work, encaustic iling, and inlaid work, &c., to be yet finished. The architect is Mr. Alexander Ellis, of Aberdeen.

Piltown (*Waterford*).—The new church at Bessborough Park, Piltown, which has been some ime in course of construction, according to the plans of Mr. G. W. Street, late of London, under he contract of Mr. J. Fitzpatrick, of Waterford, n Ireland, is now completed. The nave is 62 feet ong by 33 feet wide, and is seated to accommodate about 298. The seats are low, open, and nade of Memel wood, stained, the ceiling being lso open work of the same material. The height f the church is about 42 feet, and the chancel neasures 23 feet long by 17 feet wide. The walls re bare, but pointed, the stones for which, viz., granite limestone and grey marble—were all furnished from the estates of the Earl of Bessborough, who gave the site. There is a circular racery window over the main entrance, which, with six small ones immediately below, and three indows each side of the nave, provide light for his portion of the building, the chancel being urnished with one main and two side lights rought from the old Fidown church. The cost f contract and architect's fees amounted to about 1,400*l.*,—800*l.* of which are forthcoming by the Ecclesiastical Commissioners. The earl's under gent, Mr. Richardson, superintended the erection s overseer of work.

THE FALL OF HOUSE IN ISLINGTON.

On Monday last Dr. Lankester, the coroner for entral Middlesex, opened an inquiry at the Lansowne Arms, Islington-green, into the circumtances attending the deaths of John Peake, arpenter, and Joseph Pearce, carpenter, who lost heir lives consequent on the falling down of the remises in Upper-street, Islington, in which they ere at work, known as the Wheatsheaf publicouse, in course of rebuilding.

Mr. Layton, vestry clerk of Islington, attended behalf of the parochial authorities; Mr. Tindal tkinson, barrister, on behalf of Mr. Chapman, the uilder; and Mr. Bradlaugh, solicitor, on behalf of r. Williams, the architect.

The room, though large, became so crowded hat the coroner suggested an adjournment to the usic-hall of the establishment, which was at once ceded at the disposal of the coroner by the proietor.

Evidence was then taken. In the course of it, r. John Baker, Hatton-garden, a retired builder, pposed that he was passing in front of the preises on Thursday morning last. While doing so was alarmed by a sudden fall of bricks from the rner of the building, which knocked down a ild belonging to one of his friends. He at the me time heard a tremendous crash, and ran up e archway of the Hall. He then found it was e front of the Wheatsheaf that had fallen in. ere appeared to be great confusion amongst the rkmen, and some were busy in endeavouring to rticate those who were buried in the front of e building. Saw three men picked out of the bbish and taken away in a cab to the hospital. then went up the archway of the Hall to the k of the building, and saw another man taken t of the ruins and sent away in a cab. This was hour after the accident had occurred. He then w a Mr. Cuffin with some workmen in the act throwing a rope near a stack of chimneys to ll it down. Called out to them not to do so, the falling bricks would injure the men eady lying in the ruins, also the men who ere trying to release them. When the last man d been got out alive, he saw the legs of a man struding from the rubbish in the basement of house. All this time the chimneys he had ken of were thrown down, and some of the icks fell on the spot where the man was lying. gentleman who was present, and himself, then ve some workmen money to shore up the cross rtition-wall, which he thought was in a very ngerous state. The whole front of the house eared to fall bodily at once. Saw no iron bond plate amongst the rubbish that before it fell d formed the front of the house.

Mr. Hollinshead, author, said he was at the ne of the accident a few minutes after it had taken place. He saw about a dozen men digging in the rubbish at the left-hand corner of the ruins. Those men, after a few minutes, were called away by some person to assist in pulling down the chimney walls, the bricks from which fell into the basement immediately over the spot where the bodies of the deceased men were found. He then went round to the back of the premises, but finding no person there in authority, asked the workmen if any of their number were missing. He was told "Two." He then urged the men to search for their missing comrades, and at this time he heard another portion of the chimney fall or thrown down. Was not prepared to say that the falling or throwing down of this chimney wall had anything to do with the deaths of the deceased men; but thought the wall ought to have been thrown down in another direction than immediately over the place where the men were then lying.

Mr. Timewell, juryman and builder, asked if the gentlemen representing the builder and architect were prepared to submit the original plans and specifications to the jury. They might materially affect the inquiry.

Mr. Bradlaugh said he would have the specifications printed, and supply each of the jury with a copy. It was ultimately decided that the original plans should be at once placed in the hands of Mr. Dennis, the foreman, for the use of the jury, Mr. Bradlaugh undertaking to supply a copy of the specifications.

The inquiry was adjourned till Monday next.

The following is part only of a communication on the subject:—

Sir,—Inasmuch as I have never been within the building, I court the charge of presumption, when I volunteer to tell you the primary cause of the accident above mentioned. It is this,—

Brickwork made defective and every way unsound, *by insufficient* and in *principle wrongly-constructed scaffolding*, a matter over which the district surveyor has not the shadow of a right of supervision or control of any kind.

In the case under consideration the scaffold was of the ordinary kind. This was an error on the part of some one; for in all cases where work is carried on rapidly, day and night, without cessation, the scaffold should be "*an independent one.*" The true principles of scaffolding, and their modifications and adaptations, are so simple, as to make them thought unworthy of the consideration of contractors and their foremen.

I will now proceed to show how the ordinary scaffold acts as a destructive agent upon bricklayers' work, when carried up, and followed by the other trades with undue rapidity. The swag of the ladder with the men passing up and down; the action of the wind upon standards, ledgers, and boards; the effect of changes of the atmosphere upon scaffold-cords and wedges; the sway given in all directions to the scaffold by men working thereon; the using of standards and ledgers for the hoisting of materials; the fastening points for derrick guys, &c.,—these various forces act upon the putlogs. Every *weighted putlog* (and there will be some dozens of them inserted in the walls) becomes a lever, acting perpendicularly, sometimes horizontally, and, still worse, acting at times as a combination of the lever and the wedge—not only as the simple wedge, but as the folding and semi-reversed, or lifting wedge,—I say, these forces acting upon the putlogs are so many destructive agents to sound work, be it done ever so well, by keeping the work night and day in a sort of spasmodic or irregular tremour or vibration, the irregular tremour effectually destroying the adhesive properties of the mortar, and, of course, preventing its setting. Many years since I made a calculation, and I have since verified it, with a distinguished officer of the Engineers, when engaged upon similar works, by comparison of notes and observations. It is this: a plasterer running a mould, a man lifting, a carpenter "pinching along" a principal, or a labourer pulling a rafter over a ledger, becomes a destructive agent (+ his own weight) of upon the average 50 lb. + the swag of ledgers and standards, and + the leverage of putlogs.

Now, sir, suppose we have but twenty-five men thus engaged, thereby we have a destructive agent created and in constant action (as in the present case), equivalent to a force of 1,250 lb. + leverage, &c., distributed throughout the brickwork, and this force is acting *irregularly* at *regular* distances of twenty-four courses of brickwork in height, and 6 feet laterally; in fact, throughout the scaffold upon every weighted putlog, now lifting, now acting laterally, and always in the same straight lines of bond.

In conclusion, I repeat that the primary cause of the accident which forms the subject of this hurried letter was, in my opinion, defective brickwork, caused by imperfect and wrongly constructed scaffolding. The remedy in other cases is simple, viz., in all cases where the work is carried on night and day, without a chance of resting time for settling, use an *independent scaffold.*

One further suggestion. English bond is undoubtedly the best for all works, but in works carried up rapidly, it appears to me to be really essential.

P. N. W.

ARCHITECTURAL LIBRARY, SOUTH KENSINGTON MUSEUM.

Your late notices of new foreign architectural books I think will be of great use, and I hope they will be continued. The list might be much enlarged. Architects are not half alive to the importance of making themselves acquainted with books. When established in practice, they are in general content to rub along in a jog-trot way, relying on old studies and early impressions; whereas, to keep the mind fruitful, a man requires to use constantly his sketch-book and study new works. Reynolds's advice to artists generally is especially applicable to architects:—

"It is indisputably evident that a great part of every man's life must be employed in collecting materials for the exercise of genius. Invention, strictly speaking, is little more than a new combination of those images which have been previously gathered and deposited in the memory. Nothing can come of nothing. He who has laid up no materials can produce no combinations. The more extensive, therefore, your acquaintance is with the works of those who have excelled, the more extensive will be your powers of invention, and, what may appear still more like a paradox, the more original will be your conceptions."

Those who wish to see the books you have described, will find them at the South Kensington Museum Library. It has been much the fashion to abuse this institution; but I feel quite sure, if Englishmen found such a one in Paris, words would not be able to express their great admiration. The Art Library of about 9,000 volumes is especially valuable to architectural students, it being the only one we have which is generally available. The British Museum Library is virtually closed, except to those who have little to do, from the difficulty and loss of time in getting books.

The advantages of the Kensington Museum Library are, that it consists of all the principal old works on architecture and cognate subjects, and *the latest.* The books can be taken from the shelves by the student, if he likes: at all events, there is no delay in getting what he requires. The library is open daily, and on Mondays, Tuesdays, and Saturdays, *in the evening*, till ten o'clock. Tracing is permitted, and the charge is very trifling,—6d. per week, 1s. 6d. per month, or 10s. per annum.

ARCHITECTUS.

GAS REFORM NEEDED.

LONDON *v.* EDINBURGH.

Some fifteen years ago the citizens of London were in a state of civil commotion about the price and quality of gas: a new company was formed, its object being the supply of a cheaper and superior article; and having succeeded in establishing themselves, the public would naturally expect that all the modern improvements in the manufacture and materials used in producing gaslight would be resorted to by this reforming gas company; that the citizens of London would, under their wing, be supplied with the best article at the lowest price; in short, that London would take the lead in the quality of its gas, as it does in its porter; instead of which, it appears by the reports in the columns of your contemporary, the *Journal of Gas Lighting*, that we are 150 per cent. worse lighted than the inhabitants of Edinburgh. I want to know why is this? Has the new company amalgamated with the old ones, or is the Edinburgh company content with less profits? I observe also that at the general meetings of our London companies, the directors take great credit to themselves for the present prosperity of their undertakings. One chairman, evidently in blissful ignorance of the reports I refer to, tells the shareholders "*that as far as the illuminating power is concerned, nothing better could be desired than the article they supply;*" it being equal, according to his statement, to 13¾ candles; while at Edinburgh it ranges from 30 to 34 candles. Another chairman of another cheap and good gas reforming company, while addressing his proprietors, informs them, "*that their business has so much increased, as to necessitate an outlay of* 24,000*l.*

on a gas-holder that will be the finest and largest in the world," and chuckles over the proud position they will then occupy; apparently oblivious to the fact that by doubling the illuminating power of his gas, this monster gas store would not be required at all, and his gas would even then be 30 per cent. inferior to that in Edinburgh. It forcibly occurs to me that those men are in ignorance of the properties of good gas: they are not generally chosen because of their scientific attainments; but it certainly forms a part of the duty of their engineer to inform them, previously to their coming before the public, of what is really *good gas*. We would then be spared the silly meaningless episodes about the superiority of London gas, and of theirs in particular; and, although it may occasion a disappointment to the prospective vanity of the chairman last referred to, I would advise him to save the shareholders the 24,000*l*. Let him and his talented engineer run down to Edinburgh and pick up a wrinkle from the gasmakers there; ascertain how to store a quart of London brandy in a Scotch pint-pot: they will be wiser men at the next meeting of their shareholders.

The object of this letter is to direct the attention of London gas companies to the reproachful comparison of the illuminating power of the gas supplied by them, with that provided by our neighbours in Edinburgh; and, without any threat, I would suggest the propriety of a speedy improvement on their part, else they may depend on it the shopkeepers of the British metropolis will not long willingly consent to breathe a superheated, deleterious atmosphere, when, by using gas similar to that supplied to the northern capital, little more than one-third of the present combustion would afford them the same amount of light.

SHADE OF CHARLES PEARSON.

ARTISTIC NATURAL THEOLOGY.

SIR,—Permit me, through the medium of your journal, to call attention to this interesting though neglected subject. Art-writers have, indeed, for many years past, been in the habit of alluding to the æsthetic laws of Nature; but, so far as I am aware, no one has systematically investigated them, or attempted to deduce from them conclusions relative to the being and attributes of God. Dr. Paley (Griffin's edition) devotes only seven pages to the consideration of beauty in Nature, and seems all along to have lost sight of the fact that artistic is as truly a science as ordinary natural theology, and that the very instances which he adduces of utilitarian, are intimately associated with artistic, contrivance.

It will hardly be disputed that a correct, or even partial, knowledge of the artistic branch of the subject may be of great advantage to the professional architect. If he would see the principles of his art rigidly and consistently carried out, let him go to Nature. It, and it alone, is marked by an *entire* absence of sham and pretence of meretricious or defective taste. The works of God are, like Himself, infinitely perfect, bearing in mind the varied end (moral and intellectual, as well as physical) which they are designed to subserve.

They may be advantageously studied under two general heads,—1, Form; 2, Colouring,—not forgetting, of course, to view them in combination. These, again, may be subdivided into sections, *e.g.*:—

1. Fitness or utility always existing in combination with beauty; 2. Compensation; 3. Breadth and Simplicity; 4. Variety and Contrast; 5. Harmony and Gradation; 6. Expression, viewed with reference to different classes of form or modes of colouring (the theories held upon the former subject by Messrs. Alison and Garbett must, in my opinion, be accepted with considerable reservation); 7. Symmetry and Proportion; 8. The right method of Studying and imitating Nature.

Although I cannot, in a communication like the present, fully develope the theological argument based upon the facts above alluded to, it would be wrong to pass it over altogether in silence. It may be epitomised in a few sentences. That inert, senseless matter can instinctively fashion itself into forms of beauty and sublimity is a supposition at once absurd and incredible. Whenever, therefore, we meet with instances of artistic contrivance on a large scale, we at once refer them to an intelligent designer, *i.e.* the Creator himself. Then, having ascertained the benefits (physical, intellectual, and moral) which we derive from the presence of the beautiful in Nature, we proceed by an *a fortiori* argument to infer His power, wisdom, and goodness. For if such be the lesser blessings which He bestows upon His creatures, what are we to think of the greater? If the mere details of His system of moral government be so dazzlingly glorious, what must be the character of that system when viewed as a whole?

X.

THE BRICK VAULT OF ST. GEORGE'S HALL, LIVERPOOL.

SIR,—I find it reported that at the meeting of the Institute of British Architects held on the 16th ult., "Mr. Tite called the attention of the meeting to the attempt made by Mr. Rawlinson to obtain credit for having designed the ceiling of *St. George's Hall, Liverpool*." I will meet Mr. Tite on this question, with the greatest possible pleasure, for several reasons. The disappointment of Mr. Tite ought to have cooled down in sixteen years; but it appears not to have done so. How is it, however, that Mr. Tite never opened up this question before,—during the life of the late Mr. Cockerell, for instance, who was conversant with what I did and with what I claimed, as to my share in designing and in constructing the hollow brick ceiling at St. George's Hall? I did not "take office as clerk of works at St. George's Hall," as put by Mr. Tite; but, at the urgent request of Mr. Elmes, I consented to act as his representative, not only for St. George's Hall, but for the other works Mr. Elmes had at that time on hand. Mr. Moseley, Mr. Wordley, and the widow of the late Mr. Elmes are all living, as also other of Mr. Elmes's relatives. If I have, at any time, claimed for more than I had done, no form of remonstrance has reached me before this from Mr. Tite. I was in friendly communication with Mr. Cockerell throughout, and probably Mr. Tite may recollect that when he, Mr. Tite, attempted to get himself appointed architect, to complete St. George's Hall, I used all my influence to defeat him, and succeeded.

The expressed wish of the late Mr. Elmes was, that no man but the late Mr. Cockerell should touch the details of his building, St. George's Hall; and I, consequently, striving to this end, carried the appointment of Mr. Cockerell against Mr. Tite, and have reaped the malicious opposition of Mr. Tite ever since, in many ways. If Mr. Tite will ask me why the late Mr. Elmes did not wish that he, Mr. Tite, should have anything to do with St. George's Hall, I will tell him, either publicly or privately.

I will state, as briefly as possible, my connexion with St. George's Hall, and what I claim and can prove. Mr. Elmes designed the great arch ceiling, and specified, and had let the contract, to be "solid work, of patent solid compressed bricks." The late Dr. Reid, for purposes of ventilation, required 400 superficial feet of opening in the great arch.

At the request of Mr. Elmes, I went from Manchester, where I resided at the time, to his house in London, 11, Gordon-street, Gordon-square, to try and work out, in detail, the arrangements for ventilation.

It was at this time that Mr. Elmes proposed to me to carry on his works during his absence. He had been ordered abroad for the winter by his medical advisers. I declined the offer more than once, on the plea that I was not an architect, and could not, consequently, fulfil the duties. It was pressed upon me, and I have now no doubt, for the very reason that I did not claim to be an architect, and could not therefore be tempted to tamper with architectural details. The final argument, however, was as follows:—"My dear Rawlinson, if anything will give me a chance of returning with life, it will be the knowledge that I leave my works in your hands. My friend, Mr. Cockerell, has consented to attend to all matters of detail: you will, therefore, consult him on all such points, so that you need not fear any difficulty." I consented; was in regular communication with Mr. Cockerell, and did my best to hold the works together; and on the death of Mr. Elmes I handed St. George's Hall over to Mr. Cockerell, Rainhill Asylum to the Messrs. Moseley, and certain private houses for Mr. H. Hointz and Hardman Earls to Mr. Wordley.

The whole question as to the hollow brick ceiling was laid before the Institute of British Architects, I think in 1849, and will be found in the *Builder* of that period. The paper was prepared at the request of Mr. Roberts, who, I believe, knew all the parties; the late Mr. Elmes and Mr. Cockerell. The facts I stated were also known to the committee of St. George's Hall, to Mr. Picton, and to all the architects of Liverpool, and have never been before disputed. How is it, then, that Mr. Tite can only now come forward to attempt to brand my name with forgery?

I cannot get to my papers at present; but I will, at no distant date, prepare a statement of the case from letters and documents in my possession. Mr. Tite shall have an answer in full.

I may say, however, that in no respect is the late Mr. Cockerell answerable for the hollow bricks, or for the mode of construction of the ceiling. The hollow bricks were made, as designed by myself, by Mr. Clayton, of Purporley, Cheshire. The altered specification was prepared by me, and the work was executed, at day wages, by Samuel and James Holme, the contractors, under the superintendence of Mr. Hughes, the clerk of works.

The late Mr. Cockerell designed all the ornamentation, and, in fact, finished the shell of the building.

ROBERT RAWLINSON, C.E.

MANCHESTER COMPETITIONS.

SIR,—Many readers of the *Builder* are waiting to know the result of the competition for the cemetery buildings for the city of Manchester, the leading men of which have generally had the character of strict integrity in all public matters. I trust the competitors will not be disappointed. The result of another competition, just decided in the adjoining borough, certainly is rather a damper on the sanguine spirits of those who think Manchester committees infallible. Their instructions to architects were for designs for two wings to the Salford Infirmary, at a cost not exceeding 3,000*l*. The result is, they have chosen a design estimated to cost 5,000*l*., which probably means 7,000*l*. What must architects think of this, who, with faith in the words of a committee, have spent their time uselessly?

A SUBSCRIBER.

IRON GIRDERS FOR FLOORS.

SIR,—In the discussion on the construction of workmen's houses in your last number, it is stated by one of the speakers that iron girders on Fox & Barrett's principle for floors discolour the ceilings. Now, it is true that, when the ceilings are formed immediately up to the soffits of the iron joists, and especially when the plastering is hastily done, the lines of joists are sometimes visible, as they frequently are in timber floors; but counter ceilings are now almost invariably used in connexion with the system, and with these there is no contact between the joists and the ceiling; and where the work is carried out in accordance with the specification, it is impossible for the joists to show.

HENRY BARRETT.

Books Received.

Proceedings of the Liverpool Architectural and Archæological Society.

THIS publication includes the papers read in the session of 1861 and 1862, and the minutes of proceedings at the various meetings. The volume would be more attractive and likely to be read if the latter were printed separately, say at the end of it.

VARIORUM.

Beeton's new edition of the immortal "Robinson Crusoe" is full of engravings, designed by Mr. Nicholson and engraved by Mr. Sheeres, and illustrations in colour, executed by Mr. Dickes. It is nicely printed, and makes a very pretty gift-book.——The new number of *London Society* includes a paper on "May Fair a Hundred Years ago," a pleasant "Chit-Chat about Cookery and other Matters," and its usual complement of engraved illustrations, some of them very good.

Miscellanea.

WORNUM'S WALPOLE'S ANECDOTES.—In reply to Mr. Wornum's letter in our last, we have received a letter from Mr. Cunningham stating that the "anonymous note" received by Mr. Wornum in answer to his communication to the editor of the *Daily News*, was written by him, Mr. C. There cannot be any occasion to carry the matter farther.

PRESENTATION TO MR. EDWARD JOSEPH HANSOM, ARCHITECT, BRISTOL.—A testimonial has been presented to Mr. E. J. Hansom, son of Mr. C. F. Hansom, of Bristol, architect. In October last, Mr. Hansom, jun., attained his majority, and a number of gentlemen having dealings with him in connexion with his father's profession, resolved to present him with a testimonial. The sum of 100*l*. was speedily raised for the purpose. The presentation was made at a dinner, to which Mr. Hansom, sen., invited the donors and a few friends, at the Montague Hotel, Kingsdown, and over which he himself presided. The testimonial consisted of a gold watch, chain and appendages, a set of gold studs, sleeve-links and solitaire, in Californian gold; a Whitworth forty-guinea match rifle, and a silver salver.

BARRACKS FOR MARRIED SOLDIERS AT CHATHAM. The drawings and plans for a building, to be erected at Chatham, for the married non-commissioned officers and privates of the line regiments in that garrison, have been approved by the Secretary of State for War. The buildings will be proceeded with immediately.

FALL OF A RAILWAY BRIDGE. — One of the girders of the London and North-Western Railway bridge, over Hyde's-lane, New Town, Birmingham, gave way lately and fell, carrying with it one of the iron parapet walls, and killing a man and horse that were passing below. Two children in the cart to which the horse was attached were thrown out and saved.

PARK FOR THE PEOPLE AT PARIS. — A new garden for the recreation of the working classes is about to be opened in one of the northern suburbs of Paris. This new garden, or, more properly, park, will be the largest within the fortifications of Paris, covering a space of 50 acres, nearly double the area of the Parc Monceaux. It is to be, like other public gardens, planted with the rarest foreign shrubs, selected from the horticultural gardens near Auteuil.

ALLEGED "SAVINGS" BY A BRICKLAYER'S LABOURER.—At an inquest held at Leamington on the body of a labourer, named Henry Reade, it was stated that Reade had been a resident of Leamington for more than forty years, during which time he had always been looked upon as a very poor man. He lived in a small room, which was searched by the police when he died, and it was then found that "out of his small wages as a labourer" he had managed to save 1,026*l.* 2*s.* 9*d.* Some people live on exceedingly little and save a large proportion of their incomes; but in this case surely there was some other source of savings than the small wages of a labourer alone.

ETHNOLOGICAL SOCIETY: ANCIENT BRONZE AND OTHER IMPLEMENTS.—At a recent meeting of this society, Mr. Mackie exhibited a collection of ancient bronze and other implements, found in a cave in Northumberland, and among them was a mould for casting bronze articles, which, we think, must be considered as proof that bronze implements were native productions, not imported, in ancient times. In the discussion that ensued, it was stated by Mr. Lubbock that there have been found in the lacustrine deposits, among relics indicating the earliest "stone period," remnants of textile fabrics, from which it appeared that the art of weaving was known in those distant ages. A paper was read on "The Aboriginal Occupation of North Tynedale and West Northumberland," contributed by the Rev. Rome Hall, which gave an account of the extensive archæological discoveries in that county, where there are remains of fortifications, constructed with massive unhewn blocks of stone, supposed to be anterior to the Roman invasion. A fact mentioned by Mr. Crawfurd tends to throw doubt on the value of the evidence of antiquity afforded by the discovery of the stone, bronze, and iron implements. He stated that in Borneo good iron implements were made at a very early date, the rich iron ore found there being readily converted into malleable iron, by fusion with charcoal and lime, without undergoing the process of casting.

THE NEW CHURCH OF ST. MICHAEL, SHOREDITCH.—The foundation-stone of the proposed new church, in Mark-street, Shoreditch, has been laid by the Bishop of London, in the presence of a very large assemblage. The church will stand immediately opposite the new model lodging-houses erected by Mr. Alderman Waterlow. It will be called the church of "St. Michael and all the Angels," and is part of a plan originated to show how much can be done in church extension by voluntary effort. 18,000*l.* have been already promised, about 7,000*l.* received, and 12,000*l.* more are required to complete the plan. In the meantime a small temporary church has been erected on a portion of the site, and has been in use for some time. As the new building will cover it in, there will be no interruption to Divine service during the time of its erection. Besides this temporary church, one of the arches of the railway near has been fitted up for Divine worship, and has been in use for some time. The new church is to be 78 feet in height, 56 feet 6 inches in width, length over 140 feet, including a deep chancel. The east window will consist of five lights, the window of many small clerestory lights. There will be a bellcote and one bell outside. The materials are banded brickwork, with Bath stone dressings. Mr. Brooke is the architect, Messrs. Sharpington & Co. the builders, and Mr. J. Cockerel clerk of the works.

THE SURVEYORSHIP TO THE BIRKENHEAD COMMISSIONERS.—It has been resolved to appoint a new surveyor, with a salary of 500*l.* a year, in the place of Mr. Mills, resigned, whose salary was only 210*l.* The whole time and attention of the surveyor will now be required. Orders were given for advertisement to issue inviting candidates to apply for the appointment.

SASSOON HOSPITAL.—Sir Bartle Frere lately laid at Poona the foundation-stone of a hospital, to be built at the expense of Mr. David Sassoon, who gives 15,000*l.* to endow it. It is to be open to people of all nations and creeds. Mr. Sassoon is a rich Bombay merchant and a native of India, who has purchased an English estate, and is now, therefore, an English landlord. He has sent his son to an English school and college.

AN ALBERT INSTITUTE FOR DUNDEE.—It has been unanimously resolved at a numerous and influential public meeting in Dundee, to erect an Albert Institute on the ground in front of the Royal Exchange there, so as to form an architectural improvement to the town while forming a memorial of the Prince Consort. A general subscription has been opened, and 10,000*l.* have already been raised. The subscriptions, however, are in the form of shares in a joint-stock company on limited liability principles, and with a capital of 20,000*l.* in 10*l.* shares. It is desired to have the Institute ready for the use of the British Association at their meeting of 1865 in Dundee.

THE GREAT DECREASE OF CITY POPULATION. The decrease is easily accounted for, by the extensive appropriation of buildings which had been formerly devoted to domestic purposes, for the use of offices, &c., connected with the various branches of commerce. In 1851, the entire population of the City of London Union was 55,932: in 1861, it was only 45,286, the decrease in ten years being 10,646. In all the parishes except the following the numbers declined:—St. James, Duke's-place (1851) 827, (1861) 851—increase, 24; St. Margaret, New Fish-street, (1851) 305, (1861) 316—increase 11; St. Martin's, Pomroy, (1851) 181, (1861) 185—increase, 4; St. Mary Mounthaw, (1851) 406, (1861) 474—increase, 68; St. Matthew, Friday-street, (1851) 164, (1861) 167—increase, 3; St. Peter, Paul's-wharf, (1851) 383, (1861) 410—increase, 27.

THE NEWCASTLE-UPON-TYNE SCHOOL OF ART: TESTIMONIAL TO MR. W. B. SCOTT.—The presentation of this testimonial has taken place in the lecture-room of the Literary and Philosophical Society, Westgate-street, Newcastle. There was a numerous assemblage, the majority being the late pupils of Mr. Scott. One of the senior students read an address to Mr. Scott from the students of the School of Art. The design was the work of a lady pupil in the school, and the composition was the work of another pupil. Mr. Scott delivered a farewell address; and a *conversazione* afterwards took place in the Natural History Society's Museum. The fund raised amounts to 170*l.* or 180*l.*; and at a meeting of the committee measures were taken to enlarge the amount, and raise it to a sufficient height to secure a picture by Mr. Scott for the town of Newcastle; the town-testimonial to be a commission to execute the painting.

THE HEALTH OF LIVERPOOL.—The mayor, says the *Albion*, with an earnest desire to co-operate in any means which might be suggested to arrest the progress of fever, attended the last meeting of the health committee, and obtained from the medical officer some explanation respecting the present sanitary condition of the town. It appears from Dr. Trench's report that in Liverpool, as in London, and probably over the whole country, there has been, thus early in the autumn, a considerable increase of typhus; and it is quite consistent with the natural history of the disease to expect rather an aggravation than a diminution of its severity during the coming winter months. This should stir up our rich men and philanthropists, our merchants and employers of labour, at once to inquire how far they can assist in solving the great social problem—*the prevention of typhus among the poor*. Typhus never can prevail in the epidemic form in face of employment for the working classes and ventilation of their dwellings. In winter, however, the ventilation of their dwellings becomes still more defective than in summer, as every crevice is stuffed up with the utmost care for the sake of warmth and for fear of draughts; and it is probably to this cause mainly, and especially from the continued closeness of their apartments during the night, that the greater prevalence of typhus in winter must be attributed.

NEW USE OF BALLOONS.—Some one suggests an economical way of lighting cities, and proposes to apply it to Paris. Balloons, from the cars of which are to emanate an electric light, are to be fixed at certain stations, and hover over the city, at the proportion of one balloon to 50,000 persons. How are the balloons to be managed in gales of wind?

CHICHESTER CATHEDRAL.—The work of restoration is still going on rapidly at this cathedral. The scaffolding used in rebuilding the tower has been raised some 22 feet or 23 feet. It now stands quite clear of the roof; being 110 feet from the ground. The walls of the tower, which are about 5½ feet thick, are now some 86 feet above ground, and they are still rising at the rate of about 1 foot a week. There are between sixty and seventy men employed upon the works.

RESERVOIR PAINTING BRUSH.—Messrs. Crowden & Garrod have patented a painting-brush, the advantages of which, in comparison with the usual kind, is that it is made of first-class bristles selected for the purpose: its shape is nearly flat, and set in thin copper binding, and firmly cemented. The most remarkable claim for the invention is, that the centre of the brush forms a small chamber for the paint, which is worked up to the flag or top of the brush by the arrangement of the bristles, which are so placed to effect this purpose that, while the brush is in use, it is working the colour to the surface and never becoming clogged.

INTENDED DESTRUCTION OF TOOTING COMMON. It is important to the public to know, says the *Standard*, that their interests and their right in this common are endangered. A vigorous effort is required to prevent Tooting Graveney being desecrated, and, in fact, absorbed by a circle of villa residences. An "Inclosure Commissioner" has been holding an inquiry on the subject in the village. A pretence is made that the present scheme does not involve an occupation of the whole tract, but is only an application for permission to build round the outskirts of it, under obligation "to keep the remainder for the public inviolate." But the lineal measurement of its outskirts is only about a mile and a half; and taking at only 60 yards the depth which would be required for each house and its private plot, together with the necessary roadways, there would remain for the benefit of the public not one-third of the present open road.

PINCHBECK PARISH, LINCOLNSHIRE. — A correspondent writes: "The large village parish of Pinchbeck, near Spalding, now presents a gratifying specimen of condition, through the benevolence and liberality of the incumbent, the Rev. W. Wayet, who, after expending 2,000*l.* in repairing and restoring the chancel of the parish church, is now employing 4,000*l.* in a similar manner on the body, besides some necessary additions, as re-hanging bells; and had previously built and endowed, almost entirely at his own expense, the little church of Pinchbeck West, with parsonage and schools; and an equally pretty school at Pinchbeck East, in a third part of the parish; and pays the salaries of the teachers at both himself. This is very satisfactory to read; as whilst, of course, this gentleman must possess adequate means, it is not all, lay or clerical, who equally remember their duty to God and the poor, and recognize the high importance and use of money as a trust."

A NEW FORCE FOR THE DESTRUCTION OF "ARMOUR PLATES." — The new armour-plated ship *Royal Oak*, one of the Channel squadron, was placed in Keyham Docks a few days since for the examination of her bottom. On the water leaving the dock the armour plates adjoining and in contact with the sheathing of Muntz's metal were found to be eaten away by galvanic action, presenting a series of corroded holes running into each other, from half an inch to five-eighths of an inch deep. Some of the plates contained no less than 188 of these holes, whilst none had less than 40. Numbers of the holes had run one into the other to the extent of five or six feet, five-eighths of an inch deep and upwards, altogether presenting one of the most remarkable appearances ever witnessed. This ship has only been about eight months in the water. The holes and corrosion appear to have occurred wherever the red lead or under-coat had been rubbed or washed off. The Lords of the Admiralty have ordered the removal of Muntz's metal from the bottom of the ship. They ought to have tried our old suggestion of building ships *for* armour plates, but without putting on their armour till about to go into action, or at least till war should be proclaimed.

British Archæological Association.—At the meeting to be held on Wednesday 9th, the following papers will be read:—Mr. E Roberts on Brixworth Church; Mr. Saxe Bannister on Unpublished MS. Lives of Henry V.; Mr. Blashill on the Discovery of a Well and other Roman remains at St. Dunstan's-hill.

Proposed Southwark Park.—Application to Parliament is intended to be made in the next session to enable the Board of Works to provide a public park for the south-eastern districts of the metropolis, and for that purpose to purchase lands and houses in the parish of St. Mary Rotherhithe, containing about 60 acres.

St. Thomas's Hospital.—At a meeting of the governors of St. Thomas's Hospital, held on Tuesday last, a report was read from a committee appointed for the purpose, stating that they recommended the purchase of seven acres of land at Stangate, on the banks of the river Thames, as a site for the new hospital. This site—the cost of which will be 95,000*l.*—is situate on the bank of the river Thames, directly opposite the Houses of Parliament. Some memorials were presented from St. Olave's, St. John's, and St. Thomas's parishes, in favour of the Surrey Gardens site, where 17 acres might be obtained for nearly the same sum; and one of a deputation from parishes interested in the matter, said that of 96 answers which he had received from medical men on the south side of London, to whom he had written on the subject, 86 condemned Stangate as the site, 5 were favourable to it, and 5 were doubtful. It was thought that the condition of the river was not likely to be rendered so salubrious as to make this a healthy spot for a hospital. The Board, however, agreed to purchase the site in question at the price named, subject to the approval of the Court of Chancery.

Accident at Leeds.—An alarming accident occurred on Monday morning, at Leeds, from the falling in of the floor of one of the work-rooms in the manufactory of Mr. J. Barran, wholesale clothier, Alfred-street, Bear-lane, in that town. The premises are four stories in height, exclusive of attics, the lower portion of the building being used as show-rooms, cloth-rooms, &c., whilst in the top story the sewing machines, &c., are placed. The attics at the top have hitherto been used for various purposes, but the inconvenience of the slanting roof rendered them less useful than they might otherwise have been, and Mr. Barran therefore resolved to replace the slanting with a flat roof. This work was commenced a week ago, and for the convenience of the workmen the bricks and other materials were piled near the centre of the floor. In the room below, which extends the length of the premises, about forty young women, engaged at sewing-machines, were pursuing their ordinary duty about half-past eleven in the morning, when, without the slightest warning, a third of the floor above them, as well as a large quantity of bricks, fell in, completely burying the five girls who were working in that portion of the room. One of them now lies in a dying state, without the slightest hope of recovery.

An Engraver's Contract.—In the Court of Common Pleas an action for the alleged breach of a contract to engrave on steel a copy of Wallace's picture of the Death of Chatterton within the time limited by the contract, has just been decided in the case of Turner *v.* Barlow. The plaintiff, it appeared, is a publisher of prints, residing at Newcastle-on-Tyne, and the defendant is the well-known London engraver. At the Manchester Art Exhibition in 1857 Wallace's picture of the Death of Chatterton was much admired, and the picture was afterwards exhibited. In 1859 the plaintiff entered into a contract with the defendant to engrave the picture for him in twenty-one months for 462*l.*, the plaintiff contracting to let the defendant have the picture deposited with him "at intervals, as might be agreed between them, for fourteen months." The picture was engraved and finished, but the print did not meet with the extensive sale that was anticipated. From various causes, the print was not completed till 1862. The defence was mainly that the engraver had not been allowed fourteen months as stipulated. The jury found the picture to have been delivered on the 13th of May to the defendant, and that the days of receipt of the picture and sending it away ought to be excluded. The picture had been so nearly fourteen months in the engraver's possession that this was virtually a verdict for the defendant. His lordship, Justice Erle, remarked that in all his experience he never recollected such a case, depending on such a close calculation.

The Proposed Public Park at Rochdale—Work for the Unemployed.—At a special meeting of the town council held last Saturday "to consider and determine on the purchase of the glebe lands on the easterly side of and near and adjoining to Manchester-road, for free grounds and places of public resort and recreation," it was unanimously resolved to purchase the lands named, which were offered at the price, for the larger portion of 500*l.* per acre, and for the smaller of 600*l.* per acre. The surveyor having measured it, found the quantity 20 acres, 3 roods, 895 yards—in round numbers, 21 acres of land.

Renovation of the Royal Pump-rooms, Leamington Spa.—The internal decorations of the Royal Spa Pump-rooms have been completed by Mr. C. Brothers, the local artist employed. The saline baths, the Turkish bath, and the suite of dressing, and lounging rooms, have been all decorated. The front large room is the most prominently decorated. The style of the ornamentation of the ceiling is Grecian. From the centre of the ceiling are suspended three gaseliers, supplied by Messrs. Robinson, of the Leamington Gas Works. The principles of M. Chevreul are said to have been followed in the colouring.

Sanitary Progress.—In a letter addressed to the Mayor of Lancaster, Mr. J. Grant, superintendent registrar, says of the sanitary state of the town:—"The death-rate formerly averaged about 27 in 1,000, or 1 death in 37 persons. I never knew it below 26 prior to the execution of our sewerage and waterworks. During the year ended 31st March, 1863, it was 22·7; and in that ended 30th September, 1863, 22·2, or 1 death in 45 persons. These points are lower than we have ever previously reached. If instead of the latter rates the mortality had been 27 in 1,000, it is evident that 90 more of the inhabitants of Lancaster would have been swept to the grave during the eighteen months. In the seven years 1838-44, when the birth-rate was only 33 in 1,000, the deaths under five years of age were about 40 per cent. of the total deaths. They are now about 35 per cent.,—a decrease of 12·5 per cent.——The filthy state of the Cam at Cambridge has been complained of in the local Council, and the matter has been referred to the General Purposes Committee.

Liverpool Architectural Society.—The last meeting was presided over by Mr. W. H. Weightman. Several communications were read, including one from the Secretary of the Literary and Philosophical Society, inviting co-operation in the form of a deputation to wait upon the Mayor, to request him to give his countenance and support to the proposed celebration of the tricentenary of the birthday of Shakspeare. The communication was referred to the Council. In respect of the scale of charges recommended by the Architectural Alliance, on the motion of Mr. Kilpin, seconded by Mr. Boult, it was resolved that the delegates be requested to bring before their respective societies the question of the desirability of establishing a uniform system of charging for valuation of property. It was mentioned that whilst London surveyors charged ½ per cent., or 5*l.* upon every 1,000*l.*, the charge usually made by Liverpool surveyors was only a guinea for the first 1,000*l.*, and half a guinea for each subsequent 1,000*l.* The paper for the evening, "On the Construction of Iron Roofs," was then read by Mr. J. J. Birckel.

Halifax School of Art.—A *conversazione* and exhibition of paintings, &c., in aid of the funds of this school, have been held in the New Assembly Rooms, Harrison-road, Halifax. The institution has now been in existence for upwards of five years. Hitherto its claims and importance have not been fully recognized, nor has it met with that general and liberal support to which it is entitled. In order, therefore, to clear it of a little debt, and to bring its active existence properly before the public, the committee decided upon holding a *conversazione* and an exhibition of paintings. For this purpose, several gentlemen in the town and neighbourhood lent specimens from their private collections. Mr. Ryan read a report, in which he stated, that the total number receiving instruction through the agency of this school during the half-year, was 808, showing an increase of 292 since last year. Mr. E. Crow, one of the Government art inspectors, in June last, awarded nineteen local medals for students, this being the largest number ever awarded in this school. In the examination of the first and second grade, thirty-three and fourteen students respectively were successful. The prizes were distributed after the reading of the report.

Architectural Institute of Scotland.—At the annual general meeting of the Architectural Institute of Scotland, held on the 27th ult., the Hon. Lord Jerviswoode was to open the present session by an introductory address, and a paper was to be read by Mr. David Cousin, architect, "On Algiers, and its Buildings, and the Journey thither."

Californian Colours.—A paint, or series of paints, has recently been discovered in California, which is said to yield seventy-four different tints, varying from vermilion to dove-colour. If all based on mercury, as vermilion is, however, many of them may be of little worth from the unfixed and changeable nature of most mercurial colours.

A Broadway "Store."—There is in the fashionable street of New York a "marble store," in which is carried on the largest wholesale and retail business,—it being at once the Leaf's and the Swan & Edgar's, of America. On the underground floor, below the basement, are four steam boilers of 50-horse power capacity each, which operate separately or in connexion. These are used in heating the building and in driving the engines. The space in the building heated by them is 1,819,550 cubic feet, and 38,000 lineal feet of steam-pipe are used for this purpose. The introduction of the steam works cost about twenty-five thousand dollars. There are five steam hoisting engines of 6-horse power each. There are also five elevators, each worked by one of the engines. Except the walls, the whole building has been lately reconstructed. The interior has been much changed in appearance. The work was done under the supervision of Mr. J. Kellum, the architect who furnished the design for the new city court-house.

TENDERS.

For the second contract for the rebuilding of the Hospital for Poor French Protestants at Victoria-park. Mr. R. L. Roumieu, architect. Quantities taken out by Messrs. Welsh & Atkinson, and Mr. Percy:—

Carruthers	£17,095	0	0
Ashby & Son	15,437	0	0
W. Cubitt & Co.	15,344	0	0
Mansfield & Son	14,956	0	0
Kayes & Head	14,569	0	0
Fox	14,410	0	0
Anson	14,445	0	0
Hill & Son	13,935	0	0
Dove, Brothers	13,891	0	0
Myers	13,840	0	0
Longmire & Burge	13,584	0	0

For building a residence at Eltham. Mr. Chester Haworth, architect. Quantities supplied:—

Freeman	£1,273	0	0
George	1,247	0	0
Mann	1,093	0	0
Kent	1,056	0	0
Ring	1,040	0	0
Langmead	985	0	0
Grey	975	0	0

For publichouse and two shops, Commercial-street, Shoreditch. Mr. Joseph Harris, architect. Quantities by Messrs. Lansden & Giffard:—

Wood	£3,633	0	0
Rivett	3,533	0	0
Kilby	3,549	0	0
Hack & Son	3,497	0	0
Hedges	3,267	0	0
Perry & Judson	3,211	0	0
Forrest (accepted)	2,837	0	0

Semi-detached house, East India-road, Poplar, for Mr. W. Black:—

Salt	£984	0	0
Atherton	895	0	0
Kilby	859	0	0
Shefield	779	0	0
Masters	730	0	0

For dwelling-house and show-rooms, No. 14, Paddington-green. Mr. H. Mathews, architect. Quantities supplied by Mr. F. G. Widdows:—

Green & Son	£2,085	0	0
Tidy	1,989	0	0
Axford	1,970	0	0
Newman & Mann	1,958	0	0
Fox	1,947	0	0
Simms & Martin	1,888	0	0
Green (accepted)	1,847	0	0

For semi-detached villas at Lower Norwood, Surrey, for Mr. Barnett Meyers. Messrs. Tillot & Chamberlain, architects:—

Piper & Wheeler	£15,635	0	0
Myers & Sons	15,496	0	0
Nicholson & Son	15,000	0	0
Patrick & Son	14,995	0	0
Hill & Keddall	14,220	0	0
Cannon	13,431	0	0
Wills	13,325	0	0
Ward & Co.	13,313	0	0
Fish	12,792	0	0

For works High-street, Whitechapel, for the Directors of the East-London Bank, Limited. Mr. G. H. Simmonds, architect:—

Ashby & Horner	£378	0	0
Outhwaite	367	0	0
Jacobs	368	0	0

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F F W -H.T—C & G J.G H.E & Son.—G & C—J. B & Son.—Subscriber (the Council of the Institute do not desire that the papers read at the Institute should go beyond their own walls. We are quite prepared for our correspondent's astonishment and that of all sensible men).—"A new Correspondent" writes to ask whether "it is usual to balk a fence on the worse account for the election of a member when he is supposed to have been blackballed at the first ballot, such a step having been taken at the Institute of Architects last Monday" (we know nothing of the proceeding, which, if true, is related, certainly seems unusual).—W. C.—S. M.—J. O. B.—S. B.—S. W. W.—F. W.—E. A.—J. C. J.—J. E. (in type).—G. E. (cancelled; having appeared elsewhere).—T. H. M. C. (too).—S. E. O (apply to Society of Arts, Ad lphi).—Mr P. F A B J. W (we know of nothing better than one of the schools in connexion with the Department of Art).—Rev. C. P.—Rev. Mr. T.—W. S. M.—J. L.—M. P.—W. C.—J. P.—J. R.—J. O'D—J. B.—T. M.—J. P. & Son (shall bear from us).—J J McC.

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Commissioners' Offices, Birkenhead, 24th Nov. 1863.

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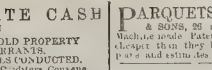
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WHITE and RED SUFFOLK FACING
BRICKS and other KILN GOODS.
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The entire MAKE of BRICKS by Mr. Wallis in Lodge Yard of the Upper and Lower Hallow Fields; by Messrs. J. Butcher & Son, of Otterham, Quay and Lower Rainham; and also by Messrs. J. & G. Parker, of Wickham, near Strood, Kent.

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IN ANY QUANTITIES, BY BARGE ALONGSIDE.
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WELLINGTON WHARF, Belvedere-road, } CONSIGNEES.
Lambeth; and Kent-road Bridge,
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

BRICK BURNING, saving Two-thirds of
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ARCHITECTURAL and MONUMENTAL WORKS, 42, High-street, Camden Town, executes every description of Architectural and Monumental sculpture in the best style of workmanship, at moderate charges. Estimates submitted free.

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PROOF TEMPORARY ROOMS, comfortably warmed, floored, lighted, and elegantly decorated. Easily erected and removed. Convenient and distance observed for Archers. JOHN EDGINGTON & CO. 48, Long-lane, Smithfield, E.C. and 18, Piccadilly, W. Manufactory, 108, Old Kent-road, S.E.

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THE BEST PLASTER OF PARIS. ESTABLISHED 1784.

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KEENE'S IMPROVED CEMENT,
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Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

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FRANCIS, BROTHERS, & POTT,
NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.
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YORK ROAD (ON THE CANAL BRIDGE), KING'S CROSS, N.
Nearly opposite Entrance to Goods' Station, Great Northern Railway.
Bricks, Sand, Drainpipe Tiles, Slates, Fire Goods, Hair, Laths, Plain and Ornamental Ridging, 6-in. Quarries (red, blue, and buff Terra-cotta Pots, Garden Edgings, &c. &c. Goods landed, wharfed, and carted.
All Goods of the best description only.
W. C. H. respectfully requests a trial of the Plaster and Keene's Cement.

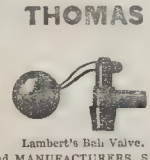
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PATENT SILICEOUS PAINT, FOR COATING BRICKS, CEMENT, &c.
FIRE-PROOF VARNISH,
For Internal Wood Work, Roofs, and Church Work generally. This Varnish renders Wood Uninflammable, and Preserves it from Decay.

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PATENT FLUO-SILICIC INDURATIONS for the PRESERVATION of STONE, CEMENT, and other like materials. The Company apply to the surface of stone, cement, &c. a solution of Fluo Silicic Acid, and Silicate of Potash. These are the only patents which embrace the use of that most valuable agent, Fluo Silicic Acid. Lath, Caen, and other soft stones, when treated by the Company's solution, become extremely hard. The great expense of high carriage to distant parts of stone has been a contributor to Art; but since the Fluo Silicic process can be applied as readily to soft stone after it is carried, that obstruction ex sts no longer. The Fluo-Silicic process effectually arrests the decay of all stones. For further information apply to the Manager of the Company, Mr DUDLEY, Architect, as above.

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By the new process, which is patented, pure Zinc Paint is cheaper than White Lead. It does not change colour with the London atmosphere.
ADULTERATION.—Some Paint Grinders have commenced adulterating Zinc Paint with Sulphate of Barytes from ten to thirty per cent. Whether sold as "pure," the name of "Improved Zinc Paint," or at the number of Twenty-three varieties, no workman can produce good work with such material. Without wishing to depreciate other Paints, we will only say that every Pound put forth for their best work.
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EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
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WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.


Self-Regulating Pan Closet.

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High-Pressure Bib and Stop Valve.

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T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

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CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
ROMAN CEMENT made at the above works may be had fresh from the kilns daily,—a great advantage to dealers and sewer contractors, especially in winter time.
PORTLAND CEMENT, of the best quality, strength, and colour, manufactured by Coles, Kent. This cement will carry more sand than any of the last comers, is a stretch of which is now brought into the market and sold as Portland.
PLASTER OF PARIS, both coarse and fine, of very superior quality and colour.
LIME Grey Stone, Chalk, and Blue Lias Lime, well burnt, by the barge or yard, and may be had fresh ground daily, by steam power, for generals.
BRICKS from our fields in Kent, by the barge alongside, on the river or canals, or by cart from the above wharf, of good quality and moderate price.
A large Assortment of Glazed Stoneware Drain-pipes, Yorkshire Plain, Pan, and Paving Tiles, Hair, Laths, Chimney pots, &c. always on stock.
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MANUFACTURERS OF PATENT PORTLAND CEMENT,
ROMAN CEMENT, AND PLASTER OF PARIS;
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3, CANAL ROAD, KINGSLAND ROAD, and FRINDSBURY, on the MEDWAY, KENT.
FREEN'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality, Strength, and Colour, supplied to Shippers and the Trade.
F. & CO.'S IMPROVED ROMAN CEMENT and PLASTER of PARIS (coarse and fine), made at their Kingsland Works, and so universally known and approved of during the last half century, may be had fresh ground daily by Suppliers to the Trade.
F. & CO.'S CHALK LIME, made at their Kingsland Works, of excellent quality and well burnt, may be had fresh from the kilns as drawn daily.
GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.
GREYSTONE LIME.
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PLAIN PAN RIDGE and FOOT TILES.
CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.
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SAND, POTTERY WARE, &c. &c.
Orders and Letters addressed to 3, Canal-road, Kingsland; or to City Offices, 70, King William street, City, will receive immediate attention.

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PORTLAND CEMENT.—JAMES NESBIT is prepared to supply Portland Cement of superior quality and strength, at such a price as will enable Builders to use it for purposes for which the high price usually charged has hitherto prevented its employment. Terms on application. Berney Arms, Portland Cement Works, Burgh Castle, Great Yarmouth.

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EDWIN HOLLICK,
Manufacturer of PORTLAND CEMENT of the best quality only, for the London and Provincial Markets.
Vessels must be entered at the Custom House.

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(Successors to C. Grundy),
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Every Article manufactured for Gas Works and Mines, Delivery free.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Brosely colour.
PAVING TILES in various colours made to order.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Diagonal Red Paving BUILDING and SEWER BRICKS.
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Belvedere-road, Lambeth, and Kent-road Bridge.

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Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta, Chimney Pots, Trusses, Coke, &c.; Stoneware Drain-pipes, &c.
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CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours
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Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.
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PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & FOTT, Nine Elms, London.

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Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

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NELSON'S BLUE LIAS LIME,
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PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

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Manufacturers only of first-class quality, for the Home and Foreign Trade
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND CEMENT WORKS,
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ROBINS & CO.
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ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
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WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES
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STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS
Ditto ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
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Goods forwarded by Railway with despatch.
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Beg to announce to Builders, Contractors, and Others, that they are prepared to execute Orders for the
BEST PORTLAND CEMENT,
On the most reasonable terms.
Orders received at the JAMAICA COFFEE HOUSE, CORNHILL, LONDON; or at the WORKS, NORTHFLEET.

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STUGOD DOCKS, KENT, on the River Medway, Kent.
MESSRS. LARK & PARROCK,
Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for tidal works, or otherwise, and for home and foreign trade either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.
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For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.
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Sash and all Frames, Rving Slatters, Doors Staircases, Hand rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.
Green-house, Hot houses, and Conservatories, on the most improved principles.
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¾-inch White Flooring, good quality	11s. 6d. per square.
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¾-inch ,, ,, ,,	14s. 0d. ,,
2½-inch Yellow Battens	10l. 0s. per 120 of 12 feet.
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Honduras Mahogany	0s. 6d. per foot super.

PRICE LISTS AND MOULDING PATTERNS, POST FREE.
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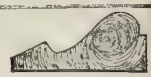
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100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
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SPRUCE DEALS, 2s. 6d. each.
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BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

	Laths, 20s. per Load.
Three-quarter inch Flooring (well prepared) 11s. 6d. per square.	
Yellow Deals, sound and good ..... £18 0 0 per 120, or 3d. per foot.	
Spruce Deals ..... 15 0 0 ,, 2½ ,,	
Yellow Battens, excellent quality ..... 10 10 0 ,, 1½ ,,	

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

DEAL AND TIMBER TRADE.
CHARLES SLEE,
(of the late Firm of SYKES, SONS, & SLEE), has in STOCK at his Premises,
10, HIGH STREET, WHITECHAPEL,
A General Assortment of WOOD GOODS, comprising DRY YELLOW, SEASONED PINE, &c., with the usual thickness of prepared Floor Boards, and Matched Linings.
COUNTRY AND OTHER ORDERS PROMPTLY ATTENDED TO.
PRICES TO SUIT ALL BUYERS.


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(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
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THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
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Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¼ by 7 Flooring, from	12s.	12s. 9d.	14s. 6d. per square.
⅜ by 7 ,,	13s.	13s. 6d.	14s. 0d. ,,
1 by 7 ,,	15s.	15s. 6d.	16s. 6d. ,,
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180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.
WILLIAM GEORGE WARDLE,
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Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—

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Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.

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EVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL.

CLARK'S PATENT,

FOR

HOP FRONTS,

2s. 2s. 6d. 3s. and 3s. 6d.

Per Foot Super.

HE MOST SIMPLE AND SECURE SHUTTER EXTANT.

Branch Establishmnts :—

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WORKS, GEORGE YARD, QUEEN STREET.

SNOXELL & CO.'S

ATENT REVOLVING SHUTTERS, IN IRON OR WOOD,

From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.

BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.

96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.

THOMAS MILLINGTON,

GLASS MERCHANT,

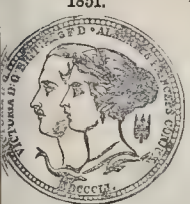
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

Reduced Tariff for Sheet Glass.

e Agricultural Hall, Islington, containing an Acre of Glass, was supplied by me. Mr. Rivers, and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured me with orders for home use and for exportation.

FOR PRICES, SEE LAST WEEK'S ADVERTISEMENT.

1851.



TERRA-COTTA WORKS,

BLACKFRIARS ROAD,

LONDON, S.

MARK H. BLANCHARD&CO.

Successors to COADES.

1862.



Original Works established 1769. Terra-Cotta Manufacturers to her Majesty, the Commissioners of 1851, the Board of Works, the Trinity House, the Admiralty, the Royal Horticultural Society, and the Department of Science and Art, South Kensington, and the Recipient of the

rize Medal at the 1851 Exhibition for MATERIAL and WORKMANSHIP in TERRA-COTTA, and e only Recipient of Two Prize Medals at the 1862 Exhibition for TERRA-COTTA and POTTERY, ve the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED um the above Works with every article in this imperishable and invaluable Material in Sculptural d Architectural Embellishments, suitable to the Palace, Mansion, or Cottage, which will be found be unequalled in price, quality, and durability; and the Works of this Establishment have stood the st of time.

A beautiful variety of Statues, Statuettes, Vases, Tazze, Fountains, Flower Pots, Balustrade rminals, and other adornments, suitable for the Conservatory, Flower Garden, and Grounds, at ices unprecedented. Estimates furnished.

An illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air.

THROUGH THE EXTERNAL WALL.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street Borough, London

GUTTA-PERCHA MILL-BANDS.—The Gutta Percha Company beg to state that the increasing demand for the Gutta-Percha Stamping for Driving Bands, Lathestraps, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent adhesion and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water; and the facility with which the only joint required can be made in bands of from 2 to 40 feet long, renders them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta Percha Articles, such as Tubing, Soles, Pump-buckets, Fire-buckets, Boxes, Union Joints, Flasks, Bottles, Bowls, Hand-trays, Curtain-rings, Galvanic Batteries, Talbotype Trays, &c. &c. manufactured by the Gutta-Percha Company, and sold by their Wholesale Dealers in town and country.

THE GUTTA-PERCHA COMPANY, PATENTEES, 18, WHARF ROAD, CITY ROAD, LONDON.



HENRY DOULTON AND CO.'S

PATENT COMBINED SMOKE AND AIR FLUES.

BY THIS INVENTION PERFECT DRAUGHT AND COMPLETE VENTILATION CAN BE SECURED.

The air-flue follows the line of the smoke-flue, the passages being quite distinct. The heat from the smoke-flue causes a current, which carries off the vitiated air admitted by junctions near the ceiling. The pipes or blocks are *all made to bond with ordinary brickwork.*

Where the blocks come together, each air-flue has a lip or projection, which enters the next block and completely shuts off the air-flue from the smoke-flue at the joint. This lip, with dowels at the opposite corners of the blocks, also holds the lengths firmly together.

Curves are made to suit any inclination.

Manufactured in terra cotta for smoke-flues equal to 12 in 10 in. and 8 in. diameter, with ventilating-flues of proportionate size.

Small models will be forwarded to architects on application to

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INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

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Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

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IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





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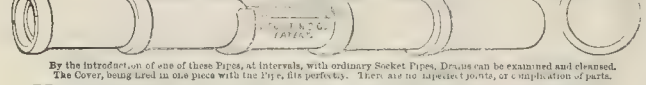
TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of forming further connections.

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the Soil-pipes of the Houses, and also for Ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fixed in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.

MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME (obstructions removed, and CAP-JUNCTIONS of any size inserted in the event of further connections being required) without breaking a pipe, or disturbing the flow of sewage.

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES TERRACOTTA CHIMNEY-POTS, GARDEN VASES, &c. &c.

BRICKS, LIME, CEMENT, SAND, LATHS, HAIR, and all other BUILDING MATERIALS

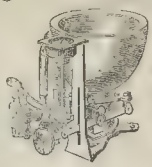
Supplied on the lowest terms direct from the WHARF, or from the WORKS, BOURNE VALLEY POTTERY, near POOLE, DORSET.

Illustrated Lists with full Particulars and Prices may be obtained of

STANDING & MARTEN, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

"*" Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent street, W.

J. TYLOR & SONS' PATENT REGULATING WATER-CLOSETS.



Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is obtained. And it can be worked by one simple lever. No short valves, cranks, or wire-work are used. The Closets can be seen in action at the Manufactory, and illustrated Catalogues had on application to the Manufactory, J. TYLOR & SONS, Warwick Lane, Newgate-street, London.

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London House, Mr. THOMAS BEGGS.



ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient and simple, free from all smell, and requires no cisterns, service boxes, cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipes. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second class quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet, alike dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is applied separately, as well as connected to ordinary direct Service Main Cottage Water Closets.

Chrimes's Patent High pressure Single and Double Loose Valve and Screw Down Cocks; Ba, roved Self-acting and Pull Water-Closet; Patent Absolute Water Waste Preventer; Plumbers' and Gas-Fitters' Brass Work of every description. Drawings, Descriptions, Prices, and Testimonials will be forwarded per post on application as a fact.



UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 5,000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

F. G. UNDERHAY

now manufactures on HIS OWN ACCOUNT his Patent Regulator Water Closets, Valves, Gas Meters, &c. on the same premises.

CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849

3s. 9d.



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In expectation of a greatly increased sale, D. & W. have determined to introduce the most perfect pattern of their ENAMELLED STONEWARE CLOSET PANS, at the price of the commonest description of earthenware.

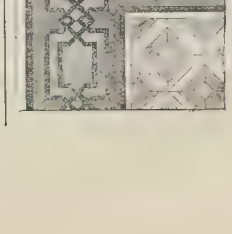
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

PENCILS, BLACK LEAD, and COLOURED CHALKS.

A. W. FABER'S POLYGRADE LEAD PENCILS, sold by all Stationers and Artists' Colourmen.

Sole Agents, HEINTZMANN & ROCHUSSEN, 3, Friday-street, E.C.



SOLID PARQUET FLOORS, ARROWSMITH'S PATENTED,

From 1s. per foot, in various woods, inch thick, grooved, ongued, and keyed together, not veneered.

For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

SHOW ROOMS, 80, New Bond-street W.

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BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will raise water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 „	3 15
4 „	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 10s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

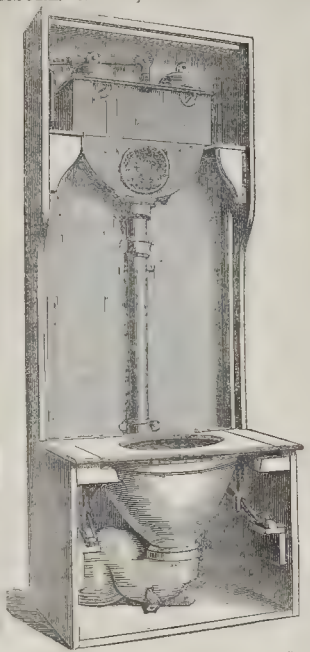
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slide and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch . . .	£4 4 0	Larger sizes when required.
3 „ . . .	5 5 0	
3½ „ . . .	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 „	4 0 0



IMPORTANT TO WATER COMPANIES

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low Pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	2 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.

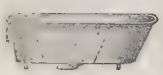


No 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0

Bunk Handle, extra	0 2 0
Blue Basin, extra	0 1 0

No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin . . . 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron Price, from £1 10s. each. J. W. & SONS also supply all Fittings requisite for same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

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CLINTON & OWENS,

Late FOWLER & CO.

WHITEFRIARS STREET, FLEET STREET, LONDON.

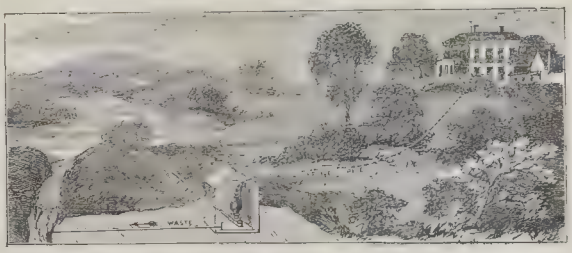
Pumps of every description, for Hand, Horse, Water, or Steam Power.



No. 38.



No. 4.



THE LANDSCAPE SKETCH ABOVE SHOWS THE IMPROVED HYDRAULIC RAM.

This is a simple Self-acting Machine for Raising a considerable Supply of Water where a fall can be secured from a Stream, Brook, or Springs. A great many have been fixed in various parts of the country, for raising from 600 to 6,000 or more gallons per day to elevations varying from 30 to 300 feet, and forcing through pipes from 50 yards to several miles in length. The fullest particulars and estimates will be furnished on application.

No. 784. Double-barrel Force Pump, for Raising Water from Deep Wells for the Supply of Tanks in Mansions and Public Buildings.

Messrs CLINTON & OWENS also Manufacture and Fix Every Other Form of Pump for Deep or Shallow Wells for Hand or other Power.

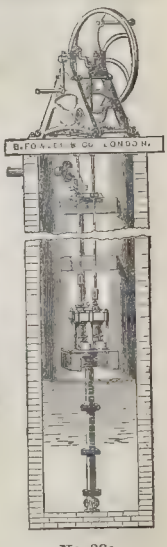
No. 38.—Portable Pumps, with Flexible Suction Pipes. No. 4.—Yard, Farm, Cottage, and other Pumps.

No. 18.—Brass Lift and Force Pumps, on Planks.





No. 18.



No. 28a.

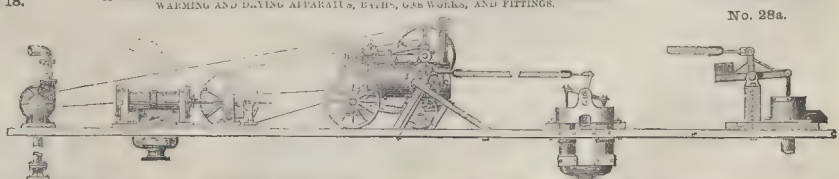
CLINTON & OWENS

MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

PUMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE, STEAM ENGINES, WATER-WHEELS, TURBINES, HOISTS, WARMING AND DRAWING APPARATUS, BATHS, GAS WORKS, AND FITTINGS.





PORTABLE STEAM ENGINES, CENTRIFUGAL, SINGLE AND DOUBLE BARREL AND OTHER PUMPS, ON HIRE OR PURCHASE.

FULLER PARTICULARS and ILLUSTRATED PRICE LISTS on Application.

SALES BY AUCTION.

BUILDING MATERIALS.—Great St Thomas Apostle, Canon street, West

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, DECEMBER 7th, at TWELVE o'clock, the MATERIALS of a large BUILDING and PREMISES, 2, Great St. Thomas Apostle, Cannon-street West, of the usual description May be viewed the morning of Sale. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 50, Fore street, E.C. and 40 Parliament street, S.W.

CANNON STREET WEST.—Building Materials of Two Houses

PULLEN, HORNE, & EVERSFIELD are instructed by the Worshipful Company of Cutlers to SELL by AUCTION, on the PREMISES, on MONDAY, DECEMBER 7, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FIXTURES of TWO HOUSES and PREMISES, situate at the corner of Cloak-lane and College hill; comprising sound Dr kwork, stout rafters, joists and other useful timber; slate and pan tiles, sashes, doors, partitions, wainscoting, linings, chimney pieces, and interior fittings, shop fronts, sound Bramble side, lead gutters, cisterns, and pipes; stoves, a mahogany writing-table, gas fittings, office and warehouse fittings &c.—May be viewed Catalogues had of Messrs. TRESS & CHAMBERS, Architects, 27, Queen-street, Cheapside; and of PULLEN, HORNE, & EVERSFIELD, 50, Fore-street, E.C. and 40, Parliament street, S W

BUILDING MATERIALS.—ST SWITHIN'S LANE

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, DECEMBER 7, at ONE, the BUILDING MATERIALS of a HOUSE and PREMISES, No. 32, St. Swithin's-lane, City, of the usual description.—May be viewed the morning of Sale, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 50, Fore-street, E.C and 40, Parliament-street, S W.

TO BUILDERS AND OTHERS

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, South London Marble Works, Buckingham place, Old Kent Road (near the Bricklayers' Arms Station), on TUESDAY, DECEMBER 8, at TWELVE, about 200 MARBLE CHIMNEY-PIECES, in every variety of design, consisting of statuary, black and gold, blue, veined, and various coloured marbles, some of which are richly sculptured, and suitable for first class Houses. Also, an assortment of plain Sicilian and stone chimney-pieces —May be viewed one day previous, and catalogues had at the Place of Sale; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 50, Fore-street, E.C

GROSVENOR ROAD, PIMLICO.—To BUILDERS and OTHERS

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Her Majesty's Works and Public Buildings, to SELL by AUCTION, at the Government Workshops, Grosvenor-road, Pimlico, on FRIDAY, DECEMBER 11th, at TWELVE for ONE, in Lots, a quantity of dry seasoned PANELING, CARVED GOTHIC BRACKETS and PENDANTS, and several hundred feet run of Richly Carved SCROLL WORK, &c.—May be viewed one day previous, and catalogues had at the Office of H.M. Works, &c 12, Whitehall place; and of PULLEN, HORNE, & EVERSFIELD 40, Parliament-street, S.W. and 50, Fore street, E.C.

ST. PANCRAS.—MARBLE SLAB FOR ABSOLUTE SALE.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, 23, Kings-road, St. Pancras (next to Wood's Coal Wharf), on MONDAY, DECEMBER 14, at TWELVE for ONE, about 3,000 feet of Veined and Sicilian Marble Slab, of various thicknesses, which will be sold in lots, for cash.—May be viewed on Saturday previous, and Catalogues had at the place of sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, S W and 50, Fore-street, E.C.

NORTH LONDON RAILWAY.—CITY EXTENSION.

MESSRS. KENNEDY & BONNY will SELL, by order of the Directors of the North London Railway, on TUESDAY, the 8th of DECEMBER, at TWELVE for ONE o'clock, on the PREMISES, the Second Portion of the Valuable MATERIALS of the Houses and Buildings required to be taken down for the Bingshad-road to Worship-street, Bishopsgate-street: comprising stock bricks, oak and fir timber, slates, tiles, York paving, stoves, ranges, and fittings, counters, shade fittings, lead and other cisterns, gutters and pipes, &c.—May be viewed the day previous to sale; and catalogues had at the Auctioneers' Offices, Camden-town, and King-land gate.

TO PIANOFORTE AND CABINET MAKERS, BUILDERS, AND OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden-town, N.W. on MONDAY, DECEMBER 14th, at TWELVE for ONE, 20,000 feet of 4-4 and 6-4 inch Lunetree Board, 2,000 feet of Spanish mahogany and Chestnut, 4,000 feet of Mahogany, 1,000 feet of Birch, Deal planks, Deals, and Battens, 2,000 feet of dry planed white Pine Boards, prepared Flooring Quartering, dry cut stuff, Scaffolding Ladders, &c.—Auction Offices, Carlington street, Hampstead road

OLD FORD, BOW. To ENGINEERS, SHIPBUILDERS, CONTRACTORS, and OTHERS.—A Portion of the STOCK and UTENSILS of an Engineer, including a new 8-up's fire engine, pair of oscillating marine engines, a donkey-engine, a small horizontal engine, a capital fire-engine, 2 and 3 horse engines, ship's stoves and pumps, punching and shearing machines, lathes, circular saw, forges, tools, &c

MESSRS. FURBER & PRICE will SELL by AUCTION at the CLAY HALL IRONWORKS, on TUESDAY, DECEMBER 8, at TWELVE for ONE, the above.—May be viewed, and catalogues had at the Works; and at the Auction Offices, in Warwick-court, Gray's Inn.

TO RAILWAY COMPANIES, COLLIERY PROPRIETORS, CONTRACTORS, and OTHERS.—FIFTY FIVE RAILWAY TRUCKS, built by Messrs. J. Wright & Sons, of Saltley, each constructed to carry 7 tons of coals or minerals, with doors each side, the whole in excellent working order, to be SOLD by AUCTION, by S. BLOORE, on THURSDAY, the 10th day of DECEMBER instant, at the LONDON AND NORTH WESTERN RAILWAY SHARDLOW, CURZON STREET, BIRMINGHAM, where they may be seen two days prior to the sale. Sale to commence at HALF-PAST TWELVE o'clock to a minute.

KEYNSHAM BLUE LIAS LIME and CEMENT WORKS, Somerset.—TO BE SOLD, by PRIVATE CONTRACT, by order of the Proprietor, the newly-formed FREEHOLD WORKS, occupying a site of 7 acres, 2 roods, and 26 perches, or thereabouts The existing kilns and Lime are capable of producing from 6 to 8 tons of lime, and 12 tons of cement weekly, both products being approved of by large contractors and eminent architects, the cement being used in many of the Government fortifications now in progress. The buildings are very substantial and the machinery is of the best description, driven principally by water power, but with steam power as auxiliary. Coals are supplied to the works very low, and the Great Western Railway Station is within a short distance.—For further particulars, apply to Messrs. NICHOLLS & SONS, Solicitors 47A, Moorgate-street; to P. MAYNARD, Esq. Inspector, 19, Broad-street, Cheapside; and to Messrs. FULLER & HORSEY, 13, Billiter-street, London.

FREEHOLD MILLS, with good Water-power, Keynsham, Somerset, well adapted for Corn Mills, Oil Mills, or Paper Mills, TO BE SOLD.—Apply to Messrs. FULLER & HORSEY, Billiter street, London, E.C.

EXTENSIVE MANUFACTURING PREMISES, with STEAM POWER.—TO BE LET, one of the finest BUSINESS PREMISES in the City; containing large yard, with dipping shed, piling-stage, extensive Workshops, fitted up with circular saws, mortise and tenoning machines for basking doors, &c., three vertical saw frames for cutting deal planks, &c., 20 inches deep; two powerful steam engines, with hot water tank; a well of good water, self-acting hoist, &c., together with every convenience for a large trade: public and private offices, fitted with fire proof safes, &c. For further particulars apply at the City Timber Yard, 20, Long lane, City.

MID-KENT LINE.—Eligible Freehold BUILDING LAND TO BE LET, on LEASE for 99 years, direct from freeholders. It is well situated on the side of a hill, commanding beautiful scenery, about ten minutes' walk from the Catford Bridge Station, Mid-Kent Railway. Railway journey, 20 minutes Land may be seen and particulars obtained by applying on the plot to FREDERICK SELBY, Ravensbourne Park, Lewisham, S.E.

BRICKEARTH, at Southall, near the Grand Junction Canal, at the Great Western Railway. TO BE LET, from Twenty to Thirty Acres of excellent BRICKEARTH, of good depth —For plan and part culars apply to Mr. RICHARD TRUMPER, 23, Lincoln's-inn-fields, W.C.

WANTED to RENT, PREMISES, containing an area consisting of about 30,000 feet. The building must be of substantial character, fitted for steam power. A good light indispensable, especially in the upper stairs. A space within the circle of about a mile from St. Bride's Church, Fleet street, would be preferred.—Address, with full particulars, to Messrs. JENNINGS & SON, Solicitors, 18, Bennet's hill, Doctors' Commons, E.C

VAUXHALL GARDENS ESTATE.—Several very Valuable SITES on the above Freehold Estate TO BE LET for Building purposes.—Apply to Messrs. DRIVER & CO. Surveyors, Land Agents, and Auctioneers, 4, Whitehall, S.W.

BUILDING GROUND TO LET.—The GREAT LOWER STREET, in the City of London.—The Commissioners of Sewers of the City of London will meet at the Guildhall of the said City, on TUESDAY, the 9th day of FEBRUARY next, at HALF-PAST TWELVE o'clock precisely, to receive proposals for taking on BUILDING LEASES, for a term of eighty years (the first year at a peppercorn rent), certain PLOTS of FREEHOLD LAND, situate in Great Tower street, in the City of London, in the centre of the Corn and Coal Markets —Further particulars, with conditions and printed forms of proposal, may be had on application at this Office, where plans of the ground may also be seen. The Commissioners do not bind themselves to accept any proposal unless deemed advantageous. Persons making proposals must attend personally, or by a duly authorized agent, on the above-mentioned day, at HALF-PAST TWELVE o'clock precisely, at the parties who se offers are accepted will be required to execute an agreement and a bond at the same time.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, November 6, 1863.

BRICKEARTH.—LAND FOR SALE, near the Norwood Junction, containing THIRTEEN ACRES of superior BRICKEARTH, one foot below the surface, and fourteen feet deep, and in a neighbourhood where bricks are greatly in demand. Particulars to be had of Mr. CHARLES BULLEY, Architect and Surveyor, 18, Poultry, E.C.

MORDEN COMMON.—To Contractors, Builders, and Brickmakers.—Near to Morden, Old Malden, and Worsfold Park, and Sutton Railway Stations.—TO BE LET, about EIGHTY ACRES of very first-rate BRICKEARTH LAND, which may be worked (without brickmaking plant) at a moderate royalty. Specimens of various articles manufactured from the clay may be inspected, and further information obtained, at the Offices of Messrs WIGG, SON, & OLIVER, No. 7, Bedford-row, W.C.

GOOD BUILDING LAND WANTED, in the Vicinity of London; if with the option of purchasing the freehold, preferred.—Full particulars, stating situation, rental, and other information, to be forwarded to A. B. care of Mr. Harrison, Auctioneer 4, Oakley terrace, Old Kent road.

TO BE SOLD, at a Bargain, several FOUR-ROOMED COTTAGES in CARCASE.—Apply to Mr. R. RICHARDS, on the Premises, Alpha-place, North Cambridge-road, near the Gate, Kilburn.

TO BUILDERS.—FIRST-RATE OPPORTUNITY.—A highly-respectable Builder, of ten years' good Business, and employing upwards of fifty regular hands, is desirous of DISPOSING of his TRADE, HOUSE, and PREMISES, in a thriving County Town in the West of England.—Apply, "TAYLOR," Office of "The Builder."

TO HOUSE AGENTS.—A Person desirous of at once SELLING three newly-built VILLAS, also three acres of LAND, with new COTTAGES thereon, all to pay from 6 to 7 per cent. is willing to pay 2½ per cent. as COMMISSION upon actual SALE, but no other expense.—Apply to "NETTA," Office of "The Builder."

WANTED to PURCHASE, a PIECE of FREEHOLD GROUND, or a FREEHOLD GROUND-RENT of about 16l. per year nett.—Address, J. C., care of Messrs. Dawson & Sons, 74, Cannon-street, E.C.

GUILDHALL, 30th November, 1863.—The Committee for LETTING the CITY'S LANDS will meet at Guildhall on WEDNESDAY, the 9th DECEMBER next, at ONE o'clock precisely, to receive PROPOSALS for LEASES of a HOUSE, No. 4, Mitre-street, Aldgate, and two HOUSES, Nos. 3 and 6, Little Coleman street, Finsbury.—Plans of the Property may be seen, and forms of Tender obtained, upon application at the Architect's Office, Guildhall.

FERDINAND BRAND Comptroller.

FREEHOLD LAND TO BE SOLD, or LET on BUILDING LEASES. About Two Acres at Forest hill, near the Station: One Acre at Norwood Junction station: Two Acres at Glengall-grove, Old Kent-road. Also a WHARF TO BE LET, at Kent-road Bridge Apply to Mr. MAY, Acorn Timber-wharf, Old Kent-road.

SLATE QUARRY, in working condition, FOR SALE, in the Nantle Valley, near Carnarvon; the formation the same as Penrhyn rock. The right of quarry is over about 80 acres. One quarry has yielded, for a few years, slate which has sold for nearly 1,000l. per annum.—For particulars apply to Mr. T. TYRRELL, Herne Bay.

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Adjoining the Polytechnic Institution.

PATENT and BRITISH PLATE GLASS JAMES HEYLEY & CO. beg to inform Architects, Builders and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured:—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London

STAINED GLASS WINDOWS of every description, Ecclesiastical and Domestic; MURAL DECORATION, MONUMENTAL BRASSES, and ILLUMINATED COMMANDMENTS, BY A NEW PROCESS ON PLATE GLASS.
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British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METHAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

EBOR STAINED-GLASS WORKS.—J. W. KNOWLES, 72, Goodramgate, York, begs to inform the clergy, gentry, and others, that he can execute GROUP or FIGURE WINDOWS in the first style of art, and at the lowest scale of prices. Geometrical windows from 5s. per foot; Quaries from 3s. per foot. Designs and estimates on application.

WINDOW GLASS! WINDOW GLASS! Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental Rough, Rolled, and Patent Plate, Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at
PRICE'S CITY GLASS WAREHOUSE,
No. 47, Chiswell street, opposite Whitbread's Brewery, E.C.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Cheapside, Soho, W.C.
ALFRED GOBLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

LEAD GLAZING for CHURCHES and other BUILDINGS, Plain Quarries, Geometrical Patterns, or Fret Work Builders and the Trade are supplied with every description of Lead Lights and Window Lead, on the shortest notice and lowest terms, by F. ODELL, Plain and Ornamental Lead Glazier to the Trade, 8, Bath street, City road, E.C.; and 12, Grafton-mews, Fitzroy square, W Estimates forwarded on receipt of particulars.

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Descriptive price-lists, drawings, and estimates sent on application.

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Where the TRADE is supplied with the same superior quality as the name has been celebrated.
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GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.
Sample gallons may be obtained at the Manufacturers', price 4s.
GARROD & COMPANY,
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56, Upper Thames street, London, E.C.

IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 28s. per cwt.
Linseed Oil, 3s. 6d. per Gallon; Boiled Oil, 4s. per Gallon.
Turpentine, 6s. 6d per Gallon
Fine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses 30, Upper East-smithfield, and 45, Coleman-street, Finsbury, E.C.
Every article for the Trade at the lowest prices.

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Linseed Oil, 3s. 3d. per gallon. Turpentine, 6s. 6d. per gallon
Fine Pale Oak Varnish, 9s. per gallon
For cash at FRANCIS TUCK'S Old-Established VARNISH and COLOUR WAREHOUSE, No. 138, EDGWARE-ROAD, PADDINGTON, W. next door to the Wheatsheaf, and within five minutes' walk of the Great Western Railway Terminus.
Agent for Hamilton's celebrated Painting and Graining Brushes.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1795.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs, usually in Stock. Also as to the Tuning, &c of Organs in all parts of the country. Church Organs of any size built, enlarged, or restored, as well as removed and WARRANHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of CAE Wyman, No 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "The Builder" No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, December 5, 1863.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

5, Dane's Inn, Strand.

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ILLUSTRATIONS.

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BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1864, be open to PUBLIC COMPETITION

A Competitive Examination will accordingly be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which candidates will be admitted to the Examination may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, 10th July, 1863.

BY ORDER of the SECRETARY of STATE for INDIA in COUNCIL.

Notice is hereby given, that TWENTY-FIVE APPOINTMENTS in the UPPER CLASS of the ELECTRIC TELEGRAPH DEPARTMENT in India will, in the year 1864, be open to PUBLIC COMPETITION.

A Competitive Examination will, accordingly, be held in this office in the month of MAY next. Full printed particulars of the conditions on which candidates will be admitted to the Examination, and also respecting the nature of the Appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

November 20th, 1863.

THE ARCHITECTURAL MUSEUM,
SOUTH KENSINGTON MUSEUM, W.
PRIZES FOR COLOURED DECORATION.

£7. 5s. and £3. 3s. are now offered. The Competition will be open till MARCH 1st, 1864. Copies of the Conditions, price 5s. and full particulars may be had by letter to the Honorary Secretary, at 13, Stratford-place, W.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

NOTICE to CREDITORS.—In the matter of the Trust Deed or Assignment for the benefit of creditors, executed by GEORGE WHEELER, of West Cowes, in the Isle of Wight, and of Hilsea, near Portsmouth, builder and contractor, notice is hereby given, that all persons who have any claims or demands against the estate of the above-named GEORGE WHEELER, and who have not as yet sent in particulars of their claims or demands, and adjusted and proved the same, are hereby peremptorily required on or before the 21st day of DECEMBER, 1863, to send to Mr. GEORGE F. MURDOCH, of No. 7, Grigg-street, Portsmouth, Accountant, a full and correct statement of such claims or demands, in order that the same may be examined and adjusted, and when so examined and adjusted, to verify and prove the same. And notice is also given, that all persons who have sent in claims, but have not adjusted and proved the same are hereby peremptorily required, on or before the said 21st day of DECEMBER, 1863, to adjust and prove the same, and to forward such proof to Mr. GEORGE F. MURDOCH, as above. And notice is further given, that as soon after the said 21st day of DECEMBER, 1863, as the arrangements necessary for the purpose will admit, the trustees will proceed to a third and final dividend, and distribute the assets remaining in their hands amongst the creditors and persons entitled thereto, having regard to the debts and claims only in which on the said 21st day of DECEMBER, 1863, shall have been proved, and that the said trustees will not be liable for the assets so distributed, or any part thereof, to any person whose debt or claim shall not be proved and sent in on or before that day.—Dated the 24th day of November, 1863.

MARSHALL & SON, Hanover-street, Portsea,
Solicitors to the Trustees.

PURSUANT to an Order of the High Court of Chancery, made in a cause "WILLIAM ROWE against EDWIN TEMPSON and Others," the Creditors of Mortimore Tempson, formerly of Stanhope place, Hampstead road, Middlesex, Builder, but late of the Victoria Tavern, Number 8, Cresce t-place, Mornington-road, Middlesex, Licensed Victualler (who died on the 31st day of August, 1863), and also the Incumbrancers upon his Real and Leasehold Estates, are by their Solicitors, on or before the 21st day of JANUARY, 1864, to come in and prove their claims at the Chambers of the Vice Chancellor Sir John Stuart, Number 12, Old Buildings, Lincoln's-inn, Middlesex, or in default thereof they will be peremptorily excluded from the benefit of the said Order. WEDNESDAY, the 27th day of JANUARY, 1864, at ONE o'clock in the Afternoon, at the said Chambers, is appointed for hearing and adjudicating upon the claims.—Dated this 9th day of December, 1863.

ROBT. W PEAKE, Chief Clerk.
JOHNSON & MASTER,
22, Duke-street, Grosvenor square, Solicitors for the Plaintiff.

MODELLING.—A NEW MODELLING CLASS will be FORMED at the LONDON MECHANICS' INSTITUTION, 29, SOUTHAMPTON BUILDINGS, CHANCERY LANE, under the direction of Mr. H HALE, on TUESDAYS and SATURDAYS, at EIGHT p.m. commencing 15th DECEMBER, 1863. Terms per quarter, members of the Institution, 2s. Non-members, 3s. Entrance fee to non-members, 1s.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

72—74, Bishopsgate street Within, November, 1863.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr. TYLER, 12, Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

COMPETITIONS.

TO ARCHITECTS.—The Committee for the Erection of a Memorial, in Radnorshire, to the late Sir George Cornewall Lewis, Baronet, have decided that the best form of Memorial will be an Eleanor Cross; but, in the absence of information as to the probable cost, they have determined to invite Architects to send in ARCHITECTURAL DRAWINGS from which the work may be executed, with an ESTIMATE of an ELEANOR CROSS, to be erected on the Castle Hill, near Radnor, or of an Obelisk, to be erected either on the point of Radnor Forest called Whimble, Old Radnor Hill, or the Castle Hill; the total cost of erection not to exceed 1,000l. A space must be appropriated for an inscription. Perspective drawings will not be submitted for competition. The drawings and estimate may be sent, on or before the 30th JANUARY, 1864, to the Honorary Secretary, Mr. R. W. BANKS, Ridgebourne, Kington, Herefordshire, who will give any information which may be required as to the material for building obtainable in the locality. The drawings of unsuccessful competitors will be returned.

PETERBOROUGH UNION.—To ARCHITECTS and BUILDERS.—The Guardians of the Peterborough Union hereby give Notice, that they are desirous of receiving PLANS and SPECIFICATIONS for a NEW CHAPEL, intended to be erected for the use of the Inmates of the Union Workhouse. It is proposed to build the same with brick, and stone facings, of not too ornamental a character, with proper Fittings to accommodate 350 persons. Designs, with the estimated cost, must be sent (free of expense) on or before FRIDAY, the 1st of JANUARY next, directed to me, the undersigned, and endorsed, "Design for Chapel." The Guardians do not pledge themselves to accept any of the designs sent in, or to pay the expenses of their preparation, and those not selected will be returned.—By the Board,

S. C. W. BUCKLE, Clerk to the Guardians.

Peterborough, 23rd November, 1863.

TO ARCHITECTS and OTHERS.—The Directors of the Wantage Corn Exchange Company (Limited) are prepared to receive PLANS and SPECIFICATIONS for the ERECTION of a CORN EXCHANGE, SAVINGS BANK, MAGISTRATES', COMMISSIONERS', and READING ROOM, in the Market Place in the town of Wantage. Information as to size of rooms, &c. and other particulars, can be obtained of the Secretary.—The Plans, &c. addressed to the Directors, are to be forwarded to me, at the London and County Bank, Wantage, not later than the 1st day of FEBRUARY, 1864. The sums of 10l. and 5l. will be given to those Architects who may, in the opinion of the Directors, have furnished the second and third best designs.

WM MARLOW, Secretary.

CONTRACTS.

TO ARCHITECTS and BUILDERS.—The Guardians of the Poor of the Wilton Union desire to obtain PLANS, with specifications, estimates, and TENDERS for BUILDING a CHAPEL, with the necessary interior fittings complete, adjoining their Union Workhouse. The building to be of a plain and substantial character; brick-built, with stone dressings, and capable of accommodating 150 adult inmates. Plans, &c. to be sent to the Clerk on or before the 31st DECEMBER inst.—Further particulars can be obtained of Mr. BARNES, the Master of the Union Workhouse, near Wilton. THOMAS THRING, Clerk.

Wilton, near Salisbury, December 4, 1863.

CONTRACTS.

WAR DEPARTMENT CONTRACT.
NOTICE to BUILDERS.

TENDERS are required for the following Service at Chatham Garrison; viz.—

ERECTING A PURVEYOR'S LAUNDRY.

Parties desiring to Tender for the execution of these Works must leave their names at this Office, on or before the 19th day of DECEMBER, 1863, and pay the sum of half a guinea for the Bills of Quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender

Royal Engineer Office, Chatham, 8th December, 1863.

LONDON DISTRICT.—To BUILDERS and OTHERS.—WAR DEPARTMENT TRIENNIAL CONTRACTS FOR WORKS AND REPAIRS.—The Commanding Royal Engineer, London District, hereby gives notice that sealed TENDERS will be received at the War-office, Pall Mall, London, S.W. on or before 12th DECEMBER, 1863, for WORKS and REPAIRS at the undermentioned Stations from 1st January, 1864, to 31st March, 1865, viz.—

Windsor Cavalry and Infantry Barracks, and Belvidere Fort.

Schedules and Printed Forms of Tender, price 7s. 6d. each, and all necessary information may be obtained on application at the Royal Engineer Office, 11, James-street, Buckingham Gate, London, S.W from 5th to 12th December, 1863, inclusive, from 11 A.M. to 3 P.M.

The Secretary of State reserves to himself the right of accepting the whole or any of the Tenders.

Royal Engineer Office, London District, 11, James-street, Buckingham Gate, S.W 27th November, 1863.

ROYAL DUBLIN SOCIETY
GREAT IRISH EXHIBITION, 1864,
COMPRISING
MANUFACTURES (exclusively Irish),
ENGLISH and FOREIGN MACHINERY
suited to Manufactures,
AND
FINE ARTS

NOTICE TO BUILDERS AND CONTRACTORS.

The Committee of Management of the Exhibition of 1864, are prepared to receive PLANS, SPECIFICATIONS, and TENDERS for CONSTRUCTING and ERECTING

A SHED IN THE SHELBOURNE YARD.

The ground plan of the yard, and the conditions with which persons Tendering should comply, and forms of Tender, may be seen at the Office of the Committee, Royal Dublin Society.

Tenders to be addressed to JOHN A. WALKER, Esq. Honorary Secretary of the Exhibition Committee, on or before TWELVE o'clock, 22nd DECEMBER 1863

The Committee do not bind themselves to accept the lowest or any Tender, or to pay any of the expenses incurred in respect thereof.—By order, JOHN A. WALKER, Honorary Secretary,

Exhibition Committee, Royal Dublin Society.

December 1st, 1863.

METROPOLITAN BOARD of WORKS.

THAMES EMBANKMENT, MIDDLESEX SIDE.—To BUILDERS, CONTRACTORS, and OTHERS.—EXTENSION of TIME for RECEIVING TENDERS.—The Metropolitan Board of Works, hereby give notice, that they have EXTENDED the PERIOD for receiving TENDERS for the above Works from THURSDAY, the 26th day of NOVEMBER instant, until THURSDAY, the 17th day of DECEMBER next. The WORKS to be CONTRACTED for are the CONSTRUCTION, COMPLETING, and MAINTAINING in REPAIR for Twelve calendar months, the following WORKS, that is to say:—An Embankment Wall, 1,970 feet in length, or thereabouts, with certain Landing-places, Steamboat-pier, Sewers, Subway, Storm-outlets, and other works in connection therewith, situate in and adjacent to the foreshore of the River Thames, on the Middlesex side, between Waterloo Bridge and the Eastern end of the Temple-gardens. Parties desirous to submit Tenders may, on and after SATURDAY, the 28th NOVEMBER instant, upon payment of 10l. 10s. obtain plans, sections, specifications, forms of Tender, and other particulars on application to Mr. J. W. BAZETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE A.M. and FOUR P.M. or on Saturdays between the hours of NINE A.M. and TWO P.M. until THURSDAY, the 17th day of DECEMBER next. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office before FOUR o'clock on the last-mentioned day, and no Tender will be received after that hour. The Tenders will be opened at a meeting of the Board, to be held on FRIDAY, the 18th DECEMBER and the parties Tendering must be in attendance at the Board at TWELVE o'clock on that day. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two or more approved sureties for the due and satisfactory performance of the works.

JOHN POLLARD, Clerk of the Board.

Spring-gardens, S.W. November 20, 1863.

NORTH-EASTERN RAILWAY.—DARLINGTON SECTION.—The Directors are prepared to receive TENDERS for the following WORKS, viz.—

The ERECTION of a STATION MASTER'S HOUSE, at Crook.

The ERECTION of SIX COTTAGES, at Darlington.

The ERECTION of an ENGINE SHED, at Saltburn-by-the-Sea.

Plans and specifications of the above may be seen at the Architect's Office, Northgate, Darlington, on and after WEDNESDAY, the 9th day of DECEMBER, until TUESDAY, the 22nd day of DECEMBER, 1863. Tenders are to be addressed to the Secretary, and delivered at the Rail way Office, Darlington, not later than TUESDAY EVENING, the 22nd DECEMBER, 1863. The Directors do not pledge themselves to accept the lowest or any Tender.

(Signed) THOS MAC NAY, Secretary.

Railway Office, Darlington, December 3, 1863.

TO PLASTERERS and OTHERS.—TO BE LET by CONTRACT, the PLASTERING of an eleven-roomed HOUSE, situate at Gale-terrace, Carshalton. Specification to be seen on the premises. The house is already lathed, and fit for immediate commencement.—Apply as above.

[*For remainder of Contracts see next Page.*

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BOYLE'S PATENT DOUBLE LEVEL WINDOW VENTILATORS.

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NEW CROSS TURNPIKE ROADS.—The Trustees of the New Cross Turnpike Roads will receive TENDERS for the ROAD SCRAPINGS on the several Districts of the said roads, from Deptford and New Cross, to Tyler's Gate, to be delivered at the several Turnpike Gates; and at the Office of the Clerk to the Trustees, Cross's Hill, Greenwich; or at the Office of the Surveyor, JAMES R. HEWARD, New Cross, Sealed Tenders inside on the printed forms, addressed to the Clerk to the Trustees must be delivered at the Green Man Inn, Deptford, by or before ELEVEN o'clock in the Forenoon, on SATURDAY, the 19th of DECEMBER, 1863.—By order, CHARLES AUSTIN SMITH, Clerk to the Trustees.

Cross's Hill, Greenwich, December, 1863

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a VILLA RESIDENCE, STABLING, &c., in Wimbledon Park, may have copies of the quantities on payment of one guinea. The lowest Tender will not necessarily be accepted. Applications to be made to the Architect, Mr JOHN GILES 2, Verulam Buildings, Gray's Inn, W.C.

TO BUILDERS.—CLUTTON CHURCH, SOMERSET. BUILDERS are invited to TENDER for the ENLARGEMENT and RESTORATION of the Parish Church of Clutton, near Bristol, and can see the drawings and specifications of the proposed Works at the Rectory House, Clutton, on and after MONDAY, the 14th inst. Tenders to be forwarded on or before the 31st inst. to the Architect, JOHN NORTON, Esq., 21, Old Bond-street, London, W. The Church wardens do not bind themselves to accept the lowest or any Tender submitted.

HORNINGLOW CHURCH, BURTON-ON-TRENT.—To BUILDERS.—Builders desirous of TENDERING for the ERECTION of the above building are requested to send in their names to the Architect, Mr EDWARD HOLMES, 4, Waterhouse-street, Birmingham, on or before TUESDAY, the 22nd inst. The lowest or any other Tender not necessarily accepted.

(signed) JOHN CLIFTON,
December 8th, 1863 Secretary to the Building Committee

LONDON, BRIGHTON, and SOUTH-COAST RAILWAY. SOUTH CROYDON EXTENSION.—To CONTRACTORS.—TENDERS for WORKS.—The Directors are ready to receive TENDERS for the EXECUTION of the WORKS for the EXTENSION of the CROYDON LOCAL LINE to SOUTH CROYDON. Drawings and specifications, and approximate quantities of the works to be done, may be seen at the Office of the Company's Engineer, Mr F. D. BANISTER, at the London Bridge Terminus, on and after MONDAY, the 14th DECEMBER next; and Tenders (prepared in forms and addressed to the Directors, London Bridge) must be sent to the undersigned not later than NOON, on TUESDAY, the 22nd DECEMBER instant. The Directors will not be bound to accept the lowest or any Tender.

FREDERICK SLIGHT, Secretary.

London Bridge Terminus, December 10, 1863

CROYDON LOCAL BOARD of HEALTH. PUBLIC NOTICE.—To ARCHITECTS, SURVEYORS, BUILDERS, CONTRACTORS, and all Persons interested in Building Operations.—Notice is hereby given, that from and after this date any person BUILDING NEW HOUSES, or making any ALTERATIONS in any Building within the District of the Croydon Local Board of Health, must CONFORM to the provisions of the BYE LAWS of the said Board; and any person who shall in any way infringe the conditions specified in such bye laws will be liable to the penalties therein set forth.

BALDWIN LATHAM,
Engineer and Surveyor to the Croydon Local Board of Health.
Townhall, Croydon, December 9, 1863

GUILDHALL, 7th December, 1863.—The Committee for letting the City's Lands will Meet at Guildhall on THURSDAY, the 17th DECEMBER, instant (or WEDNESDAY, the 9th DECEMBER next, as previously advertised, at ONE o'clock precisely, to receive proposals or TENDERS of a HOUSE, Mitre-street, Aldgate, and TWO HOUSES, Nos. 5 and 6, Little Coram-street, Pimlico.—Plans of the property may be seen, and forms of Tender obtained upon application at the Architect's Office, Guildhall.

FERDINAND BRAND, Comptroller.

SPANISH CONSULATE GENERAL.—CONTRACT for the SUPPLY and SERVICE of GAS for the CITY of BARCELONA.—TENDERS for the above will be received at the Consular Court of Barcelona, on the 20th of the present month. The conditions therefrom be ascertained on application at the Offices of the Spanish Consulate General, No. 5, Jeffrey's-square, St. Mary Axe. Her Catholic Majesty's Consul-General,

London, December 4, 1863. JUAN GAVARON.

TORQUAY HOTEL COMPANY (Limited). TO BUILDERS.—The Directors of the Company will meet on SATURDAY, the 2nd day of JANUARY next, at the Royal Hotel, Torquay, at TWELVE o'clock at noon precisely, to receive TENDERS for the WORKS in ERECTING the new HOTEL, at "The Cove." The detailed copies of the lots of quantities will be supplied to Builders on application to Messrs WILLIAMS & SCHOFIELD, No. 12 Montague-street, Russell-square, London, W.C. Surveyors, upon depositing with them the sum of five guineas, which will be refunded for the delivery of the tenders. The Directors do not pledge themselves to accept the lowest Tender. The Builder whose tender may be accepted will be required to find two sureties, to be bound jointly with himself, in the sum of £5,000 for the due execution of the works.—By order of the Board,

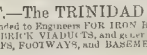
E. N. CLIFTON, Architect of the Company.

17, St. Helen's-place, Bishopsgate street, London, E.C.

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Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

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MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, Two Parisienne Medals at the Paris Exhibition, and Two Prize Medals at the International Exhibition of 1862.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard tables, Table tops, Baths, Wall-linings &c. A new Illustrated Catalogue of which can be had at the Public Slate Works, 8 and 9, Upper Belgrave-place, Pimlico, S.W.

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IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Scully, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 881, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

JOHN UNDERWOOD, ARCHITECTURAL and MONUMENTAL WORKS, 42, High-street, Camden Town, executes every description of Architectural and Monumental Sculpture in the best style of workmanship, at moderate charges. Estimates submitted free.

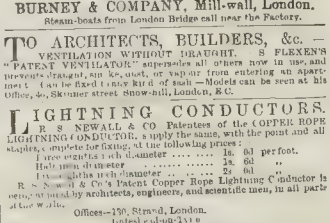
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Three-eighths inch diameter	1s. 6d per foot.
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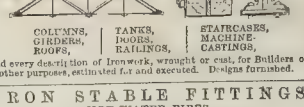
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December 8, 1863.

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The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

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These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

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Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

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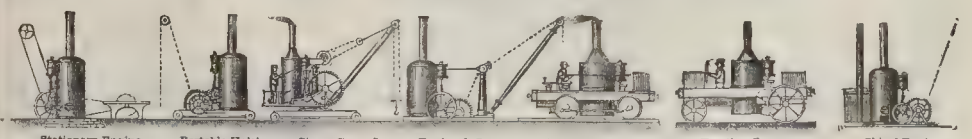
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IN EVERY VARIETY OF DESIGN AND COST,

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By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

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Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

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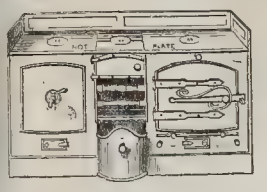
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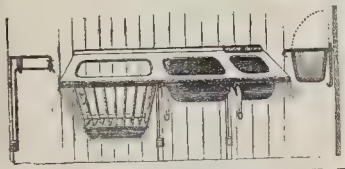
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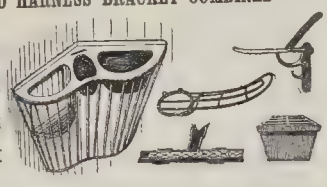


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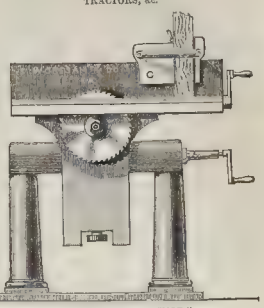
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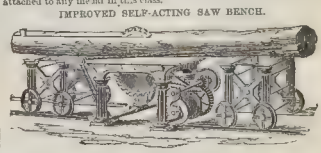
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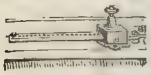


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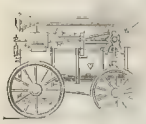


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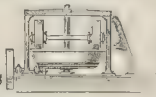




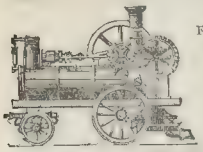
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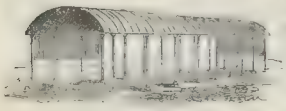


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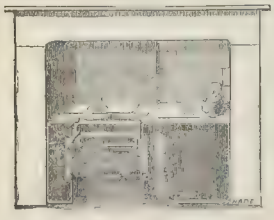
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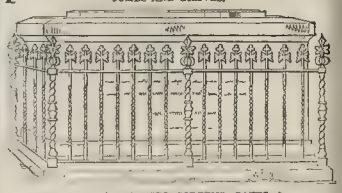
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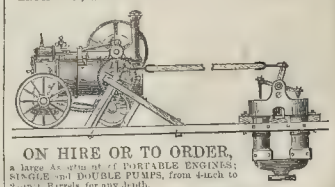


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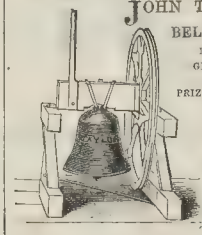
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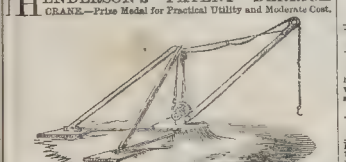
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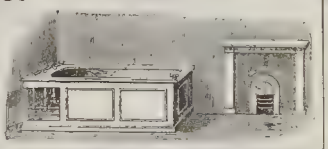
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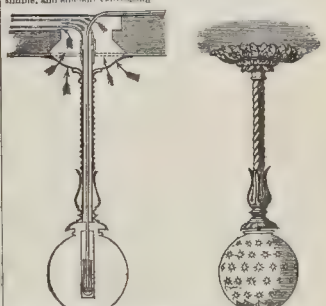
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SEVERAL DESKS IN STOCK.

The Builder.

VOL. XXI.—No. 1088.

" *Going Along.*" *Vicenza : Palladio.*



HREE of our six weeks have passed since we flitted from London. Strasburg, Carlsruhe, Munich, Linz, the Danube, Vienna, Salzburg, Innsbruck, Botzen, and Venice have been stopped at, and, again "going along," we now find ourselves housed in the comfortable Hôtel de la Ville in the beautifully situated Vicenza. Everything has gone well: no time has been lost by misadventure or delay: with sunshine within and out, one fine sight or agreeable event has succeeded another, and the golden chain of travel is jewelled with pleasant memories. A little rhapsody under happy circumstances in such a clime, is more than permissible; the memory and the feelings are alike awakened, and History is made tangible. In the country that cradled the arts, and showed the world the way to freedom, herself not able to retain the blessing, the thoughtful so-

mer feels strikingly at once the power man and his weakness; and thus enthun and melancholy are both evoked. This nza was one of the four great cities of the nese marches (Padua, Treviso, and Verona g the others), that in 1163 formed the first ue against the German Frederick Barbarossa, ch afterwards became the League of Lombardy; mona, Brescia, Mantua, and other towns having ed. The story of the Italian republics is full terest and suggestion, but this is scarcely the e to refer to it. Sismondi has written it well: nd read him. Suffice it here to say the League eeded in a noble struggle against despotism and blished a legal liberty. Then came discords dissolution; corruption, and varied fortunes; quest by the French, and ultimate committal the tender care of Austria, from which the d deliver them!

n 1404 Vicenza yielded to Venice which had reed to extend its frontiers to the Lake of Garda. emorial of the Venetians' long occupancy of city is found in the two columns put up by n in the Piazza dei Signori in imitation of e in the Piazzetta of St. Mark. A fresh lion been recently mounted on one of these columns. Piazza itself is a fine open place, with on one a very lofty thin campanile, and in another the celebrated Basilica, or Palazzo della gione.

alladio, a son of Vicenza, was born in 1518, lived till 1580. One of his earliest works, r long study and many measurements of the s of the ancient world, was the casing, so to k, of this Basilica, the present aspect of which, its two stories of arcades, is known to every hitectural student. The design was chosen in petition with one by Giulio Romano (Giulio 1 in 1546), and has long commanded admiration. It is but a facing; the old Gothic building around which Palladio's arcades stand, still asserts itself, and the necessity for making the points of support in the new work, the piers and columns, agree with those of the old building, was one of the difficulties of the problem submitted to him. The openings, by the way, are over wide for their height, and look weak; the mouldings are admirable. Palladio took more pains in planning the edifices he erected than had been done before his time, and while re-using the old forms, met the wants of modern society. As Quatremere de Quincy correctly says, none of his predecessors in the imitation of the antique hit so happily as he did the *juste milieu* of "correctness without pedantry, severity without rudeness, and liberty without licence." He popularised ancient architecture, so to speak, and created a style which was at once seized on as meeting the views and the wants of the time. We must put ourselves back to his date to appreciate properly his talent. His buildings have been vulgarised by their adoption and repetition all over Europe, and they have led to a great deal of horribly bad architecture. This, however, must not make us unjust to the master. He was an artist of unquestionable ability.

One of the most interesting works left in Vicenza by Palladio is the Olympic Theatre, and this we have taken some pains to illustrate. For the Olympian Academy of Vicenza Palladio had built several temporary theatres in different places for the representation of the ancient drama. At last they determined on erecting a permanent theatre, and Palladio being, of course, commissioned to design it, took the ancient arrangement for his model, with its ranges of seats, one above another, for the audience, and its built-up "scene" with three entrances.* The view of the "scene," with the built-up streets in perspective to give the effect of distance, the plan, and the view of the auditorium, will convey some idea of this curious structure. The depth of the stage from the line of the orchestra to the end of the central street, is about 72 feet, corresponding with the width of the proscenium; a length of about 42 feet of this is on the slant, rising up towards the back. The perspective streets are very cleverly contrived: to light them up for a representation 5,000 little lamps are used. The last time this occurred was in 1857, when the "Orestes" was given. We may add to these statistics that there are ninety-five statues in the interior, thirty-two of them being of stone. The cost is said, on the spot, to have been 80,000 scudi, or 17,000*l.* In 1816 the theatre was restored at the cost of a patriotic citizen, and it is now in a fair state, with the exception of the ceiling, which is about to be renewed. Leaving the "scene" unfinished when he died, some writers affirm that Scamozzi was applied to and finished the theatre, Palladio's son Sylla, who succeeded his father in other works, not having the special knowledge requisite for the undertaking. This, however, is doubtful. Certain it is that the theatre was not finished till four years after Palladio's death: and a tablet over the central arch of the scene bears this inscription:—

VIRTUTI . AC . GENIO .
OLYMPICOR . ACADEMIA . THEATRVM . HOC
A . FUNDAMENTIS . EREXIT
ANN. M.D. LXXXIIII. PALLADIO . ARCHIT.

The numerous palaces erected in Vicenza from the designs of Palladio are mostly in a very bad state of repair. One, the Chiericati Palace, not his best, though some have called it so, has been thoroughly repaired and restored by the town, and is used as the public museum and picture gallery. This building has two orders of columns, one over the other, and in the wings these stand free at some distance from the walls of the building, forming thus a gallery both above and below. In the centre, however, the wall of the building on the upper story is brought out to the line of the columns, and has in it two stories of windows. The effect is very unsatisfactory, as might be imagined. On the staircase are medallion heads of Palladio, Scamozzi, and Calderari, a third architect of note belonging to Vicenza. In one of the apartments there is a collection of original sketches by them, including Palladio's design for the Rialto Bridge in Venice; autograph particulars by him of some of his buildings, filling a dozen large books; and Scamozzi's sketch-book, containing small careful drawings made in France. Many of these memorials were given to the town in 1839, by Gaetano Pinali, a Veronese. The collection of pictures, also chiefly gifts, includes a few good works by the great men of the Venetian school. There is also a very interesting picture by the earliest Venetian painter whose date is obtainable, Maestro Paolo, of Venice. Little else, however, seems to be known about him. Mr. Wornum says only "that an old parchment, illuminated by him bears the date of 1346." The picture to which we refer is an Assumption of the Virgin, dated 1333 (Murray has it 1323), and thus signed,—*Paulus d. Venetiis pixit hō opus.* The soul of the Virgin ascends in likeness of a new-born child, as was not uncommon in the earliest pictures on this theme. Christ, in a vesica, receives it. While, above, Christ in glory, with cruciform nimbus, still holds the swathed *bambino.* The head of the Virgin is admirable; and the sorrow of the angels around beautifully rendered. It is in several respects a remarkable work.

Not far from the basilica a marble statue of Palladio, by Vincenzo Gajassi was erected in 1859. He is represented standing, with part of an ancient capital behind his right foot. The head is good, but the limbs are clumsy. This memorial was presented to his country by Francesco Bressan, and is inscribed simply,—*Andrea Palladio, Architetto.*

Palladio's own house, in the Corso close by, must have had a better effect when the solid portion in the centre of the composition was adorned with a picture, as was probably the case. The front is now anything but pleasing. Vastly superior is the *Casa Pigafetta,* a charming little front whose designer is not recorded. It is dated 1481, and is in style partly Venetian. The balconies and brackets are elaborately sculptured. Under the windows of the ground floor, with carved groups of roses, is this legend:—

IL NEST ROSE SANS ESPINE.

An inscription in French in this neighbourhood is not common. We have given it literally. Of the palaces in the Venetian style, of which a few remain, that of the Conte Schio is the best example. In Vicenza the men of the sixteenth century wiped out much of what had been done before, so that of the Mediæval work comparatively little remains. The Duomo, a fifteenth century building, has a nave of great width, perhaps 60 feet. The choir, of later date, is ascended to by twenty steps, with a landing midway, and nine more steps to the high altar. Externally the east end, constructed of Verona marble, is lofty and good. At times, by the way, the intimation that a building is "of marble" conveys a wrong notion to the English mind; the material being often, when that is the case, rough, stained, and indistinguishable.

In the church of La Santa Corona, also Pointed in style, there is an exquisite picture, by Gian Bellini, of the Baptism of the Saviour by John, with a sculptured altar-piece around it. There are also some admirable Gothic tombs here. The high altar is a remarkable piece of mosaic work, and amongst the remembrances we bring away from the building is that of the head of a monk, carved in wood and coloured, which is fixed up over the door of the sacristy. In this church, we may add, Palladio was buried in 1580, when he died; but his body has been removed, in our own time, to the public cemetery formed outside the city at the northern end, where a costly monument is erected to his honour.

* See pp. 880, 881.

Palladio, in fact, is the crowning memory in the minds of the modern Vicentians.

It is a long, long day's journey by rail from Vicenza to Milan, and needs books, maps, pleasant companions, and a naturally sweet temper, to prevent it from being tiresome. When time does not press, a break at Brescia, with its two cathedrals, churches, and fine pictures, may be wisely made.

On the road, just past Verona, the Lago di Garda comes into view, and at the Desenzano Station, close to Peschiera,—Peschiera being the frontier town between Austrian Italy and Italy proper,—the train stops long enough for travellers to feast hastily on the magnificent view that presents itself. It is in truth a scene of surpassing beauty. The lake of Garda, which bounds three countries, Italy, Tyrol, and Austria, is the most extensive of the Italian lakes. Trees and villages cover the sides; the Island of Sermione and its ruined castle come into the picture. Precipitous hills close it in higher up, with the glorious Tyrolese Alps for back-ground; and on the hot, bright day to which we specially refer, the water was intensely blue, with flashes here and there of vivid green and violet. Nature that morning had spread her palette with the most brilliant colours; and had disposed the senses for keen enjoyment. It was not astonishing to hear an English voice exclaim, hard by, with honest enthusiasm (enthusiasm which had burst out before in a salute to the flag of Italy, then first seen flying), "Oh! Milly, Milly, do look at the water, the mountains, and the sky!" Not soon will that sight of the Lago di Garda be forgotten; though it was but a flash, gone before it was fully seen. Some views, like some words, open the mind to a clearer perception than it had before; and this was one of them.

THE FINANCIAL QUESTION OF THE WORKS IN PARIS.

The *Mémoire* or report presented by the Prefect of the Seine to the Municipal Council of Paris in its ordinary session of 1863, has been published during the week, in the *Moniteur*, and occupies fifteen columns of that official journal. It comprises the account of receipts and expenses for 1862, an estimate of the situation for the year not yet expired, and the scheme of the budget for 1864. Like the reports of previous years, it supplies facts, and draws conclusions from them, in contravention of the exactitude of the imputation against the management of the street improvements and other works, of reducing the number of residences of the smaller class in Paris, and effecting the production of residences of an expensive class alone. To the facts referred to, we could ourselves add others, to show the importance of more careful attention to the general subject than has been given, on this side the Channel, by many who have prognosticated ruin in the finances of Paris, as well as France, from the expenses comprised under public works; and who reason that it is impossible, whatever the objects, for improvements of similar magnitude to be made in London. We do not say that the financial position is clear to us: we merely assert there are facts, known to us as such, which would substantiate assertions of the *Mémoire*, and arguments which our knowledge of the results of neglect in London, might allow us to advance with greater force than that brought to bear by the Prefect of the Seine.

We have made many attempts to show that the improvements in the French capital, include much more than the adornment of the city in street-architecture, and the erection of richly decorated buildings. In the *planning* of through-*routes*, or lines for rapid communication between different quarters of the town, and between the several railway-stations; in the ample provision of public squares and gardens in the heart of Paris, besides that of parks at the outskirts; in the system of sewerage, now nearly completed; and in the arrangements for an abundant water-supply, in active progress, we see the probability of a contrast in the next eight or ten years, as much to our disadvantage in sanitary matters, as it will be in those, the decorative and architectural, which otherwise conduce to the comfort and even health of a population. The principle of planning buildings in *appartements*,—separate residences reached from a common staircase, but each tenement as complete as a house,—that is, planning them from the first, for the manner of their occupation,—we have also shown, is more favourable to domestic comfort and to morality, than the London system, so persisted in, of planning the building for a single family in cases where it is most unlikely to be so occupied; and we have seen a recognition of the views we have expressed, in the somewhat quickened progress in the erection of model dwellings. Also, we some time since showed, that the statements as to the existing deficiencies of Paris, even in the matter of water-supply, contrasted with London, and tested by the rates of mortality, of which we first published a comparison, were by no means borne out; and we could now find in the revelations of the state of Bethnal-green, evidence additional to the point that our metropolis is not in the comparatively fortunate position supposed, and that the neglect and tardiness for which financial grounds have been adduced, are not wise economy on the part of the nation.

We say the nation, because the opinion of a majority in the House of Commons seems to have pronounced against the allotment of national funds to the improvement of the nation's metropolis. It is greatly to be doubted whether the resources of London even, freed from the embargo of protesting vestries, would suffice for the works needed; at least the Metropolitan Board of Works in publishing a list of objects, some time since sought to explain that such was the position.

The Paris improvements are provided for mainly, by resources which do not exist in the case of London, aided however by a contribution from the State. These resources are the *octroi* duties, and money borrowed. It is in reference to the repayment of this money, or the future incidence of the charges for the payment of interest for it, that the unquiet feeling, if any, prevails. Where the principle of contributing by the State is recognized, the State might make up the loss; but every important town in France, and every part of the country and its shores, seems to be engaged on works draining the national exchequer. These however, all, might be met by a change from the policy of the Emperor as exhibited in affairs requiring large military and naval expenditure. If however, funds are capable of being provided through economy, we may question whether that engine of productiveness is not capable of being applied by the Government and Parliament of this country. In a recent number of the *Journal de la Société de Statistique de Paris*, we find prefixed to some forcible arguments on the cost of the "armed peace" of Europe, by Mons. Legoyt, a tabular statement by him, of the army, population, and military expenditure, of each of several countries, with the proportions of military to general expenses, of expenses per soldier, and other particulars. France having a population of 37,500,000, and a total expenditure of 688,645,395 francs, has an effective army of 513,349 men. The United Kingdom, with a population of 29,193,319, contrives to disburse, (unless this careful statistician be less reliable than usual) 677,429,375 francs, having an army of only 300,823 men. Reasons for the great expenditure of this country, which would be suggested to us, we are not here forgetting. The calculation of Mons. Legoyt results in tabulating the French expenditure per soldier as 1,341 francs, and the English as 2,231 francs; and the French military expenses as 33 per cent. of the total expenses, whilst ours as 39 per cent. The French appear from the same authority to have 1 soldier to every 73 inhabitants, whilst we have 1 to 97. It is obvious from such figures, that a reduction of armaments would get rid of any financial difficulty about public works, in either country.

The present question however relates to the sufficiency of such calculations as those of the Prefect of the Seine, on the basis of existing things and probabilities; and here we can only direct the attention of readers to the importance of considerations which we have alluded to, and not now attempt further investigation. Those who are on the spot do not seem to be in a better position than we are. We have endeavoured to inform ourselves of every argument that has been adduced in France, for the last two or three years, against the municipality; but have found the arguments, one after another, contradicted by facts adduced in reports such as the one now under notice. Even supposing it be admitted that the great increase of *logements*, or residences, has been provided in the former suburbs, now annexed to Paris, it must be recollected that the distance from these localities to the centre, is not great, as it is in London, and that much has been done to provide them with direct connecting *routes* to the heart of the city. Omnibuses are numerous; and an outside seat costs three *sous*.

The *Mémoire* of the Prefect shows that the total receipts of 1862 were 175,712,567 *francs* 90 *centimes* (about 7,028,503*l*.). The expenses were 165,888,899 *francs* 49 *centimes* (6,635,556*l*.). Thus there was a balance left in hand of 9,823,668 *francs* 41 *centimes*. Was this balance made up of money that had been borrowed? It is estimated that the balance in hand this year will be 12,685,743 *francs* 27 *centimes*. The budget for 1864, figures the receipts as 151,408,942 *francs* 7 *centimes*, and the expenses as the same in amount. Each of these is composed of several kinds of items thus:—

	Receipts. francs. c.		Expenses. francs. c.
Ordinary	123,945,812·07	....	81,881,975·90
Extraordinary	10,625,500·00	....	52,689,336·17
Supplementary	15,500,500·00	....	15,500,000·00
Special	1,337,630·00	....	1,337,630·00
Total	151,408,942·07	....	151,408,942·07

Mr. A. Darimon, in noticing this report, in *La Presse*, says that the method followed by Monsieur Haussman, has the advantage of offering under each head, information which is of great value in more respects than one, but that it has the inconvenience of impeding a comprehensive view of the finances of the city. From the infinity of details which are presented, there is a resulting obscurity from which the reader does not readily disengage himself. He says that attentively to read the exposition of the finances of Paris is a labour which is almost repulsive; what is it then, he asks, to understand them? He thinks it would cost nothing, to give more clearness to the statement, and that this is especially necessary in a city which has not an *elected* municipal council. We apprehend the same form would express the opinion of many others. The accounts are not understood; they may, or may not, be wrong; only, those who have thought them wrong have made mistakes in some of their statements.

Mons. Haussmann dwells upon the circumstance of the annexation of the suburban communes having troubled the finances temporarily, through expenditure required in excess of the receipts. A main point advanced to show that the small tenements have not been suppressed, is that of an increase in the number of total or partial exonerations from certain taxes. These exonerations are graduated from 250 *francs* (10*l*.) to 1,500 *francs* (60*l*.), of *imposable* rent, or 312 *francs* 50 *centimes* to 1,875 *francs* of real rent; and there will be 4,011 total, and 639 partial, exonerations more in 1864 than in 1863.

Great exertions are being made in France, to improve and extend primary education, or to get the Government to take steps to that effect. Of these exertions we may one day speak. But the city of Paris appears to recognize its obligations. The elementary instruction, with the maintenance of buildings, will cost Paris 4,223,007 *francs* (over 168,920*l*.) in 1864. At present, the number of schools belonging to the city is 448 (providing for 88,704 scholars), besides 17 free schools. Forty-six new scholastic establishments are about being opened. They include two special schools of design for women.

Surely, the Prefect of the Seine and the Emperor need but to tell the whole truth, without mystification, and rely upon the spirit of France,—in this sense indeed, "rich enough to pay for her *glory*." Let London, and this country, seek to learn even in sanitary matters, from what the French are doing. There is money-value in the results.

WHAT WE FIND IN THE SMITHFIELD CLUB SHOW.

In the olden time men scarcely understood the easy means of communication are to a land what the circulation of the blood is to the individual. Inter-exchange, whether of goods or of thought, were then always difficult and expensive, and sometimes impossible. The intermittent activity of the great meetings, of which the country fair is a feeble remaining vestige, are now superseded by the continuous and healthy flow of modern intercourse. While the Mediæval "fair," properly so called, is thus obsolete, at any rate in England, the many local and peripatetic shows fostered by our agricultural societies are blooming with perennial vigour. The reason is obvious: agriculture is in a state of transition. The great modern revolutionist, steam, is making its impress on the land. All great changes must be gradual to be enduring; and the agriculturist comes to these shows, sometimes with the intention of buying, but always with that of learning. W

can only get at truth by comparison; and to commercial goodness by competition; and to the emulation brought into play by these shows are partly due the late rapid strides of agricultural engineering. Whether the accounts given by the attendants at the different stands are not to be taken *cum grano salis*; whether, in fact, the love of veracity of agricultural engineers has been as much improved by these shows as their engines, are questions we leave to be decided by the moral philosopher.

The arts of peace are all more or less allied; while the demands of agriculture upon mechanical ingenuity have been so many and so varied, that more than one operation in the building trade has been facilitated by mechanical arrangements originally intended for agriculture alone. The extended and daily increasing use of the portable engine by builders and contractors is one of these importations from agricultural engineering. Many other machines could be used in building, and to the exhibits belonging to our vocation that we noticed in the Islington Agricultural Hall, we propose to confine our attention.

By a somewhat thoughtless piece of mismanagement on the part of the Club, several noted exhibitors,—such as Clayton & Co., of brickmaking machine notoriety; and Clinton & Owens, the hydraulic engineers,—were absent from the show. Last year, the 1st of November was fixed upon as the last day for entering the things to be exhibited. With no previous notice to this effect, the last day of application to exhibit was advanced by a month. Many intending exhibitors were thus unconsciously too late.

Foremost in every exhibition of this kind are, of course, the portable engines, and this year's Smithfield Club Show forms no exception. The number of portable engines at work in England alone cannot be estimated under 6,000. It is within our own knowledge that a single firm,—Clayton & Shuttleworth, of Lincoln,—have turned out as many as 5,500 engines of this description. Many of these engines have been, of course, made for the export trade. Messrs. Clayton & Shuttleworth exhibited at the show which closed yesterday (Friday) seven portable engines, varying from 4-horse power to 12-horse power nominal. The excellent design of these engines undoubtedly accounts for their unexampled success with English and foreign purchasers.

The workmanship, details, and general arrangement are only inferior to the best class of locomotive work. The strong and elegant hollow crank-shaft brackets, the well-proportioned connecting-rod, the adjustible slide-blocks and crank-shaft bearings, besides other details, make this engine the best in the trade, and a model for the exercise of the imitative faculties of the smaller makers. A larger importation, however, of recent locomotive design, would distance these rivals. To make the firebox flush with the boiler, at the same time giving extra steam-space to the barrel, in order to prevent priming; to forge and cast the oil-cups on the connecting-rods, and the eccentric straps respectively; to counterbalance the reciprocating parts by a strip cast on the fly-wheel, would be improvements that we hope to see carried out on the Stamp End engine. But few of the other agricultural engines are worthy any criticism. When we see such mechanical monstrosities and antiquities as the use of "classical" pillars to carry a crank-shaft; round slide-bars, long ago condemned for the purpose by their inapplicability to a lateral strain; a double crank placed in the exact centre between the two brackets, and thus far away from any bearing; a connecting-rod crosshead screwed on a piston-rod; a fly-wheel pulley placed on the side furthest from the crank; firebox-stays with countersunk heads, — without completing our roll of indictment, we are compelled to assume, that making horse-ploughs and thrashers is not a good preparation for designing steam-engines.

A form of the steam-engine destined to be of great importance to the building trades, is that of the traction, or self-propelling engine. In many situations the use of a steam-engine that could be used as required, for conveying materials, for sawing, for hoisting, and other operations, would be a fortune in itself. It is to be hoped that the absurd regulations of Sir George Grey, with respect to traction engines, will be sooner or later repealed. If horses can be taught to stand fire, they can be taught to pass an engine without starting. A great impulse to the use of these engines is, however, due to the demand for a self-propelling engine in steam ploughing. Substantially, these light traction engines are simply portable engines, furnished with either gearing or a pitch chain—generally the latter—communicating motion to the pair of hind wheels; and the whole provided with an arrangement for steering. Of course, many other minor accessories are required to adapt a portable engine to the road; but the above are the main features of this class of engine. The traction engine is not a novelty. Many engineers, amongst whom we may reckon Mr. Scott Russell, have attempted to place steam on common roads. Mr. Hancock was very successful in this way, as will be remembered by some of our older readers. The union of the wheel and the rail, however, soon stifled all these attempts, and it has needed the introduction of steam-ploughing, and the daily increasing application of steam for all purposes, to revive the use of steam on common roads. Without much considering what had been previously achieved, a very large number of clumsy and even ridiculous designs for traction engines have been put forward at these agricultural shows. The engine, the construction of which witnesses to a thorough appreciation of its intended purpose, is that of Messrs. Aveling & Porter, of Rochester. The engine is driven by a strong steel pitch-chain, and, as the chain wears, the slack is taken up by setting the counter-shaft, which turns on a pair of adjustible gun-metal bearings, working in radial slots. The steering apparatus simply consists of a single steering and carrying wheel, caused to swivel by the steersman in front, at the end of a light wrought-iron frame fixed to the front end of the smoke-box. Our limits forbid us to enlarge further upon this excellent form of traction-engine; but we may state that we have seen one of these engines drag 20 tons up an incline of 1 in 8, at a speed of about 2 miles an hour. We believe that no less than ninety have been already made at Rochester for the home and export trade.

At Messrs. Brown & May's stand we noticed a mill for crushing cement, flint-stone, and similar substances. It is upon what might be called an absurdly simple plan, but, like most simple machines, it is remarkably efficient and cheap. A pair of rollers are fitted with a frame; in the more powerful machines, two pairs, placed one above the other, are used. These rollers—of chilled cast iron — are cast with alternate V grooves, the V's or projections of one roller working into the projections of the roller opposite, thus, ΛV. One roller is driven at a different speed to the other. We understand that the veteran engineer, the well-known Mr. Richard Roberts, took a great interest in this simple machine.

At stand No. 1 was exhibited a model of a curious plan for raising, lowering, and transporting goods to and from a warehouse. The idea seemed to be taken from Mr. Fowler's steam ploughing tackle. Two strong wire ropes, or chains, are stretched on pulleys, at an angle between the warehouse, and, for instance, a vessel lying alongside a quay. The goods to be transported are suspended from this endless rope, and are moved to and fro as required by means of one of the pulleys being driven by steam or other power. Whether the rope will not have a tendency to slip out of the pulleys through the down strain, is a question to be determined by actual trial. For light weights this plan may be very useful in some situations; but the down pull must clearly be very heavy on the centre of the long endless rope used in this arrangement.

As was natural, a great variety of fencing was exhibited. W. S. Underhill's fence (stand No. 13) is formed out of broad horizontal bars, with slits or notches for the upright rods to pass through—an ingenious plan, likely to make a very cheap and strong kind of fencing. Hill & Smith (stand No. 117) exhibited various fences formed with hollow galvanized plate-iron pillars, and strongly strained where required by a worm and wheel. Our contemporary, *Punch*, alluded a week or two ago to the annoyance to fox-hunters caused by wire fences. *Punch* recommends that wire fences should be taken up and replaced every year. We doubt whether farmers will follow his advice. Apart from the expense of the proceeding, the bundle of wires would untwist and get ruined while lying on the ground, and the fence would not merely have to be again erected, but would have to be perhaps replaced.

A simple rotary screen, on wheels, for screening gravel, formed of iron rods placed parallel to the axis of the machine, was also to be seen at this stand. The mesh was $\frac{5}{16}$ in., but every alternate rod could be taken out to increase the mesh for coarse work.

The last-mentioned stand was in the galleries. Continuing our tour round these, we noticed that Mr. A. B. Childs, one of the principal exhibitors in this country of American mechanical "notions," exhibited a useful implement, "a post-hole auger," a tool said to "combine all the advantages of the shovel, spade, and post-spoon," in the operation of digging holes for erecting posts. It was formed like a wood auger on a large scale; and, furnished with a long handle, it can be lifted out of the ground, thus bringing up the soil, and leaving a clean round hole. We also noticed a pick-axe, formed without an eye. An iron socket is fixed on the handle of the pick, into which it slips, and is keyed fast by a key or wedge. This pick is stated to be used by the Federal armies. An ingenious American log sawing-machine was also shown at this stand. The saw in this machine is worked by a simple contrivance,—scarcely, however, to be made clear without a drawing. The saw while reciprocating is enabled to radiate, and to thus adapt itself to the progress of the work.

We noticed another American invention that has enjoyed some success in England. It is that of the ingenious form of a pump, known under the name of "California Pump." The chief peculiarity and advantage of this pump consist in its valves being very easily accessible. The barrel is placed horizontally, the valves are above, and by taking off the air vessel on the top of the latter, ready access is obtained to the whole.

The well-known deferential pulley-blocks patented under the name of Weston, were shown by several exhibitors. These pulley-blocks are on the principle of what has been known for many years as the "Chinese windlass;" viz., an axis, on which are fixed two cylinders of different diameters: when the axis revolves, one end of a cord is coiled round (say) the larger cylinder, while the other end is uncoiled from the smaller cylinder. The contrivance in this shape has not been used in practice, from the very great quantity of rope required. The improved apparatus patented by Mr. Weston was completely described—as was lately pointed out by a correspondent to a contemporary,—some twenty years ago, in a work on Mechanics. It is also stated that the contrivance in its perfected shape was noticed on a drawbridge at Pekin, during the late occupation of that city by the Anglo-French forces. Instead of using a rope, an endless chain is applied to teeth cast on a double sheave of two different diameters. The weight would necessarily remain stationary if the chain passed over sheaves of equal diameters; but one sheave being of a larger diameter, it takes up more chain, and the weight is raised in the same proportion. The objection to this contrivance is, that it cannot be well applied in situations where the loads vary considerably, as the speed of the apparatus can never be much quickened with a smaller weight. Its great advantage consists in the perfect freedom from the danger of running down; and no doubt builders might use it oftener than is at present the case.

Amongst a number of these pulleys, and in company with such useful domestic articles as "perpetual automaton mouse-traps" and patent sausage-making machines, exhibited by Messrs. S. & E. Ransome, we noticed a novel form of hand-truck, for conveying sacks or bales. It is not easy to push an ordinary hand-truck under a heavy bale; the loose wheels have a tendency to roll the barrow back. This is prevented in Mr. Wilmott's contrivance by fitting a simple form of self-acting locking gear to the axle. The ordinary axle is fitted with a pair of cogs on each side, and, kept out of gear from the cogs by means of a spring, is placed a bar. The pressure of the foot causes this bar to lock into the wheels: its removal allows the wheels to roll as usual.

Mr. Sawney (stand No. 101) exhibited a very neatly arranged grindstone,—fixed on a wrought-iron framing and worked by a treadle,—likely to be of use to some of our readers.

Moore's ingenious ventilators were shown at Stand No. 84. These ventilators, as our readers know, can be easily applied to stained-glass church windows.

Different kinds of apparently excellent roofing felts, stable fittings, hydropults, and similar exhibits, were also to be seen in the gallery.

IRON-WORKERS AND TOOL-MAKERS.*

CORT—MUSHET—NASMYTH.

WHEN a Frenchman in conversation with Sir John Sinclair praised the artist who invented ruffles, the baronet shrewdly remarked that some little merit was also due to the man who added the shirt. The ornamental ought ever to be based on the useful. Without derogating from the bio-

* Industrial Biography: Iron-workers and Tool-Makers. By Samuel Smiles. London: Murray. 1863.

graphic claims of those who minister to taste and intellect, those who minister to utility need not be overlooked. It is true that taste and ornamental display may be admitted to rank in some respects a little higher in the scale of civilization than mere utility; which may, therefore, in these respects, be looked down upon as of a more *basal* though not of a *baser* order. But we are not going to admit the inferiority, in any one essential point, of utility to beauty, even as a token of advancement in civilization. Not unfrequently it is useless ornament, and beauty in trifles, which attract the eye and please the taste of the savage rather than things of solid utility. Yet this is not always the case. When Captain Cook and the early navigators first sailed into the South Seas, old nails and old hoops soon rose to a high premium; an old anchor which accidentally turned up became a mass of bullion in the bank, and represented an immense equivalent of provisions and other valuables. Who were the more really savage,—these poor but sensible islanders, or those great discoverers of America who committed such dreadful excesses for the sake of that gold which the Mexicans and Peruvians comparatively despised?

We not only rank our iron-workers and our tool-makers as a most useful order of men, but as men of a high rank in civilization. It is to these very men indeed, that England owes its present greatness as a civilized nation. It is upon *their* shirt that the ruffles have been stitched.

Mr. Smiles, while preparing his "Lives of the Engineers," came frequently across the tracks of celebrated inventors, mechanics, and iron-workers,—the founders, in a great measure, of the modern industry of Britain,—whose labours seemed to him well worthy of being traced out and placed on record; and the more so as their lives presented many points of curious and original interest. By the help of various contributions from eminent living and lately deceased mechanical engineers, he has just produced another interesting, though not unassailable volume; the saleable merits, at least, of which new issue may be judged of by the fact that the London booksellers alone purchased ten thousand copies of it before it was published.

The work is divided into sixteen chapters, the headlines of which are as follows:—Iron and Civilization; Beginnings of the Iron Manufacture in Great Britain; Iron Smelting by Pit-Coal—Dud Dudley; Andrew Yarrington; Coalbrook Iron-works—The Darbys and Reynoldses; Invention of Cast-Steel—Benjamin Huntsman; The Inventions of Henry Cort; The Scotch Iron Manufacture—Dr. Roebuck—David Mushet; Invention of the Hot Blast—James Beaumont Neilson; Mechanical Inventions and Inventors; Joseph Bramah; Henry Maudslay; Joseph Clement; Fox, of Derby—Murray, of Leeds—Roberts and Whitworth, of Manchester; James Nasmyth; and William Fairbairn.

It is not easy to select from these biographical sketches those of most interest; for all are interesting; but, being desirous of gleaning a few weighty heads from Mr. Smiles's abundant sheaf, we shall select—say Cort, Mushet, and Nasmyth, as the names to which we shall restrict our attention. We shall leave others to point out the weaknesses of the book.

Henry Cort was born in 1740, at Lancaster, where his father carried on the trade of a builder and brickmaker. Nothing is known of Henry's early history; but he seems to have raised himself by his own efforts to a respectable position. In 1765 we find him established in Surrey-street, Strand, carrying on the business of a navy agent, in which he is said to have realized considerable profits. It was while conducting this business that he became aware of the inferiority of British iron compared with that obtained from foreign countries. The English wrought-iron was considered so bad that it was prohibited from all Government supplies, while the cast-iron was held to be of too brittle a nature to be suited for general use. Indeed, the Russian Government became so persuaded that the English nation could not carry on their manufactures without Russian iron, that in 1770 they ordered the price to be raised from 70 and 80 copecs per pood to 200 and 220 copecs per pood. The Russian's greed was great but his sense was small; for he thereby stimulated the inventive genius of Cort, and laid the solid foundations of England's greatness as the iron workshop of the world. As in other inventions, Cort took up the manufacture of iron at the point to which his predecessors had brought it; standing on their shoulders, as it were, and seeing over their heads; improving upon their processes and carrying their discoveries still farther afield. Cort published his patents in 1783 and 1784. In dispensing with the blast, he had been anticipated by the Craneges, and in the process of puddling by Onions; but he introduced so many improvements of an original character, with which he combined the inventions of his predecessors, as to establish quite a new era in the history of the iron manufacture; and, in the course of a few years, to raise it to the highest state of prosperity. As early as 1786, Lord Sheffield recognised the great national importance of Cort's improvements in the following words:—"If Mr. Cort's very ingenious and meritorious improvements in the art of making and working iron, the steam-engine of Boulton & Watt, and Lord Dundonald's discovery of making coke at half the present price, should all succeed, it is not asserting too much to say that the result will be more advantageous to Great Britain than the possession of the thirteen colonies [of America]; for it will give the complete command of the iron trade to this country, with its vast advantages to navigation." It is scarcely necessary here to point out how completely the anticipations of Lord Sheffield have been fulfilled, sanguine though they might appear to be when uttered some seventy-six years ago.

We cannot here discuss the merits, or even recapitulate the details, of Cort's inventions of puddling and rolling iron, and must hasten to the sad end of his story. Everything seemed to be getting on swimmingly with him for a time. He was patronised by the Admiralty, and the merits of his inventions were generally conceded. Numerous contracts for licenses were entered into with Cort and his partner, Mr. Jellicoe, by the manufacturers of bar-iron throughout the country. Cort himself made arrangements for carrying on the manufacture on a large scale, and with that object entered upon the possession of a wharf at Gosport, belonging to Adam Jellicoe, his partner's father, where he succeeded in obtaining considerable Government orders for iron made after his patents. To all ordinary eyes the inventor now appeared to be on the high road to fortune; but there was a fatal canker at the root of this seeming prosperity, and in a few years the fabric which he had so laboriously raised crumbled into ruins.

On the death of Adam Jellicoe, who was a Government *employé*, defalcations were discovered in his public accounts to the extent of 39,676*l.*, and his books and papers were immediately taken possession of by the Government. On examination it was found that the debts due to Jellicoe amounted to 89,657*l.*, included in which was a sum of not less than 54,853*l.* owing to him by the Cort partnership. In the public investigation which afterwards took place, it appeared that the capital possessed by Cort being insufficient to enable him to pursue his experiments, which were of a very expensive character, Adam Jellicoe had advanced money from time to time for the purpose, securing himself by a deed of agreement entitling him to one-half the stock and profits of all his contracts; and in further consideration of the capital advanced by Jellicoe beyond his equal share, Cort subsequently assigned to him all his patent rights as collateral security. As Jellicoe had the reputation of being a rich man, Cort had not the slightest suspicion of the source from which he obtained the advances made by him to the firm; nor has any connivance whatever on the part of Cort been suggested. At the same time it must be admitted that the connexion was not free from suspicion; and, to say the least, it was a singularly unfortunate one.

The result was that the assignments of Cort's patents, which had been made to Jellicoe in consideration of his advances, were taken possession of; but Samuel Jellicoe, the son of the defaulter, singular to say, was put in possession of the properties at Fontley and Gosport, and continued to enjoy them, to Cort's exclusion, for a period of fourteen years. It does not, however, appear that any patent right was ever levied by the assignees; and the result of the proceeding was that the whole benefit of Cort's inventions was thus made over to the ironmasters and to the public. Had the estate been properly handled, and the patent rights due under the contracts made by the ironmasters with Cort been duly levied, there is little reason to doubt that the whole of the debt owing to the Government would have been paid in the course of a few years.

In a report made by commissioners to the Houses of Parliament in 1805, the value of Cort's patents was estimated at 100*l.*! Referring to the schedule of Jellicoe's alleged assets, they say, "Many of the debts are marked as bad; and we apprehend that the debt from Mr. Henry Cort, not so marked, of 54,000*l.* and upwards, is of that description." As for poor bankrupt Henry Cort, these discussions availed nothing. On the death of Jellicoe, he left his ironworks, feeling himself a ruined man. He made many appeals to the Government of the day for restoral of his patents, and offered to find security for payment of the debt due by his firm to the Crown, but in vain. In 1794 an appeal was made to Mr. Pitt by a number of influential members of Parliament, on behalf of the inventor and his destitute family of twelve children, when a pension of 200*l.* a-year was granted him. This Mr. Cort enjoyed until the year 1800, when he died, broken in health and spirit, in his sixtieth year. He was buried in Hampstead churchyard, where a stone marking the date of his death is still to be seen. A few years since it was illegible, but it has recently been restored by his surviving son.

"Though Cort," says Mr. Smiles, "thus died in comparative poverty, he laid the foundations of many gigantic fortunes. He may be said to have been in a great measure the author of our modern iron aristocracy, who still manufacture after the processes which he invented or perfected, but for which they never paid him a shilling of royalty. These men of gigantic fortunes have owed much—we might almost say everything—to the ruined projector of 'the little mill at Fontley.' Their wealth has enriched many families of the older aristocracy, and has been the foundation of several modern peerages. Yet Henry Cort, the rock from which they were hewn, is already all but forgotten; and his surviving children, now aged and infirm, are dependent for their support upon the slender pittance wrung by repeated entreaty and expostulation from the state."

David Mushet was born at Dalkeith, near Edinburgh, in 1772. Like other members of his family he was brought up to metal founding. At the age of nineteen he joined the staff of the Clyde ironworks, near Glasgow; and here, though acting merely as an accountant, he practised assaying, and became so skilled in it that he was consulted in difficulties; but at length the manager, whether from envy, caprice, or because Mushet might thereby be *idling* away his time as an accountant, ordered his furnaces to be pulled to pieces. Elsewhere, however, he quietly erected new ones for himself, and continued his experiments even while he remained at the Clyde works. Afterwards he became a partner in the Calder ironworks, which he and his partners erected. About this time (1801) he made the discovery of the celebrated black band ironstone by means of his assaying skill; and great prejudice was excited against him by the ironmasters and others of that day in presuming to class the *wild coals* of the country (as Black Band was called) with ironstone fit and proper for the blast furnace. Yet that discovery has elevated Scotland to a considerable rank among the iron-making nations of Europe, with resources still in store that may be considered inexhaustible.

"But such," he himself remarks, "are the consolatory effects of Time, that the discoverer of 1801 is no longer considered the intrusive visionary of the laboratory, but the acknowledged benefactor of his country at large, and particularly of an extensive class of coal and mine proprietors and iron masters, who have derived, and are still deriving, great wealth from this important discovery: and who, in the spirit of grateful acknowledgment, have pronounced it worthy of a crown of gold, or a monumental record on the spot where the discovery was first made.

At an advanced period of life, such considerations are soothing and satisfactory. Many under similar circumstances have not, in their own lifetime, had that measure of justice awarded to them by their country to which they were equally entitled. I accept it, however, as a boon justly due to me, and as an equivalent in some degree for that laborious course of investigation which I had prescribed for myself, and which, in early life, was carried on under circumstances of personal exposure and inconvenience, which nothing but a frame of iron could have supported. They atone also, in part, for that disappointment sustained in early life by the speculative habits of one partner, and the constitutional nervousness of another, which eventually occasioned my separation from the Calder Ironworks, and lost me the possession of extensive tracts of black band ironstone, which I had secured while the value of the discovery was known only to myself."

Among the other important results of Mr. Mushet's lifelong labours, the following may be summarily mentioned:—The preparation of steel from bar-iron by a direct process, combining the iron with carbon; the discovery of the beneficial effects of oxide of manganese on iron and steel; the use of oxides of iron in the puddling-furnace in various modes of appliance; the production of pig-iron from the blast-furnace, suitable for puddling, without the intervention of the refinery; and the application of the hot blast to anthracite coal in iron-smelting. For the process of combining iron with carbon for the production of steel, Mr. Mushet took out a patent in 1800; and many years after, when he had discovered the beneficial effects of oxide of manganese on steel, Mr. Josiah Heath founded upon it his celebrated patent for the making of cast-steel, which had the effect of raising the annual production of that metal in Sheffield from 3,000 to 100,000 tons. His application of the hot blast to anthracite coal,

after a process invented by him and adopted by the Messrs. Hill, of the Plymouth Ironworks, South Wales, had the effect of producing savings equal to about 20,000*l.* a year at these works; and yet, strange to say, Mr. Mushet himself never received any consideration for his invention.

While he lived, Mr. Mushet was a leading authority on all matters connected with iron and steel, and he contributed largely to the scientific works of his time. He died in 1847.

James Nasmyth belongs to a family whose genius in art has long been recognised. His father, Alexander Nasmyth, of Edinburgh, was a landscape painter of great eminence, whose works are sometimes confounded with those of his son Patrick, called the English Hobbema, though his own merits are peculiar and distinctive. The elder Nasmyth was also an admirable portrait-painter, as his head of Burns—the best ever painted of the poet—bears ample witness. His daughters, the Misses Nasmyth, were highly skilled painters of landscape, and their works are well known and much prized. James, the youngest of the family, inherits the same love of art, though his name is more extensively known as a worker and inventor in iron. He was born at Edinburgh on the 19th of August, 1808; and his attention was early directed to mechanics by the circumstance of this being one of his father's hobbies. Amongst the visitors at his father's studio were Professor Leslie, Patrick Miller, of Dalswinton, and other men of distinction. The elder Nasmyth assisted Mr. Miller in his early experiments with paddle-boats, which eventually led to the invention of the steamboat. It was a great advantage for the boy to be trained by a father who so loved excellence in all its forms, and could minister to his love of mechanics by his own instruction and practice. James used to drink in with pleasure and profit the conversation which passed between his father and his visitors on scientific and mechanical subjects; and as he became older, the resolve grew stronger on him every day that he would be a mechanical engineer, and nothing else.

His first essay at making a steam-engine was when he was only fifteen years old. He then made an actual working engine, 1¼-inch diameter cylinder, and 8-inch stroke, which not only could act, but did some really useful work, for he made it grind his father's oil colours. He afterwards made many models to order; and some friends having supplied him with money he built, at a cost of 60*l.*, in 1828, a steam carriage, which ran many a mile with eight persons on it. Afterwards he sold it, and the engine was used in driving a small factory. In this engine, Mr. Nasmyth states that he used the waste steam to increase the draught through the chimney, not aware that George Stephenson had some years before made the same vitally important discovery. The summit of Nasmyth's ambition was to get into Maudslay's establishment in London; but as his father could not pay a premium, the lad created his own premium in the shape of a small steam-engine, every part of which was the result of his own handiwork, including the casting and the forging of the whole. With this he went hopefully to London in a Leith smack, which took eight days on its voyage. The engine was exhibited to Henry Maudslay, and Nasmyth was at once appointed to act as Maudslay's own private workman, at a salary modestly fixed by Nasmyth himself, at 10s. a week, out of which he had to pay 3s. for lodging. He contrived a small cooking apparatus, however; and managed, he says, to keep the eating and drinking department within 3s. 6d. a week. "I have the old apparatus by me yet," he says, in 1862, "and I shall have another dinner out of it ere I am a year older, out of regard to days that were full of the real romance of life." In a brief sketch written by himself, from which we quote, Mr. Nasmyth gives the following rapid note of his subsequent career:—

"On the death of Henry Maudslay in 1831, I passed over to the service of his worthy partner, Mr. Joshua Field, and acted as his draughtsman, much to my advantage, until the end of that year, when I returned to Edinburgh, to construct a small stock of engineering tools for the purpose of enabling me to start in business on my own account. This occupied me until the spring of 1833; and during the interval I was accustomed to take in jobs to execute in my little workshop in Edinburgh, so as to obtain the means of completing my stock of tools. In June, 1834, I went to Manchester, and took a flat of an old mill in Dale-street, where I began business. In two years my stock had so increased as to overload the floor of the old building to such an extent that the landlord, Mr. Wrenn, became alarmed, especially as the tenant below me—a glass-cutter—had a visit from the end of a 20-horse engine beam one morning among his cut tumblers. To set their anxiety at rest, I went out that evening to Patricroft and took a look at a rather choice bit of land bounded on one side by the canal, and on the other by the Liverpool and Manchester Railway. By the end of the week I had secured a lease of the site for 999 years: by the end of the month my wood sheds were erected: the ring of the hammer on the smith's anvil was soon heard all over the place, and the Bridgewater Foundry was fairly under way. There I toiled right heartily until December 31st, 1856, when I retired to enjoy in active leisure the reward of a laborious life, during which, with the blessing of God, I enjoyed much true happiness through the hearty love which I always had for my profession; and I trust I may be allowed to say, without undue vanity, that I have left behind me some useful results of my labours in those inventions with which my name is identified, which have had no small share in the accomplishment of some of the greatest mechanical works of our age."

If Mr. Nasmyth had accomplished nothing more than the invention of his steam-hammer, it would have been enough to found a reputation.

The history of this hammer is an interesting and instructive one. In 1838, the engineer of the company who were about to build the *Great Britain*,—the first of the big ships,—wrote to Nasmyth, complaining that there was not a forge hammer in existence powerful enough to forge the paddle-shaft of the engine; and asking Nasmyth what he should do: did he think he might dare to use cast iron? Instantly the idea of the steam-hammer flashed into Nasmyth's mind; and, in a few minutes, a sketch of it was on paper. Mr. Brunel and others heartily approved of it; but the paddle-shaft for which it was so promptly invented never was forged at all: the screw was then attracting attention, and was adopted in preference to the paddle; and the steam-hammer was left to bide its time, in the hands of him whose ancient family *arms*, strange to say, were a sword between two hammers, with broken shafts, and the motto "Non Arte sed Marte;" the founder of the family, at least under the name of Naesmyth, having taken refuge, on some political emergency, in a smith's shop, and set to work so awkwardly with the smith's hammer, that it became manifest at once to his enemies, "the Douglas men," that he was "nae smyth," and he had to show them that he was at all events a swordsman, and fairly routed the Douglas men. The king bestowed a grant of land on his follower who was Nae Smyth, and he then assumed the armorial bearings just spoken of. When the steam-hammer became a power in the world, Nasmyth, by a remarkable antithesis, reversed the motto of the family into "Non Marte sed Arte," and displaced the sword and the broken hammers, for which his own magnificent steam-hammer was substituted. A more curious heraldic anecdote, we are sure, was never told.

Many unsuccessful attempts were made to introduce the steam-hammer. No forge master would take it up. The inventor wrote in vain to all the great firms, urging its superiority to every other tool for working malleable iron into all kinds of forge work. His own partner, Mr. Gaskell, at Patricroft, declined to have anything to do with it, or even to assist him to patent it. An intelligent Frenchman, M. Bourdon, came, upon one occasion, to Patricroft, to purchase tools; and among other things incidentally shown to him by Mr. Gaskell was Nasmyth's sketch of his steam-hammer, which Mr. Gaskell, however, never once thought of even mentioning to Nasmyth (who was absent at the time) that he had done. In 1840, Mr. Nasmyth happened to take a trip to France, and called upon his customer, M. Bourdon. In passing through his works at Creusot, just as M. Bourdon had done at Patricroft, Nasmyth happened to see a great crank shaft, not only forged in the piece, but punched. Wondering, Nasmyth asked him how he got that shaft forged. "Why, with your own hammer, to be sure!" said M. Bourdon. Great indeed was Nasmyth's astonishment; for he had never yet seen his own hammer, except in his own sketch; nor had he ever been told that M. Bourdon knew anything about it.

"M. Bourdon said he had been so much struck with the ingenuity and simplicity of the arrangement, that he had no sooner returned than he set to work, and had a hammer made in general accordance with the design Mr. Gaskell had shown him; and that its performances had answered his every expectation. He then took Mr. Nasmyth to see the steam-hammer; and great was his delight at seeing the child of his brain in full and active work."

On reaching England, Mr. Nasmyth at once wrote to his partner telling him what he had seen, and urging that the taking out of a patent for the protection of the invention ought no longer to be deferred. But trade was still very much depressed; and as the Patricroft firm needed all their capital to carry on their business, Mr. Gaskell still objected to lock any of it up in engineering novelties. Seeing himself on the brink of losing his property in the invention, Mr. Nasmyth applied to his brother-in-law, Mr. William Bennett, who advanced him the requisite money for the purpose — about 280*l.*, — and the patent was secured in June 1840.

"The first hammer, 30 cwt., was made for the Patricroft works, with the consent of the partners; and in the course of a few weeks it was in full work. The precision and beauty of its action—the perfect ease with which it was managed, and the untiring force of its percussive blows—were the admiration of all who saw it; and from that moment the steam-hammer became a recognised power in modern mechanics. The variety or gradation of its blows was such, that it was found practicable to manipulate a hammer of ten tons as easily as if it had only been of ten ounces weight. It was under such complete control that while descending with its greatest momentum, it could be arrested at any point with even greater ease than any instrument used by hand. While capable of forging an Armstrong hundred-pounder, or the sheet anchor for a ship of the line, it could hammer a nail, or crack a nut without bruising the kernel. When it came into general use, the facilities which it afforded for executing all kinds of forging had the effect of greatly increasing the quantity of work done, at the same time that expense was saved. The cost of making anchors was reduced by at least 50 per cent., while the quality of the forging was improved. Before its invention the manufacture of a shaft of 15 or 20 cwt. required the concentrated exertions of a large establishment, and its successful execution was regarded as a great triumph of skill; whereas forgings of 20 or 30 tons weight are now things of almost every-day occurrence. Its advantages were so obvious, that its adoption soon became general, and in the course of a few years Nasmyth's steam-hammers were to be found in every well-appointed workshop both at home and abroad. Many modifications have been made in the tool, by Condie, Morrison, Naylor, Rigby, and others; but Nasmyth's was the father of them all, and still holds its ground."

Mr. Nasmyth, since he retired from business at the close of 1856, has occupied his leisure in the pursuit both of art and of science.

"That he possesses remarkable fertility of imagination, and great skill in architectural and landscape drawing, as well as in the much more difficult art of delineating the human figure, will be obvious to any one who has seen his works,—more particularly his 'City of St. Ann's,' 'The Fairies,' and 'Everybody for ever!' which last was exhibited in Pall Mall, among the recent collection of works of Art by amateurs and others, for relief of the Lancashire distress. He has also brought his common sense to bear on such unlikely subjects as the origin of the cuneiform character. The possession of a brick from Babylon set him a thinking. How had it been manufactured? Its under side was clearly marked by the sedges of the Euphrates upon which it had been laid to dry and bake in the sun. But how about those curious cuneiform characters? How had writing assumed so remarkable a form? His surmise was this;—that the brickmakers, in telling their tale of bricks, used the triangular corner of another brick; and, by pressing it down upon the soft clay, left behind it the triangular mark which the cuneiform character exhibits. Such marks repeated, and placed in different relations to each other, would readily represent any number. From the use of the corner of a brick in writing, the transition was easy to a pointed stick with a triangular end, by the use of which all the cuneiform characters can readily be produced upon the soft clay. This curious question formed the subject of an interesting paper read by Mr. Nasmyth before the British Association at Cheltenham."

But the most engrossing of Mr. Nasmyth's later pursuits has been the science of astronomy, in which, by bringing a fresh, original mind to the observation of celestial phenomena, he has succeeded in making one of the most remarkable discoveries of our time. Astronomy was one of his favourite pursuits at Patricroft, and on his retirement became his serious study.

The most remarkable result of his astronomical pursuits is the discovery, confirmed by others, and accredited by Sir John Herschell and other eminent astronomers, that the bright surface of the sun consists of separate, insulated, individual objects or things, all nearly or exactly of one certain definite size and shape, which is more like that of a willow leaf, as he describes them, than anything else.* These leaves or scales are not arranged in any order (as those on a butterfly's wing are), but lie crossing one another in all directions, like what are called spills in the game of spillikins; except at the borders of a spot, where they point for the most part inwards towards the middle of the spot, presenting much the sort of appearance that the small leaves of some water-plants or sea-weeds do at the edge of a deep hole of clear water. The exceedingly definite shape of these objects, their exact similarity to one another, and the way in which they lie across and athwart each other (except where they form a sort of bridge across a spot, in which case they seem to affect a common direction, that, namely, of the bridge itself),—all these characters seem quite repugnant to the notion of their being of a vaporous, a cloudy, or a fluid nature.

Long may James Nasmyth enjoy his active leisure.

* In connection with this very strange subject, it is rather a singular coincidence that those till recently much-despised philosophers, the alchemists, who speak of their red elixir, or golden (mineral) branch, as "Sol" call it also "the royal herb *or willow*." This may be a mere accidental coincidence, but it is at least curious, and worthy of a note in passing; as also is the still more strange discovery, by the Rev. Mr. Howlett, of a congeries of solar spots which he described as happening (probably accidentally) to assume the form of a tremendous skeleton, some thousands of miles in length.

THE NEW THEATRE ROYAL, GLASGOW.

The new theatre for Glasgow is now nearly completed, and will accommodate about 3,600 persons. The upper boxes and the lower and upper galleries of the old house are superseded by an amphitheatre. The stairs leading to the amphitheatre are 7 feet 6 inches in width. The theatre is in the form of an almost perfect circle, having a diameter of 42 feet, the radius from the centre to the box front being 21 feet. Around this circle the box, amphitheatre, and gallery audience are disposed, each seat directly fronting and commanding an easy view of the area available for stage business. An area of 3 feet 3 inches by 22 inches has been allotted each person in stalls and boxes, and all the seats will be divided by arms. The use of the "sunlight" has been determined on. Iron piping is to be introduced throughout every part of the house, to prevent, as far as possible, the possibility of accident by the escape of gas. No gaseliers will be used. The stage plan, and arrangements behind the scenes, have been directed by Mr. William Glover. The stage has been constructed by Mr. Drummond, the machinist of the theatre. The proscenium opening has been enlarged to 33 feet, and is flanked with pilasters, between which are placed the private boxes. A semi-circular arch spans the proscenium opening, the arch being supported on ornate brackets, and the panels enriched with ornamentation. The height from the stage to the crown of the arch is 45 feet. The level portion of the ceiling will be 42 feet in diameter, forming a circle of the exact circumference of the box frontage. The painting-room is 44 feet square by 30 feet high, and presents three sides of wall of great extent. The ornamental work for the box fronts, ceiling, and proscenium, is being made by Messrs. Jackson & Sons, London. The contractors are Mr. Robert Taylor, builder, West Nile-street; and Mr. John Taylor, joiner, George-street. The architects are Messrs. Potts & Son, of Sunderland.

SKETCHES AND STUDIES: SOCIETY OF PAINTERS IN WATER-COLOURS.

This second Winter Exhibition by the members of the "Old Society," comprising 384 sketches and studies, is even more interesting than the first, and the public have shown that they think so, the sales having been about double what they were at this time last year. Some of the artists, Mr. F. Tayler, Mr. Holland, and others, will not sell the sketches they exhibit, needing them for after-pictures. Perhaps two-thirds, however, of those sent were purchasable, and of these about ninety have been sold. A fresh source of income has been struck upon. It is to be hoped that it will not lead any into systematically "knocking off" a number of slight drawings for this special market instead of doing their best with perfected pictures. Some of the most finished bits sent are by Mr. Carl Haag and Mr. F. Smallfield, mostly admirable. Two or three of the members,—the veteran William Hunt, for example, who sends some exquisite bits,—make it the opportunity to show they are more versatile than their usual run of finished subjects would suggest. Mr. J. J. Jenkins is amongst the number: his capital landscape studies are an agreeable change from his pretty French fish-girls. Mr. Burton exhibits, besides a sketch for a large picture made some years ago, and other smaller works, his fine design for the "Fibula" given to Miss Helen Faucit at Dublin. Mr. John Gilbert, Mr. Birkett Foster, Mr. T. M. Richardson, Mr. E. Duncan, Mr. S. P. Jackson, Mr. A. P. Newton, and others, contribute strongly to the attractiveness of a collection that all should visit.

COMPETITIONS.

Halifax and Huddersfield Union Bank.—The design submitted by Messrs. Paull & Ayliffe, of Manchester, in a limited competition for this building, to be erected at Huddersfield, has been accepted by the directors. The new bank will stand upon a plot of ground in Westgate, near the Market-place, and will occupy a very commanding position in the heart of the town. The arrangements also include accommodation for the Huddersfield Chamber of Commerce. It is proposed to shortly commence the works, which will be carried out under the architects' superintendence. The proposed outlay is about 6,500*l.*

Wesleyan Chapel, Levenshulme.—The committee for the erection of this chapel, near Manchester, have selected the plans of Messrs. Paull & Ayliffe from a few designs sent in by local architects, and the building will be commenced forthwith under the architects' supervision. The style is the Decorated, and the cost will be about 3,000*l.*

THE ARCHITECTURAL MUSEUM.

PRIZES FOR WOOD CARVING.

The committee, in awarding the prizes, report as follows:—

"The committee of the Architectural Museum, after examining the *miserere*s tendered for the wood-carving prizes of this year, which were offered for a composition of not more than two figures, or of one figure and one animal, the subject being a profession, trade, or occupation, treated in modern costume, assign the first prize of 20*l.* to the one marked with a red seal (author Mr. John Seymour, of Tower lane, Taunton), the subject being a stonemason carving a vaulting rib of Ham-hill stone. This miserere appears to us commendable alike for the ease and anatomy of the figure, the accuracy with which modern costume has been reproduced in a graceful form, the truthfulness to fact of the tools, half worked block and stroke, and the flow with which the moulding of the seat ramifies into foliage. It is to be regretted that its author should have partially sand-papered the work, although he has obviously done so for effect and not to save work."

The Committee "assign the second prize of 5*l.* to the subject marked with a flower (author, Mr. J. M. Leach, of 1, Newmarket-road, Cambridge), representing a woman and child returning from gleaning, with sheaves on their heads. With much graceful treatment, and a comparative absence of sand-papering, this *miserere* is not equal to the stone-carver, either in anatomy or force. The figure of the woman and the child's bust are heavy, and the heavy flowing curls of the principal figure are untrue to actual peasant life."

"The committee allot an extra prize of 1*l.* 1s., or a book, at the choice of the competitor, to the carving marked 'Progress' (author, Mr. Alexander Kenmure, in the employ of Mr. Forsyth, of 8, Edward-street, Hampstead-road, London), representing a smith shoeing a horse. This clever composition fails in its practical applicability to the desired object. For instance, if it were really to be fixed as a *miserere* in any church the hammer and the bridle would soon be destroyed. Moreover, the *pose* of the horse is not consistent with fact, and the smith's expression falls in comparison with that of the mason in the first prize design. This work is not sand papered."

"The joint committee of the Architectural Museum and the Ecclesiological Society have chosen 'The Gleaners' as the subject of the colour prize of this year, considering that the dresses of the woman and child, besides the sheaves, afford a better field for colouration than the carver working a block of stone."

A. J. B. Beresford Hope, President.
Joseph Clarke, Hon. Secretary.

THE ARCHITECTURAL UNION.

The sixth annual meeting of this company was held on Wednesday, at the House in Conduit-street, Regent-street, Mr. Charles Mayhew in the chair. Mr. Moody, the secretary, read the report, which congratulated the shareholders on the success of the undertaking, that the rooms and galleries of the company had been fairly let during the past year, and that negociations were in progress with several societies connected with architecture to rent portions of the commodious and convenient establishment. The gross income for the past year had been 1,660*l.*, and the expenditure, 1,161*l.*, leaving a balance of 499*l.*, from which the directors proposed to pay a dividend of 8s. per share, free of income-tax, leaving 8*l.*

The chairman, in moving the adoption of the report, referred to the mortgage of 4,000*l.* existing on their premises, and said it was under the consideration of the directors to propose the issue of preference shares, with a guaranteed dividend of 4 or 4½ per cent., for the purpose of raising money to pay off the mortgagee. Mr. Jennings seconded the adoption of the report, which was agreed to.

Messrs. W. Tite, M.P., Mayhew, Jennings, Lamb, C. C. Nelson, and Wood, the retiring directors, were re-elected, and also Messrs. Lockyer & Cockerell as auditors. A vote of thanks to the chairman and secretary closed the proceedings.

THE LATE MR. F. T. BELLHOUSE, ARCHITECT.

Many of our readers in the north of England, will regret to hear of the death of this gentleman. Mr. Frank Taylor Bellhouse was the third son of Mr. David Bellhouse, now of Sale, near Manchester, but whose name and that of the grandfather of Mr. F. T. Bellhouse, have been identified with building in Manchester for a great number of years. Mr. Edward T. Bellhouse, the brother of the subject of this notice, is well known to most of our readers as a mechanical engineer, who has carried into effect important works at home and abroad, many of which have given occasion for the exercise of inventive ability, which in a marked degree he possesses. Mr. F. T. Bellhouse began his professional studies in Manchester about the year 1835, or 1836, in the office of the late Mr. Thomas Witlam Atkinson, best known since as the Siberian traveller, and having for his contemporaries in the office, the late Mr. J. W. Hance, secretary of the original Manchester Architectural Society; Mr. Cuffley; Mr. R. B. Critchlow, now of Southampton; the late Mr. J. E. Gregan; Mr. Edward Hall, F.S.A., and others. Subsequently, or after having had the advantage of a short sojourn in his father's office, he commenced practice as an architect. Some few years since, he was induced to settle in London, having entered into a partnership. For the last one or two years, however, when the partnership had terminated, he occupied himself chiefly in drawing, whilst turning attention to artistic pursuits connected with the profession. In these, as in his previous labours,—which in London, included preparation of many sets of competition drawings, as for the Manchester Assize Courts, the rebuilding of Bowden Church, and the Hartley Institution, Southampton, which received our attention,—he showed much ability, and industry that was of an extraordinary kind. He died at his residence in Royal Crescent, Notting-hill, on the 6th inst., leaving a widow, and the remembrance with many, of a valued and dear friend.

ST. MARY'S, DOVER.

This is one of the very old parish churches of the land. It was first a little primitive fabric, with its eastern wall, or chancel arch, where the font now stands, and resting its foundations in Roman work: about midway, in Norman style, the tower and nave up to the present pulpit line were added; the two easternmost arches still show the Early English chancel and north chantry, added about the time of King John. The long gap that followed presents the usual account, till it became the merely dangerous ruin taken down and rebuilt by the vicar in 1843: the foundations being then relaid, the ancient part being preserved stone by stone, and set on its old basis of Roman baths; the south aisle and chancel doubled in extent, and the capacity raised from about 700 to 1,750, 1,300 being free seats. The past twenty years, however, having victimized one-half of the fabric to dry rot, thus much of the woodwork had to be once more renewed. When laid bare, the whole basement presented a complete study of the disease, with its nature, growth, contagion, and results; enforcing the old neglected lesson, free access for air from outside. While all this was being restored again, some special works were carried on by particular friends. The chancel has been recovered to as near its original limits as might be; the floor raised, and paved with encaustic tiles, which, with a more elaborate pavement for the sacrarium, were from the works of Messrs. Maw & Co.; the absence of any too sacred symbols under foot, the Early English vine leaves and scrolls, and good geometrical patterns, with bright colour, being the noticeable features. The chancel has also its oak seats, to be filled by a rising choir. And, lastly, the gas service has been supplied with brass standards, and carrying each a corona of seventeen lights, from the works of Messrs. Hart & Son. The church was re-opened a few days ago by the Archbishop of Canterbury, the offertory leaving good hope that the remainder of the vicar's debt will not linger very long.

THE LATE GALES.

On Wednesday and Thursday in last week the country was visited, as Admiral Fitzroy predicted from the Admiralty, by gales of such intensity as fairly to merit the name of hurricane, in which the wind seemed to come from all points of the compass. An immense amount of damage has been everywhere done, both in town and country. Chimney-stalks have been thrown down by hundreds, roofs blown off, new buildings demolished, houses crushed by the fall of chimney-stalks, windows blown in, telegraph wires broken, and trees rooted up. Not a few persons have been killed, and great damage has been done to shipping. At Brompton a house in course of erection was blown done. At Newington a tall stack of chimneys fell upon a cottage, destroying it and its contents, and killing a child and seriously injuring three others. A curious series of coincidences happened to Mr. Lowe, a hatmaker in Fleet-street. As he was proceeding along the Blackfriars-road, a stack of chimneys fell near his feet, and he immediately ran away; but on crossing the street he turned to look at what damage

had been done, when the stack of chimneys of the next house to him gave way, but fortunately he was uninjured. A message was received on the same day by Mr. Lowe that a stack of chimneys belonging to his own house, in West-square, had fallen down, carrying a portion of the flooring with it. A large chimney fell upon the roof of the Liverpool Exchange, and did considerable damage to the building. At Birkenhead a chimney 40 feet high was blown down. At Manchester a new house, nearly finished, was blown down at Longsight, and a high chimney at Pendleton was destroyed. At Peterborough one of the pinnacles of the cathedral was blown down into the bishop's garden, and the gable-ends of several houses were driven in by the gale, and stacks of corn strewn over the country.

At Chester a number of the spires of St. Mary's Church steeple, recently re-erected, were thrown down upon the roof, and into the interior of the church; and in Grosvenor-road a new Roman Catholic Chapel, just about finished, suffered severely, a portion of the roofs and walls having fallen. At Sheffield, a lofty chimney in Jessop-street fell; and at St. Helen's a large piece of brickwork, about 9 feet long, was forced out of the chimney of the St. Helen's Patent Alkali Company, one of the largest chimneys in England.

The storm extended to France. At Nantes, a house in course of erection was blown down, and the owner killed. At Louviers, a high chimney in the manufactory of M. Brunel was thrown down, wounding several workmen. At St. Malo, one of the small spires of the cathedral was blown down. At Paris, the storm did considerable damage in many localities. At the Palace of the Permanent Universal Exhibition, in course of erection at Auteuil, a wall, 150 mètres in length, and strengthened by twelve stone pilasters, was blown down, and greatly injured the other parts of the building in its fall. In the Rue de l'Université, a large chimney was blown down, and fell in the street. Slates and tiles, as in London and elsewhere, were flying about in all parts of the city.

A sufficient idea of the force of the hurricane in London may be gathered from the fact that the anemometer on the Royal Exchange registered a pressure of 30 lb. on the square foot. When we consider that the anemometer is in the heart of London, this is most extraordinary, we believe it is said to be unprecedented; and were it not that the anemometer had just had a thorough overhauling at the hands of Messrs. Negretti & Zambra, one might feel inclined to doubt the correctness of the indications. During the gales of last October, at Greenwich the anemometer of the same construction registered 35 lb., whilst the one on the Exchange only showed a pressure of 18 lb.

LABOURERS' AND WORKMEN'S COTTAGES, PENGE.

A LIBERAL LADY.

TWELVE cottages have recently been erected at Penge, below the Crystal Palace, by a benevolent resident, Miss A. Dudin Brown, who, observing the wretched mode in which the large number of labourers in this part were housed, determined to offer some examples of a better kind of home. The buildings are on two sides of a central road, with garden courts in front, and yards in rear, four on each side being in a row forming one block, and a pair on each side forming another detached block. Eight have three bed-rooms, and four have two of larger size, and each has a good living-room, a scullery, a ventilated pantry, a coal and tool place, water-closet, cistern with water laid on. Miss Brown requires certain rules to be observed by the occupants, such as that the payment of rent be punctual; that there be no lodgers; that broken windows be mended by her and charged to the tenant in addition to the rent; that the gardens be kept in clean order, &c., &c. The outlay has been about 2,400*l.*, and the rents are calculated to pay about 3 per cent. This is only one of a series of good works carried out by Miss Brown in this hamlet; for she made a gift of the land upon which an infants' school and teacher's house were erected, and subscribed also to the building fund. Subsequently she erected a large girls' school and house entirely at her own cost of above 1,200*l.*; and, moreover, the church accommodation being insufficient, she built two new aisles to the church, at a cost of nearly 2,800*l.* All these works have been executed under the directions of an architect, Mr. Edwin Nash, of London. The contractors were, for the church, Mr. James Hollidge; and for the other works, Mr. John Warne.

RAILWAY MATTERS.

ALTHOUGH a great many of the schemes about to be laid before Parliament are small in extent of line, not a few are of considerable importance, and may be characterized as the extension of rootlet feeders to the great trunk and branch lines,—extensions very essential to the final profit and success of these lines. Doubtless there is an undue amount of speculation, however; and, although we cannot call it a revival of anything like railway mania, still much evil may be in store for speculators ere the whole affair is settled. In 1845 there were 620 railway schemes afloat, involving a (hypothetical) expenditure of 560 millions sterling; besides 643 other schemes which had not gone further than issuing prospectuses. More that 500 of the schemes went through all the stages necessary for being brought before Parliament; and 272 of these became Acts of Parliament in 1846—to the ruin of thousands who had afterwards to find the money to fulfil the engagements into which they had so rashly entered. In the present instance there is nothing to be compared with this state of matters; but considering the lesson then and at other times taught it is rather surprising that speculators should have gone to even the extent now indicated.

As regards the metropolitan and other town extensions, junctions, &c, there is one point which ought to be impressed on Parliament for behoof of the inhabitants. On lines already in existence, the Great Northern for example, and within the limits of the metropolis, night is made perfectly hideous, and the repose of thousands is destroyed, by the crowding out and in, during the whole night, of all the worn out, wheezy, asthmatic, groaning, noisy screamers of engines, surely, in the company's possession, for the transit to and fro of goods traffic; and if a like system be extended to new lines without any restriction of such nuisances by Act of Parliament, the result must be something diabolical and horrible to think of. It is all very well for railway companies, to allow them to work out their worn-out engines for their own selfish interests in this way; but the interests and the comfort and quiet of the public, especially through the night, ought to be consulted before the interests of such companies. Besides, although the promotion of goods traffic by night may be unavoidable, surely night is not the time when worn-out and incapable engines should be trusted to keep time on railways.

The Charing-cross line, as we learn from the newspapers, has been formally opened, but only provisionally, the line being still in an unfinished state. When all expenses are paid, this line will be found to have cost very nearly, if not quite, 1,000*l.* sterling per yard! Much of this immense expenditure was due to the opposition of the Governors of St. Thomas's Hospital. Though called by the general name of the Charing-cross line, the extension really embraces two distinct schemes, viz., the line from Charing-cross to London Bridge, and the line from Charing-cross to Cannon-street. Yet, though legally distinct, they are practically one; and from the junction at the Borough Market, where the Cannon-street branch diverges across the Thames, both run on the same viaducts to Charing-cross. The line leaves London Bridge station by a rather sharp curve of little more than 500 feet radius. Two girder bridges of immense span and horrible ugliness take it over the approach to London Bridge. A viaduct on iron columns carries it through the Borough Market, and thence the line is continued, with scarcely any curves or inclines worth speaking of, through the poor neighbourhoods lying between the Borough and Blackfriars, across the Blackfriars-road, and parallel with Stamford-street to the Waterloo-road, where it makes a junction with the South-Western station, which it enters by a single line of rails, and so practically brings that large system of lines to Charing-cross and hereafter to Cannon-street. From this it continues in almost a straight line across the York-road and the Belvedere-road to what was once Hungerford Suspension Bridge, but which has now been converted, if not into the handsomest, at least into one of the most important railway bridges over the Thames. On this the line is taken over the site of Hungerford Market, which has been transformed into one of the most lofty and spacious stations yet built in the metropolis. When the Charing-cross line is completed, there will be a perpetual running to and fro of trains, which the *Engineer* graphically compares to the motion of shuttles in a steam-loom, all day long.

The traffic receipts of railways in the United Kingdom amounted, for the week ending the 21st of November, on 11,028 miles, to 565,760*l.*; and for the corresponding week of last year, on 10,578 miles, to 520,237*l.*; showing an increase of 450 miles, and of 45,523*l.* in the receipts.

It was mentioned two or three months back that the county of Donegal had gained the distinction of making the cheapest railway in the United Kingdom; the Finn Valley line, of 13 miles, having been constructed for less than 5,400*l.* per mile. The following, from the *Dublin Daily Express*, shows that the results are such as might have been anticipated, and that a good dividend may be realised from an amount of traffic that, under an extravagant system of construction and heavy payments for land, would have been ruinous to the shareholders:—"The weekly receipts of the Finn Valley Railway have risen from 39*l.* in September to 82*l.* last week. The inhabitants of the county of Donegal are at last beginning to taste the advantages of railway communication. Should this railway, as is usual, double the ordinary road traffic, the receipts would be about 200*l.* weekly, which would pay the shareholders above 10 per cent. When we are enabled to announce this, we shall look to see few districts in Ireland without a railway."

A railway has been seized by the sheriff. Mr. Death, sheriff's officer of Petworth, on the 23rd ult., took forcible possession of the Mid-Sussex and Midhurst Junction Railway, under an order from Chancery, at the suit of the Bishop of Oxford, for contempt of court, the railway company not having answered a bill filed by his lordship against them. A large staff of officials were forthwith placed over the whole railway, and all the men employed, amounting to upwards of 250, were stopped. On the 30th inst., we are informed, it can be sold if the matter is not settled.

DWELLINGS FOR THE WORKING CLASSES IN THE CITY OF LONDON.

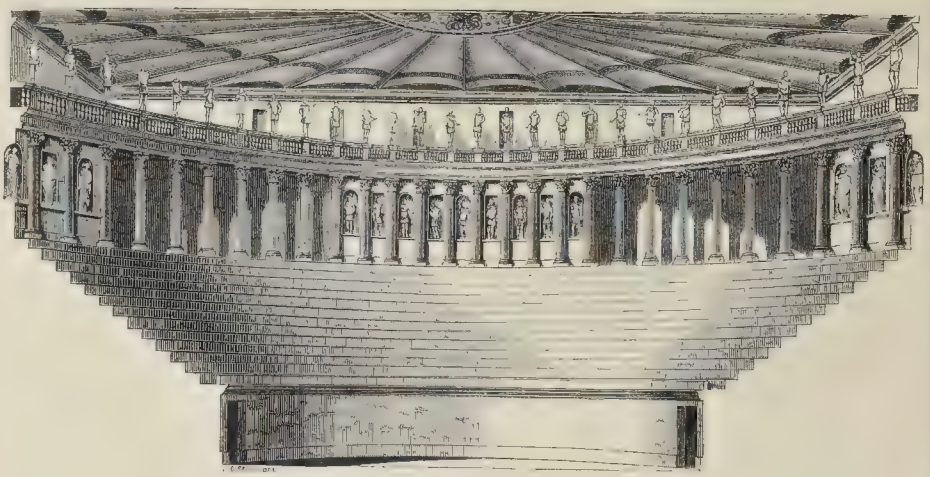
SOME efforts are being made at the present time, for the purpose of providing dwellings for the working classes in the neighbourhood of such localities as are affected by pulling down the tenements and other buildings in courts and alleys, and rebuilding on their site extensive manufactories and offices, adapted for the increased requirements of the metropolis. The united parishes of Saint Lawrence Jewry and Saint Mary Magdalen, Milk-street, with this object in view, and being the freeholders of a small piece of ground in Huggin-court, in the neighbourhood of Thames-street, upon which stood lately several ruinous and ill-contrived tenements, have pulled these down, and erected in their stead a building for the residence of the working classes, in which lighting and ventilation are better attended to.

The avenue has been widened, and the ground-floor contains two shops, with the entrance in the centre of the building, communicating with the apartments on the upper stories and the roof, upon which is placed a ventilating lantern. The apartments consist of three sets of sitting-rooms, with bedroom adjoining, on each side of the public stairs, forming accommodation either for three or six families, according to the number of rooms required; and the basement story is fitted up for laundry purposes. We are forced to express regret that only one bedroom goes with a sitting-room.

The parishes have invited the attention of such public companies as have taken an interest in providing accommodation for the working classes; and the Chief Commissioner of City Police has inspected the premises, with the view of adapting them for the families of the force who are obliged to reside in the City. Messrs. John Young & Son, of King-street, Cheapside, were the architects.

THE NEW STABLES AT MARLBOROUGH HOUSE.

THE building has the form of a block with two wings, and is constructed principally of bricks. In the centre of the block is the Royal entrance, leading into the garden skirting the Mall of St. James's Park, and communicating with the whole of the stables, coach-houses, harness-rooms, and offices of the structure. On either side of the Royal entrance are two coach-houses, each divided into three divisions, and each division capable of holding two carriages. The quadrangle in front of these coach-houses, together with the Royal entrance, is covered by an enormous skylight, supported by light iron columns, and open upon its three sides for the operations of inspecting and washing carriages, &c.; while the quadrangle



PALLADIO'S THEATRE, VICENZA. THE AUDITORIUM.

itself is lighted with gas, provided with clocks, manure-pits, water-tanks, and trapped drains. The stables include forty-five stalls and twelve loose boxes. All the fittings have been supplied by Mr. Barton, of Oxford-street, and are of iron, of a chocolate colour, excepting where the vitrified enamelled linings of the cornbin do duty for paint. The hay-racks are flat at the bottom, with open trellice-work, by which all dust is permitted to fall through. They are filled from time to time by hand, and all upper supply of fodder from lofts is entirely avoided. No projections or flanges are detectable anywhere, and the hayrack is provided with an "improved slip-back," to prevent the possibility of the horses' noses or heads getting fixed between the apertures. In the front of the corn-bin, hayrack, and water-tank, a "friction guard roller" is placed. The stalls are divided by boarding, surmounted by open ventilating "Exhibition pattern" iron railings, and are terminated by pillars, with stall rings and chains, which gather up and festoon. The handles of the loose boxes are all flush with the doors, and while at the command of the groom, are beyond the operations of the horse. The floors are paved with brick laid edgeways. Ventilation is supplied by open-work just beneath lofty ceilings. It being the general belief, that ophthalmia in horses has been aggravated, if not altogether induced, by the glare and refraction of white tiles and other glazed surfaces, the whole of the skirting opposed to the horses' vision is lined with Ravi-encioni marble of a bluish-grey colour, from the works of Messrs. Burke & Co., of Warwick House, Regent-street. In some of the stables are long rows of slate reservoirs for water, which, by closing, are converted into seats for the men. The builders were Messrs. Smith & Taylor, the successors of Messrs. Kelk; and Mr. Pennethorne was the architect.

SCHOOLS OF ART.

The Warrington School.—The annual examination by Mr. R. G. Wylde, H.M.'s Inspector of Schools of Art, of the works executed in this school, took place on the 24th ult., with gratifying results. No less than twenty-seven medals were awarded, and sixteen of the works were selected for National competition. One of the students (W. Jenkins) aged only fourteen years, the son of a gardener, has obtained five medals, one for each work executed, and two of them have been selected for National competition. The successful result of this examination must be gratifying both to the council of management and the master of the school, Mr. J. C. Thompson. The works were subsequently opened for public exhibition during the remaining four days of the week, when nearly 5,000 persons availed themselves of the opportunity.

The Gloucester School.—For four or five years this school has been unobtrusively at work, and no appeal has ever been made to the public for pecuniary help. Supported by a small but practical committee, and a liberal president (Mr. T. Gambier Parry), the art-master, Mr. Kemp, has laboured on, and the school is now self-supporting; still there remains a small debt incurred in the necessary adaptation of the premises in Longsmith-street to the purposes of the institution, and other unavoidable expenses connected with the founding of the institution; and in order to extinguish this, but still more to widen the interest felt in the school and to increase the number of pupils, it was determined to hold a public distribution of the Government prizes at the Corn Exchange, with an exhibition of drawings, &c.; Mr. Parry also reading a paper "On the Claims of Art upon an Age of Business."

MONUMENTAL.

The working-men of Leeds have determined to erect a statue to the late Sir P. Fairbairn as a public acknowledgment of the great services rendered by him to the borough.——A number of additions to the relics in the Burns Monument, Calton Hill, Edinburgh, has lately been made, and the museum promises shortly to become one of the most attractive exhibitions in Edinburgh. On the last visit of Mr. David Roberts, R.A., to his native city, he commissioned Mr. Ballantine to have the floor covered with kamptulicon of a design in harmony with the building, which has been done, and the expense, amounting to upwards of 10*l.*, defrayed by Mr. Roberts. Colonel William Burns, son of the poet, has forwarded the original model of the marble statue by Flaxman. The marble statue was completed after the death of the sculptor, and much of the character in the original model, according to the *Scotsman*, has been lost in the marble. An interesting document, presented by the poet's sons, is Burns's diploma as a member of the Royal Company of Archers, the Royal Body Guard for Scotland.——A monument to the Rev. Patrick Brewster has been erected in the cemetery at Paisley. The site chosen is at the upper end of the walk leading from the public entrance, where several roads branch off. The monument, which was erected by Mr. John Mossman of Glasgow, the sculptor of the bronze statues of Sir Robert Peel and Provost James Lumsden, in Glasgow, is made entirely of sandstone. The portions forming the pedestal are from the quarry which supplies the National Wallace Monument, and selected for its durability. The figure is of the celebrated Binny stone. Mr. Brewster is represented standing, as if about to address a public meeting. The pedestal in structure is Gothic. The designs of the mouldings at the base are all taken from the pillars of the Abbey Church. The height of the figure exceeds 7 feet, and, with the 9 feet of pedestal, makes in all nearly 17 feet.——The statue of William Dargan, according to *Saunders's Newsletter*, has been placed upon its pedestal on the lawn of the Royal Dublin Society, in front of the National Gallery of Ireland, at the west side of Merrion-square. ——A monument is now being erected at Ajaccio, intended to commemorate, at the same time, the Buonaparte family, and the glory of the First Empire. The group is composed of five bronze statues, each 6 feet high, and representing Napoleon I. and his four brothers. The emperor is on horseback, in Roman costume, and behind him stand the others. The whole group will be placed on a pedestal of white marble, in the rear of which a triumphal arch with three openings is to be erected.

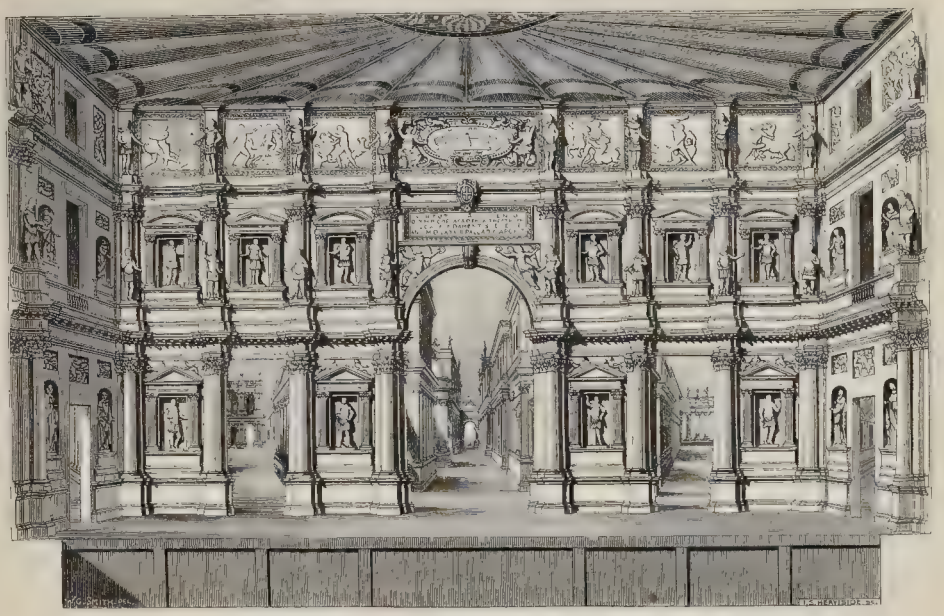
A GOOD EXAMPLE.

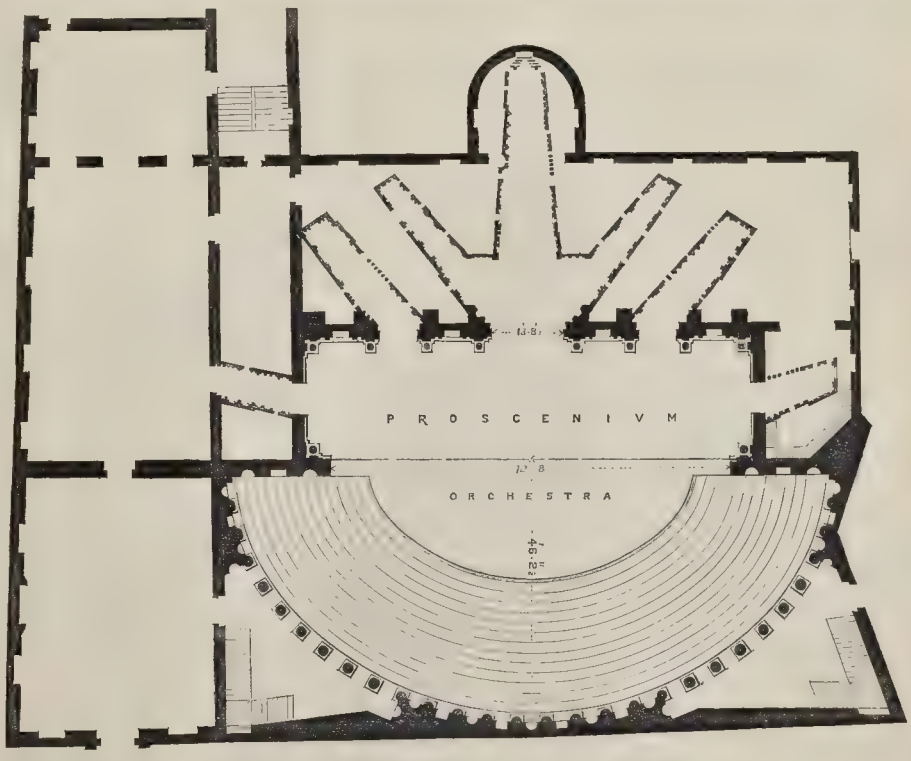
We are glad to find that a class for the instruction of artisans in geometrical, mechanical, and freehand drawing, has been established in connexion with the extensive works now in progress at Pilmore Hall, Croft, the seat of Mr. A. Backhouse, for which Mr. Waterhouse is the architect. Mr. Backhouse has in a liberal manner provided the workmen with drawing-boards, squares, &c. The class is under the direction of Mr. Hoskins, the clerk of the works.

CHICHESTER AND ITS CATHEDRAL.

The Rev. C. A. Swainson, canon residentiary, recently gave a lecture, at the Literary and Mechanics' Institute, on "Chichester and its Cathedral." The reverend lecturer commenced with some remarks on the condition of the country before the Roman times, when it appeared our predecessors in Sussex lived in wigwams very similar to those which are occupied by the Bechuanas now. He then spoke of the invasion of Claudius, drawing special attention to the fact that Chichester, as it now is, must have been planned and built whilst St. Paul was holding intercourse with Aquilla and Priscilla at Corinth. He then gave a sketch of Archdeacon Williams's proof that Claudia and Pudens, mentioned in 2 Timothy iv. 21, were "Chichester people,"—a statement which, he said, was possible and even not improbable; and so passing by the inroad of Ella and Cissa, and the advent of Wilfrid, the lecturer came to the removal of the Bishop's See from Selsey, "the Island of the Sea Calf" or Seal, as old Bede called it, to the city of Chichester. That Chichester was a city with its own mint, as early as A.D. 1000. He described the gradual rise of the cathedral, notwithstanding the serious injuries and disappointments caused by the great fires of 1115 and 1185, until, under successive bishops, it was beautified and weakened by the erection of a spire,

THE OLYMPIAN THEATRE, VICENZA. THE SCENE.—ANDREA PALLADIO, ARCHITECT, 1580.*





Plan.

[* See page 873, *ante*.

and the insertion of the great north and south windows. On these steps in its construction I need not tarry, because they are well known from the interesting memoir of Professor Willis, from which the lecturer said his information was taken. He passed on to later facts which, he observed, he had culled from the documents in the muniment-room. One of these was a curious memorandum of a visit paid about 1684 to the cathedral by Sir Christopher Wren. The great architect of St. Paul's is well known to have been no friend of the early ecclesiastical architecture of the country, and in this instance it was certainly well that his advice was not followed. It seems that the great north tower at the west end of the cathedral had "fallen down about fifty years earlier" (a fact which was hitherto unknown: it was believed that it was battered down at the siege of 1642), and the southern tower was very insecure. It was deemed hopeless to raise money to restore the fallen tower, and therefore Wren advised the chapter to pull down the other also, to shorten the cathedral by one bay, and then "to close all with a well-designed and fair-built west end and porch, which would make the west end of the church look much more handsome than ever it did, and would be done at half the charge." The lecturer said he had discovered that there was a large sale of timber on the chapter estates in 1797, for the repairs of the cathedral, "the great arch on the northern side of the quire being in a very dangerous condition;" that in 1736 the spire was partly taken down, for the communar was ordered to go on with its restoration until it was finished to the top; and that in 1813 contracts were again entered into to take down 11 feet of the spire and rebuild it. From the cathedral the lecturer passed to the clergy connected with it: the secular canons, who were transferred from Selsey, and who have lived in their canonical houses, in Canon-lane, from 1075 to the present year. He quoted the statutes of 1247 to show what the nature of these residences was, and the respective duties of dean, cantor, treasurer, and so on, according to the original constitution of the Church. They were called "canons," because they were bound to take their duties in the cathedral according to the "canon," or law, of the Church; and seculars because they lived almost in the world in their own houses, instead of under the roof of a monastery. Residentiaries, he observed, certainly were in existence in 1247, and he raised a smile by describing the forms that had to be gone through before a canon became completely a residentiary. He was bound for a year to attend every service at the cathedral, and if he ever failed he had to begin over again, and each day he was to dine at his own table the vicar of his stall, two other vicars of the church, the porter, two sacrists, and one chorister-boy: of course, this could not be maintained long, it was too expensive and irksome; and so he traced the clergy until he came to 1574, when the constitution of the cathedral as it is at present was fixed. But the greatest insight into the customs of antiquity was given by the statutes of the vicars choral, which were "codified" a few years before the Reformation. They received the old gilden hall of the city, the present girls' school, in the year 1394; here for more than a hundred years they met for dinner, &c. Here still remains the pulpit where the reader stood during part of the meal, reading the Bible, or some other holy book;—here the raised platform or dais, on which the high table was placed;—here the lavatory which was needed for their fingers, seeing they had no forks to carry their food to their mouths. The vicars ought all to be in their square before the curfew rang. When they went out of the close they were not to carry a sword, unless they were going into the country,—a curious illustration of those unsettled times. They were to keep no dogs within the precincts: they were to ask no one to dinner in their hall without giving notice to the cook; and all these rules were solemnly enacted, and the seals of the bishop, the dean and chapter, and the vicars themselves, were appended to the document. The reverend lecturer gave several other interesting anecdotes in relation to the cathedral manners and customs of olden times, and appeared thoroughly to interest and amuse a very large audience, among whom were the Lord Bishop of the diocese, the very rev. the Dean, and many of the clergy of the city and neighbourhood. F. W.

P.S. The restoration of the cathedral is going on remarkably well. The tower is now brought to a height of 85 feet above the level of the nave, so that it may fairly be anticipated that, ere long, we shall see a counterpart of the late beautiful spire,—a faithful portrait of a departed friend.

THE FALL OF HOUSE IN ISLINGTON.

The inquiry into the circumstances attending the death of the two men caused by the fall of the Wheatsheaf public-house, mentioned in our last, was continued before the coroner on Monday last, at the Ship, Camden-street, and six of the workmen were examined. Their evidence showed that the centre piers on the ground-floor, 14 inches square, carrying arches, and bressummers behind the arches, buckled and failed. *Two courses of brickwork had been left out in the piers for the purpose of allowing the doorsteps to be put in.* The arches were 4 inches thick in cement: there were four courses of 4-inch work in front of the bressummers, of course without bond. It had been observed about a week before the accident that the arches had bulged slightly. The centres had been struck. If we are correct in these points (the principal witness, Meldrum, prevaricated very much), the cause of the unfortunate occurrence is quite clear. The inquiry was adjourned until Monday next.

At the meeting of the Metropolitan Board of Works, on the 4th inst.;—

Mr. Valliamy, superintending architect, made the following report respecting the fall:—

"From a careful examination of the facts I am decidedly of opinion that over haste was employed, not only in building the walls, but also in following up the other works, which would necessarily cause a great jar upon the unset and green brickwork. The ends of the floor joists rested upon the front wall, and a great many men were at work on all parts of the building. I am unable to say with certainty what was the immediate cause of the fall, but I think it very probable that one or more of the piers under the bressummer either sank or buckled."

A letter received from Mr. Moseley, the district surveyor, contained the following statement:—

"The whole of the work was executed, so far as completed, to the best of my belief in full accordance with all the rules and provisions of the Building Act. I attribute the failure to the want of the due and sufficient setting of the mortar and cement, arising from the state of the atmosphere, the rapidity of the execution, the vibration of the scaffolding, or perhaps the whole combined."

Both documents were referred to the Building Act committee.

CHURCH-BUILDING NEWS.

Rye.—The restoration of the window at the east end of St. Clare's chancel of Rye Church, has been executed by Mr. Smith. A similar restoration is in progress of the window of the south-east chancel (now used as the National and Church Sunday School rooms), the space having for many years been filled up with plaster. To effect this renovation about 60*l.* are required, of which sum 35*l.* have already been subscribed.

Christchurch.—The Rev. Zachary Nash, according to the *Athenæum*, collected 3,000*l.*, and applied it to the restoration of the church of Christchurch. Still, little more has been accomplished than the arrest of the decay. Where restorations could be effected, these have been carried out by Mr. Ferrey. The great work, however, of restoring to something of its old splendour one of the most magnificent of churches, singularly poor in local resources, is one to be effected by the public at large.

Woolston.—St. Mark's Church, which has just been erected at Woolston, by Mr. Bull, of Southampton, builder, after designs by Mr. White, of London, has been consecrated by the Bishop of Winchester. It consists of a nave, with north aisle and transept, and chancel, the arches on the south side being temporarily bricked in, and at present forming an arcade, in order to add a south aisle as soon as the funds will permit of this being done. The clerestory is lighted by three or four windows on each side, containing four lights, divided by mullions, with pierced headings. The roof is open, and the woodwork is intended to be stained when funds are in hand. The stone employed for the main body of the building is Swanage, the dressings being of Corsham Down. The inner walls and arches are faced with bricks of various tints, arranged in regular order, with a variety of patterns and bands, the pillars and capitals being of Bath and Tisbury stone. The capitals are not carved, but are left in such a state as to allow of this being done at some future period. In the chancel, the arches which separate it from the narrow chancel aisle are supported by single shafts of polished Devonshire marble. The entrance to the church is on the northern side at the western end, by a doorway beside the base of the unfinished tower. There is a temporary turret for the bell already hung. The sittings are in varnished open deal benches, and number about 300, some of which are free.

St. Helen's.—The church of St. Helen's has been re-opened by the Bishop of Worcester, after the insertion of a new east window and other works of restoration. The new window, which is of the Geometrical Decorated style, and consists of five lights with trefoil heads, and tracery above, has at present stained glass only in the tracery, though it is in contemplation also to fill up the five lights as soon as sufficient funds can be raised. The design and execution of the window were by Mr. Preedy, London, architect, as we have before stated. The work is a memorial to the late rector, the Rev. J. H. Wilding. In the centre at the head of the tracery is a circle, having twelve foliations or cuspings, and the subject of the design is the Ascension. On either side, lower down, are two smaller circles, with eight cuspings, each circle containing an angel, one with a harp and the other an organ. The architect named has also sent a design for a reredos, which has been approved of by the bishop, and will shortly be erected. The Nash monument on the north side of the communion table has been cleaned, painted, and restored, at the cost of Dr. Nash, by Mr. Stephens, sculptor.

Bath.—A vestry meeting has been held in the Abbey Church for the purpose of considering the specifications received from Mr. Scott of sundry necessary repairs to be done to the outside of the church. It was stated that Mr. Scott's estimate for the whole of the internal arrangements was 12,000*l.* If a stone roof were put up in the nave, to correspond with that in the choir, it was calculated that it would amount to 3,000*l.* out of the 12,000*l.*, and that the repair of the windows would cost about 2,300*l.*; but the present specifications did not take in the whole of the windows. A large portion of those not referred to were in a bad state, and to them something must be done. An estimate had also been made by Mr. Hill for re-erecting and improving the organ "so as to make it one of the finest ecclesiastical organs in the kingdom," for 1,200*l.* It was arranged that a committee should be formed as soon as the tenders for the work were received from the architect.

Rigsby (*Alford*).—The church at Rigsby, which was one of the oldest in this country, dating from before the Norman Conquest, being in a most dilapidated and dangerous state, was taken down in the early part of the present year. Sufficient funds were nearly collected to build a new church. This has been done under the directions of Mr. Fowler, of Louth, architect. The new church is built in the Norman style, of Ancaster stone, the outside being faced with white brick, ornamented by red brick. It has a circular window in the west front, filled with stained glass, the gift of Lady Mary Nisbet Hamilton: the three lancet windows in the apse are also filled with stained-glass memorial windows, the gift of Mr. Higgins. Another memorial window, the gift of Dr. West, is being prepared. The church will hold about 120 persons. The benches are of stained deal, and the pulpit is of Caen stone.

Fovant.—The parish church of Fovant has undergone complete renovation, principally by the assistance of the trustees of the Pembroke Estate, and is now re-opened. The church has been restored as nearly as possible according to the original design. As much of the old walls as possible has been preserved, but the roofs of the nave and chancel, which are waggon-headed in form, are new. During the progress of the restoration, considerable portions of Norman work were discovered, showing that a highly-decorated church in this Early style once occupied the site of the present edifice. Among these remains a Norman doorway was found in the south wall, so near to its present position that Mr. Wyatt, the architect, felt justified in using it as the entrance to the chancel aisle. The east window, which is of three lights, is in the Decorated style, and is filled with stained glass, by O'Connor, the design being copied from a picture by Guido, representing the Crucifixion in the centre compartment, with the Virgin Mary and St. John on either side, with angels above in the tracery. At the base of the window is a brass containing the following inscription:—"To the glory of God, and in memory of Sydney Lord Herbert, this window is erected by his widow." In a single-light window on the north side of the chancel is a figure of St. George, the patron of the church; and a little further westward, on the same side, is a two-light window, representing in one compartment the Saviour knocking at the door; with the words, "Behold, I stand at the door and knock;" and in the other compartment as the Good Shepherd, with a lamb in his arms. These two windows are also the gift of Lady Herbert, and are the work of Messrs.

Lavers & Barraud. The west window, which is of Perpendicular character, is of four lights. It is filled with stained glass representing the four Evangelists, in life size; and is the gift of the parishioners, "in memory of their friend and neighbour, Lord Herbert." The carving of the pulpit and of the rest of the work in the church is by Mr. S. Sansom, of London. The seats of the church are open, and are of stained deal, and varnished, all the doors of the edifice being of oak.

St. David's (Pembrokeshire).—In consequence of the dangerous condition of St. David's cathedral, as already noticed, it has been inspected by Mr. Scott, who has prepared a report in which he estimates the cost of its restoration at 30,000*l.* This report has just been laid before the public meeting of inhabitants of Carmarthenshire, announced to be held at Carmarthen. The bishop of the diocese presided. Lord Dynevor moved the first resolution:—"That the state of the Cathedral of St. David's, as described in Mr. Scott's report, renders it desirable that steps should be immediately taken with a view to its repair and restoration." His lordship pointed out that a portion of the tower of the cathedral, which was 700 years old, was crushed, and was only supported or "bolstered up" by the wall which abutted against it; two of the four supports of the tower being wholly untrustworthy. He thought that they might confine their yearly expenditure to 3,000*l.* or 4,000*l.*, and so extend the subscriptions over a number of years, the subscribers paying them by instalments. This resolution having been seconded by Mr. Pugh, M.P., Mr. Scourfield moved:—"That the portion of the work to be undertaken in the first instance include the repairs of the tower, and parts immediately in connexion with it, and the restoration of the choir or eastern arm of the cathedral." This resolution having been carried, Colonel Sir J. J. Hamilton suggested the erection of a new cathedral in a more central position in the diocese. He would contribute 1000*l.* towards the restoration of the cathedral as a parish church, and for the erection of a new cathedral in Carmarthen he was prepared to do a great deal more. Mr. Scott then addressed the meeting, explaining the state of the cathedral, which, he said, was at present not only in a dangerous, but a disgraceful condition. The tower was imminently dangerous. A committee was then appointed, including the bishop, the dean and chapter, and the archdeacon of the diocese, the members for the counties and boroughs, Earl Cawdor, Lord Dynevor, Mr. Beresford Hope, M.P., and other gentlemen. Some large subscriptions were announced, including 1,000*l.* each from the bishop and the dean and chapter, 500*l.* from Lord Dynevor, 300*l.* from the Rev. Sir Erasmus Williams, in addition to 200*l.* included in the dean and chapter's donation.

Liverpool.—The church erected at Tunnel-road, Edge-hill, and dedicated to St. Catherine, has been consecrated by the Bishop of Chester. The building is in the Early English style of architecture, built of brick, with Stourton stone facings, and erected on land belonging to the trustees of the late Mr. Thomas Earle. The late Lieut.-Colonel Adam S. Gladstone contributed 1,000*l.*, and the late Mr. William Gregson subscribed 600*l.* The building will accommodate 890, the seats in the gallery being free. Mr. J. D. Gee was the architect; and Messrs. Nicholson & Ayr were the contractors. The building was erected at a cost of 3,000*l.*

STAINED GLASS.

St. Mary's, Hulme.—Two more lights of the great east window of this church have been filled with stained glass, by Hardman, of Birmingham. These subjects are "The Baptism of our Lord," "Angels Ministering to Him after the Temptation," "The Marriage at Cana," "The Agony at Gethsemane," "Christ bearing the Cross," and "The Crucifixion." These form part of a series of eighteen subjects, all taken from the life of our Lord, which will fill the six lights of the window; the tracery being filled with the "evangelistic symbols," angels, emblems, and other devices. Four of the lights are now filled. The size of the window is 48 feet and 25 feet. The cost of the whole will not be less than 1,000*l.*, which has been undertaken by one member of the congregation.

Sedgefield Church.—A large number of the clergy of the diocese, including the bishop, have given one of the windows filled with stained glass in the north aisle of this church, as a memorial of affectionate respect and esteem for the Rev. T. L. Strong, the rector. The subjects chosen for illustration are "The Administration of Baptism" and "The Lord's Supper;" the lower part of the lights in the window beneath the chief subjects being filled in with "The Baptism of Cornelius" and "The Institution of the Passover." Messrs. Lavers & Barraud, of London, executed the work, under the direction of the Revs. Messrs. Park & Ford.

Sowerby Church, near Thirsk.—This church has been lately embellished by the insertion of three stained-glass memorial windows. One, consisting of two lights, is placed on the north side of the nave, opposite the south door of entrance, and forms a couplet. Each light contains a Scripture subject; that on the left representing "The Annunciation of the Virgin Mary;" the other, on the right, "The Saviour appearing to Mary Magdalene in the Garden, after his Resurrection." Above these, as well as below, occurs scroll work. Ornamental borders run round and enclose the whole. Another memorial window, of one light, is placed in the angle of the south transept, where it joins upon the nave, and is altogether of a different cast. It is geometrical in character, and surrounded by a border. The subject represented upon it is "The Woman touching the Hem of the Saviour's Garment;" above and below which is a medallion, enclosing a cross *pattée*. These windows have been erected by Mrs. George Holmes, in memory of relatives. The third memorial window, also of one light, is placed at the angle of the north transept, and is similar in character and design to the corresponding window in the south transept. The subject represented is "The Saviour as the good Shepherd;" having likewise, above and below, and enclosing, a cross *pattée*. This window was erected by subscription, as a tribute of respect to the memory of a churchwarden of the parish of Sowerby. The windows are of the Norman style of architecture; and the artists were Messrs. Warrington & Sons, of London, who also executed the triplet recently erected at the end of the north transept of this church, to the memory of several members of the Cayley family.

Old Church, Ayr.—Another memorial window has just been erected in this church, to the memory of the late Mr. John Boswell, of Garallan, by his fellow townsmen. The subjects in the twin lancet-lights of the window are, "Our Saviour weeping at the Tomb of Lazarus," and "Our Saviour raising Lazarus from the Dead." The work was done by Messrs. James Ballantine & Son, of Edinburgh. The colouring and ornamentation are in harmony with the other windows recently erected in the church by the same artists.

British Church, Riga.—By an accidental transposition of the printer, the large east window of this church, which was executed by Messrs. James Ballantine & Son, of Edinburgh, is made to appear as if it had been the work of other artists previously named.

THE METROPOLITAN SEWAGE QUESTION.

THE Metropolitan Board of Works have resolved,—

"That, inasmuch as the Board are bound by various provisions of the several enactments under which their works are carried on so to conduct them as not to cause a nuisance, and that the profitable employment of sewage under the schemes proposed in the tender may involve its application to the surface of the land on an extensive scale, they cannot be parties to any agreement for such application unless they have clear information on the localities, nature, and extent of the land to be so dealt with, and satisfactory assurance that the processes to be employed are such as not to cause a nuisance; that none of the tenders received being sufficiently clear upon this point, the Board therefore refer them generally to the Main Drainage Committee, in order to obtain essential and detailed information, and to confer with the several promoters as to other conditions of the advertisements upon which their proposals are neither full nor explicit, and generally to consider as to the utilisation of the sewage."

The vestry of St. James's, Westminster, at a special meeting, also to consider the tenders, resolved to urge their representative at the Board to oppose the granting of any concession until further opportunity for inquiring into the plan of Mr. Ellis has been afforded.

Meantime this gentleman is still busy propagating his ideas through the press, and has issued through Ward, of Bartholomew Close, publisher, a new pamphlet on the subject, titled "The Sewage of the Metropolis, and how to utilise it."

Mr. James Edmeston, architect, has also published a pamphlet, titled "How can the Town Sewage be best preserved and utilised," in which he urges an adaptation of the Paris system to London; but with the best will to consider any proposition of Mr. Edmeston's, we cannot listen for a moment to the adoption of any modification of the night-stool system here: its unwholesome and offensive results in Paris afford precisely one of the strongest arguments against it in our opinion.

THE PROPOSED SCHEME FOR RAISING HOLBORN VALLEY.*

SIR,—The Corporation plan for raising Holborn valley is now before the public. Its chief merit,—if a merit it be,—consists in separating the two great lines of traffic from each other, the Holborn line being raised 25 feet.

Now, Sir, permit me to ask what would the public say to any scheme that proposed raising the New-road where it passes Tottenham and the Hampstead roads 25 feet, or to the raising Oxford-street at the Circus, the same height above Regent-street, obliging all traffickers to find their way round, up easy ascents, to the higher level? I would not be the person to propose such a scheme. The plan places a viaduct bridge over the valley at the Holborn end, allowing 21 feet headway: it raises the valley beneath 6 feet. Not one of its hills is made level. Farringdon Market is shut out completely from Holborn; but considerable attention has been given to the formation of approaches to the new Meat and Poultry Market. Now, in the words of an old song,

> "It is well to be honest and true,
> And it is well to be off with an old love
> Before you are on with the new."

Farringdon Market is placed upon a steep hill: two of its three sides are closed, from the difficulty of access. Its return of profit last year to the Corporation was 40*l.*

> Now is it either honest or true
> To knock an old market down
> As soon as you think of a new?

To carry out the Corporation scheme, no less a number than 646 houses are required to be removed. If these are all to be purchased and paid for at the same rate as those obtained by the London, Chatham, and Dover Railway Company, in their passage through the City, over five million sterling will be required, and this before a pound is laid out in reconstructing the roads. The plan is as objectionable as any that has been made for the purpose during the last forty years. It is on the old and fallacious principle that the valley should be attacked at one of its cross sections, instead of at its main centre line, and success, therefore, is impossible.

By raising the valley from north to south, all the hills are levelled, the market is rendered easy of access, and the Holborn end made another Regent's-circus. It can be done without removing a single householder, and at an expense of less than half a million: side streets to both old and new markets can easily be formed; and the plan, moreover, would return interest for the money expended.

C. J. RICHARDSON.

* We print the following from one who has given some attention to the subject, with the view of aiding in the ventilation of a question of enormous magnitude, and not with any desire to throw obstacles in the way of the Corporation's proceedings.

CONSTRUCTION OF TEMPORARY BRIDGES.

IN a recent impression of the *Builder* you gave an account of a suspension-bridge lately put up by the Royal Engineers at Chatham: allow me to give you a description of one erected by the Volunteer Engineers whom I have the honour to command. The bridge was put up in the month of June, on the occasion of a field-day at Torquay. The spot selected was a chasm between the mainland and a detached headland or rock, distant 65 feet. Sergeant-Major (R.E.) John Jones's iron gabion bands were used as the supports; but as the materials supplied by the Government were limited, viz., only 200 bands, without any superstructure, the *gabion pickets*, interwoven with the bands, as used in the construction of gabions, were adopted to form the platform of the bridge; and, for infantry purposes on a small scale, will be found very efficacious, and possessing this advantage, that nothing but the gabion-bands need be taken to encumber the troops. A sufficient number of gabion bands to construct a bridge of 50 feet span may be stowed in a space of *four cubic feet*.

The bridge consisted of ten lines of gabion bands alternately double and single: each band was united to the adjoining one with the slot and button on the bands themselves, but for additional security I had the double bands fastened with the

small nuts and screws used for fastening eaves gutters. The end bands formed loops, which were passed over straining pieces, and with blocks and tackle were strained and secured to two posts at each end, firmly driven into the ground in a raking position. This bridge was twice erected by about twenty volunteer engineers in two hours, and was used by them and the public for approach to the rock for several weeks with as many as twelve persons at a time upon it without the least sign of weakness being apparent. The bridge was constructed exactly similar to a *gabion*, being 2 feet 9 inches wide, and a continuous piece of *basket* work. With the exception of the gabion bands and straining tackle, the materials for a bridge of this description may be generally obtained in the field.

Edward Appleton, F.I.B.A.
Officer commanding 1st Devon Volunteer Engineers.

HOW SHALL WE BUILD OUR CHURCHES?

Some time in 1851 I addressed, through your columns, a challenge to the late Mr. Welby Pugin, to meet me before the Institute of British Architects, and discuss, *vivâ voce*, the points in dispute between Protestants and Papists relative to the arrangements of their respective churches. Mr. Pugin replied, through the same medium, declining my challenge, but stating, that his forthcoming work on "Chancel Screens" would contain a refutation of my views.

On turning to page 22 of his book, under the head, "On Screens in Italy and Spain," I found the following passage:—

"I commence with Italy, first, because it has been the fountain from whence Catholic truth has flowed to other parts of Christendom: and secondly, as I believe it is a very general delusion that screens formed no part of the fittings of a Roman church.

As an overwhelming contradiction to this often-repeated error, I produce a representation of the great screen in old St. Peter's, from the most irrefragible authority, from which it will be seen, that a *double* marble wall was erected, about 6 feet high and 12 feet apart; that on these walls stood twelve porphyry pillars, supporting a transverse cornice, surmounted with standards for lights. Moreover, at the necks of these pillars, under the caps, rods were extended, for the suspension of lamps, which were kept perpetually burning, in honour of the apostles, whose *relics* lay beneath the high altar.

The altar, as will be seen by the plan, stood considerably within the screen, surrounded by pillars, and covered by a ciborium. The back of the altar is turned towards the nave, with a cross and candlesticks upon it, and must have completely concealed the celebrant from the people: behind all this is seen the great apse, with the cathedra for the pope, mosaic ceiling, and usual decorations.

This is the most important authority for the use of screens in the ancient Roman Church; and the dignity and sanctity of the old basilica of St. Peter was so great, that it would be naturally considered as the type for other churches. Moreover, if we except the details which belong to the early period of its erection, it is a perfect type of a pointed screen,—convert the twelve pillars into shafts, surmount them with arches, and terminate them by a bratishing, and we have a work of the Mediæval period."

Mr. Pugin's plates, in illustration of this passage, show the original chancel with the simple old *stone seats*, at its extreme end, and a modern screened affair in front, shutting out the old seats from sight and use.

Again addressing Mr. Pugin in the *Builder*, I pointed out that the youngest clerk in his office ought to be aware that the *style* of the pretended old screen fixed the date of its erection in the fifteenth century; and that he, Mr. Pugin, knew this quite as well as I did, and therefore must accept my congratulations on "belonging to a 'church' which would give him absolution for committing such a bare-faced literary fraud in her honour."

Repeatedly since then, in letters, which have been copied and re-copied, and have thus traversed the kingdom, I have re-stated the facts I have discovered in relation to the old churches, and challenge denial of any one of them.

The Rev. Mr. Purton, in your paper, at last steps into the ring, picks up my glove, and proclaims his defiance to my assertion that "the original place for the 'Lord's table' was in the middle of the church."

Unfortunately for Mr. Purton, he has ventured to bring forward a writer of the fourth century to back his own assertion; and Eusebius, in Mr. Purton's hands, is made to speak exactly the contrary to what he really wrote.

To do my opponent justice, I must quote his own words:—

"The earliest detailed description we have of a Christian temple is given by Eusebius in Book X., chap. 4, of his 'Ecclesiastical History,' written A.D. 325; in which he gives an account of the new church at Tyre, consecrated A.D. 306. After speaking of the atrium, with its cloisters, the baptistery, porticoes, vestibule, and nave, he comes to the bema. This, he says, 'he' (the founder) 'adorned with lofty thrones in honour of those who preside; and also seats, decently arranged throughout' (*i.e.* all round) 'the whole, and at last placed *the holy altar* in the middle. And *that this again might be inaccessible to the multitude, he enclosed it with frame lattice-work, accurately wrought with ingenious sculpture, presenting an admirable sight to the beholders.*" "Here," continues Mr. Purton, "we have express mention of the holy altar standing 'in the middle' of the apse, shut out and made 'inaccessible' from the nave by the 'cancelli.'"

Now, then, let us hear Eusebius himself: "Furthermore, when he had thus finished the Temple, and adorned it with thrones, which he erected in the highest or chiefest place, in honour of the presidents, and also with lower seats, placed in decent order *all over the Temple*. He at last placed the holy of holies, to wit, the altar, *in the middle*, which he made every way inaccessible to the multitude by a separation of network of wood, wrought and carved with such accurate skill and art as makes as wonderful a spectacle as eyes can behold."

It will be observed that Eusebius, first mentioning the "presidents'" seats, which invariably stood at the extreme end of the church, then proceeds to describe the seats for the congregation all over the Temple, and at last the altar "in the *middle*."

By dexterously substituting "bema" for "temple," Mr. Purton converts an authority, which fully establishes my statement, into one diametrically opposed to it.

It is true that Eusebius uses the terms "altar" and "temple," and that other writers of the period do so also. Chrysostom taxes the Christians of his day with being more than half Jews in their opinion, and a fierce controversy prevailed as to whether Christian rites and ceremonies had their origin in "temple" or "synagogue" models; the archbishop in question taking the latter view. It is quite clear that such a dispute arose from the efforts, first, of individual bishops, and alternately of the whole order, to change their original position of officers in a community of "brethren" and equals, into that of lords and masters.

Every type and symbol referred to by the Apostles, and every word used by them in its direct application, conveyed the assurance that the Christian community was a royal company of "kings and priests," and that thus, as Ireneus subsequently assures them, every man was of the "sacerdotal order." There is not even the shadow of a doubt that the model selected, and so universally used, was chosen because it illustrated and accommodated the ideal of a free and equal assemblage.

There is a certain sense of "fitness of things," which produces like results in all ages and countries. Thus all "temples" have this one arrangement in common, that they are places designed exclusively for the reception of a "caste," and illustrate the idea that the people could only address the object of their worship through the intervention of priests. On the other hand, a free people invariably design open halls, with nothing in them to indicate or accommodate a "caste."

If the primitive Christians had not found such a model in the Roman basilica ready to their hands, they would assuredly have originated one exactly similar.

There cannot be a more striking illustration of the force of this universal principle, than the fact that the "Knights Templars," who claimed to be all "priests," in the church they designed for their own use, laid aside the Mediæval model, and built a simple hall. The Temple Church in London is thus purely primitive and Protestant in its principle of arrangement.

All the writers on church antiquities I have met with fall alike into the error of mixing up, in one description, arrangements and names, of different dates, and due to two totally opposite principles of arrangement.

The ludicrous incongruity of using "holy of holies" and "chancel platform;" "temple" and "conventus," or "meeting hall;" "table" and "altar," as synonomous terms never seems to have struck them; and thus the sight of a genuine old church, stripped of its modern additions, creates as much astonishment in a certain class, as Lord Dundreary experienced when the whole article was brought to his notice—"Oh! that's a cucumber, is it? Well, I always thought they grew in slices."

The passage of Eusebius I have quoted, taken in connexion with the existing state of the Constantine churches, explains the whole mystery which had long puzzled me, both as an architect and a student of Christianity.

I could easily bring forward a chain of proof that the Christian system demanded a "table" in the midst of the people. Eusebius proves that in his day this custom still existed, and he designates the table or "altar," as he chooses to call it, the "Holy of Holies." It is immaterial to the argument at what precise period this "table" was moved from its time-honoured position, among the people, on to the minister's platform: it is indisputable that no "chancel" in any church previous to the tenth century was ever designed for any other use than that of giving raised seats to the presiding officers; and that wherever such a spot was made to accommodate the "table" it was by subsequent enlargement; and then the "table," or stone tomb, as it often became after the fourth century, took with it the exaggerated terms of sanctity rhetorically applied to it.

When taunted by their Pagan neighbours with having no "altar," the Primitive Christians candidly admitted the impeachment, in the well-known words—"Altars and shrines have we none."

They knew well that the "spiritual sacrifices" they offered up required a "spiritual altar,"—"Christ." There was an exact parallelism between the symbols last referred to and those gathered from the "Temple." Thus "the Father," the Great Architect of the universe, provides the site,—the "Son of God" the "rock,"—which, in His earthly nature the son of a builder he builds Himself up into a perfect "Temple" starting the work of the great aggregate spiritual "Temple" as the first individual perfect living "Temple," the "chief corner-stone," with "the apostles and prophets" as "foundation-stones" on which each successive stone was to be laid. The apostles, as the first successful "master builders," were permitted to draw up the rules by which the future "stones" were to be squared and every future "stone" was to be bound and bonded in to the "walls of salvation," if fulfilling the conditions of the apostolical specifications, and using as materials the "gold and silver" of God's words, and not the "hay and straw" rubbish of rascally "contractors" offering to do the job at cheaper terms.

If laid within the "lines of judgment," and bearing the test of the "plummet righteousness" every successive stone was also in itself a perfect living "Temple,"—Christ its "rock," its pattern its "altar," its "door;" faith and repentance being the "keys" of admission into the outer "sanctuary," the Church on earth; and "His flesh" its "veil," through which, at last, entrance is to be given into the presence of the real "Holy of Holies,"—"God." Of such a "Temple" who can be the "priest," save Him who builds *Himself* up into a "Holy Temple to the Lord"?

The question in dispute is clearly one in which the opinion of architects is valuable, because it is utterly impossible for any honest man, familiar with antiquities, and aware therefore of the inevitable nature of religious customs, not to see that people trained in temple rites and customs would as soon have thought of stripping the skin from their bodies as of changing a model arranged solely for sarcerdotal priests and a material sacrificial for an open hall, with the table, or "Holy of Holies," as Eusebius calls it, in the *midst of the people*.

It is clearly for the advocates of the materialisation of Christian spritual things to account for the interregnum, however short it might be, between the old use of "temples" and the conversion, during the Middle Ages, of "chancels" into "temples," added on to a "meeting hall." At events they have got this FACT to dispose of, that every single thing, in any church before the tenth century, which now appears to favour their views, came to it as an addition of comparatively late date.

That a rite indicative of the kingly dignity of those sharing in it was converted into a symbol of "bondage," and that those who were at one period the "elder brethren" of the people, came in time the "lords over God's heritage," is an historical fact, as true as that one, even of the Apostles, betrayed his Master with a kiss.

Mr. Purton is not content with being wrong in one instance: nothing short of total error will content him. It is not true that only in the "adapted basilicas," the orientation principle was avoided: there is, I believe, no single instance of a church erected by the early Christians standing east and west, without the entrance being at the east end, the chancel at the west.

It is certainly amusing to see Mr. Pur

arguing, all through his letter, that no change had occurred between a Mediæval chancel and an ancient one; and then stating that it is an "insult" to your readers to imagine that the Church of England, in directing that the chancels "should be as in times past," meant the old chancels. Does Mr. Purton know or forget that the Church of England condemns as "idolatrous and blasphemous" those doctrines of Rome which originated the Mediæval (so called) "chancels," and then passed an equally strong judgment on them, and not merely in words, but by deeds also deprived them of their chief distinctive features, ordering all "screens" to be taken down, all "altars" to be destroyed, and the "table," when required for use, to be brought out of the "chancel" into the "nave"?

I leave it to your readers to decide who it is that has not only insulted their common sense, but their common honesty.

JOHN ELLIOTT.

ARCHITECTURAL LIBRARIES.

"ARCHITECTUS" has drawn attention, through your columns, to the excellent collection of books in the South Kensington Museum.

May I be allowed to point out another very valuable, and perhaps more accessible, collection, which includes a large number of architectural works, but is far less known and used than it deserves. I allude to the library of the Commissioners of Patents.

This library is in the heart of London, in Southampton-buildings, Chancery-lane; and it is entirely free, any person having liberty to consult it on entering his name in a book. Besides standard volumes, nearly if not quite all the architectural and engineering periodicals published in England and on the Continent are to be found there; and a most attentive and efficient staff of assistants will afford the reader every facility he can require.

It is also not, I believe, generally known that the splendid collection of maps belonging to the Royal Geographical Society, in Whitehall-place, is open to the use of all applicants without fee or introduction: such was, and I believe still is, the case.

VULCAN.

ARTISTIC NATURAL THEOLOGY.

SIR,—The subject of what your correspondent "X" terms "Artistic Natural Theology," has not been so neglected as he thinks. The paper read by Mr. Cave Thomas at the Antwerp Congress grasps this subject, and the views it contained were deemed of sufficient importance to obtain for it the distinction of being printed in two languages in the *Comple Rendu* of the Congress, and at full length in the *Builder*. This paper was necessarily but a brief sketch of those views which have since been published *in extenso* by Ellis of King-street, Covent Garden, under the title of "The Holiness of Beauty and the Conformation of the Material by the Spiritual," reviewed in your columns, and those of other leading journals.

Mr. Thomas's book deserves to be read, and I commend it to the notice of those who may be interested in the subject of your correspondent "X.'s" letter of last week. I hear of a work entitled "Formative Ethics," as "preparing for the press," by the same author, and which, I imagine, bears upon the same subject.

DELTA.

BLIND LOCAL BOARDS.

SIR,—You have shown up the doings of "blind builders;" now, I think there are others in the dark as well as some builders are, as the following will show: it is copied from the *Oxford Journal*, of the 28th ult.:—

"*Witney.—Local Board.*—Mr. THOMAS ANDREWS, *baker*, of this town, has been appointed by the Board their Surveyor and Collector."

Whatever shall we hear of next? Surely there is a wide difference between bread-making and road-making, without saying anything about many other duties requiring the attention of a surveyor to a local board, if carried out efficiently.

EVERY ONE TO HIS OWN TRADE.

INSULT TO THE PROFESSION.*

SIR,—The surveyor to the Board of Health at Ely has very wisely obtained a better situation, and resigned his old berth, where he has had no sinecure. The nature and amount of the work required from that officer is detailed in the advertisement in your journal of last week; whence it may be learned, that the district comprises 17,000 acres, 1,600 houses, and 14¾ miles of highways, and that the happy man, who, basking in the smiles of the Board, may be favoured with the appointment, is to hold three offices rolled into one; viz., "Surveyor," "Inspector of Nuisances," and "Superintendent of Highways;" *is to give his whole time to the Board*, and to receive the munificent salary of 120*l.*, being at the rate of 1¾d. per acre per annum over which he is to exercise his vigilance, and for which he will be permitted to do all the other duties gratis. But, in case it may be thought that this number of broad acres is merely placed under his charge, so as to give him an opportunity of disporting himself over them with his greyhounds, just by way of obtaining healthy recreation, and that his work is confined to the urban part of the district, then his pay will be at the rate of 1s. 6d. per house per annum, and no pay for attending to the 14¼ miles of road, or the other duties which are detailed in the following schedule:—

1. All the duties comprised in the Public Health Act, 1848.
2. Do. in the General Highway Act.
3. Do. in the Nuisances Removal Act, 1855.
4. Do. in the Local Government Act, 1858.
5. Do. in the several Acts incorporated with the foregoing.

It is indispensable that the surveyor must be familiar with,—

6. The construction and working of steam engines.
7. Furnaces for the consumption of smoke.
8. Filters.
9. Works of water-supply.
10. Sewerage by tubular pipes.
11. House drainage.
12. The making and management of roads.
13. Streets.
14. Pavements.
15. Scavengering.
16. The taking of levels.
17. The value of labour and materials.
18. The preparation of plans.
19. Do. of specifications.
20. Do. of estimates.
21. All such works as come within the province of a local board of health.

When the expense of a professional education, and the heavy responsibilities of the office, are considered, can it be expected that the Board, by offering a minimum of salary for a maximum of work, will be likely to obtain the services of an educated and properly qualified gentleman? Certainly not, if the profession have any respect for themselves.

This grinding transaction is the more surprising from the fact that many of the cathedral dignitaries and their functionaries are members of the Board, and they have never rendered themselves notorious by being underpaid themselves for the amount of work they do, or for giving to their superiors "a bond for the due performance of the duties" of their office, although they demand one from their surveyor, "himself in 200*l.* and two sureties of 100*l.* each."

When a man is precluded by the Board from opening an office on his own account, and is thus bound hand and foot, and overworked, who is to decide that he has duly performed the duties of his office?

When I remember the profuse liberality of my monks of old, who believed in and acted up to the Divine injunction, "*Do as you would be done by*," and compare that with the wretched parsimony of their more wealthy descendants, I am in sorrow constrained to ejaculate, "What a falling off is there!"

THE SHADE OF ETHELDREDA.

* This is one of five indignant letters on the same subject.—ED.

PATENTS CONNECTED WITH BUILDING.

RAIN-WATER PIPES FOR BUILDINGS.—*J. Taylor, jun.* Dated 27th March, 1863.—The patentee forms the lowest length of the number of lengths of pipe which together compose a rain-water pipe, and the bottom end of which descends into the trap, of greater diameter than the other pipes, in order that if there be any obstruction in the trap, or in the pipe, this lowest length may be slid upwards over the length of pipe above it, and thus leave a space between the trap and the lower end of the rain-water pipe; so that any matter that had accumulated in the trap can then be readily removed from it, or any obstruction in the pipe can be pushed out at its end. The movable length of pipe is formed with lugs or projections upon it, by which the pipe when raised can be held up, and by which also it is carried when in its lowest position. The rain-water pipes of buildings may also in a similar manner be made with one of the intermediate lengths of the pipe movable, and this is a convenient arrangement when no trap is employed. For this purpose the length of pipe which is to be movable is made of greater diameter than the other pipes, so that it may be slid over the pipe above, but at its lower end it is contracted, so that it may there enter into the socket of the pipe below it. The movable length of pipe is, as in the former case, made with projections upon it, by which the pipe when raised can be retained up.

MANUFACTURE OF TILES.—*W. Clark.* A communication. Dated 23rd April, 1863.—This invention consists, first, of cylinders having circular grooves, and gearing one with the other, for cutting up and crushing the material to be used. Secondly the apparatus is furnished with a pressing box and draw plate, which receives the material from the cylinders and draws it out, so as to form a cake or sheet, which is then hardened by pressure exerted by an eccentric receiving motion from a piston to which it is jointed. Thirdly, the apparatus is furnished with a cast-iron mould for receiving the sheet of clay, in order to form the tiles. This mould is placed in a press acting vertically, in which the sheet of clay receives an energetic pressure, which reduces it one-third of its thickness, and so causes it to take the exact form of the cast-iron mould. Tiles manufactured in this way are then trimmed round, and exposed for a few days only to the air, in order to partially dry them, after which they are placed in ovens to be baked, as in ordinary cases.

Books Received.

The New Path. 1 *to* 6. 97 East Twenty-ninth-street, New York, U.S.

THIS is a monthly publication, 8vo. in size, avowedly to spread the principles of the so-called pre-Raffaellite School in America. It proceeds from an "Association for the Advancement of Truth in Art." The views of the founders may be learnt from this paragraph in the Introductory article:—

"The new path into which the best minds of the present day summon the young to enter, is the earnest loving study of God's work of nature. This is not only taught to the artist, but to the writer, the poet, and the teacher. It is the moving spirit of the age in which we live; an age greater in all essentials than any that has preceded it, second to none in the purity and strength of its religious ideas, to its love of man, which is the best fruit of its love of God, in its tolerance, its enthusiasm, its energy, and in the wide-spread diffusion of wealth and education, which are saving it from selfishness and dilettanteism.

A few individuals persuaded of these things have joined themselves in a society, for mutual strength, and for the better dissemination of these ideas. They propose to print, from month to month, a journal, in which they can communicate with others who think with them, or may be led to do so."

The writing at present is for the most part a reflection of much that has been said in England.

VARIORUM.

The Christmas number of *All the Year Round*, conducted by one to whom we all owe a great debt for healthful delight, one who has given us more ideal friends to love than any other living writer, the perennially genial Charles Dickens, does not need mention by us, the large majority of English readers looking for it as a matter of course, and intending to buy it, quite sure of getting much more than value for the 4d. expended on it. Last year, if we remember rightly, the sale reached 200,000 copies. We shall not be astonished if it touch a quarter of a million this. Suffice it for us to say that it is called "Mrs. Lirriper's Lodgings" (as if any one did not know it?), and that besides the hearty proprietor who, in the shape of "me and the major," keeps house characteristically, every floor in that No. 81, Norfolk-street, Strand, is occupied by a good hand, who does his best to make the "Lodgings" agreeable. We see with pleasure, and go out of our way to mention it, that Mr. Dickens is about to issue a new serial story in parts, uniform with the original edition of the immortal "Pickwick."——Messrs. De la Rue & Co. have published their elegant little calendars and pocket-books, with indelible diary, the latter of all sizes in leather and satin; dainty books for the daintiest lady. They are edited by Mr. Glaisher, and contain a photograph of the moon, with a notice of our Satellite, by Mr. Hind. —— *Fraser's Magazine* has a well-timed article under the heading "Plays, Players, and Critics," directed against the preposterous praise mistakenly given lately to some idols of the hour, and calling at the close, as we have before now desired, for the foundation of a theatre where the histrionic art might be maintained at its highest level aloof from sordid aims. The writer suggests that this would be the best monument to mark the tercentenary of Shaks-

peare's birth.——The *Ecclesiologist* has an illustrated notice of the Dutch church, Austin Friars. ——The bound volume III. of "The Children's Friend" (Seeley), gives for 1s. 6d. a large number of admirable illustrations, with moral and religious stories, maxims, and anecdotes. It must need an immense circulation to pay the cost. The Hieroglyphical Readings are a good notion; well calculated to exercise the powers of children. ——*The Band of Hope Review* (Partridge) has also the advantage of very excellent illustrations. The part for the year, with a coloured cover, includes a capital likeness of George Cruikshank, to whom it is dedicated.——*Young England* (Tweedie), maintains its course, and justifies the good things that have been said of it in many quarters.——The "Publishers' Circular," for the current month, contains with its usual lists, a large number of engravings from illustrated works of the season.——Under the title, "The City Diary and Almanac for 1864," a new diary and year-book, specially adapted to the citizens of London, has made its appearance. It comprises the names and addresses of all the members of the corporation, the City offices, courts of law, unions, halls or offices of the civic companies, with the clubs, presidents and officers of the royal hospitals, ward clerks and beadles, a calendar of local and general events, and a mass of other matter, in a convenient form for reference. The space given for each day is scarcely enough. The Diary is in a stout cover, and interleaved with blotting-paper.—— The Christmas number of "London Society" (a second number in the month) is singularly rich in illustrations, and has some very good stories. Its cheapness is marvellous.

Miscellanea.

Petroleum.—American rock-oil is now exported to almost every quarter of the globe. From the 1st of January until the close of October, 1862, there were 5,195,481 gallons shipped from New York alone. For the same period this year, New York has exported 15,503,166 gallons; Philadelphia, 4,268,244 gallons; Boston, 1,604,846 gallons; Baltimore, 806,961 gallons. In round numbers, the total value of the exports from the ports above-named, from January 1 until the close of October, will not fall short of 10,000,000 dollars.

Shakspeare's Celebration.—At the general meeting of the National Shakspeare Committee, held on Monday last, it was announced that the Archbishop of Canterbury, the Archbishop of Dublin, the Duke of Devonshire, Lord Brougham, and the Lord Chief Baron of the Exchequer, had accepted office as vice-presidents of the Association. A site committee was appointed, "to consider the principles which should govern the selection of a site for a Shakspeare memorial, to inquire into the number of appropriate sites, and ascertain which of them may be obtained, and on what conditions, for the purpose of erecting a public monument of a large and noble character."

Bois de Boulogne Hotel.—The directors of the Bois de Boulogne Hotel and Land Company have appointed as their architect Mr. John Giles, of Verulam-buildings, Gray's Inn. The intention of the company, as we have before noticed, is to erect two new boulevards and a hotel, which is to be the "Star and Garter" of Paris; upon land overlooking the Seine at an easy drive from Paris through the Bois de Boulogne. The amount of land ceded to the company is upwards of 130 acres, part to be laid out and let to private persons and speculators, and part to be covered by the new boulevards and hotel. The situation is one of the most beautiful near Paris, and the land is said to be moderate in price.

The Wire-fence Trap for Fox and Hare Hunters.—Farmers have discovered that wire-fencing is a cheaper and more effectual fencing for fields than post and rail fencing, and are fast covering the country with what the hunting gentry regard as little better than men and horse traps; because they cannot clear what they can scarcely see, we presume, and are hence effectually hindered from encroaching on the farmers' fields. Threats of coercion have been uttered by some who fear that an end is about to be put to hunting in the field; but others have pointed out that such threats are of no force, and advise a friendly understanding with the farmers and the temporary removal of the fences after the crops are off the ground, or from November to April, the removal and replacement to be at the cost of the sportsmen.

A Big Stick of Timber.—Some time ago a splendid stick of white oak timber was landed at the Globe Works, Boston. It was one of the largest ever brought into Boston. It measured 66 feet in length, and was hewn up square, on the average, 28 inches by 29 inches. It contained 370 cubic feet. Its actual weight would not be less than 12 tons. It was brought from the State of New York.

The Corporate Income of Liverpool.—The net income of the corporation of Liverpool for the year has been 124,528*l.*, and the expenditure classified as obligatory amounted to 91,471*l.*, leaving a surplus, in round numbers, of 33,056*l.* The following payments have been made out of the surplus for the year ending August, 1863:— General improvements, 13,689*l.*; Botanic Gardens, 1,500*l.*; public schools, 2,500*l.*; park, 500*l.*; new baths, Everton, 425*l.*; in aid of the lighting rate, 13,700*l.*; in aid of the fire-police rate, 1,531*l.*

Hebrew Monuments and the Jews.—Certain discussions at the Institute relative to the age of Hebrew monuments, have suggested a new exploration of Jerusalem and other cities in Palestine. M. de Sauley, Abbé Michon, and Mr. Saltzmann start this month on this interesting expedition. The 20,000 francs prize decreed by the Emperor for the most important discovery in science, was adjudged this year by the Institute to M. Oppert, a Jew, for his persevering labours and success in decyphering the cuneiform inscriptions. The coincidence is striking, that a Jew should be the unfolder of Babylonian and Assyrian documents. *Letter from Paris.*

The New Act on Savings' Banks.—On Saturday week, the new Act on Savings' Banks, passed in the late session, came into operation. The law is now amended and consolidated into one statute. The new Act is not to affect Post-office Savings' Banks. The interest to be paid by the Government to the trustees is to be 3*l.* 5s. per cent. per annum, and the interest to depositors is not to exceed 3*l.* 0s. 10d. per cent. Infants and married women can make deposits, and should the husbands of the latter give notice, the money is to be paid to them. All depositors are restricted to one savings' bank, on pain of forfeiture. The interest to be calculated half-yearly, on the 20th November and the 20th May, and to be added to the principal. No new bank is to be formed without the approval of the National Debt Commissioners. The rules are to be certified by the barrister appointed. In the event of death or bankruptcy of any officer holding money, the trustees are to be the first paid out of the estate.

Restoration of St. Mary Redcliff Church, Bristol.—The committee of the Canynge Society, in a report they have just issued, state that, "in consequence of the severe domestic affliction under which the president, S. W. Lucas, esq., had been suffering, it was found impossible to make the necessary arrangements for holding the general meeting during the last summer; and as Mr. Lucas kindly consented to continue president until after the next anniversary, it has been determined to postpone the meeting until 1864, when it is hoped, as a slight acknowledgment of Mr. Lucas's munificent donation towards the restoration fund, that all those who are interested in this work will support him by their presence. The committee are happy to announce that since their last report the restoration of the church has steadily progressed. The north side of the lady-chapel, the whole of the flying buttresses of the clerestory, six of the side windows, the large north window, and the exterior end of the north transept, are completed. The ceiling of the north transept has been cleaned and restored: the columns of the chancel have been restored; also one bay of the screen on the north side. The parapet of the tower, which was in an unsafe state, has been repaired. The north-west clerestory is now in progress. The flying buttresses are completed, with the jambs and arches, and the panel work above is in course of restoration. The east window of the north chancel aisle, intended as the Handel commemoration window, is now in hand by Messrs. Clayton & Bell. All the old pews have been removed, and the paving made good, ready to receive the new seats. A new Pennant stone staircase to the organ gallery has been erected. Seeing the magnitude and importance of the work in which the restoration committee are engaged, it behoves the Society to continue its efforts in providing the necessary funds." The subscriptions for 1862 amounted to 152*l.* 16s., and the donations during the same period to 65*l.* 9s. 10d., which includes a collection of 39*l.* 2s. 10d., at St. Mary Redcliff, after a sermon by the bishop.

Steam Cultivation in Egypt.—A considerable number of steam-ploughs and other implements have been sent to Egypt, with a view of preparing the land for the growth of cotton.

Proposed Hotel for Eastbourne.—A new hotel, with baths, is shortly to be erected at Eastbourne, the drawings and particulars being now far advanced. The site selected is on rising ground westward of the Grand Parade, the soil being the green sandstone rock. The frontage towards the sea is 230 feet, and that towards the roads, right and left, which flank it, 110 feet. The new part of Eastbourne where this hotel is to be erected has a series of terraces opposite the sea, rising one above the other, and which make upon the stranger a strong impression. The estimated cost of the building is 30,000*l.*, and the architect is Mr. Knightley, of London.

Townhalls.—The erection of a townhall for Edinburgh is mooted in the *Scotsman*. Mr. Rhind, the architect, proposes to acquire from the Bank of Scotland the ground which belongs to them to the east of their head-office, and to construct there a terrace to run parallel with North Bank-street, diverging to the south in a new street which he proposes to form immediately opposite St. Giles's Church. To the south of the new terrace Mr. Rhind proposes to erect the town-hall, with its front facing Prince's-street, and the architecture is to be of such a nature as will be in keeping with its surroundings. Other portions of the suggestion provide sites for Trinity College Church, the Albert Memorial, &c.——The Treasury, it is understood, will give 3,000*l.* towards a town-hall, at Merthyr, in Glamorganshire, Wales, for the accommodation of the County Court Judge, offices, &c. A Government official has inspected the proposed site, opposite the Castle Hotel, and gives a favourable report.

Ventilating Mines.—To ventilate mines by means of steam and heated air, without the use of open fires and furnaces, has been provisionally specified by Messrs. Evans, of Cefn Mawr, and Griffiths, of Merthyr Tydvil. They propose to erect, contiguous to the upper part of the upcast shaft, a tower or structure open at the top (except as hereafter stated), and they lead from the lower part of this hot-air tubes in communication with a fire-clay pipe, formed at one or each side of this furnace in the form of a channel, the air in the pipe being thus heated in the furnace, and supplying the interior of the tower in the lower part; and they prefer to carry a steam-pipe from the top of the said steam-boiler into an upper point of the interior of the said tower, at the end of which steam-pipe they provide a steam-box, with a ring of jet-pipes projecting upwards, and at the top of the tower there is an inverted cone, for regulating the draught. The bottom of the tower is made inclining to the centre, so as to form a drain, to carry off any condensed water. Instead of placing the furnace and boiler outside the tower, or structure aforesaid, they can have it, or portions of it, placed within the tower.

The Tees Breakwater.—The foundation stone of a new breakwater, at Stockton-on-Tees, has been laid by the chairman of the Tees Conservancy Commission. The plans are for the construction of two curvilinear breakwaters; one line extending from Tod Point, on the southern shore, across the Bran Sand, to the Checkered Buoy, a distance of about 4,300 yards. From the site of the First Black Buoy the line of works will extend over the North Gare—a distance of 2,000 yards, terminating at the Seaton Snook. The entrance to the channel between the ends of the breakwaters will be about 600 yards in width. The total length of the breakwater will be about 6,600 yards, the average height about 15 feet, and the width at the top 40 feet. The breakwater was commenced at the beginning of the present year, and already considerable progress has been made. It is constructed in rubble, the material used being, as we have before noticed, the slag from the iron furnaces in the district. The slag is moulded into large square blocks, weighing about 3 tons each, and whilst they are in a red-hot state are conveyed to the breakwater and "tipped." The mode of constructing the breakwater is similar to that adopted with the Plymouth and Cherbourg breakwaters. In the conveyance of the slag from the furnaces two locomotives and 500 iron bogies are fully engaged. The amount required to carry out the scheme is estimated at 130,000*l.*, of which 30,000*l.* have been obtained from the Public Works Loan Commissioners. If constructed in stone it was estimated that the building would have cost 600,000*l.* A grand banquet took place in the afternoon at the conclusion of the ceremony of laying the stone.

THE LATE MR. J. D. HARDING.—We hear with great regret of the death of this distinguished artist, in the sixty-seventh year of his age. It took place at his residence, in Barnes, Surrey, on the 4th inst. Mr. Harding was a pupil of Prout, and was one of the first to employ lithography for the multiplication of his studies of landscape for the use of others. Several of his published works are extensively used as text-books for pupils. All frequenters of the Royal Academy and the Gallery of the Society of Painters in Water-colours know his sparkling pictures.

MANUFACTURE OF CAST-IRON.—An invention which consists essentially in mixing with melted pig or cast iron, which it is intended to form into castings, a quantity of melted steel, semi-steel, or malleable iron, which said metal has been obtained from refining or decarbonising melted pig or cast iron by the pneumatic process, in order by this admixture to strengthen and improve the quality of the said pig or cast iron, has been patented by Mr. Robert Mushet, of Coleford. He does not claim the addition of malleable iron in the solid state, made by the puddling process, to pig or cast iron, and the melting of these substances together in order to improve the quality of the pig or cast iron, as he is aware that this has already formed the subject of a patent claim.

EMIGRATION TO THE "BRITAIN OF THE SOUTH." The ninth edition of "The New Zealand Handbook or Guide," by Messrs. Willis, Gann, & Co., of the New Zealand offices, in Crosby-square, has been published by Stanford, of Charing-cross. Although issued under the auspices of agents interested in emigration to New Zealand, this is a well-written and useful compendium of information as to a now favourite colony, which only needs a right and quiet understanding with the natives to render it all that can be desired. The unsettled state of the colony, however, is restricted to a district of the north island, and does not affect the south, which includes the more English district of Canterbury and the more Scottish district of Otago. The little Guide under notice has a map of New Zealand, and one of the world on Mercator's Projection showing the different routes to and from New Zealand and Australia.

CONTRAST OF COLOURS.—A short time ago, M. Plateau sent in a paper to the Academy of Sciences, in which he concluded that M. Chevreul's law of the simultaneous contrast of colours was not applicable to one particular case, viz., that when, from a certain distance, a very narrow streak of colour is viewed on a ground of another colour, it seems to combine with the colour of the ground, instead of appearing modified by the complementary colour of the ground, as it ought to do by the law of contrast. This law, as stated by M. Chevreul, is as follows:—1. The mixture of two simple colours gives a pure binary colour, viz.,—orange, by red and yellow; green, by blue and yellow; and violet, by blue and red. 2. Three simple colours, or two colours which are complementary of each other, give either black or a normal grey, composed of either red or green, yellow and violet, or blue and orange. 3. If the proportion of the three colours, or of two complementary ones mixed together, do not give black or a normal grey, because of the predominance of one of the colours, then the result of the mixture is either black or grey, with a dash of the dominant colour in it. Now, if two zones of different colours and the same dimensions be placed in juxtaposition, and two other zones of the same colours respectively be placed separately, and at some distance from each of the former, in order to judge of the effect, it will be found that a simple colour can only be modified by the addition of one of the two other simple colours, and that a binary colour can only be modified by one of the two simple colours of which it is composed. Again, as to simultaneous contrast, when two zones, placed side by side, and differing both in tone and colour, are seen simultaneously, the lightest loses a part of its colour, and the darkest increases in intensity, while the colour of each assumes a shade of the complementary colour of its neighbour. Hence the principle of contrast is diametrically opposed to that of mixture, and M. Chevreul explains M. Plateau's phenomenon by saying "that, when the eyes of the spectator distinctly see the forms and colours of the model reproduced, at a distance where the finite extent of each element of colour ceases to be perceptible, then the effects of vision no longer belong to the principle of contrast, but to that of the mixture of colours. So that, in M. Plateau's narrow streak, its colour is mixed with that of the ground, when the distance is such that the outlines of the streak are no longer perceptible.—*Galignani.*

THE "CITY (OF LONDON) ARCHITECT."—We are told that the Corporation are more than disposed not to fill up the post rendered vacant by the lamented death of Mr. Bunning,—to have no *architect*, in fact, but to appoint a *surveyor* at 1,200*l.* a year, with four assistants, at fair salaries, and to send to competition all works for which they require designs. Should they take this step they may prepare to be always in hot water. It is to be hoped they will be better advised.

QUANTITY OF TURPENTINE NECESSARY TO DRY GAS TAR.—"A Friend," Limerick—1. How much turpentine to the gallon of gas tar should be put as a drier? and can I use anything to change its colour to brown or yellow, and what, and how much?——About a pint of spirits of turpentine to the gallon of tar: if required to dry very quickly, you may add more. Yellow ochre may be added in quantity at pleasure, to change the black to the several shades of brown; but to render the colour yellow is impossible.

TURKISH BATHS.—The half-yearly meeting of the shareholders of the London and Provincial Turkish Bath Company has been held, at the premises of the company, named the Hammâm, 76, Jermyn-street, when a dividend, at the rate of 6 per cent. per annum, was declared. In the course of the meeting, Mr. Crawshay asked why the dividend declared was not 8 rather than 6 per cent., seeing that the profit earned seemed to fairly warrant the larger rate. The chairman explained that, being a young company, it was thought better to keep an available balance in hand to meet any contingencies. The chairman also stated that, satisfactory as the present state of the company's affairs now is, it would become much more so if additional capital of about 8,000*l.* were subscribed, to enable the directors to carry out what was contemplated, for developing and increasing the resources of the establishment.

THE ROYAL EXCHANGE CLOCK.—The colossal proportions of some of the clocks in our chief churches and cathedrals would surprise most persons who have not made a personal examination of them: for instance, as regards the Royal Exchange clock, which was manufactured by the late Mr. Dent in 1843, and which has since been pronounced by the Astronomer Royal to be the best public clock in the world; the pendulum, which weighs nearly 4 cwt., is compensated, and the first stroke of the hour is true to a second. This clock has Mr. Airey's construction of the going-fuzee introduced, by which the winding is effected without stopping the motion. This clock is a great improvement on that placed in this building in Sir Thomas Gresham's days, respecting which it was reported, in 1624, that, "the Exchange clocke was pr'sented for not being kept well, it standing in one of the most eminent places in the Cittie, and being the worst kept of any clocke in that Cittie." This clock still bears a very high character, and it is worth while to remark that Mr. Dent, who became so famous a horologist, was originally employed as a candle-maker. John Scott, the well-known engraver of sporting subjects, was also employed in the first instance in the same business.

PNEUMATIC DESPATCH TUBES.—It is now proposed to lay a tube from the Euston Station, through Woburn-place, Southampton-row, and King-street to Holborn, and thence along Holborn, Skinner-street, and Newgate-street, to the General Post-office. This tube is to be of cast-iron, 4 feet high and 4 feet 6 inches wide, internally. When completed, the transmission of all letters in bulk between the General Post-office and the North-Western Railway will be effected by its agency, as will also large parcels of goods, for which Pickford & Co. have arranged, an extension to their depôt in Gresham-street being contemplated. Mr. Haywood, the engineer to the City Sewers Commission, has presented a report to his Board on the subject. He states that, assuming the pneumatic system to work satisfactorily, it will probably become a valuable auxiliary to the commerce of the city, and be the means of freeing the streets of much goods traffic. But, he says, the laying of the proposed tube through the crowded streets will cause the greatest public inconvenience, for its size will be that of a large sewer, and its depth must be greater than that of the street sewers, inasmuch as it cannot be allowed to interfere with the house drains. Besides, the present occupation of the surface by gas, water, and telegraph pipes will, he apprehends, preclude the possibility of the tube being laid at a less depth. The inconvenience will be the most felt in Newgate-street, for while the work is in progress the traffic there could hardly be allowed to pass in both directions.

LIVERPOOL ARCHITECTURAL SOCIETY.—The fortnightly meeting of this Society took place on Wednesday night, the 2nd inst., Mr. Weightman presiding. The secretary read a communication from Mr. Vaillant, acting secretary to the fund for the erection of a memorial monument to the late Mr. James Murray, requesting this Society to assist in the object by subscriptions. Mr. Audsley read a paper on "Christian Symbolism as applied to Art;" and at the close of his remarks, which were illustrated by designs, some discussion took place respecting the subject of which the paper treated.

WORKING MEN'S CLUBS FOR BETHNAL-GREEN. A meeting has been held in the Town-hall, Bethnal-green, for the purpose of establishing a club for working men in the district of St. Matthias. Sir Thomas Fowell Buxton presided. The Chairman, in opening the proceedings, referred to the self-supporting principle of these clubs, and said he trusted that the club for St. Matthias would prove a blessing to the working people of the neighbourhood. Mr. Solly, the secretary to the Working Men's Club and Institute Union, mentioned that the firm of Truman, Hanbury, & Co., had sent 20*l.* to the club in Peel-grove, Bethnal-green, preliminary help in the way of funds being generally needed in the formation of the clubs. A provisional committee was formed.

CLARK'S SAFETY RAILWAY BRAKE.—An experimental trial of this brake has been made on the North British Railway, and the following is the result as given by the *Edinburgh Courant*. The train consisted of five loaded carriages. The engine was one of the high-speed mail class, with 6-feet driving wheels. The first stoppage was made on the gradient near St. Margaret's, of 1 in 75. With a speed of above 40 miles per hour, the train was stopped in about 300 yards: and on the level, at a speed of 30 miles per hour, the train was stopped in about 100 yards. Other trials were made equally good. The brake is applied by one man on the tender instantaneously, by simply screwing friction-wheels against the running-wheels of the tender. The brakes, which are fitted to the carriages, are compressed uniformly, so that no concussion is felt in these short ranges, which are about an eighth part of the distance a train can be stopped in by the present brake power.

ACCIDENTS.—By the fall of a floor at Leeds several girls have been injured. Repairs were in progress in the attic, and bricks, &c., had been heaped up to such an extent that the floor gave way. In the room below, which extends the length of the premises, about forty young women were engaged at sewing-machines, when, without the slightest warning, a third of the floor above them, as well as a large quantity of bricks, fell in, completely burying the five girls who were working in that portion of the room. In about half an hour they were taken out and removed to the infirmary. All of them were bruised and injured severely, and one of them was in a dying state. She was literally doubled up.——The roof of the engine shed at the Railway-station, Hawick, fell last week while the men were cleaning the engines: four men were more or less hurt. The roof was of iron, and fell without giving the least warning: it was about 100 feet long, 30 feet broad, and 30 feet from the ground. It is understood that the iron had been corroded by the steam. It is only about thirteen years since it was erected.

AN IRISH STEAM FISHERY.—We have occasionally drawn attention to the deep sea and other fisheries off the coast of Ireland as an inexhaustible and convenient source of fish supply, by railway and otherwise, to the whole country; but hitherto no one seems to have made any great practical use of these rich and profitable fish-diggings. As for the Irish themselves, as we have before said, they seem to agree in opinion with their countryman who thought it would be a pity to "take all the fish out of the sae." A canny Scot, however, it appears, has fairly broken ground on the Irish coast, with a well-appointed steamer, named the *Sir William Wallace*, which he has supplied with all the requisite apparatus for fishing, including a donkey engine, for paying in and out the nets, which are of large size and novel construction. The owner is a Mr. Wallace, who has already been for some time in the north of Ireland engaged in fishing speculations, so that he knows what he is about, and has gone to work in earnest, while the Irish are still merely looking on. The *Sir William Wallace*, until the salmon season opens, will be employed in the deep-sea fisheries, either along the Kerry and Clare coasts, or in the estuary of the Shannon.

Improvements.—The area situate at the corner of Carey-street, Lincoln's-inn, and Chancery-lane, which has for so long a period been left vacant, has been purchased by the Union Bank of London Company, and it is designed to erect thereon a branch establishment of the bank for the locality, and also a range of chambers.

The New Finsbury Park.—At the last week's meeting of the Metropolitan Board, a loan of 50,000*l.* was agreed to for the purchase of the land to form the northern park under the borough name. The price to be paid for the land has been settled by arbitration, and the cost per acre is considerably under 400*l.*; so that the park, which is to be of about 120 acres, will cost less than 50,000*l.*

The Leicestershire Architectural and Archæological Society.—The usual bi-monthly meeting of this society has been held in the Guild-hall, Leicester, the Rev. J. H. Hill in the chair. Letters were read from Earl Howe and other gentlemen expressive of their desire to further the wishes and interests of the society at its intended meeting at Hinckley next year. Various antiquities were exhibited and other business transacted. Messrs. Goddard & Son, architects, produced the plans and working drawings of the schools to be shortly erected in St. Martin's, Leicester, by the trustees of Alderman Newton's Charity.

Fire-Proof Construction. — A patent has been obtained by Mr. Thomas Turner, of Glasgow, for what is called "Improved fire-proof construction for floors, ceilings, roofs, bridges, ships, and other purposes." This construction is, like other fire-proof floors, composed principally of iron and concrete; but the object of the improvement is the more perfect combination of materials, so as to form one united thoroughly bonded mass, and the omission altogether, where necessary, of timber to sustain the concrete, and the straps and laths which are employed as a preparation for plaster ceilings. To effect this, iron joists of open construction are used, and the concrete is arranged to go under as well as over and through the joists.

The Galway Harbour Improvements.—Some difficulties having come in the way of the larger scheme which required a loan of 75,000*l.* from Government, the plans have been materially modified, and submitted for the consideration of the board. In a report from Mr. Roberts, C.E., that gentleman proposes to connect Mutton Island with the mainland by means of a causeway formed by a timber superstructure at a level above the influence of the sea, supported by five massive main piers of masonry, with intermediate piers formed of iron piles. By this arrangement, he says, the connexion between the land and the island may be secured at a cost of considerably less than one-half that of a stone structure. From Mutton Island he proposes that a breakwater should be extended for a length of 750 feet, and that on its inside, for a length of 400 feet, a timber landing wharf should be constructed, forming a berth for one vessel to discharge or load her cargo. The report was adopted, and it was also ordered that the plans be forwarded to the Board of Trade.

Opening of new Lecture Hall at Sudbury. When extensive premises, situate between the Corn Exchange and the Literary Institute, on the Market-hill, were sold last year, it was suggested that part of them might become the site of a public hall, and they were purchased with that view by Mr. J. Alexander. It was at first intended to build the hall by a company, and some shares were taken; but it was found there were difficulties in the way, and Mr. Alexander, in co-operation, we believe, with Mr. W. D. King (both members of the Society of Friends), determined to take the responsibility on themselves. The original shop and dwelling-house were converted into two rooms, a wide passage-way being left between the tenements as an approach to the hall, which was afterwards built in the rear. The dimensions of the hall (inside measurement) are 66 feet 6 inches by 33 feet 6 inches; height 21 feet 4 inches, and it will seat about 500 persons. The hall is lighted by lofty windows at the sides, and ventilation is provided for. It will be heated by stoves placed in the cellars below, and lighted by gas-brackets on the walls and pendant chandeliers, supplied by Mr. S. Wright. The hall is built of red and white brick. The contractor was Mr. J. Holland, builder, Sudbury. The building has been opened with a *conversazione* and exhibition of works of art, lent from the South Kensington Museum, the Art Union of London, and private owners.

New Public Park for Oldham.—The first sod of the Public Park has been cut by the mayor. The object the council has in view in forming a public park is two-fold,—to find work for the unemployed operatives and to provide a park for the people.

Opening of the New Cattle Market, Dublin.—The Dublin Metropolitan Cattle Market has been formally opened by the Lord Mayor. The market stands on 12 acres of ground, and is approached by entrances in Prussia-street and on the Circular-road. There are 134 iron pens erected, and the ground occupied by them is intersected by broad paved walks. Iron tanks for supplying water are placed at convenient distances from the pens. The hotel, which faces Prussia-street, leads into the market.

Sale of Building Land, Brighton. — The Queen's Park, Brighton, has been sold. The auctioneer said he estimated the 30 acres of park land as being worth 30,000*l.*; the late Mr. Attree's villa was worth 6,000*l.*; and the property occupied by Mr. Freshfield, 4,000*l.* The Spa he put at 500*l.*, calculating on twenty-five years' purchase. Therefore, he thought he was within the mark when he said that the property was fairly worth 40,000*l.* It was ultimately sold for 28,000*l.* to Mr. Duddell, Parliament-street, London, who, it is understood, intends it for building purposes.

Original Designs, South Kensington.—Among the recent purchases made by the South Kensington Museum for the Art-Library, is a collection of about 250 original designs by Matthias Lock and Chippendale, part of which were exhibited in the late International Exhibition. Chippendale and Matthias Lock were designers and carvers in wood, who flourished during the last century, from 1740 to 1780. They published works on furniture and designs for other manufacturers, and were noted as well for their taste in design as for their execution.

Gas.—About twelve months ago, Messrs. Nordhoff & Co., of Nismes, patented a gas carburetting apparatus, which soon came into use in several large towns in the south of France. The apparatus has just been patented in England. One has been exhibited at Messrs. Hartwright & Meyerheim's, 19, Chapel-walks, Pall-mall. The apparatus is intended to be placed near the gasmeter, and its adoption, it is said, will not require the least alteration in the gas-fittings. In outward appearance, the apparatus is described as resembling a meter. The internal arrangements consist simply of a cubic network of worsted wicks, reaching with its ends into some carburetted liquid, which is of a constant level. This network is placed in a cylinder of copper or iron, between two sides pierced with small holes. A tube, also perforated, leads the gas through the network of wicks. The instrument varies in size from five lights up to 150 lights.——The following tenders for the erection of the new gasworks at Bedford have been sent in:—

Houghton & Day	£2,950	0	0
Maxey	2,820	19	6
Cunvin	2,745	0	0
Francis & Son	2,269	10	0
Conquest (accepted)	2,190	0	0

The New Covered Market at Derby.—The erection of this market is progressing. The general arrangements on the ground plan show a market hall, measuring externally 223 feet in length by 115 feet in width, and internally 220 feet by 110 feet 6 inches, extending from a point 26 feet south of the back wall of the townhall to the new gateway erected at the end of the new street branching out of Albert-street, opposite Princes-street, which it is proposed to call "Exchange-street;" with a smaller building adjoining for the sale of fish and game, measuring inside 60 feet in length by 38 feet wide, abutting upon the main building at the south-east corner, with a small triangular piece of land reserved for a soup kitchen, occupying for the most part the site of the old lock-up. An approach, about 27 feet in width, will lead from the east end of Albert-street and the Morledge to the south-east entrance of the fish market. The builder's work has been let to Mr. C. Humphreys, for 5,750*l.*; and the ironwork to Mr. J. Haywood, jun., for 4,802*l.*; total, 10,552*l.* The style of architecture adopted is Italian, chiefly executed in brickwork, relieved round the sides and ends by stone string courses, imposts and dressings at the doorways and entrances. The N.N.E. elevation will be in the rear of the townhall. At the opposite end the market will be seen from Albert-street: here the elevation differs, the centre of the façade being wholly of stone-work, terminating with a large pediment, in the tympanum of which there will be carved the Borough Arms.

Oxford Architectural Society.—A meeting of the Oxford Architectural and Historical Society was held in the Taylor Building on Wednesday, the 2nd instant. Subjects:—1. On the Building of the Trinity Aisle, Thame, A.D. 1442, by Mr. E. J. Payne; 2. On some Churches in France, by the Rev. P. G. Medd, M.A., University College.

Fatal Accident to a "Steeple Jack."—A man was suspended 75 feet in the air by a rope thrown over the top of a chimney at Messrs. Kendall Ghent's machine works, Salford. This was to enable him to point some of the masonry or brickwork. The rope broke, and of course the man was killed by the fall.

John Bunyan's Bones.—A public meeting of some hundreds of working men has been held in the Lambeth Baths, Westminster-road, on the rumoured attempt of the Ecclesiastical Commissioners to appropriate Bunhill-fields burial-ground to building purposes. Mr. G. Hill, of the Lambeth vestry, presided, and introduced the business of the meeting by calling upon Mr. G. M. Murphy to deliver a lecture upon the subject. The lecturer traced the history of Bunhill-fields, from the time it became a bone-hill, by the burial there of many who died of the plague in 1665; soon after which it became a Nonconformist burial-ground; and among the buried, as we have before pointed out in the *Builder*, there lie John Owen, George Fox, John Bunyan, Daniel De Foe, Isaac Watts, John Wesley's mother, Dr. Lardner, and many martyrs of political and ecclesiastical tyranny. Mr. Murphy concluded by proposing the following resolution, which was unanimously carried:—"That this meeting, having learned with surprise that it is in contemplation by the Ecclesiastical Commissioners to remove the remains of the honoured dead from Bunhill-fields, and to let the land for building purposes, cannot but express its utmost indignation at such a sacrilegious project, especially as in that renowned place are the mortal remains of the immortal author of the 'Pilgrim's Progress.'"

Opening of a Workpeople's Hall, at Smethwick.—Messrs. Fox & Henderson having given up their well-known works at Smethwick, in 1858, they came into the hands of Messrs. Watkins & Keen, patent nut and bolt makers, who employ about 1,000 men, women, and boys. Having a spare piece of land at one corner of their works, fronting Crawford-street, they employed Mr. J. B. Nicholls, of Smethwich, architect, to furnish plans, and in a short time they had erected a building containing a hall, 90 feet long by 60 feet wide, with a spacious gallery, and which is capable of seating nearly 2,000 persons. At one end of the hall is an orchestra; and there are comfortable seats and desks of stained deal running across the room. One part of the room is partitioned off for a library, and Messrs. Watkins & Keen have already purchased upwards of 2,500 volumes to furnish it. There are large boilers erected in the room for the purpose of making soup and coffee for the workpeople at dinner and tea time. Adjoining the hall is also a good-sized room, which will be fitted up for baths. The building and fixtures have cost upwards of 1,000*l.*, which has of course been defrayed by Messrs. Watkins & Keen, who give the hall, which has just been inaugurated, for the use of their workpeople. If there be any truth in the mobility's axiom, "Handsome is as handsome does," Messrs. Watkins & Keen must be handsome fellows, *et error nullus*.

The Old London Fire Brigade.—The following note of the means used, in the early part of the reign of Richard I., for the purpose of preventing the loss of life and the destruction of property by fire, is interesting; and although we have in the metropolis much to do in this respect in our own times, the contrast between the old and the new is striking. In the first year of Richard I., the articles of the Wardmotes respecting fires are as follows:—"Item, that all persons who dwell in great houses within the ward have a ladder or two ready and prepared to succour their neighbours in case misadventure should occur from fire. Item, that all persons who occupy such houses, have in summer time, and especially between the Feast of Pentecost and the feast of St. Bartholomew (August 24th), before their doors a barrel full of water for quenching such fire, if it be not a house which has a fountain of its own. Item, that the reputable men of the ward, with the aldermen, provide a strong crook of iron, with a wooden handle, together with two chains and two strong cords, and that the bedel have a good horn and loudly sounding. Of persons wandering by night, it is forbidden that any person shall be so dareing as to be found wandering about the streets of the City after the curfew rung out at St. Martin's-le-Grand and St. Laurance, or at Berkyngchirch, upon pain of being arrested."

ENGLISH *v.* SWEDISH IRON.—Experiments of an important nature have just been made at the fortress of Carlberg, in Sweden, upon the respective merits of armour-plate made in England, France, and Sweden. Messrs. John Brown & Co., of Sheffield, sent two plates, one 12 feet by 2 feet 6 inches, and one 6 feet by 3 feet 8 inches. Messrs. Petin, Gaudit, & Co., of Lyons, sent two plates, each of 7 feet 6 inches by 3 feet 3 inches. The Montala Ironworks Company, of Sweden, sent two plates of 12 feet by 2 feet 6 inches, and one 6 feet by 3 feet 8 inches. All the plates were 4½ inches in thickness, and then bolted to a teak target backed with iron plating, and supported by a massive stone pier. The two upper plates in the target were the French, and each was secured by 11 bolts. The next plate below was the longest, Swedish, and this was secured by 29 bolts. Below this was a tier of two short plates, one Swedish and one English, each secured by 24 bolts, and the lowest plate was a long English, secured, like the Swedish, by 29 bolts. Each plate received six shots from the ordinary 68-pounder naval gun. The French and Swedish plates broke to pieces, and the English plates remained uninjured and free from cracks. The shots used were of Swedish iron, and exhibited great toughness as compared with the shots used in the English service—the core or centre of the shot, after striking, being of double the weight of the core of the English shot.—*Army and Navy Gazette.*

TENDERS.

For the erection of new premises for the London and County Bank, Winchester. Mr. Fred. Chancellor, architect:—

Fielder & Sons	£2,760	0	0
Macklin	2,650	0	0
Newman & Son	2,597	0	0
Philips	2,573	0	0
Carter	2,498	0	0
Stimpson	2,368	0	0
Sims & Marten	2,353	0	0
Cushing	2,290	0	0
Stevens	2,270	0	0
Styles	2,260	0	0
Brown	2,250	0	0
Sealy	2,248	0	0
Ring	2,110	0	0
Mann	1,997	0	0
Glenn, Brothers	1,940	0	0

For the East London Bank, Shoreditch Branch. Mr. C. A. Long, architect:—

Eaton & Chapman	£650	0	0
Brown & Son	610	0	0
Pritchard & Son	600	0	0
Scott	593	0	0

For rebuilding Messrs. Thorn's Coach Factory. Messrs. Ifold & Hughes, architects. Quantities not supplied:—

J. & W. Sanders	£2,175	0	0
Sharpington & Cole	2,155	0	0
Longmire & Burge	2,089	0	0
Thorn	1,800	0	0

For four first-class dwelling-houses, at Saltburn-by-the-Sea, Yorkshire. Mr. Jno. Ross, architect:—
Pearson, Watson, & Russell (accepted) £5,026 11 11

For engine-house, for Messrs. Gilkes, Wilson, Pease, & Co., Middlesbro'-on-Tees. Mr. Jno. Ross, Architect.—
Johnson & Laws, exclusive of ironwork (accepted) £1,634 0 0

For the erection of a house and offices in Erskine-street, Leicester. Mr. Francis Drake, architect. Quantities supplied.—

Olphin, Brothers	£463	10	0
Coltman	437	17	0
Glover	405	10	0
Stafford & Eagle	400	0	0
Porter	395	0	0
Handley	384	0	0
Middleton	372	0	0
Osborne, Brothers	343	9	0

TO CORRESPONDENTS.

Messrs. B. (account has appeared elsewhere).—A. B.—R.—G. E.—J. A (send address. It has been mislaid).—J. W. (a letter on the subject was already in type).—E. J. P. (ditto).—T. E. K.—T. S. (various cowls in use include the same principle) T. N. D. E. W.—J P (ask at Weale's). J. R.—C. D.—J. H.—J. J. McC (drawing shall be put in hand).—L. de V. (shall hear from us).—A Young One—A. M.—J. L.—J. W.—J. T.—J. R.—G. J. (next week).—M. F. (ditto).—H. M. R.—A. W. M. (quite unnecessary).—J. C. T.—E. N.

We are compelled to decline pointing out books and giving addresses.

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AMBROSE WALN, Clerk of the Birkenhead Improvement Commissioners.

Commissioners' Offices, Birkenhead, 24th Nov. 1863.

CITY of ELY BOARD of HEALTH.—The Local Board of Health give Notice that at their Meeting to be held on WEDNESDAY, the 30th day of DECEMBER instant, at the Grand Jury Room in the Shire Hall, Ely, at TWELVE o'clock at noon, they will be prepared to appoint a duly proper person to the united offices (become vacant by the resignation of Mr B. Latham on his appointment to the Surveyorship of the Croydon Local Board) of SURVEYOR, INSPECTOR OF NUISANCES, and SUPERINTENDENT OF HIGHWAYS for the District of the City of Ely, which comprises an area of about 17,000 acres, contains 1,600 Houses, and 145 miles of Highways, under the jurisdiction of the Local Board. The person elected will be required to devote the whole of his time to the duties of the offices, and to give security for the performance, himself in 500*l.*, and two sureties in 100*l.* each. Candidates may collect the duties appertaining to the several offices from the "Public Health Act, 1848," the "General Highway Act," the "Nuisances Removal Act, 1855," the "Local Government Act, 1858," and the several Acts incorporated therewith; but it is indispensable they should be persons familiar with the construction and working of steam engines, furnaces for the consumption of smoke, filters, works of water supply, sewerage through tubular pipes, and house drainage; the making and management of roads, streets, and pavements, the taking of levels, the value of labour and materials, the preparation of plans, specifications, and estimates, and the superintendence and management of all such works as come within the province of a Local Board of Health. The salary will be 120*l.* a year, payable quarterly. The elected Officers will be required to enter upon his duties as soon after the 6th of January next as possible, and his tenure of the offices will be during the pleasure of the Local Board. Applicants must forward their testimonials to me on or before TUESDAY, the 15th instant, accompanied by a letter in their own handwriting, stating their present or latest employment, and containing the names and addresses of their proposed sureties; on receipt of which a selection will be made, and such candidates only as shall receive an invitation from the Clerk will be expected to attend on the day of election. The Board do not pledge themselves to appoint any of the candidates.—By order of the Board,

WILLIAM MARSHALL, Clerk.

Ely, December 2nd, 1863.

CANTERBURY PAVEMENT.—Notice is hereby given, that at the next Meeting of the Commissioners of the Canterbury Pavement, which will be held at the Guildhall, in the said City of Canterbury, on WEDNESDAY, the 13th day of JANUARY next, at TEN o'clock in the forenoon, the said Commissioners will APPOINT a HARD-STONE MASON, to act as Warning Foreman, under the Commissioners. He must have been well experienced in paving, be qualified to keep accounts, and will be required to devote the whole of his time to the works the Commissioners may from time to time have in hand. CANDIDATES for the APPOINTMENT must make APPLICATION, in writing, to the Clerks, at their Office, Watling street, Canterbury, on or before the 12th day of JANUARY next, at which time they are to be accompanied with testimonials as to sobriety and character. Salary, 50*l.* per annum.—By order of the Commissioners

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JOHN PICKUP, Law Clerk.

Oswaldtwistle, 5th November, 1863.

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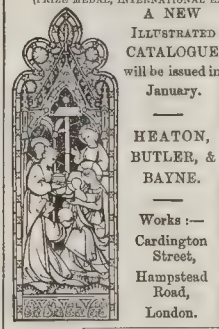
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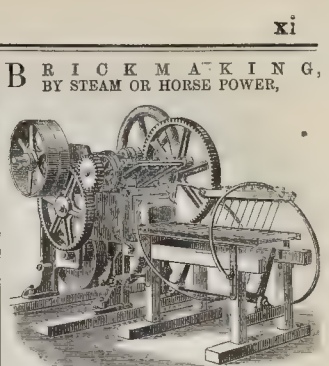
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Good 2½ Mill-sawn White Battens	from £8	0 per 120 of 12 feet
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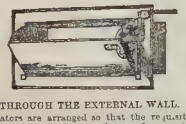
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These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street Borough, London

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¾-inch White Flooring, good quality	11s. 6d. per square.
¾-inch White Matched Lining	12s. 0d. ,,
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2½-inch White Battens	10l. 0s. per 120 of 12 feet.
2½-inch Yellow Battens	9l. 0s. ,,
3 by 9 Yellow Deals	16l. 10s. ,,
Honduras Mahogany	0s. 6d. per foot super.

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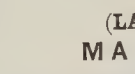
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100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
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5,000 Yellow Battens ..... from £10 10s. per 120
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SPRUCE DEALS, 2s. 6d. each.
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Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

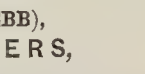
Three-quarter inch Flooring (well prepared) 11s. 6d. per square.	Laths, 2s. per Load.	
Yellow Deals, sound and good	£18 0 0	per 120, or 3d. per foot.
Spruce Deals	15 0 0	,, 2½ ,,
Yellow Battens, excellent quality	10 10 0	,, 1½ ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
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A General Assortment of WOOD GOODS, comprising DRY YELLOW, SEASONED PINE, &c., with the usual thickness of prepared Floor Boards, and Matched Linings.
COUNTRY AND OTHER ORDERS PROMPTLY ATTENDED TO.
PRICES TO SUIT ALL BUYERS.



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From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.
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Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
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SHEET GLASS.
In Cases for cutting up, in Sizes as Manufactured.

	300 feet. 15 oz.	21 oz.	250 feet. 26 oz.	32 oz.
Fourths quality	33s. 6d.	33s. 6d.	58s. 6d.	48s. 0d.
Thirds do.	42s. 0d.	42s. 0d.	49s. 0d.	56s. 0d.
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Best do.	88s. 6d.	88s. 6d.	103s. 6d.	118s. 0d.

CRYSTAL SHEET GLASS.
For Pictures and best glazing purposes.

Averaging 16 oz. to the foot.	
Best quality, in cases of 200 feet	100s.
Second quality, in cases of 160 feet	82s.
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SQUARES, IN 100 AND 200 FEET BOXES.

Small Squares not exceeding 9½ inches by 7½ inches.

Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Per 100 feet. 4ths.	3rds.	2nds	Best.
6	by 4	7	by 5	8	by 6	9	by 7		
6½	by 4½	7½	by 5½	8½	by 6½	9½	by 7½	9s. 9d.	11s. 3d.	13s. 9d.	16s. 9d.

Squares not exceeding 14 inches by 11 inches.

						Per 100 feet. 4ths.	3ds.	2nds.	Best.
10	by 8	12	by 9	12½	by 10½	14½	by 10½		
10½	by 8½	12½	by 9½	13	by 10	15	by 10		
11	by 9	13	by 9	13½	by 10½	13	by 11	10s. 9d.	12s. 3d.	16s.	18s.
11½	by 9½	13	by 10	14	by 10	14	by 11		

Squares not exceeding 20 inches by 18 inches.

								Per 100 feet. 4ths.	3rds.	2nds.	Best.
15½	by 10½	14	by 12	17	by 13	24	by 16				
16	by 10	14½	by 12½	18	by 13	20	by 17				
14½	by 11½	15	by 12	18	by 14	22	by 17				
15	by 11	15½	by 12½	22	by 14	24	by 17				
15½	by 11½	16	by 12	24	by 14	20	by 18				
16	by 11	16½	by 12½	22	by 15	22	by 18				
13	by 12	17	by 12	24	by 15	24	by 18	11s. 6d.	13s. 6d.	16s. 6d.	20s.
13½	by 12½	18	by 13	22	by 16						

Orchard-house Sizes, as recommended by Mr. Rivers.

Ins.	Ins.	15 oz.		21 oz.	
20	by 12	4ths	11s. 6d.	4ths	15s. 0d.
20	by 13	3rds	13s. 6d.	3rds	19s. 0d.
20	by 14	2nds	16s. 6d.	2nds	26s. 0d.
20	by 15	Best	20s. 0d.	Best	30s. 0d.
20	by 16				

Per 100 feet.

Squares Cut to Sizes not on List.

	15 oz. 4ths	3rds	2nds	1st	21 oz. 2s	2½	3	3½
Under 1 foot super	1½	1¾	2	2½	2s	2½	3	3½
Under 2 feet super	1½	2	2½	3	2½	3	4	5
Under 3 feet super	1	2¼	2½	3½	3	3½	4½	6
Under 3 feet super	2½	2½	3	4	3½	3½	4½	6

Glass Tiles, in Sheet and Rough Plate. Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.
COLOURED GLASS AND ROSETTES, FLUTED, GROUND, AND EMBOSSED GLASS, OF EVERY DESCRIPTION.
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Genuine White Lead	30s.	Fine Oak Varnish	10s. to 12s.	Linseed Oil	Subject to fluctuation of the market.
Anti-corrosion Paint	28s. to 34s. per cwt.	,, Carriage	12s. to 14s. per gallon.	Boiled Oil	
Linseed Oil Putty	9s.	Patent Dryers	28s. to 42s. per cwt.	Turpentine	

Milled Lead in Sheet and Pipe of all sizes. Old Lead bought or taken in exchange. Lift Pumps, Water Closets, and Plumbers' Brass Work of all kinds, subject to the fluctuations of the Markets.
NET CASH.



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HENRY DOULTON & CO., LAMBETH.

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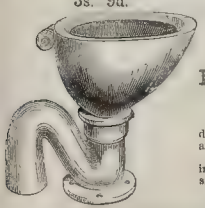
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

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H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

3s. 9d.



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DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



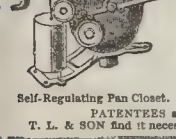
TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

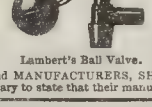
Manufactures also of

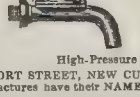
LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

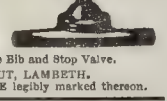
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,







Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

BARTLETT, BROTHERS, & CO.

PATENT INDURATING SOLUTIONS AND SILICEOUS PAINT.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

THE FLUO-SILICIC STONE-PRESERVING COMPANY, LIMITED.

39, CHARING CROSS, S.W. & 12, COPTHALL COURT, THROGMORTON STREET, E.C.

PATENT FLUO-SILICIC INDURATIONS for the PRESERVATION of STONE, CEMENT, and other like materials. The Company apply to the surface of Stone, Cement, &c. a solution of Fluo-Silicic Acid, and Silicate of Potash. These are the only patents which embrace the use of that most valuable agent, Fluo-Silicic Acid. Bath, Caen, and other soft stones, when treated by the Company's solution, become extremely hard. The great expense of high ornamental to buildings in hard stone has been an obstruction to Art, but since the Fluo-Silicic process can be applied so readily to soft stone after it is carved, that obstruction exists no longer. The Fluo-Silicic at once permanently arrests the decay of all stone.—For further information apply to the Manager of the Company, Mr. DUDLEY, Architect, as above.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London Atmosphere

ADULTERATIONS—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Baryte from ten to thirty per cent Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three quantities, no workman can produce good work with such material Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work

CHEAPNESS. Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.

CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

J. TYLOR & SONS' PATENT

REGULATOR WATER-CLOSETS.



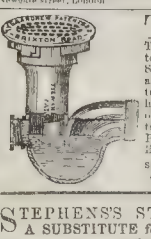
Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No intern valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London

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TYE & ANDREWS NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

STEPHENS'S STAINS for WOOD. A SUBSTITUTE for PAINT, and at HALF the COST.

Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Cuttiscumbe, near South Molton:—

"The effect produced by the Stains and Final and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 5a, Stamford-street, S.

CROWDEN and GARROD

(successors to THOS. KENT & CO.), the celebrated

PAINTING and GENERAL BRUSH MANUFACTORY,

FALCON-SQUARE, LONDON, E.C.

*** Also Manufacturers of the Patent Improved Rubber Knife-boards, Cleaning Powder, Mole Mixture, &c.

T. KENT and CROWDEN & GARROD, are stamped on the Brushes.

STAINING DEAL TO IMITATE ALL KINDS of WOODS. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Tint, 5s. per gallon; Dark Oak, 6s. per gallon; Mahogany, 8s.; Rosewood, 8s.; Walnut, 8s. Varnishes for NAYLOR'S Stains may be had at the Factory, No. 4a, James street, Oxford street; also Manufacturer of Improved Knotting and Decorative Varnishes

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PURE LINSEED OIL. From Genuine Baltic and Bombay Linseed. Supplied by the LONDON OIL and COLOUR COMPANY (Limited), Nos. 65, 66, 67, Saint George's-street, London Docks—Mr. THOMPSON, Manager.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W.

Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made.

PRIZE MEDAL, 1862.

HAMILTON & CO.

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

Sole Manufacturers of

C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graniers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

TURPENTINE.

GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.

Sample gallons may be obtained at the Manufacturers', price 4s.

GARROD & COMPANY,

Varnish, White Lead and Colour Manufacturers,

36, Upper Thames street, London, E.C.

IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 29s. per cwt.

Linseed Oil, 3s. 6d. per Gallon; Boiled Oil, 4s. per Gallon.

Turpentine, 6s. 6d. per Gallon.

Fine Pale Oak Varnish, 9s. per Gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouses 30, Upper Ebury-street, and 45, Cowshill-street, Pimlico, S.W.

Every article for the Trade at the lowest prices.

TO PAINTERS and BUILDERS.—

White Lead (warranted genuine), 29s. per cwt.

Linseed Oil, 3s. 6d. per gallon. Turpentine, 6s. 6d. per gallon

Fine Pale Oak Varnish, 9s. per gallon

For cash at FRANCIS FUCK'S Old-Estal lished VARNISH and COLOUR WAREHOUSE, No. 128 EDGWARE-ROAD, PADDINGTON, W. next door to the Wheatsheaf, and within five minutes' walk of the Great Western Railway Terminus.

Agent for Hamilton's celebrated Painting and Graining Brushes.

PRIZE WAGGONS and CARTS.—

HAYES & SON,

Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,

Coach and Cart Wheelwrights, Spring Van and Waggon Builders, Timber Merchants, Contractors, &c.

Manufacturers of LAUE, VANS, WAGGONS, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation.

Contractors' and Builders' Dobbin and other Carts, Barrows; Navvy, Excavators', Trowling, and Off-bearing ditto, on the shortest notice and of the best materials; &c.

HAYES & SON,

SCOTGATE WORKS STAMFORD.

SALES BY AUCTION.

ST. PANCRAS.—MARBLE SLAB FOR ABSOLUTE SALE.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, 23, King's-road, St. Pancras, near the Workhouse, on MONDAY, DECEMBER 14, at TWELVE for ONE, about 3,000 feet of Veined and Sicilian Marble Slab, of various thicknesses, which will be sold in lots, for cash.—May be viewed on Saturday previous, and Catalogues had at the place of sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

GREAT CARTER LANE, ST. PAUL'S.—BUILDING MATERIALS OF THREE HOUSES.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, DECEMBER 21, at TWELVE, in Lots, all the Valuable BUILDING MATERIALS and FIXTURES of Three Houses, Nos. 1, 2, and 3, Bell-yard, Great Carter-lane, St. Paul's; comprising sound brickwork, stout rafters, joists, and other useful timber; plain and pan tiles, sashes, doors, panelled partitions, linings, chimney-pieces, and interior fittings; sound floor-boards, lead gutters, cisterns, and pipes, mahogany desks, iron safe, gas fittings, etc.; and various useful fittings-up.—May be viewed on Saturday previous. Catalogues had of Messrs. JOHN YOUNG & SON, Architects, 58, King-street, Cheapside; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street S.W.

EARLY SALE ON ACCOUNT OF THE NUMBER OF LOTS. TO PIANOFORTE AND CABINET MAKERS, BUILDERS, AND OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden terrace, Camden-town, N.W. on MONDAY, DECEMBER 14, at ELEVEN for TWELVE, 20,000 feet of capital dry 1-inch Lunetree Board, 3,000 feet of Sycamore and Chesnut, 3,000 feet of Mahogany, 4,000 feet of Birch, 1,000 feet of dry Ash, 1,000 Planks, Deals, and Battens, 3,000 feet of die-sparre wide Pine Board, prepared Flooring, Quartering, dry Cut Stuff, Scaffolding, Ladders, Old Materials, &c. &c.—Auction Offices, Cardington-street, Hampstead-road.

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, the 23rd day of DECEMBER, 1863, at ONE o'clock precisely. (Luncheon at Half-past Twelve o'clock.) For account of Importers.

36,000	Spruce Deals, Battens, and Ends
8,000	Quebec Pine Deals
2,000	St Petersburg Red and White Wood Deals
6,000	Onega Red Deals and Boards
3,000	Archangel Redwood Deals, and Battens
1,000	4 by 11-inch Fresh Redwood Memel Deals
3,000	4 by 9-inch Sundarne Red Deals
4,000	Wyborg Redwood Deals and Battens
7,000	Swedish Redwood Deals, Battens, and Ends
1,000	Fresh Christiana Battens
800	Loads Quebec Boyd Yellow Pine
200	Loads Quebec Red Pine
400	Loads Quebec Pine
150	Loads Fresh Birch
50	Waimscot Oak Logs
150	Loads Fresh Quebec Elm
50	Loads Fresh Quebec Oak
280	Loads Fresh Memel Timber
300	Loads Dantzic Red Deal Timber
500	Loads Swedish Timber (fresh timber)
1,000	Norway 4 to 6-inch Spars
400	Fresh Manufactured Ash Oars
50	Fathoms Hemlock and Dantzic Fresh Lathwood
	Flooring
58	Logs Dockyard Mahogany
	With other Goods.

Catalogues will be issued in the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, December 8th, 1863.

MIDLAND RAILWAY.—TO BUILDING MATERIAL DEALERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on FRIDAY, DECEMBER 18, 1863, at ELEVEN o'clock, on the PREMISES, situate Nos. 49 to 52, Bolton-street, and from Nos. 12 to 22, Kingston street, Agar Town, St. Pancras, the capital MATERIALS of FIFTEEN newly-erected SIX-ROOMED HOUSES, consisting of about 70 rods of sound white brickwork, two tons lead, in gutters and pipe, 250 pairs 6-light glazed sash frames, 1,500 squares flooring boards, 10,000 feet iron, joists and rafters, 90 register and Rumford stoves, 15 ranges, galvanized iron pans, stone sinks, 15 painted and grained panelled street doors, 1,400 yards cast-iron rain water pipe and guttering, zinc cisterns, dressers, sideboards, closets, staircases, stone chimney pieces, York stone paving and granite curb, cast-iron ornamental railing, and numerous other effects.—To be viewed on Thursday previous and morning of sale, when catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

NORTH LONDON RAILWAY.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, on the 8th, 9th, 15th, 16th, and 18th of JANUARY, 1864, at the SPREAD EAGLE TAVERN, Kingsland road, the valuable MATERIALS of about Ninety Houses, Shops, Factories, Taverns, and other Buildings, required for the City Extension between Old-street-road and Worship-street.

Camden Town, December 10 1863.

THE OLD FAMILY MANSION, FORSTON HOUSE, with its additions, lately occupied as the Pauper Lunatic Asylum of the county of Dorset, for SALE.—Early in next year will be offered for SALE by PUBLIC AUCTION, at Dorchester, the whole of those Premises, consisting of the above mansion, with buildings erected for the accommodation of 150 patients, and suitable domestic offices, airing yards, stabling, and farm buildings. The site, which, together with gardens and paddocks, contains about nine acres, is all walled in. The place is situated about four miles from Dorchester, and is bounded on the western side by the turnpike road leading from that town to Corve Abbas, and on the north and east by lands belonging to R. B. Sheridan, Esq. M.P. and on the south by the property of Henry Charles Sturt, Esq.

A small river runs through the length of the property between the Turnpike-road and the Gardens, and the water required for the Establishment has been pumped up by a water-wheel, and there are two steam boilers for supplying the apartments with hot water. There is a Lodge Cottage at the entrance. The Mansion, which has been occupied by the Superintendent, is situated at the south end of the premises, and has at different times been the residence of some of the county families.—The place may be seen on application by letter, addressed to J. G. SYMES, Esquire, Medical Superintendent; and further particulars may be had by applying to Mr G. EVANS, the County Surveyor, at Wimborne, Dorset.

REPOSITORY, BARBICAN.—FRIDAY'S SALE.—First class Railway Horses, TO BE SOLD by AUCTION, by

MR. GOWER, on FRIDAY, DECEMBER the 18th, 1863, at TWELVE o'clock, Twenty-five Young Powerful Active CART or VAN HORSES, among which are some excellent Yeomen's Cobs, Chaise Teams, and Pairs for van work, by direction of Mr. John Knight, second Portion, off the Marlborough Branch of the Great Western Railway, nearly completed. The above Horses are working under the notice of Contractors, Builders, Wharfingers, and Others, having been purchased regardless of cost, are in excellent condition, and for unreserved sale. On view two days prior.

FREEHOLD BUILDING LAND TO BE SOLD, or LET on LEASE. This desirable piece of Building Land is situated in Bromley, Kent.—For particulars apply to J. LAVENDER, Esq. Surveyor, 2, Bedford-row.

SYDENHAM HILL.—LAND TO BE LET, for Building, 430 feet frontage, average 500 feet deep. Beautiful site, with extensive prospects, and fronting a high road. Close to three railway stations, and within ten minutes' walk of the Crystal Palace. May be had in one, two, or three plots, for detached residences.—For particulars, apply, personally, to Mr. HENRY DAWSON, Architect, 16, Finsbury-place South, E.C.

A LARGE BUILDING, accommodating 1,000 persons, for SALE Now used as Holy Trinity Free Church, Hackney. Has Pulpit, Reading Desks, Gas-fittings, Warming Apparatus, &c. Admirably constructed for seeing and hearing.—Address, "ZETA," 2, King Edward's-road, N.E.

PENGE.—FREEHOLD LAND TO BE LET, on Building Lease, nearly opposite the church and Watermans's Almshouses. Contents, 4½ acres.—Apply to Mr. JOHN WEAK, 225, Camberwell-road, S.

TO BRICKMAKERS and CONTRACTORS.—TO BE DISPOSED OF, by PRIVATE TREATY, the BRICKFIELDS of the late Mr. William Davis, situate at Little Thurrock, Grays, Essex, a short distance from the river Thames and Railway station. The field is in capital working order, and the plant capable for working seven stools, with horses, carts, and implements, and are adapted for carrying on an extensive and profitable business. The stock of bricks remaining on the field may be taken if required, and early possession had.—For particulars apply to Mr. GRIGG (successor to the late Mr. Barnes), Auctioneer and Estate Agent, 78, King William-street, Mansion House, E.C.

WANTED to RENT, PREMISES, containing an area, collectively, of about 20,000 feet One building, containing the above accommodation in different floors, would be preferred; but the parties would be prepared to treat for a block of several houses.—Address, with full particulars, to Messrs. JENNINGS & SON, Solicitors, 18, Bennett's-hill, Doctors' Commons, E.C.

SITE for a PUBLIC INSTITUTION.—It being under consideration, by one of the Orphan Asylums, whether it may not be advisable to REMOVE the Institution from the Metropolis to the Suburbs, provided a Site of Ground for the purpose can be obtained on advantageous terms, all persons disposed to GIVE or SELL a SITE of LAND, of not less than seven acres, within about twenty miles of London, near a railway station, are invited to communicate, on or before the 28th day of DECEMBER instant, stating full particulars, with GEORGE BOOTH, Esq. Solicitor, No. 6, Surrey-street, Strand, W.C.

TO BUILDERS or TIMBER DEALERS. TO BE LET, with immediate possession, a DETACHED DWELLING-HOUSE, with good Business Premises; capital Carpenter's Workshop, with Cottage adjoining for Man. The house contains six rooms and offices, a large garden well stocked, three-stall stable, cart house, &c. &c. It is situate thirteen miles north from London, and within half a mile of the Great Northern Railway.—For further particulars inquire of E. B. care of Mr. Paterson, Builder, Hadley-green, near Barnet, N.

TO BE LET, for the Erection of Warehouses, a PLOT of FREEHOLD LAND, in Park-street, Southwark, about 74 feet frontage.—Apply to Mr. W. F. MEAKIN, No. 4, Martin's-lane, Cannon-street, E.C.

HAMPTON, MIDDLESEX, on the Banks of the Thames, and close to the intended Thames Valley Railway Station.—TO BE SOLD, or LET, on Building Leases, Eligible BUILDING LAND.—For particulars, apply to J. WHEATLEY, House and Estate Agent, East Moulsey.

TO BRICKMAKERS.—10 acres of LAND TO BE LET, for the above purpose, near the Barking-road Station and Victoria Docks.—Address, E. L. 40, Norfolk-street, Strand.

PANGBORNE, BERKS.—Valuable Freehold Land, within five minutes' walk of the most beautiful part of the river Thames and of the railway station, and about one hour's journey from London. TO BE LET, in large or small lots, about 200 ACRES of LAND, admirably adapted for gentlemen's residences and villas, delightfully situated, with fine views of the country and river Thames.—Apply to W. E. RATCLIFFE, Esq. Solicitor, Ryde, Isle of Wight; or to F. NEWMAN, Esq. Surveyor and Architect, Ryde, Isle of Wight.

WANTED, a FREEHOLD or very long LEASEHOLD HOUSE or PREMISES, from 40 to 50 feet frontage by 100 feet in depth, with early possession, in any of the large thoroughfares. The Strand, Fleet-street, or Ludgate-hill preferred, or a vacant site would be purchased.—Full particulars to be sent to Messrs. DRIVER & CO. Surveyors, Land Agents, and Auctioneers, 4, Whitehall, London, S.W.

A WHARF TO LET, in a convenient situation.—Apply by letter to Mr. GRUGEON, 75, Old Broad-street, E.C. City.

VAUXHALL GARDENS ESTATE.—Several very valuable SITES on the above Freehold Estate, TO BE LET, for Building purposes.—Apply to Messrs. DRIVER & CO. Surveyors, Land Agents, and Auctioneers, 4, Whitehall, S.W.

KEYNSHAM BLUE LIAS LIME and CEMENT WORKS, Somerset.—TO BE SOLD, by PRIVATE CONTRACT, by order of the Liquidator, the newly-formed FREEHOLD WORKS, occupying a site of 7 acres, 2 roods, and 36 perches, or thereabouts. The existing kilns and ovens are capable of producing 700 to 800 tons of lime, and 150 tons of cement weekly, both produce being approved of by large contractors and eminent architects, the cement being used in many of the Government fortifications now in progress. The buildings are very substantial and the machinery is of the best description, driven principally by water-power, but with steam-power as auxiliary. Coals are supplied to the works at a very low price, and the Great Western Railway Station is within a short distance.—For further particulars, apply to Messrs. W. LINDO & SONS, Solicitors, 47a, Moorgate-street; to F. MAYNARD, Esq. Liquidator, 19, Bread-street, Cheapside; and to Messrs. FULLER & HORSEY, 13, Billiter-street, London.

FREEHOLD MILLS, with good Water-power, Keynsham, Somerset, well adapted for Corn Mills, Oil Mills, or Paper Mills, TO BE SOLD. Apply to Messrs. FULLER & HORSEY, Billiter street, London, E.C.

EXTENSIVE MANUFACTURING PREMISES, with STEAM POWER.—TO BE LET, one of the finest BUSINESS PREMISES in the City; containing large yard, with drying shed, piling stage, extensive Workshops, fitted up with circular saws, mortise and tenoning machines for making doors, and three vertical saw frames for cutting deal planks, &c. 26 inches deep; two powerful steam engines, with hot water tank; a well of good water, self-acting benches, &c. &c. Together with every convenience for a large trade: public and private offices, fitted with fire-proof safes, &c. For further particulars apply at the City Timber Yard, 20, Long lane, City.

MID-KENT LINE.—Eligible Freehold BUILDING LAND TO BE LET, on LEASE for 99 years, direct from freeholders. It is situate on the side of a hill, commanding beautiful scenery, about ten minutes' walk from the Catford Bridge Station, Mid-Kent Railway. Railway journey, 20 minutes. Land may be seen, and particulars obtained, by applying on the spot to FREDERICK SELBY, Ravensbourne Park, Lewisham, S.E.

TO BE SOLD, at a Bargain, several FOUR-ROOMED COTTAGES in CARCASE.—Apply to Mr. R. RICHARDS, on the Premises, Alpha-place, North Cambridge-road, near the Gate, Kilburn.

TO BUILDERS, CONTRACTORS, &c.—TO BE SOLD, a large quantity of BUILDERS' SCAFFOLD POLES, from 22 to 45 feet long, laying on a piece of land opposite the Blue Anchor public-house, Dock-street, near the principal entrance of the London Docks. To be sold cheap, as the land must be cleared by December 31st, 1863.—For particulars, apply on the Premises, from Ten to Four o'clock each day.

TO BRICKMAKERS.—All Parties who BURN BRICKS in CLAMPS are invited to inspect the NEW MODE of SETTING, patented by Mr ROBERT WHITE, and which may be seen in operation at the Brickfields of

J. B. WHITE & BROTHERS, Erith, Kent.

The advantages of this plan are two fold.

1st. Nearly all the bricks are burnt into stocks, and the yield of inferior bricks is reduced from 35 to about 10 per cent of the total make, which in itself represents a large permanent saving.

2nd. The bricks are so much improved in colour and soundness as to give them a considerable additional value in the market over common stocks.

Licenses for use of the Patent granted to Brickmakers, on application to the Patentees, 17, Millbank-street, Westminster.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

SPRING GROVE BRICKFIELDS, HOUNSLOW, W. MIDDLESEX.—Mrs. ANN ELIZABETH BURCHETT begs to thank her numerous friends for the patronage received during the last twenty-five years, and having DISSOLVED PARTNERSHIP with her son, Mr. JAMES BURCHETT, has again OPENED the above BRICKFIELDS on her own account, where by strict attention to all orders she trusts to receive the same encouragement hitherto so liberally bestowed upon her. Office—Cranwell Cottage, Hounslow-road, Hounslow, W.

BRICKS.

FINE WHITE FACING BRICKS.
WHITE ORNAMENTAL BRICKS.
RED AND WHITE CUTTERS.
RIDGE TILES AND ROOFING TILES,
IN GREAT VARIETY.
Apply to RICHARD LANGLEY,
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GLAZED DRAIN-PIPES AND RED GOODS,
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SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER FAVIORS,
RED AND WHITE FACINGS,
STAFFORDSHIRE AND FIRE GOODS,
MALM CUTTERS, PICKINGS,
AND BUILDING GOODS GENERALLY.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

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Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

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J. H. ANDREWS, Wisbech, offers

Red Pantiles, at 47s. 6d. per 1,000.
" Stocks, at 55s. per 1,000.
" Floor Bricks, 40s. per 1,000.
White Kiln ditto, 40s per 1,000.
Ridge Tiles, 90s. per 100.

Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. Quantities may be delivered by Vessel at any of be Thames Wharfs.

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The BALLINGDON DEEP BLACK RUBBING and BUILDING BRICKS, and the CHEAFONT and BALLINGDON DARK and BRIGHT RED RUSBERS.

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IN ANY QUANTITIES, BY BARGE ALONGSIDE.

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BRICK BURNING, saving Two-thirds of the Fuel.—HOFFMAN'S PATENT ANNULAR OVENS, for the continuous burning of Bricks, Tiles, Pottery, &c. can be seen in action, and every information obtained on application to Mr. H. CHAMBERLAIN, 3, St. John's, Wakefield, Yorkshire.

FIFTY THOUSAND good sound STOCK BRICKS, nearly new, at 22s. per 1,000, for cash, loaded into barges alongside four to 1,000 extra.—Inquire at Mr EASTON'S, Snot Tower Wharf, Commercial-road, Lambeth, S.

SAMUEL TILDESLEY, 2, IRONGATE WHARF, PADDINGTON, W.—BRICKFIELDS: NORTH HYDE, near Southall.—Manufacturer of the best COWLEY STOCKS YELLOW and WHITE CUTTERS, YELLOW and WHITE SECONDS BEST FAVIORS, PICKINGS, &c. Delivered in the River, or in the Grand Junction and Regent's Canals, or in trucks to any part of Great Western Railway.

PLASTER ENRICHMENTS, CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,
243, EUSTON ROAD, ST. PANCRAS.
Best Gelatine, prepared, and ready for moulding 2s. per lb.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, December 12, 1863.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

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BY ORDER of the SECRETARY of STATE for INDIA in COUNCIL.

Notice is hereby given, that TWENTY-FIVE APPOINTMENTS in the UPPER CLASS of the ELECTRIC TELEGRAPH DEPARTMENT in India will, in the year 1864, be open to PUBLIC COMPETITION

A Competitive Examination will, accordingly, be held in this office in the month of MAY next. Full printed particulars of the conditions on which candidates will be admitted to the Examination, and also respecting the nature of the Appointments to be competed for, may be obtained at this Office, on applicating either personally or by letter, addressed to the "Under Secretary of State for India," India Office London, S.W.

November 20th, 1863.

ROYAL ACADEMY of ARTS.—On THURSDAY, the 10th instant, being the NINETY-FIFTH ANNIVERSARY of the FOUNDATION of the Royal Academy of Arts, at a General Assembly of the Academicians the following Premiums were awarded:—

The Gold Medal, Books, and a Scholarship of 25*l.* for two years.
To Francis Holl, for the best Historical Painting
To Henry Bursill, for the best Historical Group in Sculpture.
To Richard Phené Spiers, for the best Architectural Design.
The Turner Gold Medal, to Frank Walton, for the best English Landscape

Silver Medals and Books were likewise awarded:—
To Arthur Ackland Hunt, for the best Painting from the Life.
To George Smith, for a Copy made in the School of Painting
To Arthur Ackland Hunt, for the best Drawing from the Life.
To Francis Holl, for the next best Drawing from the Life.
To Edward Reeves, for the next best Drawing from the Life.
To Richard Phené Spiers, for an Architectural Drawing
To John Barclay Grebanne, for the best Drawing from the Antique.
To Augustus E. Muiready, for the next best Drawing from the Antique.
To Charles B. Barber, for the best best Drawing from the Antique.
To Samuel B. Long, for the best Model from the Antique.
To Frederick S. Potter, for the next best Model from the Antique
A Travelling Studentship for one year, with an allowance of 100*l.* was awarded to Thomas Henry Watson, for the best design in Architecture. JOHN PRESCOTT KNIGHT, R.A., sec.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and stove work.

72—74, Bishopsgate street Within, November, 1863.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr. TYLER, 12, Abingdon street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.
PRIZES FOR COLOURED DECORATION.

5*l.* 5*s.* and 3*l.* 3*s.* are now offered. The Competition will be open till MARCH 1st, 1864. Casts for colouration, price 5*s.* and full particulars may be had by letter to the Honorary Secretary, at 13, Stratford-place, W.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

All requests for Casts for Colouration must be accompanied by a Post-office Order on Charing-cross for 5*s.*; or if case and packing required, 7*s.*

PURSUANT to an Order of the High Court of Chancery, made in a cause "WILLIAM ROWE against EDWIN TIMPSON and Others," the Creditors of Mortimore Timpson, formerly of Stanhope place, Hampstead road, Middlesex, Builder, but late of the Victoria Tavern, Number 8, Crescent place, Mornington-road, Middlesex, Licensed Victualler (who died on the 21st day of August, 1863), and also the Incumbrancers upon his Real and Leasehold Estates, are by their Solicitors, on or before the 21st day of JANUARY, 1864, to come in and prove their claims at the Chambers of the Vice-Chancellor Sir John Stuart, Number 12, Old Buildings, Lincoln's-inn, Middlesex, or in default thereof they will be peremptorily excluded from the benefit of the said Order. WEDNESDAY, the 27th day of JANUARY, 1864 at ONE o'clock in the After noon, at the said Chambers, is appointed for hearing and adjudicating upon the claims.—Dated this 9th day of December, 1863.

ROBT. W. PEAKE, Chief Clerk.
JOHNSON & MASTER,
22, Duke-street, Grosvenor-square, Solicitors for the Plaintiff.

PURSUANT to an Order of the High Court of Chancery, made in a Cause wherein EGERTON PIERS ALLEYN LEIGH, GEORGE BURY WESTBROOK and AUGUSTA SUSANNAH EGERTON his Wife, ADA EGERTON LEIGH and WALTER EDWARD EGERTON LEIGH, ALICE EGERTON LEIGH and LAURETTE EGERTON LEIGH, three Infants, by the said Egerton Piers Alleyn Leigh, their next friend, Plaintiffs, against EUGENIUS BIRCH and JANE ISABELLA CRIER, Defendants, the Creditors of JOHN BRANNIS BIRCH, late of No. 43, Parliament-street, in the City of Westminster, Civil Engineer, who died on or about the 17th day of June, 1862, are by their Solicitors, on or before the 9th day of JANUARY, 1864, to come in and prove their debts at the Chambers of the Master of the Rolls, in the Rolls yard, Chancery-lane, Middlesex, or in default thereof they will be peremptorily excluded from the benefit of the said Order. FRIDAY, the 8th day of JANUARY, 1864 at TWELVE o'clock at noon, at the said Chambers, is appointed for hearing and adjudicating upon the Claims.—Dated this 9th day of December, 1863. GEO. RUDD, Clerk of Court.

WILLIAM MILLMAN, 1, Dane's-inn, Strand,
Solicitor to the above-named Plaintiffs.

BOROUGH of BIRMINGHAM.
SEWAGE UTILISATION.—The Flow of Sewage from the Main Outlet Sewer at Saltley amounts in volume to 15,000,000 of gallons daily, or thereabouts. By the system of intercepts adopted and now used by the Council, about 90 tons of solid sewage matter are daily removed at the Works of the Council, adjacent to the Main Outlet sewer at Saltley. The said Sewage Matter so intercepted and retained is considered to constitute a valuable Manure, and it is growing in public estimation for that purpose. The Council is desirous of NEGOTIATING with any Individual or Public Company for a CONCESSION of the WHOLE of the LIQUID and SOLID SEWAGE of the Borough produced at Saltley, and is willing to receive Proposals up on which to base such Negotiation.—Information on the subject may be obtained by personal application to the Borough Surveyor, Public Offices, Moor-street, Birmingham.—By order, THOMAS STANDERIDGE, Town Clerk.

Birmingham, December 1st, 1863.

ECCLESIASTICAL EMBROIDERY and TAPESTRY for Church Decoration, and VESTMENTS designed and prepared for the Trade or Clergy, by RODOLPHE BERLBROMER,
265, REGENT STREET, near the Polytechnic.

Gold and silver fabrics, fringes, thread and lace, velvets, silks, cloth, linen, and every other requirement for CHURCH NEEDLEWORK

CONTRACTS.

TO BUILDERS.—CLUTTON CHURCH, SOMERSET.—BUILDERS are invited to TENDER for the ENLARGEMENT and RESTORATION of the Parish Church of Clutton, near Bristol, and can see the drawings and specifications of the proposed Works at the Rectory House, Clutton, on and after MONDAY, the 14th inst. Tenders to be forwarded on or before the 31st inst., to the Architect, JOHN NORTON, Esq., 21, Old Bond-street, London, W. The Churchwardens do not bind themselves to accept the lowest or any Tender submitted.

CROYDON LOCAL BOARD of HEALTH.
PUBLIC NOTICE to ARCHITECTS, SURVEYORS, BUILDERS, CONTRACTORS, and all Persons interested in Building Operations.—Notice is hereby given, that from and after the 31st inst., any person BUILDING NEW HOUSES, or making any ALTERATION in existing buildings within the District of the Croydon Local Board of Health, must CONFORM to the provisions of the BYE LAWS of the said Board; and any person who shall in any way infringe the conditions described in the said Bye Laws will be liable to the penalties therein set forth.

BALDWIN LATHAM,
Engineer and Surveyor to the Croydon Local Board of Health.
Townhall, Croydon, December 5, 1863.

TO CONTRACTORS.—TO BE LET, the various WORKS required in the Erection of the Bradford Eye and Ear infirmary. Plans and specifications may be seen, and bills of quantities obtained at our Offices, Bradford, from MONDAY, DECEMBER 21st, to WEDNESDAY, DECEMBER 30th, on which last day sealed TENDERS must be delivered.—By order,

LOCKWOOD & MAWSON, Architects.
Post-office buildings, Bradford;
10, Lincoln's inn-fields, London.

CONTRACTS.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Fleetwood, in the county of Lancashire, may inspect the Drawings and Specifications at the Coast Guard Watch-room, Fleetwood, or at this Office, between the hours of TEN and FOUR, from MONDAY the 21st day of DECEMBER, to MONDAY, the 4th day of JANUARY, 1864, (new hour) evening, and both inclusive (Sundays and Christmas-day excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at noon of the 5th day of JANUARY, under seal and directed to the Commodore Controller General of Coast-Guard, and endorsed "Tender for Fleetwood Coast Guard Station."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 15th day of December, 1863, at the Admiralty,
Coast-Guard office, 12, Spring Gardens, London, S.W.

NOTICE to BUILDERS. Persons disposed to TENDER for the ERECTION of the various WORKS intended to be erected by the Herefordshire and South Wales Agricultural Improvement and Manure Company may inspect the drawings and specifications at the Office of the Engineer, Mr. THOMAS FLEWETT, C.E. 41, Tything, Worcester, on and after WEDNESDAY, the 23rd inst, up to MONDAY, the 28th inst. after that day up to FRIDAY, the 31st. at the Office of JAMES JAY, Esq. Solicitor, Hereford Bills of quantities will be supplied by the Engineer upon payment of one guinea. Tenders to be addressed to T. BADENHAM, Esq. Hereford, the Chairman of the Company, not later than MONDAY, the 4th day of JANUARY, endorsed, "Tender for Chemical Manure Works," after which date no Tender will be received.

41, Tything, Worcester, December 17, 1863.

TO BUILDERS and OTHERS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 5th of JANUARY next, at Half-past TWELVE o'clock precisely, to receive TENDERS for the CONSTRUCTION of NEW SEWERS, and Works in connexion therewith, in Norwich-court (Fetter-lane), Jewin-cresent, and a portion of Down street, agreeably to plans and specifications to be seen at the office of the Engineer to the said Commissioners, in the Guildhall of Security will be required from the Contractor for the due performance of his Contract. The Commissioners do not pledge themselves to accept the lowest Tender, or any, unless deemed advisable; and no Tender will be received after TWELVE o'clock on the day of treate.

JOSEPH BAW, Principal Clerk.

Sewers Office, Guildhall, 17th December, 1863

VESTRY of ST. MARY, NEWINGTON, SURREY to BUILDERS and OTHERS.—The Vestry is desirous to have ERECTED a VESTRY HALL at DUPPAS, in the Walworth road, Newington, Surrey, and to receive TENDERS for that purpose. Persons desiring to submit such Tenders are invited, that they can see the drawings, specification, and form of contract, and obtain a copy of the bills of quantities, by applying to Mr. HENRY JARVIS, Architect, at his office, No. 29 Trinity square, Borough, Surrey, between the hours of TEN and FOUR o'clock. The Tenders are to be delivered at the Vestry-room, St. Mary's Church, Newington, on TUESDAY, 12th JANUARY next, at SEVEN o'clock in the evening precisely, previously thereto at our Offices as below, and must be accompanied by a sealed envelope, containing the names of two proposed sureties in 500*l.* for the due performance of the contract. The Vestry do not bind themselves to accept the lowest or any Tender.

H. & F. CHESTER, Joint Clerks to the Vestry.

1, Church-row, Newington butts.

TO CONTRACTORS and OTHERS.—A LARGE SPACE (probably forty Acres, more or less) within twelve miles of London, is required to be CLEARED of TREES and BUSHES within a limited time.—Apply by letter to C. D. Post-office, Wimbledon, Surrey.

THE MALVERN COLLEGE BUILDING COMPANY (Limited).—To BUILDERS. The Directors of the Malvern College Building Company are prepared to receive TENDERS for the ERECTION of TWO JUNIOR BOARDING HOUSES, at Malvern, on land adjoining the Proprietors College, now in course of erection. The plans, specifications, and conditions can be seen at my offices, at Malvern Wells (from MONDAY, the 28th inst. until MONDAY, the 4th JANUARY next. Bills of quantities will be supplied, free of charge, on application to me, either personally or by letter. The Tenders to be delivered or left at my office, in Abbey-street, Cheltenham, by NOON of the forenoon, on THURSDAY, the 14th of JANUARY next, and the Board will proceed to open the same at ELEVEN o'clock, when parties tendering will be expected to attend. Each Tender will be required to state the time required to complete the works, but the Directors do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties, in the sum of 500*l.* for the due performance of the contract. The cost of preparing the contract and bond will be borne by the Guardians.—By order,

W. L. DIGGENS, Clerk to the Guardians.

Chelsea, December 16, 1863.

[*For remainder of Contracts see next Page.*

CONTRACTS.

URLESS FARM, CORSCOMBE, DORSET.—To BUILDERS and CONTRACTORS.—TENDERS are invited for the CONSTRUCTION of a NEW FARM HOUSE and OUT-BUILDINGS, at Urless Farm. Plans, elevations, sections and specifications may be inspected, on and after the 12th day of DECEMBER instant, at the office of Messrs. SLADE, solicitors, Beaminster; and at the Offices of Mr LEVERSEDGE, Surveyor, Taunton. Tenders are to be delivered as addressed on or before MONDAY, the 11th of JANUARY next, 1864. The Directors do not pledge themselves to accept the lowest or any Tender.—By order of the Directors, JONATHAN GILL, Secretary.

Oakworth, December 12th, 1863.

MILITIA STORES, BATH.—To BUILDERS.—Parties desirous of TENDERING for the ERECTION of the NEW STORE BUILDINGS for the 2nd Somerset Militia, at Bath, are requested to send me their names at once, and pay the sum of 10s 6d. for the bills of quantities and forms of Tender. The drawings and specification can be seen, and all information obtained, at my Offices, on and after the 23rd instant. The Tenders to be delivered to me sealed and indorsed, before TEN o'clock a.m. on 2nd JANUARY. The Committee do not bind themselves to accept the lowest or any Tender.

CHARLES J. PHIPPS, F.S.A. Architect.
5, Paragon buildings Bath, 10th December, 1863

NORTH-EASTERN RAILWAY.—DARLINGTON SECTION. The Directors are prepared to receive TENDERS for the following WORKS, viz.:—
The ERECTION of a STATION MASTER'S HOUSE, at Crook.
The ERECTION of SIX COTTAGES, at Barnard-on.
The ERECTION of an ENGINE SHED, at Saltburn by the-Sea.
Plans and specifications of the above may be seen at the Architect's Office, Northgate, Darlington, on and after WEDNESDAY, the 9th day of DECEMBER, and TUESDAY, the 22nd day of DECEMBER 1863. Tenders are to be addressed to the Secretary, and delivered at the Railway Office, Darlington, not later than TUESDAY EVENING, DECEMBER, 22nd, 1863. The Directors do not pledge themselves to accept the lowest or any Tender (signed) THOS. MAC NAY, Secretary.

Railway Office, Darlington, December 5, 1863

TO BUILDERS and CONTRACTORS.—Parish of Saint Pancras, in the County of Middlesex.—Notice is hereby given, that the Directors of the Poor of the said Parish will meet, at the Vestry Hall, King's-road, Pancras-road, on TUESDAY, the 29th day of DECEMBER instant, at TWO o'clock in the afternoon precisely, PENDELS for a gateway willing to CONTRACT for the ERECTION of WORKHOUSE WARDS, with DORMITORIES over, pursuant to plans and specifications, to be seen daily, on or after MONDAY next, the 14th instant, between the hours of TEN and FOUR o'clock, at the Office of Mr. WILLIAM BOOTH SCOTT, C.E. Chief Surveyor, of No. 10, Edward street, Hampstead-road, N.W., where the proper forms of Tender (and on which only proposals will be received) may be obtained. And the Directors of the Poor hereby give notice, that they will not supply quantities of the several work, or be in any way responsible for quantities which may be taken out by any person. Good security, to the satisfaction of the Directors, in the sum of £600, will be required for the due performance of the contract; and the names, descriptions, and written consent of two sureties, must be forwarded with each Tender. The Directors of the Poor do not bind themselves to accept the lowest or any Tender. Sealed Tenders to be delivered, addressed to me, at the Vestry Offices, King's-road, Pancras-road, indorsed "Tender for Enlargement of Workhouse," before TWO o'clock on the afternoon of the 29th of DECEMBER instant; and the party tendering or his agent must be in attendance at the said Offices at THREE o'clock p.m. on that day.—By order,

FRANCIS PLAW, Vestry Clerk.

Vestry Office, Pancras-road, N.W. 8th December, 1863.

TENDERS will be received for the ERECTION of a VILLA RESIDENCE at Addiscombe, near Croydon. Plans and specification to be seen at Mr. J. F. MATHEWS's Office, Surveyor, &c. Lowest or any Tender does not bind himself to accept the lowest Tender.

TO VALUERS.—POPLAR UNION.—Notice is hereby given, that the Assessment Committee of this Union are desirous of receiving TENDERS from Professional Valuers for MAKING a VALUATION of such Properties within the Union as may be required by the Committee. The Tenders are to be jointly and severally from two persons (not connected in partnership), fully competent to Value the Buildings and the Rateable Plant and Machinery; and such Tenders, stating the terms upon which it is proposed to make such Valuations, should be sent to me, addressed "Tender for Valuation," not later than the 4th day of JANUARY next. Parties Tendering are requested to be in attendance at a Meeting of the Committee, at HALF-PAST ELEVEN a.m. on TUESDAY, the 5th day of JANUARY next. The Committee do not bind themselves to accept the lowest or any Tender.—By order of the Committee,

JAMES RIPLEY COLLINS, Clerk to the Committee.

December, 14th, 1863.

LIGHTNING CONDUCTORS.—R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all fittings complete, at the following prices:—

Three eighths-inch diameter	1s. 0d. per foot.
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Offices—130, Strand, London
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" 27, Dale-street, Manchester.
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" 17, South Castle-street, Liverpool
" Exchange-buildings, Dundee.
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PROTECTION from LIGHTNING.
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As presenting the MOST EFFECTIVE MEANS of OBTAINING SECURITY from LIGHTNING. They are simple, readily fixed, and APPLICABLE to ALL BUILDINGS, including Private Houses, Churches, Chimney-Shafts, Dairies, Powder Magazines, &c. &c.
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WHOLESALE AND MANUFACTURING IRONMONGERS,
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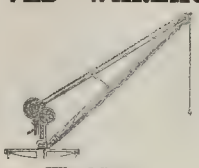
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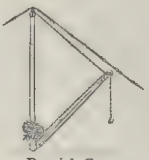
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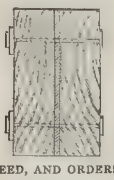
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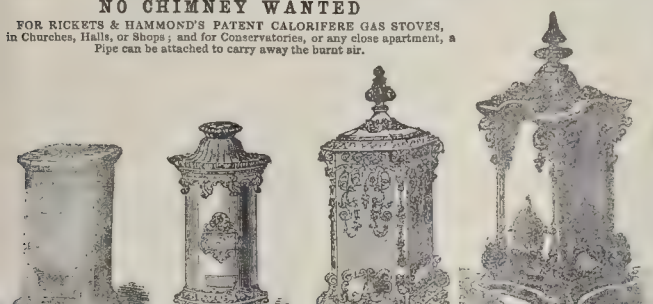


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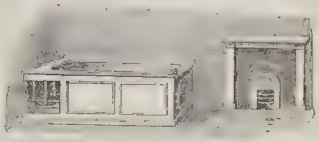
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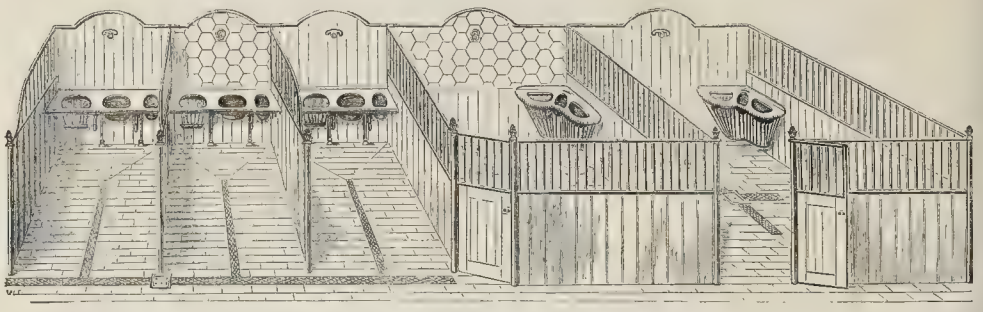
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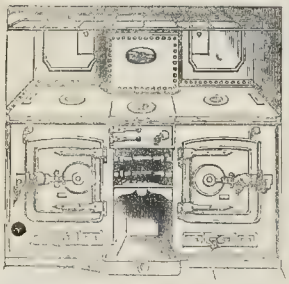
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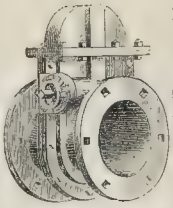
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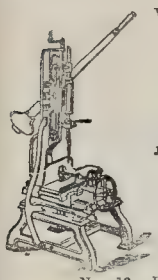
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PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,



which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

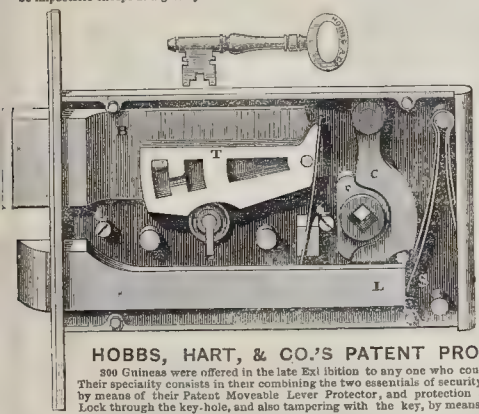
A large Stock of Nails, Screws, Locks, Latches, Hinges, Pulleys, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

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HOBBS, HART, & CO.'S
MACHINE-MADE LOCKS AND STREET-DOOR LATCHES.

These Locks are recommended for all purposes requiring good ordinary security combined with economy of price and durability of wear; as, by means of machinery, a faultless accuracy is arrived at which by hand-labour would be impossible except at a greatly increased cost.



The security of these Locks consists in a series of Levers that have to be raised to unequal positions by the bits of the key before the bolts can pass. These will bear comparison with those at treble their cost.

These Locks are made from two to five levers, and also in suits to differ, with master-keys to pass.

The retail prices for Cabinet purposes is from 2s. to 4s. each; for Room Doors, 4s. to 9s. 6d. each; Street Door Latches, 7s. 6d. to 18s. each.

The 2-bolt 4-lever Mortise, with Hobbs & Co.'s Patent Follower, price 8s.

HOBBS, HART, & CO.'S PATENT PROTECTOR LOCKS.

300 Guineas were offered in the late Exhibition to any one who could Pick these Locks in thirty days. Their speciality consists in their combining the two essentials of security, viz.—protection against picking, by means of their Patent Moveable Lever Protector, and protection against illicit tampering with the Lock through the key-hole, and also tampering with the key, by means of their Patent Nozzle Protector. These all-important principles are the special and peculiar features of HOBBS, HART, & CO.'S Patent Locks. These Locks vary in price from 10s. to 50s. each, with solid keys. For prices with changeable keys, see 16-paged Illustrated List of Locks, Iron Door Safes, &c.

HOBBS, HART, & CO. 76, CHEAPSIDE, LONDON, E.C.

Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD, N.

INTERNATIONAL EXHIBITION, 1863.

Class IX.—Prize Medal for Agricultural Portable Steam Engines and Machinery.

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For "Good arrangement, good workmanship, and practical success."

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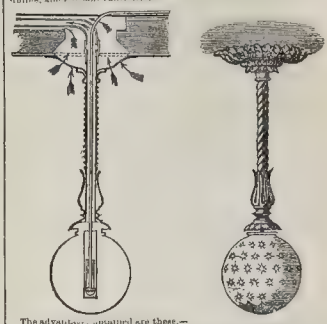
Manufacturers of Portable and Fixed Steam Engines, Machinery for Pumping, Hoisting, Grinding, Sawing, an Agricultural Purposes, &c. adapted for any part of the World.

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VENTILATING GLOBE LIGHT,



The advantages obtained are these.—

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour

No. 5, CHANDOS STREET, CHARING CROSS, LONDON, W.C.

A PRIZE MEDAL for SUPERIOR LOCKS

was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, 4s.; and the New Registered Venetian Ventilator, so much admired, 4s. 6d. each

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 2 Centuries, for the supply of GOODS of the BEST MANUFACTURE, at the LOWEST PRICE.

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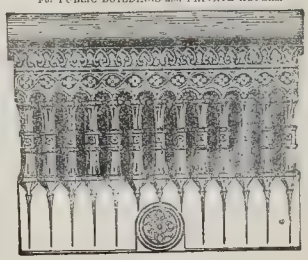
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APPARATUSES,

For PUBLIC BUILDINGS and PRIVATE HOUSES.



SAVES IN FUEL 50 PER CENT.!

A prospectus, containing a full description of their action, and numerous advantages, will be given on application to the Patentee, G. LEWAY, 5 and 6, PHILLOT LANE, LONDON, E.C.

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SMOKY CHIMNEYS.



S. DEACON

Respectfully invites the attention of Architects, Builders, &c. to his

PATENT LOUVRE CHIMNEY CAP,

which has been in use some time with perfect success, many strong chimneys where other caps have been of no avail.

The advantages attending this Cap are, it can be thoroughly cleaned by the machine when the chimney is swept, the brush being able to pass through the Cap without the possibility of misplacing it, an increased draught, and the impossibility of a down one.

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HEMSWORTH STREET, SAINT JOHN'S ROAD, HOXTON, N.

ROBERT MACLAREN & CO.

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Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

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ESTABLISHED 1744.

AUSTIN'S IMPERIAL PATENT SASH

and BLIND LINES.

To BUILDERS, CARPENTERS and BLIND MAKERS

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from hair, which article has neither the STRENGTH nor DURABILITY of flax, consequently cannot give so good satisfaction to the purchaser.

They can be had of all Ironmongers, Iron Merchants, Factors, and Wholesale Houses, and in the Trade only

BROWN & GREEN'S
PATENT KITCHEN RANGES.
PRIZE MEDAL, 1862.

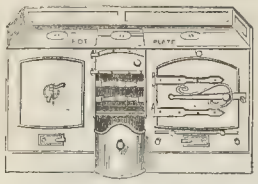
These Ranges combine the latest improvements with great simplicity and durability. They afford facility for roasting meat in front of the fire without interruption to the action of the oven, hot plate, boiler, &c. The Ovens are well ventilated, and perfect either as roasters, or for baking bread or pastry. For Efficiency, Economy, and Ventilation, and

CURE OF SMOKY CHIMNEYS,

these Ranges are unequalled. They are of all sizes and prices; and when fitted with Bath and Steam Apparatus, &c. they form the most complete appointment for good establishments. Designs, &c may be had on application at THE LONDON WAREHOUSE,

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"One of the best arrangements of the 'Kitchener.'"—See *Builder*, Sept 6, 1862.



THE LEAMINGTON PRIZE KITCHENER.

These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within Five Miles.

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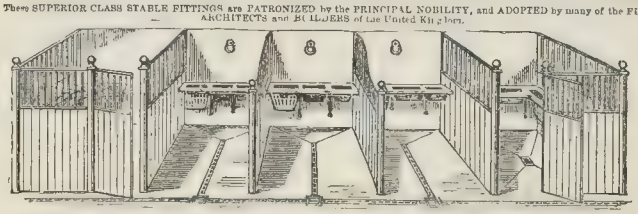
WHOLESALE AND MANUFACTURING IRONMONGERS,

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BY APPOINTMENT TO H.R.H. THE PRINCE OF WALES.

BARTON'S PATENT PRIZE MEDAL STABLE FITTINGS.

These SUPERIOR CLASS STABLE FITTINGS are PATRONIZED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to the NEW STABLE just completed, with full size Stalls, Loose Boxes, and Harness Room, now open for inspection, at the Manufactory, 370, Oxford-street, where an extensive assortment of all kinds of Stable Furniture, upon the most modern and improved principles, are to be seen.

A new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four stamps.

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MUSGRAVE'S PATENT STABLE AND HARNESS FITTINGS.



MUSGRAVE'S PATENT HARMLESS LOOSE BOXES, MUSGRAVE'S PATENT IRON COW-STALLS AND PIGGERIES.

Architects who have not seen these Fittings are requested to write for Engravings, as they are unlike those of any other maker, and were admitted to excel all the work of the kind in the Exhibition. They are now extensively adopted in almost every county in England; and MUSGRAVE, BROTHERS, are now fitting several very large establishments in the Italian style of Domestic Architecture, noted for adopting only what is the best of its kind. Particulars of these, as well as of MUSGRAVE'S PATENT SLOW COMBUSTION STOVE, will be forwarded on application to

MUSGRAVE, BROTHERS, ANN STREET IRON WORKS, BELFAST.



DRAUGHTS & DUST ROUND DOORS & WINDOWS

EFFECTUALLY PREVENTED BY

GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS

(*Can be had any Length or Pattern*).

The neatest, most simple, and effectual method of making air-tight joints to joiners' or cabinet work OLD or NEW.

Self acting Spring Slides for the bottom of doors.

The most imperfect doors can be made air tight without re-hanging.

The Trade supplied on liberal terms.

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GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

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MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

IMPROVED ENDLESS BAND SAW

30-inch Pulleys, with Compensation Motion to prevent breakage of saws, and Moveable Table for angular or circular cutting. Can be seen at work. Portable and fixed Steam Engines, Morta Mills, Saw Benches, Cranes, Crabs, Weighing Machines, &c

CLARK & CHARNLEY, Engineers, Preston.



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FRENCH BAND SAW BLADES.

SAMUEL WORSSAM & CO.

having purchased of M. Perin, of Paris, the sole right to import and sell his BAND SAW BLADES throughout the United Kingdom, beg to announce that they are now in a position to supply these Saws from 1-16th of an inch to 8 inches in width, and up to 50 feet in length.

The vast superiority of Perin's Band Saws over any others in point of finish, toughness, durability, and evenness of temper, is now everywhere admitted

S. W. & CO. keep a large stock of all sizes up to 2 inches wide, from which they can supply orders to any part of the kingdom within twenty-four hours' notice.

For Price Lists, apply to

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SAW MILL ENGINEERS,

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POWIS, JAMES, & CO.

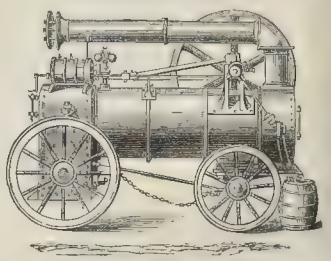
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Awarded for a Collection of FIRST-CLASS MACHINERY for WORKING WOOD, being the "HIGHEST COMMENDATION" attached to any medal in this class.

IMPROVED PORTABLE STEAM ENGINE.



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SAW-MILL ENGINEERS, AND MAKERS OF CONTRACTORS' PLANT.

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From the experience of Mr. CHARLES POWIS, who was for so many years with Messrs. POWIS, JAMES, & CO we are enabled to offer SAW-MILL MACHINERY and CONTRACTORS' PLANT upon very advantageous terms.

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Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l*.



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CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



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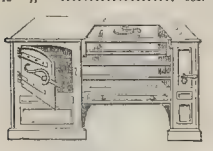
RANGES.

Self-acting Cottage, with Oven and Back Boiler.

30 inches ..... 22s.
32 ,, ... 24s.
34 ,, ... 26s.
36 ,, ... 28s.

Self-acting, with Bright Wrought Bars.

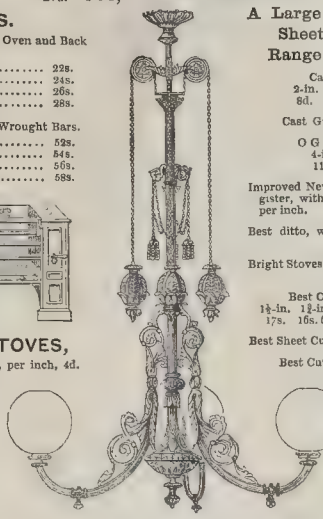
34 inches ..... 52s.
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38 ,, ... 56s.
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REGISTER STOVES, with Strong Bars, from, per inch, 4d.

GAS PIPES and FITTINGS.

CHANDELIERS and BRACKETS.



A Large Assortment of Bar, Sheet, and Hoop Iron, Range and Stove Metal.

Cast Rain-Water Pipe,
2-in. 2¼-in. 3-in.
8d. 10d. 1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

O G Gutters, with Clips on.
4-in. 4½-in.
11d. 1s. per yard.

Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4d. per inch.

Best ditto, with Fire-brick Back, from, per inch, 5d.

Bright Stoves, with Two Fires, 46s. to 100s. each.

Best Cut Clasp and Rose Nails.
1½-in. 1¾-in. 2 in. 2½-in. 3 in.
17s. 16s. 9d. 16s. 15s. 14s. 6d. per cwt.

Best Sheet Cut Floor Brads, 14s. 6d. per cwt.

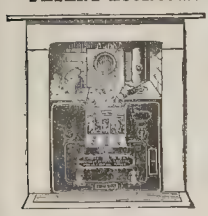
Best Cut Lath Nails, 17s. per cwt.

BRICK MOULDS KEPT IN STOCK.

Any Size made to order.

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PATENT ECONOMIC COTTAGER'S COOKING AND IRONING STOVES.



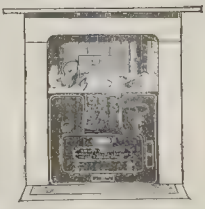
WHEN USED OPEN.

These Engravings represent the Smallest Size Stove, viz. 24 inches long, 24 inches high, and 15 inches deep. The Oven is 18 inches long, 14 inches deep, and 11 inches high. The Boiler contains three pails of water.

This Stove, also

CUNDY'S PATENT BRICK OVEN

Double Fall-down Bar KITCHEN-RANGE, and PATENT BRICK OVEN, Semi-close Range, also CUNDY's Patent Original FIRE-BRICK Warm Air Ventilating STOVE, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES, can be seen in operation daily, at the SHOW-ROOMS of the

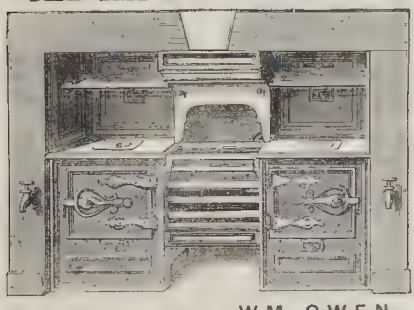


WHEN CLOSED FOR BAKING.

Manufacturer, Wm. ADDIS, 6, 7, & 15, Leicester-street, Leicester-square, London.

A Prospectus, with full description and price of the above, will be sent per Post on application.

THE IMPROVED OPEN FIRE KITCHENER,



Manufactured by

WM. OWEN, PHŒNIX IRON WORKS, ROTHERHAM,

Possesses all the advantages of the ordinary Close Fire Kitchener, in having excellent Hot Plates on top of Ovens, for boiling, steaming, or stewing, with the additional advantage of having a thoroughly effective and deep OPEN Fire for roasting purposes.

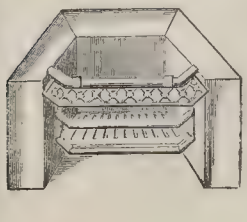
The Ovens are heated upon Bradley's Patent Principle (under which W. O. possesses the sole right to manufacture), and by which a great economy of fuel is effected.

These Kitcheners are made of all qualities and sizes, suitable for all classes of houses, from the cottage to the mansion; and can be OBTAINED THROUGH ANY IRONMONGER in the UNITED KINGDOM.

WM. OWEN,
GENERAL IRONFOUNDER, STOVE GRATE AND FENDER MANUFACTURER
PHŒNIX WORKS, ROTHERHAM.

FIRE-LUMP STOVES,

FOR BED-ROOMS, COTTAGES, SERVANTS' OFFICES, BARRACKS, SCHOOLROOMS, WAREHOUSES, CHARITABLE INSTITUTIONS, &c.



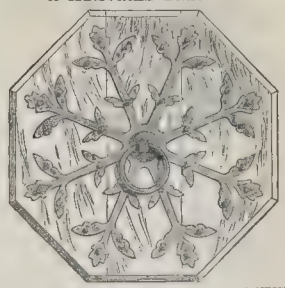
With hanging trivet.

		s.	d.		s.	d.
18 inches wide,	10 inch bars	7	6		8	6
21 ,,	12 ,,	10	6		12	0
24 ,,	15 ,,	13	0		15	0
27 ,,	18 ,,	16	0		18	0
30 ,,	21 ,,	20	0		—	
33 ,,	24 ,,	30	0	Extra strong.		
36 ,,	27 ,,	36	0			
42 ,,	30 ,,	42	0			

These Stoves give considerable heat with a small consumption of coal.

EDWARDS & SON,
STOVE GRATE & KITCHEN RANGE MANUFACTURERS,
No. 43, GREAT MARLBOROUGH STREET, REGENT STREET, LONDON.

HART & SON,
METAL WORKERS,
In Silver, Brass, and Iron, and ENGRAVERS of MEMORIAL BRASSES.



ALTAR, BOUNDARY, and TOMB RAILINGS; GATES, HINGES, HANDLES, LOCKS &c.
VANES and TERMINALS; FONT COVERS and GUARDS; CORONÆ and CHANDELIERS; GASFITTINGS; LECTERNS, BOOK DESKS, HALBERDS, PATENS; ALMS BASINS and BOXES; COFFIN FURNITURE, &c. &c.
ILLUSTRATED CATALOGUES and ESTIMATES FURNISHED.
53 to 58, WYCH STREET, STRAND, W.C.
Show Rooms also, 20, Cockspur street, Pall-mall, LONDON, S.W.

GAWTHORP, Engraver of Memorial Brasses,
18, LONG ACRE, W.C.

Brasses worked from Drawings supplied, and may be seen in progress. Sketches, Rubbings, and Estimates submitted. Old Brasses carefully restored.

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.

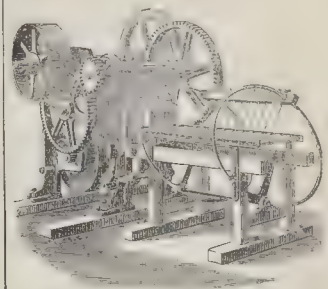


Manufactory, 190, High Holborn, London.
Drawings and Estimates furnished.

COX & SON, CHURCH FURNITURE MANUFACTURERS,

28 and 29, SOUTHAMPTON STREET, STRAND
PAINTED and STAINED GLASS WORKS, 42 and 14, Maiden-lane (adjoining Southampton street), W.C.
WOOD and STONE CARVING and GOTHIC METAL WORKS, Rockingham road, Low Pentonville, N.W.
CARVING.—A great competition effected with the assistance of the Patentee's Machinery.
GOTHIC METAL WORK, of every description, both in Silver, Brass, and Iron.
PAINTED GLASS.—Designs and Estimates for subject Windows, &c. Quarry and Geometric Glazing.
THE WHOLE OF THE WORK DONE ON THE PREMISES.
COX & SON'S New Illustrated Catalogue (Oct., 1863) with 350 Wood Blocks of Church Furniture, Painted Glass, and Decoration, forwarded for six stamps.—Show rooms, 28 and 29, Southampton-street, Strand.

BRICK MAKING, BY STEAM OR HORSE POWER,



BUNNETT'S PATENT
CONTINUOUS FEED MACHINES

Are the cheapest and most efficient, and will make from 1,000 to 20,000 bricks per day, according to the power applied. All the improvements of the present, or any future Machine, can be applied to any others.

Price £37, including pulley, and a good set of die for 9-in. and Perforated Hollow Bricks.

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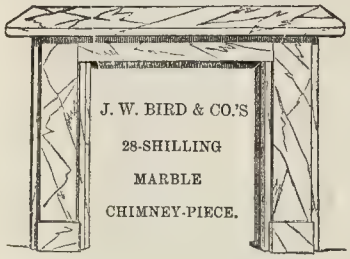
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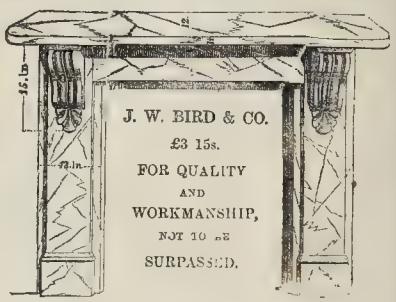
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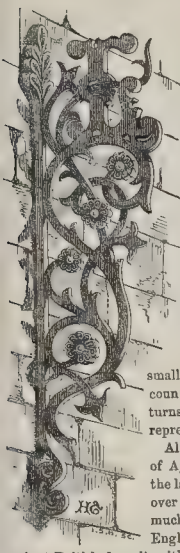
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VOL. XXI.—No. 1089.

Buckinghamshire: Condition of the Agricultural Districts.



LEAVING for a time the closely-packed residents of towns, we are led to make some inquiries into the condition of things in the agricultural district around Buckingham. A branch of the North-Western Railway line—straight as an arrow—brings us from Cheddington Station, a place at present in a sad state of incompleteness and bad roadways, to Aylesbury, the county town of Bucks, one of the smallest of the English counties, but which returns five members to represent it in Parliament.

Although the population of Aylesbury, according to the last census, is not much over 6,000, the town has much importance in old English history. In the ancient British days it withstood assailants until the year 571, when it was reduced by Cuthwolf, the brother of the King of the West Saxons. After that the town derived great fame from Eadburg and her sister Edith, who were, as tradition says, two holy virgins, the daughters of a king or Mercian prince. Aylesbury became much frequented in consequence of the holiness of St. Edith, and the town was allotted to her as a dowry by her father. The particulars in connexion with this lady seem rather vague; but about the beginning of the seventh century the town became famous as the burial-place of St. Osyth, who was born near here, and murdered in Essex. She is said to have been contracted in marriage to a king of the East Angles, but on the day of her espousal retired to lead a religious life. She built a monastery, and suffered martyrdom during one of the incursions of the Danes. The remains of this lady, who, according to the tradition, was beheaded near the bath she had been accustomed to frequent, were interred in the church at Aylesbury, and a religious house was erected to her memory on the site where the present rectory-house now is. William the Conqueror seems to have done mischief here, for the lands were taken from the original owners, and given to a favourite of the ruler, under the tenure of providing straw for his bed three times a year, three eels in winter, and three geese in summer. Through several centuries the town of Aylesbury kept its place, and in the reign of Queen Mary, 1553-4, it was incorporated by charter, and still retains the privilege of returning two members to Parliament.

Turning, however, from things of old time to those of the present, it should be mentioned that Aylesbury is a pleasant little town, which stands on an elevation, and might, if all were rightly managed, be one of the most healthy spots in England. The death-rate in comparison with that of some other places is not excessive, being about twenty-five in the thousand of the population. Right sanitary measures would reduce those deaths to about nineteen or twenty in the thousand; and it is with great satisfaction we find that earnest men in this little town are striving in the right way to effect improvement. For instance, the town has been provided with main sewers; and there is a chance of testing the value of town sewage, and the right way of managing it. Respecting the extent to which the convenience of drainage has been made available, we will by-and-by remark. It is, however, evident that there are men in Aylesbury at work, not especially connected with agriculture, who are anxious to make this town what it should be. Go where you may in the neighbourhood you hear the names of the Rothschilds mentioned in connexion with all good works. On the land in their possession the cottages of the labourers are not demolished without the provision of others of a better kind. On the Creslam estate, which is said to have some of the finest land in all England for cattle-feeding, the person who has possession, Mr. or Mrs. Rowland, has levelled the cottage dwellings to the ground and put none in their place: this, however, is a matter for observation hereafter.

The new Infirmary has an excellent site: on all sides are pleasant views, and the air is bracing and healthy. The colour of the foliage which is left, the grass, the bright rich brown of the feathers of the sparrows, show how comparatively pure the air here is. The wards are lighted from each side, and at the end of each a large circular-headed window affords the opportunity of a fine view over the adjacent country. The ceiling and walls throughout the building are of Parian cement, which is polished as bright as marble; the floor is of polished oak; all the furniture is of the same material, so that there can be but little chance of the absorption of impurities, as was the case in the last hospital here and in the old *Dreadnought* ship in the Thames. No cooking of any kind is allowed in the sick wards; and sculleries and places for preserving the provisions of patients are expressly provided. The closets are also so arranged that contamination of the atmosphere of the wards can scarcely happen.

The walls of the wards are of a delicate rose colour, which is cheerful to the eye. While in the old hospital the cures were few, in the new building the results of treatment have been very satisfactory. The reception-room for out-door patients, by the way, is not satisfactory, and should at once be altered.

The dilapidated condition of many of the cottages in various parts of Aylesbury, is extraordinary: we would especially notice some at no great distance from the church. Spring Gardens, Whitehall, as the locality is named, is one of those neglected places. Here are several dwellings, some of which stand in rows of three or four houses, each consisting of a small room on the basement, and a still smaller apartment above. We give a sketch of one of those dwellings;* the yard in front is partly paved in an irregular manner, that does not prevent the absorption of the refuse which is thrown here. In some instances the broken and dilapidated spouts serve for the collection of part of the rain-water in small casks, but the chief portion runs from the eaves and sinks into the basements of the houses. The water for domestic purposes is obtained from wells, some of which are provided with rollers, ropes, and buckets: in other cases, however, there is nothing over the top of the well except some broken boards. Although sewers have been carried through the chief thoroughfares, and the gully-holes carefully trapped; still there is no doubt that here as is the case in the metropolis, there is much required to be done by the Local Board of Health in compelling the owners of property to take drains into the sewer where the houses are within the legal distance from it. There is a sanitary inspector, and he is assisted by members of the Board of Health; it is, therefore, hoped that before long the drainage of cottages and other dwellings will be completed. When this is done, and a better water-supply provided, a decrease of the present death-rate may be looked for.

In some of these cottages we found excessive poverty. In one house there were a man, his wife, and five children. He was generally employed in various ways upon the neighbouring lands, but, owing to an accident, had been out of work for upwards of ten weeks. Even in the best of times, his earnings were not more than from 10s. to 11s. a-week; and here, as in other parts of this district, there were complaints that the uncertainty of obtaining constant employment materially lessens the general income. Unless something be done to this cottage in the way of repair, the roof will most likely fall upon the inmates. In another cottage a man was "awfully bad," as he said, "with rheumatics." This was not to be wondered at, for the ill-built walls and floors were saturated with damp. The houses are planted on the ground, and the flooring consists of indifferent brick-work, repaired here and there with stone. There is no opening for the purpose of ventilation at the backs. In another row of cottages of the same pattern as those just mentioned there were serious cases of fever. The well was in dangerous proximity to the filth from the houses and piggeries. Here, too, as in other parts, there is an indecent neglect of closet accommodation. We might continue at considerable length to notice dwellings of a similar description in which there were complaints of sickness, and the usual account of the death of half or more of the children. The rent of these small two-roomed cottages is from 1s. 6d. to 2s. a-week, a small sum, but which many of the poor with difficulty manage to pay.

In the central portion of Aylesbury, the Market-place, there are several very ancient houses. Some of the inns, and the old-fashioned hanging signs, are especially worth notice; and, as regards the latter, it is to be remarked that some of them deserve preservation for their artistic merits, and as examples of a style of English art which has nearly passed out of use. The sign of the Cock is well painted, and is in an excellent state of preservation. An old inhabitant remembered this sign sixty years ago. The King's Head, bluff Harry VIII., is characteristic; besides these there are the Angel, the Cross Keys, the Red Lion, the Crown, the Dun Cow, the White Hart, and other places of old note.* The last-named house, although the front has been modernized, still retains at the back the architectural features of Charles I.'s reign. The King's Head still shows many of its original points belonging to Henry VII.'s or Henry VIII.'s reign. The kitchen is very picturesque. The proportions of this apartment are large, the stained glass and leaden frame-work still remain in the window; the table, dressers, the moulded oak beams of the roof, the open fire-place, a stag's head with immense antlers, the head being of wood, painted black, the peculiar window-curtains, and other features, form a scene, which, but for the gas-pipes, the notices of railway trains, and the earthenware plates and dishes, has been little altered since the time when Shakspeare may have passed this way.

Behind the Bull's Head Inn there is a range of dwellings which requires the especial care of the local board of health of this town. Here are about thirty small dwellings, most of them in a bad state of repair, and for which there is even now only the provision of two closets. Until recently there was but one closet for the use of all the people who lived in this unwholesome situation. We need not remark further upon the evils certain to result from such a disgraceful state of things as this.

* See p. 897 for this and other illustrations of the statements here made.

* Many of these were either painted or restored by an artist named Hodgkins. He died at an advanced age not long since, and there does not seem to be any one to fill his place. The Wagon and Horses at Stone, near Aylesbury, is a good example of his skill.

Besides the neglect of closets, the drainage of houses into the main sewers, and some other matters to which we have above referred, the present water supply is an especial evil and inconvenience. The soil is of a porous description, and the numerous wells which are here and in the villages cannot fail to be more or less polluted. At the Infirmary a well has been sunk to a considerable depth, and from this a plentiful supply of water, at present very good, is raised to all parts of the building. Formerly, the prison stood in part of the market-place, and it was the duty of the inmates, by the means of a treadmill or some such contrivance, to raise water for the supply of the town. Now, the gaol having been removed, the water is carried by bearers, as it was formerly in London. The water brought from some neighbouring brook is sold at the rate of 8d. a load. The proprietor of one of the market-place inns said that he required four of these in a week, and that he was obliged to keep his stables empty in consequence of the want of sufficient water for the horses, even with the help of a well and rain-water. The cost of the water purchased by him of the bearers amounted to more than 6*l.* a year. In order to remedy this defect, it is proposed to incorporate a company to supply water for domestic, trade, sanitary, and other purposes, within the townships of Ashton Clinton, Buckland, Weston Turville, Bierton-with-Broughton, and Aylesbury, with its hamlet of Walton; and power from Parliament will be asked for next year to construct and maintain service reservoirs in a field on a high point of land near Tring, in the parish of Buckland. This plan has been favourably received, and will, it is hoped, be speedily carried out.

During six days of the week the town is quiet enough, but on the market day, Saturday, great is the change: from all the roads which centre here flock crowds to buy and others to sell. The scene in the market-place is both bustling and pleasing. The canvas-covered stalls set over the space, the crowded sheep and cattle pens, the showmen, the bellman, the dealers in tea, quack medicines, &c., &c., crowd the spot; and it may be just worth while to remark that the cost of the site of a movable stall or other selling-place in this market is not more than from 4d. to 6d., and the price of butcher's meat is,—pork, 5½d. per lb.; beef, prime parts, 8d. per lb.; loin of mutton, 7d. per lb.

We must, however, pass through this crowd into the fields, by the road towards Tame. Going in this direction, the church and town of Aylesbury appear to much advantage, and it cannot fail to strike an observer that the situation of this place is well adapted—in the centre of an agricultural district—to the utilising of the sewage of the population upon the neighbouring land, instead of sending it in waste to contaminate the streams of the Tame and the Thames. Few places are better situate for easy and effective drainage than Aylesbury. Along this road, and the others which branch from this old town in various directions, the wide extent of pasture and other land, with but few places of human habitation, produces surprise in a stranger. In this direction, for about three miles after leaving Aylesbury, there is scarcely a cottage-dwelling to be seen. The country, however, even in December weather, is beautiful. On this road is the finely-situate dwelling of Dr. Lee, of scientific note, who has collected a large and valuable museum of geological and other specimens, which have been for the most part obtained in this district. The house of the doctor has no particular architectural merits; but the surrounding parts are pleasant to the eye, and amongst the pine and other trees which fringe the road and ornament the park, a landscape painter would meet with rare studies. The wall of the park is of itself worthy of note; it is strongly built of hewn stones, won from the quarries, with ammonites and other fossils inserted here and there in the way of ornament.

Complaint comes from various quarters that Dr. Lee is careless of his cottage dwellings; that he has within a very short time demolished about twenty cottages which had been occupied by persons who were engaged in the cultivation of his land; and that the men, their wives and families, are driven to find shelter in the back-slums of Aylesbury. "It be hard," said a man, "to get to work in the season at five o'clock, and have to walk four miles, morning and night." It vexes us to note this want of wisdom. There are, however, some cottage dwellings still left on this estate, which are of the most discreditable description; and it is clear that little thought is given to sanitary requirements. Take, for instance, Hartwell, a small hamlet, situate at a little distance from the main road. Here there has been some whitewashing done; but this is only a disguise. Often, in years long since past, we have looked at picturesque homes, with the thatched roofs decked with mosses and lichens, and the walls covered with jessamines, roses, and other flowering plants; but now, although our taste for those combinations has not declined, painful experience causes us to look further. But before proceeding to give some details of Hartwell, it is worth while to note that throughout eight-tenths of the agricultural district there is no intelligent care shown for sanitary arrangements. Hartwell is a remarkable instance of this. Besides the bad construction of the houses, the drainage, if attempted at all, is so managed that, instead of carrying the poisonous refuse to a proper distance, it lodges it before some other person's door.

There is a group of cottages at Hartwell, arranged so as to form two sides of a small square; one of the other sides comprises a range of pig-styes, in parts of which are heaps of offensive matter. There is not even surface drainage here: the earth must be polluted to a great depth by what is thrown on the surface; and of course part of this must find its way into the well, which is sunk in a portion of the square. It was mentioned that a farmer not far distant would be glad to arrange for the transport of the sewage of this place to one of his fields; where, instead of being a nuisance, it would fertilize the land. On the opposite side of the road there are other cottages. Ten of these, in the rear, have been drained,—in a partial manner,—but the refuse has been brought by pipes to the front of other houses, where, in consequence of the want of proper channels, it lodges, and causes the greatest annoyance and danger.

A chief fault in nearly all the cottage-dwellings in Buckinghamshire is the smallness of the rooms. On this point we shall give some notes. It is impossible to preserve the health of families in such space. The greater number of the people who live in them are much out of doors during the day, where the air is clear and health-giving; but at night we found nine, ten, and more persons in a space of breathing-room not much larger than the united accommodation that would be provided by a coffin for each.

On the way from Aylesbury to Dinton, the Church of St. John, at Stone, a small village, is worthy of notice. About here the land is marvellously productive, and that, too, without any great amount of farming. In cuttings which have been made for quarries, the great depth of the surface soil is seen, and the favourable strata which lie below,—sand, lime, stone, and materials for brickmaking. Wood for building purposes can also be readily obtained. So here, notwithstanding the defects of the cottage dwellings, we may have, at a small cost, all the materials required for their construction, and the ground-rent of land for them should not be an obstacle. Here we met with some practical men, who seemed to understand the subject, and said that they could build roomy and convenient cottages for the reception of families, in groups of about four houses each, at a cost of 70*l.* for each cottage, which could be readily let for 2*s.* a week, or more,—5*l.* 4*s.* a year.

On this road, which, like others that lead to Aylesbury, is admirably kept, and has wooden seats at intervals for tired wayfarers on the Dinton road, is the County Lunatic Asylum; and there is also to be noted an artificial ruin, or "Folly," a singular combination of architectural incongruities, showing the fossil decoration similar to that in Dr. Lee's park. Standing as it does on a bold elevation, in the midst of tall pine-trees, the stonework now overgrown with lichens and greenery, the "Folly" looks well at a distance.

The cottage-dwellers in the country have in one respect the advantage over the inhabitants of Bethnal-green, and many other town districts, for when they leave their crowded and unhealthy homes, they may get pure breezes; not generally to be had by pent-up citizens. Still, perhaps the danger of the cottage homes, as regards fever and other pestilence, is not less than the tenemented dwellings of the industrious and poorer classes in towns, for the contrast between the outer air and that in the ill-drained and crowded cottages is greater in the country than in dense populations. The small size of the cottage rooms is, we repeat, a serious evil. In each of several of these places, which consist of two apartments, one above the other, there were lodged families, eight, nine, and more in number. The size of some of the interiors, at Gibraltar and elsewhere, is, in the lower room, 12 feet by 9 feet, and less than 6 feet in height, a cubical space of 648 feet. The height of the upper room, where in nine cases out of ten the majority of the family sleep, is barely 5 feet, which gives about 540 cubic feet of space. In the Aylesbury Infirmary there is an allowance of 1,500 cubic feet to each patient. In the Surrey County Prison, each cell contains 819 cubic feet; Knutsford House of Correction, 910 cubic feet; and the Manchester City Prison, 834½ cubic feet. It will thus be seen that the room for a single prisoner is greater than that in the sleeping apartment of the agricultural labourers, in which it is not uncommon for nine persons to rest during the night. According to the prison allowance we ought to have for such a family a space of more than 7,000 cubic feet. We cannot wonder, then, without reference to other sanitary derangements, that fevers and other preventible illnesses should be common visitors. In Manchester it was found in certain districts, that when cholera attacked classes of houses having more than nine inhabitants in each, one case in a hundred of the population was fatal; where the number of the inhabitants was seven, it was fatal in one case in 130; where the number was six it was fatal in one case in 170; but where the number of inhabitants was not more than five, it was fatal only in one case in each 500.

While on the road we met with a cavalry officer of experience in the conveyance of horses on shipboard to the Crimea and elsewhere, who said that the great difficulty had been to supply them, when pent up together, with sufficient air: this, with considerable labour they punkered into the hold. When a storm came, however, and the captain of the vessel ordered the hatches to be closed, glanders and chest diseases broke out, and great mortality of the animals was sure to result. As with horses and with other animals, so is it with human beings, who in a polluted atmosphere will as surely perish.

The village of Dinton is in the Aylesbury Union, four miles north-west of the town of Aylesbury. The church, dedicated to St. James, is a large and venerable structure, which has been put into good repair. The south door of this church is of the Norman period, but other parts are more modern. Close by is an ancient mansion, which was formerly in the possession of Sir Simon Mayne, one of those who sat in judgment on King Charles I. It afterwards passed into the possession

of Mr. Goodall. Amongst the curiosities which have been collected here, is one of the shoes formerly worn by John Bigg, better known as the Dinton Hermit, who is supposed to have been the executioner of King Charles. He lived for many years in a cave in this parish, without even changing his clothes; mending them when necessary by placing over the decayed parts cloth or leather. By this process the shoes have become of ten times the original thickness. This mansion, which has been renovated, is a good example of a large country residence of the early part of Charles I.'s reign. Near the church there is a row of two or three dwellings, stone-built, and a story higher than most of the others in the district. In one part of the basement there is a school for girls: this is a primitive place, but the copy-books were satisfactory. There is also a small school for boys, and here and there throughout the district schools are thinly scattered. Notwithstanding, if we may partly except Aylesbury, the education of the children of the labourers, is in a very unsatisfactory condition. In the course of inquiry we found that many who have reached the years of maturity, and others of a younger age, cannot write their own names; we cannot, however, in justice say that matters are worse in this respect than they are in the eastern and some other parts of London. In a room of one of the houses in which the girls' school at Dinton is carried on, were an aged man and his wife—the latter in very bad health—who declared, and we believe truly, that they were more than half starved upon a small pittance that they received from the parish. Although there are several rooms here unoccupied,—and there is a great difficulty in getting houses in this part, especially for families,—these are kept empty by the proprietor, rather than have persons in them who perhaps might at some period become chargeable to the poor-rate of this particular parish. To this feeling much of the present evil condition of cottage dwellings is to be attributed; for instead of striving as owners ought, in justice to those on whose strong hands and strong limbs the successful cultivation of the land mainly depends, to provide houses for their workpeople, in which health and decency might be preserved, it has become the custom, especially where much land is in the possession of one proprietor, to drive the labourers to distant towns and villages, for the purpose of keeping pauperism from particular districts, and making it chargeable elsewhere. In the course of our visit to Buckinghamshire, we have had conversation with several landowners, farmers, some of the most intelligent of the workpeople, and persons who have thought much of these matters, and find there is a strong and growing opinion, that in order to effect any real amount of good, we must have an entire change in the law affecting the settlement of the poor.

We have already alluded to the demolition of the cottages on Dr. Lee's land; but matters are not so bad even there as they are in some other parts. At Creslow, the estate already referred to, which contains 1,000 acres of the best pasture land in Buckinghamshire, and perhaps in all England, there was in 1851 a population of ten, and at the present time there is but one labouring man who resides on this fine estate.

Those owners who are best disposed towards their work-people, and who would build cottages at some pecuniary loss, for their reception, are disheartened in such useful attempts by the circumstance that men and their families who are connected with other land flock to them and increase the poor-rate, while owners who make no attempt to do their duty in this way are relieved of expense; and this evil, by the present process, must, as a natural consequence, continue to increase. This is a point in the cottage-dwelling question which must, before long, be brought to the notice of the Legislature.

If the present system, which leads to overcrowding and other evils, be continued, we shall have in the health-giving country a coming population deteriorated in every way. There is more to be said as regards this—after a glance at the cottages on the estates of the Duke of Buckingham, Baron and Sir Anthony Rothschild, the Duke of Marlborough, and others,—but we will first walk through the village of Dinton, and thence to Gibraltar,—a settlement which has a most evil repute amongst the places where, owing to bad sanitary conditions, pestilence is a visitor.

ARCHITECTURE AND THE ROYAL ACADEMY.*

IN "Supplementary Evidence," in a letter to Lord Elcho, Mr. Watts thinks, like several other witnesses, the Academy should institute experiments as to the durability of colours and *media*, and ought to investigate the causes of failure in frescoes; also that it ought to make proof of the applicability of mosaic. Referring to his recommendation as to providing students with wall-space whereon to try their strength, he writes,—

"I insist upon mural painting for three reasons; first, because it is an exercise of art which demands the absolute knowledge only to be obtained by honest study, the value of which no one can doubt, whatever branch of art the student might choose to follow afterwards. Secondly, because the practice would bring out that gravity and nobility deficient in the English school, but not in the English character, and which being latent might therefore be brought out; and, thirdly, for the sake of action upon the public mind. For public improvement it is necessary that works of sterling but simple excellence should be scattered abroad as widely as possible. At present the public never see anything beautiful except in exhibition-rooms, when the novelty of sight-seeing naturally disturbs the intellectual perceptions. * * *"

He notes that few artificially produced objects about us have real beauty, though the love of beauty is inherent in the mind: "some unfortunate influence" then, he thinks, is at work, and that to counteract it should be the object of a fine-art institution. Had earnest efforts been made by the Academy during the last fifty years, he "cannot believe they would have failed to create a great school." The peculiar qualities of English character and history are almost entirely without corresponding expression in English art, and looking at what was done before the Academy existed, he "cannot see any distinct evidence of important influence to be ascribed to it."

Mr. Ruskin's evidence is marked by some contradictions, but it accords in several respects with what has been said by others, and is suggestive throughout. As to the effect of the methods of teaching in the Academy, upon the art of the country, we find the following question and answer:—

"5993. What should you say was that effect?—Nearly nugatory; exceedingly painful in this respect, that the teaching of the Academy separates, as the whole idea of the country separates, the notion of art-education from other education, and when you have made that one fundamental mistake, all others follow. You teach a young man to manage his chalk and his brush—not always that, but having done that, you suppose you have made a painter of him; whereas to educate a painter is the same thing as to educate a clergyman or a physician—you must give him a liberal education primarily, and that must be connected with the kind of learning peculiarly fit for his profession. That error is partly owing to our excessively vulgar and excessively shallow English idea that the artist's profession is not, and cannot be, a liberal one. We respect a physician, and call him a gentleman, because he can give us a purge and clean out our stomachs; but we do not call an artist a gentleman, whom we expect to invent for us the face of Christ. When we have made that primary mistake, all other mistakes in education are trivial in comparison. The very notion of an art-academy should be, a body of teachers of the youth who are to be the guides of the nation through its senses; and that is a very important means of guiding it. We have done a good deal through dinners, but we may some day do a good deal more through pictures."

Elsewhere, Mr. Ruskin speaks of the "sort of scorn which all the teaching and education at Oxford and Cambridge, tends to give for art and artists." Mr. Tom Taylor, we may here note, doubts if the Academy has elevated the artists of this country, except socially; and whether it now exercises an influence of an ennobling or beneficial character, the education being most defective, whilst the exhibition "popularizes" art, but "does not raise it." Mr. Ruskin "would have the Academy education corresponding wholly to the university education;" the boy having begun drawing at school, should come to the central university of art, where whilst being taught to paint, and to carve and to work in metal, "the chief attention of his governors should be to make a gentleman of him in the highest sense; and to give him an exceedingly broad and liberal education, which should enable him not only to work nobly, but to conceive nobly." Mr. Armitage had just before expressed opinion against a test of general education, in addition to the other, for the admission of students, saying there would be risk of excluding very able artists, and instancing that Claude de Lorraine could hardly write his own name.

Although in the portions of the proceedings of the Commission which we have quoted from, painting is the art chiefly referred to, it is easy to deduce from the arguments some which may elucidate the question of education in architecture. Not only good drawing-master's drawing, but the drawing of plans, elevations, and sections, and descriptive geometry, should be taught in ordinary schools. Every person should understand something of the language of geometrical drawings, though not using it in the manner of a professional architect. The notion of excluding a Claude in one art, must not prevent our setting forth that a certain preparatory education in languages and science, is necessary to the formation of the highest rank of the profession of architecture. Having brought the youth to the age,—or better perhaps, something over the age, at which he now generally enters an architect's office, the question is, (but which we do not propose to discuss here at length,) is the office, or some institute or academy, to be mainly looked to for the formation of the future architect. Already, with the facilities afforded at the London University or King's College, and by the classes at South Kensington, not to mention the arrangements of some classes in the Architectural Association, a good commencement may be made on the programme of the Institute of British Architects, itself a valuable thing as showing the requirements of the education. At some period or other, however, the student must place himself where he can learn the business of an architect, if not also, and to the end that he may possess certain abilities that will serve him as an architect and artist, where he can learn the qualifications of measuring surveyors. We should not regret to see his serviceableness, rather than his ability to pay a premium, made the inducement to the commencement of the connexion of master and pupil; a relationship which also we could desire to see more intimate, and longer subsisting, than it generally is. If the *atelier* system, and the combination of the labour of master and pupil, be desirable for the pupil, and necessary to the production of great works in painting, as even Mr. Ruskin admits, this is exactly the system which we would desire to see in operation for architecture. The present system of articled-clerkship fills the profession; but it is questionable how far it produces architects with the qualifications which the public and the art demand, or how far the supply is not forced beyond what would be created by the demand of the number of buildings to be erected. The class of pictures which are produced by young painters, and are sold in the exhibitions, —so that the artists do not care to assist other men in larger works,—are, at least very many of them, works of legitimate art, and going to serve some object in their ultimate location; though the art may not be the highest, or the object one in which the public are concerned. But are not architects' competitions worse? The natural demand from buildings to be erected, and requiring in the opinion of their managers, professional supervision, and the demand for drawings, bear no relation to one another: an army of men is called into existence who never can find remunerative labour,—because out of a hundred stalls of pupils competing, only one office can have the execution of the building; and designs made to programmes and "instructions," or designs hurriedly executed, are produced rather than duly studied works. It would be well to consider whether a system which not only induces young men to look to the profession, and architects to take them as pupils, in greater numbers than the actual demand for architecture justifies, but which induces a severance of the connexion of master and pupil at first moment that the young architect thinks himself justified in writing up his name, is the best for the interests of any kind. We have always thought that the system which prevails in the civil engineer's profession, might with great advantage to art and to young architects, be followed in our branch of the profession. This system, of a staff of engineers,—engineer in chief, assistant and resident engineers,—is precisely the system upon which the great work in the École des Beaux Arts was produced by Delaroche and by Mr. Armitage and his friends, and the system on which the *loggie* of the Vatican were decorated by Raffaelle, and his assistants,

* See pp. 804 and 854.

great artists whose names are known. Mr. Ruskin, after saying that "in all mighty work" "every touch and hue" has "been put on lovingly by the painter's own hand, not leaving to a pupil so much as to paint a pebble under a horse's foot," is compelled to admit that "when a thing was to be done in a certain time it could only be done by bringing in aid," the aid of pupils who "were nearly as mighty as the masters," but who were "so modest and simple, that they were repeatedly sacrificing themselves to the interests of their religion or of the society they were working for;" and that "assuredly" pupils should be so trained as to be capable of assisting masters in great works. Unfortunately, now, for the prevalence of such a system in our profession, not a clerk of works or pupil can be entrusted with the least contrivance, or builder asked his opinion, but the delegation or demand is set down to the score of inability or ignorance in the principal; so, the evil of first deviating from the right course,—that of allowing fair credit for each subordinate duty, and accepting none but what is due,—tends to be infinitely reproduced.

There is a question closely connected with this one, which received much attention from the Commission, namely, that of adding what is termed a lay element to the Academy. The architect cannot help having as his judges, those who are his employers. Great variety of opinion prevailed on the question before the Commission. As the Report says, many members of the Academy, with Sir Charles Eastlake, stated strong objections to associating non-artists with artists in deciding any question of art. The evidence of Dr. Storrar, one of the Council established pursuant to "the Medical Practitioners' Act," showed that the element originally intended in this council had not been introduced, but gave some noteworthy arguments in its favour. Dr. Storrar said:—

"I could perfectly understand any one, myself, for instance, a professional man, taking up a principle that might seem to be a very obvious one to a professional mind, but having to explain it from the beginning to the satisfaction of a non-professional mind, I might discover, in the very process of explanation, that the principle would not hold water, and give it up myself."

Evidence was given by others as to a lay element in the Institute of British Architects. We only say, that not only are buildings erected for the service of the public, but art-architectural must be designed for the same constituency. On the educational question, Dr. Storrar replied pertinently to the issue, as where he said:—

"I cannot help thinking that it would be a desirable thing if the Academy could secure some such test of mental culture as has been recognized by the heads of other professions. . . . . Leonardo da Vinci was not a worse painter because he had a very cultivated mind; and if we had more painters of cultivated minds we might, perhaps, have a better chance of having more Leonardos."

We have made no effort to discover and explain by what precise arrangement between the representative body of architects and the Academy, a proper system of architectural education could be instituted. But we cannot conclude this notice,—lengthy for our space, but inadequate for the treatment of many of the subjects discussed in the Commission,—without some further reference to the views of one witness in particular. Mr. Fergusson's impression is that it would be better that the connexion between the Academy and architecture were dissolved, and the whole strength of architecture "thrown into the institution specially devoted to that branch of art;" and he gives his view of the distinction between painting and sculpture on the one hand, and architecture on the other. Mr. Fergusson holds (answer to Lord Hardinge, question 3454), that architecture has no connexion with his *phonetic* arts, painting and sculpture, and that it is "a mere constructive art treated ornamentally, in the same way as you would treat pottery, jewellery [why he classes jewellery with architecture, rather than with sculpture, we cannot see], furniture and embroidery," all those arts being "capable of being made fine arts as well as architecture," but "none of those arts" having "any connexion with painting and sculpture, which are the embodiment of ideas that can be represented in words." Asked (3455) as to a connexion between painting and architecture, as in the decoration of an interior, he replies,—

"You may ornament your building either by paintings hung in frames, or paintings put upon the wall, or by ornamentation upon the ceiling and mouldings; but all those appear to me to be secondary parts, and not essential parts of architecture at all."

We cannot accord that those things that are not moveable, do not belong to our art. Surely ornamentation upon mouldings is part of architecture.

Mr. Fergusson demurs to the opinion that there are certain laws, as of proportion and variety, governing both painting and architecture, or does "not perceive them;" though we agree with him as to errors having been made by the painter-architects Michelangelo and others, and as to the distinction between the architect's works which are merely *represented* by drawings, and works as those of the painter, which can be exhibited in themselves. If "the whole influence of the architectural profession" cannot be "thrown into the Institute," and that body be not made what he hopes for, he admits it "would be very unwise of the architectural profession to throw away any shade of influence which they may obtain through the Academy." But after widening the basis of the Academy and introducing the non-professional element, he still thinks "that the architects are so different in their professional studies and in their professional pursuits from painters and sculptors, that they ought to be independent of them." He is however right in saying that "architectural education can only be properly given by men who are devoted to the profession," &c. The Report of 1856 (Appendix No. 20) by two architect-academicians of the time, appears to have been the result of the same view in the Academy itself. In questions 3492 to 3499 inclusive, Mr. Fergusson was pressed hard on the point of a natural federation in fine art, but he would not even admit a connexion between "sculpture properly so called and architecture." He said:—

"There is a class of sculpture which you may call decorative sculpture, which belongs to architecture, but which is certainly not sculpture of the high class of art which we generally understand by sculpture, namely, ideal sculpture."

He may be correct as to fact, where afterwards not thinking that any sculptor of the first class is employed in certain works of a decorative character that were referred to; but we apprehend that the sculptors are mistaken in not giving attention to works of the kind. The truth cannot be got rid of, that groups in pediments, relievoes, and even combinations of animals and foliage, are sculpture; and if the professors of high art sculpture hold themselves aloof from architectural decoration, they simply continue the blunder they have lately made to their own detriment, and to the shortcoming of architecture, general art, and "public monuments." But Mr. Fergusson thinks the two arts were dissociated in the Greek temples. Questioned as to the Elgin marbles, he replies, to our great surprise,—"They were not parts of the architecture, they were added to the architecture." Pressed with the question (3497) whether they were not "part and parcel of the building, and one of the most important features in it," he replies:—

"They were, but they are quite as good without the architecture, and quite as admirable. They were done by a different class of men, and with a different aim entirely."

Forgetting, as it seems to us, that the point of the question was, whether the *architecture* would have been "as admirable" without the sculpture, which surely Mr. Fergusson would say it would not have been. He thinks, however, that the arts were as separate,—that "the architect provided a place for the sculpture, but the sculptor had the whole control of what belonged to his art."

The intimate association of architecture and sculpture concerns the effect of our "public statues" and memorials, and our buildings. The arguments for it were alluded to in our last article; and we have frequently given them when treating the subject of public memorials. Mr. Tite, in his evidence (2596), spoke of the defects of pedestals resulting from this want of association, and of the better results in France from the system there.

We must repeat the expression of our surprise and dissatisfaction, that, after the receipt of much evidence on the subject of the position of architecture in the Academy, and whilst reporting the defects of our public works, the Commission should have left unnoticed the amendment of the system, through attention to the present claims of architects, and the training of architects in the future.

THE ROYAL ACADEMY MEDALS.

On Thursday, the 10th inst., being the ninety-fifth anniversary of the foundation of the Royal Academy, a general assembly of the Academicians was held for the biennial distribution of premiums, the president, Sir Charles Lock Eastlake, in the chair. Speaking first of architecture,—

A Travelling Studentship for one year, with an allowance of 100*l.*, was awarded to Thomas Henry Watson, "for the best design in architecture."

The subject was a town hall, style Gothic, more foreign than English: an excellent set of drawings.

The gold medal, books, and a scholarship of 25*l.* for two years, were awarded to Richard Phené Spiers, "for the best architectural design." Mr. Spiers also received the silver medal and books, for the best figured drawing of St. Stephen's, Walbrook. The subject of the original design was a Vestibule and Staircase to a Royal Palace. The plan was well studied, the design good, and the whole was set forth in some excellent drawings.

The following premiums were also awarded:—

The Gold Medal, Books, and a Scholarship of 25*l.* for two years, to Francis Holl, for the best historical painting; and to Henry Bursill, for the best historical group in sculpture.

The Turner Gold Medal to Frank Walton, for the best English landscape.

Silver Medals and Books were likewise awarded to Arthur Ackland Hunt, for the best painting from the life; to George Smith, for a copy made in the school of painting; to Arthur Ackland Hunt, for the best drawing from the life; to Francis Holl for the next best drawing from the life; to Edward Evans, for the next best drawing from the life; to John Barclay Grahame, for the best drawing from the antique; to Augustus E. Mulready, for the next best drawing from the antique; to Charles B. Barber, for the next best drawing from the antique; to Samuel B. Long, for the best model from the antique; and to Frederick S. Potter, for the next best model from the antique.

The president in his address said that the architectural drawings and the drawings from the antique were marked by an unusual degree of excellence on the present occasion. We fully agree with him.

FAILURE OF THE FLOOR OF THE NEW MARKET HALL, DARLINGTON.

Last week, this new hall, which has been in course of erection for the past two years, under the superintendence of Mr. Waterhouse, architect, was opened for the purpose of holding the annual fat cattle show. On Thursday, soon after the commencement of "shilling time," a portion of the floor suddenly gave way, and nine or ten men, together with three of the enormous prize animals, were precipitated into the basement, a depth of about 12 feet. Although, wonderful to relate, the animals were uninjured, such was not the case, we regret to say, with the spectators, one of whom was so much injured that he died on Saturday last, and others at that time were lying in a precarious state.

According to the evidence given at the inquest, held on Monday, it appears that the space which gave way was a compartment of the floor, 20 feet by 15 feet. A cast-iron girder ran lengthwise of this space, carrying the haunches of two arches, 20 feet by 7 feet 6 inches each. The girder at the middle was of the reversed ⊥ section, 15 inches in height and 1 inch thick; the bottom flange 9 inches wide, 1¼ inch thick, and the top 4½ inches wide, calculated, by the average of witnesses, to bear in the middle about eighteen tons stationary load if of the best iron, and if a perfect casting having proper hold at the ends. It appears, however, that it was *not* of good iron, had a piece of ash in the lower flange, and had only 3 *inches* hold at each end, which circumstances, in the opinion of the professional witnesses, reduced its strength by about a third—or to about twelve tons breaking weight of stationary load in the middle, though of movable load the witnesses variously estimated the amount it ought to have been tried with at from four to six tons in the middle.

The weight upon the girder at the time it broke was about fifteen tons equally distributed, about five tons being movable load transferring its momentum to the dead weight of arches, &c.; and with this weight it broke.

The most remarkable and culpable circumstance appears to us to be that, although the girders were cast within a quarter of a mile from the building, and for about two years there has been a clerk of works engaged to constantly inspect the works, *not one of the girders was tested*, although cast iron is proverbially an uncertain material, and in this case, as in most, the lives of hundreds depended on its sufficiency. It was stated at the inquest that the rest of the floor will have to be strengthened by the introduction of intermediate pillars.

The jury found that Mr. Robson was killed by the giving way of the floor, and expressed their opinion that the girder was not strong enough for the weight put upon it.

Hexham.—It is proposed to erect a new corn market and townhall here.

THE VALUE OF METROPOLITAN SEWAGE.

SIR,—I see by the resolutions passed, and the speeches made, at several recent meetings of metropolitan ratepayers, that "the analysis of the metropolitan sewage made by Messrs. Hofmann and Witt," and Mr. Ellis's interpretation of the estimate of these gentlemen, are adopted as a basis of the expectations entertained of the great pecuniary benefit to accrue to the ratepayers from the utilization of the sewage. Mr. Ellis maintains, that the estimate of Messrs. Hofmann and Witt, of a little over 2d. per ton for the manurial value of the constituents in the metropolitan sewage, refers to the average of the normal sewage and the rainfall taken together. Accordingly, he takes 266,000,000 tons, the estimated annual amount, with rainfall, at 2d. per ton; and on the assumption of this rate of value, he holds out the pleasing assurance to the ratepayers, that their moiety of the profit arising from the adoption of his scheme of utilization would be "an annual sum of not less than 700,000*l*." I, on the contrary, have repeatedly maintained, that it is perfectly clear, from the Report of the Main Drainage referees, embodying that of Messrs. Hofmann and Witt, that their estimate of 17s. 7d. per 100 tons, or a little over 2d. per ton, refers to the normal sewage without rainfall; and, accordingly, in calculating the total annual value, they took into account only the amount of sewage, exclusive of rainfall, which may be stated, in round numbers, as averaging only about three-fifths of the total quantity inclusive of rainfall. I further maintain that, especially under the then existing conditions, it would have been absurd in the extreme to attempt to determine the average composition of the sewage by the analysis of samples of the essentially variable diluted sewage inclusive of rainfall, unless, indeed, of specimens taken almost the year round. But all my appeals to the public document itself have been met by Mr. Ellis, and some of the advocates of his scheme, by contradiction, by irrelevant quotations from it, by pretty direct accusation of falsehood, and by most unscrupulous and entirely unfounded imputations of unworthy and interested motive on my part in making the statements which it is alleged are untrue. I have thought it only due, therefore, both to the ratepayers, who are so much interested in the matter, and to myself, whose veracity and motive have been publicly called in question, to request statements for publication from the authors of the report. The following are copies of the letters which have been kindly furnished to me by Professor Hofmann, the surviving analyst, and by Captain Douglas Galton, and Mr. James Simpson, C.E., the surviving Main Drainage referees.

"On referring to the report made by the late Mr. H. M. Witt and myself to the Main Drainage referees in 1857, I find you are perfectly correct in stating that our estimate of 17s. 7d. for the manurial value of the constituents in 100 tons of the metropolitan sewage (equal to a little over 2d. per ton), is founded upon the analysis of samples of mean sewage taken from the Savoy-street sewer.

I also find that the amount of sewage which the samples in question were supposed to represent was, according to the information furnished to us by the referees, taken at 95,000,000 gallons per day, and their report (p. 14) shows that this was the estimated amount of the dry weather sewage.

Reckoning the total amount of the normal dry weather sewage, in accordance with the above information supplied by the referees, at 95,000,000 gallons per day, or 157,625,250 tons per annum, we arrived at 1,385,540*l.*, as the total annual value of the constituents of the metropolitan sewage. A. W. HOFMANN.

Dr. Gilbert, F.R.S., F.C.S."

"With reference to the question contained in your letter of 18th ult., we beg to state that the sample of sewage taken under our direction for analysis by Messrs. Hofmann and Witt, for the purposes of our report on the main drainage of the metropolis, were mean samples of *dry weather* sewage, taken from the Savoy-street sewer in the manner described in the report; and from the analysis of these samples, Messrs. Hofmann and Witt estimated the value of the constituents in the metropolitan sewage at 17s. 7d. per 100 tons, or about 2d. per ton. Their estimate refers, therefore, to normal sewage *without rainfall*.

DOUGLAS GALTON.
Dr. J. H. Gilbert." JAMES SIMPSON.

There is no doubt whatever, therefore, that Mr. Ellis has estimated the total sewage with rainfall, at the value per ton fixed by Messrs. Hofmann and Witt for the sewage without rainfall, and that he has thus, so far as the value is determinable on such data, overstated it by somewhat more than the amount which he informs the ratepayers will be placed at the disposal of the Board of Works for the reduction of local taxation over the metropolitan area provided his proposition for the utilization of the metropolitan sewage be accepted. J. H. GILBERT.

ACOUSTIC POTTERY.

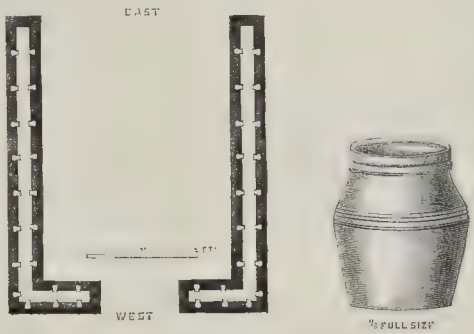
As this subject is again exciting considerable interest, it would be as well to publish more generally than has yet been done the following curious discoveries, made in two of the churches in Norwich during the past few years.

In the year 1850, the floor of the chancel of St. Peter's Mancroft was removed, and immediately below it was found a drain about 1 foot wide and 18 inches deep, formed with rubble walls about a foot thick, and a concrete bottom, the inside being plastered over with a kind of rough-cast. This drain ran under the stalls, north and south, and returned at the west end of the chancel, inside where the screen formerly stood, stopping short at each side of the doorway (see plan); in fact, following exactly the usual arrangement of the choir seats. In both sides of these walls were built, about 3 feet apart from centre to centre, red earthen jars, with their mouths slightly projecting into the drain. These jars were 8 inches wide in the largest part, and 9½ inches high: at the mouth they measured 6 inches. They were perfectly clean and free from deposit, and inside were slightly glazed. They varied a little in shape; but the accompanying sketch from one still in the possession of Mr. Fitch, F.S.A., shows pretty nearly their general form.

In 1860 a precisely similar discovery was made in the chancel of St. Peter's Mountergate, in the same city; the only difference being, that here the jars had handles, and they were not opposite to each other, but alternated each side. The size of one of them in my possession is 9 inches high, and 7 inches in the widest part. Some of these were also partially glazed inside.

St. Peter's Mountergate being a much smaller church than St. Peter's Mancroft, the drain was not of the same extent, nor the number of jars so many; but otherwise the plan of the drain was exactly like that at St. Peter's—namely, running north and south, and returning with a short end to the west. In both churches the covering to the drain is only the old wood floor and joist. After careful personal observation, I have no doubt whatever but that these arrangements were intended to conduce to the chanting resounding more strongly; but whether it accomplished this or not is another matter. It would be exceedingly interesting to know if any similar discoveries, except those at Fountains Abbey, have been made in England. Perhaps some of your readers can give an account of like arrangements being found in other churches; and if so, I hope they will communicate to you the particulars.

MAKILWAINE PHIPSON.



Plan of Drain containing Jars, Church of St. Peter Mancroft.

THE SCIENCE OF SANITATION.

SANITARY science is simple in its requirements, but is complex in its combinations. Fresh air, pure water, wholesome food, and cleanliness are requisite to comfort and to health. But, when man is situate in crowded cities and towns, he is placed under conditions so numerous and so various that it becomes impossible briefly even to catalogue them.

Fresh air is said to be necessary to health. But how is "*fresh air*" to be secured in the midst of hundreds of thousands of coal-fire chimneys? Where is "*fresh air*" to be breathed in the midst of London November fogs? The reply must be,—"*Fresh air*" cannot be wholly secured to the inhabitants of great towns; that is, an atmosphere absolutely free from the gases of combustion and the gases of decomposition cannot be secured; but there are such things as a maximum of evils, and a minimum of evils. We may see a maximum of sanitary evils in a large town, like Liverpool, in past times, with its 50,000 poor persons existing in cellar dwellings, having the ceilings at or below the level of the adjoining street or ground surface;—or, like Liverpool at the present time, with its 3,173 close courts, containing 18,610 houses, and about 112,000 inhabitants; most of these places having common privies and cesspits crowded in the midst of the population. Of what avail are the hundreds of miles of sewers and drains, if liquid soil-refuse taints the subsoil below, and the atmosphere around; and if fresh air and sunshine are alike permanently excluded? Manchester and Liverpool have expended vast sums of money to bring in water, pure in quality and abundant in quantity; but we look in vain for any corresponding decrease in the local rates of sickness and mortality. We learn one practical lesson from this result, namely, that when it is asserted that to give a town an abundant supply of pure water will necessarily repress the local mortality, actual experience does not warrant the assertion. Some years ago Keswick and Whitehaven were each supplied with water in abundance, and in quality of almost absolute purity;—Keswick from springs on the clay slate shale of Skiddaw, and Whitehaven from the granites and clay slates bounding Lake Ennerdale. During the spring, summer, and autumn just passed and passing, these towns, so supplied with pure water, have suffered most severely from small-pox and from fever. In both towns the local authorities had, however, obstinately refused to sewer and drain; so that, in many cases, water became a curse rather than a blessing.

Sewers and drains are necessary to preserve the purity of the subsoil below, and the atmosphere around, dwelling-houses in towns. But a town may be sewered and drained to very little purpose,—nay, to a mischievous purpose,—if other sanitary arrangements are neglected; or, if the work is imperfect in design and bad in execution. Sewers and drains ought to transmit, at once, and continuously, all fluid and soil refuse passed into them. If, however, the fluid filters into the subsoil, and the solids deposit, accumulate, and ferment to corruption in the drains and sewers, and houses have direct communication with such drains and sewers, we need not wonder that, as Professor Christison asserted at Edinburgh recently, "There are fevers which sewers and drains do not prevent."* Before, however, we pronounce judgment against sewers and drains, all the facts should be known: as to their sectional form; as to their materials; as to their mode of connexion with houses; as to their ventilation; and as to their use and abuse. But sewers and drains, however

* Should he not have said,—"There are sewers and drains which do not prevent fevers?"

perfect, will not alone remove all causes of local sickness and excessive mortality. Waterclosets are means of great comfort and convenience in houses, when fixed in proper places, fully ventilated, and properly used. But, as fixed, and as used in many buildings, public and private, they only constitute a filthy nuisance. This is the case in some of the largest hotels in Scotland, where waterclosets have been placed on inner corridors, and against the inner walls of rooms, without light, other than artificial, and with no means of ventilation but into and through the interior atmosphere of the house.

Paris offers an example, on a grand and most costly scale, of blundering in sanitary science. In former times the city of Paris was, like many English towns to this day, a city of open cesspits, crowded in amongst dwelling-houses. About the year 1819, in an evil hour for the health of Paris, a municipal ordinance was passed, giving the civic authorities power to compel the abolition of open cesspits, and enforcing the construction of covered cesspools "hermetically sealed." An open cesspit is an abomination in a state of unceasing amelioration. The rain washes the filth and dilutes it, and the air and sunshine evaporate it; but a covered "hermetically sealed" cesspool is an unceasing generator of deadly gases of putrid fermentation, which gases traverse the pipes of house communication, and pervade, like a subtle scent, the whole dwelling and its precincts. Who has not recognized, in the gilded saloons and costly-furnished rooms of a Parisian hotel that subtle stench which open windows and open-doors do not remove? It is unseen, but palpable, almost to taste. This is the emanation from the underground and "hermetically sealed" Parisian cesspool. Paris may present all the external grandeur which architecture can accomplish; may be, as she is, "a city of palaces;" and may have that scrupulous cleanliness on the surface which we see; but so long as she remains a city of "hermetically-sealed cesspools" she will only resemble a whited sepulchre, fair without but rotten within; or be like that fruit, so beautiful to look upon, but so worthless because ashes to the taste at the core.

London was a city of cesspits and covered cesspools, or "*dumb-wells*;" but, fortunately for London, no imperial power ever "ordered" and "established" covered and "*hermetically sealed*" cesspools. Our municipal and local Dogberrys blundered into making street sewers, to remove surface-water from the channels, Swift's city showers, and nuisances of a similar character, by the valley lines to the river. At first, the drainage of waterclosets direct into the public sewers was prohibited; but the overflow from dumb-wells,—"*cesspools*"—was allowed, and then gradually, with the connivance of Dogberry, and, no doubt, in many cases, to accommodate his customers and friends, the rule to exclude waterclosets from public sewers was relaxed, and in time a new rule, admitting such uses, was established. We have sometimes wondered if Shakspeare intended to show, that with municipal freedom and municipal institutions, even ignorant and blundering clowns, like Dogberry, Verges, and the Watch, representing or caricaturing local self-government, could, in their own roundabout way, serve the purposes and ends of justice, as well, if not better, than a secret police under despotic rule. Nothing could be more complete than the results arising out of the action of Dogberry and his fellows. The offenders are brought to justice, vice is exposed, and innocence is made apparent and is established triumphantly. We are constrained to say, whilst laughing at the clown, "Well done, Dogberry."

London is at present undergoing a most costly experiment: vast "intercepting" sewers are being formed, at an expenditure of money amounting to millions sterling. Will these sewers improve the health of London or not? This is a question of the utmost importance to the ratepayers who will have to pay the cost. We have explained that a good supply of pure water to a town does not necessarily diminish the local rate of mortality; and we have also attempted to explain that sewers and drains may work mischief rather than good, if they are improperly constructed, badly or defectively ventilated, and retain the refuse passed in, so as to set up putridity and fermentation. The great intercepting sewers of London, if they only remove surplus water, may prove a curse rather than a blessing; as, at present, any excess of rain-fall in London produces surface mud; this surface mud is partially liquified and is washed down the street gullies and drains into the miles of sewers containing foul deposit; and so the surplus water and mud dilute, and, in a measure, disinfect the material deposited in the scores of miles of imperfect London sewers. By removing this water and mud from these secondary sewers, and so allowing putridity and fermentation to remain active, such districts as Chelsea, Belgravia, Eaton-square, Pimlico, Buckingham Palace, Westminster, Lambeth, and Bermondsey, may be injured rather than benefited. A grand work is not necessarily an improvement. The re-building of Paris adds to its external and visible magnificence, but leaves the festering sanitary cesspool sore scarcely touched. The grand intercepting sewers of the British metropolis will remove a volume of surplus water and mud, but will not necessarily benefit the sewerage of the metropolis at large. To complete the sewerage improvement of the metropolis, all the flat sewer inverts require to be re-constructed on the egg-shaped principle; all the sewers in ruins require to be re-constructed, and the thousands of street ventilators which now pass sewage gases direct from the sewer beneath to the atmosphere in the street above, should have side chambers and charcoal filters. The destiny of a nation is not settled by single actions, however grand. The reputation of a great man does not rest on one nor on two incidents in his life. There are the thousand and one minutiæ necessary to make up true greatness. The details, however numerous, must be in accord with the whole, before there can be true utility. There must be "*breadth*," "*harmony*," "*keeping*," to constitute true greatness. There must be "the power to rend the oak and to pick up the pin."

Sanitary science, as we have previously said, is simple, and is also most complex. The requirements are simple. Human arrangements are necessarily complex. There will never be complete, safe, and efficient self-acting arrangements and sanitary apparatus. Much must depend on human intelligence, and there must ever be unceasing care. A chronometer is the most perfect form of mechanism ever invented and manufactured, or "made," for marking time. We must not, however, trust the keeping and management of a chronometer to an uneducated boor. Sanitary works require knowledge to devise them, practical skill to execute them, and manipulative practical dexterity to work them.

Land drainage seems a very simple thing; but is, in reality, a complex and exact science. Water has to be permanently removed from the subsoil, and atmospheric air ought to be let in to the roots of the plants. The water may be removed in most cases: air is, however, admitted in very few cases indeed.

Town sewerage and house drainage also seem simple operations to some members of town councils and to members of local boards of health. But town sewerage and house drainage are necessarily complex operations. Sewers must be devised with knowledge, and must be executed with educated skill and care.

The drainage of houses has been, for the most part, executed at random; and even in London, to this day, with all the apparatus of the Metropolitan Local Management Act, and Metropolitan Board of Works at Spring-gardens, the duty of inspecting the proper construction of house-drains is left to builders and to chance. That is, notices must be given and sanctions must be obtained to break into a main sewer and to execute a junction with a house-drain; but it is not the duty of any metropolitan public officer to examine and see that such junction is properly made, and to certify the same to the legally constituted local authorities. Mr. Haywood most probably performs this duty for the City; but it has not been performed for the vast numbers of new houses recently erected at the west end of London. The surveyors to local boards of health in the country have this duty to attend to, and there is no reason why some person should not perform a similar duty for the several divisions of the metropolis.

With regard to sanitary science in house construction we moderns have made little progress. In some respects we have "advanced backwards." That is, the perfection of workmanship and of materials in modern houses is an evil. Flooring-boards are stove-dried, close jointed, and laid double; skirtings are of cement; door-casings, window-casings, and doors and windows are "the perfection of workmanship." The entire house, from basement to roof, is sound and air-tight in walls, in floors, in doors and windows, and in roof; but, and herein consists the evil, arrangements for ventilation there are none. The openings from the grates to the flues are low; the ceilings are high; but means for a never ceasing change of the internal atmosphere there are none. We have the most costly material and the perfection of workmanship spoiled in our house building, because we make no provision for permanent ventilation. Better, far, for health, the old houses of our great-grandfathers, with a chimney so wide that the family coach might have been hoisted up it; with a fire on the hearth so big that an ox might have been roasted at it; and with chinks, with cracks, and with openings, in floor, in walls, in doors, in windows, and in roofs, letting in streams of fresh air sufficient to drive a small windmill. Our great-grandfathers may have shortened their lives by gluttony and strong ale: they may have suffered from rheumatism; but they did not die prematurely of close rooms and foul air. Then consider our modern way of life, during "a season," "evenings at home, small and early," but crowded to excess. Then an ordinary ball or reception is something certainly to witness, to think over, to wonder at, and, after one dose, to avoid in future. We construct rooms, imperfect in ventilation, for five jets of light and a dozen people. But we light fifty jets, and cram in a hundred and fifty people, and then wonder at our own discomfort, at our friends' head-aches, and at the vast proportion of consumption amongst young people. A dinner-party in a modern dwelling-house is just as unsanitary, and in crowding nearly as bad. Houses ought to have special arrangements for ventilation to meet modern requirements of large parties: every door space should be made to open, on such occasions, up to the ceiling; and there should be means for full and free ventilation in corridors and staircases. But *crowded* parties are a barbarism, and ought to be avoided.

With respect to ventilation, who shall decide this question? Whose plan or whose patent shall be adopted? These questions are more easily asked than answered. Complex systems of ventilation do not answer for private houses. A certain fixed means by which there may be unceasing change in every room will be the best; and the more such means are confined to narrow, slit-like openings the better; a pure air-chamber behind a skirting, with a fine slit opening all round the room. An abstracting air-chamber behind the inner cornice, with a thin slit opening all round, leading to an ascending flue, will change the largest volume of air over the greatest sectional area, with the least perceptible draught. Square openings, such as Arnot's valves give, do a minimum of good, as they establish a current to the point of opening without necessarily changing the whole body of air in a room. Care must be taken not to draw in foul air through sinks, closets, and bath wash-out pipes, by leaving the pipes untrapped, and the plug out.

Sanitary science will not teach us to construct such enduring temples as we find remnants of in the ruins of Thebes, nor to rival the ancient Greek in Athenian purity of architecture, nor the Roman in the vastness and majestic grandeur of the Coliseum: but it will teach us how to provide, devise, construct, and regulate houses for the people in which there shall be so much of atmospheric purity as is necessary to health, and a chance to every individual born into the nation for an observance of Christian morality. We need not aspire to a restoration of Mediæval charity and monastic institution; that alone is true charity which enables a whole people to live and to die without almsgiving. Antiquaries and architects may mourn over the by-gone days of cathedrals; and the followers of Dr. Pusey may yearn after the "dim religious light," and sigh for "the fretted aisles," for the "sublime music" and the "imposing ceremonial," shrouded in all the pomp, in all the splendour, in all the colour, and in all the spirituality of sweet sounds. But that is not the religion of Christ which clothes its officiating priests in robes of scarlet and gold, and surrounds the gates and doors of its temples with wretched, squalid, human bodies, blind, maimed, scrofulous, and impotent from their birth by reason of contagious and festering disease ever present in their miserable dens of homes. The worshippers in the pure Christian faith will not necessarily go to that city, nor to this temple, but, in their own homes, will worship God in spirit and in truth. When sanitary science leads to these things, men will have learned a great secret, which will consist in those who govern securing the greatest amount of physical comfort and moral purity to the whole people.

The Prince Consort Memorial.—Mr. Scott's model of the memorial which is intended to be erected in Hyde Park to the memory of the late Prince Consort, has been submitted to her Majesty, at Windsor Castle. It is erected on a stand fitted for the purpose in the grand reception-room.

THE POOR IN BETHNAL GREEN.

SISTER SOPHIA LOIS, in charge of the Soup Kitchen, 1, Thomas-street, Brick-lane, says:—"I feel sure if the benevolent and wealthy witnessed the sad scenes which I daily meet with in my visits to the sick poor, they would cheerfully give their mite, remembering that 'he who giveth to the poor lendeth to the Lord.'" Our readers know the intense distress which exists in this district: this will be increased as the winter advances. The soup kitchen and other provisions will be sorely wanted; but it seems to us, and we have thought with much care on the subject, that in order to render effective service, some better plan of organization than that at present in use is required. We feel certain that if it were known that there is an influential committee, composed of a number of leading people of the district, clergymen and others, a considerable sum would be forthcoming for the supply of soup, coals, and other necessaries. We have already said so much in connexion with this matter, that we will not do more than again urge those who have local influence to lose no time in making the commencement of a relief fund, which may be the beginning of a means of aid proportionate to the extent of the necessity.

The Poor-Law Board have, through the Board of Guardians of Bethnal Green, passed a severe censure upon Mr. Christy, one of the relieving officers in connexion with the case of the late Caroline James. The Poor-Law Board, after some general mention of the particulars connected with this unfortunate death, say, "That it was evident that Mr. Christy had used coarse and improper language towards Caroline Palmer, one of the neighbours in attendance on the deceased, as he was leaving the house; and the Board have reason to believe that his conduct in other respects was not so temperate and forbearing as it ought to have been. The Board, however, are unable to arrive at the conclusion that the death of Caroline James was accelerated in any sensible degree by the course pursued by the relieving officer; and having regard for the fact that she was afterwards taken and maintained by her mother, and that her funeral expenses were afterwards paid by her brother and sister, they think that the circumstances of the case are not such as to require so extreme a step as that of requiring his resignation, especially when they take into consideration the length of Mr. Christy's services, and the deliberate opinion expressed by the guardians that in this instance there is great extenuation of his conduct." He may think himself let off easily.

THE PRESENT STATE OF THE LANCASHIRE DISTRICT.

THE position of affairs throughout Lancashire still presents a dreary aspect, and it is feared that to many the coming winter will be a time of much suffering. On this matter, Mr. Farnall reports that on the 5th instant there was a small increase of 228 in the twenty-seven unions in the cotton manufacturing districts, as compared with the number so relieved in the previous week. We do not think, however, that this increase is to be altogether attributed to cotton failure, for at this season of the year there are large numbers of persons connected with agriculture, building, &c., who fall out of work. If the weather should set in severe, there will be a large increase of pauperism, in both town and country, which will be in no way connected with the cotton trade.

In the above unions, since the 6th of December, 1862, there has been a total decrease in the number of persons receiving parochial relief of 143,050. Large as this reduction is, there were on the 5th instant 128,933 persons in those unions who were still depending on parochial relief. In the corresponding week of the year 1861, the number of persons who depended on aid from the parishes was 57,535; so that we have by comparison still an excess of pauperism to the extent of 71,398 persons.

Of this number Mr. Rawlinson reports that, provided the weather remain fine and open, by the New Year it would not be difficult to find employment on the public works for from 20,000 to 30,000 operatives; and as these will be for the most part men, a considerable reduction in the rate of pauperism may be looked for under favourable circumstances. Already fifty-two applications have been made for loans for public works, amounting to 721,605*l.* Of these proposed works, those which will require a sum of about 600,000*l.* to complete have been reported upon and sanctioned by the Poor Law Board. Applications have been made, in addition to the above, for loans amounting to 750,000*l.*, making in all 1,350,000*l.* to be spent on the making of roads, sewers, &c.

In considering this subject, it is of importance to know to what extent the peculiar unskilled labour of the cotton-spinners can be made available for these works.

ANCIENT STAINED GLASS.

GLOUCESTER CATHEDRAL.

AN account of the stained glass in the east window of Gloucester Cathedral has been published by Mr. Chas. Winston. At the commencement he says:—

"If it were possible for any one to suppose that Gothic architecture was indigenous of these northern regions, a glance at the windows of the earlier buildings in the style might suffice to undeceive him. The smallness and fewness of the openings, and deep colours of the glazing, are alike suggestive of a climate where a blazing sun exacts this homage to his power. The instinctive desire, under an obscure sky, for light, is exemplified by the increased size given to the windows as the architecture gradually became acclimatised, and by the diminution of their colouring. And after Gothic architecture, in its turn, was superseded by another exotic style, better suited to modern wants, a happy appreciation of the popular love of light characterises the works of the greatest of our national architects, Sir Christopher Wren. It is interesting to follow the progress of these changes, and observe their relation to each other, in the Mediæval styles of architecture and glass painting. In the Norman style, and in the earlier part of the Early English, whenever the use of much white glass occurs, it should be regarded as a submission to dire necessity. But the employment of white glass in large quantity, as a matter of choice, is observable in the latter part of the Early English period; and it continued throughout the Decorated in an increasing ratio to the coloured. With the Perpendicular style,—the style of architecture which we in England associate with the idea of 'walls of glass,'—occurred a remarkable change in the glass manufacture. The coloured glass was made less deep, and generally speaking more even in tint,—alterations absolutely necessary to suit it to the more finished mode of painting then adopted, and which culminated in the Cinque Cento; and white glass, whiter than before, was used in increasing profusion. The result is, of course, to occasion the transmission of a greater amount of light through the glazing. These changes were accompanied, at particular epochs, with remarkable alterations in the details of the design; peculiarities on which the antiquarian mainly relies as affording indications of date, and which are nearly, but not strictly, synchronous with changes in the corresponding details of the architecture,—the change in the architectural detail usually preceding by a few years that of the painted glass. A remarkable illustration of this fact is afforded by the great east window of Gloucester Cathedral, and its glazing. The stone framework of the window is an early but decided example of the Perpendicular style, and the painted glass is a pure example of the Decorated. So pure is it, indeed, that, but for the incontrovertible evidence of date afforded by the heraldry in the window, we should hesitate to proclaim it to be one of the latest instances of the Decorated style of glass painting. It presents no feature really indicative of the great change of style which was then imminent. Its material, its mode of execution, the use of 'smear shading,' the forms of the human features, especially of the eye and nose, all are such as any well-pronounced specimen of the style exhibits. The general design, too, of the glass painting, though in some respects novel, is in strict accordance with the rules of the Decorated style, and has no resemblance to a Perpendicular example except in the very large proportion which the white glass in it bears to the coloured."

After a full description of the window, the writer says in conclusion:—

"Apart from the historical associations which attach to every ancient work, and pre-eminently to the present, it may be doubted whether the Gloucester window does not owe most of its popularity to the fine tone and rich hue of its glass. It would be impossible to meet with white glass that is more solid and silvery in effect. The red is beautifully varied, and is most luminous even in its deepest parts; and the tone of the blue can hardly be surpassed. It must also be admitted that the general design, through the size and simplicity of its parts, is calculated to produce a good and distinct effect at a distance, and that the execution of the painting, rough and imperfect though it be, is, on account of its crispness and boldness, well adapted to the nature of glass, so potent of its kind. But here our admiration should stop. Like all other Mediæval works in painted glass, the present is open to the gravest criticism. The figures are ill-drawn, ungraceful, and insipid. The shading, though sufficient both in depth and quantity, if handled with skill, to have produced a due effect of relief—an effect which obviously had been aimed at,—is so inartificially employed as to be useful only so far as it serves to impart tone and richness to the composition, and by contrast to increase its brilliancy. Every part of the figure, and all the members of the shrinework, seem to be equally in the same plane, though the real depth of the design, as shown by the lines of the drawing, and the very nature of the composition, is considerable. Whatever general distinctness of effect it possesses is due to the completeness with which the simple forms of the white figures and canopies are cut out and insulated by the coloured grounds—an achievement of no great difficulty. I make these remarks, not in a spirit of disparagement—the work was a great one in the uncritical times in which it was executed—but in the hope, if possible, of arousing attention to the lowness of the standard to which we, the more enlightened inhabitants of the nineteenth century, are labouring to conform in our church decorations,—a circumstance which would be utterly inexplicable did not experience show that a fashion, in every age, has never been the least omnipotent on account of its absurdity, or even ugliness."

GATEWAY, ST. GILES'S-IN-THE-FIELDS.

MORE than one correspondent has drawn our attention to the circumstance that what they term the "carving in stone" of "The Resurrection," in the churchyard gateway of St. Giles's-in-the-Fields, has been taken down, and that it ought not to be allowed to disappear. The carving is in fact in wood; and we are informed that the gateway containing it has been taken down with a view to widening the roadway here, and will doubtless be re-erected shortly. It was quite right to speak in time.

THE VAULTED CEILING OF ST. GEORGE'S HALL, LIVERPOOL.*

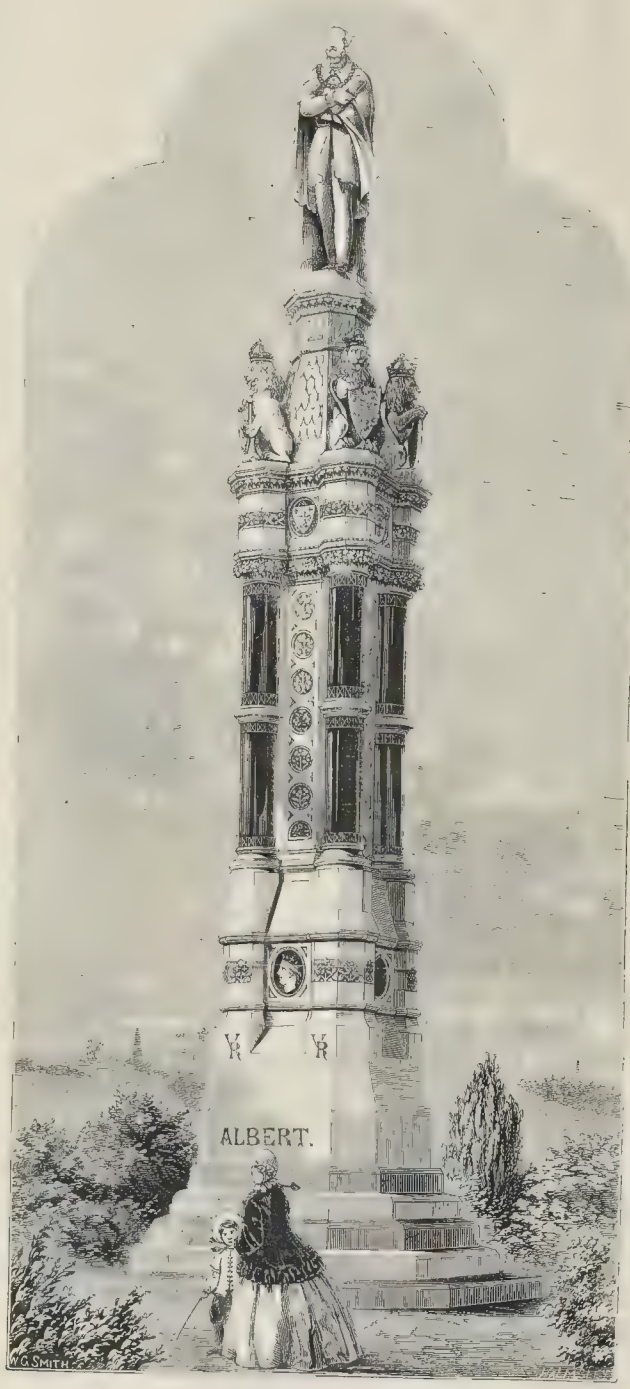
DEAR SIR,—The gist of the long and somewhat angry letter from Mr. Rawlinson, which you inserted in your last *Builder*, first appeared (so far as I know), in a Liverpool paper called the *Post*, on the 1st of December: I replied, therefore, in the same journal, and the editor did me the favour to insert my communication on Saturday last. To that paper I must, therefore, refer Mr. Rawlinson, and such of your readers as may be interested in this matter, for I really cannot ask you to insert so long a communication. I may, however, say that my only object in the remarks I made at the Institute was to contradict a statement I read in a Liverpool paper in October last, that Mr. Rawlinson had succeeded Mr. Elmes as architect of St. George's Hall, and to assert for my deceased friends, Messrs. Elmes and Cockerell, the credit of being the sole architects of that magnificent building. I intended no "sneer" at Mr. Rawlinson when I attributed to him the position of clerk of the works. I saw him at the building apparently performing such duties, but as he has since greatly advanced himself, it is the more creditable to him to have attained his present position from comparatively humble beginnings.

With reference to the brick roof of the merit was in the suggestion; but I learn from a friend at Liverpool, by a letter this morning, that subsequently to my conversation with Mr. Cockerell, and my pointing out the brick roof of the Jesuits' church at Munich, Mr. Elmes visited that city, and examined that roof with great minuteness; and that on his return he included it in his design, and added the cost to his estimates. I do not suppose any architect would imagine any great difficulty in its execution even with ordinary bricks, and the demands of Dr. Reid would, in my judgment, increase its stability, and facilitate its execution.

W. TITE.

December 10.

* This communication reached us on Thursday in last week too late for insertion. We hope it will be unnecessary to pursue the matter farther.



THE ALBERT MEMORIAL; ABINGDON, BERKS.

MR. JOHN GIBBS, ARCHITECT.

THE ABINGDON ALBERT MEMORIAL.

The first stone of this memorial of the late Prince Consort was laid on the 22nd of October last. The accompanying engraving represents it. The chief features, it will be seen, are medallions of the Queen on the base; four columns of Mansfield stone, surmounted by sculptured capitals; above, are the arms of the county, diocese, &c., emblazoned; and at the summit a carved pedestal supporting a full-length figure of the lamented Prince. The cost will be about 300*l.*, a considerable part of which, by the exertions of the mayor and other leading inhabitants, has been raised in the town and neighbourhood. The site chosen for the monument is the Recreation-ground, just outside the town, which was opened about twelve months ago for the benefit of the inhabitants, under the new *régime* of Christ's Hospital. The trustees readily gave permission for its erection.

The stone laid bore the following inscription:—

"A.D., 1863. Laid by R. Badcock, Mayor. John Gibbs Architect. Charles Selby, Builder."

A bottle was deposited therein, containing a new florin, shilling, sixpence, penny, and half-penny, and the following record inscribed on parchment, to which numerous signatures were attached:—

"The first stone of the Memorial in course of erection on this spot, was laid by the Mayor of Abingdon, Richard Badcock, in the presence of many loyal witnesses; which Memorial is intended to perpetuate to future generations the illustrious name of his late Royal Highness Prince Albert Francis Augustus Charles Emanuel of Saxe Coburg and Gotha, K.G., Chancellor of the University of Cambridge, and Consort to her Majesty Victoria Queen of England, A.D. 1863, October 22. By universal consent, he will henceforth be known by the exalted title of Albert the Good. The nation, proud of his name, everywhere offers its sympathy to our beloved but bereaved Queen, the mother of peace and love. He was the Patron Prince of all that is noble, useful, beautiful, and true. Learned, wise, and therefore good, he could well hope for other than an earthly crown, even a celestial one in the Paradise of Heaven."

LORD JERVISWOODE ON THE PROVISION OF DWELLINGS.

ARCHITECTURAL INSTITUTE OF SCOTLAND.

In his opening address, Lord Jerviswoode spoke of houses for the working classes. He said—I venture to suggest a scheme so that the greatest of modern inventions for forwarding locomotion should contribute even more directly than at present to the increase of the comfort of our city populations. The plan is no mere creation of imagination. I have seen it in practical operation. I happened to reside for a short time, a few years ago, in the neighbourhood of one of the greatest slate quarries in Wales, the produce of which was carried to places where it is shipped by means of a railway, and I was surprised and pleased to see this railway used constantly as the means of conveying the hundreds—I might, I believe, say thousands—of men employed in the slateworks to and from their respective homes, which might be seen on the hill sides, bordering the line of railway for many miles, and remarkable for their joyous brightness of aspect, neat dwelling-houses, tidy gardens, and bits of arable ground. It was impossible to avoid the thought that no cause could exist why such a system should be confined to one locality; or, on the contrary, that it might be applied, subject to modification in details, to other populous places; and if so, what changes might be wrought on the health, the habits, ay, and the morals of the people! Born and bred in the midst of a happy and com-

COTTAGE HOMES IN BUCKINGHAMSHIRE.*



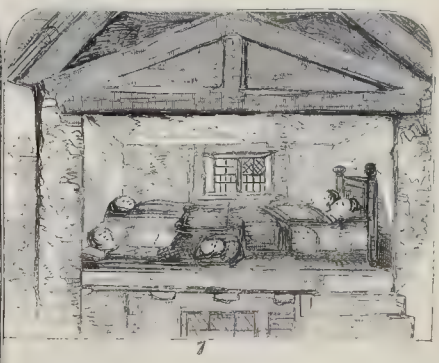












1 and 2. *Cottages at Denton.* 3. *Part of a Cottage in Spring Gardens, Whitchall, Aylesbury.* 4 *Cottage Construction at Denton.* 5. *An Attempt at House Drainage, Denton.* 6 and 7. *Aylesbury Interiors.*

[* See pp. 889, 890, *ante*.

paratively comfortable rural population, I have yearned at heart over the miseries of many of the poorer classes of our cities; and it is impossible to practise or to sit, as I have been called on to do, in our criminal courts, without feeling that the question of questions amongst us, and that in reference to which our responsibilities as a Christian people are the heaviest, is what is to be done to lighten the weight which presses so hard on the moral energies of our working classes? I have pondered over the subject, and the more I have thought of it the more have I been drawn to the conviction that apart, of course, from moral and religious agencies, to treat of which is beyond my present object,—the remedy, as respects the grievance with which alone I am dealing, lies in scattering our people over a greater space of ground, and bringing them to the places where they have their employments by means of railways and locomotive or similar power. I believe villages might be built within a few miles of such a town as Edinburgh, having their streets partly occupied by a single line of railway, the train of which would pick up its passengers at their doors, and set them down as near to the scenes of their labours as they now are when scattered through the town itself. I admit that a great practical difficulty attends this scheme, which is to satisfy proprietors that the erection of such villages would be remunerative. Unless they could be made so, I should despair of ultimate success. You are told, with much truth, that in these days masses of the labouring population are here to-day and away to-morrow, and that there is a consequent want of security for due payment of rent, which thus leads to its enhancement. Here, I think, we should be at fault, unless the Legislature should lend its aid; and, although I am far from thinking it the duty of Parliament to interfere on light grounds in matters of social economy, I hold it equally unsound to maintain that it should never interfere at all; and I think it possible that, in this case, well-considered interference might be practicable and beneficial. I would suggest that a scheme should be formed, under which it should be provided that a portion of the earnings of the labourer might, with his own consent and by agreement with his employer, be legally secured in the hands of the latter for payment of the rent of the premises let to the labourer. In this way an owner of house property would not be obliged to adopt those expensive, doubtful, and troublesome means to secure his rents which are now so common. I see nothing in it of which our labouring classes themselves need entertain a jealousy, as I would propose nothing beyond an arrangement optional to the parties, on the efficient working of which, in its details, legislative powers should be brought to bear.

VAULTING AND GROINING.

THE ARCHITECTURAL ASSOCIATION.

THE usual meeting of members was held on Friday evening, the 11th inst., at the House in Conduit-street.

Mr. R. Phené Spiers, V.P., in the chair.

The following gentlemen were, on ballot, elected members of the Association:—

Mr. Clement Dowling, Ballam-hill; Mr. John Davison, 5, Edgware-road; Mr. R. G. Benson, 10, Regent's Park-terrace; Mr. H. Clark, 39, Great James-street, Bedford-row; Mr. W. A. Mackness, 12, Queen's-road, Bayswater; Mr. G. M. M'Clollock, 2, South Bank-terrace, Kensington; Mr. Charles Hanbury, 27, Sackville-street; Mr. A. C. Booth, 12, Clement's-lane; Mr. J. S. Little, 12, Duchess-street; Mr. H. Williams, 52, Old Broad-street; Mr. F. Williams, Gore-road, Stamford-hill.

Mr. C. H. F. Lewes announced a handsome donation of books from Mr. Parker, of Oxford, accompanied by a letter containing his views as to the best course of reading in Gothic architecture.

Mr. A. Smith, and Mr. H. L. Florence, were, on ballot, elected members of the committee in the room of Messrs. Molecey & Paris, resigned.

Mr. R. R. Bayn then read his essay on vaulting and groining, for which a prize had been awarded. He commenced by stating that he quite agreed with the author of a paper already before the Association, "that on a thorough comprehension of the Gothic vault lay the whole gist of Gothic architecture." He (Mr. Bayn) proposed to deal with the subject solely with reference to ecclesiastical buildings, and briefly to glance at its history from the earliest known or attributed examples to its decay and final abandonment. Next, on the several modes of vaulting, domical, circular, and pointed, with a comparison of their relative merits (more particularly French and English), and then with reference to theoretical principles, and the rules by which stability might be insured. Having, with the aid of diagrams, illustrated and explained those portions of his subject, Mr. Bayn proceeded to observe that the Abbey Church of Westminster possessed some remarkably pure and beautiful specimens of vaulting. That of the chapels round the apse was particularly good; also the vaulting of the nave and the bay in the east cloister at the entrance to the chapter-house. The latter were quadripartite in arrangement with two secondary ogive ribs. With regard to the theoretical principle, and to what extent it was possible to decide by rule, so as to insure stability, he observed that the construction of an arch was one of the most important and curious operations in the science of architecture. It enabled the architect to cover spaces which he otherwise could not have accomplished with the materials of which arches are composed, and it enabled him to set up something capable of bearing enormous weight and pressure. To the architects and builders of the Middle Ages we were indebted for some of the grandest examples of this peculiar feature. The skill exhibited in the construction of Mediæval buildings by our forefathers proved that they had a perfect knowledge of the materials they were using and of the best modes of construction. The first great consideration in vaulting was to make it stand, and the great obstacle to overcome was the thrusting force. In many Mediæval buildings flying buttresses were applied at those points where in a groined vault the greater part of the thrust was experienced. In other cases the point or points receiving the thrust were of themselves sufficient to counteract and balance it, and were loaded to an extent to secure the required equilibrium. In all cases there was evident knowledge of the forces dealt with, and the means used to overcome them. In Classic buildings the pressure was overcome by the immense thickness of the walls, and seldom by the use of buttresses. The tendency to overthrow or to thrust out resolved itself into the universal law that the force was represented by the mass or weight of materials in that force minus the friction of the materials on each other. It was evident, therefore, that if the opposing force, either in the shape of thick walls, buttresses, or heavily laden walls above the point of thrust, was the greater, the first force was overcome; and as in the opposing force the centre of gravity was within its base, and it had no tendency to move in the direction of the first force, stability ensued. The inquiry was often made whether a stone roof was a positive necessity to a church built in a true and pure Gothic spirit: generally speaking, it was agreed that it was not necessary. This opinion was probably formed from the examples of flat wooden-roofed Norman churches, as at Peterborough and elsewhere, and the many beautiful little parish churches throughout the country with open wooden roofs. He fancied, however, that it would be difficult to defend a timber roof against a stone vault, even if the former were on such a scale as that of Westminster Hall, though it must be readily admitted that such a span would be next to impossible in stone. The rare examples of modern stone roofs must be supposed to be attributed to the cost of such constructions, and to the disinclination, in a utilitarian age, to expend more on ornament than was barely necessary. He denied that stone roofs were disused because in modern days we did not know how to vault, or in fact because we had lost the secret. He contended that the only secret, if such it could be called, was a comprehension of the composition and resolution of forces. Admitting these to be understood, there was no secret, and there was nothing to find out, and no difficulty in vaulting over any space within reason. It was evident from existing examples of the barrel-vaulted churches of Southern France, of the eleventh and twelfth centuries, that except in the case of very large spans, flying buttresses were not absolutely necessary, and that large spaces could be covered over with a legitimate stone roof inside and out, with the use of a circular or pointed barrel vault, cut up into bays by means of cross arches. A plain stone roof of this description would, in his opinion, be a greater architectural achievement than a timber roof, however rich it might be. But even if the propriety of abolishing stone roofs for nave spaces were conceded, he saw no reason why they should not be used in aisles and crossings. When at Ravenna, he found a beautiful example of vaulting with light materials, and he saw no reason why bricks might not be used for vaulting purposes, so as to combine lightness with strength. The resort to anything like tricks in adapting groining to modern wants, such as banding it with iron, or building-in iron to aid the constructive or suspending part, was, in his opinion, too contemptible for comment. All who had studied ancient examples of church architecture, and contrasted them with our cold stereotyped modern buildings, would, he thought, attribute much of the falling-off apparent in the latter to the absence of groining. As, however, we could not alter the age, and bring back again the spirit that produced such glorious examples of church architecture as those which were raised between the twelfth and fourteenth centuries; and as false effects were to be deprecated; he supposed the architects of the present day must remain contented to vault wherever they could; and this, he believed, might be effected economically, and at the same time truthfully.

Mr. Ridge called attention to a specimen of plain fan vaulting, which he said had lately been put up in Arundel-street by Messrs. W. & H. Smith.

Mr. Bayn questioned whether the example referred to was fan vaulting at all.

Mr. Ridge contended that it certainly was, according to the definition of Professor Willis.

The Chairman said, he quite agreed with Mr. Bayn, that the study of groining was of the utmost importance with a view to a correct knowledge of Gothic architecture. He apprehended, however, that it was greatly necessary that the student of the classic style should also master the art.

After some short discussion, which the lateness of the hour still further curtailed, a vote of thanks was passed to Mr. Bayn for his paper.

The Chairman announced, that the next drawing in the Class of Design would be "Entrance-gates," and that on the 17th of January a paper would be read by Mr. C. J. Adam, "On the Metropolitan Building Act."

OXFORD ARCHITECTURAL SOCIETY.

AT the last meeting of the term, held on December 9th, Professor Goldwin Smith was unanimously elected President.

The Rev. P. G. Medd read a paper, "On the Crypt of St. Gervais, at Rouen, and on some Churches in France." He spoke chiefly of Amiens, Chartres, Rheims, and Strasburg, concluding with an account of the crypt at Rouen, which he thought there was every reason to believe was as old as the third century, though the superstructure was not earlier than the eleventh century.

Mr. Tyssen, of Merton College, gave a summary of some of the most important items in the old churchwardens' account-books of St. Peter's-in-the-East.

Some drawings, by Mr. Buckler, of the paintings on the wall, which were found during the repairs in Headington Church, were exhibited. The chief subjects represented are the Nativity, Flight into Egypt, Massacre of the Innocents, &c. They were found in the south aisle, and their date is probably about the end of the thirteenth or beginning of the fourteenth century.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

A MEETING was held December 9th, Mr. Godwin, V.P., in the chair.

The Chairman announced that the council had had the honour of enrolling his Grace the Lord Archbishop of York as a life associate and contributor to the "Collectanea Archæologica."

Mr. Clifford W. Chaplin, of the Oxford and Cambridge Club, and Mr. George Lane, of the Mess-room, St. James's Palace, were elected associates.

Mr. Gunston exhibited a portion of an iron buckler, with spike as an *umbo*, found at Dowgate-hill. The iron plate was studded with minute brass knobs.

Mr. Cuming exhibited the spike of a similar buckler from the Brocas collection at Wakefield Park, Berks.

Mr. Irvine exhibited an interesting brass lock of the time of Elizabeth. The key, a good piece of work, had a viscount's coronet and the letters B.M., presumed to be those of Brown, Viscount Montagu.

Mr. F. J. Baigent exhibited drawings of an interesting series of bosses in the vaulting beneath the tower of Winchester College, consisting of monograms and other devices with shields of arms, the whole of which Mr. Baigent had been suc-

cessful in reading. The drawings made of them are very good, and were executed during the recent rebuilding of the tower, when the bosses were all taken down. There are about twenty-six in number, and to these may be added a few others from the roof of the Fromand Chantry in the college cloisters, built only a few years before the tower. These drawings are to be engraved, accompanied with biographical notices, for the Association.

Mr. H. Godwin, F.S.A., exhibited a fine silver watch of the seventeenth century.

Mr. Irvine produced tracings of tiles from Whitland Abbey, South Wales; St. Nicholas's Church, Ludlow; Pershore Abbey; also from Dorchester, Oxon, and Westminster, which were referred for arrangement and further consideration.

Mr. Blashill exhibited and described some interesting Roman remains, found near St. Dunstan's in the East, especially a mass of concrete forming part of a tomb.

Various other exhibitions having been made and commented on,

Mr. Saxe Bannister, M.A., read a notice of two MS. lives of Henry V., unpublished, in the British Museum and Lambeth Libraries. He submitted fac-similes of the MSS., and read extracts relating to the king's prisoners and the second campaign in France, and his diplomacy; also to his political economy, in reforming the coin of his French conquest; and to some proceedings towards the Lollards and the Welsh people.

The Rev. E. Kell, F.S.A., gave an account of the finding of further Roman coins in the Isle of Wight.

Mr. E. Roberts, F.S.A., read a paper on Brixworth Church, Northamptonshire, and exhibited views and plans. This gave rise to an animated discussion; after which the Association was adjourned over Christmas, to January 13th, 1864.

TERRA-COTTA PORTICO, LONDON.

A PORTICO has been erected at Viscount Strangford's, in Cumberland-street, Hyde Park, in terra-cotta, by Mr. J. M. Blashfield, of Stamford, from designs by the late Mr. Augustus H. Morant and Mr. J. M. Lockyer. It consists of an entablature carried on three columns at each angle in front, and one column on each side against the front wall of the house. The columns are Corinthian, treated freely: they are of the same diameter throughout, and diapered on the face.

The terra-cotta of which this portico is composed is a kind of porcelain stoneware, being a compound of clay, flint, and other bodies, burnt to a heat at which soft iron will melt, so that partial vitrification of the particles composing the body takes place in the burning. The material is, therefore, affirmed to be indestructible by frost and the alkaline bodies in the London atmosphere, and more readily cleansed from soot and dirt than marble and stone.

The columns are made in parts, and united at the joints with dowels and blue lias cement. The entablature is composed of moulded bricks in the same material. In the cornice all the bricks work as headers, and are made to tail back 9 inches, the bricks varying in depth, width, and length, to suit the details of the work. The longest brick is about 19 inches.

The cost of this work, inclusive of the modelling, is less, we are informed, than it would have been if executed in ordinary brick and stucco. The bricks forming the architrave are made in section to fit a T-bar of galvanized iron, which passes through them and bonds the whole work together.

WESTMINSTER WORKING MEN'S CLUB.

THE third anniversary meeting was held on the 11th instant, Sir R. W. Carden in the chair.

The building has recently been enlarged by taking in an adjoining house, and re-modelled according to plans prepared by Mr. Downes, architect, the contractor being Mr. G. Richardson, of Sloane-street. There are now class-rooms, reading and lecture rooms, in addition to the social club-room, library, lavatory, &c. The cost, with the necessary fittings (of the plainest kind,—deal tables and forms with backs, &c.), is 580*l.*, towards which Miss Adeline Cooper, who does so much for the institution, still requires 190*l.*

All the affairs of the Club, as well as the various societies carried on there, are managed entirely by the men themselves, Miss Cooper acting as their treasurer, and advisor when required. We hear with pleasure that most admirable order has been maintained. There has not been one defaulter; and when the books were looked over (above 400) previously to packing them up for the building alterations, not one was missing. The secretary, librarian, and committee, chosen from the body of the members, all give their services gratuitously, the only person paid being the room-keeper, who resides on the premises. Coffee, ginger-beer, cake, and biscuit are supplied at cost price to members, and the Club is open every evening, including Sundays, that being the day of all others when the working man is most exposed to temptation. The institution is entirely unsectarian; the men converse freely on every topic, religious or political, with perfect good temper; and the better educated naturally improve those who have not had equal advantages.

The classes are free, and comprise reading, writing, and cyphering three times a week; a French class, a singing class, and a Bible class, with one hour's simple service on Sunday evenings. The Penny Bank has received as deposits 145*l.* since its commencement in 1861. The Loan Society has granted above 130 loans, representing above 250*l.*, although the capital is not more than 90*l.*, divided among forty-five members. The Sick Fund has given sums varying from 10s. to 20s., to fourteen sick members who had paid 1d. per week for thirteen weeks; and the Barrow Club has furnished ten barrows, of 50s. each, to as many members who are costermongers, and who, at the end of fifty weeks, at 1s. per week, will be the proprietors of their barrows, instead of paying 1s. or 1s. 3d. a week for the hire for years.

There are above 500 members of the Club, and we should be glad to hear of 500 such clubs.

ON CEMENTS.

THE following is a part of a communication signed "James Pulham:" we have not space for the remainder:—

It is a common practice with slow-setting cement, when a moulding is being run, or filled out, to lay some on the brick core, and allow it to get more or less set, and even crusted, according to the time it is left, sometimes till it becomes a crystalline surface; then the adhesion of the next stuff laid on is imperfect and unsound. It is the same with the plain face. As "Cautious" says, it should be finished off at once. Dirty sand is an evil, as the cement will not harden with it, and is crumbly. Some cements set too quickly, so that the workmen cannot use it properly while it is good, before it begins to set: then it is frequently killed,—that is, its hardening property is injured, especially when it is worked up again, and more water added, as is sometimes done. Then it is of very little good, and is crumbly indeed. Mouldings are often run out or finished with all cement, no sand in it, to make it easier and finer faced, which is sure to crack.

The cement is frequently laid on brickwork dry, or nearly so: then the moisture is absorbed before it can have time to set, and it will not harden. This is worse, too, when exposed to the heat of the sun or a drying wind: it will then dry before it can set, if it is slow-setting, as it should be; and if quick-setting, the injury done by drying it up directly is even more, and may generally be avoided by being sheltered from the sun for a week, and when cool it should be wetted frequently, to retard its drying quickly. I know that, with the haste with which much of it is done, it would be inconvenient, and will not pay at current prices, which have been reduced too low (especially by the common system of sub-letting), for the time to be devoted to it, and for the trouble that is necessary to insure durability; and this an employer should, if paid sufficiently, be able to give, and, if experienced, he can do it, as of course it had better not be done at all than done badly.

It is generally the best work that is done in the autumn and winter, if it escapes the frost a few days after it is done, as it then sets and hardens gradually; but cement should not be put on brickwork while the mortar is wet, as that causes cracks.

Portland cement has this great advantage over others, that it can, with good management, be worked in winter, while other cements cannot without great risk of the frost injuring them before they are dry. It is sometimes the case that, to hasten the setting when slow, more cement is added to make it set quicker, and will make it crack and burst.

It often happens, where brickwork is formed for a core to mouldings, that it is irregular, requiring the cement thick in one place and none scarcely in other parts. Where this is the case, it is better to have recourse to good Roman cement, to dub it out to within three-fourths of an inch with pieces of brick, rather than have great thicknesses of the Portland, as great thicknesses should be avoided, except where a greater proportion of sand or gravel can be used than in running a moulding. It is best to have uniformity of thickness; and the best way is to use a running mould in forming the brick core when building, though more trouble to the bricklayers. I have often had to put whole bricks on a brick core to fill it out; but a better method with top projections, which I adopt where I can, is to have a box-mould of wood, for instance, of the *cyma recta*, frequently forming the top: fix it up, and fill it in with the brick and cement. It is then one solid mass, such as is not possible by the piece-meal way of adding bit by bit. It is no more expense where great length is required.

But cheapness is too much the order of the day for all this trouble to be taken, at present prices, though more may be done for greater perfection, which should be our aim. Then its durability is certain; and, even as it is, there is much of it in far better condition than the stone most commonly used in buildings of late years.

COMPETITION.

Congleton Town-hall.—At a special meeting of the town council, "for the purpose of adopting and confirming the report of the Town-hall Committee with reference to the site of the new Town-hall, and as to the amount of premium to be given to the successful architect, and generally on the subject of the new Town-hall," the mayor stated that the committee had recommended that the old site be adopted for the new Town-hall; that a premium of 25*l.* be given to the architect tendering the best plan or design, and that the time of competition be extended from the 1st to the 18th January. The Town Clerk stated that upwards of 140 applications by architects had been received. Several architects had inquired whether the successful competitor for the plans and designs would be entrusted with the superintendence of the work. He (Mr. Moorhouse) had given no definite reply to this inquiry, inasmuch as it rested with the council. It was not unfrequently the case, that the plans and designs of one architect were entrusted to another to be carried out. Mr. Warrington suggested that the fund intended for the contemplated memorial to the late Mr. Bullock might be expended in the erection of a clock tower in connexion with the new Town-hall. The committee's report was adopted. Mr. Radley then observed that if the sum of 5,000*l.* was expended in the erection of the proposed building, some special contract should be made with reference to the architect's commission for superintending the work. The usual per centage on smaller sums was, he believed, something like five per cent., but in the case of a sum of money like the one proposed, it was customary to make some reduction in the commission. A short discussion ensued, during which it was mentioned that three or three and a half per cent. was the commission usually charged on large sums. A question was asked whether, if a sum of 250*l.* were paid to the architect for his commission, it would not include the salary of the clerk of the works. Some members thought it would, others thought it would not, and others thought it ought. The subject was ultimately allowed to stand over, Mr. Radley explaining that his object in mentioning it was, that there might be some delicacy in bringing it forward after an architect had been appointed. It is to be hoped that competitors will be warned in time, and insist on a proper understanding as to payment of the ordinary commission.

GAS.

THE Worcester Gas Company have resolved to reduce the price of gas to private consumers from 4*s.* 6*d.* to 4*s.* per 1,000 cubic feet. A reduction of the charge for the public lamps 5*s.* per lamp—that is, to 3*l.* 5*s.* per lamp per annum—has also been agreed to.——A contemporary states that a shopkeeper in Oxford-street is trying (what he erroneously calls) the French mode of lighting. The gas-burners are let into the ceiling above the windows, where they encircle small funnels. In fact, it is the application to shop windows of what has been called the "sun light." "There are no strong shadows, no dangerous wavering flames, no encumbrance of gaselier stems," says our authority. "The light is intense yet not dazzling, and, above all, it is equally

distributed. The ventilation is excellent, and safety and health are both secured. We believe [it is added] this excellent system of lighting originated at some theatre in Paris." This is a mistake. It originated at the Greenock theatre, in Scotland, upwards of twenty years since, as recorded in the *Builder* some years afterwards by Mr. John E. Dove, who suggested and applied it at Greenock. It *was*, some years since, also tried, we believe, in a Paris theatre; and the principle, that of lighting exclusively from above, was even adopted, on one occasion, together with the electric light, in her Majesty's Theatre, Haymarket. The "sun-light" system, however, is now well known, as a favourite mode of lighting churches and halls in this country.——A letter from Naples has the subjoined:—"Gas-pipes are now being laid down in the streets of this city. Hitherto, all the streets except three or four had been badly lighted with oil. It is a French company which has undertaken this task. The gasometer, built near the railway station, is, in the opinion of competent men, a masterpiece in its way. It was solemnly inaugurated in the presence of the hereditary prince, the prefect, and the syndic, a few days ago, and a dinner was given on the occasion to all the workmen."

ANNUAL REPORT OF METROPOLITAN BOARD OF WORKS.

AN elaborate "Report" for 1862-3, with "Account in Abstract," has been printed by authority of the Board by Messrs. Brickhill & Smith, of Newington Butts, Surrey. Much of the information given in the "Report" has already been brought before our readers at different times. The general summary of receipts and expenditure for the year shows the total receipts to have been 1,448,694*l.* 6s. 5d.; and the total expenditure 1,412,950*l.* 10s. 3d. The engineer's report states that "the total value of the Main Drainage contracts, either completed or in course of execution, is about two millions and three-quarters, involving the construction of upwards of sixty-five miles of main intercepting sewers, varying in size from 12 inches by 9 feet 6 inches to 3 feet by 2 feet; together with the pumping stations, reservoirs, storm and other outlets, overflow weirs, and numerous minor works in connexion therewith." He draws attention to the increased expenditure from rise in the value of materials and labour since 1860: that increase he estimates at upwards of 30 per cent. The cost of the portion of the works done within the present year amounts to 720,229*l.* for works alone extending to forty-five miles in length.

MORE DWELLINGS FOR THE WORKING CLASSES AT EDINBURGH.

LARGE additions have this year been made to the number of the dwellings for this class of citizens, especially at the west end. Considerable stir and bustle in building have prevailed during the whole summer, and at this late season the works are being pushed forward with great energy. At the Grove and Spittal street alone there are in progress upwards of twenty "lands" of houses, besides others in Fountainbridge, which will contribute nearly 200 dwelling-houses, with accommodation suitable for the industrious and working classes. These buildings have in the majority of cases sprung into existence by the co-operation of those who have experienced more or less inconvenience from the high rents and scarcity of dwellings suitable for them. Those erected by the Fountainbridge Church-Building Association, the Cricket Park Building Association, and the Grove Park Building Company, on the south side of Upper Grove-street, consist of six "lands" of four-story houses, now nearly ready for occupation. This block of buildings is situate on the south side of the Caledonian Railway, and commands a fine view of the Corstorphine hills and adjacent country. The fronts of the houses are of the plainest description, and have a somewhat rustic appearance, being built of a square, natural-faced rubble, the fronts of the doors and window-dressings being also of natural-faced stone, with the margins tooled. The access to the tenement is by common stairs, each house having bells and opening apparatus for the doors at the foot of the stairs. The houses are arranged in half-flats, and vary in their accommodation and cost. The cost of three-apartment houses averages about 135*l.*, and larger houses from 160*l.* to 195*l.* The plans were prepared by Messrs. Paterson & Shiells, architects; and the tenders received were all under the architects' probable estimate.——The annual general meeting of the shareholders of the Edinburgh Workmen's Houses Improvement Company (Limited) has been held. The report of the directors congratulated the shareholders on the satisfactory progress of the company. The Prince Albert Buildings, Dumbiedykes, consisting of 132 houses, are now completed, and have been partly occupied since Whit-Sunday last. The rents range between 9*l.* 10s., and 13*l.*, the majority being 10*l.* 10s. and 12*l.* 12s. Several of the houses have been sold at prices from 150*l.* to 185*l.* A dividend in the mean time of 2½ per cent. was recommended, and the report was adopted.

NEWS FROM SYDNEY, NEW SOUTH WALES.

THE temporary Post-office in Wynyard-square has been commenced. Increased accommodation has long been required at the old premises in George-street, and a plan for an entirely new building, retaining only the Doric peristyle, was prepared by the Colonial Architect, and approved of by the Government. The temporary building, which is very unpretentious in appearance, was ready for the galvanized roof by last despatches in September. It is about 200 feet in length, by 70 in width, and will have stables at the back for the telegraph department, as well as for the post-office. The contract has been taken by Mr. W. Harmer for the sum of 2,975*l.*, and is to be completed in three months. In the meantime tenders will be invited for the alterations at the old Post-office, in order that they may be commenced immediately upon the removal of the department to Wynyard-square.

The masonry for the new wing of the Australian Museum in Hyde Park was approaching completion at the date of our correspondent's letter: preparations were being made for the roofing.

The new wing of the Registry-office, in Elizabeth-street, was on the point of completion.

A contract had been taken by Mr. Gwyneth, for some extensive works on Spectacle Island, to cost about 7,000*l.* These will consist of a powder-magazine, quarters for a superintendent, quarters for soldiers and for labourers, a wharf, and a jetty.

The walls of the Australian Mutual Provident Society's new office were up to the height of 40 feet, the greater portion of the fluted columns of the upper story being fixed.

Various offices, stores, and houses for business firms and private residences were in progress.

The only large work that the city corporation were carrying out was a 6-feet oviform stone sewer, 390 feet in length, from Hay-street to the water-course where it crosses Elizabeth-street, forming a continuation of the stone tunnel carrying the sewer from the Haymarket to Darling Harbour. The sewer has been contracted for by Mr. Calder.

The seventh annual report of births, deaths, and marriages in the colony records the facts that in the year 1862, there were solemnized 3,326 marriages, that 15,434 children were born, and that 6,524 persons died. Hence it results that the natural increase of the population within the year, from the excess of births over deaths, and of course exclusive of immigration, numbered 8,910 souls.

The mean of six years shows that to every 1,000 persons living in the colony, 9 couples are married in a year, 42 children are born, and 17 persons die; or, one person in 54 is married, one child is born to every 24 persons, and in 58 persons of all ages one died.

France gives 26, Great Britain 34, births to each thousand, while New South Wales gives 42. In France the mortality is nearly 28 per thousand, in England 22, in Scotland 21, in New South Wales 17¼. Of 100,000 persons living in the respective countries, there are married in the colony in a year 184 more than in England, 237 more than in France, 497 more than in Scotland. To the same number living there are 792 births in New South Wales more than in Great Britain, and 1,568 more than in France; while the rate of mortality is below that of Scotland by 362, lower than that of England by 486, lower than that of France by 1,042.

In 1862 there were 33 children born out of wedlock to every 1,000 born in wedlock: the mean average for six years was 29. The proportion of illegitimate births in England, during the six years ended with 1860, averaged 65 per thousand; more than two to one of the average in the colony. In Scotland, last year, the illegitimate births were 95 per thousand,—nearly 10 per cent.

The prevailing diseases, as taken in August last, were those of the nervous and respiratory systems, which proved fatal in 50 per cent. of the aggregate number of deaths.

The infantile mortality was 45·00 per cent. of the total deaths.

THE FALL OF A HOUSE IN ISLINGTON.

ON Monday last the adjourned inquest on the bodies of the men killed by the fall of the Three Wheatsheaves public-house, Islington-green, was resumed before Dr. Lankester, the Coroner.

Mr. William Moseley, district surveyor for the western portion of Islington, was examined at some length. He said it was his duty to carry out the provisions of the Metropolitan Buildings Act by inspecting works in progress to see that they were built in such a manner as to prevent the spreading of fire, also that certain works were of a particular thickness and construction. The fall of the building took place from circumstances entirely beyond his control. He had made a report to the Metropolitan Board of Works on the subject, in which he stated that he was of opinion that the accident occurred from want of proper adhesion between the mortar and cement used in the construction of the building. He had seen nothing defective in the materials, and he therefore came to the conclusion that the accident happened from the too rapid heaping up of the brick-work, which he had no power to prevent. He could not say whether the piers gave way first or not, or whether they were sufficiently strong. As long as the Act was complied with he had no power to interfere with the construction of the walls and piers, even if built too slightly. If he had considered them to be too weak to bear the weight imposed on them he could only have interfered as a matter of common humanity. There were no special directions for the building of isolated piers. While the building was in progress he never saw nor had any reason to suppose that it was in any danger. Speaking only as an architect, he thought it a reckless thing for the builder to undertake to finish the building in so short a time. The primary cause of the falling of the building was the undue haste with which the work was carried forward. There must have been some secondary cause, such as the weight of the cornice, the undercutting of the piers, or the removal of the sheres, but he could not say which. He understood from his assistant that there was a cornice being put up. On the Saturday previous to the accident, on visiting the building, he thought the work was going on very rapidly, but not dangerously so. With regard to the bressummer he thought it of sufficient size, and placed in a proper position.

Edward Kemp, a mason employed in the building when it fell, stated that he was in the basement at the time. He had on that morning fixed the right and left doorsteps. There was no strut to the left doorway, but he removed one from the right door. He did not cut anything away from the right doorway, but he did from the left. There was a space left for the step, and it was the top of that he cut away to the depth of half an inch. The doorstep on the left was 5 feet 3 inches by 14 inches by 7 inches: the one on the right 5 feet 3 inches by 14 inches by 6 inches. The directions as to size were given by Mr. Chapman. Mr. Williams was there while he was fixing the first step, but he did not think it necessary to ask him whether he should cut away the brickwork or not, but did it on his own responsibility.

Mr. Williams, the architect concerned, said he had instructions, and it was his intention to see that the work was completed, as far as the roofing in and bar story went, by the 7th of December. Generally speaking the work was executed according to his directions, with the following exceptions:—The pier adjoining the Agricultural Hall was not carried up according to his drawings. The pier was built only half the size he had directed, but he could not say whether this deficiency produced the fall, but it might be one of the secondary causes alluded to by Mr. Moseley. He first discovered the discrepancy between the pier and the plan when the former was about 4 feet high. He thought it advisable to have it altered, and gave directions for its being pulled down and rebuilt the proper size into a chase in the wall. It was not until after the accident that had happened that he had discovered that those directions had not been complied with. The bressummer was not of the size indicated in the specifications, but the alterations were made by his (witness's) authority. He did not attach very much importance to the alteration of the pier, and omitted to see that it had been done. As to the bressummer, he repeated his opinion that it was placed in the best-position. The pier next the Agricultural Hall should have been 14 inches square and ten 7 inches into the wall, but it was built only 14 inches by 7 inches. The bressummer was cut 7 inches into the wall, but according to the Act it should have gone in only 2½ inches. If he had to build the same building again he should employ the same dimensions. The primary cause of the accident was want of cohesiveness in the mortar. In this and in other respects he agreed with Mr. Moseley as to the secondary causes of the fall. He did not think the bressummer had anything to do with the accident. A 4-inch step would have been preferable to a 7-inch step as no bricks need then have been cut away. He considered the cutting away detrimental. The specification stated that a 4-inch step was to be used, and there would have been no necessity to cut away the brickwork had it been made of the thickness specified. He did not think the weight of the cornice had anything to do with the matter. The accident, no doubt, occurred from a number of causes combined.

Mr. William Chapman, the contractor for the building, stated, in the course of his evidence, that he ordered the pier to be pulled down and rebuilt, and saw it commenced. Mr. Williams directed it to be chased, but only part was chased, the rest being toothed. He blamed the bricklayer for not chasing it as he had been told, at the same time he attached no importance to it. He felt certain that the fall of the building had nothing to do with the pier in question. He could not state positively the cause of the accident. He saw that the two piers were buckling, the left one more than the other, and immediately directed the carpenters to shore up the doorway. One cause of the accident was the buckling of the piers; but he could not account for their doing so. The materials and workmanship were excellent. No doubt, it would have been

better had the piers been of the same thickness behind as in front. The crack he saw was in the centre of the 9-inch reveal. As an experienced builder he considered that the bressummer was sufficiently supported by the Agricultural Hall wall, without any corner pier. There was no stram on the shore at the right end door: had the pier been weak there would have been a stram. He did not agree with the other witnesses that the dampness of the mortar was a primary cause of the accident. He rather thought the piers had more to do with it.

The witness was asked if he thought the piers were strong enough, and ultimately said that he did not think they were strong enough. He thought that going on with the building before the mortar was set was a hazardous operation.

The Coroner having summed up at some length, the jury retired to consider their verdict. After an absence of more than an hour they returned, and the foreman, addressing the Coroner, said that, although they were perfectly of accord as to the death of the men being accidental, there was a majority of 16 to 5 in favour of a resolution censuring the architect. He begged leave to say that he (the foreman) was in the minority.

The Coroner, in reply, said that both verdict and resolution would be recorded, the foreman signing the former, and the latter being signed by the sixteen who had agreed to it.

A verdict of "Death through an accident caused by the insufficiency of the central piers" was then recorded.

The resolution was to the effect that the piers having been built according to the plans and under the superintendence of Mr. Williams, the architect, the members of the jury signing it were of opinon that he deserved the severest censure.

The accident, as it seems to us, was led up to rather by the mode of construction and the improper weakening of the piers at the bottom, by the omission of two courses, and the further cutting away for the steps, than by their want of size. As was pointed out in our last, the bressummer did not carry the front 4 inches of the wall above: this thickness of it came down directly on to the piers, by means of 4-inch work and arches, in front of the bressummer. The facing-bricks of the wall, unless the work was executed very differently from what we usually find it, were probably but slightly tied into the inner 9 inches of the wall. Load the top of this with a projecting core for a cornice, and there, remembering too, that a nick 6 inches wide has been left out under the front 4 inches at the bottom of the piers, you have an arrangement very well calculated to give an unequal pressure, produce a slip, and bring down the whole.

FALL OF A GRANARY AT BECCLES.

DURING the late gales a loaded granary, recently erected, fell at Beccles, killing a bricklayer, who had gone to the wall for shelter from the wind. At the coroner's inquest, Mr. J. D. Botwright, of Bungay, builder, who had been appointed by the jury to examine and report upon the state of the ruins, and the probable cause of the accident, gave his report and evidence to the effect that the real cause of the accident was the want of ties. The materials were good, although the clamped red bricks of which it consisted were very much broken in the fall. The beams of the upper story were deflected 1½ inch, and ought to have had iron columns to support them in the centre, on account of the height of the upper story; but the want of strong iron anchors passing through the walls allowed the south wall to bulge ¾ of an inch, and was the main cause of the fall; the influence of the wind alone not being material. The proprietor of the granary said he was a merchant, and employed Mr. Ingram, of Beccles, to build the granary under the direction of Mr. Toll, as architect, whom he employed in his regular business as a merchant, and who was skilled in building, of which he had a great deal of practice. Another of his men acted as carpenter. He was aware the building would be subject to constant vibration from passing trains, and had it very substantially built on that account. The jury returned a verdict of "Accidental death," and adjudged "that the building fell from accidental causes," but added, "that they considered a want of judgment had been displayed in the construction of the building," and suggested "that iron columns and anchors and ties should be added to the building, in the manner named by Mr. Botwright."

CHURCH-BUILDING NEWS.

Findern.—The church here, according to the *Derbyshire Advertiser*, has been opened. The original parish church was much dilapidated. The new church, designed by Messrs. Stevens & Robinson, is built in the Early Decorated style, and stands on the old foundations, with additional length at the west end of nave, and a new north aisle separated from the nave by an arcade of three compartments, and cylindrical pillars, bases, and capitals. By means of these extensions increased accommodation for eighty persons has been obtained. Both porch and tower were for a long time doubtful features, and the detail is of the simplest kind. The size of the church internally is, nave 38 feet by 17 feet 9 inches, chancel 24 feet by 14 feet, north aisle 31 feet by 12 feet, tower 9 feet square. There is also a vestry and south porch. The highest point of the roof is 32 feet from the ground line, and the tower is 37 feet high to the springing of the spire, which is square, with four Lucerne windows, the total height being 77 feet. The roofs of the nave and chancel have trussed principals springing from corbels, and the north aisle trussed rafters, the whole ceiled between the rafters. The whole of the floors of passages, porch, and chancel, are of tiles, the latter boarded with alabaster. The total cost of the church will be about 1,450*l.*, and the work has been executed by Mr. Elliott, of Ashby. The heating, by Gill stoves, has been furnished by the Derwent foundry.

Manchester.—St. Ann's Church, Brindle Heath, has been opened for divine service. The site is the burial-ground of the old St. Thomas's Church. The church contains about 300 sittings, all free. In plan it consists of a nave of three and a half bays; a south aisle of three bays, divided from the nave by an unclerestoried arcade, the columns of which are circular, and the arches of two unchamfered orders. The main entrance is by a south-western porch, gabled transversely to the aisle. The chancel is entered from the nave by a broad and pointed arch, with moulded stone imposts, and rises two steps above the nave floor. The sanctuary rises one step more, and the Lord's table stands on a foot-pace. The south chancel aisle is screened off for organ chamber and sacristies. At the west end and in the centre of the nave is the font, of Bath stone, and circular in plan. Above the font, over two tall uncusped lancets, is a rose window, composed of eight quatre-foiled circles, with a sex-foiled circle in the centre. This has been filled with stained glass by Messrs. Edmundson. The subject is the legendary one of St. Ann teaching her daughter, the Virgin Mary, to read. There are, besides, symbols and grisaille work. The east window of the chancel, which is of three lights and traceried, contains "Christ, the good Shepherd," and grisaille work, with emblems, by Messrs. Heaton, Butler, & Bayne. The other windows are filled with plain tinted glass, in lead quarries. A Scudamore organ has been built by Eccleston & Bowes, and is placed behind the south choir seats. The heating apparatus was provided by Mr. Haden, of Trowbridge. The church is built of red brick, relieved with dark blue, in bands and patterns; and the roofs are covered with tiles ornamentally disposed. The south windows are broad, coupled lancets; and the north the same, with a trefoil or a quatrefoil above, inclosed under one pointed arch. Near the west end of the ridge of the nave roof is a wooden-framed belfry, covered with shingle. The churchyard has been put in order, and the walls nearly all rebuilt. The contract has been carried out by Messrs. Thackrah & Pierce, of Stockport, under the direction of the architect, Mr. J. Medland Taylor, of Manchester.

Frampton (Boston).—St. Michael's Church, Frampton, has been opened for divine service. The architect was Mr. Fowler, of Louth; and the contractor, Mr. White, of Alford. The plan consists of a nave, bell-turret, south porch, chancel, terminating in a semi-octangular apse, and vestry of the First Pointed period. There is an octangular bell-turret, with a Mansfield stone pillar set at each of its angles, springing from a carved corbel in the western front, and covered by a tapering spirelet. The whole church is built of Ancaster stone, and its roof is covered with brindled Staffordshire tiles. Within, the walls are lined with red brickwork, adorned by a band or cornice; chocolate and white terra-cotta quatrefoils, and relieved by courses of stone and white bricks.

Norwich.—The restoration of the parish church of St. Nicholas is being carried on. The estimated cost of the contemplated works is 20,000*l.*, and they must take some years to complete. It is proposed to divide the work into portions, but no part to be commenced until the amount estimated for its completion has been received. The committee propose to adopt the following order:—In the first year, the architect recommends that the tower be refaced. The tower is the central point of the building; it is therefore necessary that its safety should first be secured. All the heavy work of the tower ought to be completed before the roofs are touched. And special subscriptions have been received towards the restoration of the tower. In the second year, the chancel to be restored; the partitions dividing the chancel from the rest of the church to be removed; and the chancel, with the transepts, prepared to receive the congregation for Divine service. In the third year, the south aisle to be restored. In the fourth year, the west front to be refaced and the western pinnacles rebuilt. The further works contemplated to follow as may be determined.

Welton (Yorkshire).—The ancient parish church of Welton, which for nearly eighteen months past has been in course of complete restoration, has been re-opened. Both the interior and the exterior of the church have been restored. Mr. Scott was the architect employed, and in his opinion the church appears to have been built at the end of the eleventh century, but of the architecture of that period only a small portion of the tower piers remain. The chancel was in so utterly shattered a condition that it was necessary to rebuild it. The old form has been preserved as far as possible, but the nave, which was formerly excessively short, has been lengthened, and an aisle added on its south side. The chancel has been repaired, and the tower, which had lost its upper parts, has had a parapet added, and been otherwise improved. The style adopted is the Early Decorated. A large new painted glass window has been placed in the east end of the building, the cost of which is entirely defrayed by the Rev. T. B. Paget, the vicar. The subjects are the four Evangelists, and the work has been executed by Messrs. Clayton & Bell, of London. The whole of the church is fitted with stalls of carved oak. One of the communion chairs has been carved by Mrs. Paget, the vicar's wife. The cost of restoration (about 6,000*l.*), has been mainly defrayed by Miss Broadley. The clerk of the works was Mr. Sissons, of Hull; and the contractors for the rebuilding of the fabric were Messrs. Simpson & Malone, Hull.

Masborough.—The foundation stone of a new church, to be called the Church of St. John the Evangelist, was to be laid by the Archbishop of York on Monday last. The site is near the railway station. The church will be built in the Transition style, and will accommodate 800 persons; namely, 600 adults and 200 children. The cost will be about 3,000*l.*, exclusive of tower and spire, which will require another 1,000*l.* Nearly 3,000*l.*, or sufficient to complete the church, without the tower and spire, have been already subscribed. The whole of the seats in the church will be free and unappropriated. Mr. W. White, of London, is the architect; and Mr. C. Ripley, of Masborough, the builder.

Alnwick.—The works connected with the reconstruction and restoration of St. Michael's church, which have been going on for several months, are now completed; and the church has been re-opened for public service. The gallery has been removed. The clerestory windows have been filled up, and additional arches and piers inserted between the nave and aisles. The centre window, with another in the east end and three in the south front, the stone-work of which had become entirely decayed from lapse of time, and one in the west end, have been taken out and renewed with windows in the Perpendicular order, after the pattern of those removed. The old close seats have been replaced by open benches. The exterior has been repaired. Two new buttresses have been built on to the east end. A window has been inserted in the south porch, and the turret and staircase in the south-east angle of the church repaired. A new organ, by Messrs. Forster & Forster, of London, has been obtained, and placed at the north side of the church. The whole of the works have been executed under the immediate direction and superintendence of Mr. Salvin, architect; the contractors being Messrs. Smith, of London.

DISSENTING AND ROMAN CATHOLIC CHURCH-BUILDING NEWS.

Canterbury.—Miss Hales, the proprietress of the Hales Place estate, Canterbury, on which the show of the Royal Agricultural Society of England was held in 1860, entered a French convent some time ago. She has returned home, intending to build a convent on her own estate and at her own expense. The site, 30 acres in extent, has been marked out, and plans of the conventual buildings have been prepared by Mr. Pugin, of Ramsgate, architect. The proposed buildings, which consist of a church, convent, farm-buildings, &c., are to be inclosed within a high brick wall; and the contract for the buildings alone is 34,354*l.*

Cardiff.—The chief stone of a new Methodist Free Church has been laid here. The building,

which is in Guildford-street, will be in the form of an oblong square, having the principal entrance facing Bridge-street. The front is in the Grecian Doric style, being composed entirely of Bath stone, with large pilasters between the windows. The interior will be divided into three rows of open pews, running the entire length of the building, with a gallery along each side and one end of the building, affording accommodation for 800 people. In the centre aisle is a raised platform, instead of a pulpit. The place will be ventilated by means of roof ventilators, and warmed during the winter by hot air. The building is 70 feet long by 40 feet wide. The cost will be about 1,600*l*. The builder is Mr. Gooderidge, and the architects are Messrs. Hartland & Son, both of Cardiff.

Montgomery.—The foundation-stone of a new Wesleyan chapel has been laid here. It is in the Gothic style, and will accommodate 200 persons. It is entered from the south end by a porch constructed of wood, and glazed with rough plate-glass. At the south-east corner is a small bell-turret, covered with slates, and on the west side is the vestry. The sides of the chapel are terminated with transepts, which add to the height of the chapel. The walls are of red brick, with Bath stone dressings, and bands of green stone. In the interior, the pews are divided into three bays, with a pulpit at the north end, at the back of which is a five-light tracery-headed window. At the south end, over the porch, is a circular cusped window, and at the side of the porch is a two-light quatrefoil headed window. The east and west sides are each lighted with three two-light trefoil-headed windows. The amount of the contract is 380*l*. Mr. Evans, of Montgomery, is the builder, under the direction of Mr. Potter, of Welshpool, from the designs of Mr. W. H. Spaull, of Oswestry, architect.

Stretford (Manchester).—A new Roman Catholic church, dedicated to St. Ann, has been opened at Stretford by the Roman Catholic Bishop of Salford. The new church has been designed by Mr. E. W. Pugin. Sir Humphrey de Trafford has erected the church at his own expense. The west front stands 12 feet from the main road in Stretford, and comprises a gable 62 feet in height, in the centre of which is the chief entrance. Above the entrance is an immense wheel window, inlet with stained glass. It encloses eight cusped circles and a six-cusped circle in the centre. The window has a large cross with the figure of our Lord crucified. The window is enclosed by deeply recessed jambs and pointed arch mouldings. The only other important external features are the tower and spire, which are on the north side, and are almost entirely detached, owing to the comparative lowness of the aisles. The spire is about 130 feet to the top of the cross. The interior of the church is divided into nave, aisles, and sanctuary. Each aisle is lighted by nine two-light windows, with tracery heads, and is divided from the nave by pillars of red Mansfield stone, which are surmounted by carved foliated capitals, and support some moulded pointed arches. The roof of the nave is open to the edge, and the timbers are stained. The principals rest on carved corbels. The chancel roof is panelled, and the principals rest on carved caps, shafts of red Mansfield, and the bases thereof on angels. The reredos is 16 feet by 12 feet wide, consisting of three moulded recessed arches. In the centre is a group of seventeen angels, in full relief, adoring the monogram of our Lord. On each side are groups of ten angels adoring and holding towards the monogram the emblem of the Passion of our Lord. Crowning the arches is a cresting of angels and lilies, conventionally arrayed. The altar is 9 feet long, with green marble columns and carved capitals, of the wheat and the vine. In the frontal, deeply recessed, is a group, 7 feet, of the Four-and-twenty Elders, crowned, having harps, kneeling and adoring the Lamb on the throne, with the Book of Life,—the altar subjects representing the Old Law, and the reredos the New. The whole of the reredos and altar work was executed from the designs and under the direction of the architect, by Mr. R. L. Boulton, of Worcester, sculptor. The sanctuary is a continuation of the nave, and terminates in a four-sided apse, pierced by four large stained glass windows, of two lights each. The interior dimensions are as follows:—Extreme total length, 103 feet; aisles, 82 feet; chancel, 24 feet; extreme total width, 47 feet; the nave being 27 feet clear, and the aisles 5 feet. The aisles are merely passages, all the benches being in the nave, though, as in the latter the window recesses are deep, continued down to the floor, and have only piers between, the width may be called 8 feet. The height of the nave to the ridge is 52 feet, and similar height of aisles, 21 feet. The church is built of Yorkshire parpoints, with dressings of Stourton. Mr. Glaister, of Liverpool, was the contractor. The carving was executed, as we have said, by Mr. Boulton, of Worcester; and the stained glass and metal-work were by Messrs. Hardman & Co

Wexford (Ireland).—A new Roman Catholic church is being erected at Lady's Island, in the county of Wexford. The new church will consist of nave, chancel, aisles, tower, porch, &c., and will be in the style of the fourteenth century. Its extreme dimensions are, length, 108 feet; breadth, 44 feet; height to centre of groined ceiling, 40 feet. The tower and spire to the top of the cross will be 112 feet. The exterior masonry is of granite, with Whitehaven red sandstone dressings. Red, white, and black marble is used for the columns and base of the interior. The architects are Messrs. Pugin & Ashlin; the builders, Messrs. Pierce, of Wexford. The total cost will be about 3,500*l*.

SCHOOL-BUILDING NEWS.

Cranley.—The Archbishop of Canterbury has laid the foundation-stone of the Surrey County Middle-class Schools, at Cranley, near Guildford. The object sought is the provision of a sound and plain education, based on the principles of the Church of England, and on the public-school system, for the sons of farmers and others engaged in commercial pursuits. The plans are for a building to accommodate 100 boarders, and capable of enlargement if found necessary. An expense of 7,000*l*. will be incurred, towards which sum 4,000*l*. have been already contributed. The site fixed for the erection of the new schools covers nearly eight acres, and is not many yards from the proposed station of the Guildford and Horsham Railway. It is on a gentle eminence, commanding, on the south, a view of the village of Cranley, with its church and massive tower, pleasant extent of country, with that garden-like appearance for which Surrey is so famed. The ground was given by Mr. G. Cubitt, M.P. The buildings, which will be of brick, with stone dressings, and tiled roofs, are designed eventually to accommodate 300 boys, with the necessary masters and attendants, and will be quadrangular in form. The south wing will comprise the upper and lower schools, with class-room and corridor connected with the chapel, forming a portion of this wing, and with the north and south wings. The west wing will comprise a large dining-hall, 80 feet by 30 feet, for the use of 300 boys, with dormitories over. At the junction of the south and west wings will be placed the master's house, the infirmary, and other offices. The east wing will contain the under-masters' rooms, with the lavatory and baths on the ground floor, and two stories of dormitories over. The north wing will contain the offices for the whole of the school; and the kitchen and its offices will be placed in the centre of the quadrangle. The building will be erected from the designs of Mr. W. Woodyer. The contractor for the whole is Mr. Robert Futcher, of Fisherton Works, Salisbury; and the work will be carried out under the superintendence of Mr. P. Bentlif, his manager. The contract is taken for 8,000*l*. The style of architecture is of the simplest form of the Decorated.

Derby.—The Rose-hill Church Schools, Derby, have been completed. The room is capable of accommodating as a place of worship about 200 persons, and is provided with pulpit, desk, communion table, lectern, &c.; and is to be lighted by four six-light coronæ. The school building contains on the upper floor a room 55 feet long by 20 feet wide, and 20 feet in height. It is warmed by two of Mr. Jobson's gill stoves. The lower floor contains another room of similar dimensions, but 15 feet in height, to be fitted up as a school-room. There are separate entrances, yards, and outbuildings, as well as playgrounds for boys and girls. The access from the ground floor to the upper room is by a stone staircase in the entrance hall. The style of the building is Early English, carried out in red brick and stone dressings. The original design, which was furnished by the Rev. A. Oliver, admits of the addition of class-rooms at any future time. The entire cost will be about 1,000*l*., exclusive of the cost of the land, &c. Messrs. Giles & Brookhouse were the architects employed, and Messrs. Thompson & Fryer the builders.

Birkenhead.—Mr. William Jackson, M.P., has given 5,000*l*. towards the erection of Ragged schools at Birkenhead.

THE PUBLICATIONS OF THE SOCIETY OF ANTIQUARIES.

Sir,—Can any one explain the foolish delay that takes place in the publication of the "Proceedings of the Society of Antiquaries?" The object of such an issue would seem to be, to inform the Fellows scattered over the kingdom of what passes more quickly than can be done by the *Archæologia*, which comes out about twice in the year; and yet in the number just now issued, reference is made throughout to the reading of papers already issued in that publication. In other words, it will scarcely be believed when I say that the last part of the 8vo. "Proceedings" just now issued of this thoroughly-appointed and well-to-do society is dated "January to April, 1862." Such backwardness might have been understood and excused in the times when poor old Mr. Carlyle was secretary; but now, with a young and able man in the berth, it seems neither understandable nor excusable.

An Old "Fellow."

THE EARLY WATER SUPPLY OF LONDON.

In the year 1236 we first hear of artificial water supply in the metropolis. In 1285, the conduit in Cheapside, which had been fifty years in building, was completed. This was castellated with stone and cisterned with lead, and was situate at the east end of Cheap, at the junction with Bucklersbury, opposite Mercers' Hall, then the hospital of St. Thomas d'Acona.

The following seems to be the best list which can be obtained showing the date of the erection of the other London conduits:—

A.D. 1401, the "Tun" in Cornhill, so called from a prison of that name adjacent. It was originally a spring, but at the above date was made a cistern of sweet water conveyed in pipes from Tyburn.

A.D. 1423, Billingsgate Conduit, opposite the market, where Sir Richard Whittington built a reservoir for the use of the market people. This can be scarcely called a conduit, but a spring running from a "boss" in Boss-alley, so named therefrom. A spring which formed part of this water supply may still be seen, together with portions of a Roman residence, in the basement of the present Coal Exchange.

A.D. 1423, Cripplegate Conduit, St. Giles's Churchyard. Here Sir Richard Whittington made a "boss of clear water" in the walls of the churchyard; and in 1438 Sir William Eastfield brought water here from Highbury. Near this was a spring called Crowder's Well.

In 1433, the priors and canons of St. Bartholomew's, in Smithfield, constructed a conduit for the supply of the monastery, bringing the water from their estate at Canonbury.

A.D. 1438, Fleet-street Conduit, opposite Shoe-lane, built by Sir William Eastfield, lord mayor this year. This conduit was supplied from Paddington. Stow says that this had a fair tower of stone, was garnished with images of St. Christopher, &c., "with sweet-sounding bells before them, whereupon by an engine placed in the towers, they divers hours of the day and night chimed such a hymn as was appointed."

Aldermanbury Conduit, opposite the south side of St. Mary's Church. This was also erected under the will of Sir W. Eastfield; was destroyed by the Great Fire, and rebuilt; but was removed early in the eighteenth century.

A.D. 1478, Fleet Bridge Conduit, at the foot of the bridge over the Fleet river. This was erected to receive the overflow of the conduit opposite Shoe-lane.

A.D. 1491, Gracechurch-street Conduit, nearly midway between Fenchurch-street and Eastcheap.

A.D. 1498, Holborn Conduit, at the foot of Snow-hill. This was rebuilt by William Lamb,—the founder of Lamb's Chapel, near Cripplegate,—a citizen and member of the Clothworkers' Company,—in 1577, at a cost of 1,500*l*. The conduit was supplied from a head near the Foundling Hospital, on the east side of Lamb's Conduit-street, close to where the "Lamb Tavern" now stands.

A.D. 1500, Stock's Market Conduit, at the Lombard-street corner of the site of the present Mansion House. After its destruction by the Great Fire, the conduit was rebuilt at the cost of Sir Robert Viner, lord mayor.

A.D. 1505, Bishopsgate Conduit, at the junction of the Wards Within and Without.

A.D. 1528, Coleman-street Conduit, at the junction with London ward.

A.D. 1535, Aldgate Conduit on the site of the

present Aldgate Pump. This was originally a well called St. Michael's, converted into a conduit with sweet water from Hackney. This conduit was also destroyed at the Great Fire, and the cost of regaining the water, and putting the place into order, is charged at 452*l.* 15s. 10d. In this instance, as in many others, the conduit seems to have been erected on some well-known spring or other water supply. The water which has supplied the draughts at Aldgate Pump is from the ancient spring. Many will not be sorry that those City draughts are no longer available.

Lothbury Conduit, at the west end of St. Margaret's Church.

A.D. 1568, Dowgate Conduit, opposite Skinners' Hall, first erected in 1508. Stow says that there was in his day recently erected an engine to convey Thames water into Dowgate Conduit. In 1574, the channel from this conduit was so swollen by a storm of rain, that a youth of eighteen was carried by it into the Thames, and was lost in spite of all endeavours.

A.D. 1682, the Cornhill Standard, at the junction of Cornhill with Gracechurch, Leadenhall, and Bishopsgate streets. This was erected by Peter Maurise, a Dutchman, who conveyed Thames water over the steeple of St. Magnus, London Bridge, by an "artificial forcier," to the north-west corner of London-wall, whence it flowed to the Standard, and poured out by four mouths opposite the respective streets. This water supply ran only during the ebb tide, and became at times a nuisance by reason of its flooding the streets. Pepys refers in his Diary to this conduit eighty years after its erection. It was reduced to ruins by the Great Fire of 1666, and does not seem to have been replaced.

A.D. 1610, Aldersgate Conduit, without the gate; the precise spot not known.

Soper-lane Conduit: the date of its erection uncertain; and the same may be said of the Conduit on Old Fish-street-hill. This latter was, however, cisterned with lead, and castellated with stone, for receiving Thames water.

From the above notes, we may infer that, during the Roman occupation of London, there was a sufficient supply of wholesome water from springs and rivulets, so that the works being unnecessary, we find here no traces of those magnificent aquaducts which are to be met with in various parts of the Continent of Europe. Up to 1236, the natural water supplies seem to have been the only means of providing water for the domestic use of the Londoners. Then, from the beginning and towards the end of the fifteenth century, it became needful, in consequence of the increased population, to procure water from other sources. Afterwards the Dutchman's water supply, and Sir Hugh Myddelton's New River water were obtained; and now, although several great water companies have been formed on both sides of the Thames, the cry still comes for the increased and more pure supply of this important element of human life. We are not without hope that before the reign of Queen Victoria has ended, we shall have a proper system organized for the supply of this vast city. B.

FALL OF A HOUSE AT ISLINGTON.

SIR,—Having had many inquiries (from the similarity of the name) whether I was the architect of the above building, at which the sad accident recently occurred, I shall be obliged by your allowing me to state, through your columns, that I was not the architect, and was not in any way connected with the business.

GEORGE B. WILLIAMS, Architect.
Frederick's-place, Old Jewry.

WOOD-CARVING COMPETITION.

SIR,—May I venture to make a remark respecting the wood-carving competition in Kensington Museum? *Miserere* seats, when raised up, usually slant a little backwards, I think. In my specimen ("Gleaners") this fact was considered, and in its present perpendicular position the figures do not obtain their natural balance. Great attention is paid to this in placing a piece of sculpture upon its pedestal, and I think the same consideration should be afforded to a piece of wood-carving, however humble. J. M. LEACH.

COMPENSATION CASE.

ON the 10th inst., a jury was summoned to the Recorder's Court, Guildhall, to try a compensation case, Messrs. Jackson *v.* the City Extension Charing-cross Railway Company, Messrs. Jackson being the freeholders of Dowgate Iron Wharf, Thames-street, taken for the railway works.

The premises were let on lease at a net rent of 350*l.* per annum, with 6¾ years unexpired; but the last 15 years of the lease had been purchased for a premium of 2,300*l.* Mr. Sancton Wood was surveyor to the claimants, and evidence was given on the same side by Mr. Clifton, Mr. Horsey, Mr. l'Anson, Mr. M. Nelson, and Mr. R. Bell. The various estimates of these parties were from 15,394*l.* to 15,810*l.* For the Company, Mr. Pownall, Mr. Shaw, Mr. Lee, Mr. Vigors, and Mr. Ryde, the company's surveyor, were called. The first estimated the value of the freehold at 10,076*l.*; the latter, Mr. Ryde, at 9,240*l.* The company offered 9,500*l.*, which was declined. The verdict was for 14,630*l.*

The premises had a wharf with frontage towards the river of 41 feet by a depth of 183 feet, and a warehouse and dwelling-house on the land.

METROPOLITAN BUILDING ACT.

OPENINGS IN PARTY-WALL.

SOME years since, and before the coming into operation of the Metropolitan Building Act, 1855, an opening was made in the party-wall separating Nos. 66 and 67, Aldermanbury, in the City of London, in which were affixed double iron doors for the purpose of closing the opening when necessary.

In June, 1862, Messrs. Baggallay became the occupiers of No. 66, Aldermanbury, and shortly afterwards employed Messrs. Ashby & Horner to make two openings in the wall separating those premises from No. 6, Love-lane, each opening being 8 feet in height, and, in the one case, 2 feet 8 inches wide, and in the other 4 feet 10 inches wide. The premises, Nos. 66 and 67, Aldermanbury, and No. 6, Love-lane, were at that time wholly in the occupation of Messrs. Baggallay, and such premises, together, contained 323,000 cubic feet, but Nos. 66, Aldermanbury, and 6, Love-lane, together, contained less than 216,000 cubic feet.

In December, 1862, Mr. Woodthorpe, the district surveyor, served a notice on the builders to the effect that the openings in question were in contravention of the rules of the Building Act, inasmuch as they had been made in a party-wall dividing buildings which, taken together, contained more than 216,000 cubic feet, without the jambs, floor and head being formed of brick, stone, or iron, and the openings closed by two wrought-iron doors, of the thickness, and fixed in the manner, required by the provisions of the Building Act, and he called upon them to amend the work within forty-eight hours, accordingly. This not having been done, they were summoned before the magistrate at Guildhall, when they contended—

First—That the buildings upon which the works were done were not *new buildings* within the Metropolitan Building Act, 1855, and therefore that Act had no application, and they were not bound to comply with the requisitions of the district surveyor.

Secondly—That the making of the openings in question was not an alteration or work within the meaning of sec. 9 of the Building Act.

Thirdly—That the wall dividing No. 6, Love-lane from No. 66, Aldermanbury, was not, at the time the openings were made, a *party*-wall, but a *cross* wall within the meaning of the Act.

The magistrate, however, decided in favour of the district surveyor's views, and thereupon Messrs. Ashby & Horner appealed against the decision, and it was subsequently agreed that the question should be argued as a special case, which having been done on the 18th November, the Court gave judgment for the district surveyor, with costs.

Books Received.

Illustrated Edition of Hymns in Prose for Children. By Mrs. BARBAULD. London: John Murray, Albemarle-street. 1864.

A CHARMING edition indeed. Every page is illustrated, and the hymns, already extensively known, lend themselves peculiarly well to the requirements of the illustrators. The landscapes are by Mr. E. M. Whimperis, the figure subjects by Mr. R. Barnes, and the flowers and plants (very gracefully drawn) are mostly by Mr. T. Kennedy. The whole are well engraved by Mr. Jas. D. Cooper. We offer our praise to all concerned in the book.

A Welcome to H.R.H. the Princess of Wales, from the Poet Laureate. OWEN JONES, Illuminator. London: Day & Son, Lithographers to the Queen. 1863.

HERE, on seven ivory-like pages, besides the title-page, solidly bound in red and white, the contrast somewhat too violent, we have the Laureate's well-known lines beginning—

> "Sea-king's daughter from over the sea,
> Alexandra,"—

elegantly illuminated. Mr. Owen Jones's power of combining floral decorations seems inexhaustible, and he has that natural appreciation of the harmony of colours that whatever comes from his hand in this way is sure to be agreeable to the sight. The "Welcome" now before us is no exception to this rule, and will be placed on many tables,—graceful homage to our Rose of Denmark.

VARIORUM.

MESSRS. DAY have issued a new and cheaper, we may say cheap, edition of Cuthbert Bede's "Photographic Pleasures," full of sketches and full of fun. It is a pity the writing on the illustrations is not clearer.——"Lost, but not for Ever" (Nisbet & Co.), is a personal narrative "of Starvation and Providence" in the Australian mountain region, by the Rev. R. W. Vanderkiste. The author has a claim, inasmuch as he has been preaching the Gospel in the highways and byways of Australia during six years; but the tone of his volume is not agreeable. Still, he evidently knows his public (a special one), for this issue is marked "Third thousand."——"Journal of the Bath and West of England Society for the Encouragement of Agriculture, Arts, Manufactures, and Commerce. 1863. Vol. XI., Part 2. Ridgway, Piccadilly." This part contains a variety of papers, mostly useful to agriculturists. There is one, however, by Mr. Scott Burn, who, as our readers may recollect, is an amateur agriculturist, which requires more special notice. It is entitled "Some Cultural and Engineering Considerations connected with the Use of Water and Town Sewage in the Fertilization of Land." At the close of his practical and useful remarks on this subject, which refer chiefly to the mode of applying the sewage, and are illustrated, the author says:—"It may be a misfortune, but we believe that it is, nevertheless, a fact, that the view of the question which we have advanced forces us to the conclusion that the utilization of town sewage will not be carried out to a large extent in our day; seeing that the localities where it can be carried out in the way we have shown to be best are not likely to be often met with; so that, in many instances, its utilization at all will not be economically available. And further, that much of the supply, for years to come, even in the neighbourhood of localities thus favourably situate, must have the destination that it now has—the *river or the sea*—unless corporations convey it to or in the immediate neighbourhood of fields adapted locally and agriculturally to irrigation in its ordinary aspects."——"The Garden Oracle and Floricultural Year Book, 1864. Edited by Shirley Hibberd, F.R.H.S. London: Groombridge." Mr. Hibberd is the editor of the *Gardeners' Weekly Magazine*, and the author of various works on taste in gardening, &c., such as his essays on things homely and beautiful, rustic adornments for homes of taste, the town garden, &c.; and although this little "Year Book" is mostly compiled, still it is one showing some skill. Mr. Hibberd has introduced a new feature into such books by showing the progress of the seasons by the growth and flowering of plants in place of by saints' days, anniversaries, &c.; being, in fact, an arrangement of flowers for every day in the year, and some historical and horticultural information along with it. The book must be useful to all interested in gardening, whether in town or country.——From amongst the little Christmas story-books for youngsters sent to us for notice, we may pick out two or three,—"Fanny's Fancies," for instance, one of the Magnet Stories published by the Groombridges, and relating to a little lady whom one that knew her well,—the nurse of the "mite," to wit,—declared to be "a pickle, if ever there was one." Mrs. S. C. Hall is the author of this graceful little story.—"Peter Drake's Dream" is another of the choice little Magnet Stories, and by a lady—Frances F. Broderip, *née* Hood;—and "Bessy's Money," by the author of "Mary Powell" (Hall, publisher) is an interesting, though short and simple, tale of the time of Edward VI. and his successor, Mary; but better adapted for Protestant than Roman Catholic readers.

Miscellanea.

SMALL-ARMS MANUFACTORY AT BIRMINGHAM. At Small Heath, Birmingham, a small-arms manufactory is being built on the plan adopted at the Enfield and London Armoury Company's Works, where every part of the weapon is made in the factory. Being constructed by machinery, all the parts are alike, and can be interchanged.

THE NEW OPERA-HOUSE, PARIS.—We learn that the task of decorating the grand staircase of the New Opera at Paris has been confided to M. Cabanel, and the paintings in the *foyer* to M. Baudry. The group which is to surmount the dome will be executed by M. Perrault, and the statues of the two principal pavilions by MM. Cavelier and Aimé Millet.

A CHEAP MATERIAL FOR PUBLIC BUILDINGS. The people of Plymouth are desirous of building a new Guildhall, the present one being much too small. A site can be had near St. Andrew's Church, but the difficulty is the want of funds. This, however, might be overcome, we think, if the advice of one or the town councillors were taken, viz., to build it *out of the sound of the church bells.*—*Punch.*

RAILWAY TRAFFIC RECEIPTS.—The traffic returns of railways in the United Kingdom, published for the week ending the 28th of November, amounted on 11,028 miles to 568,105*l.*; and for the corresponding week of 1862, on 10,518 miles, to 517,569*l.*, showing an increase of 450 miles, and of the sum of 50,536*l.* in the receipts.

MOSAIC WORK FOR LONDON.—Mr. Grote, the historian of Greece, who is one of the council of University College, London, has offered to put up at his own expense, on the walls of the cloister of the college in Gower-street, a mosaic representation of scenes and persons of the Homeric poems, to be executed by the Parisian sculptor, the Baron de Triqueti.

FEVER IN DOWNPATRICK, IRELAND.—The proceedings of the local board of guardians, reported in the *Downpatrick Recorder*, show that fever prevails there, and is considerably on the increase. In the County Fever Hospital, also, this is the case. Ventilation and cleanliness, as well as aid in food and clothing among the poorer classes, are very properly urged by the *Recorder*.

FALL OF A SCAFFOLD AT GLASGOW.—A serious accident has occurred at a new building in course of erection at 298, Duke-street, Glasgow, whereby one man was dangerously, and several others seriously, injured. It appears that six labourers and a mason were carrying up a large stone to the top story of the building, and when they reached the fourth landing the scaffold upon which they were standing gave way, and the unfortunate men were precipitated through the joisting to the ground from a height of five stories.

MONUMENTAL. — A colossal statue of Daniel O'Connell, intended to be erected on the site of the old Court-house at Ennis, has been executed by Mr. Cahill, the Dublin sculptor. The statue is of white limestone. The head is copied from that of O'Connell's statue by Hogan, in the Royal Exchange. Mr. Cahill has enveloped the form in a cloak, with a fur collar, a characteristic feature of O'Connell's costume. The sculptor, according to the Dublin *Newsletter*, was for some years the chief assistant of the late John Hogan.

THE BIRMINGHAM TALL CHIMNEYS.—A coroner's inquest has been held on the death of a person killed by the fall of Mr. Salt's chimney in Birchall-street during the late terrific gale. The verdict was "Accidental Death." Birmingham is crowded with tall chimneys, many of which may be wanting in some of the points regarded as deficient in the one erected by Mr. Salt. The chimney in Birchall-street had been erected by a regular stack builder, but it was 9 inches thick where it was considered that it only ought to have been 4½ inches, and tapered at the rate of but an inch in three yards, when the proper ratio was estimated at 1½ inch per yard.

A SMOKY CHIMNEY.—"I have just succeeded," says Mr. C. Butler Clough, in the *Mining Journal*, "in curing an obstinate smoky chimney by the aid of a zinc covering outside a common earthenware chimney-pot, having two openings in the zinc, one east and the other west. There are also two partitions or stoppers, north and south, to prevent the draft from escaping by the opposite opening. By the aid of this contrivance an upward current of air is carried outside the flue to its top, on the windward side of the chimney. I have now had the plan in use for some time, and in the face of several most violent storms not a particle of smoke or soot has come down the flue. In other rooms, the soot was blown on the floor to a large extent."

AN OFFICIAL WHIM.—Manchester is greatly excited by one of the oddest acts of official tyranny we ever remember to have seen recorded. There is a place near the city known as Alderley Edge, which has grown into a kind of suburb for the wealthier citizens. It was prospering quietly enough, when suddenly all its letters were seized, carried to Congleton, and there re-directed to "Chorley," the new postal name ordered by the Postmaster-General. The unlucky inhabitants protested that the place had been called Alderley Edge since the Conquest, but without effect. The Postmaster-General is Lord Stanley, of Alderley; and, according to Manchester belief, he is determined that his lordly name shall not be borne by a thriving colony of vulgar villas which do not belong to him. The story seems incredible, but it is repeated in shoals of letters from the inhabitants of the place unlucky enough to possess a name which Lord Stanley wants to keep exclusively to his own property. Is there no right of action against the Postmaster-General as a common carrier?—*Spectator*.

TENDERS.

For alterations and additions, at the Freemasons' Hall, Great Queen-street, Lincoln's-inn-fields. Mr. Cockerell, architect. Quantities supplied by Messrs. Wilson & Goodchild:—

	Contract No. 1.	Contract No. 2.	Total.
Rigby	£19,640	£11,091	£30,731
Waller & Son	17,500	9,820	27,320
Lucas	16,720	9,100	25,820
Holland & Hannen	16,500	9,175	25,675
Mansfield	16,200	9,000	25,200
Lawrence	15,817	8,922	24,739
Rider (accepted)	15,280	8,890	24,170

For residence, St. George's Denes, Great Yarmouth, for Mr. Charles Woolverton. Mr. J. T. Bottle, architect:—

Messrs. Howes (Bricklayers)	£461	0	0
Laike (Mason)	67	5	0
Dumbleton (Slater)	30	10	0
Edwards (carpenter, joiner, &c.)	485	0	0

For additions to temporary Grammar School, Great Yarmouth, Mr. J. T. Bottle, architect:—

Cooper	£260	16	0
Leggett	258	0	0
Jackson	221	0	0

For building thirty-nine cottages at Southall-green, W., for Mr. H. P. Baxter. Quantities not supplied:—

Hunt	£4,105	10	0
Brown	4,100	0	0
Gibson	3,875	0	0
Bell	3,821	18	0
T. & E. Brown	3,819	0	0
Nias	3,755	0	0
Rowe	3,450	10	0
Macklin	3,400	0	0
Winfield	3,199	0	0
Hanson (accepted)	3,035	0	0
Bachelor & Smith	2,856	10	0

For new warehouse in Southwark-street, for Messrs. Wigan & Cosier. Mr. R. P. Pope, architect. Quantities supplied:—

Tracey & Co.	£18,847	0	0
Mansfield	18,330	0	0
Axford & Co.	18,230	0	0
Little	18,130	0	0
Brown & Robinson	18,109	0	0
Sharpington & Cole	17,555	0	0
Rigby	17,050	0	0
Watts	16,975	0	0
Myers	16,475	0	0

For Queen-street Congregational Church, Wolverhampton. Mr. G. Bidlake, architect:—

Cockerell & Sons	£7,994	0	0
Higham, Brothers	7,660	0	0
Barnsley & Sons	7,416	0	0
Trow & Sons	7,380	0	0

For the erection of two houses, warehouse, and public rooms, in Winchester-street, Southwark, for the trustees of the Borough Market. Mr. E. Habershon, architect —

Brass	£3,625	0	0
Patman & Fotheringham	3,586	0	0
Macey	3,439	0	0
Baguley	3,423	0	0
Newman & Mann	3,385	0	0
Sawyer	3,374	0	0
Downs	3,193	0	0
Hack & Son	3,187	0	0
Carter & Son	3,172	0	0

For proposed alterations and additions to premises, numbered from 113 to 117 inclusive, on the north-east side of the Edgeware-road, for Mr. Edward Grove. Mr. Isaac Bird, architect:—

		Credit for old Materials.
Tidy	£4,926	£154
Ashby & Son	4,515	95
Thompson	4,400	63
Gammon	4,390	105
Newman & Mann	4,323	112
Myers & Son	4,260	55
Williams	4,200	106
Higgs	4,152	—
Brown	3,977	—
Tracery & Co.	3,829	117

For new station, at Sutton, for the Banstead and Epsom Downs Railway. Quantities by Messrs. Oliver and Paice:—

Sealy	£1,110	0	0
Lamble	1,073	0	0
Holmes	1,070	0	0
Glenn, Brothers	994	0	0
Ring	951	0	0
Dowel	949	0	0
Butcher	945	0	0

TO CORRESPONDENTS.

"GOING ALONG" will be continued in our next.

W. F. P.—R. L. B.—I. P. P.—J. A. G.—J. P.—Hampshire Hog.—Messrs. E.—J. S.—J. T. B.—W. T.—Mr. P.—An Art-Lover.—Mr. B.—W. W.—W. C.—Dr. M.—Dr. G.—Dr. H—Quondam.—J. F. (next week).—C. W. P. (there is such a journal. Apply to any London newsman).—W. H. S. (No).

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

TO SUBSCRIBERS.

CHRISTMAS WEEK. "The Builder" for the week ending DECEMBER 26th will be published on Thursday, 24th inst., at the usual hour.

ADVERTISEMENTS for insertion in that issue must therefore reach the Office before FIVE O'CLOCK, p.m., on Wednesday, 23rd inst.

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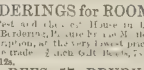
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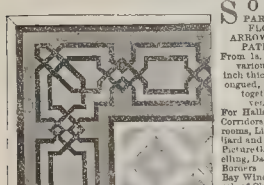
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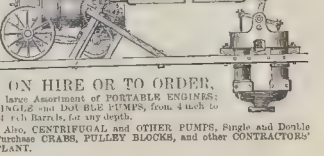
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RUE DE L'ECUYER
AMSTERDAM,
BINNEN AMSTEL;
SYDNEY,
51, HUNTER STREET.

HEAD OFFICE, CATE STREET, LINCOLN'S INN FIELDS, LONDON.
WORKS, GEORGE YARD, QUEEN STREET.

THOMAS MILLINGTON,
GLASS MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.
Reduced Tariff for Sheet Glass.
The Agricultural Hall, Islington, containing an Acre of Glass, was supplied by me. Mr. Rivers, and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured me with orders for home use and for exportation.
FOR PRICES, SEE LAST WEEK'S ADVERTISEMENT.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862.
By Her Majesty's Royal Letters Patent.
F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,
Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronized by
HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSIONERS OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland, at whose great national shows it has been exhibited and OBTAINED THE PRIZE, or being the best and cheapest article for roofing; also referred for similar slates at the Royal Agricultural Society's House in Hanover square. Its valuable properties are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and cold. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its use, and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have exclusively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent in fuel is effected. The TRADE are respectfully explained to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and in lengths best suited to their roofs. The original works where the above roofing is made are F. McNEILL & CO'S Manufactories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER, upwards of Three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, of nearly One Million Feet. A Liberal Discount allowed to the Trade

HUBBUCK'S PATENT WHITE ZINC PAINT.
By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere
ADULTERATIONS. Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether so, under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT"
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 34, LIME STREET, LONDON.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated price catalogue, of numerous designs, in various styles (free), on application to
COTTAM & CO. IRON WORKS,
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REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 68, Charles-street, City-road E.C. near the Canal Bridge.
BENJAMIN SLATER
(Late E. GOLLOP), SOLE PROPRIETOR.
A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor-springs, Gate-hinges, Rising-hinges, Rising Spring-hinges, Not-rising Spring-hinges, Double-acting Spring-hinges Rising and Not rising Door Back-springs, &c.
Price List and Drawings on application as above

PORTLAND CEMENT.

This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by

FRANCIS, BROTHERS, & POTT,
NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.
ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

HOWARD & CO.

MANUFACTURERS OF WOULDHAM PATENT
PORTLAND CEMENT AND GREY STONE LIME.
WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.
OFFICES,—1, VICTORIA STREET, NEAR WESTMINSTER PALACE, LONDON, S.W.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.
JOHN NEWTON & CO.
STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

MARTIN'S CEMENT,

Prize Medal, 1851. THE MOST APPROVED INTERNAL STUCCO. Honourable Mention, 1862.
CAN BE PAINTED IN TWELVE HOURS.
J. C. PART, MANUFACTURER,
181, DRURY LANE, LONDON; and at DERBY.
THE BEST PLASTER OF PARIS. ESTABLISHED 1784.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS.
BRICKMAKERS, AND MARBLE IMPORTERS.
For Account of Experiments on the Strength of their
PORTLAND CEMENT,
Read at the Institute of Civil Engineers, apply to the Makers.
KEENE'S IMPROVED CEMENT,
Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS FLOORING, and INTERNAL STUCCO, on account of its superior hardness.
N.B. Can be Painted in Twenty-four Hours.
MILLBANK STREET, WESTMINSTER.
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LIME, CEMENT, & PLASTER MERCHANT,
BELMONT LIME WHARF,
YORK ROAD (on the Canal Basin), KING'S CROSS, N.
Nearly opposite Entrance to Goods Station, Great Northern Railway

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MANUFACTURERS OF PATENT PORTLAND CEMENT, ROMAN CEMENT, AND PLASTER OF PARIS;
CHALK LIME BURNERS, AND GREYSTONE LIME MERCHANTS
MANUFACTORIES AND WHARFS:—
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FREEN'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality, Strength, and Colour, supplied to Shippers and the Trade.

F. & CO.'S IMPROVED ROMAN CEMENT and PLASTER OF PARIS
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GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.

GREYSTONE LIME.

PLASTERERS' HAIR. LATHS.

PLAIN PAN RIDGE and FOOT TILES.

CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.

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SAND, POTTERY WARE, &c. &c.

Orders and Letters addressed to 3, Canal-road, Kingsland or to City Offices, 79, King William-street, City, will receive immediate attention.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, and so supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board Vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference

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CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

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ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

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CEMENT MANUFACTURERS,
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SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

F. & G. ROSHER,
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LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACK FRIARS, S.
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KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD'S VAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIME-KILN-HILL, LIMEHOUSE, E.
Wherefrom can be obtained, of the best quality:—
GREY STONE LIME, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Moulded Plain WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS, BLACK BEHRS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORD-SHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF, also GARDEN EDGINGS.
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS.
Plain, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, & CHIMNEY-POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and DECORATIVE GRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PORTLAND CEMENT WORKS
NORTHFLEET, KENT.
HARWOOD & HATCHER
Beg to announce to Builders, Contractors, and Others, that they are prepared to execute Orders for the BEST PORTLAND CEMENT,
On the most reasonable terms.
Orders received at the JAMAICA COFFEE HOUSE, CORNHILL, LONDON; or at the WORKS, NORTHFLEET.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble — Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

ESTABLISHED 1844.
JOHN BOARD & Co.'s CEMENT and LIAS LIME WORKS, Dunball (near Bridgwater); Office, Queen-street, Bridgwater. JOHN BOARD & Co. beg to inform Builders, Contractors, and Merchants that they continue to manufacture CEMENTS and BLUE LIAS LIME, at Dunball, near Bridgwater, and from increased appliances to their works, are enabled to execute orders for the same to almost any extent.

TO BUILDERS, CONTRACTORS, AND ENGINEERS.
PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTURERS,
STROOD DOCKS, on the River Medway, KENT.
MESSRS. LARK & PARROCK,
Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.
N.B.—Shipping merchants for the foreign trade treated with on the most advantageous terms. Ships of any size loaded afloat and alongside. HYDRAULIC LIME MANUFACTURERS OF THE BEST QUALITY.

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ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
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7, NORTH WHARF ROAD, PADDINGTON, W.

TO BUILDERS, CONTRACTORS, &c.
PORTLAND CEMENT.—JAMES NESBIT is prepared to supply Portland Cement of superior quality and strength, at such a price as will enable Builders to use it for purposes from which the high price usually charged has hitherto prevented its being used. Terms on application.—Berney Arms, Portland Cement Works, Burgh Castle, Great Yarmouth.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

ESTABLISHED 1852.
PORTLAND CEMENT WORKS,
EAST GREENWICH.
EDWIN HOLLICK,
Manufacturer of PORTLAND CEMENT of the best quality only, for the English and Foreign Markets.
Vessels loaded alongside.

STOURBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

MINTON & CO.
HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 36, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE UPON-TRENT.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta, Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, POTTER'S WHARF, PEARD-STREET, PADDINGTON.

HALKIN HYDRAULIC LIME, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, N.W. the same as used in the construction of the Liverpool Docks, &c. and so long celebrated for its strong cementitious and consolidating powers for submarine masonry, can be supplied by rail or water to any part of the kingdom, either in limpid (lime), or ground and in bags and barrels. The Limestone can be had in full cargoes; also L. J. & Co.'s Roman Cement, in barrels, which is of a very superior quality, and warranted pure. Orders to be accompanied by a banker's referee, &c.—Apply to the Works; or to E. & W. AARON, Agents, 66, South John street, Liverpool.

STRINGFIELD & BLYTH,
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LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

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SOLE CONSIGNEES OF
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No. 16, SOUTH WHARF, PADDINGTON BASIN, W.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Brosely colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
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PLASTER ENRICHMENTS,
CENTRE FLOWERS, SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
242, KUSTON ROAD, ST. PANCRAS.
Best Gelatine, prepared, and ready for moulding 2s. per lb.

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JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.
[Established 1851.]

For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.
List of Prices forwarded on receipt of postage stamp.



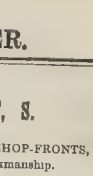
TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Arched Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

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SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
No. 28, GRAY'S INN ROAD, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

FLOORING, DEALS, MAHOGANY, &c.

¾-inch White Flooring, good quality	11s. 6d. per square.
¾-inch White Matched Lining	12s. 0d. ,,
¾-inch ,, ,,	14s. 0d. ,,
2½-inch Yellow Battens	10l. 0s. per 120 of 12 feet.
2½-inch White Battens	9l. 0s. ,,
3 by 9 Yellow Deals	16l. 10s. ,,
Honduras Mahogany	0s. 6d. per foot super.

PRICE LISTS AND MOULDING PATTERNS, POST FREE.
J. TERRY & SON, 109, BOROUGH ROAD, S.E.

FLOORING! DEALS! MAHOGANY!

100,000 Dry Prepared Flooring Boards ..... from 10s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
5,000 Yellow Battens ..... from £10 10s. per 120
2,000 Spruce ditto ..... from £9 per 120

SPRUCE DEALS, 2s. 6d. each.
FIR TIMBER 55s. PER LOAD.
Scaffold Poles ..... 1½d. per foot

YELLOW DEALS, £16 PER 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.		Laths, 30s. per Load.	
Good Yellow Deals	£16 10 0	per 120, or 2½d. per foot.	
Spruce Deals	16 0 0	,,	2¼ ,,
2½-inch Battens	9 0 0	,,	1¾ ,,

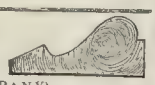
Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

DEAL AND TIMBER TRADE.
CHARLES SLEE,
(of the late Firm of SYKES, SONS, & SLEE), has in STOCK at his Premises,
10, HIGH STREET, WHITECHAPEL,
A General Assortment of WOOD GOODS, comprising DRY YELLOW, SEASONED PINE, &c., with the usual thickness of prepared Floor Boards, and Matched Linings.
COUNTRY AND OTHER ORDERS PROMPTLY ATTENDED TO.
PRICES TO SUIT ALL BUYERS.



MOULDING WORKS.
SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.



CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.
WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

TIMBER! DEALS!! FLOORING!!
THOS. W. ELLSTON
begs to offer to the Trade and Public generally the undermentioned Goods, at the following low prices, in quantities of not less than 3 at the Public Docks, viz.:—

Good 2½ Mill-sawn White Battens	from £8	0 per 120 of 12 feet
Good 2½ Mill-sawn Yellow ditto	8 15	,,
Good 3 by 9 Mill-sawn Yellow Deals	18 0	,,
Good 3 by 9 Yellow Deals	15 10	,,
Good 3 by 8 Mill-sawn Yellow Deals	15 10	,,
Good 3 by 9 White Deals	15 0	,,
Yellow Fir Timber (good length and size)	45s.	per load
Good and well-prepared ¾ Flooring Boards	12s. 6d.	per square
,, ½ inch ,,	12s. 6d.	,,
,, ¾ inch ,,	14s. 6d.	,,

Also a large Stock of Matched Linings, Mouldings, &c. at equally low prices. Goods or Dock Orders promptly forwarded upon receipt of cash or P.O. orders. All sawn goods delivered free to London railway stations.
109, SNOW'S FIELDS, KING STREET, BOROUGH,
Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side)
ESTABLISHED UPWARDS OF SIXTY YEARS.

FLOORING, MATCH BOARDS, DEALS,
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30,000 feet in Plank and Board, sawn three years.
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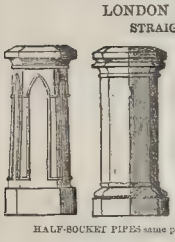
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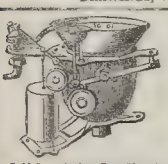
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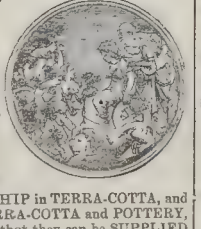
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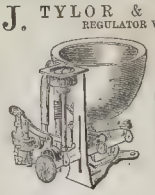
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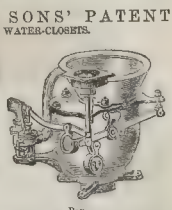
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A small river runs through the length of the property between the Turnpike-road and the Gardens, and the water required for the Establishment is at present pumped up by a water-wheel, and there are two steam engines applicable for the purposes with hot water. There is a Lodge Cottage at the entrance. The Mansion, which has been occupied by the superintendent, is situated at the south end of the premises, and the present time from the residence of some of the county families. The place may be seen on application by letter, addressed to J. G. SIMMS, Esquire, Medical Superintendent; and further particulars may be had by applying to Mr G. EVANS, the County Surveyor, at Wimborne, Dorset.

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FREEHOLD LAND for SALE, about Twelve Acres, with immediate possession; good title, land-tax redeemed; close to a railway station, twenty minutes' ride from the City; soil gravel; position high; good drainage; 600 feet road frontage; highly eligible for building or suitable for a cemetery.—Apply to W. HATTY E, Esq. 54 Great Winchester street, E.C.

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LEASEHOLD PREMISES, WESTMINSTER, consisting of the Houses of Parliament, suitable for a public commercial.—TO BE SOLD, by private treaty, the LEASEHOLD MESSUAGE, No. 18, Abingdon-street, Westminster, opposite the Law Courts, and possessing rents amounting to 538l. per annum, held under the Dean and Chapter of Westminster, for an unexpired term of fifteen years, at 116l. per annum.—For further particulars, apply to Mr VIGERS, 3, Frederick's-place, Old Jewry, E.C.

BUILDING LAND, near London, and adjoining a Railway Station in Essex. For SALE, by PRIVATE CONTRACT, a COTTAGE and 3 ACRES of GARDEN GROUND, well planted, and adapted for the residence of a gentleman, or for sub-dividing into building lots. It adjoins the Station, and two-fifths of the purchase-money may remain by way of mortgage.—Apply to Messrs. NEWSON & SEXTON, Bury St. Edmunds.

SAMUEL TILDESLEY, 2, IRONGATE WHARF, PADDINGTON, W. MANUFACTURER of the best Cowley Stocks, Yellow and White Cutters, Yellow and White Seconds, Paviors, Pickings, &c. Delivered in the River or in the Grand Junction or Regent's Canal; or in trucks to any part of the Great Western Railway

BRICKFIELDS, NORTH HYDE, NEAR SOUTHALL.

BRICKS FOR SALE.—ONE MILLION SUPERIOR, NEARLY NEW, and OLD STOCK BRICKS, at 12s. 10s. and 20s. per thousand.—Apply to the FOREMAN, at the Buildings pulling down for the City Terminus, to the London, Chatham, and Dover, and the Charing Cross Railways, Ludgate hill, and Thames-street; or to Mr. C. F. SMYRK, 18, Newington-place, S. Also 300,000 STOCKS, at Victoria-street, S.W.

TO BUILDERS AND CONTRACTORS.

A GENTLEMAN, having a large BRICKFIELD on the water side, capable of making for the next three or four years FOUR to FIVE MILLIONS BEST STOCK BRICKS, more than required for his own trade, wishes to TREAT with a GENTLEMAN requiring the above quantity Advances required at the rate agreed upon, which will secure the whole or part of the quantity. Interest at 5 per cent. on capital advanced.—Address, in first instance, with real name, &c. to B. F. 2, Sidmouth-terrace, Ascot-road, Strathwark.

BRICK BURNING, saving Two-thirds of the Fuel—HOFFMAN'S PATENT ANNULAR OVENS, for the continuous burning of Bricks, Tiles, Pottery, &c. can be seen in action, and every information obtained on application to Mr. H. CHAMBERLAIN, 3 St. John's, Wakefield, Yorkshire.

WOOLPIT, SUFFOLK.

WHITE and RED FACING BRICKS, and other Kiln Goods, at moderate prices.—Samples at T. ALLEN'S, 7, Great Smithfield-street, Westminster, or from Mr CAWSTON SLUTER, at the Works.—See R. G. BURNELL'S Report on Building Materials in "Mackenzie's Record of International Exhibition," p. 77.

TO BRICKMAKERS.—All Parties who BURN BRICKS in CLAMPS are invited to inspect the NEW MODE of SETTING, patented by Mr. ROBERT WHITE, and which may be seen in operation at the Brickfields of

J. B. WHITE & BROTHERS, Erith, Kent.

The advantages of this plan are two-fold.

1st. Nearly all the bricks are burnt into stocks, and the yield of inferior bricks is reduced from 30 to about 10 per cent. of the total make, which in itself represents a large permanent saving.

2nd. The bricks are so much improved in colour and soundness as to give them a considerable additional value in the market over common stocks.

Licenses for use of the Patent granted to Brickmakers, on application to the Patentees, 17, Millbank-street, Westminster.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH. The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

SPRING GROVE BRICKFIELDS, HOUNSLOW, W. MIDDLESEX. — Mrs. ANN ELIZABETH BURCHETT begs to thank her numerous friends for the patronage received during the last twenty-five years, and having DISSOLVED PARTNERSHIP with her son, Mr. JAMES BURCHETT, has again OPENED the above BRICKFIELDS on her own account, where by strict attention to all orders she trusts to receive the same encouragement hitherto so liberally bestowed upon her. Office—Cashel Cottage, Hounslow-road, Hounslow, W.

BRICKS.

FINE WHITE FACING BRICKS.
WHITE ORNAMENTAL BRICKS.
RED AND WHITE CUTTERS.
RIDGE TILES, AND ROOFING TILES,
IN GREAT VARIETY.
Apply to RICHARD LANGLEY,
EAST COWES PARK, ISLE OF WIGHT.

VICTORIA BRICK and LIME WHARF and DRAW-DOCK, NINE ELMS, S.

BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES AND RED GOODS,
SUFFOLK AND OTHER FACINGS,
TERRA COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER FACINGS,
RED AND WHITE FACINGS,
STAFFORDSHIRE AND FIRE GOODS,
LIME, CEMENT, PICKINGS,
AND BUILDING GOODS GENERALLY.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge to Sandgrounds, where required.

JOHN DOWNEY, Victoria Wharf, Nine Elms, S.
Also Licensed Lighterman, of 10, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, offers
Red Pantiles, at 47s. 6d. per 1,000,
" Single Pavings, 25s. per 1,000,
" Floor Bricks, 40s. per 1,000.
White Kiln ditto, 40s per 1,000.
Ridge Tiles, 27s. per 120.
Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. Quantities may be delivered by Vessel at any of the Thames Wharfs

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS.
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS By Messrs. Cubitt Bates & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, and Little Wakering, Essex.

The entire MAKE of BRICKS by Mr. William Ledgater, of the Upper and Lower Halstow Fields; by Messrs. J. Batcher & Son, of Otterham Quay and Lower Rainham; and also by Messrs. J. & G. Parker, of Wickham, near Strood, Kent.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tyler Hill, near Canterbury; and Messrs. Taylor & Son, of Canno, near Hythe, Hampshire.

The BALLINGDON DEEP BLACK RUBBING and BUILDING BRICKS, and the CHALFONT and BALLINGDON DARK and BRIGHT RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.

The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

POLYTECHNIC.—Patron: H.R.H. the PRINCE of WALES.—CHRISTMAS HOLIDAYS. The Ghost Effects and Spectral Illusions, being Proves of Pepper's adaptation of the Optic Law and Mr. Dircks' Original Invention, Every Evening, C.B. The Illustrated Fairy Tales, the Shadow Pantomime, the Christmas Tree, the Improved Chinese Fireworks. The Entertainments and Lectures provided this year are on the most liberal scale, and commence on Boxing-day, December 26, 1863. N.B.—The Institution will be closed on the 22nd, 23rd, 24th, and 25th December, in order to make the very extensive preparations required for the Christmas entertainments.

NORWICH UNION FIRE INSURANCE SOCIETY

NOTICE CHRISTMAS RENEWALS

Mercantile and Dock Insurances at the reduced rates,

The Insurance Duty of 1½d. per Cent. is paid by the Company.

The duty paid to Government for the year 1862 was 85,062l and the amount insured on farming stock 10,615,382l

A bonus of three-fifths of the profits is annually made to parties insuring, who have thus from time to time received sums amounting in the aggregate to 440,000l., and the Society now holds a LARGE RESERVE upon which a future bonus is expected.

The rates of premium are in no case higher than those charged by the other principal offices making no returns to their insurers.

For prospectuses, apply at the Society's Offices, Surrey-street, Norwich; and 6, Crescent, New Bridge street, Blackfriars, E.C.

GUTTA-PERCHA MILL-BANDS.—The Gutta Percha Company beg to state that the increasing demand for the Gutta-Percha Driving Belts, Driving-bands, Lubricators, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent connection, and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water, and the facility with which the only joint required can be made in bands of from one to 3 or 4 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta Percha Articles, such as Tubing, Soles, Pump-buckets, Elevator-belts, Beams, Piston-packing, Rollers, Buffers, Bands, Inlet-pipes, Curtain-rings, Galvanic Batteries, Tabloid-pie Trays, &c. &c. manufactured by the Gutta Percha Company, and sold by their Wholesale Dealers in town and country.

THE GUTTA-PERCHA COMPANY, PATENTEES,
18, WHARF ROAD, CITY ROAD, LONDON.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, December 19, 1863.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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BY ORDER of the SECRETARY of STATE for INDIA in COUNCIL.

Notice is hereby given, that TWENTY FIVE APPOINTMENTS in the UPPER CLASS of the ELECTRIC TELEGRAPH DEPARTMENT in India will, in the year 1864, be open to PUBLIC COMPETITION.

A Competitive Examination will, accordingly, be held in this office in the month of MAY next. Full printed particulars of the conditions on which candidates will be admitted to the Examination, and also respecting the nature of the Appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

November 20th, 1863.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.
PRIZES FOR COLOURED DECORATION.

5l. 5s. and 3l. 3s. are now offered. The Competition will be open till MARCH 1st, 1864. Costs for colouration, price 5s. and full particulars may be had by letter to the Honorary Secretary, at 13, Stratford-place, W.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

All requests for Casts for Colouration must be accompanied by a Post-office Order on Charing-cross for 5s.; or if case and packing required, 7s.

PURSUANT to an Order of the High Court of Chancery, made in a cause "WILLIAM ROWE against EDWIN TIMPSON and Others," the Creditors of Mortimore Timpson, formerly of Shaftesbury-place, Hungerford-road, Middlesex, Builder, but late of the Victoria Tavern, Number 8, Crescent-place, Mornington-road, Middlesex, Licensed Victualler (who died on the 31st day of August, 1863), and also the Incumbrancers upon his Real and Leasehold Estates, are by their Solicitors, on or before the 31st day of JANUARY, 1864, to come in and prove their claims at the Chambers of the Vice-Chancellor Sir John Stuart, Number 12, Old Buildings, Lincoln's-inn, Middlesex, or in default thereof they will be peremptorily excluded from the benefit of the said Order. WEDNESDAY, the 27th day of JANUARY, 1864 at ONE o'clock in the Afternoon, at the said Chambers, is appointed for hearing and adjudicating upon the claims.—Dated this 9th day of December, 1863.

ROBT. W. PEARCE, Chief Clerk.
JOHNSON & MASTER,
22, Duke-street, Grosvenor-square, Solicitors for the Plaintiff.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

72—74, Bishopsgate street Within, November, 1863.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS. The Proprietors of these PATENTS have given the Warm an Interest in the same, and have consiederably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings. For prices, apply to the Manager, Mr. TYLER, 12, Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of smoky Chimneys.

CHATHAM HOUSE COLLEGE SCHOOL, Ramsgate.—The TERM for 1864 will commence JANUARY 28th. A Prospectus of Terms (which are moderate) and further information may be obtained of the Rev. the PRINCIPAL. Three Boys from this School passed the Senior Oxford Local Examination in June last, all of them in Honours.

CONTRACTS.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Fleetwood, in the county of Lancashire, may inspect the Drawings at the Coast Guard Watch Room, Fleetwood, or at this Office, between the hours of TEN and FOUR, from MONDAY, the 21st day of DECEMBER to MONDAY, the 4th day of JANUARY, 1864 (now next ensuing, and both inclusive Sundays excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at noon of the 5th day of JANUARY, under seal and directed to the Commissioner Controller General of Coast Guard, and endorsed "Tender for Fleetwood Coast Guard Station."

The Lords Commissioners of the Admiralty do not pledge them selves to accept the lowest or either of the tenders.

Dated this 19th day of December, 1863, in the Admiralty, Coast Guard office, 12, Spring gardens, London, S.W.

TO BUILDERS and OTHERS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 19th of JANUARY next, at Half-past TWELVE o'clock precisely, to receive TENDERS for the CONSTRUCTION of NEW SEWERS, and Works in connection therewith, in Norwich-court (Fetter-lane), Jewin-crescent, and a portion of Jewin street, agreeably to plans and specifications to be seen at the Office of the Engineer to the said Commissioners, in the Guildhall. Security will be required from the Contractor for the due performance of his Contract. The Commissioners do not pledge themselves to accept the lowest Tender, or any, unless deemed advantageous; and no Tender will be received after TWELVE o'clock on the day of treaty.

By order, JAMES BUNSTONE DAW, Principal Clerk.

Sewers Office, Guildhall, 17th December, 1863.

VESTRY of ST. MARY, NEWINGTON, SURREY.—To BUILDERS and OTHERS.—The Vestry is desirous to have ERECTED a VESTRY HALL and OFFICES, in the Walworth-road, Newington, Surrey, and to receive TENDERS for that purpose. Persons desiring to submit such Tenders are informed, that they can see the drawings, specification, and form of contract, and obtain a copy of the bills of quantities, by applying to Mr. HENRY JARVIS, Architect, at his Office, No. 29, Trinity-square, Borough, Surrey, between the hours of TEN and FOUR o'clock. The Tenders are to be delivered at the Vestry-room, St Mary's Church, Newington, on TUESDAY, the 5th of JANUARY next, at SEVEN o'clock in the evening precisely, or previously thereto, at our Offices as below, and must be accompanied by a sealed envelope, containing the names of two proposed sureties in 500l for the due performance of the contract. The Vestry do not bind themselves to accept the lowest or any Tender

H. & F. CHESTER, Joint Clerks to the Vestry.

1, Church-row, Newington-butts.

THE MALVERN COLLEGE BUILDING COMPANY (Limited).—To BUILDERS. The Directors of the Malvern College Building Company are prepared to receive TENDERS for the ERECTION of TWO MASTERS' BOARDING HOUSES, at Malvern, on and adjoining the Proprietors' College, new in course of erection. The plans, specification, and bills of quantities can be seen at my Office, at Malvern or Clifton, from MONDAY, the 28th inst. until MONDAY, the 4th JANUARY next. Bills of quantities will be supplied, free of charge, on application to me, either personally or by letter. The Tenders to be delivered on or before ONE o'clock p.m. on MONDAY, the 4th JANUARY, 1864, to HENRY ALDRICH, Esq., Secretary to the Company, Orwell Lodge, Malvern, under the Tender for Boarding Houses." The Directors do not bind themselves to accept the lowest or any other Tender. Approved security will be required for the due performance of the Contract.

CHARLES F. HANSOM, Architect.

Rock House, Clifton, 16th December, 1863.

KEIGHLEY and WORTH VALLEY RAILWAY.—The Directors are prepared to receive TENDERS for the EXECUTION of the WORKS required in the CONSTRUCTION of the above RAILWAY. Plans, sections, drawings, and specifications may be seen, also schedules and forms of Tender obtained, upon application to J. McLANDSBOROUGH, Esq., Civil Engineer, 23 and 24, Queen-square, Bradford. Tenders are to be delivered as addressed on or before MONDAY, the 11th of JANUARY next, 1864. The Directors do not pledge themselves to accept the lowest or any Tender. By order of the Directors,

JONATHAN GILL, Secretary.

Oakworth, December 12th, 1863.

TO VALUERS.—POPLAR UNION.—Notice is hereby given, that the Assessment Committee of this Union are desirous of receiving TENDERS from Professional Valuers for MAKING a VALUATION of such Properties within the Union as may be required by the Committee. Two Tenders are to be jointly and severally from two persons (not connected in partnership), fully competent to value the Buildings of the Rateable Plant and Machinery; and such Tenders, stating the terms upon which it is proposed to make such Valuations, should be sent to me, addressed "Tender for Valuations," not later than the 4th day of JANUARY next. Parties Tendering are requested to be in attendance at a Meeting of the Committee, at HALF PAST ELEVEN a.m. on TUESDAY, the 5th day of JANUARY next. The Committee do not bind themselves to accept the lowest or any Tender.—By order of the Committee,

JAMES RIPLEY COLLINS, Clerk to the Committee.

December, 16th 1863.

TO BUILDERS and CONTRACTORS. The London Wharfing and Warehousing Company (Limited), are prepared to receive TENDERS for the ERECTION of THREE LARGE WAREHOUSES for the storage of Petroleum Oil, at their Wharf, at Purfleet. The drawings and specification can be seen at the Offices of the Company, where Tenders are to be delivered on or before THURSDAY, DECEMBER 31st. The Company do not bind themselves to accept the lowest or any Tender.

GEORGE MOONEY, Manager.

Offices, 6, Mark-lane, December 23, 1863.

CONTRACTS.

TO CONTRACTORS and OTHERS.—SEWERAGE WORKS.—The Local Board for the District of Ealing are prepared to receive TENDERS for the CONSTRUCTION of about 1,000 lineal yards of BRICK, and about 600 lineal yards of STONEWARE PIPE SEWERS, and other Works connected therewith, according to plans, specification, bills of quantities, and form of Tender, which may be obtained at the Office of the Surveyor of the Board, Mr. CHARLES JONES, 2, Church terrace, Ealing, on and after MONDAY, the 28th instant between the hours of TEN a.m. and FOUR p.m. Sealed Tenders to be delivered at the Office of the Surveyor of the Board, before NOON on the 6th day of JANUARY, 1864, endorsed, "Tender for Sewerage Works." The Local Board do not bind themselves to accept the lowest or any Tender. By order of the Board,

ALEXANDER HEMSLEY, Clerk to the Board.

23rd December, 1863.

TO BUILDERS.—Persons willing to CONTRACT with the Justices of the County of Kent for the ERECTION of POLICE STATIONS at Ashford and Sheerness may see the plans and specification at the Office of the County Surveyor, Maidstone any day, except Sunday, between the hours of TEN and FIVE. Each Station is to be Tendered for separately, agreeably to the form of Tender to be obtained at the County Surveyor's Office, where sealed Tenders, indorsed "Tender for Ashford Police Station," or "Tender for Sheerness Police Station," are to be delivered by TEN o'clock in the Forenoon of TUESDAY the 12th day of JANUARY next. No persons Tenders are to be in attendance at the Courts of Justice, Maidstone, at Half past TWELVE o'clock on that day. Another further sealed Tender will also be required and to be approved of in all particulars, and security will be required for the performance of the several Contracts.

By order of the Justices, A. WILDES, Clerk of the Peace.

Maidstone, December 17th, 1863

TO EXCAVATORS, ROAD CONTRACTORS, &c.—The Corporation of Reading are desirous of receiving TENDERS for the MAKING UP of about six acres of LAND, FORMING ROADS and DRAINS, ERECTING FENCES, and generally PREPARING the GROUND for the FAIRS of the Borough.—Plans and specifications of the Works may be seen at the Office of Mr. WOODMAN, Borough Surveyor, Reading. Tenders to be sent to the Town Office, and marked "Tender for Fair Ground," on or before SATURDAY, the 16th of JANUARY next. The Corporation will not be bound to accept the lowest or any Tender which may be sent in.

J. J. BLANDY, Town Clerk.

Reading, 14th December, 1863.

TO DUSTMEN, BRICKMAKERS, and SCAVENGERS.—The Crown Estate Paving Commissioners hereby give notice, that they are ready to receive TENDERS from persons willing to enter into CONTRACTS for the REMOVAL of DUST, DIRT, ASHES, and CINDERS, from the houses within the district under their jurisdiction in that respect for a period of one year from the 25th day of March next, 1864. Specifications and forms of Tender can be obtained on application to the Clerk. The Tenders, sealed and addressed to the Secretary to the Estate Paving Commissioners, and endorsed "Tender for Dust," are to be delivered here at or before THREE o'clock on WEDNESDAY, the 6th day of JANUARY, 1864.

FRANCIS ADAMS, Clerk to the Commissioners.

1, Whitehall place, Pall-mall, S.W., 18th December, 1863.

DEAL and WALMER PUBLIC ROOMS COMPANY, Limited.—To BUILDERS.—Persons willing to TENDER for the WORKS to be done in RERUILDING BUILDINGS in Deal required by the above Company, as per plans and specification prepared by the Architect, Mr. THOMAS HELLYAR, Beaconsfield House, Deal, and 600 feet broader, at 6 feet 6 inches by 6 feet; and 60 feet of 12-inch pipe sewer, to be laid down in Middle Deal road, Queen's road, Peckham, on TUESDAY, the 5th day of JANUARY, 1864, at HALF PAST TEN o'clock in the forenoon precisely. Printed forms of Tender will be supplied, and no Tender will be received unless in accordance with the instructions contained in the specification and conditions; and Parties tendering must be in attendance when their Tenders are opened. The Committee do not bind themselves to accept the lowest or any Tender. Particulars to be obtained on application to Mr. J. C. REYNOLDS, Surveyor to the Vestry, at the Office of Works, Wells street, Camberwell, between the hours of ELEVEN and THREE, on and after Tuesday, the 29th day of DECEMBER inst.

GEORGE WILLIAM MARSDEN, Vestry Clerk.

Vestry Hall, Camberwell, December 23rd, 1863.

TO BUILDERS.—WESTGATE CHAPEL, Heckmondwike.—TENDERS are required for the whole or any part of the WORKS in REBUILDING the CHAPEL now known as the "Lower Chapel, Heckmondwike. Drawings, specification, and conditions of Contract, may be seen on the Vestry Hall to present days from MONDAY, the 14th of JANUARY, next, to the SATURDAY following, both inclusive. Bills of quantities may be obtained, with the plans, on and after MONDAY, the 14th of JANUARY, 1864, application to me at my Office in Bradford, No. 16, Kirkgate. Sealed Tenders to be delivered to Mr. FRANK SYKES, of Cleckheaton, before ELEVEN a.m. on MONDAY, the 18th of JANUARY. The Committee will not be bound to accept the lowest or any Tender.

PAULL & AYLIFFE, Architects.

India Buildings, 20, Cross-street, Manchester,
Dated 22nd December, 1863.

TO SEWER CONTRACTORS and OTHERS.—VESTRY of ST. GILES, CAMBERWELL.—The Sewers and Sanitary Committee will meet in the Vestry Hall to receive TENDERS for the EXECUTION of SEWERS WORKS; comprising about 1,300 feet of brick sewer, 3 feet 9 inches by 2 feet 6 inches; and 600 feet broader, at 6 feet 6 inches by 6 feet; and 60 feet of 12-inch pipe sewer, to be laid down in Middle Peckham, Queen's road, Peckham, on TUESDAY, the 5th day of JANUARY, 1864, at HALF PAST TEN o'clock in the forenoon precisely. Printed forms of Tender will be supplied, and no Tender will be received unless in accordance with the instructions contained in the specification and conditions; and Parties tendering must be in attendance when their Tenders are opened. The Committee do not bind themselves to accept the lowest or any Tender. Particulars to be obtained on application to Mr. J. C. REYNOLDS, Surveyor to the Vestry, at the Office of Works, Wells street, Camberwell, between the hours of ELEVEN and THREE, on and after Tuesday, the 29th day of DECEMBER inst.

GEORGE WILLIAM MARSDEN, Vestry Clerk.

Vestry Hall, Camberwell, December 23rd, 1863.

[For remainder of Contracts see next Page.

CONTRACTS.

NOTICE to BUILDERS.—Persons disposed to TENDER for the ERECTION of the various WORKS intended to be erected by the Herefordshire and South Wales Agricultural Implement and Manure Company, may inspect the drawings and specifications at the Offices of the Engineer, Mr. THOMAS FLEWETT, C.E. 41, Tything, Worcester, on and after WEDNESDAY, the 23rd inst, up to MONDAY, the 28th, and after that day up to FRIDAY, the 31st, at the Office of JAMES JAY, Esq. Solicitor, Hereford. Bills of quantities will be supplied by the Engineer upon payment of one guinea. Tenders to be addressed to F. L. BADENHAM, Esq. Hereford, the Chairman of the Company, not later than MONDAY, the 4th day of JANUARY, endorsed, "Tender for Chemical Manure Works," after which day no Tenders will be received. The Directors do not pledge themselves to accept the lowest nor any Tender.

41, Tything, Worcester, December 17, 1863.

BRENTWOOD TOWNHALL COMPANY (LIMITED).—The Directors of this Company are willing to receive TENDERS for the ERECTION of a TOWNHALL, from the design of W. Bartlett, esq. The Directors do not bind themselves to accept the lowest or any Tender, and they will require the builder whose Tender is accepted to give the names of two sureties to be bound jointly with himself for the due performance of the work. The drawings and specifications may be inspected, on application to Mr. C. A. FIELDER, the Hon. Secretary of the Company, at Brentwood, and to whom all Tenders must be addressed, and delivered on or before MONDAY, the 11th day of JANUARY, 1864, endorsed "Tender for Building a Townhall, Brentwood."

December 19th, 1863.

TORQUAY HOTEL COMPANY (Limited).—To BUILDERS. The Directors of the Company will meet on SATURDAY, the 2nd day of JANUARY next, at the Royal Hotel, Torquay, at FOUR o'clock p.m. precisely, to receive TENDERS for the WORKS in ERECTING the new HOTEL at "The Cove." The detailed copies of the bills of quantities will be supplied to Builders, on application to Messrs. WILLIAMS & SCHOFIELD, No. 12, Montague street, Russell square, London, W.C. surveyors, upon depositing with them the sum of five guineas, which will be returned after the delivery of the Tenders. The Directors do not pledge themselves to accept the lowest Tender. The Builder whose Tender may be accepted will be required to find two sureties, to be bound jointly with himself, in the sum of £3000 for the due execution of the works.—By order of the Board,

E. N. CLIFTON, Architect of the Company,
17, St. Helen's-place, Bishopsgate street, London, E.C.

TO STONE-MERCHANTS and OTHERS.—Vestry of St. Giles, Camberwell.—The General Purposes Committee will meet on MONDAY, the 4th day of JANUARY, 1864, at FIVE o'clock precisely, to receive TENDERS from persons willing to CONTRACT with the Vestry for the SUPPLY of about 20,000 feet of 12 by 6 FURBECK KERBING, first-class quality, to be delivered at any of the wharfs or landing places on the Grand Surrey Canal within this parish. Further particulars to be obtained on application to Mr. J. C. REYNOLDS, Surveyor to the Vestry, at the Office of Works, Wellington-street, Camberwell, between the hours of ELEVEN and THREE, on and after the 28th DECEMBER instant. The parties Tendering must be in attendance when their Tenders are opened; and the Vestry do not bind themselves to accept the lowest or any Tender.

GEORGE WILLIAM MARDEN, Vestry Clerk.

Vestry Hall, Camberwell, 21st December, 1863.

LIGHTNING CONDUCTORS.
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the joint and all staples, complete for fixing, at the following prices:—

Three-eighths inch diameter	1s 0d per foot.
Half inch diameter	1s. 6d. "
Five-eighths inch diameter	2s 0d. "

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
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" 27, Dale street, Manchester.
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" 17, South Castle-street, Liverpool
" Exchange-buildings, Dundee.
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PROTECTION from LIGHTNING.
HART & SON
Beg to call the attention of Architects, Builders, and the public to their
IMPROVED LIGHTNING CONDUCTORS
(SPRATT'S PATENT),
As presenting the MOST EFFECTIVE MEANS of OBTAINING SECURITY from LIGHTNING. They are economical, neatly fixed, and APPLICABLE TO ALL BUILDINGS, including Private Houses, Churches, Chimney-Shafts, Barns, Powder Magazines, &c. &c.
Price lists and estimates on application.
HART & SON,
WHOLESALE AND MANUFACTURING IRONMONGERS,
53 to 58, WYCH ST. STRAND, LONDON, W.C.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & COMPANY, Mill-wall, London.
Steam-boats from London Bridge call near the Factory.

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NORDHOFF & CO.'S PATENT GAS CARBURETTING APPARATUS offers the following highly important Advantages to Consumers of Gas:—
1. Great Economy—a saving of at least FORTY per Cent.
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3. Threefold Increase of the Intensity of Light.
4. Simplicity and Safety of the Apparatus.
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Sole Agent for the United Kingdom,
Mr. MAX SABEL,
No 9, Coleman-street Buildings, Moorgate-street, City, London.
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NAILS and IRONMONGERY
from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the
LOWEST BIRMINGHAM PRICES,
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM,
and 19, Gresham street London, E.C.



PRIZE MEDAL AWARDED FOR IMPROVEMENTS.
IRON DOORS,
POWDER-PROOF LOCKS,
AND
FIRE-PROOF SAFES.
CYRUS PRICE & CO.
PATENTEES AND MANUFACTURERS,
BRITANNIA SAFE AND LOCK WORKS,
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STOCK ON HAND. PRICE LISTS FREE.







COOMBS & McCALL, Dover Iron Works, Staple-street, Long Lane, Borough, S.E. (late H. G. COOMBS, 17, Union street, and 83, Great Guildford street, Borough, S.E. Inventor of the Rotary Shop Front, Patentee of the Tubular Railing, new Compensating Girder Truss, &c. &c.)
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COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Iron work, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

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RANGES — CLOSE AND OPEN FIRE,
REGISTER AND ELLIPTIC STOVES,
RAILING BARS, GATES, AND PANELS,
SASH WEIGHTS, &c.
ANDREW McLAREN & CO.
are the cheapest Ironfounders and the best makers of these and General Castings, and keep a large Stock at
LONDON WAREHOUSE,
174, UPPER THAMES STREET,
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FOR SALE, a FIVE-HORSE PORTABLE ENGINE, in good condition, with hopper, tubes, &c. complete. Also, connected with the same, a Wood and Stone Sawing Apparatus. Apply to Mr. J. IRESON, 36, Bath street, Northampton.

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MANUFACTURERS OF
CAST STEEL for Cutlers' Punches, Taps and Dies, Turning Tools, Chisels, &c.
CAST STEEL Piston Rods, Crank Pins, Connecting Rods, Straight and Crank Axles, Shafts, and Forgings of every description.
FILES bearing T. TURTON'S name or to any other make.
(Vide Report of Judges, the Times, July 20th, 1861.)
TOOLS of every variety, for Engineers, Railways, Contractors, & Co.
EDGE TOOLS marked WALKER AVES & SONS. LONDON. Rockingham Work, Sheffield, to wear out three Razors made of Cast Steel.

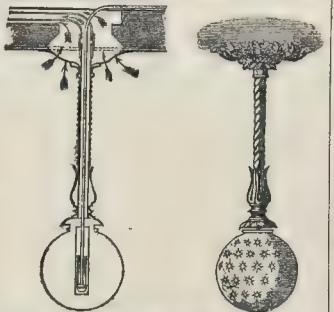
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For Locomotive Engines, Railway Carriages, and Waggons.
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Where the largest Stock of Steel, Files, Tools, &c. in the World, may be selected from.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

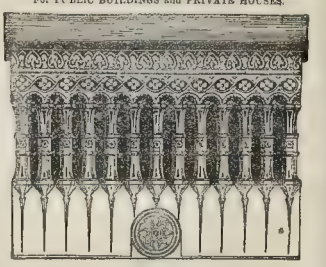
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GAS BURNER and FITTING ESTIMATES
Offer important advantages to Architects, Builders, and the Public generally. GARDNER'S, No. 453, Strand, Charing cross, four doors from Trafalgar-square, London.
ESTABLISHED 1752

RICKETT'S & HAMMOND'S
VENTILATING GLOBE LIGHT,
combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



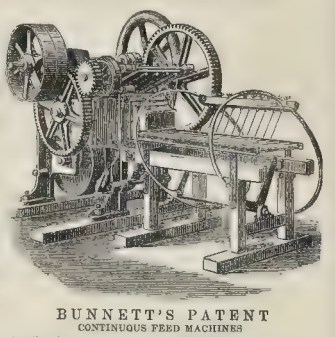
The advantages secured are these:—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR,
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
No. 5, CHANDOS STREET, CHARING CROSS, LONDON, W.C.

PATENT HEATING and VENTILATING APPARATUSES,
For PUBLIC BUILDINGS and PRIVATE HOUSES.



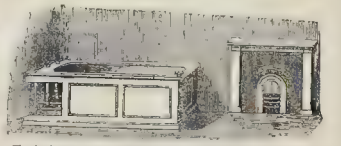
SAVES IN FUEL 50 PER CENT.!
A prospectus, containing a full description of their action, and numerous advantages, will be given on application to the Patentee,
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BRICKMAKING,
BY STEAM OR HORSE POWER,



BUNNETT'S PATENT
CONTINUOUS FEED MACHINES
Are the cheapest and most efficient, and will make from 5,000 to 20,000 bricks per day, according to the power applied and the requirements of the proprietor, at one-third less working expenses than any others.
Price 75l. including royalty, and a gun-metal die for Solid, and Perforated or Hollow Bricks.
They also make all kinds of Sanitary Pipes, Tiles, or Moulded Bricks, of a superior quality.
LICENCES GRANTED TO MANUFACTURERS.
For particulars apply to BUNNETT & CO Engineers, Deptford, Kent, where the Machines may be seen at work.

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The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.
Estimates given from architects' drawings, or by inspection of buildings.
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In sheets 2lb. and 3lb. per square foot, 9 feet long by 3 feet wide.
The most durable and economical metal for roofing.
Does not rust or decay under the action of the atmosphere or acids.
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Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
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WROUGHT AND CAST WHEELS AND AXLES.
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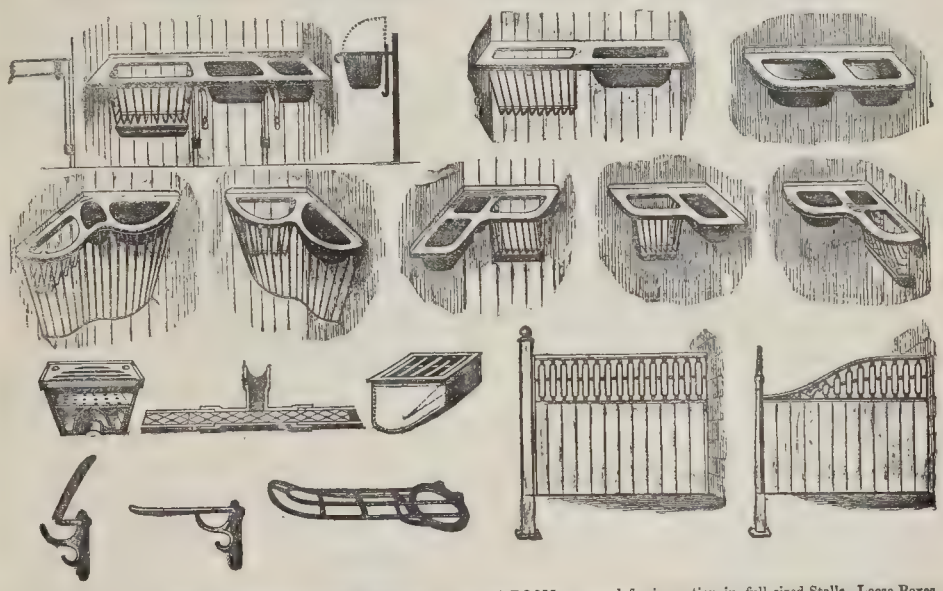
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STABLE FITTINGS AND HARNESS BRACKETS.
ORIGINAL INVENTORS OF THE PATENT ENAMELLED MANGER, WATER TROUGH, AND RACK, FITTED TOGETHER AS ONE FIXTURE.



PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM. IN USE AT HER MAJESTY'S STABLES, ALDERSHOTT.

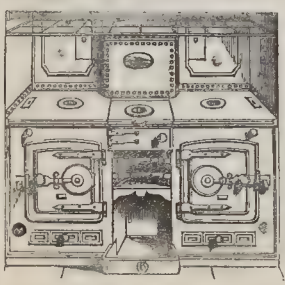


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They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces, from 1*l.* 8*s.* to 160*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth-plates.

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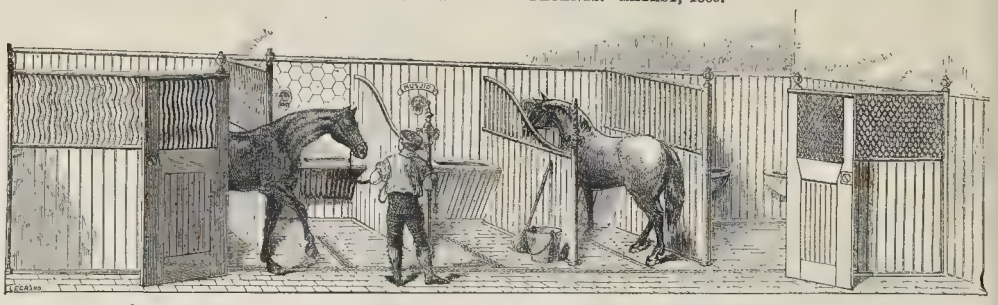
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THE MEDALS OF ENGLAND AND FRANCE,

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SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, with RACK & WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

THE HALTER BALL, ATTACHED BY A NEW IMPROVEMENT, WORKS NOISELESSLY, AND ALMOST WITHOUT FRICTION.

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These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

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Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

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FOR SINGLE AND DOUBLE-ACTION DOORS.

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GOTHIC, DROP, AND OTHER DOOR HANDLES.

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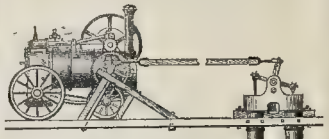
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Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

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ON HIRE OR TO ORDER,
a large Assortment of PORTABLE ENGINES; SINGLE and DOUBLE PUMPS, from 4-inch to 24 inch Barrels, for any depth.

Also, CENTRIFUGAL and OTHER PUMPS, Single and Double Purchase CRABS, PULLEY BLOCKS, and other CONTRACTORS' PLANT.

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The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

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THE SMALLEST WILL WARM A ROOM 20 feet square, with Welsh Stone Coal, at a cost not exceeding 2d. for twelve hours. Free from dust, smoke, or smell. Suitable in the larger sizes for halls, churches, and concert-rooms Can be seen in operation at

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MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

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By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

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Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS.

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

NO CHIMNEY WANTED

FOR RICKETS & HAMMOND'S PATENT CALORIFERE GAS STOVES, in Churches, Halls, or Shops; and for Conservatories, or any close apartment, a Pipe can be attached to carry away the burnt air.



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LIBERAL DISCOUNT TO THE TRADE.

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

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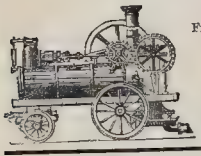
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IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

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PORTABLE STEAM PUMPING-ENGINES,

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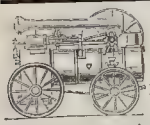
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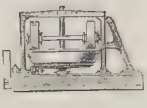
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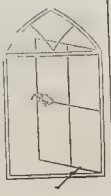
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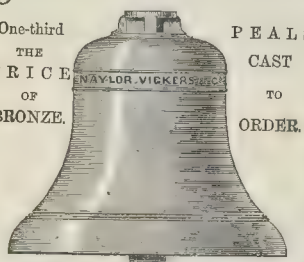
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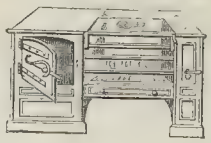
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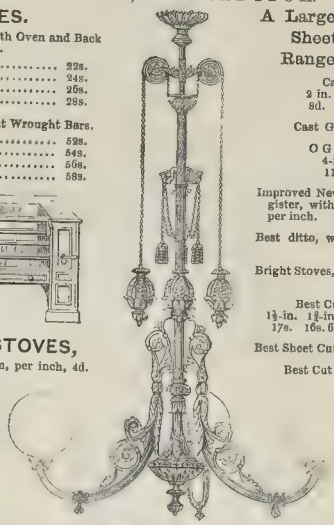
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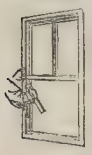
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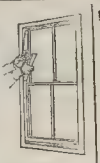
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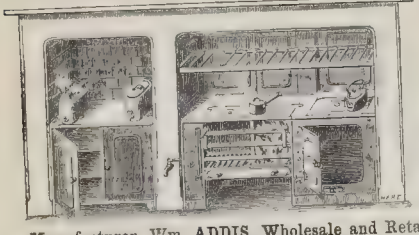


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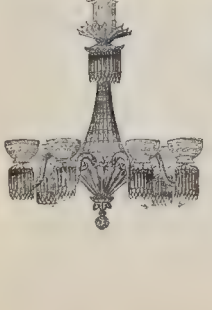
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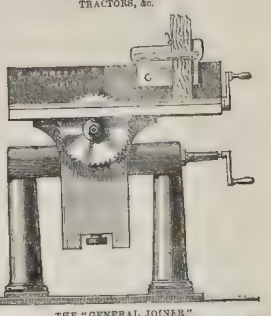


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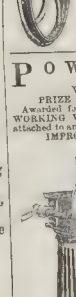


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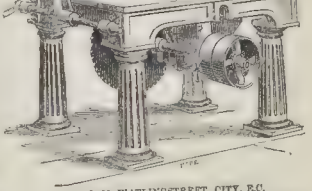
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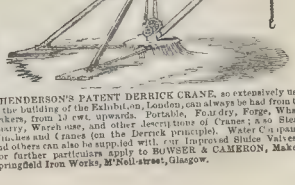


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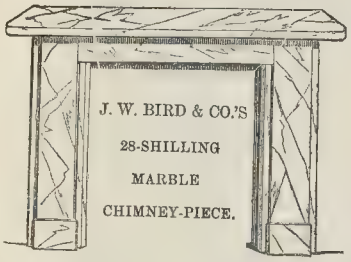
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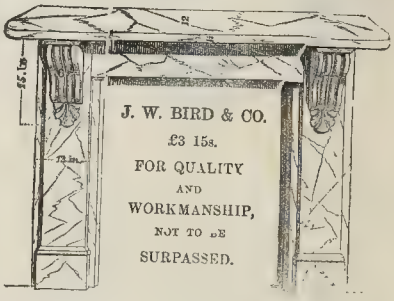
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VOL. XXI.—No. 1090.

"Going Along:" Milan.



UNDERFULLY changed and improved are the Milanese of late years. As compared with the Milanese of a dozen years ago, they are scarcely to be recognized. There is an air of life in the place. Men move about as if they were not afraid, and they have their views for the future. A great weight has been lifted off a growing plant, and it is springing up, relieved.

"To all men freedom solace gives:
He lives at ease who freely lives;
And he that aye has livèd free,
May not well know the misery,
The wrath, the hate, the spite, and all
That's compass'd in the name of Thrall."

Milan has always been elastic, even in very early time. In the month of March, 1162, after a resistance of three years, the Milanese yielded to the army of Frederick Barbarossa, and the emperor commanded that the houses, as well as the walls of the town, should be razed to the earth, and that one stone should not be left upon another. With the exception of the church of Sant' Ambrogio and a few other buildings, everything in consequence appears to have been destroyed. It was soon after this that the League of Lombardy, of which we spoke in Vicenza, came upon the ground, and the militia of the united towns set themselves to restore the walls and revive the city. The peace of Constance, in 1183, secured to the Italian republics their rights. The city of Milan soon rivalled its former self, and for a couple of centuries things went on tolerably smoothly. Then came its ambitious dukes, the Viscontis, and afterwards, in 1450, its subjugation by Francesco Sforza. However, never mind just now its troubles and its varieties of fortune. At the present moment Milan rejoices and moves on. Great improvements are to be made in the city; notably a grand *place* in front of and about the cathedral, —*Piazza del Duomo*,—a new street, named after the King, opening out of the piazza to a monument to Leonardo da Vinci, and on the other side of the piazza, opposite the new street, a "*Loggia Reale*" and monumental fountain, with general re-arrangements of the streets about. The scheme is by the architect Mengoni, of Bologna, and was approved of by the communal council in September last. If carried out worthily, it will greatly improve the city.

The works for the completion of the cathedral, that marble wonder, go steadily on. The persistency and skill with which this object has been pursued are most honourable to the Milanese. The building belongs to the present as well as to the past. All know the appearance of the White Marvel, its forest of pinnacles and population of statues, as they do also the outline of its history. It was founded in 1386, by Jean Galeazzo Visconti, Duke of Milan (a scoundrel of eminent ability), in fulfilment of a vow made to the Virgin.* He seems to have been fond of offering bribes to a higher power: he had made a vow of pilgrimage to a certain shrine near the Lago Maggiore, when, a few years before the date we have named, this same noble duke trepanned his uncle Barnabas, imprisoned and ultimately murdered him. The name of the architect of the cathedral is doubtful; Marc de Campione, and other members of the same family, are named by some Italian writers, but the evidence seems most in favour of Heinrich Ahrler, a German. The building itself shows the architect could not have been an Italian.

The original design appears to have been pretty well adhered to by a long list of architects and sculptors who succeeded Ahrler until Pellegrino Pellegrini, beginning in 1567, went about to complete the west front in the Italian style. This was not persevered in, fortunately; but his doors and windows were preserved, and destroy the oneness of the structure. Some day, we have no doubt, these will give place to features more accordant: such an alteration is often talked about. The works had lingered just before the French obtained dominion in Milan, but Napoleon I. sent them forward, and since then they have continued to progress more or less briskly. The view on the marble-covered roof, putting out of sight a horribly ugly bell-tower which is coming down, is marvellously striking. The outline of the great pinnacles is for the most part satisfactory, though the detail of portions is not so. The marble brattishing on the top edge of the flying buttresses has on each point a flower or fruit, the tulip, pomegranate, rose, and so forth, greatly varied. The engraving we give of a couple of the pinnacles and a portion of the parapet will convey a notion of the character of the work to those who happen not to know it. The statues on the pinnacles are 6 feet in height. Many of these, as well as the figures in other situations, the work of the best Italian sculptors, are admirable productions. There are now actually some 7,000 statues about the building, and 3,000 more are wanted to complete the intention. Sixty-four have been put up during the present year; and within the last twelve years, 2,400. A large number of artists, as may be supposed, mostly Lombards, are kept at work upon them. One turret which was finished in 1859, has 100 statues about it, and cost 20,000*l*. The marble, let us say, in addition to these striking statistics, comes from quarries, near the Lago Maggiore, with which the cathedral is endowed. Every part is finished with great care and stands soundly.

The effect of the interior on first entering is truly grand. The loftiness of the nave, 153 feet; the enormous size and height of the columns, with statues under canopies all round the top of each as a capital, dividing the nave from its double aisles; the glowing morsels of glass seen here and there at the extreme east end; and even the painted tracery in the groining, till the deception is found out, aid in producing this. The pulpits round the pillar on each side at the commencement of the choir, carried on terminal statues, are seen in every picture of this interior. The figures under the southern pulpit, by Francis Brambilla, are especially good. According to an inscription in another part of the edifice, dated 1599, this Brambilla worked forty years for the cathedral. Of the rich contents of the edifice, in the shape of sculpture, metal-work, and painting; the mausoleum of the good St. Carlo Borromeo; or the goldsmith's work and curiosities of the Treasury, we must not attempt to speak. Of the two fine monolithic columns of red granite at the entrance, about 32 feet in height; the tomb of Jean Jacques and Gabriel Medici, supposed to be from a design by Michelangelo; and the statue of St. Bartholomew without his skin, by a sculptor who modestly warns spectators not to suppose it a work of Praxiteles, every one knows.

St. Charles Borromeo, whose name is specially connected with this cathedral, and whose body is gazed at by every curious visitor to it, was one of the best men of his period, or, indeed, of any period; and before he died—prematurely, at 46,—effected an extraordinary amount of good, and left a reputation that cannot be attacked. Unselfish, clear-headed, vigorous, and possessing the charity tha covereth a multitude of sins,—in others,—he spent his life in doing good. He founded colleges schools, and hospitals throughout his immense diocese; tended his flock during a visitation of the plague; reformed his clergy, instituted Sunday-schools; and in such works, and on the poor, spent the whole of an enormous income, derived partly from his private estate and partly from the archi-episcopal revenue. The memory of such a man is sweet. An inscription against the east wall, behind the choir, records the consecration of the cathedral by this good Charles Borromeo, in October, 1577. The high-altar had been previously consecrated by Pope Martin V. Above the inscription are the large eastern windows, filled with stained glass, which seemed to us more satisfactory at a distance than when close. In our volume for 1861,* by the way, a plan of the cathedral will be found; introduced with special reference to the continuation of the aisle, here, around the eastern apse. The modern glass in the building, of which there is a considerable quantity, some of it beautiful, is by J. Bertini, of Milan, for whom the credit is claimed of having revived the art. He died in 1849. A tablet to his memory, at the east end, is inscribed,—*Joanni Bertinio, qui artem picturæ vitro incoquendæ ferme interceptam restituit, auxit, perfecit*, &c.

From the cathedral we go to the theatre,—so accident led us,—to the theatre of La Scala, which, moreover, has a connexion with the church not obvious at first sight. The pious Beatrice, a daughter of Mastin de la Scala, Lord of Verona, aided in rebuilding an old church, which was afterwards called in her memory Santa Maria della Scala. Circumstances caused its suppression; and on the site, in 1776, was built the theatre known all over Europe as "La Scala." The family name of the foundress given to a church thus survives in a playhouse. A grand and complete theatre it is, with its six tiers of boxes and accommodation for about 4,000 spectators; or, when arranged for a ball, 7,000;—in fact, the finest in the world. Piermarini, a pupil of Vanvitelli, of Naples, was the architect, finishing it in 1778; but Canonica rearranged and improved the stage portion in 1814. The prevailing colour is white, with gold. The Royal box is in the centre of the house. The State contributed to the erection of this theatre, and still contributes to its maintenance. The orchestra accommodates ninety-one musicians, sometimes ninety-five; and beneath it is an open chamber called the *chambre harmonique*, about 5 feet in height, formed with wood, and thought to improve the effect of the music. The stage has a depth from the front of the orchestra of 140 feet. Mr. Fergusson, not measuring an available apartment at the back, thrown into the stage by an opening nearly as wide as the proscenium, calls the depth but 77 feet. On the stage 400 persons can be placed conveniently for action. Indeed, the *Prophète* has been given here with 500 persons on the boards. There is a subsidized School of Dancing,—we will not call it dancing school,—connected with the theatre. It was instituted in 1813, and has produced pupils of wide fame. People sometimes regard it as astonishing that while a small Italian state can produce fine dancers England does not do so. They might almost as reasonably be surprised at finding flowers in a garden where seed had been carefully sown, and no flowers in another where that step had not been thought necessary.

The finest Gothic church in Italy and the finest theatre are strong claims for Milan; and to these may be added the most striking Lombard Atrium; the finest piece of ninth-century goldsmith's work in the world; the handsomest internal

* An inscription at the east of the cathedral inside says,—"*El principio dil domo di Milano fo nel anno* 1386."

* Page 675, Vol. xix.

court, that of the Ospedale Maggiore; Leonardo da Vinci's *chef-d'œuvre*; and one of the best pictures painted by Raffaelle the Divine, hight the Sposalizio. Of these, however, —"Anon! anon! sir."

The atrium, of course, is that of Sant' Ambrogio, one of the most interesting buildings to be found, erected probably quite at the beginning of the ninth century, on the site of a church built by Ambrose, Bishop of Milan, in the fourth. It has a gallery (triforium) over the main arches in nave, but no clerestory. The size of the church is large; the arches are all semicircular, with the exception of the vaulting of the nave, introduced at a later time. Considerable repairs to the internal stonework of the east end of the building are being made, apparently with proper care for the old work. At the end of the nave, and in front of the apse that terminates it, stands the celebrated metal altar-casing, under its Lombard baldachino, the latter comprising four porphyry columns, and a considerable amount of very interesting carving in the canopy these carry. The altar-facing, however, is *the* thing to be seen, and though the priests in charge of it *show* no great anxiety to fetch the keys and remove the wooden covering always kept over it, for which the fee is five francs, it is but coyness that a little persistence will overcome. Examples of metal-work of the ninth century are very rare, and this *palliotto* is of a beauty and an excellence rarer still. It was executed in the year 835 by order of Angilbert II., and is thus inscribed on the back by the maker, "Vvolvini' Magist. Phaber;"—master smith. Simple as the inscription is, no one of the books that we happen to have before us gives it literally. The cost of this work is said to have been 80,000 florins of gold. The front, entirely of that metal, is in three main panels, divided and sub-divided by borders of enamels. Christ in the centre of a cross in the middle panel, the twelve apostles in sub-panelling on each side, bas reliefs, filagree work and precious stones are its chief features. The ends and the back are of silver, enriched with gold, and display, especially the back, even finer work than the front. Enamelled borders divide panels containing medallions and bas reliefs as in front. In one of the medallions St. Ambrose is represented as blessing the artist. Both design and workmanship of this production of the "dark ages" are exquisite. Where could we now look for a man to give us such a work of the nineteenth century to compete with this master-smith's handiwork of the ninth?

The vaulting of the apse is covered with early mosaic work, strong and black, put up in the time of the Carlovingian Emperor Louis II., who was contemporary with our Alfred the Great. He died young, in the year 877, and was buried in this church. The mosaic picture includes large figures of the Saviour and several saints, on a gold ground; the style, of course, Byzantine. All the principal workers in mosaic appear to have been Greeks of the lower empire till the time of Cimabue and Giotto, whose successors substituted for the severity and hardness of the old work, grace and finish, and refined it away till it became powerless.

The atrium was added to the church, says Gally Knight, by Bishop Anspertus, who died in 882, and Knight quotes the epitaph which was on his tomb, proving that he did build it; but this does not show there was no atrium before. It has a fine large arcade of brick and stone, with capitals and archivolts beautifully sculptured with interlaced work, foliage, and animals. Hosts of tablets, ancient remnants, and inscriptions are affixed to the walls: a walk in it is delightful.

In the gallery attached to the Biblioteca Ambrosiana, the earliest really public library in Europe, and altogether a fine institution, is the Cartoon of Raffaelle's School of Athens,—amazingly grand even in this shape. There are, too, some remarkable heads by Bernardino Luini, a copy of a grand Crucifixion, by Guido Reni, one of those pictures that take hold of you; and an immense number of sketches by Michelangelo, Albert Durer, Raffaelle, Leonardo da Vinci, and others,—especially, however, by Leonardo, whose drawings include all sorts of subjects, full of fun and caricature. The immense amount of work done by Leonardo da Vinci, Raffaelle, Paul Veronese, Rubens, and other of the greatest artists, is amongst the things to wonder at. Certain it is that those who have done the best work have usually done the most. There is a tablet on the staircase here, put up in 1637, in memory of Leonardo da Vinci,—truly a universal genius.

However, enough of endeavour to master, of wonder and delight, of envy and depression, for once. The sun has gone down, and we get a refreshing and charming drive round the outside of newly-enlarged public gardens, and on the ramparts, now transformed into pleasant shady green avenues for riding and walking. Many beautiful equipages are about; new buildings in progress, some ornamented externally with terra-cotta, are observable; and everywhere we see signs, and delight in seeing them, that Milan is moving. Thunder and lightning, illuminating strangely the needle-like termination of the central tower of the Duomo, close the drive, and send us back to the comfortable Albergo Reale, with an "effect" to talk about.

THE CIRCUMSTANCES OF CELEBRATED MEN.

We write mindfully of the great aim of human existence when we choose the word celebrated, instead of great, to distinguish those who have distinguished themselves in the fine arts, sciences, and literature. Few of us can hope to become celebrated; but all of us may be great in a wise and self-abnegating acceptance of the several circumstances assigned us, and a faithful determination not so much to seek our own honour and glory, as to be of service to our fellows. A certain degree of excellence in our several pursuits is, however, the lawful ambition of all: and they who have attained this will be the first to admire the works of those whose genius has carried them still further. There may be a posthumous celebrity in store for many who are now labouring unmarked by their contemporaries: for the judgment of posterity is just; and if work be truly excellent, yet not admired or acknowledged in our generation, we may entertain the hope that those who come after us will appreciate it. We have numerous instances on record of cases where the contemporaries of those whose memories we delight to honour thought but little of the individuals in question or their respective performances when living, besides the well-known instance of the poor price paid for Milton's peerless "Paradise Lost;" and, on the other hand, many artists and writers who enjoyed a reputation while living have now faded from public recognition. Celebrity should not be esteemed too highly; for, like great riches, it is not always awarded to the most worthy; but we may rest assured that the rewards promised to crown a patient continuance in well-doing will be shared only with the just. And, after all, the applause of the world is but as a feather blown hither and thither on the downs compared to the satisfaction of having conscientiously filled our measure of good works. It may be thought that we are methodically turning over and spreading out our laid-up platitudes to air upon a paper beach; but when the galaxy of bright names we are about to group together are discerned, it will be seen that some such indication of the direction of the right path through the forest of endeavour was imperative. To be dazzled by the results of a few picked lives amidst the thickets of industry would be to be lost.

The standard of excellence varies in height and quality according to the proficiency, acuteness, and critical fastidiousness of the person by whom it is viewed: that which one mind might consider mediocrity, another would accept as perfection; and a degree of superiority that may be deemed very admirable by many, would be utterly rejected by others. Among the uncivilized, for example, warriors only would be esteemed great; and as an instance of the extent to which some men of genius have carried the last-mentioned exclusiveness, we may refer to David Hume, who declared he could only assign first-class places in the ranks of science to two philosophers, Galileo and Newton; nor could he place more than two English poets, Milton and Pope, in the same prominence. In our present examination of the circumstances which assisted or impeded the progress of celebrated men, we do not affect to exercise so rigid a rejection. We throw widely.

It is a generally received opinion that men of genius have been indebted to their mothers rather than to their fathers for any portion of their abilities that may have been hereditary. In the acceptance of this opinion, we are more gallant than correct. The Basires, engravers, present one of a string of examples we might thread in which a particular talent was handed down from father to son, and thence to grandsons. James and John Bernouilli, mathematicians, with the son, Daniel, and grandson, John, of the latter, all of European celebrity for their scientific attainments, might be placed on the same list; as might, also, the instance of Thomas Gale, author of the inscriptions on the Monument, and his sons Roger and Samuel, all of whom were antiquarian writers of eminence. The father of Raffaelle was a painter; the father of Mozart, a musician of no mean distinction, being vice-chapelmaster and composer to the Prince Archbishop of Saltzburg; Cuyp was the son of a painter, as was also Paul Potter: Bernard Picard, the engraver, author of "The Religious Ceremonies of all Nations," was the son of an engraver; and Nollekens, the sculptor, was the son of an artist. The two Pitts, father and son, in recognition of the same description of talent—statesmanship—were, with an interval of twenty-eight years, both accorded the distinction of a public funeral: the great Earl of Cork and his sons, grandsons, and great grandson, present a succession of four generations of literary and philosophical talents entailed in the male line: the Mylnes, architects; the Darwins; the Sheridans; the Burneys, father, son, and daughters; the Edgeworths, father and daughter; the Herschels, father, son, and grandson; the Stephensons, are further instances we might cite. The son of Cibber, the sculptor, proved a poet and dramatist, and his grandson also handled dramatic subjects; and although there was a variety in the professions followed by these three generations, they all called for genius of an imaginative order. The younger Matsys, painter, had for a father Quentin Matsys, and for a mother the daughter of a painter: Lucas de Heere, who painted the portrait of Darnley, husband to Mary, Queen of Scots, Lady Jane Grey, and other historical personages of his time, was the son of a statuary and Anne Smyters, a miniature landscape painter: the father and mother of Vandyke were both painters. In these instances it would, perhaps, be difficult to distinguish the parent from whom the son inherited his genius. We would not, however, appear desirous of detracting from a full and free acknowledgment of the great influence the female parent must possess, both congenitally and educationally, upon her offspring; and gladly admit that there are many indisputable cases on record of celebrities who could have owed their genius to no other source. The mother of Sir Walter Raleigh had two husbands; yet the sons of both possessed the same love of roving adventure and gift of authorship: Sir Humphrey Gilbert distinguished himself as much as Sir Walter Raleigh: he accompanied his half-brother in some of his voyages, wrote a discourse to prove the practicability of a north-west passage, and took possession of Newfoundland in 1583. But we must suggest that the former examples we have mentioned prove that the sons of men of high orders of intellect have frequently inherited the genius of their fathers.

When we look across the fields of Time at the hosts of talented men who have earned the privilege of arraying themselves beneath the title "celebrated," we are fain to admit that it would be impossible to classify the circumstances that result in the development of extraordinary faculties. The examples we have quoted of celebrities who have entailed upon their sons abilities of the same *genre* as their own merely negatives the assumption that the rich inheritance is always the gift of the mother: there is a much larger group who must have found their powers within themselves, as men, sometimes, in new countries, find gold when they are *prospecting* for baser metal; consequently the supposition that genius, as a rule, is affected by parentage, falls to the ground. Nor does it appear that we should be justified in assuming that the employment of the parents in any way directs, or otherwise assists, the sons in coming more easily at results that make them famous. Although Mademoiselle Rosa Bonheur, the princess of painters, may be the daughter of an artist, Turner was the son of a barber; Albert Durer, of a goldsmith; Gains-

borough, of a clothier; Barry and Romney, of builders; Sir Joshua Reynolds, of a clergyman. There is scarcely a trade or profession but can boast of being the cradle of men of unusual mental attainments; and in some instances the same branch of industry can point to various sons who have excelled in the most opposite pursuits. Clerks of works may claim Chaucer as a *confrère*; besides several celebrities of less note, of whom we may particularize John Norden, topographer and engraver, who was surveyor to Prince Henry, the amiable and much-regretted son of James I.; and John Joshua Kirby, clerk of the works at Kew, who taught perspective to Queen Charlotte and her royal children, and was the father of the gifted Mrs. Sarah Trimmer, some of whose writings were dispersed by the Society for Promoting Christian Knowledge. Gardeners may point to the Tradescants of one century, and Allan Cunningham of the next. Butchers may urge that the materialism of their calling has not precluded them from rearing sons of the most imaginative intellects, such as Akenside, Defoe, and Kirk White; or of the most consummate political ability, as in the example of Thomas Wolsey. It is deemed likely, too, that the father of Shakspeare turned butcher when his fortune changed. Dr. Isaac Watts and Chatterton were the sons of schoolmasters. Booksellers will rejoice over Dr. Johnson; watchmakers over John James Rousseau; shoemakers over Hans Christian Andersen, than whom no one has written more graceful or charming fairy tales for children: hatters will deem their annals relieved by the name of W. Collins, poet; chandlers by that of Benjamin Franklin; distillers will think of Wilkes; drapers of Isaac Barrow, the mathematician and instructor of Newton, and of Alexander Pope; jewellers of Francis Grose, the antiquary, Sir Samuel Romilly, and others. The Church has been most prolific of gifted sons; indeed, the longest clue towards a classification of the circumstances that have resulted in the unfolding of latent genius consists in the fact that clergymen have been the parents of more celebrities than any other class of men; but whether this is due to the liberal education persons of that rank of life would be sure to afford their sons, or to the, always, settled and, generally, ample means of the parents, which would give them leisure to discern and then direct any indication of unusual powers in their offspring, or both these advantages combined with the first-class intellectual discipline that men in the position from which the ministers of the Church are chosen have been subjected to, as well in their own person as in that of preceding generations, and those that may be expected to accrue from the first-class sanitary conditions under which country clergymen are enabled to bring up their families in their large, detached, roomy parsonages, is matter for further conjecture. Poets, painters, architects, engineers, dramatists, antiquaries, essayists, and mathematicians, have been reared in vicarage-house nurseries, as well as theologians. The present poet-laureate, the tuneful Tennyson, is the son of a Lincolnshire clergyman: Mr. G. G. Scott, architect, was born at Gawcott, in Buckinghamshire, of which parish his father was then incumbent: Mr. Scott Russell is the son of a Scottish clergyman: Mr. Frederick A. Paley, author of "A Manual of Gothic Mouldings," "The Church Restorers," and numerous architectural works, is the son of a clergyman, and grandson of the celebrated author of the "Evidences of Christianity:" Addison, not yet displaced from the topmost place in the ranks of English essayists, although it is nearly 150 years since he sent for Lord Warwick to Holland House to show him how a Christian could die; Cowper, the poet-moralist; Atwood, the mathematician, whom Pitt so much admired as to provide with a sinecure at his earliest opportunity, that he might be able to pursue his learned labours and financial calculations at leisure; the victorious Nelson, Lysons, the elder Paley, Richard Wilson, painter, and Sir Joshua Reynolds, were alike the sons of clergymen. Richard Cumberland, the dramatist, was the son of the Bishop of Clonfort: Fletcher, the associate of Beaumont, was the son of the Dean of Peterborough who attended Mary, Queen of Scots, at her execution: Farquhar, another dramatist, author of the "Beaux Stratagem," was the son of an Irish clergyman; and every one will remember that Sir Christopher Wren was the son of the Dean of Windsor and nephew of the Bishop of Ely. The law, too, may look around upon a numerous progeny of celebrities. The present President of the Royal Academy, Sir Charles Eastlake, is the son of a solicitor: Dean Swift was the son of an attorney; Wordsworth, of a law agent, at Cockermouth; Quin, the actor, of a barrister. But it is a curious fact that great lawyers have generally been the sons of men engaged in dissimilar pursuits, as witness the cases of Lords Eldon, Stowell, and Lyndhurst. The army has furnished its quota of celebrated men who have closed their ears to the merry fifes and drums, and their eyes to the scarlet coats and gold lace epaulets of their fathers, and betaken themselves to other walks in life. Lawrence Sterne (alas! poor Yorick!) was the son of a lieutenant; David Garrick, the tragedian, of a captain: Sir Richard Steele, entered the army before he established the *Tatler*. The son of one of the contributors to the *Tatler*, by the way, Arthur Henley, became Earl of Northington and Lord Chancellor. The first president of the Institution of Civil Engineers in Scotland, W. J. Macquorn Rankine, is the son of a lieutenant in the army. The Government offices have given us a few able men, of whom, perhaps, Adam Smith, son of a comptroller in the Customs, and author of the learned "Inquiry into the Nature and Causes of the Wealth of Nations," stands first. A physician gave us one of our grandest musicians — Handel; and one of our most humorous rhymesters, Peter Pindar, was brought up as an apothecary. A money scrivener, whose natural progeny might have appropriately proved a miser, gave us the genius whose fire has ignited the fancy of all cultivated intellects, in proportion to the approximation of their brilliancy to his, for a couple of centuries—Milton; and as if to show that this was not a solitary case to remain without a parallel, a member of the same dry, hard-fisted profession was the father of the poet Gray. Banks, the sculptor, and Locke, the author of the thought-teeming essay "On the Human Understanding," were both the sons of stewards. The fathers of three acknowledged geniuses of very different orders have been barbers—Arkwright, whose name is associated with the spinning-jenny for evermore; Turner, whose glowing palette may be said to be scarcely yet dry; and Falconer, the writer of the most popular of sea poems. The two other children of the elder Falconer were deaf and dumb, a fact that presents another insurmountable difficulty in the acceptance of the theory of the hereditary nature of genius. Again, the younger Falconer, throwing off all the trammels that association with the business carried on in the poor little shop in Edinburgh might have fostered, struck out for the sea with an instinct as unquenchable as that of a duckling bred under a hen; while men whose parentage alone would have qualified them, to some extent, as authorities upon sea-going subjects, looked landwards for their livelihood, founded their fame where the roar of the ocean was unheard, and the flicker of a seagull's wing unseen. Guy, who was the son of a lighterman, set up a bookseller's shop, and amassed the splendid fortune that laid the foundation of that great charity, Guy's Hospital. Had this man followed his father's occupation, would he have proved a jolly, rum-drinking, money-spending Jack Tar, and died with nothing in his pocket save a broken pipe and a screw of tobacco?

An inquiry into the truth of the proposition that the boy is father to the man would bring forward some interesting particulars. Perhaps it would be more literally true to write the youth is father to the man; so large a number of our celebrities having been placed to learn trades and professions of a totally different character to those to which they ultimately turned their attention, and in which they afterwards pre-eminently shone. This must have been in consequence of their boyhood having failed to unfold any decided bent in their minds. It may have been that the poverty of the parents of Giotto opened out no other prospect than that of tending sheep as a means of livelihood to the incipient painter. But poverty bound no fetters on the hands of Howard, the philanthropist, who listlessly suffered himself to be bound apprentice to a grocer. That there was not the least necessity for such a step we learn from his biographer Aikin, who relates that he had an independent fortune, and, that growing tired of his position, he purchased his indentures and made the tour of France and Italy, visited Lisbon, and ultimately turned his attention towards ameliorating the condition of prisoners in the improvement of prisons. Dollond, the optician, wrought patiently as a silk-weaver; and Goddard, who enjoyed the credit of being the first Englishman who made a telescope, must have studied hard and continuously as a physician to have won the post he filled of Professor of Physic to Gresham College. Opie, the painter, was apprenticed to a carpenter: Tom Payne learnt the business of a stay-maker, a branch of industry in which it is difficult to account for his acquirement of principles so reverse of tight-laced as those he disseminated in after life. Gay, the poet, was apprenticed to a silk mercer, and died the pampered pet of a duke and duchess, and was buried in Westminster Abbey. Inigo Jones was apprenticed to a joiner. Kent, the architect, was a coach painter. Garrick embarked in the wine trade before he turned his thoughts to the stage, in the same desultory manner that Mr. Buckstone, comedian and dramatist, in our day, first sighed for a sailor's life, and then acquiesced in being articled to a solicitor. It is known, too, that Mr. Charles Mathews made his first appearance in the character of a student of architecture. Anthony Purver, who received a thousand pounds from Dr. Fothergill, for his new translation of the Bible, was apprenticed to a shoemaker, who allowed him the occasional relaxation of tending his sheep. Ben Jonson was apprenticed to a bricklayer, and then enlisted for a soldier before he set up as a wit-combatant with Shakspeare, and fell out with Inigo Jones, who was associated with him in the production of the fanciful court masques of his day; and before he was a member of the club Sir Walter Raleigh founded, and wrote that song, "Drink to me only with thine eyes," that lies like a loose pearl among his more lengthy works. James Cook, the navigator, instead of running away to sea like another Robinson Crusoe, was apprenticed to a small country shopkeeper, who, however, detecting the wistful glances the lad cast towards the ocean, returned him his indentures. As a reverse to this example, enacted within remembrance, Clarkson Stanfield, R.A., went to sea instead of turning his steps straightway to a studio. Mr. Charles Dickens and the younger Disraeli both mistook their road on first setting out in life, thinking a lawyer's office lay in their right paths. Barry Cornwall fell into the same error. Mr. Thackeray likewise lost his way at first, and tarried in Rome, studying as an artist. David Roberts, R.A., climbed the ladder that led to his present elevation from the level of a house-painter's apprentice, with an interval of noviciateship spent as a scene-painter in Drury Lane Theatre. Mr. Ruskin coquetted with the brush before he took up the pen, as vigorously as Bishop Colenso attacked algebra before he distinguished himself as a theologian. Could we linger to cull more instances of these "wanderings by the way," from the lanes and byways of memory, where they crowd as densely as daisies upon a clay soil, we doubt not but that our revision of the time-honoured metaphor would find general acceptance.

Some worthies, whose works are sufficiently esteemed by us to render their authors memorable, have never laid aside the pursuits they learned as lads, however foreign they may have proved to their after sympathies. The author of "Parentalia,—or, Memoirs of the Family of Wren," and of "Typographical Antiquities, being an Historical Account of Printing in England, with Memoirs of our Ancient Printers,"—Joseph Ames, who was besides a collector of coins, curiosities, and books, carried on the business of a shipchandler and ironmonger in Wapping to the day of his death. It was not until Isaak Walton was fifty years of age that he left London, where he had kept two shops for the sale of linen, the first in the Royal Exchange, the second at the corner of Chancery-lane, Fleet-street,—to settle at Winchester. For thirty-three years Charles Lamb fulfilled the duties of a clerk at the East-India House, when he was pensioned off. Samuel Rogers was a banker all the days of his life. But it must be admitted these instances of what may be called the duality of being are comparatively scarce; eminence in any one department of art, science, or industry, calling, generally speaking, for an intense concentration of mind, purpose, and energy to the one aim. It is true, Benvenuto Cellini, Leonardo da Vinci, Michelangelo, Raffaelle, and a few others, were at once eminent in several branches of the fine arts; but these were giants of intellect and manipulation, whose existence is as exceptional as the longevity of the "old, old, very old" Parr and his grandson. That the world is not now altogether barren of similar versatility, we were apprized by an advertisement in an Australian newspaper, in which notice was given that fourteen persons were wanted to fill the various appointments held by a gentleman recently deceased; and we have more serious assurance of the same fact when we call to mind the names of Mr. Charles Knight, printer, publisher, and voluminous and excellent author; Mr. J. R. Planché, "Rouge Croix" and antiquary, and author of 200 stage plays; Mr. Tom Taylor, dramatist, and Secretary of the Committee of

Privy Council appointed to carry out the Local Government Act; Mr. Coventry Patmore, poet, and one of the officers of the British Museum; Mr. Sydney Dobell, wine merchant and miscellaneous writer; Mr. Chas. Swain, poet and trader, and others.

Much more might be said both for and against the theory that talent is hereditary; and the more the subject was turned over and examined from different points of view, the more impossible it would be found to arrive at any conclusions. For there have been as many instances of descent of talent on the paternal side as there have been on the maternal side; perhaps nearly as many instances where isolated genius stands out from a family group that is physically and mentally imperfect; as many where a brother and sister divide the intellectual powers of a family circle between them, as in the case of Miss and Mr. Martineau, N. P. Willis and his sister, the younger Thomas Hood and his sister; or when two brothers have shared the gift, as in the examples of the brothers Brough, Grimm, Mayhew, Horace and James Smith, Sir Robert and Sidney Smirke, Wilkie Collins and his brother, &c.; or two sisters, as in the instance of Mrs. Hemans and her sister, Sophia and Harriet Lee, the Hon. Mrs. Norton and Lady Dufferin, &c.; and others again where a whole family are gifted. As a fresh puzzle thrown into the question from an ethnological point of view, we may add that the father of the most brilliant of French novelists, Alexandre Davy Dumas, was the son of a negress by the Marquis de la Pailleterie, a wealthy West Indian planter.

In reviewing the lives of celebrities, some of our readers may feel discouraged that they have failed when so many have more or less succeeded who have had, seemingly, greater difficulties to encounter than those that have beset their own paths. They whom this consideration might cause to falter by the way would do well to remember that the multitudinous works compassed and difficult parts enacted by those whose names have become known, occupied a whole lifetime, although we look at the result in one glance. Those who prepare a feast, although unseen and unknown, are indispensable to the host who presides over it; and if they be not invited to the table they will be rewarded in some other manner. Milton, in allusion to his own blindness, wrote a talismanic consolation to myriads of his fellow-creatures:—

> "God doth not need
> Either man's work, or his own gifts; who best
> Bears his mild yoke, they serve him best; his state
> Is kingly; thousands at his bidding speed,
> And post o'er land and ocean without rest.
> *They also serve who only stand and wait!*"

STREET NOMENCLATURE.

It may occur to some persons that a subject apparently so unimportant as the naming of streets is undeserving of serious consideration, and it may perhaps seem superfluous for me to trouble you again with some remarks concerning it; but I think, on review, that it will be seen that it is a matter that affects us much more closely than we are accustomed to imagine. "Could I unfold," says Carlyle, as quoted by Miss Yonge, "the influence of names, I were a second Trismegistus. They are the most important of all clothings: science, poetry itself, if thou consider it, is but a right naming. Adam's first task was giving names to natural appearances." We have the testimony of Mr. Shandy, as related by his son, that "a great deal more depends on names than what superficial minds are capable of conceiving. How many Cæsars and Pompeys, he would say, have by the inspiration of their names been rendered worthy of them; and how many would have done exceedingly well in the world had not their characters and spirits been totally depressed and *Nicodemus'd* into nothing!" An illustration of the influence a name may exert even upon a street lately occurred in my neighbourhood, where a street was named Benjamin-road by the freeholder; but the houses not letting as quickly as they should, the builder changed the name to Clifton-road, when he speedily found tenants for his houses.

Hood, in his history of "Miss Kilmansegg," dwells with great point and humour on the importance of names in describing her christening, where he says,—

> "Though Shakspeare asks us, 'What's in a name?'
> (As if cognomens were much the same),
> There's really a very great scope in it.
> A name?—why wasn't there Doctor Dodd,
> That servant at once of Mammon and God,
> Who found four thousand pounds and odd,
> A prison—a cart—and a rope in it?
> A name?—if the party had a voice,
> What mortal would be a Bugg by choice?
> As a Hogg, or a Grubb, or a Chubb rejoice?
> Or any such nauseous blazon.
> Not to mention many a vulgar name
> That would make a door-plate blush for shame,
> If door-plates were not so brazen."

And the modern Solomon, the many-editioned Tupper, exhorts parents, with emphasis, to—

> "Give a child a fit distinguishment, make him sole
> tenant of a name,
> For it were a sore hindrance to hold it in common with
> a hundred.
> In the Babel of confused identities little is feasible.
> The felon shall detract from the philanthropist,
> And the sage share honours with the simple."

These quotations, though referring to the names of persons, apply with scarcely less force to the names of streets: "in the Babel of confused identities little is *findable*" to slightly vary the poet's text: the fortune of a street frequently depends upon its title, as we have seen; and what a constant source of embarrassment it is not to be able to ascertain by the name of a street its position or importance, through the present indiscriminate application of names. As an example of the confusion arising from this latter cause, I may instance the use of the word "gardens," as applied to localities. Until quite recently this term was only used for blocks of houses inhabited by the poorer classes, and generally entered by a narrow passage-way, as Dobney's (a corruption of D'Aubigny's) gardens, Short's-gardens, &c., the houses having been built upon the gardens belonging to noble families, whose possessions had been gradually encroached upon by the growth of the metropolis: the frontage having been first invaded, and the space within being thus inclosed, was let for an inferior class of houses to those around. Now, however, the term is used for the handsome rows of mansions that are springing up in Kensington and the neighbourhood; and though the two descriptions of houses have nothing in common except their name, an absurd and incongruous association is kept up in consequence.

I need scarcely point out the absurdity of calling these rows of houses "gardens," when frequently they have nothing more than a yard in the rear, and a paved road in front; but would merely observe, that on comparison the poorer houses have really a better claim to the title than their richer brethren; for whatever may be their present condition, they may at least boast of occupying a site—

> "Where *once* a garden smiled."

This abuse of terms is really a great evil, and calls for redress. Every thoroughfare aspires to the dignity of being called a *road*, and the term *street* is falling into desuetude. We have *parks* without a tree, tortuous *avenues*, and names used for streets without any consideration as to their fitness, but merely for the purpose of increasing their importance. In Paris attention has been drawn to this subject: "the use of the word 'square,' which had been adopted from the English, will be discontinued, and that of *place* in future applied to all open spaces, whether planted as gardens, like the ground before the Arts et Métiers and around the Tower of St. Jacques, or left entirely open. . . . . The use of the word *boulevard* will be circumscribed, and should only be applied to roads which follow the line of ancient fortifications or old municipal boundaries. The wide thoroughfares which traverse the city in an oblique direction, or run from the centre to the circumference, are in reality *avenues*: the designation *boulevard*, as applied to some of the transversal thoroughfares recently opened, will be retained." These are sensible reforms, and proceed on a proper principle; but I cannot but regret, at the same time, that the term *barrière* (where no longer existing, I suppose) will be abandoned, together with *route, chemin, sentier, allée*, and *chaussée*. Each of these has a distinctive meaning; and although in many instances they have lost their significance, it seems a pity to obliterate these old landmarks of the progress of the city. *La Route de Neuilly* has a pleasant sound, and carries one's thoughts away from the streets and traffic; and such names as *La Rue de la Basse Rempart*, now obliterated, although in the midst of the city, served to remind one (like our own London Wall and Barbican) of the once limited extent of the capital.

Instead of suppressing ancient names, I would advocate their retention in all cases, and would even suggest that we might with advantage revive many of the old designations which have now fallen into disuse, and feel sure that were they used with proper discrimination the result would be much more intelligibility in our streets, and a much more exhilarating impression on the mind than is produced by the present monotonous promiscuous system. In Naples the principal streets are called *strade*, the cross streets *vichi*; the smaller streets *vicoletti*; the lanes *strettole*; the hilly streets leading to the old town, and up to the castle, *calate*; those leading to the suburbs, *salite*; those that are so steep as to require steps, *gradoni*; those which have many branches, *rampe*. Here we have a number of suggestive names, which agreeably vary one's walk, and assist one in finding the way. At Milan, the streets which radiate from the centre of the town are called *corsie*; the continuations of these beyond the line of the most ancient fortifications are called *corsi* (a distinction almost without a difference), and beyond they receive the name of *borghi*,—*borgo* being the Italian equivalent for suburb. The streets, in many places, which run parallel to, and immediately within, the canal, retain the name of *terrazzij* or terraces. There can be no mistaking the class of streets referred to by these names, and this system combined with a uniform method of numbering, would simplify addresses, and save a great deal of labour in every department of trade.

In my former communication I suggested giving names to streets indicative of their locality. This has been very amusingly carried out by a builder in Islington, who lately applied to the vestry for leave to name three new thoroughfares Trajent (*sic*), Adrian, and Antonine roads, and the required permission was granted amid much laughter. These high-sounding titles are very ridiculous, and were adopted evidently without any consideration, merely because the roads are on what is called the Roman-road Estate. It is not unlikely that there was once a *castra æstiva*, or summer camp, at this place, and Suetonius Paulinus is said to have encamped in the neighbourhood; but there is no more connexion between the locality and the Roman emperors whose names have been evoked than there is between a river in Macedon and a river in Monmouth, which are in about the same concatenation accordingly.

The *Athenæum* lately protested against the embankment of the Thames being called Thames-Embankment-street, as it is threatened; still less Metropolitan-Board-of-Works-thoroughfare, or Thwaites's-road; and suggested that the proper English name is Thames-way or Thames-bank. It may seem, as the writer allows, a little like counting our chickens before they are hatched, but it is nevertheless a timely and serviceable caution, and the name proposed is simple and appropriate, although Thames-bank (as Major Jackman observed of Miss Wozenham's lodgings), certainly "smells of coal-sacks." The name of the new street to the Mansion House is not yet determined on, and there was a very amusing competition in the House of Commons between the City and the Metropolitan Board of Works, for the honour of standing sponsor to the new thoroughfare, the privilege being, however, on the intercession of the Premier, reserved to the Metropolitan Board, by whom the works will be carried out. It is to be hoped, as Mr. Crawford remarked in the course of the discussion, that that distinguished body will refrain from giving the street the name of one of their members, as they have done in some cases; and that no petty rivalry between the City and the metropolis will prevent an appropriate and distinguishing title being given to this great metropolitan improvement.

It is very important that the names of streets should be conspicuously written up; and the want of this is very noticeable in some parts of London, particularly in the suburbs, where such assistance is most required. By the Metropolis Local Management Act of 1855, the duty of providing and affixing these names was assigned to the Metropolitan Board, and some progress was made in this direction; but by the amendment of 1862, the obligation was cast upon the various vestries and district boards, and the consequence has been a very irregular system of naming, and, in some cases, almost entire neglect of the provisions of the Act.

The Metropolitan Board should exercise some supervision in this matter, and should enforce uniformity in the labels, lettering, &c. A great deal might be effected by a judicious selection of colours in the labels, and some regard should be had to appearance as well as legibility. The labels are made without any regard to their destination, and some very ugly results ensue, which might be easily obviated by a little forethought.

John Hebb.

Architectural Association.—The paper "On the Building Act" is to be read on the 7th, not the 17th, as stated: and District Surveyors are invited to attend and take part in the discussion.

ANCROFT CHURCH AND PELE TOWER.

IF we wanted confirmation of the opinion that the tide of change flows but slowly northwards, we might find it in the hilly, heathery, furzy, mossy, stony country, scantily speckled with small grey towns and thatched villages, known as North Northumberland. Here, in this apex of old England, are to be found manners, customs, and idioms that were in vogue three lifetimes ago in the more southern counties, and old words in use that have faded from Southern vocabularies these hundred years. The spinning-wheel is not so long disused but that it yet finds a corner in many a homestead: stores of homespun linen are still the hoarded pride of every thrifty wife; hand-knitted hose the daily wear of young and old; and porridge the morning meal of many a cottager in North Northumberland. In the extreme north of Scotland still less change has been effected: the Scots are even now making the same uncouth pottery the Celts made with us nearly two thousand years ago. The several races that have, however, passed over Northumberland since that period have each left it more and more advanced in every art; but it would not be averring too much to say, that in the hilly district of the county, where there is no railroad, where traffic is scanty, and the farmhouses few and far between, Queen Victoria's subjects may see the mode of life of the liege of the early Georges. Cottage-doors standing open in outlying villages reveal glimpses of carved oak cabinets and chests Queen Elizabeth might have been proud of, and precious pieces of china on cottage mantel-shelves show how little North Northumberland has been explored.



VIEW OF ANCROFT CHURCH AND PELE TOWER.

The region to which we refer lies beyond the wall —"the wonderful work of wall stones"—built by the Romans to keep the Picts out of their newly-acquired territory, and forms an irregular triangle, containing about ten hundred thousand acres, in the extreme North of England. It has been the site of Celtic and Roman, of Saxon and Danish, of English and Scottish warfare; and subsequently, down to the days of the Pretender, of intermittent intestine strife; and there are remains in stones or memories in words of all these periods to be found in it. Ancroft church is situate on its eastern border. This division, cultivated and fertile, compared with the mountainous western division,—alternately green, yellow, white, and brown, as seed time and harvest are succeeded by frost and Plough Monday,—is bounded by a rocky shore which is lashed and laved by the North Sea. Small fishing villages break the coast line,—groups of low stone houses full of lines and hooks, water-proof clothing, and little children,—in the neighbourhood of which boats and linen lie sunning on the sands with the sea-weeds. And in the glittering sea, two, three, four, and five miles from the shore, are the Farne and Staple Islands, with deep heavy fringes of wet sea-weeds clinging to them. Along this same coast-line, too, stand Warkworth, Dunstanborough, and Bamborough Castles, sentinels that have seen centuries of service. A little to the north of the last-named fortress, the ruins of Lindisfarne Priory rise out of the sea on Holy Island. To this once famous establishment Ancroft belonged.

In our recent account of Northumbrian peles we mentioned this curiosity of architecture. On examination of the view we present, it will be seen that the structure was originally a Norman chapel, as the records of the monks of Lindisfarne, preserved in the library of Durham Cathedral, show it and the fabrics of other chapelries belonging to the priory to have been. The Scots were constantly ravaging the possessions of the prior. The account rolls of the priory frequently show that they laid the country side waste, and that the income of the monks was seriously affected by their depredations. The religious houses in the district all possessed strong towers of defence; and probably the monks of Lindisfarne were obliged to take the same precaution for the safety of their tenants and property at Ancroft. Whether this supposition be correct or not, on the west end of the church, we may see there was built, in Edwardian times, a low square pele. The rest of the structure has been repaired from time to time, with not much appreciation of its archæological interest; and the interior of the pele has been plastered and whitewashed; but these facts scarcely account for the circumstance of this massy relic, so reminiscent of border raids and rescues, having been hitherto undervalued.

The local histories, directories, and gazetteers, make but meagre mention of Ancroft. They merely see and note an ancient edifice with an ancient tower, "presenting more the appearance of an old castle than a church." They agree as to the fact of a company of army shoemakers having resided in the village in the reign of Queen Anne; and all think it probable that Ancroft was formerly of more importance than it is at present, a belief that is founded on the circumstance of the foundations of old houses having been uncovered, in a field close by, within remembrance. It is situate on the high road between Berwick and Wooler—a town of one street of low stone houses, environed with mountain scenery, enjoying a reputation, among invalids, for goats' milk. The living, which is a perpetual curacy, was once entered upon the king's books as being of the certified value of 17*l.*, then augmented in 1773 with a donation of 40*l.* from Bishop Crewe's trustees, and now valued at 131*l.*, in the gift of the dean and chapter of Durham.

Church towers in all countries have been used as places of safety in occasional instances; but in Northumberland the towers of some churches appear to have been built expressly for the purposes of defence. This would have been more especially the case where there was no pele. The Early English tower of Long Houghton Church was the substitute for a pele to the neighbouring inhabitants. In 1567, Clarkson, when making a survey of the Earl of Northumberland's possessions, writes of Long Houghton Church thus:—"The chirch and steple of this towne is the great strengt that the poore tenants have to drawe to in the tyme of warre, wherfor it wer neadfoull the same be for that and other causes kepid in good reperations and therunto the parisheyners be alwaise straitly commandit and request maide to the qweynes maie'ts officers for the reparyng of the chansell so often as need shall require." There is an instance of a tower being built in the midst of the domestic buildings of an abbey at Hulne. It was placed close to the "great chamber," into which an entrance was made. It is in good preservation, although the rest of the buildings are in ruins: this is in some measure due to repairs made by the first Duke of Northumberland. There is a peculiarity about this tower worthy of notice. It is of three chambers in height, the lowest of which is vaulted. Above the leads covering the third chamber is raised a small apartment, which was known as the "Studye howse." This was finished with a battlement, as was the tower generally. Hulne was founded by William de Vesci, Lord of Alnwick. When the ancient Percies became possessed of the barony, they continued the good offices of the founder, and extended the privileges of the fraternity of Carmelites established there. It was a Percy who built the monks the tower in question as we may read in an inscription they placed on a wall at Hulne:—

> "In the year of Christ Jhu MCCCCLXXXVIII.
> This towr was bilded by
> Sir Henry Percy,
> The fourth Earl of North-
> umberland of great honor
> and worth,
> That e-spoused Maud the
> good lady full of vertue
> and beauty,
> Daughter to Sir William
> Harbirt, noble and hardy
> Erle of Pembroke, whose
> soulis God save
> And with his grace con-
> serve the builder of this
> towr."



HOLY TRINITY SCHOOLS, HORTON.—MR. ASHPITEL, F.S.A., ARCHITECT. *See p.* 910.

We have given but a bare outline of the part of the country in which Ancroft is situate. Those who would fill in the picture of North Northumberland must put a purple tint upon the Cheviot hills in the distance, and a grove of fir-trees waving mournfully like funeral plumes on Flodden hill. In the foreground they may place figures wading ancle-deep in trout-streams, or trudging knee-deep in heather with guns across their shoulders, or tending flocks with glittering fleeces on the sun-and-cloud-chequered hills as they choose. They must add, too, piles of grey ruins and green mounds covering up masses of masonry that defended brave men, from men as brave, hundreds of years ago; the eddying of wild birds, the scamper of hares from cover to cover, the rustling of tasselled pine-trees drooping with brown and ruddy cones, a colouring of sea-green lichens upon wall stones, and withal an indication of peace and leisure as ineffable as though Time had laid down his scythe and was resting himself.

NEW SCHOOLS, HOLY TRINITY, HOXTON.

These schools are now nearly completed, and are intended to accommodate between 600 and 700 children,—boys, girls, and infants. They are designed on the principles recommended by the Committee of Council on Education. The boys' schools are together nearly 100 feet in length, with two large class-rooms; the girls' school nearly 90 feet, with one class-room. The lower story is 14 feet high in the clear; the upper, 16 feet. In addition to the usual means of ventilation and supply of fresh air, there are separate air-flues in contact with the chimneys, which, being heated by them, will form a species of "sucking shafts," to exhaust the vitiated air imperceptibly in winter, when the cold renders it difficult to keep ventilators open. Other sanitary requirements have been carefully attended to.

One novel feature will be added to the building. It is that of a drinking-fountain, accessible to the public as well as the children, and in that crowded neighbourhood it is hoped will prove a great boon.

The architect is Mr. Ashpitel: the builders are Messrs. Carter, of Westminster. The amount of the contract is 1,687*l.*

THE BELGIAN REPORTS ON THE EXHIBITION OF 1862.*

The capital one of all the many defects in the management of the Exhibition of 1862, was the omission of reports, or records, adequate and proportionate to the value, in the points of view related to future progress, of the works and specimens that were collected together. We have already shown that this defect has rendered the preliminary efforts of the Commission and the exhibitors in England, in the main barren of results. We looked to some of the commissions, however, for reports more creditable to the foreign countries for which they were made, than are generally those reports of which the publication was undertaken by the Society of Arts, but has not yet been, we believe, completed. In the results of the labours of the French Commission we were not disappointed; and the six volumes which appeared in Paris, at the close of the Exhibition-year itself, were lately reviewed by us in an article wherein we mentioned also papers by professors of the Conservatoire des Arts et Métiers, and the reports of the workmen delegates.† The reports last named seem to be still in course of publication.

We trust that the organization of the Exhibition of 1865 in Paris, and of our own commission on the occasion, will be such that due justice may be done to the opportunity; but, this will require not only good classification of subjects on paper, but an arrangement of the articles much better than that of 1862, and space greatly increased. The Palais de l'Industrie, as we said in our former article, will be quite inadequate; and any number of *annexes* for which there is ground in and near to the Champs Elysées, would we fear not make up the ample space, the want of which was destructive to the Exhibition of 1862. In short, the space must be ample, in order that there may be classification, and freedom for the appreciation of objects. Without this, the opinion to which M. Michel Chevalier was tending in his report, as to the future impossibility of organizing Great Exhibitions, had better be taken as the correct and conclusive one.

We have now before us, the first volume of the documents and reports of the Belgian Commission of the Exhibition of 1862. This instalment seems to promise that the entire series will be worthy to rank with the French reports, or those which the Austrian Commission are understood to be about publishing. The present volume indeed takes us only so far as the end of the report on Class IX., "Agriculture;" therefore it does not include some sections nominally devoted to architecture and building, or to manufactures connected therewith. But, it includes classes for raw materials and products, the *matériel* of railways, and machinery and tools. The first hundred pages and more, of the volume, repeat publication of the documents which appeared in the catalogue specially appropriated to the division,—as the royal decree constituting the Belgian Commission, and the different regulations, including those by the English Commission; and they give an account from the *Moniteur Belge*, of a ceremonial on the 26th of September, 1862, when various honours were distributed, or announced as conferred upon exhibitors, artisans and workmen, and workwomen, foremen of industrial schools, and agricultural labourers—nearly two hundred altogether; the whole being wound up with the nominations and promotions in the order of Leopold.

On the installation of the Commission, it was decided that the expenses of carriage and arrangement should be undertaken by the Government; and the Chambers thereupon allowed a credit of 225,000 *francs*. To that they added in 1862, 100,000 *francs*. This, in the English value of French *francs*, would make the whole 13,000*l.* Early in the Exhibition-year, complaints similar to those of the French, were made by the Belgians, as to the insufficiency of the space allotted them. In the section of fine arts, it was found that the space was only half of that given to Belgian artists in the French Exhibition of 1855. It is right that all the difficulties should be taken into account, before assuming each department of such an exhibition to be *representative* of its country or class. In the section of fine arts, however, the Belgians managed affairs eventually well. A jury of admission was appointed, composed of nine members. Of these it was originally intended that four should be named by a majority of the artists who had sent in demands to be allowed to exhibit. But the scheme failed. Out of 228 artists, seventy only voted. Those voted for comprised a very large number of names. Ultimately, the Commission appear to have been unable to find four men who had received a majority of votes, who would accept office; therefore they requested the Minister of the Interior to name the jury of selection, which he did, taking gold-medallists, and others who had been similarly distinguished on occasions of exhibitions; the gold-medals in Belgium, it seems, being granted by juries partly elected by the artists themselves.

The chief industries of which the Belgian Commission had to regret the inadequate representation, were those of agricultural implements, of manufactures in iron and zinc, of furniture, of articles in flax, and of mixed stuffs. The value of the collection of minerals has been referred to in one of our notices; and a most interesting collection of appliances, testified to the attention which is given to education in Belgium. As to objects of this latter class, alone, it is to be regretted that efforts of promoters of the Exhibition of 1862 have resulted in the preservation, or so as to be readily accessible, of little of what was brought together.

Belgium, as a country, and a state, is now particularly deserving of study, apart from its interest as one of the great fields of the exemplification of art in architecture, and its heritage of history. The coal extracted, which was 3,228,000 tons in 1838, became 9,611,000 in 1860; the products of the metal-works which in the former year represented a value of 52,600,000 *francs*, attained in the latter, one of 129,700,000; whilst the power of steam-engines, which was that of 25,312 horses, had reached at the end of 1860 that of 161,809 horses. The exportations which were, between 1836 and 1840, about 141 millions of *francs*, became in 1860, 470 millions. Between 1846 and 1858, the exported products of the glass-works increased 132 per cent., the exports of iron-castings 179 per cent., those of machinery 202 per cent., and those of zinc 291 per cent. The population increased 25 per cent. from 1830 to 1860, or from 118 persons per square *kilomètre* to 160 persons, the difference being due not only to the increase of births but to the greater duration of life.

The address of M. Fortamps, the president of the Belgian Commission, on the occasion to which we have alluded, mentioned these facts. But it also referred, though in terms less emphatic than the reports of the French Commission, to the "immense progress realized in England, since 1851, especially in the fabrication of objects that borrow from form an element of success;" and said that Belgium should march in the same way. It recognized, however, the merits of some of the Belgian manufactures, in point of art. But M. Fortamps added, concerning taste united with excellence of workmanship:—"Let this study of the beautiful applied to the useful, spread more and more amongst the masses; let it be facilitated by schools of industrial design, museums of models, popular libraries, in a word with all that can raise the level of the genius of our populations, so laborious, and so active."

Comparisons between the systems of government in Belgium and France, suggest themselves frequently in the proceedings of the ceremonial. Thus, the Minister of the Interior says in his address, that the name of *octrois* will be soon forgotten in Belgium.

The same minister referring to the point of taste, says that reproach against the Belgian section in 1862, if to be made, would have been qualified had manufacturers to whom he alludes, not refrained from exhibiting. Nevertheless, he admits, there is "serious progress to accomplish in the application of art and science to the production of objects of industry." But, he continues,—"Already the Government has laid the bases of professional, scientific, and artistic instruction: the academies of fine arts, the schools of design, the industrial schools, the model-workshops, and the special schools of weaving, offer their lessons to artisans and workmen who wish to initiate themselves in the knowledge of the beautiful, or acquire technical information. This instruction will shortly receive new developments by the aid of the local administrations," &c.

The report on Class I., "Mines and Metallurgy," is by M. A. Devaux, Inspector-general of Mines, Belgium, who was vice-president of the jury. Some of the chief passages of this report relate to models and objects exhibited in the Belgian division in the Western Annexe. Some of these were so placed that they were but little noticed. Amongst them were models illustrative of Belgian improvements on the system of well-sinking, or boring, employed by M. Kind at Passy, Paris. Most Artesian borings have been undertaken, like those in the desert in Algeria, for the supply of water; but boring has also been largely used in the search for coal in the north and east of France. In Belgium, however, there have been no Artesian well or boring works so considerable as those in France. The modification of Kind's system, which is by Chaudron, is said to have great value, not only from its economy, but from its offering perhaps the only method in certain conditions. The description by the reporter, of the systems of Kind and Chaudron, required illustrations. The want of these generally, in the volume is to be regretted.

The report on Class II., "Chemical Substances and Products, and Pharmaceutical Processes and Products," by M. J. T. P. Chandelon, has received more attention than some others in the volume, although Belgium did not contribute much in the class. The plates all relate to it. In it will be found particulars of the manufacture in Belgium, of white of lead, and ultramarine.

Class III., "Alimentary Substances," is reported upon by M. E. Jacquemyns.

Class IV., "Animal and Vegetable Substances employed in Industry," is the subject of an able report by M. J. S. Stas. It gives information concerning products used for artificial lighting, glue, and different other materials. The information respecting the different oils, as petroleum or parafine, is full and useful.

Class V., "Locomotives and the Material of Transport and Way," is reported upon by M. F. Spitaels, who found the chief improvements exemplified in details. He discovered a general tendency to the substitution of steel for wrought iron in the locomotives and other rolling stock. The employment of this material allowed weight to be diminished, and more useful effect to be produced. The reporter calls the attention of his government to the fact that the prescribed thickness of boiler-plates takes no account of quality of the material, notwithstanding that the manufacture is greatly improved. In the Exhibition of 1855, even, he says that Messrs. Jackson, Brothers, Petin, Gaudet & Company, exhibited a boiler of cast-steel. They offered it to the French Government to be experimented upon, and a commission was appointed, with a view to determine what reduction of thickness could be sanctioned in boilers. After three years' continual use, the boiler, which had but six *millimètres* thickness in the material, for one *mètre* of diameter, was in a perfect state; the surface exposed to the action of the fire had undergone no alteration: the surfaces were clean; the edges at the joints were very bright, and the plates and rivets intact. In consequence of the experience obtained through experiments of this character, the French Government, according to the reporter, are about introducing modifications in their requirements for the materials used in steam-boilers: similar modifications are therefore suggested to the Belgian Government. The reporter gives the dimensions of the parts of the locomotives exhibited,—information which must be of value and interest in Belgium.

Class VI., "Carriages and Equipages for Ordinary Roads," is reported on by M. J. Du Pré.

The report for Class VII., "Machines and Industrial Tools," by M. J. Kindt, testifies to the continued superiority of this country; saying

* "Exposition Universelle de Londres en 1862: Documents et Rapports. Tome I. Bruxelles. Imprimerie de Bols-Wittouck. 1863." Large 8vo., pp. 624. 11 plates.
† See p. 525, *ante*.

that although the manufacture of good machinery is not confined to it, yet that England by the extent of its industry, the division of labour, and the eminently practical and investigating spirit of its manufacturing engineers, by its preponderant resources, and in fine by the constitution even of its industry which rests entirely upon association, perfects its engines of work, or improves them, more surely and quickly than the Continent. If other proofs than these are wanted, M. Kindt says they are to be found in the fact that the machines of the Platts, the Fairbairns, and others, are sent into Belgium, France, Switzerland, Germany, in short to the most advanced countries. Generally, in the machinery in the Exhibition, he does not find anything particularly new, discovered, but says that details have been perfected. What blindness it would be, he says, to close a country against the importation of such useful machines. The Belgian, French, or German engineer, (the last especially) he considers, is generally better informed than the Englishman, and, he continues, "would it be believed that more than one English engineer attributes to that incontestable inferiority, in regard of science, the more sure and rapid progress of English industry." M. Kindt says there is in that, some truth which it is well to meditate upon. The carpet-weaving machinery is described by the same reporter.

Class VIII., "Machines in general," reported upon by M. J. Du Fré, contained scarcely anything in the Belgian Division. In reviewing the class generally, the reporter finds the distinctive character of progress in the equalization generally of machine-making, rather than in the result of any great discovery. In 1851, English iron castings were in many respects inferior to those of Belgium and Paris; but in 1862, great perfection was found to have been attained. The remainder of the report on this class, is devoted to steam-engines and boilers, traction-engines, weighing-machines, pumps, and cranes.

Class IX., "Agriculture," is reported on by M. L. de Mathelin; but there an Appendix by M. J. S. Stas, on apparatus for breweries and distilleries. In the course of the first division, the reporter says, that which is truly remarkable with the English, is a perfection of workmanship beyond all expression.

This report ends the volume. It is not stated how many volumes the reports on the following classes will make.

THE WORKS IN PARIS.

THE QUESTION OF FINANCE, HEALTH, AND RESIDENCE, CONTINUED.

WHILST our article which gave some of the figures of the *Mémoire* presented by the Prefect of the Seine to the Municipal Council of Paris, was at press,* the report was followed, as it is every year with an interval of one or two days, by one to the General Council of the Department. This latter *Mémoire* supplies information that will be considered important, as further corroborative of some of the remarks with which we accompanied the matter quoted from the first report. The information relates to the ever-agitated question of the number of requisite places of residence as affected by the demolitions and new works.

From the 1st of October, 1862, to the 30th of September, 1863, the number of "new constructions" in Paris was 2,943, and that of "houses demolished" 993,—that is following the abridgement, of the *Mémoire*, which appears in the *Presse*. "The gain," according to the same medium of information, "is then 1,956 constructions." There must be an error in one of the unit places of figures; but probably there is none of greater moment. Continuing from the *Presse*,—the *Moniteur* not being just now at hand,—of the 993 demolitions, 337 were carried into effect through bringing to bear the process of the law of expropriation, and 656 were by the free will of the proprietors. The number of places of residence, "*logements*," or *appartements*, created by the new constructions, was 16,496. That of the *logements* destroyed by the demolitions, was 6,189; so that according to the same medium (for, French newspaper compositors' work, even in the *Moniteur*, is execrable; and there is here again, error in a unit,) there is a gain of 10,301 *logements*, or what is supposed to be corresponding to about 31,000 persons. The augmentation since, and including, the year 1860, or from the time when the nominal and fiscal limits of Paris were extended to the fortifications, has been 46,318 *logements*; or, at three inhabitants for each place of residence, there would be room for 138,954 more individuals than previously to the application of the law of the 16th of June, 1859, by which the barriers were extended. It would be more easy to understand these figures, if the previous number of houses in the old *banlieue*, the former suburban zone, were given.

The number of residences has been raised during the last twelve months, from the number 603,444, which it was in 1862, to 613,745; and an addition of the number 1,595, has been made to the apartments vacant.

The excess of new constructions over the demolitions, in the ten last years, has been the number 48,777.

* See page 874.

PROXIMATE CAUSES OF DISEASE.

THE death-rate in Islington, independently of the deaths which occur in the Fever Hospital, is far from being satisfactory: the fatal cases of scarlet fever are still numerous.

We have made another examination of the houses lying to the west of the Caledonian-road towards the York-road, and may first notice a large school connected with a chapel in this district. The school forms the basement of the chapel, and is for the chief part below the surface of the street. There is an area, however, which goes partly round the building. To this school the boys and girls from Bemerton-street and the places around, where there has been much sickness, come. For educational purposes this establishment has a good reputation; and, in the main school, the charge per week is 6d., whereas in the national schools it is only 3d.

There is no task more unpleasant to us than to say anything in disparagement of institutions founded for a good purpose and with the best intentions; but, while education is needful, so is the care of life and health; and the condition of the infant school here, we must say, is dangerous to both. As regards the chief school being so far below the surface, it requires more than usual care as to ventilation: in this respect every attention should be shown: improvements might be made in it; but respecting this we will not particularly remark. The infant school, however, requires immediate alteration: this is a portion of the main school which has been boxed off by partitions. The chief part is occupied by a gallery of considerable height, on which, row above row, the children are packed close together, like oranges in a chest. There are two windows looking towards the area on the west side, and a doorway in the middle of the south partition. With these exceptions, there is no ventilation worth naming; and yet, in this small box, we are told that upwards of eighty children frequently assemble. Very pale were most of the faces that we saw here,—a circumstance not to be wondered at; and it seems surprising that the young lady who has charge of this department should have any energy at all for teaching. In this place both fever and small-pox are either generated or encouraged. It must be admitted that the ventilation of a building situate as this is, may be a matter of some difficulty; for it is necessary, we suppose, that the noise of the infants should be prevented from interfering with the other school. But even if openings could be made into the larger space—where the air is not very good—they would not have a beneficial effect: there might, however, be air shafts made which could communicate with the outer air, and other means used which persons skilful in this kind of work would readily suggest. When the best had been done, however, it would not be right to allow so many children to assemble in such a limited space.

In a dwelling near, in one room, we found a child dead from scarlet fever; another ill of the same complaint; no washing had been done for a fortnight, and the clothes which had been worn by the sick child, and those which had been taken off the dead one, were stowed in the bottom of a cupboard, where the food of the family was kept: there were dirty slops in the room and on the staircase; and the door and window were but too carefully closed: in fact, we were told that the window had never been opened since the sickness began. The woman who lived here had buried three children, and the one lying dead was the fourth lost, while the only one surviving was not likely to live. The other rooms of the house were crowded: the drainage was not good; and two other children had died in the same place not long before. Other places, in which there were sick people, were similarly managed, with bad results. In one place, we found a woman better informed: four of her children, however, had been ill of scarlet fever of a very bad kind; but she fortunately had the means of thorough ventilation through her two rooms: the windows were kept partly open night and day; and the door was also kept a little unclosed whenever it was convenient: the staircase window was managed in the same way; and although she had barely a change, the bed-sheets and children's clothes were washed constantly. In this instance we may be sure that no slops were allowed to remain; and as a reward for this care all the four children recovered. In another room in the same house two children had died of this fatal complaint.

In this neighbourhood there are a number of women from the rural districts, who have been in the habit of occupying cottage dwellings; and for the most part their want of knowledge of the rules of health and their general mismanagement are remarkable.

THE BUILDERS,

TEMPORAL AND SPIRITUAL.

HERE are bricks and there is mortar for ye, build—
Build houses, castles, sanctuaries,
And idols for your joy
There's colour, and there is gold for ye to gild
Your palaces, your statuary,
And Time will all destroy.

There is toil, and there is sorrow for ye, build—
Build care, fear, and anxiety,
Till Death takes ye away.
There are foes in hate and jealousy so skill'd,
Can tarnish fame and gatherings,
And you'll have nought to say.

Here is truth, and there is wisdom for ye, build—
Build kindness, virtue, charity,
And for such works you may
Depend that there is much space which may be fill'd
With greater, stronger monuments
Than Time can wash away.

There is love, and there is mercy for ye, build—
Build holiness and righteousness
Till one continual day.
There have peace and everlasting life been will'd,
Eternal glory, happiness,
To those who build this way.

LOUIS DE VILLE, Architect.

ANNUAL MEETING, INSTITUTION OF CIVIL ENGINEERS.

THE annual meeting was held on the 15th inst., Mr. J. Hawkshaw, President, in the chair. The report of the council stated that the total number of members of all classes on the books on the 30th of November last was 1,040. This was an increase of nearly 39 per cent. in the last ten years, of which 4 per cent occurred in the past session. During the last ten years the number of members had increased to a greater extent than the associates; for, whereas the numbers of those classes on the 30th of November, 1853, were 259 and 441 respectively, or in the proportion of 1 to 1·7, on the 30th of November last these numbers were 425 and 588, or as 1 to 1·4.

It was observed, with deep regret, that while the Institution had lost many useful and able members, there was included in the list one whose memory must ever be regarded with the liveliest interest; for to Mr. Joshua Field, to whom allusion was made, was due, in no small degree, the existence of the Institution of Civil Engineers. It was about the year 1816 that Mr. Henry Robinson Palmer, who was then articled to Mr. Bryan Donkin, first suggested to Mr. Field the idea of forming a society of young engineers, for their mutual improvement in mechanical and engineering science; and it was no doubt owing to Mr. Field's influence that Mr. William Nicholson Maudslay became the third who associated in this cause. These were shortly joined by five others—Mr. James Jones, Mr. Charles Collinge, Mr. James Ashwell, Mr. Thomas Maudslay, and Mr. John T. Lethbridge;—and when the Institution was constituted on the 2nd of January, 1818, it comprised just these eight members, and so remained until the following year, when the number was increased by three.

The abstract of receipts and expenditure, as prepared by the auditors, showed that the income from all sources, during the twelve months from the 1st December, 1862, to the 30th November, 1863, was 3,974*l.* 17s. 1d., while the payments in the same period only amounted to 2,740*l.* 8s. 11d., leaving a balance of 1,234*l.* 8s. 2d. The realised

MILAN CATHEDRAL: PINNACLES AND PORTION OF FLYING BUTTRESS.*



property of the Institution now comprised:—1. General Funds, 9,357*l.* 0*s.* 8*d.* 2. Building Fund, 1,322*l.* 2*s.* 11*d.*; and, 3. Trust Fund, 9,970*l.* 12*s.* 7*d.*; making a total of 20,649*l.* 16*s.* 2*d.*, as against 19,041*l.* 12*s.* 1*d.*, at the same period last year.

The following gentlemen were elected to fill the several offices on the council for the ensuing year:—John R. McClean, president; J. Fowler, C. H. Gregory, T. Hawksley, and J. S. Russell, vice-presidents; Sir William Armstrong, W. H. Barlow, N. Beardmore, J. Cubitt, T. E. Harrison, G. W. Hemans, J. Murray, G. R. Stephenson, C. Vignoles, and J. Whitworth, members; and Colonel Jervois, C.B., R.E., and Mr. C. Waring, associates.

NEW HOTEL FOR KESWICK.

In the very widely spreading hotel-movement, Keswick, in Cumberland, the capital of the Lakes, and one of the prettiest of places, is determined not to be left behind. Designs have been made by Mr. John Ross, of Darlington; and, under his superintendence, the building, of which we give illustrations in our present number, is intended to be erected forthwith. The following references to the plan will sufficiently explain the intentions of the architect:—

* See p. 905, *ante*.

REFERENCES.

A. Covered way from platform of station.
B. Porch.
C. Vestibule.
D. Hall.
E. Sitting-rooms.
F. Coffee-room, 44 feet by 27 feet.
G. Dining-room, 28 feet by 19 feet.
H. Smoking-room.
I. Passages.
J. Bar.
K. Bar parlour.
L. Waiters' pantry.
M. Visitors' servants.
N. Hotel servants.
O. Pantry.
P. Tap-room.
Q. Kitchen, 30 feet by 18 feet.
R. Scullery.
S. Closet.
T. Lavatory.
U. Stairs to Billiard-room.
V. Garden entrance.
W. Verandah.
X. Courtyard.
Y. Yard.

PROPOSED HOTEL, KESWICK.—MR. JOHN ROSS, ARCHITECT.





Plan of Ground Floor.

BOMBAY.

THE Municipal Commissioners for Bombay have, with the sanction of the Indian Government, recently carried a "resolution" to "sewer and drain Bombay," at an estimated cost of "three hundred and thirty-five thousand pounds (335,000*l.*)."

The "*proposition*" for the "main drainage of the native town and fort of Bombay" has been devised and matured by Mr. H. G. Wilcox, surveyor to the Municipal Commissioners; Mr. W. Tracey, assistant surveyor; and is dated 1st December, 1860.

The population provided for is one million residents.

The scheme will be partly gravitating and partly by pumping. There have been several schemes proposed for the sewerage of Bombay, by Dr. Buist and Mr. Perkes, Mr. Conybeare, Colonel Crawford, Captain Trevor, and Mr. Wilcox; Mr. Aber, Mr. Fairbairn, Mr. Forjett, Mr. Walter Scott, and others: Mr. Berkley, C.E., was also consulted.

Early in this year (1863) the whole of the reports, plans, papers, and estimates were submitted by the Indian Government to Mr. Robert Rawlinson, C.E.; and in April of this year, Mr. Rawlinson sent in his report, recommending that the plans and estimates of Messrs. H. G. Wilcox and W. Tracey (with certain modifications, as set forth in his report) be approved. In September, by resolution of the Local Government of Bombay, the plans so approved were "ordered to be carried out,"—"Mr. W. Tracey to be executive engineer; Captain Trevor to be consulting engineer."

We may give details of the plan at some future time.

CONDITION OF LABOUR IN MELBOURNE, VICTORIA.

DURING the Parliamentary recess in this colony, the *Argus* has been employing some of its staff in collecting information, as to the state of the labour market, which is of great value; and some particulars are of such interest that we collect a few from the various articles, which have extended over a period of three or four weeks. The masons are the first noticed, and stated to number nearly 900 in and around the metropolis, with an average wage of 8s. to 10s. per diem of eight hours. The masons as a body are reported to be in a more depressed state than other trades, which is mainly attributed to their tyrannical conduct in former times, when piece-work was not allowed, and a uniform rate of wages insisted on for good and inferior workmen. Now the societies having broken up, piece-work is taken, and men make what wages they can, although very few work overtime for more than a day or two together. The rates said to rule in 1850, when the country was strictly pastoral, and men working ten hours a day, was 6s. and 7s. In 1854, just when the great gold fever excitement was subsiding, the rate was 28s.: it had been 38s. and 42s.: now, as stated above, it averages 8s. to 10s. Tables are given, showing that even at the reduced rate the mason is in an improved position, inasmuch as, while his balance after paying weekly expenditure is less, money will go further than formerly. Prices are very fairly quoted of all the leading necessaries for a workman and his family; and as a general synopsis the following is shown to be the balance that a steady working man, with a family, would be able to put by each week at the three several periods referred to:—

	1850. £. s. d.	1854. £. s. d.	1863. £. s. d.
Wages	1 19 0	7 10 0	2 14 0
Expenditure	1 16 6	6 7 8	1 18 7
Surplus	0 2 6	1 2 4	0 15 5

The next article and a later one treated of the workers in metals, of whom it is said, that there are some 700 to 800 in and about Melbourne, 390 of whom are engaged in the three largest foundries. These mechanics are still receiving good wages, although not so high as formerly. By way of comparison, it is stated, that the same workmen who would think they had made a good wage, at Mare's, when they had earned 3*l.* per week, have, even very lately, at Langland's, earned as much as 10*l.* 4s., and that 8*l.* 11s. is no unusual week's wage for such men. The average week's wage appears to be 4*l.* 4s.; the day's work being also eight hours. The raw material likewise operates to keep up prices; for the market is dependent on foreign supplies for pig iron, which costs some 4*l.* per ton. So that, for instance, cast-iron water pipes, which can be imported and delivered at Ballarat at 8*l.* 10s., would cost, if made here, 12*l.* to 18*l.*, according to size. As to ability displayed by the mechanics, the colonial tradesmen are quite equal to those in any part of England.

The carpenters next came under review; and of them it is stated, that there are some 1,600 who are generally well employed, at wages ranging from 8s. to 10s. per day, although in some cases men are content to take piecework at prices which will not give them more than 5s. or 6s. The conduct of workmen in this branch of the building trades operates seriously against their real advantage; for, whilst so many go about as petty contractors, competing with their former employers, there is no encouragement to masters to establish workshops and yards, the want of which is the great drawback experienced by both master-builders and architects. The joiners' work for each job is for the most part prepared on the spot, and the builders keep no stock of timber by them. The same hands prepare and fix the work. As a body, however, to their credit be it said, they are sober and steady, and there are very few who reverence Saint Monday.

The last noticed are the bricklayers and plasterers. Of the former it is estimated that there are some 350, who are pretty well employed at 10s. per day, a few working at 9s. Piece-work, however, is very often adopted, either at per rod or 1,000 bricks, at prices varying according to quality of work.

The plasterers are about 300 in number, and their wages are about the same as the bricklayers' where they work day-work; but piece-work is very customary, rates varying from 8d. to 1s. per yard. The same remarks made with reference to carpenters competing with their masters applies to plasterers. So much for workmen: now for works.

The late Governor, Sir Henry Barkly, became quite an adept at laying foundation stones. About his last public non-official acts were the laying of foundation stones for a Wesleyan Church on Emerald-hill, one of the suburbs, which is now nearly completed, the cost of which will be about 2,000*l.*, and will accommodate nearly 500 persons. The architects are Messrs. Crouch & Wilson. The other was the foundation-stone of an Odd-fellows' Hall, in Swanston-street, immediately opposite the Public Library, for which Mr. Terry is the architect. The building contains a large hall and several suites of offices. Mr. Terry also has in hand a new office at Ballarat for the Union Bank of Australia. Mr. Lloyd Taylor is making preparations for the erection of a large church in East Collingwood. The post-office still progresses slowly, while the *employés* are being suffocated in a small wooden box adjoining. Everybody wonders that the Government do not push this work on more vigorously, and release the servants from such miserable confinement, which must materially affect their health.

Tenders have been opened for the extension of the Victorian Railways through Batman's Hill to the wharf. The lowest (accepted) was over 24,000*l.*

THE IRON TRADE OF BELGIUM.

AN account of the iron trade of Belgium appears in the official report by Her Majesty's Secretary of Legation at Brussels, from which we condense a few particulars:—

Iron ore is found in abundance in every province of Belgium, but principally in Namur, Hainaut, Liege, and Luxembourg—the four mining provinces. That found in the five northern provinces is all so-called "alluvial" ore, found on the surface, and not in subterranean mines.

The great bulk of the iron produce is now raised from the so-called "free iron mines," *i.e.*, mines not legally conceded. Only 20 miles are provided with concessions: all the others, nearly 2,000 in number, situate in 109 different communes of the four mining provinces alone, are tolerated to exist without restriction or taxation, under the name of "minières," though most of them are subterraneous. The number of these pits in 1855 was 1,208, and the labourers employed in them were 5,271: the number of communes was 64. As the number of communes having such mines has increased since then to 109, it may be presumed that the number of pits and hands employed has risen in a similar proportion.

Belgium possessed in 1820 about fifty iron blast-furnaces adapted for charcoal, and not one for coke. Since then a great number of the latter have sprung up in the coal-basins of Liege and Charleroy. Numerous refining and cupola furnaces, as well as puddling, rolling, hammering, splitting, and wire mills, have been erected and provided with the best appliances. The wealth created by this metal alone was estimated at 81,000,000 francs in 1860, and the exports at 24,750,000 francs. Belgium does not possess, like Wales, beds of iron and coal overlying each other in the same mine, but possesses both minerals in close proximity to each other.

The number of smelting-furnaces in blast has fallen from sixty-six in 1857 to fifty-one in 1860, only one more than in 1820; but these fifty-one being all, with eight exceptions, adapted for coke, produced 319,913 tons of pig-iron, valued at 26,500,000 francs—probably four times the amount of the earlier period. Still these figures show a great falling off since 1857. Belgian irons compete closely with our own in quality and price. In the former respect they are superior to our ordinary descriptions, which is attributed to the universal employment of coke in Belgian furnaces instead of coal, as is usual in England. Some articles of wrought-iron, such as wheel-tires without joints, and fish-joint bolts, can be made in Belgium more cheaply than in England. In rails the Belgians compete successfully with the Welsh, owing to differences of quality in foreign markets. The nail manufacture is a Belgian staple which has attained immense proportions: it offers the great advantage of being exercised in the workman's own house, at his own fireside, and even in his own kitchen fire: it is the winter employment of thousands, who in spring migrate to France to make bricks. Belgian nails are exported to all parts of the world.

The iron exports of all kinds have risen from 11,750,000 francs in 1851 to 25,000,000 francs in 1857 and 1860. The export of pig-iron has receded since 1857, owing to the increase of duty in the Zollverein; but that of ores and wrought-iron has been and is constantly progressing. The year 1861, however, has been one of depression.

The Belgian ironmasters have shown themselves advocates of progress and free trade: they have declared themselves ready to meet English competition, though at present in possession of a virtual monopoly of the home trade.

FRENCH BRONZE CASTINGS.

A CORRESPONDENT of the *Morning Post* gives an account of the great workshops of the famous firm of Barbedienne, the first bronze manufacturer in France, which by the energy of its director has in about eleven years grown from an establishment in which there were only an *ouvrier* with a man and an apprentice, to one in which there are employed 350 workpeople, many of whom are artistic workmen of considerable skill. In one part a man was busy with a small piece of metal, the ornamentation of which required mathematical precision in the flow of its lines. It was to be a most complicated piece of enamel work. At his side, in a little bay, was some of the rich dark Fontenay sand; and ever and anon, as he made some infinitesimal addition to his work, he tested its accuracy by taking an impression of it with a pinch of the sand. Before another workman lay a section of a mould for a cast of the Three Graces, a most complicated piece of workmanship, with a number of tortuous channels pierced in various parts of it, through which the metal was to be poured, for the cast must be sundered where the lines and angles were complicated, in order to make the metal reach every little crevice. Elsewhere a man was mixing in just proportions the new yellow Fontenay sand with the black. The black being that which had already served, he said,—"We mix the new sand with the old. The sand is too precious to be used only once, and we find, indeed, that the mixture of the old with the new is a good combination. This sand is to be found only at Fontenay-aux-Roses. To it we attribute much of the excellence of our French castings: other sands have too much silex in them, and this has exactly the proportion necessary for our work."

In the course of his progress through the various departments of this establishment, his conductor told the writer, — "As you are an Englishman, you ought to know something about this great work we have in hand. This capital is part of the tomb of the late Prince Consort, at Frogmore. We have at present many men there at work upon it. It will be a most costly affair. The designs for all this work in bronze have been made by our artist in our own *atelier*, on the Boulevards. It is a description of work that could not be performed with this finish and elegance in England. There is a peculiar excellence about French bronze castings which has never been reached by any other nation." [This we do not admit.]

The process of enamelling is extensively carried on here. That for which Barbedienne's house is celebrated is a most wearying process, demanding both great skill and patience. In one room were women cleaning the edges of the enamels after their first subjection to the fire. In another seated at a table, in shape like a lady's silk-winder, with rows of pots filled with bright rich colours ranged round them, they were filling in the patterns carved in the metal. In the third room was a great furnace, before which a man as well dressed as a banker's clerk was standing, holding a flat shovel with a very long handle. With this he was very daintily depositing jars with enamels in them in the white heat of the furnace. This is the perilous part of the enamelling process. By a slip of the hand he may destroy the work of many days. In the chasing shop was one workman, who had a small vase before him, which he was preparing for the enameller. He had already spent forty days on it.

We are famous in England in the production of large castings in all kinds of metals, and we should like to see more attention paid to those of a smaller and more refined description; for, while advocating the principles of free trade in both commerce and art, it is somewhat unpleasant to think that the tomb of our lamented Prince Consort should, in consequence of our want of refined skill, have been sent for execution abroad. It could be done in England, but the cost would be much greater.

NOTE ON A CHINESE TEA CHEST.

We have just now before us one of those small square wooden tea-cases, in which are packed, for sale in the English and other markets, the finest kinds of the valued Chinese plant. This little tea-case is worth some remark on account of the peculiarities of its decoration.

The box is about a foot square, and each side is differently ornamented. The surface is varnished in a dead flat manner—a plan which might be usefully adopted in connexion with many of the paintings of both ancient and modern masters instead of giving that brightly-polished surface which often catches the light and renders the work invisible except from one position.

At a first glance, it might be thought that the patterns of the tea-chest were cleverly painted on a light buff ground: a more close examination shows, however, the yellower tint on which in green and black there are printed, most likely from wood-cuts, the representations of fruit, trees, birds, butterflies, elephants, &c. In the combination of these forms no account seems to be taken of the comparative sizes, nor are the shapes in accordance with nature. The veins of the leaves are carefully shown on the delicate green in black markings. The general style of this ornamentation is not unlike that of some of the English Mediæval wall-painting and tapestry. Round the edges of each square there is a running scroll pattern, about half an inch in width, of a dull madder scarlet colour, on a ground nearly white. This has been printed in slips, which, when cut of the proper length, have been pasted on the box. In the centre of most of the compartments, badly printed in black, on a deep orange ground—something of the same tint as the cover of the *Cornhill Magazine*,—are the mark of the merchant and other devices: each side is of a different pattern, and the general effect of the arrangement of the colours is rich, and, at the same time, harmonious and delicate.

With certain modifications and an improvement of the forms, which need not necessarily destroy the picturesque character, ornamentation of this kind might be often adapted, with good effect, to the adornment of the walls of rooms and staircases. The green colour seems to be some vegetable preparation, which is more pleasant to the eye and more wholesome than those arsenical tints which have caused so much mischief. The black used for the merchants' marks on the tea-chests is remarkably intense;—deeper, as we think, than that used for the finest English book-printing of the present day. To this and some other points of the ornamentation of these articles, the Western decorators might usefully refer.

Taking note of this simply as a case for a particular description of goods, the care and taste with which it is got up contrast with the way in which these matters are managed at home. Some will say, "What odds about the case if the contents are of a high quality!" This is not wise; for, however excellent an article may be, its worth is enhanced in both the home and foreign markets by a tasteful and well-designed inclosure. There has been of late years considerable improvement in this way, but much more remains to be done.

Many of the cases for preserved fruits, articles of silk mercery, artificial flowers, and gloves, which come from France, Italy, Switzerland, and elsewhere, and are seen in such large numbers, especially about Christmas time, are very pretty, and some have considerable artistic merit.

TELEGRAPHS.

The apparatus employed to transmit intelligence by means of electricity may be divided into two great classes—telegraphs whose signals are transient, and must be read off one by one as they appear; and those which record their signals permanently, so that they can be read at leisure.

The instruments used in this country, of the first class, are the double and the single-needle telegraphs of Cooke and Wheatstone, used by the Electric Company and the South-Eastern Railway Company,—the single needle requiring one wire and the double needle two,—and a modification of the single needle used by the Magnetic Telegraph Company.

Instruments of this class indicate letters by the separate or combined movements of their needles or pointers, are very simple in their construction, little liable to get out of order, and therefore are most suitable for the business of a railway, where skilled clerks cannot be employed.

The telegraph of Professor Wheatstone, in which a hand points to the letter itself on a dial, is gaining ground for private use; and the Bell telegraph of Sir Charles Bright, which reproduces the signals of the Magnetic Company's needle instrument by strokes upon two bells of different pitch, one of which represents the movements of the needle to the left, the other the movements to the right, is extensively used by the Magnetic Company, and has the advantage of leaving the hands free to write down the message as received.

The instruments of the second class are the so-called printing telegraphs of Morse and Bain, which *record* the signals received in an alphabet composed of dots and strokes. These instruments are used on all the important circuits of the Electric Company, and Morse's system is generally employed throughout Europe.

The type-printing instrument of Professor Hughes has been introduced; but it is said not to be very successfully worked at present. It records the message in ordinary letters, which can, of course, be read by any one.

Professor Wheatstone has also introduced a type-printing instrument for private use.

The commercial value of an instrument does not depend upon the use of the ordinary alphabets, but upon the amount of work it will turn out, and its accuracy and freedom from derangement. The Morse instrument is at present unsurpassed in these respects, and it has been found that its introduction upon a circuit previously worked by the needle system reduces error to a very considerable extent. This arises from its signals being *recorded:* they can be read calmly and without flurry; and should an error arise it can be traced to the person in fault, thus inducing a far greater sense of responsibility.

It may be interesting to note the speed attained by the double needle and Morse instruments in a *fair* trial of speed.

The highest speed on a circuit of a little under 200 miles was—

Double needle	35 words per minute.
Printing	38 ,,

Average of between two and three hours' continuous work reporting a speech of Mr. Bright:—

Double needle	24·3 words per minute.
Printing	26·5 ,,

and for a circuit of more than 400 miles:—

Printing, average speed....24·5 words per minute,

clerk reading from the manuscript of the *Times* reporter—not always very legible.

For these particulars we are indebted to a practical work recently published by Messrs. Longman.* The author is a telegraphic superintendent, as well as engineer, and his strictly practical and instructive book has been published with the sanction of the chairman and directors of the Electric and International Telegraph Company, who have adopted it for the use of their staff. It contains information concerning the electrical laws upon which the system depends; the methods of discovering faults; the practical management of apparatus; and the construction of a line. The author supplies to a certain extent that technical knowledge which has hitherto been attainable only by means of verbal instruction or actual experience; so that the work cannot but be useful in the promotion of a practical knowledge of the telegraph. The treatise is popular rather than strictly scientific.

* A Handbook of Practical Telegraphy. By R. S. Culley, Telegraphic Engineer. London: Longman & Co.

RAILWAY STATISTICS.

The traffic receipts of railways in the United Kingdom amounted, for the week ending the 5th of December, on 11,028 miles, to 563,720*l.*, and for the corresponding week of last year, on 10,578 miles, to 517,950*l.*, showing an increase of 450 miles, and of 45,770*l.* in the receipts.——The cost of repairing and renewing the rolling stock of our different railways is 1,243,714*l.* per annum, or about 8¾ per cent. of the total expenditure of the companies. This sum does not, in all cases, include the cost of repairing the locomotives. If we value the entire rolling stock at 27,000,000*l.*, and deduct (say) 10,000,000*l.* as the cost of the locomotive engines, the value of the wooden rolling stock will remain at 17,000,000*l.*; and upon this amount the annual depreciation is (say) 1,250,000*l.* It is not to our credit as machinists that foreigners have paid much more attention to these things than we have. On various parts of the Continent carriages are to be seen far more elegant in form and finish, and of very much less weight, than our heavy passenger vehicles. In America, passenger-carriages, mails, and goods-vans, are now very generally built of plates of corrugated and ridged iron, and such carriages ("metallic cars," as they call them) are said to be stronger, considerably lighter, cleaner, more comfortable at all seasons, more durable, and less affected by noise than wooden vehicles. The cost of iron in this country is so much below that in America, that anything that could be produced at a selling price on that side of the Atlantic might certainly be produced here at even a less rate. Iron-framed passenger-carriages have already been constructed in this country: it might be well if the principle were more largely tried.

CONCRETE.

M. Henry, London, has obtained a patent for, "Apparatus for manufacturing *beton* and artificial stone, pugging clay, &c." This invention mainly refers to the manufacture and application of a certain *beton* composition or artificial stone, for which François Coignet obtained British letters patent, respectively numbered 2,659 and 2,757, and dated 26th November, 1855, and 6th December, 1859. The invention first relates to improved machinery for manufacturing Coignet's patent *beton* or artificial stone, such machinery being also applicable for mixing concrete pugging clay, working mortar, and other similar purposes. Machines hitherto constructed for these objects have been provided with one or two small ejection orifices, through which the materials are forced out or discharged. Now, according to this invention, the machine is formed with an ejection opening extending continuously, or nearly continuously, or without, or nearly without, division or break, round the discharge end of the machine; or large or numerous, or both large and numerous, ejection openings are distributed all round that end of the machine. By these means the materials, after having been mixed, pugged, or treated in the machine, are discharged therefrom freely and continuously, with little or no obstruction or resistance. The chamber or casing of the machine is constructed of three parts, in one of which the ejection openings are below the two others, and one of these latter is removable, so that the chamber may be easily cleansed. In this chamber a shaft revolves, carrying appliances for mixing, kneading, or otherwise acting on the material, and others for pressing, drawing, or heaping them towards the ejection orifices, and for discharging them therefrom.

PREMIUMS FOR ART-WORKMANSHIP.

The judges appointed by the Society of Arts to report on the works sent in competition have made the following awards:—

The Human Figure in Bas-relief.—1st Prize of 10*l.* to J. Griffiths, 51, Coleshill-street, Eaton-square; 2nd Prize of 5*l.* to A. Chesneau, 11, Roxburgh-grove, Haverstock-hill.

Ornament in Bas-relief, Arabesques.—1st Prize

of 5*l.* to C. H. Whitaker, Sheffield-place, Coventry-road, Birmingham; 2nd Prize of 3*l.* to J. Steel, jun., 88, Hanover-street, Glasgow.

Repoussé Work in any Metal.—The Human Figure as a Bas-relief.—2nd Prize of 5*l.* to E. Beresford, 47, Green-street, Stepney.

Ornament, after a Flemish Salver.—1st Prize of 5*l.* to G. Webster, Woodbank, Walkley, near Sheffield.

Hammered Work, in Iron, Brass, or Copper.—Ornament, after an Iron German Arabesque.—Two 2nd Prizes of 3*l.* each to T. Bailey, 77, King Edward-road, Birmingham, and W. Ash, 7, Martlett's-court, Bow-street.

Carving in Ivory.—The Human Figure in Bas-relief.—1st Prize of 10*l.* to J. W. Bentley, 22, Sherwood-street, Golden-square; 2nd Prize of 5*l* to "Ricardo" (name not given).

Chasing on Metal.—The Human Figure, Gibson's "Psyche."—1st prize of 10*l.* to W. Holliday, 14, Naylour-street, Islington; 2nd prize of 5*l.* to C. Jacquard, 1, St. George's-road, New Kent-road.

Ornament, after a Bronze Plaque.—Two 1st prizes of 5*l.* each, to G. R. Meek and R. E. Barrett, at Messrs. Hunt & Roskell's, 26, Harrison-street, Gray's Inn-lane; two 2nd prizes of 3*l.* each, to R. Orpwood and G. Gibaud, at Messrs. Hunt & Roskell's.

Painting on Porcelain.—The Human Figure, after Raffaelle's "Boy bearing Doves."—1st prize of 10*l.* to E. E. Dunn, Eastwood-vale, Hanley, Staffordshire; 2nd prize of 5*l.* to Thomas Allen, Howard-place, Shelton, Staffordshire.

Ornament, after Arabesques.—2nd prize of 3*l.* to J. B. Evans, South-street Mount Pleasant, Fenton, Staffordshire.

Inlays in Wood.—Ornament, after a Majolica Plate.—Two 2nd prizes of 3*l.* each to F. Braun and H. Braun, 15, Cleveland-street, W.

The new list of premiums, amounting to nearly 500*l.*, is almost completed. Ample time will be given on this occasion to competitors.

DRAWINGS OF JERUSALEM AND THE HOLY PLACES.

M. CARL WERNER, whose ability as an artist is well known, is exhibiting at the Water Colour Institute, Pall-mall West, a series of thirty drawings made in "Jerusalem, Bethlehem, and the Holy Places," including the House of Pilate, never painted before; various views in the Church of the Holy Sepulchre and the interior of the Mosque of Omar; the Grotto del Latte, Bethlehem; the Jews' Wailing Place, and a general view of Jerusalem. These are to be reproduced in chromo-lithography by Messrs. M. & N. Hanhart, and published in parts with descriptive letter-press. The interiors have the aspect of careful representations, and some of them seem to lack air and are a little over-hard in consequence. The series is a very interesting one, and if reproduced effectively, as we have no doubt, being in the hands of Messrs. Hanhart, it will be, can scarcely fail to command a good sale. The work will be published by Messrs. Moore, McQueen, & Co.

CHURCH-BUILDING NEWS.

Hampton-hill.—St. James's Church, Hampton-hill, has been consecrated by the Bishop of London. The church consists at present of nave, chancel, and vestry, and it is intended to enlarge the edifice by the addition of double north and south transepts, organ chamber, tower, and lofty spire. The nave is 67 feet by 24 feet, and the chancel 24 feet by 20 feet. The style is Early English. The whole of the walls are of brick, blue and red being used for the arches, jambs, bands, &c., both externally and internally; while the chancel arch is also of brick, arranged in ornamental devices. The roof is open timbered. The sittings are of deal, all open. The whole of the woodwork is simply varnished. The flooring to the pews and stalls is of wood, and the chancel and gangways are laid with blue and red tiles, arranged, according to the design of the architect, in panels, with crosses, &c. The sittings are for 305, and the total contract was for 954*l.* Mr. Wigginton was the architect. The contractors were Messrs. Bond, of Hackney.

Deptford.—The foundation-stone of a new church has been laid here. The site is in Church-street. The building will accommodate 1,200 persons, and all the seats will be free. The design has been supplied by Messrs. Newman & Billing, who have rendered their services gratuitously; and the contractor for the work is Mr. Peake, of Tooley-street. The total cost of the land and building will be 5,000*l.*

Eling (near Southampton).—The old parish church of Eling, after being for some months closed for alterations and additions, was re-opened on the 8th instant by the Bishop of Winchester. The little lean-to aisle and gallery have been superseded by a new south aisle, capable of seating 200 persons, the galleries having been taken down, and the Early English nave arcade restored. The noble chancel arch, supposed from its great size to have been intended for a larger church, has been stripped of the whitewash with which it was bedaubed. There is a very early Norman arch separating the north aisle from the chancel aisle, and this has also been restored. The roof is open, the ribs being stained. The chancel ceiling is polygonal, the panels being separated by ribs with carved bosses. The new pulpit and chancel fittings are made from old oak, obtained in the church, and the carved enrichments include various emblematical figures. The present sittings, which amount to nearly 600, are benches of stained deal. The altar-cloth was worked by the vicar's family. The heads of the two wheel-headed windows in the south aisle have been filled with stained glass. The whole of the works have been executed by Mr. Till, builder, of Romsey, from designs by Mr. Ferrey, of London, at a cost of somewhat upwards of 2,000*l.*

Reading.—The new Greyfriars Church has been consecrated. The building as it stood when purchased by the Archdeacon of Carlisle consisted of the nave and north and south aisles. As soon as Mr. Phelps had purchased the ruins, his architect, Mr. Woodman, commenced excavating round the church, and fortunately traced the foundations at a considerable depth. From the slight indications he found, he has been able to restore the edifice to its original form, with the exception of the chancel, which it has been found difficult to re-build, as the land upon which it would stand could not be purchased of the present owner upon such terms as the archdeacon considered equitable. In a letter from Dr. London to Lord Cromwell, he says, "I have inwardly defaced the Churche and Dorts." This was so effectually done that not a single relic has been discovered, and only about a square yard of the tesselated pavement, which has been re-laid in the restored building. The tiles have the unusual devices of hares, stags, and dogs in the attitude of running. Traces of stained glass were found in each of the windows. An entire skeleton was found under the north jamb of an arch: the body was evidently laid in the foundations when the church was commenced, and the walls built over it. The seats are of oak; the desk, screens to the doors, and the altar-railing of oak, carved with foliage; the pulpit and font of Caen stone. The church is warmed with hot air, by Haden, of Trowbridge. The acoustic properties of the building are said to be satisfactory. There will be accommodation for 750 to 800 persons. Messrs. Wheeler were the contractors for the stonework. Mr. Sheppard contracted for the remaining part of the works.

Fontmel (Dorset).—The parish church has been rebuilt and consecrated. The style, like that of the old edifice, is Late Perpendicular. The church consists of a nave, with north and south aisles, chancel, tower, and south porch, besides a robing-room at the north-east angle of the nave, opening by an arch screened off into the chancel. The walls are built with the native stone from Melbury, and the whole building is surrounded with a parapet of tracery work, ornamented with crocketed pinnacles supported by carved gurgoyles. The tower has a new story, embattled. The roof is covered with milled lead. Interiorly, the walls are cased in stone. The aisles are separated from the nave by four bays, the old clustered piers having been restored, and capitals of Bath stone added, the designs of each being alternately floriated, or representing angels. From these spring moulded arches, which give lightness to the interior. An arch separates the chancel from the nave, and the tower arch is also open, without any gallery. The whole of the roofs rest on carved bosses of Bath stone, those in the aisle having floriated designs, alternating in the more prominent with angels bearing scrolls, shields, and different symbols, while in the chancel they represent angels in the act of adoration. Those in the aisles and porch are the heads of saints, &c. The roofs of the nave and chancel are open, and framed in panels of pitch pine, with moulded ribs. All the roofs are boarded diagonally with planks to carry the lead. The floors are laid with Minton's tiles, the chancel being raised by a Purbeck marble step, and the sacrarium by another, while within the altar rails the tiles are of a varied tesselated character. Here on the north wall are written, in illuminated characters, the Ten Commandments, by Miss Salkeld, who, according to our authority, the *Dorset Chronicle*, "was to be led to the altar on the following day as the first bride to issue from the sacred portal." It is intended to fill the five-light east window with stained glass, as well as the whole in the chancel; and there will be ample light afforded by the others, the four in the north aisle preserving the Early Perpendicular character of some in the old building, while those in the south aisle are Late Perpendicular. The churchyard, which contains the monument to young Lieut. Salkeld, the hero of the Delhi gate, has been enlarged and enclosed with a wall, with new entrance gate, &c. The edifice has been rebuilt at the cost of Sir R. P. Glyn, Bart. The architect was Mr. Evans. The stone work was executed by Mr. Knott, of Wimborne; the wood work and wood carving by Mr. Mondey, of Dorchester; and the stone carving by Mr. Boulton, of Worcester. Mr. Blethman, the builder's foreman, constructed the pulpit.

Dorchester.—The re-opening of the ancient Abbey Church at Dorchester took place on the 3rd inst. In 1860, the present Incumbent, the Rev. W. C. Macfarlane, anxious to bring to completion the work commenced by his predecessors, initiated further restorations, and about 1,000*l.* have been expended annually during the last three years, the rev. gentleman being himself a liberal contributor. The external walls have been repaired and the drainage attended to: the porch and doors have been renovated or rebuilt; while on entering the building the marks of restoration are visible on every hand. The remainder of the edifice, with the exception of the south chancel aisle, has been new roofed with pitched pine; the wheel-plates and mouldings being of oak. The south aisle has been restored. Encaustic tiles have been laid down in the sacrarium, by Mr. Godwin, of Hereford, the pattern being taken from some remains extant in the church; and the wall painting discovered some years ago, and believed to be one of the earliest known, has been renovated by Messrs. Clayton & Bell, of London. Red, in different shades, is the only colour employed. This aisle, as well as the nave, has been repaved. Mr. Scott has been the architect retained, and the contractor was Mr. Winterborne, of Abingdon.

Worcester.—The foundation stone of Holy Trinity Church has been laid at Shrub Hill. The site is a sloping bank on the road to the railway station. The style will be Late Decorated—the same as that prevalent when the old Guesten Hall was erected. The whole length of the church from east to west will be 146 feet, and the total width across the transepts 76 feet, height to the apex of the roofs 56 feet. The architect is Mr. W. J. Hopkins, under whose supervision the works will be carried out. The roof of the old Guesten Hall is to be used in covering the new edifice. Although some portions of the timbers were much decayed, and the tenons for the most part rotten or cut off, yet by the introduction of ironwork the roof, it is said, is rendered perfectly strong. The committee have determined to restore it with oak. The principals are 28 feet by 13 inches and 8 inches, and the other timbers of proportionate size. All the rafters must be new.

Aston Brook.—The Church of St. Mary, Aston Brook, was to be consecrated on the 10th inst. The church is erected on the estate of the late Mr. Josiah Robins, by his family, as a memorial of that gentleman, and the late Mrs. Robins, of Allesley. The plan consists of nave, chancel, and aisle, with chancel aisle to the north, and vestry on the south side. The chancel is terminated by an apse with three-light traceried windows, and has open stalls with carved poppy-heads. The nave piers are of stone, and have carved capitals supporting the nave arches, and a clerestory. The roofs are all of open timber work, and the church is fitted throughout with open benches of deal stained and varnished. At the north-west aisle will rise a tower crowned by a spire, of which only the first stage will now be erected. At the west end is a traceried window. The style of the building is Gothic of the latter part of the thirteenth century, adapted to the material with which the structure is built, namely, red bricks, with bands and dressings of Bath stone. The building has been erected from the designs of the late Mr. James Murray, of Coventry. Mr. Mault, of Coventry, was the contractor.

Manchester (Withington).—St. Paul's Church, Withington, near Manchester, has been lengthened, and a chancel, chancel aisle, organ chamber, and vestry have been added. The plaster ceiling has been removed, disclosing the timbers of the roof, which have been stained and varnished. The chancel is fitted up with carved oak stalls, the front being

movable in order to show the encaustic tiling, by Messrs. Minton & Co., and the gas standards, lectern, and communion railing are of polished brass-work, by Mr. Skidmore. The pulpit and font are of Caen stone and marble, panelled and carved by Bouchill, of Manchester, from the architect's design. There are two sunlights to the nave, and brackets under the gallery and in the tower, and the heating is by means of Haden's apparatus. The stained glass in the chancel window is by Messrs. Ward & Hughes, of London, and represents remarkable events in the history of St. Paul, and also the Birth, Death, and Ascension of the Saviour. By the alterations an increased accommodation for nearly 250 persons has been obtained; and the works have been carried out by Mr. Terras, builder, Manchester, under the superintendence of the architect, Mr. John Lowe, of the same city.

Stonegrave (near Hovingham).—The new church of Stonegrave has been re-opened by the Archbishop of York. The building is nearly all new, and comprises a chancel, nave, with clerestory, north and south aisles, and nave with arcades. The tower remains. The various stained-glass windows are all the workmanship of Messrs. Ward & Hughes, of London. Mr. F. Jones, of York, was the architect.

Fiskerton (Lincolnshire).—The Church of St. Clements, in this village, has been restored, under the supervision of Mr. Christian, architect, by Mr. W. Huddleston, of Lincoln, builder; at a cost of 1,100*l.*; and re-opened for divine service.

Alnwick.—The organ recently erected in St. Michael's Church, Alnwick, was built by Messrs. Forster & Andrews, of Hull, and not by Messrs. Forster & Forster, of London.

EMBANKMENT OF THE NORTHERN SHORE OF THE THAMES.

AT the last meeting of the Metropolitan Board of Works, the tenders, fourteen in number, for the construction of the Thames Embankment from Waterloo Bridge to the eastern end of the Temple Gardens, were received and opened by the chairman. The following were the tenders:—

Pearson	£264,000 0 0
Tatam	264,000 0 0
Dowra	260,000 0 0
Eckersley & Baylis	257,001 0 0
Moxon & Co.	243,195 0 0
Furness	241,500 0 0
M'Cormick & Son	240,656 0 0
Webster	240,000 0 0
Lavers	239,800 0 0
Brassey & Co.	238,500 0 0
Rogers, Booth, & Co.	238,500 0 0
Dethick	232,353 0 0
Diggle (Dover)	229,400 0 0
Ritson & Co.	229,000 0 0

The tender of Messrs. Ritson & Co. was accepted, subject to the usual inquiries as to sureties.

A BIT ABOUT THEATRES.

WHILE I confess to being a Classicist, so far am I from being a blind and bigoted one that I frankly admit a disagreeably large proportion of modern *soi-disant* examples of so-called Classicism to be far from satisfactory—rather calculated to discredit the style, if not actually put one out of conceit with it. In like manner, though well affected towards Palladianism,—taking that term in the greatly enlarged meaning given to it by Wightwick, I have no particular admiration for Palladio's own doings; and, as the *Builder* has just shown, one of his most celebrated works, viz., the *Teatro Olimpico*, at Vicenza, some remarks may not be altogether unacceptable. The idea of copying, as far as was at all practicable, a veritable ancient theatre, was surely akin to that which prompted the pedantic doctor in "Peregrine Pickle" to inflict upon his guests an ultra-classical dinner, with its far more stomach- than appetite-exciting dormouse-pies. This celebrated theatre,—held to be Palladio's *capo d'opera*,—is no doubt an architectural curiosity, and is so far instructive as it shows very forcibly how a theatre ought not to be arranged. What says one of the Adams of it—whether it was Robert or James seems to be doubtful—in his "Journal of a Tour in Italy," published in the second volume of "The Library of Fine Arts?" "The seats are not convenient for the spectators: the order over them is most pitiful. In the angles of the circular (curved) part the spectators cannot see the performers, and the seats begin much too high above the stage. The *scena* is the most crowded and ill-adjusted thing I ever saw; and the alleys in perspective are perfectly childish." Nor is that condemnation at all too strong. A blank wall would be quite as much to the purpose as a permanent *scena* of that kind; nay, even more so, because in such case these jar violently with verisimilitude, &c. The absence of background would be less intolerable than the constant presence of an utterly unmeaning one, and that for every performance alike. But for the gratuitous absurdity of the *scena* the actors might have shown themselves as do the figures on a monochrome Greek fictile vase, where, though there is nothing to aid, there is also nothing to disturb, or even run quite counter to even decently-sustained probability. It may, perhaps, be all very well for bishops *in futuro* to signalise themselves by editing Greek dramatists; yet—I am speaking now quite profanely,—whatever their poetical merits, the dramatic performances of the ancients must have been rather bungling affairs; and so also their theatres, as far as the stage itself is concerned. As Miss Seward has well observed in one of her letters, could Aristotle have been acquainted with Shakspeare, we should have heard nothing of the Unities, the observance of which occasions far more incongruities and sins against *vraisemblance* than it professes to obviate; for what can be more contrary to probability than that the whole intrigue of a plot should be settled and concluded within no longer time than that of the actual representation? Expeditious work that, and very different from getting into Chancery! To come back from this wandering:—For a striking exemplification of decided progress, Fergusson might refer to theatre-building as well as to ship-building. Scenery and stage mechanism have, in fact, been brought to the limits of conceivable perfection;* one unlucky consequence of which is, that, while spectacle has advanced, the drama itself has declined, and has, to all appearance at least, come to be regarded as quite secondary to scenic display. The extent of stage as to width is itself an inconvenience, and renders it far more difficult to represent an ordinary-sized room than a palatial hall, unless some mode could be devised of contracting and enlarging the opening of the stage, both as to height and width, accordingly as circumstances might require. There is, moreover, still room for improvement in another respect. Notwithstanding the supremacy of spectacle, the spectatory of our theatres is so contrived that at least one-third of those present cannot be spectators at all, unless gifted with most extraordinary obliquity of vision. With this remark I conclude, at least for the present.

AN ART LOVER.

NUMBERS FOR NIGHT.

YOU will do a good deed this Christmas by inducing builders (and others so employed) to get folks to have the numbers of their houses painted *on the large gas-lamps* now erecting *over* the door of nearly every private house. We shall *then* be able to *see* what the additional light conceals from the poor old cabmen, who must get down now to *find* out the right house. S.

FLUSHING SEWERS.

IN the autumn of last year you gave a description of a flushing apparatus for cleansing water-closets. On reading the description, it occurred to me that it would be equally effectual in cleansing pipe sewers. About two months before resigning the surveyorship of the Croydon Local Board, I had an iron tilting cistern, to hold 90 gallons, inserted in a brick pit, at the head of a pipe sewer. The tap was so set that the whole contents of the cistern were discharged every day at a fixed time instantaneously into the sewer. The effect has been so good, that I have no hesitation in recommending the insertion of this flushing apparatus wherever pipe sewers are used. The cost was as follows:—

Cast-iron cistern	£2 10 0
Brass bearings and plates, brickwork to pit, and stone-cover, water-tap, &c.	6 0 0
	£8 10 0

In any large town if a flushing cistern was fixed at the upper end of each line of sewers, and the taps so set that the discharge would take place in all at the same time, there would be sufficient water flow, not only to flush each line of pipe sewer, but also effectually to cleanse the main sewer into which they delivered their contents. It would only require a proper regulation of the tap to flush the sewers either once a day, or at any greater interval. It does not require the water to be always on, provided it is on once during the time that the flushing is required to be done. As no attention would be requisite, I think that wherever this plan is put into operation, a more effectual self-acting flushing apparatus could not be adopted. JAMES FENTON.

* We are not able to assent to this. And we may remind our correspondent as to the objection above, that the theatre was built for the representation of ancient plays in the ancient manner,—whether wisely or not is another matter. ED.

"LUDGATE HILL."

ATTENTION has been much turned of late to the improvement of Holborn-hill and Skinner-street, and it would now seem to be decided that nothing short of a level street, instead of the existing steep inclines, will suffice.

Why has the steep gradient of the neighbouring Ludgate-hill, apparently escaped notice? In connexion with Fleet-street, it constitutes another main artery of traffic, east and west, as important as Holborn-hill and Skinner-street. Can nothing be done to render its present steep incline less dangerous? Were the corresponding one in Fleet-street equally abrupt, should we not hear the same complaints that we now do of Holborn-hill and Skinner-street?

Why should not the whole line of street occupying the valley of the Fleet, from south to north, be raised, bodily or gradually, from Blackfriars Bridge? Were this done, the levelling, or, at any rate, the great improvement of the gradients of Ludgate-hill and Fleet-street would be the consequence. And more than this—it might then be found practicable to carry the much-deprecated railway *under* instead of *over* the main approach to St. Paul's Cathedral? TOO LATE?

LORD ST. LEONARDS ON RATING.

THE following portion of a letter recently written by Lord St. Leonards in a matter in which his lordship is personally interested, contains his views on the principles of rating, and may be useful to some of our readers:—

"As it will not be possible for you to come to a right conclusion upon the amount to which Boyle Farm should be charged to the poor-rate unless you are agreed upon the true construction of the Acts of Parliament by which we are all bound, I think it right to call your attention to what I consider the law on the subject: you will judge for yourselves how far you think I am right, and you can readily consult persons conversant with the administration of the poor-law. This is not a private letter, and I shall probably print it.

The Act which directs how the valuation is to be made is the 6 & 7 Wm. IV., c. 96, sec. 1, which declares a rate bad unless upon an estimate of the net annual value of the several hereditaments rated thereunto, that is to say, of the rent at which the same might reasonably be expected to be let from year to year, free of all usual tenant's rates and taxes and tithe commutation rent-charge, and deducting therefrom the probable average annual costs of the repairs, insurance, and other expenses (if any) necessary to maintain them in a state to command such rent.

This Act was explained by the 25 & 26 Vict., c. 103, sec. 15, which enacts that the gross estimated rental for the purposes of the Act shall be the rent at which the hereditaments might reasonably be expected to let from year to year, free of all usual tenant's rates and taxes, and the tithe commutation rent charge, if any—'Provided that nothing therein contained shall repeal or interfere with the provisions contained in the 1st sec. of the 6 & 7 Wm. IV., cap. 96, defining the net annual value of the hereditaments to be rated.'

The 6 & 7 Wm. IV., cap. 96, sec. 1, is therefore still to guide us as to the net annual value: that is quite clear. The 25 & 26 Vict. cleared up what might be deemed ambiguous in the former Act when it speaks of net rent only.

When, therefore, you have to estimate what gross rent a given property might reasonably be expected to let at from year to year free of all usual tenant's rates, &c., you have first to ascertain the gross annual value, and then to deduct from it the usual tenant's rates and taxes and tithe commutation rent charge, and the balance is the proper gross rental under the Acts of Parliament.

But the Acts go further: and when you have fixed the gross rental with the proper deductions, then to ascertain the net annual or rateable value, you are to deduct from it the probable average annual costs of the repairs, insurance, and other expenses (if any) necessary to maintain the property in a state to command such rent.

I think that the Acts of Parliament have not been understood. It was, for example, said that an unfurnished house would let better from year to year than upon a lease, because the tenant would not be liable to repairs: this of course does not apply to a valuation under the Acts, because the repairs are expressly directed to be deducted from the gross estimated rental.

Now then, to apply the law to the case of Boyle Farm. From the gross estimated value as before to be ascertained, the tenant's rates, taxes, and tithe rent charge are to be deducted. The Appeal Committee would not listen to the items, but, as made out by the actual payments, they amount (upon the 39*l.* and 247*l.* valuations; the old ones, that is up to the one in dispute) to 63*l.* 13*s.* 8½*d.*, and of course they would be largely increased by the new assessment if that is to stand.

When the tenant's rates, &c., are deducted, then in the words of the Act, there is to be deducted the repairs, insurance, and other expenses (if any) necessary to maintain the property in a state to command such rent. The insurance is 9*l.* 4*s.* 6*d.* The repairs during the last year, that is, from October, 1862, to October, 1863,

amounted to 10*l.* 2s. 1½d.: the annual expenses of keeping up the high road which is fixed by law on Boyle Farm, is about 20*l.*; and the annual average expense of keeping up the ground, including the taxes on the gardeners, is about 200*l.* In allowing for the deductions it should be kept in view that if the lawns, &c., are to be estimated in their present state, the expense of keeping them in that state must be allowed; for unless constantly mowed, rolled, and weeded, they would quickly become a waste, and certainly not in a state to command the estimated rent.

Mr. Castle, in his valuation, included the Paddock, which is simply pasture ground, and used wholly as such, and is upwards of four acres.

The expenses of the last year's repairs may be considered too high for an annual average, but it has been and always will be heavy; so the annual expenses for labour on the grounds might not all be allowed as a deduction, but a large portion undoubtedly should. I can by no computation, having regard to the Acts of Parliament, make the proper assessment on my property exceed the old assessment of 300*l.* gross, 247*l.* net—even if the annual value were to stand at 460*l.* In considering now how Boyle Farm should be estimated, you must necessarily look at the mode in which the other properties in the parish are valued. Twenty per cent. deduction has been allowed on houses like Boyle Farm, including the land assessed with them. . . ST. LEONARDS."

"P.S. I find my view of the Acts of Parliament exactly accords with that of a meeting of chairmen of parochial assessment committees held in Norfolk, as reported in the *Times*. Their resolutions were to the effect that—

'Gross estimated rental' is the rent at which property may reasonably be expected to let from year to year, the tenant paying the usual tenant's rates and taxes, tithe commutation rent charge, if any. That

'Rateable value' is the amount of the gross as above defined, after deducting therefrom the average annual expenses of repairs and insurance, with any other expense which may be necessary to put property in a state to command rent."

BAD LINSEED OIL AND TURPENTINE.

MY attention has been called to the repeated complaints of your correspondents respecting the adulteration of linseed oil, turpentine, &c. I beg leave to differ with your correspondent as to the cause altogether resting with the English manufacturers, as he asserts. I having had some years' experience in oils will, with your permission, endeavour to enlighten your readers as to the several causes of bad oil. In the first place it is a mistake to think that by going abroad we can be sure of having pure oil; the very fact of our exporting so much proves that our oils preferred by foreigners to their own; and having to compete with foreign adulterated oil has been one cause of the English crushers not being so particular as they ought to crush selected seed. It is well known that linseed is sold as a mixed seed, varying from 5 to 15 per cent. of wild rape and other seeds, which proceeds from the negligence (the mildest term I can use) of the growers in not weeding their grounds; and as the seed passes from buyer to buyer, no doubt it does not improve in quality before reaching the crushers in this country, who also have to contend with other difficulties, such as the seed becoming heated on the voyage which cannot always be avoided), but which renders the oil extracted from such seed totally unfit for varnish and painting purposes, although sold on the market as good marketable oil. The crushers, too, make every effort to extract the greatest possible quantity of oil from the seed, regardless of quality. I should like to go into full details as to how this is done did space permit, but must leave that to a future time. 2ndly. An immense competition exists among the dealers, who buy the *marketable* linseed oils, which term they consider a sufficient guarantee for the quality, not knowing or caring perhaps how it is crushed, their sole object being to buy as cheaply as possible so as to be able to compete successfully with their neighbours; and the retailer is in precisely the same position.

Being a practical man, this subject has engaged my attention for some years, and induced me to go to considerable trouble to find out the cause and provide a remedy. The cause is the prevalence of fatty matter in the oil. This I can, by a process entirely new, make the oil thus treated is particularly adapted for the purpose of varnish making and painting (at the same time being free from all oxides of lead), consequently can be used for the most delicate tints of colour, without in any way injuring them in the working: it also dries with a finer face than ordinary oil.

I will next treat of spirits of turpentine. This is also a most essential article, and one which must be absolutely pure for both varnish making and painting, and nothing is more easily adulterated, or detected when adulterated. I need not inform your readers that previous to the American war we could always depend upon the American turpentine; but now they are importing French-drawn turpentine from this country and also from France, so that it is a fallacy to depend on them for *genuine* American turpentine. A few years since the French turpentine was very inferior. The extreme margin, however, between the original price of turpentine and the price now has induced the French to improve their manufacture till we can now somewhat depend upon some being of a very fair quality. The introduction of *mineral* (or *petroleum*) spirits from America has, however, opened a wide field for adulteration, the evils of which cannot be too widely known, as I shall proceed to explain. Pure vegetable turpentine, upon exposure to the air, always loses in bulk by evaporation, but gains in weight by absorption of oxygen, which makes it more binding in its properties. This peculiarity *none* of the *mineral substitutes* possess; on the contrary, the mineral is so extremely volatile that, upon exposure, the spirit *all* flies off, leaving the oil entirely without anything to help to harden it, and consequently increases the evil of the bad oil, instead of counteracting it. A. M.

THE DARGAN TESTIMONIAL.—The statue of William Dargan was on Tuesday placed upon its pedestal, on the lawn of the Royal Dublin Society, in front of the National Gallery of Ireland, at the west side of Merrion-square. The National Gallery will be opened to the public at the beginning of the ensuing year.

Books Received.

Gazette des Architectes et du Batiment, Nos. 1 *to* 14. 15, Rue Bonaparte, Paris.

THIS publication, which constitutes the second series of the *Encyclopédie d'Architecture*, is published twice in the month, and is under the direction of M. Viollet-le-Duc, jun., and M. Corroyer. It is quarto in size, and is very fully and cleverly illustrated with sketches, chiefly of details. Subscribers to the *Revue d'Architecture* obtain it at less cost than others. We confine ourselves on the present occasion to this notification of its aspect, and the remark that it deserves the attention of the profession in this country. When an opportunity occurs we will give a fuller account of its usual contents.

Miscellanea.

THE ROYAL ACADEMY.—Mr. Millais and Mr. Cooke are the new "R.A.s."

HEAT ON SALE.—An American paper states that a scheme is under consideration for warming houses from a central source, and supplying citizens with heat as gas is now supplied.

CAMBRIDGE.—The new museum at Cambridge is about being covered in. It stands in a large enclosure, and is surrounded with rich foliage. Messrs. Geo. Smith & Co. are the builders. The material used is Little Casterton freestone.

FIRE AT WINDSOR CASTLE.—A fire has occurred in the Prince of Wales's Tower, near her Majesty's private apartments and the eastern end of the north terrace of Windsor Castle. A good supply of water soon extinguished the flames, without causing the slightest alarm to the Queen or doing any material damage to the tower and its contents. The fire was confined to the roof.

THE CLARENCE HOTEL, DOVER.—The foundation-stone of this new hotel, of which we gave an engraved view on the 6th instant, has now been laid. Mr. J. Kirke, of Woolwich, the Government contractor, has taken the contract. Mr. Alfred Smee, the chairman of the company, invited the visitors present to a refreshment at the town-hall, after the laying of the stone by Lord Sondes.

WATER SUPPLY TO JERUSALEM. — Mr. J. I. Whitty, C.E., has been commissioned to estimate the cost of supplying Jerusalem with water. He argues that there can be little difficulty in providing for the wants of the present population, which amounts to only 20,330, their habitations occupying 213½ acres; and he calculates that for constructing a main sewer, repairing cisterns, forming drains, and restoring Herod's aqueduct from Solomon's Pools, a greater sum than 8,479*l.* would not be required; while the most essential part of the works might be completed for 4,986*l.* If there be a charitable work about the utility of which there can be no dispute, it is that which would cleanse and beautify the most celebrated city in the world, and restore health to its inhabitants. Important archæological discoveries, too, might be incidentally made while excavating for the drainage and water supply.

BROMSGROVE SCHOOL OF ART. — The third annual meeting of the subscribers and friends of this institution was held in the assembly-room of the Literary and Mechanics' Institution, at Bromsgrove, when a large number, ladies as well as gentlemen, attended. Dr. Collis, head-master of the grammar-school, presided. The report referred to the continued progress and increasing prosperity of the school. The total number receiving instruction in drawing had been 246: this number included 160 from the National school, and 86 in the Central school, showing an increase of 15 over 1862. At the annual inspection and examination of the school in October last, by the Government inspector, Mr. Wylde, six bronze medals were awarded to students. The total number of prizes this year was thirty-nine, an increase of eight over last year. In establishing the school, the object of the committee was to make it self-supporting, and they were glad to say that the financial condition of the school would bear a favourable comparison with any school of art in the kingdom. After paying all liabilities, the balance in the hands of the treasurer was 8*l.* 4s. 4d., as against 1s. 11d. last year. The committee congratulated Mr. Bowen on his appointment as head-master of the Stourbridge School of Art; but the students of the Bromsgrove school would still have the benefit of his services.

LARGE CASTINGS.—Four castings in green sand, of unusual magnitude, have recently been successfully made at Messrs. Hicks & Sons', Soho Ironworks. Two comprised a press top and bottom for Government, each weighing twenty tons. Another was part of an anvil block, weighing twenty-five tons, and the fourth was the remaining part of the anvil block, weighing forty-two tons. This anvil block was made for the use of the Bolton Steel Company. The metal was poured into the moulds from enormous ladles, in presence of a large concourse of spectators.

FLOW OF WATER AT THE ARTESIAN WELL AT DONCASTER.—Mr. Dale, the Waterworks engineer, states that the bore which is being made at the bottom of the pumping-shaft at Spring-head having penetrated a horizontal fissure 4 inches in depth, a large flow of water immediately rushed into the shaft; and, notwithstanding the Jackson engine was pumping at the rate of 3,000,000 gallons in the 24 hours, the water in the shaft rose in ten minutes from 10 feet to 20 feet. Mr. Dale estimates that the present yield of water is at least 4,000,000 gallons in the 24 hours.

MR. G. CUBITT IN ISLINGTON.—A committee of gentlemen, formed to enlarge the temporary iron church of St. Clement's, Barnsbury, having applied to Mr. G. Cubitt, M.P., for his assistance, he munificently offered to endow the district with 150*l.* a year (5,000*l.*), and afterwards expended about 4,000*l.* in enlarging the site for the church and purchasing a parsonage, and has now further offered to provide a permanent free church entirely at his own expense, from designs by Mr. Scott, at a cost of 7,000*l.*, provided the incumbent, the Rev. J. K. Harrison, and the committee, will erect suitable schools, for which they are in great need of funds.

DOUBLE WAGES NO ADVANCE.—A contractor in the Scottish Highlands, says a contemporary, was waited upon by a deputation from his workers, to request him to make "no a pit o' difference in the wages, but shust a wee shynge in the time for paying." On cross-questioning the deputies, he found they wanted to be paid weekly instead of fortnightly, but they also wanted the fortnight's wages weekly. "Why, my lads," said the contractor, "you are just demanding exactly double wages." "Hoots, no sir!" said one of the deputies, "it's shust as more as less as the same wedges, put you must shust paid us twice as faster as evermore." After a little parleying, the contractor got his Celtic logicians to resume work at a trifling advance.

BARRACKS, EDINBURGH CASTLE. — We learn from the newspapers that the War Department have obtained plans and accepted tenders for the reconstruction of the north barracks, which were dismantled some years ago to make way for projected improvements which were not carried out. The approved designs are by Mr. Billings. The parallelogram of the original building is recessed in the centre, throwing out wings on the east and west with projecting facets crossing the opposing outer angles. The building is three stories high, and on each story will be two large barrack-rooms. The walls will be topped by turret and battlement. The amount of the tender is 4,100*l.*, exclusive of the fittings for heating and ventilating the rooms, which will be supplied by the War Department.

SAILORS' HOME, WELL-STREET, LONDON DOCKS. At a meeting of the directors, held at the institution on the 10th inst., Captain the Hon. Francis Maude, R.N., in the chair, the secretary reported that the unusually large number of 1,070 seamen had passed through the Home during the month, and justified the directors in making the necessary preparations to meet extraordinary demands by enlarging the buildings, which work is now in progress. The monthly accounts were laid before the Board, and showed that 9,308*l.* 15s. 2d. had been received from sailors, and 4,271*l.* 16s. 2d. remitted to their friends. The cost of the new building, without fittings, &c., will be 10,626*l.*

THE GREAT EASTERN.—At Liverpool, some of the creditors of this unfortunate ship have been considering the propriety of forming a company for its purchase, or its disposal by lottery. It was stated, on counsel's opinion, that measures could be taken to sell the vessel by lottery distribution, in 200 prizes, ranging from 20,000*l.* to 250*l.* The scheme, however, if adopted, would have to be practically carried out at Frankfort-on-the-Maine, though the shares would all be held in England. The "new company" scheme is virtually abandoned. Is it not strange that this great ship has never yet been tried on long voyages, as to and from India or Australia? Surely short voyages for the long ship were unlikely to pay.

Liverpool Architectural Society. — The fortnightly meeting of this society was held on Wednesday evening, the 16th inst. Mr. Joseph Boult presided. Mr. G. A. Audsley read a paper on "The Art of Ornamental Design."

Corn Exchange, Stamford.—Having alluded to this building in our recent article, "The Critical State of Stamford," we are asked to mention that the decorations were executed by Mr. W. Rubarett, of London, under the superintendence of the architect, Mr. Edward Browning.

Ely Surveyorship.—Letters have been received from twelve applicants, and the clerk was requested to invite the following candidates to wait upon the Board, whose expenses should be paid, viz, Mr. A. Deawney, Mr. S. Mather, Mr. Alfred Harrison, Mr. Alex. Keyle, Mr. J. A. Downes, of whom the Board will make choice of one. Our readers will recollect a letter on this subject which appeared recently in these pages.

Accident at New Liverpool Waterworks. On Monday afternoon, as some men were employed in working at the foundation of one of the pillars which supported a number of arches constructed for the purpose of carrying some portions of the new Liverpool Waterworks, near the junction of Dudley-lane with the Woolton-road, the pillar suddenly gave way, carrying with it five of the arches. In their fall they severely injured a number of the workmen, who were carried to the Royal Infirmary.

The Fire in the City.—The destruction of property between Wood-street and Milk-street, City, makes evident the value of attention to the requirements of the Building Act, in respect of party walls and iron doors in them, where buildings are thrown together. Had the stuctures that are burnt been divided by proper party-walls, instead of the thin partitions of early days, the fire would have been confined to a very small area, and the destruction of an enormous amount of property would have been preventcd.

Society of Engineers.—The annual dinner of this society was held at the Bridge House Hotel, on the 17th. Mr. R. M. Christie, the president for the past year, occupied the chair: Dr. Riley (one of the past chairmen), and Mr. Alfred Williams (hon. sec.) were vice-chairmen. The Chairman, in proposing the toast of the evening, "Success to the Society of Engineers," drew attention to the fact, that the institution had been established for a period of ten years, during which it had continued to progress. There could be no doubt that the periodical meetings which were held for the reading of papers upon engineering and scientific subjects, and the discussions thereon, had proved of the greatest benefit.

Charity under Difficulties.—Mr. John Hutchinson, of Sunderland, is about to add another to his many acts of benevolence, by the erection and endowment of an almshouse for twenty inmates. Mr. Hutchinson has issued a handbill, stating that an attempt is being made by some of his family to prevent him carrying his intention into effect; and one of his sons, a solicitor, has intimated his intention of applying to the Lord Chancellor to have him declared insane, and incapable of managing his own affairs. He appeals to all with whom he has done business for many years, whether such is the case.

Removal of St. Thomas's Hospital.—A numerously attended deputation from the parishes of St. Saviour's and St. George's Southwark, St. Mary's Newington, Bermondsey, and Camberwell, and from the corporation of London, waited on Friday afternoon upon Sir Roundell Palmer, M.P., the Attorney-General, for the purpose of representing to him the impropriety of giving his sanction to the suit now pending before Vice-Chancellor Page Wood, regarding the erection of St. Thomas's Hospital on the Stangate site. In course of the interview, Mr. Rendle, of St. George's, Southwark, said he had addressed letters to all the chief medical men on the south side of the Thames, to the number, he thought, of 119; and from 107 of these gentlemen he had received replies condemning the Stangate site as altogether unfitted for the purpose. Mr. Tite, M.P., on the part of the governors of the hospital, justified the course they had adopted. The whole of *their* medical officers, he said, had expressed a favourable opinion on the point. The Attorney-General said the representatives of the parishes would be incurring unnecessary expense in going before the Vice-Chancellor by counsel in the matter, but should the City corporation satisfy the Vice-Chancellor as to *their* right to appear, he should not object to their having a *locus standi* in the matter.

Sale of the Staveley Collieries and Ironworks.—These works, at Chesterfield, Derbyshire, employing upwards of 3,000 workpeople, &c., have just been sold to a joint-stock company, through Messrs. Chadwick, Adamson, & Co., financial agents. The value of the property exceeds half a million sterling, and the amount of the capital was all privately subscribed in Manchester in three days only.

Memorial of Dr. Smith, Doctor of Music to the University of Dublin.—A meeting of the committee was held a few days ago, at the Ancient Concert-rooms, for the purpose of choosing a design for the memorial window about to be erected to the late Dr. Smith, in St. Patrick's Cathedral, when an artistic design by Messrs. Clayton & Bell, of London, was selected (from several which had been furnished to the committee), for the approval of the Dean of St. Patrick and Mr. Benjamin Lee Guinness.

Grand Conclave of Knights Templar and Hospitallers of St. John of Jerusalem.—A new Masonic hall has been erected in the rear of the premises, No. 14, Bedford-row, and was opened last week. The construction of the roof appears ingenious. Mr. H. W. Spratt was the architect. The Templars make claims which it seems the general body of the "craft" decline to recognise.

Art Sales in Paris.—At a recent sale, in the Hôtel des Ventes, of drawings which served for engraving works in the galleries of Versailles, a copy, by M. Massard, of Horace Vernet's picture of "The Taking of the Smala," was purchased for 5,050fr. At a sale of curiosities, a pair of firedogs, of the period of the Renaissance, fetched the large sum of 7,200fr. These latter were more than three feet high, and, according to *Galignani*, are masterpieces of ornamental ironwork.

Newstead Priory and Hospital.—Near the site of the ancient and once famous Priory at Newstead there have just been discovered some interesting relics. They were bared by labourers employed in making a new carriage-drive from the Uffington road to the Earl of Lindsey's residence in the Park. These relics consist of a portion of a statue, representing a warrior of the time of Henry III., as exhibited in the chain mail of that period; an ancient freestone floor, probably part of an ambulatory; a great quantity of window tracery of the fourteenth century; and some small jamb shafts of the thirteenth century.

Ironmongers' Association.—A lecture in connexion with this association was delivered on Wednesday, the 16th inst., at the Whittington Club, by Mr. A. B. Midlane, on "the Science and Practice of Electro-Metallurgy." Many fine examples of the art were exhibited in the room, through the kindness of Messrs. Elkington & Co., Messrs. Kennard & Co., and the General Foundry Company. The next lecture of the season will be delivered at the same place by the Rev. C. Boutell, M.A., the subject being "the Metal-work of the late Exhibition." It is satisfactory to find an association like this endeavouring to give a knowledge of matters pertaining to the business of its members.

Another Park for the Metropolis.—The Metropolitan Board having given notice of their intention to apply to Parliament to form a park in the parish of Rotherhithe, on the confines of Bermondsey, a meeting of delegates of South London parishes has been held, the vestries of Camberwell, Rotherhithe, St. George the Martyr, and the District Board of St. Olave being represented; and it was resolved, "That it is the opinion of this meeting that the plan projected by the Metropolitan Board of Works for the formation of a park at Rotherhithe, will be for the benefit of the inhabitants of the eastern and south-eastern districts of the metropolis, and that such plan is entitled to the active support of the parishes represented at this meeting."

Alterations in the Main Drainage Works at Crossness.—Mr. Bazalgette, the engineer, has recommended certain alterations in the mode of constructing the river wall and reservoir at the outfall of the southern main drainage works at Crossness. In consequence of the mud being much deeper at this point than was anticipated, the engineer recommends the use of iron cylinders in lieu of the timber piling originally proposed. The cost of the additional work is estimated at 9,900*l*. The bottom of the reservoir also must be arched and inverted in brickwork, instead of being concreted and flagged. The estimated cost of this additional work is 8,500*l*. The Board has authorized the execution of these works as extras on the contract, at an estimated cost of 18,400*l*.

Proposed Statue to the late Prince Consort.—The statue to be erected in the Marketplace, Wolverhampton, by Mr. Thorneycroft, the sculptor, is at once to be proceeded with by that gentleman.

Mr. Henry Leslie's Concerts.—Mr. Leslie's choir announce five subscription concerts in St. James's Hall, aided by Madame L. Sherrington, Mr. Sims Reeves, Madame A. Goddard, M. Lotto, and others. The first was given on the 17th, and included the performance of Spohr's "Ode to St. Cecilia," and several new madrigals and songs by Mr. H. Smart, Mr. J. G. Callcott, and Mr. Leslie himself. Madame Lemmens Sherrington was the principal singer, and delighted her audience. Herr Blumner, whose merits as a pianist are becoming widely known, caring more for the art than for a prevailing public opinion, selected, amongst other pieces, the March from Wagner's "Tannhäuser," and played it with great ability. Paganini's "Witches' Dance" was executed on the violin with wonderful brilliancy by M. Lotto.

The Charing cross Railway.—Captain Tyler, the Government inspector, in company with Mr. Hawkshaw, has renewed his inquiry into the condition of this line, and tested the numerous iron road-bridges that carry it from the Charing-cross Bridge to the London Bridge terminus. The structures, it is said, were severally tested with weights equivalent to a ton per foot on each line of rails, the general average deflection being only half an inch on the centres and a quarter of an inch on the cross girders. The ugly iron plate girder-bridge at the London Bridge end is the largest structure of its kind, extending over a total span of 186 feet, and weighing upwards of 300 tons. The bow and string bridge over Southwark-street has a span of 132 feet in the clear. The Princess Royal and her husband, the Crown Prince of Prussia, were the first of the public to travel on this line.

The Aston Park Scandal at Birmingham. The truth of the exposure we assisted, at the cost of some abuse of us, in making, as to the Aston Park sham purchase, after her Majesty had been induced, by false pretences, to grace the opening of the "People's Park," in 1858, has now come out more glaringly and disgracefully than ever. When the Mayor of Birmingham for the time being invited her Majesty and Prince Albert to open the park, not 10,000*l*. out of the 40,000*l*. required for its purchase had been raised, nor could there have been the least prospect of its being raised. Indeed, not much more than the 10,000*l*. has ever been raised even yet for any such purpose; and there are still 28,000*l*. due on the falsely alleged purchase, which is no purchase at all; so that the People's Park at this moment runs the imminent risk of falling back into the hands of those who were to have reaped an enormous profit by the sale of it. It is the sound advice of their own local papers, that the corporation had better make the best of a bad business in the present instance, by completing the actual purchase of Aston Park; and this they should do without any more higgling or any more delay; and the more quietly the better; so to shut up a most shameful affair, which they ought never to have allowed to reach the ears of the public at all.

TENDERS.

For new warehouse in Greyhound-yard, West Smithfield. Mr. A. E. Taylor, architect. Quantities supplied:—

Macers	£2,095 0 0
Higgs	2,057 0 0
Ashby & Sons	2,034 0 0
Henshaw	1,932 0 0
Killby	1,900 0 0

For tavern at Hampton-hill, S.W. Mr. W. Wigginton, architect:—

Wheatley	£2,143 0 0
Bond & Co.	2,105 0 0
Pearson (accepted)	1,814 0 0

For new Music hall, Commercial-street, Shoreditch. Mr. R. H. Moore, architect:—

Patman & Fotheringham	£12,860 0 0
Myers & Sons	12,548 0 0
Carter & Sons	10,670 0 0
Downs	10,554 0 0
Randell & Stap	10,250 0 0
Little	10,137 0 0
Hill, Keddell, & Co.	7,719 0 0

For building a new Independent Chapel at Bowling, near Bradford, Yorkshire. Messrs. Paull & Ayliffe, architects. Quantities supplied:—

Plugworth & Son (accepted)	£2,384 0 0

For a new public-house to be built in the Manchester-road, Isle of Dogs, for Mr. Smallman. Messrs. Hamnock & Lambert, architects. Quantities supplied:—

Turner & Sons	£1,824 0 0
Gilson	1,795 0 0
Ranken	1,597 0 0
Hedges	1,458 0 0

TO CORRESPONDENTS.

T. G.—Philant (Parian cement is most commonly used).—One who was present.—Messrs. C. & Co.—C. & B.—*Quam dilecta.*—J. E. (there is no misapprehension on our part).—J. G.—Architectus (it is useless proposing enlarged views and wider scope to the Institute of Architects under its present government: the tendency, unfortunately, is in quite the opposite direction).—J. M.—R. D.—W. E. N.—F. E. H.—M. H.—Taxpayer.—W. B.—W. W.—P. & A.

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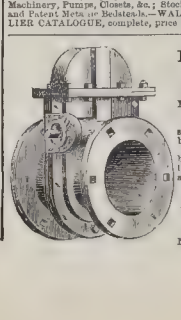
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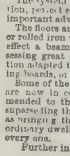
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MINTON, HOLLINS, & CO. Stoke-upon-Trent, beg to inform architects, the gentry, and others, that, in consequence of the increasing demand for their Encaustic and Metal Pavements, and with the view of facilitating the execution of orders, they have opened an additional Show-room, at their Establishment, No. 30, Conduit-street, London, where experienced draughtsmen will be constantly in attendance to afford all information required.

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And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
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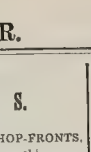
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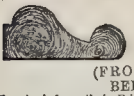
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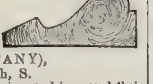
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Good 2½ Mill-sawn White Battens ..... from £8	0 per 120 of 12 feet	
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Good 3 by 9 Mill-sawn Yellow Deals	15 0	,,
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FLOORING, MATCH BOARDS, DEALS,
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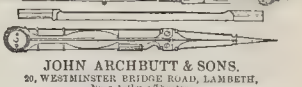
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	3.0 feet. 15 oz.	21 oz.	200 feet. 26 oz.	32 oz.
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Thirds do.	42s. 0d.	42s. 0d.	49s. 0d.	56s. 0d.
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Small Squares not exceeding 9½ inches by 7½ inches.

Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Per 100 feet.		
6 by 4	7 by 5	8 by 6	9 by 7	4ths.	3rds.	2nds	Best.
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Squares not exceeding 14 inches by 11 inches.

							Per 100 feet.		
10 by 8	12 by 9	12½ by 10½	14½ by 10½			4ths.	3ds.	2nds.	Best.
10½ by 8½	12½ by 9½	13 by 10	15 by 10						
11 by 9	13 by 9	13½ by 10½	13 by 11			10s. 9d.	12s. 3d.	15s.	18s.
11½ by 9½	12 by 10	14 by 10	14 by 11						

Squares not exceeding 20 inches by 18 inches.

15½ by 10½	14 by 12	17 by 13	24 by 16		
16 by 10	14½ by 12½	18 by 13	20 by 17		
14½ by 11½	15 by 12	18 by 14	22 by 17		
15 by 11	15½ by 12½	22 by 14	24 by 17	Per 100 feet.	
15½ by 11½	16 by 12	24 by 14	20 by 18	4ths. 3rds. 2nds. Best.	
16 by 11	16½ by 12½	22 by 15	22 by 18		
13 by 12	17 by 12	24 by 15	24 by 18	11s. 6d. 13s. 6d. 16s. 6d. 20s.	
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Orchard-house Sizes, as recommended by Mr. Rivers.

In.	In.	15 oz.		21 oz.	
20 by 12	4ths	11s. 6d.		4ths	15s. 0d.
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20 by 14	2nds	16s. 6d.	per 100 feet.	2nds	25s. 0d.
20 by 15	Best	20s. 0d.		Best	30s. 0d.
20 by 16					

Squares Cut to Sizes not on List.

	15 oz. 4ths	3rds	2nds	1st	21 oz. 4ths	3rds	2nds	1st
Under 1 foot super.	1½	1½	2	2½	2½	2½	3½	4½
Under 2 feet super.	1½	2	2½	3	2½	3	4	5½
Under 3 feet super	1	2½	2½	3½	3	3½	4½	6
Under 3 feet super	2½	2½	3	4	3½	3½	4½	6

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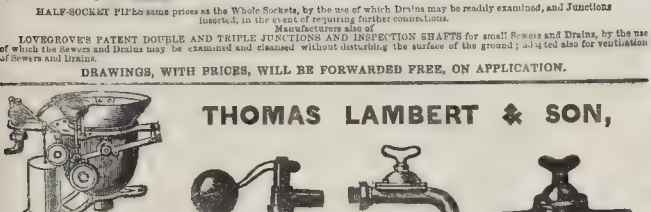
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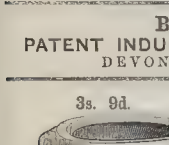


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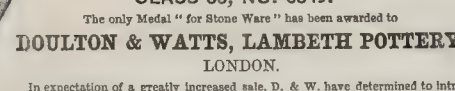
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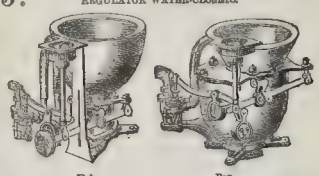
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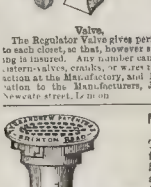
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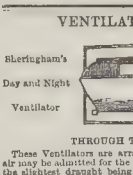
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